CHARTER TOWNSHIP OF YPSILANTI BOARD OF TRUSTEES

Supervisor

BRENDA L. STUMBO

Clerk

DEBBIE SWANSON

Treasurer

STAN ELDRIDGE

Trustees

KAREN LOVEJOY ROE
JOHN P. NEWMAN II
GLORIA PETERSON
LARESHA THORNTON

August 19, 2025

Regular Meeting – 6:00 p.m.

Ypsilanti Township Civic Center
7200 S. Huron River Drive
Ypsilanti, MI 48197

DEPARTMENTAL REPORTS

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

222 South Ford Boulevard, Ypsilanti, MI 48198
Phone 734-544-4225 Fax 734-544-4195

MONTHLY REPORT FOR JULY 2025

Fire Department staffing levels are as follows:

1 Fire Chief	1 Fire Marshall	3 Shift Captains
21 Fire Fighters	3 Shift Lieutenants	1 Clerk III/Staff Support

All fire department response personnel are licensed as Emergency Medical Technicians by the State of Michigan Public Health. During the month, the fire department responded to **406** requests for assistance. Of those requests, **240** were medical emergency service calls, with the remaining **166** incidents classified as non-medical and/or fire related.

Department activities for the month of July 2025:

1) Smoke Alarms

   The YTFD have recently joined with the State of Michigan Bureau of Fire Services to give out and install smoke alarms and carbon monoxide detectors in our resident's home. If interested, please contact the station at 222 S Ford Blvd to fill out an application and set up the installation. 734-544-4225

2) Fire fighters received training in the following areas:
   a) High Rise Training

3) Pub Education
   a) Ypsilanti City Parade
   b) Girl Scout Group at Station 3
   c) Rolling Hills Day Camp
   d) Ford Motor Company Family Day
   e) Children's Healing Center

The Fire Marshal had these activities / events for the month of June 2025:

1. Fire Investigations: 2
2. Fire Investigations interview: 1
3. Fire Investigations follow up: 3
4. Food Truck Development Program: 3
5. Food Truck Inspections: 7
6. Flow Test:
7. Building Inspections: 3
8. Building Re-inspections: 1
9. Memo/Letter writing: 3
10. Fire Lane Enforcement:
11. Liquor Inspections:
12. Liquor re-inspections: 1
13. Junk Yard Inspections: 3
14. Firework tent inspections:
15. Business Tour:
16. Plan Reviews: 2
17. Site Plan Reviews: 1
18. Hood/ Fire Suppression Inspections: 2
19. Occupant Load Certificate: 2
20. Pre-Application Meeting: 1
21. Meetings: 6
22. Fire Alarm Test/Inspections: 3
23. Burn Permits: 1
24. Chief Meetings I attended: 2
25. Zoom Meeting:
26. Burn Complaints:
27. Knox Box: 1
28. Fire Drills:
29. Training:
30. Business/Community Engagement: 3
31. Citizen Engagement: 1
32. New Construction Site Visit:
33. Addressing: 1
34. Code Research: Weekly

The Fire Chief attended these meetings / events for the month of July 2025:

- Multiple 911 responses
- Staff station #1 twice due to lack of manpower- schooling vacation sick usage
- Inspections
- Attend Township Board meeting
- Paperwork for new quint Areial truck
- Submit 2026 Budget
- Work with purchasing new garage doors at headquarters
- Blue Card update for all firefighters
- Assist with new hires
- Work with Treasurer Eldridge and Attorney Winters on firearms policy
- Working with ESO on boarding new EMS -Fire software
- Complete Advance Academy for Advanced PEM
- Meeting with Emergency Management Michigan State Police (Zoom)
- Quartey meeting in person operations of Township Dam with Mike S.
- Coordinate preventive maintenance for all fire apparatuses
- Developing EMS protocols/updates were needed
- Cover Fire Marshall duty while on vacation
- Attend 4th of July Parade in Ypsilanti City with Township officials.

The fire department stands ready to serve the community and the citizens at large of Ypsilanti Township. Thank you for allowing us to serve.

There were 0 injuries, and 0 deaths reported this month for civilians.
There were 0 injuries, and 0 deaths reported this month for Fire Fighters.

This month the total fire loss, including vehicle fires, is estimated at ***$446,100.00.***
All incidents occurred at the following locations:

Date of Loss	Address	Estimated Value	
07/05/2025	167 Russell	100.00	(dumpster fire)
07/06/2025	5301 McAuley Drive	0.00	(Mutual Aid-Superior)
07/09/2025	2580 Holmes Road	11,000.00	(building fire)
07/15/2025	775 James L Hart Parkway	0.00	(trash, other)
07/15/2025	189 Emerson	0.00	(building fire)
07/16/2025	8133 Creek Bend Dr	0.00	(cooking fire)
07/20/2025	1721 Cliffs Landing	175,000.00	(building fire)
07/21/2025	2570 Seminole	0.00	(Mutual Aid-Pittsfield)
07/23/2025	1187 Ruth Ave	0.00	(fire, other)
07/23/2025	7508 Timberwood Ct	0.00	(Mutual Aid-Superior)
07/24/2025	9662 Falmouth Drive	0.00	(excessive heat)
07/31/2025	597 Eugene	260,000.00	(building fire)

Respectfully submitted

Maria Batianis
Charter Township of Ypsilanti Fire Department

Attachment: Image Trend Incident Type Report for 07/1/2025 – 07/31/2025

Monthly Incident Report's 2025

Basic Incident Type Code And Description (FD1.21)	Total Incidents	Total Incidents Percent of Incidents	Total Property Loss	Total Content Loss	Total Loss	Total Loss Percent of Total
Incident Type Category (FD1.21): 1 - Fire						
100 - Fire, other	2	0.49%				
111 - Building fire	6	1.48%	295,000.00	151,000.00	446,000.00	99.98%
113 - Cooking fire, confined to container	1	0.25%	0.00	0.00	0.00	0.00%
118 - Trash or rubbish fire, contained	1	0.25%				
154 - Dumpster or other outside trash receptacle fire	1	0.25%	100.00	0.00	100.00	0.02%
	Total: 11	**Total: 2.71%**	**Total: 295,100.00**	**Total: 151,000.00**	**Total: 446,100.00**	**Total: 100.00%**
Incident Type Category (FD1.21): 2 - Overpressure Rupture, Explosion, Overheat (No Fire)						
251 - Excessive heat, scorch burns with no ignition	1	0.25%				
	Total: 1	**Total: 0.25%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
Incident Type Category (FD1.21): 3 - Rescue & Emergency Medical Service Incident						
300 - Rescue, EMS incident, other	5	1.23%				
311 - Medical assist, assist EMS crew	132	32.51%				
320 - Emergency medical service, other	41	10.10%				
321 - EMS call, excluding vehicle accident with injury	53	13.05%				
322 - Motor vehicle accident with injuries	8	1.97%				
381 - Rescue or EMS standby	1	0.25%				
	Total: 240	**Total: 59.11%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
Incident Type Category (FD1.21): 4 - Hazardous Condition (No Fire)						
411 - Gasoline or other flammable liquid spill	2	0.49%				
412 - Gas leak (natural gas or LPG)	4	0.99%				
424 - Carbon monoxide incident	3	0.74%				
440 - Electrical wiring/equipment problem, other	5	1.23%				
441 - Heat from short circuit (wiring), defective/worn	2	0.49%				
442 - Overheated motor	2	0.49%				
445 - Arcing, shorted electrical equipment	2	0.49%				
	Total: 20	**Total: 4.93%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
Incident Type Category (FD1.21): 5 - Service Call						
500 - Service call, other	4	0.99%				
510 - Person in distress, other	1	0.25%				
531 - Smoke or odor removal	1	0.25%				
550 - Public service assistance, other	9	2.22%				
551 - Assist police or other governmental agency	1	0.25%				
552 - Police matter	1	0.25%				
553 - Public service	1	0.25%				
554 - Assist invalid	2	0.49%				
561 - Unauthorized burning	1	0.25%				
	Total: 21	**Total: 5.17%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
Incident Type Category (FD1.21): 6 - Good Intent Call						
600 - Good intent call, other	4	0.99%				
611 - Dispatched and cancelled en route	74	18.23%				
622 - No incident found on arrival at dispatch address	1	0.25%				
651 - Smoke scare, odor of smoke	2	0.49%				
	Total: 81	**Total: 19.95%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
Incident Type Category (FD1.21): 7 - False Alarm & False Call						
700 - False alarm or false call, other	16	3.94%				

Basic Incident Type Code And Description (FD1.21)	Total Incidents	Total Incidents Percent of Incidents	Total Property Loss	Total Content Loss	Total Loss	Total Loss Percent of Total
730 - System malfunction, other	1	0.25%				
733 - Smoke detector activation due to malfunction	5	1.23%				
735 - Alarm system sounded due to malfunction	1	0.25%				
736 - CO detector activation due to malfunction	2	0.49%				
740 - Unintentional transmission of alarm, other	1	0.25%				
743 - Smoke detector activation, no fire - unintentional	2	0.49%				
744 - Detector activation, no fire - unintentional	1	0.25%				
745 - Alarm system activation, no fire - unintentional	3	0.74%				
	Total: 32	**Total: 7.88%**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00**	**Total: 0.00%**
	Total: 406	**Total: 100.00%**	**Total: 295,100.00**	**Total: 151,000.00**	**Total: 446,100.00**	**Total: 100.00%**

WASHTENAW COUNTY
OFFICE OF THE SHERIFF

EST. 1823

ALYSHIA M. DYER, SHERIFF

EXECUTIVE SUMMARY

Distribution Date: 8/12/25

July **2025**

WCSO Patrol Operations responded to calls for service, conducted traffic enforcement, and completed criminal investigations in support of our community's quality of life.

During July 2025, there were 3,437 calls for service in Ypsilanti Twp. Calls for service have decreased 15 % compared to the previous year, year to date.

Please refer to the *Monthly Data Report* for the complete overview of Police Services data for the month.

SIGNIFICANT INCIDENTS:

Below are the incidents WCSO deemed significant for your area. If you require additional information on a specific incident, please contact your area Lieutenant.

INCIDENT #	DATE	VERIFIED OFEENSE
25-47167	7/13/2025	Armed Robbery
25-50061	7/23/2025	Attempted Kidnapping
25-49934	7/23/2025	Homicide
25-51832	7/30/2025	Armed Robbery/Carjacking

2201 HOGBACK ROAD ◆ ANN ARBOR, MICHIGAN 48105-9732 ◆ OFFICE (734) 971-8400 ◆ FAX (734) 973-4624 ◆ EMAIL SHERIFFINFO@WASHTENAW.ORG

WASHTENAW COUNTY
OFFICE OF THE SHERIFF

EST. 1823

ALYSHIA M. DYER, SHERIFF

EXECUTIVE SUMMARY

Distribution Date: 8/12/25

July **2025**

COMMUNITY DIRECTED ENFORCEMENT

DATE	LOCATION	COMPLAINT	INITIATIVES
7/1/2025	Tuttle Hill/Textile	Traffic enforcement-speeding	Directed Patrols
7/2/2025	Huron Heights/Huron Ridge	Juvenile and noise complaints	Directed Patrols
7/8/2025	Burdock/Indigo	Reckless driving	Directed Patrols
7/10/2025	Roundtree/Steven Park/Hewitt/Westlawn	Reckless driving and speeding	Directed Patrols
7/16/2025	Roundtree Condos	Noise complaint	Directed Patrols, CAT assigned
7/16/2025	West Willow	Speeding and larceny from auto	Directed Patrols

STAFFING

27 / 35 Deputies (Billable for 27)

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WASHTENAW COUNTY
OFFICE OF THE SHERIFF

EST. 1823

ALYSHIA M. DYER, SHERIFF

EXECUTIVE SUMMARY

Distribution Date: 8/12/25

July **2025**

YOUTH INITIATIVE

The Sheriff's Office continues to partner with courts, probation, and social services to ensure that there is accountability beyond the Sheriff's Office contact with the offenders that are consistently involved in crimes.

COMMUNITY ACTION TEAM

The purpose of the Community Action Team (CAT) is to respond to situations involving or with a nexus of drugs, guns, or violence. The team focuses on the timely assessment and response to tips they receive from our community and community problems identified through crime pattern analysis.

CAT collaboration with the Michigan Department of Corrections in reference to parole compliance contributes to effective monitoring and management of parolees who live in our community. Timely and efficient response to tips regarding parolee misconduct combined with regular unannounced home visits are expected by the parolees that reside in Ypsilanti Township and surrounding areas.

For any violent crime tips related to guns, gang activity or violence in general please call 734-661-9034.

WASHTENAW ALERT (EVERBRIDGE)

As a reminder for residents, they can sign up for "Up-to-the-minute updates" from the Washtenaw

County Sheriff's Office by email or cell phone at www.washtenaw.org/alerts

HOUSE WATCH

If you plan on being gone for a period of time sign your house up for house checks. The house watch

form can be found at: https://www.washtenaw.org/1743/House-Watch

NEW FACES

The Sheriff's Office is hiring! We continue to hire highly qualified, motivated, and diverse people that are committed to pursuing our mission: "Together, we are committed to creating a safer, more just, and compassionate Washtenaw County for all".

If you are interested in joining us in serving your community in Police Services, Corrections, Communications, Emergency Services or Community Corrections please check us out at: https://www.washtenaw.org/1124/Sheriff

PUBLIC DASHBOARD

Check out our Data & Information Dashboard!
https://www.washtenaw.org/3915/Sheriff-Data-Information-Dashboard

COMMONLY USED ABBREVIATIONS

AWIM: Assault with Intent to Murder

CCW: Carrying Concealed Weapon

CSC: Criminal Sexual Conduct

DV: Domestic Violence

OUID: Operating Under the Influence of Drugs

OWI: Operating While Intoxicated

R&O: Resisting & Obstructing

UDAA: Unlawfully Driving Away an Automobile

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Police Service Data Report

Reporting Period: July

Incidents	Month 2025	2025 YTD	2024 YTD	% Change
Animal Complaints	104	450	552	-18.5%
Assaultive Crimes	37	304	355	-14.4%
Burglaries	8	44	45	-2.2%
Larcenies	34	165	179	-7.8%
Medical Assists	62	348	370	-5.9%
OUID	4	10	16	-37.5%
OWI	5	32	61	-47.5%
Robberies	4	9	10	-10.0%
Traffic Crashes	87	598	648	-7.7%
Traffic Stops	507	2,954	6,408	-53.9%
Vehicle Theft	13	79	91	-13.2%
Calls For Service Total	3,437	21,250	25,152	-15.5%
Community Engagement	5	11	4	175.0%
Citations	130	423	811	-0.48

In/Out of Area Time	Minutes
Into Area Time	1,502
Secondary Road Patrol - Into Area	1,358
Out of Area Time	2,265

Into Area Time: The time that other areas contracted deputies spent in YPT. ACO, SRP, Command, Countywide, and DB are excluded.

Out of Area Time: Time that YPT contracted deputies spent anywhere other than YPT, including non-contract areas.

Secondary Road Patrol – Into Area: The time SRP spent in YPT.

CFS Summary

Reporting Period: July

Classification	Month 2025	2025 YTD	2024 YTD	% Change
AGGRAVATED/FELONIOUS ASSAULT	15	152	179	-15.1%
ANIMAL CRUELTY	1	4	5	-20.0%
ARSON		2	6	-66.7%
BRIBERY			1	-100.0%
BURGLARY -ENTRY WITHOUT FORCE (Intent to Commit)	3	12	19	-36.8%
BURGLARY -FORCED ENTRY	6	53	44	20.5%
COMMERCIALIZED SEX -ASSISTING/PROMOTING PROSTITUTION		1		-
DAMAGE TO PROPERTY	25	157	182	-13.7%
EMBEZZLEMENT		2	3	-33.3%
EXTORTION	1	6	9	-33.3%
FORGERY/COUNTERFEITING	2	6	16	-62.5%
FRAUD -CREDIT CARD/AUTOMATIC TELLER MACHINE	4	24	14	71.4%
FRAUD -FALSE PRETENSE/SWINDLE/CONFIDENCE GAME	8	50	34	47.1%
FRAUD - HACKING/COMPUTER INVASION			1	-100.0%
FRAUD - IDENTITY THEFT	2	21	21	0%
FRAUD -WIRE FRAUD		12	11	9.1%
INTIMIDATION/STALKING	9	61	56	8.9%
JUSTIFIABLE HOMICIDE		1		-
KIDNAPPING/ABDUCTION	1	5	6	-16.7%
LARCENY -OTHER	16	55	57	-3.5%
LARCENY -POCKETPICKING		1	1	0%
LARCENY -PURSESNATCHING		1	2	-50.0%
LARCENY -THEFT FROM BUILDING	10	50	55	-9.1%
LARCENY -THEFT FROM MOTOR VEHICLE	12	67	78	-14.1%
LARCENY -THEFT OF MOTOR VEHICLE PARTS/ACCESSORIES		13	13	0%
MOTOR VEHICLE, AS STOLEN PROPERTY		13	14	-7.1%
MOTOR VEHICLE FRAUD		1		-
MOTOR VEHICLE THEFT	13	84	102	-17.6%
MURDER/NONNEGLIGENT MANSLAUGHTER (VOLUNTARY)			5	-100.0%
NARCOTIC EQUIPMENT VIOLATIONS	2	6	12	-50.0%
NEGLIGENT HOMICIDE/MANSLAUGHTER (INVOLUNTARY)	1	2	4	-50.0%
NONAGGRAVATED ASSAULT	25	179	217	-17.5%



OBSCENITY		2	4	-50.0%
PARENTAL KIDNAPPING			1	-100.0%
RETAIL FRAUD -MISREPRESENTATION			2	-100.0%
RETAIL FRAUD -REFUND/EXCHANGE			1	-100.0%
RETAIL FRAUD -THEFT	2	30	27	11.1%
ROBBERY	4	16	15	6.7%
SEXUAL CONTACT FORCIBLE -CSC 2ND DEGREE	1	8	10	-20.0%
SEXUAL CONTACT FORCIBLE -CSC 4TH DEGREE	1	5	9	-44.4%
SEXUAL PENETRATION OBJECT -CSC IST DEGREE			1	-100.0%
SEXUAL PENETRATION ORAL/ANAL -CSC 3RD DEGREE			3	-100.0%
SEXUAL PENETRATION ORAL/ANAL -CSC IST DEGREE		1	4	-75.0%
SEXUAL PENETRATION PENIS/VAGINA -CSC 3RD DEGREE	1	6	7	-14.3%
SEXUAL PENETRATION PENIS/VAGINA -CSC IST DEGREE	1	12	23	-47.8%
STOLEN PROPERTY	3	24	15	60.0%
VIOLATION OF CONTROLLED SUBSTANCE ACT	7	33	47	-29.8%
WEAPONS OFFENSE- CONCEALED	5	37	56	-33.9%
WEAPONS OFFENSE -OTHER	4	12	14	-14.3%
Sum:	**185**	**1,227**	**1,406**	**-13.39%**

Classification	Month 2025	2025 YTD	2024 YTD	% Change
BURGLARY - UNLAWFUL ENTRY (NO INTENT)		5	2	150.0%
DISORDERLY CONDUCT		5	5	0%
ESCAPE/FLIGHT		1		-
FAMILY -ABUSE/NEGLECT NONVIOLENT	3	32	42	-23.8%
FAMILY -NONSUPPORT			1	-100.0%
FAMILY -OTHER			1	-100.0%
FRAUD -BAD CHECKS		5	5	0%
HEALTH AND SAFETY	3	11	20	-45.0%
HIT and RUN MOTOR VEHICLE ACCIDENT			2	-100.0%
JUVENILE RUNAWAY	2	27	56	-51.8%
LIQUOR VIOLATIONS -OTHER		4	6	-33.3%
MISCELLANEOUS CRIMINAL OFFENSE	2	18	32	-43.8%
NEGLIGENT HOMICIDE -VEHICLE/BOAT			1	-100.0%
OBSTRUCTING JUSTICE	15	103	127	-18.9%



OBSTRUCTING POLICE	9	86	106	-18.9%
OPERATING UNDER THE INFLUENCE OF LIQUOR OR DRUGS	9	49	90	-45.6%
POSSESSION OF BURGLARY TOOLS			1	-100.0%
PUBLIC PEACE -OTHER	2	7	4	75.0%
SEX OFFENSE -OTHER	1	2	6	-66.7%
SMUGGLING			1	-100.0%
SOLICITATION			1	-100.0%
TRESPASS	1	11	10	10.0%
VAGRANCY		1	3	-66.7%
Sum:	**47**	**367**	**522**	**-31.36%**

Classification	Month 2025	2025 YTD	2024 YTD	% Change
ALARMS	106	716	759	-5.7%
ANIMAL COMPLAINTS	117	510	617	-17.3%
JUVENILE OFFENSES AND COMPLAINTS	36	182	249	-26.9%
MISCELLANEOUS COMPLAINTS	874	5,185	5,430	-4.5%
MISCELLANEOUS TRAFFIC COMPLAINTS	601	3,505	7,084	-50.5%
NON - CRIMINAL COMPLAINTS	885	6,047	6,306	-4.1%
SICK / INJURY COMPLAINT	178	1,159	1,482	-21.8%
TRAFFIC CRASHES	88	623	671	-7.2%
TRAFFIC OFFENSES	25	110	101	8.9%
WARRANTS	27	152	220	-30.9%
WATERCRAFT COMPLAINTS / ACCIDENTS		4	2	100.0%
Sum:	**2,937**	**18,193**	**22,921**	**-20.17%**

Classification	Month 2025	2025 YTD	2024 YTD	% Change
HAZARDOUS TRAFFIC CITATIONS / WARNINGS		4	6	-33.3%
LICENSE / TITLE / REGISTRATION CITATIONS		1	4	-75.0%
MISCELLANEOUS A THROUGH UUUU	22	188	187	0.5%
NON-HAZARDOUS TRAFFIC CITATIONS / WARNINGS		1	2	-50.0%
PARKING CITATIONS		4	3	33.3%
Sum:	**22**	**198**	**202**	**-1.49%**

Classification	Month 2025	2025 YTD	2024 YTD	% Change

CFS Summary

Reporting Period: July

18A STATE CODE FIRE CLASSIFICATIONS		1		-
FIRE CLASSIFICATIONS			1	-100.0%
Sum:		**1**	**1**	**0.00%**

Classification	Month 2025	2025 YTD	2024 YTD	% Change
CANINE ACTIVITIES	6	49	12	308.3%
COURT / WARRANT ACTIVITIES	4	44	2	2100.0%
CRIME PREVENTION ACTIVITIES	12	48	35	37.1%
INVESTIGATIVE ACTIVITIES	145	767	336	128.3%
MISCELLANEOUS ACTIVITIES (6000)	77	485	343	41.4%
MISCELLANEOUS ACTIVITIES (6100)	106	633	609	3.9%
Sum:	**350**	**2,026**	**1,337**	**51.53%**

Sum:	**3,541**	**4,230**		

CCW Report

Reporting Period: July

Incident Number	Report Date	Offense	Case Status Disposition
250046592	07/11/25	Concealed Weapons - Firearm in Auto (CCW)	Pending Prosecutors Review
250048377	07/17/25	Concealed Weapons - Firearm in Auto (CCW)	Warrant Issued
250048558	07/18/25	CCW-Concealed Weapons - Carrying Concealed	Petition (Del Proceedings) Minor
250050378	07/25/25	CCW-Concealed Weapons - Carrying Concealed	Warrant Issued

Out of Area Report

Reporting Period: July

ANN ARBOR CITY

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250049694	YPSILANTI TWP	DISPATCHED CALLS	K-9 Tracking - WD	07/23/2025 02:15:00	45
				Sum:	**45**

ANN ARBOR TWP

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250044545	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Disorderly Person/Condition - WD	07/04/2025 11:15:00	25
250047254	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Fleeing or Eluding Police (Penal Code)	07/14/2025 10:55:00	20
250047254	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Fleeing or Eluding Police (Penal Code)	07/14/2025 11:55:00	5
				Sum:	**50**

MACARTHUR BLVD CONTRACT

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250043628	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Felony Arrest Warrant (Originating Agency)	07/01/2025 02:00:00	30
250045531	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/07/2025 20:10:00	40
250045842	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Trespass Notice - Served - WD	07/08/2025 23:15:00	20
250045842	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Trespass Notice - Served - WD	07/08/2025 23:15:00	30
250045842	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Trespass Notice - Served - WD	07/08/2025 23:15:00	35

Out of Area Report

Reporting Period: July

250045842	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Trespass Notice - Served - WD	07/08/2025 23:15:00	40
250046330	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Property Damage H&R Traffic Crash	07/10/2025 20:25:00	20
250046366	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Shots Fired - Careless Use of Firearm - WD	07/10/2025 22:30:00	15
250046389	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Disorderly Person/Condition - WD	07/11/2025 00:30:00	15
250046591	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Welfare Check	07/11/2025 21:15:00	45
250046624	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Disorderly Person/Condition - WD	07/11/2025 22:08:00	12
250046763	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Medical	07/12/2025 13:50:00	5
250047508	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Medical	07/15/2025 04:02:00	12
250047508	YPSILANTI TWP	DISPATCHED CALLS	Assist Medical	07/15/2025 04:02:00	12
250047792	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Disorderly Person/Condition - WD	07/16/2025 00:55:00	50
250048135	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Welfare Check	07/17/2025 05:40:00	30
250048135	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Welfare Check	07/17/2025 05:45:00	20
250048135	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Welfare Check	07/17/2025 05:45:00	25
250048142	YPSILANTI TWP	DISPATCHED CALLS	Welfare Check	07/17/2025 06:50:00	15
250049937	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Suspicious Circumstances	07/23/2025 23:26:00	5
250050670	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Robbery - Street - Gun	07/26/2025 18:21:00	90
250050670	YPSILANTI TWP	DISPATCHED CALLS	Robbery - Street - Gun	07/26/2025 18:20:00	100

250050670	YPSILANTI TWP	DISPATCHED CALLS	Robbery - Street - Gun	07/26/2025 18:25:00	35
250050726	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault/ Battery/Simple (Incl Domestic and Police Officer	07/26/2025 23:10:00	15
				Sum:	**716**

MILAN CITY

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250047254	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Fleeing or Eluding Police (Penal Code)	07/14/2025 10:31:00	105
250047254	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Fleeing or Eluding Police (Penal Code)	07/14/2025 10:33:00	28
				Sum:	**133**

OUT OF COUNTY

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250051041	YPSILANTI TWP	DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/28/2025 01:58:00	17
250051052	YPSILANTI TWP	DISPATCHED CALLS	K-9 Tracking - WD	07/28/2025 05:25:00	40
250051845	YPSILANTI TWP	DISPATCHED CALLS	K-9 Tracking - WD	07/31/2025 02:30:00	50
				Sum:	**107**

Out of Area Report

Reporting Period: July

PITTSFIELD TOWNSHIP

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250049953	YPSILANTI TWP	DISPATCHED CALLS	K-9 Tracking - WD	07/24/2025 03:15:00	45
250051397	YPSILANTI TWP	BACKUP DISPATCHED CALLS	MSP Calls - WD	07/29/2025 13:37:00	32
				Sum:	**77**

SCIO TOWNSHIP

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250050704	YPSILANTI TWP	DISPATCHED CALLS	K-9 Tracking - WD	07/26/2025 21:05:00	55
				Sum:	**55**

SUPERIOR TWP

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250043623	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Mental Health Call	07/01/2025 00:45:00	50
250043628	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Felony Arrest Warrant (Originating Agency)	07/01/2025 02:00:00	20
250044649	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Death Investigation - Cause Unknown	07/04/2025 19:00:00	30
250044649	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Death Investigation - Cause Unknown	07/04/2025 19:05:00	45
250044656	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Attempt Suicide Adult	07/04/2025 19:30:00	30
250045153	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Attempt Suicide Adult	07/06/2025 11:20:00	25

Out of Area Report

Reporting Period: July

250045153	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Attempt Suicide Adult	07/06/2025 11:20:00	140
250045153	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Attempt Suicide Adult	07/06/2025 11:25:00	20
250045153	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Attempt Suicide Adult	07/06/2025 11:25:00	100
250045846	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Medical	07/08/2025 23:45:00	10
250046592	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Murder - Willful Killing - Non-Family - Gun	07/11/2025 22:20:00	43
250046624	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Disorderly Person/Condition - WD	07/11/2025 22:05:00	20
250047196	YPSILANTI TWP	BACKUP DISPATCHED CALLS	BOL - Be on the Lookout - WD	07/14/2025 04:55:00	20
250047278	YPSILANTI TWP	DISPATCHED CALLS	Fraud - Swindle	07/14/2025 11:33:00	18
250047364	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Family Trouble	07/14/2025 16:50:00	40
250048666	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Welfare Check	07/18/2025 20:50:00	30
250048970	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/20/2025 03:06:00	19
250048970	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/20/2025 03:18:00	2
250049932	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Family Trouble	07/23/2025 23:18:00	7
250050011	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Felony Arrest Warrant - Other Jurisdiction	07/24/2025 11:30:00	20
250050670	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Robbery - Street - Gun	07/26/2025 18:20:00	115
				Sum:	**804**

Out of Area Report

Reporting Period: July

YPSILANTI CITY

Incident #	Patrol Area Desc	Activity Category	Verified Offense	Activity Start Date	Duration in Minutes
250045217	YPSILANTI TWP	BACKUP DISPATCHED CALLS	CRU Response - WD	07/06/2025 16:05:00	20
250046113	YPSILANTI TWP	COMMUNITY DIRECTED ACTIVITIES	Suspicious Persons	07/10/2025 04:05:00	10
250046849	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/12/2025 21:05:00	15
250046849	YPSILANTI TWP	DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/12/2025 21:00:00	30
250047768	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/15/2025 22:35:00	45
250047768	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/15/2025 22:35:00	60
250047768	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/15/2025 22:40:00	10
250049430	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/22/2025 02:35:00	5
250049928	YPSILANTI TWP	TRAFFIC STOP	Concealed Weapons - Firearm in Auto (CCW)	07/23/2025 22:10:00	30
250050754	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/27/2025 00:10:00	0
250051111	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/28/2025 12:16:00	5
250051402	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/29/2025 18:22:00	18
250051521	YPSILANTI TWP	TRAFFIC STOP	All Other Traffic Offenses	07/29/2025 20:30:00	15
250051621	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/30/2025 10:00:00	10
250052023	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/31/2025 18:45:00	5
				Sum:	**278**

Into Area Report

Reporting Period: July

ANN ARBOR-SUPERIOR TWP COLLABORATION

Incident #	Reporting Area	Activity Category	My verified	Activity Start Date	Duration in Minutes
250043783	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Robbery - Street - Strong Arm	07/01/2025 16:45:00	23
250043863	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Traffic Complaint / Parking Complaint	07/01/2025 22:28:00	20
250044092	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Failure to Appear (FTA)	07/02/2025 19:09:00	13
250044605	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Death Investigation - Cause Unknown	07/04/2025 16:20:00	70
250044625	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Alarms All Other	07/04/2025 17:30:00	14
250044727	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault w/Intent to Murder	07/04/2025 22:45:00	85
250044727	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault w/Intent to Murder	07/04/2025 22:56:00	73
250044859	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Family Trouble	07/05/2025 11:21:00	5
250044981	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Larceny - Personal Property from Vehicle - LFA	07/05/2025 19:29:00	11
250045077	YPSILANTI TWP	BACKUP DISPATCHED CALLS	K-9 Tracking - WD	07/06/2025 02:48:00	39
250045079	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Suspicious Circumstances	07/06/2025 03:28:00	13
250047533	YPSILANTI TWP	TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/15/2025 08:57:00	4
250047722	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Property Damage Traffic Crash PDA	07/15/2025 19:15:00	22
250047747	YPSILANTI TWP	BACKUP DISPATCHED CALLS	K-9 Tracking - WD	07/15/2025 20:52:00	33
250048626	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Animal Complaint	07/18/2025 18:20:00	5
250048700	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Resisting Officer	07/18/2025 22:37:00	10
250048741	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Suspicious Circumstances	07/19/2025 02:21:00	3
250049518	YPSILANTI TWP	FOLLOW-UP	Recovered Missing Person - WD	07/22/2025 13:30:00	70

Into Area Report

Reporting Period: July

250049522	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault/ Battery/Simple (Incl Domestic and Police Officer	07/22/2025 14:14:00	22
250049934	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Agg/Fel Assault - Non-Family - Gun	07/23/2025 22:37:00	39
250049934	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Agg/Fel Assault - Non-Family - Gun	07/23/2025 22:40:00	80
250049938	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Family Trouble	07/23/2025 23:28:00	15
250049955	YPSILANTI TWP	DISPATCHED CALLS	Alarms All Other	07/24/2025 05:14:00	12
250050253	YPSILANTI TWP	DISPATCHED CALLS	Suspicious Circumstances	07/25/2025 04:47:00	17
250050477	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault/ Battery/Simple (Incl Domestic and Police Officer	07/25/2025 23:19:00	36
250050477	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assault/ Battery/Simple (Incl Domestic and Police Officer	07/25/2025 23:20:00	19
250050482	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Mental Health Call	07/25/2025 23:54:00	27
250050482	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Mental Health Call	07/25/2025 23:55:00	30
250050604	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Follow Up - WD	07/26/2025 13:38:00	56
250050779	YPSILANTI TWP	DISPATCHED CALLS	Assist Motorist	07/27/2025 02:05:00	5
250050936	YPSILANTI TWP	FOLLOW-UP	Follow Up - WD	07/27/2025 18:49:00	27
250051832	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Robbery - Motor Vehicle (Car Jacking)	07/30/2025 23:45:00	40
250051832	YPSILANTI TWP	DISPATCHED CALLS	Robbery - Motor Vehicle (Car Jacking)	07/31/2025 02:35:00	35
250051833	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Alarms All Other	07/31/2025 00:25:00	10
250052013	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Follow Up - WD	07/31/2025 18:18:00	42
250052079	YPSILANTI TWP	BACK-UP TRAFFIC STOP	Traffic Complaint / Traffic Miscellaneous A Complaint	07/31/2025 22:40:00	5
250052087	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Disorderly Person/Condition - WD	07/31/2025 23:10:00	10
250052087	YPSILANTI TWP	DISPATCHED CALLS	Disorderly Person/Condition - WD	07/31/2025 23:05:00	15
	YPSILANTI TWP	DISPATCHED CALLS		07/23/2025 23:43:00	137
	YPSILANTI TWP	DISPATCHED CALLS		07/24/2025 04:02:00	72
				Sum:	**1,264**

Into Area Report

Reporting Period: July

MANCHESTER-LODI COLLABORATION

Incident #	Reporting Area	Activity Category	My verified	Activity Start Date	Duration in Minutes
250051402	YPSILANTI TWP	BACKUP DISPATCHED CALLS	Assist Other Law Enforcement Agency	07/29/2025 14:59:00	211
				Sum:	**211**

SCIO TWP

Incident #	Reporting Area	Activity Category	My verified	Activity Start Date	Duration in Minutes
250050182	YPSILANTI TWP	DISPATCHED CALLS	Follow Up - WD	07/24/2025 20:37:00	27
				Sum:	**27**

Violations

Reporting Period: July

Violation Description	Violation Count
CARELESS DRIVING	1
CURFEW - PARENTAL RESPONSIBILITY	1
DISOBEYED STOP SIGN	2
DISOBEYED TRAFFIC CONTROL DEVICE/REGULATOR	3
DISOBEYED TRAFFIC SIGNAL	3
DRIVING ON SIDEWALK (ANY MOTOR VEHICLE TO INCLUDE MOPED / MOTORCYC	1
DRIVING WHILE LICENSE EXPIRED/CANCELLED	2
DROVE UNREGISTERED VEHICLE	2
DROVE WITH NO LICENSE / NEVER ACQUIRED	3
DRUG PARAPHERNALIA	1
DWLS - DROVE WHILE LICENSE SUSP/REV/DENIED	1
EXPIRED PLATE	8
FAILED TO SIGNAL AND/OR OBSERVE	1
FAILED TO STOP WITHIN ASSURED CLEAR DISTANCE	1
FAILED TO YIELD	4
FALSE ID TO POLICE	1
GRADUATED LICENSE CELL PHONE USE - KELSEY'S LAW	1
HANDICAP PARKING	1
IMPROPER DISPLAY OF PLATE CIVIL INFRACTION	1
IMPROPER LANE USE	1
IMPROPER PASSING	1
IMPROPER TURN	2
LIMITED ACCESS SPEEDING 01-05 OVER	14
LIMITED ACCESS SPEEDING 06-10 OVER	1
LIMITED ACCESS SPEEDING 11-15 OVER	1
NO PROOF OF INSURANCE	3
NUISANCE DOG / NOISE DOG / VICIOUS DOG	1
OPEN INTOX - MOTOR VEHICLE	1
OPERATE WITHOUT SECURITY (NO INSURANCE)	1
OPERATING WHILE HOLDING OR USING A MOBILE ELECTRONIC DEVICE	2
POSSESSING / USING TOBACCO PERSON UNDER 18 IN PUBLIC PLACE	1
POSSESSION OF TOBACCO UNDER 21	1

Violations

Reporting Period: July

PRELIMINARY BREATH TEST REFUSAL IN NON-CMV	1
PROHIBITED PARKING	1
SPEEDING 01-05 OVER	35
SPEEDING 06-10 OVER	1
SPEEDING 11-15 OVER	13
SPEEDING 16-20 OVER	5
UNREGISTERED VEHICLE	1
UNREGISTERED VEH ON ROADWAY	1
VIOLATION OF CHILD RESTRAINT LAW	1
VIOLATION OF SAFETY BELT LAW-DRIVER	2
Sum:	**129**

Traffic Stops

Reporting Period: July

TS Reason For Contact	Activities Count
Belt/Restraint	7
Crime BOL	7
Equipment Vio	105
Other	56
Speed	190
Traffic Vio.	133
	498

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— HYDRO DAM OPERATIONS —

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

Date: August 8, 2025

To: **Clerk's Office**

CC: **Brenda Stumbo, Supervisor**

From: Michael Saranen, Operation Manager

Subject: Department Report (activities in July 2025)

Activities:

Ford Lake Dam (Hydro Station)

General Operation Summary:
The Hydro Station is operating safely and continues to get routine safety inspections and preventive maintenance. Operators had 3 after hour call-in for the month.

Average precipitation for the month of is around 3.51", for this month NOAA recorded it to be 7.38".

Regulatory Status:

For 2025-

- DSSMR- **Complete, filed w/FERC**
- Owners Dam Safety Program Review/Update - **Completed**
- EAP annual update and test –
- EAP First Responder Training - **Complete**
- WQ Report – **Monitoring Started, collecting data**
- Nuisance Plant Plan Report – **Started**
- Wildlife Plan Report -
- Historical Activity Report –
- Gate Certification -
- Security Review – **Started**
- FERC Security Inspection – **Done, addressing comments**
- FERC Annual Dam Safety Inspection **– Done, addressing comments**
- Annual DEQ Lake Operation Monitoring Report- **Complete**
- Spillway Assessment Action Plan - **Filed, addressing comments by FERC, Ongoing**
- Public Safety Plan - **Complete**
- Fish & Sediment Analysis - Not required until 2033
- Shoreline Erosion Survey – **Started**
- Emergency generator testing/maintenance – **Scheduling**

- EAP Rewrite – **Started**
- Owners Dam Safety Audit- **Barr Engineering has been approved by FERC, getting started**
- 2025 Part 12D Comprehensive Analysis – **Started, document review phase (due March 2027)**

Future Items:

- Shoreline Restoration, Ford Lake Park
- PMF Study for watershed – Discussing
- Protective Relay testing – Due again 2031
- Concrete repairs – **On Hold, planning to include in 2026 budget**
- Windows/additional concrete repairs (powerhouse and dam) - TBD
- EAP Tabletop and Functional Exercise – 2029

Projects:

Concrete Repairs- **Delayed**, approved by the Board to go out to bid. Construction was planned for summer 2023, however the cost came in doubled and the project is on hold until funding is available. Planning on submitting for the 2026 budget.

Sluice Gate Stress Analysis- 2024, the FERC has requested a detailed study of the spillway gates. This is a common industry request from FERC as they continuously look at safety involving dams. The inspections were completed, and the engineer has identified some items for consideration. This will need to be part of the budgeting process.

River Level Sensor
Premature failure of this sensor has caused negative impact to the operation and emergency actions. Staff are working with engineers to fix the problem. In February, a radar style sensor was installed in parallel to the existing system. This new technology seems promising to help reduce the on-going cost and better system reliability. The testing period for the new sensor is 60 days.

DTE/ITC Power Line Rebuild- ITC is planning a rebuild of the transmission line along Bridge Road. Project is planned in 2026 will likely take a couple of months to complete. We don't know how this will impact Hydro's operations.

DTE Gas Line relocation- DTE has submitted plans to relocate the gas line attached to the bridge and dam. The project has easements now through North and South Hydro Parks. Construction will commence when the dams' concrete work is under contract.

Operation Summary

2025	July	YTD	5 Year Ave.
Precipitation total (inches)[1]	7.38	22.31	35.8
Days Online	30.9	211.9	362
Net Generation MWH (estimated)	287.060	6,258.333	9,991.619
Generation MWH **lost** (estimated)*	147.294	315.569	423.510
After Hour Call In			
Water levels	1	11	36
Mechanical/Electrical	0	0	4
Other	2	2	2
Totals	3	13	42

Recent History	2020	2021	2022	2023	2024
Precipitation total (inches)	41.4	40.0	26.37	36.65	34.76
Days Online	359.7	360.0	363.5	363.4	366
Generation MWH (estimated)	10,722.7	10,524.5	9,185.151	9,336.397	10,189.347
Generation MWH **lost** (estimated)*	570.2	423.2	362.5	216.076	545.578
After Hour Call In					
Water levels	69	33	36	22	20
Mechanical/Electrical	4	9	0	3	6
Other	2	0	4	2	1
Totals	75	42	40	27	27

[1] Preliminary totals from NOAA for Detroit

*losses related to scheduled & unscheduled maintenance and water quality discharges.

Water Quality Summary:

MOU with City of Ann Arbor

The Parties share a common interest in eliminating and preventing nuisance blue green algae blooms in Ford and Belleville Lakes, and they acknowledge that information about water quality and conditions in the lakes is important to advancing their common interest. THEREFORE, the Parties enter into this Memorandum of Understanding to memorialize their understanding as to their efforts to cooperate and work together to monitor, collect, and share water quality information regarding Ford and Belleville Lakes.

Work Plan

- for 2025, continue collecting data, follow updated discharge plan

Current Activities

- WQ equipment was deployed in May, some earlier issues have been resolved.

Sluice Gate Usage Summary

Releasing water from the sluice gates is primary done to maintain lake level when flow exceeds the powerhouse. At certain times, we can use the gates to help keep the lake mixed to maintain oxygen levels (effectiveness depends on several factors) at the bottom of the lake.

The water quality monitoring begins on June 1st and will end on September 30th; operators monitor the water quality conditions and take readings as outlined in the WQ Plan. The dam releases water from the bottom gates to maintain run of river and/or help with the water quality in Ford Lake. The Federal License requires us to pass water with a minimum of 5mg/l of dissolved oxygen all the time. Therefore, spilling from the bottom gates in the summer to improve the lake is not always possible.

Current Year **2025**	Current Year Days Spilled	Current Year Lost KWH*	Current Year Lost KW $*	Prior Yr. Lost KW $*
January	0	0	0	0
February	0	0	0	0
March	9.1	0	0	0
April	9.6	0	0	0
May	10.8	0	0	$ 1,628
June	16.5	159,039	$6,856	$ 9,386
July	14.1	147,294	$9,214	$ 1,742
August				$ 1,973
September				$ 618
October				0
November				0
December				0
Totals	60.1	306,333	$16,070	$ 15,347

*Estimated losses from diverting water away from generators for the **purpose of improving WQ**.

Sargent Charles Dam

This dam continues to get routine safety inspections and appropriate maintenance.

In October 2023, the dam was inspected by the state. In their report the dam is in satisfactory condition, the report listed some maintenance recommendations to help maintain a safe dam. Staff are working on the follow-up actions.

APPROVAL OF AGENDA

Charter Township of Ypsilanti

7200 S. HURON RIVER DRIVE•YPSILANTI, MI 48197

SUPERVISOR BRENDA STUMBO • CLERK DEBBIE SWANSON • TREASURER STAN ELDRIDGE
TRUSTEES: • KAREN LOVEJOY ROE • JOHN P. NEWMAN II • GLORIA PETERSON • LARESHA THORNTON

REGULAR MEETING AGENDA

TUESDAY, AUGUST 19, 2025
6:00 P.M.

Board Meetings are audio recorded and posted on the website.

DETERMINATION OF QUORUM

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE AND INVOCATION

3. APPROVAL OF AGENDA

4. CONSENT AGENDA

   A. MINUTES OF JULY 15, 2025 REGULAR MEETING

   B. STATEMENTS AND CHECKS

      1. STATEMENTS AND CHECKS FOR AUGUST 5, 2025, IN THE AMOUNT OF $702,988.83
      2. STATEMENTS AND CHECKS FOR AUGUST 19, 2025, IN THE AMOUNT OF $2,013,386.83
      3. CLARITY HEALTHCARE DEDUCTIBLE ACH FOR JULY 2025, IN THE AMOUNT OF $29,135.41
      4. CLARITY HEALTHCARE ADMIN FEE FOR JULY 2025, IN THE AMOUNT OF $1,769.05

   C. TREASURER'S REPORT

5. ATTORNEY REPORT

   A. GENERAL LEGAL UPDATE

OLD BUSINESS

1. 2ND READING OF RESOLUTION 2025-20, PROPOSED ORDINANCE 2025-510, AN ORDINANCE TO AMEND THE CHARTER TOWNSHIP OF YPSILANTI CODE OF ORDINANCES, CHAPTER 66 SECTION 61, ENTITLED NOXIOUS WEEDS
   (1ST READING HELD AT THE JUNE 17TH, 2025, REGULAR MEETING)

2. 2nd READING OF ORDINANCE 2025-511, AN ORDINANCE TO AMEND CHAPTER 62, ARTICLE IV, SECTION 62-76(a) OF THE CODE OF ORDINANCE, CHARTER TOWNSHIP OF YPSILANTI, TO ADJUST WATER SERVICE RATES
   (1ST READING HELD AT THE JULY 15, 2025, REGULAR MEETING)

3. 2nd READING OF ORDINANCE 2025-512, AN ORDINANCE TO AMEND CHAPTER 62, ARTICLE IV, SECTION 62-77 OF THE CODE OF ORDINANCE, CHARTER TOWNSHIP OF YPSILANTI, TO ADJUST SEWER SERVICE RATES
   (1ST READING HELD AT THE JULY 15, 2025, REGULAR MEETING)

NEW BUSINESS

1. APPROVE RESOLUTION 2025-21, CALVARY BAPTIST CHURCH ANNUAL FALL FESTIVAL TEMPORARY ROAD CLOSURE REQUEST

2. APPROVE GOLF CAR RATES FOR 2026 GOLF SEASON AT GREEN OAKS GOLF COURSE

3. APPROVE A 5-YEAR LEASE AGREEMENT WITH GOLF CARS PLUS/YAMAHA IN THE AMOUNT OF $80,205.56, BUDGETED IN LINE ITEM #584-784.757.003

4. APPROVE THE 2025-2026 CONTRACT WITH WASHTENAW COMMUNITY COLLEGE FOR BUILDING USE AT THE YPSILANTI TOWNSHIP COMMUNITY CENTER

5. APPROVE RESOLUTION 2025-22, REVISION TO WATER/SEWER SUBSIDY PROGRAM

6. ACCEPT GRANT FROM WASHTENAW COUNTY IN THE AMOUNT OF $200.00.00 FOR SENIOR CENTER OPERATION OR SERVICES, PAID FROM THE OLDER PERSONS SERVICE MILLAGE

7. APPROVE THE L-4029 -2025 TAX RATES FOR THE 2026 BUDGET

8. APPROVE AGREEMENT WITH WASHTENAW COUNTY ROAD COMMISSION (WCRC) FOR A PEDESTRIAN CROSSING AT THE INTERSECTION OF TUTTLE HILL ROAD AND MERRITT ROAD IN THE AMOUNT OF $55,200.00, BUDGETED IN LINE ITEM #101-446-982.000, CONTINGENT ON BUDGET AMENDMENT

9. SET A PUBLIC HEARING FOR THE 2025 SPECIAL ASSESSMENT ROLL TO BE HELD SEPTEMBER 16, 2025 AT APPROXIMATELY 7:00PM

10. APPROVE LITIGATION TO ABATE PUBLIC NUISANCE AT 7235 MUIRFIELD DR, BUDGETED IN LINE ITEM #101-729-801.023

11. APPROVE LITIGATION TO ABATE PUBLIC NUISANCE AT 2490 PACKARD RD, BUDGETED IN LINE ITEM #1010-729-801.023

12. APPROVE 14-B DISTRICT COURT BAILIFF JOB DESCRIPTION AND DUTIES

13. APPROVE THE FIREARM POLICY FOR TOWNSHIP FIRE CHIEF AND FIRE MARSHAL TO BE SWORN IN BY THE WASHTENAW COUNTY SHERIFF'S OFFICE TO THE SPECIAL DEPUTY CLASSIFICATION, ANY EXPENSES RELATED TO THIS WILL BE BUDGETED IN LINE ITEM # 206-336-960.000

14. CANCEL NOVEMBER 4, 2025, BOARD OF TRUSTEES' MEETING DUE TO THE COUNTYWIDE WISD SPECIAL ELECTION

15. BUDGET AMENDMENT #10

16. APPROVE RESOLUTION 2025-23, OPPOSITION TO THE BUILDING OF TWO HIGH PERFORMANCE COMPUTING AND ARTIFICIAL INTELLIGENCE RESEARCH CENTERS ON BRIDGE AND TEXTILE ROADS BY THE UNIVERSITY OF MICHIGAN AND LOS ALAMOS NATIONAL LABORATORY

17. APPROVE ATTORNEY GRANT TRIGGER TO PROVIDE PROFESSIONAL SERVICES FOR ALL TOWNSHIP ENVIRONMENTAL ISSUES INCLUDING BUT NOT LIMITED TO A DATA CENTER BEING PROPOSED BY THE UNIVERSITY OF MICHIGAN NEAR THE HURON RIVER WITH AN HOURLY RATE CHARGED OF $300 PER HOUR, BUDGETED IN LINE ITEM #226-528-801.000

18. REQUEST PLANNING COMMISSION TO CONSIDER A ZONING CHANGE FOR LOCATION OF DATA CENTERS TO INDUSTRAIAL AND COMMERICAL REVITALIAZTION DISTRICTS ONLY

AUTHORIZATIONS AND BIDS

1. SEEK BIDS FOR REPLACEMENT OF THE BAY DOORS AT STATION #1, FIRE HEADQUARTERS

2. WAIVE THE BIDDING REQUIREMENT ON MITN AND SIGN A 2-YEAR EXTENSION WITH COMMUNITY PUBLISHING AND MARKETING FOR THE TOWNSHIP HELPFUL HANDBOOK FOR $59,000 IN 2026 AND $61,000.00, BUDGETED IN LINE ITEM #226-528-900.00 AND #101-267-900.000, AND FOR WINTER, SUMMER AND FALL RECREATION GUIDES, BUDGETED IN LINE ITEM #230-754-880.000

3. SEEK SEALED BIDS FOR ONE (1) NEW TOWNSHIP FLOATER VEHICLE TO BE ASSIGNED TO THE RESIDENTIAL SERVICES DEPARTMENT FOR GENERAL EMPLOYEE USE

4. SEEK SEALED BIDS FOR COMMUNITY CENTER 100 HALLWAY BATHROOMS RENOVATION PROJECT AS PART OF THE WASHTENAW COUNTY COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) PROJECTS FUNDING

5. AUTHORIZE YPSILANTI TOWNSHIP TO JOIN THE WASHTENAW 2030 DISTRICT

6. AUTHORIZE OHM’S SCOPE CHANGE FOR FONSON TO ADD SANITARY LINE REPAIRS TO THE ARPA FUNDED CIVIC CENTER PARKING LOT PROJECT, NOT TO EXCEED PRICE OF $225,000.00

7. AUTHORIZE OHM ADVISORS FOR ENGINEERING SERVICES TO ESTABLISH A PERMANENT DRIVE FROM THE LAW ENFORCEMENT CENTER LOCATED AT 1501 S HURON ST TO KALITTA COURT FOR ACCESS TO HURON ST

8. AUTHORIZE THE SALE AND/OR REMOVAL OF EXCESS TOWNSHIP EQUIPMENT

OTHER BUSINESS

PUBLIC COMMENTS

- **THREE MINUTES PER PERSON**
- **ALL COMMENTS MUST BE ADDRESSED TO THE CHAIR**
- **PUBLIC COMMENTS ARE ALSO WELCOMED AS THE BOARD ADDRESSES EACH AGENDA ITEM**

BOARD MEMBER COMMENTS

ADJOURNMENT

Revised on 8/18/2025, Removed Auditor's Report and will be rescheduled to another date and clarified data center zoning change item and moved all Computing and Artificial Intelligence Research Centers items closer to public comments

CONSENT AGENDA

CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE JULY 15, 2025 REGULAR BOARD MEETING

Board Meetings are audio recorded and posted on the website

DETERMINATION OF QUORUM

Supervisor Stumbo determined a quorum was present. Trustee Newman arrived during the Attorney report.

Township Supervisor Brenda Stumbo called the meeting to order at 6:00 pm in the Ypsilanti Township Civic Center Board Room, 7200 S. Huron River Drive, Ypsilanti Township.

Members Present: Supervisor Brenda Stumbo, Clerk Debbie Swanson, and Treasurer Stan Eldridge
Trustees: Karen Lovejoy Roe, John Newman II, Gloria Peterson, and LaResha Thornton
Members Not Present: None

Legal Counsel: Wm. Douglas Winters

The Pledge of Allegiance was recited followed by a moment of silent prayer.

FIRE DEPARTMENT HONORS

Honors were Presented by Chief Desmore (refer to audio)

APPROVAL OF AGENDA

A motion was made by Trustee Peterson and supported by Treasurer Eldridge to approve the agenda.

Trustee Lovejoy Roe made a request to add an amendment to the agenda to move public comments up and add a discussion item after public comments for the data center. Supervisor Stumbo asked if there was support to add this amendment to the agenda. There was no support.

The motion carried unanimously.

CONSENT AGENDA

A. MINUTES OF JUNE 17, 2025 REGULAR MEETING

B. STATEMENTS AND CHECKS

1. STATEMENTS AND CHECKS FOR JULY 1, 2025 IN THE AMOUNT OF $858,216.29
2. STATEMENTS AND CHECKS FOR JULY 15, 2025 IN THE AMOUNT OF $1,605,159.57
3. CLARITY HEALTHCARE DEDUCTIBLE ACH FOR JUNE 2025, IN THE AMOUNT OF $58,805.05
4. CLARITY HEALTHCARE ADMIN FEE FOR JUNE 2025, IN THE AMOUNT OF $1,710.28

C. TREASURER'S REPORT

A motion was made by Trustee Peterson and supported by Treasurer Eldridge to approve the consent agenda.

The motion carried. Trustee Lovejoy Roe voted no.

ATTORNEY REPORT

A. GENERAL LEGAL UPDATE

Legal update was provided by Attorney Winters. (refer to audio)

NEW BUSINESS

1. APPROVE THE CONTRACT WITH BS&A SOFTWARE, LLC TO UPGRADE OUR CURRENT BS&A.NET SOFTWARE TO CLOUD-BASED SOFTWARE, PENDING ATTORNEY'S REVIEW AND RECOMMENDATION OF CONTRACT

DRAFT

A motion was made by Treasurer Eldridge and supported by Trustee Thornton to approve the contract with BS&A Software, LLC to upgrade our current BS&A.net software to cloud-based software, contingent upon attorney's approval. (see attached)

The motion carried unanimously.

2. **1ST READING OF ORDINANCE 2025-511, AN ORDINANCE TO AMEND CHAPTER 62, ARTICLE IV, SECTION 62-76(a) OF THE CODE OF ORDINANCE, CHARTER TOWNSHIP OF YPSILANTI, TO ADJUST WATER SERVICE RATES**

Clerk Swanson read the ordinance into the record.

A motion was made by Clerk Swanson and supported by Trustee Peterson to approve ordinance 2025-511, an ordinance to amend Chapter 62, Article IV, Section 62-76(a) of the Code of Ordinance, Charter Township of Ypsilanti, to adjust water service rates. (see attached)

The motion carried unanimously.

3. **1ST READING OF ORDINANCE 2025-512, AN ORDINANCE TO AMEND CHAPTER 62, ARTICLE IV, SECTION 62-77 OF THE CODE OF ORDINANCE, CHARTER TOWNSHIP OF YPSILANTI, TO ADJUST SEWER SERVICE RATES**

Clerk Swanson read the ordinance into the record.

A motion was made by Clerk Swanson and supported by Trustee Thornton to approve ordinance 2025-512, an ordinance to amend Chapter 62, Article IV, Section 62-77 of the Code of Ordinance, Charter Township of Ypsilanti, to adjust sewer service rates. (see attached)

The motion carried unanimously.

DRAFT

4. AUTHORIZATION TO ENTER INTO NEGOTIATIONS TO SELL TOWNSHIP OWNED PROPERTY LOCATED AT 2162 ECORSE ROAD

A motion was made by Trustee Lovejoy Roe and supported by Trustee Peterson for authorization to enter into negotiations to sell township owned property located at 2162 Ecorse Road.

The motion carried unanimously.

5. AUTHORIZE THE PURCHASE OF PROPERTIES FROM THE 2025 WASHTENAW COUNTY TAX SALE, LOCATED AT 2117 NANCY STREET, 1555, 1655, 1540 AND 1520 WATSON STREET, *IN THE AMOUNT OF $10,856*

A motion was made by Treasurer Eldridge and supported by Trustee Thornton to authorize the purchase of properties from the 2025 Washtenaw County Tax Sale, located at 2117 Nancy Street, 1555, 1655,1540 and 1520 Watson Street.

Trustee Lovejoy Roe requested the amount of $10,856 be added to the agenda item.

Supervisor Stumbo asked for confirmation from Treasurer Eldridge and Trustee Thornton to accept Trustee Lovejoy Roe's friendly amendment to add $10,856.00 to the agenda item.

The friendly amendment was accepted by Treasurer Eldridge and Trustee Thornton.

The motion carried unanimously.

6. WAIVE FINANCIAL POLICY AND APPROVE CRIBLEY DRILLING FOR THE NEW ELECTRICAL INSTALLATION FOR WELL#8 AT THE GREEN OAKS GOLF COURSE IN THE AMOUNT OF $20,878.00, BUDGETED IN LINE ITEM #584-784-931.022, CONTINGENT ON BUDGET AMENDMENT

DRAFT

A motion was made by Trustee Lovejoy Roe and supported by Treasurer Eldridge to waive the financial policy and approve Cribley Drilling for the new electrical installation for Well #8 at the Green Oaks Golf Course in the amount of $20,878.00, budgeted in line item #584-784-931.022.

The motion carried unanimously.

7. APPROVE ANNUAL LICENSES TO JUNKYARD BUSINESSES

Supervisor Stumbo read the following names and addresses of the junkyard businesses recommended for annual license approval into the record:

1. B&G Auto Salvage 1711 Cadillac Ave
2. B&G Auto Salvage 1724 Woodale Ave
3. AAA Parts 2260/2280 E Michigan Ave
4. East Michigan Ave Auto Parts /2494 E Michigan Ave
5. A&M Auto Parts 2600 Coolidge Ave
6. Sky Holdings Group 2835 Coolidge Ave

A motion was made by Trustee Lovejoy Roe and supported by Trustee Thornton to approve the annual licenses to junkyard businesses.

The motion carried unanimously.

8. APPROVE LITIGATION TO ABATE PUBLIC NUISANCE AND REQUEST PADLOCK AT 611 WOODLAWN

A motion was made by Trustee Lovejoy Roe and supported by Trustee Thornton to approve litigation to abate public nuisance and request padlock at 611 Woodlawn.

The motion carried unanimously.

DRAFT

9. APPROVE AND FILL THE VACANT HUMAN RESOURCE DIRECTOR POSITION, ALONG WITH THE ATTACHED JOB DESCRIPTION AND SALARY RANGE. THE POSTING SHALL LIST A SALARY RANGE OF $95.000 to $105,000, BUDGETED IN LINE ITEM #101-270-705.000

A motion was made by Trustee Peterson and supported by Treasurer Eldridge to approve and fill the vacant Human Resource Director position, along with the attached job description and salary range. The posting shall list a salary range of $95,000 -$105,000, budgeted in line item # 101-270-705.000. (see attached)

The motion carried unanimously.

10. AUTHORIZE TO PROCEED IN PARTNERSHIP WITH LOMBARDO HOMES TO MAKE IMPROVEMENTS TO THE MERRITT ROAD AND TUTTLE HILL ROAD INTERSECTION FOR SIGNALIZATION AND PEDESTRIAN CROSSING

A motion was made by Trustee Lovejoy Roe and supported by Treasurer Eldridge to authorize to proceed in partnership with Lombardo Homes to make improvements to the Merritt Road and Tuttle Hill Road intersection for signalization and pedestrian crossing.

The motion carried unanimously.

11. BUDGET AMENDMENT #9

Clerk Swanson read the budget amendment into the record.

A motion was made by Clerk Swanson and supported by Trustee Lovejoy Roe to approve budget amendment #9. (see attached)

The motion carried unanimously.

DRAFT

AUTHORIZATION AND BIDS

1. **ACCEPT THE BID FROM CSI EMERGENCY APPARATUS TO PURCHASE ONE AERIAL FIRE APPARATUS IN THE AMOUNT OF $1,499,428.00, BUDGETED IN LINE ITEM #217-907-979.000**

A motion was made by Treasurer Eldridge and supported by Trustee Thornton to accept the bid from CSI Emergency Apparatus to purchase one aerial fire apparatus in the amount of $1,499,428.00, budgeted in line item #217-907-979.000, contingent upon attorney approval. It was also agreed that approval would be contingent on the following:

- The contract would be updated to include the township as the purchasing authority
- The meeting packet would be revised to include the full specs for the purchase
- The contract pricing conditions would be changed from may be deducted to shall be deducted in this sentence "If truck is paid for within 20 days of final inspection at the factory, a credit of $15,000 ~~may~~ ***shall*** be deducted from the contract price."

The motion carried unanimously.

OTHER BUSINESS

There was no other business.

PUBLIC COMMENTS

There were 35 public comments. (refer to audio)

BOARD MEMBER COMMENTS

There were 3 board member comments. (refer to audio)

DRAFT

ADJOURNMENT

A motion to adjourn was made by Treasurer Eldridge and supported by Trustee Thornton.

The motion carried unanimously.

The meeting was adjourned at approximately 9:10PM

Respectfully Submitted,

Brenda L. Stumbo, Supervisor
Charter Township of Ypsilanti

Debra A. Swanson, Cler*k*
Charter Township of Ypsilanti

DRAFT

BS&A
CUSTOMER ORDER FORM

This Customer Order Form (this "**Order**") is entered into as of the "**Effective Date**" identified below between BS&A Software, LLC, a Delaware limited liability company with offices located at 14965 Abbey Lane, Bath, MI 48808 ("**BS&A**") and the "**Customer**" identified below. Capitalized terms used but not defined in this Order have the meanings given them elsewhere in the Agreement (as defined below). BS&A and Customer may be referred to herein collectively as the "**Parties**" or individually as a "**Party**". The Parties hereby agree as follows:

Customer Name: Ypsilanti Charter Township, Washtenaw County MI	**Sponsor Contact**:
Billing Address:	**Sponsor Phone**:
Accounts Payable Email:	**Sponsor Email**:

Platform and Fee Information

Effective Date:	
Platform Description: Those modules and feature packs of BS&A's proprietary hosted enterprise resource planning service for managing local government functions that are identified in the Pricing Sheet. "**Usage Limitations**": ☐ *Number of Authorized Users*: [INSERT # OF SEATS] ☐ *Other*: [INSERT OTHER USAGE LIMITATIONS, IF ANY]	
"**Initial Subscription Period**": [One (1) year]	**Subscription Fees**: $106,840 payable [annually].
Professional Services (if any): $121,805	**Service Fees (if any)**:
Other Customer Terms:	

The Customer Agreement (the "**Agreement**"), made and entered into as of the Effective Date between BS&A and Customer, includes and incorporates: (i) the above Order; (ii) any Orders previously or subsequently entered into by the Parties; and (iii) the Customer Terms and Conditions, which are attached to this Order (the "**Terms and Conditions**"); and (iv) the Pricing Sheet attached to this Order (the "**Pricing Sheet**").

BS&A SOFTWARE, LLC

_____

Name: _____

Title: _____

YPSILANTI CHARTER TOWNSHIP, WASHTENAW COUNTY, MI

_____

Name: _____

Title: _____

_____

Name: _____

Title: _____

EXHIBIT A

CUSTOMER TERMS AND CONDITIONS

The Parties agree as follows:

1. Definitions.

1.1 "**Authorized User**" means Customer's employees, consultants, contractors, and agents: (i) who are authorized by Customer to access and use the Platform under this Agreement; and (ii) for whom access to the Platform has been purchased hereunder.

1.2 "**BS&A IP**" means the Platform and any and all intellectual property provided to Customer or any Authorized User in connection with the foregoing. For the avoidance of doubt, BS&A IP includes Usage Data and any information, data, or other content derived from BS&A's provision of the Platform but does not include Customer Data.

1.3 "**Business Contact Data**" means Personal Information that relates to BS&A's relationship with Customer, including, by way of example and without limitation, the names and contact information of Authorized Users and any other data BS&A collects for the purpose of managing its relationship with Customer, identity verification, or as otherwise required by applicable laws, rules, or regulations.

1.4 "**Customer Data**" means information, data, and other content, in any form or medium, that is submitted, posted, or otherwise transmitted by or on behalf of Customer or an Authorized User through the Platform, including Business Contact Data; provided that, for purposes of clarity, Customer Data as defined herein does not include Business Contact Data or Usage Data.

1.5 "**Documentation**" means Company's end user documentation relating to the Platform, including any user guides.

1.6 "**Harmful Code**" means any software, hardware, or other technology, device, or means, including any virus, worm, malware, or other malicious computer code, the purpose or effect of which is to permit unauthorized access to, or to destroy, disrupt, disable, distort, or otherwise harm or impede in any manner any (i) computer, software, firmware, hardware, system, or network; or (ii) any application or function of any of the foregoing or the security, integrity, confidentiality, or use of any data processed thereby.

1.7 "**Order**" means: (i) a purchase order, order form, or other ordering document entered into by the Parties that incorporates this Agreement by reference; or (ii) if Customer registered for the Platform through BS&A's online ordering process, the results of such online ordering process.

1.8 "**Personal Information**" means any information that, individually or in combination, does or can identify a specific individual or by or from which a specific individual may be identified, contacted, or located, including without limitation all data considered "personal data", "personally identifiable information", or something similar under applicable laws, rules, or regulations relating to data privacy.

1.9 "**Platform**" 'has the meaning set forth on the Order.

1.10 "**Professional Services**" means training, migration, implementation, integration, or other professional services that are provided to Customer in connection with its use of the Platform hereunder.

1.11 "**Subscription Period**" means the time period identified on the Order during which Customer's Authorized Users may access and use the Platform.

1.12 "**Third-Party Products**" means any third-party products provided with, integrated with, or incorporated into the Platform.

1.13 "**Usage Data**" means usage data collected and processed by BS&A in connection with Customer's use of the Platform, including without limitation test configuration metadata, activity logs, and data used to optimize and maintain performance of the Platform, and to investigate and prevent system abuse. For purposes of clarity, Customer Data is not Usage Data and Usage Data does not contain Personal Information or any other Customer Data.

1.14 "**Usage Limitations**" means the usage limitations set forth in this Agreement and the Order, including without limitation any limitations on the number of Authorized Users (if any), and the applicable product, pricing, and support tiers agreed-upon by the Parties.

2. Access and Use.

2.1 Provision of Access. Subject to and conditioned on Customer's compliance with the terms and conditions of this Agreement, including without limitation the Usage Limitations, Customer may, solely through its Authorized Users, access and use the Platform during the Subscription Period on a non-exclusive, non-transferable (except in compliance with Section 15.9), and non-sublicensable basis. Such use is limited to Customer's internal business purposes and the features and functionalities specified in the Order. Each Authorized User must have its own unique account on the Platform and Authorized Users may not share their account credentials with one another or any third party. Customer will be responsible for all of the acts and omissions of its Authorized Users in connection with this Agreement and for all use of Authorized Users' accounts.

2.2 Documentation License. Subject to and conditioned on Customer's compliance with the terms and conditions of this Agreement, Company hereby grants to Customer a non-exclusive, non-transferable (except in compliance with Section 15.9), and non-sublicensable license to use the Documentation during the Subscription Period solely for Customer's internal business purposes in connection with its use of the Platform.

2.3 Use Restrictions. Customer shall not use the Platform for any purposes beyond the scope of the access granted in this Agreement. Customer shall not at any time, directly or indirectly, and shall not permit any Authorized Users to: (i) copy, modify, or create derivative works of any BS&A IP, whether in whole or in part; (ii) rent, lease, lend, sell, license, sublicense, assign, distribute, publish, transfer, or otherwise make available the Platform or Documentation to any third party; (iii) reverse engineer, disassemble, decompile, decode, adapt, or otherwise attempt to derive or gain access to any software component of the Platform, in whole or in part; (iv) remove any proprietary notices from any BS&A IP; (v) use any BS&A IP in any manner or for any purpose that infringes, misappropriates, or otherwise violates any intellectual property right or other right of any person, or that violates any applicable law; (vi) access or use any BS&A IP for purposes of competitive analysis of BS&A or the Platform, the development, provision, or use of a competing software service or product, or any other purpose that is to BS&A's detriment or commercial disadvantage; (vii) bypass or breach any security device or protection used by the Platform or access or use the Platform other than by an Authorized User through the use of valid access credentials; (viii) input, upload, transmit, or otherwise provide to or through the Platform any information or materials, including Customer Data, that are unlawful or injurious or that infringe or otherwise violate any third party's intellectual property or other rights, or that contain, transmit, or activate any Harmful Code; or (ix) use any BS&A IP for any activity where use or failure of the BS&A IP could lead to death, personal injury, or environmental damage, including life support systems, emergency services, nuclear facilities, autonomous vehicles, or air traffic control.

2.4 Reservation of Rights. BS&A reserves all rights not expressly granted to Customer in this Agreement. Except for the limited rights and licenses expressly granted under this Agreement, nothing in this Agreement grants, by implication, waiver, estoppel, or otherwise, to Customer or any third party any intellectual property rights or other right, title, or interest in or to the BS&A IP.

2.5 Suspension. Notwithstanding anything to the contrary in this Agreement, BS&A may temporarily suspend Customer's and any Authorized User's access to any portion or all of the Platform if: (i) BS&A reasonably determines that (a) there is a threat or attack on any of the BS&A IP; (b) Customer's or any Authorized User's use of the BS&A IP disrupts or poses a security risk to the BS&A IP or to any other customer or vendor of BS&A; (c) Customer, or any Authorized User, is using the BS&A IP for fraudulent or illegal activities; (d) subject to applicable law, Customer has ceased to continue its business in the ordinary course, made an assignment for the benefit of creditors or similar disposition of its assets, or become the subject of any bankruptcy, reorganization, liquidation, dissolution, or similar proceeding; (e) BS&A's provision of the Platform to Customer or any Authorized User is prohibited by applicable law; or (f) any Customer Data submitted, posted, or otherwise transmitted by or on behalf of Customer or an Authorized User through the Platform may infringe or otherwise violate any third party's intellectual property or other rights; (ii) any vendor of BS&A has suspended or terminated BS&A's access to or use of any Third-Party Products required to enable Customer to access the Platform; or (iii) in accordance with Section 7.1 (any such suspension described in subclauses (i), (ii), or (iii), a "**Service Suspension**"). BS&A shall use commercially reasonable efforts to provide written notice of any Service Suspension to Customer and to provide updates regarding resumption of access to the Platform following any Service Suspension. BS&A shall use commercially reasonable efforts to resume providing access to the Platform as soon as reasonably possible after the event giving rise to the Service Suspension is cured. BS&A will have no liability for any damage, liabilities, losses (including any loss of data or profits), or any other consequences that Customer or any Authorized User may incur as a result of a Service Suspension.

2.6 Business Contact Data and Usage Data. Notwithstanding anything to the contrary in this Agreement,

BS&A may process Business Contact Data: (i) to manage BS&A's relationship with Customer; (ii) to carry out BS&A's core business operations, such as, by way of example and without limitation, accounting, audits, tax preparation and for filing and compliance purposes; (iii) to monitor, investigate, prevent and detect fraud, security incidents and other misuse of the Platform, and to prevent harm to BS&A, Customer, and BS&A's other customers; (iv) for identity verification purposes; and (v) to comply with applicable laws, rules, and regulations relating to the processing and retention of Personal Information to which BS&A may be subject. BS&A may process Usage Data for any lawful purpose, including to monitor, maintain, and optimize the Platform. '

3. Customer Responsibilities.

3.1 General. Customer is responsible and liable for all uses of the Platform and Documentation resulting from access provided by Customer, directly or indirectly, whether such access or use is permitted by or in violation of this Agreement. Without limiting the generality of the foregoing, Customer is responsible for all acts and omissions of Authorized Users, and any act or omission by an Authorized User that would constitute a breach of this Agreement if taken by Customer will be deemed a breach of this Agreement by Customer. Customer shall use reasonable efforts to make all Authorized Users aware of this Agreement's provisions as applicable to such Authorized User's use of the Platform and shall cause Authorized Users to comply with such provisions.

3.2 Third-Party Products. BS&A may from time to time make Third-Party Products available to Customer or BS&A may allow for certain Third-Party Products to be integrated with the Platform to allow for the transmission of Customer Data from such Third-Party Products into the Platform. For purposes of this Agreement, such Third-Party Products are subject to their own terms and conditions. BS&A is not responsible for the operation of any Third-Party Products and makes no representations or warranties of any kind with respect to Third-Party Products or their respective providers. If Customer does not agree to abide by the applicable terms for any such Third-Party Products, then Customer should not install or use such Third-Party Products. By authorizing BS&A to transmit Customer Data from Third-Party Products into the Platform, Customer represents and warrants to BS&A that it has all right, power, and authority to provide such authorization.

3.3 Customer Control and Responsibility. Customer has and will retain sole responsibility for: (i) all Customer Data, including its content and use; (ii) all information, instructions, and materials provided by or on behalf of Customer or any Authorized User in connection with the Platform; (iii) Customer's information technology infrastructure, including computers, software, databases, electronic systems (including database management systems), and networks, whether operated directly by Customer or through the use of third-party platforms or service providers ("**Customer Systems**"); (iv) the security and use of Customer's and its Authorized Users' access credentials; and (v) all access to and use of the Platform directly or indirectly by or through the Customer Systems or its or its Authorized Users' access credentials, with or without Customer's knowledge or consent, including all results obtained from, and all conclusions, decisions, and actions based on, such access or use. For purposes of clarity, Customer Systems do not include BS&A's information technology infrastructure, including computers, software, databases, electronic systems (including database management systems, and networks operated directly by BS&A and its third-party service providers.

4. Support. Subject to and conditioned on Customer's compliance with the terms and conditions of this Agreement, including payment of applicable Fees, BS&A will use commercially reasonable efforts to provide Customer with basic customer support via BS&A's standard support channels during BS&A's normal business hours.

5. Professional Services. BS&A will perform Professional Services as described in an Order. Customer will provide BS&A all reasonable cooperation required for BS&A to perform the Professional Services, including without limitation timely access to any reasonably required Customer materials, information, or personnel. Subject to any limitations identified in an Order, Customer will reimburse BS&A's reasonable travel and lodging expenses incurred in providing Professional Services. To the extent the Professional Services result in any work product of any kind or character ("**Work Product**"), all such Work Product will remain owned solely and exclusively by BS&A and, to the extent any such Work Product consists of enhancements, improvements, or other modifications to the Platform, such Work Product may be used by Customer solely in connection with Customer's authorized use of the Platform under this Agreement.

6. Insurance. During the Subscription Period, BS&A shall procure and maintain appropriate insurance policies with coverage limits that are commensurate with industry standards and sufficient to protect against potential risks associated with this Agreement. The insurance policies shall be obtained from reputable and financially sound insurance providers, and BS&A agrees to provide proof of such insurance upon request by Customer.

7. Fees and Taxes.

7.1 Fees. The Platform may be provided for a fee or other charge. Customer shall pay BS&A the fees ("**Fees**") identified in the Order without offset or deduction at the cadence identified in the Order (e.g., monthly or annually). BS&A may increase the Fees annually, provided that BS&A will provide Customer at least thirty (30) days' notice of such increase prior to the end of the then-current Term. The amount of the Fee increase will be in BS&A's sole discretion, provided that Customer agrees that the increase may be at least the greater of: (i) five percent (5%); or (ii) the annual increase in the relevant Consumer Price Index for all Urban Consumers published by the Bureau of Labor Statistics for the then-current calendar year, in each case as compared to the Fees applicable during then-current Term, as applicable. Fees paid by Customer are non-refundable. Customer shall make all payments hereunder in US dollars by ACH or via another reasonable method chosen by BS&A, to such account as BS&A may specify in writing from time to time, or by another mutually agreed-upon payment method. If Customer pays via invoice, Customer will pay the invoiced amount within thirty (30) calendar days of the invoice date. If Customer fails to make any payment when due, and Customer has not notified BS&A in writing within ten (10) days of the payment becoming due and payable that the payment is subject to a good faith dispute, without limiting BS&A's other rights and remedies, and to the fullest extent permissible under applicable law: (i) BS&A may charge interest on the undisputed past due amount at the rate of 1.5% per month, calculated daily and compounded monthly or, if lower, the highest rate permitted under applicable law; (ii) Customer shall reimburse BS&A for all reasonable costs incurred by BS&A in collecting any late payments or interest, including attorneys' fees, court costs, and collection agency fees; and (iii) if such failure continues for ten (10) days or more, BS&A may suspend Customer's and its Authorized Users' access to all or any part of the Platform until such amounts are paid in full.

7.2 Taxes. All Fees and other amounts payable by Customer under this Agreement are exclusive of taxes and similar assessments. Customer is responsible for all sales, use, and excise taxes, and any other similar taxes, duties, and charges of any kind imposed by any federal, state, or local governmental or regulatory authority on any amounts payable by Customer hereunder, other than any taxes imposed on BS&A's income.

8. Confidential Information.

8.1 Definition. From time to time during the Subscription Period, either Party may disclose or make available to the other Party information about its business affairs, products, confidential intellectual property, trade secrets, third-party confidential information, and other sensitive or proprietary information, whether orally or in written, electronic, or other form or media that: (i) is marked, designated or otherwise identified as "confidential" or something similar at the time of disclosure or within a reasonable period of time thereafter; or (ii) would be considered confidential by a reasonable person given the nature of the information or the circumstances of its disclosure (collectively, "**Confidential Information**"). Except for Personal Information, Confidential Information does not include information that, at the time of disclosure is: (a) in the public domain; (b) known to the receiving Party at the time of disclosure; (c) rightfully obtained by the receiving Party on a non-confidential basis from a third party; or (d) independently developed by the receiving Party without use of, reference to, or reliance upon the disclosing Party's Confidential Information.

8.2 Duty. The receiving Party shall not disclose the disclosing Party's Confidential Information to any person or entity, except to the receiving Party's employees, contractors, and agents who have a need to know the Confidential Information for the receiving Party to exercise its rights or perform its obligations hereunder ("**Representatives**"). The receiving Party will be responsible for all the acts and omissions of its Representatives as they relate to Confidential Information hereunder. Notwithstanding the foregoing, each Party may disclose Confidential Information to the limited extent required (i) in order to comply with the order of a court or other governmental body, or as otherwise necessary to comply with applicable law, provided that the Party making the disclosure pursuant to the order shall first have given written notice to the other Party and made a reasonable effort to obtain a protective order; or (ii) to establish a Party's rights under this Agreement, including to make required court filings. Further, notwithstanding the foregoing, each Party may disclose the terms and existence of this Agreement to its actual or potential investors, debtholders, acquirers, or merger partners under customary confidentiality terms.

8.3 Return of Materials; Effects of Termination/Expiration. On the expiration or termination of the Agreement, the receiving Party shall promptly return to the disclosing Party all copies, whether in written, electronic, or other form or media, of the disclosing Party's Confidential Information, or destroy all such copies and certify in writing to the disclosing Party that such Confidential Information has been destroyed. Each Party's obligations of non-use and non-disclosure with regard to Confidential Information are effective as of the Effective Date and will expire three (3) years from the date of termination or expiration of this Agreement; provided, however, with respect to any Confidential Information that constitutes a trade secret (as determined under applicable law), such obligations of non-disclosure will survive the termination or expiration of this Agreement for as long as such Confidential Information remains subject to trade secret protection under applicable law.

9. Data Security and Processing of Personal Information.

9.1 Customer Data. Customer hereby grants to BS&A a non-exclusive, royalty-free, worldwide license to reproduce, distribute, and otherwise use and display the Customer Data and perform all acts with respect to the Customer Data as may be necessary for BS&A to provide the Platform and otherwise perform its obligations hereunder. Customer may export the Customer Data at any time through the features and functionalities made available via the Platform. For the avoidance of doubt, aggregated, de-identified, and anonymized portions, sets, or other combinations of Customer Data that do not contain personally identifying elements of Customer's identity or of any Authorized Users are Usage Data and not Customer Data.

9.2 Security Measures. BS&A will implement and maintain commercially reasonable administrative, physical, and technical safeguards designed to protect Customer Data (including Personal Information provided as part of Business Contact Data) from unauthorized access, use, alteration, or disclosure.

9.3 Processing of Personal Information. BS&A's rights and obligations with respect to Personal Information that it collects directly from individuals (if any) are set forth in BS&A's Privacy Policy (as amended from time to time in accordance with its terms). Personal Information processed by BS&A on behalf of Customer is considered Customer Data and is governed by the terms of this Agreement.

10. Intellectual Property Ownership; Feedback.

10.1 BS&A IP. Customer acknowledges that, as between Customer and BS&A, BS&A owns all right, title, and interest, including all intellectual property rights, in and to the BS&A IP and, with respect to Third-Party Products, the applicable third-party providers own all right, title, and interest, including all intellectual property rights, in and to the Third-Party Products.

10.2 Usage Data. Customer acknowledges that, as between BS&A and Customer, BS&A owns all right, title, and interest, including all intellectual property rights, in and to the Usage Data.

10.3 Customer Data. BS&A acknowledges that, as between BS&A and Customer, Customer owns all right, title, and interest, including all intellectual property rights, in and to the Customer Data.

10.4 Feedback. If Customer or any of its employees or contractors sends or transmits any communications or materials to BS&A by mail, email, telephone, or otherwise, suggesting or recommending changes to the BS&A IP, including without limitation, new features or functionality relating thereto, or any comments, questions, suggestions, or the like ("**Feedback**"), BS&A is free to use such Feedback irrespective of any other obligation or limitation between the Parties governing such Feedback.

11. Mutual Warranties; Disclaimer of Other Warranties.

11.1 Mutual Warranties. Each party hereby represents and warrants to the other that: (i) it has the full right, power, and authority to enter into, execute, and perform its obligations under this Agreement without any conflict with or violation of any other obligations to which it may be subject; and (ii) this Agreement is binding on such party in accordance with its terms.

11.2 Disclaimer of Other Warranties. THE BS&A IP IS PROVIDED "AS IS" AND BS&A HEREBY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE. BS&A SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING, USAGE, OR TRADE PRACTICE. BS&A MAKES NO WARRANTY OF ANY KIND THAT THE BS&A IP, OR ANY PRODUCTS OR RESULTS OF THE USE THEREOF, WILL MEET CUSTOMER'S OR ANY OTHER PERSON'S REQUIREMENTS, OPERATE WITHOUT INTERRUPTION, ACHIEVE ANY INTENDED RESULT, BE COMPATIBLE OR WORK WITH ANY SOFTWARE, SYSTEM OR OTHER PLATFORM, OR BE SECURE, ACCURATE, COMPLETE, FREE OF HARMFUL CODE, OR ERROR FREE.

12. Indemnification.

12.1 BS&A Indemnification.

(a) BS&A shall indemnify, defend, and hold harmless Customer from and against any and all losses, damages, liabilities, costs (including reasonable attorneys' fees) ("**Losses**") incurred by Customer resulting from any third-party claim, suit, action, or proceeding ("**Third-Party Claim**") brought against Customer alleging that the Platform, or any use of the Platform in accordance with this Agreement, infringes or misappropriates such third party's US intellectual

property rights; provided that Customer promptly notifies BS&A in writing of the claim, cooperates with BS&A, and allows BS&A sole authority to control the defense and settlement of such claim.

(b) If such a claim is made or appears possible, Customer agrees to permit BS&A, at BS&A's sole discretion: to (i) modify or replace the Platform, or component or part thereof, to make it non-infringing; or (ii) obtain the right for Customer to continue use. If BS&A determines that neither alternative is reasonably commercially available, BS&A may terminate this Agreement, in its entirety or with respect to the affected component or part, effective immediately on written notice to Customer, and as Customer's sole and exclusive remedy therefor, BS&A will provide to Customer a prorated refund of prepaid, unused Fees attributable to the Platform (and not including any one-time Fees for Professional Services).

(c) This Section 12.1 will not apply to the extent that the alleged infringement arises from: (i) use of the Platform in combination with data, software, hardware, equipment, or technology not provided by BS&A or authorized by BS&A in writing; (ii) modifications to the Platform not made by BS&A; (iii) Customer Data; or (iv) Third-Party Products.

12.2 Customer Indemnification. To the extent permitted under applicable laws, Customer shall indemnify, hold harmless, and, at BS&A's option, defend BS&A from and against any Losses resulting from any Third-Party Claim alleging that the Customer Data, or any use of the Customer Data in accordance with this Agreement, infringes or misappropriates such third party's intellectual property or other rights and any Third-Party Claims based on Customer's or any Authorized User's (i) negligence or willful misconduct; (ii) use of the Platform in a manner not authorized by this Agreement; or (iii) use of the Platform in combination with data, software, hardware, equipment or technology not provided by BS&A or authorized by BS&A in writing; in each case provided that Customer may not settle any Third-Party Claim against BS&A unless BS&A consents to such settlement, and further provided that BS&A will have the right, at its option, to defend itself against any such Third-Party Claim or to participate in the defense thereof by counsel of its own choice.

12.3 Sole Remedy. THIS SECTION 12.3 SETS FORTH CUSTOMER'S SOLE REMEDIES AND BS&A'S SOLE LIABILITY AND OBLIGATION FOR ANY ACTUAL, THREATENED, OR ALLEGED CLAIMS THAT THE PLATFORM INFRINGE, MISAPPROPRIATE, OR OTHERWISE VIOLATE ANY INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY.

13. Limitations of Liability. IN NO EVENT WILL EITHER PARTY BE LIABLE UNDER OR IN CONNECTION WITH THIS AGREEMENT UNDER ANY LEGAL OR EQUITABLE THEORY, INCLUDING BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, AND OTHERWISE, FOR ANY: (i) CONSEQUENTIAL, INCIDENTAL, INDIRECT, EXEMPLARY, SPECIAL, ENHANCED, OR PUNITIVE DAMAGES; (ii) INCREASED COSTS, DIMINUTION IN VALUE OR LOST BUSINESS, PRODUCTION, REVENUES, OR PROFITS; (iii) LOSS OF GOODWILL OR REPUTATION; (iv) USE, INABILITY TO USE, LOSS, INTERRUPTION, DELAY OR RECOVERY OF ANY DATA, OR BREACH OF DATA OR SYSTEM SECURITY; OR (v) COST OF REPLACEMENT GOODS OR SERVICES, IN EACH CASE REGARDLESS OF WHETHER BS&A WAS ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES OR SUCH LOSSES OR DAMAGES WERE OTHERWISE FORESEEABLE. IN NO EVENT WILL 'EITHER PARTY'S AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THIS AGREEMENT UNDER ANY LEGAL OR EQUITABLE THEORY, INCLUDING BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, AND OTHERWISE EXCEED THE TOTAL AMOUNTS PAID AND/OR PAYABLE TO BS&A UNDER THIS AGREEMENT IN THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM. THE FOREGOING LIMITATIONS OF LIABILITY WILL NOT APPLY WITH RESPECT TO LIABILITIES ARISING FROM: (A) A PARTY'S BREACH OF ITS CONFIDENTIALITY OBLIGATIONS UNDER SECTION 8; (B) A PARTY'S GROSS NEGLIGENCE, FRAUD, OR WILLFUL MISCONDUCT; OR (C) A PARTY'S INDEMNIFICATION OBLIGATIONS UNDER SECTION 12 (PROVIDED THAT BS&A'S TOTAL AGGREGATE LIABILITY IN CONNECTION WITH SUCH INDEMNIFICATION OBLIGATIONS WILL NOT EXCEED THREE TIMES (3X) THE TOTAL AMOUNTS PAID AND/OR PAYABLE TO BS&A UNDER THIS AGREEMENT IN THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM).

14. Subscription Period and Termination.

14.1 Subscription Period. The initial term of this Agreement begins on the Effective Date and, unless terminated earlier pursuant to this Agreement's express provisions, will continue in effect for the period identified in the Order (the "**Initial Subscription Period**"). This Agreement will automatically renew for additional successive terms equal to the length of the Initial Subscription Period unless earlier terminated pursuant to this Agreement's express provisions or either Party gives the other Party written notice of non-renewal at least thirty (30) days prior to the expiration of the then-current term (each a "**Renewal Subscription Period**" and together with the Initial Subscription Period, the "**Subscription Period**").

14.2 Termination. In addition to any other express termination right set forth in this Agreement:

(a) BS&A may terminate this Agreement, effective on written notice to Customer, if Customer: (i) fails to pay any amount when due hereunder, and such failure continues more than ten (10) calendar days after BS&A's delivery of written notice thereof; or (ii) breaches any of its obligations under Section 2.3 or Section 8;

(b) either Party may terminate this Agreement, effective on written notice to the other Party, if the other Party materially breaches this Agreement, and such breach: (i) is incapable of cure; or (ii) being capable of cure, remains uncured thirty (30) calendar days after the non-breaching Party provides the breaching Party with written notice of such breach; or

(c) either Party may terminate this Agreement, effective immediately upon written notice to the other Party, if the other Party: (i) becomes insolvent or is generally unable to pay, or fails to pay, its debts as they become due; (ii) files or has filed against it, a petition for voluntary or involuntary bankruptcy or otherwise becomes subject, voluntarily or involuntarily, to any proceeding under any domestic or foreign bankruptcy or insolvency law; (iii) makes or seeks to make a general assignment for the benefit of its creditors; or (iv) applies for or has appointed a receiver, trustee, custodian, or similar agent appointed by order of any court of competent jurisdiction to take charge of or sell any material portion of its property or business.

14.3 Effect of Expiration or Termination. Upon expiration or earlier termination of this Agreement, Customer shall immediately discontinue use of the BS&A IP and, without limiting Customer's obligations under Section 8, Customer shall delete, destroy, or return all copies of the BS&A IP and certify in writing to the BS&A that the BS&A IP has been deleted or destroyed. No expiration or termination will affect Customer's obligation to pay all Fees that may have become due before such expiration or termination or entitle Customer to any refund.

14.4 Survival. This Section 14.4 and Sections 1, 5, 8, 10, 11, 12, 13, 14.3, and 15 survive any termination or expiration of this Agreement. No other provisions of this Agreement survive the expiration or earlier termination of this Agreement.

15. Miscellaneous.

15.1 Relationship of the Parties. BS&A performs its obligations hereunder as an independent contractor and not a partner, joint venture, or agent of Customer and shall not bind nor attempt to bind Customer to any contract without Customer's prior written approval on a case-by-case basis. BS&A is responsible for hiring, firing, and supervising its personnel is solely responsible hereunder for its personnel, including without limitation for: (a) payment of compensation to such personnel; (b) withholding (if applicable), paying, and reporting, for all personnel assigned to perform services (including Professional Services) in connection with this Agreement, applicable tax withholding, social security taxes, employment head taxes, unemployment insurance, and other taxes or charges applicable to such personnel; and (c) health or disability benefits, retirement benefits, or welfare, pension, or other benefits (if any) to which such personnel may be entitled. For purposes of clarity, BS&A's personnel will not be eligible to participate in any of Customer's employee benefit plans, fringe benefit programs, group insurance arrangements, or similar programs.

15.2 Entire Agreement. This Agreement, together with any other documents incorporated herein by reference, constitutes the sole and entire agreement of the Parties with respect to the subject matter of this Agreement and supersedes all prior and contemporaneous understandings, agreements, and representations and warranties, both written and oral, with respect to such subject matter. In the event of any inconsistency between the statements made in the body of this Agreement, the related Exhibits, and any other documents incorporated herein by reference, the following order of precedence governs: (i) first, this Agreement; and (ii) second, any other documents incorporated herein by reference.

15.3 Notices. All notices, requests, consents, claims, demands, waivers, and other communications hereunder (each, a "**Notice**") must be in writing and addressed to the Parties at the addresses set forth on the first page of this Agreement (or to such other address that may be designated by the Party giving Notice from time to time in accordance with this Section). All Notices must be delivered by personal delivery, nationally recognized overnight courier (with all fees pre-paid), facsimile or email (with confirmation of transmission) or certified or registered mail (in each case, return receipt requested, postage pre-paid). Except as otherwise provided in this Agreement, a Notice is effective only: (i) upon receipt by the receiving Party; and (ii) if the Party giving the Notice has complied with the requirements of this Section.

15.4 Force Majeure. In no event shall either Party be liable to the other Party, or be deemed to have breached

this Agreement, for any failure or delay in performing its obligations under this Agreement (except for any obligations to make payments), if and to the extent such failure or delay is caused by any circumstances beyond such Party's reasonable control, including but not limited to acts of God, flood, fire, earthquake, explosion, war, terrorism, invasion, riot or other civil unrest, strikes, labor stoppages or slowdowns or other industrial disturbances, or passage of law or any action taken by a governmental or public authority, including imposing an embargo.

15.5 Amendment and Modification. No amendment or modification to this Agreement is effective unless it is in writing and signed by an authorized representative of each Party.

15.6 Waiver. No failure or delay by either Party in exercising any right or remedy available to it in connection with this Agreement will constitute a waiver of such right or remedy. No waiver under this Agreement will be effective unless made in writing and signed by an authorized representative of the Party granting the waiver.

15.7 Severability. If any provision of this Agreement is invalid, illegal, or unenforceable in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal, or unenforceable, the Parties shall negotiate in good faith to modify this Agreement so as to effect their original intent as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

15.8 Governing Law; Submission to Jurisdiction. To the extent permissible under applicable laws, this Agreement is governed by and construed in accordance with the internal laws of the State of Delaware without giving effect to any choice or conflict of law provision or rule that would require or permit the application of the laws of any jurisdiction other than those of the State of Delaware. To the extent permissible under applicable laws, any legal suit, action, or proceeding arising out of or related to this Agreement must be instituted in the federal courts of the United States or the courts of the State of Delaware in each case located in New Castle County, Delaware and each Party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action, or proceeding. If Customer is located in a jurisdiction that requires that this Agreement be governed by and construed in accordance with laws other than those of the State of Delaware, or that require any legal suits, actions, or proceedings arising out of or related to this Agreement be instituted in state and federal courts located anywhere other than New Castle County, Delaware, then the Parties agree that such other laws shall apply and to institute any such legal suits, actions, or proceedings in such other jurisdiction(s).

15.9 Assignment. Neither Party may assign any of its rights or delegate any of its obligations hereunder (except in the case of either Party utilizing authorized subcontractors and consultants), in each case whether voluntarily, involuntarily, by operation of law or otherwise, without the prior written consent of the other Party. Any purported assignment or delegation in violation of this Section will be null and void. No assignment or delegation will relieve the assigning or delegating Party of any of its obligations hereunder. This Agreement is binding upon and inures to the benefit of the Parties and their respective permitted successors and assigns. Notwithstanding the foregoing, either Party may freely assign this Agreement to an affiliate or successor in interest in the event of a merger, acquisition, sale of all or substantially all of its assets, corporate reorganization, or other change in control, without the prior consent of the other Party.

15.10 Export Regulation. The Platforms utilize software and technology that may be subject to US export control laws, including the US Export Administration Act and its associated regulations. Customer shall not, directly or indirectly, export, re-export, or release the Platform or the underlying software or technology to, or make the Platform or the underlying software or technology accessible from, any jurisdiction or country to which export, re-export, or release is prohibited by law, rule, or regulation. Customer shall comply with all applicable federal laws, regulations, and rules, and complete all required undertakings (including obtaining any necessary export license or other governmental approval), prior to exporting, re-exporting, releasing, or otherwise making the Platform or the underlying software or technology available outside the US.

15.11 US Government Rights. Each of the Documentation and software components that constitute the Platform is a "commercial item" as that term is defined at 48 C.F.R. § 2.101, consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in 48 C.F.R. § 12.212. Accordingly, if Customer is an agency of the US Government or any contractor therefor, Customer only receives those rights with respect to the Documentation and the Platform as are granted to all other end users, in accordance with (a) 48 C.F.R. § 227.7201 through 48 C.F.R. § 227.7204, with respect to the Department of Defense and their contractors, or (b) 48 C.F.R. § 12.212, with respect to all other US Government users and their contractors.

15.12 Equitable Relief. Each Party acknowledges and agrees that a breach or threatened breach by such Party of any of its obligations under Section 8 or, in the case of Customer, Section 2.3, would cause the other Party irreparable harm for which monetary damages would not be an adequate remedy and agrees that, in the event of such breach or threatened breach, the other Party will be entitled to equitable relief, including a restraining order, an injunction, specific performance and any other relief that may be available from any court, without any requirement to post a bond or other security, or to prove actual damages or that monetary damages are not an adequate remedy. Such remedies are not exclusive and are in addition to all other remedies that may be available at law, in equity or otherwise.

EXHIBIT B

PRICING SHEET

(Based on Q-01232 dated 6/30/25)

Upgrade - Cloud Modules – *Annual Fee*		
Financial Management		
GL-General Ledger		$11,865.00
AP-Account Payable		$9,760.00
PO-Purchase Order		$9,575.00
CR-Cash Receipting		$10,695.00
	Total	$41,895.00
Personnel Management		
PR-Payroll		$16,130.00
	Total	$16,130.00
Community Development		
BD-Building Department		$19,205.00
	Total	$19,205.00
Property		
ASG-Assessing		$10,900.00
AL-Animal License		$5,630.00
TX-Tax		$7,045.00
DPP-Delinquent Personal Property		$2,355.00
	Total	$25,930.00
	Subtotal	$103,160.00

New Puirchase - ClbudlModuliies - Annual fee

P,roperty

S'PA:5-Special Assessment;		$3,680.00
	fotal	$3,680.00
	Subtotal	$3,680.00

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Total **$43,755.00**

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Training andGo-tive

Seb!J, Da .s

ITSSdup - fiM	Setup Days: 2	$2,650.00
ITS Setup - Hms	Serup Days: 2	$2,650.00
ITSSdup - CD	Serup Days: 2	$2,650.00
ITS Setup - Property	Serup Days: 4	$5,300.00
	Total Setup D1,iir-;: 10,	Subtotal: S13,250.00

Trnini1119 Da¥s·		
ITSTrain[rig - FM	Training Days: 14	$18,550.lilO
ITSTrain[rig - HRirS	Training Days: 7	$9;275.00
ITSTrain[rig - CD	Training Days: 15,	S19;875.lilO
ITSTrain[rig - Prope.rty	Training Days: 7	$9;275.00
	Total Train·ng Days: 43	Subtotal: $56,975.00
	Total Days: 53	Total: $70:225.00

Cost Totalls

Upgrade Mooures -*A,mual Fee*	Subtotal	$10i3,100.lilO
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Project Mariagement	Subtotal	$43,755.lilO
Imprernenratron and Training	Subtotal	$70,225.lilO
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P,ayment Schedul,e

1.t Payme.rit::	$43,155 to be invoiced upon exerution oftl,-s agreement.
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3rd Payment	**$78,050** to be invoiced upon completion oftrain[rig,.

CHARTER TOWNSHIP OF YPSILANTI
ORDINANCE NO. 2025 – 511

An ordinance to amend Chapter 62, Article IV, Section 62-76(a) of the Code of Ordinances, Charter Township of Ypsilanti, to adjust water service rates.

BE IT ORDERED BY THE CHARTER TOWNSHIP OF YPSILANTI, that:

Section 62-76(a) of Chapter 62, Article IV of the Code of Ordinances be revised as follows:

(a) Except as otherwise provided in this section, water to be furnished by the system shall be measured by a meter controlled by the Ypsilanti Community Utilities Authority.

For all billings rendered prior to September 1, 2025, existing water service rates shall prevail. For all billings rendered on or after September 1, 2025, charges for water service rates shall be as follows, for each bimonthly (two-month) period:

(1) **Readiness-to-serve rates based on size of meter:**

Meter Size (inch)	Water Rate
5/8-3/4	$ 18.96
1	$ 47.39
1-1/2	$ 94.78
2	$ 151.65
3	$ 473.90
4	$ 947.80
6	$ 1,895.59
8	$ 3,317.28
10	$ 5,212.88
12	$ 6,160.67

(2) **Commodity rate:** $4.10 per 100 cubic feet

CHARTER TOWNSHIP OF YPSILANTI
ORDINANCE NO. 2025 – 512

An ordinance to amend Chapter 62, Article IV, Section 62-77 of the Code of Ordinances, Charter Township of Ypsilanti, to adjust sewage disposal rates.

BE IT ORDERED BY THE CHARTER TOWNSHIP OF YPSILANTI, that:

Section 62-77 of Chapter 62, Article IV of the Code of Ordinances be revised as follows:

For all billings rendered prior to September 1, 2025, existing sewage disposal service rates shall prevail. For all billings rendered on or after September 1, 2025, charges for sewage disposal services shall be as follows, for each bimonthly (two-month) period:

(1) **Readiness-to-serve rates based on size of meter:**

Meter Size (inch)	Sewer Rate
5/8-3/4	$ 19.60
1	$ 49.01
1-1/2	$ 98.00
2	$ 156.81
3	$ 490.03
4	$ 980.07
6	$ 1,960.12
8	$ 3,430.23
10	$ 5,390.35
12	$ 6,370.42

(2) **Commodity rate:** $3.23 per 100 cubic feet

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DIRECTOR OF HUMAN RESOURCES

Department: Human Resources
Supervised by: Township Supervisor
Supervision: HR Generalist, HR Specialist (PT), & I.T. Department, & additional personnel as assigned
FLSA Status: Exempt
Position Type: Full-Time, Non-Union

Position Summary:

The Charter Township of Ypsilanti is a family-oriented community of over 50,000 residents located on the eastern edge of Washtenaw County. The Director of Human Resources, under the general direction of the Township Supervisor, or their specified designee, directs, manages, and coordinates, the human resources and risk management activities for all Township departments, including the Fire Department as well as Parks & Recreation. Responsibilities include recruitment, selection, classification and compensation, benefits administration, workers' compensation, risk management insurance programs, training, employee relations, labor contract administration and negotiations, and employee safety and wellness. Maintains confidentiality of sensitive and/or personal information. Provides leadership around such initiatives as identifying cost efficiencies across departments.

Essential Job Functions:

An employee in this position may be called upon to do any, or all, of the following essential functions. These examples do not include all of the duties which the employee may be expected to perform. To perform this job successfully, an individual must be able to perform each essential function satisfactorily.

1. The ideal candidate will work under the direction of the Township Supervisor, in collaboration with the other full-time elected officials, and other department directors, in creating a township culture that is collaborative, team and service-oriented by creating, recruiting, selecting, orienting and putting into place human resources systems that will instill an attitude of service-oriented performance throughout the organization.

2. Regularly meets with the Township Supervisor to discuss the status of current activities, reports, and upcoming projects.

3. Ensures compliance with all state and federal laws and Township ordinances, policies and procedures related to human resources. Maintains necessary records and information, analyzes data, compiles reports required by regulatory agencies and Township administration.

4. Provides advice and information to Elected Officials, Department Heads, and employees related to employment issues, policies, and procedures.

5. Defines, implements, and administers the employee compensation program. Shall oversee the payroll development, leave time accruals, and benefits programs. Conducts and/or coordinates surveys and job analyses to develop job descriptions and pay ranges. Updates and maintains the Township's wage ranges and benefits.

6. Administers employee insurance and retirement contracts, including worker's compensation, unemployment, health, life and disability insurance, deferred compensation and defined benefit retirement programs. Serves as the liaison with providers and maintains agreements.

7. Serves as a member of the Township's collective bargaining team. Proposes and completes the drafts of contract language, and studies and reports on the potential cost and service impacts of proposed provisions. Administers all collective bargaining agreements and employee contracts.

8. Manages and leads the selection, recruitment, hiring, discipline and discharge processes of Township employees. Shall oversee recruitment advertising, application reviews, interviews, selection processes, and background checks on applicants. Shall oversee the proper maintenance and access to personnel files.

9. Oversees staff training programs. Will ensure employees are properly trained to perform their jobs professionally and safely. Investigates incidents and injuries, and coordinates physical inspections to identify potential liabilities.

10. Serves on special committees and participates in civic, and professional organizations as assigned.

11. When directed by the Township Supervisor, acts as a community liaison on her behalf, responding to inquiries and issues of community leaders and public groups.

12. Assists the Police and Fire Pension Board, as well as the Civil Service Commission, with the preparation of meeting materials, facilitation of meetings, record keeping, and compilation of data and information as needed.

13. Prepares annual budget request for the department's operations. Ensures adherence to the approved budget. Performs overall general fund budget oversight duties as directed.

14. Oversee the Education and Training needs of employees, as it relates to required licensing and certifications needed to perform their job duties.

15. Attend meetings of the Township Boards and Commissions, as needed.

16. Develops, recommends and updates township personnel policies.

17. Performs related work as required.

Required Knowledge, Skills, Abilities and Minimum Qualifications:

The requirements listed below are representative of the knowledge, skills, abilities and minimum qualifications necessary to perform the essential functions of the position. These requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodations.

1. A Bachelor's Degree in Business, Public, Administration, Human Resources, Labor Relations or a related field. A Master's Degree in a related field is preferred. SPHR or similar certification is highly desirable.

2. Leadership experience working in the public sector is required.

3. Seven or more years of labor relations, human resources management, or related experience. Experience with supervising and developing others.

4. Thorough knowledge of the laws, statutes, and regulations pertaining to employee recruitment, hiring, discharge, record-keeping, training, payroll, insurance and retirement.

5. Considerable knowledge of the principles and practices of municipal government operations, including budget management.

6. Demonstrated success with establishing confidential and effective working relationships. Demonstrated use of good judgment, initiative and resourcefulness when dealing with employees, Elected Officials and the public.

7. Thorough knowledge of Human Resources practices and techniques. Considerable knowledge of labor negotiations, contract administration, and mediation. Ability to work in collaboration with the Township designated labor attorney.

8. A team player with initiative, sound judgment, integrity, and strong analytical skills. Strong leadership and interpersonal skills to guide and lead the Human Resource Department. A "lead by example" management style and hold self and staff members accountable to achieving and maintaining a high level of customer service and professionalism.

9. The ability to establish and maintain effective working relationships with employees, retirees, elected officials, other governmental and regulatory agencies, and professional contacts.

10. The ability to convey and understand information effectively and promptly through speaking, hearing, reading, and writing.

11. The ability to critically assess situations, solve problems, and work effectively within deadlines, and the changing of work priorities.

Physical Demands and Work Environment:

The physical demands and work environment characteristics described here are representative of those an employee encounters while performing the essential functions of the job. These requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodation.

While performing the duties of this job, the employee is regularly required to talk, hear, and view and produce written documents. The employee frequently is required to sit; use hands to grasp, handle, or feel; and reach with hands and arms. The employee is required to stand, walk, and occasionally stoop or kneel. The employee must occasionally lift and/or move items of light weight.

While performing the duties of this job, the employee typically works in a business office setting. The noise level in the work environment can range from quiet to moderately loud

Recommended Salary Range:

$95,000.00 to $105,000.00 per year

CHARTER TOWNSHIP OF YPSILANTI
2025 BUDGET AMENDMENT # 9

July 15, 2025

AMOUNTS ROUNDED UP TO THE NEAREST DOLLAR

101 - GENERAL FUND — Total Increase $45,927.00

Request to increase the health benefits due to changes in health care coverage. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**101-000-699.999**		**$45,927.00**
			Net Revenues	**$45,927.00**
	Departments			
Expenditures:	**Health Care**	**101-171-719.000**		**$37,671.00**
	Dental	**101-171-719.015**		**$1,145.00**
	Vision	**101-171-719.016**		**$50.00**
	Health Care deduction	**101-171-719.020**		**$6,950.00**
	Health Admin fees	**101-171-719.021**		**$111.00**
			Net Expenditures	**$45,927.00**

213 - BIKE, SIDEWALK, REC, ROADS GENERAL FUND (BSRII) — Total Increase $11,350.00

Request to increase the budget to replace a zero turn mower destroyed by fire. This will be funded by our MML insurance claim.

Revenues:	**Insurance Reimbursement**	**213-000-676.012**		**$11,350.00**
			Net Revenues	**$11,350.00**
Expenditures:	**Equipment**	**213-753-977.000**		**$11,350.00**
			Net Expenditures	**$11,350.00**

226 - ENVIRONMENTAL SERVICES FUND — Total Increase $1,625.00

Request to increase the budget for Board approved TPOAM employee health care savings inadvertently omitted from the total on the prior budget amendment request. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**226-000-699.999**		**$1,625.00**
			Net Revenues	**$1,625.00**
Expenditures:	**Health Care Saving**	**226-528-718.001**		**$1,625.00**
			Net Expenditures	**$1,625.00**

230 - RECREATION FUND — Total Increase $24,000.00

Request to increase budget for youth sports due to the partnership with MLSgo to provide jerseys. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**230-000-699.999**		**$24,000.00**
			Net Revenues	**$24,000.00**
Expenditures:	**REC Youth Sport Program**	**230-754-963.100**		**$24,000.00**
			Net Expenditures	**$24,000.00**

CHARTER TOWNSHIP OF YPSILANTI
2025 BUDGET AMENDMENT # 9

236 - 14B DISTRICT COURT FUND

July 15, 2025

Total Increase $1,970.00

Request to increase the budget for PTO payout at 75%. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**236-000-699.999**	**$1,970.00**
		Net Revenues	**$1,970.00**
Expenditures:	**Salary PTO Payout**	**236-286-708.004**	**$1,830.00**
	FICA	**236-286-715.000**	**$140.00**
		Net Expenditures	**$1,970.00**

266 - LAW ENFORCEMENT FUND

Total Increase $1,300.00

Request to increase the budget for Board approved TPOAM employee health care savings inadvertently omitted from the total on the prior budget amendment request. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**266-000-699.999**	**$1,300.00**
		Net Revenues	**$1,300.00**
Expenditures:	**Health Care Savings**	**266-304-718.001**	**$1,300.00**
		Net Expenditures	**$1,300.00**

398 - DEBT 2006 BOND FUND

Total Increase $50.00

Request to increase the budget for an additional about needed for the cost of bond administration. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**398-000-699.999**	**$50.00**
		Net Revenues	**$50.00**
Expenditures:	**Cost of Bond Issuance**	**398-906-993.008**	**$50.00**
		Net Expenditures	**$50.00**

661 - MOTOR POOL FUND

Total Increase $325.00

Request to increase the budget for Board approved TPOAM employee health care savings inadvertently omitted from the total on the prior budget amendment request. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**661-000-699.999**	**$325.00**
		Net Revenues	**$325.00**
Expenditures:	**Health Care Savings**	**661-268-718.001**	**$325.00**
		Net Expenditures	**$325.00**

CSI Emergency Apparatus
2332 Dupont Street
Grayling, MI 49738

Phone: 989-348-2877
Fax: 989-348-8233

CSI Emergency Apparatus
1650 Callaghan
Greenville, MI 48838

Phone: 616-225-9200
Fax: 616-225-1271

Ypsilanti Township Fire Department, Michigan
– Sales Contract
222 S. Ford Blvd.., Ypsilanti, MI 48198

THIS CONTRACT ("Contract") is made by and between CSI Emergency Apparatus, LLC ("CSI") representing Spartan Emergency Response along with Sourcewell and the **Ypsilanti Township Fire Department (Ypsilanti Township Fire Department - Michigan, Ypsilanti, Michigan)** ("Customer"). This Contract will not become binding upon CSI until it is executed by an officer of CSI, and accepted by Spartan Emergency Response, and the effective date of the Contract ("Effective Date") will be the date that the CSI officer executes the Contract on behalf of Sourcewell from Spartan Emergency Response. The parties hereby agree as follows:

I. Subject to the terms of this Contract, CSI shall represent Spartan ER to furnish, and the Customer shall purchase, the apparatus and equipment ("Apparatus and Equipment") described and in accordance, in all material respects with the specifications ("Original Customer Specifications") submitted with the Spartan bid proposal (the "Bid Proposal"). In the event there is any conflict between original customer specification and the bid proposal, the bid proposal will prevail.

II. This Contract for Apparatus and Equipment conforms to all Federal Department of Transportation (DOT) and Environmental Protection Agency (EPA) rules and regulations and to all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus in effect as of the Effective Date, unless noted otherwise in the Bid Proposal.

III. Spartan shall have the apparatus ready for final inspection and delivery to CSI from Spartan's Snyder, Nebraska facility, within **220** days, excluding any additional dealer make ready days described below. This delivery timeframe is subject to modification if there are customer driven delays to holding any construction meeting and/or if there are customer driven delays to returning the corresponding signed CO's to the factory. All change orders must be approved by the date designated on the Spartan provided change order or the added days of production noted on the change order will be added to the above-mentioned delivery timeframe. Any further delays after the pre-construction has been completed in providing additional desired specifications, change approvals, inspection timelines, or other required information for the Apparatus and Equipment may result in an extension of the above referenced delivery timeline by the amount of time Spartan requires, in its sole but reasonable discretion, to furnish the Apparatus and Equipment following Customer's delay, but in any event by at least the duration of Customer's delay.

IV. In exchange for the Apparatus and Equipment, Customer agrees to pay the sum of **One Million Four Hundred Ninety Nine Thousand Four Hundred and Twenty Eight Dollars $1,499,428.00** Purchase Price").

The final balance payment of **$1,499,428.00** is due upon delivery to Customer. Project changes orders as approved by the purchasing authority will be applied to the final invoice. Interest at 18 percent per annum, payable monthly, shall be charged on all past due payments.

The Apparatus shall NOT be placed in service prior to payment in full, NO EXCEPTIONS.

V. Any applicable taxes not specified or noted above will be paid by Customer directly. If Customer claims exemption from any tax, Customer's applicable exemption certificate shall be provided with this contract or your Tax ID number provided below to hold CSI harmless from any such tax, interest or penalty which may at any time be assessed against CSI.

VI. Acceptance of Apparatus and Equipment shall occur after completion of a final inspection by a representative of Customer at a factory location of Spartan, completion of any discrepancy list, and shipment of Apparatus and Equipment from Spartan's factory location. Upon completion of the final inspection and related discrepancy list, the Apparatus and Equipment shall be conclusively determined to be in full compliance with the terms of this Contract, less CSI dealer up-fit item and loose equipment outlined as such in the Bid Proposal. CSI will not surrender the title to or the statement of origin for any Apparatus or Equipment or provide Customer with any other documentation regarding ownership of any Apparatus or Equipment until CSI has received full payment of the Purchase Price (and taxes if applicable).

VII. Customer shall indemnify CSI against, and hold CSI, its agents, employees, officers and directors harmless from, any and all claims, action, suits and proceedings, costs, expenses, damages and liabilities, whether based in negligence, tort, strict liability or otherwise, including attorney's fees and costs, arising out of, connected with, or resulting from this Contract or the Apparatus or Equipment, except to the extent such claims, action, suits and proceedings, costs, expenses, damages or liabilities arise from CSI's breach of its obligations under this Contract. Nothing herein shall be construed to waive, limit, or restrict any governmental immunity available to Ypsilanti Township Fire.

VIII. CSI or Spartan shall not be liable if performance failure arises out of causes beyond its reasonable control, which causes shall include without limitation acts of God, war, fires, floods, freight embargoes, order of any court, strike, lockout, failure or delays by suppliers or contractors, or legislative or governmental, or other, prohibitions or restrictions.

IX. Any order or contract resulting from this proposal shall be cancelable only under terms that will indemnify CSI from loss.

X. The Apparatus and Equipment shall remain the property of CSI until the entire Purchase Price for each item of Apparatus and Equipment has been paid. In case of a default in payment, CSI may take full possession of the Apparatus and Equipment, or of the item or items upon which default has been made, and any payments that have been made shall be applied as payment for the use of the Apparatus and Equipment up to the date CSI takes possession.

XI. This Contract will only be binding after it is signed and approved by the customer and an officer of CSI. This Contract (which includes the other documents referenced in this Contract) embody the entire agreement and understanding between the parties with respect to the subject matter of this Contract and supersede all prior oral or written agreements and understandings relating to the subject matter of this Contract. No statement, representation, warranty, covenant, or agreement of any kind not expressly set forth in this Contract shall affect, or be used to interpret, change or restrict, the express terms and provisions of this Contract. This Contract cannot be altered or modified except by mutual written agreement signed by the parties. The Customer representative signing this Contract on Customer's behalf represents and warrants that he or she has the authority to sign this Contract and that all necessary action has been taken by Customer to authorize Customer's execution of and performance under this Contract.

XII. In the event that any court of competent jurisdiction shall determine that any provision, or any portion thereof, contained in this Contract shall be unenforceable in any respect, then the provision shall be deemed limited to the extent that the court deems it enforceable, and as so limited shall remain in full force and effect. In the event that the court shall deem any provision, or portion thereof, wholly unenforceable, the remaining provisions of this Contract shall nevertheless remain in full force and effect.

Key proposal documents referenced for above contract are:

- **One (1) Spartan ER 77' Quint Fire Apparatus as outlined in our bid proposal package as follows:**
  - **a) Bid Proposal Specifications Dated: 7-03-2025**
  - **b) Proposal Letter Dated: 7-03-2025**

This contract is agreed to by the parties as of the Effective Date.

CSI Emergency Apparatus

By: _____
CSI Emergency Apparatus Officer Signature

_____
Print Name

Title: _____

_____
Date

_____
Authorities Tax ID Number

_____
Authorities name as it is to appear on the vehicle title

_____
Authorities address as it is to appear on the vehicle title

_____ _____ _____
City State Zip
Authorities City, State, Zip as it is to appear on the title

Purchasing Authority:
Ypsilanti Township Fire Department

By: _____
Authorized Signer

_____
Print Name

Title: _____

By: _____
Authorized Signer

_____
Print Name

Title: _____

_____
Date

Supervisor
BRENDA L. STUMBO
Clerk
DEBRA A. SWANSON
Treasurer
STAN ELDRIDGE
Trustees
KAREN LOVEJOY ROE
JOHN P. NEWMAN II
GLORIA PETERSON
LARESHA THORNTON

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Accounting Department

7200 S. Huron River Drive
Ypsilanti, MI 48197
Phone: (734) 544-4000 Ext 5
Fax: (734) 484-5154

STATEMENTS AND CHECKS

AUGUST 5, 2025 BOARD MEETING

ACCOUNTS PAYABLE CHECKS -	$	679,695.51
HAND CHECKS -	$	23,293.32
CREDIT CARDS PURCHASES -	$	0.00
GRAND TOTAL -	**$**	**702,988.83**

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 200658 - 200801

A/P Checks

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
Bank AP AP					
08/05/2025	200658	A DESIGN LINE	A DESIGN LINE	LISA SMEREK LOGO APPAREL ORDER	191.00
			A DESIGN LINE	OCS CLERKS LOGO APPAREL ORDER	547.24
			A DESIGN LINE	PLANNING - LAUREN DOPPKE - LOG	149.60
			A DESIGN LINE	BUILDING DEPT LOGO APPAREL ORD	1,787.87
			A DESIGN LINE	COMMUNITY PROMOTION ITEMS	1,665.53
			A DESIGN LINE	YPSILANTI TOWNSHIP BRANDED MUG	232.34
					4,573.58
08/05/2025	200659	A.F. SMITH ELECTRIC	A.F. SMITH ELECTRIC	COMMUNITY CENTER BREAKER REPAI	253.16
08/05/2025	200660	AAMCO TRANSMISSIONS AND	AAMCO TRANSMISSIONS AND	#89 REPLACE STARTER MOTOR AND	784.35
			AAMCO TRANSMISSIONS AND	#73 A/C RECHARGE	298.70
			AAMCO TRANSMISSIONS AND	#704 BRAKE SERVICE AND OIL CHA	635.75
					1,718.80
08/05/2025	200661	ABBEY DOOR	ABBEY DOOR	REPAIR WORK AT STATION 4	782.50
			ABBEY DOOR	REPAIR WORK AT STATION 1	195.00
					977.50
08/05/2025	200662	ADVANCED COMMUNICATIONS & DAT	ADVANCED COMMUNICATIONS & DAT	INTERNET UTILITY SERVICE	689.74
08/05/2025	200663	ALLGRAPHICS CORPORATION	ALLGRAPHICS CORPORATION	T-SHIRT AND HATS FOR SUMMER YO	1,265.00
08/05/2025	200664	AMAZON CAPITAL SERVICES	AMAZON CAPITAL SERVICES	COMPUTER HARDWARE	134.90
			AMAZON CAPITAL SERVICES	TYLER RD	140.42
			AMAZON CAPITAL SERVICES	EATON EMPDT1H1C2 ENVIRONMENTAL	533.97
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES	82.76
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES - RSD	143.60
			AMAZON CAPITAL SERVICES	10GTEK SFP+ DAC TWINAX CABLE	265.74
			AMAZON CAPITAL SERVICES	PEST CONTROL	84.98
			AMAZON CAPITAL SERVICES	ELECTION SUPPLIES FOR CLERKS O	50.58
			AMAZON CAPITAL SERVICES	SAFETY SUPPLIES AND PPE	110.59
			AMAZON CAPITAL SERVICES	FAN/FLOOR LINERS	251.90
			AMAZON CAPITAL SERVICES	FAN/FLOOR LINERS	29.99
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES FOR CLERKS OFF	120.10
			AMAZON CAPITAL SERVICES	SMALL REFRIGERATOR FOR HR AND	237.99
			AMAZON CAPITAL SERVICES	LANDSCAPE EDGING FOR CIVIC CEN	255.92
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES	8.99
			AMAZON CAPITAL SERVICES	ELECTION SUPPLIES FOR CLERKS O	20.17
			AMAZON CAPITAL SERVICES	10GTEK SFP+ DAC TWINAX CABLE	93.28
			AMAZON CAPITAL SERVICES	NETWORK CARD	48.00
			AMAZON CAPITAL SERVICES	BRITTA PITCHER/FILTER/BLADES F	80.39
			AMAZON CAPITAL SERVICES	BRITTA PITCHER/FILTER/BLADES F	17.79
			AMAZON CAPITAL SERVICES	KEY FOR TOILET PAPER DISPENSER	5.59
			AMAZON CAPITAL SERVICES	CARDSTOCK FOR SHELTER SIGNS	53.97
			AMAZON CAPITAL SERVICES	STAMP PAD FOR ROW FEST	8.99
					2,780.61
08/05/2025	200665	AMBIA ENERGY LLC	AMBIA ENERGY LLC	PERMIT CANCELED PE25-0106	262.50
08/05/2025	200666	AMBIA ENERGY LLC	AMBIA ENERGY LLC	PERMIT CANCELED PE25-0073	232.50
08/05/2025	200667	ANDYS STATEWIDE	ANDYS STATEWIDE	PERMIT CANCELED PM25-0345	67.50
08/05/2025	200668	ANN ARBOR CLEANING SUPPLY	ANN ARBOR CLEANING SUPPLY	CLEANING SUPPLIES - PARKS & GR	569.85
			ANN ARBOR CLEANING SUPPLY	OPERATING SUPPLIES FOR THE GOL	412.58
			ANN ARBOR CLEANING SUPPLY	OPERATING SUPPLIES FOR THE GOL	198.68

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 200658 - 200801

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			ANN ARBOR CLEANING SUPPLY	TRASH BAGS - LAITR	283.50
			ANN ARBOR CLEANING SUPPLY	PARKS - 38X58 2ML TRASH BAGS	850.50
			ANN ARBOR CLEANING SUPPLY	OPERATING SUPPLIES FOR GREEN O	70.20
					2,385.31
08/05/2025	200669	ASSOCIATED FENCE	ASSOCIATED FENCE	CHAIN LINK FENCE ADDITION - FO	2,200.00
08/05/2025	200670	AUTO VALUE YPSILANTI	AUTO VALUE YPSILANTI	PARKS & GROUNDS - OIL FOR GARA	13.18
			AUTO VALUE YPSILANTI	#78 BATTERY AND #317 TORO MOWE	290.88
			AUTO VALUE YPSILANTI	HYDRAULIC HOSE FOR TORO 3150	58.26
			AUTO VALUE YPSILANTI	55 GAL DEF	101.88
			AUTO VALUE YPSILANTI	OIL ABSORBENT	192.60
			AUTO VALUE YPSILANTI	HEAVY DUTY EQUIPMENT BATTERY 1	220.18
			AUTO VALUE YPSILANTI	SOCKET ADPTER	12.19
					889.17
08/05/2025	200671	B-BALL SKILLS LLC	B-BALL SKILLS LLC	PAY OUT FOR B-BALL SKILLS 7/2-	879.75
08/05/2025	200672	BERT'S TRAINING & TESTING	BERT'S TRAINING & TESTING	CDL TRAINING AND ROAD TEST FOR	1,000.00
08/05/2025	200673	CARLISLE WORTMAN ASSOCIATES I	CARLISLE WORTMAN ASSOCIATES I	VARIANCE REQUESTS	507.50
08/05/2025	200674	CARLISLE/WORTMAN ASSOCIATES	CARLISLE/WORTMAN ASSOCIATES	PLANNING DEPARTMENT SUPPORT -	15,700.00
			CARLISLE/WORTMAN ASSOCIATES	REVIEW OF FOOD TRUCK ORDINANCE	145.00
					15,845.00
08/05/2025	200675	CARTER HAWKINS, LLC	CARTER HAWKINS, LLC	FINAL FIRE WITHHOLDING RELEASE	3,625.00
08/05/2025	200676	CGS, INC.	CGS, INC.	OSHA TRAINING- OVER HEAD CRANE	3,015.00
08/05/2025	200677	CHARTER TOWNSHIP OF SUPERIOR	CHARTER TOWNSHIP OF SUPERIOR	ACCT. #HURO-007200-0000-01	42.75
08/05/2025	200678	CHERYL FANNING	CHERYL FANNING	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200679	CITY OF YPSILANTI	CITY OF YPSILANTI	10% GROSS OF HYDRO DAM REVENUE	53,738.07
08/05/2025	200680	COMMUNICATION SQUARE LLC	COMMUNICATION SQUARE LLC	MONTHLY OFFICE 365	4,560.00
08/05/2025	200681	COMMUNITY PUBLISHING & MARKET	COMMUNITY PUBLISHING & MARKET	2025 FALL REC GUIDE PUBLICATIO	9,000.00
08/05/2025	200682	CORNWELL'S TURKEYVILLE PROFES	CORNWELL'S TURKEYVILLE PROFES	December Show 50 & Beyond Tick	1,485.00
			CORNWELL'S TURKEYVILLE PROFES	SEPTEMBER SHOW 50 & BEYOND TIC	1,485.00
					2,970.00
08/05/2025	200683	COURTNEY MARLOWE	COURTNEY MARLOWE	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200684	CRYSTAL FLASH, INC.	CRYSTAL FLASH, INC.	DIESEL FUEL FOR HQ	2,712.52
			CRYSTAL FLASH, INC.	GOLF MAINTENANCE FUEL FOR EQUI	1,086.88
			CRYSTAL FLASH, INC.	GOLF MAINTENANCE DIESEL FOR EQ	599.79
			CRYSTAL FLASH, INC.	COMM. CENTER: REFILL GAS FUEL	839.78
			CRYSTAL FLASH, INC.	FORD LAKE PARK - DIESEL FUEL F	536.39
			CRYSTAL FLASH, INC.	FORD LAKE PARK: REFILL GAS FUE	1,419.20
					7,194.56
08/05/2025	200685	CSI EMERGENCY APPARATUS, LLC	CSI EMERGENCY APPARATUS, LLC	ENFORCER AIR 3 BRACKET	433.20
08/05/2025	200686	DANCE WITH ELEGANCE	DANCE WITH ELEGANCE	DROP-IN FEES FOR DANCE WITH E	320.60
08/05/2025	200687	DARLENE BROWN	DARLENE BROWN	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200688	DAWN KMET	DAWN KMET	ROSIE THE RIVETER VENDOR REFUN	50.00
08/05/2025	200689	DES MOINES STAMP MFG. CO.	DES MOINES STAMP MFG. CO.	STAMPS	54.15
08/05/2025	200690	DETECTION SYSTEMS AND ENGINEE	DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	3,288.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA UPGRADES	2,864.00
					49,112.00
08/05/2025	200691	DISPUTE RESOLUTION CENTER	DISPUTE RESOLUTION CENTER	MEDIATION SERVICES INVOICE	1,875.00
08/05/2025	200692	DIUBLE EQUIPMENT INC.	DIUBLE EQUIPMENT INC.	MOWER BLADE SET	212.76
			DIUBLE EQUIPMENT INC.	ZERO TURN MOWER - INSURANCE RE	15,499.00
					15,711.76
08/05/2025	200693	EDWARD MICHOWSKI	EDWARD MICHOWSKI	SOFTBALL OFFICIATED 7/7-7/22 1	720.00
08/05/2025	200694	EMERGENT HEALTH PARTNERS	EMERGENT HEALTH PARTNERS	FIRE DISPATCHING SERVICES	11,306.40
08/05/2025	200695	EMILY NELSON	EMILY NELSON	REFUND PARK SHELTER	100.00
08/05/2025	200696	ERIC DUGAS	ERIC DUGAS	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200697	ERIN BROWN	ERIN BROWN	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200698	FEDERAL ENERGY REGULATORY COM	FEDERAL ENERGY REGULATORY COM	ANNUAL CHARGES - FERC FY25	3,565.92
08/05/2025	200699	FIBER LINK	FIBER LINK	MISSDIG RESPONSE AND LOCATE SE	43.75
08/05/2025	200700	GARY TURNBULL	GARY TURNBULL	PAYMENT FOR SOFTBALL GAMES OFF	480.00
08/05/2025	200701	GENE BUTMAN FORD	GENE BUTMAN FORD	2025 FORD F-150	191.00
08/05/2025	200702	GOLF CART OUTFITTER	GOLF CART OUTFITTER	FEE FOR TRADE IN AND PURCHASE	3,990.00
08/05/2025	200703	GOOSE BUSTERS OF MICHIGAN, LL	GOOSE BUSTERS OF MICHIGAN, LL	JUNE 2025 BORDER COLLIE SERVIC	455.00
			GOOSE BUSTERS OF MICHIGAN, LL	JULY 2025 BORDER COLLIE SERVIC	455.00
					910.00
08/05/2025	200704	GRACE FAULHABER	GRACE FAULHABER	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200705	GRAINGER	GRAINGER	N. HYDRO PARK AND STOCK - SOAP	82.66
			GRAINGER	SUPPLIES- OIL SORBANTS	103.79
			GRAINGER	FLP - SHELTER LIGHT BULBS	762.80
			GRAINGER	MAINT SUPPLIES	169.17
					1,118.42
08/05/2025	200706	GREENER GOODS	GREENER GOODS	FIRE HATS & STICKS	1,508.51
08/05/2025	200707	GREG MCKINNEY	GREG MCKINNEY	PAYMENT FOR SOFTBALL GAMES OFF	240.00
08/05/2025	200708	GRIFFIN PEST SOLUTIONS	GRIFFIN PEST SOLUTIONS	LEC PEST SOLUTIONS FOR 2025	68.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #4	31.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #3	31.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #1	31.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #4	31.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #1	31.00
			GRIFFIN PEST SOLUTIONS	PEST CONTROL FOR #3	31.00
			GRIFFIN PEST SOLUTIONS	LEC PEST SOLUTIONS FOR 2025	68.00
					322.00
08/05/2025	200709	GROSS ELECTRIC	GROSS ELECTRIC	CANOPY LIGHTS FOR FLP GARAGE -	150.26
08/05/2025	200710	GUARDIAN ALARM	GUARDIAN ALARM	ALARM SERVICES FOR GREEN OAKS	500.46
08/05/2025	200711	HEATHER HOUCHEI	HEATHER HOUCHEI	ROSIE THE RIVETER VENDOR REFUN	25.00
08/05/2025	200712	HOME DEPOT	HOME DEPOT	CIVIC CENTER - POND FOUNTAINS,	23.12

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			HOME DEPOT	HOLMES RD. - SPLASH BLOCK BLAC	17.94
			HOME DEPOT	PARKS & GROUNDS - CLEANING SUP	140.79
			HOME DEPOT	FLP GARAGE - MAINT. SUPPLIES.	44.15
			HOME DEPOT	BUIDLING MAINT. SUPPLIES. - CO	11.97
			HOME DEPOT	FLP GARAGE - BUILDING MAINT. P	38.76
			HOME DEPOT	FLP COMPRESSOR - PARTS, SUPPLI	58.00
			HOME DEPOT	CIVIC CENTER - MAINT. SUPPLIES	21.66
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	97.29
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	47.92
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	120.95
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	16.09
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	116.96
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	45.94
					801.54
08/05/2025	200713	INFINITY FITNESS LLC	INFINITY FITNESS LLC	SUMMER 1 STEP AEROBICS INSTRUC	94.50
08/05/2025	200714	J.F. MOORE & ASSOCIATES, LLC	J.F. MOORE & ASSOCIATES, LLC	SERVER FEE FOR SMALL CLAIMS CO	148.00
			J.F. MOORE & ASSOCIATES, LLC	SERVER FEE FOR SMALL CLAIMS CO	20.00
					168.00
08/05/2025	200715	JANE WARD	JANE WARD	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200716	JENIFER TARATSAS	JENIFER TARATSAS	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200717	JIBRIL NAEEM	JIBRIL NAEEM	MODERDAY MARTIAL ARTS PAYOUT	535.50
08/05/2025	200718	JUDITH BROTHERS	JUDITH BROTHERS	ROSIE THE RIVETER VENDOR REFUN	40.00
08/05/2025	200719	JUDY ANN HOLZSCHUH	JUDY ANN HOLZSCHUH	ZENTANGLE INSTRUCTION	40.00
08/05/2025	200720	JUNGA'S ACE HARDWARE	JUNGA'S ACE HARDWARE	CHAINSAW AND PARTS	500.87
08/05/2025	200721	KAB ENTERPRISES, INC	KAB ENTERPRISES, INC	Burns Park Playground and Walk	5,000.00
			KAB ENTERPRISES, INC	West Willow Park Playground an	11,952.84
					16,952.84
08/05/2025	200722	KATHLEEN MCCORMICK	KATHLEEN MCCORMICK	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200723	KCI	KCI	SUMMER 2025 TAX BILLS - PRINTI	4,453.72
08/05/2025	200724	KENISHA BLUE	KENISHA BLUE	REFUND PARK SHELTER	100.00
08/05/2025	200725	KEVIN LAWSON	KEVIN LAWSON	ADULT SOCCER GAMES OFFICIATED	360.00
08/05/2025	200726	KIESER & ASSOCIATES, LLC	KIESER & ASSOCIATES, LLC	PROFESSIONAL SERVICE - SCIENCE	2,396.05
08/05/2025	200727	KRONOS SAASHR, INC	KRONOS SAASHR, INC	UKG READY USAGE	300.00
08/05/2025	200728	LANGUAGE LINE SERVICES	LANGUAGE LINE SERVICES	INTERPRETER SERVICES	604.21
08/05/2025	200729	LARRY KENYON	LARRY KENYON	SOFTBALL GAMES OFFICIATED 7//7	240.00
08/05/2025	200730	LAWRENCE HENDRICKS	LAWRENCE HENDRICKS	PAYMENT FOR TENNIS LESSONS 7/1	55.00
08/05/2025	200731	LOOKING GOOD LAWNS	LOOKING GOOD LAWNS	HIGHWAY MOWING FOR TOWNSHIP HU	600.00
			LOOKING GOOD LAWNS	ANNUAL TRASH PICK-UP CONTRACT	4,320.00
			LOOKING GOOD LAWNS	LGL INVOICE YTNWM-725-04 NOXIO	2,380.00
			LOOKING GOOD LAWNS	LGL INVOICE YTNWM-725-05 NOXIO	1,235.00
					8,535.00
08/05/2025	200732	LOWE'S	LOWE'S	CIVIC CENTER POND AND MAINT. S	36.06
			LOWE'S	CIVIC CENTER POND - CLAMPS	38.50
			LOWE'S	ELECTRICAL SUPPLIES- BRIDGE LI	38.84
			LOWE'S	PARKS AND GROUNDS - ARBORVITAE	330.36
			LOWE'S	PARKS AND GROUNDS - PAINT AND	198.77
			LOWE'S	MAINTENACE SUPPLIES	124.17
			LOWE'S	MAINTENACE SUPPLIES	18.98
			LOWE'S	PARKS AND GROUNDS - PAINT AND	5.40
					791.08

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
08/05/2025	200733	MACDERMOTT ROOFING, INC.	MACDERMOTT ROOFING, INC.	MACDERMOTT ROOFING REPAIR GOLF	7,803.00
08/05/2025	200734	MAJIC WINDOW	MAJIC WINDOW	REQUEST TO CANCEL PERMIT PB25-	195.00
08/05/2025	200735	MARIELLEN EASTERDAY	MARIELLEN EASTERDAY	PARK SHELTER REFUND	100.00
08/05/2025	200736	MARQUITA L. SLATER	MARQUITA L. SLATER	REFUND PARK SHELTER	100.00
08/05/2025	200737	MARY STOOPS	MARY STOOPS	REFUND SHELTER	100.00
08/05/2025	200738	MASON KAISER	MASON KAISER	REIMBURSEMENT FOR NOTARY EXPEN	90.61
08/05/2025	200739	MCMASTER-CARR	MCMASTER-CARR	DOOR SEALS FOR HYDRO GARAGE DO	203.68
08/05/2025	200740	MELISSA QUAYLE	MELISSA QUAYLE	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200741	MENARDS, INC.	MENARDS, INC.	FLP GARAGE - HYDRANT AND HANGE	49.15
08/05/2025	200742	MES SERVICE COMPANY LLC	MES SERVICE COMPANY LLC	TURN OUT GEAR	7,950.85
08/05/2025	200743	MESSENGER PRINTING	MESSENGER PRINTING	NHW MAILERS - COMM. ENGAGEMENT	4,678.11
08/05/2025	200744	METRO AIRPORT TRUCK	METRO AIRPORT TRUCK	RECREATION BUS SAFETY RECALL #	1,918.35
08/05/2025	200745	MICHIGAN LINEN SERVICE, INC.	MICHIGAN LINEN SERVICE, INC.	LEC Laundry Service for 2025	67.25
			MICHIGAN LINEN SERVICE, INC.	Laundry for Civic Center 1/21/	101.10
			MICHIGAN LINEN SERVICE, INC.	MAINT. GARAGE LAUNDRY SERVICE	24.00
			MICHIGAN LINEN SERVICE, INC.	COMMUNITY CENTER LAUNDRY SERVI	49.50
			MICHIGAN LINEN SERVICE, INC.	MAINT. GARAGE LAUNDRY SERVICE	24.00
			MICHIGAN LINEN SERVICE, INC.	CIVIC CENTER LAUNDRY SERVICE F	101.10
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 4	85.03
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	86.26
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	190.40
			MICHIGAN LINEN SERVICE, INC.	LAUNDERY SERVICES FOR 2025 SEA	24.00
			MICHIGAN LINEN SERVICE, INC.	COMMUNITY CENTER LAUNDRY SERVI	49.50
			MICHIGAN LINEN SERVICE, INC.	HOLMES RD LAUNDRY SERVICE FOR	18.50
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 4	85.03
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	86.26
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	190.40
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	190.40
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	86.26
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 4	85.03
			MICHIGAN LINEN SERVICE, INC.	COMMUNITY CENTER LAUNDRY SERVI	49.50
			MICHIGAN LINEN SERVICE, INC.	LEC LAUNDRY SERVICE FOR 2025	67.25
			MICHIGAN LINEN SERVICE, INC.	CIVIC CENTER LAUNDRY SERVICE F	101.10
			MICHIGAN LINEN SERVICE, INC.	MAINT. GARAGE LAUNDRY SERVICE	24.00
					1,785.87
08/05/2025	200746	MICHIGAN PUBLICATIONS	MICHIGAN PUBLICATIONS	LEGAL NEWS PUBLICATION - WASH	115.00
			MICHIGAN PUBLICATIONS	NOXIOUS WEEDS ORDINANCE CHANGE	45.00
			MICHIGAN PUBLICATIONS	PLANNING COMMISSION ADS	55.00
			MICHIGAN PUBLICATIONS	PLANNING COMMISSION ADS	50.00
			MICHIGAN PUBLICATIONS	CLERK'S OFFICE ADS	40.00
			MICHIGAN PUBLICATIONS	CLERK'S OFFICE ADS	120.00
			MICHIGAN PUBLICATIONS	CLERK'S OFFICE ADS	50.00
					475.00
08/05/2025	200747	NEXTCARE URGENT CARE MICHIGAN	NEXTCARE URGENT CARE MICHIGAN	PRE-EMPLOYMENT DRUG SCREENS AN	345.00
08/05/2025	200748	OAKLAND COUNTY	OAKLAND COUNTY	CLEMIS ANNUAL CONTRACT	2,160.00
08/05/2025	200749	OHM Advisors	OHM Advisors	PLAN REVIEW FOR SOIL EROSION P	445.50
08/05/2025	200750	OLYMPIA ENTERTAINMENT INC.	OLYMPIA ENTERTAINMENT INC.	50 & BEYOND COMERICA PARK TOUR	560.00
08/05/2025	200751	ONAN CAPITAL INC	ONAN CAPITAL INC	COVID 19 TEST KITS FOR COMMUNI	2,200.00
08/05/2025	200752	ONAN CAPITAL INC	ONAN CAPITAL INC	COVID 19 TEST KITS FOR COMMUNI	780.00
08/05/2025	200753	ONSITE SUBSTANCE ABUSE TESTIN	ONSITE SUBSTANCE ABUSE TESTIN	RECOVERY COURT DRUG TESTING	28.00
08/05/2025	200754	OOMA, INC.	OOMA, INC.	OOMA SERVICES	249.24
08/05/2025	200755	PARKWAY SERVICES, INC.	PARKWAY SERVICES, INC.	PORTABLE TOILET RENTAL - FORD	180.00
			PARKWAY SERVICES, INC.	PORT A JOHN SERVICE - HYDRO	130.00
			PARKWAY SERVICES, INC.	PORTABLE TOILET RENTAL - FORD	180.00

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
					490.00
08/05/2025	200756	PAUL WARD	PAUL WARD	WEEKEND RECORDER COVERAGE	479.34
08/05/2025	200757	PEPSI BEVERAGES COMPANY	PEPSI BEVERAGES COMPANY	BEVERAGES FOR RESALE IN THE GO	535.90
			PEPSI BEVERAGES COMPANY	RESTOCK INVENTORY AT COMMUNITY	413.28
					949.18
08/05/2025	200758	PIONEER ATHLETICS	PIONEER ATHLETICS	FIELD MARKING PAINT FOR ALL PA	2,248.32
08/05/2025	200759	PRINTING SYSTEMS	PRINTING SYSTEMS	ELECTION SUPPLIES - BALLOTS	5,926.05
08/05/2025	200760	PROSITE SERVICES	PROSITE SERVICES	SECURITY FENCE RENTAL	165.00
08/05/2025	200761	RANDALL MASCHARKA	RANDALL MASCHARKA	PHOTOGRAPHY SERVICES	900.00
			RANDALL MASCHARKA	PHOTOGRAPHY SERVICES	600.00
			RANDALL MASCHARKA	PHOTOGRAPHY SERVICES	1,250.00
					2,750.00
08/05/2025	200762	RHETT REYES	RHETT REYES	RECOVERY COURT PAYROLL WEEK EN	1,064.25
			RHETT REYES	RECOVERY COURT PAYROLL WEEK EN	1,193.25
			RHETT REYES	RECOVERY COURT PAYROLL WEEK EN	1,064.25
					3,321.75
08/05/2025	200763	ROBERT ACTON	ROBERT ACTON	ROBERT ACTON CONTRACTUAL INSPE	1,250.00
08/05/2025	200764	ROBERTSON MORRISON, INC.	ROBERTSON MORRISON, INC.	DX & FIX PROBLEM AT STATION 1	795.50
08/05/2025	200765	ROTO-ROOTER	ROTO-ROOTER	LEC PLUMBING ISSUES	350.00
			ROTO-ROOTER	EMERGENCY REPAIR JET OF SHELTE	1,500.00
			ROTO-ROOTER	LEC PLUMBING ISSUES	360.00
					2,210.00
08/05/2025	200766	SALADINO CONSTRUCTION COMPANY	SALADINO CONSTRUCTION COMPANY	CONCRETE SIDEWALK REPLACEMENT	3,700.00
			SALADINO CONSTRUCTION COMPANY	Concrete Sidewalk Replacement	7,030.00
			SALADINO CONSTRUCTION COMPANY	CONCRETE SIDEWALK REPLACEMENT	6,660.00
					17,390.00
08/05/2025	200767	SAM'S CLUB DIRECT	SAM'S CLUB DIRECT	OPERATING SUPPLIES AND FOOD AN	280.84
			SAM'S CLUB DIRECT	SENIOR SUPPLIES	79.16
			SAM'S CLUB DIRECT	OPERATING SUPPLIES AND FOOD AN	321.34
			SAM'S CLUB DIRECT	Civic Center - Bath Tissue - C	24.26
			SAM'S CLUB DIRECT	BOTTLED WATER - SAFETY STORE,	39.80
			SAM'S CLUB DIRECT	SENIOR COFFEE SUPPLIES	87.50
					832.90
08/05/2025	200768	SARAH SMITH	SARAH SMITH	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200769	SERVERMONKEY.COM LLC	SERVERMONKEY.COM LLC	DELL EMC POWEREDGE R750	60,885.23
08/05/2025	200770	SHARIE CANNON	SHARIE CANNON	ROSIE THE RIVETER VENDOR REFUN	50.00
08/05/2025	200771	SHRADER TIRE & OIL	SHRADER TIRE & OIL	TIRE FOR TORO MOWERS	167.03
08/05/2025	200772	SIGNS IN 1 DAY	SIGNS IN 1 DAY	OHM BANNER FOR SPONSORSHIP	78.00
08/05/2025	200773	SITEONE LANDSCAPE SUPPLY, LLC	SITEONE LANDSCAPE SUPPLY, LLC	IRRIGATION PARTS FOR REPAIRS,	977.54
			SITEONE LANDSCAPE SUPPLY, LLC	PLANT PROTECTANTS FOR GREENS A	695.78
			SITEONE LANDSCAPE SUPPLY, LLC	LESCO 2 GAL. HANDHELD SPRAYER,	290.54
					1,963.86
08/05/2025	200774	SONNA BROCKETTE	SONNA BROCKETTE	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200775	SONYA FISCHER	SONYA FISCHER	SUMMER YOGA INSTRUCTION	283.50

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
08/05/2025	200776	SPARTAN BARRICADING & TRAFFIC	SPARTAN BARRICADING & TRAFFIC	MESSAGE BOARD RENTAL JUNE	165.00
08/05/2025	200777	SPARTAN DISTRIBUTORS	SPARTAN DISTRIBUTORS	#316 - COMPRESSOR KIT FOR AIR	558.85
			SPARTAN DISTRIBUTORS	PARTS FOR REPAIR TORO 4100D	43.17
					602.02
08/05/2025	200778	SPICER GROUP	SPICER GROUP	APPLERIDGE PARK IMPROVEMENTS	4,239.50
			SPICER GROUP	Concrete Repair Ford Heritage	4,000.00
			SPICER GROUP	APPLERIDGE PARK IMPROVEMENTS	5,615.50
					13,855.00
08/05/2025	200779	STADIUM TROPHY	STADIUM TROPHY	SPRING SOCCER MEDALS	928.00
08/05/2025	200780	STEPHEN BROWN	STEPHEN BROWN	STEVE BROWN CONTRACTUAL INSP 0	2,200.00
08/05/2025	200781	STERICYCLE INC	STERICYCLE INC	STERI-SAFE BUDGET SUBSCRIPTION	282.55
08/05/2025	200782	STEVE ELLIOTT	STEVE ELLIOTT	ROSIE THE RIVETER VENDOR REFUN	25.00
08/05/2025	200783	TAYLOR MADE GOLF COMPANY	TAYLOR MADE GOLF COMPANY	TAYLOR MADE JULY TP5 SPECIALTY	268.70
08/05/2025	200784	THEODORE PERRY	THEODORE PERRY	ROSIE THE RIVETER VENDOR REFUN	35.00
08/05/2025	200785	THEOTIS FRENCH	THEOTIS FRENCH	ROSIE THE RIVETER VENDOR REFUN	100.00
08/05/2025	200786	TRACTOR SUPPLY COMPANY	TRACTOR SUPPLY COMPANY	FLP GARAGE - 80 GALLON AIR COM	1,199.99
			TRACTOR SUPPLY COMPANY	COPPER SULFATE AND POND DYE FO	359.95
					1,559.94
08/05/2025	200787	U.S. BANK, N.A.	U.S. BANK, N.A.	2025 ADMIN FEE GEN DEBT OBLIG	600.00
08/05/2025	200788	ULLIANCE	ULLIANCE	3Q 2025 EAP CHARGES	1,186.50
08/05/2025	200789	UNIVERSITY TRANSLATORS	UNIVERSITY TRANSLATORS	INTERPRETER SERVICES	170.00
			UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
			UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
					510.00
08/05/2025	200790	UTILITIES INSTRUMENTATION SER	UTILITIES INSTRUMENTATION SER	SERVICE CALL FOR PROGRAMMING 6	716.00
08/05/2025	200791	VERMEER OF MICHIGAN, INC.	VERMEER OF MICHIGAN, INC.	PARTS FOR VERMEER TG 5000 GRIN	108.06
08/05/2025	200792	VICTORY LANE	VICTORY LANE	#705 HIGH MILEAGE OIL CHANGE	67.07
08/05/2025	200793	VIRGINIA SWOPE	VIRGINIA SWOPE	PARK SHELTER REFUND	100.00
08/05/2025	200794	W.J. O'NEIL COMPANY	W.J. O'NEIL COMPANY	TROUBLESHOOT A/C UNIT (INV # 6	755.00
			W.J. O'NEIL COMPANY	LEC REPLACE WATER VALVE - VBR-	1,715.97
					2,470.97
08/05/2025	200795	WASHTENAW COUNTY	WASHTENAW COUNTY	ReImagine Washtenaw 2024 Payme	3,000.00
08/05/2025	200796	WASHTENAW COUNTY ROAD COMMISS	WASHTENAW COUNTY ROAD COMMISS	2025 STREET SWEEPING AND CRACK	16,385.52
08/05/2025	200797	WASHTENAW COUNTY TREASURER#	WASHTENAW COUNTY TREASURER#	PRE INVOICE LEDGER - 06/25	337.22
08/05/2025	200798	WASTE MANAGEMENT	WASTE MANAGEMENT	ACCT. #6-96630-02003	248,474.18
08/05/2025	200799	WITMER PUBLIC SAFELY GROUP, I	WITMER PUBLIC SAFELY GROUP, I	GASKETS/TURNOUT GEAR CLEANER	37.33
			WITMER PUBLIC SAFELY GROUP, I	GASKETS/TURNOUT GEAR CLEANER	187.59
			WITMER PUBLIC SAFELY GROUP, I	NEW SHIELDS FOR FF'S	146.17
					371.09
08/05/2025	200800	YPSI/ANN ARBOR ELECTRONIC REP	YPSI/ANN ARBOR ELECTRONIC REP	TIME STAMP REPAIR	36.84
08/05/2025	200801	YPSILANTI ACE HARDWARE	YPSILANTI ACE HARDWARE	SUPPLIES- BRUSH	4.99
			YPSILANTI ACE HARDWARE	MAINT. SUPPLIES - PACKING VALV	11.17
			YPSILANTI ACE HARDWARE	ITEMS FOR ROW FEST	51.93
					68.09

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount

AP TOTALS:

Total of 144 Checks:	679,695.51
Less 0 Void Checks:	0.00
Total of 144 Disbursements:	679,695.51

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 200653 - 200657

Hand Checks

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
Bank AP AP					
07/24/2025	200653	CLEAR RATE COMMUNICATIONS, IN	CLEAR RATE COMMUNICATIONS, IN	ACCT. #4850408	262.60
07/24/2025	200654	COMCAST	COMCAST	ACCT. #8529 10 234 0279396	194.45
07/24/2025	200655	DTE ENERGY	DTE ENERGY	ACCT. #9100-127-9357-6	1,924.31
			DTE ENERGY	ACCT. #9100 127 9333 7	7,360.49
			DTE ENERGY	ACCT. #9100 145 4294 8	627.88
			DTE ENERGY	ACCT. #9100 351 6305 4	2,606.19
			DTE ENERGY	ACCT. #9100 129 7209 7	996.71
			DTE ENERGY	ACCT. #9100 152 0871 3	3,968.11
			DTE ENERGY	ACCT. #9200 468 7449 0	1,191.72
			DTE ENERGY	ACCT. #9200 570 4723 4	20.39
					18,695.80
07/24/2025	200656	VERIZON CONNECT FLEET USA	VERIZON CONNECT FLEET USA	GPS SERVICES - JUNE 2025	956.81
07/24/2025	200657	YPSILANTI COMMUNITY	YPSILANTI COMMUNITY	LIFT - STATION MAINT. NORTH HY	136.47
			YPSILANTI COMMUNITY	LIFT - STATION MAINT. FORD LK	114.43
			YPSILANTI COMMUNITY	ACCT. #4-070-428255-01	274.34
			YPSILANTI COMMUNITY	ACCT. #4-085-803600-02	155.03
			YPSILANTI COMMUNITY	ACCT. #2-037-360000-01	149.60
			YPSILANTI COMMUNITY	ACCT. #4-037-360100-01	539.49
			YPSILANTI COMMUNITY	ACCT. #4-037-360200-01	511.96
			YPSILANTI COMMUNITY	ACCT. #4-087-560200-01	66.35
			YPSILANTI COMMUNITY	ACCT. #4-087-560150-01	126.18
			YPSILANTI COMMUNITY	ACCT. #4-087-560100-01	250.07
			YPSILANTI COMMUNITY	ACCT. #4-085-803450-01	309.73
			YPSILANTI COMMUNITY	ACCT. #4-085-789900-01	238.46
			YPSILANTI COMMUNITY	ACCT. #4-083-487600-01	217.26
			YPSILANTI COMMUNITY	ACCT. #4-074-535400-01	94.29
					3,183.66

AP TOTALS:

Total of 5 Checks:	23,293.32
Less 0 Void Checks:	0.00
Total of 5 Disbursements:	23,293.32

Supervisor
BRENDA L. STUMBO
Clerk
DEBRA A. SWANSON
Treasurer
STAN ELDRIDGE
Trustees
KAREN LOVEJOY ROE
JOHN P. NEWMAN II
GLORIA PETERSON
LARESHA THORNTON

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Accounting Department

7200 S. Huron River Drive
Ypsilanti, MI 48197
Phone: (734) 544-4000 Ext 5
Fax: (734) 484-5154

STATEMENTS AND CHECKS

August 19, 2025 BOARD MEETING

ACCOUNTS PAYABLE CHECKS -	$	1,536,469.83
HAND CHECKS -	$	463,035.24
CREDIT CARD PURCHASES-	$	13,881.76
GRAND TOTAL -	**$**	**2,013,386.83**

Clarity Health Care Deductible –

ACH EFT – $29,135.41 (JULY)
ADMIN FEE - $ 1,769.05 (JULY)

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 200855 - 200956

A/P Checks

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
Bank AP AP					
08/19/2025	200855	A DESIGN LINE	A DESIGN LINE	TWP APPAREL FOR J. HUMENIAK	127.06
			A DESIGN LINE	COMMUNITY PROMOTION - BUG SPRA	730.01
					857.07
08/19/2025	200856	A.F. SMITH ELECTRIC	A.F. SMITH ELECTRIC	LOST POWER AT PUMP STATION- AF	235.00
08/19/2025	200857	ABOVE STANDARD ELECTRIC	ABOVE STANDARD ELECTRIC	PERMIT REFUND PE25-0033	37.50
08/19/2025	200858	ACCUSHRED LLC	ACCUSHRED LLC	SHRED SERVICES	215.25
08/19/2025	200859	ADVANCE PRINT & GRAPHICS	ADVANCE PRINT & GRAPHICS	ADDITIONAL SPECIAL EVENT PASSE	250.38
08/19/2025	200860	ADVANCED COMMUNICATIONS & DAT	ADVANCED COMMUNICATIONS & DAT	INTERNET UTILITY SERVICE	689.90
08/19/2025	200861	ADVANCED TURF SOLUTIONS	ADVANCED TURF SOLUTIONS	FERTILIZER/PLANT PROTECTANT FO	579.10
08/19/2025	200862	AMAZON CAPITAL SERVICES	AMAZON CAPITAL SERVICES	OTTERBOX DEFENDER SERIES	183.50
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES	62.86
			AMAZON CAPITAL SERVICES	AMAZON ORDER FOR SWIPE CARDS A	81.17
			AMAZON CAPITAL SERVICES	ELECTION SUPPLIES	42.38
			AMAZON CAPITAL SERVICES	OFFICE SUPPLIES	235.43
			AMAZON CAPITAL SERVICES	CASE FOR TABLETS/KEYBOARD	257.70
			AMAZON CAPITAL SERVICES	STICKERS FOR JAZZ FEST	19.98
			AMAZON CAPITAL SERVICES	500 PACK-BONDO PREMIUM CR80 10	169.98
			AMAZON CAPITAL SERVICES	LEGAL PADS FOR OFFICE	15.26
			AMAZON CAPITAL SERVICES	TV AND DVD DRIVES	546.64
			AMAZON CAPITAL SERVICES	BLUE 25G SFP28 SFP+ DAC CABLE	13.61
			AMAZON CAPITAL SERVICES	BLUE 25G SFP28 SFP+ DAC CABLE	68.05
			AMAZON CAPITAL SERVICES	LANYARDS AND BINDER TABS	87.95
			AMAZON CAPITAL SERVICES	WIRELESS MICROPHONES FOR THE G	37.99
			AMAZON CAPITAL SERVICES	RETURN KEYBOARD AND MOUSE	(30.39)
					1,792.11
08/19/2025	200863	ANN ARBOR CLEANING SUPPLY	ANN ARBOR CLEANING SUPPLY	CLEANING SUPPLIES - PARKS & GR	447.98
08/19/2025	200864	ANN ARBOR SPARK	ANN ARBOR SPARK	2025 CONTRIBUTION TO ANN ARBOR	15,000.00
08/19/2025	200865	ANN ARBOR TOWNSHIP FIRE DEPAR	ANN ARBOR TOWNSHIP FIRE DEPAR	DRIVER'S TRAINING ATV/UTV	75.00
08/19/2025	200866	ATLANTIC CONSTRUCTION	ATLANTIC CONSTRUCTION	SIDEWALK REPLACEMENT - 7525 LO	4,000.00
			ATLANTIC CONSTRUCTION	SIDEWALK REPLACEMENT - 1222 SH	800.00
					4,800.00
08/19/2025	200867	AUTO VALUE YPSILANTI	AUTO VALUE YPSILANTI	PARKS & GROUNDS - LOONFEATHER	10.78
			AUTO VALUE YPSILANTI	OIL FOR ZERO TURN MOWERS	61.14
					71.92
08/19/2025	200868	B-BALL SKILLS LLC	B-BALL SKILLS LLC	PAY OUT FOR B-BALL SKILLS 7/23	413.13
08/19/2025	200869	BACK TO NATURE LAWN CARE	BACK TO NATURE LAWN CARE	LATE SUMMER SLOW RELEASE FERT	136.25
			BACK TO NATURE LAWN CARE	LATE SUMMER SLOW RELEASE FERT	211.25
			BACK TO NATURE LAWN CARE	LATE SUMMER SLOW RELEASE FERT	78.00
					425.50
08/19/2025	200870	BOUND TREE MEDICAL, LLC.	BOUND TREE MEDICAL, LLC.	ITEMS FOR MEDICAL BAGS	953.34
			BOUND TREE MEDICAL, LLC.	RECOVER PRO X INFECTION CONTRO	283.69
					1,237.03
08/19/2025	200871	BRAUN CONSRTUCTION GROUP, INC	BRAUN CONSRTUCTION GROUP, INC	IT ROOM RENOVATION PROJECT	59,267.49

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			BRAUN CONSRTUCTION GROUP, INC	14B D Court Renovation	507,849.29
					567,116.78
08/19/2025	200872	BS & A SOFTWARE	BS & A SOFTWARE	BS&A PERMIT APPLICATION SUBMIS	1,256.00
08/19/2025	200873	CERTASITE, LLC	CERTASITE, LLC	FIRE EXTINGUISHER SERVICE/REPA	3,545.85
08/19/2025	200874	CISLO TITLE	CISLO TITLE	TITLE SEARCH INVOICES	175.00
			CISLO TITLE	TITLE SEARCH INVOICES	175.00
			CISLO TITLE	TITLE SEARCH INVOICES	175.00
			CISLO TITLE	Title Search Invoices	525.00
			CISLO TITLE	Title Search Invoices	175.00
			CISLO TITLE	TITLE SEARCH INVOICES	175.00
			CISLO TITLE	TITLE SEARCH INVOICES	175.00
					1,575.00
08/19/2025	200875	CITY OF YPSILANTI FIRE DEPT.	CITY OF YPSILANTI FIRE DEPT.	HIGH RISE TRAINING FOR ALL 3 S	4,788.72
08/19/2025	200876	CORRIGAN MOVING SYSTEMS	CORRIGAN MOVING SYSTEMS	STORAGE/EQUIPMENT RENTAL	2,595.00
08/19/2025	200877	CRIBLEY DRILLING CO., INC.	CRIBLEY DRILLING CO., INC.	INSTALLATION OF NEW CONDUIT AN	10,000.00
08/19/2025	200878	CRYSTAL FLASH, INC.	CRYSTAL FLASH, INC.	REG FUEL	557.02
			CRYSTAL FLASH, INC.	COMM. CENTER: REFILL GAS FUEL	1,270.64
			CRYSTAL FLASH, INC.	FORD LAKE PARK - DIESEL FUEL F	451.13
			CRYSTAL FLASH, INC.	FORD LAKE PARK: REFILL GAS FUE	1,615.90
					3,894.69
08/19/2025	200879	CTI	CTI	AUDIO FOR COURTROOMS	17,182.06
08/19/2025	200880	DETECTION SYSTEMS AND ENGINEE	DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA WORK	749.00
			DETECTION SYSTEMS AND ENGINEE	PUBLIC CAMERA WORK	749.00
			DETECTION SYSTEMS AND ENGINEE	CAMERA WORK	326.25
			DETECTION SYSTEMS AND ENGINEE	CAMERA WORK	471.25
					2,295.50
08/19/2025	200881	DEVON INDUSTRIAL GROUP	DEVON INDUSTRIAL GROUP	BD REFUND FOR TRX: 00070378, R	1,000.00
08/19/2025	200882	DOHYOUN LEE	DOHYOUN LEE	PAYMENT FOR YOUTH TENNIS LESSO	120.00
08/19/2025	200883	DTE ENERGY	DTE ENERGY	BD BOND REFUND: BSEPB-0001, 31	2,500.00
08/19/2025	200884	EAGLE ENGRAVING INC	EAGLE ENGRAVING INC	ACCOUNTABILITY TAGS	26.65
08/19/2025	200885	EDNA SMITH	EDNA SMITH	REFUND SECURITY DEPOSIT	100.00
08/19/2025	200886	EDWARD MICHOWSKI	EDWARD MICHOWSKI	SOFTBALL OFFICIATED 7/28-8/5 8	320.00
08/19/2025	200887	EMERGENT HEALTH PARTNERS	EMERGENT HEALTH PARTNERS	FIRE DISPATCHING SERVICES	11,306.40
08/19/2025	200888	FRONTLINE CONSULTING	FRONTLINE CONSULTING	PRE-EMPLOYMENT PSYCHOLOGICAL E	1,950.00
08/19/2025	200889	GARY STAFFORD	GARY STAFFORD	START SMART PAYOUT	465.30
08/19/2025	200890	GARY TURNBULL	GARY TURNBULL	PAYMENT FOR SOFTBALL GAMES OFF	240.00
08/19/2025	200891	GRAINGER	GRAINGER	MAINT SUPPLIES- GARAGE DOOR/ G	7.12
			GRAINGER	MAINT SUPPLIES- GARAGE DOOR/ G	124.67
			GRAINGER	FLP MAINT. GARAGE - HOSE REEL	451.55
			GRAINGER	BABY CHANGING STATION	910.02
			GRAINGER	SUPPLIES	(344.78)
					1,148.58
08/19/2025	200892	GREG MCKINNEY	GREG MCKINNEY	PAYMENT FOR SOFTBALL GAMES OFF	80.00
08/19/2025	200893	GRIFFIN PEST SOLUTIONS	GRIFFIN PEST SOLUTIONS	LEC PEST SOLUTIONS FOR 2025	68.00
08/19/2025	200894	HABITAT FOR HUMANITY	HABITAT FOR HUMANITY	BD BOND REFUND: BTCO21-0005, A	3,000.00
08/19/2025	200895	HECTOR CARTES	HECTOR CARTES	Reimbursement for renewal of P	225.00
08/19/2025	200896	HERITAGE-CRYSTAL CLEAN, LLC	HERITAGE-CRYSTAL CLEAN, LLC	MACHINE SERVICE	205.41
08/19/2025	200897	HOME DEPOT	HOME DEPOT	PARTS TO REPAIR BATHROOM LEAK	46.94
			HOME DEPOT	CIVIC CENTER - DISINFECTANT SP	2.80

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			HOME DEPOT	PARTS TO REPAIN DOWNSPOUT AT C	75.29
			HOME DEPOT	ACCT. #6035 3225 0163 9862	(15.00)
					110.03
08/19/2025	200898	HOME OF NEW VISION	HOME OF NEW VISION	OPIOID PREVENTION PILOT - FULL	6,000.00
08/19/2025	200899	J & T AGGREGATE, LLC	J & T AGGREGATE, LLC	GRAVEL FOR CRC	157.50
08/19/2025	200900	JAMES RATLIFF	JAMES RATLIFF	JAMES D. RATLIFF CONTRACTUAL I	150.00
08/19/2025	200901	JAMIE GASTON-EALOM	JAMIE GASTON-EALOM	ORD OFFICER WORK BOOTS REIMBUR	127.19
08/19/2025	200902	JIBRIL NAEEM	JIBRIL NAEEM	MODERDAY MARTIAL ARTS PAYOUT	434.00
08/19/2025	200903	JUNGA'S ACE HARDWARE	JUNGA'S ACE HARDWARE	LEAF BLOWER	329.99
08/19/2025	200904	KURT'S CAPS LLC	KURT'S CAPS LLC	2025 FORD F-150 CC 5.5 BED	3,601.00
08/19/2025	200905	LANGUAGE LINE SERVICES	LANGUAGE LINE SERVICES	ON DEMAND INTERPRETER SERVICES	487.69
08/19/2025	200906	LARRY KENYON	LARRY KENYON	SOFTBALL GAMES OFFICIATED 8/4	80.00
08/19/2025	200907	LAWRENCE HENDRICKS	LAWRENCE HENDRICKS	PAYMENT FOR TENNIS LESSONS 7/1	110.00
08/19/2025	200908	LIFE AFTER INCARCERATION	LIFE AFTER INCARCERATION	LAITR COMMUNITY BEAUTIFICATION	12,600.00
08/19/2025	200909	LINDE GAS & EQUIPMENT INC	LINDE GAS & EQUIPMENT INC	PROPANE RENTAL FOR MAINT GARAG	41.95
			LINDE GAS & EQUIPMENT INC	PROPANE RENTAL FOR MAINT GARAG	43.05
			LINDE GAS & EQUIPMENT INC	OXYGEN RENTAL	471.55
					556.55
08/19/2025	200910	LOOKING GOOD LAWNS	LOOKING GOOD LAWNS	LGL invoice YTNWM-725-07 noxio	790.00
			LOOKING GOOD LAWNS	LGL INVOICE YTGV-726-9 GAULTVI	600.00
			LOOKING GOOD LAWNS	LGL INVOICE YTNWM-725-010 NOXI	775.00
			LOOKING GOOD LAWNS	LGL INVOICE YTNWM-725-011 NOXI	540.00
			LOOKING GOOD LAWNS	LGL INVOICE YTNWM-825-012 NOXI	295.00
					3,000.00
08/19/2025	200911	LOWE'S	LOWE'S	Civic Center Cafeteria - Carpe	58.82
			LOWE'S	CIVIC CENTER CAFETERIA - CARPE	17.99
					76.81
08/19/2025	200912	MARC A. VOLGER & ASSOCIATES	MARC A. VOLGER & ASSOCIATES	HYBRID TRAINING COURSE FOR NEW	1,040.00
08/19/2025	200913	MARK HANNA	MARK HANNA	REIMBURSEMENT FOR MECHANICAL A	450.00
08/19/2025	200914	MCLAIN AND WINTERS	MCLAIN AND WINTERS	LEGAL SERVICES - JULY 2025	167,204.34
08/19/2025	200915	MCMASTER-CARR	MCMASTER-CARR	DOOR SEALS FOR HYDRO GARAGE DO	123.69
08/19/2025	200916	MES SERVICE COMPANY LLC	MES SERVICE COMPANY LLC	25 SETS TURN OUT GEAR - GRANT	96,692.03
08/19/2025	200917	MICHIGAN ASSOC. OF PLANNING	MICHIGAN ASSOC. OF PLANNING	Registration for Fall Conferen	630.00
			MICHIGAN ASSOC. OF PLANNING	REGISTRATION FOR FALL CONFEREN	460.00
					1,090.00
08/19/2025	200918	MICHIGAN DISTRICT JUDGES ASSO	MICHIGAN DISTRICT JUDGES ASSO	CONFERENCE REGISTRATION FEE	450.00
08/19/2025	200919	MICHIGAN FIRE INSPECTORS SOCI	MICHIGAN FIRE INSPECTORS SOCI	SOCIETY MEMBER - FULL CONFEREN	450.00
			MICHIGAN FIRE INSPECTORS SOCI	SOCIETY MEMBER - FULL CONFEREN	450.00
					900.00
08/19/2025	200920	MICHIGAN LINEN SERVICE, INC.	MICHIGAN LINEN SERVICE, INC.	HOLMES RD LAUNDRY SERVICE FOR	18.50
			MICHIGAN LINEN SERVICE, INC.	COMMUNITY CENTER LAUNDRY SERVI	49.50
			MICHIGAN LINEN SERVICE, INC.	MAINT. GARAGE LAUNDRY SERVICE	24.00
			MICHIGAN LINEN SERVICE, INC.	CIVIC CENTER LAUNDRY SERVICE F	101.10
			MICHIGAN LINEN SERVICE, INC.	LAUNDERY SERVICES FOR 2025 SEA	24.00
			MICHIGAN LINEN SERVICE, INC.	LAUNDERY SERVICES FOR 2025 SEA	24.00
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 4	85.03
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	86.26

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	190.40
			MICHIGAN LINEN SERVICE, INC.	LAUNDERY SERVICES FOR 2025 SEA	24.00
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 4	85.03
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	86.26
			MICHIGAN LINEN SERVICE, INC.	LINEN SERVICE FOR STATION 3	190.40
					988.48
08/19/2025	200921	MICHIGAN PUBLICATIONS	MICHIGAN PUBLICATIONS	VARIOUS ADS	125.00
			MICHIGAN PUBLICATIONS	VARIOUS ADS	40.00
			MICHIGAN PUBLICATIONS	VARIOUS ADS	40.00
			MICHIGAN PUBLICATIONS	VARIOUS ADS	55.00
					260.00
08/19/2025	200922	MICHIGAN TOWNSHIPS ASSOC.**	MICHIGAN TOWNSHIPS ASSOC.**	CLASSIFIED AD FOR DIRECTOR OF	550.00
08/19/2025	200923	MUNIVATE LLC	MUNIVATE LLC	CONFIG & TRAINING - PERMIT &	323.75
08/19/2025	200924	NORTHGATE CONSTRUCTION LLC	NORTHGATE CONSTRUCTION LLC	SOFFIT REPAIRS AT COMMUNITY CE	6,000.00
08/19/2025	200925	OKINAWAN KARATE CLUB	OKINAWAN KARATE CLUB	SUMMER SESSION	405.30
08/19/2025	200926	ONSITE SUBSTANCE ABUSE TESTIN	ONSITE SUBSTANCE ABUSE TESTIN	RECOVERY COURT DRUG TESTING JU	82.00
08/19/2025	200927	OOMA, INC.	OOMA, INC.	OOMA SERVICES	249.24
08/19/2025	200928	ORCHARD, HILTZ & MCCLIMENT IN	ORCHARD, HILTZ & MCCLIMENT IN	PHOENIX HOUSE MEETINGS	350.00
			ORCHARD, HILTZ & MCCLIMENT IN	TITA TORTILLAS - DETAILED ENGI	1,215.00
			ORCHARD, HILTZ & MCCLIMENT IN	ZIPPY SITE PLAN REVIEW	1,078.00
			ORCHARD, HILTZ & MCCLIMENT IN	2402 & 2416 E MICHIGAN AVE ASP	162.00
			ORCHARD, HILTZ & MCCLIMENT IN	9624 MARTZ MEETINGS	350.00
			ORCHARD, HILTZ & MCCLIMENT IN	2936 AIRPORT DR SESC	162.00
			ORCHARD, HILTZ & MCCLIMENT IN	CONSTRUCTION ADMINISTRATION FO	4,114.00
			ORCHARD, HILTZ & MCCLIMENT IN	MS4 Permit Assistance	3,642.00
			ORCHARD, HILTZ & MCCLIMENT IN	CIVIC CENTER POND CONSTRUCTION	1,467.50
					12,540.50
08/19/2025	200929	ORKIN LLC	ORKIN LLC	JULY VERMIN MANAGEMENT SERVICE	590.00
08/19/2025	200930	PIRTEK	PIRTEK	HYD. HOSE FOR TUB GRINDER	285.67
08/19/2025	200931	PRIORITY ONE EMERGENCY	PRIORITY ONE EMERGENCY	APPAREL FOR CSO SMITH	62.00
			PRIORITY ONE EMERGENCY	PANTS FOR NEW FF'S	671.93
					733.93
08/19/2025	200932	RHETT REYES	RHETT REYES	RECOVERY COURT PAYROLL WEEK EN	1,064.25
			RHETT REYES	RECOVERY COURT PAYROLL WEEK EN	1,064.25
					2,128.50
08/19/2025	200933	RICOH USA, INC.	RICOH USA, INC.	QUARTERLY COPIER CONTRACT	105.77
			RICOH USA, INC.	PRINTER MAINTENANCE CHARGES	354.74
					460.51
08/19/2025	200934	ROBERT ACTON	ROBERT ACTON	ROBERT ACTON CONTRACTUAL INSPE	1,000.00
08/19/2025	200935	SAFEGUARD BUSINESS SYSTEMS	SAFEGUARD BUSINESS SYSTEMS	3000 LASER CHECKS FOR ACCOUNTS	686.11
08/19/2025	200936	SALADINO CONSTRUCTION COMPANY	SALADINO CONSTRUCTION COMPANY	CONCRETE SIDEWALK REPLACEMENT	6,012.50
08/19/2025	200937	SAM'S CLUB DIRECT	SAM'S CLUB DIRECT	CONCESSIONS FOR COMMUNITY CENT	236.50
08/19/2025	200938	SERVER SUPPLY INC	SERVER SUPPLY INC	DELL 9VHH9 MELLANOX CONNECTX-5	826.50
08/19/2025	200939	SHRADER TIRE & OIL	SHRADER TIRE & OIL	FIX FLAT TIRE ON 14-3	223.95
08/19/2025	200940	SITEONE LANDSCAPE SUPPLY, LLC	SITEONE LANDSCAPE SUPPLY, LLC	5X RAINBIRD DECODERS FD-102	1,789.82
			SITEONE LANDSCAPE SUPPLY, LLC	REC MATERIALS - DRYING MIX FOR	516.21

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
					2,306.03
08/19/2025	200941	SPARTAN DISTRIBUTORS	SPARTAN DISTRIBUTORS	PARTS FOR REPAIR FOR TORO 3150	1,287.67
			SPARTAN DISTRIBUTORS	BLADES FOR TORO 4100S	447.81
			SPARTAN DISTRIBUTORS	PURCHASE OF 2X TORO GREENSMAST	44,626.14
					46,361.62
08/19/2025	200942	STADIUM TROPHY	STADIUM TROPHY	SUMMER BASEBALL MEDALS	229.00
			STADIUM TROPHY	SOFTBALL CHAMPIONSHIP TROPHYS	173.97
					402.97
08/19/2025	200943	STANDARD PRINTING	STANDARD PRINTING	GREEN APPROVAL TAGS FOR BUILDI	305.00
08/19/2025	200944	STEPHEN BROWN	STEPHEN BROWN	STEVE BROWN CONTRACTUAL INSP J	1,450.00
08/19/2025	200945	STERICYCLE INC	STERICYCLE INC	STERI-SAFE BUDGET SUBSCRIPTION	282.55
08/19/2025	200946	TACHERA REID	TACHERA REID	SHELTER REFUND	100.00
08/19/2025	200947	TEESNAP LLC	TEESNAP LLC	ANNUAL PAYMENT TO TEESNAP FOR	11,000.00
08/19/2025	200948	TERMINIX	TERMINIX	PEST CONTROL SERVICES FOR GREE	87.98
08/19/2025	200949	THE SWEATSHOP CUSTOM EMBROIDE	THE SWEATSHOP CUSTOM EMBROIDE	T'S/JACKETS/JOB SHIRTS	1,644.00
08/19/2025	200950	ULINE	ULINE	DOGGIE BAGS FOR PARKS	137.40
08/19/2025	200951	UNIVERSITY TRANSLATORS	UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
			UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
			UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
			UNIVERSITY TRANSLATORS	TRANSLATOR SERVICES	170.00
					680.00
08/19/2025	200952	W.J. O'NEIL COMPANY	W.J. O'NEIL COMPANY	BOILER A - HEAT EXCHANGER REPL	29,377.00
08/19/2025	200953	WASHTENAW COUNTY TREASURER#	WASHTENAW COUNTY TREASURER#	POLICE SERVICE UNITS FOR 2025	440,864.47
08/19/2025	200954	WEX BANK	WEX BANK	WEX CREDIT CARD CHARGES ENDING	1,930.43
08/19/2025	200955	XL BUILDERS LLC	XL BUILDERS LLC	BD BOND REFUND: BTCO19-0036, A	5,000.00
08/19/2025	200956	YPSILANTI ACE HARDWARE	YPSILANTI ACE HARDWARE	PRUNERS FOR LOOSESTRIFE PROJEC	52.57
			YPSILANTI ACE HARDWARE	MAINT. SUPPLIES - SCREWS AND F	1.74
					54.31

AP TOTALS:

Total of 102 Checks:	1,536,469.83
Less 0 Void Checks:	0.00
Total of 102 Disbursements:	1,536,469.83

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 200802 - 200854

Hand Checks

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
Bank AP AP					
07/30/2025	200802	BLUE CROSS BLUE SHIELD OF MI	BLUE CROSS BLUE SHIELD OF MI	HEALTH INSURANCE - AUGUST 2025	796.42
			BLUE CROSS BLUE SHIELD OF MI	HEALTH INSURANCE - AUGUST 2025	40,225.67
			BLUE CROSS BLUE SHIELD OF MI	HEALTH INSURANCE - AUGUST 2025	171,017.50
					212,039.59
07/30/2025	200803	BLUE CROSS BLUE SHIELD OF MIC	BLUE CROSS BLUE SHIELD OF MIC	HEALTH INSURANCE - AUGUST 2025	40,412.38
07/30/2025	200804	COMCAST	COMCAST	ACCT. #8529102340186229	215.50
			COMCAST	ACCT. #8529 10 234 0186229	230.53
					446.03
07/30/2025	200805	CONSTELLATION NEW ENERGY	CONSTELLATION NEW ENERGY	ACCOUNT #BG-301569	3,887.92
07/30/2025	200806	DELTA DENTAL PLAN OF MICHIGAN	DELTA DENTAL PLAN OF MICHIGAN	DENTAL INSURANCE - AUGUST 2025	13,978.15
			DELTA DENTAL PLAN OF MICHIGAN	DENTAL INSURANCE - AUGUST 2025	33.52
					14,011.67
07/30/2025	200807	MERS	MERS	EMPLOYER MERS OPEB ADC FOR 202	138,012.00
07/30/2025	200808	STANDARD INSURANCE COMPANY	STANDARD INSURANCE COMPANY	LIFE & DISABILITY - AUGUST 202	6,011.58
07/30/2025	200809	STANDARD INSURANCE COMPANY	STANDARD INSURANCE COMPANY	VSP - AUGUST 2025	3,072.52
08/01/2025	200810	UNITED STATES POST OFFICE	UNITED STATES POST OFFICE	POSTAGE FOR FALL 2025 REC GUID	5,927.99
08/04/2025	200811	ALEXANDER HEINE	ALEXANDER HEINE	JUROR COMPENSATION	18.00
08/04/2025	200812	ASHLEY REID	ASHLEY REID	JUROR COMPENSATION	18.00
08/04/2025	200813	BILAL HUSSEIN	BILAL HUSSEIN	JUROR COMPENSATION	18.00
08/04/2025	200814	CALEEA ALLEN	CALEEA ALLEN	JUROR COMPENSATION	18.00
08/04/2025	200815	CAMRON CURTIS	CAMRON CURTIS	JUROR COMPENSATION	18.00
08/04/2025	200816	CINDY SMITH	CINDY SMITH	JUROR COMPENSATION	18.00
08/04/2025	200817	COMCAST	COMCAST	ACCT. #8529 10 234 0884997	178.90
			COMCAST	ACCT. #8529 10 234 0124352	123.29
					302.19
08/04/2025	200818	CONSTELLATION NEW ENERGY	CONSTELLATION NEW ENERGY	ACCOUNT #BG-301569	2,005.80
08/04/2025	200819	DARRYL RICE	DARRYL RICE	JUROR COMPENSATION	18.00
08/04/2025	200820	DAVID ZAMUDIO	DAVID ZAMUDIO	JUROR COMPENSATION	18.00
08/04/2025	200821	DILLON LEWIS	DILLON LEWIS	JUROR COMPENSATION	18.00
08/04/2025	200822	DTE ENERGY	DTE ENERGY	ACCT. #9100 145 4280 7	77.33
			DTE ENERGY	ACCT. #9100 127 9280 0	1,012.88
			DTE ENERGY	ACCT. #9100 145 4262 5	106.58
			DTE ENERGY	ACCT. #9100 145 4306 0	95.20
			DTE ENERGY	ACCT. #9100 145 5674 0	473.97
			DTE ENERGY	ACCT. #9100 127 9293 3	270.62
			DTE ENERGY	ACCT. #9100 127 9303 0	133.83
			DTE ENERGY	ACCT. #9100 067 4660 6	1,537.65
			DTE ENERGY	ACCT. #9100 101 8703 7	58.77
			DTE ENERGY	ACCT. #9100 094 4244 3	17.65
			DTE ENERGY	ACCT. #9100 094 4205 4	492.24
			DTE ENERGY	ACCT. #9100 105 1991 6	40.08
			DTE ENERGY	ACCT. #9100 145 5663 3	49.25
			DTE ENERGY	ACCT. #9100 145 4272 4	24.59
			DTE ENERGY	ACCT. #9100 145 4320 1	193.90
			DTE ENERGY	ACCT. #9200 621 2917 5	27.82
			DTE ENERGY	ACCT. #9100 127 9344 4	37.90
			DTE ENERGY	ACCT. #9100 123 5216 7	30.96

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
			DTE ENERGY	ACCT. #9100 094 4215 3	39.60
					4,720.82
08/04/2025	200823	DYLAN LEE	DYLAN LEE	JUROR COMPENSATION	18.00
08/04/2025	200824	EDLAND MALICK	EDLAND MALICK	JUROR COMPENSATION	18.00
08/04/2025	200825	GENEVIEVE ABOLIO	GENEVIEVE ABOLIO	JUROR COMPENSATION	18.00
08/04/2025	200826	HAMZA SALMAN	HAMZA SALMAN	JUROR COMPENSATION	18.00
08/04/2025	200827	JAMES RUSHTON	JAMES RUSHTON	JUROR COMPENSATION	18.00
08/04/2025	200828	JEREMIAH MALICK	JEREMIAH MALICK	JUROR COMPENSATION	18.00
08/04/2025	200829	JESSICA SMITH	JESSICA SMITH	JUROR COMPENSATION	18.00
08/04/2025	200830	JOANN GILBERT	JOANN GILBERT	JUROR COMPENSATION	18.00
08/04/2025	200831	JOHN FIELDS SR.	JOHN FIELDS SR.	JUROR COMPENSATION	18.00
08/04/2025	200832	KENDELL KLINE	KENDELL KLINE	JUROR COMPENSATION	18.00
08/04/2025	200833	KINDAL FRYE	KINDAL FRYE	JUROR COMPENSATION	18.00
08/04/2025	200834	KYLE BISSELL	KYLE BISSELL	JUROR COMPENSATION	18.00
08/04/2025	200835	LABAN VALDEZ	LABAN VALDEZ	JUROR COMPENSATION	18.00
08/04/2025	200836	LARRY SHOCK II	LARRY SHOCK II	JUROR COMPENSATION	18.00
08/04/2025	200837	MARTIN SIMONSON	MARTIN SIMONSON	JUROR COMPENSATION	18.00
08/04/2025	200838	MARY BUESCHER	MARY BUESCHER	JUROR COMPENSATION	18.00
08/04/2025	200839	MICHAEL HARDRICK	MICHAEL HARDRICK	JUROR COMPENSATION	18.00
08/04/2025	200840	MYLES HOENES	MYLES HOENES	JUROR COMPENSATION	18.00
08/04/2025	200841	PARVIN KELLER	PARVIN KELLER	JUROR COMPENSATION	18.00
08/04/2025	200842	ROBERT FULCHER	ROBERT FULCHER	JUROR COMPENSATION	18.00
08/04/2025	200843	RONALD KRAMARCZYK II	RONALD KRAMARCZYK II	JUROR COMPENSATION	18.00
08/04/2025	200844	SHANIA ARMSTEAD	SHANIA ARMSTEAD	JUROR COMPENSATION	18.00
08/04/2025	200845	SHANNON NIELSEN	SHANNON NIELSEN	JUROR COMPENSATION	18.00
08/04/2025	200846	SHAWN MAGALLAN	SHAWN MAGALLAN	JUROR COMPENSATION	18.00
08/04/2025	200847	SHELBY WATSON	SHELBY WATSON	JUROR COMPENSATION	18.00
08/04/2025	200848	SUSAN FINCH	SUSAN FINCH	JUROR COMPENSATION	18.00
08/04/2025	200849	THOMAS PENIRD	THOMAS PENIRD	JUROR COMPENSATION	18.00
08/04/2025	200850	TIMOHTY KINSER	TIMOHTY KINSER	JUROR COMPENSATION	18.00
08/04/2025	200851	WASTE MANAGEMENT	WASTE MANAGEMENT	ACCT. #32-81987-93001	9,340.32
08/04/2025	200852	YAMAHA MOTOR FINANCE CORPORAT	YAMAHA MOTOR FINANCE CORPORAT	GOLF CART LEASE - AUGUST	6,900.00
08/04/2025	200853	YPSILANTI COMMUNITY	YPSILANTI COMMUNITY	ACCT. #2-044-523700-01	126.57
			YPSILANTI COMMUNITY	ACCT. #2-060-771600-01	93.23
			YPSILANTI COMMUNITY	LIFT - STATION MAINT. FORD BLV	90.80
			YPSILANTI COMMUNITY	LIFT STATION MAINT. TUTTLE HIL	547.68
					858.28
08/07/2025	200854	MATTA BLAIR, PLC	MATTA BLAIR, PLC	ARBITRATION SERVICES	14,420.15

AP TOTALS:

Total of 53 Checks:	463,035.24
Less 0 Void Checks:	0.00
Total of 53 Disbursements:	463,035.24

CHECK REGISTER FOR CHARTER TOWNSHIP OF YPSILANTI
CHECK NUMBERS 125 - 126

Credit Cards

Check Date	Check	Vendor Name	Invoice Vendor	Description	Amount
Bank CARDS COMERICA COMMERICAL CARD					
08/19/2025	125(E)	COMERICA BANK	MICHIGAN MUNICIPAL LEAGUE	JOB POSTING FOR HR DIRECTOR	150.00
			MCAA	CONFERENCE FEE FOR HILARY BRAL	300.00
			SHANTY CREEK RESORTS	HOTEL FOR COURT MANAGERS CONFE	137.18
			HOME DEPOT	OFFICE SUPPLIES	74.12
			SAM'S CLUB DIRECT	OPERATING SUPPLIES AND FOOD AN	248.74
			GORDON FOOD SERVICE INC.	OPERATING SUPPLIES AND FOOD AN	578.60
			GORDON FOOD SERVICE INC.	OPERATING SUPPLIES AND FOOD AN	827.52
			GORDON FOOD SERVICE INC.	OPERATING SUPPLIES AND FOOD AN	644.24
			GORDON FOOD SERVICE INC.	SENIOR NUTRITION SUPPLIES	112.76
			GORDON FOOD SERVICE INC.	OPERATING SUPPLIES AND FOOD AN	429.18
			CRYSTAL MOUNTAIN RESORT	HOTEL FOR MAGISTRATE CONFERENC	388.70
			D.R.A.C.O.	MEMBERSHIP RENEWAL FOR STAFF	285.00
			MICHIGAN STATE UNIVERSITY	REGISTRATION FOR ZONING ADMINI	575.00
			RUBBER STAMPS UNLIMITED INC	NOTARY STAMPS ELDRIDGE	59.20
			WASHTENAW COMMUNITY COLLEGE'	HUVACO MEMBERSHIP FOR STAFF FO	480.00
			LOWE'S	DISHWASHER FOR HQ	561.98
			HARBOR FREIGHT	LIGHTS FOR MOWERS, TRASH BAGS,	205.60
			MADCM	CONFERENCE REGISTRATION AND AN	250.00
			ANN ARBOR PCI PARKING	PARKING FOR INTERN ORIENTATION	4.80
			ACTIVE911, INC	ADDITIONAL ACTIVE 911 LICENSES	25.29
			AVANGATE INC.	RSJOOMLA PLUGIN RENEWALS	113.08
			BOYNE MOUNTAIN RESORT	DEPOSIT FOR LODGING FOR TRAVIS	311.91
			CONCENTRA MEDICAL CENTERS	Pre-employment Drug Screen and	1,307.00
			CONCENTRA MEDICAL CENTERS	DOT PHYSICAL FOR MED CARD - BE	245.00
			CONCENTRA MEDICAL CENTERS	PRE-EMPLOYMENT DRUG SCREEN AND	2,315.00
			A DESIGN LINE	CLOTHING ITEMS FOR HR SPECIALI	191.22
			IPS DRUG TESTING	DOT DRUG SCREEN FOR MED CARD	45.00
			STATE OF MI-DEPT. OF HEALTH H	APPLICATION TO OPERATE	100.00
			OLYMPIA ENTERTAINMENT INC.	50 & BEYOND FOX THEATER TOUR	420.00
			PACK N PARCEL	GROUND SHIPPING FOR OIL TEST T	17.89
			REBRANDLY	URL SHORTENER	392.11
			SCREENCONNECT SOFTWARE LLC	SCREENCONNECT CLOUD MIGRATION	787.00
			SERVER SUPPLY INC	DELL G6HX2 INTEL X71	575.64
			TRANSUNION RISK & ALTERNATIVE	MONTHLY SUBSCRIPTION FEES FOR	75.00
			TAYLOR'S TINS LLC	HELMET SHIELD FOR RAGLIN	60.00
					13,293.76
08/19/2025	126(E)	COMERICA BANK	ZAPIER, INC.	ZAPIER SUBSCRIPTION	588.00

CARDS TOTALS:

Total of 2 Checks:	13,881.76
Less 0 Void Checks:	0.00
Total of 2 Disbursements:	13,881.76

TREASURER'S REPORT

The Treasurer's Report will be distributed at the meeting

YPSILANTI TOWNSHIP
— OFFICE OF THE TREASURER —

MONTHLY TREASURER'S REPORT
STAN ELDRIDGE
JULY 1, 2025 - JULY 31, 2025

Account Name	Beginning Balance	Cash Receipts	Cash Disbursements	Ending Balance
101 - General Fund	10,025,686.82	1,289,868.12	3,065,854.61	8,249,700.33
101 - Payroll	264,885.34	945,871.48	929,614.23	281,142.59
101 - Willow Run Escrow	147,125.79	49.98	0.00	147,175.77
206 - Fire Department	6,473,604.95	30,515.78	482,843.26	6,021,277.47
208 - Parks Fund	13,065.65	45.39	0.00	13,111.04
213 - Roads/Bike Path/Rec/General Fund	2,459,375.52	8,665.79	13,978.72	2,454,062.59
216 - Fire Pension & OPEB Millage Fund	47,956.45	170.20	0.00	48,126.65
217 - Fire Special Millage Capital Fund	164,918.85	583.55	0.00	165,502.40
226 - Environmental Services	4,967,052.54	15,537.45	269,231.64	4,713,358.35
230 - Recreation	289,202.47	98,002.41	82,368.78	304,836.10
236 - 14-B District Court	169,307.24	64,215.89	150,646.32	82,876.81
244 - Economic Development	80,437.26	283.67	0.00	80,720.93
249 - Building Department Fund	1,458,652.86	66,823.97	76,632.29	1,448,844.54
250 - LDFA Tax	24,780.97	87.53	0.00	24,868.50
252 - Hydro Station Fund	1,368,003.00	46,397.51	33,988.14	1,380,412.37
266 - Law Enforcement Fund	19,821,144.59	77,981.60	138,945.90	19,760,180.29
284 - Opioid Settlement Fund	51,918.33	183.17	0.00	52,101.50
287 - Nuisance Abatement Fund	50,914.31	2,786.21	7,550.00	46,150.52
398 - LDFA 2006 Bonds	14,246.37	50.25	0.00	14,296.62
584 - Green Oaks Golf Course	440,533.92	151,880.26	121,708.73	470,705.45
597 - Compost Site	767,356.97	36,759.78	51,424.07	752,692.68
661 - Motor Pool	388,783.48	1,376.32	10,941.90	379,217.90
702 - General Tax Collection	116,581.58	5,385.88	111,901.51	10,065.95
703 - Current Tax Collections	40,527.32	5,411,140.77	1,897,242.54	3,554,425.55
707 - Bonds & Escrow/GreenTop	1,427,819.73	26,360.68	263,134.31	1,191,046.10
708 - Fire Withholding Bonds	126,367.12	72,143.25	15,520.00	182,990.37
GRAND TOTAL	**51,200,249.43**	**8,353,166.89**	**7,723,526.95**	**51,829,889.37**

ATTORNEY REPORT

GENERAL LEGAL UPDATE

OLD BUSINESS

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 11, 2025

Re: 2nd Reading of Resolution 2025-20, Proposed Ordinance 2025-510, an ordinance to amend the Charter Township of Ypsilanti Code of Ordinances, Chapter 66 Section 61, entitled Noxious Weeds Definition

Attached please find a resolution and proposed ordinance change to amend the definition of Noxious Weeds in the Township's Code of Ordinances. It was brought to our attention by a resident that goldenrod is included in the noxious weeds list. Goldenrod is a native plant and an essential source of food for pollinators into late fall, when many other plants have stopped blooming. As a Bee City USA affiliate, we are committed to protecting and expanding pollinator habitat, and removing goldenrod from the noxious weeds definition would aid in that mission.

The proposed change follows the Michigan Township Associations recommendation to use the definition provided by the Noxious Weeds Act, Public Act 359 of 1941. Another notable change is that milkweed cannot be considered a noxious weed. Milkweed is the sole host plant for the caterpillars of the threatened Monarch butterfly species.

Thank you for your consideration.

Charter Township of Ypsilanti

RESOLUTION 2025-20
(In Reference to Ordinance 2025-510)

Amending the Township Code of Ordinances, Chapter 66 Section 61, Noxious Weeds Definition

Whereas, in 1941, the Michigan Legislature enacted a law which permitted townships to control and eradicate noxious weeds; and

Whereas, Noxious Weeds Act, Public Act 359 of 1941, as amended (MCL 247.61, *et seq*.) defines noxious weeds to include the following: Canada thistle (*Circium arvense*), dodders (any species of *Cuscuta*), mustards (charlock, black mustard and Indian mustard, species of *Brassica* or *Sinapis*), wild carrot (*Daucus carota*), bindweed (*Convolvulus arvensis*), perennial sowthistle (*Sonchus arvensis*), hoary alyssum (*Berteroa incana*), ragweed (*ambrosia elatior 1*) and poison ivy (*rhus toxicodendron*), poison sumac (*toxicodendron vernix*) or other plant that in the opinion of the Township Board is regarded as a common nuisance, with the exclusion of milkweed (any species of the genus Asclepias).

Whereas, the need to amend this ordinance came to our attention from a resident concerned that the noxious weeds definition included goldenrod, a native plant that is essential for pollinators in the late summer and autumn; and

Whereas, the Township Board believes that adoption of Ordinance 2025-510 amending the definition of noxious weeds, permitted under Public Act 359 of 1941, is in the best interest of the Township and its residents as part of our Bee City pledge to create and maintain pollinator habitat; and

Now Therefore Be it Resolved, that Ordinance No. 2025-510 is hereby adopted by reference.

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify the above resolution is a true and exact copy of Resolution No. 2025-20 approved by the Charter Township of Ypsilanti, Board of Trustees assembled at the Regular Meeting held on June 17, 2025.

Debra A. Swanson

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

CHARTER TOWNSHIP OF YPSILANTI
PROPOSED ORDINANCE NO. 2025-510

An Ordinance to Amend the Charter Township of Ypsilanti Code of Ordinances, Chapter 66 entitled Noxious Weeds

The Charter Township of Ypsilanti hereby ordains that the Charter Township of Ypsilanti Code of Ordinances, Chapter 66 entitled Noxious Weeds, is amended as follows:

Delete: In its entirety, Section 66-61 entitled Definitions and

Add: The following new Noxious Weeds provisions to 66-61.
Definitions: As used in this section;

For the purpose of this ordinance, “weeds” shall include Canada thistle (*Circium arvense*), dodders (any species of *Cuscuta*), mustards (charlock, black mustard and Indian mustard, species of *Brassica* or *Sinapis*), wild carrot (*Daucus carota*), bindweed (*Convolvulus arvensis*), perennial sowthistle (*Sonchus arvensis*), hoary alyssum (*Berteroa incana*), ragweed (*ambrosia elatior 1*) and poison ivy (*rhus toxicodendron*), poison sumac (*toxicodendron vernix*) or other plant that in the opinion of the Township Board, coming under the provisions of the Noxious Weeds Act, Public Act 359 of 1941, as amended (MCL 247.61, *et seq*.), is regarded as a common nuisance, with the exclusion of milkweed (any species of the genus Asclepias).

Effective Date and Repeal of Conflicting Ordinances
All ordinances or parts of ordinances in conflict herewith are hereby repealed. This ordinance shall take effect after publication in a newspaper of general circulation as required by law.

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify adoption of Ordinance No. 2025-510 by the Charter Township of Ypsilanti, Board of Trustees assembled at a Regular Meeting held on August 19, 2025 after first being introduced at a Regular Meeting held on June 17, 2025. The motion to approve was made by member _____ and seconded by _____
YES: ABSENT: NO: ABSTAIN:

_____

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

Dedicated to Providing Top Quality, Cost Effective, and
Environmentally Safe Water and Wastewater Services to Our Customers

YPSILANTI COMMUNITY UTILITIES AUTHORITY

2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
TELEPHONE: 734-484-4600
WEBSITE: www.ycua.org

June 30, 2025

VIA EMAIL

CHARTER TOWNSHIP OF YPSILANTI
Board of Trustees
7200 South Huron Drive
Ypsilanti, Michigan 48197

Re: **Water and Sewer Rate Changes**

Dear Trustees:

Please be advised that the Authority's Board of Commissioners approved a 5.69% water and readiness-to-serve rate increase at their regular meeting on June 25, 2025. The Ypsilanti Township Utilities Ordinance authorizes the Authority's Board to increase the water rate equally commensurate with the increase it receives from the Great Lakes Water Authority (GLWA). GLWA's increase to the Authority was 5.69%, which will take effect on July 1, 2025. At the same meeting, the Authority's Board approved a recommendation to the Township Board of Trustees to increase the sewer and readiness to serve rate by 5.75%. The combined effect of these rate adjustments will be a 5.72% increase in a Township Division customer's bimonthly bill.

The ordinances needed for the adoption of these rate adjustments are included in this correspondence for your review. Please also find enclosed a document summarizing YCUA's budget related to the Fiscal Year 2025-26, which was also approved by YCUA's Board of Commissioners on June 25, 2025.

Please contact me with any questions or concerns regarding this information by email at lblackburn@ycua.org or by phone at 734-484-4600 ext. 116.

Sincerely,

LUTHER BLACKBURN, Executive Director
Ypsilanti Community Utilities Authority

Enclosures
cc w/encl.: YCUA Board of Commissioners
Ms. Angie Rogers
Mr. Matthew T. Jane
Mr. Dwayne Harrigan
Ms. Gail M. Thomas

Dedicated to Providing Top Quality, Cost Effective, and
Environmentally Safe Water and Wastewater Services to Our Customers

YPSILANTI COMMUNITY UTILITIES AUTHORITY

2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
TELEPHONE: 734-484-4600
WEBSITE: www.ycua.org

2025-26 Budget Highlights

The Authority's 2025/2026 annual budget reflects a continued commitment to invest in our system's infrastructure while managing increased costs and a tempered consumption forecast. Revenue is estimated to be $50.91 million with expenditures of $51.39 million (*includes depreciation but does not include debt service*). Please find below various highlights and factors that the Authority considered in developing this year's annual budget.

- Water sales demonstrate a relatively flat consumption over the last 5 years (usage in MCF or 1000 cubic feet):

Fiscal Year	Sales (MCF)	% Change from Prior Year	Purchased	% Change from Prior Year	Water Loss (%)
2020	468635	2.23%	494771	2.21%	5.28%
2021	461623	-1.50%	478318	-3.33%	3.49%
2022	478329	3.62%	504391	5.45%	5.17%
2023	472151	-1.29%	491830	-2.49%	4.00%
2024	464690	-1.58%	469603	-4.52%	1.05%
	Current YTD	2.8%			

- Based upon year-to-date usage, we are projecting 2025 water usage to come in at 465,000 MCF.

- Increased GLWA and professional service costs contribute to most of the increases in the 2025/2026 budget. Overall expenditures are estimated to increase by $0.9 million (~1.8%) over the 2024/2025 budget, with many budgeted items being reduced to minimize the overall increase. The following details most of the anticipated increases:

GLWA Water	$675,000 (*GLWA's 4% promise on revenue requirement ended in 2025*)
Professional Services*	$500,000

** includes but is not limited to electrical, mechanical, and engineering services.*

- Planned capital acquisitions include the following:

Road Repairs	$800,000
Fleet Vehicles	$850,000 (includes $650k for a Vactor)
WWTP Improvements	$700,000

- Inability to access state and federal funding for capital improvement projects continues to add stress to an already scaled-down budget. Current and upcoming capital improvement projects include:

  Headworks Odor Control Improvements (construction phase) ~ $8.95M
  Primary Switchgear Replacement (construction phase) ~ $3.92M
  Sugarbrook Water Main Improvements (construction phase) ~ $6.1M
  West Warner Water Main Loop (construction phase) ~ $0.17M
  Lead Service Line Replacement - Public Right-of-Way (construction phase) ~ $0.13M
  Water Meter Upgrades – City (construction phase) ~ $2.28M
  Harriet Street Water Main Replacement – West (construction phase) ~ $0.65M
  Clark Road Pump Station Improvements (bidding phase) ~ $1.53M
  Ellsworth Storage Tank Improvements (bidding phase) ~ $1.3M
  Water Meter Upgrades – Township Phase I (construction phase) ~ $2.67M

For the 2025/2026 Budget, we propose a 5.69% increase in water rates and a 5.75% increase in sewer rates for the Township:

Twp Customers: For an average bill (10 units of usage), the bi-monthly cost would be $111.80. This is an increase of $6.05 per bill or $3.02 per month.

For the 2025/2026 Budget, we propose a 4.75% increase in water rates and a 5.25% increase in sewer rates for the City:

City Customers: For an average bill (10 units of usage), the bi-monthly cost would be $147.00. This is an increase of $6.92 per bill or $3.46 per month.

Other Community Rate Increases:

City of Saline - an increase of 6.5% water rate and 7.5% sewer rate in January 2025
City of Warren - an increase of 7.5% water rate and 7.5% sewer rate in April 2025
Macomb Township - an increase of 5.9% water rate and 4.5% sewer rate in February 2025
Waterford Township - an increase of 3.25% water rate and 3% sewer rate in January 2025

YCUA Township Division

	water	sewer	Total
Current			
Ready to Service	$17.94	$18.54	$36.47
Commodity rate (per unit)	$3.88	$3.05	$6.93

Average User residential

10 units(7,480 gallons) per 2 month billing cycle

	water	sewer	Total
Ready to Service	$17.94	$18.54	$36.47
10 units	$38.78	$30.50	$69.28
Total	$56.71	$49.04	$105.75

Effect on average Township customers with a proposed 5.69% water rate increase, a sewer rate increase of 5.75%. Combined effect 5.72%

	water	sewer	Total
PROPOSED: September 1, 2025			
Ready to Service	$ 18.96	$ 19.60	$38.56
Commodity rate (per unit)	$ 4.10	$ 3.23	$7.32

Average User residential (proposed)

10 units(7,480 gallons) per 2 month billing cycle

	water	sewer	Total
Ready to Service	$18.96	$19.60	$38.56
10 units	$40.98	$32.26	$73.24
Total	$59.94	$51.86	$111.80
Increase in bill			$ 6.05
Percent Change	5.69%	5.75%	5.72%

CHARTER TOWNSHIP OF YPSILANTI
ORDINANCE NO. 2025 – 511

An ordinance to amend Chapter 62, Article IV, Section 62-76(a) of the Code of Ordinances, Charter Township of Ypsilanti, to adjust water service rates.

BE IT ORDERED BY THE CHARTER TOWNSHIP OF YPSILANTI, that:

Section 62-76(a) of Chapter 62, Article IV of the Code of Ordinances be revised as follows:

(a) Except as otherwise provided in this section, water to be furnished by the system shall be measured by a meter controlled by the Ypsilanti Community Utilities Authority.

For all billings rendered prior to September 1, 2025, existing water service rates shall prevail. For all billings rendered on or after September 1, 2025, charges for water service rates shall be as follows, for each bimonthly (two-month) period:

(1) **Readiness-to-serve rates based on size of meter:**

Meter Size (inch)	Water Rate
5/8-3/4	$ 18.96
1	$ 47.39
1-1/2	$ 94.78
2	$ 151.65
3	$ 473.90
4	$ 947.80
6	$ 1,895.59
8	$ 3,317.28
10	$ 5,212.88
12	$ 6,160.67

(2) **Commodity rate:** $4.10 per 100 cubic feet

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify adoption of Ordinance No. 2025-511 by the Charter Township of Ypsilanti, Board of Trustees assembled at a Regular Meeting held on August 19, 2025 after first being introduced at a Regular Meeting held on July 15, 2025. The motion to approve was made by member and seconded by
YES: ABSENT: NO: ABSTAIN:

_____

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

CHARTER TOWNSHIP OF YPSILANTI
ORDINANCE NO. 2025 – 512

An ordinance to amend Chapter 62, Article IV, Section 62-77 of the Code of Ordinances, Charter Township of Ypsilanti, to adjust sewage disposal rates.

BE IT ORDERED BY THE CHARTER TOWNSHIP OF YPSILANTI, that:

Section 62-77 of Chapter 62, Article IV of the Code of Ordinances be revised as follows:

For all billings rendered prior to September 1, 2025, existing sewage disposal service rates shall prevail. For all billings rendered on or after September 1, 2025, charges for sewage disposal services shall be as follows, for each bimonthly (two-month) period:

(1) **Readiness-to-serve rates based on size of meter:**

Meter Size (inch)	Sewer Rate
5/8-3/4	$ 19.60
1	$ 49.01
1-1/2	$ 98.00
2	$ 156.81
3	$ 490.03
4	$ 980.07
6	$ 1,960.12
8	$ 3,430.23
10	$ 5,390.35
12	$ 6,370.42

(2) **Commodity rate:** $3.23 per 100 cubic feet

* * * * * * * * * *

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify adoption of Ordinance No. 2025-512 by the Charter Township of Ypsilanti, Board of Trustees assembled at a Regular Meeting held on August 19, 2025 after first being introduced at a Regular Meeting held on July 15, 2025. The motion to approve was made by member and seconded by
YES: ABSENT: NO: ABSTAIN:

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

NEW BUSINESS

CHARTER TOWNSHIP OF YPSILANTI

RESOLUTION NO. 2025-21

RESOLUTION REGARDING
TEMPORARY ROAD
CLOSURE

Resolution authorizing the temporary road closure of Rosewood St. between Davis St. and Ecorse Rd. for the Calvary Baptist Church Fall Festival from 11am to 6pm on October 18, 2025.

WHEREAS, the Charter Township of Ypsilanti Board of Trustees has approved the temporary closure of Ypsilanti Township roads as indicated above; and

WHEREAS, the Driveways, Banners, and Parades Act 200 of 1969 requires the Township to authorize an official designated by resolution to make such request from the Road Commission.

NOW THEREFORE, BE IT RESOLVED that the Township of Ypsilanti Board of Trustees designates and agrees that Fred Crothers, Cavalry Baptist Church Facility Manager be the authorized official designee in this instance, when application is made to the Washtenaw County Road Commission for this temporary road closure.

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify the above resolution is a true and exact copy of Resolution No. 2025-21 approved by the Charter Township of Ypsilanti, Board of Trustees assembled at a Regular Meeting held on August 19, 2025.

_____

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

calvary
BAPTIST CHURCH

Ypsilanti Township
Huron River Drive
Ypsilanti, MI 48198

To: Debbie Swanson, Clerk
Mark Yandrick, Planning Director

To Whom It May Concern:

This is to inform you of our plan at Calvary Baptist Church, 1007 Ecorse Rd, Ypsilanti, MI 48198. We are planning to have a Fall Festival on October 18, 2025 which will take place in the church gym, the parking lot, and the field on the other side of Rosewood St. We would like to have Rosewood St blocked off between Davis and Ecorse Road from 11AM until 6PM to allow for foot traffic between our building, parking lot, and field.

We plan to have a 4ft x 12ft sign put up a week or two before this event.

Our plan is to have some games such as football toss, bounce houses, and small pop up type canopies over food prep and serving areas. One 10ft x 20ft simple pop up canopy for an entry way into the parking lot in front of the gym.

I have been in contact with the Washtenaw County Sheriff's department to have a show and tell vehicle on site, and they will be situated so that, if they get a call, they can exit quickly. The Ypsilanti Fire Department has also agreed to have a unit on hand for show and tell. They have also said that they cannot stay for the entire three hours, and we will make arrangements for them to leave as well. HVA has agreed to have a "non-emergency vehicle and person" available to allow people to peak into their vehicle and talk to the person coming. Should an emergency situation arise at our event, we would still need to call 911 or contact the fire personnel or sheriff on site.

There will also be a petting zoo run by one of the church members. The animals will be contained within a fenced area. Children will be allowed into the fenced area. An adult will be on site at all times.

If you have any question, contact Fred Crothers at 734-255-4082.

Sincerely,
Fred Crothers
Facility Manager
Calvary Baptist Church

Google Maps

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Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025 50 ft

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Kirk Sherwood II, Director of Golf, PGA

CC: John Hines, Municipal Services Director
Will Turner, Golf Course Superintendent
Keuter Chase, Assistant Director of Golf

Date: August 12th, 2025

Subject: REQUEST AUTHORIZATION TO INCREASE GOLF CAR RATES FOR THE 2026 GOLF SEASON AT GREEN OAKS GOLF COURSE.

Recommendation to increase the golf car rate by $2 per player for 9 holes to $8.00, and $3.00 per player for 18 holes to $15.00. The league rate per player per week is also included in these rates and would increase from $22.00 to $24.00 per player per week including cart. This pricing change will only be incurred by those choosing to ride in a golf car and will not affect green fees for players that choose to walk.

These price changes at Green Oaks Golf Course are being made to offset the increased fee of the new 5 (five) year cart lease with Yamaha. It was determined that the current market pricing for the new lease will result in annual fees increasing by just over $30,000 per year. The requested price increase was based on current market pricing.

Thank you for your time in consideration of these matters. If you have any questions regarding this matter, please feel free to contact me by email at ksherwood@ypsitownship.org or by phone at 734-890-6287 prior to the board meeting.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Kirk Sherwood II, Director of Golf, PGA

CC: John Hines, Municipal Services Director
Keuter Chase, Assistant Director of Golf
Will Turner, Golf Course Superintendent

Date: August 10th, 2025

Subject: REQUEST AUTHORIZATION TO AWARD THE LEASE AGREEMENT WITH GOLF CARS PLUS/YAMAHA IN THE AMOUNT OF $80,205.56 BUDGETED IN LINE #584-784-757.003

Green Oaks Golf Course is requesting authorization to accept a five-year golf cart lease extension with Golf Cars Plus/Yamaha that will begin on November 1, 2025, and end October 31st, 2030. The total price per year of this agreement is $80,205.56 that is budgeted in line item #584-784-757.003.

The golf cart lease is for a total of 72 golf carts and two (2) utility carts to be used for golf course maintenance. One of the utility carts will have the ability to convert to a beverage cart on an as needed basis. The lease will include a service agreement for maintenance of the golf carts once a week during the months of April through October as well as yearly oil changes.

Green Oaks staff attempted to obtain three (3) quotes for golf carts, but only two (2) companies sent pricing. They are listed below:

Golf Cars Plus (Yamaha): $80,205.56 per year (Including service agreement $7,400 annually)
Midwest Golf and Turf (Club Car): $73,741.32 per year (Not including service agreement)

Although Club Car is cheaper annually, staff are recommending we renew the new lease with the current company due to their lower pricing and replacement parts (Golf Car Plus provides 20% compared to Midwest provides 15%), the preferred design and comfort of the Yamaha cart, and the quality of the Yamaha service provided in the prior agreement.

If you have any questions in regard to this matter, please feel free to contact me by email at ksherwood@ypsitownship.org or by phone at 734-890-6287 prior to the board meeting.

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars
www.golfcarsplus.us

Fleet Proposal — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

72 2026 Yamaha The Drive2 Fleet - EFI Gas — **Color: Moonstone**

Yamaha 5-Year Limited Warranty

Standard Features

Industry Best 45 MPG
Automotive Style Dash
Tru-Trak II™ Independent Front Suspension
5 MPH Energy Absorbing Bumpers
Removable Modular Body Panels
Dual USB Ports

Standard Accessories

ClimaGuard Top with Dual Gutters
Sweater Basket
Wheel Covers
Fleet Number Decals
Club Logo Decal

Premium Accessories

Clear Hinged Polycarbonate Windshield
Information Holder



Stock Photo - Touring Seat Shown

Optional Accessories

Premium Touring Seat

Accepted By: CHARTER TOWNSHIP OF YPSILANTI Terms: See Financing Proposal

Sign _____ Print _____

Date _____ Title _____

Sign _____ Print _____

Date _____ Title _____

By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days.

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars

www.golfcarsplus.us

Service Contract — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

Start Season	End Season	Units Covered
SEPTEMBER 2025	NOVEMBER 2030/2031	(72) 2026 DR2AFI FLEET UNITS

Pricing
$100/UNIT PER SEASON - $7,200 ANNUAL PAYMENT

Golf Cars Plus Provisions & Responsibilities	
• Full Time Road Service Technicians	• Repair all warranty issues
• Scheduled and situational visits to your location	• Repair all damages (review damage coverage below)
• 20% discount on all parts	• Repair/replace all normal wear parts (not including batteries)
• Year end safety inspection	• Alignment & lubrication as needed
• Year end tune-up	• Maintain all fluid levels
• Provide spare tire & wheel assemblies	• Check/replace belts & cables
	• Tighten/inspect accessories

Customer Responsibilities	
• Fuel / charge and securely store all golf cars	• Notify Golf Cars Plus of any golf car operational issues
• Clean and wash golf cars	• Check brake performance daily, prior to use of golf cars
• Maintain tire pressure between service visits	• Maintain recommended water levels in batteries
• Change out flat and/or damaged tires/wheels	

Damage
Customer is financially responsible for all repairs required due to theft, vandalism, misuse, abuse, accident, acts of nature, or should the club fail to perform their responsibilities listed above. Golf Cars Plus will repair said damage or damages and will bill the club directly for the costs of parts and labor. Damage charges are above and beyond the cost of the Golf Cars Plus Service Contract.

Billing
Customer will be billed annually on or around April 1 of each season and have Net 60 terms. If payment is not received by Golf Cars Plus within 60 days of billing, the service contract will be terminated.

Accepted By: CHARTER TOWNSHIP OF YPSILANTI

Sign _____ Print _____

Date _____ Title _____

Sign _____ Print _____

Date _____ Title _____

By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days.

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars

www.golfcarsplus.us

Financing Proposal — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

1	True Lease - Units returned to Golf Cars Plus at end of term.			Target Delivery:	NOVEMBER 2025
Trades: N/A		Payment Structure:	May - October	Target Pickup:	NOVEMBER 2025
# of Payments: 30		First Payment:	May 2026	Last Payment:	OCTOBER 2030
Monthly: $11,473.20	Per Unit: $159.35		Yearly: $68,839.20	Per Unit:	$956.10

2	True Lease - Units returned to Golf Cars Plus at end of term.			Target Delivery:	NOVEMBER 2025
Trades: N/A		Payment Structure:	May - October	Target Pickup:	NOVEMBER 2025
# of Payments: 36		First Payment:	May 2026	Last Payment:	OCTOBER 2031
Monthly: $10,944.00	Per Unit: $152.00		Yearly: $65,664.00	Per Unit:	$912.00

A	Premium Touring Seat - 5YR	Monthly:	$667.44	Per Unit:	$9.27
B	Premium Touring Seat - 6YR	Monthly:	$570.24	Per Unit:	$7.92

Customer is responsible for insurance, property taxes, storage, and regular maintenance not otherwise noted in an accepted service agreement.

*** Prices and Payments do not include any applicable tax. Quoted payments may vary due to changing interest rates. Subject to credit approval. By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days. Due to global supply chain shortages, all delivery dates are estimates based upon availability. Golf Cars Plus will not provide any loaner equipment to customer based upon late delivery. Golf Cars Plus offers rental units, on a first come first serve basis, to customers at current published rental rates. Taxes and delivery fees will apply.***

Accepted by: CHARTER TOWNSHIP OF YPSILANTI

Sign _____ Print _____

Date _____ Title _____

Option(s) Chosen

Sign _____ Print _____

Date _____ Title _____

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars

www.golfcarsplus.us

Utility Proposal — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

2 **2024 Yamaha UMAX Two - EFI Gas** **Color: TBD**

Yamaha 2-Year Limited Warranty

Standard Features

Automotive Style Dash
4 Wheel Brakes
20 Inch Tires
Tru-Trak II™ Independent Front Suspension
800 Pound Cargo Capacity
1,200 Pound Towing Capacity
Bucket Seats
Speed Upgrade - 17mph
Under Hood Storage Compartment
Dual USB Ports

Standard Accessories

Hydraulic Assist Dumpbox (41.1" x 45.9" x 11.9")
LED Headlights
Fuel Gauge / Hour Meter
Horn



Stock Photo

Premium Accessories

Black Sun Top & Hardware Kit
Rubber Cargo Mat
Wheel Covers

Accepted By: CHARTER TOWNSHIP OF YPSILANTI

Terms: See Financing Proposal

Sign _____ Print _____

Date _____ Title _____

Sign _____ Print _____

Date _____ Title _____

By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days.

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars

www.golfcarsplus.us

Service Contract — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

Start Season	End Season	Units Covered
SEPTEMBER 2025	NOVEMBER 2030/2031	(2) 2024 UMAX 2 UTILITY UNITS

Pricing
$100/UNIT PER SEASON - $200 ANNUAL PAYMENT

Golf Cars Plus Provisions & Responsibilities	
• Full Time Road Service Technicians	• Repair all warranty issues
• Scheduled and situational visits to your location	• Repair all damages (review damage coverage below)
• 20% discount on all parts	• Repair/replace all normal wear parts (not including batteries)
• Year end safety inspection	• Alignment & lubrication as needed
• Year end tune-up	• Maintain all fluid levels
• Provide spare tire & wheel assemblies	• Check/replace belts & cables
	• Tighten/inspect accessories

Customer Responsibilities	
• Fuel / charge and securely store all golf cars	• Notify Golf Cars Plus of any golf car operational issues
• Clean and wash golf cars	• Check brake performance daily, prior to use of golf cars
• Maintain tire pressure between service visits	• Maintain recommended water levels in batteries
• Change out flat and/or damaged tires/wheels	

Damage
Customer is financially responsible for all repairs required due to theft, vandalism, misuse, abuse, accident, acts of nature, or should the club fail to perform their responsibilities listed above. Golf Cars Plus will repair said damage or damages and will bill the club directly for the costs of parts and labor. Damage charges are above and beyond the cost of the Golf Cars Plus Service Contract.

Billing
Customer will be billed annually on or around April 1 of each season and have Net 60 terms. If payment is not received by Golf Cars Plus within 60 days of billing, the service contract will be terminated.

Accepted By: CHARTER TOWNSHIP OF YPSILANTI

Sign _____ Print _____

Date _____ Title _____

Sign _____ Print _____

Date _____ Title _____

By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days.

GOLF CARS PLUS

Your one stop shop for Yamaha Golf Cars

www.golfcarsplus.us

Financing Proposal — August 18, 2025

CHARTER TOWNSHIP OF YPSILANTI

7200 SOUTH HURON RIVER RD - YPSILANTI, MI 48197

1	True Lease - Units returned to Golf Cars Plus at end of term.			Target Delivery:	NOVEMBER 2025
Trades: N/A		Payment Structure:	May - October	Target Pickup:	NOVEMBER 2025
# of Payments: 30		First Payment:	May 2026	Last Payment:	OCTOBER 2030
Monthly: $661.06	Per Unit: $330.53		Yearly: $3,966.36	Per Unit:	$1,983.18

2	True Lease - Units returned to Golf Cars Plus at end of term.			Target Delivery:	NOVEMBER 2025
Trades: N/A		Payment Structure:	May - October	Target Pickup:	NOVEMBER 2025
# of Payments: 36		First Payment:	May 2026	Last Payment:	OCTOBER 2031
Monthly: $591.06	Per Unit: $295.53		Yearly: $3,546.36	Per Unit:	$1,773.18

Customer is responsible for insurance, property taxes, storage, and regular maintenance not otherwise noted in an accepted service agreement.

*** Prices and Payments do not include any applicable tax. Quoted payments may vary due to changing interest rates. Subject to credit approval. By signing above you agree to the details, terms, and pricing of this Proposal. This proposal is valid for 15 days. Due to global supply chain shortages, all delivery dates are estimates based upon availability. Golf Cars Plus will not provide any loaner equipment to customer based upon late delivery. Golf Cars Plus offers rental units, on a first come first serve basis, to customers at current published rental rates. Taxes and delivery fees will apply.***

Accepted by: CHARTER TOWNSHIP OF YPSILANTI

Sign _____ Print _____

Date _____ Title _____

Option(s) Chosen

Sign _____ Print _____

Date _____ Title _____

Township Supervisor
Brenda L. Stumbo
Township Clerk
Heather Jarrell Roe
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RECREATION DEPARTMENT —

Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Josh Kugler, Recreation Services Manager

CC: John Hines, Municipal Services Director

Date: August 12, 2025

RE: Request to approve the 2025-2026 Contract with Washtenaw Community College for building use at the Ypsilanti Township Community Center.

The Recreation Department is requesting the approval of the updated agreement with Washtenaw Community College (WCC) to Offer English as a Second Language (ESL) and GED Classes at the Ypsilanti Township Community Center.

The proposed agreement is aligned with the 2024-2025 agreement with WCC requesting to utilize the same space in the building as the sole user of the Community Center 300 hallway. This includes rooms 301, 303 and 305. Use of this space should allow for continued growth for their programs.

This agreement will run from September 1, 2025 through August 31, 2026. Unlike, prior years WCC and the Township have the ability to cancel the agreement after January 31, 2026 if the federal funding that supports this program is not approved. Their annual dues will remain at $30,000 for the 2025-2026 academic year if the funding is secured. If they are not able to extend past January 31, 2026, the fee will be $10,000.00 for the first quarter and then they will vacate the space which will allow the Community Center to utilize the 300 hallway for rentals and other activities.

Attached is the proposed contract from WCC.

WCC's liability insurance certificate, listing Ypsilanti Township as "additional insured" will be provided after the agreement is signed, per their new insurer.

At that time it will be forwarded to Attorney Winters for review.

Josh Kugler
Recreation Services Manager
jkugler@ypsitownship.org

WASHTENAW COMMUNITY COLLEGE & YPSILANTI TOWNSHIP COMMUNITY CENTER
AGREEMENT FOR EXTENSION CENTER OFFERINGS

This agreement is made by and between **Washtenaw Community College,** hereinafter called the **College** and the Charter Township of Ypsilanti Community Center, Ypsilanti, Michigan hereinafter called the **Center**.

The College and the Center desire to be partners in providing Adult Education ESL and GED instructional program classes funded by the 2025-26 Section 107, MI-State School Aid Act and Federal Workforce Innovation and Opportunity Act-Title II- Adult Education and Family Literacy Act to the residents of the College service area, in particular, Ypsilanti Township and the City of Ypsilanti, thereby giving added dimension to the programs and services already available to the people of the community, with input from the Center staff and other community leaders. The Center desires to make this program available to the people of the College service area and Ypsilanti area by providing facilities and support for said adult education instructional programs; therefore, it is deemed advisable to establish certain rules, regulations, and financial determinations so that the respective roles of the College and the Center can be delineated for the accomplishment of these purposes.

Therefore, be it mutually agreed in considerations of the promises to each other as follows:

The College agrees:

- To provide all instructional personnel and direct administrative services necessary for conducting quality adult education instructional program classes.
- To provide classroom and technical equipment necessary to conduct classes.
- To promote enrollment for the adult education instructional program classes by providing appropriate publicity through local media and other means.
- To schedule the adult education instructional program classes at those times, days and evenings, in compliance to a mutually agreed upon calendar. A calendar of orientation, PD, and class dates and times must be arranged through the Center's Director prior to the start of each new program session.
- To make adequate prior arrangements and communications for class time and date changes due to unforeseen circumstances.
- To follow reasonable practices relating to the proper use and care of the Center properties and facilities.
- To conclude all classes no later than 8:00 p.m.
- To adhere to the current applicable Center's Rules and Regulations as stated in the following:

    - The Community Center is a smoke free, alcohol free, and drug free facility.
    - The use of open flames, such as lighted candles, are strictly prohibited.

- Any form of gambling or game of chance, unless expressively permitted by law and subject to the approval and issuance of special permits is prohibited on the premises.
- A Building Attendant and/or Custodian will be on duty during all hours of building operation and groups must guarantee responsiveness to the directives of all department staff. Accidents and damage, no matter how trivial must be reported to Department staff immediately.
- Property of the Community Center shall not be removed from the facility at any time.
- Groups shall not use, remove or disturb any supplies, bulletin boards or any other items in the Community Center. Some items may be moved or placed out of sight with advanced Department approval and must be returned to the original location at completion of use.
- Groups shall be restricted to the room(s) assigned, except for use of restrooms and common areas. Use of facilities outside the building is restricted to the parking facilities unless granted prior Department approval.
- Placement of posters, banners, decorations, etc. may be permitted upon prior Department approval.
- The Community Center is not responsible for equipment or supplies brought in by groups, but will work collaboratively with the College to ensure safety and security of the rented space.
- The Charter Township of Ypsilanti assumes no responsibility, financial or otherwise, for accidents or injuries sustained by individual or groups of individuals while using the facilities.
- The Charter Township of Ypsilanti assumes no responsibility for damage or theft of personal items.
- The Township & organization using township buildings shall refrain from using Styrofoam products for use in Township Building (Charter Township of Ypsilanti Resolution 89-16).

<u>The Center agrees:</u>

- To provide three designated classrooms at the Center (Rooms 301, 303 & 305) for exclusive use of adult education services and classes.
- The College and the Township will mutually agree to a program calendar for the delivery of educational services and classes.
- To allow persons to register for adult education instructional program classes in accordance with the College's non-discrimination, Open Door Policy.
- To provide an on-site employee for the purpose of opening and closing the buildings and classrooms where adult education instructional program classes are conducted.
- To provide custodial and maintenance services for the facilities and grounds used by the adult education instructional program classes.
- To make classrooms physically accessible to the students and to see that the classrooms are kept open for adult education instructional program classes in a timely manner.

- To provide security and safety arrangements for the adult education instructional program classes faculty and students similar to those provided to the employees and participants of the Center.
- In addition to the mutually agreed upon calendar that recognizes the Center's furloughs and planned closures, on certain school days, the Center may be closed due to inclement weather. On these days, adult education instructional program classes may not meet.

General Provisions:

For the duration of this contract, this agreement covers the exclusive use of rooms 301, 303 & 305 for adult education purposes only.

- It shall be the individual responsibility of each of the parties to carry and maintain its own insurance of public liability and property damage.
- The Center and the College further agree to negotiate any changes that may be deemed necessary as a result of changed circumstances and to amend the contract through mutual agreement at any time during the said contract period.
- The Center and the College mutually agree to adhere to the terms outlined in this operating agreement for the period spanning August 1, 2025, through January 31, 2026, with a fee of $10,000.00 to be paid no later than October 15, 2025. Payment shall be made by check payable to the Charter Township of Ypsilanti.
- Subject to the receipt of 2025–2026 Section 107 funding, the College reserves the right to extend this agreement through June 30, 2026, for an additional fee of $20,000.00, which must be paid in full by May 15, 2026 following receipt of funding, the contract will be extended through the execution of a change order.

Donald Harrison Director of Purchasing	Date
Township Supervisor/Designee Charter Township of Ypsilanti	Date
Township Clerk/Designee Charter Township of Ypsilanti	Date

Revised 08/15/2025

CHARTER TOWNSHIP OF YPSILANTI

RESOLUTION NO. 2025-22

REVISION TO WATER/SEWER SUBSIDY INCOME LEVELS

WHEREAS, Ypsilanti Township has established a water and sewer bill subsidy program for Township citizens of limited income; and

WHEREAS, Ypsilanti Township adopts the following guidelines for the Supervisor's Office to implement. The guidelines shall include but not be limited to the specific income and asset levels of the claimant and all persons residing in the household, filed in the immediately preceding year;

1) All household income cannot exceed 30% of the median income for Ann Arbor (Washtenaw County) as published annually by the Michigan State Housing Development Authority for Section 8 housing vouchers. The most recently available guidelines shall be used by the Supervisor's Office.

2) A copy of the applicant's completed and signed Federal Income Tax Return (if required to file), and/or Michigan Homestead Property Tax Credit Claim (1040 CR) and/or Social Security Statement for the prior year must be submitted for the application to be considered. Additionally, a copy of the prior year Federal Income Tax Return for any other occupant of the homestead is required.

3) Applicants are requested to black out all references to social security numbers prior to submitting necessary paperwork.

4) Water/Sewer subsidies must be applied for each year. If a subsidy is granted, it is for one year only.

5) Applicants must reside in the Charter Township of Ypsilanti and be the property owner. Verification of this shall be completed when application is submitted.

6) The subsidy shall show on the applicants Ypsilanti Community Utilities Authority bill as a $45.00 credit.

NOW THEREFORE BE IT RESOLVED that Supervisor's Office shall follow the above stated policy in granting and denying subsidies, unless the Supervisor determines there are substantial and compelling reasons why there should be a deviation from the policy and these are communicated in writing to the claimant.

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify the above resolution is a true and exact copy of Resolution No. 2025-22 approved by the Charter Township of Ypsilanti, Board of Trustees, assembled at a Regular Meeting held on August 19, 2025.

_____

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 11, 2025

RE: Resolution No. 2025-23, Revision to water/sewer subsidy program

Ypsilanti Township has been offering Ypsilanti Township residents a program to help subsidize water bill costs for 25+ years.

The Supervisor's Office is requesting an increase to the amount of subsidy from $40.00 to $45.00 for a bimonthly bill that we provide to homeowners that qualify under the federal poverty guidelines. The last increase was in 2023, when it increased from $20.00 to $40.00. As we know, many homeowners are struggling, with the cost of utilities, goods and services steeply increasing. With the YCUA rates increasing, an increase for the subsidy would be helpful for residents in need.

The water and sewer rebate program is currently budgeted in line 101-272-836.100 at $20,800. For the 2026 budget, $25,000 will be requested to cover this increase.

A resolution to establish these rate increases for the water and sewer subsidy program is attached, as well as the income thresholds.

Thank you for your consideration.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 13, 2025

RE: Request to accept grant from Washtenaw County in the amount of $200,000 for senior center operations or services, paid from the Older Persons Services Millage

Attached please see the service contract sent by Washtenaw County. Our Ypsilanti Township Community Center has been identified as a senior center eligible for funding from the new Older Persons Services Millage. This service contract ends December 31, 2025, with an option for a one-year extension, and will provide the Township with a $200,000 grant. The Township must report to the County how the funds were used and how many residents served.

This grant can be used for operations and capital as well as asking for additional grants. Nichole Passmore, Recreation Coordinator, is working with the Recreation Staff and 50 & Beyond seniors to identify priorities.

Thank you for your consideration, these funds will be a blessing for our community. Attorney Winters has reviewed the contract and has recommended language changes, as we do with all County contracts.

Contract #_____

SERVICE CONTRACT
Ypsilanti Township

AGREEMENT is made this **1st day of July, 2025**, by the COUNTY OF WASHTENAW, a municipal corporation, with offices located in the County Administration Building, 220 North Main Street, Ann Arbor, Michigan 48107("County") and ***Ypsilanti Township*** located at ***7200 S. Huron River Dr, Ypsilanti, MI, 48197***("Contractor").

In consideration of the promises below, the parties mutually agree as follows:

ARTICLE I - SCOPE OF SERVICES

Contractor will provide a senior center and or services that are available to all Washtenaw County residents aged 60 and older.

ARTICLE II - COMPENSATION

County grants Contractor *$200,000* (Two hundred thousand dollars) to provide resources for the operation of a senior center and or services in conformity with the Older Adults Millage Framework and Operational Policy. Contractor must submit an invoice to County during the term of the contract to receive the grant.

ARTICLE III - REPORTING OF CONTRACTOR

Section 1 - The Contractor is to report to ***Office of Aging Services*** and will cooperate and confer with him/her as necessary to insure satisfactory work progress.

Section 2 - All reports, estimates, memoranda and documents submitted by the Contractor must be dated and bear the Contractor's name.

Section 3 - All reports made in connection with these services are subject to review and final approval by the County Administrator.

Section 4 - The County may review and inspect the Contractor's activities and facility during the term of this contract.

Section 5 - The Contractor will submit a final, written report to the County Administrator with the following information: number of residents served during the contract period, how the County's grant was recognized, how the grant was used, and what outcomes were possible due to the grant.

Section 6 - After reasonable notice to the Contractor, the County may review any of the Contractor's internal records, reports, or insurance policies.

ARTICLE IV - TERM

This contract begins on the date of this agreement and ends on December 31, 2025. There is an option for a one-year extension each year provided that the Contractor is listed as a qualified senior center in the Washtenaw County Older Adults Millage Framework and Operational Policy and the Older Adults Millage is being collected. Extensions for the following calendar year may be initiated no earlier than the first Thursday of December.

ARTICLE V - PERSONNEL

Section 1 - The contractor will provide the required services and will not subcontract or assign the services without the County's written approval.

Section 2 - The Contractor will not hire any County employee for any of the required services without the County's written approval.

Section 3 - The parties agree that all work done under this contract shall be completed in the United States and that none of the work will be partially or fully completed by either an offshore subcontractor or offshore business interest either owned or affiliated with the contractor. For purposes of this contract, the term, "offshore" refers to any area outside the contiguous United States, Alaska or Hawaii.

ARTICLE VI - INDEPENDENT CONTRACTOR

Contractor and the County shall, at all times, be deemed to be independent contractors and nothing herein shall be construed to create or imply that there exists between the parties a partnership, joint venture or other business organization. Contractor shall hold no authority, express or implied, to commit, obligate or make representations on behalf of the County and shall make no representation to others to the contrary.

Nothing herein is intended nor shall be construed for any purpose as creating the relationship of employer and employee or agent and principal between the parties. Except as otherwise specified in this contract, Contractor retains the sole right and obligation to direct, control or supervise the details and means by which the services under this contract are provided.

Contractor shall not be eligible for, or participate in, any insurance, pension, workers' compensation insurance, profit sharing or other plans established for the benefit of the County's employees. Contractor shall be solely responsible for payment of all taxes arising out of the Contractor's activities in connection with this Agreement, including, without limitation, federal and state income taxes, social security taxes, unemployment insurance taxes and any other tax or business license fees as required. The County shall not be responsible for withholding any income or employment taxes whatsoever on behalf of the Contractor.

ARTICLE VII - INDEMNIFICATION AGREEMENT

The contractor will protect, defend and indemnify Washtenaw County, its officers, agents, servants, volunteers and employees from any and all liabilities, claims, liens, fines, demands and costs, including legal fees, of whatsoever kind and nature which may result in injury or death to any persons, including the Contractor's own employees, and for loss or damage to any property, including property owned or in the care, custody or control of Washtenaw County in connection with or in any way incident to or arising out of the occupancy, use, service, operations, performance or non-performance of work in connection with this contract resulting in whole or in part from negligent acts or omissions of contractor, any sub-contractor, or any employee, agent or representative of the contractor or any sub-contractor.

ARTICLE VIII - INSURANCE REQUIREMENTS

The Contractor will maintain at its own expense during the term of this Contract, the following insurance:

1. Workers' Compensation Insurance with Michigan statutory limits and Employers Liability Insurance with a minimum limit of $100,000 each accident for any employee.

2. Commercial General Liability Insurance with a combined single limit of $1,000,000 each occurrence for bodily injury and property damage. The County shall be added as "additional insured" on general liability policy with respect to the services provided under this contract.

3. Automobile Liability Insurance covering all owned, hired and non-owned vehicles with Personal Protection Insurance and Property Protection Insurance to comply with the provisions of the Michigan No Fault Insurance Law, including residual liability insurance with a minimum combined single limit of $1,000,000 each accident for bodily injury and property damage. For transportation services contracts, the County shall be added as additional insured on automobile liability policy with respect to the services provided under this contract.

Insurance companies, named insured's and policy forms may be subject to the approval of the Washtenaw County Administrator, if requested by the County Administrator. Such approval shall not be unreasonably withheld. Insurance policies shall not contain endorsements or policy conditions which reduce coverage provided to Washtenaw County. Contractor shall be responsible to Washtenaw County or insurance companies insuring Washtenaw County for all costs resulting from both financially unsound insurance companies selected by Contractor and their inadequate insurance coverage. Contractor shall furnish the Washtenaw County Administrator with satisfactory certificates of insurance or a certified copy of the policy, if requested by the County Administrator.

No payments will be made to the Contractor until the current certificates of insurance have been received and approved by the Administrator. If the insurance as evidenced by the certificates furnished by the Contractor expires or is canceled during the term of the contract, services and related payments will be suspended. Contractor shall furnish the certification of insurance evidencing such coverage and endorsements at least ten (10) working days prior to commencement of services under this contract. Certificates shall be addressed to the Washtenaw County c/o: ***Office of Aging Services AND CONTRACT #_____,*** and shall provide for written notice to the Certificate holder of cancellation of coverage.

ARTICLE IX - COMPLIANCE WITH LAWS AND REGULATIONS

The Contractor will comply with all federal, state and local regulations, including but not limited to all applicable OSHA/MIOSHA requirements and the Americans with Disabilities Act.

ARTICLE X - INTEREST OF CONTRACTOR AND COUNTY

The Contractor promises that it has no interest which would conflict with the performance of services required by this contract. The Contractor also promises that, in the performance of this contract, no officer, agent, employee of the County of Washtenaw, or member of its governing bodies, may participate in any decision relating to this contract which affects his/her personal interest or the interest of any corporation, partnership or association in which he/she is directly or indirectly interested or has any personal or pecuniary interest. However, this paragraph does not apply if there has been compliance with the provisions of Section 3 of Act No. 317 of the Public Acts of 1968 and/or Section 30 of Act No. 156 of Public Acts of 1851, as amended by Act No. 51 of the Public Acts of 1978, whichever is applicable.

ARTICLE XI - CONTINGENT FEES

The Contractor promises that it has not employed or retained any company or person, other than bona fide employees working solely for the Contractor, to solicit or secure this contract, and that it has not paid or agreed to pay any company or person, other than bona fide employees working solely for the Contractor, any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or making of this contract. For breach of this promise, the County may cancel this contract without liability or, at its discretion, deduct the full amount of the fee, commission, percentage, brokerage fee, gift or contingent fee from the compensation due the Contractor.

ARTICLE XII - EQUAL EMPLOYMENT OPPORTUNITY

The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, national origin, physical handicap, age, height, weight, marital status, veteran status, religion and political belief (except as it relates to a bona fide occupational qualification reasonably necessary to the normal operation of the business).

The Contractor will take affirmative action to eliminate discrimination based on sex, race, or a handicap in the hiring of applicant and the treatment of employees. Affirmative action will include, but not be limited to: Employment; upgrading, demotion or transfer; recruitment advertisement; layoff or termination; rates of pay or other forms of compensation; selection for training, including apprenticeship.

The Contractor agrees to post notices containing this policy against discrimination in conspicuous places available to applicants for employment and employees. All solicitations or advertisements for employees, placed by or on the behalf of the Contractor, will state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, national origin, physical handicap, age, height, weight, marital status, veteran status, religion and political belief.

ARTICLE XIII - LIVING WAGE

The parties understand that the County has enacted a Living Wage Ordinance that requires covered vendors who execute a service or professional service contract with the County to pay their employees under that contract, a minimum of either $17.08 per hour with benefits or $19.04 per hour without benefits. Contractor agrees to comply with this Ordinance in paying its employees. Contractor understands and agrees that an adjustment of the living wage amounts, based upon the Health and Human Services poverty guidelines, will be made on or before April 29, 2026 and annually thereafter which amount shall be automatically incorporated into this contract. County agrees to give Contractor thirty (30) days written notice of such change. Contractor agrees to post a notice containing the County's Living Wage requirements at a location at its place of business accessed by its employees.

ARTICLE XIV - EQUAL ACCESS

The Contractor shall provide the services set forth in Article I without discrimination on the basis of race, color, religion, national origin, sex, sexual orientation, marital status, physical handicap, or age.

ARTICLE XV - OWNERSHIP OF DOCUMENTS AND PUBLICATION

All documents developed as a result of this contract will be freely available to the public. None may be copyrighted by the Contractor. During the performance of the services, the Contractor will be responsible for any loss of or damage to the documents while they are in its possession and must restore the loss or damage at its expense. Any use of the information and results of this contract by the Contractor must reference the project sponsorship by the County. Any publication of the information or results must be co-authored by the County.

ARTICLE XVI - ASSIGNS AND SUCCESSORS

This contract is binding on the County and the Contractor, their successors and assigns. Neither the County nor the Contractor will assign or transfer its interest in this contract without the written consent of the County Administrator, Corporation Counsel, and Contractor.

ARTICLE XVII - TERMINATION OF CONTRACT

Section 1 - Termination without cause. Either party may terminate the contract by giving thirty (30) days written notice to the other party.

ARTICLE XVIII - PAYROLL TAXES

The Contractor is responsible for all applicable state and federal social security benefits and unemployment taxes and agrees to indemnify and protect the County against such liability.

ARTICLE XIX - PRACTICE AND ETHICS

The parties will conform to the code of ethics of their respective national professional associations.

ARTICLE XX- CHANGES IN SCOPE OR SCHEDULE OF SERVICES

Changes mutually agreed upon by the County and the Contractor, will be incorporated into this contract by written amendments signed by both parties.

ARTICLE XXI - CHOICE OF LAW AND FORUM

This contract is to be interpreted by the laws of Michigan. The parties agree that the proper forum for litigation arising out of this contract is in Washtenaw County, Michigan.

ARTICLE XXII - EXTENT OF CONTRACT

This contract represents the entire agreement between the parties and supersedes all prior representations, negotiations or agreements whether written or oral.

ARTICLE XXIII – COUNTY FUNDING ACKNOWLEDGEMENT

The recipient shall acknowledge Washtenaw County's financial support in all promotional and publicity materials related to the funded activities. This acknowledgement shall include, but not be limited to, press releases, website context, social media posts, and printed materials. The acknowledgement shall prominently display the Washtenaw County logo and include a brief statement recognizing the County's financial contribution. Use of this logo is strictly limited to materials, products, or content funded under this contract. The logo may not be used for any other purpose without the express prior written authorization of the County Administrator.

ARTICLE XXIV – ELECTRONIC SIGNATURES

All parties to this contract agree that either electronic or handwritten signatures are acceptable to execute this agreement.

ATTESTED TO:

By: _____
Lawrence Kestenbaum (DATE)
County Clerk/Register

WASHTENAW COUNTY

By: _____
Gregory Dill (DATE)
County Administrator

APPROVED AS TO CONTENT:

By: _____
Brady Peck (DATE)
Director of Operations

CONTRACTOR

By: _____
Brenda Stumbo (DATE)
Township Supervisor

APPROVED AS TO FORM:

By: _____
Michelle K. Billard (DATE)
Office of Corporation Counsel

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 14, 2025

RE: Preliminary request to approve L-4029 – 2025 Tax Rates for 2026 Budget

Please find attached the L-4029 – 2025 Tax Rate Request and last years rate request. This sets our tax rates for the 2026 budget. This has been prepared and verified by Javonna Neel, our Accounting Director.

We are grateful that our residents supported the millage renewal and restoration at the August 5, 2025 recent election. The proposed total amount of mills levied is less mills than last year and less mills than what was approved by the voters.

It is a reduction from last year's taxes, because we know and understand the current economic situation in our community. Rising utilities, taxes, groceries, insurance, medicine etc. makes it difficult for our residents. The Township's millage levy has been reduced for the past two years, and this will be the third year for a reduction.

In the two attached Rate Request you will see that the Fire Pension amount increased for next year levy. The tax levy is determined by actuarials that are required to be conducted every two years. The actuarial review is based on the stock market, number of retirees, cost of health care and often ebbs and flows depending on many factors.

We are proposing to reduce the Police Millage again due to the inability of our Sheriff Office to fill the current 38 positions that we budget for and hope to achieve. We currently contract for 35 and have 29 positions filled as of this week. This has created a large fund balance and therefore we recommend a reduction of .7 mills. We also did not levy the full amount for the General Operations.

The Police committee continues to look at having our own Police Department and comparing the cost of what we pay and equally important, how we can respond to our residents' request for traffic enforcement and the Sheriff determining what laws will be enforced and how officers are deployed. We will be adding additional bailiffs to the Police Budget to cover the new court scanner and metal detector.

cc: Javonna Neel, Accounting Director

Michigan Department of Treasury
614 (Rev. 02-25)

ORIGINAL TO: County Clerk(s)
COPY TO: Equalization Department(s)
COPY TO: Each township or city clerk

L-4029

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

Carefully read the instructions on page 2.

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

County(ies) Where the Local Government Unit Levies Taxes	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025
Washtenaw	**TV 1,906,224,887 (TV minus Renaissance Zone) 1,878,421,743**
Local Government Unit Requesting Millage Levy	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricutlural, Qualified Forest, Industrial Personal and Commercial Personal Properties.
Charter Township of Ypsilanti	

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Allocated	GEN OP	N/A	1.1160	.9726	.9953	.9680	1.0000	.9680		.9680	N/A
Voted	Fire Prot	08/05/25	3.1250	3.1250	1.0000	3.1250	1.0000	3.1250		3.1250	12/2029
Voted	Solid Waste	08/05/25	2.4050	2.4050	1.0000	2.4050	1.0000	2.4050		2.4050	12/2029
Voted	Police	08/05/25	5.7000	5.7000	1.0000	5.7000	1.0000	5.7000		5.0000	12/2029
Voted	REC/BP	08/05/25	1.0059	1.0059	1.0000	1.0059	1.0000	1.0059		1.0059	12/2029
PA345	FPen/HC	N/A	No limit	N/A	N/A	N/A	N/A	No Limit		.9030	N/A
										13.4069	

Prepared by	Telephone Number	Title of Preparer	Date
Javonna Neel	**(734) 544-3601**	**Accounting Director**	

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

	Signature	Print Name	Date
☐ Clerk ☐ Secretary		**Debra Swanson**	
☐ Chairperson ☐ President		**Brenda L Stumbo**	

** Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.*

**** IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	

Michigan Department of Treasury
614 (Rev. 02-24)

ORIGINAL TO: County Clerk(s)
COPY TO: Equalization Department(s)
COPY TO: Each township or city clerk

L-4029

2024 Tax Rate Request (This form must be completed and submitted on or before September 30, 2024)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

Carefully read the instructions on page 2.

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

County(ies) Where the Local Government Unit Levies Taxes	2024 Taxable Value of ALL Properties in the Unit as of 5-28-2024
Washtenaw	**TV 1,829,176,567 (TV minus Renaissance Zone) 1,802,161,046**
Local Government Unit Requesting Millage Levy	For LOCAL School Districts: 2024 Taxable Value excluding Principal Residence, Qualified Agricutlural, Qualified Forest, Industrial Personal and Commercial Personal Properties.
Charter Township of Ypsilanti	

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2024 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2023 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2024 Current Year "Headlee" Millage Reduction Fraction	(7) 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Allocated	GEN OP	N/A	1.1160	.9797	.9928	.9726	1.0000	.9726	0	.9726	N/A
Voted	Fire Prot	08/03/21	3.1250	3.0850	.9928	3.0627	1.0000	3.0627	0	3.0627	12/2025
Voted	Solid Waste	08/03/21	2.4050	2.3742	.9928	2.3571	1.0000	2.3571	0	2.3571	12/2025
Voted	Police	08/03/21	5.7000	5.6270	.9928	5.5864	1.0000	5.5864	0	5.5169	12/2025
Voted	Rec/BP	08/03/21	1.0059	.9930	.9928	.9858	1.0000	.9858	0	.9858	12/2025
PA345	FPen/HC	N/A	No limit	N/A	N/A	N/A	N/A	No limit	0	.7320	N/A
										13.6271	

Prepared by	Telephone Number	Title of Preparer	Date
Javonna Neel	**(734) 544-3601**	**Accounting Director**	

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

	Signature	Print Name	Date
☒ Clerk ☐ Secretary	Heather Jarrell Roe	**Heather Jarrell Roe, Clerk**	9/17/2024
☐ Chairperson ☒ President	Brenda L. Stumbo	**Brenda L Stumbo, Supervisor**	9/17/24

** Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.*

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2024 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 14, 2025

RE: Request to approve agreement with the Washtenaw County Road Commission for a pedestrian crossing at Tuttle Hill Road at Merritt Road in the amount of $55,200 to be paid from 101-446-982.000, contingent on budget amendment

Township officials have met with the road commission several times and engaged our county commissioners to help assist in slowing down the traffic at the intersection of Tuttle Hill and Merritt Road. We have asked for safety improvements for several years and to no avail until a child was tragically taken from his family and community earlier this year near this intersection by simply trying to cross this wide road on a bicycle. We will never know if having a better crossing for pedestrians would have helped but we all know we want to do whatever we can to prevent this happening again in the future.

Several residents reached out to the township and the road commission. Petitions are being circulated, and the Township met with the road commission director and his team on 8/13/25. Attached please find the proposal for a pedestrian crossing with beacon activated lights and narrowing of the width of the pavement at the intersection. However, this is a temporary solution and will not stop traffic. We asked for a traffic signal and pedestrian crossing, the cost would have been around $500,000. The road commission stated the intersection does not meet the requirements to warrant a traffic light and proposed a roundabout with crossing, which would cost around 1.8 million. They will apply for grant funding through WATS and it will not be available until 2029 or 2030.

They suggested we take from other projects that are on the list for road improvements, and we did not think that it was fair to other residents in our community.

This agreement is a temporary solution that can be implemented in 8 weeks. The long-term solution will depend on the funding. The road commission did state they will do engineering for the roundabout and pedestrian crossing for the new project. Again, this doesn't stop traffic but does slow it down.

We are pleased the road commission is assisting with this short-term solution.

TUTTLE HILL ROAD AT MERRITT ROAD PEDESTIAN CROSSING AGREEMENT BETWEEN CHARTER TOWNSHIP OF YPSILANTI AND THE WASHTENAW COUNTY ROAD COMMISSION

THIS AGREEMENT, made and entered into this _____ day of _____, 2025 between the Board of the Charter Township of Ypsilanti (the "Township") and the Board of Washtenaw County Road Commissioners (the "Road Commission").

WHEREAS, the Township desires to improve the pedestrian crosswalk crossing Tuttle Hill Road at Merritt Road with rectangular rapid flashing beacons (the "Project"); and

WHEREAS, proper authority is provided to the parties of this Agreement under the provisions of Act 51 of Public Acts of 1951, as amended; and

WHEREAS, the Road Commission will prepare project documents for the Project, including plan preparation and material purchases; and

WHEREAS, the Road Commission will manage and perform the installation of the Project; and

WHEREAS, the Township will be invoiced for all materials and associated costs attributed to the Project.

WHEREAS, the Township shall promptly reimburse the Road Commission upon receipt of any invoices for all materials and associated costs attributed to the Project;

THEREFORE, BE IT AGREED that the Township will pay the Road Commission for all actual materials and associated costs of the Project, estimated to be $55,200.00.

AGREEMENT SUMMARY

Estimated Costs

Tuttle Hill Road at Merritt Road Pedestrian Crossing,	
Estimated Total Costs	$70,700.00
Estimated WCRC Labor and Equipment	$15,500.00
Estimated Ypsilanti Township Costs	**$55,200.00**

FOR YPSILANTI TOWNSHIP:

_____ _____

Brenda Stumbo, Supervisor Debra A. Swanson, Clerk

FOR WASHTENAW COUNTY ROAD COMMISSION:

_____ _____

Barbara Ryan Fuller, Chair Matthew MacDonell, Managing Director

WASHTENAW COUNTY ROAD COMMISSION
555 N. ZEEB ROAD
ANN ARBOR, MICHIGAN 48103

TRAFFIC CONTROL DEVICE AGREEMENT

LOCATION: Tuttle Hill Road at Merritt Road

AGREEMENT NO. 1

DEVICE TYPE(S): Crosswalk pavement markings, RRFB (Rect. Rapid Flashing Beacon), and all signage for crossing.

EFFECTIVE DATE OF THIS AGREEMENT:

Under authority of state law and by virtue of resolutions formally adopted by their respective governing bodies, the undersigned hereby agree to participate in the cost of maintenance and operation of the traffic control device(s) at the location(s) listed above on the basis of the division of costs as shown below. Details of the location are as shown on the attached documentation.

PARTICIPATION AGREEMENT

Agency	WASHTENAW COUNTY ROAD COMMISSION	0%
Agency	YPSILANTI TOWNSHIP	100%
Agency		
Other		

BILLING AGREEMENT: It is agreed that the **Washtenaw County Road Commission** shall bill the parties designated above on the participation agreement for their proportionate share of all costs relative to the maintenance and operation of the traffic control device(s) on the first billing cycle after the charges are incurred.

It is further agreed that the agency responsible for payment of energy billings and/or leased line interconnection billings included in the operation costs, shall be the **Washtenaw County Road Commission**.

It is further agreed that the agency responsible for performing maintenance by approved guidelines and policies, shall be the **Washtenaw County Road Commission**.

"In the event the traffic control device(s) referred to in this agreement is located on a road or street that is not under the jurisdiction of the **Washtenaw County Road Commission**, the authority having the jurisdiction over the road or street hereby agrees to save harmless, indemnify, represent, and defend the **Washtenaw County Road Commission** from any claims, demands, or suits arising out of or relating to the maintenance and operation of the traffic control device(s) which is the subject matter of this agreement."

It is further agreed that title to all equipment at the roads listed in this agreement shall remain with the agency having jurisdiction of the road in which the equipment is located.

This agreement is terminable on a unanimous decision between all parties.

Agency: WASHTENAW CO. ROAD COMM.	Agency: YPSILANTI TOWNSHIP
Signed By:	Signed By:
Print Name: BARBARA RYAN FULLER	Print Name: BRENDA STUMBO
Title: CHAIR	Title: SUPERVISOR
Date:	Date:
Agency:	Other:
Signed By:	Signed By:
Print Name: MATTHEW MACDONELL	Print Name: DEBRA A. SWANSON
Title: MANAGING DIRECTOR	Title: CLERK
Date:	Date:

McLAIN & WINTERS

ATTORNEYS AND COUNSELORS AT LAW
61 N. HURON
YPSILANTI, MICHIGAN 48197
OFFICE (734) 481-1120
FAX (734) 481-8909
EMAIL: mcwinlaw@gmail.com

DENNIS O. McLAIN
WM. DOUGLAS WINTERS
PAUL BARNETT

OF COUNSEL
ANGELA B. KING

August 18, 2025

Brenda L. Stumbo, Supervisor
Debra A. Swanson, Clerk
Stan Eldridge, Treasurer
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: ***1. Follow Up to the Regular Meeting of the Township Board of Trustees Held on Tuesday, July 15, 2025 Wherein the Board Authorized the Township's Three Full Time Officials as well as Myself to "…Negotiate a Road Improvement Agreement for the Signalization of Merritt Road and Tuttle Hill Road Including Push Button Pedestrian Crossing with the Washtenaw County Road Commission"***

2. Confirmation that on Tuesday, August 12, 2025 the Township's Full Time Officials Did Meet with Representatives of the WCRC and While They are Willing to Install "…Pavement Markings and Delineators to Narrow the Width of the Traveled Portion of Tuttle Hill Road Through the Merritt Road Intersection" so as to Shorten the Length of the Crossings for Pedestrians Which May also Contribute to Slower Speeds, the WCRC will Not Install a Traffic Signal at this Intersection

3. Confirmation that Instead of a Traffic Signal the WCRC has Proposed that the Township Install "Rectangular Rapid Flashing Beacons" Which According to WCRC Assistant Director of Engineering Aaron L. Berkholz, "…Do <u>Not</u> Require that Motorists Stop for Pedestrians Intending to Enter the Roadway"

Dear Board Members:

This letter shall serve as a "***Status Update***" to the Township Board's authorization at a regular meeting held on Tuesday, ***July 15, 2025*** for the Township's three full time officials and the Township Attorney "…***to negotiate a road improvement agreement for the signalization of Merritt Road and Tuttle Hill Road, including push button pedestrian crossing with the Washtenaw County Road Commission. The Agreement and the cost will be brought back to the Board for approval.***"

That being said, while the Township's full time Officials as well as myself met with the representatives of the Road Commission on Tuesday, ***August 12*** wherein we again requested that they install a traffic signal at this intersection especially given the number of accidents that have occurred on Tuttle Hill Road in 2025 alone as well as the recent fatality of a young teenager, the Road Commission remains adamant that this intersection "***does not warrant a traffic signal***."

As such, this letter is being shared with the Board without the "***Attorney-Client Privilege***" moniker since, while the Road Commission did prepare an Agreement that will install a "***Rectangular Rapid Flashing Beacon (RRFB)***," this mitigation measure falls short of what the Township Board requested. Furthermore, putting aside for the moment the fact that the cost of this traffic signal would be borne by the developer and the Township, the installation of this "***RRFB***" does not require "…***that motorists stop for pedestrians intending to enter the roadway.***" This statement comes from WCRC Assistant Director of Engineering Aaron L. Berkholz who also states that the Road Commission "…***will install signs to inform pedestrians that pushing the button to activate the RRFB does not preclude their responsibility for crossing when motorists provide a safe means to do so.***"

This email by itself is also alarming given that it requires that a young person crossing the Tuttle Hill/Merritt Road intersection to utilize the community swimming pool of the HOAs make a "***judgment call***" as to the speed of a car traveling down Tuttle Hill Road which, in and of itself, will differ from person to person. The refusal of the Road Commission to install a traffic signal is even more puzzling given that they do recognize that this intersection is too wide and has agreed to install "…***pavement markings and delineators to narrow the width of the traveled (vehicular) portion of Tuttle Hill Road through the Merritt Road intersection.***

Doing so is intended to shorten the length of the crossings for pedestrians. Also, the narrowing of the pavement width may contribute to slower speeds."

Obviously, the Township welcomes these mitigation measures since we have been advocating for this from Day One thus the question arises if the Road Commission is willing to install pavement markings and delineators to narrow the width of the traveled portion of Tuttle Hill Road which will result in a shorter length for pedestrians to cross and also possibly contribute to slower speeds, why in the world are they objecting to the installation of a traffic signal when the Township Board and the developer are willing to be financially responsible for the costs of said installation? This absolutely makes no sense.

In any event, I wanted to take a moment and share with you that the Agreement that was prepared by the Road Commission to install the RRFB was not what the Township Officials requested however, the installation of the pavement markings and delineators which is a welcomed mitigation measure, should if anything make the case stronger for a traffic signal as opposed to a RRFB.

In any event, I wanted to take a moment and share with the Board what transpired on ***August 12, 2025*** and, make no mistake, the Township's full time officials and myself strenuously argued for a traffic signal. While it may very well be that the Road Commission's desire for a "***round-a-bout***" is the "***long term solution***," make no mistake that the cost of the round-a-bout and when it could possibly be funded and constructed will not occur until at least 2031 - 2032. That is too long of a wait to not have this intersection signalized.

If after review of this correspondence and attachments you have any questions or I can be of further assistance, please contact me.

Very truly yours,



Wm. Douglas Winters
js/enc.
cc: Trustees
Greg Dill, County Administrator
Justin Hodge, Commissioner
Annie Somerville, Commissioner
Mark Yandrick, Planning Director
Sally Elmiger, Planning Consultant
Dennis O. McLain

Gmail **McLain & Winters <mcwinlaw@gmail.com>**

Tuttle Hill Rd / Merritt Rd intersection - pedestrian crossing enhancement agreement

Berkholz, Aaron <berkholza@wcroads.org> Wed, Aug 13, 2025 at 1:28 PM
To: Brenda Stumbo <bstumbo@ypsitownship.org>
Cc: Stan Eldridge <seldridge@ypsitownship.org>, McLain <mcwinlaw@gmail.com>, Debbie Swanson <dswanson@ypsitownship.org>, Mark Yandrick <myandrick@ypsitownship.org>, Lauren Doppke <ldoppke@ypsitownship.org>, Sally Elmiger <selmiger@ypsitownship.org>, "MacDonell, Matt" <macdonellm@wcroads.org>, "Schlack, Brent" <schlackb@wcroads.org>, "Lape, Adam" <lapea@wcroads.org>, "Ford, Michele" <fordm@wcroads.org>

Good Afternoon Brenda,

Following up on our meeting yesterday (8.12.2025), please refer to the attached. Please disregard the agreement I provided in my prior email (7.28.2025).

We appreciate Ypsilanti Township's consideration of this pedestrian infrastructure investment. Our intention in performing this work will be to promote greater driver attention to pedestrians crossing Tuttle Hill Rd.

The cost of this proposed pedestrian crossing enhancement has increased based on the provision to provide additional rectangular rapid flashing beacon (RRFB) locations. This includes installation of two (2) RRFB's at each pedestrian crossing (north and south legs of the intersection), as well as one (1) RRFB in advance of each pedestrian crossing. As pedestrians activate the system (press the button prior to intending to cross), all the RRFB locations will be activated.

Please note that RRFB's do not require that motorists stop for pedestrians intending to enter the roadway. We will install signs to inform pedestrians that pushing the button to activate the RRFB does not preclude their responsibility for crossing when motorists provide a safe means of doing so.

In addition to the RRFB installations, the WCRC will be (at our cost) installing pavement markings and delineators to narrow the width of the traveled (vehicular) portion of Tuttle Hill Rd through the Merritt Rd intersection. Doing so is intended to shorten the length of the crossings for pedestrians. Also, narrowing of the pavement width may contribute to slower speeds.

If you have any questions, please feel free to reach out to Brent or me.

Should the township support this agreement, please return the signed agreement to me. WCRC Board support will be sought thereafter.

Based on the assurances you provided yesterday, we are proceeding with the ordering of related materials. There is approximately an eight (8) week lead time receiving these materials from the time of order.

Best Regards,

BERK

Aaron L. Berkholz, P.E.

Assistant Director of Engineering

Washtenaw County Road Commission

555 N. Zeeb Road, Ann Arbor, Michigan

Direct: (734) 327-6648 | Main: (734) 761-1500

wcroads.org | Follow us on Facebook

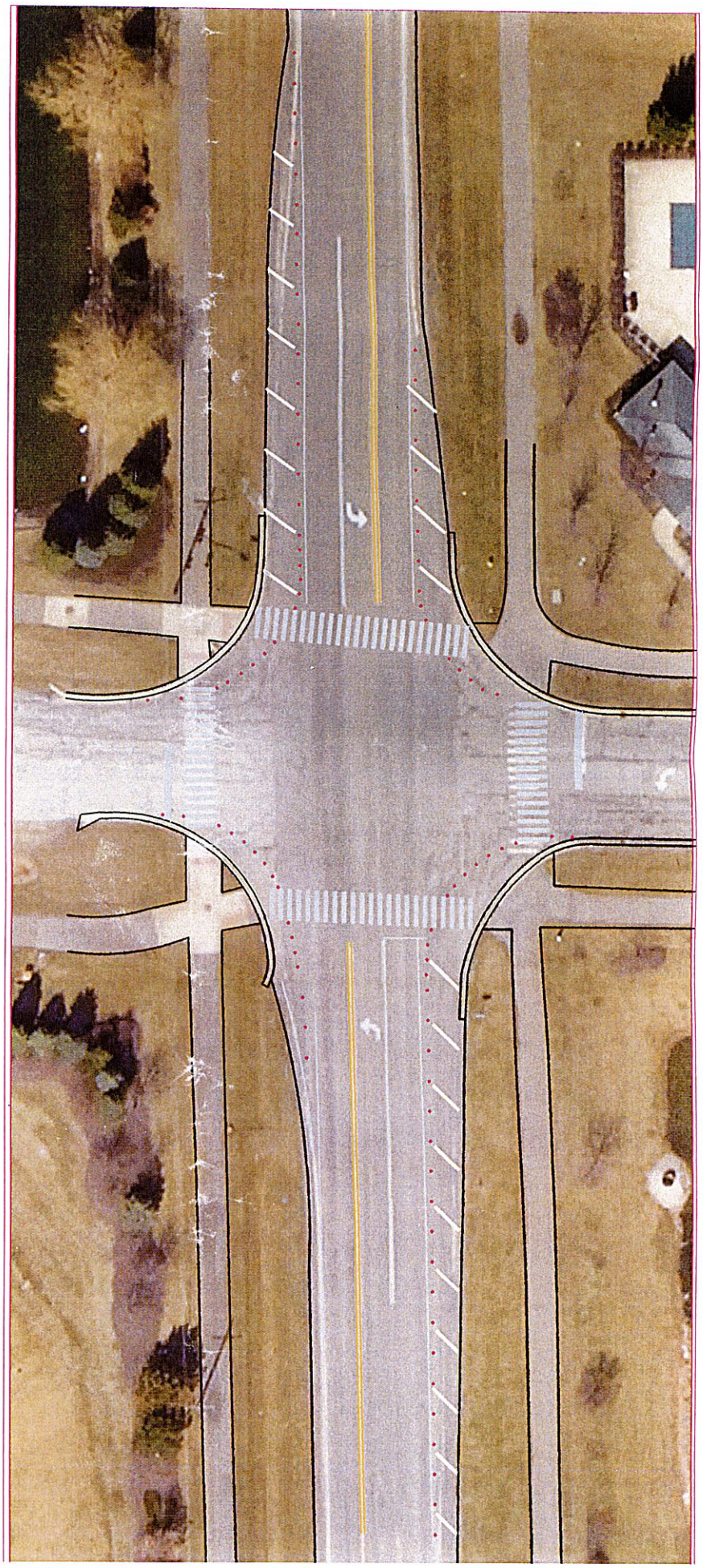
From: Berkholz, Aaron
Sent: Monday, July 28, 2025 7:08 AM
To: Brenda Stumbo <bstumbo@ypsitownship.org>
Cc: Brenda Stumbo <bstumbo@ypsitownship.org>; Stan Eldridge <seldridge@ypsitownship.org>; McLain <mcwinlaw@gmail.com>; Debbie Swanson <dswanson@ypsitownship.org>; Mark Yandrick <myandrick@ypsitownship.org>; Lauren Doppke <ldoppke@ypsitownship.org>; Sally Elmiger <selmiger@ypsitownship.org>; MacDonell, Matt <macdonellm@wcroads.org>; Schlack, Brent <schlackb@wcroads.org>; Lape, Adam <lapea@wcroads.org>; Ford, Michele <fordm@wcroads.org>
Subject: Tuttle Hill Rd / Merritt Rd intersection - pedestrian crossing enhancement agreement

Good Morning Brenda,

[Quoted text hidden]

Twp Agreement_Constr and TCD_Tuttle Hill at Merritt RRFB_Rev.pdf
88K

ıttle Hill Rd and Merritt Rd
Ypsilanti Township



Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
OFFICE OF THE CLERK

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

TO: Township Board

FROM: Brenda Stumbo, Supervisor
Debbie Swanson, Clerk
Stan Eldridge, Treasurer

DATE: July 9, 2025

RE: **Request authorization to proceed in partnership with Lombardo Homes to make improvements to the Merritt Road and Tuttle Hill Road intersection for signalization and pedestrian crossing.**

The Township has been requesting some type of traffic improvements at the intersection of Tuttle Hill and Merritt for many years to no avail from the Washtenaw County Road Commission. This week, Greg Wingerland, the developer of Lombardo Homes, requested a meeting and offered a financial contribution in the amount of $185,000 to assist with the cost of signalization of the intersection even though the Washtenaw County Road Commission did not require them to make any improvements to this intersection as part of their development.

We are requesting authorization for the three full-time officials and the township attorney to negotiate a road improvement agreement for the signalization of Merritt Road and Tuttle Hill Road, including push button pedestrian crossing with the Washtenaw County Road Commission. The agreement and the cost will be brought back to the board for approval.

We have been in communication with Washtenaw County Commissioners Justin Hodges and Annie Sommerville as well as County Administrator Greg Dill to help with resolving this safety concern.

We believe this is the fastest way forward to get the much-needed safety improvements at this intersection that the Township has been requesting for years on behalf of our residents. Our community needs and deserves a solution sooner rather than later.

Thank you for your consideration.

PUBLIC ACT 188 OF 1954 PROCEEDINGS
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN
NOTICE OF PUBLIC HEARING
ON SPECIAL ASSESSMENT ROLL

PLEASE TAKE NOTICE that the Supervisor and Assessing Officer of the Township has reported to the Township Board and filed in the Office of the Township Clerk for public examination a special assessment roll prepared by the Assessor covering all properties within the Special Assessment Districts benefited by the districts listed below.

PLEASE TAKE FURTHER NOTICE that the Assessing Officer has further reported that the assessment against each parcel of land within said district is such relative portion of the whole sum levied against all parcels of land in said district as the benefit to such parcels bears to the total benefit to all parcels of land in said district.

PLEASE TAKE FURTHER NOTICE that the Township Board will hold a public hearing at the *Ypsilanti Township Civic Center, 7200 S. Huron River Drive, Ypsilanti, MI* on **September 16, 2025**, for the purpose of reviewing said special assessment roll and hearing any objections thereto. Said roll may be examined at the office of the Township Clerk during regular business hours of regular business days until the time of said hearing and may further be examined at said hearing. Appearance and protest at the hearing held to confirm the special assessment roll is required in order to appeal the amount of the special assessment to the Michigan Tax Tribunal.

An owner, or partner in interest, or his or her agent may appear in person at the hearing to protest the special assessment, or shall be permitted to file his or her appearance or protest by letter and his or her personal appearance should not be required. (The owner or any person having an interest in the real property who protests in person or in writing at the hearing may file a written appeal of the special assessment with the Michigan Tax Tribunal within 30 days after the confirmation of the special assessment roll.

THE FOLLOWING ARE THE PROPOSED SPECIAL ASSESSMENT ROLLS TO BE LEVIED ON THE 2025 WINTER TAX ROLL

SECURITY CAMERA SPECIAL ASSESSMENTS

DISTRICT	CODE
Sugarbrook	060
Thurston Area	062
Bud- Blossom Area	064
Huron Heights/ Huron Ridge	068
Manors at Creekside Village	070
Ponds at Lkwd- Maj Pond	072
Cliffs Condos	074
Village Grove Apartments	076

DISTRICT	CODE
West Willow	061
Apple Ridge Area	063
Holmes Rd Area	066
Creekside Village South	069
Lakewood- Majestic Lks	071
Redwood/ Nautica Pt Apts.	073
Crystal Ponds	075

STREET LIGHT SPECIAL ASSESSMENTS

DISTRICT	CODE
Shady Knoll 1-6	101
West Willow #1	104
Hickory Hill	107
Nancy Park #7	111
Onandaga Street	114
Washtenaw Concourse	117
Ivanhoe Area	120
Hunt/Hollis	123
Debby Court	126
Johnson Place	130
Washtenaw Clubview	133
Huron Commercial	136
Hayes Street	139
Streamwood 1-7	142
Bagley Street	148
Streamwood #8	151
Golf Estates	154
Russell St	157
Whispering Meadows #1	160
Partridge Creek 2&3	164
Preserves	167
Wash Clubview	170
Greene Farms #3	173
Tyler Rd	176
Tremont Park #1	179
Greene Farm 5	182
Greenfields 2 & 3	185
Huron Meadows	188
Gates Ave	193
Bradley Ave	197
Creekside East	201
Firwood Area	204
Lakeview #2	207
Creekside Village West #2	211
Lakewood- Majestic Lakes	214
Ponds at Lkwd/ Maj Pds-2	217
Village Grove Apartments	221

DISTRICT	CODE
Nancy Park 1-3	102
Ypsi Twp Area	105
Washtenaw Orchard	108
Rambling Road	112
West Willow Dist 3	115
Delaware Street	118
Oswego/Cayuga	121
Turtle Creek	124
Lynne Street	127
Huron Hearthside	131
Oakland Estates #3	134
Crestwood Sub	137
Ford Lake Village	140
Deauville Parrish	146
Partridge Creek #1	149
Smokler Textile	152
Ohio St 2000	155
Dakota	158
Amberly Grove	162
Partridge Creek North	165
S Ivanhoe St	168
Taft Ave	171
Greene Farms #4	174
Washtenaw Bus Park	177
Tremont Park #2	180
Greene Farm 6	183
Greene Farms #7	186
Rivergrove	189
Fairway Hills	194
Creekside West	198
Lakeview Area	202
Bradley St	205
Tremont Park Sub	208
Manors of Creekside Village	212
Ponds at Lkwd-Maj Ponds	215
Majestic Lks & Estates	218
Woodlawn St	222

DISTRICT	CODE
Nancy Park 5-6	103
West Willow #2	106
Washtenaw Ridge	109
Hickory Hill #1	113
S. Devonshire	116
Washtenaw CC #4	119
Hawthorne Street	122
Turtle Creek 2	125
West Willow 10&11	129
Oakland Estates	132
Brookside Street	135
Kansas St	138
Ford Lake Village #2	141
Spruce Falls	147
Georgetown Condos	150
Greene Farms #1 & #2	153
N. Kansas	156
Paint Creek Farms	159
Greenfields #1	163
Campbell St	166
Clubview Sub	169
Devonshire & Oregon	172
Raymond Meadows	175
Whittaker Village	178
Kirk St	181
Woodlawn St	184
Whispering Meadows	187
Aspen Ridge	191
Washtenaw Clubview	196
Creekside South	199
Majestic Lake	203
136- 177 Conversion	206
Turtle Creek #2	209
Creekside Village South #2	213
Redwood/ Nautica Pt Apts	216
Crystal Ponds	219

DEBBIE SWANSON, CLERK
Charter Township of Ypsilanti

The Ypsilanti Township Board will provide necessary reasonable auxiliary aids and services to individuals with disabilities requiring auxiliary aids or services. Individuals should contact the Ypsilanti Township Board by writing or calling the following: DEBBIE SWANSON, CLERK, 7200 S. Huron River Drive, Ypsilanti, MI 48197, PHONE: (734) 484-5156 or E-MAIL: dswanson@ypsitownship.org

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

To: Charter Township of Ypsilanti Board of Trustees

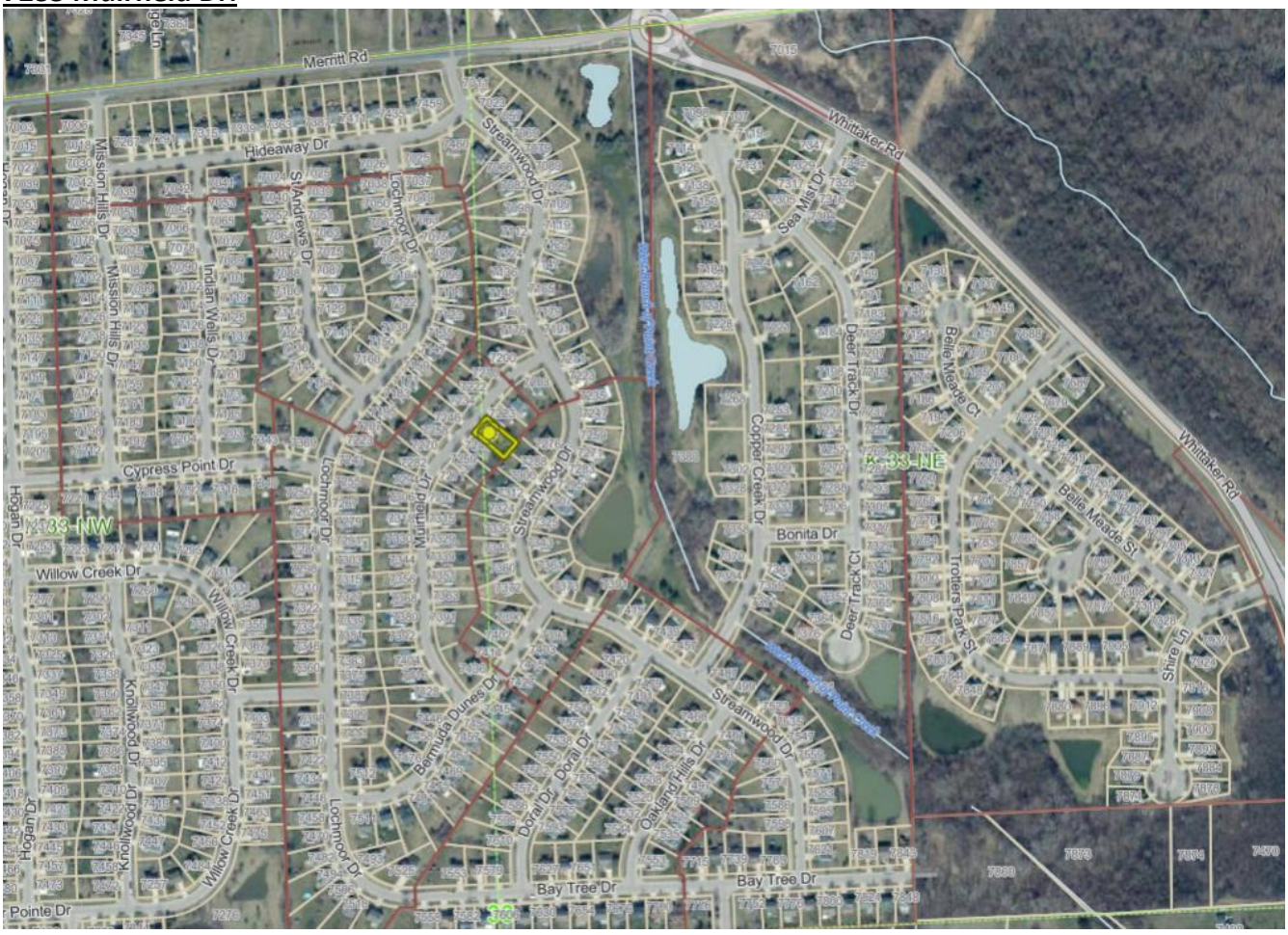
From: Belinda Kingsley, Community Compliance Director

Re: Request authorization to initiate Circuit Court litigation to abate a public nuisance violation at a property identified as 7235 Muirfield Dr; funded in account 101-729-801.023.

Date: August 13, 2025

The Ypsilanti Township Ordinance Department has investigated a public nuisance violation at 7235 Muirfield Dr. Authorization by the Board of Trustees is requested to abate said violation by initiating Circuit Court litigation.

7235 Muirfield Dr.



The property identified as 7235 Muirfield Dr, is located in the Millpointe Subdivision, south of Merritt Rd, between Streamwood and Bermuda Dunes, in an R-3 One-Family Residential zone. It is recorded in the name of Latisha Lavette McNeely-Hence, whose last known address provided to the Township was in Van Nuys, California. However, it appears that her name is now Latisha Lavette Hill and she resides in Jackson, TN. Ms. Hill is not occupying the house and hasn't for an undetermined period of time. In fact, she advised the Ordinance Officer investigating that she was "releasing the house to the bank and no longer lives in MI."

On May 12, 2025, Ordinance received a complaint from a neighbor regarding overgrown grass and weeds. An enforcement action was opened with a placard placed in the yard and notification provided using the owner's last known contact information. Upon reinspection and no action being taken to resolve the vegetation violation the Township's contractor was requested to mow the property. Additionally, it was determined that the house was an unregistered vacant structure that had sustained fire damage in 2023.

A copy of the fire report was requested and received, which documented that on August 26, 2023, YTFD was dispatched to an alarm going off at the house and smoke coming from the windows. They found the basement flooded with several inches of water, which caused a mini fridge in the basement to burn up and create the smoke. The Township did not request 495 funds due to the situation being classified as a flooding issue as opposed to a fire. The fire report indicated that the property had most recently been utilized as an Airbnb.

A Notice of Violation was posted and mailed requesting registration of the vacant structure, and returned as undeliverable. An Administrative Search Warrant signed by Magistrate Braley was executed by Township Ordinance Officers on August 6, 2025. The search warrant documented the conditions inside the house, specifically a significant growth of mold in the basement and standing water in the basement attributed to the electric being shut off and unable to power the sump pump. YCUA was contacted to shut off the water and prevent future broken pipes.

This property is located in a very stable residential neighborhood, and this property would undoubtedly make a great home for a family and should not be allowed to simply deteriorate by neglect which also results in a negative impact upon the adjacent property owners and the neighborhood in general.

At this time, I am requesting approval from the Board for Township legal counsel initiate litigation in Circuit Court and require the legal owner to comply with the Property Maintenance Code. Thank you for your consideration and your continued support for our public nuisance abatement efforts.



June 4, 2025 - Tall Grass



June 4, 2025 - Tall Grass



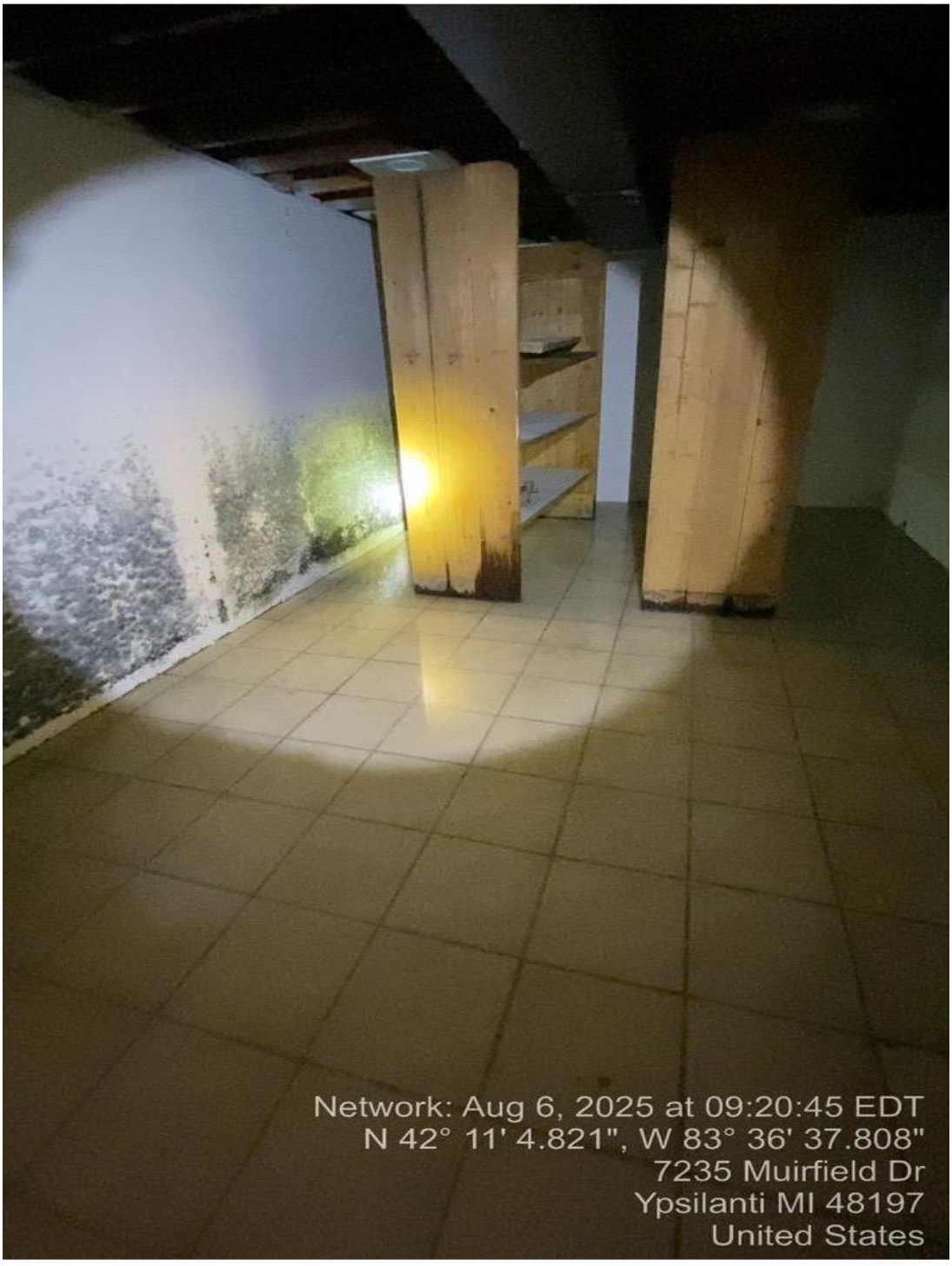
Aug 6, 2025 - Interior Repairs Started



August 6, 2025 - Basement - Water and Mold



August 6, 2025 - Basement - Water and Mold



August 6, 2025 - Basement - Water and Mold



August 6, 2025 - Backyard

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

To: Charter Township of Ypsilanti Board of Trustees

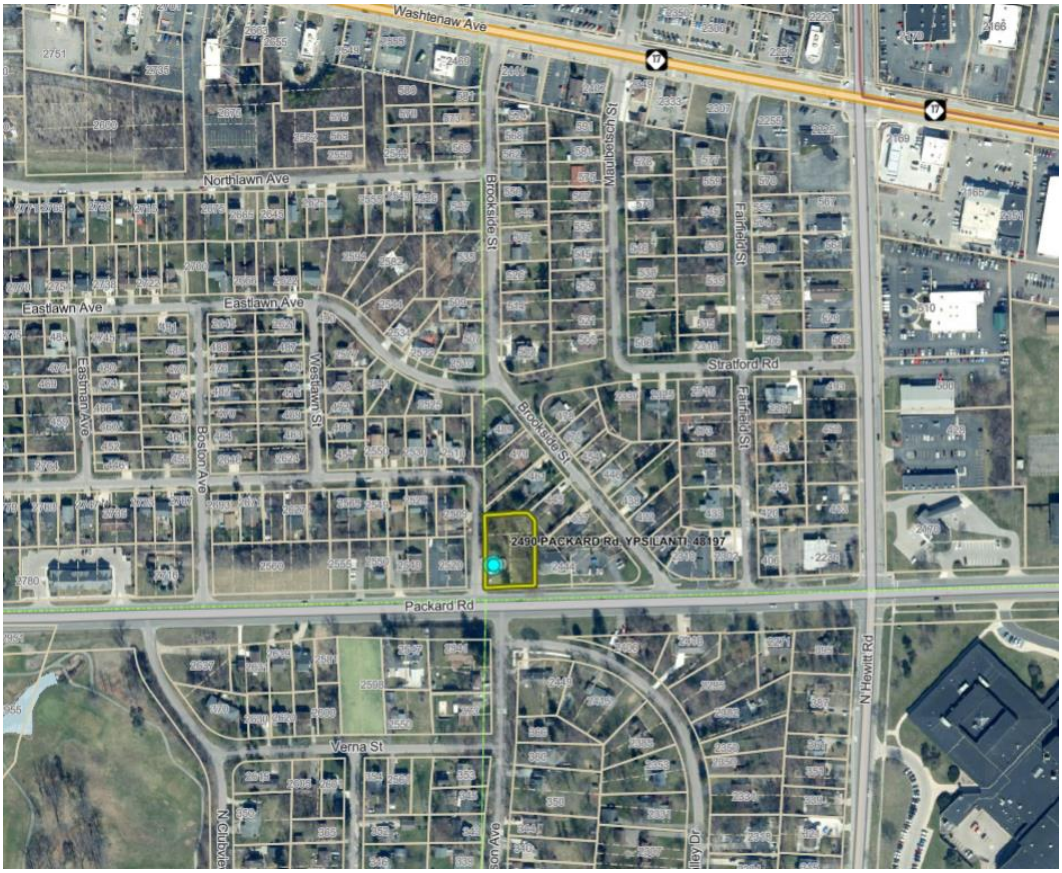
From: Belinda Kingsley, Community Compliance Director

Re: Request authorization to initiate Circuit Court litigation to abate a public nuisance violation at a property identified as 2490 Packard Rd; funded in account 101-729-801.023.

Date: August 13, 2025

The Ypsilanti Township Ordinance Department has investigated a public nuisance violation at 2490 Packard Rd. Authorization by the Board of Trustees is requested to abate said violation by initiating Circuit Court litigation.

2490 Packard Rd



The property identified as 2490 Packard Rd is located at the northeast corner of Packard and Southlawn, between Golfside and N Hewitt, in an NC – Neighborhood Corridor zone. The property is owned by Golam A Khan, a local resident, and has been utilized as a rental property for many years. It was most recently inspected and certified in 2024-2025. During the initial inspection the tenant was volatile enough that the ordinance officer felt intimidated and requested that the inspection process be completed by the ordinance administrator.

The rental property at 2490 Packard has been a source of complaints from neighbors and documented violations since purchased by the current owner, Mr. Khan, in 2005. In recent years, specifically since 2023, the complaints and violations have intensified and are requiring a considerable amount of resources from the Ordinance Dept. to investigate and resolve. We have reached the point where the violations are not being resolved, and even the issuance of District Court Citations has not encouraged lasting compliance. The violations are being committed by the tenants, but the property owner does not appear to be able to gain compliance with his tenants.

The violations complained about and documented include:

- Blight, including old furniture, bags of trash, old and new construction materials.
- Unlicensed/inoperable vehicles.
- Multiple utility trailers (one is permitted if stored properly).
- RV motorhome, continuously improperly stored, with a rental sign and possibly people living in it.
- Dilapidated RV camper, continuously improperly stored on the street.
- Numerous motorized ATV recreational vehicles. A complaint was received that vehicles are offered for rent.
- Damaged fence in yard.
- Operable and inoperable vehicles, recreational vehicles and utility trailers improperly parked on the lawn.

The Ordinance Dept. has issued Notice of Violation letters repeatedly for all the above violations, and two citations in District Court for blight and RV/utility trailers. Judge Washington ruled in the Township's favor, and the issues were resolved temporarily. The tenant has a lease that is in effect for two more years, and based on conversations with the property owner he would prefer that we refrain from taking enforcement action until the tenants have moved out.

Based on the impact this rental property is having on neighboring properties, and the inability of the neighbors to have peaceful enjoyment of their properties, it is recommended that we pursue a permanent court order to require the owner to comply with the Property Maintenance Code.

I am requesting approval from the Board of Trustees to request Township legal counsel initiate litigation in Circuit Court to resolve the violations. Thank you for your consideration and your continued support for our public nuisance abatement efforts.






08/08/2025 14:06


08/08/2025 14:06


08/08/2025 14:06


Dutchmen




4X4
Network May 29, 2025 at 12:54:32 PM EDT
Local May 29, 2025 at 12:54:32 PM EDT
N 4680412 E 281261
169° S

MEMORANDUM

To: Charter Township Board of Trustees

From: Stan Eldridge, Township Treasurer

Date: July 31, 2025

RE: Request to approve the 14-B District Court Bailiff Job Description & Duties

In conjunction with the renovations currently underway at the 14-B District Court, a review of the court security staffing was conducted, and an updated job description for the Court Bailiff position was completed.

Attached to this request is the job description for the 14-B District Court Bailiff position. Consultation on this document was conducted with 14-B Court Personnel, including the District Judge, and Charter Township of Ypsilanti representatives, including the Human Resource Department.

Charter Township of Ypsilanti

14-B District Court Bailiff

FLSA Status: Non-Exempt
Position Type: Part–Time, non–Union, non-benefit position

Position Summary:

Shall perform responsible protective service and human support work in providing security within the court building and related work as required; works under regular supervision. The Court Bailiff is responsible for initial security screening of all visitors and defendants entering the court building, maintaining order within the courtroom, and security duties in support of daily court operations. Court Bailiff in the employment of the 14-B District Court Office and the Charter Township of Ypsilanti must maintain the ability to perform the essential job functions of a Court Bailiff as described below.

Supervision Received:

The employee works under the direct supervision of the Court Administrator

Responsibilities and Duties:

An employee in this position may do all the following essential duties. (These examples do not include all the duties the employee may be expected to perform)

- Ensures the security and order of the court building, as well as courtrooms, prior to and during court sessions
- Operate equipment utilized in the court building such as the x-ray screening machine, metal detector, and other office equipment
- Must demonstrate interpersonal skills necessary to develop and maintain effective and appropriate working relationships with clients, co-workers, and representatives of other agencies
- Consistently demonstrate sound ethics, sound judgment, solve problems, make effective decisions, and act with integrity
- Must possess strong communication and observation skills in a demanding and fast-paced environment
- Must be able to respond to emergency situations and have the strength to effectively subdue and/or remove people in difficult or emergency situations
- May transport within the court building, and supervise, the movement of inmates to and from the courtrooms and secures prisoners within the holding cells
- Enforce and remove unruly individuals, and/or those who are non-compliant from the court building, as well as from courtrooms
- Conduct searches, and security sweeps, of the court building (courtrooms, restricted areas, and public areas) for contraband, weapons and any other security risks, or disturbances
- Searches visitors and inmates for unauthorized possession prior to court appearance
- Files reports as required, or requested, based on any incidents which have occurred
- Responds to and carry out all orders of the 14-B District Court Judge
- Be courteous when assisting court staff and the public, without sacrificing the security of the court building
- Assist with medical emergencies until medical emergency personnel arrive if such assistance does not distract the Bailiff from providing appropriate security to the court building

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Essential Functions, Qualifications and KSA's for Employment:

- Must be 21 years of age or older
- Must be a U.S. citizen, or legal alien
- Must possess a high school diploma, or equivalent
- Must possess, and maintain, a valid State of Michigan Driver's License, with an acceptable driving record
- Must possess, or be able to obtain, and maintain, a valid State of Michigan CPL (Concealed Pistol License) and complete recertification as applicable
- Must pass a comprehensive background investigation
- Must be certified, or certifiable within 60 days, in First Aid, CPR and AED, via a certified instructor, and complete recertification as applicable
- Must not have any previous criminal convictions or civil judgements
- Upon offer of employment, the applicant must successfully pass pre-employment drug screening test and previous employment investigation
- Previous Law Enforcement or Complex Security Setting experience is preferred
- General knowledge of court procedures, as well as law enforcement methods, practices and procedures
- Ability to exercise tact and sound judgment in handling visitors of the court and in maintaining the behavior of inmates
- Ability to understand and follow oral and written instructions
- Possess acceptable skill in the use of firearms, and pass requisite testing, per the State of Michigan guidelines
- Knowledge of the geography of the Charter Township of Ypsilanti
- Ability to analyze situations and adopt quick, effective and reasonable courses of action

Physical Demands and Work Environment:

The physical demands and work environment characteristics described here are representative of those an employee encounters while performing the essential functions of the job. These requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodations.

While performing the duties of this job, the employee is regularly required to talk, hear, view, and produce written documents. The employee frequently is required to use hands to finger, handle or feel, and reach with hands and arms. The employee is required to stand for long periods of time, sit, walk, and occasionally stoop, or kneel.

The employee must occasionally lift, move items or people, and detain individuals as needed. Requires stamina and physical endurance needed to sustain prolonged, rigorous physical activity during emergency situations. Requires good physical condition, which will mean the fitness to be able to apprehend, and the ability to exert the force necessary (up to 100 lbs.) to subdue and control individuals who require physical intervention.

While performing the duties of this job, the employee typically works inside a building. The noise level in the work environment is usually quiet but can fluctuate. This is a stressful environment

Compensation:

Hourly Wage: $30.00 (Effective 09/01/2025)

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township Board of Trustees

From: Stan Eldridge, Township Treasurer
Steve Densmore, Township Fire Chief
Steve Wallgren, Township Fire Marshal

Date: July 31, 2025

RE: **Request to approve the Firearm Policy for the Township Fire Chief and the Township Fire Marshal, pursuant to the recent approval by the Township Board authorizing both individuals to be sworn in by the Washtenaw County Sheriff's Office to the Special Deputy classification. Any, and all, associated costs related to this policy will come directly from the Township Fire Department Budget, utilizing line #206-336-960.000**

On June 17, 2025, at the Charter Township of Ypsilanti Board of Trustee meeting, the Township Board did approve both the Township Fire Chief and the Township Fire Marshal to be sworn as a Special Deputy by the Washtenaw County Sheriff's Office for the purpose of possessing a firearm during a fire scene investigation, if needed.

As a part of that approval, the Township Board did request that a policy be written related to the approval and then brought back to the Township Board for review and approval of the policy prior to either the Township Fire Chief or the Township Fire Marshal carrying a firearm on duty.

The written draft policy has been included for your review.

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT FIREARMS POLICY

PURPOSE:

The purpose of the document is to establish a written policy for the use of carrying a firearm while on duty and only during the investigation of fires within the Charter Township of Ypsilanti, and if called upon as a part of our auto aid and mutual aid agreements with participating partner communities.

POLICY:

It shall be the policy of the Charter Township of Ypsilanti to issue a firearm to both the Fire Marshal and the Fire Chief for the sole purpose of protection, while investigating the cause and origin of fires. An example of the potentially dangerous nature of fire investigations could be the likelihood of encountering suspects involved in an arson, or having to enter unstable structures and/or conducting fire investigations without a WCSO Deputy present for the safety and security of the investigator. The firearms, ammunition, holsters and lockable storage vaults shall be issued via the Charter Township of Ypsilanti Fire Department budget under the training and certification line item. The weapon will be stored in the rear of the assigned vehicle in a lockable storge vault. Should the weapon be removed from its holster for any reason(s) related to self-protection, or the protection of others, the Charter Township of Ypsilanti full-time elected officials, WCSO Administration, Fire Chief (when the incident involves the Fire Marshal) shall be notified immediately, and a written report will be written detailing all the events that occurred. The completion of this report shall occur within 24 hours of the time of the incident. The reporting form will be created within the current YTFD report writing system.

PROCEDURE:

When the Fire Marshal, or the Fire Chief, receives a call for a fire investigation they proceed to the scene and inquire if a WCSO Deputy is present. If the response is in the affirmative, the weapon will stay locked in the assigned Fire Department vehicle. If the response is negative, the Fire Marshal, or Fire Chief, shall then retrieve the assigned firearm as directed by policy and procedures adopted by the Charter Township of Ypsilanti. The Fire Marshal, or Fire Chief, will carry the weapon in a concealed manner, so as not to draw undue attention to the surroundings, nor the environment that they are working in. Once the investigation is complete, the weapon will be returned to the lockable storge vault located in the rear of the assigned staff vehicle. Under the Fire Marshal's, or Fire Chief's, field notes comments section, it will be noted that the firearm was, or was not, used for protection on that specific fire scene for record keeping purposes.

TRAINING AND CERTIFICATION:

1) Must meet all firearm qualifications as set forth by the State of Michigan Concealed Pistol License Requirements
2) Must qualify with a Firearms Range Officer certified by the State of Michigan
3) Upon initial certification with the handgun, on-going range training time will occur every 6 months
4) Meet the requirements of MCL 51.70 Special Deputy
5) Must be a certified/licensed firefighter/fire investigator pursuant to the requirements set by the State of Michigan
6) Operate under the training, best practices, and policies and procedures of the cooperating agency and their employer (Memorandum of agreement between WCSO, YTFD and the Charter Township of Ypsilanti)
7) Upon retirement of the Fire Marshal, or Fire Chief, the assigned weapon may be offered for sale to either the Fire Marshal or the Fire Chief, or taken out of service due to its age and/or condition, and disposed of according to the best-established practices in place at that time, i.e. a melting down and disposal of the weapon.

MCL - Section 51.70

Revised Statutes of 1846 (EXCERPT) OF SHERIFFS

51.70 Deputy sheriffs; appointment; revocation; special deputies; responsibility for acts, defaults, and misconduct; bond.

Sec. 70.

Each Sheriff may appoint 1 or more Deputy Sheriffs at the Sheriff's pleasure, and may revoke those appointments at any time. Persons may also be deputed by a Sheriff, by an instrument in writing, to do particular acts, who shall be known as Special Deputies and each Sheriff may revoke those appointments at any time. A Sheriff shall not be responsible for the acts, defaults, and misconduct in office of a Deputy Sheriff. The appointed Deputy, or Deputies, other than Special Deputies, before entering upon the duties of office shall execute and file with the County Clerk an official bond running to the people of this State in the amount of at least $2,500.00, if the County Board of Commissioners determines an individual bond is necessary, which bond shall be conditioned in the same manner as the bond required of the Sheriff, and with sufficient sureties as the presiding Judge of the Circuit Court for the County approves. A County by resolution of its County Board of Commissioners may pay premiums on the individual bond running to the people of this State in the amount of at least $2,500.00 as prescribed by the County Board of Commissioners. A bond required by this section shall be conditioned in the same manner as the bond required for the Sheriff and have sufficient sureties.

History: R.S. 1846, Ch. 14;-- Am. 1847, Act 105, Eff. May 16, 1847;-- CL 1857, 411 ;-- CL 1871, 552 ;-- How. 580;-- CL 1897, 2579;-- CL 1915, 2443 ;-- CL 1929, 1325 ;-- CL 1948, 51.70 ;-- Am. 1952, Act 110, Eff. Sept. 18, 1952;-- Am. 1954, Act 137, Eff. Aug. 13, 1954;-- Am. 1959, Act 150, Eff. Mar. 19, 1960;-- Am. 1969, Act 183, Imd. Eff. Aug. 5, 1969;-- Am. 1978, Act 635, Imd. Eff. Jan. 8, 1979

Compiler's Notes: This section as originally enacted was numbered section 71.

Effective Date: 09-20-2025

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
OFFICE OF THE CLERK

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Board of Trustees

From: Debra A. Swanson, Clerk

Date: August 12, 2025

RE: ***Request to cancel November 4, 2025, Board of Trustees due to a Countywide WISD Special Election***

Please accept this as a request to cancel the November 4th Board Meeting due to the Countywide WISD Special Election being held that day.

Thank you for your consideration.

Motion to Amend the 2025 Budget (#10)

Move to decrease the General Fund budget by $387,482 to $21,006,024 and approve the department line item changes as outlined.

Move to increase the Fire Fund budget by $1,499,428 to $7,097,447 and approve the department line item changes as outlined.

Move to increase the Hydro Station Fund budget by $5,634 to $819,897 and approve the department line item changes as outlined.

CHARTER TOWNSHIP OF YPSILANTI
2025 BUDGET AMENDMENT # 10

August 19, 2025

AMOUNTS ROUNDED UP TO THE NEAREST DOLLAR

101 - GENERAL FUND

Total Increase ($387,482.00)

Request to increase the budget for PTO payout at 75%. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**101-000-699.999**		**$1,843.00**
			Net Revenues	**$1,843.00**
Expenditures:	**Salary PTO Payout**	**101-171-708.004**		**$1,712.00**
	FICA	**101-171-715.000**		**$131.00**
			Net Expenditures	**$1,843.00**

Request to add a new line and increase the budget for the BS&A Cloud software conversion. The first installment in the amount of $43,755 is due as soon as possible in order to be placed on the conversion schedule. The remaining amount due for this 7/15/25 Board approved project will be budgeted in 2026. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**101-000-699.999**		**$43,755.00**
			Net Revenues	**$43,755.00**
Expenditures:	**BS&A Software & Maintenance**	**101-228-977.015**		**$43,755.00**
			Net Expenditures	**$43,755.00**

Request to increase the budget for the installation of a pedestrian crossing at Tuttlehill and Merritt Road by Washtenaw County Road Commission. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**101-000-699.999**		**$55,200.00**
			Net Revenues	**$55,200.00**
Expenditures:	**Highway & Street**	**101-446-982.000**		**$55,200.00**
			Net Expenditures	**$55,200.00**

Request to decrease ARPA budget for Civic Center Parking and Road Improvement & Stormwater for 2025. After budgeting for 2025 we received invoices for work completed in 2024 and accrued those expenses back to 2024. Therefore we budgeted too much for 2025. This will reverse the expenditures and the recognized revenue recognized in 2024.

Revenues:	**Designated Loss Revenue - ARPA**	**101-000-686.000**		**($488,280.00)**
			Net Revenues	**($488,280.00)**
Expenditures:	**Civic Center Parking Lot & Water Main**	**101-902-981.020**		**($375,524.00)**
	Road Improvements & Storm water	**101-902-981.130**		**($112,756.00)**
			Net Expenditures	**($488,280.00)**

CHARTER TOWNSHIP OF YPSILANTI
2025 BUDGET AMENDMENT # 10

August 19, 2025

206 - FIRE FUND

Total Increase $1,499,428.00

Request to increase the budget for the purchase of an aerial fire truck approved by the board 7/15/25. The aerial fire truck was a part of the Fire Fund forecast but not budgeted for 2025. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**206-000-699-999**	**$1,499,428.00**
		Net Revenues	**$1,499,428.00**
Expenditures:	**Capital Outlay Fire Apparatus**	**206-901-979.000**	**$1,499,428.00**
		Net Expenditures	**$1,499,428.00**

252 - HYDRO STATION FUND

Total Increase $5,634.00

Request to increase the budget for PTO payout at 75%. This will be funded by an appropriation of prior year fund balance.

Revenues:	**Prior Year Fund Balance**	**252-000-699.999**	**$5,634.00**
		Net Revenues	**$5,634.00**
Expenditures:	**Salary PTO Payout**	**252-535-708.004**	**$5,233.00**
	FICA	**252-535-715.000**	**$401.00**
		Net Expenditures	**$5,634.00**

CHARTER TOWNSHIP OF YPSILANTI

RESOLUTION 2025-23

Opposition to the Building of Two High Performance Computing and Artificial Intelligence Research Centers on Bridge Road and Textile Road by the University of Michigan and Los Alamos National Laboratory

Whereas, the University of Michigan and the Los Alamos National Laboratory have advised the Charter Township of Ypsilanti's Board of Trustees of their plans to build, develop and operate two High Performance Computing and Artificial Intelligence Research Centers in the Charter Township of Ypsilanti, specifically on 139 acres of property located along Bridge Road and Textile Road; and

Whereas, the University of Michigan as the primary leader and project manager of these two proposed High Performance Computing and Artificial Intelligence Research Centers applied for and received a $100,000,000 grant from the State of Michigan through the Michigan Economic Development Corporation and the Michigan Strategic Fund to facilitate the construction of these two High Performance Computing and Artificial Intelligence Research Centers and as of this date have yet to disclose to the elected officials of the Charter Township of Ypsilanti Board of Trustees as to the full scope of the proposed project including but not limited to the size of the two computational centers, location of the proposed DTE substation, and the anticipated environmental impacts that these two centers will have upon the Ecosystem, the Township's Ford Lake Hydroelectric Station, Ford Lake, and the Huron River as well as the removal and destruction of mature trees on the 139 acres of property, as well as the anticipated water and sewage impacts upon YCUA; and

Whereas, the potential harm to the health of area residents, including the impacts listed above coupled with the fact that the State of Michigan has exempted the University of Michigan from having to follow and adhere to all of the Township's zoning ordinances and likewise has exempted the University of Michigan from having to pay property taxes, will create a financial burden to the taxpayers of the Charter Township especially as it pertains to police and fire services thereby creating economic harm to all of the Township's residents and business owners who are required to pay ad valorem property taxes thereby resulting in yet another financial subsidy to the University of Michigan at the expense of Township taxpayers and;

Whereas, the Charter Township of Ypsilanti Board of Trustees is in unanimous agreement that the construction of the proposed two "High Performance Computing and Artificial Intelligence Research Centers" along Bridge and Textile Roads by the University of Michigan and the Los Alamos National Laboratory creates an unsafe and unfair burden upon the Charter Township of Ypsilanti, its taxpayers, residents and business owners, and unanimously objects to the University of Michigan and Los Alamos National Laboratory's plans to construct these two High Performance Computing and Artificial Intelligence Research Centers at the Bridge Road and Textile Road location; and

Whereas, subsequent to the last meeting of the Charter Township of Ypsilanti Board of Trustees held on Tuesday, ***July 15, 2025*** the Township's Officials became aware for the first time that the University of Michigan and Los Alamos National Laboratory met for eighteen months pursuant to a Non-Disclosure Agreement with representatives of the American Center for Mobility to locate these two High Performance Computing and Artificial Intelligence Research Centers on the former property owned by General Motors Hydramatic which consists of over 300 acres with only a portion of said property currently being leased by the State of Michigan to the American Center for Mobility which negotiations ended in failure in spite of the fact that this was the initial site selection by the University of Michigan and the Los Alamos National Laboratory; and

Whereas, Ypsilanti Township Officials upon learning of the failed negotiations between the University of Michigan, the Los Alamos National Laboratory and the American Center for Mobility vigorously urged the parties to resume their negotiations to locate the two computational centers on the former property owned by General Motors instead of the Bridge Road/Textile Road location which the parties advised Township Officials of their willingness to do; and

Whereas, the Charter Township of Ypsilanti Board of Trustees' objections to the proposed University of Michigan and Los Alamos National Laboratory's plans to construct the two computational centers at the Bridge Road and Textile Road location is also strongly supported by the Honorable Jimmie Wilson Jr. State Representative for the 32nd House District.

Now Therefore be it Resolved that the Charter Township Board of Trustees formally notify the University of Michigan's Board of Regents and the Los Alamos National Laboratory to cease and desist in their efforts to construct these two computational centers at the Bridge Road/Textile Road properties and instead to locate these two computational centers on the former General Motors Hydramatic property which consists of over 300 acres, a portion of which is currently leased to the American Center for Mobility; and

Be It Further Resolved that the University of Michigan and Los Alamos National Laboratory resume their negotiations with the State of Michigan, the Willow Run Arsenal for Democracy, the Michigan Economic Development Corporation, the Michigan Strategic Fund and the American Center for Mobility to locate these two High Performance Computing and Artificial Intelligence Research Centers on the former property owned by General Motors Hydramatic which consists of over 300 acres, a portion of which is currently leased to the American Center for Mobility; and

Be it Further Resolved that the Charter Township Board of Trustees hereby calls upon all elected officials including Governor Gretchen Whitmer, U.S. Senators Gary Peters and Elissa Slotkin, Congresswoman Debbie Dingell, State Senator Jeff Irwin, State Representative Jimmie Wilson Jr. and the Washtenaw County Board of Commissioners to join the Charter Township of Ypsilanti in publicly opposing the building of these two High Performance Computing and Artificial Intelligence Research Centers at the Bridge Road and Textile Road location; and

Be it Further Resolved that the aforementioned elected officials also publicly voice their support for the relocation of these two High Performance Computing and Artificial Intelligence Research Centers to be located on the former property owned by General Motors Hydramatic which is owned by the Willow Run Arsenal for Democracy and consists of over 300 acres, a portion of which is currently leased to the American Center for Mobility; and

Be it Further Resolved that a true copy of this Resolution be forwarded by the Clerk's Office to Governor Gretchen Whitmer, U.S. Senators Gary Peters and Elissa Slotkin, Congresswoman Debbie Dingell, State Senator Jeff Irwin, State Representative Jimmie Wilson Jr. and the Washtenaw County Board of Commissioners.

Now Therefore Be It Resolved that Resolution No. 2025-23 is hereby adopted.

I, Debra A. Swanson, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify the above resolution is a true and exact copy of Resolution No. 2025-23 approved by the Charter Township of Ypsilanti, Board of Trustees, assembled at a Regular Meeting held on August 19, 2025.

_____

Debra A. Swanson, Clerk
Charter Township of Ypsilanti

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— WHERE YOUR FUTURE GROWS —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township Board of Trustees

From: Stan Eldridge, Township Treasurer
Debbie Swanson, Township Clerk
Brenda Stumbo, Township Supervisor

Date: August 12, 2025

RE: RESOLUTION 2025-23 OPPOSING THE BUILDING OF TWO HIGH PERFORMANCE COMPUTING AND ARTIFICIAL INTELLIGENCE RESEARCH CENTERS ON BRIDGE AND TEXTILE ROADS BY THE UNIVERSITY OF MICHIGAN AND LOS ALAMOS NATIONAL LABORATORY

As we are all aware, the township was just recently made aware that discussions have been on-going for a lengthy period between the University of Michigan and the Los Alamos National Laboratory regarding the potential construction of two High Performance Computing and Artificial Intelligence Centers, sometimes referred to as a Data Center, along Textile Road, near both Bridge Road and McKean Road, within the Charter Township of Ypsilanti.

Despite recent numerous requests by the full-time elected officials for additional, and detailed, information regarding this issue, we have to date been unable to get more than a cursory overview.

The full-time elected officials have voiced our opposition, and that of our fellow Board Members, to this project being constructed on this identified site for a variety of reasons, including, but not limited to, environmental concerns, health concerns, safety concerns and noise concerns that we believe are detrimental to the well-being of township residents, business owners and visitors to our community.

The concerns of the Township have also been voiced to our state and federal level legislators, the MEDC and others.

We recognize the fact that the University of Michigan is also exempt from local zoning requirements and the payment of local property taxes, and along with the refusal of the University of Michigan and Los Alamos National Laboratory to allow representatives from the Charter Township of Ypsilanti to be a part of all discussions related to this issue, we feel that this resolution is necessary to express to the community and all involved our opposition to this project.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 14, 2025

RE: Request to approve Attorney Grant Trigger to provide professional services for all Township environmental issues including but not limited to a data center being proposed by the U of M near Huron River with an hourly rate charged of $300 per hour, budgeted in line 226-528-801.000

The Supervisor's Office is requesting Grant Trigger, an Environmental Expert and Lawyer, be added to the list of professional services contractors. He will be working with our legal counsel to prepare for the relocation of the U of M Data Center from Textile/Bunton to the ACM property where the former GM site was located. He will also be in position for the Environmental Review if U of M continues to want to locate the Mega Computation Center close to the Huron River. Attorney Doug Winters will approve the hours billed before sending it to the township for the Supervisors office for approval.

Grant worked for RACER Trust and was very involved in the planning. environmental cleanup, and redevelopment of the American Center for Mobility property. In addition to the data center, he will assist with any environmental issues that arise and needed for his expertise.

Attorney Trigger's rate is $300 an hour, which is budgeted in environmental services line 226-528-801.000.

Thank you for your consideration.

cc: McLain & Winters, Township Attorneys



Grant R. Trigger is the owner and manager of Wolverine Development Consultants, LLC, which specializes in creative and innovative environmental remediation and brownfield redevelopment solutions. He has 50 years of experience managing a range of environmental matters, creating the first of their kind solutions. He retired in December 2024 after nearly 14 years as the Michigan Cleanup Manager for the Revitalizing Auto Communities Environmental Response ("RACER") Trust (2011 – 2024) where he oversaw a $155 million-dollar fund for the cleanup and redevelopment of 36 former GM properties in Michigan. He has a degree in Environmental Sciences Engineering from the University of Michigan and is a *cum laude* graduate of the University of Detroit School of Law where he has also served as an adjunct professor of environmental law and guest lecturer.

He has experience in wastewater treatment, stormwater management, environmental remediation, natural resources management (wetlands, mining, and land use), all aspects of site planning, development and construction for residential, commercial, and industrial uses, and extensive brownfield redevelopment. Mr. Trigger was previously Vice President and Director of Brownfield Redevelopment for REI Investment Group in Bloomfield Hills, Michigan (2006 – 2011) and a partner at the Detroit law firm of Honigman Miller Schwartz and Cohn (1989 – 2006). He was lead counsel for the Fairlane Green Redevelopment project in Allen Park, Michigan pioneering the first three-dimensional condominium redevelopment project on a landfill site. Fairlane Green won the top Regional Brownfield award in 2007 and the National Phoenix Brownfield award in 2008.

Mr. Trigger was Chairperson of the Environmental Law Section of the Michigan State Bar from 2004 to 2005. He served on the Environmental Rules Review Committee within the Michigan Department of Environment, Great Lakes, and Energy (EGLE) (2018 – 2022) and was Governor Snyder's designee on the Great Lakes Compact Council and Regional Body from 2011 to 2018. His prior public service included serving on the Michigan Natural Resources Management and Environmental Code Commission and the Michigan Toxics Substance Control Commission. He

was a founder of the Michigan Environmental Council serving as its first Executive Director in 1980 and has been a member of the Oakland County Brownfield Redevelopment Authority since 2011.

Mr. Trigger received the 1997 Award of Excellence from the Michigan Association of Environmental Professionals and the 2000 President's Award from the Michigan Economic Developers Association. He was listed in *The Best Lawyers in America 2006* and selected as a top lawyer by Detroit Business Journal "dbusiness" in 2010.

Mr. Trigger authored the Michigan Chapter in the ABA publication *Brownfields – A Comprehensive Guide to Redeveloping Contaminated Property* – 1st edition © 1997, 2nd edition © 2002 and 3rd edition © 2011. He also co-authored the Michigan Chapter in the ABA publication *Implementing Institutional Controls at Brownfields and Other Contaminated Sites,* 1st edition © 2003 and 2nd edition © 2009 and has authored multiple additional articles on environmental law, brownfield redevelopment and remediation subjects. He has been a frequent lecturer and panelist for multiple technical and legal professional organizations.

PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement, effective Monday, August 19, 2025, is entered into between Wolverine Development Consultants, LLC (single member Grant R Trigger) ("Consultant"), 7397 Danbury Drive, West Bloomfield, Michigan 48322, and the Charter Township of Ypsilanti ("Township"), 7200 S. Huron River Drive, Ypsilanti, Michigan 48197 for the purpose of providing legal advice in his capacity as Ypsilanti Township's lead environmental attorney in all matters including legal strategies and negotiations including but not limited to the Township's efforts in having the University of Michigan and Los Alamos National Laboratory to relocate their two supercomputing facilities to the property owned by WRAD and leased to ACM as well as evaluating and developing the appropriate legal strategy as the lead environmental attorney in the event U of M and Los Alamos refuses to relocate to the ACM property and instead moves forward with their planes to develop these supercomputing facilities on property located along the Bridge Road and Textile Road corridor in Ypsilanti Township. The Township is engaging the Consultant to provide professional consulting services in connection with environmental assessment, guidance, and strategic planning for certain Township projects.

I. SCOPE OF SERVICES

The scope of services and basis for this professional services agreement includes but is not limited to matters set forth in a letter dated July 26, 2025 to Consultant Grant Trigger from the Charter Township of Ypsilanti, a copy of said letter being attached and incorporated herein by reference. As set forth above, the purpose of this agreement is to aid the Charter Township of Ypsilanti in its capacity of general counsel to the Charter Township of Ypsilanti to provide environmental assessment, guidance, legal strategies along with recommendations which will be utilized to guide the Ypsilanti Township Board of Trustees in all environmental matters emanating from the location of the planned supercomputing facilities in Ypsilanti Township by U of M and Los Alamos.

II. INVOICING

All professional services shall be invoiced on an hourly basis (1/4 hour increments as appropriate) plus reimbursement for actual expenses incurred (2025 IRS mileage rate of $0.70 per mile). Invoices shall be submitted monthly to the Charter Township of Ypsilanti and once approved, shall be submitted to the Township's Accounting Director. Payment for all services provided is due and payable within 30 days of the date of approval of the invoice. Consultant shall be compensated at the rate of $300/hour.

III. CONFIDENTIALITY

All work performed by Consultant under this professional services agreement shall be subject to the Attorney–Client Privilege and exempt from both Federal and State FOIA pursuant to MCL 15.243(1)(g). Furthermore, all written correspondence including materials prepared by Consultant, including but not limited to Consultant's notes, recommended legal strategies, mental impressions,

and all communications, are also considered privileged pursuant to the work product doctrine under MCR 2.302(b)(3).

IV. COUNTERPART EXECUTION; BINDING ON REPRESENTATIVES:

This Professional Services Agreement may be executed in any number of counterparts which, taken together, constitute one fully executed Agreement. This Agreement, when fully executed, shall be binding on the undersigned Township and Consultant as well as their representatives, principals, successors, or assigns.

Accepted and agreed to:

Dated: _____

_____
Grant R Trigger, Sole Member Wolverine Development Consultants, LLC

Dated: _____

_____
Brenda Stumbo, Supervisor Charter Township of Ypsilanti

Dated: _____

_____
Debra A. Swanson, Clerk Charter Township of Ypsilanti

Dated: _____

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— OFFICE OF THE SUPERVISOR —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Brenda Stumbo, Township Supervisor

Date: August 15, 2025

RE: Request for Planning Commission to consider a Zoning Change for the location of Data Centers to Industrial and Commercial Revitalization districts only

Currently, the Ypsilanti Township Zoning Code allows data centers in the Industrial and Commercial Revitalization (ICR) and Logistics and Manufacturing (LM) Zoning districts. Data Centers have more of an industrial use, look, and feel to them. They require high amounts of electrical needs, backup generators, as well as water/sewer usage. Very similar to manufacturing uses.

Trustee Thornton, Planning Director Yandrick and I visited many data centers in New Albany, Ohio in July 2025. The biggest observation was the need for power and water for the data centers. The power demand was often accompanied by several large on-site generators for back up and many large electric power substations. They were all located in an area designated for Data centers, which was very well planned out and benefited the local economy substantially according to the Economic and Development representatives from the tour.

This agenda item is to formally request that the Planning Commission consider an amendment of the Zoning Ordinance to locate Data Centers to the ICR zoning district. This district is bordered by Wiard Road and I-94 where the General Motors Facility was previously located, and the American Center for Mobility (ACM) is currently located. YCUA is located nearby, and they had previously treated the General Motors plant discharge and provided a large amount of water. There is great infrastructure, available lands, and data centers would be a great fit.

By allowing Data Centers solely to the ICR Zoning District it matches land use with the industrial needs. This will also allow other zoning districts to mitigate negative effects on adjacent properties, corridors, and environmentally sensitive areas. Our Planner and Planning consultant are also looking at other ordinances/language that will assist in managing these new types of developments. They are here, and the pragmatic approach is to plan for them in a different zoning district. A former Manufacturing Plant is a great reuse/redevelopment of existing infrastructure.

The Ford Plant across the street from the current proposed U of M Data Center is not a manufacturing plant, it is an assembly plant, nothing like the former General Motors. To change the zoning in this district and move any future proposed data centers is appropriate.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

Therefore, I am asking that the Board formally request the Planning Commission to rezone data uses into a more appropriate district. U of M and ACM are in current negotiations for the location of their data center developments, let's see how their negotiations go. In the meantime, we can have future data centers located in a more appropriate district.

AUTHORIZATIONS AND BIDS

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

222 South Ford Boulevard, Ypsilanti, MI 48198 Steven Densmore
Phone 734-544-4225 Fax 734-544-4195 Fire Chief

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Steven Densmore, Fire Chief

CC: Myla Harris, Purchasing Clerk

Date: July 30, 2025

RE: REQUEST AUTHORIZATION TO SEEK BIDS FOR THE REPLACEMENT OF THE BAY DOORS AT STATION #1, FIRE HEADQUARTERS

Respectfully request authorization to seek competitive bids for the replacement of the bay doors at Station #1, Fire Headquarters, located at 222 S. Ford Blvd.

The existing bay doors are 34 years old and are the original installations from the construction of the station. Over the years, they have experienced significant wear and tear, including mechanical degradation, insulation issues, and increased maintenance needs, which have impacted daily operations and response efficiency. These conditions not only affect energy efficiency and safety but also present reliability concerns for emergency response readiness.

Funding for this project is available and budgeted under the Capital Outlay Fire Station line item #217-901-976.005. If authorization is granted, the Township will issue a public request for bids in accordance with our procurement policy. Once the bid process is complete, Township staff will return to the Board of Trustees with a recommendation to award the contract to the bidder offering the best overall value to the Township and the Fire Department.

Thank you for your consideration.

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

222 South Ford Boulevard, Ypsilanti, MI 48198 Steven Densmore
Phone 734-544-4225 Fax 734-544-4195 Fire Chief

YPSILANTI CHARTER TOWNSHIP
FIRE HEADQUARTERS - BAY DOOR REPLACEMENT PROJECT

PROJECT OVERVIEW:

This project includes the removal and replacement of multiple overhead bay doors at Ypsilanti Township Fire Headquarters. The new doors will improve energy efficiency, functionality, and long- term reliability. All doors must be professionally installed and fully operational upon completion.

DOOR SPECIFICATIONS:

Item	Specification
Door Size	14'2" wide x 14' high
Model	Clopay #3720 - Insulated Steel Overhead Door
Insulation R-Value	18
Style	Double-end style
TrackTvoe	36" High Lift Track (RM)
Spring Tvoe	50,000-cvcle torsion springs
Soring Shaft Size	11/4"
Window Configuration	Three (3) rows of full-view insulated windows
Color	To Be Determined (TBD)
T/D/HA	No additional charge
Installation Requirement	All doors must be reconnected and fully operational upon completion of installation - ner door

ADDITIONAL REQUIREMENTS:

- All work must comply with applicable building codes and OSHA safety standards.
- Contractors must be insured, licensed, and experienced in commercial/municipal overhead door installation.
- Removal of old doors and disposal of debris must be included in bid pricing.
- Vendors must provide warranty information on both materials and labor.
- The installation schedule must minimize disruption to Fire Department operations.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

Date: August 12, 2025

RE: **Request Authorization to waive the bidding requirement on MITN under the Township financial policy and sign a two-year extension with Community Publishing and Marketing for the publishing of the Township Helpful Handbook for $59,000 in 2026 and $61,000.00 budgeted in lines #226-528-900.000 and #101-267-900.000, and for Winter, Summer and Fall Recreation Guides budgeted in line #230-754-880.000.**

The Residential Services Department is requesting authorization to waive the bidding requirement on MITN under the Township financial policy and sign a two-year extension with Community Publishing and Marketing for publishing the Township Helpful Handbook (budgeted in lines #226-528-900.000 and #101-267-900.000) and the Winter, Summer, and Fall Recreation Guides (budgeted in line #230-754-880.000).

The total price for their service in 2026 would remain at the current rate of $59,000 per year, with a slight increase in 2027 to $61,000. Community Publishing has been the Township's primary vendor for magazine services since 2021. Most recently, at the November 1, 2023 Special Meeting, the Board approved a two-year agreement, which has now expired.

The request for extension is based on the quality of past editions and the vendor's proven ability to deliver. Community Publishing has streamlined the process of producing each edition, resulting in a seamless workflow and a high-quality product. Importantly, they are able to create and distribute the recycle magnets that are essential to include.

When this service was bid out in 2023, other companies could not guarantee the inclusion of the magnet due to production limitations and costs. With Community Publishing, the magnet can be polybagged with the Helpful Handbook and Winter Recreation Guide for mailing together, saving the Township approximately $5,000 in postage.

John Hines
jhines@ypsitownship.org

Community Publishing & Marketing
2025/2026 and 2026/2027 Ypsilanti Lifestyle Magazine
Prepared for the Ypsilanti Township

2-year Agreement - Ypsilanti Lifestyle Magazine

Strategy

This marketing plan is to produce (create, design, layout, print, bind and mail) 1 full size full color 24 page magazine in Winter (December 2025) and 3 full size full color 16 page magazines in Winter (December 2025), Spring (April 2026), Summer/Fall (August of 2026) that showcases all of Ypsilanti to its community residences. It is our mission and distinct honor to work hand and hand with the Ypsilanti Township and its Residential Services Department, to collaborate and formulate a production and marketing strategy that facilitates the entire production process for 2025/26 through 2026/2027 Ypsilanti Lifestyle Magazine.

Specs:

- 15,500 magazines (approximately 15,000 mailing to residences of Ypsilanti Township per Township's mailing list and/or specifications) with postage being paid by Township. The balance will be carton packed and delivered to the township.
- 3- sets of 16 pagers each, and 1 – 24 pager per calendar year
- Text: 60# c2s gloss text throughout publication
- 4 color process throughout
- 8.25 x 10.75 trim (8.5 x 11 including 1/8" bleed all 4 sides)
- Saddle stitch along the 10.75 dimensions (vertical pub)
- CPM will print this project with a company of its choosing (parent company Printwell)
- Entire creation, design, layout will be a collaboration with Ypsilanti Township and CPM
- CPM will utilize photos/artwork provided by the Township for the magazine.
- The Ypsilanti Township will own all information and graphics/artwork within the 2025/26 Magazine (this is a Ypsilanti Township project/magazine and all content within the publication, the other material/graphics/information/text/etc. are township property and will not be used in any other context/publication/marketing material without written permission from the Ypsilanti Township).
- Final layout will be approved by the Ypsilanti Township.

Because of our strong relationship throughout the past many years, both parties would like to enter into a 2-year agreement beginning December 2025 and ending after August 2027 edition. Though both parties should do their very best to work out any difficulties and/or problems together, either party may opt out of the agreement with a minimum advance notice of 60 days prior to each scheduled new campaign year mail date in December of the subsequent edition/ new year.

***Pricing for 2025/26 campaign is:**
(postage directly paid to usps by township at additional cost)
****Winter 2025 will only need 1 mailing for 16 pager, 24 pager and magnets, if polybagged together!**

$9,000/ 16 page edition – Winter 2025/26, Spring 2026, Summer/ Fall 2026
(3 editions per yearly campaign)
$12,000 – 24 page edition - Winter edition mailing in December 2025)

*Additional Cost for 16,000 Magnets – December issue for 2025 will have 1 sided magnets (6" x 6" 4/c 1 side) accompanying the 24 page and 16 page Winter publications, detailing recycling information provided by township. The additional charge for the magnets and including them with the mailing will be:

Additional Cost: 13pt-17pt Magnet (depending on availability), separate piece polybagged along with 2 publications - $20,000

****Pricing for 2026/2027 campaign will be an additional $2,000 from 2025/2026 pricing (61K)**

We will invoice approximately 30 days prior to each publication in order to assure prompt payment upon publication mailing/shipping, as well as provide postage cost to customer from database information provided from customer, within 10 days of mailing for separate postage paid directly to USPS by Ypsilanti Township, in order to use township's postage permit indicia.

Community Publishing & Marketing
2025/26 and 2026/2027 Ypsilanti Lifestyle Magazine
Prepared for the Ypsilanti Township
2-year Agreement - Ypsilanti Lifestyle Magazine

Signatures:

_____

Township Supervisor, Brenda Stumbo, Ypsilanti Township Date

_____

Township Clerk, Debra A. Swanson, Ypsilanti Township Date

_____

Director of Publishing Mark A. Fisher, Community Publishing & Marketing Date

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

CC: Myla Harris, Purchasing Clerk

Date: August 12, 2025

RE: **REQUEST AUTHORIZATION TO SEEK SEALED BIDS FOR ONE (1) NEW TOWNSHIP FLOATER VEHICLE TO BE ASSIGNED TO THE RESIDENTIAL SERVICES DEPARTMENT FOR GENERAL EMPLOYEE USE.**

The Residential Services Department (RSD) is requesting authorization to seek sealed bids for one (1) new floater vehicle to be assigned to the RSD department for general employee use. The potential purchase would be funded from GL#661-268-985.000 and contingent upon a Line Item Transfer.

RSD is requesting bids to purchase one (1) 2026 Ford Explorer to address the growing need for an additional vehicle to support various departments in performing Township duties. Additionally, RSD requests approval to auction the existing floater vehicles due to age and wear. This vehicle would introduce a new, larger vehicle to the fleet, enhancing operational capabilities.

If approved, sealed bids will be accepted until Thursday, September 4, 2025, at which time they will be publicly opened at 2:00 p.m. Staff will therefore submit a recommendation for award to the Board of Trustees.

John Hines
jhines@ypsitownship.org

The Charter Township of Ypsilanti is seeking bids for:

One (1) Ford Explorer

Sealed bids for a new Ford Explorer for the Residential Services Department received by Ypsilanti Township Clerk's Office, at 7200 S. Huron River Drive, Ypsilanti, MI 48197 until **Thursday September 4, 2025 at 2:00 p.m.** local time at which time bids received will be publicly opened and read. Bids may be submitted in person to the Ypsilanti Township Clerk's Office labeled "RSD Explorer" or via MITN. Bids sent via email or by any other electronic means will not be accepted. For questions related to the bid, please contact Purchasing Clerk, Myla Harris at mharris@ypsitownship.org .

Charter Township of Ypsilanti
Clerk Debra A. Swanson
7200 S. Huron River Drive, Ypsilanti, MI 48197

GENERAL SPECIFICATIONS

All vehicles must be new and of the manufacturer's current models in production at the time of delivery. All standard or optional equipment to be included shall be as advertised by the manufacturer (OEM) and factory installed and shall not consist of substitute or aftermarket equipment. Optional equipment not available from the factory may be dealer installed.

Upon delivery of the vehicle from the dealer to the Ordering Entity

- Itemize pricing with total cost (should include all items listed in the deliverables section above as well as fees and delivery
- Vendor to include an estimated time of delivery
- The Township will issue a Purchase Order for the approved amount.
- The vendor will invoice the Township after delivery
- Vendor will allow up to 45 days for the Township to pay invoice without interest penalty.
- PO will be proof of Township commitment to purchase

FORD Explorer; Current year (2026).

- 2.3L EcoBoost I-4 Engine
- PWR. WINDOWS/LOCKS/MIRRORS
- Air Conditioning
- Four (4) Wheel Drive
- 10-Speed Auto Transmission
- P255/65R18 A/S BSW Tires
- 18in Silver Painted Alum Wheels
- Fuel capacity; largest available from mfg.
- Lug wrench and jack; Spare tire and wheel, full size. Mfg. standard mounting
- Camera; rearview (in dash monitor)
- Keys; (1) added set (total = 3 sets) w/ code numbers; incl. with vehicle upon delivery
- Radio; AM/FM w/Bluetooth
- Seats: Cloth or cloth w vinyl

- All weather floor mats
- Paint codes-factory paint codes shall be furnished with all vehicles; for all aftermarket painting both the brand and paint code shall be furnished. White is preferred, but will accept silver or black
- Speed Control, Factory Installed
- Steering-Power, Tilt Wheel
- Transmission-Automatic.
- Data port must be compatible with Verizon Connect GPS system
- Hands Free Mobile Device
- Ford Connect
- VEHICLES SHALL TO BE EQUIPPED IN COMPLIANCE WITH ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS AND REGULATIONS. ALL VEHICLES MUST BE EQUIPPED TO COMPLY WITH ALL REQUIREMENTS OF THE MICHIGAN MOTOR VEHICLE CODE.
- ALL QUOTES SHAL BE DELIVERED PRICES, ALL FEES & DELIVERY INCLUDED!
- Charter Township of Ypsilanti is Tax Exempt and can supply proper documents.

Pre-delivery inspection and servicing: The term "Pre-Delivery Service and Inspection" as used in State of Michigan Specifications includes the following:

1. General appearance of body both interior and exterior for completeness and quality of workmanship.

2. Lubrication and fluid levels and correcting any leaks:

    a. Radiator

    b. Windshield Washer

    c. Battery

    d. Power steering pump

    e. Brake master cylinder

    f. Engine oil

    g. Transmission fluid level.

3. Mechanical operation of vehicle:

    a. Steering gear and linkage

    b. Suspension assembly, front and rear

    c. Proper tire pressure to normal rated road requirements

    d. Hood latch

    e. Head lights, aim and adjust

    f. Front wheel toe in and torque wheel nuts

    g. Seat and shoulder belts operative

    h. All locks and latches to be operative

i. Windshield wiper and washer to be operative

j. Proper adjustment to all drive belts

4. A check of all electrical operations to include: headlights, side marker lights, temperature, alternator, oil pressure lights, parking lights, stop and tail lights, directional signals, emergency flasher and parking brake lights.

5. Miscellaneous items to be furnished:

a. Manufacturers Window Sticker shall not be removed from vehicle.

b. Odometer Certification, vehicle window sticker, or line setting ticket, and Vehicle Curb Weight at time of delivery.

c. Manufacturers or Dealers Pre-Delivery Check Sheet.

d. Vehicle shall have a minimum of one fourth (¼) tank of Fuel when delivered.

e. Warranty Plate and Operators Manual(s) shall be delivered with vehicle at no cost to the State of Michigan.

f. Completed RD108 application for title form.

g. Invoice for each vehicle at the time of delivery.

h. Vehicle Order Confirmation Sheet.

6. Deliveries shall be between the hours of 8 AM and 3 PM. No Weekend or Holiday Deliveries will be accepted.

Forty-eight (48) hour notice required prior to delivery.

Note: No dealer advertising decals are to be on vehicle.

It is intended that vehicles delivered in accordance with the Michigan specifications will be complete, including mechanical details, general workmanship and appearance, and shall be delivered complete with all warranty service books and identification plate.

Failure to adhere to specifications may be reason to delay payment.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Heather Jarrell Roe
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Ryan Hunter
John Newman II
Gloria Peterson
Debbie Swanson

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

Date: August 12, 2025

RE: Request Authorization to seek sealed bids for the Community Center 100 Hallway Bathrooms renovation project as part of the Washtenaw County Community Development Block Grant (CDBG) projects funding.

The Residential Services Department is requesting authorization to seek sealed bids for the renovation of the men's and women's bathrooms at the Ypsilanti Township Community Center. Washtenaw County Community Development Block Grant (CDBG) will reimburse this work

The CDBG program is a subaward of Federal Funding through the United States Department of Housing and Urban Development. Recently, the 2021-2023 Washtenaw County CDBG program funded improvements at Appleridge Park. For the 2024-2025 funding years, the Township applied for the renovation of the men and women's locker rooms at the Community Center. If approved, the funding dollars allocated by the county would be $317,278. This project will make the locker rooms ADA accessible, increase the number of toilets, and utilize the space to allow for more staff storage.

Spicer Group was approved by the board to provide professional engineering services for this project and has worked in cooperation with Township Staff and County Staff members to follow the process for the CDBG program for the building improvements. RFP will be posted on Spicer Group's website or MITN per Township Financial Policy after the Environmental review is completed by Washtenaw County. Post location is contingent on board recommendation.

Staff will return to the Board of Trustees to recommend and award the selection of a bidder.

Please find attached this memorandum the 95% complete proposed construction documents and the bidding package as created by Spicer Group.

John Hines
Municipal Services Director
jhines@ypsitownship.org

BIDDING DOCUMENTS
FOR

COMMUNITY CENTER LOCKER ROOMS

CHARTER TOWNSHIP OF YPSILANTI
YPSILANTI, MI

Prepared By:
SPICER GROUP, INC.

Plans Included
DA – 1539 – 1-13

Project I.D. Number: 138815SG2025

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ADVERTISEMENT FOR BIDS

COMMUNITY CENTER LOCKER ROOM IMPROVEMENTS
CHARTER TOWNSHIP OF YPSILANTI
September, 2025

Sealed Bids for the Appleridge Park Improvements will be received by the CLERK'S OFFICE, Ypsilanti Township Civic Center, 7200 S. Huron River Dr., Ypsilanti, MI., 48197, until **2:00 p.m.** local time on **October 21, 2025.**

The project involves the demolition and complete renovation of two existing locker rooms. Work includes the removal of existing lockers, fixtures, flooring, and equipment, followed by comprehensive upgrades to the locker and changing areas, toilet rooms, sinks, lighting, tile, and finishes. The renovation also includes the addition of two new storage areas within the existing footprint, as well as the replacement and relocation of water heaters and heating systems within the locker room and storage spaces.

This project is funded with a CDBG grant. All relevant State and/or Federal requirements will apply. This project does require Davis-Bacon wage rates.

The Issuing Office for the Bidding Documents is the office of the ENGINEER, Spicer Group, Inc., Cindy Todd, Project Manager, 410-490-0413, or cynthia.todd@spicergroup.com. The contract documents for bidding purposes are available beginning **September 19, 2025** on MITN Purchasing Group, Bidnetdirect.com; and Charter Township of Ypsilanti, 7200 Huron River Drive, Ypsilanti, MI 48197. **Bidders are encouraged to download plans from MITN at Bidnetdirect.com at no additional cost.** Neither Owner nor ENGINEER will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office. Bidders should direct correspondence to ENGINEER.

For bidders choosing to pick up copies of bid documents, copies may be obtained on or after 12:00 PM, local time, **September 19, 2025**, at the CLERK'S OFFICE, Ypsilanti Township Civic Center, 7200 S. Huron River Dr., Ypsilanti MI., 48197 for no fee.

A mandatory pre-bid conference for the **Appleridge Park Improvements** project will be held on **Tuesday, September 30, 2025,** at **10:00 AM** at **Ypsilanti Township Community Center**, **2025 E Clark Rd, Ypsilanti, MI 48198.**

Bid Security in the form of a Bid Bond for a sum no less than 5% of the amount of the Bid will be required with each Bid. The OWNER reserves the right to accept any Bid, reject any Bid, or waive irregularities in Bids. No Bid may be withdrawn for a period of 60 calendar days after the scheduled closing time for receipt of bids.

John Hines, Municipal Services Director
Charter Township of Ypsilanti

+ + END OF ADVERTISEMENT FOR BIDS + +

INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within 3 days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.

B. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

C. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

D. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted via email only to Cindy Todd at cynthia.todd@spicergroup.com. All email questions must be received by **5:00 P.M. on Tuesday, September 9, 2025**. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received after **5:00 P.M. on Tuesday, September 9, 2025**, may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.

12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.

12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers.

12.04 If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.05 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.

13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.04 A Bid by an individual shall show the Bidder's name and official address.

13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.06 All names shall be printed in ink below the signatures.

13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form..

ARTICLE 14 – BASIS OF BID

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form.

14.02 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.03 *Allowances*

A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one Affidavit of Compliance – Iran Economic Sanctions Act (C210) This form must be signed, notarized and included with the submitted bid package.

15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to CLERK, Ypsilanti Township Civic Center, 7200 S. Huron River Dr., Ypsilanti MI., 48197

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.

19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.

19.03 Evaluation of Bids

A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 – EQUAL EMPLOYMENT

22.01 Attention of Bidders is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against on any illegal basis with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, partisan considerations, genetic information, or a disability that is unrelated to the individual's ability to perform the duties of a particular job or position as required by Public Act 453 of 1976 (Elliot-Larsen Civil Rights Act), Public Act 220 of 1976 (Persons with Disabilities Act), as amended, and Executive Directive 2019-09.

ARTICLE 23 – MINIMUM WAGE REQUIREMENTS

23.01 The Owner has specific minimum wage requirements that are as follows:

A. Davis-Bacon Act, July 2, 1964 (Title 40, USC, 276A)

B. Anti-Kickback Act (Title 18, USC 874)

C. U.S. Department of Labor Regulations and Standards (Title 29, 1, 3 and 5)

D. Equal Employment Opportunity Act, September 18, 1965 (Executive Order No. 11246)

E. Federal Occupational Safety and Health Act of 1970

F. Housing and Urban Development Act of 1968, Section 3, as amended, 12 USC, 1701u.

AFFIDAVIT OF COMPLIANCE-IRAN ECONOMIC SANCTIONS ACT
MICHIGAN PUBLIC ACT 517 OF 2012

The undersigned, as owner or authorized officer of the below named CONTRACTOR, pursuant to the compliance certification requirement by the State of Michigan, and as referenced by OWNER in the BIDDING DOCUMENTS, hereby certifies, represents and warrants that the CONTRACTOR (including its Officers, Directors and Employees) is not an "Iran linked business" as defined by the Iran Economic Sanctions Act, Michigan Public Act 517 of 2012 (THE ACT). And, that in the event CONTRACTOR is awarded a contract as a result of the aforementioned BIDDING DOCUMENTS, the Contractor will not become an "Iran linked business" at any time during the course of preforming the work or any services under the contract.

The CONTACTOR further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater. The cost of the OWNER'S investigation and reasonable attorney fees may also be added in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on any other of the OWNER'S projects for three (3) years from the date that it is determined that the person has submitted the false certification.

CONTRACTOR:

_____
Name of Contractor
By: _____
Its: _____
Date: _____

STATE OF _____}
ss.
COUNTY OF _____}

This instrument was acknowledged before me on the _____day of _____, ____
by_____.

_____
, Notary Public
_____ County, State of _____
My Commission expires: _____
Acting in the County of: _____

BID FORM
FOR CONSTRUCTION CONTRACTS

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Clerk's Office
Ypsilanti Township Civic Center
7200 S Huron River Dr
Ypsilanti, MI 48197

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 45 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	**Addendum, Date**
_____	_____
_____	_____
_____	_____
_____	_____

If no addenda have been issued, insert "N/A". Bidder shall submit signed copies of the Addendum Acknowledgment receipt form issued with each addendum with the complete bid form.

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process.

2. "Fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

3. "Collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

SEE ATTACHED *EXHIBIT A*

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete on or before **October 17, 2025** and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **November 14, 2025.**

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. Affidavit of Compliance – Iran Economic Sanctions Act;

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

NOTICE OF AWARD

Date of Issuance:

Owner:	Ypsilanti Charter Township	Owner's Contract No.:	
Engineer:	Spicer Group, Inc.	Engineer's Project No.:	138815SG2025
Project:	Community Center Locker Rooms	Contract Name:	Community Center Locker Rooms
Bidder:			
Bidder's Address:			

TO BIDDER:

You are notified that Owner has accepted your Bid dated [_____] for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

_____ .

[describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is: $_____ *[note if subject to unit prices, or cost-plus]*

[ ] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically. *[revise if multiple copies accompany the Notice of Award]*

☐ a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner [____]counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., performance and payment bonds]* and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any):

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner**:**

_____	_____
Authorized Signature	Authorized Signature
By: _____	By: _____
Title: _____	Title: _____

Copy: Engineer

AGREEMENT

THIS AGREEMENT is by and between Ypsilanti Charter Township ("Owner") and _____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: replacement of playground equipment, improve existing gravel path, connect street sidewalks to the park, a new bus shelter, and ADA accessibility improvements throughout the park.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Spicer Group, Inc.

3.02 The Owner has retained Spicer Group, Inc. ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

A. The Work will be substantially completed on or before **October 17, 2025** and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **November 14, 2025.**

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner $600 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $600 for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages*

A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.

B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

B. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 1st day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such

Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

    a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 50 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of *0* percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and

drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 7, inclusive).
2. Performance bond (pages 1 to 3, inclusive).
3. Payment bond (pages 1 to 4, inclusive).
4. General Conditions (pages 1 to 65, inclusive).
5. Supplementary Conditions (pages 1 to 5, inclusive).
6. Specifications as listed in the table of contents of the Project Manual.
7. The Drawings are listed on the document title page.
8. Addenda (numbers ___ to ___, inclusive).
9. Exhibits to this Agreement (enumerated as follows):
    a. Contractor's Bid (pages ___ to ___, inclusive).
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by

the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

B. Equal Opportunity

Contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, or because of a handicap that is unrelated to the person's ability to perform the duties of a particular job or position.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER: Ypsilanti Charter Township	CONTRACTOR:
_____	_____
By: _____	By: _____
Title: _____	Title: _____
Attest: _____	Attest: _____
Title: _____	Title: _____
Address for giving notices:	Address for giving notices:
Ypsilanti Township Civic Center	_____
7200 S. Huron River Dr.	_____
Ypsilanti MI., 48197	_____

NOTICE TO PROCEED

Owner:	Ypsilanti Charter Township	Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	Spicer Group, Inc.	Engineer's Project No.:	138815SG2025
Project:	Community Center Locker Rooms	Contract Name:	Community Center Locker Rooms
		Effective Date of Contract:	

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on_____**.** *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is **October 17, 2025**, and the date of readiness for final payment is **November 14, 2025.**

Before starting any Work at the Site, Contractor must comply with the following:
[Note any access limitations, security procedures, or other restrictions]

Owner**:**			
	Authorized Signature		Authorized Signature
By:		By:	
Title:		Title:	
Date Issued:		Date Issued:	

Copy: Engineer

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:
Ypsilanti Charter Township
7200 S Huron River Dr
Ypsilanti, MI 48197

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:
Ypsilanti Charter Township
7200 S Huron River Dr
Ypsilanti, MI 48197

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

   5.1 Claimants who do not have a direct contract with the Contractor,

      5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

      5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

   7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2 Pay or arrange for payment of any undisputed amounts.

   7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments

to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

    16.1 **Claim:** A written statement by the Claimant including at a minimum:

    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    4. A brief description of the labor, materials, or equipment furnished;
    5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    7. The total amount of previous payments received by the Claimant; and
    8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

    16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

    16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

    16.4 **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: Ypsilanti Charter Township	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Spicer Group, Inc.	Engineer's Project No.: 138815SG2025
Project: Community Center Locker Rooms	Contract Name: Community Center Locker Rooms

This [preliminary] [final] Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's responsibilities:
☐ None
☐ As follows

Amendments to Contractor's responsibilities:
☐ None
☐ As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ (Authorized signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material

of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.

33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. *Unit Price Work*—Work to be paid for on the basis of unit prices.

47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. *Furnish, Install, Perform, Provide*:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Contractor's Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

C. *Evidence of Owner's Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the

performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*:

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and

binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;

3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and

4. acts of war or terrorism.

D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or

2. is of such a nature as to require a change in the Drawings or Specifications; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

    b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

    c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

    a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or

    b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice as required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

C. *Engineer's Review*: Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility,

indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;

b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and

d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

2. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to

be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.

D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.

H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).

3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).

B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:

1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.

2. claims for damages insured by reasonably available personal injury liability coverage.

3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage:

a. Such insurance shall be maintained for three years after final payment.

b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Broad form property damage coverage.

4. Severability of interest.

5. Underground, explosion, and collapse coverage.

6. Personal injury coverage.

7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.

E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:

1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.

5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed

by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
6. extend to cover damage or loss to insured property while in transit.
7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
8. allow for the waiver of the insurer's subrogation rights, as set forth below.
9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
10. not include a co-insurance clause.
11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
12. include performance/hot testing and start-up.
13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.

F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and

the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 *"Or Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

    a. in the exercise of reasonable judgment Engineer determines that:

        1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

        2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

        3) it has a proven record of performance and availability of responsive service; and

        4) it is not objectionable to Owner.

    b. Contractor certifies that, if approved and incorporated into the Work:

        1) there will be no increase in cost to the Owner or increase in Contract Times; and

        2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.

    1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

   a. shall certify that the proposed substitute item will:

      1) perform adequately the functions and achieve the results called for by the general design,

      2) be similar in substance to that specified, and

      3) be suited to the same use as that specified.

   b. will state:

      1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,

      2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

      3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

   c. will identify:

      1) all variations of the proposed substitute item from that specified, and

      2) available engineering, sales, maintenance, repair, and replacement services.

   d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.

B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.

J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements*:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings*:

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples*:

    a. Contractor shall submit the number of Samples required in the Specifications.

    b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals*: Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review*:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures*:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal;

6. the issuance of a notice of acceptability by Engineer;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.

D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any

such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. an itemization of the specific matters to be covered by such authority and responsibility; and

3. the extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an

equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer's authority as to Change Orders is set forth in Article 11.

D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will

not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. *Change Orders*:

a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the

Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action*: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*:

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns

from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

    g. The cost of utilities, fuel, and sanitary facilities at the Site.

    h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

    i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

   b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

   c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

   d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

   e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

    a. the Work is defective, requiring correction or replacement;

    b. the Contract Price has been reduced by Change Orders;

    c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

    e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

    a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

    b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

    c. Contractor has failed to provide and maintain required bonds or insurance;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

    e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

    f. the Work is defective, requiring correction or replacement;

    g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

    h. the Contract Price has been reduced by Change Orders;

    i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

    j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

    k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

    a. all documentation called for in the Contract Documents;

    b. consent of the surety, if any, to final payment;

    c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

    d. a list of all disputes that Contractor believes are unsettled; and

    e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance*:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special

guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;

2. correct such defective Work;

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension.

Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

SC-5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

A. No reports of exploration or test of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to the Owner.

SC-5.06 Hazardous Environmental Conditions

SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Not Used.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.03 Contractor's Liability Insurance

SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

$1,000,000.00 limit each accident

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

Combined single limit of $1,000,000.00 each occurrence for bodily injury 7 property damage. Must include 60 day written notice for change of coverate, cancellation, or non-renewal of coverate. Must name "The Charter Township of Ypsilanti and its past, present, and future elected officials shall be named as "additional named insured" on the general liability policy with respect to the services provided under this contract' – Occurrence basis.

3. **Automobile Liability under Paragraph 6.03.D of the General Conditions:**

   Covers owned, hired, and non-owned vehicles with personal protection insurance and property protection. Includes residual liability insurance with a combined single limit of $1,000,000.00 each accident for bodily injury and property damage.

4. **Owner's Protective Liability**

   Combined single limit of $1,000,000.00 each occurrence for bodily injury & property damage.

5. **Builder's Risk**

   Option. May be used to cover everything.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.02 Labor; Working Hours

SC-7.02.B. Add the following new subparagraphs immediately after Paragraph 7.02.B:

1. **Regular working hours will be** *7 A.M to 7 P.M.*
2. **Owner's legal holidays shall be defined as U.S. Federal Holidays.**

SC-7.02.B. Amend the first and second sentences of Paragraph 7.02.B to state "…all Work at the Site shall be performed during regular working hours, Monday through Saturday. Contractor will not perform Work on a Sunday or any legal holiday."

SC-7.08 Permits

SC 7.08 Add the following new subparagraphs immediately after Paragraph 7.08.A:

B. A Soil Erosion and Sedimentation Control (SESC) Permit is not required since the Owner is an Authorized Public Agency (APA). However, the Contractor will need to construct the project in accordance with SESC measure as described in the bidding plans and specifications.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Project Representative

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

1. **General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.**
2. **Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.**
3. **Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other**

Project-related meetings, and prepare and circulate copies of minutes thereof.

4. **Liaison:**

   a. **Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.**

   b. **Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.**

   c. **Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.**

5. **Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.**

6. **Shop Drawings and Samples:**

   a. **Record date of receipt of Samples and Contractor-approved Shop Drawings.**

   b. **Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.**

   c. **Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.**

7. **Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.**

8. **Review of Work and Rejection of Defective Work:**

   a. **Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.**

   b. **Report to Engineer whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.**

9. **Inspections, Tests, and System Start-ups:**

   a. **Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.**

b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

10. Records:

a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

c. Maintain records for use in preparing Project documentation.

11. Reports:

a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.

b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.

12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

14. Completion:

a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.

b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.

c. **Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.**

C. The RPR shall not:

1. **Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).**
2. **Exceed limitations of Engineer's authority as set forth in the Contract Documents.**
3. **Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.**
4. **Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.**
5. **Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.**
6. **Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.**
7. **Accept Shop Drawing or Sample submittals from anyone other than Contractor.**
8. **Authorize Owner to occupy the Project in whole or in part.**

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.01 Cost of the Work

SC-13.01 Add the following to the end of Paragraph 13.01.B.1:

Contractor is required to observe and abide by The Charter Township of Ypsilanti's Prevailing Wage and Living Wage requirements. The relevant Township ordinances, as well as the relevant Prevailing Wage Decision are included in the Bidding Documents.

Work Change Directive No.

Date of Issuance:		Effective Date:	
Owner:	Ypsilanti Charter Township	Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	Spicer Group, Inc.	Engineer's Project No.: 138815SG2025	
Project:	Community Center Locker Rooms	Contract Name: Community Center Locker Rooms	

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments: *[List documents supporting change]*

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *[check one or both of the following]*

☐ Non-agreement on pricing of proposed change.

☐ Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price $ [increase] [decrease].

Contract Time days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price

☐ Cost of the Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By:	By:	By:
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title:	Title:	Title:
Date:	Date:	Date:

Approved by Funding Agency (if applicable)

By: Date:

Title:

Change Order No. _____

Date of Issuance:	Effective Date:
Owner: Ypsilanti Charter Township	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Spicer Group, Inc.	Engineer's Project No.: 138815SG2025
Project: Appleridge Park Improvements	Contract Name: Appleridge Park Improvements

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments: *[List documents supporting change]*

CHANGE IN CONTRACT PRICE	**CHANGE IN CONTRACT TIMES** *[note changes in Milestones if applicable]*
Original Contract Price: $ _____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: $ _____	[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: Substantial Completion: _____ Ready for Final Payment: _____ days
Contract Price prior to this Change Order: $	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] of this Change Order: $ _____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
Contract Price incorporating this Change Order: $	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ days or dates

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____	By:	By: _____
Engineer (if required)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable)

By: _____ Date: _____

Title: _____

Field Order No. _____

Date of Issuance:	Effective Date:
Owner: Ypsilanti Charter Township	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Spicer Group, Inc.	Engineer's Project No.: 138815SG2025
Project: Community Center Locker Rooms	Contract Name: Community Center Locker Rooms

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph III "Changes in the Work", for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: _____ Specification(s) _____ Drawing(s) / Detail(s)

Description:

Attachments:

ISSUED:	RECEIVED:
By: _____ Engineer (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: Owner

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Contract description.
2. Contractor's use of Site
3. Work sequence.
4. Owner occupancy.
5. Permits.
6. Specification conventions.

1.2 CONTRACT DESCRIPTION

A. The Contractor shall furnish all the labor, material and construction equipment and perform all the work for this project as shown on the Drawings and described in the specifications prepared by Spicer Group, Inc. Contractor shall be responsible for the entire work until completed and accepted by the Owner.

1.3 CONTRACTOR'S USE OF SITE

A. Limit use of Site to allow:
1. Owner occupancy.
a. If necessary to achieve the best costs and results, owner can vacate the facility during construction.
2. Use of site by Public.

1.4 WORK SEQUENCE

A. Construct Work in a positive direction during the construction period, coordinate construction schedule and operations with Engineer.

1.5 OWNER OCCUPANCY

A. Schedule and substantially complete designated portions of the Work for occupancy before Substantial Completion of the entire Work.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

1.6 PERMITS

A. Furnish necessary permits for construction of Work.

1.7 SPECIFICATION CONVENTIONS

A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cash allowances.

B. Application for Payment.

C. Change procedures.

D. Defect assessment.

E. Unit prices.

1.2 ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to Site and applicable taxes unless stated otherwise in Allowance Schedule.

B. Costs Not Included in Cash Allowances but Included in Contract Sum/Price: Product handling at Site including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing unless stated otherwise in Allowance Schedule.

C. Engineer Responsibilities:
1. Consult with Contractor for consideration and selection of products suppliers and installers.
2. Select products in consultation with Owner and transmit decision to Contractor.
3. Prepare Change Order.

D. Contractor Responsibilities:
1. Assist Engineer in selection of products, suppliers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. Upon notification of selection by Engineer and Owner execute purchase agreement with designated supplier.
4. Arrange for and process Shop Drawings, Product Data, and Samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

1.3 APPLICATION FOR PAYMENT

A. Contractor will prepare progress payments in accordance with the Payment Schedule shown in the Agreement. Progress payments shall be submitted in AIA Document G702 and G703.

B. Format will follow the itemized bid in the Proposal.

C. Contractor shall submit waivers for each progress payment in accordance with the General Conditions.

D. Payment will be subject to retainage as set forth in Public Act No. 524.

1.4 CHANGE PROCEDURES

A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.

C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.

D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing a field order.

E. Engineer may issue a Bulletin or Notice of Changer including a detailed description of proposed change with supplementary or revised Drawings and Specifications. Contractor will prepare and submit estimate within (2) two days.

F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work.

G. Stipulated Sum/Price Change Order: Based on Bulletin or Notice of Change and Contractor’s price quotation and Contractor’s request for Change Order as approved by Engineer.

H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

I. Work Directive Change: Engineer may issue directive, signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

J. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.

K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.

L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.

M. Change Order Forms: Architects/Engineer's Form.

N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.5 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.

C. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.

D. Nonpayment for Rejected Products: Payment will not be made for rejected products.

1.6 UNIT PRICES

A. Authority: Measurement methods are delineated in individual Specification Sections.

B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.

C. Engineer will take measurements and compute quantities accordingly. Provide assistance in taking of measurements.

D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.

E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.

F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

G. Measurement of Quantities:
   1. Weigh Scales: Inspected, tested, and certified by applicable State weights and measures department within past year.
   2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
   3. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
   4. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
   5. Measurement by Area: Measured by square dimension using mean length and width or radius.

6. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
7. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Product options.

C. Product substitution procedures.

1.2 QUALITY ASSURANCE

A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.

B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.

C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

A. See Section 01 60 00 - Product Requirements.

1.4 PRODUCT SUBSTITUTION PROCEDURES

A. Engineer will consider requests for substitutions only within **15** days after date of Owner-Contractor Agreement.

B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.

C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
   1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
   2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
   3. Reference to Article and Paragraph numbers in Specification Section.
   4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
   5. Changes required in other Work.
   6. Availability of maintenance service and source of replacement parts as applicable.
   7. Certified test data to show compliance with performance characteristics specified.
   8. Samples when applicable or requested.
   9. Other information as necessary to assist Engineer's evaluation.

D. A request constitutes a representation that Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for substitution as for specified product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
   6. Will reimburse Owner for review or redesign services associated with reapproval by authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.

F. Substitution Submittal Procedure:
   1. Submit requests for substitutions.
   2. Submit three copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
   3. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
   4. Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and Project conditions.

B. Field Engineering

C. Cutting and Patching

D. Preconstruction meeting.

E. Site mobilization meeting.

F. Progress meetings.

G. Preinstallation meetings.

H. Closeout meeting.

I. Alteration procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various Sections of Owner Contract Agreement to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.

C. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.

D. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

E. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 ALLOWANCES

A. Control datum for survey is that established by Owner provided survey shown on Drawings.

B. Engineer will provide construction staking. Call the Engineer to request staking at least 3 working days in advance of the time needed for the work.

C. Construction stakes removed or damaged by Contractor shall be replaced at Contractor's expense.

D. When finished surfaces are cut so that a smoother transition and new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.

E. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Engineer review and request instructions from Engineer.

F. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

G. Finish surfaces as specified in individual product sections.

H. Where there are changes in open drain cross sections, excavate a 20-foot smooth transition between sections.

1.4 CUTTING AND PATCHING

A. Coordinate with Engineer 48 hours prior to cutting and patching.

B. Employ skilled and experienced installer to perform cutting and patching.

C. Submit written request in advance of cutting or altering elements which affects:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual quantities of sight-exposed elements.
   5. Work of Owner or separate contractor.

D. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.

E. Execute work by methods which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

F. Cut rigid materials using masonry saw or core drill.

G. Restore Work with new products in accordance with requirements of Contract Documents.

H. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

J. Identify any hazardous substance or condition exposed during the Work to the Engineer for decision or remedy.

1.5 PRECONSTRUCTION MEETING

A. Engineer will schedule and preside over meeting after Notice of Award.

B. Attendance Required: Engineer, Owner, appropriate governmental agency representatives, applicable public and private utility companies and Contractor, subcontractors to be utilized on the project.

1.6 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work, if required.

B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.

C. Attendance Required: Job superintendent, major Subcontractors, Contractors and suppliers, and Engineer, Owner, as appropriate to agenda topics for each meeting.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 ALTERATION PROCEDURES

A. If the Entire facility will be occupied for normal operations during progress of construction. Cooperate with Owner in scheduling operations to minimize conflict and to permit continuous usage.
   1. Perform Work not to interfere with operations of occupied areas.
   2. Keep utility and service outages to a minimum and perform only after written approval of Owner.
   3. Clean Owner-occupied areas daily. Clean spillage, overspray, and heavy collection of dust in Owner-occupied areas immediately.

B. Materials: As specified in product Sections.

C. Employ skilled and experienced installer to perform alteration and renovation Work.

D. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion. Comply with Section 01 70 00 - Execution and Closeout Requirements

E. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

F. Remove debris and abandoned items from area and from concealed spaces.

G. Prepare surface and remove surface finishes to permit installation of new Work and finishes.

H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

I. Remove, cut, and patch Work to minimize damage and to permit restoring products and finishes to original or specified condition.

J. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified or new condition for each material, with neat transition to adjacent finishes.

K. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

L. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Engineer for review.

M. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition to Engineer for review.

N. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.

O. Finish surfaces as specified in individual product Sections.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Definitions.

B. Submittal procedures.

C. Construction progress schedules.

D. Proposed product list.

E. Product data.

F. Shop Drawings.

G. Samples.

H. Other submittals.

I. Test reports.

J. Certificates.

K. Manufacturer's instructions.

L. Manufacturer's field reports.

M. Erection Drawings.

N. Contractor review.

O. Engineer review.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.

B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Transmit each submittal with Engineer-accepted form.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and deliver to Engineer. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Revise and resubmit submittals as required, identify all changes made since precious submittal.

H. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.

I. Allow space on submittals for Contractor and Engineer review stamps.

J. When revised for resubmission, identify changes made since previous submission.

K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within 15 days after date established in Notice to Proceed for Engineer and Owner review.

B. Revise and resubmit as required.

C. Submit revised schedules with each Application for Payment, identifying changes since previous version.

D. Submit horizontal bar chart with separate line for each major section of Work or operation, identifying first workday of each week.

E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of Work at each submission.

G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

1.5 PROPOSED PRODUCT LIST

A. Within 5 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.

B. Submit number of copies Contractor requires, plus three copies Engineer will retain.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SHOP DRAWINGS

A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
   1. Include signed and sealed calculations to support design.
   2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
   3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 SAMPLES

A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Samples for Selection as Specified in Product Sections:
   1. Submit to Engineer for aesthetic, color, and finish selection.
   2. Submit Samples of finishes, textures, and patterns for Engineer selection.

C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.

D. Include identification on each Sample, with full Project information.

E. Submit number of Samples specified in individual Specification Sections; Engineer will retain one Sample.

F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.

G. Samples will not be used for testing purposes unless specifically stated in Specification Section.

H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.9 OTHER SUBMITTALS

A. Closeout Submittals: Comply with Section 01 70 00 - Execution and Closeout Requirements.

B. Informational Submittal: Submit data for Engineer's knowledge for Owner.

C. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

A. Informational Submittal: Submit reports for Engineer's knowledge for Owner.

B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

A. Informational Submittal: Submit certification when specified in individual specification sections from manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

A. Informational Submittal: Submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.

B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer in quantities specified for Product Data.

C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

A. Informational Submittal: Submit reports for Engineer's knowledge for Owner.

B. Submit report in duplicate within 5 days of observation to Engineer for information.

C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

D. Identify conflicts between manufacturer’s instructions and Contract Documents.

1.14 ERECTION DRAWINGS

A. Informational Submittal: Submit Drawings for Engineer's knowledge for Owner.

B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.15 CONTRACTOR REVIEW

A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.

B. Contractor: Responsible for:
1. Determination and verification of materials including manufacturer's catalog numbers.
2. Determination and verification of field measurements and field construction criteria.
3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
4. Determination of accuracy and completeness of dimensions and quantities.
5. Confirmation and coordination of dimensions and field conditions at Site.
6. Construction means, techniques, sequences, and procedures.
7. Safety precautions.
8. Coordination and performance of Work of all trades.

C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.

D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

1.16 ENGINEER REVIEW

A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to

perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner and Contractor.

B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.

C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.

D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control.

B. Tolerances.

C. References.

D. Field Samples.

E. Labeling.

F. Testing and inspection services.

G. Bench marks and control elevations.

H. Manufacturers' field services.

1.2 QUALITY CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.

B. Comply fully with manufacturers' instructions, including each step in sequence.

C. Should manufacturer's instructions conflict with Contract Documents, requires clarification form Engineer before proceeding.

D. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work using persons qualified to produce required and specified quality.

F. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.

G. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

H. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.

C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 FIELD SAMPLES

A. Acceptable samples represent a quality level for the Work.

1.6 LABELING

A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.

B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
   1. Model number.
   2. Serial number.
   3. Performance characteristics.

C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.7 TESTING AND INSPECTION SERVICES

A. Contractor will employ and pay for services of Engineer to perform materials inspection and testing including compaction.

B. Then Engineer will perform inspections, tests, and other services specified in individual specification sections and as required.

C. Reports will be submitted by Engineer, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

D. Cooperate with the Engineer; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
   1. Make arrangements with the Engineer and pay for additional samples and tests required for Contractor's use.

E. Retesting required because of non-conformance to specified requirements shall be performed by the same Engineer. Payment for retesting will be charged to the Contractor.

1.8 BENCHMARKS AND CONTROL ELEVATIONS

A. Elevations for proposed work shall be from bench marks established for this project.

B. Verify elevations of existing features against project benchmarks.

C. Notify Engineer of conflicts in elevations, which affect the proposed work.

1.9 MANUFACTURER'S FIELD SERVICES

A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment commissioning and as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Engineer.

C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Electricity:

B. Construction Facilities:
   1. Parking.
   2. Progress cleaning and waste removal.
   3. Fire-prevention facilities.

C. Temporary Controls:
   1. Barriers.
   2. Water control.
   3. Dust control.
   4. Noise control.
   5. Pest and rodent control.
   6. Pollution control.

D. Removal of utilities, facilities, and controls.

E. Protection of Installed Work.

F. Protection of Existing.

G. Progress Cleaning.

1.2 TEMPORARY ELECTRICITY

A. Provide and pay for power service required from utility source as needed for construction operation.

B. Complement existing power service capacity and characteristics as required for construction operations.

C. Provide power outlets with branch wiring and distribution boxes located as required for construction operations. Provide suitable, flexible power cords as required for portable construction tools and equipment.

D. Provide main service disconnect and overcurrent protection at convenient location switch at source distribution equipment meter.

E. Permanent convenience receptacles may be used during construction.

1.3 PARKING

A. Maintenance:
   1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, ice, and the like.
   2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original condition.

B. Removal, Repair:
   1. Remove temporary materials and construction at Substantial Completion.
   2. Remove underground Work and compacted materials to depth of 2 feet fill and grade Site as indicated.
   3. Repair existing and permanent facilities damaged by use, to original condition.

C. Mud from Site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.4 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, before enclosing spaces.

C. Broom and vacuum clean interior areas before starting surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from Site and dispose of off-Site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.5 FIRE-PREVENTION FACILITIES

A. Prohibit smoking within buildings under construction and demolition. Designate area on Site where smoking is permitted. Provide approved ashtrays in designated smoking areas.

B. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

C. Standpipes: Maintain existing standpipes in usable condition to height within one floor of floor being demolished.

D. Portable Fire Extinguishers: NFPA 10; 10-pound capacity, 4A-60B: C UL rating.
   1. Provide one fire extinguisher at each stairway on each floor of buildings under construction and demolition.

2. Provide minimum of one fire extinguisher in every construction trailer and storage shed.
3. Provide minimum of one fire extinguisher on roof during roofing operations using heat-producing equipment.

1.6 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing building.
1. Barricade Construction: As indicated on Drawings.
2. Covered Walkway Construction: As indicated on Drawings.

C. Protect non-owned vehicular traffic, stored materials, Site, and structures from damage.

D. Provide access to all adjacent buildings for use during construction.

1.7 WATER CONTROL

A. Maintain excavations free of water. Provide, operate, and maintain necessary pumping equipment.

B. Protect Site from puddles or running water. Provide water barriers as required to protect Site from soil erosion.

C. Trenches shall be dewatered to provide a stable base for structures and piping.

1.8 DUST CONTROL

A. Execute Work by methods that minimize raising dust from construction operations.

B. Provide positive means to prevent airborne dust from dispersing into atmosphere and into Owner-occupied areas.

1.9 EROSION AND SEDIMENT CONTROL

A. Conform to Part 91 of Public Act 451 of 1994, relative to Soil Erosion and Sedimentation Control for the life of the project.

B. Minimize amount of bare soil exposed at one time.

C. Do not deposit trash, debris, or sediment in tile or open drains.

D. Immediately repair trenches located within the traveled surface of roadways.

1.10 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.11 PEST AND RODENT CONTROL

A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work and entering facility.

B. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.12 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials before Substantial Completion inspection.

B. Remove underground installations to minimum depth of 4 feet. Grade Site as indicated on Drawings.

C. Clean and repair damage caused by installation or use of temporary Work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

E. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.

1.14 PROTECTION OF INSTALLED WORK

A. Protect installed work and provide special protection where specified in individual specification Sections.

B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

C. Prohibit traffic from landscaped areas.

1.15 PROTECTION OF EXISTING

A. CALL “MISS DIG” 811 or (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO CONSTRUCTION.

B. Obtain a copy of Positive Response. Contact Miss Dig for additional assistance if there are any utilities not marked or cleared through the Positive Response System.

C. Contact Miss Dig for additional assistance if there is a discrepancy in the field from the Positive Response System.

D. Contact Miss Dig for additional assistance if utility is not found within the applicable "approximate locations" marked in the field.

E. Protect landscaped areas. Damaged areas shall be replaced in kind.

F. Protect utilities encountered during the work. Replace or repair damaged utilities.

G. Protect drives, roadways, and sidewalks. Repair as required in following sections.

H. Protect mailboxes. Relocate temporarily until mailboxes can be returned to original location. All mail boxes and posts must be returned to their original condition or better at no additional cost to the project.

I. Protect trees, shrubs, and bushes:
   1. Where trees, shrubs, and bushes are too large to be replaced in kind, the proposed utility shall be installed in a boring or tunneling operation unless written consent is given by the property owner for removal. Owner and Engineer shall each be given one copy of consent letters.

J. Utilities must remain in service. If it becomes necessary to interrupt a utility service, the utility authority must be notified immediately and steps taken to restore temporary or permanent service as soon as possible.

K. Maintain outlets for drains. Provide temporary pumping if necessary.

L. Expose utility mains and services by hand in the trench.

M. Where utility and drainage piping crosses the trench, support he piping according to the utility authority's standards and backfill to the top with compacted sand.

1.16 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Clean road surface daily to the Owner's and/or Engineer's satisfaction.

C. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

1.2 PRODUCTS

A. At minimum, comply with specified requirements and reference standards.

B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.

C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.

D. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.

E. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.

F. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products according to manufacturer's instructions.

B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products according to manufacturer's instructions.

B. Store products with seals and labels intact and legible.

C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.

D. For exterior storage of fabricated products, place products on sloped supports aboveground.

E. Provide off-Site storage and protection when Site does not permit on-Site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Field engineering.

B. Closeout procedures.

C. Project record documents.

D. Maintenance service

E. Warranties

F. Progress Payments.

G. Examination.

H. Preparation.

I. Execution.

J. Cutting and patching.

K. Protecting installed construction.

L. Final cleaning.

1.2 FIELD ENGINEERING

A. Engineer will locate and Contractor shall protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.

B. Control datum for survey is established by Owner-provided survey indicated on Drawings.

C. Prior to beginning Work, verify and establish floor elevations of existing facilities to ensure that new Work will meet existing elevations in smooth and level alignment except where specifically detailed or indicated otherwise.

D. Verify setbacks and easements; confirm Drawing dimensions and elevations.

E. Field engineering services provided by Engineer includes: Establish elevations, lines, and levels using recognized engineering survey practices.

F. Maintain complete and accurate log of control and survey Work as Work progresses.

G. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.

H. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.

I. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.3 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed. Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer’s inspection.

B. Provide submittals to Engineer that are required by governing or other authorities.\

C. Provide Consent of Surety and all Final Waivers.

1.4 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Remove sediment from storm sewers, and catch basins.

C. Clean site; sweep paved areas, rake clean landscaped surfaces.

D. Remove waste and surplus materials, rubbish, and construction facilities from the site.

E. Landscape areas as required in documents.

F. Restore roads, driveways, parking areas, lawns, drainage, and other items disturbed during construction to original condition or as required by the documents.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, product data, and Samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Store record documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates used.

3. Changes made by Addenda and modifications.

E. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
   1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
   2. Include locations of concealed elements of the Work.
   3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
   4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
   5. Identify and locate existing buried or concealed items encountered during Project.
   6. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   7. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   8. Field changes of dimension and detail.
   9. Details not on original Drawings.

F. Submit marked-up paper copy documents to Engineer before Substantial Completion.

1.6 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in Specification Sections for 1 year from date of Substantial Completion.

B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.

D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

1.7 WARRANTIES

A. Execute and assemble documents from Sub-contractors, suppliers, and manufacturers.

B. Provide Table of Contents and assemble in three D size ring three ring binder with durable plastic cloth cover.

C. Submit prior to final Application for Payment.

D. Warranty all work for a period of one year from the date of the final progress payment.

1.8 PROGRESS PAYMENTS

A. The Owner may request from the Contractor waivers for proof of payment to all sub-contractors and suppliers utilized on this project prior to issuing payments.

B. The Owner may request from the Contractor a Sworn Statement listing all sub-contractors and suppliers, their involvement with the project, their subcontracted amount, amount paid to date, and balance due prior to issuing payment.

C. Failure to provide this information may result in not receiving payments or payments not being issued in a timely manner.

1.9 CORRECTION PERIOD

A. For the period of one year from the date of final payment, promptly correct work or replace materials that are found to be defective.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual Specification Sections.

D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 EXECUTION

A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
   1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
   2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
   3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Engineer for final decision.

E. Allow for expansion of materials and building movement.

F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
   1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
   2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.

G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.
   1. Refer questionable mounting heights choices to Engineer for final decision.
   2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.4 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

END OF SECTION

SECTION 02 41 19.13

SELECTIVE BUILDING DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolishing designated building equipment and fixtures.
   2. Demolishing designated construction.
   3. Cutting and alterations for completion of the Work.
   4. Protecting items designated to remain.
   5. Removing demolished materials.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Demolition Schedule: Indicate overall schedule and interruptions required for utility and building services.

C. Shop Drawings:
   1. Indicate demolition and removal sequence.
   2. Indicate location and construction of temporary work.

1.3 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of capped utilities, concealed utilities discovered during demolition.

C. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

1.4 QUALITY ASSURANCE

A. Conform to applicable building code for demolition work, dust control, products requiring electrical disconnection and re-connection.

B. Conform to General Specifications for Lead-Based Paint Abatement.

C. Conform to applicable building code for procedures when hazardous or contaminated materials are discovered.

D. Obtain required permits from authorities having jurisdiction.

E. Perform Work in accordance with Municipality standard.

F. Maintain one copy of each document on site.

1.5 SEQUENCING

A. Section 01 10 00 - Summary: Requirements for sequencing.

B. Owner will conduct salvage operations before demolition begins to remove materials Owner chooses to retain.

C. Contractor shall abate all lead-based paint in areas of demolition. See General Specification for Lead-Based Paint Abatement.

1.6 SCHEDULING

A. Section 01 30 00 - Administrative Requirements: Requirements for scheduling.

B. Schedule Work to coincide with new construction.

C. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owners operation in adjoining spaces.

D. Perform noisy, malodorous, dusty**,** work:
   1. Between hours of 7:00 A.M. and 5:00 P.M.
   2. On following days: M - F.

E. Coordinate utility and building service interruptions with Owner.
   1. Do not disable or disrupt building fire or life safety systems without three days prior written notice to Owner.
   2. Schedule tie-ins to existing systems to minimize disruption.
   3. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

1.7 PROJECT CONDITIONS

A. Conduct demolition to minimize interference with adjacent occupied building areas.

B. Cease operations immediately if structure appears to be in danger and notify Architect/Owner. Do not resume operations until directed.

1.8 GENERAL DEMOLITION

A. Field verify all existing conditions and dimensions. If field conditions are not as shown on the plan, contact the project architect or engineer immediately prior to proceeding with any work.

B. Provide appropriate barricades, signage, and other safety precautions to protect visitors, tradesmen, and existing remaining conditions.

C. Completely remove all work and related work in areas designated on the plan.

D. Disconnect, remove, and cap all existing utilities as indicated and required to permit new work.

E. All work to be completed by appropriate, experienced trades (i.e. electrical demolition by electricians, etc.).

F. Restore existing areas which are damaged during construction. Match existing materials and finishes.

G. Do not use explosives or unsafe demolition methods.

H. Remove all debris from the site. Do not burn refuse on site. Material to be transposed to an approved site. Coordinate salvageable items with the Owner. Store salvageable items within designated areas.

I. The contractor shall provide proper shoring and bracing where needed.

J. All asbestos has to be removed in disturbed areas by a qualified contractor per State of Michigan regulations. All undisturbed areas shall remain and or be sealed off from access.

K. Any portions with lead paint will not be abraded, cut, or ignited to reduce potential harmful impact to workers.

PART 2 - PRODUCTS

2.1 Not Used.

PART 3 - EXECUTION

3.1 PREPARATION

A. Notify affected utility companies before starting work and comply with their requirements.

B. Mark location and termination of utilities.

C. Erect, and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the Owner, and existing improvements indicated to remain.

D. Erect and maintain weatherproof closures for exterior openings.

E. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.

F. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.

G. Provide appropriate temporary signage including signage for exit or building egress.

H. Do not close or obstruct building egress path.

I. Do not disable or disrupt building fire or life safety systems without **3** days prior written notice to Owner.

3.2 SALVAGE REQUIREMENTS

A. Coordinate with Owner to identify building components and equipment required to be removed and delivered to Owner.

B. Tag components and equipment Owner designates for salvage.

C. Protect designated salvage items from demolition operations until items can be removed.

D. Carefully remove building components and equipment indicated to be salvaged.

E. Disassemble as required to permit removal from building.

F. Package small and loose parts to avoid loss.

G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.

H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.

I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

3.3 DEMOLITION

A. Only after lead-based paint abatement, shall Contractor begin demolition (if applicable).

B. Conduct demolition to minimize interference with adjacent and occupied building areas.

C. Maintain protected egress from and access to adjacent existing buildings at all times.

D. Do not close or obstruct roadways or sidewalks without permits.

E. Cease operations immediately when structure appears to be in danger and notify Architect/Owner.

F. Disconnect and remove designated utilities within demolition areas.

G. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.

H. Demolish in orderly and careful manner. Protect existing improvements, supporting structural members.

I. Carefully remove building components indicated to be reused.
   1. Disassemble components as required to permit removal.
   2. Package small and loose parts to avoid loss.
   3. Mark components and packaged parts to permit reinstallation.
   4. Store components, protected from construction operations, until reinstalled.

J. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.

K. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.

L. Remove temporary Work.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes Cast-in-Place Concrete for Following Items:
   1. Foundation walls.
   2. Footings.
   3. Supported slabs.
   4. Slabs on grade.
   5. Equipment pads.
   6. Manholes.

B. Related Requirements:
   1. Section 03 10 00 - Concrete Forming and Accessories.
   2. Section 03 20 00 - Concrete Reinforcing.
   3. Section 03 39 00 - Concrete Curing.
   4. Section 31 23 23 - Fill.

1.2 REFERENCE STANDARDS

A. American Concrete Institute:
   1. ACI 301 - Specifications for Structural Concrete.
   2. ACI 305R - Guide to Hot Weather Concreting.
   3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
   4. ACI 308.1 - Specification for Curing Concrete.
   5. ACI 318 - Building Code Requirements for Structural Concrete.

B. ASTM International:
   1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   2. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   3. ASTM C33 - Standard Specification for Concrete Aggregates.
   4. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   5. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
   6. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
   7. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement Concrete.
   8. ASTM C150 - Standard Specification for Portland Cement.
   9. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
   10. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
14. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
15. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
16. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
17. ASTM C685 - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
18. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
19. ASTM C989 - Standard Specification for Slag Cement for Use in Concrete and Mortars.
20. ASTM C1017 - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
21. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
22. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
23. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete.
24. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
25. ASTM C1218 - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
26. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.
27. ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
28. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
29. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction.
30. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
31. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
32. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
33. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
34. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on joint devices, attachment accessories, admixtures, and mix design.

C. Design Data:
   1. Submit concrete mix design for each concrete strength.
   2. Submit separate mix designs if admixtures are required for following:
      a. Hot and cold weather concrete Work.
      b. Air entrained concrete Work.
   3. Identify mix ingredients and proportions, including admixtures.
   4. Identify chloride content of admixtures and whether or not chlorides were added during manufacture.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Manufacturer Instructions: Submit installation procedures and interfacing required with adjacent Work.

F. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of embedded utilities and components concealed from view in finished construction.

1.6 QUALITY ASSURANCE

A. Perform Work according to ACI 301.

B. Comply with ACI 305R when pouring concrete during hot weather.

C. Comply with ACI 306.1 when pouring concrete during cold weather.

D. Acquire cement and aggregate from one source for Work.

E. Perform Work according to Municipal, State, and Federal standards.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Maintain concrete temperature after installation at minimum 50 degrees F for minimum seven days.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

A. Vapor Retarder Permeance: Maximum 1 perm when tested according to ASTM E96, water method.

2.2 MATERIALS

A. Concrete:
   1. Cement:
      a. Comply with ASTM C150, Type IIA - Air Entraining.
      b. Type: Portland.
   2. Normal Weight Aggregates:
      a. Comply with ASTM C33.
      b. Coarse Aggregate Maximum Size: According to ACI 301.
   3. Water:
      a. Comply with ACI 318.
      b. Potable, without deleterious amounts of chloride ions.

B. Admixtures:
   1. Air Entrainment: Comply with ASTM C260.
   2. Chemical:
      a. Comply with ASTM C494.
      b. Type A - Water Reducing.
      c. Type B - Retarding.
      d. Type C - Accelerating.
      e. Type D - Water Reducing and Retarding.
      f. Type E - Water Reducing and Accelerating.
      g. Type F - Water Reducing, High Range.
      h. Type G - Water Reducing, High Range, and Retarding.
   3. Fly Ash: Comply with ASTM C618, Class F or C.
   4. Silica Fume: Comply with ASTM C1240.
   5. Slag:
      a. Description: Ground-granulated blast-furnace slag.
      b. Comply with ASTM C989.
      c. Grade 100 or 120.
   6. Plasticizing:
      a. Comply with ASTM C1017.
      b. Type II, plasticizing and retarding.

2.3 CONCRETE MIX

A. Select proportions for normal weight concrete according to ACI 301, Method 1.

B. Concrete mixtures, general
   1. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both.

2. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
    a. Fly Ash: 25%
    b. Ground Granulated Blast-Furnace Slag: 50%
    c. Combined Fly Ash and Ground Granulated Blast-Furnace Slag: 50%
    d. Portland cement minimum, with fly ash not exceeding 25%
3. Limit water-soluble, chloride-ion content in hardened concrete to 0.15% by weight of cement.
4. Admixtures: Use admixtures according to manufacturer's written instructions.
    a. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
    b. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
    c. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
    d. Use air-entraining admixture in exterior exposed concrete unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having a total air content with a tolerance of plus or minus 1-1/2 percent within the following limits:
        1) Concrete structures and slabs exposed to freezing and thawing, deicer chemicals, or hydraulic pressure: 5.0 percent.
        2) Other concrete not exposed to freezing, thawing, or hydraulic pressure, or to receive a surface hardener: 2 to 4 percent.

C. Concrete mixtures for building elements:
1. Class A – Structural Concrete:
    a. Minimum Compressive Strength: 3000 psi at 7 days.
    b. Minimum Compressive Strength: 4000 psi at 28 days.
    c. Slump Limit: 4-1 inches.
2. Class B – Mud Mat Concrete or Slab On Fill Concrete:
    a. Minimum Compressive Strength: 3000 psi at 7 days.
    b. Minimum Compressive Strength: 4000 psi at 28 days.
    c. Slump Limit: 4-1 inches.
3. Class C – Fill or Superstructure Concrete
    a. Minimum Compressive Strength: 3000 psi at 7 days.
    b. Minimum Compressive Strength: 4000 psi at 28 days.
    c. Slump: 4-1 inches.

D. Admixtures:
1. Include admixture types and quantities indicated in concrete mix designs only if approved by Engineer.
2. Cold Weather:
    a. Use accelerating admixtures in cold weather.
    b. Use of admixtures will not relax cold-weather placement requirements.
3. Hot Weather: Use set-retarding admixtures.
4. Use calcium chloride only if approved by Engineer.
5. Add air entrainment admixture to concrete mix for Work exposed to freezing and thawing or deicing chemicals.

6. For concrete exposed to deicing chemicals, limit fly ash, pozzolans, silica fumes, and slag content as required.

E. Average Compressive Strength Reduction: Not permitted.

F. Ready-Mixed Concrete: Mix and deliver concrete according to ASTM C685.

G. Site-Mixed Concrete: Mix concrete according to ACI 318.

2.4 ACCESSORIES

A. Bonding Agent:
1. Description: Two-component modified epoxy resin.

B. Non-shrink Grout:
1. Description: Premixed compound consisting of non-metallic aggregate, cement, and water-reducing and plasticizing agents.
2. Comply with ASTM C1107.
3. Minimum Compressive Strength: 2,400 psi.

C. Bentonite Waterstops: Continuous 1 inch x ¾ inch strips, containing 75% bentonite by weight. Proper care and construction procedures shall be used to avoid damaging or displacing the strip while placing concrete. If the material exhibits considerable swelling prior to confinement in the joint, it must be replaced as directed by the Engineer. Joint shall be cleaned from debris and dry prior to replacement. Install per manufacturer's instructions as approved by the Engineer.

D. Wall Sleeves: HDPE thermoplastic sleeves, "CS" model, used for non-concrete pipe penetrations requiring "Link-seals".

E. Expansion Joints: ANSI/ASTM D1751, fiber type; 1/4 inch to 1 inch thick.

F. Form Release Agent: Colorless material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.

G. Corners: Chamfered, wood strip type 3/4" x 3/4" size.

H. Vapor Retarder: Clear polyethylene film, 6 mils thick, with joint tape. Joint tape as recommended by manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify requirements for concrete cover over reinforcement.

C. Verify that anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Previously Placed Concrete:
   1. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
   2. Remove laitance, coatings, and unsound materials.

C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.

D. Remove debris and ice from formwork, reinforcement, and concrete substrates.

E. Remove water from areas receiving concrete before concrete is placed.

3.3 INSTALLATION

A. Placing Concrete:
   1. Place concrete according to ACI 301.
   2. Notify testing laboratory and Engineer minimum 48 hours prior to commencement of operations.
   3. Ensure that reinforcement, inserts, embedded parts, formed expansion and contraction joints, and existing utilities are not disturbed during concrete placement.
   4. Install vapor retarder under interior slabs on grade according to ASTM E1643.
   5. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
   6. Repairs:
      a. Repair vapor retarder damaged during placement of concrete reinforcement.
      b. Using vapor retarder material, lap over damaged areas minimum 6 inches and seal watertight.
   7. Joint Filler:
      a. Separate slabs on grade from vertical surfaces with joint filler.
      b. Place joint filler in floor slab pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
      c. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface.
   8. Joint Devices:
      a. Coordination: Install construction joint devices in coordination with floor slab pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
      b. Install joint device anchors, maintaining correct position to allow joint cover to be flush with floor and wall finish.
      c. Install joint covers in longest practical length when adjacent construction activity is complete.
   9. Deposit concrete at final position, preventing segregation of mix.
   10. Place concrete in continuous operation for each panel or section as determined by predetermined joints.

11. Consolidate concrete.
12. Maintain records of concrete placement, including date, location, quantity, air temperature, and test samples taken.
13. Place concrete continuously between predetermined expansion, control, and construction joints.
14. Do not interrupt successive placement and do not permit cold joints to occur.
15. Place floor slabs in indicated checkerboard or saw-cut pattern.
16. Saw-Cut Joints:
    a. Saw-cut joints within 12 hours after placing.
    b. Use 3/16 inch thick blade.
    c. Cut into 1/4 depth of slab thickness.
17. Screeding:
    a. Screed floors and slabs on grade level.
    b. Surface Flatness: maximum 1/4 inch in 10 feet.

B. Separate Floor Toppings:
1. Prior to placing floor topping, remove deleterious material, roughen substrate concrete surface, and broom and vacuum clean.
2. Place required dividers and reinforcement and other items to be cast in concrete.
3. Apply bonding agent to substrate.

C. Concrete Finishing:
1. Provide formed concrete surfaces to be left exposed with smooth finish.

D. Curing and Protection:
1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Protect concrete footings from freezing for minimum of five days.
3. Maintain concrete with minimal moisture loss at relatively constant temperature for period as necessary for hydration of cement and hardening of concrete.

3.4 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.

B. Inspection and Testing: Performed by Owner's testing laboratory according to ACI 318.

C. Provide unrestricted access to Work and cooperate with appointed testing and inspection firm.

D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.

E. Concrete Inspections:
1. Continuous Placement Inspection: Inspect for proper installation procedures.
2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.

F. Strength Test Samples:
1. Sampling Procedures: Comply with ASTM C172.
2. Cylinder Molding and Curing Procedures:

a. Comply with ASTM C31.
b. Cylinder Specimens: Field cured.

3. Sample concrete and make one set of three cylinders for every 75 cu. yd. or less of each class of concrete placed each day, and for every 5,000 sq. ft. of surface area for slabs and walls.
4. If volume of concrete for a class of concrete would provide less than five sets of cylinders, take samples from five randomly selected batches, or from every batch if less than five batches are used.
5. Make one additional cylinder during cold weather concreting and field cure.

G. Field Testing:
1. Slump Test Method: Comply with ASTM C143.
2. Air Content Test Method: Comply with ASTM C173.
3. Temperature Test Method: Comply with ASTM C1064.
4. Compressive Strength Concrete:
a. Measure slump and temperature for each sample.
b. Measure air content in air-entrained concrete for each sample.

H. Cylinder Compressive Strength Testing:
1. Test Method: Comply with ASTM C39.
2. Test Acceptance: According to ACI 318.
3. Test one cylinder at seven days.
4. Test one cylinder at 28 days.
5. Retain one cylinder for 30 days for testing when requested by Engineer.
6. Dispose of remaining cylinders if testing is not required.

I. Core Compressive Strength Testing:
1. Sampling and Testing Procedures: Comply with ASTM C42.
2. Test Acceptance: According to ACI 318.
3. Drill three cores for each failed strength test from failed concrete.

J. Patching:
1. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.
2. Honeycombing or Embedded Debris in Concrete:
a. Not acceptable.
b. Notify Engineer upon discovery.
3. Patch imperfections according to ACI 301.

K. Defective Concrete:
1. Description: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
2. Repair or replacement of defective concrete will be determined by Engineer.
3. Do not patch, fill, touch up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION

SECTION 03 39 00

CONCRETE CURING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Initial and final curing of horizontal concrete surfaces.

1.2 RELATED SECTIONS

A. Section 033000 – Cast-In-Place Concrete.

1.3 REFERENCES

A. ACI 301 – Structural Concrete for Buildings.

B. ACI 302 - Recommended Practice for Concrete Floor and Slab Construction.

C. ACI 308 - Standard Practice for Curing Concrete.

D. ASTM C171 - Sheet Materials for Curing Concrete.

E. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

1.4 SUBMITTALS

A. Submit under provisions of Section 013300.

B. Product Data: Provide data on curing compounds, product characteristics, compatibility and limitations.

C. Manufacturer's Installation Instructions: Indicate criteria for preparation and application.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 301 and 308.

B. Maintain one copy of document on site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products under provisions of Section 016000.

B. Deliver curing materials in manufacturer's packaging including application instructions.

2. PART 2 PRODUCTS

2.1 MATERIALS

A. Liquid Membrane Forming Curing Compound ASTM C309 Type 1 Class B, liquid acrylate type, clear, without fugitive dye; curing compounds shall not contain ingredients which might stain through, injure the concrete or prevent a good bond for subsequent

coatings or finishes; manufactured by Sonneborn Building Products or equal.

B. Absorptive Mats ASTM C171, cotton fabric or burlap-polyethylene, minimum 8 oz/sq yd. bonded to prevent separation during handling and placing.

C. Water: Potable and not detrimental to concrete.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Section 017000 – Execution and closeout requirements for application examination.

B. Verify that substrate surfaces are ready to be cured.

3.2 EXECUTION - HORIZONTAL SURFACES

A. Cure slabs in accordance with ACI 308.

B. Spraying: Spray water over floor slab areas and maintain wet for 7 days.

C. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions.

3.3 EXECUTION - VERTICAL SURFACES

A. Cure surfaces in accordance with ACI 308.

B. Spraying: Spray water over surfaces and maintain wet for 7 days.

C. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions.

3.4 PROTECTION OF FINISHED WORK

A. Protect finished Work under provisions of Section 015000.

END OF SECTION

SECTION 04 01 00

MAINTENANCE OF MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Water cleaning of surfaces.
   2. Replacement of damaged masonry.
   3. Power wash cleaning of concrete surfaces.
   4. Repointing of mortar joints.
   5. Repair of damaged masonry**.**

B. Related Requirements:
   1. Section 040500 - Masonry Mortaring and Grouting: Mortar and grout materials, procedures for new Work, mortar mix requirements, and mortar application.
   2. Section 079000 - Joint Protection: Sealants, sealers, and gaskets for sealing joints.
   3. Section 099000 - Painting and Finishes.
   4. Section 015000 - Temporary Facilities and Controls.

1.2 REFERENCE STANDARDS

A. American Concrete Institute:
   1. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures.
   2. NCMA TEK 8-4A - Cleaning Concrete Masonry.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer information on cleaning compounds, and cleaning solutions.

C. Shop Drawings:
   1. Indicate setting details of cut stone, details of special brick shapes, and special supports.
   2. Indicate details for shoring, bracing, and temporary or permanent supports.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Manufacturer Instructions: Submit installation procedures for products selected for use, conditions requiring special attention, and protection requirements.

F. Qualifications Statements:
   1. Submit qualifications for manufacturer and applicator.
   2. Submit manufacturer's approval of applicator.

1.4 QUALITY ASSURANCE

A. Perform Work according to ACI 530/530.1.

B. Maintain a copy of each standard affecting Work of this Section on Site.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years' documented experience.

B. Applicator: Company specializing in performing Work of this Section with minimum two years' documented experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept new, re-used masonry units on Site, neatly stacked and tied on pallets, and inspect for damage.

C. Storage:
1. Store materials according to manufacturer instructions.
2. Store abrasive blasting and cleaning materials in manufacturer packaging.
3. Store mortar ingredients in manufacturer packaging, or if delivered loose, with adequate weatherproof covering.

1.7 AMBIENT CONDITIONS

A. Section 015000 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Cold Weather Requirements: Comply with ACI 530/530.1 if ambient temperature or temperature of masonry units is less than 40 degrees F (4 degrees C).

C. Hot Weather Requirements: Comply with ACI 530/530.1 if ambient temperature is greater than 100 degrees F (38 degrees C), or if ambient temperature is greater than 90 degrees F (32 degrees C) with wind velocity greater than 8 mph (13 km/h).

PART 2 - PRODUCTS

2.1 MASONRY RESTORATION AND CLEANING

A. Manufacturers:
1. Prosoco, Inc: 3741 Greenway Circle
Lawrence, KS 66046-5441

Tel.: (800) 255-4255
Fax: (800) 830-9797
www.prosoco.com

2. Substitutions: As specified in Section 016000 - Product Requirements.

2.2 MATERIALS

A. Cleaning Agent: Detergent Trisodium Phosphate type.

B. Mortar and Grout Materials: As specified in Section 040500 - Masonry Mortaring and Grouting.

C. Masonry Units: Section 040500 - Masonry Mortaring and Grouting.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for application examination.

B. Verify that surfaces to be cleaned and pointed are ready for Work of this Section.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for application preparation.

B. Protect elements surrounding Work of this Section from damage or disfiguration.

C. Exterior Concrete Surfaces Scheduled to Receive Sealing: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

D. Immediately remove stains, efflorescence, or other excess resulting from Work of this Section.

E. Protect roof membrane and flashings from damage by laying 1/2-inch (13-mm) plywood on roof surfaces over full extent of Work area and traffic route.

F. Provide Architect/Owner approved dams to divert flowing water to exterior drains and floor drains.

G. Carefully remove and store fixtures, fittings, hardware, and accessories.

H. Close off, seal, mask, and board up areas, landscaping, materials, and surfaces adjacent to Work of this Section to protect from damage.

I. Construct dustproof and weatherproof partitions to close off occupied areas during Work.

3.3 INSTALLATION

A. Rebuilding:
   1. Cut out damaged and deteriorated masonry in manner to prevent damage to adjacent remaining materials.
   2. Needle, shore, or support structure in advance of cutting out units to maintain stability of remaining materials.
   3. Cut away loose or unsound adjoining masonry, and mortar as directed by Architect/Owner to provide firm and solid bearing for new Work.
   4. Build in new, reclaimed masonry units following procedures for new Work as specified in Section 040500 - Masonry Mortaring and Grouting, and Section 042000 - Unit Masonry.
   5. Mortar Mix: Colored and proportioned to match existing work or as specified in Section 040500 - Masonry Mortaring and Grouting.
   6. Ensure that anchors, ties, reinforcing, stone cramps and dowels, and flashings are correctly located and built in.
   7. Install built-in masonry e work to match and align with existing work, with joints and coursing true and level and faces plumb and in line.
   8. Build in openings, accessories, and fittings.

B. Repointing:
   1. Cut out loose or disintegrated mortar in joints to minimum 1/2-inch (6-mm) depth or until sound mortar is reached.
   2. Use hand tools and/or power tools only after test cuts determine no resulting damage to masonry units.
   3. Do not damage masonry units.
   4. When cutting is complete, remove dust and loose material by brushing or with air jet.
   5. Mortaring:
      a. Premoisten joint and apply mortar as specified in Section 040500 - Masonry Mortaring and Grouting.
      b. Pack tightly in maximum 1/4-inch (6-mm) layers.
      c. Form smooth, compact joint to match existing.
      d. Moist cure for 72 hours.
   6. Wet Sand Cleaning: Remove existing exterior paint using wet sand method.

C. Cleaning of New Masonry:
   1. Verify that mortar is fully set and cured.
   2. Clean surfaces and remove large particles with wood scrapers or brass or nylon wire brushes.
   3. Non-acidic Solution:
      a. Scrub walls with Trisodium Phosphate type detergent solution using stiff brush.
      b. Thoroughly rinse and wash off cleaning solution, dirt, and mortar crumbs using clean, pressurized water.

3.4 CLEANING

A. Section 017000 - Execution and Closeout Requirements: Requirements for cleaning.

B. As Work proceeds and upon completion of Work, remove excess mortar, smears, and droppings.

C. Clean surrounding surfaces.

END OF SECTION

SECTION 04 05 00
MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Mortar and grout for masonry.

1.2 RELATED WORK

A. Section 042000 – Unit Masonry.

B. Section 033000 – Cast-In-Place Concrete.

1.3 REFERENCES

A. ASTM C91 - Masonry Cement.

B. ASTM C144 - Aggregate for Masonry Mortar.

C. ASTM C150 - Portland Cement.

D. ASTM C207 - Hydrated Lime for Masonry Purposes.

E. ASTM C270 - Mortar for Unit Masonry.

F. ASTM C387 - Packaged, Dry, Combined Materials, for Mortar and Concrete.

G. ASTM C404 - Aggregates for Masonry Grout.

H. ASTM C476 - Grout for Masonry.

I. ASTM C1019 - Method of Sampling and Testing Grout.

J. IMIAC - International Masonry Industry All-Weather Council: Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.

1.4 SUBMITTALS

A. Include design mix, indicate Proportion or Property Method used, required environmental conditions, and admixture limitations.

B. Submit test reports on grout indicating conformance to ASTM C476.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site, store and protect per manufacturer’s recommendations.

B. Maintain packaged materials clean, dry, and protected against dampness, freezing, and

foreign matter.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Maintain materials and surrounding air temperatures to minimum 50 degrees F (10 degrees C) prior to, during, and 48 hours after completion of masonry work.

1.7 MIX TESTS

A. Test mortar and grout.

B. Testing of Mortar Mix: In accordance with ASTM C780.

C. Test mortar mix for compressive strength 1800 psi.

D. Testing of Grout Mix: In accordance with ASTM C1019.

PART 2 PRODUCTS

2.1 MORTAR

A. Exterior Walls - S mortar standard color block.

2.2 MATERIALS

A. Portland Cement: ASTM C150, Type II, Gray, color.

B. Masonry Cement: ASTM C91, Type S.

C. Mortar Aggregate: ASTM C144, standard masonry type.

D. Grout Aggregate: ASTM C404.

2.3 GROUT FINE AGGREGATE:

A. Masons sand; 70 percent by volume.

B. Water: Clean and potable.

C. Bonding Agent: Portland Cement and 1/10 lime.

2.4 MORTAR COLOR

A. Exterior Mortar Color: Standard block color.

2.5 ADMIXTURES

A. Plasticizer: Water reducing type which reduces porosity and absorption to increase bond strength; grout manufacturer’s standard.

B. Water Repellent: Liquid type; Rheopel manufactured by Master Builders Inc., or equal.

2.6 MORTAR MIXES

A. Mortar for Load Bearing Walls and Partitions: ASTM C270, Type S using the Property Method.

B. Mortar: ASTM C270, Type S using the Property Method.

2.7 MORTAR MIXING

A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.

B. Add mortar color and admixtures in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.

C. Do not use anti-freeze compounds to lower the freezing point of mortar.

D. If water is lost by evaporation, retemper only within two hours of mixing.

E. Use mortar within two hours after mixing at temperatures of 80 degrees F (26 degrees C), or two-and-one-half hours at temperatures under 50 degrees F (10 degrees C).

2.8 GROUT MIXES

A. Engineered Masonry: 3000 psi strength at 28 days; 7-8 inches slump; mixed in accordance with ASTM C476 Fine grout.

2.9 GROUT MIXING

A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C476 Fine grout.

B. Add admixtures in accordance with manufacturer's instructions. Provide uniformity of mix.

PART 3 EXECUTION

3.1 EXAMINATION

A. Request inspection of spaces to be grouted.

3.2 PREPARATION

A. Apply bonding agent to existing surfaces.

B. Plug cleanout holes with block masonry units to prevent leakage of grout materials. Brace masonry for wet grout pressure.

3.3 INSTALLATION

A. Install mortar and grout in accordance with manufacturer's instructions.

B. Do not displace reinforcement while placing grout.

C. Remove excess mortar.

END OF SECTION

SECTION 04 20 00

UNIT MASONRY

1. PART 1 GENERAL

1. 1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1. 2 SUMMARY

A. This Section includes the following:
   1. Concrete Unit Masonry.
   2. Accessories

1. 3 RELATED SECTIONS

A. Section 04 05 00 - Mortar and Grout.

B. Section 07 90 00 - Caulking and Sealants.

1. 4 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops the following installed compressive strengths (f'm) at 28 days.
   1. For Concrete Unit Masonry: As follows, based on net area:
      a. f'm = 1500 psi (10.3 MPa).

1. 5 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not install until they are in an air-dried condition.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1. 6 PROJECT CONDITIONS

A. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
   1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on ground and over wall surface.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with the following requirements:
   1. Cold-Weather Construction: When the ambient temperature is within the limits indicated, use the following procedures:
      a. 40 to 32 deg F (4 to 0 deg C): Heat mixing water or sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C).
      b. 32 to 25 deg F (0 to -4 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry.
      c. 25 to 20 deg F (-4 to -7 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C) if grouting. Use heat on both sides of walls under construction.
      d. 20 deg F (-7 deg C) and Below: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C). Provide enclosures and use heat on both sides of walls under construction to maintain temperatures above 32 deg F (0 deg C) within the enclosures.
   2. Cold-Weather Protection: When the mean daily temperature is within the limits indicated, provide the following protection:
      a. 40 to 25 deg F (4 to -4 deg C): Cover masonry with a weather-resistant membrane for 48 hours after construction.
      b. 25 to 20 deg F (-4 to -7 deg C): Cover masonry with insulating blankets or provide enclosure and heat for 48 hours after construction to prevent freezing. Install wind breaks when wind velocity exceeds 15 mi./h (25 km/h).
      c. 20 deg F (-7 deg C) and Below: Provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after construction.

3. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried out, but not less than 7 days after completion of cleaning.

D. Hot-Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.

2. PART 2 PRODUCTS

2. 1 CONCRETE MASONRY UNITS

A. Concrete Masonry Units: ASTM C 90 and as follows:
1. Furnish and install standard concrete masonry units (C.M.U.) per ACI 530 with horizontal ties and mortar or grout filled cavity where indicated. See exterior elevations and sections/details.
2. Unit Compressive Strength: Provide units with minimum average net-area compressive strength indicated below:
   a. 1900 psi (13.1 MPa).
   b. Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated.
3. Normal weight units shall be used at concealed and underground conditions.
4. Light-weight units shall be used at conditions exposed to view.
5. Size: Nominal modular size of 8” wide x 16” long x 8” high.
6. Special Units: Provide special units for 90 degree corners, bond beams, lintels, and bullnosed corners.
7. C.M.U. Color: standard block color.

2. 2 REINFORCING STEEL

A. Steel Reinforcing Bars: Material and grade as follows:
1. Billet steel complying with ASTM A 615 (ASTM A 615M).
2. Epoxy-coated billet steel complying with ASTM A 615 (ASTM A 615M) and ASTM A 775 (ASTM A 775M).
   a. Grade 60 (Grade 400).

B. Deformed Reinforcing Wire: ASTM A 496, with ASTM A 153, Class B-2 zinc coating.

C. Welded-Wire Fabric: ASTM A 185.

D. Ladder style horizontal reinforcement shall be installed continuous at every second C.M.U. course.

2. 3 MISCELLANEOUS ANCHORS

A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron inserts of type and size indicated.

B. Anchor Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153, Class C; of diameter and length indicated and in the following configurations:
   1. Headed bolts.
   2. Nonheaded bolts, straight.
   3. Nonheaded bolts, bent in manner indicated.

2. 4 EMBEDDED FLASHING MATERIALS

A. Asphalt-Coated Copper Flashing: Manufacturer's standard product consisting of sheet copper of weight indicated below, coated with flexible asphalt.
   1. Weight: 3 oz./sq. ft. (0.9 kg/sq. m).
   2. Weight: 5 oz./sq. ft. (1.5 kg/sq. m).
   3. Weight: 7 oz./sq. ft. (2 kg/sq. m).
   4. Application: Use where flashing is fully concealed in masonry.

B. Solder and Sealants for Sheet-Metal Flashings: As specified in Division 7 Section "Flashing and Sheet Metal."

C. Adhesive for Flashings: Of type recommended by manufacturer of flashing material for use indicated.

D. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

E. Products: Subject to compliance with requirements, provide one of the following:

2. 5 ACCESSORIES

A. Preformed Control Joints (rubber): Provide with corner and tee accessories, cement fused joints.

B. Joint Filler: Closed cell polyurethane; oversized 50 percent to joint width; self-expanding.

C. Building Paper: 15# asphalt saturated felt.

D. Weep Holes: 1” open head joints spaced not greater than 48” on center.

E. CMU cell flashing pans with built in adjoining bridge made from recycled polypropylene with chemical stabilizers that prevent UV degradation. Flashing pans have a sloped design to direct moisture to the integrated weep spout. Designed to be built into mortar bed joints to expel moisture to the exterior of CMU walls.
   1. Manufacturer: Mortar Net Solutions (BlockFlash) or equal. Tel. (800) 664-6638.

2. 6 MASONRY CLEANERS

A. Job-Mixed Detergent Solution: Solution of 1/2-cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4 L) of water.

B. Proprietary Acidic Cleaner: Manufacturer's standard-strength, general-purpose cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry surfaces of type indicated below without discoloring or damaging masonry surfaces; expressly approved for intended use by manufacturer of masonry units being cleaned.
   1. For masonry not subject to metallic oxidation stains, use formulation consisting of a concentrated blend of surface-acting acids, chelating, and wetting agents.
   2. For dark-colored masonry not subject to metallic oxidation stains, use formulation consisting of a liquid blend of surface-acting acids and special inhibitors.
   3. For masonry subject to metallic oxidation stains, use formulation consisting of a liquid blend of organic and inorganic acids and special inhibitors.
   4. Available Products: Subject to compliance with requirements, products that may be used to clean unit masonry surfaces include, but are not limited to, the following:
   5. Products: Subject to compliance with requirements, provide one of the following:
      a. 202 New Masonry Detergent; Diedrich Technologies, Inc.
      b. 200 Lime Solv; Diedrich Technologies, Inc.
      c. 202V Vana-Stop; Diedrich Technologies, Inc.
      d. Sure Klean No. 600 Detergent; ProSoCo, Inc.
      e. Sure Klean No. 101 Lime Solvent; ProSoCo., Inc.
      f. Sure Klean Vana Trol; ProSoCo, Inc.

3. PART 3 EXECUTION

3. 1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of unit masonry. Do not proceed with installation until unsatisfactory conditions have been corrected.
   1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of unit masonry.

B. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.

3. 2 INSTALLATION, GENERAL

A. Leave openings for equipment to be installed before completion of masonry. After installing equipment, complete masonry to match construction immediately adjacent to the opening.

B. Cut masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting, where possible. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

C. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.

3. 3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces of columns, walls, and arrises, do not exceed 1/4 inch in 10 feet (6 mm in 3 m), nor 3/8 inch in 20 feet (10 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For vertical alignment of head joints, do not exceed plus or minus 1/4 inch in 10 feet (6 mm in 3 m), nor 1/2 inch (12 mm) maximum.

B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For top surface of bearing walls, do not exceed 1/8 inch (3 mm) in 10 feet (3 m), nor 1/16 inch (1.5 mm) within width of a single unit.

C. Variation in Mortar-Joint Thickness: Do not vary from bed-joint thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm). Do not vary bed-joint thickness from bed-joint thickness of adjacent course by more than 1/8 inch (3 mm). Do not vary from head-joint thickness indicated by more than plus or minus 1/8 inch (3 mm). Do not vary head-joint thickness from adjacent head-joint thickness by more than 1/8 inch (3 mm). Do not vary from collar-joint thickness indicated by more than minus 1/4 inch (6 mm) or plus 3/8 inch (10 mm).

3. 4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid the use of less-than-half-size units at corners, jambs, and where possible at other locations.

B. Lay walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.

END OF SECTION

SECTION 05 40 00

COLD-FORMED METAL FRAMING

PART 1 -PART 1 GENERAL

1.1 DESCRIPTION

A. The General Conditions, Supplementary Conditions and all other applicable parts of the Contract Documents are hereby made a part of this Section.

B. This work consists of furnishing and installing all metal stud wall framing and metal joist floor, complete with incidentals and accessories, in accordance with the Drawings and Specifications.

C. Related work specified elsewhere:
1. Masonry, Section 040000.
2. Structural Steel, Section 051200.
3. Carpentry, Section 060000.
4. Caulking and Sealing, Section 079000.

1.2 QUALITY ASSURANCE

A. Any procedure, material, or operation specified by reference to the American Society for Testing and Materials (A.S.T.M.) or other recognized Standard, shall comply with the requirements of the current issue of the referenced Specification or Standard.

B. The more stringent shall govern in conflict between this Specification and listed Standards. In conflicts between listed Standards, the more stringent requirements shall govern.

C. Design steel studs in accordance with AISI Publication Specification for the Design of Cold-formed Steel Structural Members, except as otherwise shown or specified

1.3 SUBMITTALS

A. Manufacturers Literature and Data: Showing stud sections and specifying structural characteristics.

B. Shop drawings and calculations shall bear the seal of a professional engineer registered in Michigan

PART 2 -PART 2 PRODUCTS

2.1 MATERIALS

A. All studs and joists 12, 14, and 16 gage shall be galvanized and formed from steel that corresponds to ASTM A446. Structural calculations should be prepared utilizing Grade D with a minimum yield strength of 50000 p.s.i.

B. 18 and 20 gauge studs shall be galvanized, and all painted track, bridging, end closures and accessories shall be formed from steel that corresponds to the requirements of ASTM A446, Grade A, with a minimum yield of 33000 p.s.i.

C. All studs and accessories shall be formed from steel having an A-60 galvanized coating, meeting ASTM A525 and C955.

D. Self-drilling, self-tapping screws, bolts, nuts and washers: ASTM A123 hot dipped galvanized to 1.25 oz./sq. ft.

E. Welding in accordance with AWS D1.3.

PART 3 -PART 3 EXECUTION

3.1 FABRICATION

A. If framing is to be prefabricated, the Contractor shall submit fabrication and erection drawings to the Architect or engineer to obtain approval prior to prefabrication of framing.

B. Framing components may be preassembled into panels prior to erecting. Prefabricated panels shall be square with components attached in a manner as to prevent racking.

C. All framing components shall be cut squarely for attachment to perpendicular members, or as required for an angular fit against abutting members. Members shall be held positively in place until properly fastened.

D. Axially loaded studs shall be installed in a manner which will assure that ends of the studs are positioned against the inside track web, prior to stud and track attachment.

E. Insulation: Fully insulate all voids at built-up post and header members.

3.2 LAYOUT

A. Meet with plumbing, HVAC, electrical, etc., Trades prior to erection to identify any interferences and to coordinate framing layout with their work.

B. Provide solid wood blocking in walls behind all cabinetry/ casework, toilet and bath accessories locations or as recommended by product manufacturer.

3.3 ERECTION

A. Securely anchor tracks to supports as shown.

B. At butt joints, securely anchor two pieces of track to same supporting member or butt-weld or splice together.

C. Plumb, align, and securely attach studs to flanges or webs of both upper and lower tracks.

D. Install jack studs above and below openings and as required to furnish support. Securely attach jack studs to supporting members.

E. Attach bridging for studs in a manner to prevent stud rotation. Space bridging rows at 4'-0" o.c. maximum.

F. Studs shall be in one piece for their entire length. Splices will not be permitted.

G. If prefabricated frames are built, handle and lift in a manner as to not distort any member.

H. Install double deflection track assemblies at full height walls and as shown on drawings.

3.4 FIELD REPAIR

A. Touch-up damaged galvanizing with galvanizing repair paint.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

1. PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Framing with dimension lumber.
   2. Framing with engineered wood products.
   3. Wood furring, grounds, nailers, and blocking.
   4. Sheathing.
   5. Utility shelving.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Division 6 Section "Finish Carpentry" for nonstructural carpentry items exposed to view and not specified in another Section.

1.3 DEFINITIONS

A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise specified.

B. Exposed Framing: Dimension lumber not concealed by other construction and indicated to receive a stained or natural finish.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
   1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

2. PART 2 PRODUCTS

2.1 LUMBER, GENERAL

A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.

B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
   1. NELMA - Northeastern Lumber Manufacturers Association.
   2. NLGA - National Lumber Grades Authority (Canadian).
   3. RIS - Redwood Inspection Service.
   4. SPIB - Southern Pine Inspection Bureau.
   5. WCLIB - West Coast Lumber Inspection Bureau.

6. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
   1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.

2.2 DIMENSION LUMBER

A. General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

B. Framing Other than Non-Load-Bearing Partitions: Provide framing of the following grade and species:
   1. Grade: No. 2 or better.
   2. Species and Grade: Any species of machine stress-rated (MSR) dimension lumber with a grade of 1800f-1.6E.

2.3 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.

B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.

C. Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

D. Grade: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per NELMA, NLGA, or WWPA; No. 2 grade per SPIB; or Standard grade per NLGA, WCLIB or WWPA of any species.

2.4 ENGINEERED WOOD PRODUCTS

A. General: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that evidence compliance with building code in effect for Project.

   1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis, and demonstrated by comprehensive testing performed by a qualified independent testing agency.

B. Laminated-Veneer Lumber: Lumber manufactured by laminating wood veneers in a continuous press using an exterior-type adhesive complying with ASTM D 2559 to produce members with grain of veneers parallel to their lengths and complying with the following requirements:
   1. Extreme Fiber Stress in Bending: 2500 psi (17 MPa) for 12-inch nominal- (286-mm actual-) depth members.
   2. Modulus of Elasticity: 2,000,000 psi (13 800 MPa).

3. Tension Parallel to Grain: 1850 psi (13 MPa).
4. Compression Parallel to Grain: 2800 psi (19 MPa).
5. Compression Perpendicular to Grain: 400 psi (3 MPa) perpendicular to and 500 psi (3.5 MPa) and parallel to glue line.
6. Horizontal Shear: 285 psi (2 MPa) perpendicular to and 190 psi (1.3 MPa) parallel to glue line.

C. Parallel-Strand Lumber: Lumber manufactured by laying up wood strands using an exterior-type adhesive complying with ASTM D 2559, and cured under pressure to produce members with grain of strands parallel to their lengths and complying with the following requirements:
1. Extreme Fiber Stress in Bending: 2900 psi (20 MPa) for 12-inch nominal- (286-mm actual-) depth members.
2. Modulus of Elasticity: 2,000,000 psi (13 800 MPa).
3. Tension Parallel to Grain: 2400 psi (16.5 MPa).
4. Compression Parallel to Grain: 2900 psi (20 MPa).
5. Compression Perpendicular to Grain: 400 psi (3 MPa) perpendicular to and 600 psi (4.1 MPa) and parallel to wide face of strands.
6. Horizontal Shear: 210 psi (1.4 MPa) perpendicular to and 290 psi (2 MPa) and parallel to wide face of strands.

2.5 AIR-INFILTRATION BARRIER

A. Asphalt-saturated organic felt complying with ASTM D 226, Type I (No. 15 asphalt felt), unperforated.

B. Air retarder complying with ASTM E 1677; made from polyolefins; either cross-laminated films, woven strands, or spunbonded fibers; coated or uncoated; with or without perforations to transmit water vapor but not liquid water; and as follows:
1. Minimum Thickness: 3 mils (0.08 mm).
2. Minimum Water-Vapor Transmission: 10 perms (575 ng/Pa x s x sq. m) when tested according to ASTM E 96, Procedure A.
3. Maximum Flame Spread: 25 per ASTM E 84.
4. Minimum Allowable Exposure Time: 3 months.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacturer.
1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.

B. Nails, Wire, Brads, and Staples: FS FF-N-105.

C. Power-Driven Fasteners: CABO NER-272.

D. Wood Screws: ASME B18.6.1.

E. Lag Bolts: ASME B18.2.1. (ASME B18.2.3.8M)

F. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

3. PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard units of material with defects that impair quality of rough carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.

C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

D. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.

E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. CABO NER-272 for power-driven staples, P-nails, and allied fasteners.
2. Published requirements of metal framing anchor manufacturer.
3. "Recommended Nailing Schedule" of referenced framing standard and with AFPA's "National Design Specifications for Wood Construction."
4. "Table 23-I-Q--Nailing Schedule" of the Uniform Building Code.
5. "Table 2305.2--Fastening Schedule" of the BOCA National Building Code.
6. "Table 1705.1--Fastening Schedule," of the Standard Building Code.

F. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

G. Use hot-dip galvanized or stainless-steel nails where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity.

H. Countersink nail heads on exposed carpentry work and fill holes with wood filler.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attaching other work. Form to shapes shown and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

C. Install permanent grounds of dressed, preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 WOOD FRAMING, GENERAL

A. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

C. Install framing members of size and at spacing indicated.

D. Do not splice structural members between supports.

E. Firestop concealed spaces of wood-framed walls and partitions at each floor level and at ceiling line of top story. Where firestopping is not inherent in framing system used, provide closely fitted wood blocks of 2-inch nominal- (38-mm actual-) thickness lumber of same width as framing members.

END OF SECTION

SECTION 06 41 00

ARCHITECTURAL CASEWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Custom casework.

a. Transparent-finished casework.
b. Opaque-finished casework.
c. Plastic-laminate-finished casework.

2. Countertops.

a. Wood countertops.
b. Plastic-laminate-finished countertops.

3. Cabinet hardware.

B. Related Requirements:

1. Section 061000 - Rough Carpentry.
2. Section 062000 - Finish Carpentry.
3. Section 099000 - Painting and Finishes.
4. Section 224000 - Plumbing Fixtures.

1.2 REFERENCE STANDARDS

A. American National Standards Institute:

1. ANSI A135.4 - Basic Hardboard.
2. ANSI A156.9 - Cabinet Hardware.
3. ANSI A208.1 - Mat-Formed Wood Particleboard.

B. APA - The Engineered Wood Association:

1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.

C. Architectural Woodwork Institute, Woodwork Institute, and Architectural Woodwork Manufacturers Association of Canada:

1. AWS - Architectural Woodwork Standards.
2. Supplemented with The WI Approach.

D. ASTM International:
   1. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   2. ASTM A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   3. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
   4. ASTM D1037 - Standard Test Methods for Evaluating Properties of Wood Base Fiber and Particle Panel Materials.
   5. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
   6. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

E. Decorative Hardwoods Association:

   1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.

F. Forest Stewardship Council:

   1. FSC Guidelines - Forest Stewardship Council Guidelines.

G. National Electrical Manufacturers Association:

   1. NEMA LD 3 - High-Pressure Decorative Laminates.

H. National Fire Protection Association:

   1. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals, including AWS Section 1.

B. Product Data: Submit data on:

   1. High-pressure decorative laminates.
   2. Hardware accessories.

C. Shop Drawings:

   1. Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location, schedule of finishes, and Certified Compliance Label on each set.

D. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for stairs, handrails, and balusters under direct supervision of licensed professional.

E. Qualification Statements:

   1. Submit qualifications for fabricator and licensed professional.

1.4 QUALITY ASSURANCE

A. Perform Work according to AWS, Section 6 and Section 10.

B. Surface Burning Characteristics: Maximum 25/450 flame-spread/smoke-developed index when tested according to ASTM E84.

1.5 QUALIFICATIONS

A. Fabricator: Company specializing in fabricating products specified in this Section with minimum three years production experience similar to this Project.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Protect units from moisture damage.

1.7 AMBIENT CONDITIONS

A. Section 015000 - Temporary Facilities and Controls: Requirements for ambient conditions control facilities for product storage and installation.

B. Maintain storage space relative humidity within ranges indicated in AWS Section 2.

C. Subsequent Conditions: Maintain same temperature and humidity conditions in building spaces as will occur after occupancy during and after installation of Work of this Section.

1.8 EXISTING CONDITIONS

A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 CUSTOM CASEWORK

A. Substitutions: Section 016000 - Product Requirements.

B. Transparent-Finished Custom Casework:

1. Face framed construction.
2. Style: Flush overlay, reveal overlay, lipped overlay, flush inset, or as drawings show.
3. AWS Section 10.
4. Custom grade.
5. Exterior and Interior Exposed Surfaces: Hardwood lumber and plywood.
6. Semi-Exposed Surfaces: Hardwood lumber and plywood.
7. Door and Drawer Matching: Blueprint.

C. Opaque-Finished Custom Casework:

1. Face-framed construction.
2. Style: Flush overlay, reveal overlay, lipped overlay, flush inset, or as drawings show.
3. AWS Section 10.
4. Custom grade.
5. Exterior and Interior Exposed Surfaces: Hardwood lumber and medium density overlay.
6. Semi-Exposed Surfaces: Hardwood lumber and medium density overlay.

D. Plastic-Laminate-Finished Custom Casework:

1. Face-framed construction.
2. Style: Flush overlay, reveal overlay, lipped overlay, flush inset, or as drawings show.
3. AWS Section 10.
4. Custom grade.
5. Exterior and Interior Exposed Surfaces: High-pressure decorative laminate over medium density fiberboard.
6. Semi-Exposed Surfaces: High-pressure decorative laminate over medium density fiberboard.

E. Casework Construction Details:

1. Drawer Side Joinery: lock jointed or multiple dovetailed.
2. Drawer and Door Edge Profile: Square with thick applied band or as drawings show.
3. Toe Base Finish: ¼ inch paint grade maple.

F. Plastic-Laminate-Finished Countertops: Post-formed.

1. Core: Medium density fiberboard.

    a. Core at Sink Tops: Exterior or exterior glue type panels.

2. Splash Top Profile: Waterfall or as drawings show.
3. Deck at Splash Joint Type: Coved or as drawings show.
4. Front Edge: Waterfall or as drawings show.
5. Splash Assembly: Field or Shop assembled.

2.2 FABRICATION

A. Fabricate casework to AWS Section 10 custom grade.

B. Fabricate countertops to AWS Section 11 custom grade.

C. Shop-assemble casework for delivery to Site in units easily handled and to permit passage through building openings.

D. Fit exposed plywood edges with matching veneer edging. Use one piece for full length only.

E. Cap exposed high-pressure decorative laminate finish edges with material of same finish and pattern.

F. Door and Drawer Fronts: 3/4 in (19 mm) thick.

G. When necessary to cut and fit on Project Site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and Site cutting.

H. Apply high-pressure decorative laminate finish in full, uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Locate plastic laminate joints minimum 18 in (450 mm) from sink cutouts.

2.3 ACCESSORIES

A. Adhesive for High-Pressure Decorative Laminates: Type recommended by laminate manufacturer to suit application.

B. Fasteners and Anchors:

1. Fasteners: ASTM A153 (A153M), hot-dip galvanized steel for high-humidity and treated wood locations, unfinished steel elsewhere.
2. Nails and Staples: ASTM F1667.

C. Bolts, Nuts, Washers, Lags, Pins, and Screws: of size and type to suit application.

D. Concealed Joint Fasteners: Threaded steel.

E. Veneer Edge Band: AWS; standard wood veneer edge band matching face veneer.

F. Shelf Brackets: Formed steel brackets, formed for attachment with lugs; satin finish.

G. Drawer and Door Pulls:

1. U-shaped pull (or as drawings show), steel with satin finish.

H. Cabinet Locks: Keyed cylinder, two keys for each lock, master keyed steel with satin finish.

I. Catches: Magnetic type.

J. Drawer Slides: Self-closing, galvanized steel construction, ball bearings separating tracks.

K. Hinges: Concealed Grade 1 butt type, steel with satin finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify adequacy of backing and support framing.

C. Verify location and sizes of utility rough-in associated with Work of this Section.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Prime paint surfaces of woodwork items and assemblies to be in contact with cementitious materials.

3.3 INSTALLATION

A. Install casework according to AWS Section 10 custom grade.

B. Install countertops according to AWS Section 11 custom grade.

C. Set and secure casework, interior finish carpentry, and countertops in place; rigid, plumb, and level.

D. Use fixture attachments in concealed locations for wall-mounted components.

E. Use concealed joint fasteners to align and secure adjoining cabinet units and countertops.

F. Carefully scribe casework abutting other components, with maximum gaps of 1/32 in (1 mm). Do not use additional overlay trim for this purpose.

G. Secure woodwork cabinet and counter bases to floor using appropriate angles and anchorages.

H. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.4 TOLERANCES

A. Section 014000 - Quality Requirements: Requirements for tolerances.

B. Conform to AWS Sections 6 and 10 requirements for the following:

1. Smoothness.
2. Gaps.
3. Flushness.
4. Flatness.
5. Alignment.

3.5 ADJUSTING

A. Section 017000 - Execution and Closeout Requirements: Requirements for starting and adjusting.

B. Adjust moving or operating parts to function smoothly and correctly.

3.6 CLEANING

A. Section 017000 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 06 61 16

SOLID SURFACING FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Cast plastic fabrications for vanity and countertops, and as indicated on drawings.

B. Related Requirements:

1. Section 061000 - Rough Carpentry.
2. Section 064100 - Architectural Casework.
3. Section 079000 - Joint Protection.
4. Section 224000 - Plumbing Fixtures.

1.2 REFERENCE STANDARDS

A. ASTM International:

1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Electrical Manufacturers Association:

1. NEMA MG 1 - Motors and Generators.

C. Underwriters Laboratories Inc.:

1. UL - Fire Resistance Directory.

1.3 SEQUENCING

A. Section 011000 - Summary: Requirements for Work sequencing.

B. Sequence Work to permit installation of adjacent affected construction and plumbing rough-in.

1.4 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on specified component products, electrical characteristics, and connection requirements.

C. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, methods of support, integration of plumbing and electrical components, and anchorages.

D. Samples: Submit two samples representative of vanity top and countertop, 12 by 12 inch in size, illustrating color, texture, and finish.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Qualifications Statements:

1. Submit qualifications for manufacturer, fabricator, and licensed professional.

1.5 CLOSEOUT SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for closeout procedures.

B. Operation and Maintenance Data: Submit list of approved cleaning materials and procedures required; list substances harmful to component materials. Include instructions for stain removal, surface, and gloss restoration.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Extra Stock Materials:

1. Furnish two containers of 16 oz. of polishing cream.

1.7 QUALITY ASSURANCE

A. Surface-Burning Characteristics: Maximum 25/450 flame-spread/smoke-developed index when tested according to ASTM E84.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience similar to this Project.

B. Fabricator: Company specializing in fabricating products specified in this Section with minimum three years' documented experience similar to this Project.

1.9 EXISTING CONDITIONS

A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

1.10 WARRANTY

A. Section 017000 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish five-year manufacturer's warranty for each type of unit.

1.11 MAINTENANCE

A. Section 017000 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two containers of 16 oz. of polishing cream.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

A. Design Load: per ANSI/AWI 1236-2022 countertops.

2.2 PLASTIC FABRICATIONS

A. Manufacturers:

1. Avonite Surfaces.
2. Corian DuPont.
3. EOS Surfaces, LLC.
4. Formica Corporation.
5. LG Chemical, Ltd.
6. Meganite Inc.
7. Wilsonart LLC.
8. Substitutions: Section 016000 - Product Requirements.

2.3 MATERIALS

A. Solid Surface Material: Non-porous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment; not coated, laminated or of composite construction.

B. Adhesive for Bonding to Other Products: One component silicone to ASTM C920.

C. Sealant: A standard mildew-resistant, FDA/UL and NSF/ANSI 51 compliant in Food Zone area, recognized silicone color matched sealant or clear silicone sealants.

D. Sink/Bowl Mounting Hardware: Manufacturer’s approval bowl clips, brass inserts and fasteners for attachment of undermount sinks/bowls.

E. Heat Reflecting Tape: Manufacturer’s standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.

F. Insulating Nomex Fabric: Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.

G. Polishing Cream: Compatible polishing cream to achieve specified sheen to gel coat.

2.4 COMPONENTS

A. Window Sills: ½" think solid surfacing material, adhesively joined with inconspicuous seams, edge details as indicated on Drawings. Color as specified in the "Materials and Finishes" drawing.

B. Counter Perimeter Frame: Ensure ½" thick, moisture resistant cores for counter tops in wet areas having sinks or lavatories are ¾" thick exterior grade plywood with waterproof adhesive, Fir or Poplar plywood, veneer core only. MDF core conforming to ANSI/NPA A208.2 balanced design, manufactured from recycled materials, meeting ANSI Standards for emissions, of minimum density of 48 lb/cu ft and surface character to match sample approved by Architect. Ensure fire retardant Product contains fire-retardant chemicals injected with raw materials during manufacturing and achieves a maximum flame-spread rating of 25 with a maximum smoke development of 200 when tested to ASTM E84.

C. Lavatory Tops with Seamed Bowls: ½" thick countertop of solid polymer, 100% acrylic or polyester-acrylic blend solid surfacing material, cast to desired profiles and sizes having edge details as indicated on Drawings conforming to CSA B45.5/IAPMO Z124, complete with seamed "S" undermount bowl. Provide countertops complete with backsplashes of size shown on Drawings. Ensure countertop and backsplash is single color.

D. Lavatory Tops with Undermount Bowls: ½" thick countertop of solid polymer 100% acrylic or polyester-acrylic blend solid surfacing material, cast to desired profiles and sizes having edge details as indicated on Drawings conforming to CSA B45.5/IAPMO Z124, complete with undermount bowl. Provide countertops complete with backsplashes of size shown on Drawings. Use undermount hardware according to manufacturer's instructions. Ensure vanity top and backsplash is single color.

2.5 FABRICATION

A. Fabricate components by mold to achieve shape and configuration.

B. Gel coat exposed finish surfaces smooth and polish to flat sheen.

C. Radius corners and edges.

D. Cure components prior to shipment, except sheet materials requiring Site handling.

2.6 FINISHES

A. Color: See "Materials and Finishes" drawing.

B. Exposed-to-View Surface Visual Texture: See "Materials and Finishes" drawing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify existing conditions.

C. Verify that joint preparation and affected dimensions are acceptable.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Provide anchoring devices for installation and embedding.

C. Provide templates and rough-in measurements.

3.3 INSTALLATION

A. Align Work plumb and level.

B. Install according to manufacturer's printed instructions.

C. Rigidly anchor to substrate to prevent misalignment.

D. Seal to adjacent construction as specified in Section 079000 - Joint Protection.

3.4 TOLERANCES

A. Section 014000 - Quality Requirements: Requirements for tolerances.

B. Maximum Variation from Indicated Dimension: 1/8 inch (3 mm).

C. Maximum Offset from Indicated Position: 1/8 inch (3 mm).

3.5 CLEANING

A. Section 017000 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean and polish fabrication surfaces.

END OF SECTION

SECTION 07 84 00

FIRESTOPPING

1. PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes firestopping for the following:
   1. Penetrations through fire-resistance-rated floor and roof construction including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
   2. Penetrations through fire-resistance-rated walls and partitions including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
   3. Penetrations through smoke barriers and construction enclosing compartmentalized areas involving both empty openings and openings containing penetrating items.
   4. Sealant joints in fire-resistance-rated construction.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Division 3 Section " Concrete" for construction of openings in concrete slabs.
   2. Division 4 Section "Unit Masonry" for joint fillers for non-fire-resistive-rated masonry construction.
   3. Division 7 Section "Building Insulation" for safing insulation and accessories.
   4. Division 7 Section "Joint Sealants" for non-fire-resistive-rated joint sealants.
   5. Division 23 Sections specifying ducts and piping penetrations.
   6. Division 26 Sections specifying cable and conduit penetrations.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Provide firestopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gases.

B. F-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings indicated, as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.

1. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E 814, where indicated and where systems protect penetrating items exposed to contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where the following conditions exist:
2. Where firestop systems protect penetrations located outside of wall cavities.
3. Where firestop systems protect penetrations located outside fire-resistive shaft enclosures.
4. Where firestop systems protect penetrations located in construction containing doors required to have a temperature-rise rating.
5. Where firestop systems protect penetrating items larger than a 4 inch (100 mm) diameter nominal pipe or 16 sq. in. (100 sq. cm) in overall cross-sectional area.

C. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E814, where indicated and where systems protect penetrating items exposed to contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where the following conditions exist:
1. Where firestop systems protect penetrations located outside of wall cavities.
2. Where firestop systems protect penetration located outside fire-resistive shaft enclosures.
3. Where firestop systems protect penetrations located in construction containing doors required to have a temperature-rise rating.
4. Where firestop systems protect penetrating items larger than a 4 inch (100 mm) diameter nominal pipe or 16 sq. in. (100 sq. cm) in overall cross-sectional area.

D. Fire-Resistive Joint Sealants: Provide joint sealants with fire-resistance ratings indicated, as determined per ASTM E 119, but not less than that equaling or exceeding the fire-resistance rating of the construction in which the joint occurs.

E. For firestopping exposed to view, traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions.
1. For floor penetrations with annular spaces exceeding 4 inches (100 mm) or more in width and exposed to possible loading and traffic, provide firestop systems capable of supporting the floor loads involved either by installing floor plates or by other means.
2. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

F. For firestopping exposed to view, provide products with flame-spread values of less than 25 and smoke-developed values of less than 450, as determined per ASTM E 84.

1.4 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide firestopping that complies with the following requirements and those specified under the "System Performance Requirements" article:

1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, Warnock Hersey, or another agency performing testing and follow-up inspection services for firestop systems that is acceptable to authorities having jurisdiction.
2. Through-penetration firestop systems are identical to those tested per ASTM E 814 under conditions where positive furnace pressure differential of at least 0.01 inch of water (2.5 Pa) is maintained at a distance of 0.78 inch (20 mm) below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:
    a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
    b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by UL in their "Fire Resistance Directory," by Warnock Hersey, or by another qualified testing and inspecting agency.
3. Fire-resistive joint sealant systems are identical to those tested for fire-response characteristics per ASTM E 119 under conditions where the positive furnace pressure differential is at least 0.01 inch of water (2.5 Pa), as measured 0.78 inch (20 mm) from the face exposed to furnace fire. Provide systems complying with the following requirements:
    a. Fire-Resistance Ratings of Joint Sealants: As indicated by reference to design designations listed by UL in their "Fire Resistance Directory" or by another qualified testing and inspecting agency.
    b. Joint sealants, including backing materials, bear classification marking of qualified testing and inspection agency.

B. Installer Qualifications: Engage an experienced Installer who has completed firestopping that is similar in material, design, and extent to that indicated for Project and that has performed successfully.

C. Installer Qualifications: Engage an experienced Installer who is certified, licensed, or otherwise qualified by the firestopping manufacturer as having the necessary experience, staff, and training to install manufacturer's products per specified requirements. A manufacturer's willingness to sell its firestopping products to the Contractor or to an Installer engaged by the Contractor does not in itself confer qualification on the buyer.

D. Single-Source Responsibility: Obtain through-penetration firestop systems for each kind of penetration and construction condition indicated from a single manufacturer.

E. Provide firestopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F, Appendix A, Section 1, "Polarized Light Microscopy."

F. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration firestop systems are installed per specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver firestopping products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multicomponent materials.

B. Store and handle firestopping materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.6 PROJECT CONDITIONS

A. Environmental Conditions: Do not install firestopping when ambient or substrate temperatures are outside limits permitted by firestopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.

B. Ventilation: Ventilate firestopping per firestopping manufacturers' instructions by natural means or, where this is inadequate, forced air circulation.

1.7 SEQUENCING AND SCHEDULING

A. Notify Owner's inspection agency at least 1 week in advance of firestopping installations; confirm dates and times on days preceding each series of installations.

B. Do not cover up those firestopping installations that will become concealed behind other construction until Owner's inspection agency and authorities having jurisdiction, if required, have examined each installation.

2. PART 2 PRODUCTS

2.1 FIRESTOPPING, GENERAL

A. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.

B. Accessories: Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:

1. Permanent forming/damming/backing materials including the following:
    a. Semirefractory fiber (mineral wool) insulation.

b. Ceramic fiber.
c. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
d. Fire-rated formboard.
e. Joint fillers for joint sealants.

2. Temporary forming materials.
3. Substrate primers.
4. Collars.
5. Steel sleeves.

C. Applications: Provide firestopping systems composed of materials specified in this Section that comply with system performance and other requirements.

D. Ceramic-Fiber and Mastic Coating: Ceramic fibers in bulk form formulated for use with mastic coating, and ceramic fiber manufacturer's mastic coating.

E. Ceramic-Fiber Sealant: Single-component formulation of ceramic fibers and inorganic binders.

F. Endothermic, Latex Compound Sealant: Single-component, endothermic, latex formulation.

G. Intumescent, Latex Sealant: Single-component, intumescent, latex formulation.

H. Intumescent Putty: Nonhardening, dielectric, water-resistant putty containing no solvents, inorganic fibers, or silicone compounds.

I. Intumescent Wrap Strips: Single-component, elastomeric sheet with aluminum foil on one side.

J. Job-Mixed Vinyl Compound: Prepackaged vinyl-based powder product for mixing with water at Project site to produce a paintable compound, passing ASTM E 136, with flame-spread and smoke-developed ratings of zero per ASTM E 84.

K. Mortar: Prepackaged dry mix composed of a blend of inorganic binders, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogenous mortar.

L. Pillows/Bags: Re-usable, heat-expanding pillows/bags composed of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents and fire-retardant additives.

M. Silicone Foam: Two-component, silicone-based liquid elastomer that, when mixed, expands and cures in place to produce a flexible, nonshrinking foam.

N. Silicone Sealant: Moisture-curing, single-component, silicone-based, neutral-curing elastomeric sealant of grade indicated below:
1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping/ gunnable sealant, unless

indicated firestop system limits use to nonsag grade for both opening conditions.

2. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
3. Grade for Vertical Surfaces: Nonsag grade for openings in vertical and other surfaces.

O. Solvent-Release-Curing Intumescent Sealant: Solvent-release-curing, single-component, synthetic-polymer-based sealant of grade indicated below:
1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping/ gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.
2. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
3. Grade for Vertical Surfaces: Nonsag grade for openings in vertical and other surfaces.

P. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

Q. Products: Subject to compliance with requirements, provide one of the following:
1. Ceramic-Fiber and Mastic Coating:
   a. FireMaster Bulk and FireMaster Mastic, Thermal Ceramics.
2. Ceramic-Fiber Sealant:
   a. Metacaulk 525, The RectorSeal Corporation.
3. Endothermic, Latex Sealant:
   a. Fyre-Shield, Tremco Inc.
4. Endothermic, Latex Compounds:
   a. Flame-Safe FS500/600 Series, International Protective Coatings Corp.
   b. Flame-Safe FS900/FST900 Series, International Protective Coatings Corp.
5. Intumescent Latex Sealant:
   a. Metacaulk 950, The RectorSeal Corporation.
   b. Fire Barrier CP 25WB Caulk, 3M Fire Protection Products.
6. Intumescent Putty:
   a. Pensil 500 Intumescent Putty, General Electric Co.
   b. Flame-Safe FSP1000 Putty, International Protective Coatings Corp.
   c. Fire Barrier Moldable Putty, 3M Fire Protection Products.
7. Intumescent Wrap Strips:
   a. Dow Corning Fire Stop Intumescent Wrap Strip 2002, Dow Corning Corp.
   b. CS2420 Intumescent Wrap, Hilti Construction Chemicals, Inc.
   c. Fire Barrier FS-195 Wrap/Strip, 3M Fire Protection Products.
8. Job-Mixed Vinyl Compound:
   a. USG Firecode Compound, United States Gypsum Co.
9. Mortar:

a. K-2 Firestop Mortar, Bio Fireshield, Inc.
b. Novasit K-10 Firestop Mortar, Bio Fireshield, Inc.
c. KBS-Mortar Seal, International Protective Coatings Corp.

10. Pillows/Bags:
    a. Firestop Pillows, Bio Fireshield, Inc.
    b. KBS Sealbags, International Protective Coatings Corp.
11. Silicone Foams:
    a. Dow Corning Fire Stop Foam 2001, Dow Corning Corp.
    b. Pensil 200 Foam, General Electric Co.
12. Silicone Sealants:
    a. Dow Corning Firestop Sealant 2000, Dow Corning Corp.
    b. Dow Corning Firestop Sealant SL 2003, Dow Corning Corp.
    c. Pensil 100 Firestop Sealant, General Electric Co.
    d. CS240 Firestop Sealant, Hilti Construction Chemicals, Inc.
    e. Metacaulk 835, The RectorSeal Corporation.
    f. Metacaulk 880, The RectorSeal Corporation.
    g. Fyre-Sil, Tremco Inc.
    h. Fyre-Sil S/L, Tremco Inc.
13. Solvent-Release-Curing Intumescent Sealants:
    a. Biostop 500 Intumescent Firestop Caulk, Bio Fireshield, Inc.
    b. Fire Barrier CP 25N/S Caulk, 3M Fire Protection Products.
    c. Fire Barrier CP 25S/L Caulk, 3M Fire Protection Products.

2.3 FIRE-RESISTIVE ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses, and requirements specified in this Section applicable to fire-resistive joint sealants.

B. Sealant Colors: Provide color of exposed joint sealants to comply with the following:
    1. Match colors indicated by reference to manufacturer's standard designations.

C. Single-Component, Neutral-Curing Silicone Sealant: Type S; Grade NS; Class 25; exposure-related Use NT, and joint-substrate-related Uses M, G, A, and (as applicable to joint substrates indicated) O.
    1. Additional Movement Capability: Provide sealant with the capability to withstand the following percentage changes in joint width existing at time of installation, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, and remain in compliance with other requirements of ASTM C 920 for uses indicated:
        a. 50 percent movement in both extension and compression for a total of 100 percent movement.
        b. 100 percent movement in extension and 50 percent movement in compression for a total of 150 percent movement.

D. Multicomponent, Nonsag, Urethane Sealant: Type M; Grade NS; Class 25; exposure-related Use NT, and joint-substrate-related Uses M, A, and (as applicable to joint substrates indicated) O.
   1. Additional Movement Capability: Provide sealant with the capability to withstand the following percentage change in joint width existing at time of installation, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, and remain in compliance with other requirements of ASTM C 920 for uses indicated:
      a. 40 percent movement in extension and 25 percent in compression for a total of 65 percent movement.
      b. 50 percent movement in both extension and compression for a total of 100 percent movement.

E. Single-Component, Nonsag, Urethane Sealant: Type S; Grade NS; Class 25; and Uses NT, M, A, and (as applicable to joint substrates indicated) O.

F. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

G. Products: Subject to compliance with requirements, provide one of the following:
   1. Single-Component, Neutral-Curing, Silicone Sealant:
      a. Dow Corning 790, Dow Corning Corp.
      b. Dow Corning 795, Dow Corning Corp.
      c. Silpruf, General Electric Co.
      d. Ultraglaze, General Electric Co.
      e. 864, Pecora Corp.
   2. Multicomponent, Nonsag, Urethane Sealant:
      a. Vulkem 922, Mameco International Inc.
      b. Dynflex, Pecora Corp.
      c. Dynatred, Pecora Corp.
      d. Dynatrol II, Pecora Corp.
      e. Sikaflex 2cn NS, Sika Corp.
      f. Sonolastic NP 2, Sonneborn Building Products Div., ChemRex Inc.
      g. Dymeric, Tremco Inc.
   3. Single-Component, Nonsag, Urethane Sealant:
      a. Isoflex 880 GB, Harry S. Peterson Co., Inc.
      b. Isoflex 881, Harry S. Peterson Co., Inc.
      c. Vulkem 921, Mameco International Inc.
      d. Sikaflex--15LM, Sika Corp.

2.4 MIXING

A. For those products requiring mixing prior to application, comply with firestopping manufacturer's directions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce firestopping products of uniform quality with optimum performance characteristics for application indicated.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of firestopping. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings and joints immediately prior to installing firestopping to comply with recommendations of firestopping manufacturer and the following requirements:
   1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of firestopping.
   2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
   3. Remove laitance and form release agents from concrete.

B. Priming: Prime substrates where recommended by firestopping manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

C. Masking Tape: Use masking tape to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestopping materials. Remove tape as soon as it is possible to do so without disturbing firestopping's seal with substrates.

3.3 INSTALLING THROUGH-PENETRATION FIRESTOPS

A. General: Comply with the "System Performance Requirements" article in Part 1 and the through-penetration firestop manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross-sectional shapes and depths required to achieve fire ratings of designated through-penetration firestop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.

C. Install fill materials for through-penetration firestop systems by proven techniques to produce the following results:
   1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.

2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 INSTALLING FIRE-RESISTIVE JOINT SEALANTS

A. General: Comply with the "System Performance Requirements" article in Part 1, with ASTM C 1193, and with the sealant manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install joint fillers to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability and develop fire-resistance rating required.

C. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint width that optimum sealant movement capability. Install sealants at the same time joint fillers are installed.

D. Tool nonsag sealants immediately after sealant application and prior to the time skinning or curing begins. Form smooth, uniform beads of configuration indicated or required to produce fire-resistance rating, as well as to eliminate air pockets, and to ensure contact and adhesion of sealants with sides of joint. Remove excess sealant from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

3.5 FIELD QUALITY CONTROL

A. Where deficiencies are found, repair or replace firestopping so that it complies with requirements.

3.6 CLEANING

A. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of firestopping products and of products in which opening and joints occur.

B. Protect firestopping during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated firestopping immediately and install new materials to produce firestopping complying with specified requirements.

END OF SECTION

SECTION 07 92 00

JOINT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Silicone joint sealants.
2. Nonstaining silicone joint sealants.
3. Urethane joint sealants.
4. Mildew-resistant joint sealants.
5. Polysulfide joint sealants. Butyl joint sealants.
6. Acoustical joint sealants.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:
1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.

B. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by the manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.
   1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.7 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
   1. When ambient and substrate temperature conditions are outside limits permitted by joint- sealant manufacturer or are below 40 deg F.
   2. When joint substrates are wet.
   3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
   4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
   1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
   2. Disintegration of joint substrates from causes exceeding design specifications.
   3. Mechanical damage caused by individuals, tools, or other outside agents.
   4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following:
   1. Architectural sealants shall have a VOC content of 250 g/L or less.
   2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.

C. Low-Emitting Interior Sealants: Sealants and sealant primers shall comply with the testing and product requirements of the California Department of Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Silicone, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.3 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 100/50, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.4 URETHANE JOINT SEALANTS

A. Urethane, M, NS, 50, T, NT: Multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade NS, Class 50, Uses T and NT.

2.5 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. STPE, Mildew Resistant, S, NS, 50, NT: Mildew-resistant, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, silyl-terminated polyether joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

2.6 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

2.7 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

2.8 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Pecora Corporation; AC-20 FTR or AIS-919.
      b. USG Corporation; SHEETROCK Acoustical Sealant.

2.9 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.10 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and

other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
   a. Concrete.
   b. Masonry.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
   a. Metal.
   b. Glass.
   c. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint- sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at

position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast-in-place concrete.
      b. Control and expansion joints in unit masonry.
      c. Joints in dimension stone cladding.
      d. Joints between metal panels.
      e. Joints between different materials listed above.
      f. Perimeter joints between materials listed above and frames of doors windows and louvers.
      g. Other joints as indicated on Drawings.
   2. Joint Sealant: Urethane, M, NS, 50, T, NT
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
   1. Joint Locations:
      a. Control and expansion joints in tile flooring.
   2. Joint Sealant: Urethane, S, P, 50, T, NT.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Control and expansion joints on exposed interior surfaces of exterior walls.
      b. Tile control and expansion joints.
      c. Vertical joints on exposed surfaces of unit masonry.
      d. Joints on underside of plant-precast structural concrete planks.
   2. Joint Sealant: Urethane, S, NS, 50, NT.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
   2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 50, NT.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Concealed mastics.
   1. Joint Locations:
      a. Aluminum thresholds.
      b. Sill plates.
      c. Other joints as indicated on Drawings.
   2. Joint Sealant: Butyl-rubber based
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Location:
      a. Acoustical joints where indicated.
   2. Joint Sealant: Acoustical
   3. Joint-Sealant Color: As selected by Architect or Owner from manufacturer's full range of colors.

END OF SECTION

SECTION 08 12 13

STANDARD HOLLOW METAL FRAMES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-rated, fire rated, thermally insulated, steel frames.

B. Interior Exterior glazed light frames.

1.2 RELATED SECTIONS

A. Section 054000 - Cold-Formed Metal Framing.

B. Section 061000 - Rough Carpentry.

C. Section 082110 - Wood Doors.

D. Section 087120 - Door Hardware.

E. Section 09900 - Painting: Field painting of frames.

1.3 REFERENCES

A. ANSI/SDI-100 - Standard Steel Doors and Frames.

B. ANSI/SDI-105 - Recommended Erection Instructions for Steel Frames

C. ASTM A525 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.

D. ASTM E152 - Methods of Fire Tests of Door Assemblies.

E. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.

F. NFPA 80 - Fire Doors and Windows.

G. NFPA 252 - Fire Tests for Door Assemblies.

H. UL 10B - Fire Tests of Door Assemblies.

1.4 SUBMITTALS

A. Shop Drawings: Indicate frame elevations, reinforcement, and finish.

B. Product Data: Indicate frame configuration, anchor types and spacings, location of cut-outs for hardware, reinforcement.

C. Manufacturer's Installation Instructions: Indicate special installation instructions.

D. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Conform to requirements of ANSI/SDI-100 and ANSI A117.1.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.7 REGULATORY REQUIREMENTS

A. Fire Rated Frame Construction: Conform to ASTM E152 and NFPA 252.

B. Installed Frame Assembly: Conform to NFPA 80 for fire rated class same as fire door.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle products to site per provisions of Section 01600.

B. Accept frames on site in manufacturer's packaging. Inspect for damage.

1.9 COORDINATION

A. Coordinate the work with frame opening construction, door and hardware installation.

2. PART 2 PRODUCTS

2.1 STANDARD STEEL FRAMES

A. Manufacturers:
1. Amweld International, LLC.
2. Apex Industries, Inc.
3. Ceco Door; ASSA ABLOY.
4. Curries Company; ASSA ABLOY.
5. DKS Steel Door & Frame Systems, Inc.
6. Republic Doors and Frames.
7. Steelcraft; an Allegion brand.
8. Titan Metal Products.
9. West Central Manufacturing, Inc.

2.2 FRAMES

A. Exterior Frames: Level 1 for door models, nominal 16 gage thick material, base metal thickness.

B. Interior Frames: Level 1 for door models, nominal 18 gage thick material, base metal thickness.

2.3 ACCESSORIES

A. Silencers: Resilient rubber, fitted into drilled hole.

B. Removable Stops: Rolled steel channel shape, mitered corners; prepared for countersink style tamper proof screws.

C. Bituminous Coating: Fibered asphalt emulsion.

D. Primer: Zinc chromate type.

2.4 FABRICATION

A. Fabricate frames as welded unit for drywall slip-on type.

B. Fabricate frames for knock down field assembly.

C. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.

D. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.

E. Terminate door stops 6 inches above finished floor. Cut stop at 90 degree angle and close.

F. Configure exterior frames with special profile to receive recessed weather-stripping.

2.5 FINISH

A. Steel Sheet: Galvanized to ASTM A525 A60.

B. Primer: Baked.

C. Factory Finish: Baked enamel color as selected by owner.

D. Coat inside of frame profile with bituminous coating to a thickness of 1/16 inch.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

A. Install frames in accordance with ANSI/SDI-100 and DHI.

B. Coordinate with masonry and wallboard wall construction for anchor placement.

C. Coordinate installation of glass and glazing.

D. Coordinate installation of frames with installation of hardware specified in Section 087100 and doors in Section 082000.

E. Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.

3.3 ERECTION TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08211

WOOD DOORS

1. PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Solid-core doors with wood-veneer faces.
   2. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Sections include the following:
   1. Division 8 Section “Steel Doors and Frames” for frames for wood doors.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain wood doors through one source from a single manufacturer.

B. Quality Standard: Comply with the following standard:
   1. AWI Quality Standard: AWI's "Architectural Woodwork Quality Standards" for grade of door, core, construction, finish, and other requirements.

C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's written instructions.
   1. Individually package doors in plastic bags or cardboard cartons.

B. Mark each door with individual opening numbers used on Shop Drawings. Use removable tags or concealed markings.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install doors until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.6 WARRANTY

A. General Warranty: Door manufacturer's warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Door Manufacturer's Warranty: Submit written agreement on door manufacturer's standard form, signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span, or do not comply with tolerances in referenced quality standard.
   1. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
   2. Warranty shall be in effect during the following period of time after the date of Substantial Completion:

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Wood Doors:
      a. As selected by Owner.

2.2 DOOR CONSTRUCTION, GENERAL

A. Doors for Transparent Finish: Comply with the following requirements:
   1. Grade: Premium, with Grade AA faces.
   2. Faces: White Maple, plain sliced.
   3. Match between Veneer Leaves: Book match.
   4. Pair and Set Match: Provide for pairs of doors and for doors hung in adjacent sets.

2.3 SOLID-CORE DOORS

A. Interior Doors: Comply with the following requirements:
   1. Core: Solid red oak construction
   2. Construction: 6 - 1" solid red oak raised panels, 1 1/2" thick wood doors, 5-piece engineered hardwood door rails, solid 1 1/2" oak stiles, stiles and rails pinned and joined, then entire unit sanded flush.

2.5 FABRICATION

A. Fabricate wood doors in sizes indicated for Project site fitting.

B. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:
   1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-rated doors.

C. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
   1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.

D. Exterior Doors: Treat exterior doors with water repellent after installation.
   1. Flash top of out swinging doors (with metal flashing).

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Examine installed door frames before hanging doors.
   1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
   2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: Install per manufacturer's written instructions.

B. Manufacturer's Written Instructions: Install wood doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.
   1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.

C. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
   1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold.
      a. Comply with NFPA 80 for fire-rated doors.
   2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edges; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

3.3 ADJUSTING AND PROTECTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Refinish or replace doors damaged during installation.

C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION

SECTION 09 25 00

GYPSUM DRYWALL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. This section covers furnishing all labor, materials, tools and equipment required to install all gypsum wallboard, metal corner beads, trims and expansion joints, drywall patches and repairs as well as herein specified and/or as required for a complete job.

B. Cold Weather Requirements: For the day before through the day after the period of laminating and of finishing of wallboard joints, if outside temperatures will be less than 55°, maintain the temperature within the building within the range of 55° to 70° F. Adequate ventilation shall also be provided to eliminate excessive moisture within the building during this same period.

C. Delivery of Materials: All materials, as specified, shall be delivered to the job in their original unopened containers or bundles, stored in a place providing protection from damage and exposure to the elements.

D. Subsurface: Examine and inspect materials to which gypsum board is to be applied. Remedy all defects prior to installation of drywall.

2. PART 2 PRODUCTS

2.1 MATERIALS

A. Trade names of the United States Gypsum Company have been used to establish the desired quality of materials specified herein. Products meeting these specifications will be allowed as manufactured by Georgia-Pacific, Gold Bond Building Products Division, National Gypsum Co., or Owner approved equal.

B. Gypsum wallboard shall conform to ASTM C36 "Specification for Gypsum Wallboard" with ASTM C-630 Specification added for Water Resistant Wallboard "W/R".

C. Gypsum Wallboard at Walls: Shall be 5/8" Sheetrock SW, located as specified herein.

D. Gypsum Wallboard at Wet Areas (Restrooms): Shall be 5/8" Sheetrock W/R, located as specified herein.

E. Corner Beads and Metal Trim: Shall be Dur-A-Bead 101 or 200A. Corner reinforcement for adhesive attachment shall be Perf-A-Bead Reinforcement.

F. Joint Treatment Material: USG "Durabond 90" Joint Compound and USG Ready Mixed Joint Compound All Purpose.

G. Special Note: The Sheetrock SW System (Board and Joint Treatment) was tested and designed to function as a unit. Substitution for one and not all of the procedures and/or products in this specification is not recommended.

3. PART 3 EXECUTION

3.1 APPLICATION

A. The installation and application of all USG materials shall be in accordance with the latest printed directions or specifications of United States Gypsum and as follows:

B. Gypsum Wallboard: All ends and edges of Sheetrock Gypsum Wallboard shall occur over fastening members, except when joints are at right angles to framing members as in horizontal application. Ceiling wallboard shall be attached to framing supports utilizing both glue and screw fastening.

C. Sheetrock Gypsum Wallboard shall be applied to minimize end joints. Boards shall be brought into contact, but shall not be forced into place. Where ends or edges abut, they shall be neatly fitted. End joints shall be staggered. Joints on opposite sides of a partition shall be so arranged as to occur on different studs.

D. Wallboard shall be attached to framing supports with screws; no nailing will be permitted. Fasteners shall provide a slight depression below the surface of the wallboard without breaking the face paper and fasteners shall not be driven closer than 3/8" from edges and ends of the board. While the fasteners are being driven, the wallboard shall be held in firm contact with the underlying support. Attachment should proceed from the center of the wallboard towards ends and edges.

E. When necessary to cut ends and edges, scribe, or make cutouts within the field of the wallboard, it shall be done in a workmanlike manner.

F. Metal corner beads shall be securely attached as per manufacturer's recommendations, to all external corners and in single lengths. Clinch and nail corner beads securely.

G. Metal trim shall be installed where drywall abuts exposed dissimilar wall material in the manner recommended by the manufacturer.

3.2 JOINT TREATMENT

A. Unless otherwise indicated, all walls, partitions and ceilings are included. Joints of exterior gypsum wallboard, where not exposed to view, shall not be treated, but shall be installed butted tightly.

B. Mixing - Durabond "90" joint compound shall be mixed according to the directions on the bag. Caution shall be used to prevent excessive mixing and use of extremely cold water and compound.

C. All V-grooves formed by abutting wrapped eased edges of Sheetrock SW shall be pre-filled with Durabond "90" joint compound. Application shall be with a flexible 5" or 6" joint finishing knife or an Ames Pre-Fill tool. The V shall be filled flush with the plane of the taper depression and any excess compound beyond the groove shall be wiped clean, leaving a clear depression to receive tape. The pre-fill shall have hardened prior to the next application.

D. Taping or embedding - USG Ready Mixed Joint Compound - All Purpose, shall be applied with a suitable tool in a thin uniform layer to all joints and angles to be reinforced. Perf-A-Tape reinforcement shall be applied immediately and centered over the joint and seated into the compound. Sufficient compound must remain under the tape to provide proper bond. A skim coat shall immediately follow tape embedment but not to function as a fill or a second coat.

E. Tape shall be properly folded and embedded in all angles to provide a true angle.

F. The tape or embedding coat must be thoroughly dry prior to application of the fill coat.

G. Filling - USG Ready Mixed Compound - All-Purpose, shall be applied over the embedding coat, filling the board taper flush with the surface. On joints with no taper, the fill coat shall cover the tape and feather out at least 4" on either side of the tape. No fill coat is necessary at interior angles.

H. The fill coat shall be thoroughly dry prior to application of the finish coat.

I. Finishing - USG Ready Mixed Joint Compound - All Purpose, shall be spread evenly over and extended slightly beyond the fill coat on all joints and feathered to a smooth uniform finish. On tapered joints, the finish coat shall not protrude beyond the plane of the surface.

J. All taped angles shall receive a finish coat to cover the tape and taping compound, providing a true angle. Where necessary, sanding shall occur between coats and following the final application of compound to provide a smooth surface ready for decoration.

K. Filling and finishing of fastener depressions - A taping or all-purpose compound must be applied as the first coat to all fastener depressions. This shall be followed by a minimum of 2 additional coats of all-purpose compound, leaving all depressions level with the plane of the surface.

3.3 COMPLETION

A. Contractor shall correct all poorly installed drywall including, but not limited to, poor seams, "nail pops", poorly executed patches, etc. Final gypsum board condition shall be like new and ready to receive paint.

END OF SECTION

SECTION 096500

RESILIENT FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Resilient sheet flooring.
2. Resilient tile flooring.

1.2 REFERENCE STANDARDS

A. ASTM International:

1. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
2. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing.
3. ASTM F1344 - Standard Specification for Rubber Floor Tile.
4. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile.
5. ASTM F1861 - Standard Specification for Resilient Wall Base.

B. California Department of Public Health:

1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

C. Federal Specifications:

1. FS L-F-475 - Floor Covering Vinyl, Surface (Tile and Roll), with Backing.
2. FS RR-T-650 - Treads, Metallic and Nonmetallic, Skid-Resistant.

D. NFPA:

1. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

E. SCS Global Services:

1. SCS EC10.3 - Indoor Air Quality Product Performance Standard for Building Interiors.

F. South Coast Air Quality Management District:

1. SCAQMD Rule 1113 - Architectural Coatings.
2. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer information describing physical and performance characteristics, including sizes, patterns, and available colors.

C. Shop Drawings: Indicate seaming plan, custom patterns, and inlay designs.

D. Samples:

1. Submit manufacturer's complete set of color samples for initial selection.
2. Submit two samples, 6 by 6 inch in size, illustrating color and pattern for each resilient flooring product specified.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.

G. Qualifications Statements:

1. Submit qualifications for manufacturer and installer.
2. Submit manufacturer's approval of installer.

1.4 CLOSEOUT SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.

B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Extra Stock Materials:

1. Furnish 100 sq. ft. of flooring.
2. Furnish 50 lineal ft. of base.

1.6 QUALITY ASSURANCE

A. Surface-Burning Characteristics:

1. Floor Finishes:

a. Type: Class I, minimum 0.45 W/sq. cm

b. Testing: Comply with NFPA 253.

2. Base Material:

a. Type: Class I, minimum 0.45 W/sq. cm.
b. Testing: Comply with NFPA 253.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store materials according to manufacturer instructions.

D. Protection:

1. Protect roll materials from damage by storing on end.
2. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
3. Provide additional protection according to manufacturer instructions.

1.9 AMBIENT CONDITIONS

A. Section 015000 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Maintain temperature in storage area between 55 deg. F and 90 deg. F.

C. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 deg. F to achieve temperature stability.

D. Subsequent Conditions: Maintain above 55 deg. F.

1.10 WARRANTY

A. Section 017000 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish ten -year manufacturer's warranty for resilient flooring.

PART 2 - PRODUCTS

2.1 TILE FLOORING

A. Manufacturers:

1. Armstrong
2. Mannington
3. Mohawk
4. Shaw
5. Tandus
6. Substitutions: As specified in Section 016000 - Product Requirements.

B. Luxury Vinyl Tile:

1. Comply with ASTM F1700 Class III Type B
2. Color and Pattern: Through total thickness.
3. Nominal Total Thickness: 0.120 inches.
4. Minimum Sheet Width: Plank.
5. Minimum Static Load Limit: ASTM F970

2.2 RESILIENT BASES

1. As per Section 09 65 30 – Resilient Wall Base and Accessories

2.3 ACCESSORIES

A. Subfloor Filler:

1. Description: Premix latex.
2. Type: As recommended by adhesive material manufacturer.

B. Primers and Adhesives:

1. Description: Waterproof.
2. Type: As recommended by flooring manufacturer.

C. Moldings and Edge Strips:

1. Material: Same as flooring.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that concrete floors are dry, are to maximum moisture content as recommended by manufacturer, and exhibit negative alkalinity, carbonization, and dusting.

C. Verify that floor and lower wall surfaces are free of substances capable of impairing adhesion of new adhesive and finish materials.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Remove subfloor ridges and bumps.

C. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, and hard surface.

D. Prohibit traffic until filler is cured.

E. Clean substrate.

F. Apply primer as required to prevent bleed-through or interference with adhesion by substances which cannot be removed.

3.3 INSTALLATION

A. Tile Flooring:

1. Mix tile from container to ensure shade variations are consistent when tile is placed.
2. Lay flooring with joints and seams as designated in product pattern to building lines to produce symmetrical tile pattern.
3. Pattern:

    a. Install tile to product recommended pattern.
    b. Allow minimum 1/2 full-size tile width at room or area perimeter.

4. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
5. If floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
6. Edge Strips:

a. Install at unprotected or exposed edges, where flooring terminates, and where indicated.
b. Secure metal strips after installation of flooring with stainless-steel screws.

7. Access Covers:

a. Install flooring in recessed floor access covers.
b. Maintain floor pattern.

8. At movable partitions, install flooring under partitions without interrupting floor pattern.
9. Install feature strips and floor markings where indicated, and fit joints tightly.

B. Bases:

1. Fitting:

a. Fit joints tightly and make vertical.
b. Maintain minimum dimension of 18 inches between joints.

2. Corners:

a. Miter internal corners.
b. At external corners, V-cut back of base strip to 2/3 of its thickness and fold.
c. At exposed ends, use premolded units.

3. Attachment:

a. Install base on solid backing.
b. Bond tightly to wall and floor surfaces.

4. Scribe and fit to door frames and other interruptions.

3.4 CLEANING

A. Section 017000 - Execution and Closeout Requirements: Requirements for cleaning.

B. Remove excess adhesive from floor, base, and wall surfaces without damage.

C. Clean, seal, and maintain resilient flooring products.

3.5 PROTECTION

A. Section 017000 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Do not permit traffic on resilient flooring for 48 hours after installation.

END OF SECTION 096500

SECTION 09 65 30

RESILIENT WALL BASE AND ACCESSORIES

1. PART 1 GENERAL

1.1 SUMMARY

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 RELATED DOCUMENTS

A. Section 09 31 10 - Hard Surface Tile Floor Finish

B. Section 09 65 00 - Resilient Flooring

C. Section 09 68 13 - Carpeting

1.3 SUBMITTALS

A. Submit product data, samples and manufacturer's installation instructions under provisions of Section 01 33 00 - Submittals.

B. Submit product certificates signed by manufacturers of resilient wall base and accessories certifying that each product furnished complies with requirements.

1.4 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three years experience.

B. Source Limitations: Obtain each type and color of product specified from one source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.

C. Fire-Test-Response Characteristics: Provide products with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction.
   1. Critical Radiant Flux: 0.45 W/sq.cm or greater when tested per ASTM E 648.
   2. Smoke Density: Maximum specific optical density of 450 or less when tested per ASTM E 662.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Project site in manufacturer's original, unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipped and handling instructions.

B. Store products in dry spaces protected from the weather, with ambient temperatures maintained between 50 and 90 deg F (10 and 32 deg C).

C. Move products into spaces where they will be installed at least 48 hours before installation, unless longer conditioning period is recommended in writing by manufacturer.

1.6 PROJECT CONDITIONS

A. Maintain a temperature of not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C) in spaces to receive resilient products for at least 48 hours before installation, during installation, and for at least 48 hours after installation, unless manufacturer's written recommendations specify longer time periods. After post installation period, maintain a temperature of not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).

B. Do not install products until they are at the same temperature as the space where they are to be installed.

C. Close spaces to traffic during installation and for time period after installation recommended in writing by manufacturer.

D. Coordinate this work with other construction to minimize possibility of damage and soiling during remainder of construction period. Install resilient products after other finishing operations, including painting, have been completed.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
   1. Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof, of each different type, color, pattern, and size of resilient product installed.
   2. Deliver extra materials to Owner.

B. Warranty: Include coverage of installed sealants and accessories which fail to achieve air tight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Mercer

B. Roppe

C. Mannington Commercial

D. Substitutions: See provisions of Section 01 60 00 - Product Requirements.

2.2 RESILIENT WALL BASE

A. Vinyl Wall Base: Products complying with FS SS-W-40, Type I and with requirements specified in the Resilient Wall Base and Accessory Schedule.

B. Refer to Materials and Finishes drawing for size and colors.

2.3 ACCESSORIES

A. Rubber Accessories: Products complying with requirements specified in the Resilient Wall Base and Accessory Schedule.

B. Trowelable Leveling and Patching Compounds: Latex-modified, Portland-cement based formulation provided or approved by resilient product manufacturer for applications indicated.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrates and conditions are satisfactory for resilient product installation and comply with requirements specified. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Beginning of installation means installer accepts condition of existing substrate.

3.2 PREPARATION

A. Comply with manufacturer's written installation instructions for preparing substrates indicated to receive resilient products.

B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.

C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

D. Broom and vacuum clean substrates to be covered immediately before installing resilient products. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Install resilient products in accordance with manufacturer's written instructions.

B. Apply resilient wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
   1. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
   2. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
   3. Do not stretch base during installation.
   4. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer’s recommended adhesive filler material.
   5. Install premolded outside and inside corners before installing straight pieces.

C. Place resilient products so they are butted to adjacent materials and bond to substrates with adhesive. Install reducer strips at edges of flooring that would otherwise be exposed.

3.4 CLEANING AND PROTECTING

A. Perform the following operations immediately after installing resilient products:
   1. Remove adhesive and other surface blemishes using cleaner recommended by resilient product manufacturers.
   2. Sweep or vacuum horizontal surfaces thoroughly.
   3. Do not wash resilient products until after time period recommended by resilient product manufacturer.
   4. Damp-mop or sponge resilient products to remove marks and soil.

B. Protect resilient products against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by resilient product manufacturer.

C. Clean resilient products not more than 4 days before dates scheduled for inspection intended to establish date of Substantial Completion in each area of Project. Clean products according to manufacturer’s written recommendations.

3.5 RESILIENT WALL BASE AND ACCESSORY SCHEDULE

A. Vinyl Wall Base: Provide wall base complying with the following:
   1. Color and Pattern: As shown on "Materials and Finishes" drawing.
   2. Style: Cove with top-set toe.

3. Minimum Thickness: 1/8 inch (3.2 mm).
4. Height: As noted on drawings.
5. Lengths: Coils in lengths standard with manufacturer, but not less than 96 feet (29.26 m).
6. Outside Corners: Premolded.
7. Inside Corners: Premolded.
8. Surface: Smooth.

END OF SECTION

SECTION 09 90 00

PAINTING AND FINISHES

1. PART 1 GENERAL

1.1 WORK INCLUDED

A. Surface preparation.

B. Surface finish schedule.

C. Color selection schedule.

D. Applying finishes to existing structures and equipment as specified.

1.2 RELATED WORK

A. Section 051200 - Structural Steel: Shop primed items.

B. Section 061000 - Rough Carpentry.

C. Section 062000 - Finish Carpentry.

D. Section 081000 - Metal Doors and Frames.

E. Section 092500 - Gypsum Drywall.

1.3 REFERENCES

A. ANSI/ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Laquer, and Related Products.

B. ASTM D2016 - Test Method for Moisture Content of Wood.

C. ASTM D4263 - Standard Test Method for indicating moisture in concrete by the plastic sheet method.

1.4 DEFINITIONS

A. Conform to ANSI/ASTM D16 for interpretation of terms used in this Section.

1.5 QUALITY ASSURANCE

A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with three years experience.

B. Applicator: Company specializing in commercial painting and finishing approved by product manufacturer.

1.6 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame/fuel/smoke rating requirements for finishes.

1.7 SUBMITTALS

A. Submit product data under provisions of Section 013300.

B. Provide product data on all finishing products.

C. Submit samples and color charts under provisions of Section 013300.

D. Submit manufacturer's application instructions under provisions of Section 013300.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 016000.

B. Store and protect products under provisions of Section 016000.

C. Deliver products to site in sealed and labelled containers; inspect to verify acceptance.

D. Container labelling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.

E. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.

F. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during, and 72 hours after application of finishes, unless required otherwise by manufacturer's instructions.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.

C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

1.10 EXTRA STOCK

A. Provide a one gallon container of each color and type to Owner. Quart containers will be acceptable for touchup paint and for small items.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT, PRIMERS, BLOCK FILLER, AND FIELD CATALYZED COATINGS

A. Coronado Paint Company

B. Glidden Division I.C.I.

C. Sherwin Williams.

D. Substitutions: Under provisions of Section 016000.

2.2 MATERIALS

A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.

B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.

C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

A. Refer to schedule at end of Section for surface finish and color schedule.

3. PART 3 EXECUTION

3.1 INSPECTION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

1. Plaster and Gypsum Wallboard: 12 percent.

2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Located Wood: 15 percent, measured in accordance with ASTM D2016.
4. Exterior Located Wood: 15 percent, measured in accordance with ASTM D2016.
5. Concrete Floors: 14 percent, measured in accordance with ASTM D4263.

D. Beginning of installation means acceptance of existing surfaces.

3.2 PREPARATION

A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.

B. Correct minor defects and clean surfaces which affect work of this Section.

C. Seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.

G. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved by using a pH pencil or pH range paper, pH should be 11 or less prior to application of coatings.

H. Copper Surfaces Scheduled for a Paint Finish: Remove contamination by steam, high pressure water, or solvent washing. Apply vinyl etch primer immediately following cleaning.

I. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.

J. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

K. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

L. Exterior Face Brick: Verify that brick installed as part of the work has been cleaned according to Section 4500. Power wash existing face brick scheduled to receive coatings with masonry detergent.

M. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

N. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

O. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

P. Interior Wood Items Scheduled to Receive Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

Q. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.

R. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

3.3 PROTECTION

A. Protect elements surrounding the work of this Section from damage or disfiguration.

B. Repair damage to other surfaces caused by work of this Section.

C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

D. Remove empty paint containers from site.

3.4 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform finish.

D. Sand lightly between coats to achieve required finish.

E. Allow applied coat to dry before next coat is applied.

F. Prime back surfaces of interior and exterior woodwork with primer paint.

3.5 CLEANING

A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.

B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.

C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.6 GENERAL FINISH SPECIFICATIONS

A. Masonry (M.)

1. M-2 Existing Interior

Surface Preparation: Thoroughly wash and rinse surfaces, removing dirt, dust, grease and oil. Use appropriate detergent cleanser. Remove loose or flaking paint and feather sand edges for a smooth uniform surface. Dull glossy surfaces.

Primer: Apply one coat latex primer sealer to exposed bare areas with a coverage of 400 square feet per gallon.

Finish Coats: Apply two coats of 32% volume solids, acrylic latex gloss enamel, at a minimum dry film thickness of 1.4 mils per coat and a coverage of 365 square feet per gallon.

B. Ferrous Metals (F.M.)

1. F.M.-1 Exterior/Interior - severe exposure.

Surface Preparation: SSPC SP6 Commercial Blast Cleaning.

Shop or Field Coat: Apply one coat of 54% volume solids, two component poly-amide cured high build epoxy primer. At a dry film thickness of 3.0 mils and a coverage of 289 square feet per gallon.

First Coat: Apply one coat of a 56% volume solids, two component poly-amide cured high-build epoxy. At a minimum dry film thickness of 3.0 mils and a coverage of 300 square feet per gallon.

Second Coat: Apply one coat of a 54% volume solids aliphatic polyester polyurethane enamel. At a minimum dry film

thickness of 1.5 mils and a coverage of 577 square feet per gallon.

C. Concrete (C.)

1. C-7Existing Concrete Floors

Surface:
Preparation: Thoroughly wash and rinse surfaces, removing dirt, dust, grease and oil. Use appropriate detergent cleanser. Remove loose or flaking paint and feather sand edges for a smooth uniform surface. Dull glossy surfaces.

Primer: Apply one coat of epoxy modified acrylic floor finish, thinned 15%, to exposed bare areas, with a coverage of 350 square feet per gallon.

Finish Coat: Apply two coats of epoxy modified acrylic floor finish with a coverage of 350 square feet per gallon.

D. Wood (W.)

1. W-1 Exterior and Interior

Surface
Preparation: Surface must be dry, clean, and free of contaminants. Sand rough areas.

Primer: Apply a 53% volume solids alkyd wood primer at a dry film thickness of 2.0 mils and a coverage of 425 square feet per gallon.

Finish Coats: Apply two coats of a 54% volume solids alkyd enamel, at a dry film thickness of 2.0 mils per coat and a coverage of 400 square feet per gallon.

2. W-1 Exterior Varnish

Surface
Preparation: Surface must be dry, clean, and free of contaminants. Sand rough areas.

Finish Coats: Apply two coats of Minwax Helmsman Spar Urethane, satin finish or equal. Color by Owner.

E. Drywall (D.)

1. D-1. Drywall (Gypsum Board)

Surface Preparation:	Surface must be dry, clean and free of contaminants. Sand joint compound smooth and feather edges.
Finish Coats:	Apply two coats of a 43% volume solids acrylic latex at a dry film thickness of 2 mils per coat and a coverage of 345 square feet per gallon.

F. Galvanized Metals (G.)

1. G-1Interior

Surface Preparation:	SSPC-SP1 Solvent Cleaning.
Primer:	Apply one coat of Epoxy Zinc Chromate primer poly-amide with 52% solids at a coverage of 375 square feet per gallon.
Finish Coats:	Apply two coats of a 56% volume solids, poly-amide cured high-build epoxy at a dry film thickness of 3.0 mils per coat and a coverage of 300 square feet per gallon.

2. G-2.Exterior

Surface Preparation:	SSPC-SP1 Solvent Cleaning.
Primer:	Apply one coat of Epoxy Zinc Chromate primer poly-amide with 52% solids at a coverage of 375 square feet per gallon.
First Coat:	Apply one coat of a 56% volume solids, poly-amide cure high-build epoxy at a dry film thickness of 3.0 mils and a coverage of 300 square feet per gallon.
Finish Coat:	Apply one coat of a 54% volume solids, aliphatic polyester polyurethane enamel at a minimum dry film thickness of 1.5 mils and at a coverage of 577 square feet per gallon.

3.8 PAINTS AND COATINGS SCHEDULE

A. Application: Materials shall be applied to the following surfaces and areas in accordance with the guidelines developed within the "General Finish Specifications".

B. Finish M-2: Existing interior exposed concrete block.

C. Finish FM-1: Ferrous materials including, but not limited to, structural steel, miscellaneous metals, doors and frames, non-insulated piping, and equipment not included under Finish FM-2 disturbed or installed as part of the work as indicated in the schedule. Stainless steel, aluminum and plastic components specified with the above items shall be painted only as directed by the Engineer.

D. Finish G-1: Interior galvanized items, i.e. structural members, frames, exposed ductwork, conduit, etc. disturbed or installed as part of the work and as indicated in the schedule.

E. Finish G-2: Exterior galvanized items, i.e. structural members, frames, etc. disturbed or installed as part of the work and as indicated in the schedule.

F. Finish C-7: Existing interior concrete floors and as indicated in the schedule.

G. Finish W-1: Exposed wood disturbed or installed as part of the work scheduled to receive paint finish.

H. Finish W-2: Exposed wood disturbed or installed as part of the work scheduled to receive varnish or a stain finish.

I. Finish D-1: Exposed drywall (gypsum board) disturbed or installed as part of the work and as indicated in the schedule.

J. Refer to the "Materials and Finishes" schedule in the "Finish Schedules" drawing for more information and for color selections.

END OF SECTION

SECTION 09 90 01

PAINTING AND FINISHES; EPOXY

1. PART 1 GENERAL

1.1 WORK INCLUDED

A. Surface preparation.

B. Surface finish schedule.

C. Color selection schedule.

D. Applying finishes to existing structures and equipment as specified.

1.2 RELATED WORK

A. Section 042000 - Unit Masonry.

B. Section 081000 - Metal Doors and Frames.

C. Section 092500 - Gypsum Drywall.

1.3 REFERENCES

A. ANSI/ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Laquer, and Related Products.

B. ASTM D2016 - Test Method for Moisture Content of Wood.

C. ASTM D4263 - Standard Test Method for indicating moisture in concrete by the plastic sheet method.

1.4 DEFINITIONS

A. Conform to ANSI/ASTM D16 for interpretation of terms used in this Section.

1.5 QUALITY ASSURANCE

A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with three years experience.

B. Applicator: Company specializing in commercial painting and finishing approved by product manufacturer.

1.6 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame/fuel/smoke rating requirements for finishes.

1.7 SUBMITTALS

A. Submit product data under provisions of Section 013300.

B. Provide product data on all finishing products.

C. Submit samples and color charts under provisions of Section 013300.

D. Submit manufacturer's application instructions under provisions of Section 013300.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 016000.

B. Store and protect products under provisions of Section 016000.

C. Deliver products to site in sealed and labelled containers; inspect to verify acceptance.

D. Container labelling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.

E. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.

F. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during, and 72 hours after application of finishes, unless required otherwise by manufacturer's instructions.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.

C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

1.10 EXTRA STOCK

A. Provide a one gallon container of each color and type to Owner. Quart containers will be acceptable for touchup paint and for small items.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT, PRIMERS, BLOCK FILLER, AND FIELD CATALYZED COATINGS

A. Coronado Paint Company

B. Glidden Division I.C.I.

C. Sherwin Williams.

D. Substitutions: Under provisions of Section 016000.

2.2 MATERIALS

A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.

B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.

C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

A. Refer to schedule at end of Section for surface finish and color schedule.

3. PART 3 EXECUTION

3.1 INSPECTION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Plaster and Gypsum Wallboard: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Located Wood: 15 percent, measured in accordance with ASTM D2016.
4. Exterior Located Wood: 15 percent, measured in accordance with ASTM D2016.
5. Concrete Floors: 14 percent, measured in accordance with ASTM D4263.

D. Beginning of installation means acceptance of existing surfaces.

3.2 PREPARATION

A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.

B. Correct minor defects and clean surfaces which affect work of this Section.

C. Seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.

G. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved by using a pH pencil or pH range paper, pH should be 11 or less prior to application of coatings.

H. Copper Surfaces Scheduled for a Paint Finish: Remove contamination by steam, high pressure water, or solvent washing. Apply vinyl etch primer immediately following cleaning.

I. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.

J. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

K. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

L. Exterior Face Brick: Verify that brick installed as part of the work has been cleaned according to Section 4500. Power wash existing face brick scheduled to receive coatings with masonry detergent.

M. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

N. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

O. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

P. Interior Wood Items Scheduled to Receive Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

Q. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.

R. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

3.3 PROTECTION

A. Protect elements surrounding the work of this Section from damage or disfiguration.

B. Repair damage to other surfaces caused by work of this Section.

C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

D. Remove empty paint containers from site.

3.4 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform finish.

D. Sand lightly between coats to achieve required finish.

E. Allow applied coat to dry before next coat is applied.

F. Prime back surfaces of interior and exterior woodwork with primer paint.

3.5 CLEANING

A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.

B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.

C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.6 GENERAL FINISH SPECIFICATIONS

A. Masonry (M.)

1. M-1. Interior

Surface Preparation:	Thoroughly wash and rinse surfaces, removing dirt, dust, grease and oil. Use appropriate detergent cleanser. Remove loose or flaking paint and feather sand edges for a smooth uniform surface. Dull glossy surfaces.
Primer:	Apply a smooth textured modified epoxy block filler which has a solids by volume value of 50%, and a spreading rate of 80 to 100 square feet per gallon on dense masonry.
Finish Coats:	Apply two coats of a two component, high build poly-amide cured, epoxy, which has a solids value of 56% at a minimum dry film thickness of 5.0 mils per coat and a coverage of 180 square feet per gallon.

B. Ferrous Metals (F.M.)

1. F.M.-1. Exterior/Interior - severe exposure.

Surface Preparation:	SSPC SP6 Commercial Blast Cleaning.
Shop or Field Coat:	Apply one coat of 54% volume solids, two component poly-amide cured high build epoxy primer. At a dry film thickness of 3.0 mils and a coverage of 289 square feet per gallon.

First Coat: Apply one coat of a 56% volume solids, two component poly-amide cured high-build epoxy. At a minimum dry film thickness of 3.0 mils and a coverage of 300 square feet per gallon.

Second Coat: Apply one coat of a 54% volume solids aliphatic polyester polyurethane enamel. At a minimum dry film thickness of 1.5 mils and a coverage of 577 square feet per gallon.

C. Concrete (C.)

1. C-1. Concrete Floors

Surface:

Preparation: Thoroughly wash and rinse surfaces, removing dirt, dust, grease and oil. Use appropriate detergent cleanser. Remove loose or flaking paint and feather sand edges for a smooth uniform surface. Dull glossy surfaces.

Primer: Apply one coat of epoxy modified acrylic floor finish, thinned 15%, to exposed bare areas, with a coverage of 350 square feet per gallon.

Finish Coat: Apply two coats of epoxy modified acrylic floor finish with a coverage of 350 square feet per gallon. Add an anti-skid aluminum oxide based formula to the finish paint or approved equal.

D. Wood (W.)

1. W-1. Exterior and Interior

Surface

Preparation: Surface must be dry, clean, and free of contaminants. Sand rough areas.

Primer: Apply a 53% volume solids alkyd wood primer at a dry film thickness of 2.0 mils and a coverage of 425 square feet per gallon.

Finish Coats: Apply two coats of a 54% volume solids alkyd enamel, at a dry film thickness of 2.0 mils per coat and a coverage of 400 square feet per gallon.

E. Drywall (D.)

1. D-1. Drywall (Gypsum Board)

Surface

Preparation: Surface must be dry, clean and free of contaminants. Sand joint compound smooth and feather edges.

Finish Coats: Apply two coats of a 43% volume solids acrylic latex at a dry film thickness of 2 mils per coat and a coverage of 345 square feet per gallon.

F. Galvanized Metals (G.)

1. G-1. Interior

Surface

Preparation: SSPC-SP1 Solvent Cleaning.
Primer: Apply one coat of Epoxy Zinc Chromate primer poly-amide with 52% solids at a coverage of 375 square feet per gallon.

Finish Coats: Apply two coats of a 56% volume solids, poly-amide cured high-build epoxy at a dry film thickness of 3.0 mils per coat and a coverage of 300 square feet per gallon.

2. G-2. Exterior

Surface Preparation: SSPC-SP1 Solvent Cleaning.

Primer: Apply one coat of Epoxy Zinc Chromate primer poly-amide with 52% solids at a coverage of 375 square feet per gallon.

First Coat: Apply one coat of a 56% volume solids, poly-amide cure high-build epoxy at a dry film thickness of 3.0 mils and a coverage of 300 square feet per gallon.

Finish Coat: Apply one coat of a 54% volume solids, aliphatic polyester polyurethane enamel at a minimum dry film thickness of 1.5 mils and at a coverage of 577 square feet per gallon.

3.8 PAINTS AND COATINGS SCHEDULE

A. Application: Materials shall be applied to the following surfaces and areas in accordance with the guidelines developed within the "General Finish Specifications".

B. Finish M-1: Interior exposed concrete block.

C. Finish FM-1: Ferrous materials including, but not limited to, structural steel, miscellaneous metals, doors and frames, non-insulated piping, and equipment not included under Finish FM-2 disturbed or installed as part of the work as indicated in the schedule. Stainless steel, aluminum and plastic components specified with the above items shall be painted only as directed by the Architect.

D. Finish G-1: Interior galvanized items, i.e. structural members, frames, exposed ductwork, conduit, etc. disturbed or installed as part of the work and as indicated in the schedule.

E. Finish G-2: Exterior galvanized items, i.e. structural members, frames, etc. disturbed or installed as part of the work and as indicated in the schedule.

F. Finish C-1: Interior concrete floors and as indicated in the schedule.

G. Finish W-1: Exposed wood disturbed or installed as part of the work.

H. Finish D-1: Exposed drywall (gypsum board) disturbed or installed as part of the work and as indicated in the schedule.

I. All colors are to be selected by the Owner unless noted otherwise.

END OF SECTION

SECTION 10 28 13

TOILET AND BATH ACCESSORIES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Toilet accessories.

B. Grab Bars.

C. ADA Accessible Restroom Signs.

D. Attachment hardware.

1.2 REFERENCES

A. ANSI/ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strips.

B. ANSI/ASTM A366 - Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.

C. ANSI/ASTM A386 - Zinc Coating (Hot-Dip) on Assembled Steel Products.

D. ASTM A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.

E. ASTM A269 - Seamless and Welded Austenitic Stainless Steel Tubing for General Service.

1.3 SUBMITTALS

A. Submit product data, samples and manufacture installation instructions under provisions of Section 01 33 00.

B. Provide product data on accessories describing size, finish, details of function, attachment methods.

C. Submit two samples of each component illustrating color and finish.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable code for installing work.

1.5 SEQUENCING AND SCHEDULING

A. Coordinate the work of this Section with the placement of internal wall reinforcement to receive anchor attachments.

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

A. ASI, Bobrick, Mills Bradley, Franklin Brass or approved equals.

2.2 MATERIALS

A. Sheet Steel: ANSI/ASTM A366.

B. Stainless Steel Sheet: ASTM A167, Type 304.

C. Tubing: ASTM A269, stainless steel.

D. Adhesive: Two component epoxy type, waterproof.

E. Fasteners, Screws, and Bolts: Hot dip galvanized.

F. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.3 FABRICATION

A. Weld and grind smooth joints of fabricated components.

B. Form exposed surfaces from single sheet of stock, free of joints.

C. Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.

D. Back paint components where contact is made with building finishes to prevent electrolysis.

E. Shop assemble components and package complete with anchors and fittings.

F. Provide steel anchor plates, adapters, and anchor components for installation.

G. Hot dip galvanize exposed and painted ferrous metal and fastening devices.

2.4 FACTORY FINISHING

A. Galvanizing: ANSI/ASTM A123 to 1.25 oz/sq yd.

B. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.

C. Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.

D. Chrome/Nickel Plating: ANSI/ASTM B456, Type SC 2 polished finish.

E. Stainless Steel: No. 4 satin luster finish.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that site conditions are ready to receive work and dimensions are as indicated on shop drawings.

B. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. Deliver inserts and rough-in frames to site at appropriate time for building-in.

B. Provide templates and rough-in measurements as required.

C. Verify exact location of accessories for installation.

3.3 INSTALLATION

A. Install fixtures, accessories and items in accordance with manufacturers' instructions.

B. Install plumb and level, securely and rigidly anchored to substrate.

3.4 SCHEDULE

A. Rest Rooms, Showers, and Locker Room:

1. Combination Folded Paper Towel Dispenser/Waste Container: Bobrick B-3699 ClassicSeries, surface mount, satin finish.
2. Napkin Disposal: Bradley Bradex Model 4781-15, surface mount, satin-finish.
3. Stainless Steel Grab Bars: As indicated on drawings or required by codes. Grab bars shall be 1 1/2" O.D. with concealed mounting - ASI 18 gage stainless steel or equal (42” & 36” horizontal & 18” vertical).
4. Toilet Paper Dispenser: Bobrick B-2888, surface mounted, multi-roll toilet tissue dispenser.
5. Soap Dispenser: Bobrick Classic Series, surface mounted, Model B-2111, satin finish.
6. Channel Frame Mirror: Bradley, Bradex, Model 781-1830 (18"x30").
7. Drain & Piping Covers: Truebro 82193 Lav Guard undersink molded vinyl tubular P-Trap piping cover and (2) angle valve and supply covers (white).
8. Tactile ADA Sign with Braille - Acrylic standard 9"x6" sign set in white-on-blue colors, labeled “UNISEX” signs. Place at each proposed restroom (mount on door). Existing Men’s and Women’s rooms signs to remain.
9. Hat and Coat Hook: Type 304, stainless steel, surface-mounted hook with concealed mounting, Bobrick B-6827 (satin-finish).

10. Floor-Braced Restroom Partitions: Solid phenolic core doors, pilasters, and mounting panels by Mills Bradley or Scranton Products. Components shall be provided with all hardware and fastenings to provide a complete installation. A.D.A. stall doors must be self-closing and must have a door pull in compliance with ICC/ANSI Section 404.2.7 that is placed on both sides of the door near the latch. Color shall be chosen by the owner from manufacturer's standard color choices. Refer to the drawings for more information.

END OF SECTION

SECTION 10 42 60

SIGNAGE AND GRAPHICS

1 PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pre-manufactured Restroom and ADA Restroom Signs.

1.2 RELATED SECTIONS

A. Section 013300 - Submittal Procedures.

2 PART 2 PRODUCTS

2.1 MATERIALS

A. Plastic Sign - 6”x9” or size appropriate for wording, ADA, Braille/Tactile sign. Mechanically fasten to walls or doors with the following wording.
1. “MEN”: attach to exterior of room door, 1 total.
2. “WOMEN”: attach to exterior of room door, 1 total.
3. “LOCKER ROOM”: attach to each room door, 2 total.

3 PART 3 EXECUTION

3.1 PREPARATION

A. Review all manufacturer installation guidelines and recommendations.

3.2 STORAGE

A. All equipment shall be stored in original manufacturer containers and protected from construction conditions, weather, theft, and vandalism until time of installation.

3.3 INSTALLATION

A. Assemble equipment components according to manufacturer instructions, installation guidelines and recommendations.

B. Replace all damaged components prior to final inspection.

C. Finish according to specific use requirements.

END OF SECTION

SECTION 10 50 00

METAL LOCKERS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Standard Duty Knocked Down Lockers

1.2 REFERENCES

A. ADAAG - Americans with Disabilities Act, Accessibility Guidelines.

1.3 SUBMITTALS

A. Submit under provisions of Section 013300.

B. Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Show the following:
   1. Dimensioned drawings including plans, elevations, and sections to show locker locations and interfaces with adjacent substrates.
   2. Details of assembly, erection, anchorage and clearance requirements.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and finishes.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Protect locker finish and adjacent surfaces from damage.

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Penco Products, Inc.

B. Requests for substitutions will be considered in accordance with provisions of Section 016000.

C. Provide only metal lockers fabricated in the United States by a single domestic manufacturer.

2.2 MATERIALS

A. Steel: Prime grade mild cold-rolled sheet steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A1008.

B. Steel: Sheet steel components shall be fabricated using zinc-coated steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A879.

C. Hooks: Zinc plated forged steel, ball ends.

D. Bolts and Nuts: Zinc plated truss fin head bolts and hex nuts.

2.3 STANDARD DUTY LOCKERS

A. Standard Duty Lockers:
1. Acceptable Product: Penco Vanguard, knock-down lockers or approved equal.
2. Tops, Backs, and Sides: 24 gauge sheet steel. Bottoms 16 gauge steel.
3. Doors over 12 inches (305 mm) wide or 20 inches (760 mm) high: 16 gauge sheet steel.
4. No legs. Provide Locker Bases.

B. Locker Body: Steel specially formed for added strength and rigidity and to ensure tight joints at fastening points.
1. Tops and bottoms with three sides formed 90 degrees, the front offset formed to be flush with horizontal frame member.
2. Shelves with four sides formed to 90 degrees, front edge having a second bend.
3. Hole spacing in locker body construction: Not exceeding 9 inches (225 mm).
4. Form door frame members to a channel shape, not less than 16 gauge steel.
5. Provide vertical door frame members with additional 3/8 inch (9.5 mm) flange as a continuous door strike.
6. Mortise and tenon intermembering parts; electrically weld together in a rigid assembly capable of resisting strains.
7. Securely weld cross frame members of channel shapes to vertical framing members to ensure rigidity, including intermediate cross frame on double and triple tier lockers.
8. Optional factory assembly of locker bodies using rivets.

C. Locker Doors: One piece sheet steel
1. Multi-Point Latch Doors: Full channel formation of adequate depth to fully conceal lock bar on lock side, channel formation on hinge side, right angle formations across top and bottom, with holes for attaching number plates.
2. Provide holes for attaching number plates.
3. Doors over 15 inches (380 mm) wide by 60 inches (1.524 m) or 72 inches (1.828 m) high: 3 inch (75 mm) wide 20 gauge full height reinforcing pan welded to inside face of door at 6 inch (150 mm) centers.
4. Ventilation: Provide louvered doors in manufacturer's standard louver pattern.
   a. Doors 60 inches (1.524 m) or Higher: Louvers in groups of 6 at top and bottom.

D. Hinges:
1. Two inch high, 0.074 inch (1.88 mm) thick sheet steel, double spun, full loop, tight pin, projection welded to door frame and securely fastened to the door with two steel rivets.
   a. Doors over 48 inches (1.066 m) high: Three 2 inch (51 mm) high five-knuckle hinges.

2.4 DOOR HANDLES AND LATCHING

A. One Person Lockers, 1 Tier: Multi-point latching:
   1. Chrome-plated zinc alloy die-cast case and handle, 40,000 psi (276 MPa) maximum tensile strength.
   2. Attachment to latch bar concealed inside door and tamperproof; pulling handle out shall move latch bar up and open door in one motion.
   3. Padlock Eye: For use with 9/32 inch (7.1 mm) diameter padlock, integral with handle and located so that extension of handle forms padlock strike.
   4. Case: Kick-proof type shielding movable part and providing padlock strike to prevent scratching and marring the door.
   5. Provide lock hole cover plate for use with padlocks.
   6. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
      a. All Doors: Three points.
   7. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
   8. Firmly secure one rubber silencer in frame at each latch hook.
   9. Classic III Multi-point latching with recessed handles:
      a. Recess finger-lift control handle in door.
      b. Pocket: 22 gauge brushed stainless steel securely fastened to door with two tabs and a positive tamper-resistant decorative fastener; of depth sufficient to prevent a combination padlock, built-in combination lock, or key lock from protruding beyond door face.
      c. Provide lock hole cover plate for use with padlocks.
      d. Attach 14 gauge formed steel lifting piece to latching channel with one concealed retaining lug and one rivet, assuring a positive two-point connection.
      e. Handle finger lift: Molded, sound-deadening, attached with rivet; padlock eye for use with 9/32 inch (7.1 mm) diameter padlock shackle.
      f. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
         i. Doors 20 inches (0.508 m) to 48 inches (1.22 m) high: Two points.
      g. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
      h. Firmly secure one rubber silencer in frame at each latch hook.

2.5 INTERIOR EQUIPMENT

A. ADA-Compliant Lockers (Recessed Handles with Multi-Point Latch):
   1. Single Tier Lockers: Hat shelf 48 inches (1.219 m) maximum off the floor.
   2. Hooks and rods as specified for other lockers.

2.6 ACCESSORIES

A. Number Plates: Provide each locker with a polished aluminum number plate, 2-1/4 inches (57 mm) wide by 1 inch (25 mm) high, with black numerals not less than 3/8 inch (9.5 mm) high; attach to face of door with two aluminum rivets.

B. Closed Bases: 18 gauge closed metal front and end bases, finished to match lockers

C. Finished End Panels: Minimum 16 gauge steel formed to match locker depth and height, 1 inch (25 mm) edge dimension; finish to match lockers; install with concealed fasteners.

D. Front Fillers: 20 gauge steel formed in an angle shape, with 20 gauge slip joint angles formed in an angle shape with double bend on one leg forming a pocket to provide adjustable mating with angle filler.
   1. Attachment by means of concealed fasteners.
   2. Finish to match lockers.

E. Zee Bases for Knock-Down Lockers: 14 gauge, steel flanged outward at top for support of lockers, flanged inward at bottom for anchoring to floor.
   1. Height: 6 inches (150 mm).

F. Recess Trim: 18 gauge steel, 3 inch (75 mm) face dimension.
   1. Vertical and/or horizontal as required.
   2. Standard lengths as long as practical.
   3. Attach to lockers with concealed clips.
   4. Provide necessary finish caps and splices.
   5. Finish to match lockers.

2.7 FABRICATION

A. Fabricate lockers square, rigid, without warp, with metal faces flat and free of distortion.

B. Knock-Down Lockers: Fabricate lockers on the unit principle, each locker with individual door and frame, individual top, bottom, back, and shelves, with common intermediate divisions separating compartments. Verify dimensions and arrangement before fabrication.

C. Finish: Enamel powder coat paint finish electrostatically applied and properly cured to manufacturer's specifications for optimum performance. Finishes containing volatile organic compounds and subject to out-gassing are not acceptable. Locker exterior and interior shall be painted the same color.
   1. Powder Coat - Dry Thickness: 1 to 1.2 mils (0.025 to 0.03 mm).
   2. Powder Coat Plus - Dry Thickness: 2 to 2.2 mils (0.05 to 0.055 mm).
   3. Color: As selected from manufacturer's standard colors.
   4. Special Finish
      a. Custom color
      b. Anti-Graffiti
      c. Anti-Microbial
      d. TGIC
      e. Ultra-Weatherable

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates and bases have been properly prepared.

B. If substrate and bases are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

A. Install metal lockers and accessories at locations shown in accordance with manufacturer's instructions.

B. Install lockers plumb, level, and square.

C. Anchor lockers to floor and wall at 48 inches (1.219 m) or less, as recommended by the manufacturer.

D. Bolt adjoining locker units together to provide rigid installation.

E. Install metal fillers using concealed fasteners. Provide flush hairline joints against adjacent surfaces.

F. Install front bases between legs without overlap or exposed fasteners. Provide end bases on exposed ends.

3.3 ADJUSTING AND CLEANING

A. Adjust doors and latches to operate without binding. Verify that latches are operating satisfactorily.

B. Adjust built-in locks to prevent binding of dial or key and ensure smooth operation prior to substantial completion.

C. Touch-up with factory-supplied paint and repair or replace damaged products before substantial completion.

3.4 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION

SECTION 22 00 00

PLUMBING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Contractor shall provide all labor, materials, equipment, permits, inspection fees, utility company charges, supervision and other items noted in contract General Conditions necessary to yield completely operable and tested systems as shown on the Plans and specified herein. As shown and noted on plans, details, and specifications the plumbing work includes, but is not limited to, the following:

1. Storm water, sanitary, and water piping to 5'-0" outside of building (where the site contractor shall connect.)
2. Domestic hot and cold water systems from source to all points of use, including water heaters, backflow preventers at locations requiring their use, and chlorination of systems prior to occupancy.
3. New plumbing fixtures and trim, wall hydrants or hose bibbs, floor drains, roof drains, cleanouts, and related items.
4. Insulation for piping systems and equipment as specified.

B. Exterior aboveground piping which is not insulated or otherwise covered shall be primed/painted. See Plumbing Plans for special gas painting notes.

C. Touch-up painting of damaged materials furnished by this contractor and damaged by this contractor. Each mechanical contractor shall be responsible for replacement/patching of all finish materials which have been disrupted and/or damaged as a result of their construction procedures. All materials shall match original and all work shall be done by experienced field tradesmen.

D. Flushing, cleaning, and pressure testing of installed systems. Complete pressure test form.

E. Cleanup associated with work of respective trades.

F. Maintain records of changes to the drawings as they occur in the field and submit same to the Owner and/or Architect/Engineer as requested within 90 days after the date of system acceptance. See the General Conditions of this specification for additional information.

G. Operation and Maintenance Manuals for all equipment provided, to be submitted prior to project close-out and final payment. Include at a minimum all information required by the Michigan Uniform Energy Code.

H. All equipment furnished and installed shall comply with the relevant agency listing, testing, and labeling requirements of the 2021 Michigan Plumbing Code.

I. No asbestos or mercury containing materials, materials capable of discharging lead into potable water or air systems, or materials capable of releasing other hazardous substances to the facility air environment, drainage systems, or water systems shall be used.

J. Coordination with other trades. Contractor shall assist in the field layout and coordination of equipment, ductwork, and piping installation and their relation with other trades at no additional cost to the owner.

K. Provide minimum two (2) year warranty against defects for materials and installation, unless otherwise indicated.

L. Cost of State of Michigan Plumbing and Mechanical Permits.

M. Cost to Authority Having Jurisdiction for water meter and strainer assembly.

N. Job Site safety is the responsibility of the contractor. The architect/engineer bears no responsibility for job-site safety.

O. Owner training in operation and maintenance of installed equipment and systems.
   1. Using the Operating and Maintenance manuals, balancing report data, and construction plans and specifications, contractor shall instruct owner's representatives in the proper operation of the equipment and systems installed to their mutual satisfaction. This activity shall take place near the point of substantial completion and will be considered one of the final punch list issues. Training shall consist of a period of "classroom" instruction providing a general overview of the facility equipment and systems plus a tour of the facility and its equipment pointing out specific maintenance issues for each area and item of equipment. When the training is complete owner shall be provided with a training certificate by the contractor by which the owner will acknowledge that such training has taken place.

1.2 STANDARDS, CODES AND PERMITS:

A. Refer to Division 1, General Requirements and Supplementary Conditions.

B. The Mechanical Contractor and his Subcontractors shall obtain all required permits and assessments prior to any work beginning. Contractor shall verify requirement to include privilege fees and permits as part of his formal bid.

C. All work shall comply with the latest edition of applicable standards and codes of following:
   1. ASA American Standards Association
   2. ASME American Society of Mechanical Engineers
   3. ASTM American Society of Testing Materials
   4. ANSI American National Standards Institute
   5. AGA American Gas Association
   6. ASHRAE American Society of Heating, Refrigerating, and Air Conditioning Engineers 90.1-2013
   7. AWWA American Water Works Association
   8. NFPA National Fire Protection Association
   9. IBR Institute of Boiler and Radiator Manufacturers

10. AWS American Welding Society
11. UL Underwriter s Laboratories
12. NEMA National Electric Manufacturers Association
13. NEC National Electric Code
14. ARA American Refrigeration Association
15. OSHA Occupational Safety and Health Act
16. MIOSHA Michigan Occupational Safety and Health Act
17. ABMA American Boiler Manufacturers Association
18. International Mechanical Code 2021
19. International Plumbing Code 2021

D. All work shall be provided and tested in accordance with all applicable local county, state laws, ordinances, codes, rules and regulations.

E. No work shall be covered or enclosed until the work is tested in accordance with applicable codes and regulations, and successful tests witnessed and approved by authorized inspection authority. Written approvals shall be secured by Contractor and submitted to Engineer before final acceptance of work.

1.3 SUBMITTALS:

A. Shop Drawings:
1. Submit electronic PDF copy of equipment and associated materials and equipment to Architect or Engineer for review.
2. Submit complete manufacturers shop drawings of all equipment, accessories and controls, including capacities, weights, dimensions, construction details, installation, controls, wiring diagrams, and motor data.
3. Review of shop drawings is for general application only and is a service only and not considered as a guarantee of total compliance with or as relieving Contractor of basic responsibilities under all Contract Documents and does not approve changes in time or cost.
4. Each Contractor is responsible to provide information to all other trades involved in or affected by installation of his equipment.

B. Operating and Maintenance Instruction and Manuals:
1. Each Contractor shall provide for all major items of equipment (3) bound and indexed sets of operating and maintenance instructions to Engineer for approval. Manual shall include a complete set of shop drawings.

PART 2 - GENERAL

2.1 MATERIALS AND EQUIPMENT:

A. Proposal Supplement:
1. Contractor to submit a supplemental document which lists the Mechanical Equipment and Materials Manufacturers, and Subcontractors list with the bid document.

2. After Proposal Supplement and Subcontractors are approved, no deviation shall be permitted without written approval of Engineer or Owner.

B. Standards:
1. All products shall be furnished by established manufacturers regularly engaged in making the type of materials to be provided and complete with all parts, accessories, connections, etc. as specified or as recommended and/or required by the manufacturer.
2. All material where applicable shall be labeled or listed by Underwriters Laboratories, Inc.
3. Erect equipment in a neat and workmanlike manner. Align, level and adjust for satisfactory operation. Install so that connecting and disconnecting of piping and accessories can be made readily, and so that parts are easily accessible for inspection, operation, maintenance and repair. Minor deviation from arrangements may be made, as approved.

C. Base Bid
1. The Mechanical Contractor shall refer to the Mechanical Schedules and Specifications for approved equipment manufacturers. Contractor shall submit for Approved Equals during the bidding process.
2. Where base bid is not listed in specifications and if another manufacturer is listed as an approved equal, equipment from these manufacturers will be accepted contingent upon meeting the design, appearance, and functional standards established by the specified items.
3. The Contractor is liable for any added costs to himself or others and is responsible for verifying dimensions, clearance and roughing-in requirements and is responsible for advising other Contractors of variations and shall submit revised drawing layout for approval of Engineer.

D. Substitutions and Changes:
1. The Contractor shall bid the project in strict accordance with the Plans, Schedules, and Specifications. Alternative materials or methods proposed by the Mechanical Contractor shall be submitted in writing to the Engineer at least 5 Days Prior to the Bid due date and shall be preapproved for bidding. Failure to receive pre-approval will disqualify the Bid.
2. The Contractor is liable for any added costs to himself or others and is responsible for verifying dimensions, clearance and roughing-in requirements, when product not named as the basis of design is used and is responsible for advising other Contractors of variations and, if requested, submit revised drawing layout for approval of Architect.
3. Work required by Engineer to revise drawings or re-engineer mechanical systems required by equipment substituted by the Contractor or them base bid shall be paid by the Contractor to the Engineer on a hourly rate basis.

2.2 ELECTRICAL REQUIREMENTS FOR PLUMBING WORK

A. General:
1. When the Mechanical equipment not named as the basis of design is approved for use, the Mechanical Contractor is responsible for any costs incurred by other trades,

including revisions to the Electrical requirements such as conduit, wire, starters, heaters, fused switches, disconnects, or circuit breakers.

2. Electrical items furnished shall bear the Underwriter s Laboratories label and the installation shall comply with requirements of the National Electric Code, ANSI, IPCEA, IRI, and local codes, ordinances and regulations.

B. Motor Starters and Controls:

1. Unless specifically listed to be provided as an accessory to the equipment (such as roof top units, make-up air units, etc.), the Electrical Contractor shall provide all manual or magnetic motor starters as required for all motors as indicated on all Electrical Drawings.
2. Mechanical Contractor shall provide factory installed motor starters, disconnects, and convenience outlets where scheduled to be provided as an accessory to the unit. See equipment schedules.
3. The Mechanical Contractor, Temperature Control Contractor, Equipment Supplier, and Electrical Contractor are responsible to coordinate and ensure all electrical accessories are included as part of the Base Bid.

C. Electrical Wiring and Controls:

1. Mechanical Contractor shall furnish and install all motors, drives, controllers integral to equipment and factory mounted controls for all mechanical equipment.
2. Mechanical Contractor or Temperature Control Contractor shall furnish and install all electrical devices requiring mechanical connections, and/or electrical connections, such as pressure switches, limit switches, float switches, solenoid valves, motor operated valves, motor operated dampers, fire stats, freeze stats, thermostats, override timers, E.P. s, P.E. s, temperature control cabinet, air compressor with starter, etc..
3. Electrical Contractor shall install all power wiring, conduit to motors and/or factory mounted control panels as indicated on Electrical Drawings or as indicated in Specifications.
4. All electrical wiring work by Mechanical Contractor and Temperature Control Contractor shall be in accordance with Division 26 requirements.

END OF SECTION

SECTION 22 05 53

IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nameplates.
2. Tags.
3. Pipe markers.
4. Labels.

B. Related Sections:

1. See General Requirements - Painting and Coating: Execution requirements for painting specified by this section.

1.2 REFERENCES

A. ASME A13.1 - Scheme for the Identification of Piping Systems: The American Society of Mechanical Engineers.

B. ASTM D 709 - Standard Specification for Laminated Thermosetting Materials; 2001 (Reapproved 2007).

1.3 SUBMITTALS

A. See General Requirements for Submittal procedures.

B. Product Data: Submit manufacturers catalog literature for each product required.

C. Shop Drawings: Submit list of wording, symbols, letter size, and color coding for mechanical identification and valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

D. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. See General Requirements for Execution and Closeout Requirements.

B. Project Record Documents: Record actual locations of tagged valves; include valve tag numbers.

1.5 QUALITY ASSURANCE

A. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum five years documented experience approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

A. See General Requirements for Administrative Requirements: Pre-installation meeting.

B. Convene minimum two-weeks prior to commencing work of this section.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 EXTRA MATERIALS

A. See General Requirements - Execution and Closeout Requirements: Spare parts and maintenance products.

PART 2 - PRODUCTS

2.1 IDENTIFICATION APPLICATIONS

A. Plumbing Equipment: Nameplates or Tags.

B. Plumbing and Hydronic Piping: Plastic Pipe Markers.

C. Pumps: Nameplates.

2.2 NAMEPLATES

A. Manufacturers:
   1. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
   2. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   3. Seton Identification Products: www.seton.com.
   4. Or Approved Equal.

B. Product Description: Laminated three-layer plastic with engraved letters on light contrasting background color.

1. Letter Color: White.
2. Letter Height: 1/2 inch (12 mm).
3. Background Color: Black.
4. Plastic: Conform to ASTM D 709

2.3 TAGS

A. Plastic Tags

1. Manufacturers:
   a. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
   b. Brady Corporation: www.bradycorp.com.
   c. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   d. Seton Identification Products: www.seton.com.
   e. Or Approved Equal.

2. Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inches diameter.

B. Metal Tags

1. Manufacturers:
   a. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
   b. Brady Corporation: www.bradycorp.com.
   c. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   d. Seton Identification Products: www.seton.com.
   e. Or Approved Equal.

2. Brass with stamped letters; tag size minimum 1-1/2 inches diameter with finished edges.

2.4 PIPE MARKERS and PIPE STICKERS

A. Color and Lettering: Conform to ASME A13.1.

B. Plastic Pipe Markers (Applied to insulated and wrapped piping).

1. Plastic Pipe Markers: Factory fabricated, wrap-around, flexible, semi- rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.

2. Size (including insulation) Pipe O.D. (inches) = Letter Size (inches):
   a. 0.75" – 1” = 1/2” Letters.
   b. 1.25” – 2.375” = 3/4” Letters.
   c. 2.5” – 7.875” = 1.25” Letters.
   d. 8” – 9.875” = 2.5” Letters.
   e. 10” and larger = 3.5” Letters.

C. Plastic Tape Pipe Markers (Applied to painted uninsulated or wrapped piping).

1. Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

2. Size (including insulation) Pipe O.D. (inches) = Letter Size (inches):
   a. 0.75" = 1/2" Letters.
   b. 1" – 2.5" = 3/4" Letters.
   c. 2.5" – 7.875" = 1.25" Letters.
   d. 8" – 9.875" = 2.5" Letters.
   e. 10" and larger = 3.5" Letters.

2.5 UNDERGROUND WARNING TAPE

A. Underground Warning Tape

1. Manufacturers:
   a. Brady Corporation: www.bradycorp.com.
   b. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   c. Seton Identification Products: www.seton.com.
   d. Or Approved Equal.

B. Description: Polyethylene tape with metallic core for detection and location of piping with metal detector resistant to acids, alkalis and other soil components.

1. Size: 0.004 inch6 inches
2. Printed text as selected by Architect/Engineer in contrasting color and repeated at maximum 36 inches intervals.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.2 INSTALLATION

A. Install identifying devices after completion of coverings and painting.

B. Install plastic nameplates on all HVAC and plumbing equipment. Identify air handling units, pumps, heat transfer equipment, tanks, and water treatment devices with plastic nameplates. Identify in-line pumps and other small devices with tags.

C. Install with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

D. Install labels with sufficient adhesive for permanent adhesion and seal with clear lacquer. For unfinished canvas covering, apply paint primer before applying labels.

E. Install wrap-around pipe markers on all insulated and wrapped plumbing piping including: Storm, Sanitary, CW, HW, DHWR (recirulation), Tempered Water, and condensate. Include flow

direction arrows on recirculation piping (at least one flow direction arrow next to label in each room).

F. Install adhesive pipe markers on all painted (uninsulated) piping located indoors including: Natural Gas, and Sanitary vent (not installed within walls). For indoor exposed natural gas lines, attach yellow pipe labels with "GAS" in black lettering, at maximum 5 foot spacing.

G. Install wrap-around pipe markers on all insulated and wrapped HVAC piping including: HWS, HWR, CHWS, CHWR, HPWS, HPWR, Condensate, STEAM (include pressure PSI) and STEAM-CONDENSATE. Include flow direction arrows on all piping. Install at least one flow direction arrow on each main pipe branch. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

H. Install underground plastic pipe markers 6 to 8 inches below finished grade, directly above buried pipe.

I. Identify control panels and major control components outside panels with plastic nameplates including: Control Panels and Control Sensors and Thermostats.

J. Identify valves in main and branch piping with tags.

END OF SECTION

SECTION 220700

PLUMBING INSULATION

1.1 SUMMARY

A. Section Includes:

1. Plumbing piping insulation, jackets and accessories.
2. Plumbing equipment insulation, jackets and accessories.

B. All insulation must meet or exceed the minimum R-value requirements as defined by the currently adopted Uniform Energy Code and ASHRAE 90.1, and the Authority Having Jurisdiction.

C. Related Sections:
1. Refer to General Specifications, HVAC and Plumbing Specifications. Contractor is responsible for the review and incorporation of all specification sections.

1.2 REFERENCES

A. ASTM International:

1. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
4. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
5. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement.
6. ASTM C449/C449M - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement.
7. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
8. ASTM C533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation.
9. ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
10. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation.
11. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
12. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
13. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
14. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.

15. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
16. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.
17. ASTM C921 - Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.
18. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
19. ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, and 120.
20. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
21. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit product description, thermal characteristics and list of materials and thickness for each service, and location.

C. Samples: Not Required.

D. Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Test pipe insulation for maximum flame spread index of 25 and maximum smoke developed index of not exceeding 50 in accordance with ASTM E84.

B. Pipe insulation manufactured in accordance with ASTM C585 for inner and outer diameters.

C. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

D. Perform Work in accordance with State standard.

E. Maintain one copy of each document on site.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

B. Applicator: Company specializing in performing Work of this section with minimum five years documented experience.

1.6 PRE-INSTALLATION MEETINGS

A. Coordinate with mechanical contractor or construction manager as applicable to contract Coordinate a minimum two weeks prior to commencing work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Refer to general specification requirements for transporting, handling, storing, and protecting products.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

C. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

B. Maintain temperature before, during, and after installation for minimum period of 24 hours.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 WARRANTY

A. Refer to general specifications Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish one-year manufacturer warranty for insulation products.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Glass Fiber and Mineral Fiber Insulation

1. Manufacturers:
   a. Johns Manville
   b. Owens Corning
   c. Knauf
   d. CertainTeed
   e. All others by Voluntary Alternate.

B. Closed Cell Elastomeric Insulation

1. Manufacturers:
   a. Armacell Corporation
   b. K-Flex. IK Insulation Group
   c. Aeroflex USA, Inc.
   d. All others by Voluntary Alternate.

C. Polyisocyanurate Foam Insulation

1. Manufacturers:
   a. Johns Manville
   b. R-Max, Sika Corporation
   c. ITW Insulation Products
   d. All others by Voluntary Alternate.

D. Extruded Polystyrene Insulation

1. Manufacturers:
   a. Owens Corning
   b. R-Max, Sika Corporation
   c. ITW Insulation Products
   d. All others by Voluntary Alternate.

E. Furnish materials in accordance with State standards.

2.2 PIPE INSULATION

A. TYPE P-1: ASTM C547, molded glass fiber pipe insulation. Conform to ASTM C795 for application on Austenitic stainless steel.

1. Thermal Conductivity: 0.23 at 75 degrees F (0.034 at 24 degrees C).
2. Operating Temperature Range: 0 to 850 degrees F (minus 18 to 454 degrees C).
3. Vapor Barrier Jacket: ASTM C1136, Type I, factory applied reinforced foil kraft with self-sealing adhesive joints.
4. Jacket Temperature Limit: minus 20 to 150 degrees F (minus 29 to 66 degrees C).

B. TYPE P-2: ASTM C547, molded glass fiber pipe insulation. Conform to ASTM C795 for application on Austenitic stainless steel.

1. Thermal Conductivity: 0.23 at 75 degrees F (0.034 at 24 degrees C).
2. Operating Temperature Range: 0 to 850 degrees F (minus 18 to 454 degrees C).

C. TYPE P-3: ASTM C612; semi-rigid, fibrous glass board noncombustible, end grain adhered to jacket. Conform to ASTM C795 for application on Austenitic stainless steel.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.040 at 24 degrees C).
2. Operating Temperature Range: 0 to 650 degrees F (minus 18 to 343 degrees C).
3. Vapor Barrier Jacket: ASTM C1136, Type II, factory applied reinforced foil kraft with self-sealing adhesive joints.

4. Jacket Temperature Limit: minus 20 to 150 degrees F (minus 29 to 66 degrees C).

D. TYPE P-4: ASTM C612; semi-rigid, fibrous glass board noncombustible. Conform to ASTM C795 for application on Austenitic stainless steel.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.040 at 24 degrees C).
2. Operating Temperature Range: 0 to 650 degrees F (minus 18 to 343 degrees C).

E. TYPE P-5: ASTM C534, ASTM E 84, Type I, flexible, closed cell elastomeric insulation, tubular.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.039 at 25 degrees C).
2. Operating Temperature Range: Range: Minus 70 to 180 degrees F (minus 57 to 82 degrees C).

F. TYPE P-6: ASTM C534, ASTM E 84, Type I, flexible, closed cell elastomeric insulation, tubular.

1. Thermal Conductivity: 0.30 at 75 degrees F (0.043 at 24 degrees C).
2. Maximum Service Temperature: 300 degrees F (149 degrees C).
3. Operating Temperature Range: Range: Minus 58 to 300 degrees F (minus 50 to 149 degrees C).

G. TYPE P-7: ASTM C534, Type I, flexible, nonhalogen (does not meet ASTM E 84), closed cell elastomeric insulation, tubular.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.039 at 24 degrees C).
2. Maximum Service Temperature: 250 degrees F (120 degrees C).
3. Operating Temperature Range: Range: Minus 58 to 250 degrees F (minus 50 to 120 degrees C).

H. TYPE P-8: ASTM C547, Type I or II, mineral fiber preformed pipe insulation, noncombustible.

1. Thermal Conductivity: 0.23 at 75 degrees F (0.034 at 24 degrees C).
2. Maximum Service Temperature: 1200 degrees F (649 degrees C).
3. Canvas Jacket: UL listed, 6 oz/sq yd (220 g/sq m), plain weave cotton fabric treated with fire retardant lagging adhesive.

I. TYPE P-9: ASTM C591, Type IV, polyisocyanurate foam insulation, formed into shapes for use as pipe insulation.

1. Density: 4.0 pounds per cubic foot (64 kg per cubic meter).
2. Thermal Conductivity: 180 day aged value of 0.19 at 75 degrees F (0.027 at 24 degrees C).
3. Operating Temperature Range: Range: Minus 297 to 300 degrees F (minus 183 to 149 degrees C).
4. Vapor Barrier Jacket: ASTM C1136, Type I, factory applied film of 6 mils (0.15 mm) thickness and water vapor permeance of 0.01 perms.

J. TYPE P-10: ASTM C578, Type XIII, extruded polystyrene insulation, formed into shapes for use as pipe insulation.

1. Thermal Conductivity: 180 day aged value of 0.259 at 75 degrees F (0.037 at 24 degrees C).
2. Operating Temperature Range: Range: Minus 297 to 165 degrees F (minus 183 to 74 degrees C).
3. Vapor Barrier Jacket: ASTM C1136, Type I, factory applied film of 6 mils (0.15 mm) thickness and water vapor permeance of 0.01 perms.

K. TYPE P-11: ASTM C533; Type I, hydrous calcium silicate pipe insulation, rigid molded white; asbestos free.

1. Thermal Conductivity: 0.45 at 200 degrees F (0.0650 at 93 degrees C).
2. Operating Temperature Range: 140 to 1200 degrees F (60 to 649 degrees C).

2.3 PIPE INSULATION JACKETS

A. Vapor Retarder Jacket:

1. ASTM C921, white Kraft paper with glass fiber yarn, bonded to aluminized film.
2. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms (290 ng/Pa/s/m).

B. PVC Plastic Pipe Jacket:

1. Product Description: ASTM D1785, ASTM E 84, One piece molded type fitting covers and sheet material. Color: White unless specifically noted on plans.
2. Thickness: 15 mil for typical commercial applications including interior office areas, classrooms, corridors, etc. 30 mil for interior process areas, treatment plants, manufacturing areas, etc., and 30 mil for exterior applications.
3. Connections: Pressure sensitive self adhesive tape for typical commercial applications. Brush of welded seams for all 30 mil applications.

C. ABS Plastic Pipe Jacket:

1. Jacket: One piece molded type fitting covers and sheet material, off-white color.
2. Minimum service temperature: -40degrees F (-40 degrees C).
3. Maximum service temperature of 180 degrees F (82 degrees C).
4. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms (174 ng/Pa/s/m).
5. Thickness: 30 mil (0.76 mm).
6. Connections: Brush on welding adhesive.

D. Aluminum Pipe Jacket:

1. ASTM B209 (ASTM B209M).
2. Thickness: 0.025 inch (0.64 mm) thick sheet.
3. Finish: Smooth.
4. Joining: Longitudinal slip joints and 2 inch (50 mm) laps.
5. Fittings: 0.016 inch (0.4 mm) thick die shaped fitting covers with factory attached protective liner.
6. Metal Jacket Bands: 1/2 inch (13 mm) wide; 0.015 inch (0.38 mm) thick aluminum.

E. Stainless Steel Pipe Jacket:

1. ASTM A240/A240M OR ASTM 666 Type 304 stainless steel.
2. Thickness: 0.016inch (0.40 mm) thick.
3. Finish: Smooth.
4. Metal Jacket Bands: 1/2 inch (13 mm) wide; 0.020inch (0.50 mm) thick stainless steel.

F. Field Applied Glass Fiber Fabric Jacket System:

1. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.
2. Glass Fiber Fabric:

   a. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
   b. Blanket: 1.0 lb/cu ft (16 kg/cu m) density.
   c. Weave: 5 x 5.

3. Indoor Vapor Retarder Finish:

   a. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
   b. Vinyl emulsion type acrylic, compatible with insulation, white color.

2.4 PIPE INSULATION ACCESSORIES

A. Vapor Retarder Lap Adhesive: Compatible with insulation.

B. Covering Adhesive Mastic: Compatible with insulation.

C. Piping 1-1/2 inches (40 mm) diameter and smaller: Galvanized steel insulation protection shield. MSS SP-69, Type 40. Length: Based on pipe size and insulation thickness.

D. Piping 2 inches (50 mm) diameter and larger: Wood insulation saddle, hard maple. Inserts length: not less than 6 inches (150 mm) long, matching thickness and contour of adjoining insulation.

E. Closed Cell Elastomeric Insulation Pipe Hanger: Polyurethane insert with stainless steel jacket single piece construction with self adhesive closure. Thickness to match pipe insulation.

F. Tie Wire: 0.048 inch (1.22 mm) stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

G. Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement: ASTM C449/C449M.

H. Insulating Cement: ASTM C195; hydraulic setting on mineral wool.

I. Adhesives: Compatible with insulation.

2.5 EQUIPMENT INSULATION

A. TYPE E-1: ASTM C553; glass fiber, flexible or semi-rigid, noncombustible.

1. Thermal Conductivity: 0.24 at 75 degrees F (0.035 at 24 degrees C).

2. Operating Temperature Range: 0 to 450 degrees F (minus 18 to 232 degrees C).
3. Density: 1.5 pound per cubic foot (24 kilogram per cubic meter).

B. TYPE E-2: ASTM C612; glass fiber, rigid board, noncombustible with factory applied aluminum foil jacket.

1. Thermal Conductivity: 0.24 at 75 degrees F (0.035 at 24 degrees C).
2. Operating Temperature Range: 0 to 450 degrees F (minus 18 to 232 degrees C).
3. Density: 3.0 pound per cubic foot (48 kilogram per cubic meter).
4. Jacket Temperature Limit: minus 20 to 150 degrees F (minus 29 to 66 degrees C).

C. TYPE E-3: ASTM C612; semi-rigid, fibrous glass board noncombustible, end grain adhered to jacket.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.040 at 24 degrees C).
2. Operating Temperature Range: 0 to 650 degrees F (minus 18 to 343 degrees C).
3. Vapor Barrier Jacket: ASTM C1136, Type II, factory applied reinforced foil kraft with self-sealing adhesive joints.
4. Jacket Temperature Limit: minus 20 to 150 degrees F (minus 29 to 66 degrees C).

D. TYPE E-4: ASTM C612; semi-rigid, fibrous glass board noncombustible.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.040 at 24 degrees C).
2. Operating Temperature Range: 0 to 650 degrees F (minus 18 to 343 degrees C).

E. TYPE E-5: ASTM C612; glass fiber, semi-rigid board, noncombustible.

1. Thermal Conductivity: 0.23 at 75 degrees F (0.033 at 24 degrees C).
2. Maximum Operating Temperature: 850 degrees F (450 degrees C).
3. Density: 3.0 pound per cubic foot (48 kilogram per cubic meter).

F. TYPE E-6: ASTM C553; mineral fiber blanket, Type I.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.039 at 24 degrees C).
2. Maximum Operating Temperature: 1000 degrees F (538 degrees C).
3. Density: 1.0 pound per cubic foot (16 kilogram per cubic meter).

G. TYPE E-7: ASTM C533; Type II, hydrous calcium silicate block insulation, asbestos free.

1. Thermal Conductivity: 0.45 at 200 degrees F (0.0650 at 93 degrees C).
2. Operating Temperature Range: 140 to 1200 degrees F (60 to 649 degrees C).

H. TYPE E-8: ASTM C534, Type II, flexible, closed cell elastomeric insulation, sheet.

1. Thermal Conductivity: 0.27 at 75 degrees F (0.039 at 25 degrees C).
2. Operating Temperature Range: Range: Minus 70 to 220 degrees F (minus 57 to 105 degrees C).

I. TYPE E-9: ASTM C612, man made mineral fiber, noncombustible, Classes 1-4.

1. Thermal Conductivity: 0.25 at 100 degrees F (0.037 at 38 degrees C).
2. Maximum Service Temperature: 1200 degrees F (650 degrees C).

3. Density: 8 pound per cubic foot (128 kilogram per cubic meter).

2.6 EQUIPMENT INSULATION JACKETS

A. PVC Plastic Equipment Jacket:

1. Product Description: ASTM D1785, sheet material, off-white color.
2. Minimum Service Temperature: -40degrees F (-40 degrees C).
3. Maximum Service Temperature: 150degrees F (66 degrees C).
4. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms (290 ng/Pa/s/m).
5. Thickness: 30 mil (0.75 mm).
6. Connections: Removable, reusable tacks or Velcro. Permanent manufacturer approved adhesive for roof sump bodies.

B. Aluminum Equipment Jacket:

1. ASTM B209 (ASTM B209M).
2. Thickness: 0.025 inch (0.64 mm) thick sheet.
3. Finish: Smooth.
4. Joining: Longitudinal slip joints and 2 inch (50 mm) laps.
5. Fittings: 0.016 inch (0.4 mm) thick die shaped fitting covers with factory attached protective liner.
6. Metal Jacket Bands: 3/8 inch (10 mm) wide; 0.015 inch (0.38 mm) thick aluminum.

C. Stainless Steel Equipment Jacket:

1. ASTM A240/A240M OR ASTM 666 Type 304 stainless steel.
2. Thickness: 0.016inch (0.40 mm) thick.
3. Finish: Smooth.
4. Metal Jacket Bands: 3/8 inch (10 mm) wide; 0.010inch (0.25 mm) thick stainless steel.

D. Canvas Equipment Jacket: UL listed, 6 oz/sq yd (220 g/sq m), plain weave cotton fabric with fire retardant lagging adhesive compatible with insulation.

E. Vapor Retarder Jacket:

1. ASTM C921, white Kraft paper with glass fiber yarn, bonded to aluminized film.
2. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms (290 ng/Pa/s/m).

F. Field Applied Glass Fiber Fabric Jacket System:

1. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.
2. Glass Fiber Fabric:

    a. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
    b. Blanket: 1.0 lb/cu ft (16 kg/cu m) density.
    c. Weave: 5 x 5.

3. Indoor Vapor Retarder Finish:

    a. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.

b. Vinyl emulsion type acrylic, compatible with insulation, white color.

2.7 EQUIPMENT INSULATION ACCESSORIES

A. Vapor Retarder Lap Adhesive: Compatible with insulation.

B. Covering Adhesive Mastic: Compatible with insulation.

C. Tie Wire: 0.048 inch (1.22 mm) stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

D. Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement: ASTM C449/C449M.

E. Adhesives: Compatible with insulation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Coordination and project conditions.

B. Verify piping and equipment has been tested before applying insulation materials.

C. Verify surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION - PIPING SYSTEMS

A. Piping Exposed to View in Finished Spaces: Locate insulation and cover seams in least visible locations.

B. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide intumescent firestopping when continuing insulation through assembly. Finish at supports, protrusions, and interruptions. Refer to Section 078400 for penetrations of assemblies with fire resistance rating greater than one hour.

C. Piping Systems Conveying Fluids Below Ambient Temperature:

1. Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies (if pumped fluid is below ambient temperature), and expansion joints.
2. Furnish factory-applied or field-applied vapor retarder jackets. Secure factory-applied jackets with pressure sensitive adhesive self-sealing longitudinal laps and butt strips. Secure field-applied jackets with outward clinch expanding staples and seal staple penetrations with vapor retarder mastic.

3. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor retarder adhesive or PVC fitting covers.

D. Glass Fiber Board Insulation:

1. Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands.
2. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor retarder cement.
3. Cover wire mesh or bands with cement to a thickness to remove surface irregularities.

E. Polyisocyanurate Foam Insulation of Extruded Polystyrene Insulation:

1. Wrap elbows and fitting with vapor retarder tape.
2. Seal butt joints with vapor retarder tape.

F. Hot Piping Systems less than 140 degrees F (60 degrees C):

1. Furnish factory-applied or field-applied standard jackets. Secure with outward clinch expanding staples or pressure sensitive adhesive system on standard factory-applied jacket and butt strips or both.
2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
3. Do not insulate unions and flanges at equipment, but bevel and seal ends of insulation at such locations.

G. Hot Piping Systems greater than 140 degrees F (60 degrees C):

1. Furnish factory-applied or field-applied standard jackets. Secure with outward clinch expanding staples or pressure sensitive adhesive system on standard factory-applied jacket and butt strips or both.
2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
3. Insulate flanges and unions at equipment.

H. Inserts and Shields:

1. Piping 1-1/2 inches (40 mm) Diameter and Smaller: Install stainless steel shield between pipe hanger and insulation.
2. Piping 2 inches (50 mm) Diameter and Larger: Install insert between support shield and piping and under finish jacket.

    a. Insert Configuration: Minimum 6 inches (150 mm) long, of thickness and contour matching adjoining insulation; may be factory fabricated.
    b. Insert Material: Compression resistant insulating material suitable for planned temperature range and service.

3. Piping Supported by Roller Type Pipe Hangers: Install galvanized steel shield between roller and inserts.

I. Insulation Terminating Points:

1. Coil Branch Piping 1 inch (25 mm) and Smaller: Terminate hot water piping at union upstream of the coil control valve.
2. Chilled Water Coil Branch Piping: Insulate chilled water piping and associated components up to coil connection.
3. Condensate Piping: Insulate entire piping system and components to prevent condensation.

J. Closed Cell Elastomeric Insulation:

1. Push insulation on to piping.
2. Miter joints at elbows.
3. Seal seams and butt joints with manufacturer's recommended adhesive.
4. When application requires multiple layers, apply with joints staggered.
5. Insulate fittings and valves with insulation of like material and thickness as adjacent pipe.

K. High Temperature Pipe Insulation:

1. Install in multiple layers to meet thickness scheduled.
2. Attach each layer with bands. Secure first layer with bands before installing next layer.
3. Stagger joints between layers.
4. Finish with canvas jacket sized for finish painting.

OR

5. Cover with aluminum jacket with seams located on bottom side of horizontal piping.

L. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces: Finish with PVC jacket and fitting covers.

M. Piping Exterior to Building: Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor retarder cement. Cover with PVC jacket with seams located at 3 or 9 o'clock position on side of horizontal piping with overlap facing down to shed water or on bottom side of horizontal piping.

N. Buried Piping: Insulate only where insulation manufacturer recommends insulation product may be installed in trench, tunnel or direct buried. Install factory fabricated assembly with inner all-purpose service jacket with self-sealing lap, and asphalt impregnated open mesh glass fabric, with 1 mil (0.025 mm) thick aluminum foil sandwiched between three layers of bituminous compound; outer surface faced with polyester film.

O. Heat Traced Piping Interior to Building: Insulate fittings, joints, and valves with insulation of like material, thickness, and finish as adjoining pipe. Size large enough to enclose pipe and heat tracer.

P. Heat Traced Piping Exterior to Building: Insulate fittings, joints, and valves with insulation of like material, thickness, and finish as adjoining pipe. Size insulation large enough to enclose pipe and heat tracer. Cover with PVC jacket with seams located at 3 or 9 o'clock position on side of horizontal piping with overlap facing down to shed water.

Q. Prepare pipe insulation for finish painting.

3.3 INSTALLATION - EQUIPMENT

A. Factory Insulated Equipment: Do not insulate.

B. Exposed Equipment: Locate insulation and cover seams in least visible locations.

C. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor retarder cement.

D. Equipment Containing Fluids Below Ambient Temperature:

1. Insulate entire equipment surfaces.
2. Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands.
3. Furnish factory-applied or field-applied vapor retarder jackets. Secure factory-applied jackets with pressure sensitive adhesive self-sealing longitudinal laps and butt strips. Secure field-applied jackets with outward clinch expanding staples and seal staple penetrations with vapor retarder mastic.
4. Finish insulation at supports, protrusions, and interruptions.

E. Equipment Containing Fluids 140 degrees F (60 degrees C) Or Less:

1. Do not insulate flanges and unions, but bevel and seal ends of insulation.
2. Install insulation with factory-applied or field applied jackets, with or without vapor barrier. Finish with glass cloth and adhesive.
3. Finish insulation at supports, protrusions, and interruptions.

F. Equipment Containing Fluids Over 140 degrees F (60 degrees C):

1. Insulate flanges and unions with removable sections and jackets.
2. Install insulation with factory-applied or field applied jackets, with or without vapor barrier. Finish with glass cloth and adhesive.
3. Finish insulation at supports, protrusions, and interruptions.

G. Equipment in Mechanical Equipment Rooms or Finished Spaces: Finish with PVC jacket and fitting covers.

H. Equipment Located Exterior to Building: Install vapor barrier jacket or finish with glass mesh reinforced vapor barrier cement. Cover with aluminum jacket with seams located on bottom side of horizontal equipment.

I. Cover cellular foam insulation with aluminum jacket.

J. Nameplates and ASME Stamps: Bevel and seal insulation around; do not cover with insulation.

K. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation for easy removal and replacement without damage.

L. Prepare equipment insulation for finish painting. Refer to Section 099000.

3.4 SCHEDULES

A. Water Supply Services Piping Insulation Schedule:

1. Domestic Hot Water Supply and Recirculation:

a. Type: P-1 or P-5.
b. Thickness:

1) Pipe Size 1-1/4 Inches and Smaller: 1.0 inch.
2) Pipe Size 1-1/2 Inches and Larger: 1.5 inch.

2. Domestic Cold Water:

a. Type: P-1 or P-5.
b. Thickness:

1) Pipe Size 1-1/4 Inches and Smaller: 0.5 inch.
2) Pipe Size 1-1/2 Inches and Larger: 1.0 inch.

B. Drainage Services Piping Insulation Schedule:

1. Storm Piping - Horizontal Above Ground Within Building:

a. Type: P-1 or P-5.
b. Thickness: 1 inch.

C. Equipment Insulation Schedule:

1. Roof Drain Bodies:

a. Type: E-8.
b. Thickness: 1 inch.

D. PVC Jacket
1. All insulated piping shall be wrapped with 30mil PVC jacket finished with self-adhesive and brush-on welded seams.
2. Roof drain sump bodies shall be wrapped with 30mil PVC sheet jacket and adhered using manufacturer approved all-weather adhesive.

END OF SECTION 220700

SECTION 22 10 00

PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Pipe and pipe fittings for the following systems:
   1. Domestic water piping.
   2. Sanitary sewer piping.
   3. Storm water piping.

B. Related Sections:
   1. Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment
   2. Section 22 07 00 - Plumbing Insulation
   3. Section 22 30 00 – Plumbing Equipment.
   4. Section 22 40 00 – Plumbing Fixtures.

1.2 REFERENCES

A. Plumbing and Drainage Institute:
   1. PDI-WH 201 – Water Hammer Arresters.

B. American Society of Mechanical Engineers:

   1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
   2. ASME B16.3 - Malleable Iron Threaded Fittings.
   3. ASME B16.4 - Gray Iron Threaded Fittings.
   4. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
   5. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
   6. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings (DWV).
   7. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
   8. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
   9. ASME B31.9 - Building Services Piping.
   10. ASME B36.10M - Welded and Seamless Wrought Steel Pipe.
   11. ASME Section IX - Boiler and Pressure Vessel Code - Welding and Brazing Qualifications.

C. ASTM International:

   1. ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings.
   2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   3. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
   4. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.

5. ASTM A395/A395M - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.
6. ASTM A536 - Standard Specification for Ductile Iron Castings.
7. ASTM B32 - Standard Specification for Solder Metal.
8. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
9. ASTM B43 - Standard Specification for Seamless Red Brass Pipe, Standard Sizes.
10. ASTM B75 - Standard Specification for Seamless Copper Tube.
11. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
12. ASTM B251 - Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube.
13. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
14. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes.
15. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV).
16. ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.
17. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
18. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
19. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
20. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
21. ASTM C1053 - Standard Specification for Borosilicate Glass Pipe and Fittings for Drain, Waste, and Vent (DWV) Applications.
22. ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
23. ASTM D2235 - Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
24. ASTM D2239 - Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameters.
25. ASTM D2241 - Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter.
26. ASTM D2447 - Standard Specification for Polyethylene (PE) Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter.
27. ASTM D 2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers, and other Gravity-Flow Applications.
28. ASTM D2464 - Standard Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
29. ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
30. ASTM D2467 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
31. ASTM D2513 - Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings.
32. ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.

33. ASTM D2609 - Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe.
34. ASTM D2661 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings.
35. ASTM D2665 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
36. ASTM D2680 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping.
37. ASTM D2683 - Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing.
38. ASTM D2729 - Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
39. ASTM D2751 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings.
40. ASTM D2846/D2846M - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems.
41. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
42. ASTM D2996 - Standard Specification for Filament-Wound Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe.
43. ASTM D2997 - Standard Specification for Centrifugally Cast Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe.
44. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
45. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
46. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
47. ASTM D3262 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe.
48. ASTM D3517 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe.
49. ASTM D3754 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe.
50. ASTM D3840 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Nonpressure Applications.
51. ASTM F437 - Standard Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80.
52. ASTM F438 - Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40.
53. ASTM F439 - Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80.
54. ASTM F441/F441M - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80.
55. ASTM F442/F442M - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR).
56. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

57. ASTM F493 - Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings.
58. ASTM F628 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core.
59. ASTM F679 - Standard Specification for Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings.
60. ASTM F1281 - Standard Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe.
61. ASTM F1282 - Standard Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe.
62. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications.
63. ASTM F 2536 Standard Practive for Installing Plastic Piping Suspended from On-Grade Slabs.

D. American Welding Society:

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
2. AWS D1.1 - Structural Welding Code - Steel.

E. American Water Works Association:

1. AWWA C104 - American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
2. AWWA C105 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - American National Standard for Ductile-Iron and Grey-Iron Fittings, 3 in. through 48 in. (75 mm through 1200 mm), for Water and Other Liquids.
4. AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
6. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in., for Water Distribution.
7. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in., for Water Service.
8. AWWA C950 - Fiberglass Pressure Pipe.

1.3 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Plumbing Piping:
1. Basis of Measurement: Included in other pay items for this project.
2. Basis of Payment: Includes all associated labor, materials, equipment, placement, etc. for a complete installation

1.4 SUBMITTALS

A. See General Requirements - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate layout of piping systems, including equipment, critical dimensions, and sizes. Submit shop drawings sealed by registered professional engineer.

C. Product Data: Submit data on pipe materials and fittings. Submit manufacturers catalog information.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ASME B31.9 code for installation of piping systems and ASME Section IX for welding materials and procedures.

B. Perform Work in accordance with State of Michigan and local municipal standards.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented experience approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

A. See General Requirements - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Accept specialties on site in original factory packaging. Inspect for damage.

B. See General Requirements - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

C. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section General Requirements - Product Requirements: Environmental conditions affecting products on site.

B. Do not install underground piping when bedding is wet or frozen.

1.10 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.11 COORDINATION

A. See General Requirements - Administrative Requirements: Requirements for coordination.

B. Coordinate installation of buried piping with trenching.

PART 2 - PRODUCTS

2.1 DRAINS

A. Manufacturers:
   1. Josam Company: www.josam.com.
   2. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
   3. Zurn Industries, Inc: www.zurn.com.
   4. MIFAB Inc.
   5. Or Approved Equals.

2.2 FLANGES, UNIONS, COUPLINGS AND DIELECTRIC ISOLATORS

A. Unions for Pipe Sizes 3 Inches and Under:
   1. Ferrous pipe: Class 150 malleable iron threaded unions.
   2. Copper tube and pipe: Class 150 bronze unions with soldered joints.

B. Flanges for Pipe Size Over 1 Inch:
   1. Ferrous pipe: Class 150 malleable iron threaded or forged steel slip-on flanges; preformed neoprene gaskets.
   2. Copper tube and pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.

C. Grooved and Shouldered Pipe End Couplings:
   1. Housing: Malleable iron clamps to engage and lock, designed to permit some angular deflection, contraction, and expansion; steel bolts, nuts, and washers; galvanized for galvanized pipe.
   2. Sealing gasket: "C" shape composition sealing gasket.

D. Dielectric Connections: Isolate all dissimilar piping materials with insulating couplings equal to V-Line, Walter Valet, Stockham, or Viking. ClearFlow nipples made by Precision Plumbing Products of appropriate rating may also be used.

2.3 PIPE HANGERS AND SUPPORTS

A. Plumbing Piping - Drain, Waste, and Vent:
   1. Conform to ASME B31.9.
   2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: 304 stainless steel, adjustable swivel, split ring.
   3. Hangers for Pipe Sizes 2 Inches and Over: 304 stainless steel, adjustable, clevis.
   4. Multiple or Trapeze Hangers: 304 stainless steel channels with welded spacers and hanger rods.
   5. Wall Support for Pipe Sizes to 3 Inches: stainless steel hook.

6. Wall Support for Pipe Sizes 4 Inches and Over: 304 stainless steel bracket and 304 stainless steel clamp.
7. Vertical Support: Steel riser clamp.
8. Floor Support: 304 stainless steel adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or stainless steel support.
9. Copper Pipe Support: stainless steel ring, adjustable.

B. Plumbing Piping – Water and Gas:
1. Conform to ASME B31.9.
2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: 304 stainless steel, adjustable swivel, split ring.
3. Hangers for Cold Pipe Sizes 2 Inches and Over: 304 stainless steel, adjustable, clevis.
4. Hangers for Hot Pipe Sizes 2 Inches to 4 Inches: 304 stainless steel, adjustable, clevis.
5. Hangers for Hot Pipe Sizes 6 Inches and Over: Adjustable 304 stainless steel yoke, 304 stainless steel or HDPE pipe roll, double hanger.
6. Multiple or Trapeze Hangers: 304 stainless steel channels with welded supports or spacers and hanger rods.
7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches and Over: 304 stainless steel channels with welded supports or spacers and hanger rods, cast iron roll.
8. Wall Support for Pipe Sizes to 3 Inches: 304 stainless steel hook.
9. Wall Support for Pipe Sizes 4 Inches and Over: 304 stainless steel bracket and wrought steel clamp.
10. Wall Support for Hot Pipe Sizes 6 Inches and Over: Welded 304 stainless steel bracket and 304 stainless steel clamp with adjustable 304 stainless steel yoke and cast iron pipe roll.
11. Vertical Support: 304 stainless steel riser clamp.
12. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or 304 stainless steel support.
13. Floor Support for Hot Pipe Sizes to 4 Inches: Cast iron adjustable pipe saddle, locknut, nipple, floor flange, and concrete pier or 304 stainless steel support.
14. Floor Support for Hot Pipe Sizes 6 Inches and Over: Adjustable cast iron pipe roll and stand, 304 stainless steel screws, and concrete pier or 304 stainless steel support.
15. Copper Pipe Support: Carbon 304 stainless steel ring, adjustable, copper plated.

C. Exterior pipe hangers shall be galvanized.

D. Piping routed over roofs shall be supported as shown on the plans or if not shown, supported in a manner that protects the roofing system, using prefab roller or strut pipe supports equal to Erico Pipe Pier or similar by Miro Industries.

2.4 GATE VALVES

A. Manufacturers:
1. Watts 408-OSYRW
2. Nibco, Inc;
3. Hammond Valve Company.
4. Apollo Valves
5. Jamar Valves
6. Or Approved Equals

B. Up To and Including 2.1/2 Inches: MSS SP-80, Class 125, bronze body, bronze trim, rising stem, handwheel, inside screw, solid wedge disc, solder or threaded ends.

C. 3 Inches and Larger: OS&Y full port flow, lead-free, MSS SP-70, ASTM A126 Class B, 250 psi, fusion bonded powder coated, cast iron body, bronze trim, outside stem and yoke, resilient wedge design, replaceable disc, boss tapped and plugged handwheel, flanged ends. Provide chain-wheel operators for valves 6 inches and larger mounted over 8 feet above floor.

2.5 GLOBE VALVES

A. Manufacturers:
1. Nibco, Inc;
2. Milwaukee Valve Company;
3. Hammond
4. Watts
5. Jamar Valves
6. Or Approved Equal

B. Up To and Including 2.1/2" Inches: MSS SP-80, Class 125, bronze body, bronze trim, handwheel, bronze disc, solder or threaded ends.

C. 3 Inches and Larger: MSS SP-85, Class 125, iron body, bronze trim, handwheel, outside screw and yoke, renewable bronze plug-type disc, renewable seat, flanged ends. Provide chain-wheel operators for valves 6 inches and larger mounted over 8 feet above floor.

2.6 BALL VALVES

A. Manufacturers:
1. Conbraco Industries;
2. Nibco, Inc;
3. Milwaukee Valve Company;
4. Hammond
5. Watts
6. Jamar Valves
7. Or Approved Equal

B. Construction, 4 Inches and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze, two piece body, chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle, solder or threaded ends.

C. For natural gas service use a two piece, full port bronze ball valve marked WOG permanently on the body, 600 psig CWP, that meets the standards in Table 409.1.1 the of the International Fuel Gas Code such as the Legend Model T-1001 (or equivalent). Other acceptable manufacturers are Apollo (Conbraco), Watts, and Hammond.

2.7 REDUCED PRESSURE ZONE ASSEMBLIES

A. Manufacturers
1. Watts

2. Zurn Wilkins
3. Conbraco-Apollo Valves
4. Or Approved Equal

B. Size 1" and Larger: Lead-free, lightweight series stainless steel construction, pressure differential relief valve located between two positive seating check valves, Noryl thermoplastic check valve assembly with stainless steel hinge pins, cam arm, and cam bearing, single torsion spring; bottom-mounted stainless steel, rolling diaphragm relief valve, single-cover access, 175 psi, AWWA C511-92; assembly shall include lead-free inlet and outlet OS&Y full port flow, lead-free, MSS SP-70, ASTM A126 Class B, 250 psi, gate valves.

2.8 DOUBLE BACKFLOW DETECTOR ASSEMBLIES

A. Manufacturers:
1. Watts
2. Zurn Wilkins
3. Conbraco-Apollo Valves
4. Or Approved Equal

2.9 STRAINERS

A. Manufacturers:
1. Armstrong International
2. Bell and Gossett
3. Watts
4. Taco
5. Badger Meter
6. Jamar
7. Or Approved Equal

B. Size 2 inch and Under:
1. Threaded brass body for 175 psi CWP, Y pattern with 1/32 inch stainless steel perforated screen.
2. Class 150, threaded bronze body 300 psi CWP, Y pattern with 1/32 inch stainless steel perforated screen.

C. Size 1-1/2 inch to 4 inch: Class 125, flanged iron body, Y pattern with 1/16 inch stainless steel perforated screen.

D. Potable Plate Strainers for Water Meters: Size 2 inch and Larger: Lead-free, cast bronze alloy, 150 psi working pressure, plate-type basket pattern with 3/16 inch 316 stainless steel perforated screen; with full access port with rubber O-ring reusable/replaceable gasket; NSF-61, NSF 372.

2.10 CLEANOUTS

A. Manufacturers:
1. Josam Company: www.josam.com.
2. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
3. Zurn Industries, Inc: www.zurn.com.

4. Wade Drains.
5. Or Approved Equal

2.11 WATER HAMMER ARRESTORS

A. Manufacturers:
1. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
2. Watts Regulator Company: www.wattsregulator.com.
3. Zurn Industries, Inc: www.zurn.com.
4. Or Approved Equal.

B. Water Hammer Arrestors:
1. Stainless steel construction, bellows type sized in accordance with PDI-WH 201, precharged suitable for operation in temperature range -100 to 300 degrees F (-73 to 149 degrees C) and maximum 250 psi (1700 kPa) working pressure.

2.12 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Ductile Iron Pipe: AWWA C151.

1. Fittings: AWWA C110, ductile iron, standard thickness.
2. Joints: AWWA C111, rubber gasket with rods.
3. Jackets: AWWA C105 polyethylene jacket.

B. Copper Tubing: ASTM B88, Type K, annealed.

1. Fittings: ASME B16.18, cast copper, or ASME B16.22, wrought copper.
2. Joints: Compression connection or Brazed, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 degrees F.

2.13 DOMESTIC WATER PIPING, ABOVE GRADE

A. Copper Tubing: ASTM B88, Type L, drawn, rolled grooved ends.

1. Fittings: ASME B16.18 cast copper alloy, or ASME B16.22 wrought copper and bronze, or ASTM B584 bronze sand castings, grooved ends.
2. Joints: Grooved mechanical couplings meeting ASTM F1476.

a. Housing Clamps: ASTM A395/A395M and ASTM A536 ductile iron, enamel coated, compatible with copper tubing sizes, to engage and lock designed to permit some angular deflection, contraction, and expansion.
b. Gasket: Elastomer composition
c. Accessories: Stainless steel bolts, nuts, and washers.

2.14 SANITARY SEWER PIPING, BELOW GRADE BURIED OR IN CONCRETE

A. PVC Plastic Pipe: Solid wall, schedule 80; ASTM D 2665.
1. Fittings: PVC ASTM D 2665 socket fittings, made to ASTM D 3311, drain, waste, and vent patterns.

2. Joints: Solvent welded, with ASTM D 2564 solvent cement.
3. At no time will "Foam Core" type PVC piping be allowed.

2.15 SANITARY SEWER PIPING, ABOVE GRADE

A. PVC Plastic Pipe: Solid wall, schedule 80; ASTM D 2665.
1. Fittings: PVC ASTM D 2665 socket fittings, made to ASTM D 3311, drain, waste, and vent patterns.
2. Joints: Solvent welded, with ASTM D 2564 solvent cement.
3. At no time will "Foam Core" type PVC piping be allowed.

2.16 FORCE MAIN SANITARY PIPING – ABOVE GRADE & BELOW GRADE

A. Restrained Joint, PVC Pressure Pipe.
1. SDR-17, 250 psi
2. ASTM D 1748 ASTM D-2241 PVC (based on CertainTeed Yelomine SDR-17 PVC.)
3. Fittings: ASTM F-477 permanent elastomeric seals for joining PVC pipe.
4. Joints: ATM D-3139 solvent weld joints for pressure pipe (based on CertainTeed Yelowmine Certa-Lok.)

2.17 STORM WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. PVC Pipe: ASTM D2729, polyvinyl chloride schedule 40 (PVC) material, bell and spigot solvent sealed ends.

1. Fittings: PVC, ASTM D2729.
2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.

2.18 STORM WATER PIPING, ABOVE GRADE

A. PVC Plastic Pipe: Schedule 40, ASTM D2665

1. Fittings: ABS, ASTM D 2661, ASTM F 628, CS B181.1.
2. Joints: Solvent weld

B. PVC Plastic Pipe: Solid wall, schedule 40; ASTM D 2665.
1. Fittings: PVC ASTM D 2665 socket fittings, made to ASTM D 3311, drain, waste, and vent patterns.
2. Joints: Solvent welded, with ASTM D 2564 solvent cement.
3. At no time will "Foam Core" type PVC piping be allowed.

2.19 EQUIPMENT DRAINS AND OVERFLOWS

A. PVC Pipe: ASTM D1785, Schedule 80, or ASTM D2241, SDR 21 or 26, polyvinyl chloride (PVC) material.

1. Fittings: ASTM D2466, Schedule 40, PVC ASTM D2467, Schedule 80, PVC ASTM D2464 PVC, threaded.

2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.

2.20 WALL PENETRATION SEALS

A. Manufacturers:
1. GPT Industries www.gptindustries.com
2. Metraflex www.metraflex.com/
3. Or Approved Equal.

B. Link-seal System: elastomeric-mechanical water sealing system (for PVC – concrete wall penetrations and for metal pipe penetrations between classified spaces – See Notes on Plans), EPDM rubber, 316 stainless steel fasteners, nitrile and silicone elastomers.)
1. Sizes: elastomeric seal and sleeve systems shall be sized based on outside diameter of penetrating pipe and wall penetration seal manufacturer's sizing and installation instructions.

2.21 UNIONS AND FLANGES

A. Unions for Pipe 2 inches and Smaller:

1. Ferrous Piping: Class 150, malleable iron, threaded.
2. Copper Piping: Class 150, bronze unions with soldered.
3. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
4. PVC Piping: PVC.
5. CPVC Piping: CPVC.

B. Flanges for Pipe 2-1/2 inches and Larger:

1. Ferrous Piping: Class 150, forged steel, slip-on flanges.
2. Copper Piping: Class 150, slip-on bronze flanges.
3. PVC Piping: PVC flanges.
4. CPVC Piping: CPVC flanges.
5. Gaskets: 1/16 inch thick preformed neoprene gaskets.

C. PVC Pipe Materials: For connections to equipment and valves with threaded connections, furnish solvent-weld socket to screwed joint adapters and unions, or ASTM D2464, Schedule 80, threaded, PVC pipe.

PART 3 - EXECUTION

3.1 EXAMINATION

A. See General Requirements - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify excavations are to required grade, dry, and not over-excavated.

C. Verify trenches are ready to receive piping.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

E. Provide pipe sleeves at all concrete wall and floor penetrations per 2015 Michigan Plumbing Code, and per pipe manufacturer installation instructions.

3.3 INSTALLATION

A. Install Work in accordance with State of Michigan and local municipal standards.

B. PVC Piping:

1. Plastic Pipe shall be installed in strict accordance with ASTM Standards relevant to the type of plastic piping system being installed: ASTM F 2536, ASTM D 2321.
2. Install pipe, fittings, and accessories according to ASTM F 2536 and ASTM D2321, and seal joints watertight.
3. Lay pipe to slope gradients as indicated on Shop Drawings.
4. Maximum Variation from Indicated Slope: 1/8 inch in 10 feet.
5. Begin at downstream end and progress upstream.
6. Assemble and handle pipe according to manufacturer's instructions, except as may be modified on Drawings or by Engineer.
7. Keep pipe and fittings clean until Work has been completed and accepted by Engineer.
8. Cap open ends during periods of Work stoppage.
9. Lay bell and spigot pipe with bells upstream.
10. Backfill and compact as specified in Section 31 23 17 - Trenching.
11. Do not displace or damage pipe when compacting.
12. Connect pipe to existing sewer system.
13. Refer to manufacturer's installation instructions when directly embedding PVC piping into concrete slabs. Secure piping per ASTM F 2536 and ASTM D 2321 guidelines prior to pouring concrete. Where piping penetrates slab, provide sleeve or elastomeric closed cell insulation per manufacturer installation instructions.

C. PVC and Metal Piping wall penetrations:

1. Install wall penetration seals for all foundation wall pipe penetrations.
2. Install wall penetration seals for all pipe penetrations between Class 1, Division 1, Class 1 Division 2, and where piping passes through classified spaces into unclassified spaces.
3. Install link-seal wall penetration seals in strict accordance with wall penetration seal manufacturer.
4. Select size and install wall penetration seals per wall penetration seal system manufacturer's installation instructions.

3.4 FIELD QUALITY CONTROL

A. See General Requirements - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

B. Test domestic water piping system in accordance with local authority having jurisdiction.

C. Test sanitary waste and vent piping system in accordance with local authority having jurisdiction.

D. Test storm drainage piping system in accordance with local authority having jurisdiction.

3.5 CLEANING

A. See General Requirements - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean and disinfect domestic water distribution system in accordance with Section 331300.

END OF SECTION

SECTION 22 40 00

PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water closets.
2. Lavatories.
3. Supplies, Traps, and Accessories.

B. Related Sections:

1. Section 07 90 00 - Joint Protection: Product requirements for calking between fixtures and building components for placement by this Section.
2. Section 22 11 00 - Facility Water Distribution: Supply connections to plumbing fixtures.
3. Section 22 13 00 - Facility Sanitary Sewerage: Waste connections to plumbing fixtures.
4. Section 26 05 03 - Equipment Wiring Connections: Execution requirements for electric connections to sensor valves and faucets specified by this Section.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ANSI Z124.1 - Plastic Bathtub Units.
3. ANSI Z124.2 - Plastic Shower Units.
4. ANSI Z358.1 - Emergency Eyewash and Shower Equipment.

B. Air-Conditioning and Refrigeration Institute:

1. ARI 1010 - Self-Contained, Mechanically Refrigerated Drinking-Water Coolers.

C. American Society of Mechanical Engineers:

1. ASME A112.6.1 - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use.
2. ASME A112.18.1 - Plumbing Fixture Fittings.
3. ASME A112.19.1M - Enameled Cast Iron Plumbing Fixtures.
4. ASME A112.19.2M - Vitreous China Plumbing Fixtures.
5. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use).
6. ASME A112.19.4 - Porcelain Enameled Formed Steel Plumbing Fixtures.
7. ASME A112.19.5 - Trim for Water-Closet Bowls, Tanks and Urinals.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit catalog illustrations of fixtures, sizes, utility sizes, trim, and finishes.

C. Samples: not required.

D. Manufacturer's Installation Instructions: Submit installation methods and procedures.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit fixture, trim, exploded view, and replacement parts lists.

1.5 QUALITY ASSURANCE

A. Perform Work according to State standard, 2015 Michigan Plumbing Code.

B. Provide products requiring electrical connections listed and classified by UL testing firm acceptable to authority having jurisdiction as suitable for purpose specified and indicated.

C. Provide plumbing fixture fittings according to ASME A112.18.1 that prevent backflow from fixture into water distribution system.

D. Maintain one copy of each document on Site.

E. Source Limitations: Obtain plumbing fixtures, faucets, and other components through one source and from a single manufacturer.
   1. Exception: If fixtures, faucets, and components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.

F. Regulatory Requirements:
   1. Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act"; for plumbing fixtures for people with disabilities.
   2. Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.

G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum ten years documented experience, and with service facilities within 100 miles of Project.

B. Installer: Company specializing in performing Work of this Section with minimum five years' documented experience and approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept fixtures on Site in factory packaging. Inspect for damage.

C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.9 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five-year manufacturer warranty for plumbing fixtures.

1.10 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

PART 2 - PRODUCTS

2.1 FLUSH VALVE WATER CLOSETS

A. Manufacturers:

1. Sloan
2. Zurn
3. Kohler
4. Or Approved Equal

B. Furnish materials according to State of standards.

C. 17-inch bowl height, ADA accessible vitreous china closet bowl, with elongated rim, 1-1/2-inch top spud, china bolt caps.

D. Exposed Flush Valve: ASME A112.18.1; exposed chrome-plated, diaphragm type with oscillating handle, escutcheon, seat bumper, integral screwdriver stop and vacuum breaker; maximum 1.6 gal. flush volume.

E. Seat: Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, without cover.

2.2 LAVATORIES

A. Manufacturers:

1. Sloan.
2. Zurn.
3. Kohler
4. Or Approved Equal

B. Vitreous China Wall Hung Basin: ASME A112.19.2M; vitreous china wall hung lavatory by sizes matching schedule, inches minimum, with 4-inch high back, drillings on 4-inch centers, rectangular basin with splash lip, front overflow, and soap depression.

C. Supply Fitting: ASME A112.18.1; chrome-plated combination supply fitting with open grid strainer, water economy aerator with maximum 2.0 gpm flow, single lever handle.

D. Waste Fittings: ASME A112.18.2 or ASTM F 409.

E. For public hand washing facilities, provide tempered water through regulating device conforming to ASSE 1070.

F. Accessories:

1. Chrome-plated 17-gage chrome P-trap with clean-out plug and arm with escutcheon.
2. Flexible supplies with quarter-turn valves.
3. Trap and waste insulated and offset to meet ADA compliance.

G. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, concealed arm supports, bearing plate and studs.

2.3 SERVICE SINKS

A. Manufacturers:
1. Mustee
2. Fiat
3. Or Approved Equals

B. Bowl: 24 by 24 by 10 inches high white molded plastic or stone, floor mounted, with one inch wide shoulders, stainless-steel strainer.

C. Trim: ASME A112.18.1 exposed wall type supply with lever handles, spout wall brace, vacuum breaker, hose end spout, strainers, eccentric adjustable inlets, integral screwdriver stops with covering caps and adjustable threaded wall flanges.

D. Accessories:

1. 5 feet of 1/2 inch diameter plain end reinforced rubber hose.
2. Hose clamp hanger.
3. Mop hanger.
4. Stainless steel wall guards for corner installation.

2.4 LAVATORY INSULATION KIT

A. Manufacturers:

1. Truebro
2. Or Approved Equal.

B. Product Description: Where Lavatories are noted to be insulated for ADA compliance, furnish the following: Safety Covers conforming to ANSI A177.1 and consisting of insulation kit of molded closed cell vinyl construction, 3/16 inch thick, white color, for insulating tailpiece, P-trap, valves, and supply piping. Furnish with weep hole and angle valve access covers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify walls and floor finishes are prepared and ready for installation of fixtures.

C. Verify electric power is available and of correct characteristics.

D. Confirm millwork is constructed with adequate provision for installation of counter top lavatories and sinks.

E. Verify roughing in of sanitary drain and vent and water supply systems and actual locations of piping connections before installation of plumbing fixtures.

F. Proceed with the installation of fixtures after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Rough-in fixture piping connections according to minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

A. Install Work according to State of standards.

B. Install each fixture with trap, easily removable for servicing and cleaning.

C. Provide chrome-plated rigid or flexible supplies to fixtures with quarter-turn stops, reducers, and escutcheons.

D. Install components level and plumb.

E. Install and secure fixtures in place with wall carriers and bolts.

F. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 90 00, color to match fixture.

G. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

H. For ADA accessible water closets, install flush valve with handle to wide side of stall.

I. Install drain piping with trap on outlet of each fixture to be connected to the sanitary drainage system. (Traps not required on fixtures with integral traps or indirectly connected to the sanitary drainage system, unless indicated otherwise).

J. Install water supplies to each fixture connected to water distribution system with stop on each supply, attach supplies to substrate or supports behind fixtures within pipe spaces.

K. Install flush valves (flushometer) for accessible water closets with lever handle on wide side of compartment.

L. Install tank type water closets with lever handle on wide side of compartment.

M. Install toilet seats on water closets.

N. Install flushometer valves for accessible water closets with handle mounted on the wide side of the compartment.

O. Traps, Strainers and Supplies shall rough in full to connections. Adapter extensions are not allowed.

P. Set mop service basins, bathtubs, and shower receptors in leveling bed of cement grout.

Q. Assemble plumbing fixtures, fittings, trim, and components according to manufacturers' written instructions.

R. Roughing in dimensions shall be determined only from fixture submittals approved by the Engineer.

S. Mounting of fixtures shall meet ADA/Barrier Free requirements where applicable.

T. The rims, fronts and all exposed parts of lavatories, service sinks, water closets, drinking fountains and other fixtures shall be covered and protected with suitable guards and building paper until completion of the work. This protection is to be installed immediately at the time of setting plumbing fixtures and to be removed only when the completed project is turned over to the Owner.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

C. Replace washers and seals of dripping or leaking faucets and stops.

D. Clean plumbing fixtures, faucet, and fittings with manufacturers recommended cleaning instructions; remove faucet strainers, remove debris and sediment, and reinstall clean strainers; remove debris and sediment from drains. Inspect all plumbing fixtures after installation and cleaning is complete, and repair or replace damaged fixtures or finishes as required to restore to new factory condition.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean plumbing fixtures and equipment.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Do not permit use of fixtures before final acceptance.

END OF SECTION

SECTION 23 00 00

HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. This Division includes all materials, labor, equipment, tools, supervision, permits, and incidentals necessary to complete installation, test, start up, and operate in a practical and efficient manner all Mechanical Systems indicated on the Drawings and described in this Division. The work shall also include any items which, while not specifically included in the Contract Documents but are reasonable and are accepted trade practices or necessary for the proper completion of the systems.

B. Mechanical systems in the Contract shall include the following: HVAC systems including all equipment, temperature controls, ductwork, piping, and insulation indicated on the drawings and the specifications.

C. The General Provisions of this Contract, including General and Supplementary Conditions and other General Requirements Sections, apply to the Work specified in this Section.

D. This Section is not intended to supersede, but to clarify the definitions in Division 1, General Requirements and Supplementary Conditions.

E. Drawings and Specifications
   1. Drawings and Specifications are intended to supplement each other, and all work specified or indicated in either shall be provided.
   2. Drawings are diagrammatic and indicate general arrangement of work included in the Contract and shall serve only as design drawings and not as working drawings, for general layout of various equipment and systems. Should drawings disagree in themselves or with Specifications, the better quality or greater quantity of work shall be provided.
   3. Separate specifications over the other trades. The Mechanical Contractor shall familiarize himself with these other specifications.
   4. Should there be any question as to the scope of work for which the Mechanical Contractor is responsible, he shall request an interpretation before submitting his bid. After contracts are awarded, the Owner will not consider claims for extras because of the incomplete joining of the work of one contractor (or subcontractor) with another.

1.2 COORDINATION OF MECHANICAL WORK

A. Responsibility
   1. The Mechanical Contractor shall be responsible for all Subcontractors and Suppliers, and include in his bid all materials, labor and equipment involved in accordance with all local regulations, jurisdictional awards, and decisions and secure compliance of all parts of the Specifications and Drawings regardless of Sectional inclusion in these Specifications.
   2. The Mechanical Contractor and Subcontractor shall be responsible for all parts applicable to his trade in accordance with the Specifications and Drawings, and shall be responsible for

coordinating locations and arrangements of his work with all other relevant Architectural, Structural and Electrical Contractor's Specifications, Drawings and Shop Drawings

B. Site and Project Document Examination:
   1. Submission of a Bid Proposal is considered evidence that the Contractor has visited the site, examined the Drawing and Specifications of all trades and has fully informed himself as to project and site conditions and is proficient, experienced and knowledgeable of all state, local and federal standards, codes, ordinances, permits, and regulations which affect every Subcontractors completion, cost and time required and that all costs are included in his Bid Proposal.

C. General Supports:
   1. Mechanical Contractor shall provide all necessary channel, angle, brackets or supplementary steel as required for adequate support for all piping, specialties, and equipment, which is hung or mounted above floor, and secure approval from Architect or Engineer, in writing, before welding or bolting to steel framing or anchoring to concrete structure.
   2. Where piping or equipment is suspended from concrete construction, set approved concrete inserts in formwork to receive hanger rods, such as Unistrut and where installed in metal deck use Ramset or Welds as required.

D. Wall, Floor and Ceiling Openings:
   1. Locate all openings and advise the General Contractor of details and templates of all openings necessary for inspection of mechanical work.
   2. In general, openings and required lintels shall be provided by the General Contractor. Size and location is the responsibility of the Mechanical Contractor. Cracks and rough edges left following installation of equipment shall be caulked or covered by the Mechanical Contractor.

E. Field Changes:
   1. This Contractor shall not make any field changes that effect timing, costs or performance without written approval from the Architect/Engineer in the form of a Change Order, Field Change Order or a Supplemental Instruction. The Contractor assumes liability for any additional costs for changes made without such instruction or approval. Should any unauthorized change be determined by the Architect as lessening the value of the project, a credit will be determined and issued as a change to the Contract.

1.3 STANDARDS, CODES AND PERMITS:

A. Refer to Division 1, General Requirements and Supplementary Conditions.

B. The Mechanical Contractor and his Subcontractors shall obtain all required permits and assessments prior to any work beginning. Contractor shall verify requirement to include privilege fees and permits as part of his formal bid.

C. All work shall comply with the latest edition of applicable standards and codes of following:
   1. ASA American Standards Association
   2. ASME American Society of Mechanical Engineers
   3. ASTM American Society of Testing Materials
   4. ANSI American National Standards Institute

5. AGA American Gas Association
6. ASHRAE American Society of Heating, Refrigerating, and Air Conditioning Engineers
7. AWWA American Water Works Association
8. NFPA National Fire Protection Association
9. IBR Institute of Boiler and Radiator Manufacturers
10. AWS American Welding Society
11. UL Underwriter s Laboratories
12. NEMA National Electric Manufacturers Association
13. NEC National Electric Code
14. ARA American Refrigeration Association
15. OSHA Occupational Safety and Health Act
16. MIOSHA Michigan Occupational Safety and Health Act
17. ABMA American Boiler Manufacturers Association
18. International Mechanical Code 2021
19. International Plumbing Code 2021

D. All work shall be provided and tested in accordance with all applicable local county, state laws, ordinances, codes, rules and regulations.

E. No work shall be covered or enclosed until the work is tested in accordance with applicable codes and regulations, and successful tests witnessed and approved by authorized inspection authority. Written approvals shall be secured by Contractor and submitted to Engineer before final acceptance of work.

1.4 SUBMITTALS:

A. Shop Drawings:
1. Submit electronic PDF copy of equipment and associated materials and equipment to Architect or Engineer for review.
2. Submit complete manufacturers shop drawings of all equipment, accessories and controls, including capacities, weights, dimensions, construction details, installation, controls, wiring diagrams, and motor data.
3. Review of shop drawings is for general application only and is a service only and not considered as a guarantee of total compliance with or as relieving Contractor of basic responsibilities under all Contract Documents and does not approve changes in time or cost.
4. Each Contractor is responsible to provide information to all other trades involved in or affected by installation of his equipment.

B. Operating and Maintenance Instruction and Manuals:
1. Each Contractor shall provide for all major items of equipment (3) bound and indexed sets of operating and maintenance instructions to Engineer for approval. Manual shall include a complete set of shop drawings.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. Proposal Supplement:

1. Contractor to submit a supplemental document which lists the Mechanical Equipment and Materials Manufacturers, and Subcontractors list with the bid document.
2. After Proposal Supplement and Subcontractors are approved, no deviation shall be permitted without written approval of Engineer or Owner.

B. Standards:
1. All products shall be furnished by established manufacturers regularly engaged in making the type of materials to be provided and complete with all parts, accessories, connections, etc. as specified or as recommended and/or required by the manufacturer.
2. All material where applicable shall be labeled or listed by Underwriters Laboratories, Inc.
3. Erect equipment in a neat and workmanlike manner. Align, level and adjust for satisfactory operation. Install so that connecting and disconnecting of piping and accessories can be made readily, and so that parts are easily accessible for inspection, operation, maintenance and repair. Minor deviation from arrangements may be made, as approved.

C. Base Bid:
1. The Mechanical Contractor shall refer to the Mechanical Schedules and Specifications for approved equipment manufacturers. Contractor shall submit for Approved Equals during the bidding process.
2. Where base bid is not listed in specifications and if another manufacturer is listed as an approved equal, equipment from these manufacturers will be accepted contingent upon meeting the design, appearance, and functional standards established by the specified items.
3. The Contractor is liable for any added costs to himself or others and is responsible for verifying dimensions, clearance and roughing-in requirements and is responsible for advising other Contractors of variations and shall submit revised drawing layout for approval of Engineer.

D. Substitutions and Changes:
1. The Contractor shall bid the project in strict accordance with the Plans, Schedules, and Specifications. Alternative materials or methods proposed by the Mechanical Contractor shall be submitted in writing to the Engineer at least 3 Days Prior to the Bid due date and shall be preapproved for bidding. Failure to receive pre-approval will disqualify the Bid.
2. The Contractor is liable for any added costs to himself or others and is responsible for verifying dimensions, clearance and roughing-in requirements, when product not named as the basis of design is used and is responsible for advising other Contractors of variations and, if requested, submit revised drawing layout for approval of Architect.
3. Work required by Engineer to revise drawings or re-engineer mechanical systems required by equipment substituted by the Contractor or them base bid shall be paid by the Contractor to the Engineer on a hourly rate basis.

2.2 ELECTRICAL REQUIREMENTS FOR MECHANICAL WORK

A. General:
1. When the Mechanical equipment not named as the basis of design is approved for use, the Mechanical Contractor is responsible for any costs incurred by other trades, including revisions to the Electrical requirements such as conduit, wire, starters, heaters, fused switches, disconnects, or circuit breakers.

2. Electrical items furnished shall bear the Underwriter s Laboratories label and the installation shall comply with requirements of the National Electric Code, ANSI, IPCEA, IRI, and local codes, ordinances and regulations.

B. Motor Starters and Controls:
   1. Unless specifically listed to be provided as an accessory to the equipment (such as roof top units, make-up air units, etc.), the Electrical Contractor shall provide all manual or magnetic motor starters as required for all motors as indicated on all Electrical Drawings.
   2. Mechanical Contractor shall provide factory installed motor starters, disconnects, and convenience outlets where scheduled to be provided as an accessory to the unit. See equipment schedules.
   3. The Mechanical Contractor shall provide variable frequency drives (VFDs) where scheduled to be provided as an accessory to the unit unless otherwise specified or if coordinated with the Electrical Contractor.
   4. The Mechanical Contractor, Temperature Control Contractor, Equipment Supplier, and Electrical Contractor are responsible to coordinate and ensure all electrical accessories are included as part of the Base Bid.

C. Electrical Wiring and Controls:
   1. Mechanical Contractor shall furnish and install all motors, drives, controllers integral to equipment and factory mounted controls for all mechanical equipment.
   2. Mechanical Contractor or Temperature Control Contractor shall furnish and install all electrical devices requiring mechanical connections, and/or electrical connections, such as pressure switches, limit switches, float switches, solenoid valves, motor operated valves, motor operated dampers, fire stats, freeze stats, thermostats, override timers, E.P. s, P.E. s, temperature control cabinet, air compressor with starter, etc.
   3. Temperature Control Contractor or Mechanical Contractor shall furnish and install all power and Class 2 and 3 wiring, conduit boxes for their associated equipment in 2.02, C, 2.
   4. Electrical Contractor shall install all power wiring, conduit to motors and/or factory mounted control panels as indicated on Electrical Drawings or as indicated in Specifications.
   5. All electrical wiring work by Mechanical Contractor and Temperature Control Contractor shall be in accordance with Division 26 requirements.

D. See also, Division 26, Electrical Requirements for Mechanical Equipment.

END OF SECTION

SECTION 23 05 53

IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nameplates.
2. Tags.
3. Stencils.
4. Pipe markers.
5. Labels.

B. Related Sections:

1. See General Requirements - Painting and Coating: Execution requirements for painting specified by this section.

1.2 REFERENCES

A. ASME A13.1 - Scheme for the Identification of Piping Systems: The American Society of Mechanical Engineers; 2007.

B. ASTM D 709 - Standard Specification for Laminated Thermosetting Materials; 2001 (Reapproved 2007).

1.3 SUBMITTALS

A. See General Requirements for Submittal procedures.

B. Product Data: Submit manufacturers catalog literature for each product required.

C. Shop Drawings: Submit list of wording, symbols, letter size, and color coding for mechanical identification and valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

D. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. See General Requirements for Execution and Closeout Requirements.

B. Project Record Documents: Record actual locations of tagged valves; include valve tag numbers.

1.5 QUALITY ASSURANCE

A. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum five years documented experience approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

A. See General Requirements for Administrative Requirements: Pre-installation meeting.

B. Convene minimum two-weeks prior to commencing work of this section.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 EXTRA MATERIALS

A. See General Requirements - Execution and Closeout Requirements: Spare parts and maintenance products.

PART 2 - PRODUCTS

2.1 IDENTIFICATION APPLICATIONS

A. Air Handling Units: Nameplates.

B. Air Terminal Units: Tags.

C. Control Panels: Nameplates.

D. Dampers: Ceiling tacks, where located above lay-in ceiling.

E. Heat Transfer Equipment: Nameplates.

F. Major Control Components: Nameplates.

G. Plumbing and Hydronic Piping: Plastic Pipe Markers.

H. Pumps: Nameplates.

I. Ductwork: Tags or Stencils

2.2 NAMEPLATES

A. Manufacturers:
1. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
2. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
3. Seton Identification Products: www.seton.com.
4. Or Approved Equal.

B. Product Description: Laminated three-layer plastic with engraved letters on light contrasting background color.
1. Letter Color: White.
2. Letter Height: 1/2 inch (12 mm).
3. Background Color: Black.
4. Plastic: Conform to ASTM D 709

2.3 TAGS

A. Plastic Tags

1. Manufacturers:
a. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
b. Brady Corporation: www.bradycorp.com.
c. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
d. Seton Identification Products: www.seton.com.
e. Or Approved Equal.

2. Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inches diameter.

B. Metal Tags

1. Manufacturers:
a. Advanced Graphic Engraving: www.advancedgraphicengraving.com.
b. Brady Corporation: www.bradycorp.com.
c. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
d. Seton Identification Products: www.seton.com.
e. Or Approved Equal.

2. Brass with stamped letters; tag size minimum 1-1/2 inches diameter with finished edges.

2.4 STENCILS

A. Stencils

1. Manufacturers:

a. Brady Corporation: www.bradycorp.com.
b. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
c. Seton Identification Products: www.seton.com.
d. Or Approved Equal.

B. Stencils: With clean cut symbols and letters of following size:

1. 3/4 to 1-1/4 inch (20-30 mm) Outside Diameter of Insulation or Pipe: 8 inch (200 mm) long color field, 1/2 inch (15 mm) high letters.
2. 1-1/2 to 2 inch (40-50 mm) Outside Diameter of Insulation or Pipe: 8 inch (200 mm) long color field, 3/4 inch (20 mm) high letters.
3. 2-1/2 to 6 inch (65-150 mm) Outside Diameter of Insulation or Pipe: 12 inch (300 mm) long color field, 1-1/4 inch (30 mm) high letters.

C. Stencil Paint: As specified in Section 09 90 00, semi-gloss enamel, colors and lettering size conforming to ASME A13.1.

2.5 PIPE MARKERS and PIPE STICKERS

A. Color and Lettering: Conform to ASME A13.1.

B. Plastic Pipe Markers (Applied to insulated and wrapped piping).

1. Plastic Pipe Markers: Factory fabricated, wrap-around, flexible, semi- rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.

2. Size (including insulation) Pipe O.D. (inches) = Letter Size (inches):
a. 0.75" – 1" = 1/2" Letters.
b. 1.25" – 2.375" = 3/4" Letters.
c. 2.5" – 7.875" = 1.25" Letters.
d. 8" – 9.875" = 2.5" Letters.
e. 10" and larger = 3.5" Letters.

C. Plastic Tape Pipe Markers (Applied to painted uninsulated or wrapped piping).

1. Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

2. Size (including insulation) Pipe O.D. (inches) = Letter Size (inches):
a. 0.75" = 1/2" Letters.
b. 1" – 2.5" = 3/4" Letters.
c. 2.5" – 7.875" = 1.25" Letters.
d. 8" – 9.875" = 2.5" Letters.
e. 10" and larger = 3.5" Letters.

2.6 UNDERGROUND WARNING TAPE

A. Underground Warning Tape

1. Manufacturers:
   a. Brady Corporation: www.bradycorp.com.
   b. Kolbi Pipe Marker Co.: www.kolbipipemarkers.com.
   c. Seton Identification Products: www.seton.com.
   d. Or Approved Equal.

B. Description: Polyethylene tape with metallic core for detection and location of piping with metal detector resistant to acids, alkalis and other soil components.

1. Size: 0.004 inch6 inches
2. Printed text as selected by Architect/Engineer in contrasting color and repeated at maximum 36 inches intervals.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.2 INSTALLATION

A. Install identifying devices after completion of coverings and painting.

B. Install plastic nameplates on all HVAC and plumbing equipment. Identify air handling units, pumps, heat transfer equipment, tanks, and water treatment devices with plastic nameplates. Identify in-line pumps and other small devices with tags.

C. Install with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

D. Install labels with sufficient adhesive for permanent adhesion and seal with clear lacquer. For unfinished canvas covering, apply paint primer before applying labels.

E. Install wrap-around pipe markers on all insulated and wrapped plumbing piping including: Storm, Sanitary, CW, HW, DHWR (recirulation), Tempered Water, and condensate. Include flow direction arrows on recirculation piping (at least one flow direction arrow next to label in each room).

F. Install adhesive pipe markers on all painted (uninsulated) piping located indoors including: Natural Gas, and Sanitary vent (not installed within walls). For indoor exposed natural gas lines, attach yellow pipe labels with "GAS" in black lettering, at maximum 5 foot spacing.

G. Install wrap-around pipe markers on all insulated and wrapped HVAC piping including: HWS, HWR, CHWS, CHWR, HPWS, HPWR, Condensate, STEAM (include pressure PSI) and STEAM-CONDENSATE. Include flow direction arrows on all piping. Install at least one flow direction arrow on each main pipe branch. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

H. Install underground plastic pipe markers 6 to 8 inches below finished grade, directly above buried pipe.

I. Identify control panels and major control components outside panels with plastic nameplates including: AHU Control Panels and Control Sensors and Thermostats.

J. Identify valves in main and branch piping with tags.

END OF SECTION

SECTION 23 05 93

TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Testing, adjusting, and balancing of air systems.
2. Measurement of final operating condition of HVAC systems.

B. This section does not include:
1. Testing heat exchangers and pressure vessels for compliance with safety codes.
2. Specifications for materials for patching mechanical systems.
3. Specifications for materials and installation of adjusting and balancing devices. If devices must be added to achieve proper adjusting and balancing, refer to the system sections for materials and installation requirements.
4. Requirements and procedures for piping and ductwork systems leakage tests.

C. The following systems require test and balance:
1. New exhaust fans and grilles.
2. New supply registers.

1.2 REFERENCES

A. Associated Air Balance Council:

1. AABC MN-1 - National Standards for Testing and Balancing Heating, Ventilating, and Air Conditioning Systems.

B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:

1. ASHRAE 111 - Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning and Refrigeration Systems.

C. Natural Environmental Balancing Bureau:

1. NEBB - Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.

D. Testing Adjusting and Balancing Bureau:

1. TABB - International Standards for Environmental Systems Balance.

1.3 SUBMITTALS

A. Reports:
   1. General: Submit testing, adjusting, and balancing reports bearing the seal and signature of the test and balance engineer or the signature and list of qualifications of a test and balance technician. The reports shall be proof that the systems have been tested, adjusted, and balanced in accordance with the referenced standards; are an accurate representation of how the systems have been installed; are a true representation of how the systems are operating at the completion of the testing, adjusting, and balancing procedures; and are an accurate record of all final quantities measured, to establish normal operating values of the systems. Follow the procedures and format specified below.

B. See General Requirements - Submittal Procedures: Submittal procedures.

C. Prior to commencing Work, submit proof of latest calibration date of each instrument.

D. Field Reports: Indicate deficiencies preventing proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.

E. Submit draft copies of report for review prior to final acceptance of Project.

F. Furnish reports in electronic PDF format and binder manuals, complete with table of contents page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with State standards and ASHRAE 90.1-2013.

B. Prior to commencing Work, calibrate each instrument to be used. Upon completing Work, recalibrate each instrument to assure reliability.

1.5 QUALIFICATIONS

A. Agency: Company specializing in testing, adjusting, and balancing of systems specified in this section with minimum ten years documented experience certified by AABC Certified or by NEBB Certified by TABB.

1.6 PRE-INSTALLATION MEETINGS

A. See General Requirements - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.7 SEQUENCING

A. See General Requirements - Summary: Work sequence.

B. Sequence balancing between completion of systems tested and Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 Not Used.

PART 3 - EXECUTION

3.1 PRELIMINARY PROCEDURES

A. Before commencing work, verify that systems are complete and operable. Ensure the following:
1. Equipment is operable and in a safe and normal condition.
2. Temperature control systems are installed complete and operable.
3. Proper thermal overload protection is in place for electrical equipment.
4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
5. Duct systems are clean of debris. .
6. Fire dampers are in place and open.
7. Coil fins have been cleaned and combed.
8. Access doors are closed and duct end caps are in place.
9. Air outlets are installed and connected.
10. Duct system leakage has been minimized.
11. Proper strainer baskets are clean and in place.
12. Correct pump rotation.
13. Correct fan rotation.
14. Hydronic systems have been flushed, filled, and vented.
15. Service and balance valves in water distribution system are in place and open.
16. Operating voltage on fan and pump motors do not exceed motor’s nameplate maximum voltage rating.
17. Walk the system from the system air handling equipment to air outlets and inlets to determine variations of installation from design.
18. Check all damper types for correct and locked position, and temperature control for completeness of installation before starting fans.
19. Prepare report test sheets for both fans and outlets. Obtain manufacturer's outlet factors and recommended procedures for testing. Prepare a summation of required outlet volumes to permit a crosscheck with required fan volumes.
20. Determine best locations in main and branch ductwork for most accurate duct traverses
21. Place outlet dampers in the full open position
22. Prepare schematic diagrams of system "as-built" ductwork and piping layouts to facilitate reporting
23. Lubricate all motors and bearings
24. Check fan belt tension

B. Report to Architect/Engineer any major problems, defects or deficiencies noted during performance of services. Also include major problems or deficiencies in the written report.

C. Promptly report abnormal conditions in mechanical systems or conditions, which prevent system balance.

D. Beginning of work means acceptance of existing conditions.

3.2 PERFORMING TESTING, ADJUSTING AND BALANCING ON AIR SYSTEMS

A. Perform testing, adjusting and balancing procedures on each system identified in drawing, in accordance with the detailed procedures outlined in the referenced standards except as may be modified below.

B. Unless specifically instructed in writing, all work in this specification section is to be performed during the normal workday.

C. In areas containing ceilings, remove ceiling tile to accomplish balancing work. Replace tile when work is complete and provide new tile for any tile that was damaged by this procedure. If the ceiling construction is such that access panels are required for the work of this section and the panels have not been provided, inform the owner representative.

D. Cut insulation, ductwork and piping for installation of test probes to the minimum extent necessary for adequate performance of procedures. Patch to maintain system integrity and pressure rating of systems.

E. In air systems employing filters, blank off sufficient filter area to simulate a pressure drop that is midway between that of a clean filter and that of a dirty filter.

F. Test and Balance Contractor shall set diffuser flow rate (volume) by adjusting dampers installed on the ductwork. Do not use volume dampers that are integral with the diffusers to set volume if both duct and neck dampers are present.

G. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.

H. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.

I. All Air Systems shall be balanced using a procedure, which results in minimum restrictions being imposed. At completion of balancing:
    1. At least one damper for an outlet/inlet shall be fully open on every branch duct.
    2. At lest one branch duct balancing damper shall be fully open on every trunk duct.
    3. At least one trunk (zone) balancing damper shall be fully open from each Fan System.
    4. Supply/exhaust RPM shall be set so that the static pressure at the terminal that is most difficult to maintain is adequate, but not excessive.

J. Measure and record system measurements at the fan to determine total flow. Adjust equipment as required to yield specified total flow at ventilation unit and at terminals. Proceed taking measurements in mains and branches as required for final terminal balancing. Perform terminal balancing to specified flows after balancing branch dampers, deflectors, extractors and valves.

K. Provide fan and motor drive sheave adjustments necessary to obtain design performance. Once drive sheave diameters have been established, replace all adjustable sheaves with solid pulleys (at Test and Balance Contractor Cost). Include in scope of services drive changes specifically noted on drawings, if any. If work indicates that any drive or motor is inadequate for the application, advise the owner representative by giving the representative properly sized motor/drive information (in accordance with manufacturers original service factor and installed motor horsepower requirements). Any changes shall keep the duct system within its design limitations with respect to the speed of the device and pressure classification of the distribution system. Material costs for sheave changes as well as time and material for motor changes will be considered a reimbursable expense and will require an itemized cost breakdown of all time and motor/drive changes submitted to owner representative; prior authorization is needed before this work is started.

L. Measure and record static air pressure conditions across fans, coils and filters. Indicate in report if cooling coil measurements were made on a wet or dry coil and if filter measurements were made on a clean or dirty filter.

M. Adjust outside air, return air and relief air dampers for design conditions at both the minimum and maximum settings and record both sets of data (and test methodology). If necessary, Test and Balance Contractor should return when an adequate temperature difference between the return air and outside air temperatures exists in order to determine minimum outside air damper position.

N. For systems with Demand Control Ventilation (DCV) carbon dioxide systems, set minimum outdoor air damper position to 100% closed position ---do not set to the listed minimum position as noted on the equipment Schedule.

O. Balance modulating dampers at extreme conditions and record both sets of data. Balance variable air volume systems at maximum air flow rate (full cooling) and minimum flow rate (full heating) and record all data.

P. Adjust register, grille and diffuser vanes and accessories to achieve proper air distribution patterns (check with Engineer for optimal configuration), uniform space temperatures, areas free from objectionable noise and drafts — that are within the capabilities of the installed system.

Q. Final air system measurements to be within the following range (unless directed otherwise by Engineer) of the specified CFM:

1.	Fans	-5% to +10% of design value
2.	Supply grilles, registers, diffusers	-10% to +10% of design value
3.	Return/exhaust grilles, registers	-10% to +10% of design value
4.	Room pressurization air	-5% to +5% of design value

R. Permanently mark equipment settings including damper positions, valve positions, and control settings. Set and lock memory stops.

S. Leave systems in proper working order by replacing belt guards, closing access doors and electrical boxes, and restoring temperature controls to normal operating settings.

3.3 DEFICIENCIES

A. Notify General Contractor, Owner, and Owner Representative of any installation deficiencies found by the Test and Balance Contractor that were specified and/or shown on the Contract Documents. The Owner Representative will then instruct the General Contractor to correct the deficient work. All corrective work to be done at no cost to the owner.

3.4 COMMISSIONING

A. All testing and balancing shall perform to the satisfaction of both the Engineer and Owner prior to the acceptance of the testing and balancing report as meeting the requirements of this document.

B. Prior to building acceptance, balancing data will be spot checked with instruments similar to that used by the Test and Balance Contractor to verify compliance with this specification. Spot checking will be as follows:
   1. Either the Owner, Owner Representative, Engineer, or Commissioning Agent will preform or supervise the testing of a random sample of points (air and water flow rates within distribution system). At least 5%, but not less than 30, of the supply and return diffusers and one (1) or two (2) fan and pump systems will be tested.
   2. If any of the spot-checked points fails to meet specification criteria, another similar sample will be selected by the Owner, Owner Representative, Engineer, or Commissioning Agent.
   3. If any of the points in the second sample fails, then the Owner may direct the Test and Balance Contractor to repeat their testing and balancing services in their entirety at no additional cost to the Owner. Then, the Owner Representative, Engineer, or Commissioning Agent shall repeat the spot check procedure.

C. If the Test and Balance Contractor fails to demonstrate proper compliance with this specification, the Engineer's, Owner Representative's or Commissioning Agent's costs for witnessing and reviewing three or more spot checks will be assigned to the Test and Balance Contractor by the Owner as a deduct to their contracted price. Note: The Test and Balance Contractor will not be responsible for costs related to poor design or to other factors beyond their control, though it is expected to call any design concerns and other factors beyond their control that might cause system failure to the attention of the Engineer and the Owner.

3.5 INSTRUMENTATION

A. Provide all required instrumentation to obtain proper measurements. Application of instruments and accuracy of instruments and measurements to be in accordance with the requirements of Reference Standards and instrument manufacturer's specifications.

B. All instruments used for measurements shall be accurate and calibrated. Calibration and maintenance of all instruments to be in accordance with the requirements of Reference Standards.

C. Provide all necessary tools, scaffolding and ladders and other necessary instruments.

3.6 APPROVED TEST AND BALANCE CONTRACTORS

A. Qualifications: A third party testing and balancing professional with technician's having at least 10-years of successful testing, adjusting, and balancing experience on projects with testing and balancing requirements similar to those required for this project.

B. Codes and Standards: The Test and Balance Contractor shall be certified by one the following Test and Balance Organizations.
   1. National Environmental Balancing Bureau (NEBB).
   2. National Balancing Council (NBC).
   3. Associated Air Balance Council (AABC).

C. Report Format and Contents
   1. Format: Bind report forms in three-ring binders or portfolio binders. Label edge and binder front cover with label identifying project name, project number and descriptive title of contents. Divide the contents of the report into the below listed divisions, separated by divider tabs.
   2. Report Tags and Labels: Use equipment tags and labels (for example: AHU-1, RTU-1, SD-1, etc.) as listed on the Mechanical Drawings, when labeling report equipment.

   General Information:
      a. Summary and Title Page
      b. Air Systems
      c. Water Systems
      d. Special Systems

D. Report Forms

   1. Title Page:

      a. Name of Testing, Adjusting, and Balancing Agency
      b. Address of Testing, Adjusting, and Balancing Agency
      c. Telephone and facsimile numbers of Testing, Adjusting, and Balancing Agency
      d. Project name
      e. Project location
      f. Project Architect
      g. Project Engineer
      h. Project Contractor
      i. Project altitude
      j. Report date

   2. Summary Comments:

      a. Design versus final performance
      b. Notable characteristics of system
      c. Description of systems operation sequence
      d. Summary of outdoor and exhaust flows to indicate building pressurization
      e. Nomenclature used throughout report
      f. Test conditions

3. Instrument List:

    a. Instrument
    b. Manufacturer
    c. Model number
    d. Serial number
    e. Range
    f. Calibration date

4. Air Systems:
    a. Names and initials of personnel performing the balancing (on each form)
    b. Dates balancing was performed (on each form)
    c. Weather conditions at the time of the test (especially temperature)
    d. All motor rated data: voltages, amps, RPM, HP, manufacturer, starter and overload protective device sizes
    e. All motor operating data (before and after adjustments) voltages, amps, RPM, HP, BHP, and sheave size/rating and manufacturer
    f. All fan data (design and operating): supply and return CFM, operating static pressures (suction, discharge, and fan static), fan sheave, belt size, fan RPM
    g. All drive changes necessitated to obtain design capacities
    h. List actual minimum outside air volumes measured for each system and the corresponding control setpoint
    i. All supply and return air outlet airflow (CFM) readings. Include velocity measurements and AK factors where applicable. Include initial and final CFM readings at each box.
    j. For VAV systems, record static pressure at each terminal box as well as static pressure at static pressure sensor (for temperature control system).
    k. Measure building static pressure at building static pressure sensor and five other locations.
    l. Heating and cooling coil entering and leaving air temperatures during test (as a reference

5. Test and Balance Summary:
    a. Provide sheet describing mechanical system deficiencies.
    b. Describe objectionable noise or drafts found during testing, adjusting and balancing.
    c. Provide recommendations for correcting deficiencies and unsatisfactory performances and indicate whether modifications required are: within the scope of the contract; design related; or installation related.
    d. Static pressure and CFM values at each fan system.
    e. Static pressure and CFM values at each terminal box.
    f. Static pressure at static pressure sensor (that ensures adequate static pressure at all terminal boxes) and at AHU static pressure sensor.
    g. For each fan system, outside air damper position that provides required minimum outside air.
    h. Flow rates and pressures for each hydronic system.
    i. Pipe pressure at pressure sensor (that ensures adequate pressure at all coil valves) and at pump pressure sensor

6. Electric Motors:

a. Manufacturer
b. Model/Frame
c. HP/BHP and kW
d. Phase, voltage, amperage; nameplate, actual, no load
e. RPM
f. Service factor
g. Starter size, rating, heater elements
h. Sheave Make/Size/Bore

7. V-Belt Drive:

a. Identification/location
b. Required driven RPM
c. Driven sheave, diameter and RPM
d. Belt, size and quantity
e. Motor sheave diameter and RPM
f. Center to center distance, maximum, minimum, and actual

8. Air Moving Equipment:

a. Location
b. Manufacturer
c. Model number
d. Serial number
e. Arrangement/Class/Discharge
f. Air flow, specified and actual
g. Return air flow, specified and actual
h. Outside air flow, specified and actual
i. Total static pressure (total external), specified and actual
j. Inlet pressure
k. Discharge pressure
l. Sheave Make/Size/Bore
m. Number of Belts/Make/Size
n. Fan RPM

9. Exhaust Fan Data:

a. Location
b. Manufacturer
c. Model number
d. Serial number
e. Air flow, specified and actual
f. Total static pressure (total external), specified and actual
g. Inlet pressure
h. Discharge pressure
i. Sheave Make/Size/Bore
j. Number of Belts/Make/Size
k. Fan RPM

10. Duct Traverse:

    a. System zone/branch
    b. Duct size
    c. Area
    d. Design velocity
    e. Design air flow
    f. Test velocity
    g. Test air flow
    h. Duct static pressure
    i. Air temperature
    j. Air correction factor

11. Duct Leak Test:

    a. Description of ductwork under test
    b. Duct design operating pressure
    c. Duct design test static pressure
    d. Duct capacity, air flow
    e. Maximum allowable leakage duct capacity times leak factor
    f. Test apparatus

        1) Blower
        2) Orifice, tube size
        3) Orifice size
        4) Calibrated

    g. Test static pressure
    h. Test orifice differential pressure
    i. Leakage

12. Air Distribution Test Sheet:

    a. Air terminal number
    b. Room number/location
    c. Terminal type
    d. Terminal size
    e. Area factor
    f. Design velocity
    g. Design air flow
    h. Test (final) velocity
    i. Test (final) air flow
    j. Percent of design air flow

END OF SECTION

SECTION 23 07 00
HVAC INSULATION

PART 1 GENERAL

This section includes thermal insulation specifications for all plumbing and HVAC equipment.

A. All insulation must meet or exceed State of Michigan Commercial Uniform Energy Code and standards specified by the American Society of Heating, Refrigeration, and Air-Conditioning Engineers, ASHRAE 90.1-2018.

1.1 QUALITY ASSURANCE

A. Bidders shall specialize in mechanical insulation application and have a minimum of three years' experience, or pre-approval for bidding from the engineer.

B. Furnish insulation, jackets, coverings, sealers, mastics, and adhesives with flame-spread index of 25 or less, and smoke-developed index of 50 or less, in accordance with the Michigan Mechanical Code (MMC), ASTM E-84, NFPA 255, or UL 723.

C. Insulation shall be furnished and installed in compliance with the National Commercial & Industrial Insulation Standards, Refer to www.insulation.org/index for manual information.

1.2 PERFORMANCE SPECIFICATION

A. Insulation materials furnished and installed hereunder shall meet the fire hazard requirements of applicable building codes when tested in composite form per one of the following nominally equivalent test methods:
   1. American Society for Testing of Materials ASTM E-84
   2. Underwriters' Laboratories, Inc. UL 723 (CAN/ULC-S102-M88)
   3. National Fire Protection Association NFPA 255

C. As specified in ASTM E-84, all insulation shall have a flame spread index not exceeding 25, and a smoke-developed index not exceeding 50.

1.3 SUBMITTALS

A. Provide manufacturer data and installation sheets for each type of insulation material used.

B. See General Requirements and/or Mechanical General Requirements for required format.

C. Shop drawing submittals shall include:
   1. Job Name
   2. Supplier and contractor name, address, phone, and fax.
   3. Material specifications and intended area of use.

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

A. Owens Corning

B. Certainteed

C. Knauf

D. 3M

E. Insulation Solutions

F. TVM Building Products

G. Pabco-Childers Metals

H. Armacell Engineered Foams (formerly Armstrong Insulation Company)

I. TruBro

J. McGuire Manufacturing Company

PART 3 MATERIALS

3.1 TYPE 1 - NON-FLEXIBLE, JACKETED, FIBERGLASS PIPE INSULATION

A. Fiberglass pipe insulation

B. Heavy density resin bonded inorganic fibers

C. Formaldehyde Free

D. Hinged sections to slip over pipe

E. Smooth, reinforced, vapor retardant, all service jacket (ASJ)

F. Longitudinal, pressure sensitive adhesive self-sealing lap seal and butt seal

G. Approved for use up to 850 deg. F

H. Meets ASTM C 547 (mineral fiber insulation), ASTM 1136 (vapor barrier), ASTM C 795 (austenitic stainless steel)

I. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

3.2 TYPE 2 - NON-FLEXIBLE, PVC JACKETED, FIBERGLASS PIPE INSULATION

A. Same as Type 1, except shall be securely covered with 15 mil PVC jacket.

B. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

3.3 TYPE 3 - FOIL-BACKED, ALL SERVICE DUCT WRAP INSULATION

A. 0.75 pounds per cubic feet (pcf)

B. Thermal resistance, R = 6.0 hr-sf-F/Btu (2" thick)

C. Foil, reinforced, kraft low permeance vapor retarder backing (foil-backed)

D. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

E. Paper-backed insulation typically does not meet ASTM E-84, and shall not be approved.

3.5 TYPE 5 - FLEXIBLE, CLOSED-CELL, PIPE INSULATION

A. Closed-cell, flexible, elastomeric, piping insulation; or Foam Glass Brand insulation with Pit Wrap (Foam Glass insulation includes water resistance vapor barrier, and does not require a separate vapor barrier).

B. Thermal Conductivity, K = 0.27 Btu-in/hr-sf-F

C. Vapor transmission 0.08 perm-in

D. Non CFC, HFC, HCFC, manufactured, and formaldehyde free

E. Mold and mildew resistant

F. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

G. Include seam and butt joint adhesive

3.6 TYPE 6 - DUCT LINER FOR THERMAL INSULATION PURPOSES

A. Bonded glass fiber blanket

B. Thermal Conductivity, K = 0.25 Btu-in/hr-SF-F

C. R = 8.0 hr-sf-F/Btu (2" thick)

D. Bacterial and fungi resistance ASTM C 1338 and ASTM G-21 (fungi), ASTM G-22 (bacteria)

E. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

F. Sheet metal contractor to provide and install duct liner

G. Include manufacturer specified fasteners and adhesives.

H. See HVAC Ductwork Specification Section 15890 for further installation info.

I. Reference Venture Clad 1577CW exterior duct jacket, -30F to +300F, 6.0 mils, 0.000 Perms. UL Classified. PSTC 101, 107,, 131, ASTM D 1000, D 624, E 162, E 622, E 96.

3.7 TYPE 7 - ZERO-CLEARANCE DUCT WRAP FOR TYPE 1 GREASE-LADEN DUCTWORK AND HOODS

A. Fire-resistant wrap consisting of inorganic blanket encapsulated with scrim-reinforced foil

B. Used as alternative to 1 and 2 hour rated shaft assemblies

C. Zero-clearance, two (2) hour fire rating

D. Non-asbestos

E. Zero smoke and fire developed index

F. ASTM C 411, ASTM C 518, ASTM E-84, ASTM E-19, ASTM E-136, ASTM E-814

G. UL 1978

H. Include silicone seam sealants per manufacturer recommendations and specifications.

3.8 TYPE 8 - SPECIALTY INSULATION COVERS

A. Closed-cell, flexible, elastomeric, sheet or roll insulation

B. 1” thick

C. Thermal Conductivity, K = 0.27 Btu-in/hr-sf-F

D. Vapor transmission 0.08 perm-in

E. Non CFC, HFC, HCFC, manufactured, and formaldehyde free

F. Mold and mildew resistant

G. Meets 25/50 flame and smoke developed index, ASTM E-84, NFPA 90A

H. Include seam and butt joint adhesive

I. Field fabricated insulated sheet metal cover to cover chilled-water pump casing and flanges

J. Removable and reusable sheet metal cover

3.9 TYPE 9 – BURIED SUPPLY DUCT & RADIANT FLOOR AND SNOWMELT INSULATION

A. Insulated Tarp
   1. High density closed-cell foam and high density polyethylene bubble-wrap sandwiched between cross-woven polyethylene sheets with reflective aluminum inner backing.
   2. Thickness = 1" or meeting R-value below.

3. Thermal resistance, R = 10.0 hr-sf-F/Btu
4. Permeance = .002 perms
5. Temperature rating = 180 deg. F to -60 deg. F
6. Compressive strength for use up to 90 psi (12,960 lbf/sf), for use under sidewalks, residential and heavy equipment garages, garage aprons, and driveways.
7. Not approved for other mechanical thermal insulation uses

B. High Density Polystyrene Insulation with Vapor Barrier
1. High density extruded polystyrene sheets
2. Thickness = 2”
3. Thermal resistance, R = 10.0 hr-sf-F/Btu
4. Compressive strength to meet use
   a. 25 psi (3600 lbf/sf), typical for radiant floor heat, sidewalks, and residential garages.
   b. 40 psi (5760 lbf/sf), for light commercial garages, garage aprons, and driveways.
   c. 60 psi (8640 lbf/sf), for medium duty commercial garages, garage aprons, and driveways.
   d. 100 psi (14,400 lbf/sf), for heavy equipment garages, garage aprons, and driveways.
   e. Refer to structural engineering and architectural drawings and specifications for further information, and verify use with general contractor.
5. Install separate 4 mil polyethylene roll sheet underneath high density sheets for vapor barrier, permeance less than 0.08 perms
6. ASTM D1621, ASTM E 96
7. Not approved for other mechanical thermal insulation uses.

3.10 ACCESSORIES

A. All insulation accessories shall meet state and local fire codes, and shall meet NFPA 90A for use within air plenums.

B. Closure Materials including butt strips, bands, wires, staples, mastics, adhesives, caulks or sealants, pressure-sensitive tapes

C. Support materials including hanger straps, hanger rods, saddles, and support rings, wire mesh, plastic ties, etc.

D. Fastener materials including welded pin or adhesive pin mechanical fasteners, speed clips, pressure-sensitive tapes, caulks or sealants.

E. Jackets and Prefabricated Fitting Covers
1. PVC Jackets
   a. Minimum 0.028 inch thick
   b. Bacterial and mildew resistant
   c. Designed for exterior use
2. Aluminum Jackets
   a. Aluminum Alloy
   b. 0.010” thick
   c. Moisture barrier
   d. Smooth finish
   e. Include 45 or 90 degree short and long radius elbows, and end caps as necessary

PART 4 INSTALLATION

4.1 INSULATION TYPE AND REQUIRED THICKNESS

Refer to the following Insulation Schedule areas of insulation use and insulation thickness. If a separate Plumbing Insulation Specifications is included do not apply this section for domestic CW, HW, and sanitary piping insulation requirements. Note: all PVC piping in plenums must meet insulated with jacket complying with ASTM E 84, UL-723.

TYPE OF PIPING	TYPE	THICKNESS
Domestic Cold Water Pipe, CW All Sizes	1	1/2"
Domestic Hot Water Pipe, HW All Sizes	1	1"
Roof and Storm Drains All Sizes	1	1"
Exposed Roof and Storm Drains All Sizes	2	1"
P-Traps and HW/CW Barrier Free Lavatories and Sinks (All Sizes)	4	1/8"
Heating Hot Water Pipe, HWS and HWR (All Sizes)	1	1"
Chilled Water Pipe, CHWS and CHWR (All Sizes)	1	1"
Condensate Piping (All Sizes)	1	1/2"
Exposed Condensate Piping (All Sizes)	2	1/2"
Exposed Heating Hot Water Pipe, HWS and HWR (All Sizes)	2	1"
Exposed Chilled Water Pipe, CHWS and CHWR (All Sizes)	2	1"
Underground Hot Water Supply and Return Pipe All Sizes	5	1"
Underground Snowmelt or Radiant Heat Piping Mains (All Sizes)	5	1"
DUCTWORK TYPE (ALL SIZES)		
Supply Air Ductwork (Exposed Duct Does not Apply)	3	2"
Supply Air Buried Duct Under Building	9	1" (R-3.5)
Supply Air Buried Duct Outside of Building	9	2" (R-6)
Return Air Ductwork in Unconditioned, Concealed, Inaccessible Spaces	3	2"
Return Air Ductwork in Plenums or Conditioned Spaces All Sizes	None	
Return Air Buried Ductwork Under Building	None	
Return Air Buried Ductwork Outside of Building	9	2" (R-6)
Outdoor Supply and Return Ductwork	6	2"
Fresh Air (Outdoor Air) Ductwork	3	2"
Combustion Air Duct Work	3	2"
Exhaust Air Ductwork in Unconditioned or Concealed	3	1-1/2"
Exhaust Air Ductwork in Plenums or Conditioned Spaces	None	
Relief Air Ductwork in Unconditioned or Concealed	3	1-1/2"

Relief Air Ductwork in Plenums or Conditioned Spaces	None	
EQUIPMENT TYPE (ALL SIZES)		
Refrigerant Suction and Liquid Lines	5	1"
Chilled Water Pumps	8	1"
Chilled Water Air Separators	8	1"
Radiant Floor and/or Snowmelt Above	9	See Spec

4.2 GENERAL INSTRUCTIONS

A. Install all materials in strict accordance to manufacturer's specifications.

B. Install insulation after testing and testing approval is completed, in coordination with the mechanical contractor.

C. Install insulation after heat tracing, or buried pipe tracing, is installed.

D. Butt edges of insulation together, and seal joints with proper adhesives or jackets per manufacturer specifications.

E. Seal insulation butt joints with 3” pressure-sensitive tape.

4.3 TYPE 1, PIPE INSULATION

A. Clean all piping free of dirt, grease, flux, etc.

B. Install insulation materials with smooth and even surfaces. Insulate each continuous run of piping with full-length units of insulation, with single cut piece to complete run. Do not use cut pieces or scraps abutting each other. Butt insulation joints firmly to ensure complete, tight fit over all piping surfaces.

C. Butt pipe insulation against hanger inserts. Secure with self-sealing facing tabs or 3” wide pressure sensitive tape.

D. On non-serviceable unions, flanges, pipe terminations etc., provide prefabricated fitting covers.

E. On serviceable items use removable and reusable, prefabricated fitting covers.

4.4 TYPE 2, PVC JACKETED PIPE INSULATION

A. Same as Type 1 insulation, with PVC jacket installed over pipe insulation.

B. PVC jacketing shall be designed to fit over Type 1 insulation.

C. Install PVC jacketing per manufacturer instructions.

D. Install prefabricated PVC jacketing for:
   1. Elbows
   2. End-Caps
   3. Chilled water systems listed below
   4. Non-serviceable hot water piping systems listed below.

E. Secure PVC jacketing with approved PVC sealant and banding.

4.5 TYPE 3, FOIL-BACKED ALL-SERVICE DUCT INSULATION

A. Clean all ductwork free of dust and grease. Verify that ductwork is dry, and joints are tightly sealed, and joint sealant is applied.

B. Completely cover all supply, outdoor air, and/or return and exhaust ductwork as specified in the Insulation Schedule.

C. Remove a 2” piece of insulation from the foiled backing at the end of the piece of duct wrap to form an overlapping stapling and taping flap seam.

D. Install duct wrap insulation with facing outside so that the tape flap overlaps the insulation and facing at the other end of the piece of duct wrap. Adjacent sections of duct wrap insulation shall be tightly butted with the 2" stapling and taping flap overlapping. If ducts are rectangular or square, install so insulation is not excessively compressed at corners.

E. Staple seams at 6” on-center intervals with outward clinching 1/2” steel staples.

F. Seal seams with 3” pressure sensitive tape. Cloth duct tape of any color or finish using reclaimed rubber adhesives is not approved for use.

G. Where rectangular ducts are 24" (600mm) in width or greater, duct wrap insulation shall be additionally secured to the bottom of the duct with mechanical adhesive pin-fasteners, and speed clips.

4.7 TYPE 5, FLEXIBLE, CLOSED-CELL, PIPE INSULATION

A. Clean all piping free of dirt, grease, flux, etc.

B. Install insulation over all piping, unions, or flanges.

END OF SECTION

SECTION 23 09 00

INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. Scope: Relocate existing thermostat. Facility utilizes BACnet BMS, however no modifications are identified at this time.

B. Section Includes:

1. Thermostats

C. Related Requirements:
1. Section 23 05 53 - Identification for HVAC Piping and Equipment: Nameplates and labeling for control panels specified in this Section.
2. Section 23 33 00 - Air Duct Accessories: Product requirements for duct-mounted thermometers. Installation requirements for dampers and other duct-mounted products furnished in this Section.

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Concrete Work:
1. Basis of Measurement: Included in other pay items for this project.
2. Basis of Payment: Includes all associated labor, materials, equipment, placement, etc. for a complete installation.

1.3 EQUIPMENT AND WIRING OPERATING ENVIRONMENT

A. Ambient temperature: 32 to 110 degrees F.

B. Relative humidity: 10-90% non-condensing.

C. Electrical supply: +-10% of mains power.

1.4 REFERENCE STANDARDS

A. Air Movement and Control Association International, Inc.:

1. AMCA 500-D - Laboratory Methods of Testing Dampers for Rating.

B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:

1. ASHRAE 62.1 - Ventilation for Acceptable Indoor Air Quality.

C. American Society of Mechanical Engineers:

1. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
2. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

D. National Electrical Manufacturers Association:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
2. NEMA DC 3 - Residential Controls - Electrical Wall-Mounted Room Thermostats.

E. National Fire Protection Association:

1. NFPA 72 - National Fire Alarm and Signaling Code.
2. NFPA 90A - Installation of Air-Conditioning and Ventilating Systems.

F. Underwriters Laboratories, Inc.

1.5 COORDINATION

A. See General Requirements - Administrative Requirements: Requirements for coordination.

1.6 PREINSTALLATION MEETINGS

A. See General Requirements - Administrative Requirements: Requirements for preinstallation meeting.

B. Convene minimum 4 weeks prior to commencing Work of this Section.

1.7 SUBMITTALS

A. See General Requirements - Submittal Procedures: Requirements for submittals.

B. Product Data:

1. Submit description and engineering data for each control system component, including sizing as applicable.

C. Shop Drawings:

1. Indicate operating data, system drawings, wiring diagrams, and written, detailed operational description of sequences.

D. General
Provide a submittal for approval before any field installation is started to include:
1. English language description of system operation.
2. Input/output schedules and controller configurations.
3. A copy of the data base put into logical groups which represents how information will be displayed to the user.
4. Floor plans showing location of all controllers and sensors.
5. Co-ordination drawings showing interface terminal numbers and cross referenced wire numbers for all connections between the DDC and other equipment.

6. Details of all actuators, control devices and sensors.
7. Full details of each control station including equipment and wiring diagrams/terminal layouts.

E. Manuals
Provide one set of manuals, prior to commencement of commissioning to include:
1. Updated functional specification.
2. Specification sheets and technical brochures on all equipment.
3. Listings and description of application programs.
4. Programmer’s manual etc.
5. Circuit diagrams.
6. Drawings.

F. Final Submission: Within one week prior to date of Substantial Completion, provide three (3) sets of manuals.

1.8 CLOSEOUT SUBMITTALS

A. See General Requirements - Execution and Closeout Requirements: Requirements for closeout procedures.

B. Project Record Documents: Record actual locations of control components, including panels, thermostats, and sensors.

C. Operation and Maintenance Data: Submit inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.

1.9 APPROVED SYSTEM MANUFACTURER

A. Approved, non-proprietary stand-alone controls include:
1. Match owner’s existing system and hardware.

1.10 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum ten years' documented experience, and with service facilities within 100 miles of Project.

B. Installer: Company specializing in performing Work of this Section with minimum five years' documented experience and approved by manufacturer.

1.11 DELIVERY, STORAGE, AND HANDLING

A. See General Requirements - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept controls on-Site in original factory packaging and inspect for damage.

C. Store materials according to manufacturer's instructions.

1.12 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

1.13 WARRANTY

A. See General Requirements - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish two-year manufacturer's warranty for each control-system component.

PART 2 - PRODUCTS

2.1 THERMOSTAT

A. Manufacturers:

1. Honeywell
2. KMC

B. Room Thermostat Accessories:

1. Thermostat Covers: High impact polycarbonate or epoxy coated steel.

C. Space thermostats that control the HVAC equipment shall be digital electronic and shall include:
1. Temperature Display
2. Temperature Adjustment
3. Backlit LCD/LED Display

PART 3 - EXECUTION

3.1 EXAMINATION

A. See General Requirements - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that pneumatic tubing is clear of water, oil, and other contaminants.

C. Verify that compressed-air supply has operating filter and dryer before installing control devices or actuators.

D. Verify that air-handling units and ductwork installation has been completed and that air filters are in place before installing sensors in airstreams.

E. Verify locations of thermostats, controllers, and other exposed control sensors with Drawings before installation.

F. Verify that building systems to be controlled are ready to operate.

3.2 INSTALLATION

A. Install the system as recommended by the manufacturer, using only equipment recommended or acceptable to the manufacturer.

B. Comply with the State and Local Electrical Code for electrical work.

C. Install control wiring in exposed surface mounted conduit.

3.3 FIELD QUALITY CONTROL

A. See General Requirements - Quality Requirements: Requirements for inspecting and testing.

B. After completion of installation, test and adjust control equipment.

C. Calibration:

1. Check calibration of instruments.
2. Recalibrate instruments out of calibration.
3. Replace defective instruments.

D. Equipment Acceptance:

1. Adjust, repair, modify, or replace components failing to perform as specified, and rerun tests.
2. Make final adjustments to equipment under direction of manufacturer's representative.

E. Furnish Installation Certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.

3.4 MAINTENANCE

A. See General Requirements - Execution and Closeout Requirements: Requirements for maintenance service.

B. Provide service and maintenance of control system for two years from date of Substantial Completion.

C. Furnish complete service of controls systems, including callbacks.

D. The TCC or MC shall perform complete maintenance of the temperature control system for a period of one calendar year, at no additional cost to the Owner, commencing with the date when the system is accepted so that the said controls may be operated 24 hours a day, 7 days a week.

END OF SECTION

SECTION 23 31 00

HVAC DUCTS AND CASINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Duct materials.
2. Single-wall, spiral round ducts.
3. Casings.
4. Ductwork fabrication.

B. Related Requirements:
1. Section 23 33 00 - Air Duct Accessories: Requirements for duct accessories as specified in this Section.

1.2 REFERENCE STANDARDS

A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:

1. ASHRAE Handbook - Fundamentals.

B. American Welding Society:

1. AWS D1.1 - Structural Welding Code - Steel.
2. AWS D1.1M - Structural Welding Code - Steel.
3. AWS D1.2 - Structural Welding Code - Aluminum.
4. AWS D1.2M - Structural Welding Code - Aluminum.
5. AWS D9.1 - Sheet Metal Welding Code.
6. AWS D9.1M - Sheet Metal Welding Code.

C. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A36M - Standard Specification for Carbon Structural Steel.
3. ASTM A90 - Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
4. ASTM A90M - Standard Test Method for Weight [**Mass**] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
5. ASTM A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
6. ASTM A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

7. ASTM A568 - Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
8. ASTM A568M - Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
9. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
10. ASTM A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
11. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
12. ASTM A1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
13. ASTM A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
14. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
15. ASTM A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
16. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
17. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
18. ASTM C14 - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe.
19. ASTM C14M - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe (Metric).
20. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
21. ASTM C443M - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric).
22. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

D. International Code Council:

1. International Energy Conservation Code (IECC).
2. International Mechanical Code (IMC).
3. 2015 Michigan Mechanical Code (MMC).

E. NFPA:

1. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems.
2. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems.
3. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.

F. Sheet Metal and Air Conditioning Contractors' National Association:

1. SMACNA 016 - HVAC Air Duct Leakage Test Manual.
2. SMACNA 1767 - Kitchen Ventilation Systems and Food Service Equipment Guidelines.
3. SMACNA 1884 - Fibrous Glass Duct Construction Standards.
4. SMACNA 1966 - HVAC Duct Construction Standards - Metal and Flexible.

G. UL:

1. UL 181 - Factory-Made Air Ducts and Air Connectors.
2. UL 181A - Closure Systems for Use With Rigid Air Ducts.
3. UL 1978 - Grease Ducts.

1.3 PREINSTALLATION MEETINGS

A. See General Requirements - Administrative Requirements: Requirements for preinstallation meeting.

B. Convene minimum two weeks prior to commencing Work of this Section.

1.4 SUBMITTALS

A. See General Requirements - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit manufacturer information for duct materials and manufactured spiral duct.

1.5 CLOSEOUT SUBMITTALS

A. See General Requirements - Execution and Closeout Requirements: Requirements for submittals.

1.6 QUALITY ASSURANCE

A. Perform Work according to SMACNA 1884 and 1966.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum ten years' documented experience.

B. Installer: Company specializing in performing Work of this Section with minimum ten years' documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store materials according to manufacturer instructions.

D. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.9 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Minimum Conditions: Do not install duct sealant when temperatures are less than those recommended by sealant manufacturer.

C. Subsequent Conditions: Maintain temperatures during and after installation of duct sealant.

1.10 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

1.11 WARRANTY

A. See General Requirements - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish two-year manufacturer's warranty for ducts.

PART 2 - PRODUCTS

2.1 RECTANGULAR DUCTS

A. Performance and Design Criteria:

1. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission of Engineer.
2. Size round ducts installed in place of rectangular ducts according to ASHRAE Handbook - Fundamentals.

B. Materials:

C. Galvanized-Steel Ducts

1. Material: ASTM A653 hot-dipped galvanized-steel sheet, FS Type B.
2. Quality: Lock forming.

3. Finish: G90 zinc coating according to ASTM A90.
4. Hanger Rod:
    a. Material: Aluminum.
    b. Comply with ASTM A36.
    c. Type: Threaded

D. Stainless-Steel Ducts

1. Material: 304 Stainless Steel.
2. Quality: Welded
3. Finish: Natural.
4. Hanger Rod:
    a. Material: T304 Stainless Steel
    b. Type: Threaded rod strut with stainless steel fasteners.

2.2 SINGLE-WALL, SPIRAL ROUND DUCTS

A. Manufacturers:

1. Universal Spiral Air.
2. Spiral Manufacturing
3. Or Approved Equal

B. Description:

1. UL 181, Class 1, round spiral lockseam duct.
2. Material: G-90, Galvanized steel.

C. Minimum Duct Wall Thicknesses:

1. Diameter: 6”-8” 26 gage; 10”-16” 24 gage, 20”-24” 20 gage; 26”-32” 20 gage; 36”-40” 18 gage; 42” – 60” 16 gage.

2.3 CASINGS

A. Fabricate casings according to SMACNA 1966 and construct for indicated operating pressures.

B. Doors:

1. Reinforce access door frames with steel angles tied to horizontal and vertical plenum supporting angles.
2. Furnish hinged access doors where indicated or required for access to equipment for cleaning and inspection.

2.4 FABRICATION

A. Rectangular Ducts:

1. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible Duct. Current edition.
    a. Provide duct material, gages, reinforcing, welding, and sealing for indicated operating pressures.
    b. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes. Where acoustical lining is indicated, provide turning vanes of perforated metal with glass fiber insulation. For stainless steel welded duct mitered transitions may be used in lieu of radius elbows or turning vanes.
    c. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
    d. Rectangular duct pressure class = 4" w.g.
    e. Stiffeners and reinforcement shall be per SMACNA duct construction standards, typically when duct dimension exceeds 36", and 4'-0" in length.

B. Round Ducts:

1. According to SMACNA 1966.
2. Seams: Longitudinal.
3. Provide duct material, gages, reinforcing, and sealing for indicated operating pressures.
4. Tees, Bends, and Elbows:
    a. Minimum Radius: 1-1/2 times centerline duct width. Short sweep elbows are not allowed.
    b. Increase duct sizes gradually, not exceeding 15 degrees of divergence wherever possible.
    c. Upstream of Equipment: Maximum 30 degrees.

C. Welding:

1. Continuously Welded Round and Oval Duct Fittings: Two gages heavier than duct gages according to SMACNA 1966.

2. All stainless-steel duct shall have continuous external welds. Braised or electrically welded.

D. Takeoffs:

1. Provide standard 45-degree lateral wye takeoffs.
2. If not possible due to space limitations, provide 90-degree conical tee connections.
3. Stainless steel take-offs may be 90 degree welded.

E. Sealing:

1. Seal joints between duct sections and duct seams with welds, gaskets, mastic adhesives, mastic plus embedded fabric systems, or tape.
2. Sealants, Mastics, and Tapes: Comply with UL 181A and provide products bearing appropriate UL 181A markings.

2.5 ACCESSORIES

A. Hangers and Supports:

1. Hanger rods, bolts, and strut for galvanized duct in Noncorrosive Environments: Cadmium-plated steel rods and nuts.

2. Hanger rods, bolts, and strut for stainless steel welded duct shall be 304 stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. See General Requirements- Execution and Closeout Requirements: Requirements for installation examination.

B. Verify sizes of equipment connections before fabricating transitions.

3.2 PREPARATION

A. See General Requirements - Execution and Closeout Requirements: Requirements for installation preparation.

B. Obtain manufacturer's inspection and acceptance of fabrication and installation at beginning of installation.

C. Install temporary closures of metal or taped polyethylene plastic on open ductwork to prevent construction dust from entering ductwork system.

3.3 INSTALLATION

A. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.

B. Install and seal metal and flexible ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

C. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

D. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

E. Install and seal ducts according to SMACNA 1966.

F. Hanger and Supports:

1. Fabricate and support ducts according to SMACNA 1884 and 1966.
2. Threaded Rods: Provide double nuts and lock washers.

3. Building Attachments:

    a. Provide concrete inserts or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
    b. If possible, install concrete inserts before placing concrete.
    c. Powder-Actuated Concrete Fasteners:

        1) Use only for slabs more than 4 inches thick.
        2) Install after concrete is placed and completely cured.
        3) Do not use powder-actuated concrete fasteners for seismic restraints.

4. Hanger Spacing:

    a. Comply with SMACNA 1884 and 1966.
    b. Install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.
    c. Extend strap supports down both sides of ducts and turn under bottom at least 1 inch.
    d. Secure hanger to sides and bottom of ducts with sheet metal screws.

5. Hangers Exposed to View: Provide threaded rod and angle or channel supports.
6. Vertical Ducts:

    a. Support with steel angles or channel secured to sides of duct with welds, bolts, sheet metal screws, or blind rivets.
    b. Support at each floor and at maximum intervals of 16 feet.

7. Upper Attachments:

    a. Attach to structures.
    b. Selection and Sizing: Provide pull-out, tension, and shear capacities as required for supported loads and building materials.

3.4 CLEANING

A. See General Requirements - Execution and Closeout Requirements: Requirements for cleaning.

B. Protect sensitive equipment with temporary filters or bypass during cleaning.

C. Clean exterior of ductwork free of grease, grime, flux, stickers, markers, etc.

END OF SECTION

SECTION 23 34 23

HVAC POWER VENTILATORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Centrifugal Downblast Ventilators

B. Related Requirements:

   1. Division 23 31 00 HVAC Ducts and Casings

   2. Division 26 Electrical

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. HVAC Power Ventilators:
   1. Basis of Measurement: Included in other pay items for this project.
   2. Basis of Payment: Includes all associated labor, materials, equipment, placement, etc. for a complete installation.

1.3 SUBMITTALS

A. See General Requirements - Submittal Procedures specifies requirements for submittals.

B. General: submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

C. Certified fan performance curves with system operating conditions indicated.

D. Certified fan sound power ratings.

E. Motor ratings and electrical characteristics, voltage, plus motor and electrical accessories.

F. Material gages and finishes, including color charts.

G. Dampers, including housing, linkages, and operators.

H. Shop Drawings:
   1. Shop Drawings shall be submitted as described under General Requirements.
   2. Shop Drawings shall be submitted by the manufacturer supplier, detailing equipment assemblies and indicating dimensions, weights, loadings, required clearances, method of field assembly, components, and location and size of each field connection.

I. Maintenance data for power ventilators to include in the operation and maintenance manual specified in Division 1 and in Division 23 Section "Basic Mechanical Requirements."

1.4 QUALITY ASSURANCE

A. Electrical Component Standard: Provide components that comply with NFPA 70 and that are listed and labeled by UL where available.

B. Listing and Labeling: Provide electrically operated fixtures specified in this Section that are listed and labeled.

C. The Terms “Listed” and “Labeled”: As defined in the National Electrical Code, Article 100.

D. Listing and Labeling Agency Qualifications: A “Nationally Recognized Testing Laboratory” (NRTL) as defined in OSHA Regulation 1910.7.

E. AMCA Compliance: Provide products that meet performance requirements and are licensed to use the AMCA Seal.

F. NEMA Compliance: Provide components required as part of fans that comply with applicable NEMA standards.

G. UL Standard: Provide power ventilators that comply with UL 705.

H. NFPA 91: Standard for the installation of “Blower and Exhaust Systems” Comply with.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Loren Cook
   2. Greenheck
   3. Or Approved Equals

2.2 CENTRIFUGAL VENTILATORS

A. Description: Belt-driven or direct-drive centrifugal fans, as indicated, consisting of housing, wheel, fan shaft, bearings, motor and disconnect switch, drive assembly, curb base, and accessories.

B. Housings:
   1. Downblast: Removable, spun-aluminum, dome top and outlet baffle; square, one-piece, aluminum base with venturi inlet cone.
   2. Hooded: Removable, extruded-aluminum, rectangular top; square, one-piece, aluminum base with venturi inlet cone.

3. Downflow: Removable, galvanized steel, mushroom-domed top; square, one-piece, hinged, aluminum base with venturi inlet cone.

C. Fan Wheels: Aluminum hub and wheel with backward-inclined blades.

D. Drive Assembly: Resiliently mounted to the housing, with the following features:
1. Fan Shaft: Turned, ground, and polished steel drive shaft keyed to wheel hub.
2. Shaft Bearings: Permanently lubricated, permanently sealed, self-aligning ball bearings.
3. Pulleys: Cast-iron, adjustable-pitch motor pulley.
4. Fan and motor isolated from exhaust air stream.
5. Belt Drive or Direct Drive as listed in the Exhaust Fan Schedule.

E. Accessories: The following items are required:

F. Variable-Speed Controller: Where indicated on schedules or required. Provide solid-state control to reduce speed from 100 percent to less than 50 percent.

G. Disconnect Switch: Lockable Nonfusible type, with thermal-overload protection mounted inside fan housing, factory wired through an internal aluminum conduit. Disconnect shall be lock out type.

H. Bird Screens: Removable 1/2-inch (13-mm) mesh, aluminum or brass wire, where applicable.

I. Dampers: Where indicated on Exhaust Fan Schedule, Mechanical Drawings, or temperature Control Specifications include:
1. Low pressure, gravity back draft damper, round or rectangular or square parallel blade
2. Motorized, parallel-blade, motorized, 2-position or modulating, medium pressure

J. Motors:
1. Refer to Division 26 for motor requirements.
2. Motor Construction: NEMA MG 1, general purpose, continuous duty, Design B.
3. Enclosure Type: The following features are required as indicated:
4. Open drip-proof motors where satisfactorily housed or remotely located during operation

K. Roof Curbs:
1. Reuse existing roof curb, contractor to verify dimensions.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install according to manufacturer’s written instructions.

B. Install units with clearances for service and maintenance.

3.2 FIELD QUALITY CONTROL

A. Adjusting

1. Adjust damper linkages for proper damper operation.
2. Adjust belt tension.
3. Adjust sheaves.
4. Lubricate bearings.

3.3 CLEANING

A. After completing installation, inspect exposed finish. Remove burrs, dirt, and construction debris, and repair damaged finishes including chips, scratches, and abrasions.

B. Clean fan interiors to remove foreign material and construction debris. Vacuum clean fan wheel and cabinet.

END OF SECTION

SECTION 23 37 00

AIR OUTLETS AND INLETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Registers & diffusers

B. Related Sections:
   1. Section 23 31 00 – HVAC Ducts and Casings
   2. Section 23 33 00 - Air Duct Accessories

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Work:
   1. Basis of Measurement: Included in other pay items for this project.
   2. Basis of Payment: Includes all associated labor, materials, equipment, placement, etc. for a complete installation.

1.3 REFERENCES

A. Air Movement and Control Association International, Inc.:

   1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.

B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:

   1. ASHRAE 70 - Method of Testing for Rating the Performance of Air Outlets and Inlets.

C. Sheet Metal and Air Conditioning Contractors:

   1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

1.4 SUBMITTALS

A. See General Requirements - Submittal Procedures: Submittal procedures.

B. Product Data: Submit sizes, finish, and type of mounting. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

C. Test Reports: Rating of air outlet and inlet performance.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

A. See General Requirements - Execution and Closeout Requirements: Closeout procedures.

1.6 QUALITY ASSURANCE

A. ADC Compliance: Test and rate registers, grilles, and diffusers in accordance with ADC Equipment Test Code 1062, provide Certified Ratings Seal on each unit.

B. AMCA Compliance: Test and rate louvers, dampers, and shutters in accordance with AMCA Standard 500, provide Certified Ratings Seal on each unit.

C. NFPA Compliance: Construct and install air outlets and inlets in accordance with NFPA 90A, and 90B.
   1. Comply with NFPA 91 “Standard for Installation of Blower and Exhaust Systems”.

D. Submittals: Submit manufacturer’s technical product data, assembly-type shop drawings.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years' documented experience.

1.8 PRE-INSTALLATION MEETINGS

A. See General Requirements - Administrative Requirements: Pre-installation meeting.

B. Convene minimum two weeks prior to commencing work of this section.

1.9 WARRANTY

A. See General Requirements - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish two-year manufacturer's warranty for air outlets and inlets.

PART 2 - PRODUCTS

2.1 SUPPLY REGISTERS

A. Manufacturers:

   1. Titus
   2. Tuttle and Bailey
   3. Kees
   4. Price
   5. Kreuger
   6. Or Approved Equal

B. General: Supplier / Contractor must match size, type, performance, and style exactly as model indicates on Grilles, Registers, and Diffusers Schedule.

C. Individually adjustable airfoil blades to discharge air along face of grille, one-way or two-way deflection as Scheduled.

D. Material: Steel, aluminum, or stainless steel as Scheduled. Blade width as model number indicates on Schedule.

E. Border: Surface duct or wall mount. Screw holes exposed or concealed as model number indicates on Schedule.
   1. Galvanized ductwork: Use steel fasteners.
   2. Stainless steel ductwork: use stainless steel fasteners or weld directly to stainless steel duct.

F. Manual Balance Dampers:
   1. Galvanized ductwork: galvanized or aluminum.
   2. Stainless steel ductwork: 304 stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. See General Requirements - Administrative Requirements: Coordination and project conditions.

B. Verify inlet and outlet locations.

C. Verify ceiling, wall, or duct systems are ready for installation.

3.2 INSTALLATION

A. Install diffusers to ductwork with airtight connection.

B. Install balancing dampers on duct take-off to diffusers, grilles, and registers, whether or not dampers are furnished as part of diffuser, grille, and register assembly.

C. Install air outlets and inlets in accordance with manufacturer's written instructions and in accordance with recognized industry practices to ensure that products serve intended functions.

3.3 INTERFACE WITH OTHER PRODUCTS

A. Check location of outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

B. Coordinate with other work, including ductwork and duct accessories, as necessary to interface installation of air outlets and inlets with other work.

END OF SECTION

SECTION 26 00 00

ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. The general provisions of the contract including General and Supplementary Conditions and General Requirements shall apply to all work under this Specification Division.

1.02 REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS

A. Equipment, fixtures, material, and installation shall conform to the requirements of the local Building Department, the serving utility companies, the local and National Electrical Codes (NEC), National Electrical Safety Code, Life Safety Code, Occupational Safety and Health Ace, and applicable national, state, and local codes, ordinances, and regulations.

B. All equipment shall be equal to or exceed the minimum requirements of NEMA, IEEE, and UL.

C. Should any change in Drawings or Specifications be required to comply with governmental regulations, the Contractor shall notify Architect/Engineer prior to execution of the Work. The work shall be carried out according to the requirements of this code in accordance with the instruction of the Architect/Engineer and at no additional cost to the Owner.

D. The provisions of Standards, Codes, Laws, Ordinances, etc., shall be considered minimum requirements. In case of conflict between their published requirements, the Owner's Representative shall determine which is to be followed and their decision shall be binding. Specific requirements of this specification or the drawings, which exceed the published requirements, shall take precedence over them.

1.03 FEES

A. All local fees, permits, and services of inspection authorities shall be obtained and paid for by the Contractor. The Contractor shall cooperate fully with local companies with respect to their services. The Owner shall pay for all incurred costs relative to the utility power service (primary and/or secondary) and the utility communication services (including, but not limited to, telephone, television, internet, etc.).

1.04 SCOPE OF WORK

A. This division of the specifications covers the electrical systems of the project. It includes work performed by the electrical trades as well as trades not normally considered as electrical trades.

B.

C. Provide all incidentals, equipment, appliances, services, hoisting, scaffolding, supports, tools, supervision, labor consumable items, fees, licenses, etc., necessary to provide complete systema. Perform start-up and checkout on each item and system to provide complete and fully operable systems.

D. Examine and compare the Electrical Drawings with these specifications. Report any discrepancies between them to the Architect/Engineer and obtain written instructions from them for changes necessary in the work. At time of bid the most stringent requirements must be included in the bid.

E. Examine and compare the Electrical Drawings and Specifications with the Drawings and Specifications of other trades. Report any discrepancies between them to the Architect/Engineer and obtain written instructions from them for changes necessary in the work. At time of bid, the most stringent requirements must be included in said bid.

F. Install and coordinate the electrical work in cooperation with other trades installing interrelated work. Before installation, make proper provisions to avoid interferences in a manner approved by the Architect/Engineer. All changes required in the work of the Contractor, caused by their neglect to do so, shall be made by them at their own expense.

G. It is the intent of the Drawings and Specifications to provide a complete workable system ready for the Owner's operation. Any item not specifically shown on the Drawings or called for in the Specifications, but normally required to conform with the intent, are to be considered a part of the Contract.

H. All materials furnished by the Contractor shall be new and unused (temporary lighting and power products are excluded) and free from defects. All material used shall bear the Underwriter's Laboratory, Inc. label, or an approved equivalent third-party testing agency, provided a standard has been established for the material in question.

I. Except for conduit, conduit fittings, outlet boxes, wire and cable, all items of equipment or materials shall be the product of one manufacturer throughout the entire project. Multiple manufacturers will not be permitted.

1.05 REFERENCES

A. Utilize the following abbreviations and definitions for discernment within the Drawings and Specifications.
   1. Abbreviations
      a. NEC National Electrical Code.
      b. OSHA Occupational Safety and Health Act.
      c. ANSI American National Standards Institute.
      d. NFPA National Fire Protection Association.
      e. ASA American Standards Association.
      f. IEEE Institute of Electrical and Electronics Engineers.
      g. NEMA National Electrical Manufacturers Association.
      h. UL Underwriters' Laboratories, Inc.
      i. IBC International Building Code.
      j. IES Illuminating Engineering Society.
      k. ICEA Insulated Cable Engineers Association.
      l. ASTM American Society of Testing Materials.

m.	ETL	Electrical Testing Laboratories, Inc.
n.	CBM	Certified Ballast Manufacturers.
o.	EIA	Electronic Industries Association.
p.	LED	Light Emitting Diode.
q.	OEM	Original Equipment Manufacturer.

1.06 DEFINITIONS

A. Provide: means to supply, purchase, transport, place, erect, connect, test, and turn over to Owner, deplete and ready for regular operations, the particular Work referred to.

B. Install: means to join, unite, fasten, link, attach, set up, or otherwise connect together before testing and turning over to Owner, complete and ready for regular operation, the particular Work referred to.

C. Furnish: means to supply all materials, labor, equipment, testing apparatus, controls, tests, accessories, and all other items customarily required for the proper and complete application for the particular Work referred to.

D. Wiring: means the inclusion of all raceways, fittings, conductors, connectors, tape, junction and outlet boxes, connections, splices, and all other items necessary and/or required in connections with such Work.

E. Conduit: means the inclusion of all fittings, hangers, supports, sleeves, etc.

F. As Directed: means as directed by the Architect/Engineer, or their representative.

G. Concealed: means embedded in masonry or other construction, installed behind wall furring or within double partitions, or installed above accessible suspended ceilings.

1.07 COORDINATION OF THE WORK

A. Certain materials will be provided by other trades. Examine the Contract Documents to ascertain these requirements.

B. Carefully check space requirements with other trades and the physical confines of the area to ensure that all material can be installed in the spaces allotted thereto including finished suspended ceilings and the spaces within the existing building. Make modifications here to as required and approved.

C. Transmit to other trades all information required for work to be provided under their respective Sections in ample time for installation.

D. Wherever work interconnects with work of other trades, coordinate with other trades to ensure that all trades have the information necessary so that they may properly install all the necessary connections and equipment. Identify all items of work that require access so that the ceiling trade will know where to install access doors and panels.

E. Coordinate, forecast, and schedule work with other trades in accordance with the construction sequence.

F. The Drawings show only the general run of raceways and approximate location of outlets. Any significant changes in the location of outlets, cabinets, etc., necessary in order to meet field conditions shall be brought to the immediate attention of the Architect/Engineer and receive their approval before such alterations are made. All such minor modifications shall be made without additional cost to the Owner.

G. Obtain from the Architect/Engineer in the field the location of such outlets or equipment not definitely located on the Drawings.

H. Circuit "tags" are used where shown to indicate the designated branch circuits. These tags show the branch circuits and the panel designation. Show the actual circuits numbers used on the finished record drawings and on panel directory card. Where circuiting is not indicated, Electrical Subcontractor must provide required circuiting in accordance with the loading indicated on the drawings and/or as directed.

I. Adjust location of conduits, panels, equipment, pull boxes, fixtures, etc. to accommodate the work to prevent interferences, both anticipated and encountered. Determine the exact route and location of each raceway prior to fabrication.
   1. Right-of-Way:
      a. Lines that pitch have the right-of-way over those that do not pitch. For example: steam, condensate, and plumbing drains normally have right-of-way. Lines whose elevations cannot be changed to have right-of-way over lines whose elevations can be changed.
      b. Make offsets, transitions, and changes in direction in raceways as required to maintain proper headroom in pitch of sloping lines, whether or not, indicated on the Drawings.

J. Wherever the work is of sufficient complexity, prepare additional Detail Drawings to scale like that of the bidding Drawings, prepared on tracing medium of the same size as Contract Drawings. With these layouts, coordinate the work with the work of other trades. Such detailed work is to be clearly identified on the Drawings as to the area to which it applies. Submit for review Drawings clearly showing the work and its relation to the work of other trades before commencing shop fabrication or erection in the field.

K. Coordinate with the local Electric Utility Company and the local Communications Companies (as directed by the Owner) as to their requirements for service connections and provide all necessary materials, labor, and testing.

L. Coordinate with contractors for work under other Divisions of this specification for all work necessary to accomplish this contractor's work.

1.08 EXAMINATION OF SITE

A. Prior to the submitting of bids, the Contractor shall visit the site of the job and shall familiarize themselves with all conditions affecting the proposed installation and shall make provisions as to the cost thereof. Failure to comply with the intent of this paragraph will in no way relieve the contractor of performing all necessary work shown on the Drawings.

1.09 PROGRESS OF THE WORK

A. The Contractor shall order the progress of their work to conform to the profess of the work of other trades and shall complete the entire installation as soon as the conditions of the building will permit. Any cost resulting from the defective or ill-timed work performed under this section shall be borne by the Contractor.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Ship and store all products and materials in a manner that will protect them from damage, weather, and entry of debris. If items are damaged, do not install, but take immediate steps to obtain replacement or repair. Any such repairs shall be subject to review and acceptance of the Architect/Engineer.

B. Deliver materials in manufacturer's unopened container fully identified with manufacturer's name, trade name, type, class, grade, size, and color.

C. Store materials suitably sheltered from the elements, but readily accessible for inspection by the Architect/Engineer until installed. Store all items subject to moisture damage in dry, heated spaces.

1.11 EQUIPMENT ACCESSORIES

A. Provide supports, hangers and auxiliary structural members required for support of the work.

B. Furnish and set all sleeves for passage of raceways through structural, masonry and concrete walls of floors and elsewhere as will be required for the proper protection of each raceway passing through building surfaces.

1.12 OPERATIONS AND MAINTENANCE MANUALS

A. General: Provide operations and maintenance (O&M) manuals in accordance with the Contract Documents.
   1. Provide two (2) copies of each manual, as well as an electronic copy in PDF format.
   2. Manuals shall be 8-1/2 inches x 11 inches in hard cover 3-ring loose leaf binders.
   3. Manuals shall be complete and in Owner's hands prior to turning building over to Owner and at least 10 days prior to instruction to operating personnel.

B. Provide O&M manuals, including but not limited to the following:
   1. Alphabetical list of all system components, with the name, address, and phone number of the company responsible for servicing each item during the first year of operation.
   2. Operating instructions for complete system, including:
      a. Normal starting, operating and shutdown.
      b. Emergency procedures for fire or failure of major equipment.
      c. Summer and winter special procedures, if any.
      d. Day and night special procedures, if any.
   3. Maintenance instruction including:
      a. Proper lubricants and lubricating instructions for each piece of equipment, and date when lubricated.
      b. Necessary cleaning, replacement and/or adjustment schedule.

4. Manufacturer's data for each piece of equipment including:
    a. Installation instructions.
    b. Drawings and specifications.
    c. Parts list, including recommended items to be stocked.
    d. Complete wiring diagrams.
    e. Marked or changed prints locating all concealed parts and all variations from the original system design.
    f. Test and inspection certificates.

C. Refer to individual specification sections for additional O&M requirements.

1.13 RECORD DOCUMENTS

A. During construction, keep an accurate record of all deviations between the work as shown on Drawings and that which is installed. Keep this record set of prints at the job site for review by the Architect/Engineer and the Code Officials.

B. Upon completion of the installation and acceptance by the Owner, transfer all record drawing information to one neat and legible set of prints. Then deliver them to the Architect/Engineer for transmittal to the Owner.

1.14 GUARANTEE

A. Guarantee all material and workmanship for a period of one (1) year from the date of final acceptance by the Owner, except where guarantees or warranties for longer terms are specified herein, such longer term to apply. Within 24 hours after notification, correct any deficiencies that occur during the guarantee period at no additional cost to the Owner, all to the satisfaction of the Owner and Architect/Engineer. Obtain similar guarantees from subcontractors, manufacturers, suppliers and subtrade specialists.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Applicable equipment and materials shall be listed by Underwriters' Laboratories and manufactured in accordance with ASME, NEMA, ANSI or IEEE standards, and as approved by local authorities having jurisdiction.

B. If products and materials are specified or indicated on the Drawings for a specific item or system, use those products or materials. If products and materials are not listed in either of the above, use first class products and materials, subject to approval of Shop Drawings where Shop Drawings are required or as approved in writing where Shop Drawings are not required.

C. All equipment capacities, etc. are listed for job site operating conditions. All equipment sensitive to altitudes or ambient temperatures to be derated and method of derating shown on Shop Drawings. Where operating conditions shown differ from the laboratory test conditions, the equipment to be derated and the method of derating shown in Shop Drawings.

2.02 SUBSTITUTION OF MATERIALS OR EQUIPMENT

A. All requests for substitution of materials or equipment shall be made in writing by the Contractor. The request must be in the Architect/Engineers' office not less than 10 days prior to the bid date. Samples of proposed substitute materials or equipment shall be submitted to the Architect/Engineer for review whenever they are requested. Bids shall be based only upon the specified materials and equipment or substitutes that have received written acceptance from the Architect/Engineer prior to the bid.

B. Wherever the words "for approval" or "approved" are used regarding manufactured specialties, or wherever it is desired to substitute a different make or type of apparatus for that specified, submit all information pertinent to the adequacy and adaptability of the proposed apparatus, and secure Architect/Engineer's acceptance before apparatus is ordered.

C. Wherever quantities or a definite make and size of apparatus is specified, the make and size of apparatus which is proposed must conform substantially (regarding the operating results) to that specified or implied. The same shall apply to important dimensions relating to the operation of an apparatus in coordination with the rest of the system, or to properly fitting it into available space conditions. Any substitution of equipment or apparatus shall include all necessary revisions, as required to complete the installation.

D. Acceptance of substitutions, for equipment specified herein, will not be given merely upon submission of manufacturer's names, and will be given only after receipt of complete and satisfactory performance data covering the complete range of operating conditions. Furnish complete and satisfactory information relative to equipment dimensions, weight, etc. Any additional construction and design costs incurred as a result of any accepted substitution shall be borne by the Contractor. The opinion and judgement of the Architect/Engineer shall be final, conclusive, and binding.

2.03 SHOP DRAWINGS

A. Prepare and submit detailed Shop Drawings for materials, systems, and equipment as listed herein, including locations and sizes of all required openings in floor decks, walls, and floors. Submit under provisions of Section 01 33 00.

B. The Work described in any Shop Drawing submission shall be carefully checked for all clearances (including those required for maintenance and servicing), field conditions, maintenance of architectural conditions, and proper coordination with all trades on the job. Each submitted Shop Drawing shall include a verification that all related job conditions have been checked and that no conflict exists.

C. All drawings shall be submitted sufficiently in advance of field requirements to allow ample time for checking and resubmittal as may be required. All submittals shall be complete and contain all required information.

D. Acceptance of any submitted data or Shop Drawings for material, equipment apparatus, devices, arrangements, and layout shall not relieve Contractor from responsibility of furnishing same of proper dimensions and weight, capacities, sizes, quantity, quality, and installation details, to efficiently perform the requirements and intent of the Contract. Such acceptance shall not relieve the Contractor from responsibility for errors, omissions, or inadequacies of any sort on submitted data or Shop Drawings.

E. Each Shop Drawing shall contain the following information:
   1. Provide general information on each copy of the submittal.
      a. Project title.
      b. Reference to the applicable drawing and specification article.
      c. Contractor and supplier identification, addresses and telephone numbers.
      d. Submittal date.
   2. Certification that the contractor has reviewed the submittal.
   3. Refer to individual specification sections for additional information requirements.

F. Shop Drawing submittals shall be provided for each specific material, system, or equipment as identified herein.
   1. As a minimum, make submittals on the following items:
      a. Wiring devices and plates
      b. Panelboards/Loadcenters
      c. Disconnect safety-switches
      d. Lighting fixtures and Lamps (if applicable)
      e. Lighting Controls
      f. Extension of fire alarm notification and smoke and carbon dioxide detection systems.
   2. Refer to individual specification sections for additional information requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Follow manufacturer's instructions for installing, connecting, and adjusting all equipment. Provide one copy of such instructions to the Architect/Engineer before installing any equipment. Provide a copy of such instructions for the equipment during any work on the equipment.

B. Use mechanics skilled in their trade for all work.

C. Keep all items protected before and after installation. Clean up all the debris at the end of each workday. Maintain public access/entries as coordinated with the Owner during construction.

D. Before commencing Work, examine all adjoining, underlying, etc. on which this Work is in any way dependent for perfect workmanship and report any condition which prevents performance of first-class work. Become thoroughly familiar with the actual existing conditions to which connections must be made or which must be changed or altered.

3.02 CUTTING, PATCHING AND REPAIRING

A. The work shall be carefully laid out in advance. Where cutting, channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other surfaces is necessary for the proper installation, support or anchorage of raceway, outlets or other equipment, the work shall be carefully done. Any damage to the building, piping, equipment or defaced finish plaster, woodwork, metalwork, etc. shall be repaired by skilled mechanics of the trades involved at no additional cost to the Owner.

B. Where conduits, mounting channels, outlet, junction, or pull boxes are mounted on a painted or stucco finished surface, or a surface to be finished, they shall be painted to match the surface. Whenever support channels are cut, the bare metal shall be cold galvanized.

3.03 CLEANING UP

A. The Contractor shall take care to avoid accumulation of debris, boxes, crates, etc., resulting from the installation of their work. The Contractor shall remove from the premises each day all debris, boxes, etc., and keep the premises clean.

B. The Contractor shall clean up all fixtures and equipment at the completion of the project.

C. All switchboards, panelboards, loadcenters, wireways, trench ducts, cabinets and enclosures shall be thoroughly vacuumed clean prior to energizing equipment and at the completion of the project. Equipment shall be opened for observation by the Architect/Engineer as required.

3.04 WATERPROOFING

A. Avoid, if possible, the penetration of any waterproof membranes such as roofs, machine room floors, basement walls, and the like. If such penetration is necessary, perform it prior to the waterproofing and furnish all sleeves or pitch-pockets required. Advise the Architect/Engineer and obtain written permission before penetrating any waterproof membrane, even where such penetration is shown on the Drawings.

B. If Contractor penetrates any walls or surfaces after they have been waterproofed, they shall restore the waterproof integrity of that surface as directed by the Architect/Engineer at their own expense.

3.05 SUPPORTS

A. Support work in accordance with the best industry practice and the following.

B. Include supporting frames or racks extending from building structure for work indicated as being supported from walls where the walls are incapable of supporting the weight. Provide such frames or racks in electric closets.

C. Include supporting frames or racks for equipment, intended for vertical surface mounting, which is required in a free-standing position.

D. Supporting frames or racks shall be of standard angle, standard channel, or specialty support system steel members. They shall be rigidly bolted or welded together and adequately braced to form a substantial structure. Racks shall be of ample size to assure a workmanlike arrangement of all equipment mounted on them.

E. Nothing, (including outlet, pull and junction boxes for fittings) shall depend on electric conduits, raceways, or cables for support, except that threaded hub type fittings having a gross volume not in excess of 100 cubic inches may be supported from heavy wall conduit, where the conduit is securely supported from the structure within five inches of the fitting on two opposite sides.

F. Nothing shall rest on, or depend for support on, suspended ceilings media (tiles, lath, plaster, as well as splines, runners, bars, and the like in the plane of the ceiling).

G. Provide required supports and hangers for conduit, equipment, etc., so that loading will not exceed allowable loadings of structure.

3.06 FASTENINGS

A. Fasten electric work to building structure in accordance with the best industry practice and the following.

B. Floor or pad mounted equipment shall not be held in place solely by its own dead weight. Include anchor fastening in all cases.

C. For items which are shown as being ceiling mounted at locations where fastening to the building construction element above is not possible, provide suitable auxiliary channel or angle iron bridging, tying to the building structure elements.

3.07 TESTING EQUIPEMNT AND MATERIALS

A. The Contractor shall provide all testing instruments, equipment and all materials, connections, labor, etc., required to perform tests.

B. Test all circuits, fixtures, equipment, and systems for proper operation and freedom from grounds, shorts and open circuits before acceptance is requested.

C. Measure voltage at panelboards/loadcenters and outlets after the building is fully occupied.

D. Perform all tests required by local authorities, such as tests of life safety systems, in addition to tests specified herein.

E. Perform tests required by other specification sections.

END OF SECTION

SECTION 26 05 01

SELECTIVE ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.1 SCOPE

A. Work Included: Selective electrical demolition for remodeling.

B. Removal of existing electrical equipment, wiring, and conduit in areas to be remodeled; removal of designated construction; dismantling, cutting and alterations for completion of the Work.

C. Disposal of materials.

D. Storage of removed materials.

E. Identification of utilities.

F. Salvaged items.

G. Protection of items to remain as scheduled at end of section or as indicated on Drawings.

H. Relocate existing equipment to accommodate construction.

1.2 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of capped utilities, conduits and equipment abandoned in place, and any remaining items originally scheduled for demolition.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify field measurements and circuiting arrangements are as shown on Drawings.

B. Verify that abandoned wiring and equipment serve only abandoned facilities.

C. Verify termination points for demolished services.

D. Demolition Drawings are based on field observation and existing record documents. Report discrepancies to Architect/Engineer before disturbing existing installation.

E. Beginning of demolition means installer accepts existing conditions.

F. CAUTION!!! Cease operations immediately when structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

G. Field identify salvage items in cooperation with Owner.

3.2 PREPARATION

A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

B. Coordinate utility service outages with the Owner and the Electric Utility Company.

C. Conduct demolition to minimize interference with adjacent building areas.

D. Coordinate demolition work with Owner, Architect/Engineer, and all other trades.

E. Coordinate and sequence demolition so as not to cause shutdown of operation of surrounding areas.

F. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

G. Existing Electrical Service: Maintain existing system in service. Disable system only to make switchovers and connections. Obtain permission from the Owner at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

H. Existing Communications Utility Services: Coordinate with the Owner and the existing communications utility service providers to identify existing incoming services that are to remain. Disconnect, remove, and discard all abandoned communications utility services that are no longer in use. Make temporary connections to maintain service in areas adjacent/outside work area as required to maintain Owner operations during construction as required.

I. Existing Fire Alarm Notification and Smoke Detection Systems: Maintain existing system in service during construction. Disable system only to make switchovers and connections. Obtain permission from the Owner at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

J. Erect, and maintain temporary safeguards, including warning signs and lights, barricades, and similar measures, for protection of the public, Owner, Contractor's employees, and existing improvements to remain.

K. Provide and install temporary egress signage and emergency lighting as required.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

A. Demolish and extend existing electrical work as indicated on Drawings.

B. Remove, relocate, and extend existing installations to accommodate new construction.

C. Remove abandoned wiring to source of supply, as coordinated with the Owner. This includes but is not limited to power conductors, fire alarm cables, intercom cables, voice cables, data cables, coaxial cable, audio/visual, and control wiring, unless noted otherwise.

D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces to match existing adjacent finishes.

E. Disconnect abandoned outlets and remove devices. Remove abandoned outlet boxes if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlet boxes and flush junction boxes that are not removed.

F. Disconnect and remove abandoned panelboards/loadcenters and distribution equipment.

G. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

H. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories. CAUTION!!! Field verify presence of existing PCB ballasts within the existing light fixtures that are to be removed and discarded. Owner shall pay for all fees associated with proper containers and disposal of PCB ballasts.

I. Repair adjacent construction and finishes damaged during demolition and extension work to match existing.

J. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

K. Extend existing installations using materials and methods as specified.

3.4 EXISTING PANELBOARDS/LOADCENTERS

A. Ring out circuits in existing panel affected by the Work. Where additional circuits are needed, reuse circuits that are available for reuse. Install new breakers as required.

B. Tag unused circuit breakers as “Spare C.B.”.

C. Where existing circuits are indicated to be reused, use sensing measuring devices to verify circuits feeding Project area or are not in use. Notify the engineer of existing branch circuits identified in the project area.

D. Remove existing wire no longer in use from panel to equipment.

E. Provide new updated typed directories where more than three circuits have been modified or rewired.

3.5 CLEANING AND REPAIR

A. Clean and repair existing materials and equipment that remain or are to be reused.

B. Remove demolished materials as work progresses. Legally dispose.

C. Panelboards/loadcenters: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions.

3.6 INSTALLATION

A. Install relocated materials and equipment as indicated in other specification Sections and on the Drawings.

B. Remove existing wire no longer in use from panel to equipment.

C. Include new blank filler plates, as required, on all open circuit breaker spaces that will remain a prepared space at project completion.

D. Carefully remove equipment, materials, or fixtures which are to be reused/relocated and remain.

E. Disconnect, remove, or relocate existing electrical material and equipment interfering with new installation.

END OF SECTION

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes building wire and cable; armored cable; metal clad cable; and wiring connectors and connections.

B. Related Sections:
   1. Section 26 05 53 - Identification for Electrical Systems: Product requirements for wire identification.

1.2 REFERENCES

A. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

B. National Fire Protection Association:
   1. NFPA 70 - National Electrical Code.
   2. NFPA 262 - Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

C. Underwriters Laboratories, Inc.:
   1. UL 1277 - Standard for Safety for Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.

1.3 SYSTEM DESCRIPTION

A. Product Requirements: Provide products as follows:
   1. Solid conductor for feeders and branch circuits 10 AWG and smaller.
   2. Stranded conductors for control circuits.
   3. Conductor not smaller than 12 AWG for power and lighting circuits.
   4. Conductor not smaller than 14 AWG for control circuits.
   5. Increase wire size in branch circuits to limit voltage drop to a maximum of 3 percent.

B. Wiring Methods: Provide the following wiring methods:
   1. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway, armored cable or metal clad cable.
   2. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway, armored cable or metal clad cable.
   3. Above Accessible Ceilings: Use only building wire, Type THHN/THWN insulation, in raceway, armored cable or metal clad cable.
   4. Wet or Damp Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway, direct burial cable, armored cable or metal clad cable.

5. Exterior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.

1.4 DESIGN REQUIREMENTS

A. Conductor sizes are based on copper unless indicated as aluminum or "AL".

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Test Reports: Indicate procedures and values obtained.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of components and circuits.

1.7 QUALITY ASSURANCE

A. Provide wiring materials located in plenums (field verify) with peak optical density not greater than 0.5, average optical density not greater than 0.15, and flame spread not greater than 5 feet (1.5 m) when tested in accordance with NFPA 262.

B. Perform Work in accordance with all applicable Federal, State, and local Codes and Ordinances.

C. Maintain one copy of each document on site.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.9 FIELD MEASUREMENTS

A. Verify field measurements are as indicated on Drawings.

1.10 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Where wire and cable destination is indicated and routing is not shown, determine routing and lengths required.

C. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 ft of length shown.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

A. Manufacturers:
   1. Cerro Wire LLC.
   2. General Cable; General Cable Corporation.
   3. Southwire Company.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Single conductor insulated wire.

C. Conductor: Copper.

D. Insulation Voltage Rating: 600 volts.

E. Insulation Temperature Rating: 105 degrees C.

F. Insulation Material: Thermoplastic.

2.2 ARMORED CABLE

A. Manufacturers:
   1. Cerro Wire LLC.
   2. General Cable; General Cable Corporation.
   3. Southwire Company.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts.

D. Insulation Temperature Rating: 90 degrees C.

E. Insulation Material: Thermoplastic.

F. Armor Material: Steel.

G. Armor Design: Interlocked metal tape.

2.3 METAL CLAD (MC) CABLE

A. Manufacturers:
   1. Cerro Wire LLC.
   2. General Cable; General Cable Corporation.
   3. Southwire Company.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts.

D. Insulation Temperature Rating: 90 degrees C.

E. Insulation Material: Thermoplastic.

F. Armor Material: Steel.

G. Armor Design: Interlocked metal tape.

H. Jacket: Where required.

2.4 WIRING CONNECTORS

A. Split Bolt Connectors:
   1. Manufacturers:
      a. Burndy: Part of Hubbell Electrical Systems.
      b. ILSCO.
      c. Thomas & Betts Corporation; A Member of the ABB Group.
      d. Substitutions: Section 01 60 00 - Product Requirements.

B. Solderless Pressure Connectors:
      a. Burndy: Part of Hubbell Electrical Systems.
      b. ILSCO.
      c. Thomas & Betts Corporation; A Member of the ABB Group.
      d. Substitutions: Section 01 60 00 - Product Requirements.

C. Spring Wire Connectors:
   1. Manufacturers:
      a. Burndy: Part of Hubbell Electrical Systems.
      b. ILSCO.
      c. Thomas & Betts Corporation; A Member of the ABB Group.
      d. Substitutions: Section 01 60 00 - Product Requirements.

D. Compression Connectors:
   1. Manufacturers:
      a. Burndy: Part of Hubbell Electrical Systems.
      b. ILSCO.
      c. Thomas & Betts Corporation; A Member of the ABB Group.
      d. Substitutions: Section 01 60 00 - Product Requirements.

2.5 TERMINATIONS

A. Terminal Lugs for Wires 6 AWG and Smaller: Solderless, compression type copper.

B. Lugs for Wires 4 AWG and Larger: Color keyed, compression type copper, with insulating sealing collars.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify interior of building has been protected from weather.

C. Verify mechanical work likely to damage wire and cable has been completed.

D. Verify raceway installation is complete and supported.

3.2 PREPARATION

A. Completely and thoroughly swab raceway before installing wire.

3.3 EXISTING WORK

A. Remove exposed abandoned wire and cable, including abandoned wire and cable above accessible ceiling finishes. Patch surfaces where removed cables pass through building finishes.

B. Disconnect abandoned circuits and remove circuit wire and cable. Remove abandoned boxes when wire and cable servicing boxes is abandoned and removed. Install blank cover for abandoned boxes not removed.

C. Provide access to existing wiring connections remaining active and requiring access. Modify installation or install access panel.

D. Extend existing circuits using materials and methods compatible with existing electrical installations, or as specified.

E. Clean and repair existing wire and cable remaining or wire and cable to be reinstalled.

3.4 INSTALLATION

A. Route wire and cable to meet Project conditions.

B. Neatly train and lace wiring inside boxes, equipment, and panelboards.

C. Identify and color code wire and cable under provisions of Section 26 05 53. Identify each conductor with its circuit number or other designation indicated.

D. Special Techniques--Building Wire in Raceway:
   1. Pull conductors into the raceway at same time.
   2. Install building wire 4 AWG and larger with pulling equipment.

E. Special Techniques - Cable:
   1. Protect exposed cable from damage.

2. Support cables above accessible ceiling, using spring metal clips or metal cable ties to support cables from structure or ceiling suspension system. Do not rest cable on ceiling panels.
3. Use suitable cable fittings and connectors.

F. Special Techniques - Wiring Connections:
1. Clean conductor surfaces before installing lugs and connectors.
2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor.
4. Install split bolt connectors for copper conductor splices and taps, 6 AWG and larger.
5. Install solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
6. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
7. Terminate aluminum conductors with tin-plated, aluminum-bodied compression connectors only. Fill with antioxidant compound before installing conductor.
8. Install suitable reducing connectors or mechanical connector adaptors for connecting aluminum conductors to copper conductors.

G. Install stranded conductors for branch circuits 10 AWG and smaller. Install crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under screws.

H. Install terminal lugs on ends of 600-volt wires unless lugs are furnished on connected device, such as circuit breakers.

I. Size lugs in accordance with manufacturer's recommendations terminating wire sizes. Install 2-hole type lugs to connect wires 4 AWG and larger to copper bus bars.

J. For terminal lugs fastened together such as on motors, transformers, and other apparatus, or when space between studs is small enough that lugs can turn and touch each other, insulate for dielectric strength of 2-1/2 times normal potential of circuit.

3.5 WIRE COLOR

A. General:
1. For wire sizes 10 AWG and smaller, install wire colors in accordance with the following:
a. Black and red for single phase circuits at 120/240 volts.
b. Black, red, and blue for circuits at 120/208 volts single or three phase.
c. Orange, brown, and yellow for circuits at 277/480 volts single or three phase.
2. For wire sizes 8 AWG and larger, identify wire with colored tape at terminals, splices, and boxes. Colors are as follows:
a. Black and red for single phase circuits at 120/240 volts.
b. Black, red, and blue for circuits at 120/208 volts single or three phase.
c. Orange, brown, and yellow for circuits at 277/480 volts single or three phase.

B. Neutral Conductors: When two or more neutrals are located in one conduit, individually identify each with proper circuit number.
   1. White for single phase circuits at 120/240 volts.
   2. White for circuits at 120/208 volts single or three phase.
   3. Gray for circuits at 277/480 volts single or three phase.

C. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.

D. Feeder Circuit Conductors: Uniquely color code each phase.

E. Ground Conductors:
   1. For 6 AWG and smaller: Green.
   2. For 4 AWG and larger: Identify with green tape at both ends and visible points including junction boxes.

3.6 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements

B. Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Wire.
   2. Mechanical connectors.

1.2 REFERENCES

A. Institute of Electrical and Electronics Engineers:
   1. IEEE 142 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.
   2. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment.

B. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

C. National Fire Protection Association:
   1. NFPA 70 - National Electrical Code.

1.3 PERFORMANCE REQUIREMENTS

A. Grounding System Resistance: 25 ohms maximum.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of components and grounding electrodes.

1.5 QUALITY ASSURANCE

A. Provide grounding materials conforming to requirements of NEC, IEEE 142, and UL labeled.

B. Perform Work in accordance with all applicable Federal, State, and local Codes and Ordinances.

C. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum three (3) years documented experience or approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification.

C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

D. Do not deliver items to project before time of installation. Limit shipment of bulk and multiple-use materials to quantities needed for immediate installation.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

PART 2 - PRODUCTS

2.1 MECHANICAL CONNECTORS

A. Manufacturers:
1. Burndy: Part of Hubbell Electrical Systems.
2. ERICO International Corporation.
3. Harger Lightning & Grounding.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Description: Bronze connectors, suitable for grounding and bonding applications, in configurations required for particular installation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

3.2 PREPARATION

A. Remove paint, rust, mill oils, and surface contaminants at connection points.

3.3 EXISTING WORK

A. Modify existing grounding system to maintain continuity to accommodate renovations.

B. Extend existing grounding system using materials and methods compatible with existing electrical installations, or as specified.

3.4 INSTALLATION

A. Install in accordance with IEEE 142
   1. Where sensitive equipment is present, install in accordance with IEEE 1100.

B. Install grounding and bonding conductors concealed from view.

C. Bond together reinforcing steel and metal accessories in water containment structures.

D. Equipment Grounding Conductor: Install separate, insulated conductor within each new feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing. Size grounding conductors in accordance with NEC. Install from grounding bus of serving panel to ground bus of served panel, grounding screw of receptacles, lighting fixture housing, light switch outlet boxes or metal enclosures of service equipment. Ground conduits by means of grounding bushings on terminations at panelboards with installed number 12 conductor to grounding bus.

E. Permanently ground entire light and power system in accordance with NEC, including service equipment, distribution panels, lighting panelboards, switch and starter enclosures, motor frames, grounding type receptacles, and other exposed non-current carrying metal parts of electrical equipment.

F. Permanently attach equipment and grounding conductors prior to energizing equipment.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements.

B. Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

C. Perform continuity testing in accordance with IEEE 142.

D. When improper grounding is found on receptacles, notify the Architect/Engineer and check receptacles/branch circuits in entire project to correct. Perform retest.

END OF SECTION

SECTION 26 05 33

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes conduit and tubing, surface raceways, wireways, outlet boxes, pull and junction boxes.

B. Related Sections:
   1. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
   2. Section 26 05 29 - Hangers and Supports for Electrical Systems.
   3. Section 26 05 53 - Identification for Electrical Systems.
   4. Section 26 27 26 - Wiring Devices.

1.2 REFERENCES

A. American National Standards Institute:
   1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
   2. ANSI C80.3 - Specification for Electrical Metallic Tubing, Zinc Coated.
   3. ANSI C80.5 - Aluminum Rigid Conduit - (ARC).

B. National Electrical Manufacturers Association:
   1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
   2. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
   3. NEMA OS 1 - Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
   4. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports.
   5. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
   6. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Tubing and Conduit.
   7. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

1.3 SYSTEM DESCRIPTION

A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.

B. Underground More than 5 feet outside Foundation Wall: Provide rigid steel conduit, plastic coated conduit, or PVC Schedule 40 or 80 nonmetallic conduit.

C. Underground Within 5 feet from Foundation Wall: Provide rigid steel conduit, plastic-coated conduit, or PVC Schedule 40 or 80 nonmetallic conduit.

D. In or Under Slab on Grade: Provide rigid steel conduit, plastic coated conduit, or PVC Schedule 40 or 80 nonmetallic conduit. Provide cast or nonmetallic metal boxes as noted/required.

E. Outdoor Locations, Above Grade: Provide rigid steel conduit Provide liquidtight flexible metal conduit for equipment connections. Provide cast metal or nonmetallic outlet, pull, and junction boxes.

F. In Slab Above Grade: Provide rigid steel conduit, intermediate metal conduit, or PVC Schedule 40 or 80 nonmetallic conduit. Provide sheet metal boxes.

G. Wet and Damp Locations: Provide rigid steel conduit, plastic coated conduit, PVC Schedule 40 or 80 nonmetallic conduit. Provide liquidtight flexible metal conduit for equipment connections. Provide cast metal or nonmetallic outlet, junction, and pull boxes. Provide flush mounting outlet box in finished areas.

H. Concealed Dry Locations: Provide rigid steel conduit or electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

I. Exposed Dry Locations: Provide rigid steel conduit or electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

1.4 DESIGN REQUIREMENTS

A. Minimum Raceway Size: 3/4 inch unless otherwise specified.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit for the following:
1. Flexible metal conduit.
2. Liquid-tight flexible metal conduit.
3. Nonmetallic conduit.
4. Flexible nonmetallic conduit.
5. Nonmetallic tubing.
6. Raceway fittings.
7. Conduit bodies.
8. Surface raceway.
9. Wireway.
10. Pull and junction boxes.

C. Manufacturer's Installation Instructions: Submit application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents:
   1. Record actual routing of conduits larger than 1 inch.
   2. Record actual locations and mounting heights of outlet, pull, and junction boxes.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

C. Protect PVC conduit from sunlight.

1.8 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate installation of outlet boxes for equipment connected under Section 26 05 03.

C. Coordinate mounting heights, orientation and locations of outlets mounted above counters, benches, and backsplashes.

PART 2 - PRODUCTS

2.1 METAL CONDUIT

A. Manufacturers:
   1. Allied Tube & Conduit; a part of Atkore International.
   2. EGS/Appleton Electric.
   3. Thomas & Betts Corporation; A Member of the ABB Group.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Rigid Steel Conduit: ANSI C80.1.

C. Rigid Aluminum Conduit: ANSI C80.5.

D. Intermediate Metal Conduit (IMC): Rigid steel.

E. Fittings and Conduit Bodies: NEMA FB 1; material to match conduit.

2.2 PVC COATED METAL CONDUIT

A. Manufacturers:

1. Plasti-Bond.
2. Thomas & Betts Corporation; A Member of the ABB Group.
3. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: NEMA RN 1; rigid steel conduit with external PVC coating, 20 mil thick.

C. Fittings and Conduit Bodies: NEMA FB 1; steel fittings with external PVC coating to match conduit.

2.3 FLEXIBLE METAL CONDUIT

A. Manufacturers:
1. AFC Cable Systems; a part of Atkore International.
2. EGS/Appleton Electric.
3. Southwire Company.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Interlocked steel construction.

C. Fittings: NEMA FB 1.

2.4 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

A. Manufacturers:
1. AFC Cable Systems; a part of Atkore International.
2. EGS/Appleton Electric.
3. Southwire Company.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Interlocked steel construction with PVC jacket.

C. Fittings: NEMA FB 1.

2.5 ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
1. Carlon; a brand of Thomas & Betts Corporation.
2. Republic Conduit.
3. Western Tube and Conduit Corporation.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: ANSI C80.3; galvanized tubing.

C. Fittings and Conduit Bodies: NEMA FB 1; steel, set screw type.

2.6 NONMETALLIC CONDUIT

A. Manufacturers:
   1. Carlon; a brand of Thomas & Betts Corporation.
   2. EGS/Appleton Electric.
   3. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: NEMA TC 2; Schedule 40 PVC and Schedule 80 PVC, as required by code.

C. Fittings and Conduit Bodies: NEMA TC 3.

2.7 NONMETALLIC TUBING

A. Manufacturers:
   1. Carlon; a brand of Thomas & Betts Corporation.
   2. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: NEMA TC 2.

C. Fittings and Conduit Bodies: NEMA TC 3.

2.8 SURFACE METAL RACEWAY

A. Manufacturers:
   1. Niedax Inc.
   2. Panduit Corp.
   3. Wiremold / Legrand.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Sheet metal channel with fitted cover, suitable for use as surface metal raceway.

C. Size: Per Code plus additional 25% spare, unless otherwise indicated.

D. Finish: To be determined (TBD) during shop drawing review. Stainless steel in hazardous locations or where corrosive elements are present.

E. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories; match finish on raceway.

2.9 WIREWAY

A. Manufacturers:
   1. Carlon; a brand of Thomas & Betts Corporation.
   2. Hoffman; a brand of Pentair Equipment Protection.
   3. Square D; by Schneider Electric.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: General purpose, Oiltight and dust-tight, or Raintight type wireway. Product rating shall match NEMA Rating for enclosures in same location.

C. Knockouts: Manufacturer's standard. Bottom only in Wet, Damp or Outdoor locations.

D. Size: 4 x 4 inch, 6 x 6 inch, 8 x 8 inch, and 12 x 12 inch; length as required.

E. Cover: Hinged or Screw cover with full gaskets.

F. Connector: Slip-in or Flanged.

G. Fittings: Lay-in type with removable top, bottom, and side; captive screws and drip shield.

H. Finish: Rust inhibiting primer coating with gray enamel finish.

2.10 OUTLET BOXES

A. Manufacturers:
   1. Allied Moulded Products, Inc.
   2. Carlon; a brand of Thomas & Betts Corporation.
   3. RACO; Hubbell.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
   1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch male fixture studs where required.
   2. Concrete Ceiling Boxes: Concrete type.

C. Nonmetallic Outlet Boxes: NEMA OS 2.

D. Cast Boxes: NEMA FB 1, Type FD, cast feralloy. Furnish gasketed cover by box manufacturer. Furnish threaded hubs.

E. Wall Plates for Finished Areas: As specified in Section 26 27 26.

F. Wall Plates for Unfinished and Utility/Mechanical Areas: Furnish raised metal or stainless steel.

2.11 PULL AND JUNCTION BOXES

A. Manufacturers:
   1. Emerson Process Management; Rosemount Division.
   2. Hoffman; a brand of Pentair Equipment Protection.
   3. RACO; Hubbell.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Sheet Metal Boxes: NEMA OS 1, galvanized steel.

C. Hinged Enclosures: As specified in Section 26 27 16.

D. Surface Mounted Cast Metal Box: NEMA 250, Type 4, 4X or 6 (per environmental conditions); flat-flanged, surface mounted junction box:
   1. Material: Galvanized cast iron.
   2. Cover: Furnish with ground flange, neoprene gasket, and stainless-steel cover screws.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

3.2 EXISTING WORK

A. Remove exposed abandoned raceway, including abandoned raceway above accessible ceiling finishes. Cut raceway flush with walls and floors, and patch surfaces.

B. Remove concealed abandoned raceway to its source.

C. Disconnect abandoned outlets and remove devices. Remove abandoned outlets when raceway is abandoned and removed. Install blank cover for abandoned outlets not removed.

D. Maintain access to existing boxes and other installations remaining active and requiring access. Modify installation or provide access panel.

E. Extend existing raceway and box installations using materials and methods compatible with existing electrical installations, or as specified.

F. Clean and repair existing raceway and boxes to remain or to be reinstalled.

3.3 INSTALLATION

A. Ground and bond raceway and boxes in accordance with Section 26 05 26.

B. Fasten raceway and box supports to structure and finishes in accordance with Section 26 05 33.

C. Identify raceway and boxes in accordance with Section 26 05 53.

D. Arrange raceway and boxes to maintain headroom and present neat appearance.

3.4 INSTALLATION - RACEWAY

A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.

B. Arrange raceway supports to prevent misalignment during wiring installation.

C. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.

D. Group related raceway; support using conduit rack. Construct rack using steel channel specified in Section 26 05 29; provide space on each for 25 percent additional raceways.

E. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports.

F. Do not attach raceway to ceiling support wires or other piping systems.

G. Construct wireway supports from steel channel specified in Section 26 05 29.

H. Route exposed raceway parallel and perpendicular to walls.

I. Route exposed raceway vertically in room corners and horizontally along wall/ceiling edges or trim pieces. All routing of exposed raceway within finished spaces shall be approved by Architect/Engineer prior to installation.

J. Route raceway installed above accessible ceilings parallel and perpendicular to walls.

K. Route conduit in and under slab from point-to-point.

L. Maximum Size Conduit in Slab Above Grade: 3/4 inch. Do not cross conduits in slab.

M. Maintain clearance between raceway and piping for maintenance purposes.

N. Maintain 12-inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.

O. Cut conduit square using saw or pipe cutter; de-burr cut ends.

P. Bring conduit to shoulder of fittings; fasten securely.

Q. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for minimum 20 minutes.

R. Install conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.

S. Install no more than equivalent of three 90-degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install factory elbows for bends in metal conduit larger than 2-inch size.

T. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.

U. Install fittings to accommodate expansion and deflection where raceway crosses seismic, control and expansion joints.

V. Install suitable pull string or cord in each empty raceway except sleeves and nipples.

W. Install suitable caps to protect installed conduit against entrance of dirt and moisture.

X. Surface Raceway: Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings.

Y. Close ends and unused openings in wireway.

3.5 INSTALLATION - BOXES

A. Install wall mounted boxes at elevations to accommodate mounting heights specified in section for outlet device, unless indicated on Drawings.

B. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.

C. Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26.

D. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

E. In Accessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.

F. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.

G. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.

H. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.

I. Install stamped steel bridges to fasten flush mounting outlet box between studs.

J. Install flush mounting box without damaging wall insulation or reducing its effectiveness.

K. Install adjustable steel channel fasteners for hung ceiling outlet box.

L. Do not fasten boxes to ceiling support wires or other piping systems.

M. Support boxes independently of conduit.

N. Install gang box where more than one device is mounted together. Do not use sectional box.

O. Install gang box with plaster ring for single device outlets.

3.6 INTERFACE WITH OTHER PRODUCTS

A. Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods in accordance with all State and Local Code Requirements and Standards.

B. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation as required.

C. Locate outlet boxes to allow luminaires to be positioned as indicated on Drawings.

D. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

3.7 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust flush-mounting outlets to make front flush with finished wall material.

C. Install knockout closures in unused openings in boxes.

3.8 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean interior of boxes to remove dust, debris, and other material.

C. Clean exposed surfaces and restore the finish.

END OF SECTION

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Nameplates.
   2. Labels.
   3. Wire markers.
   4. Conduit markers.
   5. Lockout Devices.

B. Related Sections:
   1. Section 09 90 00 - Painting and Finishes: Execution requirements for painting specified by this section.

1.02 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data:
   1. Submit manufacturer's catalog literature for each product required.
   2. Submit an electrical identification schedule including list of wording, symbols, letter size, color coding, tag number, location, and function.

C. Samples (upon request):
   1. Submit one sample of each type of identification products that are applicable to the project.
   2. Submit one nameplate, 4 x 4 inch in size illustrating materials and engraving quality.

D. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.

1.03 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of tagged devices; include tag numbers.

1.04 QUALITY ASSURANCE

A. Perform Work in accordance with all applicable Federal, State, and local code and ordinances.

1.05 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience or approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept identification products on site in original containers. Inspect for damage.

C. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

D. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Install labels and nameplates only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.

1.08 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for extra materials.

PART 2 - PRODUCTS

2.01 NAMEPLATES

A. Manufacturers:
   1. Craftmark Pipe Markers.
   2. Kolbi Pipe Marker Co.
   3. Seton Identification Products.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Laminated three-layer plastic with engraved white or black letters on a contrasting black or white background color, unless otherwise indicated.

C. Letter Size:
   1. 1/8 inch high letters for identifying individual equipment and loads.
   2. 1/4 inch high letters for identifying grouped equipment and loads.
   3. Minimum 1/8 inch high letters for identifying any required information, not otherwise specified.

D. Minimum nameplate thickness: 1/8 inch.

2.02 LABELS

A. Manufacturers:
   1. Brady ID.
   2. Seton Identification Products.
   3. Substitutions: Section 01 60 00 - Product Requirements.

B. Labels: Embossed adhesive tape, with 3/16 inch white or black letters on a contrasting black or white background.

2.03 WIRE MARKERS

A. Manufacturers:
   1. Brady ID.
   2. Grafoplast Wire Markers.
   3. Ideal Industries, Inc.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Description: Cloth tape, split sleeve, or tubing type wire markers.

C. Legend:
   1. Power and Lighting Circuits: Branch circuit or feeder number as indicated on Drawings.
   2. Control Circuits: Control wire number as indicated on schematic and interconnection diagrams. Where shop drawings indicate a different labeling methodology at the same location, EACH wire shall bear BOTH labels for clarity.
   3. Communication Cables: Communication and cable type using industry standard designations or as indicated on Drawings.

2.04 CONDUIT AND RACEWAY MARKERS

A. Manufacturers:
   1. Brady ID.
   2. Ideal Industries, Inc.
   3. Seton Identification Products.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Description:
   1. Where susceptible to mechanical damage: Nameplate fastened with straps.
   2. With flat smooth surface not susceptible to mechanical damage: Nameplate fastened with adhesive.

3. Without flat smooth surface: Labels fastened with adhesive.

C. Color:
1. Medium Voltage System: Black lettering on white background.
2. 480 Volt System: Black lettering on white background.
3. 208/240 Volt Systems: Black lettering on white background.
4. All other Systems: Black lettering on white background.

D. Legend:
1. Medium Voltage System: HIGH VOLTAGE.
2. 480 Volt System: 480 VOLTS.
3. 240 Volt System: 240 VOLTS.
4. 240 Volt – 3 Phase System: 240 VOLTS 3Ø – HIGH-LEG
5. 208 Volt System: 208 VOLTS.
6. Instrumentation & Controls: I & C.
7. Communications: COMMUNICATIONS

2.05 LOCKOUT DEVICES

A. Lockout Hasps:
1. Manufacturers:
a. Brady ID.
b. Master Lock Company, LLC.
c. Substitutions: Section 01 60 00 - Product Requirements.
2. Anodized aluminum with erasable label surface; size minimum 7-1/4 x 3 inches.
a. Reinforced nylon hasp may be allowed in hazardous or corrosive locations per Engineer’s approval.

PART 3 - EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 EXISTING WORK

A. Install identification on existing equipment to remain in accordance with this section.

B. Install identification on unmarked existing equipment and materials associated with proposed work.

C. Replace lost nameplates, labels, and markers.

3.03 INSTALLATION

A. Install identifying devices after completion of painting.

B. Nameplate Installation:
   1. Install nameplate parallel to equipment lines.
   2. Install nameplate for each electrical distribution and control equipment enclosure with corrosive-resistant mechanical fasteners, or adhesive.
   3. Install nameplates for each control panel and major control components located outside panel with corrosive-resistant mechanical fasteners, or adhesive.
   4. Secure nameplate to equipment front using screws, rivets, or adhesive.
      a. Screws shall be Standard or Philips type.
      b. Rivets must be approved by the Engineer prior to purchase and installation.
   5. Secure nameplate to inside surface of door on recessed panelboard in finished locations.
   6. Install nameplates for the following:
      a. Panelboards.

C. Label Installation:
   1. Install label parallel to equipment lines.

D. Wire Marker Installation:
   1. Install wire marker for each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.
   2. Mark data cabling at each end. Install additional marking at accessible locations along the cable run.
   3. Install labels at data outlets identifying patch panel and port designation.
      a. If otherwise indicated on Drawings, BOTH designations shall be labeled.

E. Conduit and Raceway Marker Installation:
   1. Install Conduit and Raceway marker for each concealed and accessible Conduit and Raceway longer than 6 feet.
   2. Conduit and Raceway Marker Spacing: 20 feet on-center.

END OF SECTION

SECTION 26 09 23

LIGHTING CONTROL SYSTEMS AND DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Lighting relays.
2. Switches.
3. Switch plates.
4. Occupancy sensors.

B. Related Sections:
1. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.
2. Section 26 05 33 - Raceway and Boxes for Electrical Systems: Product requirements for raceway and boxes for placement by this Section.
3. Section 26 05 53 - Identification for Electrical Systems: Product requirements for electrical identification items for placement by this Section.
4. Section 26 24 16 - Panelboards.
5. Section 26 27 26 - Wiring Devices: Product requirements for wiring devices for placement by this Section.

1.2 REFERENCES

A. National Electrical Manufacturers Association:
1. NEMA FU 1 - Low Voltage Cartridge Fuses.
2. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contractors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC.
3. NEMA ICS 4 - Industrial Control and Systems: Terminal Blocks.
4. NEMA ICS 5 - Industrial Control and Systems: Control Circuit and Pilot Devices.
5. NEMA ICS 6 - Industrial Control and Systems: Enclosures.
6. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
7. American National Standards Institute/ (ANSI) (www.ansi.org) C62.41-1991 – Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits.
8. Institute of Electrical and Electronics Engineers (IEEE) (www.ieee.org) 802.3af-2003 – Power over Ethernet standard
9. International Electrotechnical Commission (www.iec.ch)IEC/EN 61000-4-2:2009 Electrostatic Discharge Testing Standard.
10. International Organization for Standardization (ISO) (www.iso.ch)9001:2000 – Quality Management Systems.
11. National Electrical Manufacturers Association (NEMA) (www.nema.org)WD1 (R2005) - General Color Requirements for Wiring Devices.
12. Underwriters Laboratories, Inc. (UL) (www.ul.com)916 – Energy Management Equipment
13. Federal Communications Commission (FCC) (www.fcc.gov)Title 47 CFR Part 15 Class A

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate dimensioned drawings of lighting control system components and accessories.
   1. One Line Diagram: Indicating system configuration indicating panels, number and type of switches or devices.
   2. Include typical wiring diagrams for each component.

C. Product Data: Submit manufacturer's standard product data for each system component.

D. Manufacturer's Installation Instructions: Submit each system component.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record following information:
   1. Actual locations of components and record circuiting and switching arrangements.
   2. Wiring diagrams reflecting field installed conditions with identified and numbered system components and devices.

C. Operation and Maintenance Data:
   1. Submit replacement parts numbers.
   2. Submit manufacturer's published installation instructions and operating instructions.
   3. Recommended renewal parts list.

1.5 QUALITY ASSURANCE

A. Perform Work according to all applicable Federal, State, and local Codes and Ordinances.

B. Maintain one copy of each document on Site.

C. Manufacturer: The manufacturer shall have at least 10 years of experience in lighting control systems. Manufacturers that do not have at least ten years of experience shall not be acceptable.

D. System components:
   1. Listed by an OSHA Nationally Recognized Testing Laboratory specifically for the electronic ballast/driver loads. Provide evidence of compliance upon request.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept components on Site in manufacturer's packaging. Inspect for damage.

C. Ensure products are delivered as shipped, including pallet assembly and packaging, have not been damaged in shipment.

D. Store products in a clean, dry location in the manufacturer's original packaging.

E. Store products in an environment that meets products' ambient and storage temperature per products specification sheets.

F. Store products in an environment that meets products' relative humidity of less than 90 percent, non-condensing as outlined on the product specification sheets.

G. The contractor is responsible for the complete installation of the entire system according to strict factory standards and requirements.

H. Handling: packaging will include clear installation instructions for all components with typical installation locations and connections illustrations. The installation contractor can easily match each package to the layout on the design floor plans.

1.7 PROJECT CONDITIONS

A. Do not install equipment until the following conditions can be maintained in spaces to receive equipment:

B. Ambient temperature for indoor devices: 32°F to 104°F (0°C to 40°C)

C. Ambient temperature for outdoor devices: -40°F to 131°F (-40°C to 55°C)

D. Relative humidity: Maximum 90 percent, non-condensing.

E. The wireless lighting control system must be protected from dust during installation.

F. Ambient temperature for lighting management gateway: 32°F to 104°F (0°C to 40°C)

G. Coordinate layout and installation of luminaires and controls with other construction.

H. Coordinate site commissioning with manufacturer no less than 21 days prior to the required date.

1.8 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish five-year manufacturer's warranty for components.

1.9 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for extra materials.

B. Furnish two of each wall switch type.

C. Furnish two of each occupancy sensor type.

D. Furnish one of each low-voltage switchpack relay type.

PART 2 - PRODUCTS

2.1 LIGHTING CONTROL WALL SWITCHES

A. Manufacturers:
   1. Hubbell Incorporated.
   2. Leviton Manufacturing Co., Inc.
   3. Lutron Electronics Co., Inc.
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Wall Switch: Industrial grade non-pilot light toggle switches for overriding relays; locking type where indicated.
   1. Color: to be determined (TBD) during shop drawing review.

2.2 SWITCH PLATES

A. Manufacturers:
   1. Leviton Manufacturing Co., Inc.
   2. Lutron Electronics Co., Inc.
   3. Pass & Seymour/Legrand (Pass & Seymour).
   4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Specification grade.
   1. Material:
      a. Dry Indoor Locations: Plastic, Finish to match device.
      b. Wet, Damp, Utility, Mechanical/Electrical, Garage, or Outdoor Locations: Stainless steel.
   2. Color: brushed stainless or finish to be determined during shop drawing review.

2.3 OCCUPANCY SENSOR

A. Manufacturers:
   1. Cooper Industries, Inc.
   2. Leviton Manufacturing Co., Inc.
   3. Wattstopper
   4. System Sensor
   5. Current
   6. Substitutions: Section 01 60 00 - Product Requirements.

B. Compatible with relay switchpacks. Capable of being wired directly to Class 2 or 2P wiring without auxiliary components or devices.

C. Separate sensitivity and time delay adjustments with LED indication of sensed movement. User adjustable time-delay of 30 seconds to 12 minutes.

D. Furnish with manual override as required.

E. Operation: Silent.

F. Room Sensors: As indicated on Drawings.

PART 3 - EXECUTION

3.1 COORDINATION REQUIREMENTS

A. COORDINATION
1. Coordinate the placement of lighting area controllers and supervisory controller.
2. Coordinate the placement of sensors, wallstations, and other user input devices.
3. Coordinate the placement of luminaires, including luminaires with integrated sensors.
4. Notify the architect/engineer of any conflicts or deviations from the contract documents to obtain directions before proceeding with work.

3.2 INSTALLATION

A. Mount switches and occupancy sensors as indicated on Drawings.

B. Install wiring according to Section 26 05 19 Low-Voltage Electrical Power Conductors and Cables.

C. Use only properly color coded, stranded wire. Install wire sizes as indicated on Drawings. Install wire in conduit according to Section 26 05 33 Raceway and Boxes for Electrical Systems.

3.3 MANUFACTURER'S FIELD SERVICES

A. Section 01 40 00 - Quality Requirements: Requirements for manufacturer's field services.

B. Furnish services for minimum of one day for check, test, and startup. Perform following services:
1. Check installation of panelboards.
2. Test operation of remote-controlled devices.
3. Repair or replace defective components.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.

B. Test each system component after installation to verify proper operation.

C. Test relays, contactors, and switches after installation to confirm proper operation.

D. Confirm correct loads are recorded on directory card in each panel.

3.5 DEMONSTRATION & TRAINING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for demonstration and training.

B. Demonstrate operation of following system components:
   1. Switches. Demonstrate for all zones.
   2. Each type of occupancy sensors. Demonstrate for all zones.

C. Furnish two hours to instruct Owner's personnel in operation and maintenance of lighting control system. Schedule training with Owner, provide at least seven days' notice to Engineer of training date.

D. Conclude commissioning with a follow-up visit to:
   1. Verify system control operation area by area.
   2. Obtain sign-off on system functions.
   3. User to be trained on system operation.

E. Product Support and Service:
   1. Factory telephone support shall be available at no cost to the owner. Factory assistance shall solve programming or application questions concerning the control equipment.

END OF SECTION

SECTION 26 24 16

PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Expansion and renovation existing branch circuit panelboards.

B. Related Requirements:
   1. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
   2. Section 26 05 53 - Identification for Electrical Systems.

1.2 REFERENCE STANDARDS

A. Institute of Electrical and Electronics Engineers:
   1. IEEE C62.41 - Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.

B. National Electrical Manufacturers Association:
   1. NEMA PB 1 - Panelboards.
   2. NEMA PB 1.1 - General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less.

C. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

D. National Fire Protection Association:
   1. NFPA 70 - National Electrical Code.

E. UL:
   1. UL 50 - Cabinets and Boxes
   2. UL 67 - Safety for Panelboards.
   3. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures.
   4. UL 1283 - Electromagnetic Interference Filters.
   5. UL 1449 - Transient Voltage Surge Suppressors.
   6. UL 1699 - Arc-Fault Circuit Interrupters.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit catalog data showing specified features of standard products.

C. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker, and fusible switch arrangement and sizes.

D. Source Quality Control Submittals: Indicate results of shop or factory tests and inspections.

E. Field Quality Control Submittals: Indicate results of Contractor furnished tests and inspections.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of panelboards and record actual circuiting arrangements.

C. Operation and Maintenance Data: Submit spare parts listing, source and current prices of replacement parts and supplies, and recommended maintenance procedures and intervals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance products.

1.6 QUALITY ASSURANCE

A. Qualifications
   1. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

PART 2 - PRODUCTS

2.1 BRANCH CIRCUIT PANELBOARDS

A. Manufacturers:
   1. Square D; by Schneider Electric. (Match Existing)
   2. Substitutions: Section 01 60 00 - Product Requirements.

B. Description: NEMA PB1, circuit breaker type, lighting, and appliance branch circuit panelboard.

C. Materials:
   1. Minimum Integrated Short Circuit Rating: 10,000 A rms symmetrical for 240 V panelboards; 65,000 S rms symmetrical for 480 V panelboards, or as indicated on Drawings. CAUTION – Field verify all short circuit current ratings with the electric utility and the engineer prior to ordering electrical power distribution equipment.
   2. Molded Case Circuit Breakers: UL 489, bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles, listed as Type SWD for lighting circuits, Type HACR for air conditioning equipment circuits, Class A ground fault interrupter circuit breakers as indicated on Drawings. Provide UL class 760 arc-fault interrupter circuit breakers as indicated on Drawings. Do not use tandem circuit breakers.
   3. Surge Suppressers: Externally mounted to panelboard.

2.2 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection, and analysis requirements.

PART 3 - EXECUTION

3.1 DEMOLITION

A. Disconnect abandoned panelboards and load centers. Install blank cover for abandoned panelboards and load centers.

B. Maintain access to existing panelboard and load centers remaining active and requiring access. Modify installation or provide access panel.

3.2 INSTALLATION

A. Install accessories within existing panelboards according to NEMA PB 1.1.

B. Install filler plates for unused spaces in panelboards.

C. Provide typed circuit directory for each branch circuit panelboard affected by the scope of work. Revise directory to reflect project as-builts and existing conditions confirmed during construction. Identify each circuit as to its clear, evident and specific purpose of use.

D. Ground and bond panelboard enclosure according to Section 26 05 26. Connect equipment ground bars of panels according to NFPA 70.

3.3 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean existing panelboards and load centers to remain or to be reinstalled.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes wall switches; receptacles; and device plates.

B. Related Sections:
1. Section 26 05 33 - Raceway and Boxes for Electrical Systems: Outlet boxes for wiring devices.

1.2 REFERENCES

A. National Electrical Manufacturers Association:
1. NEMA WD 1 - General Requirements for Wiring Devices.
2. NEMA WD 6 - Wiring Devices-Dimensional Requirements.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit manufacturer's catalog information showing dimensions, colors, and configurations.

C. Samples: Submit two samples of each wiring device and wall plate illustrating materials, construction, color, and finish, if requested.

1.4 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.5 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two of each style, size, and finish wall plate.

PART 2 - PRODUCTS

2.1 WALL SWITCHES

A. Manufacturers; Wall Switch:
1. Leviton Manufacturing Co., Inc.
2. Lutron Electronics Co., Inc.
3. Pass & Seymour/Legrand (Pass & Seymour).

4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: NEMA WD 1, Heavy-Duty, AC only general-use snap switch.

C. Body and Handle: GRAY plastic finish with toggle handle.

D. Indicator Light: Lighted handle type switch or Separate pilot strap; red color handle or lens.

E. Locator Light: Lighted handle type switch; green color handle.

F. Ratings:
1. Voltage: 120-277 volts, AC.
2. Current: 20 amperes.

2.2 RECEPTACLES

A. Manufacturers:
1. Eaton (Arrow Hart).
2. Hubbell Premise Wiring.
3. Leviton Manufacturing Co., Inc.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: NEMA WD 1, Heavy-duty general use receptacle.

C. Device Body: GRAY plastic finish.

D. Configuration: NEMA WD 6, type.

E. Convenience Receptacle: Type 5-20.

F. GFCI Receptacle: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements.

2.3 WALL PLATES

A. Manufacturers:
1. Leviton Manufacturing Co., Inc.
2. RACO; Hubbell.
3. Square D; by Schneider Electric.
4. Substitutions: Section 01 60 00 - Product Requirements.

B. Jumbo Cover Plate: Smooth 302 stainless steel.

C. Surface Cover Plate: Raised pressed metal.

D. Weatherproof Cover Plate: Stainless steel plate with threaded and gasketed device cover.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify outlet boxes are installed at proper height.

C. Verify wall openings are neatly cut and completely covered by wall plates.

D. Verify branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.2 PREPARATION

A. Clean debris from outlet boxes.

3.3 EXISTING WORK

A. Disconnect and remove abandoned wiring devices.

B. Modify installation to maintain access to existing wiring devices to remain active.

C. Clean and repair existing wiring devices to remain or to be reinstalled.

D. Replace all damaged existing device cover plates.

3.4 INSTALLATION

A. Install devices plumb and level.

B. Install switches with OFF position down.

C. Install receptacles with grounding pole on bottom.

D. Connect wiring device grounding terminal to outlet box with bonding jumper and branch circuit equipment grounding conductor.

E. Install wall plates on flush mounted switches, receptacles, and blank outlets.

F. Install decorative plates on switch, receptacle, and blank outlets in finished areas.

G. Connect wiring devices by wrapping solid conductor around screw terminal. Install stranded conductor for branch circuits 10 AWG and smaller. When stranded conductors are used in lieu of solid, use crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under device screws.

H. Use jumbo size plates for outlets installed in masonry walls.

I. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

3.5 INTERFACE WITH OTHER PRODUCTS

A. Coordinate locations of outlet boxes provided under Section 26 05 33 to obtain mounting heights as specified and as indicated on drawings.

B. Install wall switch 48 inches above finished floor.

C. Install convenience receptacle minimum 18 inches above finished floor.

D. Install convenience receptacle 6 inches above counter.

3.6 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements

B. Inspect each wiring device for defects.

C. Operate each wall switch with circuit energized and verify proper operation.

D. Verify each receptacle device is energized.

E. Test each receptacle device for proper polarity.

F. Test each GFCI receptacle device for proper operation.

3.7 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust devices and wall plates to be flush and level.

3.8 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

SECTION 26 51 00

INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes new and existing to be relocated interior luminaires, lamps, ballasts, drivers, and accessories.

B. Related Sections:
1. Section 260526 - Grounding and Bonding for Electrical Systems.
2. Section 260533 - Raceway and Boxes for Electrical Systems.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI C82.1 - American National Standard for Lamp Ballast-Line Frequency Fluorescent Lamp Ballast.
2. ANSI C82.4 - American National Standard for Ballasts-for High-Intensity-Discharge and Low-Pressure Sodium Lamps (Multiple-Supply Type).

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Submit dimensions, ratings, and performance data.

C. Samples: Submit two color chips 3 x 3 inch (75 x 75 mm) in size illustrating luminaire finish color upon request from Architect/Engineer.

1.4 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with a minimum of three years documented experience.

1.5 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.6 MAINTENANCE MATERIALS

A. Section 017000 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two of each plastic lens type.

C. Furnish one of each LED Driver type.

D. Furnish one of each accessory type.

1. This includes, but is not limited to, photocells, motion sensors, and fuses.

PART 2 - PRODUCTS

2.1 INTERIOR LUMINAIRES

A. Product Description: Complete interior luminaire assemblies, with features, options, and accessories as scheduled on drawings.

B. Refer to Section 016000 - Product Requirements for product options.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install suspended luminaires using pendants supported from swivel hangers. Install pendant length required to suspend luminaire at indicated height.

B. Support luminaires larger than 2 x 4 foot (600 x 1200 mm) size independent of ceiling framing.

C. Locate recessed ceiling luminaires as indicated on Drawings; coordinated with reflected ceiling plan.

D. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.

E. Exposed Grid Ceilings: Support surface-mounted luminaires on grid ceiling directly from building structure.

F. Install recessed luminaires to permit removal from below.

G. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating.

H. Install clips to secure recessed grid-supported luminaires in place.

I. Install wall-mounted luminaires at height as indicated on Drawings and as necessary to meet required lighting coverage.

J. Install accessories furnished with each luminaire.

K. Connect luminaires to branch circuit outlets provided under Section 260533 using flexible conduit or flexible cabling, unless otherwise indicated on Drawings.

L. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.

M. Install specified lamps in each luminaire.

N. Interface with air handling accessories furnished and installed under Section 233700.

O. Ground and bond interior luminaires in accordance with Section 260526.

3.2 FIELD QUALITY CONTROL

A. Section 017000 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

B. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

A. Section 017000 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Aim and adjust luminaires as indicated on Drawings.

3.4 CLEANING

A. Section 017000 - Execution and Closeout Requirements: Final cleaning.

B. Remove dirt and debris from enclosures. CAUTION – Confirm cleaning instructions with fixture manufacturer’s requirements.

C. Clean photometric control surfaces as recommended by the manufacturer.

D. Clean finishes and touch up damage.

3.5 PROTECTION OF FINISHED WORK

A. Section 017000 - Execution and Closeout Requirements: Protecting finished work.

B. Re-lamp luminaires having failed lamps at Substantial Completion.

C. Replace all failed luminaire components and accessories at Substantial Completion.

END OF SECTION 26 51 00

SECTION 28 31 00

EXTENSION OF THE EXISTING FIRE DETECTION AND ALARM SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section of the specification is for the extension of the existing fire detection and alarm system and includes the extension, connection, and testing of new fire detection and alarm devices to an existing microprocessor controlled, intelligent reporting fire alarm equipment to maintain a complete, operative, coordinated system. It is the intention of this specification that the extension of the existing fire detection and alarm system be provided complete and code compliant. No extra compensation will be given for code compliance. The devices shown on the drawings are for reference only for coordination.

B. The extension of the existing fire detection and alarm system shall comply with requirements of 2007 NFPA Standard 72 for Protected Premises Signaling Systems except as modified and supplemented by this specification. The system shall be electrically supervised and monitor the integrity of all conductors.

C. The fire detection and alarm system manufacturer shall be of the highest caliber and insist on the highest quality. The system shall be manufactured by an ISO 9001 certified company and meet the requirements of BS EN9001: ANSI/ASQC Q9001-1994.

D. The FACP and peripheral devices shall be manufactured 100% by a single manufacturer (or division thereof) to match existing.

E. The system and its components shall be Underwriters Laboratories, Inc. listed under the appropriate UL testing standard as listed herein for fire alarm applications and shall comply with the UL listing.

F. The installation company shall employ NICET (minimum Level II Fire Alarm Technology) technicians on site to guide the final check-out and to ensure the system's integrity.

1.2 SCOPE

A. The existing fire detection and alarm system shall be extended/reconfigured in accordance to the project specifications and drawings.

B. Basic Performance:

1. Alarm, trouble and supervisory signals from all reporting devices shall be encoded on Class B Signaling Line Circuits (SLC).

2. Initiation Device Circuits (IDC) shall be wired Class B as part of a device connected by the SLC circuit.

3. Notification Appliance Circuits (NAC) shall be wired Class B as part of a device connected by the SLC circuit or a panel circuit.

C. Basic System Functional Operation: When a fire alarm condition is detected and reported by one of the system initiating devices, the following functions shall immediately occur:

1. The system alarm LED on the FACP shall flash.

2. A local piezo electric signal in the control panel shall sound.

3. The display on the FACP shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location.
4. The system shall be capable of printing on the FACP the history information, along with time and date of occurrence.
5. All system output programs assigned via control-by-event interlock programming to be activated by the particular point in alarm shall be executed, and the associated system outputs shall be activated.
    a. Light Strobes
    b. Sound horn/speakers
    c. Release doors
    d. Shut-down Air-Handlers
    e. Close smoke dampers
6. Alarm signals arriving at the main FACP shall not be lost following a primary power failure (or outage) until the alarm signal is processed and recorded.

1.3 SUBMITTALS

A. General:
1. The fire detection and alarm contractor shall submit complete code compliant fire alarm system layout and drawings to the local authority having jurisdiction (AHJ). This submittal shall occur no later than 14 days from receipt of contract.
2. The fire detection and alarm contractor shall revise the existing fire detection and alarm system and layout drawings per response to the plan review. The fire detection and alarm contractor shall submit these revised layout drawings as a shop drawing.
3. The fire detection and alarm contractor shall supply all rough-in locations for the revised fire detection and alarm system layout drawings to the electrical contractor in a timely manner. All revisions required by the AHJ shall be made prior to the installation of device rough-ins. All costs associated with additional rough-ins and relocation of devices in accordance with requirements of the AHJ shall be the responsibility of the fire alarm contractor. The costs include but are not limited to the masonry cutting and patching, painting, and cleanup.
4. All references to manufacturer's model numbers and other pertinent information herein is intended to establish minimum standards of performance, function and quality. Equivalent compatible UL-listed equipment from other manufacturers may be substituted to match existing systems as long as the minimum standards are met.

B. Shop Drawings:
1. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
2. Include existing manufacturer's name(s), model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts. Equipment and devices shown on Architectural/Engineering drawings are for reference only. It is the responsibility of the installing contractor/manufacturer to be 100% code compliant. No extra costs will be accepted to provide a code compliant fire alarm system matched with the distributed architectural floor plans.
3. Show annunciator layout, configurations, and terminations.

C. Manuals:

1. Submit simultaneously with the shop drawings, complete operating and maintenance manuals listing the manufacturer's name(s), including technical data sheets.
2. Wiring diagrams shall indicate internal wiring for each device and the interconnections between the items of equipment.
3. Provide a clear and concise description of the operation that gives, in detail, the information required to properly operate the equipment and system.

1.4 GUARANTEE

A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one-year period shall be included in the submittal bid.

1.5 APPLICABLE STANDARDS

A. The specifications and standards listed below form a part of this specification. The system shall comply with the latest standard as applicable.

B. National Fire Protection Association (NFPA):

No. 12	High Pressure CO2 Extinguishing Systems
No. 12B	Halon 1211 Extinguishing Systems
No. 13	Sprinkler Systems
No. 13A	Halon 1301 Extinguishing Systems
No. 15	Water Spray Systems
No. 16	Foam/Water Deluge and Spray Systems
No. 17	Dry Chemical Extinguishing Systems
No. 17A	Wet Chemical Extinguishing Systems Clean Agent Extinguishing Systems
No. 72-2012	National Fire Alarm Code
No. 101	Life Safety Code

C. Underwriters Laboratories Inc. (UL):

No. 268	Smoke Detectors for Fire Protective Signaling Systems
No. 864	Control Units for Fire Protective Signaling Systems
No. 268A	Smoke Detectors for Duct Applications
No. 521	Heat Detectors for Fire Protective
No. 464	Audible Signaling Appliances
No. 38	Manually Actuated Signaling Boxes
No. 346	Waterflow Indicators for Fire Protective Signaling Systems
No. 1076	Control Units for Burglar Alarm Proprietary Protective Signaling Systems No. 1971 Visual Notification Appliances

D. Local and State Building Codes.

E. All requirements of the Authority Having Jurisdiction (AHJ).

1.6 APPROVALS

A. The system shall have proper listing and/or approval from the following nationally recognized agencies:

1. UL Underwriters Laboratories Inc.
2. FM Factory Mutual

B. The fire alarm control panel shall meet UL Standard 864 (Control Units) and UL Standard 1076 (Proprietary Burglar Alarm Systems).

C. The system shall be listed by the national agencies as suitable for extinguishing release applications.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIAL, GENERAL

A. All equipment and components added to the system shall be new, unless otherwise noted, and the manufacturer's current model. The materials, appliances, equipment, and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protective signaling system, meeting the National Fire Alarm Code.

B. All equipment and components shall be installed in strict compliance with manufacturers' recommendations.

2.2 CONDUIT AND WIRE

A. Conduit:

1. Conduit shall be in accordance with the National Electrical Code (NEC), local and state requirements.
2. Where possible, all wiring shall be installed in conduit or raceway. Conduit fill shall not exceed 40 percent of the interior cross-sectional area where three or more cables are contained within a single conduit.
3. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, per NEC Article 760.29.
4. Conduit shall be ¾ inch (19.1 mm) minimum.

B. Wire:

1. All fire alarm system wiring added to the system shall be new.
2. The wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system.
3. All wire and cable shall be listed and/or approved by a recognized testing agency for use with a protective signaling system.
4. Wire and cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLR).
5. All field wiring shall be completely supervised.
6. All exposed wiring and cable shall be plenum rated as required.

C. Terminal Boxes, Junction Boxes and Cabinets: All boxes and cabinets shall be Listed and Labeled for their use and purpose.

D. Initiating circuits shall be arranged to serve similar categories (manual, smoke, waterflow). Mixed category circuitry shall not be permitted except on signaling line circuits connected to

intelligent reporting devices.

E. All new fire detection and alarm control panels and/or new booster power supplies shall be connected to a separate dedicated branch circuit, maximum 20 amperes. Field coordinate 120VAC power requirements with the Engineer and the Electrical Contractor.

2.3 SYSTEM COMPONENTS

A. All interfaces and associated equipment are to be protected so that they will not be affected by voltage surges or line transients consistent with UL standard 864.

B. Strobe lights shall meet the requirements of the ADA, UL Standard 1971 and shall meet the following criteria:

1. The maximum pulse duration shall be 2/10 of one second.
2. Strobe intensity shall meet the requirements of UL 1971.
3. The flash rate shall meet the requirements of UL 1971.
4. Strobes shall be self-synchronizing or synchronizing modules provided in areas where two or more strobes are visible simultaneously.
5. Field verify synchronization with existing devices within a space/area.

PART-3 EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that products and systems receiving devices are ready for installation.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Existing Work:

1. Remove exposed abandoned fire detection and alarm wiring, including abandoned wiring above accessible ceiling finishes, back to source.
2. Cut cable flush with walls and floors, and patch surfaces.
3. Disconnect and remove abandoned fire-alarm equipment.
4. Access:
   a. Maintain access to existing fire detection and alarm equipment and other installations remaining active and requiring access.
   b. Modify installation or provide access panels as required in inaccessible locations.
5. Extend existing fire detection and alarm installations using materials and methods as specified.
6. Clean and repair existing fire detection and alarm equipment that is to remain or to be reinstalled.

3.2 INSTALLATION

A. Install manual station with operating handle 4-1/2 feet above operating floor. Manual stations located on existing marble shall be surface mounted.

B. Install new audible and visual signal devices 7-1/2 feet above operating floor or on the ceiling, if applicable. Where locations conflict with marble walls, mount above marble.

C. Install 14-AWG minimum size conductors for fire-alarm detection and signal circuit conductors in conduit.

D. Mount end-of-line devices in control panels as required.

E. Automatic Detector Installation: Comply with NFPA 72.

F. Ground and bond fire detection and alarm equipment and circuits as specified in Section 26 05 26 - Grounding and Bonding for Electrical Systems.

3.3 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Test fire detection and alarm devices and systems according to NFPA 72 and local fire department requirements.

C. Manufacturer Services: Furnish services of certified manufacturer's representative experienced in installation of products furnished under this Section for not less than 4 hours on Site for installation, inspection, startup, field testing, adjustments, and instructing Owner's personnel in maintenance of equipment.

D. Equipment Acceptance:
   1. Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.
   2. Make final adjustments to equipment under the direction of manufacturer's representative.

E. Furnish installation certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.

3.4 DEMONSTRATION AND TRAINING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for demonstration and training.

B. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Owner's personnel. Demonstration shall be a minimum of 4-hours and Owner/Engineer shall be given a minimum 3-day notice.

3.5 MAINTENANCE

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance service.

B. Provide service and maintenance of fire-detection and alarm equipment for one year from date of Substantial Completion.

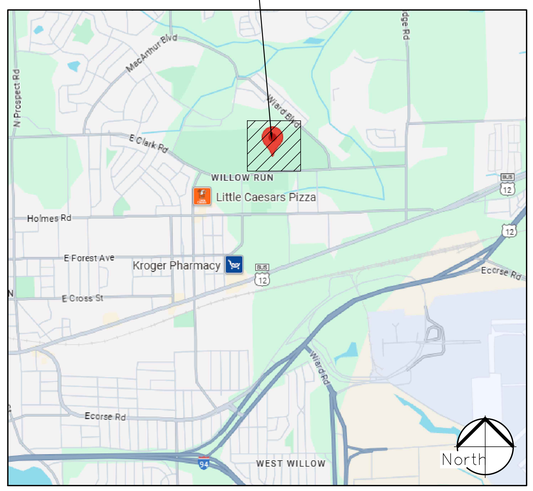
END OF SECTION

YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION
YPSILANTI. MICHIGAN



AREA MAP
NOT TO SCALE

PROJECT SITE



LOCATION MAP
SECTION 02
T3N. - R.7E.
WASHTENAW COUNTY, MICHIGAN

GENERAL NOTES

THE CONTRACTOR SHALL CALL "MISS DIG", TELEPHONE 811, A MINIMUM OF 3 WORKING DAYS PRIOR TO STARTING ANY CONSTRUCTION ON THIS PROJECT. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" SYSTEM.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL PRODUCTS SHALL BE MANUFACTURER'S BEST BRAND OR GRADE AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

ALL WORK SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM THE DATE OF FINAL PAYMENT.

CONSTRUCT ALL MATERIALS STRAIGHT, PLUMB, AND LEVEL UNLESS SPECIFICALLY NOTED OR INDICATED OTHERWISE.

ALL WORK SHALL BE INSTALLED IN CONFORMANCE WITH FEDERAL, STATE, AND LOCAL - CODES, RULES, AND REGULATIONS.

ALL MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH INDUSTRY STANDARDS AND THE ASSOCIATION THAT PERTAINS TO THE PARTICULAR PRODUCT. FOR EXAMPLE, AISC - AMERICAN INSTITUTE FOR STEEL CONSTRUCTION. USE THE MOST CURRENT EDITION WHEN REFERRING TO INDUSTRY STANDARDS.

SITE PROTECTION: THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING ANY AND ALL ADJACENT EXISTING STRUCTURES AND UTILITIES DURING CONSTRUCTION. ANY DAMAGE INCURRED DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE-CONSTRUCTION STATE AT THE CONTRACTORS EXPENSE.

SITE RESTORATION: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED ON THE PLANS AND IN ACCORDANCE WITH THE SPECIFICATIONS. ALL SEEDED AREAS SHALL RECEIVE A MINIMUM OF 3 INCHES OF TOPSOIL UNLESS OTHERWISE NOTED. THE RESTORED AREAS SHALL BE MAINTAINED UNTIL VEGETATION IS WELL ESTABLISHED. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

PLAN INDEX

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DA-1539 - 3	OVERALL/ REFERENCE PLAN	A0.0	3
DA-1539 - 4	ENLARGED DEMOLITION FLOOR AND REFLECTIVE CEILING PLANS	D1.0	4
DA-1539 - 5	ENLARGED FLOOR, SCHEDULES AND DETAILS	A1.0	5
DA-1539 - 6	REFLECTIVE CEILING PLANS	A2.0	6
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NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

COVER SHEET

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
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www.SpicerGroup.com

DESIGNED BY ELT
DRAWN BY
CHECKED BY DWM
APPROVED BY DWM
DATE JULY, 2025

PROJECT NO. 138815SG2025

FILE NO. DA-1539-01

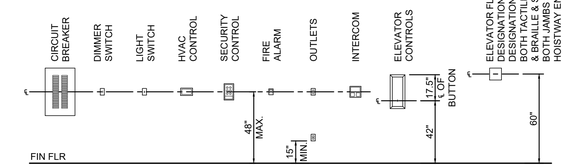
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SHEET 1 OF 13

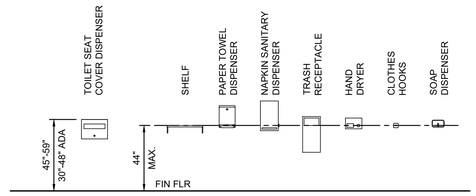
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AC	AIR CONDITIONING
ACOUST	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
ANCH	ANCHOR
ANGL / ∠	ANGLE
APPROX	APPROXIMATE (LY)
ARCH	ARCHITECT (URAL)
ASPH	ASPHALT
AV	AUDIO/VISUAL
BB	BACK TO BACK
BD	BOARD
BF	BARRIER FREE
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM/BENCH MARK
BOT	BOTTOM
BRCKT	BRACKET
BRG	BEARING
BUR	BUILT-UP ROOF
CAB	CABINET
CB	CATCH BASIN
CC	CLOSED CELL (FOAM INSULATION)
CEM	CEMENT
CER	CERAMIC
CFM	CUBIC FEET PER MINUTE
CFS	COLD FORMED STEEL
CI	CONTINUOUS INSULATION
CIP	COMPACTED IN PLACE/ CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLK	CAULK
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CRS	COURSES
CPT	CARPET
CSK	COUNTERSUNK
CT	CERAMIC TILE
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
DAMPG	DAMPROOFING
DEG / °	DEGREE
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DP	DEPTH/DEEP
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
DWL	DOWEL
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATED FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EP	ELECTRICAL PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EWC	ELECTRICAL WATER COOLER
EX/EXIST	EXISTING
EXH	EXHAUST
EXP	EXPANSION
EXT	EXTERIOR
FA	FRESH AIR
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FORCED FLOW CABINET HEATER
FHC	FIRE HOSE CABINET
FIN	FINISH
FIP	FOAMED IN PLACE INSULATION
FLASH	FLASHING
FLR	FLOOR
FOUND	FOUNDATION
FRMG	FRAMING
FT	FEET
FTG	FOOTING
FURG	FURRING
G	GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GL	GLASS
GLZD/GLZG	GLAZED/GLAZING
GRAV	GRAVEL
GRV	GRAVITY ROOF VENT
GYP	GYPSUM
HB	HOSE BIB
HDCP	HANDICAP
HDR CO	HEADER COURSE
HDWR	HARDWIRE
HGT/HT	HEIGHT
HM	HOLLOW METAL
HORZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING, VENTILATION, AIR CONDITIONING
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDED
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JT	JOINT
LAM	LAMINATE(D)
LAV	LAVATORY
LB/#	POUNT
LG	LENGTH
LKR	LOCKER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATIONS
LP	LOW POINT
LT FIX	LIGHT FIXTURE
LT WT	LIGHT WEIGHT
MFGR	MANUFACTURER
MAR	MARBLE
MAS	MASONRY
MAT	MATERIAL
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MB	MARKER BOARD
MD	METAL DECK
MECH	MECHANICAL
MET / MTL	METAL
MEZZ	MEZZANINE
MH	MANHOLE
MIN	MINIMUM/MINUTE
MISC	MISCELLANEOUS
ML	METAL LATH
MO	MASONRY OPENING
MS	METAL STUD
MT	METAL THRESHOLD
MTP	METAL TOILET PARTITION
NIC	NOT IN CONTRACT
NO/#	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE
PARG	PARGING
PART	PARTICLE
PARTN	PARTITION
PERF	PERFORATED
PL	PLATE/PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLUMB	PLUMBING
PLYWD	PLYWOOD
PORC	PORCELAIN
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PTD	PAINTED/PAPER TOWEL DISPENSER
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RADIUS/RISER
RAG	RETURN AIR GRILLE
RB	RUBBER BASE
RC	RAIN CONDUCTOR
REF	REFERENCE/REFRIGERATOR
REINF	REINFORCING
REQD	REQUIRED
RES	RESILIENT
REV	REVISION
RF	ROOF EXHAUST FAN
RLGT	REGLET
RM	REMOVABLE MULLION/ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
ROWLK	ROWLOCK
RS	ROOF SUMP
RTU	ROOF TOP UNIT
RV	ROOF VENT
SK	SINK
S & V	STAIN & VARNISH
SAG	SUPPLY AIR GRILLE
SAN	SANITARY
SCHED	SCHEDULE
SECT	SECTION
SF	SPLIT FACE
SHT	SHEET
SIM	SIMILAR
SKYLT	SKYLIGHT
SLDR	SOLDIER
SLNT	SEALANT
SPEC(S)	SPECIFICATION(S)
SPKR	SPEAKER
SQ	SQUARE
SS	SERVICE SINK/STAINLESS STEEL
ST	STORM
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
T	TREAD
T&B / TB	TOP & BOTTOM
TB	TACK BOARD
TC	TOP OF CURB
TEMP	TEMPERED/TEMPORARY
TERR	TERRAZZO
TH	THRESHOLD
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TR	TREATED
TV	TELEVISION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VAP BAR	VAPOR BARRIER
VB	VINYL BASE
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VWC	VINYL WALL COVERING
W	WATER
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WIDTH/WOOD
WH	WATER HEATER
WP	WATERPROOFING / WEATHERPROOF / WORKING POINT
WWF	WELDED WIRE FABRIC

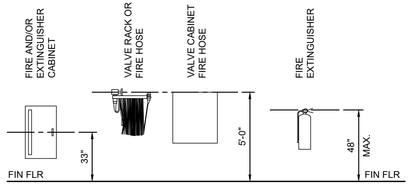
MOUNTING HEIGHTS



CONVENIENCE CONTROLS & OUTLETS



TOILET ROOM ACCESSORIES



FIRE EXTINGUISHER EQUIPMENT

NOTE: X = TREAD DEPTH

HANDRAIL AT RAMP

HANDRAIL AT STAIRS

HATCH / MATERIAL LEGEND

- ACOUSTICAL PANEL OR TILE
- ASPHALT ON AGGREGATE
- BATT INSULATION
- BRICK
- COMPOSITION/PLYWOOD
- CONCRETE
- CONCRETE MASONRY UNIT
- CONTINUOUS WOOD FRAMING OR BLOCKING
- FINISH WOOD
- GRANULAR FILL
- CEMENT GROUT
- INTERRUPTED WOOD BLOCKING/SHIMS
- MARBLE
- PLASTER/GYPSUM BOARD
- RIGID INSULATION
- SOIL
- STONE/GRAVEL
- SPRAY FOAM INSULATION

SYMBOL LEGEND

- F20 - FOUNDATION TYPE TAG
- # - NEW KEYED NOTE TAG
- # - REVISION TAG
- # - DEMO KEYED NOTE TAG
- 100 - DOOR NUMBER TAG
- A - WINDOW TYPE TAG
- 6 - WALL TYPE TAG
- 101 - EQUIPMENT TAG
- C1 - BF CLEARANCE TAG
- H - HAZARD TAG
- FE4 - FIRE EXTINGUISHER TAG

ELEVATION — 2 / A4.0 — SCALE 1/4" = 1'-0" — INTERIOR / EXTERIOR

DETAIL/SECTION — 2 / A5.0 — SCALE: 3/4" = 1'-0" — DETAIL / SECTION

PLAN — North — SCALE: 1/8" = 1'-0" — FLOOR PLAN

FIN FLOOR EL. = 100'-0" — DATUM ELEVATION

A — COLUMN LINE

ROOM NAME — 101 — ROOM NAME / ROOM NUMBER

NEW DOOR

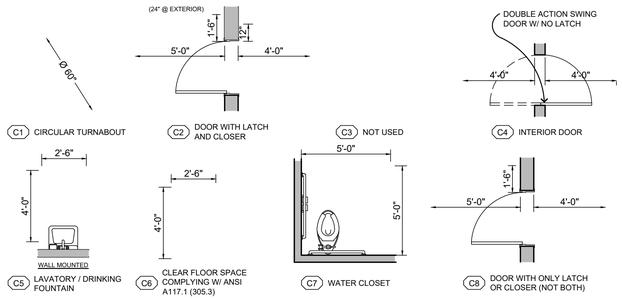
EXISTING DOOR

3/A5.0, 4/A5.0, 2/A5.0, 1/A5.0 — ELEVATION CALLOUTS

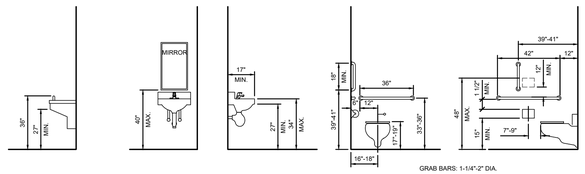
WALL SECTION

BUILDING SECTION

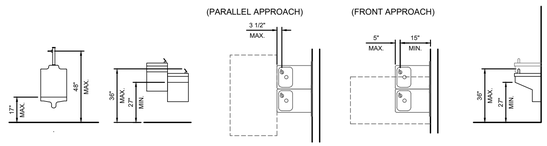
ACCESSIBILITY MINIMUM CLEARANCE LEGEND



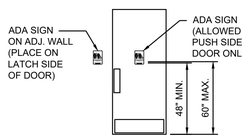
BARRIER-FREE PLUMBING FIXTURE ELEVATIONS



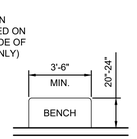
DRINKING FOUNTAIN DETAILS



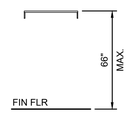
TOILET ROOM SIGNAGE



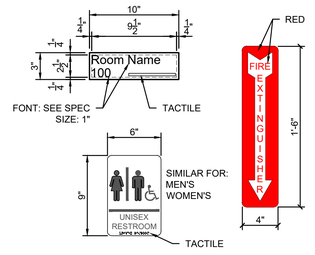
ADA BENCH



COAT RACK



NOTES:
1. CONTRACTOR TO PROVIDE SIGNAGE AS SHOWN, SEE SPEC SECTION 10 14 00 - SIGNAGE.
2. ENGRAVED SIGN, COLOR AND CORE COLOR AS STATED IN SPEC.
3. IF ROOM NAME DOES NOT FIT, ADD SECOND ROOM NAME LINE AND INCREASE HEIGHT ACCORDINGLY.
4. MOUNT FIRE EXTINGUISHER SIGNS @ 6'-0" AFF TO CL OF SIGN.



SIGNAGE DETAIL

P:\Proj\2025\138815SG2025 Ypsilanti, Two Comm. Center Locker Room Design\2_AutoCAD GIS\CADT\1-T2 - COVER SHEET a (ANSI).dwg - 7/25/2025 4:12:04 PM - Fagg, Edward L.

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

REFERENCE SHEET

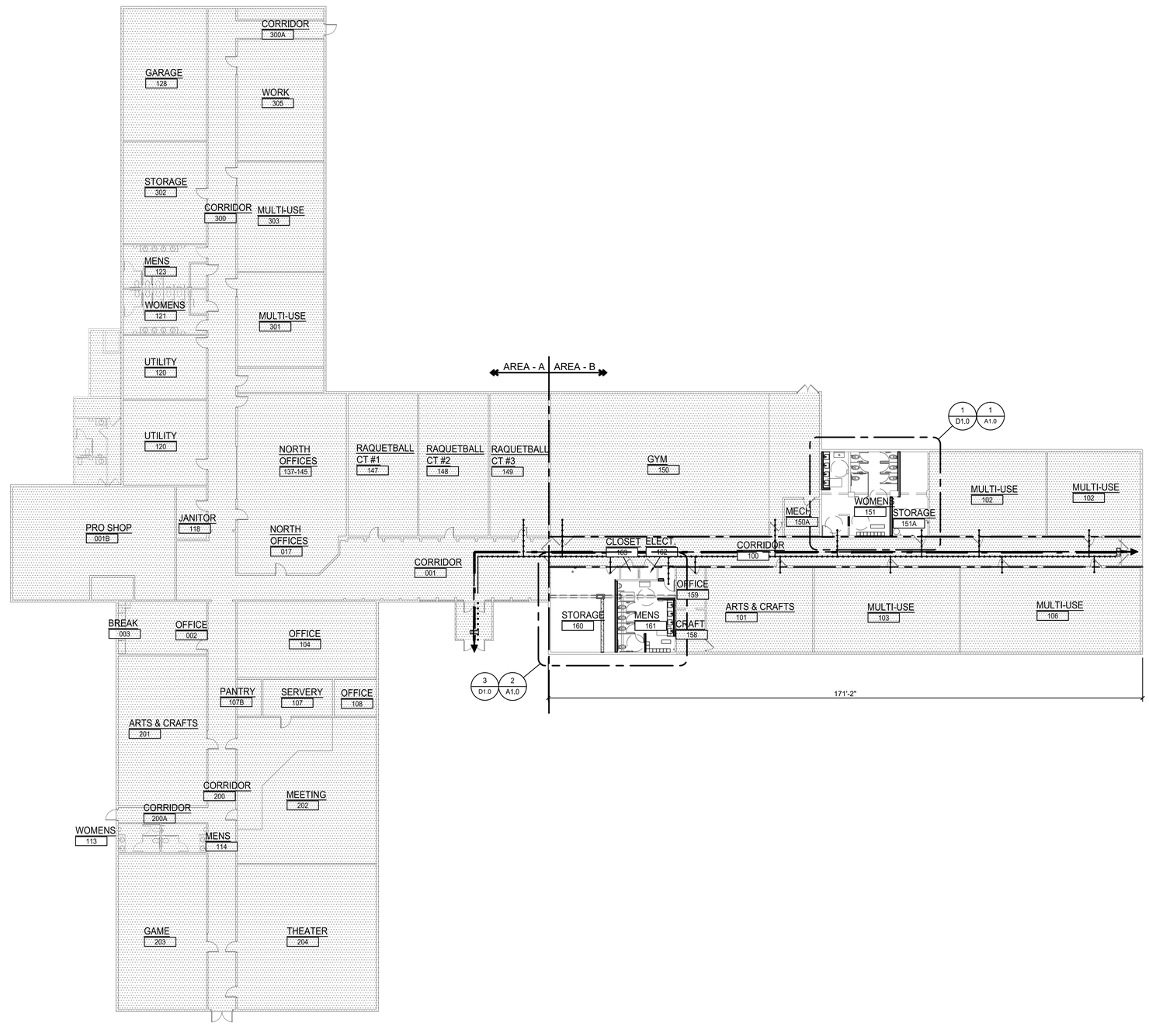
SAGINAW OFFICE
230 S. Washington Ave.
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Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

DESIGNED BY	ELT
DRAWN BY	
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-02

PROJECT NO. 138815SG2025

T2.0

SHEET 2 OF 13



North

OVERALL PLAN

SCALE: 1/16 = 1'-0"

GENERAL NOTES

1. SHADED AREA INDICATES NO WORK/ NOT IN CONTRACT UNLESS NOTED OTHERWISE. PROTECT EXISTING FINISHES FROM DAMAGE.
2. GENERAL CONTRACTOR (G.C.) SHALL COORDINATE WORK WITH OWNER
   - BUILDING HOURS OF OPERATIONS.
   - STAGING AND STORAGE OF MATERIALS.
   - ON SITE CONTRACTORS TRAILER, OFFICE AND EMPLOYEE PARKING.
3. GENERAL CONTRACTOR SHALL KEEP AND MAINTAIN WORK AREAS CLEAN ON A DAILY BASES.

LEGEND

- ACCESSIBLE ROUTE
- EGRESS DIRECTION
- PATH OF EGRESS
- EXIT — EXIT SIGN WITH BATTERY BACKUP
- F.E. — FIRE EXTINGUISHER
- EMERGENCY LIGHT

BUILDING DATA

NOTE:
PER THE MICHIGAN REHABILITATION CODE FOR EXISTING BUILDING (SECTION 810) LEVEL TWO (2) THE OCCUPANCY LOAD HAS NOT CHANGE BY MORE THEN 14%.

1. OCCUPANCY CLASSIFICATION:

USE GROUP	SQUARE FEET
A-3	7495 SF
B	2345 SF
S-1	788 SF

2. TYPE OF CONSTRUCTION: 2B
   TABLE 601-FIRE RESISTANCE RATING FOR BUILDING ELEMENTS: 1 HOURS

3. BUILDING AREA/HEIGHT:

	CODE REQ'D	PROVIDED
BUILDING AREA:	9,500 SF	11,362 SF
BUILDING HEIGHT:	55 FT	16 FT
STORIES:	2	1

4. CODES
   2021 MICHIGAN BUILDING
   2021 MICHIGAN MECHANICAL
   2021 MICHIGAN PLUMBING
   2023 NATIONAL ELECTRICAL CODE
   2017 MICHIGAN BARRIER FREE, ANSI 117.1

5. FIRE PROTECTION: NOT SPRINKLED

6. SPACES REQUIRING RATED WALLS: NONE

7. OCCUPANT LOAD:

USE	CALCULATION
BUSINESS	2345 1/100 GROSS = 25
ASSEMBLY A-3	7495 1/15 NET = 500
STORAGE S-1	788 1/300 NET = 3
TOTAL OCCUPANT LOAD	528

8. EGRESS: REQUIRED 200' MAX / PROVIDED 172'
   TRAVEL DISTANCE:

9. PLUMBING FIXTURES FOR OCCUPANCY LOAD OF 100 PER MPC TABLE 403.1

	EXISTING	PROVIDED
MEN - WATER CLOSETS	1	4
LAVATORIES	2	4
WOMEN - WATER CLOSETS	2	6
LAVATORIES	2	4

NOT FOR CONSTRUCTION

DRAWING LOG

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YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI, MICHIGAN

SHEET TITLE

OVERALL/ REFERENCE PLAN

SAGINAW OFFICE
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DESIGNED BY ELT
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DATE JULY, 2025

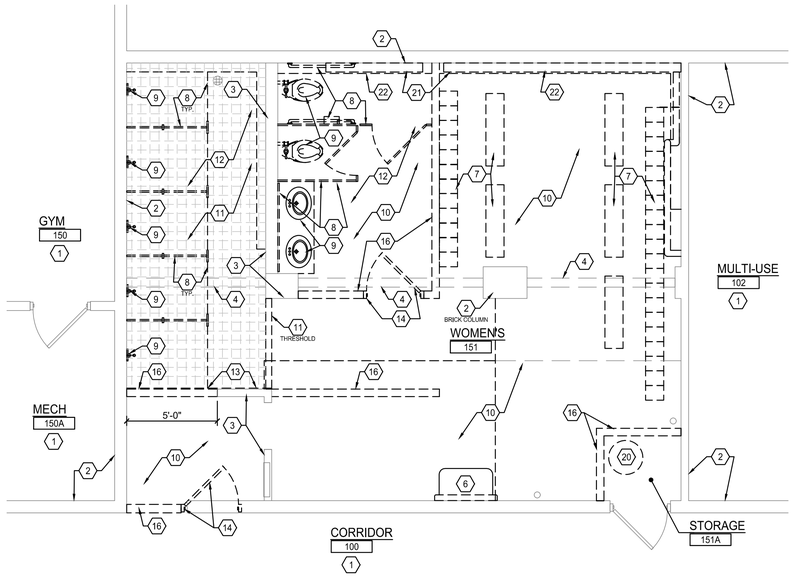
PROJECT NO. 138815SG2025

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FILE NO. DA-1539-03

SHEET 3 OF 13

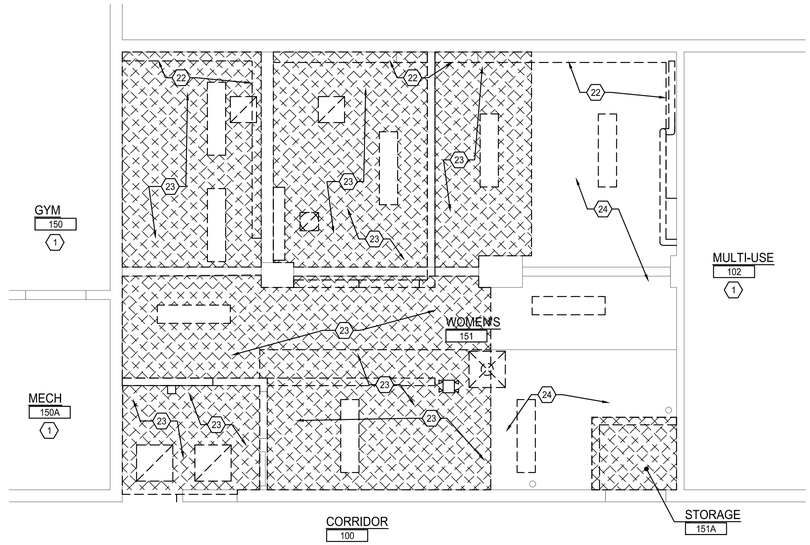
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1 D1.0 North

DEMOLITION PLAN
WOMEN'S RESTROOM 151

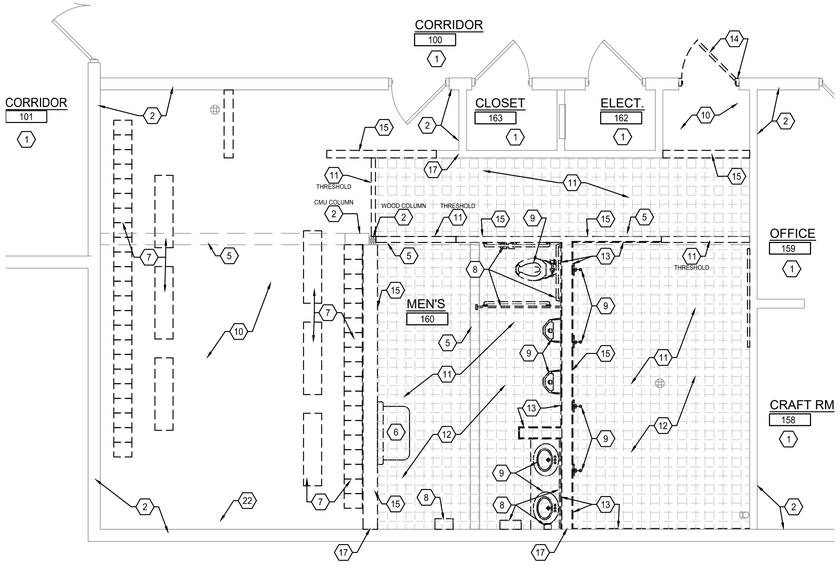
SCALE: XXX = 1'-0"



2 D1.0 North

DEMOLITION REFLECTED CEILING PLAN
WOMEN'S RESTROOM 151

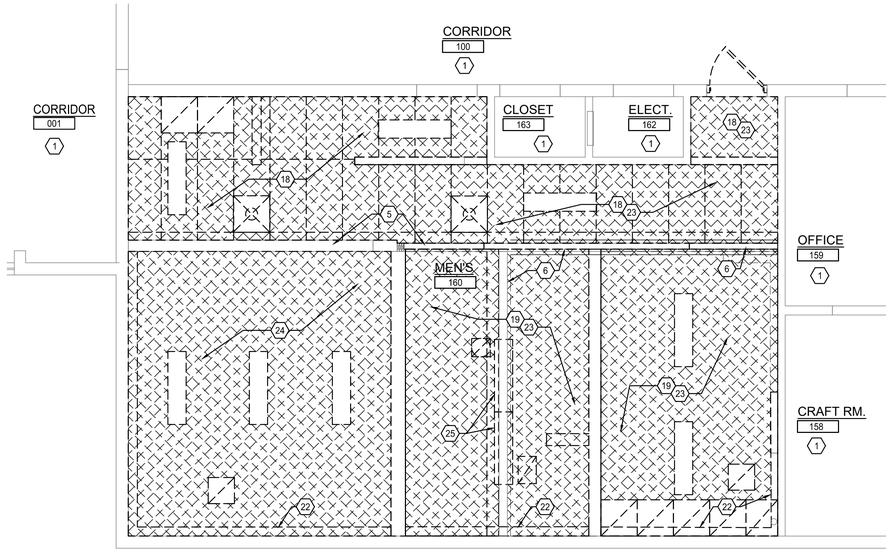
SCALE: XXX = 1'-0"



3 D1.0 North

DEMOLITION PLAN
MEN'S RESTROOM 160

SCALE: XXX = 1'-0"



4 D1.0 North

DEMOLITION REFLECTED CEILING PLAN
MEN'S RESTROOM 160

SCALE: XXX = 1'-0"

DEMO KEY

1. NO WORK IN THIS AREA. UNLESS NOTED OTHERWISE.
2. PROTECT EXISTING CMU WALLS, ALSO EXISTING BRICK, CMU AND WOOD COLUMNS FROM DAMAGE.
3. PROTECT EXISTING STUD WALL CONSTRUCTION FROM DAMAGE.
4. PROTECT EXISTING GYPSUM BOARD SOFFIT FROM DAMAGE.
5. PROTECT EXISTING WOOD BEAMS FROM DAMAGE.
6. REMOVE EXISTING BABY CHANGER STATION.
7. REMOVE EXISTING METAL LOCKERS AND WOOD BENCH.
8. REMOVE EXISTING MIRROR, METAL TOILET PARTITIONS, TOILET ACCESSORIES AND SHOWER RODS AND METAL PARTITIONS.
9. REMOVE EXISTING WATER CLOSET,URINALS, SHOWER HEADS / ON/OFF HANDLES AND SINKS, PLASTIC COUNTER TOPS, SUPPORTS AND BACKSLASH. REFER TO PLUMBING FOR ADDITIONAL DEMOLITION NOTES.
10. REMOVE EXISTING VCT FLOORING, COVE BASE AND ADHESIVES. CLEAN SLAB AND WALLS AS REQUIRED TO PROVIDE SMOOTH SURFACE FOR NEW FLOORING.
11. REMOVE EXISTING CERAMIC TILE FLOOR, WALL BASE AND MARBLE THRESHOLDS. CLEAN SLAB AS REQUIRED TO PROVIDE SMOOTH SURFACE FOR NEW FLOORING.
12. PROTECT EXISTING CONCRETE SLAB FROM DAMAGE. CUT EXISTING FLOORING AS REQUIRED FOR NEW PLUMBING FIXTURES PER PLUMBING.
13. REMOVE EXISTING CERAMIC WALL TILE. CLEAN EXISTING CMU WALL AS REQUIRED TO PROVIDE SMOOTH SURFACE FOR NEW FINISHES.
14. REMOVE EXISTING WOOD DOORS, FRAMES AND TRIM. PROTECT EXISTING CMU JAMB AND HEADER FROM DAMAGE.
15. REMOVE EXISTING CMU WALL FULL HEIGHT.
16. REMOVE EXISTING STUD WALL FULL HEIGHT.
17. SAW CUT EXISTING CMU WALL FOR NEW PLAN LAYOUT. REMOVE CMU WALL FLOOR TO CEILING.
18. REMOVE EXISTING LAY-IN CEILING PANELS AND GRID SYSTEM. REMOVE EXISTING LIGHT FIXTURES AND WIRING PER ELECTRICAL DRAWINGS.
19. REMOVE EXISTING GYPSUM BOARD CEILING SYSTEM. REMOVE EXISTING LIGHT FIXTURES AND WIRING PER ELECTRICAL DRAWINGS.
20. REMOVE/ RELOCATE EXISTING WATER HEATER. REFER TO NEW PLAN AND PLUMBING DRAWINGS.
21. REMOVE EXISTING ELECTRICAL BASE BOARD HEATING PER ELECTRICAL.
22. REMOVE EXISTING UPPER FIN TUBE HEATER AND COVER PER MECHANICAL/PLUMBING HEATER, PIPING AND CASINGS.
23. REMOVE EXISTING LIGHT SWITCHES, SENSORS, WALL MOUNTED LIGHT FIXTURES, ASSOCIATED CONDUIT AND WIRING.
24. PROTECT EXISTING GYPSUM BOARD CEILING FROM DAMAGE. PATCH AND REPAIR AS REQUIRED.
25. REMOVE EXISTING LIGHT FIXTURES MOUNTED ON WOOD BEAM, ASSOCIATED CONDUIT AND WIRING.

DEMOLITION NOTES

§3303.1 MBC 2021 DEMOLITION

§3303.1 CONSTRUCTION DOCUMENTS. CONSTRUCTION DOCUMENTS AND A SCHEDULE FOR DEMOLITION SHALL BE SUBMITTED WHERE REQUIRED BY THE BUILDING OFFICIAL. WHERE SUCH INFORMATION IS REQUIRED, NO WORK SHALL BE DONE UNTIL SUCH CONSTRUCTION DOCUMENTS OR SCHEDULE, OR BOTH, ARE APPROVED.

§3303.2 PEDESTRIAN PROTECTION. THE WORK OF DEMOLISHING ANY BUILDING SHALL NOT BE COMMENCED UNTIL PEDESTRIAN PROTECTION IS IN PLACE AS REQUIRED BY THIS CHAPTER.

§3303.5 WATER ACCUMULATION. PROVISION SHALL BE MADE TO PREVENT THE ACCUMULATION OF WATER OR DAMAGE TO ANY FOUNDATIONS ON THE PREMISES.

§3303.6 UTILITY CONNECTIONS. SERVICE UTILITY CONNECTIONS SHALL BE DISCONTINUED AND CAPPED IN ACCORDANCE WITH THE APPROVED RULES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

GENERAL NOTES FOR DEMOLITION:

1. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. IF FIELD CONDITIONS ARE NOT AS SHOWN ON PLAN, CONTACT THE PROJECT ARCHITECT OR ENGINEER IMMEDIATELY PRIOR TO PROCEEDING WITH ANY WORK.
2. PROVIDE APPROPRIATE BARRICADES, SIGNAGE, AND OTHER SAFETY PRECAUTIONS SO AS TO PROTECT VISITORS, TRADESMEN, AND EXISTING REMAINING CONDITIONS.
3. COMPLETELY REMOVE ALL WORK AND RELATED WORK IN AREAS DESIGNATED ON THE PLAN.
4. DISCONNECT, REMOVE, AND CAP ALL EXISTING UTILITIES AS INDICATED AND REQUIRED TO PERMIT NEW WORK.
5. ALL WORK TO BE COMPLETED BY APPROPRIATE, EXPERIENCED TRADES (I.E. ELECTRICAL DEMOLITION BY ELECTRICIANS, ETC.)
6. RESTORE EXISTING AREAS WHICH ARE DAMAGED DURING DEMOLITION. MATCH EXISTING MATERIALS, AND FINISHES.
7. DO NOT USE EXPLOSIVES OR UNSAFE DEMOLITION METHODS.
8. REMOVE ALL DEBRIS FROM THE SITE. DO NOT BURN REFUSE ON SITE. MATERIAL TO BE TRANSPORTED TO AN APPROVED SITE. COORDINATE SALVAGEABLE ITEMS WITH THE OWNER. STORE SALVAGEABLE ITEMS WITHIN DESIGNATED AREAS.
9. THE CONTRACTOR SHALL PROVIDE PROPER SHORING AND BRACING WHERE NEEDED.
10. ANY AREAS WITH LEAD PAINT WILL NOT BE ABRADED, CUT, OR IGNITED TO REDUCE POTENTIAL HARMFUL IMPACT TO WORKERS.
11. ARCHITECT/ENGINEER IS NOT RESPONSIBLE FOR THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON PLANS. DISCREPANCIES IN LOCATION, SIZE,AND MATERIAL ARE LIKELY TO EXIST.

NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

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SEAL

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YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI, MICHIGAN

SHEET TITLE

ENLARGED DEMO. FLOOR AND REFLECTIVE CEILING PLANS

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SAGINAW OFFICE
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Fax. 989-754-4440
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DESIGNED BY	ELT
DRAWN BY	
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-04

PROJECT NO. 138815SG2025

A 1.0

SHEET 4 OF 13

P:\Proj\2025\138815SG2025_Ypsilanti_Twp_Comm_Center_Locker_Room_Design\2_AutoCAD_GIS\CAD\3_ARCH\D1.0 DEMO PLANS.dwg - 7/25/2025 4:11:01 PM - Iggo, Edward L.

ROOM FINISH SCHEDULE

ROOM		FLOOR		BASE		WALLS								CEILING		REMARKS
						NORTH		SOUTH		EAST		WEST				
NUM	NAME	MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN	TYPE	HEIGHT	
151	WOMEN'S	CONC.	LVL	CMU	TILE	CMU/ GYP.	PAINT/ CT	CMU/ GYP.	PAINT	CMU	PAINT/ CT	CMU/ GYP.	PAINT/ CT	GYP.	8'-0"	1, 2
151A	STORAGE	CONC.	EPOXY	CMU	RUBBER	CMU	PAINT	CMU	PAINT	CMU	PAINT	CMU	PAINT	-	-	1, 2
160	STORAGE	CONC.	EPOXY	CMU	RUBBER	CMU	PAINT	CMU	PAINT	CMU	PAINT	CMU	PAINT	-	-	1, 2,3 4
161	VESTIBULE	CONC.	LVL	CMU	TILE	CMU	PAINT	CMU	PAINT	CMU	PAINT	CMU	PAINT	GYP.	8'-0"	1, 2, 4
161A	MEN'S	CONC.	LVL	CMU	TILE	CMU	PAINT	CMU	PAINT	CMU/ GYP.	PAINT/ CT	CMU	CT	GYP.	8'-0"	1, 2, 4

SIKAGARD NOTE:

SIKAGARD 62 PRODUCED BY SIKA(1-800-933-SIKA NATIONWIDE) OR MANUFACTURER'S REP. - WES PRINGLE (248) 596-5665. INSTALL PRODUCT ON BOTH VERTICAL & HORIZONTAL SURFACES AS INDICATED. APPLY IN MULTIPLE COATS TO A MIN. 20 MIL THICKNESS. PROVIDE & INSTALL AGGREGATE INCORPORATED IN THE HORIZONTAL FINISH COAT PER MANUFACTURER'S RECOMMENDATIONS, FOR A SLIP RESISTANT FINISH. TAPE EPOXY WALL FINISH & SIKAGARD 62 INTERSECTION TO INSURE STRAIGHT, EVEN, & LEVEL LINES. THE OWNER WILL SELECT FROM MANUFACTURER'S STANDARD COLORS.

ROOM FINISH LEGEND:

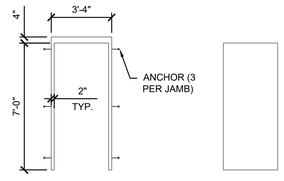
CONC. -	CONCRETE
EPOXY -	NON-SLIP EPOXY COATED FLOOR SYSTEM
VB	4" VINYL WALL BASE
PAINT -	PAINTED FINISH
LVT -	LUXURY VINYL TILE

NOTE:

1. FINISHES & COLORS TO BE SELECTED BY OWNER/ ARCHITECT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. NEW GYPSUM BOARD CEILING - BASED ON UL DESIGN P522: 5/8 " GYPSUM BOARD ON DRYWALL SUSPEND SYSTEM WITH CROSS TEE @ 24" O.C. AND 12GA HANGER WIRE @ 24" O.C.
3. PROTECT EXISTING GYPSUM BOARD CEILING FROM DAMAGE. PATCH AND REPAIR AS REQUIRED.
4. REFER TO DETAILS -/- AND -/- FOR NEW GYPSUM BOARD OVER EXISTING WOOD STRUCTURE AND COLUMN.

DOOR SCHEDULE

DOOR. NO.	LOCATION	DOOR						FRAME						HARDWARE	REMARKS
		TYPE	MAT	SIZE			RATING	TYPE	MAT	DETAIL					
				WIDTH	HEIGHT	THICK				HEAD	JAMB	SILL			
151	WOMEN'S	1	WD	3'-0"	7'-0"	0'-1 3/4"	60	A	HM	1	2	-	A		
161	VESTIBULE	-	-	3'-0"	7'-0"	0'-1 3/4"	N/A	A	HM	5	5	-	-		CASE OPENING FRAME - HEAD DETAIL SIMILAR
161A	MEN'S	1	WD	3'-0"	7'-0"	0'-1 3/4"	60	A	HM	1	2	-	A		



A

1

FRAME TYPES

SCALE: 1/4" = 1'-0"

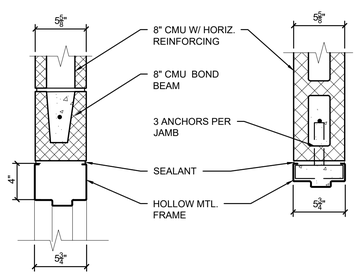
DOOR TYPES

SCALE: 1/4" = 1'-0"

SET	QTY	DESCRIPTION	FIN.
A	1½ pr	HINGES, 4½"x4½" BALL BEARING NRP	654
	1	3½"x15" PULL PLATE 3½"x15" PUSH PLATE	630
	1	DEADBOLT SMALL CASE DOUBLE KEYED	630
	1	SURFACE CLOSER	689

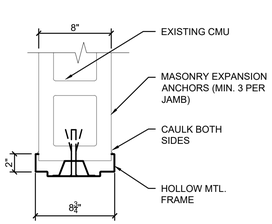
DOOR & HARDWARE NOTES:

1. STANDARD LOCKSET SHALL BE COMMERCIAL LEVER TYPE, ANSI A156.1 GRADE 1, MORTISED, FUNCTION AS SCHEDULED, AND MANUFACTURED BY SARGENT, RUSSWIN, SCHLAGE, YALE OR CORBIN. OTHER MANUFACTURERS MUST BE APPROVED BY ARCHITECT PRIOR TO BIDDING.
2. KEYING: YALE INTERCHANGEABLE CORES, MATER KEY & CHANGE KEY .
3. PROVIDE STOPS AS NECESSARY.
4. ALL LOCK SETS SHALL BE BY SAME MANUFACTURER UNLESS NOTED OTHERWISE.
5. FINISH SHALL BE AS NOTED IN SET DESCRIPTION.
6. HOLLOW METAL FRAMES SHALL BE 14 GAGE GALVANIZE METAL FOR ALL FRAMES.



4 / A1.0 HEAD

SCALE:1 1/2" =1'-0"



4 / A1.0 JAMB

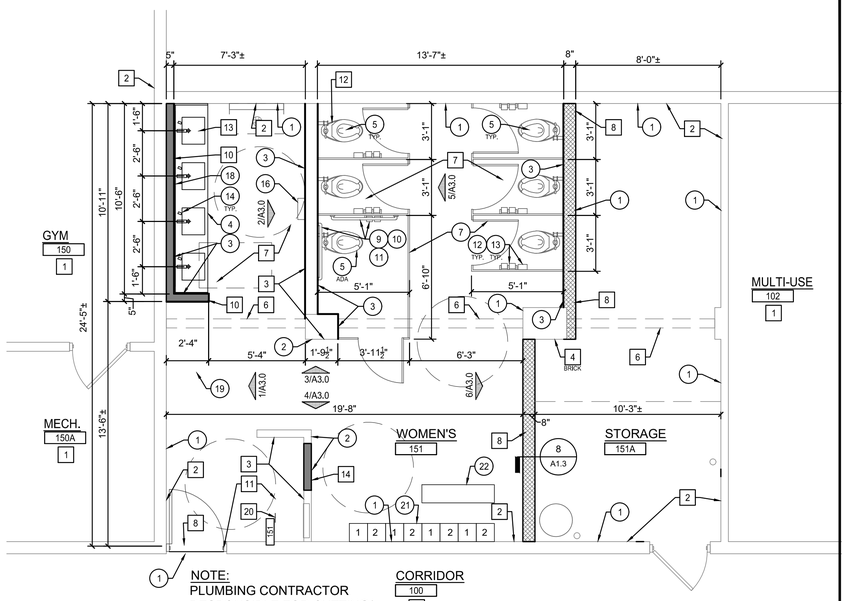
SCALE:1 1/2" =1'-0"

5 / A9.2 JAMB

SCALE:1 1/2" = 1'-0"

KEYED NOTES - NEW CONSTRUCTION

1. NO WORK THIS AREA UNLESS NOTED OTHERWISE. PROTECT EXISTING FINISHES FROM DAMAGE.
2. PROTECT EXISTING CMU WALLS FROM DAMAGE. PATCH AND REPAIR AS REQUIRED TO BE AS NEW.
3. PROTECT EXISTING STUD WALLS FROM DAMAGE. PATCH AND REPAIR AS REQUIRED TO BE AS NEW.
4. PROTECT EXISTING CMU/ BRICK/ WOOD COLUMNS FROM DAMAGE.
5. PROTECT EXISTING EXPOSED WOOD BEAMS FROM DAMAGE. PROVIDE 1" STUD FRAMING @ 16" O.C. W/ (2) LAYER 5/8" TYPE 'X' GYPSUM BOARD
6. PROTECT EXISTING GYPSUM BOARD SOFFIT FROM DAMAGE. PATCH AND REPAIR AS REQUIRED TO BE AS NEW.
7. PROVIDE NEW CONCRETE SLAB ONCE PLUMBING WASTE LINE WORK IS COMPLETED. NEW CONCRETE SLAB TO MATCH EXISTING THICKNESS AND FLOOR FINISH. REFER TO FINISH SCHEDULE FOR NEW FLOOR FINISH.
8. 8" CMU WALL CONSTRUCTION W/ HORIZONTAL REINFORCING @ 16" O.C, PROVIDE #4 BAR ANCHORS @ 32" O.C., AT BASE OF WALL. EXTEND TO UNDERSIDE OF STRUCTURE OR MATCH HEIGHT OF EXISTING CMU.
9. 4" CMU WALL CONSTRUCTION W/ HORIZONTAL REINFORCING @ 16" O.C, PROVIDE (2) TWO #4 BAR ANCHORS AT BASE OF WALL. EXTEND TO UNDERSIDE OF STRUCTURE OR MATCH HEIGHT OF EXISTING CMU.
10. 5/8" GREEN BOARD ON 3 5/8" METAL STUDS @ 16" O.C., SET BOTTOM TRACK ON TWO (2) BEADS OF SILICONE. HOLD OUTSIDE FACE OF STUD 4" OUT FROM CMU WALL. EXTEND TO UNDERSIDE OF STRUCTURE.
11. SOLID CORE DOOR AND HOLLOW METAL DOOR FRAME. REFER TO DOOR SCHEDULE FOR NOTES AND DETAILS.
12. REFER TO PLUMBING FOR NOTES ON PLUMBING FIXTURES.
13. SOLID SURFACE COUNTER TOP WITH INTERGLACIAL SINK BOWLS REFER TO PLUMBING AND DETAIL 11/A3.0 FOR ADDITIONAL NOTES.
14. METAL STUD WALL INFILL, ALIGN FACE OF NEW WALL WITH FACE OF EXISTING WALL. MATCH EXISTING FINISH. BOTTOM STUD TRACK PROVIDE TWO (2) BEADS OF SILICON.
15. SOFFIT: 5/8" GYPSUM BOARD TYPE 'X' 1 1/2" METAL FURRING CHANNELS @ 16" O.C. EXTEND TO EXISTING ROOF DECK.
16. 5/8" GYPSUM BOARD TYPE 'X" CEILING ON DRYWALL SUSPENDED SYSTEM W/ CROSS TEES @ 24" O.C. AND 12 GA HANGER WIRE @ 24" O.C. SUSPENDED FROM EXISTING WOOD JOIST.
17. PROTECT EXISTING GYPSUM BOARD CEILING FROM DAMAGE.
18. RELOCATE EXISTING LIGHT FIXTURES PER ELECTRICAL.



NOTE:
PLUMBING CONTRACTOR RESPONSIBLE FOR CUTTING/ PATCHING EXISTING FLOOR FOR WASTE LINES.

KEYED NOTES- INTERIOR ELEVATIONS

1. PAINTED CMU/ BRICK WALL
2. PAINTED GYPSUM BOARD WALL
3. CERAMIC WALL TILE
4. WALL HUNG ADA SOLID SURFACE COUNTER TOP W/ INTEGRATED SINK AND PLASTIC LAMINATE WOOD BRACING AND APRON. REFER TO DETAIL 11/A3.0
5. FLOOR MTD. WATER CLOSET (ADA AS NOTED)
6. WALL HUNG URINAL (ADA AS NOTED)
7. FLOOR MOUNTED, OVERHEAD BRACED, HDPE TOILET PARTITIONS
8. WALL HUNG HDPE URINAL SCREEN
9. ADA COMPLIANT 18" VERT. GRAB BAR
10. ADA COMPLIANT 36" HORZ. GRAB BAR
11. ADA COMPLIANT 42" HORZ. GRAB BAR
12. TOILET PAPER DISPENSER (TYP. EACH STALL)
13. WOMEN'S SANITARY NAPKIN DISPOSAL (ONE PER STALL)
14. COAT HOOK (MOUNT 70" AFF, 54" FOR ADA), AY EACH STALL DOOR., SEE PARTITION DETAILS.
15. SOAP DISPENSER.
16. PAPER TOWEL DISP.
17. PAPER TOWEL DISP/ WASTE RECP.
18. (2) TWO 5'-0" W x4'-0"H MIRRORS, INSIDE EDGE OF MIRROR TO ABUTT ON CENTER LINE OF COUNTERTOP. PROVIDE BEVELED EDGE AT PERIMETER.
19. WALL MOUNTED BABY CHANGING STATION
20. PRE-MANUF 6"X9" ADA/ TACTILE SIGN, MEN'S & WOMEN'S
21. 12" W x12" D METAL LOCKERS. REFER TO INTERIOR ELEVATIONS FOR SINGLE TIER AND DOUBLED TIER LOCKERS. NUMBERS INDICATE 1 OR 2 TIER COMBINATION LOCKERS
22. 12" WIDE WOOD BENCH

EXISTING WALL CONSTRUCTION. CMU OR STUD CONSTRUCTION

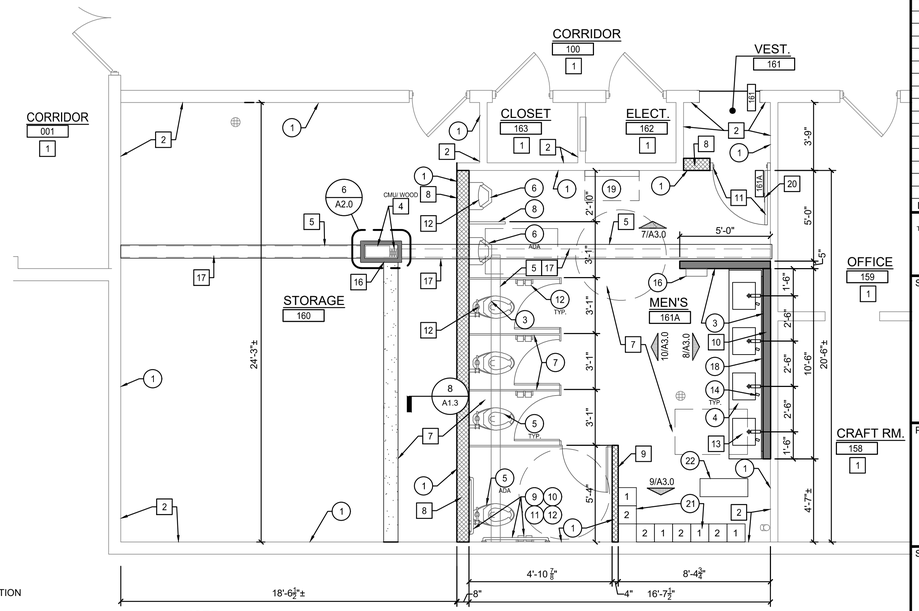
PROPOSED 8" CMU WALL EXTEND TO BOTTOM OF STRUCTURE OR MATCH HEIGHT OF EXISTING CMU. PRIME AND PAINT REFER TO FINISH SCHEDULE FOR NEW FINISHES.

3 5/8" METAL STUD WALL, STUDS @16" O.C. PROVIDE P.T. WOOD BLOCKING FOR MOUNTING EQUIPMENT. PROVIDE 5/8" GREEN BOARD AT WET AREAS. AT CHASE WALL HOLD OUTSIDE FACE OF STUD 4" FROM EXISTING WALL. AT STUD WALL INFILL, NEW FINISHES TO MATCH EXISTING WALLS.

1 / A1.0 North

PROPOSED WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



NOTE:
PLUMBING CONTRACTOR RESPONSIBLE FOR CUTTING/ PATCHING EXISTING FLOOR FOR WASTE LINES.

2 / A1.0 North

PROPOSED MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI, MICHIGAN

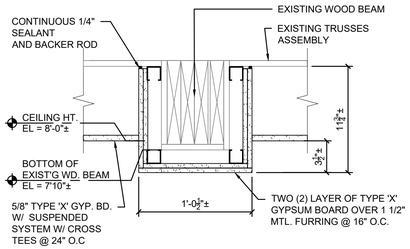
SHEET TITLE

ENLARGED FLOOR, SCHEDULES AND DETAILS

SAGINAW OFFICE
230 S. Washington Ave.
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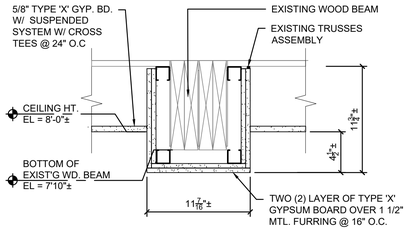
DESIGNED BY	ELT
DRAWN BY	
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-05
PROJECT NO.	138815SG2025
	A 1.0
SHEET	5 OF 13

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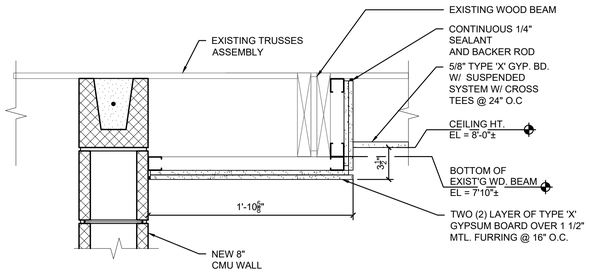
3 A2.0 **BEAM DETAIL**

SCALE:1 1/2" =1'-0"



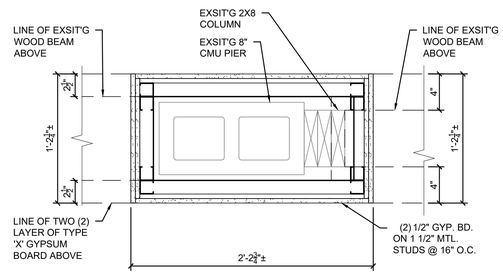
4 A2.0 **BEAM DETAIL**

SCALE:1 1/2" =1'-0"



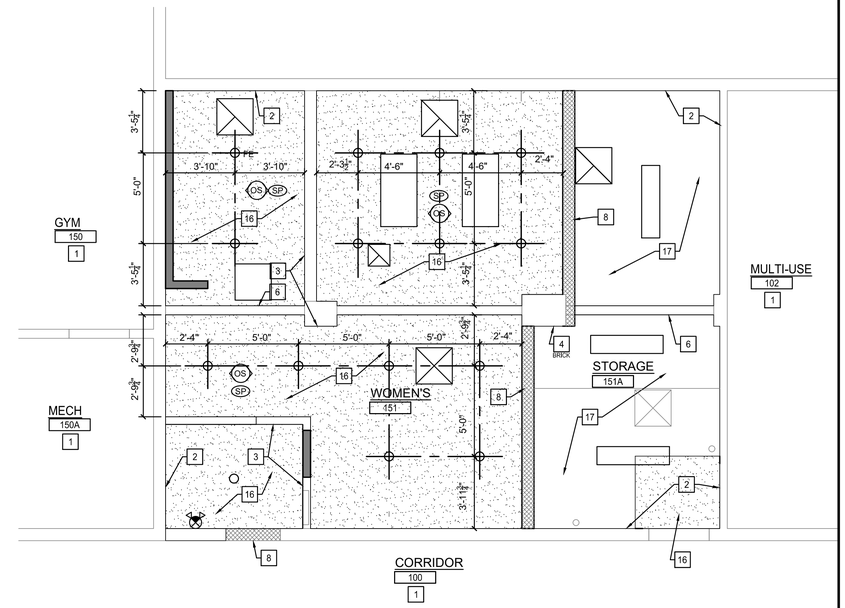
5 A2.0 **BEAM DETAIL**

SCALE:1 1/2" =1'-0"



6 A2.0 **COLUMN DETAIL**

SCALE:1 1/2" =1'-0"



1 A2.0 North **PROPOSED WOMEN'S RESTROOM LOCKERS**

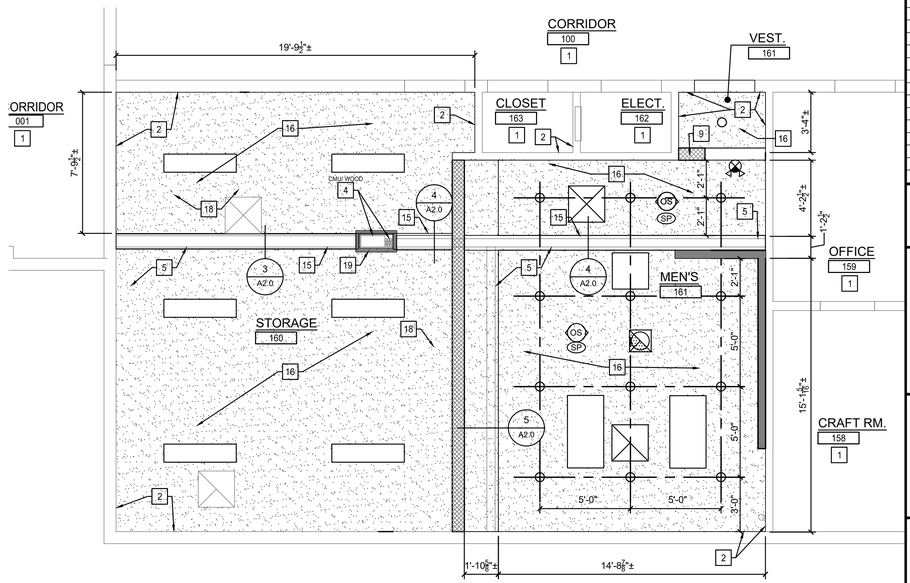
SCALE: 1/4" = 1'-0"

LEGEND

- EXISTING SUPPLY GRILL- CLEAN AND REINSTALL
- EXISTING RETURN GRILL- CLEAN AND REINSTALL
- 6" LED DESK LIGHT FIXTURE
- 48" LINEAR STRIP LIGHT FIXTURE
- MULTI- TECH LOW-VOLTAGE OCCUPANCY W/ 360° - 2000 SQ.F.T COVERAGE (OS)
- 120V-20A DUAL- RELAY SWITCHBACK (SP2)
- COMBINATION EXIT LIGHT FIXTURE
- EXHAUST GRILLE
- RADIANT CEILING HEAT PANEL
- RADIANT CEILING HEAT PANEL
- SUPPLY GRILL
- RETURN GRILL

KEYED NOTES - NEW CONSTRUCTION

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16. 5/8" GYPSUM BOARD TYPE 'X" CEILING ON DRYWALL SUSPENDED SYSTEM W/ CROSS TEES @ 24" O.C. AND 12 GA HANGER WIRE @ 24" O.C. SUSPENDED FROM EXISTING WOOD JOIST.
17. PROTECT EXISTING GYPSUM BOARD CEILING FROM DAMAGE.
18. RELOCATE EXISTING LIGHT FIXTURES PER ELECTRICAL.



2 A2.0 North **PROPOSED MEN'S RESTROOM LOCKERS**

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

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SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

ENLARGED FLOOR, SCHEDULES AND DETAILS

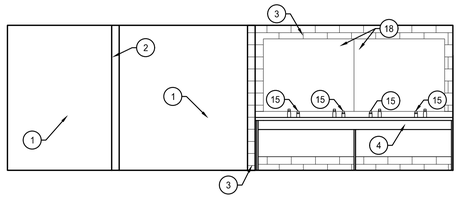
SAGINAW OFFICE
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Saginaw, MI 48607
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Fax. 989-754-4440
www.SpicerGroup.com

DESIGNED BY	ELT
DRAWN BY	
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-06
PROJECT NO.	138815SG2025

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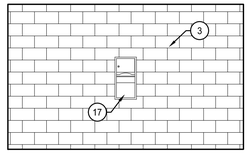
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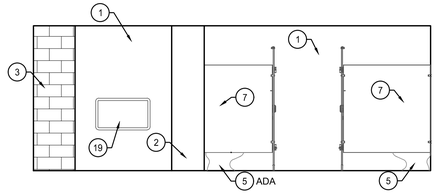
INTERIOR ELEVATION

1 / A3.0 SCALE: 1/4" = 1'-0"



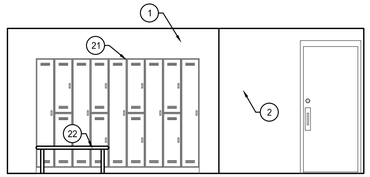
INTERIOR ELEVATION

2 / A3.0 SCALE: 1/4" = 1'-0"



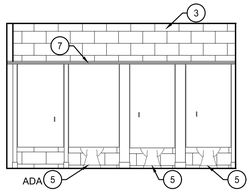
INTERIOR ELEVATION

3 / A3.0 SCALE: 1/4" = 1'-0"



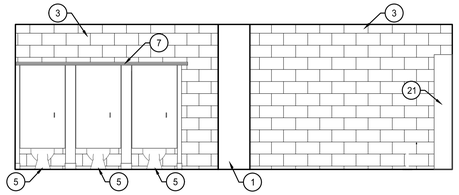
INTERIOR ELEVATION

4 / A3.0 SCALE: 1/4" = 1'-0"



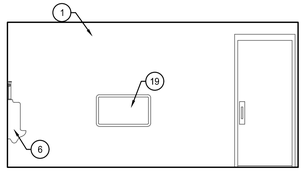
INTERIOR ELEVATION

5 / A3.0 SCALE: 1/4" = 1'-0"



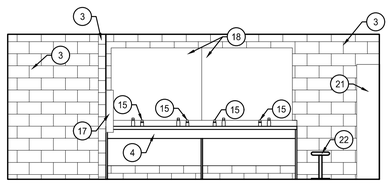
INTERIOR ELEVATION

6 / A3.0 SCALE: 1/4" = 1'-0"



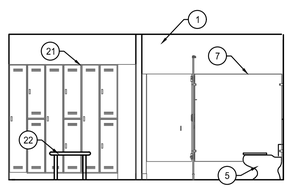
INTERIOR ELEVATION

7 / A3.0 SCALE: 1/4" = 1'-0"



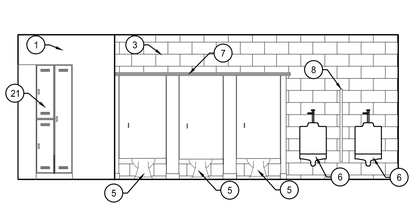
INTERIOR ELEVATION

8 / A3.0 SCALE: 1/4" = 1'-0"



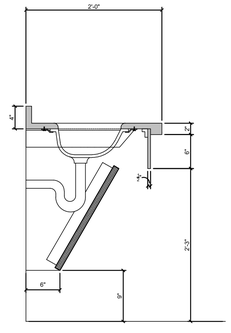
INTERIOR ELEVATION

9 / A3.0 SCALE: 1/4" = 1'-0"



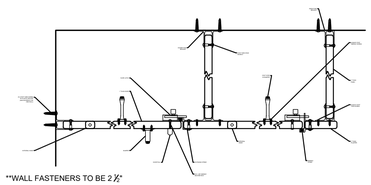
INTERIOR ELEVATION

10 / A3.0 SCALE: 1/4" = 1'-0"



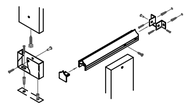
11 / A3.0 LOCKER ROOM SINK

SCALE: 1 1/2" = 1'-0"



ENLARGED CONNECTION DETAILS

N.T.S.



ENLARGED FLOOR MOUNT

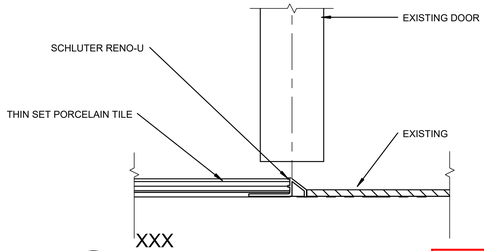
N.T.S.



ENLARGED HEAD BRACE

N.T.S.

FLOOR MOUNTED/OVERHEAD BRACED TOILET PARTITION DETAILS



12 / A3.0 XXX FLOOR TRANSITION DETAIL

SCALE:N.T.S.

NOT FOR CONSTRUCTION

KEYED NOTES- INTERIOR ELEVATIONS

1. PAINTED CMU/ BRICK WALL
2. PAINTED GYPSUM BOARD WALL
3. CERAMIC WALL TILE
4. WALL HUNG ADA SOLID SURFACE COUNTER TOP W/ INTEGRATED SINK AND PLASTIC LAMINATE WOOD BRACING AND APRON.
5. FLOOR MTD. WATER CLOSET (ADA AS NOTED)
6. WALL HUNG URINAL (ADA AS NOTED)
7. FLOOR MOUNTED, OVERHEAD BRACED, HDPE TOILET PARTITIONS
8. WALL HUNG HDPE URINAL SCREEN
9. ADA COMPLIANT 18" VERT. GRAB BAR
10. ADA COMPLIANT 36" HORZ. GRAB BAR
11. ADA COMPLIANT 42" HORZ. GRAB BAR
12. TOILET PAPER DISPENSER
13. WOMEN'S SANITARY NAPKIN DISPOSAL (ONE PER STALL)
14. COAT HOOK (MOUNT 70" AFF, 54" FOR ADA), SEE PARTITION DETAILS
15. SOAP DISPENSER.
16. PAPER TOWEL DISP.
17. PAPER TOWEL DISP/ WASTE RECP.
18. (2) TWO 5'-0" W x4'-0"H MIRRORS, INSIDE EDGE OF MIRROR TO ABUTT ON CENTER LINE OF COUNTERTOP. PROVIDE BEVELED EDGE AT PERIMETER.
19. WALL MOUNTED BABY CHANGING STATION
20. PRE-MANUF 6"X9" ADA/ TACTILE SIGN, MEN'S & WOMEN'S
21. 12" W x12" D METAL LOCKERS. REFER TO INTERIOR ELEVATIONS FOR SINGLE TIER AND DOUBLED TIER LOCKERS
22. 12" WIDE BENCH

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S AND WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

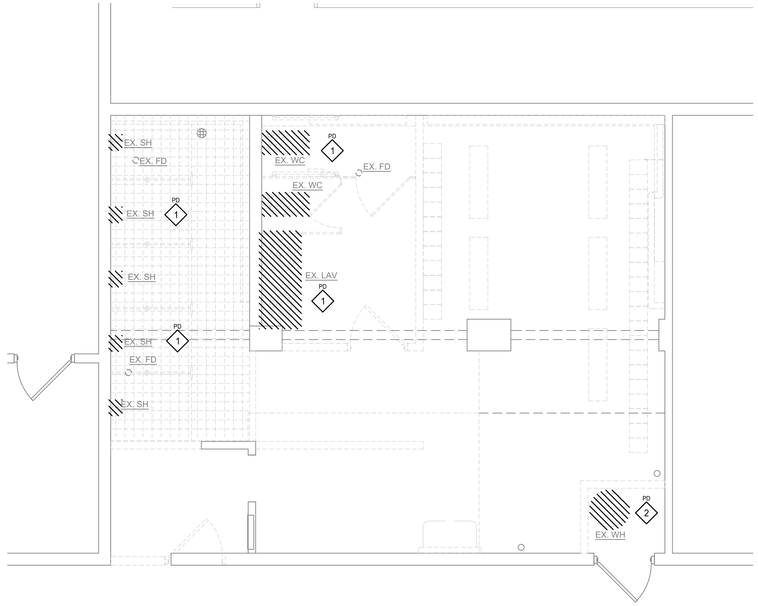
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INTERIOR ELEVATIONS

SAGINAW OFFICE
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Saginaw, MI 48607
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Fax. 989-754-4440
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DESIGNED BY	ELT
DRAWN BY	
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-07
PROJECT NO.	138815SG2025
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SHEET	7 OF 13

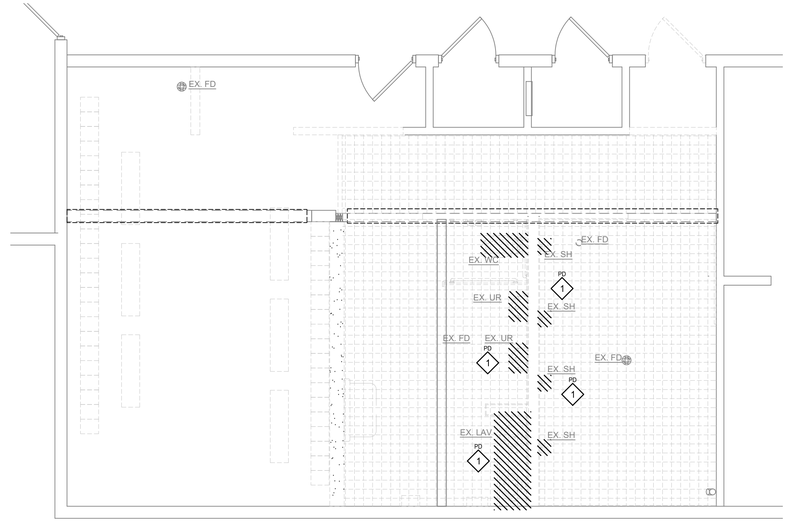
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North

PLUMBING DEMOLITION
WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

PLUMBING DEMOLITION
MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

GENERAL NOTES

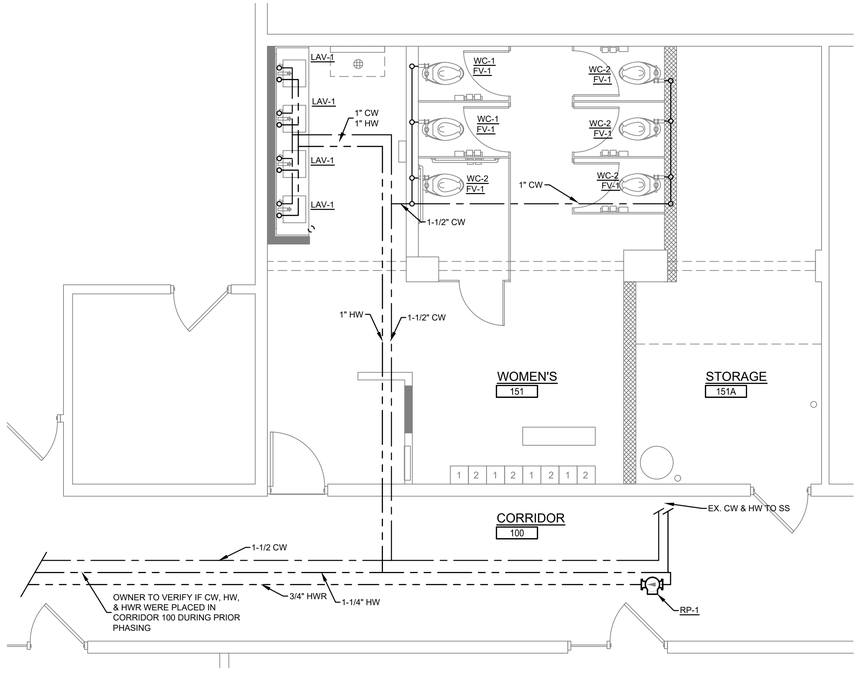
1 EQUIPMENT, DUCTWORK, PIPING, ETC., TAGGED WITH PRECEDING "EX." ARE EXISTING.

KEYED NOTES

PLUMBING DEMOLITION

PD 1 REMOVE EXISTING FIXTURES AS SHOWN CUT BACK EXISTING PIPING TO MAINS TO BE REUSED IF POSSIBLE FOR NEW WORK. REMOVE EXISTING SANITARY PIPING & VENTING FROM FIXTURES BACK TO MAINS.

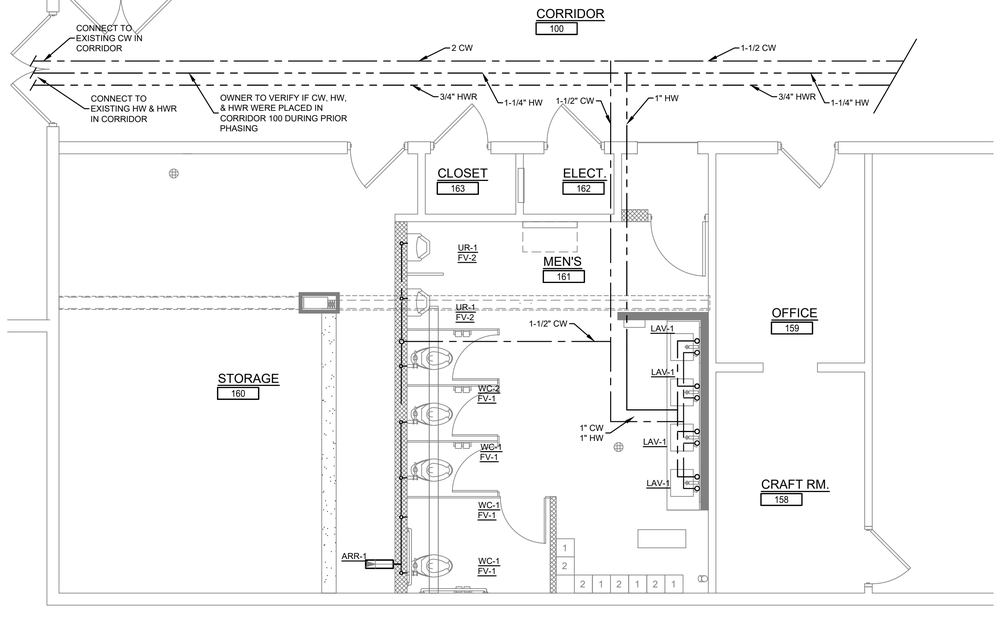
PD 2 REMOVE EXISTING WATER HEATER. SEE NEW PLANS FOR HOT WATER CONNECTION & HOT WATER RETICULATION



North

PLUMBING PROPOSED
WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

PLUMBING PROPOSED
WOEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

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SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

PLUMBING
DEMOLITION
& PROPOSED PLAN

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DESIGNED BY	APF
DRAWN BY	MJR
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-08

PROJECT NO.
138815SG2025

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SHEET 8 OF 13

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GENERAL NOTES

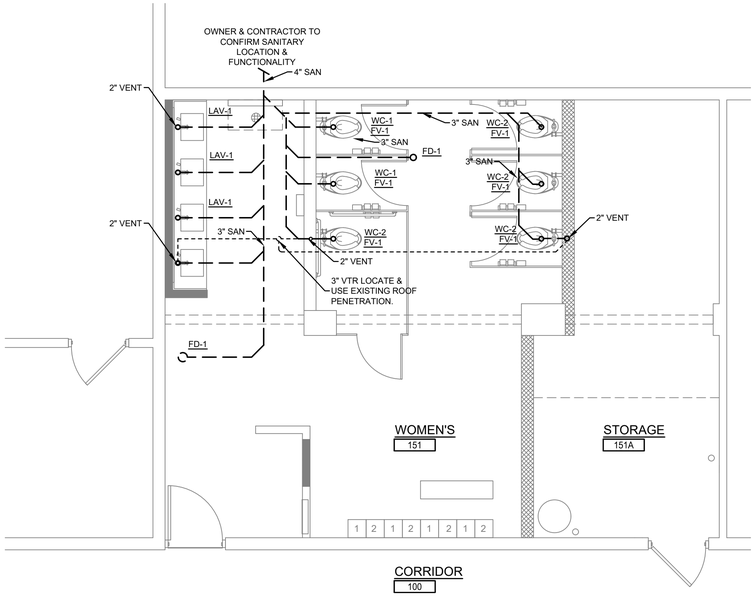
1 EQUIPMENT, DUCTWORK, PIPING, ETC., TAGGED WITH PRECEDING "EX." ARE EXISTING.

KEYED NOTES

PLUMBING DEMOLITION

PD 1 REMOVE EXISTING FIXTURES AS SHOWN CUT BACK EXISTING PIPING TO MAINS TO BE REUSED IF POSSIBLE FOR NEW WORK. REMOVE EXISTING SANITARY PIPING & VENTING FROM FIXTURES BACK TO MAINS.

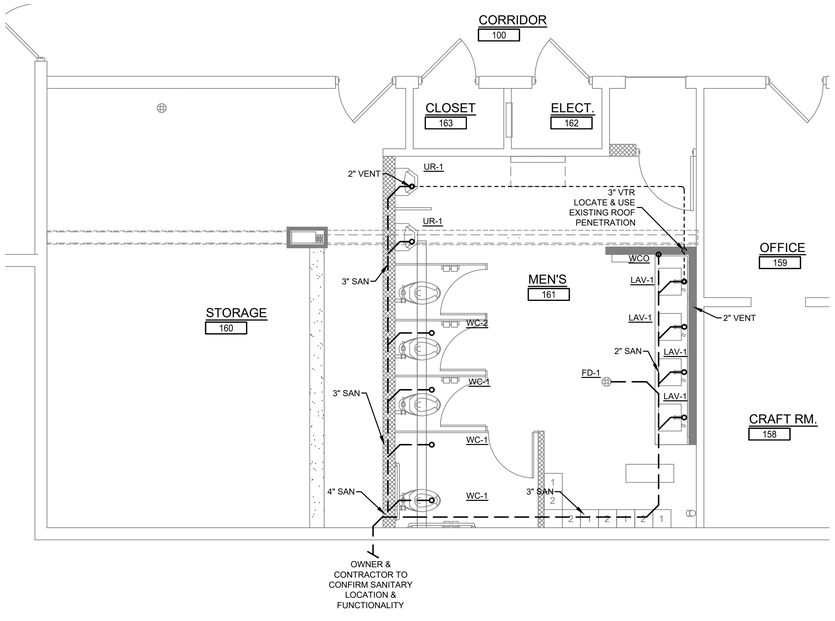
PD 2 REMOVE EXISTING WATER HEATER. SEE NEW PLANS FOR HOT WATER CONNECTION & HOT WATER RETICULATION



North

SANITARY PROPOSED
WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

SANITARY PROPOSED
MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

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SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

SANITARY DEMOLITION & PROPOSED PLAN

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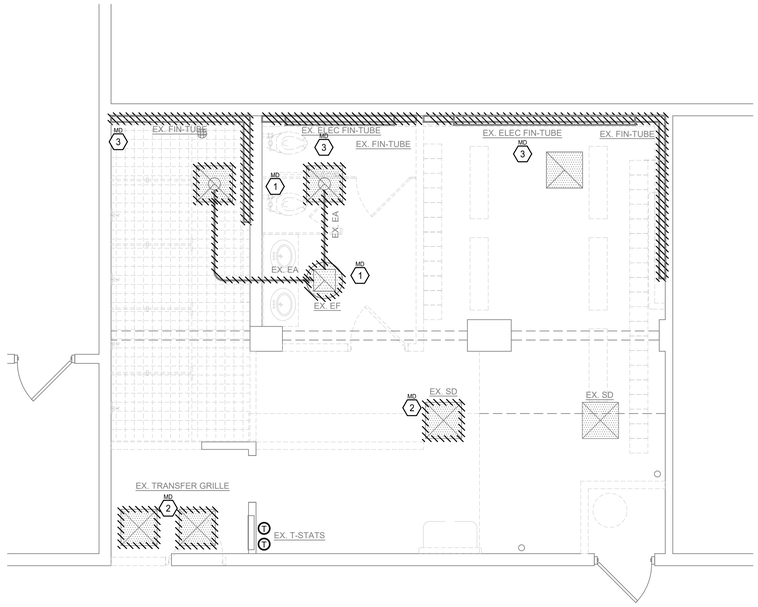
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DRAWN BY	MJR
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-09

PROJECT NO. 138815SG2025

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SHEET 9 OF 13

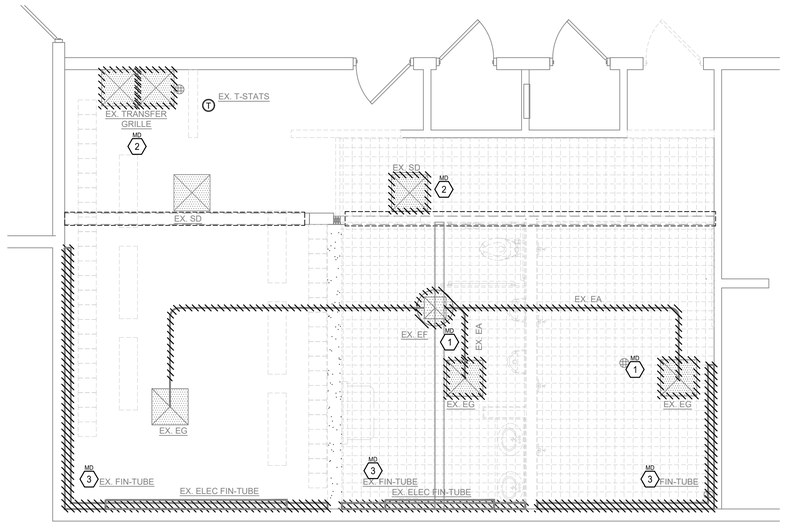
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North

MECHANICAL DEMOLITION
WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

MECHANICAL DEMOLITION
MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

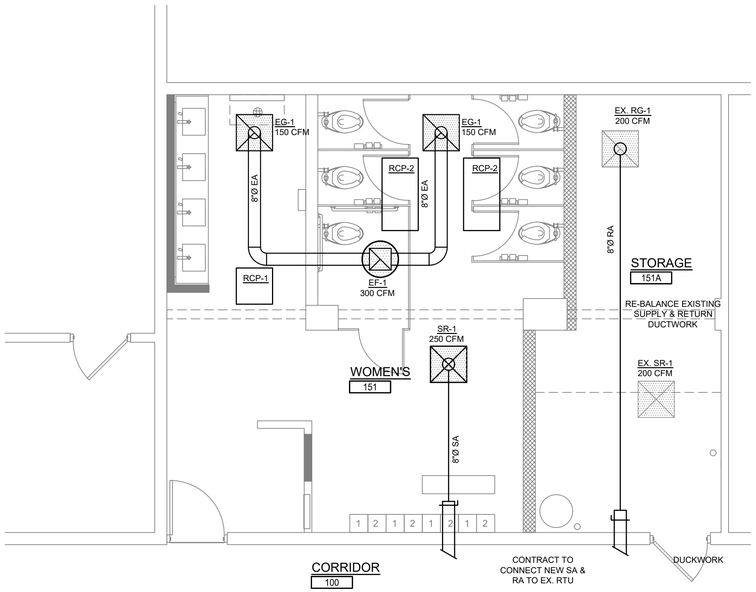
KEYED NOTES

MECHANICAL DEMOLITION

MD 1 — REMOVE EXISTING EXHAUST FANS, DUCTWORK, & GRILLES AS SHOWN. REUSE EXISTING PENETRATION FOR NEW EXHAUST FANS.REUSE EXISTING DUCTWORK IF POSSIBLE FOR NEW EXHAUST AIR.

MD 2 — REMOVE EXISTING SUPPLY GRILLES & DIFFUSES AS SHOWN. VERIFY EXISTING DUCT MAIN SIZES & REDUCE OR UPSIZE AS REQUIRED.

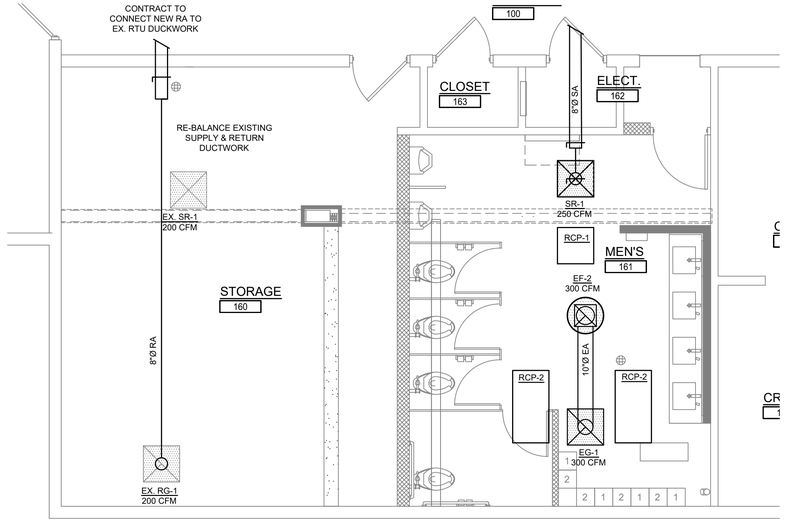
MD 3 — DISCONNECT POWER, CONTROL WIRING, & PIPING AND REMOVE ABANDONED FIN-TUBE & ELECTRIC BASEBOARD HEATING AND DISCARD



North

MECHANICAL PROPOSED
WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

MECHANICAL PROPOSED
MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

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SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

MECHANICAL DEMOLITION & PROPOSED PLAN

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DESIGNED BY	APF
DRAWN BY	MJR
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-10

PROJECT NO. 138815SG2025

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SHEET 10 OF 13

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SINK PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL #	MATERIAL	FINISH / COLOR	CONNECTIONS (INCHES)			ACCESSORIES & NOTES
					CW	HW	SANITARY	
LAV-1	COMMERCIAL UNDERMOUNT LAVATORY. 20"x18", 4" CENTERSET, ADA ANSI A117.1	SLOAN SS-3021	VITREOUS CHINA	GLOSS WHITE	1/2"	1/2"	2"	INCLUDE: SLOAN ETF-80-CP 0.5 GPM 120V/15, ESD-800-CP 120V/15AMP INFRARED SENSOR SOAP DISPENSER. PROVIDE WITH OPTIONAL AC ADAPTER. DRAIN, CONICAL STRAINER, TAILPIECE, P-TRAP WITH CLEANOUT PLUG, QUARTER-TURN ANGLE STOPS AND SUPPLIES. INSULATE EXPOSED WASTE AND WATER. FAUCET CENTERED DECK HOLE AND 8" RIGHT SPACING TO SOAP DISPENSER.

WATER CLOSET PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL #	MATERIAL	FINISH / COLOR	CONNECTIONS (INCHES)			ACCESSORIES & NOTES
					CW	HW	SANITARY	
WC-1	ELONGATED, FLOOR MOUNTED WATER CLOSET, SIPHON JET, FLUSHING RIM, 750 LBF STATIC LOAD, WITH PROTECTIVE GLAZING, 1-1/2" TOP SPUD CONNECTION, 2-1/8" TRAP, ADA ASME A112.19 (RIM HEIGHT AT 17" ADA HEIGHT)	SLOAN ST-2029	VITREOUS CHINA	GLOSS WHITE	1-1/2"	—	4"	INCLUDE: FV-1, BEMIS WHITE, OPEN FRONT, HEAVY DUTY ELONGATED SEAT WITH 300 S.S. POSTS AND PINTLES MODEL 1955SSCT.

URINAL FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL #	MATERIAL	FINISH / COLOR	CONNECTIONS (INCHES)			ACCESSORIES & NOTES
					CW	HW	SANITARY	
UR-1	ULTRA LOW CONSUMPTION URINAL, 1/8 GPF, WASH-OUT DESIGN, EXTENDED RIM, WALL-MOUNT, ANTIMICROBIAL GLAZE, 3/4" TOP SPUD, 2" REAR DRAIN URINAL. ADA	SLOAN SU-1009-STG	VITREOUS CHINA	GLOSS WHITE	3/4"	—	2"	3/4" TOP SPUD, 2" REAR SAN INCLUDE: WALL HANGER KIT AS NEEDED & FV-2

FLUSH VALVE PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL #	MATERIAL	FINISH / COLOR	CONNECTIONS (INCHES)			ACCESSORIES & NOTES
					CW	HW	SANITARY	
FV-1	FLUSHOMETER, EXPOSED, MANUAL, 1.6 GPF, 1-1/2" TOP SPUD, 11-1/2" ROUGH (TO FIT UNDER ADA GRAB BAR AT 36") ADA, ASSE 1037 AND ASME 112.19	SLOAN ROYAL 116	BY OWNER	CHROME	1-1/2"	—	—	1-1/2" TOP SPUD, 1" I.P.S. CONN;
FV-2	FLUSHOMETER, EXPOSED, MANUAL, 1.0 GPF, 3/4" TOP SPUD,	SLOAN ROYAL 186	BRASS & SEMI RED BRASS	CHROME	1"	—	—	3/4" TOP SPUD, 1" I.P.S. CONN;

EXHAUST FAN SCHEDULE

TAG	LOCATION	SERVES	DESCRIPTION	MANUFACTURER & MODEL #	AIRFLOW DATA				NOISE DATA		WEIGHT	ELECTRICAL DATA			CONTROL SEQUENCE	ACCESSORIES & NOTES
					CFM	E.S.P	FAN HP	FAN RPM	SONES	dBA	LBS.	VOLTAGE	F.L.A	M.F.S.		
EF-1	WOMEN'S 151	WOMEN'S 151	CENTRIFUGAL ROOF EXHAUST FAN	GREENHECK G-090-VG	300	0.125"	1/10	823	1.9	37	41 LBS.	120/1Ø	1.5	15	INTERLOCK TO RTU OCCUPANCY SCHEDULE ON WHILE OCCUPIED	INCLUDE FOLLOWING ACCESSORIES: 1. BACKDRAFT DAMPER
EF-2	MEN'S 161	MEN'S 161	CENTRIFUGAL ROOF EXHAUST FAN	GREENHECK G-090-VG	300	0.125"	1/10	823	1.9	37	41 LBS.	120/1Ø	1.5	15		INCLUDE FOLLOWING ACCESSORIES: 1. BACKDRAFT DAMPER

GRILLE, REGISTER, AND DIFFUSER (GRD) SCHEDULE

TAG	DESCRIPTION	DISCHARGE THROW / BLADES	MANUFACTURER & MODEL #	FRAME	MATERIAL	COLOR	DIMENSIONS LENGTH (INCHES)	DIMENSIONS WIDTH (INCHES)	NECK Ø" (INCHES)	BALANCE DAMPER	ACCESSORIES & NOTES
SR-1	SUPPLY AIR REGISTER 3/4" DOUBLE DEFLECTION, VERTICAL FRONT BLADES, SURFACE MOUNT	DOUBLE DEFLECTION	PRICE 520	SURFACE MOUNT CEILING	STEEL	ANODIZED ALUMINUM PAINT	SEE PLANS		N/A	EXTERNAL (WHERE SHOWN) OR OPPOSED BLADE DAMPER	NONE
EG-1	EXHAUST AIR GRILLE EGG-CRATE 1/2"x1/2"x1" CORE SURFACE MOUNT, DUCT	EGG-CRATE	PRICE 80	SURFACE MOUNT	ALUMINUM CORE - STEEL FRAME	WHITE PAINT	24"	24"	SEE PLANS	EXTERNAL (SEE PLANS)	NONE
RG-1	RETURN AIR GRILLE EGG-CRATE 1/2"x1/2"x1" CORE LAY-IN, T-BAR FRAME	EGG-CRATE	PRICE 80	LAY-IN T-BAR	ALUMINUM CORE - STEEL FRAME	WHITE PAINT	24"	24"	SEE PLANS	EXTERNAL (SEE PLANS)	NONE

DOMESTIC HOT WATER RECIRCULATION PUMP

TAG	DESCRIPTION	MANUFACTURER & MODEL #	GPM	HEAD	RPM	HP	CONNS.		CONTROLS	ELECTRICAL DATA			ACCESSORIES & NOTES
				FT. H2O			CW	HW		VOLTAGE	F.L.A	M.F.S.	
RP-1	HOT WATER RECIRCULATION PUMP WITH PROGRAMMABLE TIMER AND AQUASTAT	BELL & GOSSETT NBF-25 (SPEED 2) BRONZE FITTED NSF LISTED W/ AQS-3/4" CONTROLS	2.0	10.0	3250	1/40	1/2"	1/2"	FACTORY B&G AQS-3/4" CONTROLLER: SET TIMER 7AM - 6PM. WITH AQUASTAT SET TO 100F (ADJ.)	120V	1.1	15	INCLUDE: 1. AQS-3/4" CONTROLS 2. 3/4" SWEAT UNIONS 3. SEPARATE OR INTEGRAL CHECK VALVE

WATER HAMMER ARRESTOR SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL #	MATERIAL	TOTAL WFUs	DIMS (INCHES)		ACCESSORIES & NOTES
					HEIGHT	CONN.	
ARR-1	WATER HAMMER ARRESTOR, COMMERCIAL, LEAD FREE, 80 PSI MAX. SYSTEM PRESSURE, 60 PSI PRE-CHARGED NITROGEN. -40°F - 212°F, PDI TESTED AND APPROVED	PRECISION PLUMBING PRODUCTS SC-1250D, 1-1/4" BARREL (PDI D)	COPPER & BRASS W/ EPDM SEALS	F.V.	9.5"	1" NPT	SUPPLIER TO VERIFY SELECTION FOR LISTED FIXTURE UNITS

RADIANT CEILING PANEL SCHEDULE

TAG	LOCATION (AREA SERVED)	DESCRIPTION	MANUFACTURER & MODEL #	DIMENSIONS		ELEC. DATA					ACCESSORIES & NOTES
				LENGTH (INCHES)	WIDTH (INCHES)	BTU	WATTS	VOLTS	FLA	MFS	
RCP-1	SEE PLANS	RECESSED, FLUSH MOUNT, SECURITY RADIANT CEILING PANEL	INDEECO S-2424-250-120	24"	24"	852	250	120/1Ø	2.0	15	INSULATE TOP OF PANEL W/ 2" FOIL-BACKED FIBERGLASS INSULATION. PROVIDE COMPLETE FOR RECESSED SURFACE-MOUNT INSTALLATION. WALL THERMOSTAT
RCP-2	SEE PLANS	RECESSED, FLUSH MOUNT, SECURITY RADIANT CEILING PANEL	INDEECO S-2448-625-120	24"	48"	2,131	625	120/1Ø	5.2	15	INSULATE TOP OF PANEL W/ 2" FOIL-BACKED FIBERGLASS INSULATION. PROVIDE COMPLETE FOR RECESSED SURFACE-MOUNT INSTALLATION. WALL THERMOSTAT

DRAWING LOG

DATE	BY	DESCRIPTION

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SEAL

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YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

MECHANICAL & PLUMBING SCHEDULES

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DESIGNED BY	APF
DRAWN BY	MJR
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-11

PROJECT NO. 138815SG2025

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SHEET 11 OF 13

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GENERAL FIRE ALARM NOTES

1. ALL EXISTING FIRE ALARM SYSTEM DEVICES, EQUIPMENT, AND WIRING SHALL REMAIN IN ACCORDANCE WITH NFPA 70 AND 72. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES, INCLUDING THE 2015 MICHIGAN BUILDING CODE AND 2015 MICHIGAN MECHANICAL CODE, AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.
2. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND IS FOR BIDDING PURPOSES ONLY. PERFORM REQUIRED CALCULATIONS AND COORDINATE WITH OTHER TRADES. THE FINAL DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, BUILDING LAYOUT DRAWINGS WILL BE PROVIDED.
3. PROVIDE ALL EQUIPMENT AND LABOR REQUIRED TO MAINTAIN THE EXISTING COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM THAT IS TO REMAIN.
4. PROVIDE FIRESTOPPING MATERIALS WHERE REQUIRED.
5. REPLACE ALL EXISTING FIRE ALARM DEVICE WIRE GUARDS THAT ARE CURRENTLY DAMAGED OR RED IN COLOR. COORDINATE WITH THE OWNER AND THE ENGINEER.
6. ALL NEW FIRE ALARM DEVICES AND CIRCUITS SHALL BE COMPATIBLE WITH, AND CONNECTED TO, THE EXISTING FIRE ALARM CONTROL PANEL (FACP). COORDINATE WITH THE OWNER TO OBTAIN EXISTING SYSTEM INFORMATION AND VERIFY COMPATIBILITY. ALL CONNECTIONS SHALL BE PERFORMED BY A QUALIFIED TECHNICIAN IN ACCORDANCE WITH NFPA 70, NFPA 72, AND MANUFACTURER REQUIREMENTS.

ELECTRIC DEMOLITION KEY NOTES

GENERAL:

EQUIPMENT, DUCTWORK, PIPING, ETC., TAGGED WITH PROCEEDING "EX." ARE EXISTING. xR ARE EXISTING TO BE RELOCATED

KEYNOTES:

ED 1 — NO ELECTRICAL DEMOLITION WORK IN THIS AREA, UNLESS DISCONNECTING AND REMOVING EXISTING FEEDER AND/OR BRANCH CIRCUITRY (WIRING) AND ASSOCIATED RACEWAYS THAT ARE ABANDONED BACK TO SOURCE.

ED 2 — DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES AND LIGHTING CONTROLS IN THIS SPACE AS SHOWN. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITRY (WIRING) AND ASSOCIATED RACEWAYS BACK TO SOURCE, UNLESS THEY CAN BE REUSED, RELOCATE OR DISCARD LIGHT FIXTURES AS SHOWN IN THE NEW WORK FLOOR PLAN. PROVIDE AND INSTALL NEW OR REUSED LIGHT FIXTURES AND ASSOCIATED LIGHTING CONTROLS AS SHOWN IN THE NEW WORK FLOOR PLAN DRAWINGS. PROVIDE COVER PLATES FOR ALL USED AND UNUSED JUNCTION BOXES.

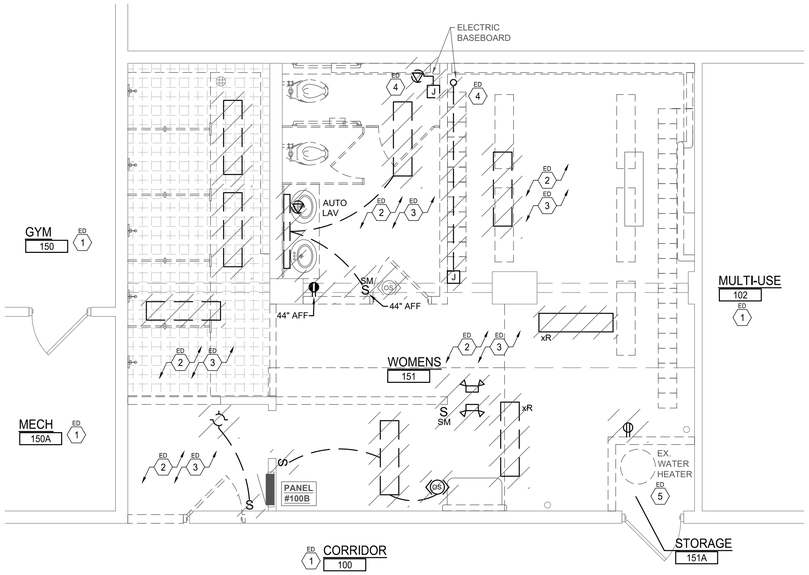
ED 3 — DISCONNECT, REMOVE, AND DISCARD ALL EXISTING RECEPTACLES AND POWER DEVICES IN THIS SPACE AS SHOWN. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITRY (WIRING) AND ASSOCIATED RACEWAYS BACK TO SOURCE, UNLESS THEY CAN BE REUSED. PROVIDE AND INSTALL NEW RECEPTACLES AND POWER DEVICES AS SHOWN IN THE NEW FLOOR PLAN DRAWINGS. PROVIDE COVER PLATES FOR ALL USED AND UNUSED JUNCTION BOXES.

ED 4 — DISCONNECT, REMOVE, AND DISCARD EXISTING ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS TO THE EXISTING EQUIPMENT THAT IS TO BE DEMOLISHED AND REMOVED AS SHOWN. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITRY (WIRING) AND ASSOCIATED RACEWAYS BACK TO SOURCE, UNLESS THEY CAN BE REUSED. PROVIDE COVER PLATES FOR ALL USED AND UNUSED JUNCTION BOXES.

ED 5 — DISCONNECT, REMOVE, AND DISCARD EXISTING ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS TO THE EXISTING EQUIPMENT THAT IS TO BE DEMOLISHED AND REPLACED AS SHOWN. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITRY (WIRING) AND ASSOCIATED RACEWAYS BACK TO SOURCE, UNLESS THEY CAN BE REUSED. PROVIDE COVER PLATES FOR ALL USED AND UNUSED JUNCTION BOXES.

ELECTRICAL GENERAL DEMO NOTES

1. PRIOR TO SUBMITTING BID, ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY/INSPECT THE EXTENT OF EXISTING CONDITIONS.
2. REMOVE ALL ASSOCIATED ELECTRICAL COMPONENTS, HANGERS, WIRING, CABLING, CONDUIT, BOXES, DEVICES AND ALL OTHER ITEMS RELATED TO EQUIPMENT AND MATERIALS WHICH ARE INDICATED TO BE REMOVED.
3. REMOVE ALL WIRING AND CONDUIT BACK TO THE SOURCE IN EXISTING CIRCUITS WHICH ARE BEING DEMOLISHED.
4. UNLESS INDICATED, NO EQUIPMENT, MATERIALS OR ASSOCIATED COMPONENTS SHALL BE ABANDONED IN PLACE.
5. ALL CONDUITS WHICH ARE CONCEALED IN CONCRETE WALLS OR SLABS SHALL BE ABANDONED. ALL WIRING/ CABLING SHALL BE REMOVED FROM ABANDONED CONDUITS.
6. CONTRACTOR SHALL CLEAN THE PROJECT SITE AT THE END OF EACH WORKING DAY.
7. PROTECT FROM DAMAGE ALL EXISTING WORK TO REMAIN. ANY DAMAGED MATERIAL AND EQUIPMENT TO REMAIN SHALL BE REPLACED WITH MATERIALS AND EQUIPMENT CONFORMING TO SPECIFICATIONS.
8. WHERE EXISTING FLOORS, WALLS AND ROOFS MUST BE CUT OR ARE DAMAGED DURING REMOVAL OR RELOCATION OF ELECTRICAL WORK, PATCH THE CUT OR DAMAGED AREAS TO MATCH ADJACENT CONSTRUCTION.



North

ELECTRICAL DEMOLITION WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

ELECTRICAL ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPS INTERRUPTING CAPACITY
CND (C)	CONDUIT
CKT	CIRCUIT
C.B.	CIRCUIT BREAKER
CM	CEILING MOUNT
EC	ELECTRICAL CONTRACTOR
EDH-	ELECTRIC DUCT HEATER
EF-	EXHAUST FAN
EGC	ELECTRODE GROUNDING CONDUCTOR
EHD-	ELECTRIC HAND DRYER
EMT	ELECTRICAL METALLIC TUBING
ERV-	ENERGY RECOVERY VENTILATOR
EWC	ELECTRIC WATER COOLER
FL	FLUSH
GC	GENERAL CONTRACTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AIR CONDITIONING
INV-	INVERTER
JB	JUNCTION BOX
kA	KILOAMPERES
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MLO	MAIN LUG ONLY
MNTD	MOUNTED
NTS	NOT TO SCALE
PVC	POLY VINYL CLORIDE
RECEPT.	RECEPTACLE
SM	SURFACE MOUNTED
TMR	TIMER
TR	TAMPER PROOF RECEPTACLE
TYP	TYPICAL
UH-	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VIF	VERIFY IN FIELD
W	WATTS -OR- WIRE
W/	WITH
WR	WEATHER-RESISTANT
XFMR	TRANSFORMER
XR	EXISTING TO RELOCATE

GENERAL ELECTRICAL NOTES

1. INSTALLATION OF ALL WORK SHALL BE IN ACCORDANCE OF ALL APPLICABLE LOCAL CODES, ORDINANCES, AND THE EDITION OF THE NATIONAL ELECTRICAL CODE NFPA 70 (NEC) IN EFFECT.
2. PRIOR TO WORK BEGINNING, CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND/OR CLEARANCES FROM THE AUTHORITIES HAVING JURISDICTION. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE AND OPERABLE SYSTEM.
3. FINAL LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE COORDINATED IN THE FIELD ACCORDING TO EQUIPMENT BEING SERVED.
4. ALL CONDUCTORS SHALL BE IDENTIFIED.
5. ALL EQUIPMENT SHALL BE UL LISTED.
6. ELECTRICAL SYSTEMS SHALL BE GROUNDED PER NEC 250.
7. PRIOR TO SUBMITTING BIDS, CONTRACTOR SHALL VISIT THE SITE AND INSPECT EXISTING EQUIPMENT AND AREA CONDITIONS THAT MAY AFFECT WORK TO BE PERFORMED. CONTRACTOR SHALL INFORM ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND INTENT OF DRAWINGS AND SPECIFICATIONS.
8. PROVIDE ALL WIRE NECESSARY FOR THE PROPER OPERATION OF THE SYSTEM.
9. ALL EXISTING AND NEW PANELS IMPACTED BY THE PROJECT SHALL BE PROVIDED WITH UPDATED TYPEWRITTEN PANELS SCHEDULES INDICATING ROOM NUMBER AND EQUIPMENT OR DEVICES SERVED BY THE CIRCUIT.
10. INSTALLATION OF EQUIPMENT, COMPONENTS AND WIRING FOR ELECTRICAL SYSTEMS SHALL BE IN ACCORDANCE OF MANUFACTURER'S RECOMMENDATIONS/INSTRUCTIONS.
11. CONTRACTOR TO COORDINATE WORK WITH ALL OTHER TRADES.
12. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL, PLUMBING AND OTHER TRADES TO PROVIDE ALL EQUIPMENT ASSOCIATED WITH THEIR RESPECTIVE TRADES WITH NECESSARY WIRING AND CONDUIT INFRASTRUCTURE FOR ALL SENSORS, AND CONTROL SYSTEMS AS REQUIRED.
13. ALL EMERGENCY EXIT SIGNS, EMERGENCY ONLY LIGHT FIXTURES, AND EMERGENCY LIGHTING BATTERIES SHALL HAVE A DIRECT (HOT) CONNECTION TO THE LOCAL AREA LIGHTING BRANCH CIRCUIT AS REQUIRED.
14. FIXTURES TAGGED WITH A DESIGNATED "xR" OR "EXISTING TO BE RELOCATED" ARE TO BE RELOCATED. FIELD VERIFY.
15. CIRCUITS TAGGED WITH AN ASTERISK ARE TO BE CONNECTED TO EXISTING 120V BRANCH CIRCUIT. FIELD VERIFY.

ELECTRICAL POWER SYMBOLS

- 120V-20A COMMERCIAL GRADE DUPLEX RECEPTACLE. MNTD. SO BOTTOM IS AT 18" AFF (UON). ALL NEW DUPLEX RECEPTACLES SHALL BE TAMPER-RESISTANT (TR). (BASED ON LEVITON #TBR20-x).
- 120V-20A COMMERCIAL GRADE DUPLEX GROUND-FAULT INTERRUPT (GFI) PROTECTED TAMPER-RESISTANT (TR) RECEPTACLES. MNTD. SO BOTTOM IS AT 18" AFF (UON). (BASED ON LEVITON #GFNT2-x).
- 1-PHASE ELECTRIC SPECIAL CONNECTION. FIELD VERIFY CONNECTION REQUIREMENTS w/ SHOP DRAWINGS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 1-PHASE MOTOR. FIELD VERIFY CONNECTION REQUIREMENTS w/ SHOP DRAWINGS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- S_M - SINGLE-PHASE MOTOR TOGGLE SWITCH w/ THERMAL OVERLOAD AND INDICATOR LIGHT. FIELD VERIFY w/ ASSOCIATED EQUIPMENT SHOP DRAWINGS AND MANUFACTURER'S REQUIREMENTS. (BASED ON SQUARE D #2510-FGSP).
- RECESSED ELECTRICAL BRANCH PANEL

LIGHT SWITCH SYMBOLS

S - 120V-20A SINGLE POLE COMMERCIAL GRADE WALL TOGGLE SWITCH. MNTD. SO BOTTOM IS AT 44" AFF (UON). (BASED ON: LEVITON #CSB1-X).

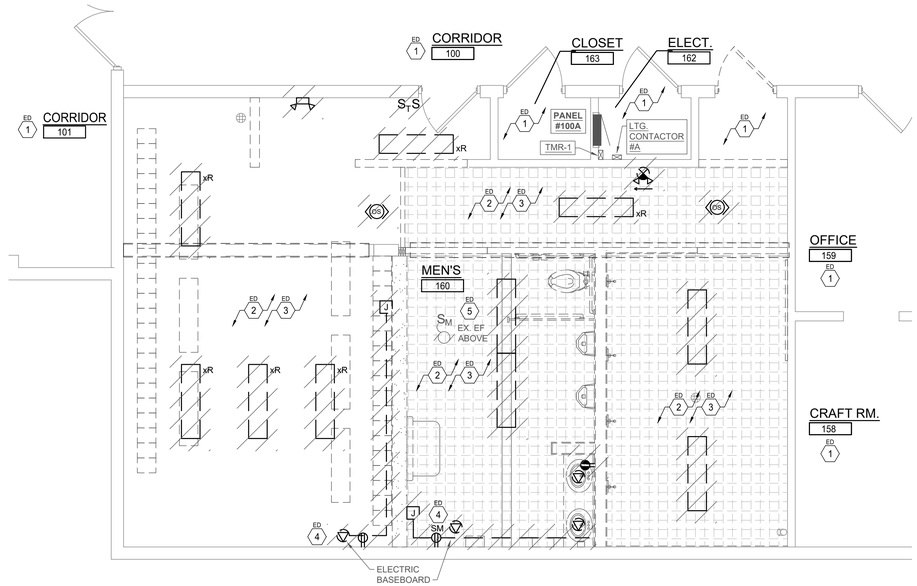
LIGHT FIXTURE SYMBOLS

- LINEAR VANITY LIGHT FIXTURE
- 4' SURFACE MOUNTED FLORESCENT LIGHT FIXTURE
- DOWN LIGHT FIXTURE
- EXIT SIGN LIGHT FIXTURE w/ DOUBLE EMERGENCY LIGHTING FIXTURE HEADS

LIGHTING CONTROL SYMBOLS

SP - 120V-20A RELAY SWITCHPACK

OS - INFRARED - LOW-VOLTAGE CEILING/WALL MOUNT OCCUPANCY SENSOR w/ 360° - 1000 SQ.FT. COVERAGE



North

ELECTRICAL DEMOLITION MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

ELECTRICAL DEMOLITION PLANS

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
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DESIGNED BY	BAR
DRAWN BY	NJG
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-12

PROJECT NO. 138815SG2025

E1.0

SHEET 12 OF 13

7/28/2025 9:21:52 AM - Graham, Nolan J.

ELECTRICAL LIGHT FIXTURE SCHEDULE

TAG	MOUNTING	DESCRIPTION	WATTS	LUMENS	CCT	CRI	VOLTAGE	DIMMING	MANUFACTURER	MODEL	NOTES	TAG
EX1	UNIVERSAL	POLYCARBONATE EXIT SIGN w/ RED LETTERS, WHITE HOUSING, AND INTEGRAL EMERGENCY LTG. BATTERY	8.4	---	---	---	120-277V	ND	SURE-LITES	#APX7-R	UNIVERSAL MOUNTING (CEILING, WALL, OR END MNTD.). FIELD CONFIGURABLE DIRECTIONAL CHEVRONS AS SHOWN ON THE FLOOR PLANS. FIELD CONFIGURABLE AS SINGLE OR DOUBLE FACE AS SHOWN PER THE FLOOR PLANS.	*EX1*
F1	RECESSED	4" ROUND ARCHITECTURAL DOWNLIGHT TRIMMED WITH FLANGE	12	1300	3500K	80+	120V	0-10V (10%)	USAI LIGHING	#B4RDF-12G1-35KS-50-S-WH-WH-NC-UNV-D6E	---	*F1*
F1E	RECESSED	4" ROUND ARCHITECTURAL DOWNLIGHT TRIMMED WITH FLANGE w/INTEGRAL 5 WATT EM BATTERY	12	1300	3500K	80+	120V	0-10V (10%)	USAI LIGHING	#B4RDF-12G1-35KS-50-S-WH-WH-NC-UNV-D6E-EM5	---	*F1E*
xF2	SURFACE	EXISTING 4' LINEAR FLOURESCENT LIGHT FIXTURES	64	VIF	VIF	VIF	120V	VIF	VIF	VIF	RELOCATE BASED ON NEW WORK PLAN	*xF2*

EX. PANEL #100B

200A MLO - 120/208V-3PH-4W PANELBOARD
RECESSED MNTD. -- MIN. 10kA SCCR RATING

CKT.	AMPS/ POLE	DESCRIPTION	LOAD	Φ	LOAD	DESCRIPTION	AMPS/ POLE	CKT.
1	---	SPACE	---	A	---	RECEPTS. - 103	x20/1	2
3	x20/1	LIGHTS - 105 W	---	B	---	RECEPTS. - 105, E-BOOSTER PUMP	x20/1	4
5	x20/1	RECEPTS. - 105	---	C	---	LIGHTS - 103	x20/1	6
7	x20/1	LIGHTS - 102 KIDS KORNER WEST	---	A	---	LIGHTS - WOMEN'S LOCKER ROOM	x20/1	8
9	x20/1	RECEPTS. & FAN - KIDS KORNER	---	B	---	RECEPTS. - WOMEN'S LOCKER ROOM	x20/1	10
11	x20/1	LIGHTS - KIDS KORNER EAST	---	C	---	LIGHTS - WOMEN'S SHOWER	x20/1	12
13	x20/1	CONTROL TRANSFORMER E-AC	---	A	---	POP MACHINE	x20/1	14
15	x20/1	RECEPTS. - WOMEN'S LOCKER ROOM	---	B	---	EXHAUST FAN WOMEN'S LOCKER ROOM	x20/1	16
17	x20/1	LIGHTS - 105	---	C	---	PUMP WOMEN'S LOCKER ROOM	x20/1	18
19	x40/3	HVAC GYM	---	A	---	ACU - ROOM 105 EAST	x20/1	20
21			---	B	---	HVAC CONT. C	x20/1	22
23			---	C	---	ACU - ROOM 105 WEST	x20/1	24

EX. PANEL #100A

200A MLO - 120/208V-3PH-4W PANELBOARD
SURFACE MNTD. -- MIN. 10kA SCCR RATING

CKT.	AMPS/ POLE	DESCRIPTION	LOAD	Φ	LOAD	DESCRIPTION	AMPS/ POLE	CKT.
1	x20/1	LIGHTS - MEN'S LOCKER ROOM	---	A	---	RECEPTS. - 101 E	x20/1	2
3	x20/1	RECEPTS. - MEN'S LOCKER ROOM	---	B	---	LIGHTS - 101	x20/1	4
5	x20/1	RECEPTS. - JANITOR ROOM	---	C	---	RECEPTS. - 101 W	x20/1	6
7	x20/1	RECEPTS. - VENDING	---	A	---	RECEPTS. - CERAMIC	x20/1	8
9	x20/1	FAN - MEN'S LOCKER ROOM	---	B	---	GYM CLOCK	x20/1	10
11	x20/1	LIGHTS - POLE	---	C	---	LIGHTS - CERAMIC	x20/1	12
13	x20/1	LIGHTS - POLE	---	A	---	RECEPTS. - CERAMIC	x20/1	14
15	x20/1	LIGHTS - 100 HALL	---	B	---	RECEPTS. - OUTSIDE	x20/1	16
17	x20/1	LIGHTS - LOBBY	---	C	---	RECEPTS. - CERAMIC	x20/1	18
19	x20/1	RECEPTS. - 100 HALL	---	A	---	LIGHTS - GYM	x20/1	20
21	x20/1	DRINKING FOUNTAIN	---	B	---	LIGHTS - GYM	x20/1	22
23	x20/1	LIGHTS - JANITOR ROOM, RAQ.#1	---	C	---	RECEPTS. - GYM	x20/1	24
25	x20/1	RECEPTS. - LOBBY, RAQ.#3	---	A	---	RECEPTS. - OUTSIDE	x20/1	26
27	x20/1	LIGHTS - RAQ.#2	---	B	---	RECEPTS. - OUTSIDE	x20/1	28
29	x20/1	SCOREBOARD	---	C	---	RECEPTS. - OUTSIDE	x20/1	30
31	x20/1	RECEPTS. - 101 S	---	A	---	AHU #22 ROOF	x40/3	32
33	x40/3	AHU #19 ROOF	---	B	---			34
35			---	C	---			36
37			---	A	---	AHU #20 ROOF	x40/3	38
39	x80/2	KILN	---	B	---			40
41			---	C	---			42

REMOVED ELECTRICAL LOAD- EX. PANEL #100B

DESCRIPTION	QTY.	KW	AMPS	SUB-TOTAL KW	SUB-TOTAL AMPS
RECEPTACLES	2	0.2	1.5	0.36	3.0
LIGHTING	8	0.1	0.5	0.512	4.3
TOTAL REMOVED LOAD:				0.9	2.4

ADDED ELECTRICAL LOAD - EX. PANEL #100B

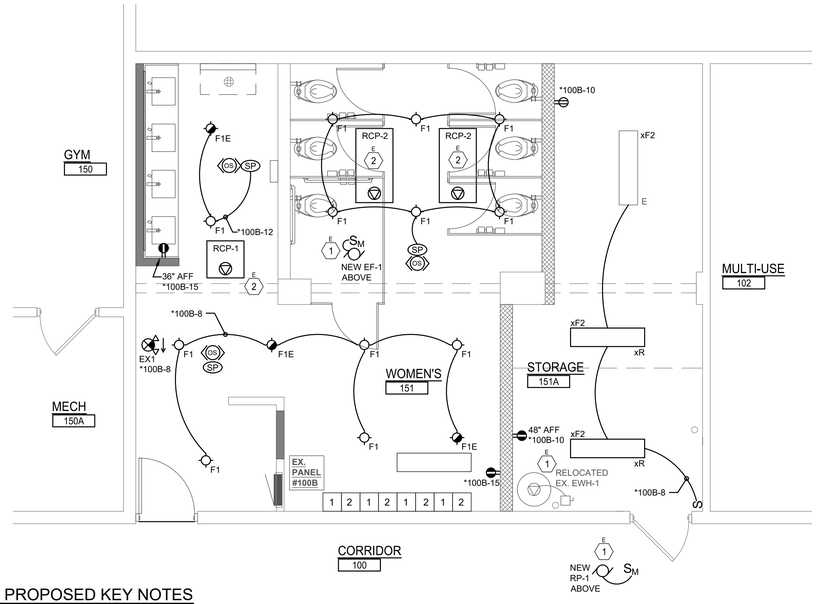
DESCRIPTION	QTY.	KW	AMPS	SUB-TOTAL KW	SUB-TOTAL AMPS
RECEPTACLES	4	0.2	1.5	0.7	2.0
LIGHTING	15	0.0	0.1	0.2	0.5
TOTAL ADDED LOAD:				0.9	2.5

REMOVED ELECTRICAL LOAD- EX. PANEL #100A

DESCRIPTION	QTY.	KW	AMPS	SUB-TOTAL KW	SUB-TOTAL AMPS
RECEPTACLES	2	0.2	1.5	0.36	3.0
LIGHTING	5	0.1	0.5	0.32	2.7
TOTAL REMOVED LOAD:				0.7	1.9

ADDED ELECTRICAL LOAD - EX. PANEL #100A

DESCRIPTION	QTY.	KW	AMPS	SUB-TOTAL KW	SUB-TOTAL AMPS
RECEPTACLES	1	0.2	1.5	0.2	0.5
LIGHTING	11	0.0	0.1	0.1	0.4
TOTAL ADDED LOAD:				0.3	0.9



ELECTRIC PROPOSED KEY NOTES

GENERAL:

EQUIPMENT, DUCTWORK, PIPING, ETC., TAGGED WITH PROCEEDING "EX." ARE EXISTING. xR ARE EXISTING TO BE RELOCATED

KEYNOTES:

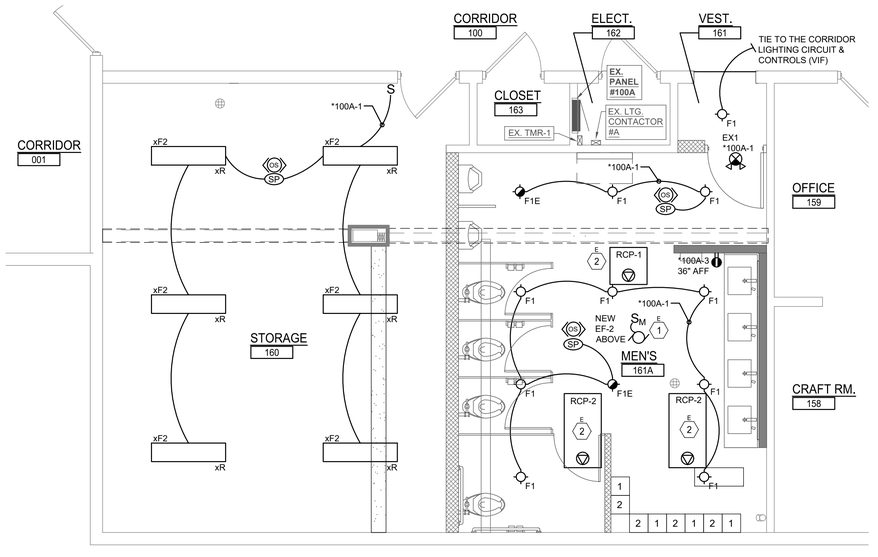
E 1 RECONNECT TO EXISTING 120V BRANCH CKT. (VIF)

E 2 RECONNECT TO EXISTING BRANCH CKT. FROM DEMOLISHED ELECTRIC BASEBOARD

North

ELECTRICAL PROPOSED WOMEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"



North

ELECTRICAL PROPOSED MEN'S RESTROOM LOCKERS

SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

DRAWING LOG

DATE	BY	DESCRIPTION

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ARCHITECT/ ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ARCHITECT/ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

SEAL

PROJECT TITLE

YPSILANTI COMMUNITY CENTER
MEN'S WOMEN'S RESTROOM RENOVATION

2025 E CLARK ROAD
YPSILANTI. MICHIGAN

SHEET TITLE

ELECTRICAL PROPOSED PLANS

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
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DESIGNED BY	BAR
DRAWN BY	NJG
CHECKED BY	DWM
APPROVED BY	DWM
DATE	JULY, 2025
FILE NO.	DA-1539-13

PROJECT NO. 138815SG2025

E2.0

SHEET 13 OF 13

7/28/2025 9:21:55 AM - Graham, Nolan J.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Heather Jarrell Roe
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Ryan Hunter
John Newman II
Gloria Peterson
Debbie Swanson

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

Date: August 12, 2025

RE: REQUEST AUTHORIZATION FOR YPSILANTI TOWNSHIP TO JOIN THE WASHTENAW 2030 DISTRICT.

The Residential Services Department is requesting authorization to voluntarily join the Washtenaw 2030 District. The Washtenaw/ Ann Arbor 2030 District is a 501c3 nonprofit and the local affiliate of the national 2030 Districts Network.

The goals of the organization center are to reduce energy and water use in the commercial building sector, thereby reducing greenhouse gas emissions. The district serves commercial building owners throughout Washtenaw County. There is no fee to municipal members to join the district or for any of their services.

The attached flyer provides additional information about the district. Initially, the services of greatest interest include the following:

1. Assistance with benchmarking energy and water use in applicable township buildings, to give us a comprehensive overview of building performance and help identify best opportunities for energy conservation measures (ECMs).

2. A free ASHRAE Level II Energy Audit of a building or buildings up to 43,000 square feet, through a district Energy Management Grant. My first choice would be to audit the 1970s era Civic Center. The audit report will include descriptions of ECMs with approximate cost estimates and payback periods. Besides saving energy and water, ECMs can greatly lower township expenses on energy.

Additional 2030 district services to be considered in the future; include solar feasibility studies, assistance with solar RFPs, decarbonization planning and equipment replacement consultation.

John Hines
Municipal Services Director
jhines@ypsitownship.org

ANN ARBOR/WASHTENAW 2030 DISTRICT®

Accelerating to Zero, *Faster Together*

Washtenaw 2030 District is your partner in decarbonizing the built environment



Who We Are: Membership

110 Property Owners/Managers
41 Professional Stakeholders
10 Community Organizations
1100 Buildings – **35 million SF**

How We Are Organized: Best Practice Groups

Houses of Worship & Non-Profits
Multifamily
Municipal
Restaurants & Bars

What We Do: Programs

Energy & Water Benchmarking
- Building and portfolio reports

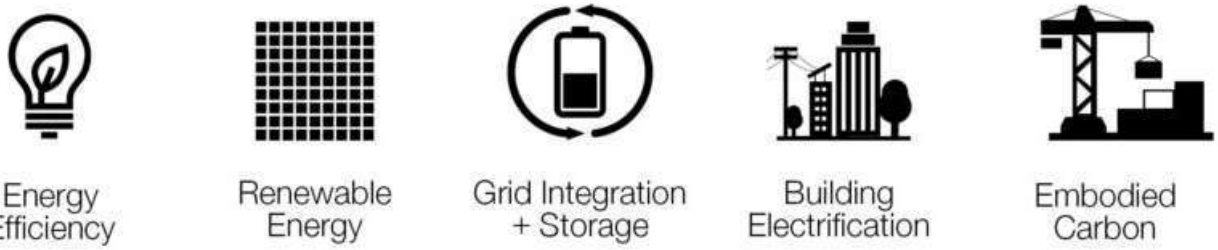
Energy Management Grants
- Energy audits
- Decarbonization planning
- Equipment replacement options
- Energy related consulting

Commercial Solar Program
- Feasibility studies
- Request for proposal (RFP) template
- Proposal review assistance

Biennial Transportation Survey
- Building and organization reports

Education
- Implementing A2ZERO Series
- Website

Connect you with Resources
- Utility rebates
- Grant programs
- Financing programs



Washtenaw 2030 District is a 501c3 nonprofit and part of the 2030 Districts Network

District Funding:
MI EGLE ~ DTE ~ City of Ann Arbor ~ Professional Stakeholder Members & Sponsors

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

Date: August 13, 2025

RE: REQUEST TO AUTHORIZE FOR OHM'S SCOPE CHANGE FOR FONSON TO ADD SANITARY LINE REPAIRS THE ARPA FUNDED CIVIC CENTER PARKING LOT PROJECT

The Residential Services Department is requesting authorization to move forward with the scope change prepared by OHM with Fonson for the Civic Center Parking Lot project to add Sanitary Line Repair for a not to exceed price of $225,000.00 that would utilize the remaining contingency balance and contingent on a budget amendment for final balance.

The Sanitary Line work that is being proposed would be included in "Phase 2" of the Civic Center Parking Lot project that was funded from the American Rescue Plan Act. The board approved the project originally at the June 6, 2023 meeting and approved Fonson as the construction group at the October 1, 2024 meeting. Phase 1 took place in the Fall of 2024 and Phase 2 is scheduled to begin August 18, 2025 and end November 3, 2025.

The recommended scope for the sanitary line work that will be brought forward in a change order is as follows:

- Replace approximately 150' of 10" sanitary sewer main as shown in the figure attached
- Install two new manholes at the existing main and at the proposed connection
- Remove and replace Veterans Memorial Drive pavement, bus drive lane pavement, curb and gutter, sidewalks, and streetlights.
- Coordination with AAATA to temporarily remove the bus shelter (if necessary)
- Bypass pumping of sanitary flows
- Trench dewatering for groundwater control (if necessary)
- Close Veterans Memorial Drive from the Civic Center north during open-cut installation and road restoration. Traffic will be detoured from the south (anticipate a 1-month closure for this work).

If approved, the official change order will be prepared by OHM and Fonson and brought forward to the September 16, 2025 board meeting.

John Hines
jhines@ypsitownship.org

August 13, 2025

John Hines, Municipal Services Director
Charter Township of Ypsilanti
7200 S Huron River Drive
Ypsilanti, MI 48197

RE: Stumbo Civic Center Parking Lot – Change Order No. 2: Sanitary Sewer Replacement
Additional Scope of Work Authorization and Future Change Order
OHM Job No. 0098-20-0060

Dear Mr. Hines:

On numerous occasions, solids have been observed within the sanitary sewer manholes in front of the Civic Center. The Ypsilanti Community Utility Authority (YCUA) has had to vacuum these solids from the sanitary sewer, as they are not flowing to the main. Recent televising performed by Pipeline Management Inc. identified several issues, including a low point (belly) in the line, negative drainage, and an offset joint. While recent televising confirmed that much of the sewer line is in good condition, the identified problem area requires correction. Performing this during the parking lot construction would be advantageous in our opinion if funds are available.

Construction of the adjacent Civic Center parking lot is scheduled to begin on August 18, 2025. This presents an opportunity to complete the sanitary sewer work concurrently, potentially utilizing the existing contractor. Performing the work under the current contract could avoid additional costs for mobilization, traffic control, and project coordination that would likely be incurred if the project were bid separately.

Anticipated future Change Order
Recommended Scope of Work

- Replace approximately 150' of 10" sanitary sewer main as shown in the figure below
- Install two new manholes at the existing main and at the proposed connection
- Remove and replace Veterans Memorial Drive pavement, bus drive lane pavement, curb and gutter, sidewalks, and streetlights.
- Coordination with AAATA to temporarily remove the bus shelter (if necessary)
- Bypass pumping of sanitary flows
- Trench dewatering for groundwater control (if necessary)
- Close Veterans Memorial Drive from the Civic Center north during open-cut installation and road restoration. Traffic will be detoured from the south. We anticipate a 1-month closure for this work.

OHM Advisors®
34000 PLYMOUTH ROAD
LIVONIA, MICHIGAN 48150
T 734.522.6711
F 734.522.6427
OHM-Advisors.com

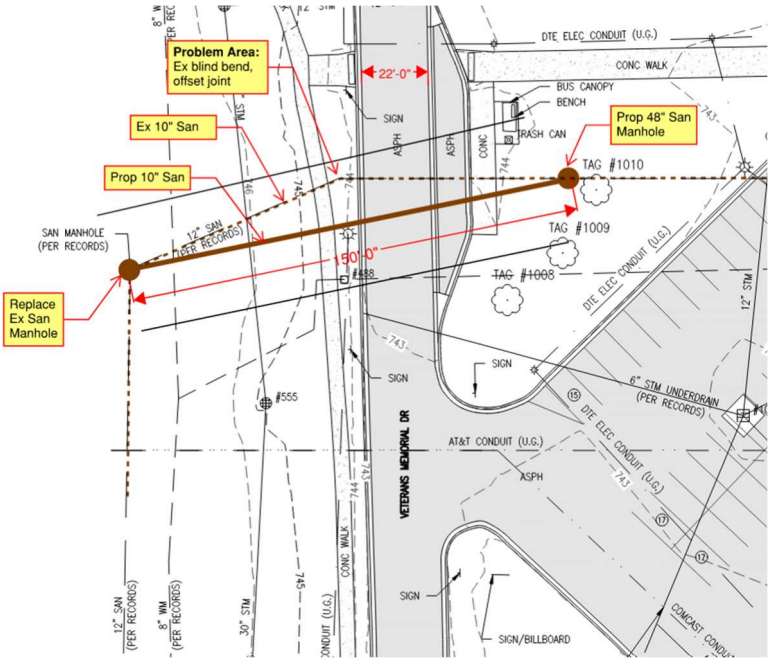


Figure 1: Proposed Sanitary Sewer Replacement

The current contract has a remaining contingency of $61,000. The estimated cost for the proposed sanitary sewer improvement work is conservatively estimated not to exceed **$225,000**. This number could be less or more depending on existing conditions but this number is being provided as an anticipated ceiling. This estimate is based on the information currently available and will be refined following completion of design, verification of utility conflicts, and receipt of updated contractor pricing.

If the Township is in favor of proceeding with this work, then OHM will work with the contractor to start this work and minimize costs. The official change order would be prepared for the September Board meeting with actual costs.

If the Township Board approves this scope of work, please provide written authorization to proceed.

Sincerely,
OHM Advisors

Matthew D. Parks, P.E.
Principal

cc: Devin Rinaldi, Fonson Inc (via e-mail)
Alex Bade, PE, OHM (via e-mail)
Fraser Payne, PE, OHM (via e-mail)

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

Date: August 13, 2025

RE: **REQUEST AUTHORIZATION TO APPROVE OHM ADVISORS FOR ENGINEERING SERVICES TO ESTABLISH A PERMANENT DRIVE FROM THE LAW ENFORCEMENT CENTER LOCATED AT 1501 S. HURON ST TO KALITTA COURT FOR ACCESS TO HURON ST.**

The Residential Services Department is requesting authorization to approve OHM Advisors for engineering services to establish a permanent driveway for police personnel and patrons for access to and from the Law Enforcement Center at 1501 S. Huron St, through Kalitta Court for a connection to Huron Street. OHM provided the township with a price of $10,000.00-$40,000.00 for the services depending on what the township needs to accomplish this project. This expense is budgeted in 213-753-801.000.

This request is being made due to the safety concerns brought forward by Washtenaw County Sheriff Officers and other patrons that have utilized the existing exit from their building to Huron Street after the light was installed at Kalitta Court. Due to the proximity of the existing drive to the new drive, it is extremely hazardous for motorists to enter or exit the drive. Due to this concern, the township has constructed a temporary drive for access. This proposal would approve OHM to continue to work with township staff and officials, and Washtenaw County agencies to finalize the processes to transform the temporary drive to the permanent access point.

The broad range in price for the proposal is due to the wide swathe of items that can be included for the work. All proposed items might not be needed and with township input during upcoming meetings, OHM can remove the unneeded items as necessary.

If approved, the permanent driveway would ideally be completed early Spring 2026, when weather allows.

John Hines
jhines@ypsitownship.org

August 13, 2025

John Hines
Municipal Services Director
Ypsilanti Township
7200 S Huron River Dr
Ypsilanti MI 48197

Regarding: **Washtenaw County Sheriff's Office Driveway**
Professional Services Memo

Dear Mr. Hines,

It is our understanding that the Township would like to establish a permanent driveway connection from the Washtenaw County Sheriff's Office, located at 1501 S Huron Street, north to the newly constructed Kalitta Court. A temporary driveway is currently being utilized, but a permanent driveway will need to be designed and constructed.

The scope of services anticipated for the proposed work can include, but are not limited to, the following tasks:

- Topographic survey
- Easement negotiation and preparation
- Drainage design
- Sidewalk and driveway design
- Landscape and lighting design
- Franchise utility coordination
- Circulation assessment
- Modification of the existing Washtenaw County Sheriff's Office parking lot, if needed
- Signage design
- Preparation of contract books for bidding
- Bidding assistance services

OHM can provide these services for $10,000-$40,000 depending on the level of service and after formally discussing a well thought out scope. This range would exclude construction services, inspection and staking. We'd be happy to work on a refined cost and scope with you once the Township Board of Trustees provides authorization to seek a formal proposal. Its likely the final budget will be on the lower end of this range.

Once design and bid, a separate proposal for this work can be provided upon request. It is assumed that permits from the Washtenaw County Road Commission, the Washtenaw County Water Resources Commissioner, or any other agency are not required. We assume that this work will either occur late fall 2025 or early spring 2026 (The Twp will probably receive better prices bidding this in the winter than forcing this through this construction season).

Should you have any questions regarding this matter, please contact me directly at (248)-444-8984 or (734)-466-4579.

Sincerely,
OHM Advisors

Matthew D. Parks, P.E.

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F 734.522.6427
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Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— RESIDENTIAL SERVICES DEPARTMENT —

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: John Hines, Municipal Services Director

CC: Myla Harris, Purchasing Clerk

Date: August 12, 2025

RE: **REQUEST AUTHORIZATION TO APPROVE THE SALE AND/OR REMOVAL OF EXCESS TOWNSHIP EQUIPMENT**

The Residential Services Department (RSD) is requesting authorization to approve the removal of excess Township equipment.

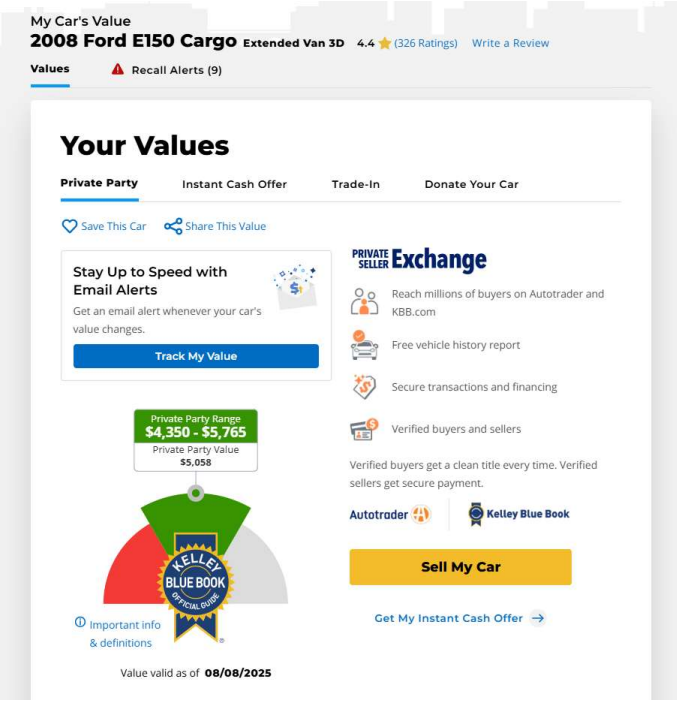
Please find attached a listing from a number of pieces of equipment from Township Departments along with estimated values. We will ensure we follow appropriate procedures and policies set in place to appropriately discard equipment.

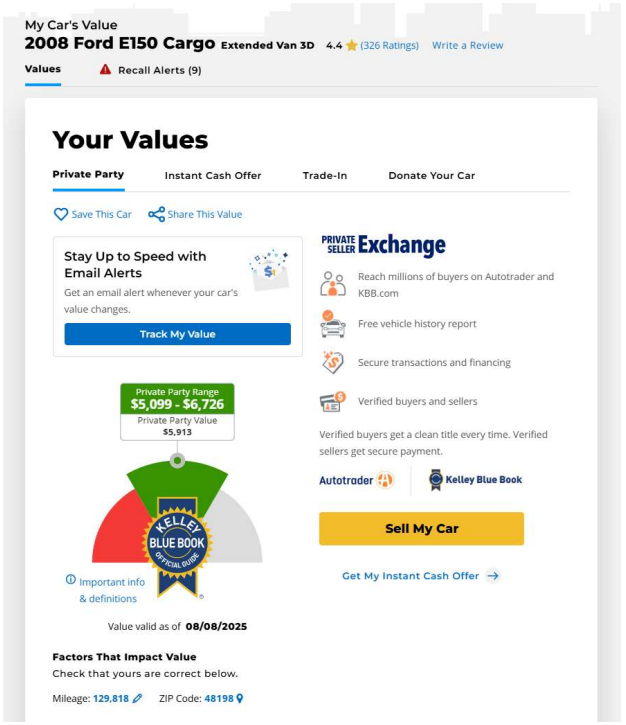
RSD staff plan to offer and administer a Township auction later this fall.

John Hines
Municipal Services Director
jhines@ypsitownship.org

2008 Ford E150 Cargo

Kelly Blue Book Value $4,300 - $6,700 (Based on Condition)






58


58




58



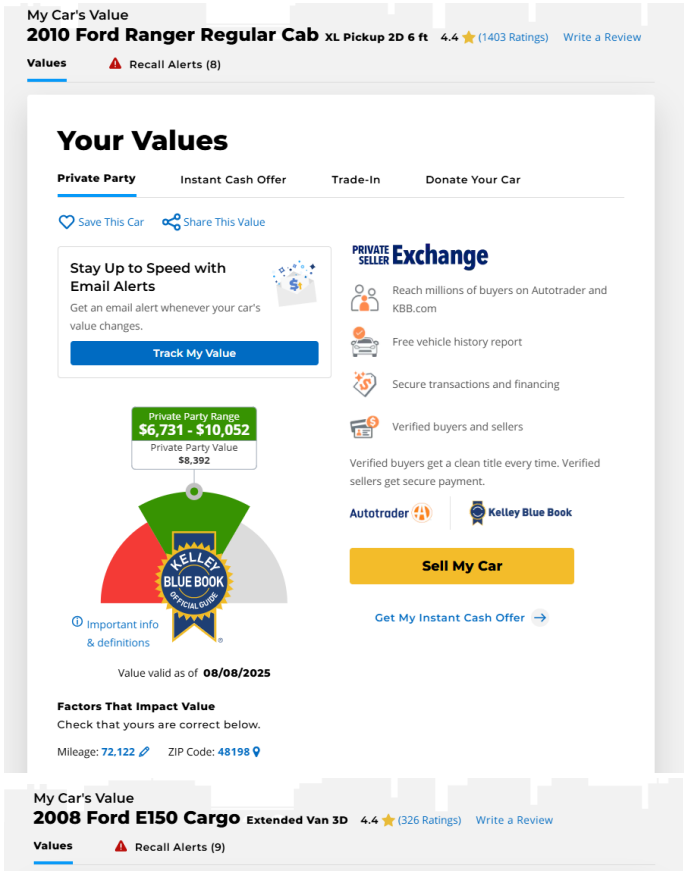


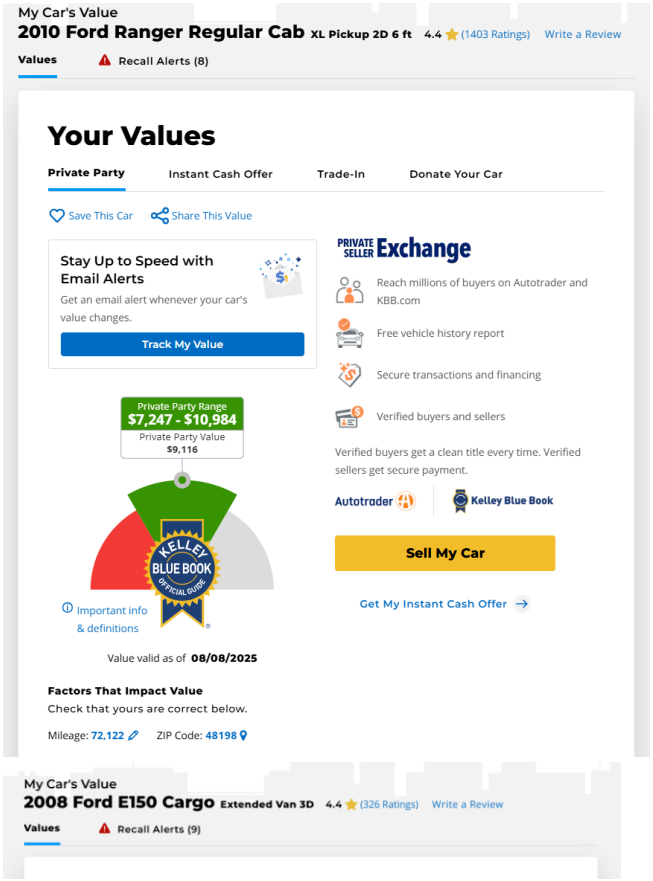




2010 Ford Ranger

Kelly Blue Book Value $6,700 - $10,900 (Based on Condition)

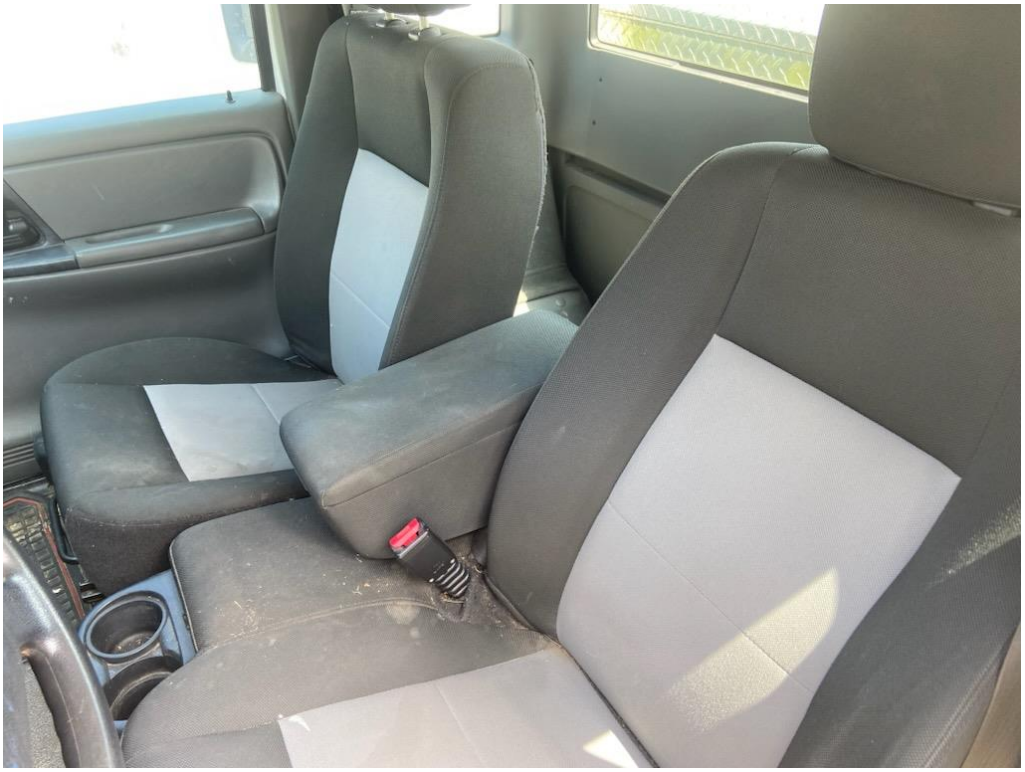





63
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Ford
734-544-4000
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F250
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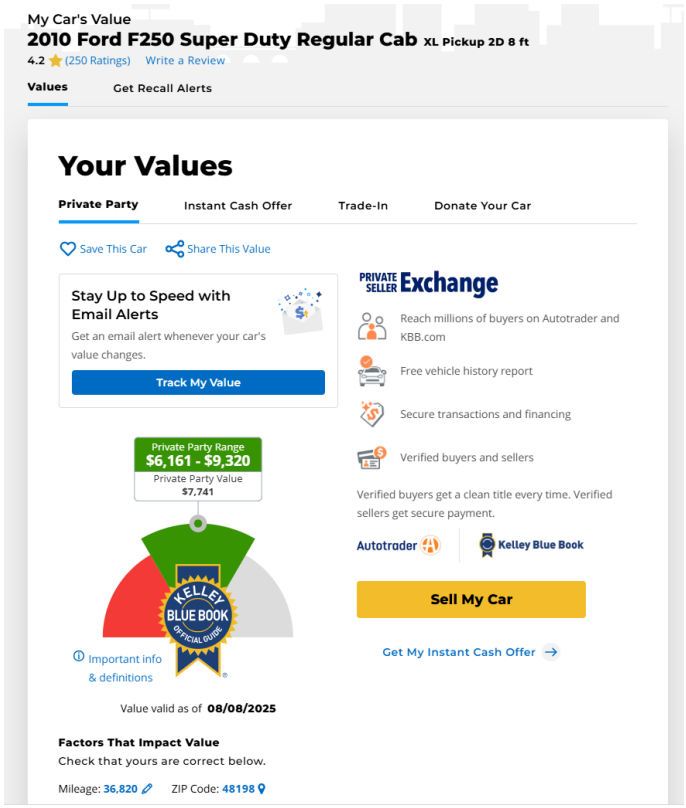


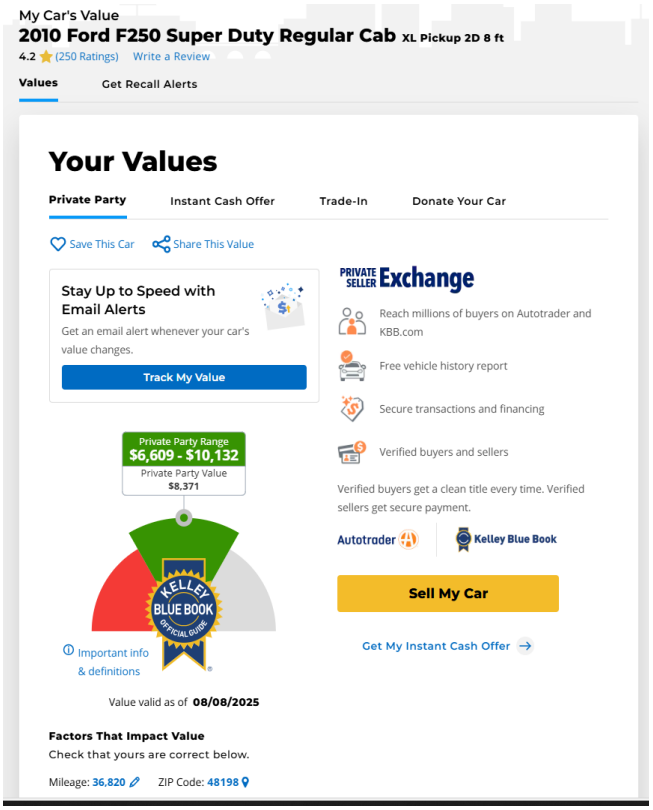

BUILT
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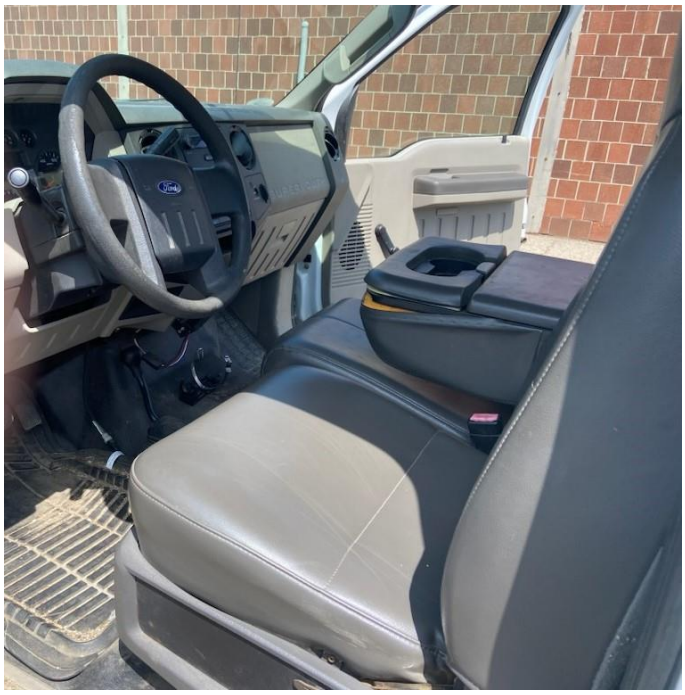
2010 Ford F250 Super Duty Regular Cab

Kelly Blue Book Value $6,100 - $10,100 (Based on Condition)





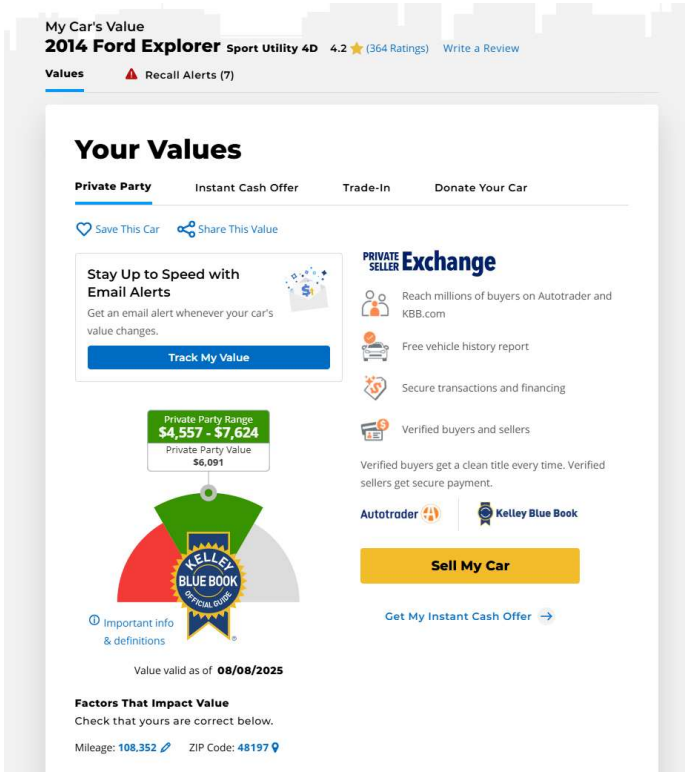

67
4x4
YPSILANTI
TOWNSHIP
Ford
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ypsitownship.org
SUPER DUTY
MICHIGAN
MUNICIPAL

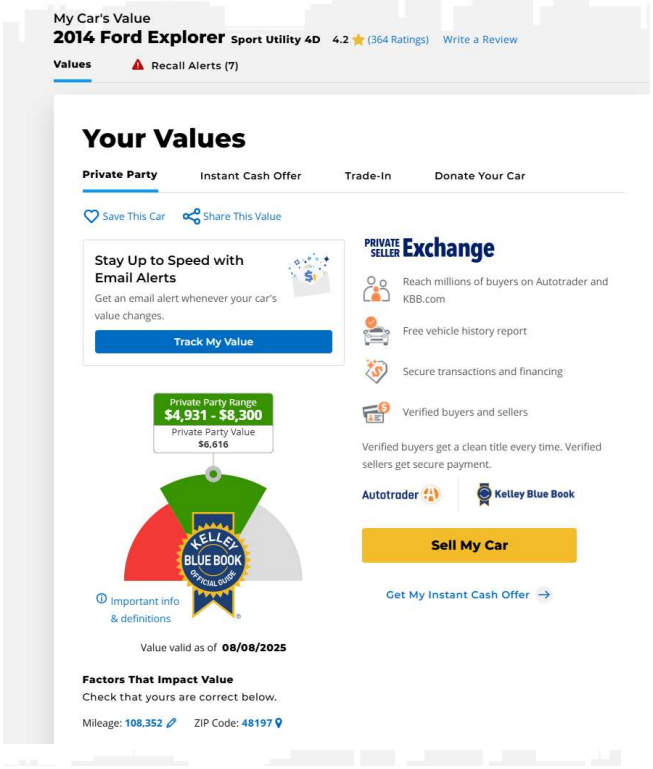



SUPER DUTY

2014 Ford Explorer

Kelly Blue Book Value $4,500 - $8,300 (Based on Condition)






76
YPSILANTI TOWNSHIP
WHERE YOUR FUTURE GROWS


76
YPSILANTI TOWNSHIP
WHERE YOUR FUTURE GROWS



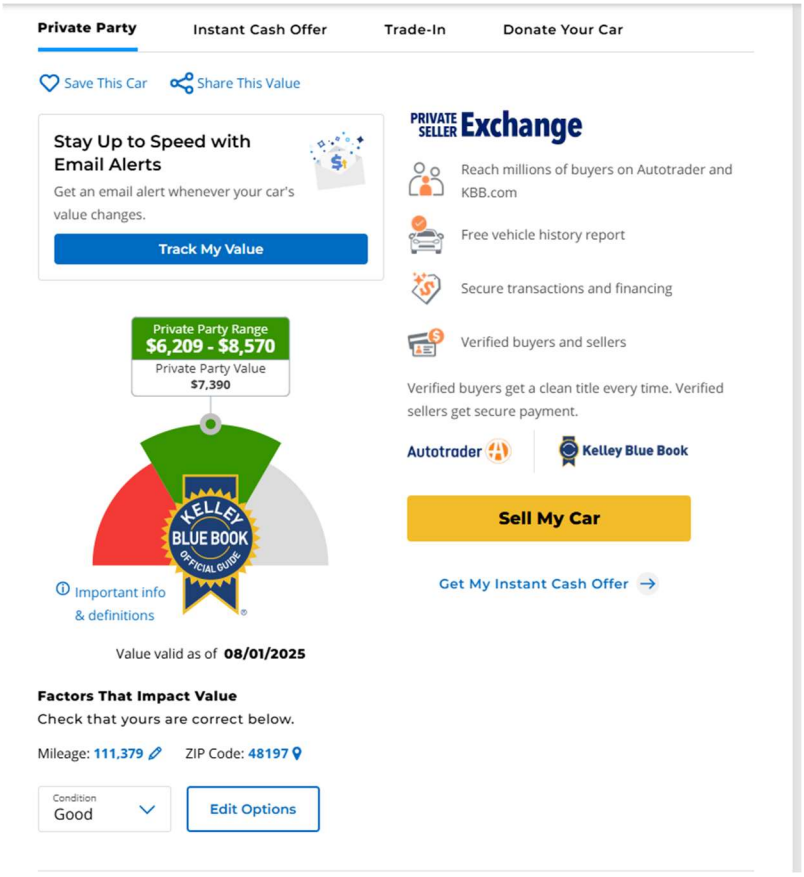

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76

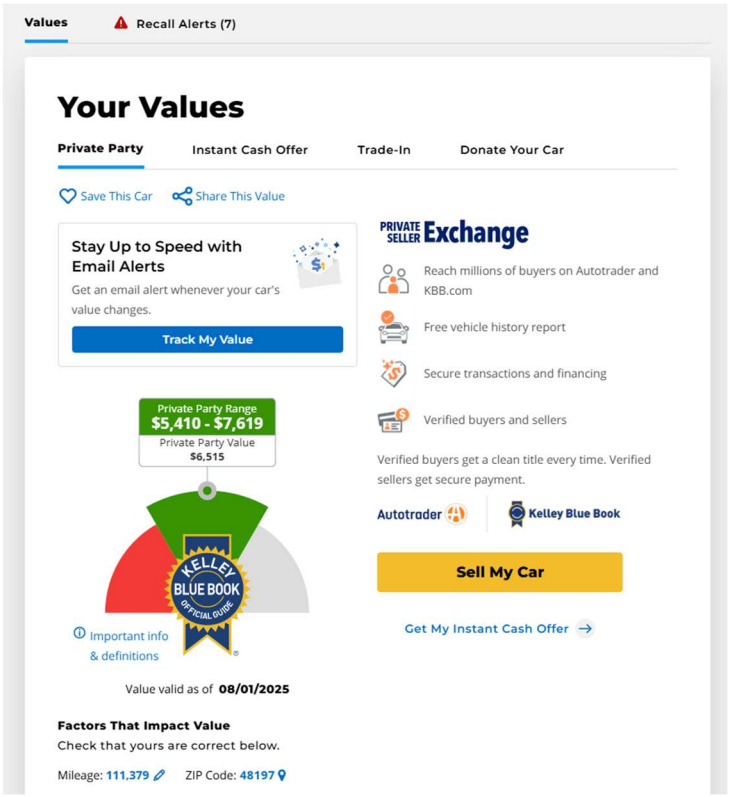


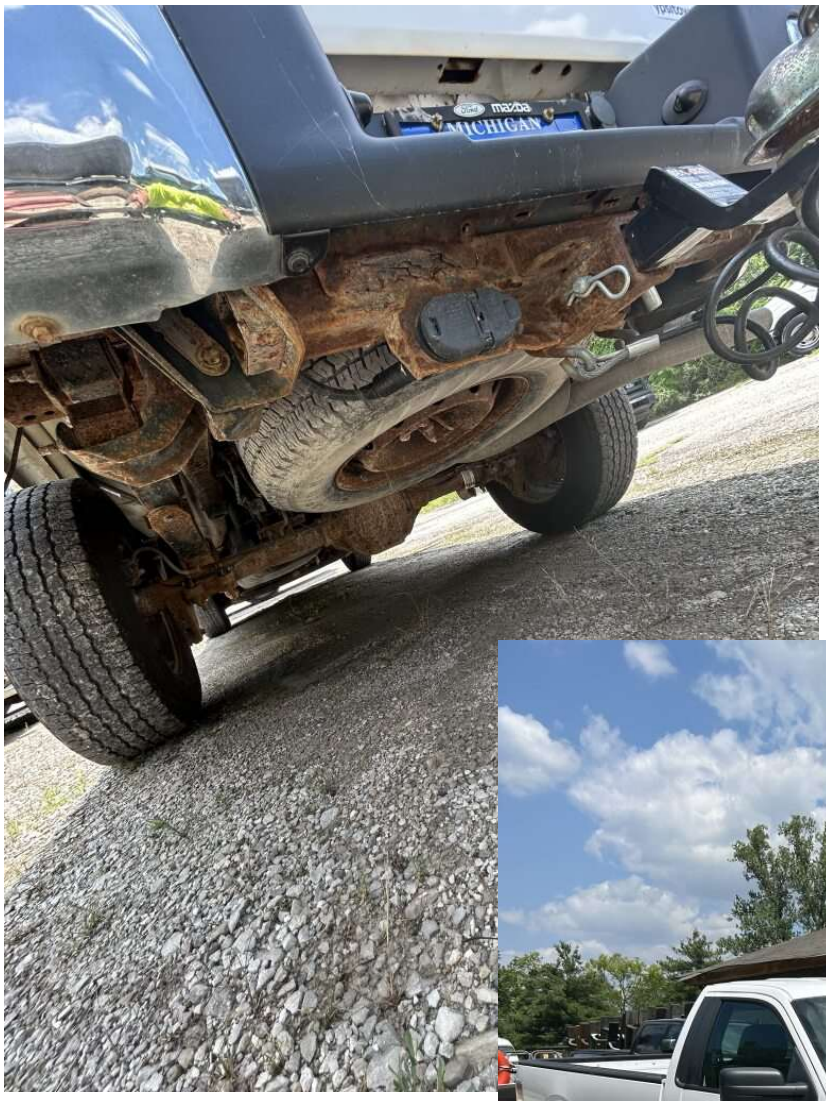


2014 Ford F150 Regular Cab Pickup

Kelly Blue Book Value - $5,500-$8,500 (Based on condition)






MICHIGAN


84




F150
84
YPSILANTI TOWNSHIP
123 x 199
GDRNO




84


Ford
Ypsilanti
Charter
Township

1993 Ford 3930 Tractor

Serial: F1NN 3K 514 BA







1988 Ford 4610 LCG Tractor

Serial: BB45057 **Model**:DS3146 **Hours**:4430

with

Lely 3 point mounted, dry fertilizer spreader

Serial:10604-0832 **Model**: 2.3201.0001.1

It has not been run in 3-4 years, leaks diesel fuel and hydraulic fluid. Turf tires

Estimated Value: $2,500 - $5,600

(Based on online comps)








Ford


LELY

Western Snowplow

9’ Plow

Value: $500 - $1, 000



Polaroid ID Camera With Laminator

Sold as is – Unsure if it works – Film not included




PULL FILM
BOOST ON
WAIT
READY
Polaroid
OPERATING
Instructions
USI


ENHANCING YOUR IMAGE
USI INC.
SINCE 1975
M500 Camera
M500 Camera


USI
The Image



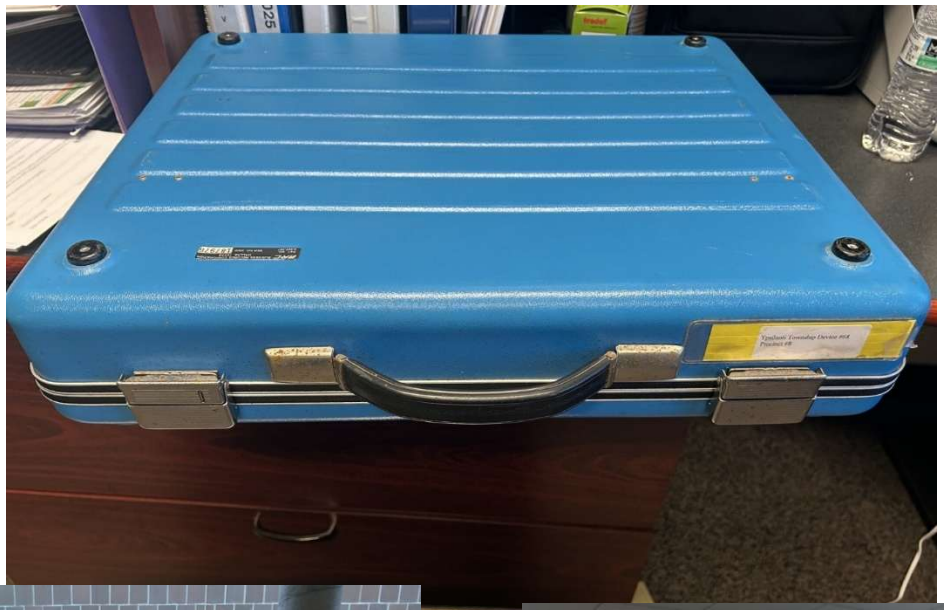

USI



Voting Booths

32 available. 14 Silver Booths and 18 Blue Booths

New Retails for $255.00 Used on eBay $150.00
Sell for $50.00 or best offer each.







OTHER BUSINESS

PUBLIC COMMENTS

- **Three Minutes Per Person**
- **All Comments must be addressed to the Chair**
- **Public Comments are also welcomed as the board addresses each item**

BOARD MEMBER COMMENTS

ADJOURNMENT