

PLUMBING ABBREVIATIONS

AD	AREA DRAIN		
ASR	AUTOMATIC SPRINKLER RISER	NTS	NOT TO SCALE
BFS	BELOW FLOOR SLAB	ORD	OVERFLOW ROOF DRAIN
BWV	BACK WATER VALVE	OKY	OXYGEN
CB	CATCH BASIN	P	PUMP
CI	CAST IRON	PD	PRESSURE DROP
CO	CLEAN OUT	PVC	POLY-VINYL-CHLORIDE
CV	CONTROL VALVE		
DF	DRINKING FOUNTAIN	RC	RAIN CONDUCTOR
DIA	DIAMETER	RD	ROOF DRAIN
DN	DOWN	RI	ROUGH-IN
DWH	DOMESTIC WATER HEATER	REQ'D	REQUIRED
E.T.C.	ELECTRICAL TRADES CONTRACTOR	SAN	SANITARY
EWV	ELECTRIC WATER COOLER	SHWR	SHOWER
EXIST	EXISTING	SK	SINK
		SP	STAND PIPE
FD	FLOOR DRAIN	SQ. FT.	SQUARE FEET
FC	FINAL CONNECTIONS	SS	SERVICE SINK
FDC	FIRE DEPT. CONNECTION	ST	STORM
FF	FINISH FLOOR	S&W	STOP & WASTE
FHV	FIRE HOSE VALVE	STR	STRAINER
FT	FEET	SV	STACKED VENT
		TYP.	TYPICAL
GAL	GALLON	UR	URINAL
GD	GARBAGE DISPOSAL		
GI	GREASE INTERCEPTOR	VB	VACUUM BREAKER
GPH	GALLONS PER HOUR	VS	VENT STACK
GPM	GALLONS PER MINUTE	V.F.D	VARIABLE FREQUENCY DRIVE
		VTR	VENT THRU ROOF
HB	HOSE BIB	W	WASTE
HD	HEAD (FT)	WB	WET BULB
HP	HORSE POWER	WC	WATER CLOSET
ID	INSIDE DIAMETER	WH	WALL HYDRANT
I.E.	INVERT ELEVATION	WS	WASTE STACK
LAV	LAVATORY	W&V	WASTE AND VENT
LT	LAUNDRY TRAY		
MA	MEDICAL AIR	X-CW	EXIST. CW PIPING
MAX	MAXIMUM		ITEM
MGC	MEDICAL GAS CONSOLE		EXISTING
MH	MAN HOLE		
MIN	MINIMUM		
MS	MOP SINK		
M.T.C.	MECHANICAL TRADES CONTRACTOR		

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL CONFORM TO MICHIGAN PLUMBING CODE, LATEST APPLICABLE EDITION, AND ALL APPLICABLE LOCAL CODES.
2. INSTALL ALL EQUIPMENT, MATERIALS, AND ACCESSORIES PER MANUFACTURERS WRITTEN INSTRUCTIONS.
3. INSTALL ISOLATION BALL VALVES @ ALL FIXTURE WATER SUPPLY LINES.
4. ALL PIPE SIZES SHOWN ARE SERVICE SIZE. SIZE SLEEVES FOR 1" CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLATION OF MECHANICAL SEAL.
5. CONTRACTOR SHALL DEMOLISH & REMOVE EXISTING PIPING, FITTINGS, & EQUIPMENT AS REQUIRED FOR NEW INSTALLATIONS. VALVE & CAP PIPING TO REMAIN.
6. FIELD VERIFY LOCATIONS OF EXISTING PIPING THAT MAY CONFLICT WITH NEW CONSTRUCTION AND RELOCATE AS NEEDED.
7. NOTIFY OWNER OF ANY PIPING DEMOLITION THAT MAY AFFECT NORMAL OPERATION OF OTHER AREAS.
8. PROVIDE SHOCK STOPS FOR EVERY PLUMBING GROUP. PROVIDE SHOCK ABSORBER IN THE DOMESTIC COLD AND HOT WATER PIPING. SHOCK ABSORBERS TO BE LOCATED IN AN ACCESSIBLE LOCATION.
9. PROVIDE AIR ELIMINATION DEVICES FOR EACH PLUMBING SYSTEM.
10. THE CONTRACTOR SHALL FIELD VERIFY THE SIZES, LOCATION, ELEVATIONS, AND DETAILS OF ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EQUIPMENT AND MATERIALS IN A "NEW" CONDITION DURING CONSTRUCTION.
12. ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND SUBCONTRACTORS AS REQUIRED BY LAW.
13. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CODES AND REGULATIONS ENFORCED BY LOCAL BUILDING OFFICIALS.
14. IF THERE IS CONFLICTING INFORMATION IN THE PLANS OR SPECIFICATIONS THE MORE STRINGENT AND GREATER COST ITEM SHALL BE USED.

GENERAL DEMOLITION NOTES

1. EXISTING EQUIPMENT LAYOUT IS SCHEMATIC. EXACT LOCATION OF EXISTING DUCT/PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO DEMOLITION.
2. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS, OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES OR REGULATIONS OF FEDERAL, STATE, AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.
3. WHERE APPROVED STANDARDS HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORIES, AMERICAN CODES, ASA, ASHRAE, ARI, NEC, STATE FIRE INSURANCE REGULATION BODY, NFPA OR OTHERS, THESE STANDARDS SHALL BE FOLLOWED WHETHER OR NOT INDICATED ON THE DRAWING AND SPECIFICATIONS.
4. COORDINATE CUTTING AND PATCHING WITH GENERAL CONTRACTOR.
5. ALL BOLD DASHED LINES INDICATE ITEMS TO BE REMOVED UNLESS NOTED BY KEYNOTE. ALL OTHER EXISTING SYSTEMS SHOWN FOR REFERENCE ONLY.
6. PATCH AND REPAIR ALL FLOOR AND WALL SURFACES LEFT DAMAGED OR INCOMPLETE FROM REMOVAL OF EXISTING PARTITIONS, MILLWORK, CASEWORK, OR OTHER FIXED ACCESSORIES AND EQUIPMENT WITH MATERIALS TO MATCH EXISTING, AS ACCEPTABLE TO THE ARCHITECT.
7. NOTATIONS ARE MADE IN VARIOUS PLACES ON THE DRAWINGS TO CALL ATTENTION TO DEMOLITION WHICH IS REQUIRED. HOWEVER, THESE DRAWINGS ARE NOT INTENDED TO SHOW EACH AND EVERY ITEM TO BE REMOVED. CONTRACTOR SHALL REMOVE ALL MATERIALS RELATED TO THEIR RESPECTIVE TRADES AS REQUIRED TO PERMIT THE CONSTRUCTION OF THE NEW WORK AS SHOWN.
8. THE GENERAL CONTRACTOR SHALL COORDINATE THE EXTENT OF THE REQUIRED DEMOLITION OF THE EXISTING BUILDING AS REQUIRED TO FACILITATE THE CONSTRUCTION OF THE PROJECT AS SHOWN AS PART OF THIS WORK.
9. ALL DEMOLITION SHALL BE APPROVED BY THE OWNER/TENANT PRIOR TO COMMENCEMENT AND SHALL BE PERFORMED UNDER REQUIREMENTS AND APPROVAL OF THE LOCAL CODE JURISDICTIONS.
10. ASBESTOS ABATEMENT. CONTRACTOR SHALL NOTIFY BUILDING REPRESENTATIVE IMMEDIATELY WHEN AND IF ANY ITEMS ARE ENCOUNTERED THAT IN ANY WAY, SHAPE, OR FORM APPEAR TO BE HAZARDOUS OF NATURE. ASBESTOS ABATEMENT IS NOT PART OF THE SCOPE OF THE DESIGN PROFESSIONALS DOCUMENTATION OR RESPONSIBILITY TO SURVEY, IDENTIFY, OR FOR CONSULTATION OF PROPER DISPOSAL.
11. PROTECT ALL EXISTING WORK WHICH IS TO REMAIN AND RESTORE IN AN APPROVED MANNER IF ANY SUCH WORK WHICH BECOMES DAMAGED.
12. RUBBISH AND DEBRIS RESULTING FROM THE WORK SHALL BE REMOVED IMMEDIATELY FROM THE SITE IN A SAFE AND LEGAL MANNER BY THE CONTRACTOR.
13. DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT BUILDING REPRESENTATIVE TO CLARIFY ANY ITEMS NOT SHOWN ON THESE DOCUMENTS OR SHOWN NOT MATCHING FIELD CONDITIONS.

PLUMBING SYMBOLS LEGEND

PLUMBING PIPING

— CW —————	COLD WATER
- - CW - - - - -	COLD WATER BELOW FINISH SLAB
— HW —————	HOT WATER
- - HW - - - - -	HOT WATER BELOW FINISH SLAB
— HWR —————	HOT WATER RETURN
- - HWR - - - - -	HOT WATER RETURN BELOW FINISH SLAB
— SW —————	SOFTENED WATER
- - SW - - - - -	SOFTENED WATER BELOW FINISH SLAB
— SWR —————	SOFTENED WATER RETURN
- - SWR - - - - -	SOFTENED WATER RETURN BELOW FINISH SLAB
— TW —————	TEMPERED WATER
— TW —————	TEMPERED WATER BELOW FINISH SLAB
— TWR —————	TEMPERED WATER RETURN
- - TWR - - - - -	TEMPERED WATER RETURN BELOW FINISH SLAB
— DI —————	DEIONIZED WATER
- - DI - - - - -	DEIONIZED WATER BELOW FINISH SLAB
— RO —————	REVERSE OSMOSIS WATER
- - RO - - - - -	REVERSE OSMOSIS WATER RETURN BELOW FINISH SLAB
— FP —————	FIRE PROTECTION
— G —————	GAS (NATURAL)
— LP —————	GAS (LIQUID PETROLEUM)
— ARV —————	ACID RESISTANT
— ARW —————	VENT ACID RESISTANT WASTE
— ARW — — — —	ACID RESISTANT WASTE BELOW FINISH SLAB
— RC —————	RAIN CONDUCTOR
— ST — — — —	STORM BELOW FINISH SLAB
— ORC —————	OVERFLOW RAIN CONDUCTOR
— ORC — — — —	OVERFLOW RAIN CONDUCTOR BELOW FINISH SLAB
— SAN —————	SANITARY WASTE
— SAN — — — —	SANITARY WASTE BELOW FINISH SLAB
— V — — — —	VENT PIPING
- - V - - - - -	VENT PIPING BELOW FINISH SLAB
— CA —————	COMPRESSED AIR
— O2 —————	OXYGEN
— NO —————	NITROUS OXIDE
— N2 —————	NITROGEN
— MA —————	MEDICAL AIR
— VAC —————	VACUUM
- - - - -	DEMOLITION

PLUMBING VALVES

	GATE VALVE
	GAS COCK
	CHECK VALVE
	BALANCE COCK
	CIRCUIT SETTER
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	GLOBE VALVE
	BALL VALVE
	OS&Y VALVE
	SOLENOID VALVE
	EXPANSION VALVE WITH THERMOSTATIC BULB
	PLUG VALVE
	BUTTERFLY VALVE
	RELIEF VALVE
	HOSE & DRAIN END VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	TRIPLE DUTY VALVE
	GAS PRESSURE REGULATOR
	STRAINER (BLOW-OFF)

PLUMBING EQUIPMENT

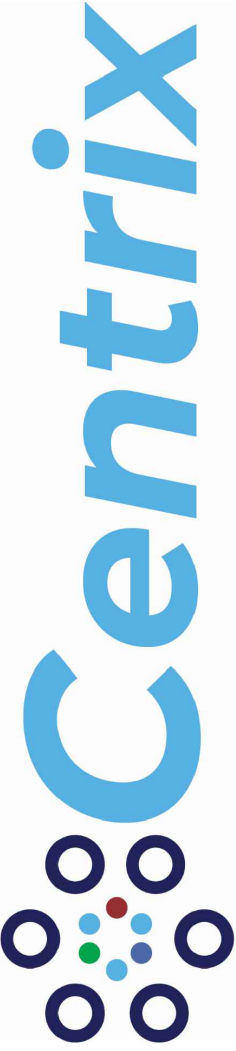
	FLOW DIRECTION
	PIPING DROP
	PIPING RISE
	FLOOR CLEANOUT
	INLINE PIPING DROP
	INLINE PIPING RISE
	PIPING TEE
	PIPING ELBOW
	INLINE CLEANOUT
	PLUMBING TRAP
	THERMOMETER
	CONNECTION
	PUMP
	UNION
	PIPE ANCHOR
	PIPE GUIDE
	FLOOR DRAIN & FLOOR SINK
	BACK FLOW PREVENTER
	FLANGE END CONNECTION
	WALL HYDRANT & HOSE BIBB
	REGULAR & OVERFLOW ROOF DRAIN
	PIPE CAP
	PIPE BREAK
	WATER METER
	GAS METER
	PRESSURE GAUGE
	FIRE HYDRANT
	SPRINKLER HEAD (PENDANT)
	SPRINKLER HEAD (UPRIGHT)
	SPRINKLER HEAD (SIDEWALL)
	FIRE DEPARTMENT CONNECTION
	PIPING FLEXIBLE CONNECTOR
	SIGHT GLASS
	PIPE EXPANSION
	COMPENSATOR FLOW SENSOR DEVICE
	FLOW METER
	FLOW SWITCH
	PRESSURE SWITCH
	SUPERVISORY SWITCH INVERTED
	BUCKET TRAP
	FLOAT & THERMOSTATIC TRAP

MISCELLANEOUS NOTES

	POINT OF CONNECTION BETWEEN NEW AND EXISTING
	POINT OF EXISTING TO REMAIN AND EXISTING TO BE REMOVED
	INDICATES PLAN NOTE
	INDICATES DEMOLITION NOTE
	DETAIL BUBBLE
	DETAIL NUMBER
	PAGE LOCATION INDICATES
	DIRECTION OF DETAIL SECTION

DOMESTIC WATER HEATER SCHEDULE

TAG	MODEL	LOCATION	AIR INLET SIZE (in.)	VENT SIZE (in.)	INPUT ENERGY (MBH)	HEAT OUTPUT (MBH)	TURNDOWN	GPH 100°F RISE	OUTPUT EFFICIENCY (%)	EWT (°F)	LWT (°F)	DIMENSIONS			ELECTRICAL					SHIPPING WEIGHT	COMMENTS
												LENGTH	WIDTH	HEIGHT	VOLTS	PHASE	HP	DISC.	STARTER		
DWH-1	AWH-0500NPM	MECHANICAL 113	4	4	500	495	10:1	100	99.0	55	120	45"	24"	30.5"	120	1	0.5	EC	EC	333	1,2,3,4,5,6,7
NOTES: 1. BASED ON: LOCHINVAR 2. NATURAL GAS CONDENSING BOILER 3. CONDENSATE NEUTRALIZATION KIT 4. MANU. PROVIDED STAINLESS STEEL RECIRCULATION PUMP (RP-1) BASED ON LOCHINVAR, MODEL: 100330259, 37 GPM, 16FT HEAD, 120V, 1/2 HP, DISCONNECT BY EC												5. MOUNT ON EXISTING CONCRETE PAD 6. RE-USE EXISTING BOILER FLUE PENETRATION FOR NEW COMBUSTION AIR AND FLUE PIPES 7. SMART TOUCH OPERATING CONTROL, BACNET CARD TO CONNECT TO EXISTING BAS					ABBREVIATIONS: EC - ELECTRICAL CONTRACTOR				



792 LOS DRIVE, SUN PRAIRIE, WI 53590

REVISIONS			
07/08/2026	CD SET		

DRAWN
LDT

APPROVED
CAT

MATRIX
CONSULTING ENGINEERS, INC

544 Chesburg Drive
Lansing, MI 48917
PHONE (517) 487-2511
administrator@matrixinc.com
Matrix Project No. 250963.00

PROJECT

AQUATIC CENTER DWH UPGRADES

52401 ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION

PLUMBING SYMBOLS,
NOTES, ABBREV.
+ SCHEDULES

DATE

04/08/2026

PROJECT NUMBER

250963.00

SHEET NUMBER

P-100

COMMISSIONING SPECIFICATIONS

THIS SECTION INCLUDES REQUIREMENTS FOR COMMISSIONING THE HVAC SYSTEM AND ITS SUBSYSTEMS AND EQUIPMENT.

DEFINITIONS:

- 1. BOD-HVAC: HVAC SYSTEMS BASIS OF DESIGN.
- 2. CXA: COMMISSIONING AUTHORITY.
- 3. SYSTEMS, SUBSYSTEMS, AND EQUIPMENT: WHERE THESE TERMS ARE USED TOGETHER OR SEPARATELY, THEY SHALL MEAN "AS-BUILT" SYSTEMS,SUBSYSTEMS, AND EQUIPMENT.
- 4. TAB: TESTING, ADJUSTING, AND BALANCING.

CONTRACTOR'S RESPONSIBILITIES:

CONTRACTOR:

- 1. ATTEND PROCEDURES MEETING FOR TAB WORK.
- 2. CERTIFY THAT TAB WORK IS COMPLETE.
- 3. MECHANICAL SUBCONTRACTOR:
- 4. COMPLETE ALL PRE-START-UP, START-UP, AND COMMISSIONING FORMS AND PROCEDURES AS DIRECTED BY THE CXA.
- 5. ATTEND TAB VERIFICATION TESTING.
- 6. PROVIDE MEASURING INSTRUMENTS AND LOGGING DEVICES TO RECORD TEST DATA, AND DATA ACQUISITION EQUIPMENT TO RECORD DATA FOR THE COMPLETE RANGE OF TESTING FOR THE REQUIRED TEST PERIOD.
- 7. HVAC INSTRUMENTATION AND CONTROL SUBCONTRACTOR: WITH THE CXA, REVIEW CONTROL DESIGNS FOR COMPLIANCE WITH BOD, CONTROLLABILITY WITH RESPECT TO ACTUAL EQUIPMENT TO BE INSTALLED, AND RECOMMEND ADJUSTMENTS TO CONTROL DESIGNS AND SEQUENCE OF OPERATION DESCRIPTIONS.

TAB SUBCONTRACTOR:

- 1. CONTRACT DOCUMENTS REVIEW: WITH THE CXA, REVIEW THE CONTRACT DOCUMENTS BEFORE DEVELOPING TAB PROCEDURES.
- 2. VERIFY THE FOLLOWING:
- 2.1. ACCESSIBILITY OF EQUIPMENT AND COMPONENTS REQUIRED FOR TAB WORK. ADEQUATE NUMBER AND PLACEMENT OF BALANCING VALVES TO ALLOW PROPER BALANCING AND RECORDING OF WATER FLOW.
- 2.2. ADEQUATE NUMBER AND PLACEMENT OF TEST PORTS AND TEST INSTRUMENTATION TO ALLOW READING AND COMPLETION OF SYSTEM AND EQUIPMENT PERFORMANCE DATA NEEDED TO CONDUCT BOTH TAB AND COMMISSIONING TESTING.
- 2.3. WATER FLOW RATES HAVE BEEN SPECIFIED AND COMPARED TO CENTRAL EQUIPMENT OUTPUT CAPACITIES.

ELECTRICAL SUBCONTRACTOR:

- 1. WITH THE MECHANICAL SUBCONTRACTOR, COORDINATE INSTALLATIONS AND CONNECTIONS BETWEEN AND AMONG ELECTRICAL AND HVAC SYSTEMS, SUBSYSTEMS, AND EQUIPMENT.
- 2. ATTEND TAB VERIFICATION TESTING.

COMMISSIONING DOCUMENTATION

- 1. BOD HVAC: OWNER WILL PROVIDE BOD-HVAC DOCUMENTS, PREPARED BY ENGINEER AND APPROVED BY OWNER, TO THE CXA AND EACH CONTRACTOR FOR USE IN DEVELOPING THE COMMISSIONING PLAN, SYSTEMS MANUAL, AND OPERATION AND MAINTENANCE TRAINING PLAN.

ASHRAE 90.1-2019 SPECIFIC COMPLIANCE IN COMMISSIONING

- 1. FUNCTIONAL PERFORMANCE TESTING AND VERIFICATION PROVIDER
- 1.1. THE COMMISSIONING AGENT SHALL BE OWNER'S HIRED REPRESENTATIVE. THE COMMISSIONING AGENT IS RESPONSIBLE FOR REVIEWING, COMMISSIONING, AND TESTING THE MECHANICAL, AND ELECTRICAL SYSTEMS AS REQUIRED BY ASHRAE 90.1-2019 (CURRENT ADOPTED MICHIGAN ENERGY CODE).
- 2. ITEMS TO BE REVIEWED
- 2.1. THE FOLLOWING ARE REQUIRED TO BE REVIEWED FOR PROPER CONTROL AND/OR INCLUSION IN ACCORDANCE WITH ASHRAE 90.1-2019 BY THE CXA PROVIDER.
- 2.2. INSULATION DESIGN/INSTALLATION
- 2.3. MECHANICAL HVAC SYSTEMS

- 3. HVAC/PLUMBING/ELECTRICAL EQUIPMENT EFFICIENCY (ACCORDING TO SIMPLIFIED APPROACH HVAC)
- 3.1. EQUIPMENT LABELING
- 3.2. OFF-HOUR CONTROLS
- 3.3. HYDRONIC SYSTEM CONTROLS
- 3.4. OCCUPIED/STANDBY CONTROLS
- 3.5. BOILER TURNDOWN
- 3.6. HYDRONIC VARIABLE FLOW SYSTEMS
- 3.7. BOILER ISOLATION
- 3.8. HOT-WATER TEMPERATURE RESET CONTROLS

- 4. ELECTRICAL SYSTEMS
- 4.1. ELECTRICAL EQUIPMENT EFFICIENCY (ACCORDING TO SIMPLIFIED APPROACH HVAC)
- 4.2. AUTOMATIC RECEPTACLE CONTROL
- 4.3. ELECTRICAL ENERGY MONITORING
- 4.4. INTERIOR LIGHTING CONTROL
- 4.5. SPECIAL APPLICATION LIGHTING CONTROL

OTHER BUILDING SYSTEMS:

- 5.1. ENERGY SYSTEMS MONITORING
- 5.2. ENERGY-COST BUDGET/PERFORMANCE PATHS LAID OUT IN THE PRESCRIPTIVE PATH.

ITEMS TO BE VERIFIED AND PERFORMANCE TESTED

- 5. THE FOLLOWING ARE REQUIRED TO BE VERIFIED AND PERFORMANCE TESTED IN ACCORDANCE WITH ASHRAE 90.1-2019 BY THE CXA PROVIDER.
- 6. MECHANICAL SYSTEMS
- 6.1. OFF-HOUR CONTROLS
- 6.2. HVAC/PIPING INSULATION
- 6.3. HYDRONIC SYSTEM CONTROLS
- 6.4. OCCUPIED/STANDBY CONTROLS
- 6.5. BOILER TURNDOWN
- 6.6. HYDRONIC VARIABLE FLOW SYSTEMS
- 6.7. BOILER ISOLATION

ELECTRICAL SYSTEMS

- 7.1. AUTOMATIC RECEPTACLE CONTROL
- 7.2. ELECTRICAL ENERGY MONITORING
- 7.3. INTERIOR LIGHTING CONTROL
- 7.4. SPECIAL APPLICATION LIGHTING CONTROL

OTHER BUILDING SYSTEMS:

- 8.1. ENERGY SYSTEMS MONITORING

PLUMBING SPECIFICATIONS

- 1. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS.

- 2. IN CASE OF DIFFERENCE BETWEEN BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, CONTRACT DOCUMENTS, AND AUTHORITY HAVING JURISDICTION, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL PROMPTLY NOTIFY OWNER IN WRITING OF ANY SUCH DIFFERENCE.

- 3. NON-COMPLIANCE: SHOULD CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH REQUIREMENTS OF APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, CONTRACT DOCUMENTS, OR AUTHORITY HAVING JURISDICTION, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING THE DEFICIENCIES.

- 4. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL STATE LAWS, LOCAL ORINANCES, UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS OF MICHIGAN BUILDING CODE, MICHIGAN PLUMBING CODE, MICHIGAN DEPARTMENT OF FIRE AND BUILDING SERVICES.

- 5. EXCEPT AS OTHERWISE SPECIFIED HEREIN, ALL PIPING WORK AND MATERIAL ARE TO CONFORM TO THE AMERICAN STANDARDS ASSOCIATION CODE FOR PRESSURE PIPING.

- 6. PERMITS: CONTRACTOR SHALL PAY FOR ALL BUILDING PERMITS REQUIRED BY WORK AND PERMITS FOR OPENING STREETS AND FOR CONNECTION TO VARIOUS UTILITIES, INCLUDING FEES FOR WATER METER INSTALLATION AND ANY OTHER REQUIREMENTS NECESSARY TO CARRY OUT HIS WORK. WHERE STREETS OR SIDEWALKS ARE CUT, SAME MUST BE REPAIRED TO AT LEAST AS GOOD A CONDITION AS THEY WERE BEFORE, ALL AT EXPENSE OF THIS CONTRACTOR. PERMITS SHALL BE POSTED IN A PROMINENT PLACE AT THE BUILDING SITE AND BE PROPERLY PROTECTED FROM WEATHER AND PHYSICAL DAMAGE.

GUARANTEE

- 1. CONTRACTOR SHALL, BY ACCEPTING THESE DRAWINGS AND SPECIFICATIONS, GUARANTEE THE FOLLOWING:
- 1.1. HE WILL FURNISH ALL MATERIAL AND EQUIPMENT AS SPECIFIED EXCEPT WHERE SPECIFIC WRITTEN APPROVAL IS GIVEN BY ENGINEER FOR SUBSTITUTION.
- 1.2. ALL MATERIAL AND EQUIPMENT WILL BE INSTALLED SUBSTANTIALLY AS SHOWN ON DRAWINGS AND AS REQUIRED WITHIN INTENT OF THESE SPECIFICATIONS, ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- 1.3. ALL EQUIPMENT, PIPING, ETC., WILL BE DRIPTIGHT, AIRTIGHT, FREE OF VIBRATION, POUNDING AND OTHER OBJECTIONABLE NOISES.
- 1.4. ALL EQUIPMENT, ACCESSORIES AND MATERIAL FURNISHED BY THE CONTRACTOR, INCLUDING INSTALLATION, PIPE JOINTS, ETC., FURNISHED AND/OR DONE BY HIM FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL AND WORKMANSHIP.
- 1.5. IF ANY EQUIPMENT, MATERIAL AND/OR PIPE JOINTS, CONNECTIONS, ETC., FAILS OR DOES NOT OPERATE SATISFACTORILY OR SHOWS UNDUE WEAR, HE WILL, UPON BEING NOTIFIED, IMMEDIATELY REMEDY DEFECT AT HIS OWN EXPENSE.

WORK AND WORKMANSHIP

- 1. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE INSTALLATION OF SYSTEMS REQUIRED IN FULL CONFORMITY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, ALL AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
- 2. FINISHED JOB SHALL BE FUNCTIONAL AND COMPLETE IN EVERY DETAIL, INCLUDING ANY AND ALL SUCH ITEMS REQUIRED FOR A COMPLETE SYSTEM WHETHER OR NOT THESE ITEMS BE SPECIFIED OR SHOWN ON DRAWINGS.
- 3. SPECIAL ATTENTION SHALL BE GIVEN TO ACCESSIBILITY OF WORKING PARTS AND CONTROLLING PARTS. ADJUSTABLE PARTS SHALL BE WITHIN EASY REACH. REMOVABLE PARTS SHALL HAVE SPACE FOR REMOVAL.
- 4. EACH CONTRACTOR SHALL ACQUANT HIMSELF WITH DETAILS OF ALL WORK TO BE PERFORMED BY OTHER TRADES AND TAKE NECESSARY STEPS TO INTEGRATE AND COORDINATE HIS WORK WITH OTHER TRADES.
- 5. IT IS ASSUMED THE CONTRACTOR IS FAMILIAR WITH STANDARD 1ST CLASS INSTALLATION PROCEDURES. THEREFORE, THESE SPECIFICATIONS DO NOT ATTEMPT TO INCLUDE EVERY DETAIL OR OPERATION NECESSARY FOR THE COMPLETE INSTALLATION.
- 6. IT SHOULD BE PARTICULARLY NOTED THAT THE TERMS "FURNISH" AND "PROVIDE" ARE INTERCHANGEABLE AND THAT EACH OF THESE MEANS TO PROVIDE, INSTALL AND CONNECT, UNLESS OTHERWISE STATED.
- 7. WHENEVER TABLES OR SCHEDULES SHOW QUANTITY OF MATERIALS, THEY SHALL NOT BE USED AS A GUIDE TO CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS NOTED ON DRAWINGS AS SPECIFIED.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION, SAFE-KEEPING AND CLEANLINESS OF ALL EXISTING EQUIPMENT, MATERIAL, ETC., LOCATED IN SPACES TO BE REMODELED IN WHICH HE IS WORKING. AS PART OF HIS RESPONSIBILITY, HE SHALL PROVIDE NECESSARY COVERS, STRUCTURES, ETC., AS REQUIRED TO KEEP ALL DIRT, WATER, MOISTURE AND DUST FROM EQUIPMENT. METHOD THE CONTRACTOR PROPOSES TO USE IN PROTECTING EQUIPMENT SHALL BE COORDINATED WITH ENGINEER AND OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE ANY WORK IS STARTED. ANY DAMAGE SUSTAINED DURING CONSTRUCTION SHALL BE CORRECTED OR REPLACED BY CONTRACTOR.
- 9. MECHANICAL INSTALLATIONS: COORDINATE MECHANICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE. INSTALL MECHANICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS. COORDINATE THE INSTALLATION OF MECHANICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, LIGHT FIXTURES, AND OTHER INSTALLATIONS. INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
- 10. OPERATION AND MAINTENANCE DATA: MANUFACTURER'S PRINTED OPERATION PROCEDURES TO INCLUDE START-UP, BREAK-IN, ROUTINE, NORMAL, SUMMER AND WINTER OPERATION INSTRUCTIONS, REGULATION, CONTROL, STOPPING, SHUT-DOWN, AND EMERGENCY INSTRUCTIONS. PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING DISASSEMBLY, REPAIR, AND REASSEMBLE, ALIGNING AND ADJUSTING INSTRUCTIONS, TRAIN OWNER'S PERSONNEL ON PROCEDURES FOR STARTING, STOPPING, TROUBLESHOOTING, SERVICING, AND MAINTAINING EQUIPMENT. TURN OVER TO THE OWNER.
- 11. RECORD DRAWINGS: THE CONTRACTOR SHALL KEEP A RUNNING RECORD OF EACH CHANGE AND DEVIATION FROM THE DRAWINGS. UPON THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT ONE COMPLETE SET OF CLEAN DRAWINGS NEATLY SHOWING DEVIATIONS FROM THE CONTRACT DOCUMENTS WITH DIMENSIONS SHOWING THE EXACT LOCATION OF CONCEALED OR INACCESSIBLE PIPING, DUCTS, ETC.

ASSIGNMENT OF MISCELLANEOUS WORK

- 1. PAINTING: MECHANICAL CONTRACTOR WILL PROVIDE PRIME PAINTING ON ALL FERROUS METALS SUCH AS SUPPORT STEEL OR HANGERS FOR MECHANICAL PIPING AND EQUIPMENT. PIPING IS NOT TO BE PRIMED. ANY FINISH PAINTING REQUIRED, INCLUDING PAINTING OF PIPING AND STEEL EXPOSED TO OUTSIDE ENVIRONMENT WILL BE PAINTED BY MECHANICAL CONTRACTOR.
- 2. PLATFORMS AND SUPPORTING STANDS: FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- 3. HOLES THRU STRUCTURAL: HOLES REQUIRED FOR PIPING OR DUCTWORK OF SIZE 5" OR SMALLER SHALL BE CUT IN FIELD AT EXPENSE OF MECHANICAL CONTRACTOR WITH APPROVAL OF STRUCTURAL ENGINEER. OWNER SHALL BE GIVEN APPROVAL PRIOR TO ANY CUTTING. ALL LARGER HOLES SHALL BE PROVIDED BY OTHERS, WITH LOCATION APPROVAL FROM STRUCTURAL ENGINEER.
- 4. CEILING AND WALL ACCESS PANELS: MECHANICAL CONTRACTOR SHALL CUT AND PATCH FINISHED AREAS AS REQUIRED BY MECHANICAL CONTRACTOR. PROVIDE WHERE SHOWN OR REQUIRED FOR ACCESS TO COILS, VALVES, ETC., ACCESS PANELS AS SPECIFIED.
- 5. CUTTING AND PATCHING: MECHANICAL CONTRACTOR SHALL CUT AND PATCH FINISHED AREAS AS REQUIRED BY MECHANICAL CONTRACTOR. IN ABSENCE OF GENERAL CONTRACTOR, EACH CONTRACTOR SHALL DO HIS OWN CUTTING AND PATCHING.
- 6. ROOF OPENINGS AND FLASHING REQUIRED BY MECHANICAL CONTRACTOR SHALL BE BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR CORRECT SIZE AND LOCATION OF SAME. COUNTER FLASHING BY MECHANICAL CONTRACTOR. PIPE CURBS SHALL BE USED FOR ALL ROOF PENETRATIONS CREATED BY PIPING OR CONDUIT RELATED TO MECHANICAL EQUIPMENT.
- 7. PADS AND FOUNDATIONS FOR MECHANICAL EQUIPMENT SHALL BE FORMED AND POURED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL VERIFY PADS AND ALL ANCHORING DEVICES.
- 8. ROOF CURBS AND BASES FOR VENTILATORS, ROOF INTAKES AND RELIEF AND FANS SHALL BE FURNISHED BY MECHANICAL CONTRACTOR AND FLASHED WEATHER TIGHT TO ROOF TO SATISFACTION OF ENGINEER.

SHOP DRAWING

- 1. COMPLETE SCHEDULE OF EQUIPMENT, ETC., PROPOSED FOR INSTALLATION SHALL BE SUBMITTED FOR APPROVAL BEFORE ORDERS ARE PLACED.
- 2. ELECTRONIC SHOP DRAWINGS SHALL BE REQUIRED WITHIN 30 DAYS OF AWARD ON CONTRACT AND SHALL INCLUDE CATALOG NUMBERS AND OTHER PERTINENT INFORMATION.
- 3. THE CONTRACTOR SHALL SUBMIT EQUIPMENT SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDERING OF ANY OF THE FOLLOWING:

- 1.1. RECIRCULATION PUMP, (RP-1).
- 1.2. PLUMBING PIPING
- 1.3. DOMESTIC WATER HEATER AND ACCESSORIES

DRAWINGS

- 1. PLUMBING DRAWINGS SHOW GENERAL ARRANGEMENT OF ALL PIPING EQUIPMENT AND APPURTENANCES. THEY SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT.
- 2. PLUMBING WORK SHALL CONFORM TO REQUIREMENTS SHOWN ON ALL DRAWINGS. GENERAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MECHANICAL DRAWINGS.
- 3. BECAUSE OF SMALL SCALE OF PLUMBING DRAWINGS IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. CONTRACTOR SHALL INVESTIGATE STRUCTURAL AND FINISH CONDITIONS AFFECTING WORK AND SHALL ARRANGE HIS WORK ACCORDINGLY, PROVIDING SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.

COORDINATION BETWEEN CONTRACTORS

- 1. EACH CONTRACTOR AND SUBCONTRACTOR SHALL STUDY ALL DRAWINGS APPLICABLE TO THIS WORK SO COMPLETE COORDINATION BETWEEN TRADES WILL BE EFFECTED. SPECIAL ATTENTION SHALL BE GIVEN TO POINTS WHERE DUCTS CROSS OTHER DUCTS OR PIPING, WHERE LIGHTS FIT INTO CEILINGS AND WHERE PIPE, DUCTS AND CONDUIT PASS THRU WALLS AND COLUMNS.
- 2. IT IS RESPONSIBILITY OF EACH CONTRACTOR AND SUBCONTRACTOR TO LEAVE NECESSARY ROOM FOR OTHER TRADES. NO EXTRA COMPENSATION WILL BE ALLOWED TO COVER COST OF REMOVING PIPING, CONDUIT, DUCTS OR EQUIPMENT FOUND ENCROACHING ON SPACE REQUIRED BY OTHERS.

MINOR DEVIATIONS

- 1. FOR PURPOSE OF CLARITY AND LEGIBILITY, DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC ALTHOUGH SIZE AND LOCATION OF EQUIPMENT AND PIPING ARE DRAWN TO SCALE WHEREVER POSSIBLE. VERIFY CONTRACT DOCUMENT INFORMATION AT SITE.
- 2. DRAWINGS INDICATE REQUIRED SIZES AND POINTS OF TERMINATION OF PIPES AND DUCTS AND SUGGESTED ROUTES. IT IS NOT INTENTION OF DRAWINGS TO INDICATE ALL NECESSARY OFFSETS. INSTALL WORK IN MANNER TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. DO NOT SCALE FROM DRAWINGS.

ATTACHING TO BUILDING CONSTRUCTION

- 1. EQUIPMENT AND PIPING SUPPORTS SHALL BE ATTACHED TO STRUCTURAL MEMBERS (BEAMS, JOISTS, ETC.) RATHER THAN TO FLOOR OR ROOF SLABS.
- 2. WHERE PIPING IS SUSPENDED FROM NEW CONCRETE CONSTRUCTION, FURNISH, LOCATE AND INSTALL BLACK STEEL CHANNEL TYPE CONCRETE INSERTS WELDED TO COVERLATE. INSERTS SHALL PROVIDE FOR HORIZONTAL AND VERTICAL ADJUSTMENTS.
- 3. WHERE PIPING IS SUSPENDED FROM EXISTING CONCRETE OR MASONRY CONSTRUCTION, USE EXPANSION SHIELDS TO ATTACH PIPE SUPPORTS TO CONSTRUCTION. EXPANSION SHIELD BOLT DIAMETER SHALL BE SAME SIZE AS SUPPORT ROD DIAMETER HEREINAFTER SPECIFIED.
- 4. ERECTION OF METAL SUPPORTS & ANCHORAGES: CUT, FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO SUPPORT AND ANCHOR MECHANICAL MATERIALS AND EQUIPMENT.

BALANCING

- 1. WORK BY PLUMBING CONTRACTOR.
- 2. GENERAL: BALANCE AND ADJUST SYSTEMS TO ACHIEVE PROPER OPERATION OF SYSTEMS.
- 2.1. USE PROCEDURES AS OUTLINED IN NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION, CURRENT VOLUME, AS PUBLISHED

- BY ASSOCIATED AIR BALANCE COUNCIL.
- 2.2. IF A PIECE OF EQUIPMENT IS NOT OPERATING IN SATISFACTORY MANNER, COORDINATE WITH MANUFACTURER TO REPAIR OR ADJUST.
- 2.3. SUBMIT REPORT TO ENGINEER IF SYSTEM OR PIECE OF EQUIPMENT CANNOT BE ADJUSTED TO OPERATE SATISFACTORILY.

PLUMBING

- 1. FURNISHED AND INSTALL EQUIPMENT, SPECIALTIES AND ACCESSORIES TO PROVIDE SYSTEMS AS SHOWN ON DRAWINGS OR HEREUNDER SPECIFIED.
- 2. DOMESTIC HOT AND COLD WATER, HOT WATER RETURN, AND CONDENSATE DRAIN PIPING: HARD COPPER TUBE, ASTM B88, TYPE-L WATER TUBE, DRAWN TEMPER WITH COPPER SOLDER JOINT PRESSURE FITTINGS. JOINING MATERIAL: SOLDER, ASTM B32, ALLOY SN65, SN64, OR E. LEAD FREE. CLEANING & DISINFECTING: PURGE AND DISINFECT POTABLE WATER SYSTEMS AS PRESCRIBED BY AUTHORITIES HAVING JURISDICTION.

PIPING

- 7. INSTALL CHROME-PLATED PIPE ESCUTCHEONS ON EXPOSED PIPE @ FLOORS, WALLS, AND CEILINGS.
- 8. 12# WROUGHT COPPER UNIONS WITH SOLDER JOINT FITTINGS, CRANE 633.
- 9. FURNISH AND INSTALL SUPPORTS, GUIDES AND ANCHORS REQUIRED FOR PROPER SUPPORT OF PIPES.
- 10. SUPPORT VERTICAL RUNS WITH HANGER ADJACENT TO ELBOW.
- 11. SUPPORT HORIZONTAL PIPE WITH GALVANIZED ALL-THREAD STEEL RODS (ASTM A107), SPACING: 12" - 2" PIPE, 14" ON CENTERS WITH 3/8" DIA. ROD, 2 1/2" - 3" PIPE, 12-4" ON CENTERS WITH 1/2" DIA. ROD.

PIPE HANGERS

- 1. ADJUSTABLE STEEL CLEVIS HANGERS, NON-METALLIC COATING FOR ELECTROLYTIC PROTECTION WHERE ATTACHMENTS ARE IN DIRECT WITH COPPER. COPPER U-STRAP HANGERS FOR UN-INSULATED PIPE. COMPLY WITH MSS STANDARD PRACTICE SP-69.
- 2. SUBMITTALS:
- 2.1. PROVIDE PRODUCT DESCRIPTION, THERMAL CHARACTERISTICS, LIST OF MATERIALS AND THICKNESS FOR EACH SERVICE, AND LOCATIONS.
- 2.2. INDICATE INSTALLATION PROCEDURES THAT ENSURE ACCEPTABLE WORKMANSHIP AND INSTALLATION STANDARDS WILL BE ACHIEVED.
- 3. QUALITY ASSURANCE:
- 3.1. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH NOT LESS THAN THREE YEARS OF DOCUMENTED EXPERIENCE.

IN-LINE PUMPS

- 1. ACCEPTABLE MANUFACTURERS:

- 1.1. LOCHINVAR

- 2. DESCRIPTION: FACTORY-ASSEMBLED AND TESTED, CENTRIFUGAL, OVERHUNG-IMPELLER, CLOSE-COUPLED, IN-LINE PUMP, DESIGNED FOR INSTALLATION WITH PUMP AND MOTOR SHAFTS MOUNTED HORIZONTALLY OR VERTICALLY.

DOMESTIC WATER HEATERS

- 1. ACCEPTABLE MANUFACTURERS:

- 1.1. LOCHINVAR

- 2. ACCESSORIES:
- 2.1. NATURAL GAS CONDENSING BOILER.
- 2.2. INCLUDE CONDENSATE NEUTRALIZING KIT.
- 2.3. INCLUDE SMART TOUCH OPERATING CONTROLS.

CONTROLS

- 1. WATER HEATER AND RECIRCULATION PUMP SHALL BE CAPABLE OF CONTROL VIA EXISTING BUILDING AUTOMATION SYSTEM (BAS).
- 2. DOMESTIC WATER HEATER AND RECIRCULATION PUMP SHALL BE CONTROLLED BY MANUFACTURER UNIT-MOUNTED CONTROLLERS TIED TO EXISTING BAS.



792 LOS DRIVE, SUN PRAIRIE, WI 53190

REVISIONS			
07/08/2026	CD SET		

DRAWN

LDT

APPROVED

CAT



MATRIX
CONSULTING ENGINEERS, INC

544 Cheabour Drive
Lansing, MI 48917

PHONE (517) 487-2511
administrator@matrixceinc.com
Matrix Project No. 250963.00

AQUATIC CENTER DWH UPGRADES

52401 ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION

PLUMBING
SPECIFICATIONS

DATE

04/08/2026

PROJECT NUMBER

250963.00

SHEET NUMBER

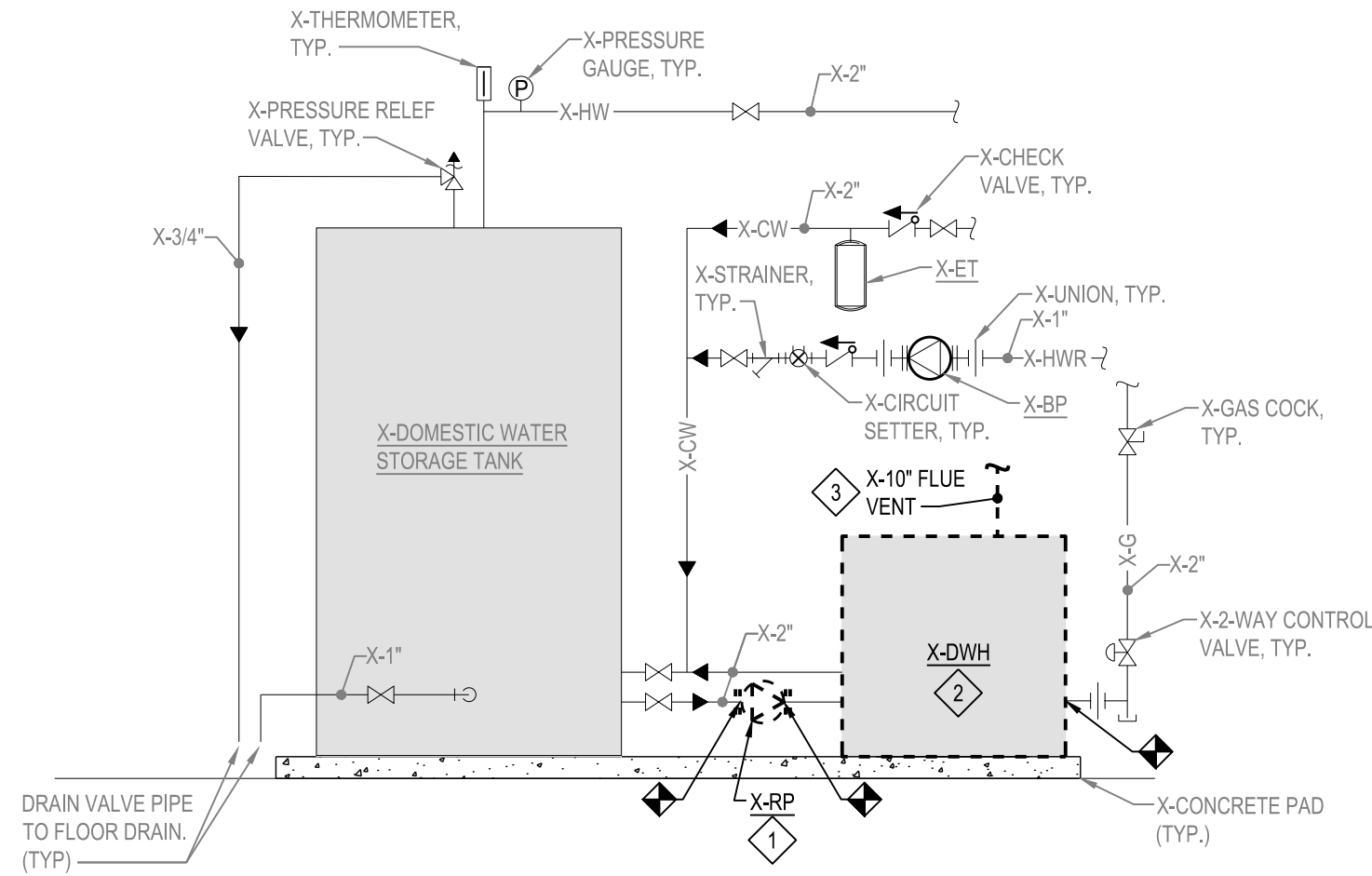
P-101

REVISIONS			
07/06/2026	CD SET		

DRAWN	
LDT	
APPROVED	
CAT	

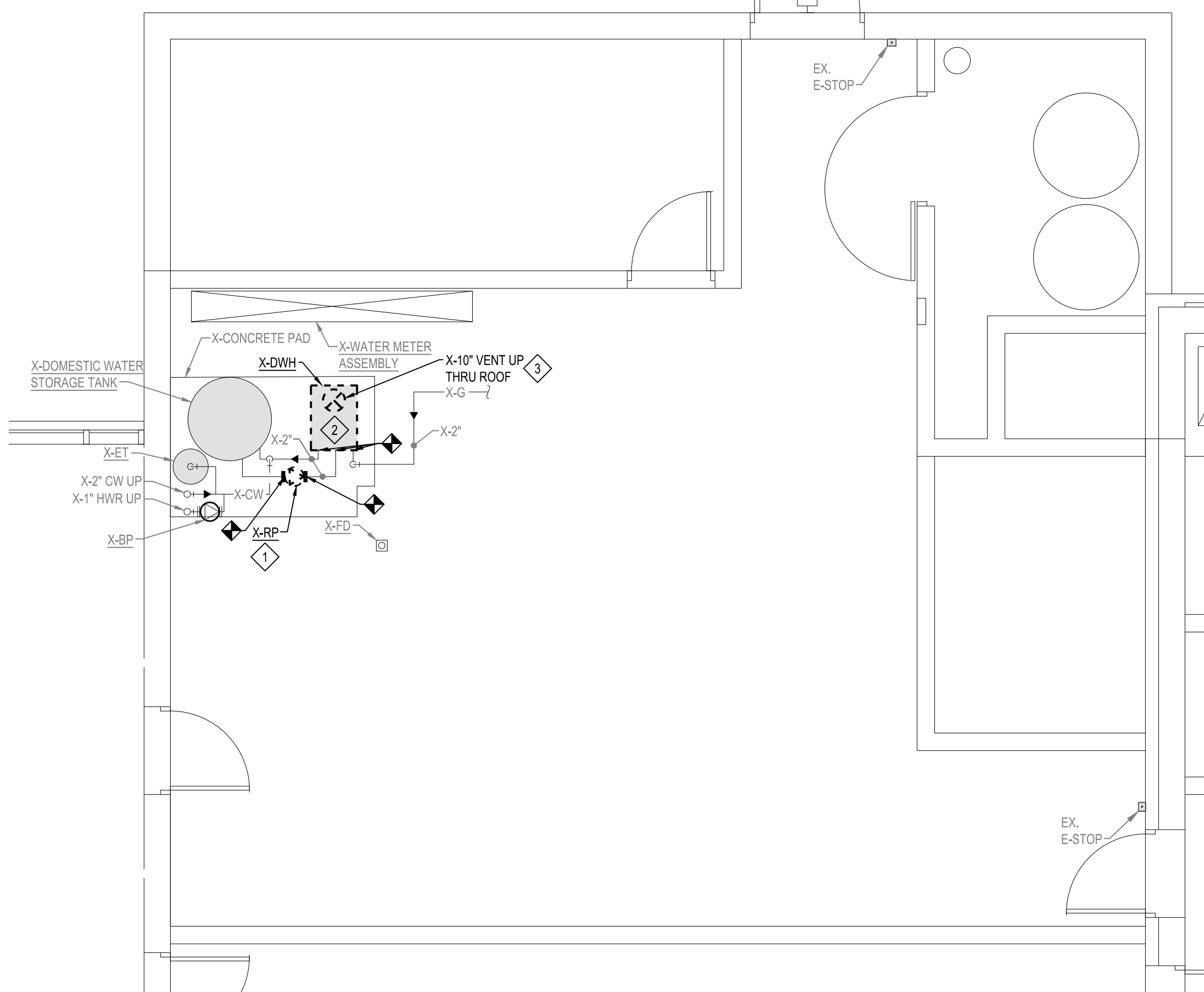
**MATRIX**
CONSULTING ENGINEERS, INC.

544 Chestnoug Drive
Lansing, MI 48917
PHONE (517) 487-2511
administrator@matrixcinc.com
Fax: Project No. 250963.00

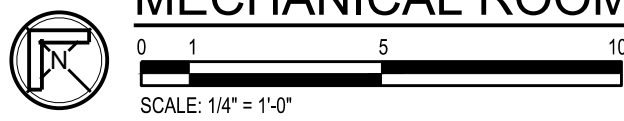


DOMESTIC WATER HEATER PIPING
DIAGRAM - DEMOLITION

SCALE: NTS



MECHANICAL ROOM FLOOR PLAN - PLUMBING DEMOLITION



DEMOLITION NOTES

- DISCONNECT, REMOVE, AND DEMOLISH EXISTING CIRCULATING PUMP. MODIFY ASSOCIATED PIPING AS REQUIRED TO INSTALL NEW PUMP SHOWN ON NEW PLANS.
- DISCONNECT, REMOVE, AND DEMOLISH EXISTING DOMESTIC WATER HEATER. MODIFY ASSOCIATED PIPING AS REQUIRED TO INSTALL NEW DOMESTIC WATER HEATER AT LOCATION SHOWN. EXISTING CONCRETE PAD TO REMAIN.
- DISCONNECT, REMOVE, AND DEMOLISH EXISTING 10" FLUE VENT UP TO ROOF. REUSE EXISTING PENETRATION FOR 4" VENT AND 4" COMBUSTION AIR PIPING SHOWN ON NEW PLANS.

AQUATIC CENTER DWH UPGRADES

5240 I ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION	
MECH. ROOM FLOOR PLAN - PLUMBING DEMOLITION	
DATE	
04/08/2026	
PROJECT NUMBER	
250963.00	
SHEET NUMBER	
P-300	

REVISIONS			
07/06/2026	CD SET		

DRAWN	
LDT	

APPROVED	
CAT	

**MATRIX**
CONSULTING ENGINEERS, INC

544 Chestburg Drive
Lansing, MI 48917
PHONE (517) 487-2511
administrator@matrixinc.com
Matrix Project No. 250963.00

AQUATIC CENTER DWH UPGRADES

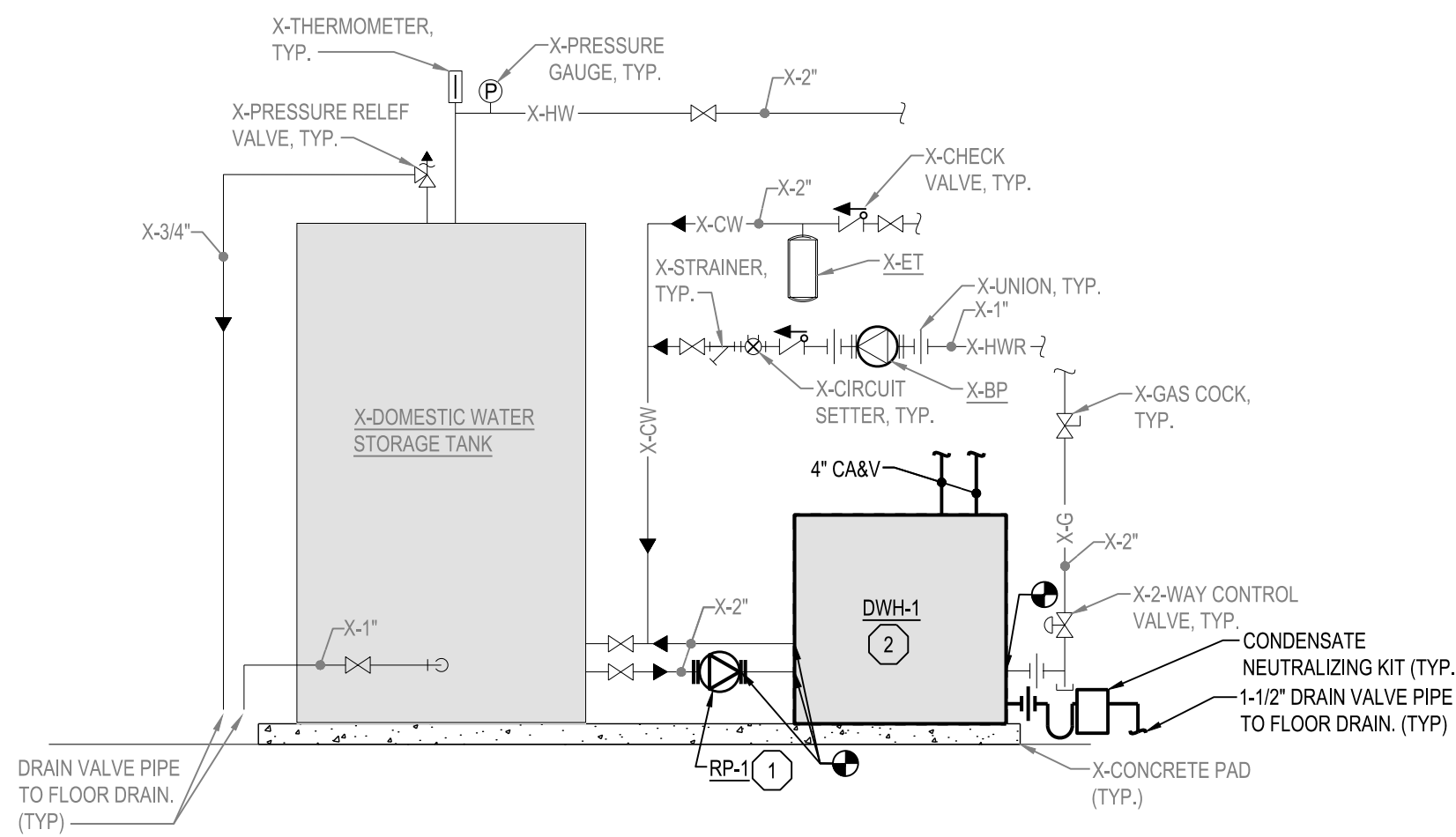
5240 I ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION
MECH. ROOM FLOOR PLAN - PLUMBING NEW

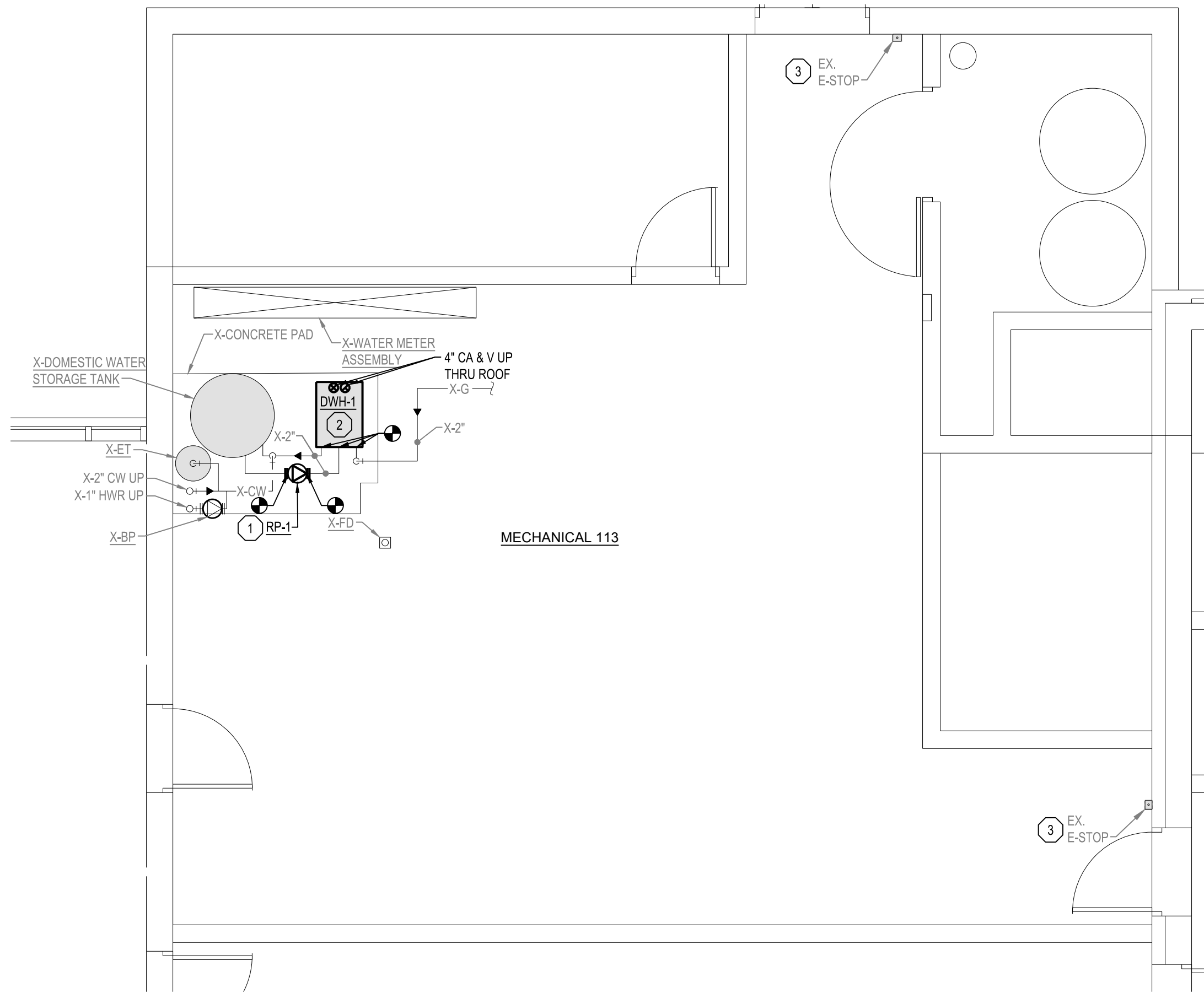
DATE
04/08/2026

PROJECT NUMBER
250963.00

SHEET NUMBER
P-400



1 DOMESTIC WATER HEATER PIPING
DIAGRAM - NEW
SCALE: NTS



MECHANICAL ROOM FLOOR PLAN - PLUMBING NEW
SCALE: 1/4\"/>

PLUMBING KEY NOTES

- 1 INSTALL PUMP AT LOCATION SHOWN. MODIFY ASSOCIATED PIPING AS REQUIRED.
- 2 INSTALL DOMESTIC WATER HEATER ON EXISTING CONCRETE PAD AT LOCATION SHOWN. MODIFY ASSOCIATED PIPING AS REQUIRED TO CONNECT TO NEW DOMESTIC WATER HEATER. ROUTE 4\"/>
- 3 CONNECT NEW DOMESTIC WATER HEATER TO EXISTING E-STOP.

ELECTRICAL SYMBOLS LEGEND

OUTLETS		FIXTURES	
	SINGLE RECEPTACLE (120 VOLT)		LIGHT FIXTURE
	DUPLEX RECEPTACLE		STRIP FIXTURE
	EMERGENCY RECEPTACLE		EMERGENCY LIGHT FIXTURE
	DOUBLE DUPLEX RECEPTACLE		SPOTLIGHT (number of heads shown)
	FLUSH FLOOR BOX		EXIT SIGN (face & direction as shown)
	SURFACE FLOOR BOX		WALL MOUNT LIGHT FIXTURE
	SPECIAL EQUIPMENT RECEPTACLE		CEILING LIGHT FIXTURE
	TELEPHONE OUTLET		TRACK & FIXTURE
	DATA OUTLET		STREET TYPE POLE FIXTURE
	TELEPHONE / DATA OUTLET		POLE MOUNTED LIGHT FIXTURE
	POWER POLE		EXTERIOR WALL MOUNT LIGHT FIXTURE
	JUNCTION BOX		WALLPACK LIGHT FIXTURE
	WALL JUNCTION BOX		SPECIAL PURPOSE LIGHT FIXTURE
	PULL (JUNCTION) BOX		HIGH BAY LIGHT FIXTURE
	UNDERFLOOR JUNCTION BOX		EMERGENCY EGRESS LIGHT FIXTURE (number of heads shown)
	CEILING MOUNTED WIFI		DOCK LIGHT FIXTURE
SWITCHES		SERVICE and EQUIPMENT	
	SINGLE-POLE SWITCH		TRANSIENT VOLTAGE SURGE SUPPRESSION
	THREE-WAY SWITCH		VARIABLE FREQUENCY DRIVE
	FOUR-WAY SWITCH		TRANSFORMER
	SWITCH WITH PILOT LIGHT		FUSED DISCONNECT SWITCH
	THERMAL OVERLOAD SWITCH		MAGNETIC STARTER
	MANUAL MOTOR SWITCH		COMB. STARTER
	KEY SWITCH		PANELBOARD, SURFACE MOUNTED
	TIME SWITCH		PANELBOARD, FLUSH MOUNTED
	DIMMER SWITCH		WEATHERHEAD
MECHANICAL			UTILITY METER, AS REQUIRED
	SINGLE PHASE MOTOR		DIGITAL EQUIPMENT METER, AS REQUIRED
	THREE PHASE MOTOR		CURRENT TRANSFORMERS
	RESISTANCE HEATER, KW SHOWN		GENERATOR, KW SHOWN
	PIPE TRACE HEATER		TELEPHONE TERMINAL BOARD
	ELECTRIC UNIT HEATER		GROUND CONNECTION PER N.E.C.
	ELECTRIC WATER HEATER		WIREWAY
DESIGNATIONS			TRANSFER SWITCH
	DEMOLITION NOTE		ENCLOSED CIRCUIT BREAKER
	PLAN NOTE		CAPACITOR
	ADDENDUM NOTE	FIRE ALARM	
CIRCUITRY and RACEWAYS			SMOKE DETECTOR
	CONDUIT INSTALLED (by E.C.)		HEAT DETECTOR
	CONDUIT INSTALLED (by others)		DUCT SMOKE DETECTOR
	CONDUIT STUB UP		DUCT SMOKE DETECTOR
	CONDUIT STUB DOWN		HORN
	HOME RUN (with circuit numbers)		HORN & LIGHT
	END OF CONDUIT RUN		SPEAKER
	END OF CONDUIT RUN, CAP AND STAKE		SPEAKER & LIGHT
	"CONDUIT RUN CONTINUES" INDICATION		PULL STATION
	FLEXIBLE PIGTAILS/CONNECTIONS		FIRE ALARM CONTROL PANEL
	WIREMOLD AS SPECIFIED		ANNUNCIATOR PANEL
	PLUGMOLD AS SPECIFIED		END OF LINE DEVICE
	BUS DUCT		REMOTE INDICATING LIGHT, WALL MTD.
	UNDERFLOOR DUCT		REMOTE INDICATING LIGHT, CLG. MTD.
			MAGNETIC DOOR HOLDER
			FIREFIGHTER COMMUNICATION JACK
			FLOW SWITCH (furnished by FPI/C)
			TAMPER SWITCH (furnished by FPI/C)
			VISUAL ONLY UNIT
			FIRE CONTROL POWER SUPPLY
			MONITOR MODULE
			CONTROL MODULE
			CARBON MONOXIDE DETECTOR

ABBREVIATIONS LEGEND

A	AMPS	GC	GENERAL CONTRACTOR	P	POLE
AC	ABOVE COUNTER	GFI	GROUND FAULT INTERRUPTER	P-	PUMP
ACU-	AIR CONDITIONING UNIT	GND	GROUND	PB	PULL BOX
AFF	ABOVE FINISHED FLOOR			PNL	PANEL
AHJ	AUTHORITY HAVING JURISDICTION	H-	HUMIDIFIER	PRV-	POWER ROOF VENTILATOR
AHU-	AIR HANDLING UNIT	HID	HIGH INTENSITY DISCHARGE	PVC	POLY VINYL CHLORIDE
AIC	AMPS INTERRUPTING CAPACITY	HOA	HAND-OFF-AUTO SELECTOR SWITCH	PWR	POWER
AS	ABOVE SHELF	HP	HORSEPOWER		
ATS	AUTOMATIC TRANSFER SWITCH	HR	HOUR	RECEPT	RECEPTACLE
		HVAC	HEATING/VENTILATING/AIR CONDITIONING	RGC	RIGID GALVANIZED STEEL CONDUIT
				RTU-	ROOF TOP UNIT
B-	BOILER	IG	ISOLATED GROUND	SF-	SUPPLY FAN
BC	BELOW COUNTER	IMC	INTERMEDIATE METAL CONDUIT	SPEC	SPECIFICATIONS
BLDG	BUILDING			SW	SWITCH
		JB	JUNCTION BOX	SWBD	SWITCHBOARD
CHLR-	CHILLER	LC	LIGHT CONTROL	TCC	TEMPERATURE CONTROL CONTRACTOR
CND (C)	CONDUIT	LT	LIGHT	TR	TAMPER PROOF RECEPTACLE
CKT	CIRCUIT	LTG	LIGHTING	TS	TAMPER PROOF SWITCH
CKT BKR	CIRCUIT BREAKER	LT FLEX	LIQUID TIGHT FLEXIBLE METAL CONDUIT	TYP	TYPICAL
CT-	COOLING TOWER			UF	UNDER FLOOR
CU-	CONDENSING UNIT	MAX	MAXIMUM	UH-	UNIT HEATER
CUH-	CABINET UNIT HEATER	MC	MECHANICAL CONTRACTOR	UL	UNDERWRITERS' LABORATORIES, INC.
		MCC	MOTOR CONTROL CENTER	UNO	UNLESS NOTED OTHERWISE
DFU-	DUCT FURNACE	MIN	MINIMUM		
DISC	DISCONNECT	MLO	MAIN LUG ONLY	V	VOLTS
DWG	DRAWING	MT	MOUNT	VL	VERIFY LOCATION WITH OWNER
DWH-	DOMESTIC WATER HEATER	MTD	MOUNTED	W	WATTS
		MTG	MOUNTING	W/O	WITHOUT
EBB-	ELECTRIC BASEBOARD	MUAU-	MAKE-UP AIR UNIT	WP	WEATHER PROOF
EC	ELECTRICAL CONTRACTOR	NC	NORMALLY CLOSED		
EF	EXHAUST FAN	NIC	NOT IN CONTRACT		
EM	EMERGENCY	NL	NIGHT LIGHT		
EMT	ELECTRICAL METALLIC TUBING	NO	NORMALLY OPEN		
EWC	ELECTRIC WATER COOLER	NTS	NOT TO SCALE		
EXIST./EX.	EXISTING			XFMR	TRANSFORMER
FLA	FULL LOAD AMPS				
FLEX	FLEXIBLE CONDUIT				
FLR	FLOOR				
FLUOR	FLUORESCENT				
FSFS	FOOD SERVICE EQUIP. SUPPLIER				
F/S	FIRE/SMOKE				
FU-	FURNACE				

GENERAL ELECTRICAL NOTES

- ALL WALL AND FLOOR PENETRATIONS ARE TO BE SEALED TO MAINTAIN ORIGINAL RATING.
- ALL CONDUITS TO BE FIELD ROUTED ALONG EXISTING PIPING AND STRUCTURAL STEEL.
- THE DIVISION 26 CONTRACTORS SHALL VISIT THE PROJECT AND DETERMINE THE EXACT EXTENT OF THE DEMOLITION WORK REQUIRED BEFORE BIDDING THE PROJECT.
- REMOVE ALL EXISTING OBSOLETE EXPOSED CONDUIT, WIRE AND UNUSED EQUIPMENT WHERE WORK IS BEING DONE EXCEPT ITEMS NOTED OTHERWISE.
- WHERE BUILDING SURFACES ARE DAMAGED BY THE REMOVAL OF OLD WORK, SURFACES SHALL BE PATCHED TO MATCH ADJACENT.
- EXISTING WORK WHICH IS PRESENTLY CONCEALED AND WHICH WILL REMAIN CONCEALED AND DOES NOT INTERFERE WITH ANY NEW WORK OF ANY TRADE NEED NOT BE REMOVED. HOWEVER, ALL CONDUIT SHALL BE CAPPED BELOW FINISH SURFACE AND THEN PATCHED TO MATCH, OR AS NOTED.
- EXISTING OPENINGS, WHICH ARE TO BE REUSED, SHALL BE MODIFIED OR ENLARGED TO SUIT THE NEW SYSTEMS AS REQUIRED. PROVIDE ALL REQUIRED CUTTING AND PATCHING.
- IF ASBESTOS IS PRESENT, IT WILL BE REMOVED OR RENDERED HARMLESS UNDER SEPARATE CONTRACT BY THE OWNER.
- THE DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING THE EXISTING WALLS TO MATCH THE ADJACENT SURFACES BEHIND ALL SURFACE MOUNTED EQUIPMENT.
- CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT VOLTAGES AND LOADS PRIOR TO INSTALLING SERVICE TO EQUIPMENT.
- DRAWINGS ARE BASED ON EXISTING RECORD DOCUMENT AND CASUAL FIELD OBSERVATION. REPORT ANY DISCREPANCIES TO ENGINEER FOR CLARIFICATION.

DIVISION 26 - ELECTRICAL SPECIFICATIONS

DESCRIPTION OF WORK

WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, THE FOLLOWING:

- DEMOLITION
- CONDUIT AND RACEWAYS
- CONDUCTORS
- GROUNDING
- SAFETY DISCONNECT SWITCHES
- MOTOR STARTERS AND CONTROLS

STANDARDS

ELECTRICAL MATERIALS AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS LISTED BELOW. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. IN THE ABSENCE OF SPECIFIC INSTRUCTION IN THE TECHNICAL SPECIFICATIONS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO THE FOLLOWING APPLICABLE CODES, STANDARDS AND REGULATIONS, LATEST EDITIONS:

- AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM).
- AMERICAN NATIONAL STANDARD INSTITUTE (ANSI).
- UNDERWRITER'S LABORATORIES, INC. (UL).
- AMERICAN WELDING SOCIETY CODE (AWSC).
- LOCAL BUILDING, ELECTRICAL, AND FIRE CODES.
- NATIONAL ELECTRICAL CODE (NEC).
- SERVICE RULES AND REGULATIONS OF LOCAL ELECTRICAL UTILITY COMPANY.
- NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
- U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES "HRS-M-HF" 84_1.
- OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
- AMERICANS WITH DISABILITIES ACT (ADA).

CODES AND ORDINANCES

COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES AND ORDINANCES. COMPLY WITH OWNER'S SPECIFICATIONS, GUIDELINES AND REQUIREMENTS. BIDDERS SHALL FAMILIARIZE THEMSELVES WITH CODE REQUIREMENTS FOR THE TYPE OF FACILITY WHERE THE WORK IS BEING PERFORMED.

PERMITS AND INSPECTION FEES

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES. FINAL INSPECTION CERTIFICATES BY THE AUTHORITIES HAVING JURISDICTION, INCLUDING THE LOCAL ELECTRICAL INSPECTOR AND FIRE MARSHAL, SHALL BE OBTAINED BY THE CONTRACTOR. COPIES SHALL BE SUBMITTED IN DUPLICATE TO THE OWNER.

SUBMITTALS

SUBMIT PRODUCT DATA, SHOP DRAWINGS, WIRING DIAGRAMS, AND DESCRIPTIVE LITERATURE FOR ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT. MAKE SUBMITTALS WITHIN THIRTY (30) DAYS AFTER THE SIGNING OF THE CONTRACT. PRODUCT SHIPMENTS ARE NOT PERMITTED UNTIL SUBMITTALS HAVE RECEIVED FINAL APPROVAL.

AS-CONSTRUCTED DOCUMENTS

UPON PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A MARKED-UP COPY OF THE ORIGINAL CONTRACT DOCUMENTS TO THE OWNER, INDICATING CHANGES, ADDITIONS AND MODIFICATIONS TO THE ORIGINAL DESIGN. DRAWINGS SHALL BE MANUALLY-PREPARED.

OPERATION & MAINTENANCE MANUALS

PROVIDE OPERATING INSTRUCTIONS AND MAINTENANCE INFORMATION, FOR EACH SYSTEM AND EQUIPMENT SPECIFIED, FOR USE BY FACILITY OPERATION AND MAINTENANCE PERSONNEL. MANUALS SHALL BE PROVIDED IN 3-RING BINDERS OR ELECTRONIC COPIES. THE MANUALS SHALL INCLUDE:

- WIRING DIAGRAMS, CONTROL DIAGRAMS, AND CONTROL SEQUENCE FOR EACH SYSTEM AND ITEM OF EQUIPMENT.
- START-UP, PROPER ADJUSTMENT, OPERATING, LUBRICATION, AND SHUTDOWN PROCEDURES.
- SAFETY PRECAUTIONS.
- THE PROCEDURE TO BE FOLLOWED IN THE EVENT OF EQUIPMENT FAILURE.
- OTHER ITEMS OF INSTRUCTION AS RECOMMENDED BY THE MANUFACTURER OF EACH SYSTEM OR ITEM OF EQUIPMENT.

TRAINING

DURING OR UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL PROVIDE TRAINING OF OPERATION AND MAINTENANCE PERSONNEL FOR ALL REQUIRED ELECTRICAL COMPONENTS AND SYSTEMS. TRAINING SHALL BE CONDUCTED AT THE OWNER'S FACILITY. COORDINATE WITH THE OWNER FOR SCHEDULE.

SIGNAGE AND IDENTIFICATION OF SYSTEMS AND EQUIPMENT

- OPERATING INSTRUCTIONS: PRINT OR ENGRAVE INSTRUCTIONS AND FRAME UNDER GLASS OR APPROVED LAMINATED PLASTIC. POST INSTRUCTIONS IN VIEW OF EQUIPMENT. PROVIDE WEATHER-RESISTANT MATERIALS FOR EXTERIOR APPLICATIONS.
- EQUIPMENT: PROVIDE NAMEPLATES FOR ALL EQUIPMENT AND DEVICES. NAMEPLATES SHALL BE SELF-ADHESIVE WITH ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABELS. PROVIDE NAMEPLATES WITH WHITE LETTERS ON A BLACK BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 1/8-INCH.
- WARNING SIGNS: PROVIDE A SELF-ADHESIVE WARNING LABEL THAT IS FACTORY PRINTED AND MULTI-COLOR. COMPLY WITH N.E.C. 70 AND 29 CFR 1910.145. LABELS FOR MULTIPLE POWER SOURCES SHALL READ: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES". LABELS FOR OTHER EQUIPMENT REQUIRING WORK SPACE CLEARANCES SHALL READ: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36-INCHES".
- ARC-FLASH WARNING SIGNS: PROVIDE A SELF-ADHESIVE ARC-FLASH WARNING LABEL ON ALL SAFETY SWITCHES, STARTERS, SWITCHBOARDS, PANELBOARDS AND OTHER REQUIRED EQUIPMENT. LABEL SHALL READ: "WARNING: ARC FLASH AND SHOCK HAZARD. APPROPRIATE PPE AND TOOLS REQUIRED WHEN WORKING ON THIS EQUIPMENT."

GUARANTEE

PROVIDE WRITTEN GUARANTEE FOR ALL LABOR AND MATERIALS FOR ONE (1) YEAR AFTER OWNER'S WRITTEN ACCEPTANCE OF THE PROJECT.

LAYOUT OF THE WORK

THE CONTRACTOR SHALL EXAMINE THE AREA OF WORK, AND ALL OTHER DISCIPLINE DRAWINGS, BEFORE PROCEEDING WITH THE LAYOUT AND INSTALLATION OF THE ELECTRICAL WORK. LOCATE ELECTRICAL EQUIPMENT ESSENTIALLY AS SHOWN ON THE DRAWINGS. EXACT LOCATION OF EQUIPMENT SHALL BE DETERMINED AT THE JOB SITE, TO SUIT ACTUAL CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION, SO THAT ALL COMPONENTS WILL BE INSTALLED IN PROPER RELATIONSHIP AND SEQUENCE.

DEMOLITION

CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIAL INDICATED ON THE DEMOLITION PLANS OR AS REQUIRED TO INSTALL THE EQUIPMENT THAT IS PART OF THIS CONTRACT. LIGHT FIXTURES INDICATED TO BE REUSED SHALL BE REMOVED, CLEANED AND RE-LAMPED BEFORE REINSTALLING. REMOVED LIGHT FIXTURES TO BE DEMOLISHED SHALL BE TURNED OVER TO THE OWNER UNLESS OTHERWISE SPECIFIED. ALL OTHER ELECTRICAL DEMOLITION ITEMS SHALL BE REMOVED FROM THE SITE. EXISTING CONDUITS MAY BE REUSED WHEN PRACTICAL. CONTRACTOR SHALL PATCH EXISTING WALL AND CEILING OPENINGS IN FINISHED AREAS UPON REMOVAL OF ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROTECT ALL EXISTING ELECTRICAL EQUIPMENT, INDICATED TO REMAIN, DURING CONSTRUCTION PERIOD.

CUTTING AND PATCHING

ALL NECESSARY CUTTING AND PATCHING OF THE BUILDING WALLS, FLOORS AND CEILINGS REQUIRED FOR REMOVAL OR INSTALLATION OF THE NEW WORK, SHALL BE FURNISHED BY THE CONTRACTOR. NO STRUCTURAL MEMBERS OF THE BUILDING SHALL BE CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER. ALL NECESSARY PATCHING AND PAINTING OF SURFACES SHALL BE BY CONTRACTOR. PAINT SHALL MATCH EXISTING.

GROUNDING

ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN A MANNER APPROVED BY THE AUTHORITY HAVING JURISDICTION. PROVIDE GROUND RODS AND BARE COPPER GROUND CONDUCTORS AT UTILITY TRANSFORMER PAD. PROVIDE A GROUND ROD AND GROUND CONDUCTOR AT THE BUILDING MAIN DISCONNECT SWITCH. PROVIDE A GROUND ROD AND BARE COPPER GROUND CONDUCTORS AT UTILITY TRANSFORMER PAD. PROVIDE A GROUND ROD AND GROUND CONDUCTOR AT THE BUILDING MAIN DISCONNECT SWITCH. PROVIDE A GROUND ROD AND BARE COPPER GROUND CONDUCTORS AT UTILITY TRANSFORMER PAD. PROVIDE A GROUND ROD AND GROUND CONDUCTOR AT THE BUILDING MAIN DISCONNECT SWITCH. PROVIDE A GROUND ROD AND BARE COPPER GROUND CONDUCTORS AT UTILITY TRANSFORMER PAD. PROVIDE A GROUND ROD AND GROUND CONDUCTOR AT THE BUILDING MAIN DISCONNECT SWITCH.

WIRE AND CABLE

SECONDARY FEEDERS SHALL BE TYPE THWN-2 or XHHW-2, 600V RATED, COLORED BLACK OR COLOR CODED. BRANCH CIRCUIT WIRING SHALL BE TYPE THWN-2 OR XHHW-2, 600V RATED, 7 STRAND, #12 AWG MINIMUM, COLORED HOT-BLACK, NEUTRAL-WHITE AND GROUND-GREEN. BARE COPPER GROUND WIRE SHALL BE STRANDED TYPE.

ALL BRANCH CIRCUIT WIRING SHALL BE CONTINUOUS BETWEEN JUNCTION BOXES, WITH SPLICES MADE ONLY WITHIN BOXES. SOLDERLESS PRESSURE-TYPE CONNECTORS, PROPERLY INSULATED, SHALL BE USED FOR ALL SPLICES. NO POWER WIRE SMALLER THAN #12 AWG MAY BE USED UNLESS SPECIFIED UNDER DESCRIPTIONS OF SPECIAL SYSTEMS.

LABEL ALL CONDUCTORS WITH CIRCUIT NUMBERS AT BOTH ENDS, MINIMUM.

CONDUIT AND BOXES

CONDUIT SHALL BE 3/4" MINIMUM. EXPOSED OUTDOOR CONDUIT SHALL BE RGC. BELOW GRADE CONDUIT SHALL BE SCHEDULE 40 PVC OR HDPE. EXPOSED INTERIOR CONDUIT SHALL BE EMT. CONDUIT INSTALLED IN INDUSTRIAL FACILITIES SHALL BE RGC. CONDUIT FOR CONDUCTORS GREATER THAN 480-VOLTS SHALL BE RGC. CONCEALED INTERIOR CONDUIT SHALL BE EMT. CONDUIT AND BOXES IN CORROSIVE ENVIRONMENTS SHALL BE PVC-COATED RGC. BELOW GRADE, NON-METALLIC CONDUIT CONTAINING DATA AND COMMUNICATIONS WIRING, SHALL BE INSTALLED WITH A TRACER WIRE.

WHERE FLEXIBLE CONNECTIONS ARE REQUIRED, SUCH AS CONNECTIONS TO MOTORS AND LIGHT FIXTURES, LIQUID-TIGHT, FLEXIBLE METAL CONDUIT SHALL BE USED, WHERE PERMITTED BY THE NEC.

EXTERIOR RGC CONDUIT JOINTS SHALL BE MADE WATERTIGHT BY COATING THREADS WITH A ZINC PAINT.

EXTERIOR-MOUNTED DEVICE BOXES AND BOXES INSTALLED IN INDUSTRIAL FACILITIES SHALL BE CAST TYPE. INTERIOR OUTLET BOXES SHALL BE PRESSED STEEL, COMPLETE WITH PLASTER RING IF NECESSARY, FOR EACH SWITCH, RECEPTACLE OR DEVICE SHOWN. CEILING OUTLET BOXES SHALL BE 4-INCH OCTAGON, 1-1/2-INCH DEEP. EACH OUTLET SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING CONSTRUCTION (INDEPENDENT OF THE RACEWAY SYSTEM). LIGHT FIXTURE BOXES SHALL BE SUPPLIED WITH FIXTURE SUPPORT HARDWARE AND SUPPORTED TO WITHSTAND 80 LBS.

SUPPORTS AND HANGERS

PROVIDE AND INSTALL NECESSARY STEEL BRACKETS, RODS, CHANNELS, CLAMPS, ETC., FOR SUPPORT OF ALL WORK UNDER THIS CONTRACT. MOUNT SECURELY TO CEILING OR WALL.

SAFETY DISCONNECT SWITCHES

SAFETY DISCONNECT SWITCHES SHALL BE CIRCUIT BREAKER OR FUSED TYPE, 250VAC OR 480VAC, CLASS A, HEAVY DUTY, DUAL HORSEPOWER RATED IN NEMA 1 ENCLOSURE OR WEATHER-PROOF AS INDICATED ON DRAWINGS. BUILDING SAFETY DISCONNECT SWITCHES SHALL BE RATED FOR "SERVICE ENTRANCE.". VOLTAGE, CURRENT RATING, NUMBER OF POLES, CIRCUIT BREAKER OR FUSES AS INDICATED. CONSTRUCTION SHALL BE SUCH THAT, WHEN THE SWITCH HANDLE IS IN THE "ON" POSITION, THE COVER CANNOT BE OPENED. SWITCHES FOR 30-AMPERE TO 200-AMPERE LOADING SHALL BE SQUARE D TYPE HD OR EQUAL.

MOTOR STARTERS

THREE-PHASE MOTOR STARTERS SHALL BE COMBINATION TYPE, 250VAC OR 480VAC AS REQUIRED, CLASS A, HEAVY DUTY, DUAL HORSEPOWER RATED WITH OVERLOADS AND TIME DELAY SWITCH. UNITS SHALL BE SQUARE D OR EQUAL.

FRACTIONAL HORSEPOWER MOTOR STARTERS SHALL BE TOGGLE TYPE, 120VAC WITH RED PILOT LIGHT.

END OF DIVISION 26



792 LOS DRIVE, SUN PRAIRIE, WI 53590

REVISIONS			
07/08/2026	CD SET		

DRAWN

AGS

APPROVED

RCH

MATRIX
CONSULTING ENGINEERS, INC.

544 Cheaburg Drive
Lansing, MI 48917

PHONE (517) 487-2511
administrator@matrixinc.com
Fax: (517) 487-2510

PROJECT

AQUATIC CENTER DWH UPGRADES

52401 ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION

**ELECTRICAL -
SYMBOLS,
NOTES,
AND ABBREV.**

DATE

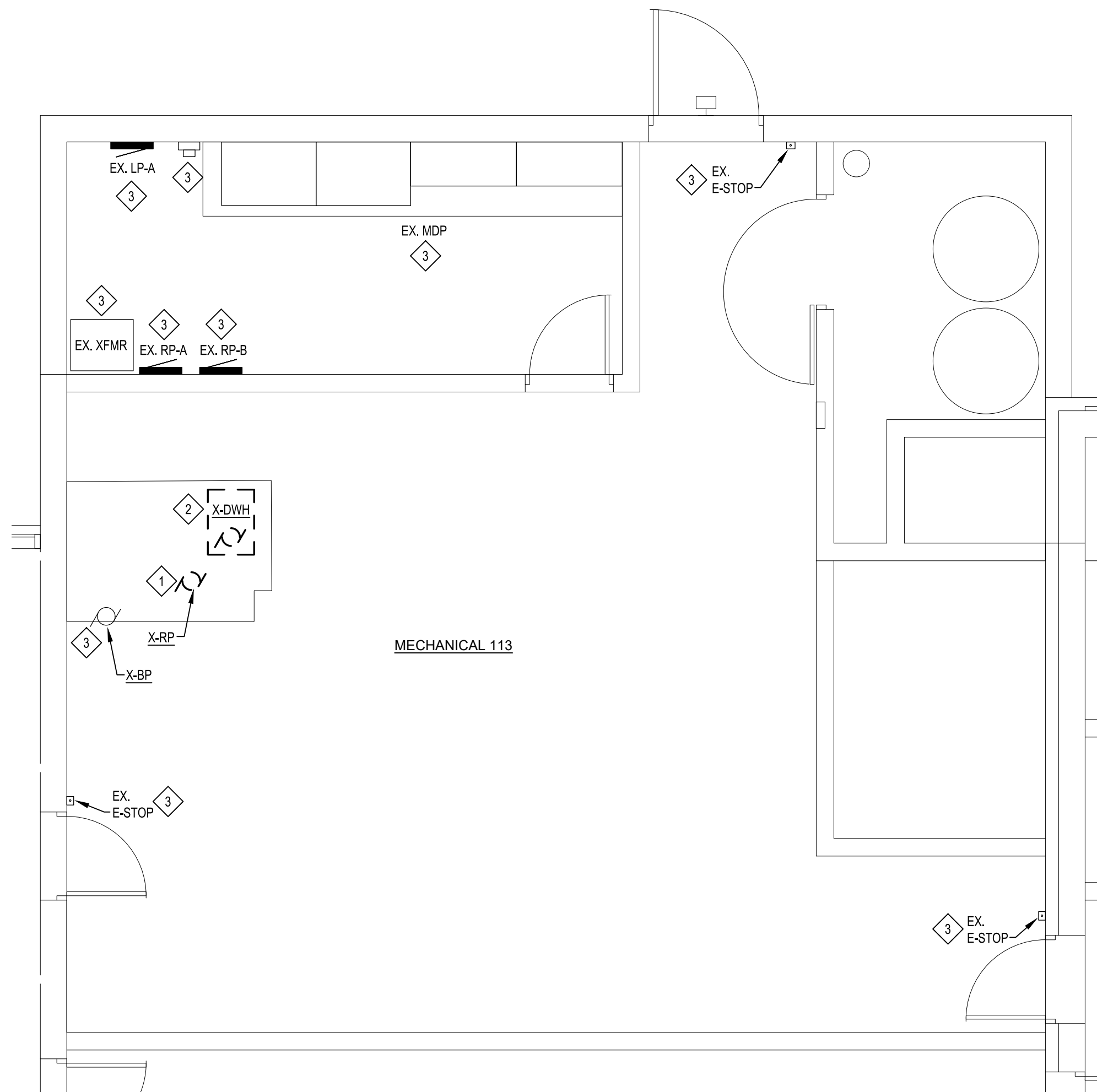
04/08/2026

PROJECT NUMBER

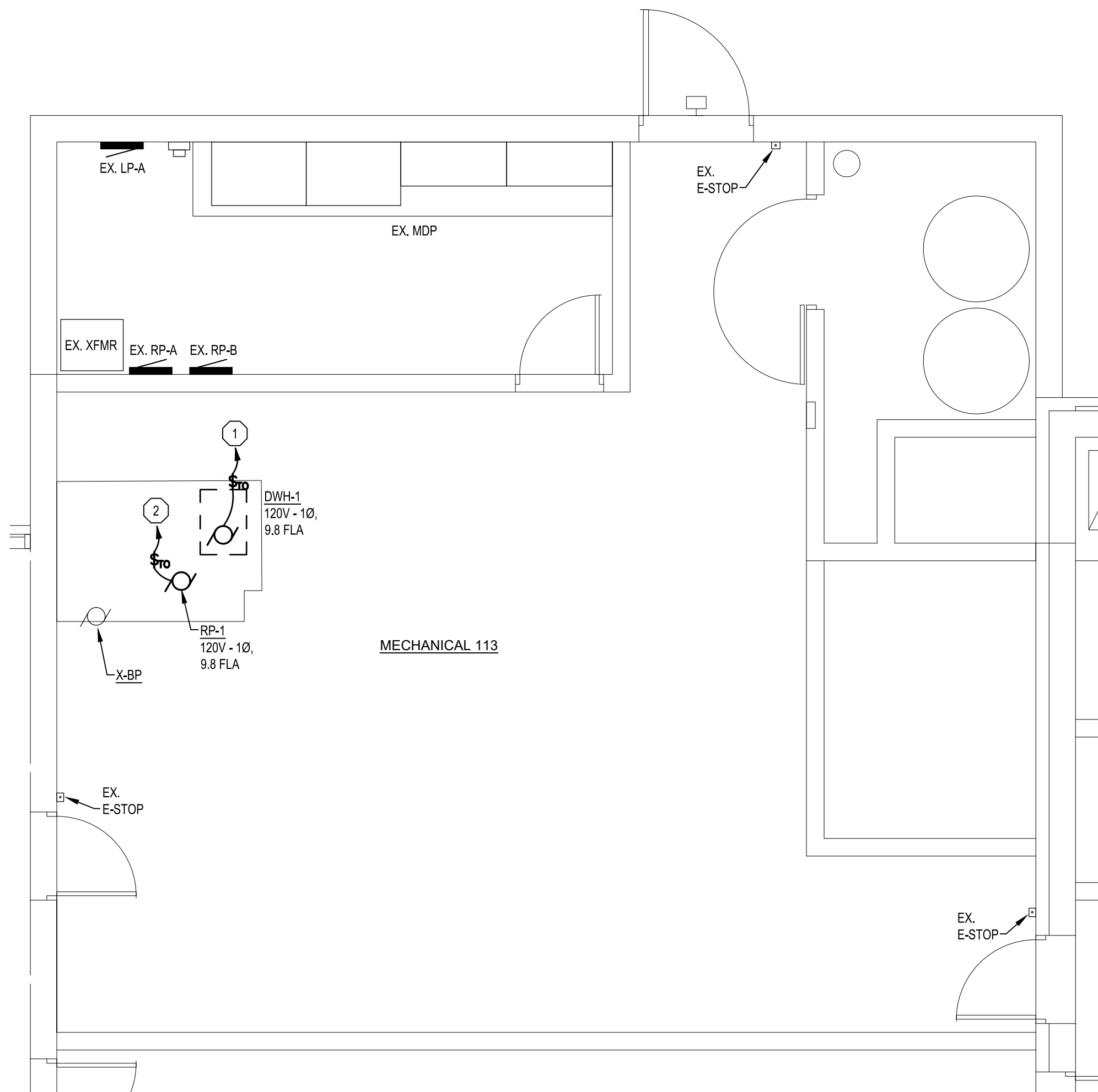
250963.00

SHEET NUMBER

E-100



 **MECHANICAL ROOM FLOOR PLAN - ELECTRICAL DEMOLITION**
SCALE: 1/4" = 1'-0"



 **MECHANICAL ROOM FLOOR PLAN - POWER**
SCALE: 1/4" = 1'-0"

DEMOLITION NOTES

- 1 DISCONNECT MECHANICAL EQUIPMENT. CONDUIT AND WIRING TO REMAIN FOR RECONNECTION TO NEW PUMP.
- 2 DISCONNECT MECHANICAL EQUIPMENT. REMOVE CONDUIT AND WIRING BACK TO NEAREST J-BOX HOMERUN.
- 3 EXISTING EQUIPMENT TO REMAIN.

ELECTRICAL KEY NOTES

- 1 PROVIDE NEW 120V, 20A CIRCUIT FROM SPARE CIRCUIT BREAKER IN PANEL RP-B. TIE BOILER CIRCUIT INTO EXISTING E-STOP SYSTEM.
- 2 CONTRACTOR SHALL RE-USE EXISTING FEEDERS. EXTEND CONDUIT AND WIRE AS REQUIRED.



792 LOS DRIVE, SUN PRAIRIE, WI 53590

REVISIONS			
07/08/2026	CD SET		

DRAWN
AGS
APPROVED
RCH

**MATRIX**
CONSULTING ENGINEERS, INC

544 Chesbourg Drive
Lansing, MI 48917
PHONE (517) 487-2511
administrator@matrixinc.com
Fax: (517) 487-2500

AQUATIC CENTER DWH UPGRADES

52401 ASHLEY ST.
NEW BALTIMORE, MI 48047

SHEET DESCRIPTION	
MECH. ROOM ELECTRICAL DEMOLITION AND POWER	
DATE	04/08/2026
PROJECT NUMBER	250963.00
SHEET NUMBER	E-500