### General Notes

1. **Contractor Responsibilities**
   - Prior to any excavation, the contractor shall contact the Michigan One Call System (888-482-7171) to locate and identify any underground utilities within the project area.
   - The contractor shall be responsible for coordinating the repair or replacement of any damaged or destroyed utilities at no cost to the owner.
   - The contractor shall ensure that all temporary and permanent soil erosion and sediment control measures are in place prior to the commencement of work.

2. **Temporary Erosion Control Measures**
   - The contractor shall install temporary erosion control measures, including silt fences, to prevent soil erosion and sedimentation.
   - The contractor shall ensure that all temporary erosion control measures are in place prior to the commencement of work.

### SESC Notes

- **Temporary Erosion Control Measures**
  - The contractor shall install temporary erosion control measures, including silt fences, to prevent soil erosion and sedimentation.
  - The contractor shall ensure that all temporary erosion control measures are in place prior to the commencement of work.

- **Permanen (sic) Erosion Control Measures**
  - The contractor shall install permanent erosion control measures, including natural grass and native vegetation, to prevent soil erosion and sedimentation.
  - The contractor shall ensure that all permanent erosion control measures are in place prior to the commencement of work.

### Features & Structure Lines

- **Grading Limits**
- **Utility Easements**
- **Utility Easements**
- **Future Utility Line**

### Site Legend

- **SITE SYMBOLS**
- **UTILITY SYMBOLS**
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**NOTES AND LEGEND**

**NOTE:** HEAVIER LINE WEIGHTS INDICATE PROPOSED WORK.

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**Bar Measures 1 inch**

1. **COMMUNICATIONS AND TELECOMMUNICATIONS**
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**Copyright:** Tetra Tech
NOTE:
1. ALL LOCATIONS AND DIMENSIONS OF EXISTING FEATURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY SITE CONDITIONS AND EXISTING FEATURES PRIOR TO COMMENCING WORK.
2. ADD AND REGRADE EXISTING GRAVEL DRIVE. REPLACE MINIMUM OF 4" TOP COATING WITH MEET (9A MODIFIED) MORTAR IN ACCORDANCE WITH MDOT STANDARD CONSTRUCTION SPECIFICATIONS.
3. PLACE ONE PROJECT SIGN IN ACCORDANCE WITH DETAIL ON SHEET C-500.
4. PROTECT TREE AND TELECOMMUNICATION MONOPOLES IN ACCORDANCE WITH ANN ARBOR PUBLIC SERVICE DEPARTMENT "PROTECTION OF TREES" AND "STANDARD DETAIL, SD-M-1". ADDITIONAL CABLES WILL BE RUN TO DTE PROPERTY DURING CONSTRUCTION AND ARE NOT CURRENTLY SHOWN.

EXISTING TELECOMMUNICATION CARRIER EQUIPMENT

EXISTING MONOPOLE

EXISTING SILT FENCE

EXISTING FIRE HYDRANT

EXISTING TELEPHONE POLES

ELEVATED STORAGE TANK DRAIN

OVERFLOW CHANNEL

SEE SHEET D-101

NOTES:
1. ALL LOCATIONS AND DIMENSIONS OF EXISTING FEATURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY SITE CONDITIONS AND EXISTING FEATURES PRIOR TO COMMENCING WORK.
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3. PLACE ONE PROJECT SIGN IN ACCORDANCE WITH DETAIL ON SHEET C-500.
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EXISTING TELEPHONE POLES

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3. PLACE ONE PROJECT SIGN IN ACCORDANCE WITH DETAIL ON SHEET C-500.
4. PROTECT TREE AND TELECOMMUNICATION MONOPOLES IN ACCORDANCE WITH ANN ARBOR PUBLIC SERVICE DEPARTMENT "PROTECTION OF TREES" AND "STANDARD DETAIL, SD-M-1". ADDITIONAL CABLES WILL BE RUN TO DTE PROPERTY DURING CONSTRUCTION AND ARE NOT CURRENTLY SHOWN.
TANK ELEVATION - PROPOSED IMPROVEMENTS

NOTES:
1. THE DRY INTERIOR IS TO BE REPAINTED AS PART OF THE PROJECT, INCLUDING THE FILL PIPE.
2. THE EXISTING PIT PIPING TO REMAIN IS TO BE REPAINTED AS PART OF THE PROJECT.
3. THE TANK EXTERIOR IS TO BE REPAINTED AS PART OF THE PROJECT.
4. DRAWING IS FOR REFERENCE ONLY. ORIENTATION OF ITEMS MAY VARY.
5. SEE SPECIFICATION SECTION 05 00 00 FOR DETAILS ON MISCELLANEOUS IMPROVEMENTS.

REPLACE FILL PIPE
INSTALL SUMP DISCHARGE PENETRATION
SEE SHEET D-103
INSTALL FLAPGATE
SEE SHEET D-500
INSTALL MUD VALVE
SEE D-500
REPLACE LOCKED MANHOLE EXHAUST VALVE
SEE SHEET D-122
INSTALL BASEBELL PENETRATIONS (TYP OF 2)
REPLACE FILL PIPE/INSULATION
SEE SHEET S-500
INSTALL BELL GASKET/INSULATION
SEE SHEET S-500
REPLACE FILL PIPE/INSULATION
SEE SHEET S-500
INSTALL STEAM DISCHARGE PENETRATION
SEE SHEET S-500
INSTALL STEAM COUNTERFLUSH PIPE
SEE SHEET B-500 FOR LEADER EXTENSION
INSTALL STEAM CONTRAFLUSH PIPE
SEE SHEET S-500
EXISTING WATER STORAGE TANK
BASEBELL
REPLACE FILL PIPE
EXPANSION JOINT
SEE SPECIFICATIONS
REPLACE BOWL MANWAY, REPLACE GASKET
Piping Vault SEE SHEET D-102
REPLACE FILL PIPE
INSULATION
SEE SPECIFICATIONS
INSTALL MUD VALVE
SEE D-500
INSTALL SUMP DISCHARGE PENETRATION
SEE SHEET D-103
REPLACE LOCKING MECHANISM
SEE SHEET C-500
REATTACH ACCESS TUBE SCREEN
REPLACE ACCESS TUBE ROOF HATCH
SEE SHEET S-500
EXISTING ROOF HANDRILL
ALTER TOP PLATFORM SEE SHEET S-500
INTERMEDIATE PLATFORM, ADD MID RAIL SEE SHEET S-500
CONDENSATE PLATFORM, SEE SHEET S-500 FOR LADDER EXTENSION
EXISTING WATER STORAGE TANK
AGITATING SCREEN
EXISTING ROOF HANDRILL
ALTER TOP PLATFORM SEE SHEET S-500
REPLACE ACCESS TUBE ROOF HATCH SEE SHEET S-500
EXISTING ROOF HANDRILL
BAR MEASURES 1 INCH
SURVEILLANCE SIGNAGE

NOTES:
1. CONSTRUCTION SIGN SHALL BE BAKED ENAMEL ALUMINUM SHEET:
   - WHITE COLOR SHALL MATCH SIMILAR SIGNS USED AT OTHER CITY OF ANN ARBOR SITES.
2. LETTERING SHALL BE DIE CUT VINYL LAMINATED ONTO THE PANEL.
   - VINYL SHALL BE SUITABLE FOR EXTERIOR APPLICATIONS.
3. COLORS SHALL BE AS SHOWN.
4. 1 EACH OF SIGN, LOCATION TO BE DETERMINED IN FIELD.

EQUIPMENT PAD MODIFICATION

NOTES:
1. SEE SPECIFICATION SECTION 05 00 00 FOR DETAILS.
2. PROVIDE SIMILAR LOCKING MECHANISM AND CONFIGURATION AT MANCHESTER TANK.

MANCHESTER TANK COATING PROJECT

PROPOSED CONSTRUCTION SCHEDULE

NOTES:
1. CONSTRUCTION SIGN SHALL BE BAKED ENAMEL ALUMINUM SHEET.
2. CONSTRUCTION SIGN COLORS SHALL MATCH SIMILAR SIGNS USED AT OTHER CITY OF ANN ARBOR SITES.
3. LETTERING SHALL BE DIE CUT VINYL LAMINATED ONTO THE PANEL.
   - VINYL SHALL BE SUITABLE FOR EXTERIOR APPLICATIONS.
4. COLORS SHALL BE AS SHOWN.
5. 1 EACH OF SIGN, LOCATION TO BE DETERMINED IN FIELD.

FOR MORE INFORMATION PLEASE CONTACT _________ AT (734) ________ EXT. ____ OR _______@a2gov.org
Valve Designations:

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Joint Designations:

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Piping and Equipment Symbols:

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Piping Linetypes:

- NEW
- EXISTING
- DEMOLITION

General Notes:

1. These general notes provide project information in convenient form for the convenient of the project specifications. Note and project specifications are incorporated herein by reference. All existing dimensions shown with the ± symbol are approximate and shall be field-verified by the contractor before fabrication and construction.
2. Contractor may re-route sump pump discharge piping if a better route is determined. Obtain approval from the engineer and owner prior to installation.
3. No welding, gouging, or abrasive blasting of equipment is permitted. Field-verified existing dimensions.
4. All existing dimensions shown on this sheet are approximate and shall be field-verified by the contractor before fabrication and construction.

Piping Linetypes:
NOTES:

1. REMOVE EXISTING WOODEN PLATFORM PLANKS AND WOODEN WALKWAY FROM DOOR TO PIT.

2. PLACE SAND FILL TO APPROXIMATELY 2 INCHES BELOW TOP OF TANK RINGWALL. SAND FILL MATERIAL SHALL BE MDOT CLASS II GRANULAR MATERIAL, MODIFIED TO ALLOW 100% PASSING 2-INCH SIEVE. MATERIAL SHALL BE UNIFORMLY SPREAD AND COMPACTED BY OTHER ENGINEER-APPROVED METHOD TO MINIMUM 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D 1557.

3. REMOVE EXISTING MASONRY BLOCK AND CONCRETE OVERFLOW CHANNEL TO FULL EXTENT. PROTECT EXISTING CATCH BASIN AND MAKE REPAIRS AS REQUIRED DURING CHANNEL CONSTRUCTION.

4. PROTECT SUPPORT POLES, EQUIPMENT AND STRUCTURES SURROUNDING OVERFLOW CHANNEL. ANY DAMAGE TO EXISTING POLES, EQUIPMENT OR STRUCTURES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

5. TEMPORARILY RELOCATE EXISTING WALKWAY AND REINSTALL AFTER WORK TO CONCRETE CHANNEL IS COMPLETE.

6. SEED AND MULCH IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, DIVISION VIII - LANDSCAPING AND RESTORATION. PROVIDE STRAW MULCH BLANKETS WITH NETTING THAT WILL DEGRADE. LOOSELY APPLIED STRAW SHALL NOT BE USED.

7. OVERFLOW CHANNEL TO BE REPLACED AT SAME DEPTH AND LAYOUT AS EXISTING. CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND SUBMIT DESIGN FOR APPROVAL PRIOR TO INSTALLATION.

8. ELECTRICAL, COMMUNICATION AND SECURITY PANELS AND EQUIPMENT NOT SHOWN ON THIS SHEET FOR CLARITY. SEE SHEETS FOR DETAIL.
WATER TOWER DEMOLITION PIPING PLAN

SCALE: 3/8"=1'

REMOVE EXISTING PIPE AND VALVES TO EXTENT SHOWN.

REMOVE SUMP PUMP DISCHARGE FROM OVERFLOW AND INSTALL PATCH PLATE IN ACCORDANCE WITH SPECIFICATION SECTION 05 00 00.

OVERFLOW CHANNEL SEE SHEET D-101

EXISTING CONCRETE PIPE SUPPORTS (BELOW)

REUSE EXISTING CONCRETE PIPE SUPPORT, GROUT NEW FITTING AS NECESSARY.

REMOVE RISER PIPE UP TO EXISTING EXPANSION JOINT. REMOVE EXPANSION JOINT PER DETAIL ON SHEET D-500.

OVERFLOW CHANNEL SEE SHEET D-101

EXISTING CONCRETE PIPE SUPPORTS (BELOW)

REPLACE EXISTING CONCRETE PIPE SUPPORTS IN ACCORDANCE WITH SPECIFICATION SECTION 05 00 00.

Als-100

Scale: 3/8"=1'
NOTES:
1. SUMP PUMP DISCHARGE PIPING CONFIGURATION SHALL BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER. PROVIDE POSITIVE SLOPE FROM HIGH POINT ABOVE PIT TO DISCHARGE ABOVE OVERFLOW CHANNEL. ENSURE PIPING DISCHARGES ABOVE SPLASH PAD/OVERFLOW CHANNEL. COORDINATE CONFIGURATION OF PIPE SUPPORT AS SHOWN ON S-101 WITH PROPOSED PIPE CONFIGURATION.
2. SUMP PUMP DISCHARGE PIPING SHALL BE SCHEDULE 80 PVC PROVIDE TRUE UNION AT SUMP PUMP DISCHARGE.
3. INSTALL 2-INCH DRAIN AND CORPORATION STOP/VALVE OFF 16" MAIN. ROUTE TO SUMP. ABANDON AND CAP EXISTING DRAIN.
4. ALL PIPING TO BE PAINTED IN ACCORDANCE WITH DIVISION 9 SPECIFICATIONS.
5. REPLACE ALL FLANGE BOLTS ON EXISTING PIPE AND FITTINGS REMAINING.
6. SUPPORT EXISTING RISER PIPE DURING DEMOLITION AND INSTALLATION OF NEW PIPING.
7. OWNER TO OPERATE ALL VALVES.

WATER TOWER PROPOSED PIPING PLAN

SECTION A

SCALE: 3/8"=1'

NOTES:
1. RISER PUMP DISCHARGE PIPING CONFIGURATION SHALL BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER. PROVIDE POSITIVE SLOPE FROM HIGH POINT ABOVE PIT TO DISCHARGE ABOVE OVERFLOW CHANNEL. ENSURE PIPING DISCHARGES ABOVE SPLASH PAD/OVERFLOW CHANNEL. COORDINATE CONFIGURATION OF PIPE SUPPORT AS SHOWN ON S-101 WITH PROPOSED PIPE CONFIGURATION.
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6. SUPPORT EXISTING RISER PIPE DURING DEMOLITION AND INSTALLATION OF NEW PIPING.
7. OWNER TO OPERATE ALL VALVES.
FIELD DETERMINE PIPE SIZE AND DISTANCE BETWEEN THE EXISTING FLANGES STAINLESS STEEL BELLOWS WITH FLANGED ENDS INSTALL 1/8" RUBBER GASKET MATERIAL BETWEEN STAINLESS STEEL FLANGE AND STEEL FLANGE, TYPICAL OF 2 1/16" FLAPGATE SCREEN 3/8" PVC SPACER (6) STAINLESS STEEL F.H. BOLTS W/NUTS & WASHERS OVERFLOW FLANGE 1/4" F.H. STAINLESS STEEL BOLTS VIEW B 1/4" STEEL PLATE OVERFLOW PIPE ISO VIEW SECTION A-A 14" 4" (6) STAINLESS STEEL F.H. BOLTS W/NUTS & WASHERS 2" 6" 3 1/2" INSTALL FLANGE ON THE END OF THE PIPE NOTE: CONTRACTOR TO VERIFY OVERFLOW PIPE SIZE IS 8"Ø PRIOR TO CONSTRUCTION.

NOTES:
1. COUPLING IS TO BE 2 1/2" LONG SCH. 80 FEMALE THREADED
2. DRAIN PIPING IS TO BE 2.5"Ø SCH. 40 MALE THREADED LENGTH AS REQUIRED SLOPED TO OVERFLOW.
3. MUD VALVE IS TO BE 3"Ø BARBED FITTING (2) (2)
4. THREADS CONNECTIONS ARE TO BE COVERED WITH THREAD LOCKING ENCAP.
5. MUD VALVE IS TO BE LOCATED IN HOLE BY ENGINEER.
6. VALVE AND PIPING IS NOT TO INTERFERE WITH LADDER ACCESSIBILITY.
7. DRAIN PIPING TO BE HOSE ATTACHED TO THE STEEL COUPLING.
8. SUPPLY A 1 5/16" S.S. WRENCH FOR MUD VALVE OPERATION, ATTACH TO MUD VALVE WITH S.S. CHAIN AND CLASP FOR EASY REMOVAL OF THE WRENCH.
9. PAINT ALL NEW WORK PER SPECIFICATIONS. REPAIR WET INTERIOR COATING AS REQUIRED PER SPECIFICATION SECTION 05 00 00.

PIPING DETAILS

EXPANSION JOINT REPLACEMENT

SCALE: NONE

NOTE:
COUPLING IS TO BE 2 1/2" LONG SCH. 80 FEMALE THREADED
DRAIN PIPING IS TO BE 2.5"Ø SCH. 40 MALE THREADED LENGTH AS REQUIRED SLOPED TO OVERFLOW.
MUD VALVE IS TO BE 3"Ø BARBED FITTING (2) (2)
THREADS CONNECTIONS ARE TO BE COVERED WITH THREAD LOCKING ENCAP.
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SUPPLY A 1 5/16" S.S. WRENCH FOR MUD VALVE OPERATION, ATTACH TO MUD VALVE WITH S.S. CHAIN AND CLASP FOR EASY REMOVAL OF THE WRENCH.
PAINT ALL NEW WORK PER SPECIFICATIONS. REPAIR WET INTERIOR COATING AS REQUIRED PER SPECIFICATION SECTION 05 00 00.

MANCHESTER TANK COATING
710 Avis Drive, Suite 100
Ann Arbor, MI 48106
Tel 734-665-6000, Fax 734-213-3003

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D-500
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**NOTES:**
1. ALL WELDS TO BE 1 1/4" ANGLE
2. INSTALL ALL MID-RAIL SECTIONS TO BE DRAWN AND LOCATION SHOWN ON FRONT VIEW FOR CLARITY.

**SCALE: NONE**

**DETAILS**

**30° ACCESS TUBE HATCH**

**EXISTING CONDITIONS**

**PROPOSED TOP PLATFORM**

**EXISTING TOP PLATFORM**

**INTERMEDIATE PLATFORM**

**MODIFICATIONS TOP PLATFORM**

**SECTION A-A**

**SECTION B-B**

**DETAILS TOP PLATFORM**

**SCALE: NONE**

**CONDENSATE PLATFORM LADDER**

**SIDE VIEW**

**FRONT VIEW**

**SECTION**

**PIPE**

**SCALE: NONE**

**TYPICAL RAILING SECTION**

**SECTION**

**PULL-UP PLATFORM**

**PLATE PLATFORM SUPPORT**
COORDINATE WITH THE UTILITY COMPANY TO TEMPORARILY DISCONNECT POWER TO THE WATER TOWER. TEMPORARILY REMOVE ELECTRICAL METER INSIDE THE TOWER. TEMPORARILY REMOVE OVERHEAD CONDUCTORS AND SUPPORTING EQUIPMENT AT THE WATER TOWER. REINSTALL REMOVED EQUIPMENT ONCE THE PAINTING IS COMPLETE.

NOTES:
- CONTRACTOR TO PROVIDE PERIODIC Dewatering OF SUMP AREA, WHILE POWER IS OFF TO SITE.
- CONTRACTOR TO ALSO SECURE SITE WHILE POWER IS DOWN.

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INSTRUMENTATION
GROUND FLOOR PLAN VIEW
SCALE: 3/8"=1'

NOTES:
1. PROGRAMMING OF CP-1 IS PART OF THE CONTRACTOR'S SCOPE OF WORK. WORK WITH THE OWNER TO IDENTIFY ADDRESS REQUIREMENTS AND ANY PROGRAMMING REQUIREMENT.
2. CONNECTING CP-1 TO SSMP-MT IS PART OF THE CONTRACTOR'S SCOPE OF WORK.
3. CONFIGURING SSMP-MT, CONFIGURING PLANT NETWORK, AND CONFIGURING PLANTS SCADA SYSTEM IS BY OWNER.

CONNECT SENSING LINE TO EXISTING PROCESS CONNECTION ON RISER PIPE.
WARNING
ELECTRIC HEAT TRACING
"LOOP AND FIRE RISK: SYSTEM MUST BE INSTALLED AND OPERATED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND LOCAL CODES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO THE TRACE HEATING CABLE AND OTHER PIPE, SEPARATELY MOUNT TO SUPPORTING FRAME FOR SMALLER PIPES.

NOTES:
1. TEST FROM HEATING CABLE BUS WIRES TO BRAID.
2. TEST SHOULD USE AT LEAST A 500 VDC MEGGER. DO NOT USE A MEGGER WITH AN EXCESS OF 2500 VDC MINIMUM ACCEPTABLE READINGS SHOULD BE 20 MEGOHMS PER CIRCUIT, REGARDLESS OF LENGTH.
3. A RECORD SHOULD BE KEPT OF THE READINGS TAKEN FROM THE TIME THE CABLE IS FIRST INSTALLED ON THE PIPE.

TYPICAL INSTALLATION OVERVIEW
SCALE: 1"=1'-0"

TESTING DIAGRAM
SCALE: 1"=1'-0"

MEGGER TESTING
FOR HEATER CABLE WITH BRAID)

NOTES:
1. TEST FROM HEATING CABLE BUS WIRES TO BRAID.
2. TEST SHOULD USE AT LEAST A 500 VDC MEGGER. DO NOT USE A MEGGER WITH AN EXCESS OF 2500 VDC MINIMUM ACCEPTABLE READINGS SHOULD BE 20 MEGOHMS PER CIRCUIT, REGARDLESS OF LENGTH.
3. A RECORD SHOULD BE KEPT OF THE READINGS TAKEN FROM THE TIME THE CABLE IS FIRST INSTALLED ON THE PIPE.

TYPICAL HEATER CIRCUIT
WIRING DIAGRAM
SCALE: 1"=1'-0"
TYPICAL HEATER CABLE INSTALLATION

SCALE: ?"=1'-0"

TERMINAL BLOCK
POWER TERMINATION
GROUND LOCKNUT
3/4" FLEX CONDUIT
3/4" CONDUIT & DRAIN
SILICONE
BOX COVER GASKET
BOX COVER
JUNCTION BOX
WATER TIGHT
HEATER CABLE
CONDUIT LOCKNUT
GASKET
BOX ADAPTER
SEALING GROMMET
STAND-OFF
END SEAL
HEATER CABLE; BRAID OPTIONAL
(SEE WARNINGS)
PIPE CLAMPS
INSULATED GROUND WIRE
(ONLY CONNECT GROUND BRAID USING THE UN-INSULATED SPLICE CONNECTOR.)
NOTES:
1. ARTICLE 427 OF THE NATIONAL ELECTRIC CODE REQUIRES THAT ALL HEATERS SHALL HAVE METAL COVERINGS AND BE PROVIDED WITH BRANCH CIRCUIT GROUND-FAULT PROTECTION.
2. IF NUISANCE TRIPPING OF GROUND FAULT BREAKERS OCCURS DUE TO CONDENSATION IN THE JUNCTION BOX, ELECTRICAL CONNECTIONS SHOULD BE MOISTURE PROOFED BY USE OF A COATING OR SEALANT.

STAND-OFF INSTALLATION
SCALE: ?"=1'-0"

POWER CONNECTION BOX
BRAIDED CABLE

NOTES:
1. DO NOT PLACE PIPE CLAMPS OVER THE HEATER CABLE.
2. RECOMMEND INSTALLING AT THE 4 OR 8 O'CLOCK POSITIONS.

VALVE
(MAY VARY FOR DIFFERENT VALVE SHAPES)

HEATER CABLE SHOULD BE POSITIONED ON THE OUTSIDE RADIUS OF ALL ELBOWS ON 50MM (2") DIAMETER PIPES & LARGER.

BAR HANGER
HEATER CABLE
HEATER CABLE
PIPE SHOE SUPPORT
FIBERGLASS TAPE
HEATER CABLE
PIPE SHOE SUPPORT
HEATER CABLE

STRAIGHT TRACING NOTES:
1. WHEN STRAIGHT TRACING IS USED, INSTALL THE HEATER CABLE ON THE LOWER QUADRANT OF THE PIPE. THIS HELPS PREVENT PHYSICAL DAMAGE TO THE HEATER CABLE FROM FALLING OBJECTS AND BEING WALKED ON.
2. ALTERNATIVE LOCATION IS THE 2 AND 10 O'CLOCK POSITION.
3. SECURE PIPE AT 12" INTERVALS WITH FIBERGLASS TAPE.

HEATER CABLE WRAP
SIZE: 1/2"-3/4"

PIECE CLAMPS
FIBERGLASS TAPE
STAND-OFF
SEALING GROMMET
BOX ADAPTER
POWER TERMINATION
4 O'CLOCK
8 O'CLOCK
PIPE
HEATER CABLE

NOTES:
1. DO NOT PLACE PIPE CLAMPS OVER THE HEATER CABLE.
2. RECOMMEND INSTALLING AT THE 4 OR 8 O'CLOCK POSITIONS.

STAND-OFF INSTALLATION
SCALE: ?"=1'-0"

TYPICAL HEATER CABLE INSTALLATION

SIDES:
1. HEATER CABLE WRAP SIZE: 1/2" - 3/4"
2. PIPE CLAMPS
3. FIBERGLASS TAPE
4. STAND-OFF
5. SEALING GROMMET
6. BOX ADAPTER
7. POWER TERMINATION
8. HEATER CABLE

TYPICAL HEATER CABLE INSTALLYTION
NOTES:
1. WHEN STRAIGHT TRACING IS USED, INSTALL THE HEATER CABLE ON THE LOWER QUADRANT OF THE PIPE. THIS HELPS PREVENT PHYSICAL DAMAGE TO THE HEATER CABLE FROM FALLING OBJECTS AND BEING WALKED ON.
2. ALTERNATIVE LOCATION IS THE 2 AND 10 O'CLOCK POSITION.
3. SECURE PIPE AT 12" INTERVALS WITH FIBERGLASS TAPE.

NOTES:
1. DO NOT PLACE PIPE CLAMPS OVER THE HEATER CABLE.
2. RECOMMEND INSTALLING AT THE 4 OR 8 O'CLOCK POSITIONS.
ELEVATED STORAGE TANK
CATHODIC PROTECTION
LEVEL SENSOR

HEAT TRACE
PIT LIGHT
SSMP
MAIN
MAIN
5
7
9
11
13
15
1
3
5
7
9
11
13
15
HEAT TRACE (ELEVATED STORAGE TANK LEVEL SENSOR)

LUMINAIRE SCHEDULE

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HEAT TRACING FOR PIPING
1. Electric heating cable shall be self-regulating, parallel-resistance heating cables.
2. Electric heating cable shall be installed across expansion, contraction, and control joints. Installation shall be in accordance with the manufacturer's instructions.
3. Electric heating cable shall be installed in accordance with IEEE 515.
4. Electric heating cable shall be installed in accordance with NFPA 70.
5. Electric heating cable shall be installed in accordance with UL 514B.
6. Electric heating cable shall be installed in accordance with IPC 350.
7. Electric heating cable shall be installed in accordance with MTP 350.
8. Electric heating cable shall be installed in accordance with TTP 350.
9. Electric heating cable shall be installed in accordance with RTP 350.
10. Electric heating cable shall be installed in accordance with WTP 350.
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104. Electric heating cable shall be installed in accordance with PIP 350.
105. Electric heating cable shall be installed in accordance with QIP 350.
NOTES:
1. TEST AND DOCUMENT THE CONDITION OF THE FOLLOWING PANELS:
   1.1. PANELBOARD
   1.2. UTILITY METER (WORK WITH UTILITY COMPANY)
   1.3. FIRE RADIO ENCLOSURE (WORK WITH FIRE DEPARTMENT)
   1.4. FIRE RADIO ANTENNA, CABLE AND ASSOCIATED HARDWARE
   1.5. CITY FIBER CONNECTION
2. TEMPORARY REMOVE AND STORE THE FOLLOWING EQUIPMENT:
   2.1. PANELBOARD
   2.2. UTILITY METER (WORK WITH UTILITY COMPANY)
   2.3. FIRE RADIO ENCLOSURE (WORK WITH FIRE DEPARTMENT)
   2.4. FIRE RADIO ANTENNA, CABLE AND ASSOCIATED HARDWARE
   2.5. DOOR SWITCH
   2.6. HATCH SWITCH
   2.7. CAMERA AND CAMERA LIGHT
   2.8. LIGHT ABOVE DOOR
   2.9. MOTION SWITCH
   2.10. SECURITY BADGE SCANNER
   2.11. TOWER BEACON
   2.12. AND ALL OTHER RELATED ITEMS
3. REMOVE CITY FIBER CABLE FROM PANEL (SSMP-MT) AND WATER TOWER. PROTECT CABLE AND FIBER ENDS FROM DAMAGE DURING CONSTRUCTION. REINSTALL CITY FIBER CABLE IN NEW TOWER PENETRATION TO TOWER AND SECURITY PANEL (SSMP-MT) AFTER PAINTING.
4. STORAGE SHALL BE PROTECTED FROM WEATHER, DUST, AND DEBRIS.
5. ONCE PAINTING IS COMPLETE AND THE FLOOR ELEVATION HAS BEEN RAISED, REINSTALL EQUIPMENT TO ORIGINAL CONDITION. MODIFY EXISTING CONCRETE PAD. SEE C-500 "EQUIPMENT PAD MODIFICATION" DETAIL FOR CONCRETE PAD INFORMATION.
NOTES:

1. REMOVE AND REPLACE RECEPTACLES WITH GFCI STYLE RECEPTACLES WITH WEATHERPROOF COVERS.
2. REMOVE AND REPLACE LIGHT SWITCHES WITH WEATHERPROOF STYLE LIGHT SWITCHES.
3. REMOVE CATHODIC PROTECTION PANEL.
4. REMOVE TELEPHONE CIRCUITS.
5. REMOVE AND REPLACE HEAT TRACING (SALVAGE FOR OWNER).
6. REMOVE AND REPLACE LIGHT FIXTURES.
7. REUSE CONDUIT WHERE APPROPRIATE.
8. REMOVE AND REPLACE LEVEL INSTRUMENT. REMOVE LEVEL INDICATOR.
9. REMOVE MOSCAD RADIO PANEL. REPLACE WITH NEW CONTROL SCADA PANEL.
10. REMOVE RADIO DOOR SWITCH, CONDUIT AND WIRE. (LEAVE SECURITY DOOR SWITCH IN PLACE)
11. REMOVE WOODEN SUPPORTS AND BACKBOARD ASSOCIATED WITH INSTRUMENT PANEL.

WATER TOWER
1ST FLOOR PLAN VIEW
SCALE 3'L=1'

PHOTO
CONTROL PANEL SUBPLATE
SCALE 1/8"=1'

PHOTO
RECEPTACLES
SCALE 1/8"=1'

PHOTO
SENSING LINE
SCALE 1/8"=1'

PHOTO
DOOR CONTACT (SWITCH)
SCALE 1/8"=1'

PHOTO
HEAT TRACE & SUMP DISCHARGE
SCALE 1/8"=1'

PHOTO
LIGHT SWITCHES
SCALE 1/8"=1'

PHOTO
MOSCAD RADIO ANTENNA
SCALE 1/8"=1'

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ED-102
ELECTRICAL
DEMO PLAN

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