Ann Arbor Water Treatment Plant
Valve and Finished Water Tank & Reservoir Improvements

Ann Arbor, Michigan

Issued for Bids and Construction  May 25, 2022

Project Number:  211162
RFP No. 22-53
File No. 22003
**EGLE Soil Erosion and Sedimentation Control Measures**

<table>
<thead>
<tr>
<th>KEY</th>
<th>DETAIL</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
</table>

**GENERAL EROSION NOTES**

1. **Soil Loss**
   - Implement soil loss control measures to minimize erosion.
2. **Runoff Reduction**
   - Use best management practices to reduce runoff.
3. **Sediment Control**
   - Install sediment traps to prevent sediment from entering water bodies.
4. **Vegetation Establishment**
   - Plant vegetation to stabilize the soil and reduce erosion.

**GENERAL EROSION CONTROL MEASURES**

1. **Terracing**
   - Construct terraces to slow water flow and reduce erosion.
2. **Silt Fences**
   - Install silt fences to control sediment runoff.
3. **Soil Conservation**
   - Use soil conservation practices to protect the soil from erosion.
4. **Runoff Control**
   - Implement runoff control measures to manage water flow and prevent erosion.

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**City of Ann Arbor**

**Finshed Water Tank & Reservoir Improvements**

**Project No.** 211162

**Sheet No.** 3

**Rev.** 5/25/2022

**Drawing By** KROSTROWSKI

**Date** 5/26/2022

**Time** 9:13:09 AM

**Manager**

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**CIVIL LEGEND, ABBREVIATIONS, GENERAL NOTES & SESC NOTES**
### EXISTING VALVE SCHEDULE

<table>
<thead>
<tr>
<th>VALVE TAG SIZE</th>
<th>TYPE OPERATOR</th>
<th>LOCATION</th>
<th>SERVICE NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIP1401 24&quot; GATE HANDWHEEL</td>
<td>BOILER ROOM SUMP</td>
<td>RAW WATER</td>
<td>NOT SCHEDULED FOR REPLACEMENT, BUT CRITICAL FOR ISOLATION AND SEQUENCING WORK</td>
</tr>
<tr>
<td>RIV0101 30&quot; BUTTERFLY HANDWHEEL</td>
<td>CHEMICAL BUILDING BASEMENT</td>
<td>RAW WATER</td>
<td></td>
</tr>
<tr>
<td>FW6317 24&quot; GATE HANDWHEEL</td>
<td>VAULT HOUSE GRAVITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FW6316 24&quot; GATE HANDWHEEL</td>
<td>VAULT HOUSE GRAVITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FW6318 24&quot; BUTTERFLY</td>
<td>2&quot; NUT WITH EXTENSION VAULT</td>
<td>5 GRAVITY</td>
<td></td>
</tr>
<tr>
<td>FW6316 24&quot; BUTTERFLY</td>
<td>2&quot; NUT WITH EXTENSION VAULT</td>
<td>HOUSE GRAVITY</td>
<td></td>
</tr>
<tr>
<td>FW6310 24&quot; GATE HANDWHEEL</td>
<td>WTP RESERVOIR WHS UNIT 2 - UNIT 3 INTERCONNECT</td>
<td></td>
<td>NOT SCHEDULED FOR REPLACEMENT, BUT CRITICAL FOR ISOLATION AND SEQUENCING WORK</td>
</tr>
<tr>
<td>FW6309 24&quot; GATE HANDWHEEL</td>
<td>WTP RESERVOIR WHS UNIT 1 - UNIT 2 INTERCONNECT</td>
<td></td>
<td></td>
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<tr>
<td>FW6307 24&quot; BUTTERFLY</td>
<td>HANDWHEEL VAULT</td>
<td>3 CLEARWELL</td>
<td></td>
</tr>
<tr>
<td>FW6306 24&quot; BUTTERFLY</td>
<td>HANDWHEEL VAULT</td>
<td>1 CLEARWELL</td>
<td></td>
</tr>
<tr>
<td>FW6305 24&quot; BUTTERFLY</td>
<td>HANDWHEEL VAULT</td>
<td>HOUSE CLEARWELL</td>
<td></td>
</tr>
<tr>
<td>OVFL-1 12&quot; FLAP GATE</td>
<td>COUNTER WEIGHT</td>
<td>AA WTP RESERVOIR</td>
<td>OVRFLOW</td>
</tr>
<tr>
<td>FE1651 24&quot; AWWA BUTTERFLY</td>
<td>MANUAL PIPE GALLERY</td>
<td>FILTERED WATER</td>
<td></td>
</tr>
</tbody>
</table>

### NEW VALVE SCHEDULE

### PROCESS SYMBOL LEGEND

- **PIPEFITTINGS SYMBOLS**
- **MISC. SCHEMATIC SYMBOLS**
- **SCHEMATIC VALVE SYMBOLS**
- **EQUIPMENT TAXONOMY NUMBERS**
- **PIPELINE IDENTIFICATION NUMBERS**
- **LINE SYMBOLS**

### PROCESS ABBREVIATIONS

### PIPE CONTENT ABBREVIATIONS

### PIPING/TECHNOLOGY MATERIAL ABBREVIATIONS

### PROCESS DEMOLITION NOTES

1. **Remove all portions of work described in this Rev.**
2. **Design notes as entered will only be appropriate for the referenced drawing.**
3. **Entire removal demonstration of existing systems, unless otherwise noted.**
4. **Complete drawings and specifications for the work to be performed as noted on the referenced drawing.**
5. **Contractor to field verify existing conditions to determine extent of work.**
6. **All drawings on this sheet are not to be relied upon, but are for reference only and may not fully represent the extent of work.**
7. **Contractor to field verify existing conditions to determine extent of work.**
8. **Schematic valve symbols shown on this sheet are not to be relied upon, but are for reference only.**
9. **All written abbreviations shown on this sheet may not be all inclusive.**
10. **Contractor to field verify existing conditions to determine extent of work.**

### PROCESS GENERAL NOTES

1. **The following notes shall apply to all sheets.**
2. **All written abbreviations shown on this sheet may not be all inclusive.**
3. **Schematic valve symbols shown on this sheet are not to be relied upon, but are for reference only and may not fully represent the extent of work.**
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10. **Contractor to field verify existing conditions to determine extent of work.**

---

**Ann Arbor Water Treatment Plant**

**Ann Arbor, Michigan**

**Designer:**

**Project No.:** 211162

**Date:** 01-01-2023

**Scale:** 1/4" = 1'-0"
NOTES

1. REMOVE AND REPLACE EXISTING SLUDGE PIPING AS NEEDED TO REPLACE EXISTING VALVE. SYSTEM CAN BE TEMPORARILY SHUT DOWN WHILE VALVE REPLACEMENT IS COMPLETED. COORDINATION WITH STAFF WILL BE REQUIRED FOR PLANNING RELOCATIONS.

2. VERIFY DIMENSION FOR VALVE STEM AND HANDWHEEL OPERATOR LOCATION FOR EASE OF OPERATION PRIOR TO ORDERING VALVE.

3. INSPECT ALL METAL PIPE AND OPERATOR PENETRATIONS IN NEW GRATING TO BE FURNISHED AND INSTALLED.

4. CLEAN AND INSPECT THE CONNECTIONS OF THE PIPING TO THE EXISTING WALL PIPE FROM BOTH SIDES BEFORE AND AFTER THE PIPELINE SHUTDOWN AND RECHARGING TO CHECK FOR LEAKS.

5. REMOVE EXISTING 30" BUTTERFLY VALVE.

6. REMOVE AND SALVAGE EXISTING FIBERGLASS GRATING.

7. CLEAN TRENCH AS REQUIRED TO PERMIT CONSTRUCTION.

8. CLEAN EXISTING LEDGE AROUND PERIMETER OF TRENCH OF LOOSE METAL AND CONCRETE AND ABANDON EMBEDDED GRATING FRAME IN PLACE. FIELD VERIFY LAYOUT AND SPANS OF EXISTING GRATING SUPPORTS SPANNING APPROXIMATELY 4-FOOT ON CENTER ACROSS THE TRENCH AND AROUND PENETRATIONS AFTER FIELD VERIFICATION, DEMOLISH GRATING SUPPORTS AND SUPPORTS AROUND PENETRATIONS FLUSH TO THE FACE OF THE CONCRETE.

KEY NOTES

1. REMOVE AND REPLACE EXISTING SLUDGE PIPING AS NEEDED TO REPLACE EXISTING VALVE. SYSTEM CAN BE TEMPORARILY SHUT DOWN WHILE VALVE REPLACEMENT IS COMPLETED. COORDINATION WITH STAFF WILL BE REQUIRED FOR PLANNING RELOCATIONS.

2. VERIFY ALL METAL PIPE AND OPERATOR PENETRATIONS IN NEW GRATING TO BE FURNISHED AND INSTALLED.

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1. Bybott's Valve
2. Pipe to be T-12 or equivalent for the project. 
3. Painted and galvanized W8x10 grating supports according to the detail on this sheet and to match the layout that was field verified.
4. Install painted, galvanized W8x10 supports at ends of grating at penetrations, and frame back to grating supports spanning across trench. Install painted, galvanized L5x3x1/4 according to the detail on this sheet at each end of the trench.
5. Ensure ends of grating spans will be supported and that grating does not span more than 4-feet.
6. Install salvaged grating on new support system and anchor to supports with stainless steel saddle clips in a configuration that permits grating to be removed in the future.
7. 24" Piping.
8. 24" Coupling.
9. 30"x24" Reducer.
NOTES
1. VAULT 1, EXISTING FINISHED WATER PIPING AND EQUIPMENT TO REMAIN UNAL terRED.
2. CLEAN AND INSPECT EXISTING PIPE AND EQUIPMENT TO REMAIN AND CORRECT DEFECTS OR ABNORMALITIES.
3. ADD 24" BUTTERFLY VALVE, 24" COUPLING AND TOP DRAIN.
4. REPLACE VAULT 1, EXISTING FINISHED WATER PIPING AND EQUIPMENT TO REMAIN UNALTERED.
5. REMOVE EXISTING BLOCK MANHOLE RISER AND MANHOLE FRAME AND COVER.
6. REMOVE EXISTING PRECAST CONCRETE TOP SLAB.
7. REMOVE EXISTING 24" BUTTERFLY VALVE, 24" PIPING AND 24" COUPLING.
8. PRECAST CONCRETE TOP SLAB WITH OPENING TO ACCOMMODATE NEW MANHOLE RISER.
9. 5' SQUARE PRECAST CONCRETE MANHOLE RISER.
10. 5' SQUARE PRECAST CONCRETE TOP SLAB WITH CAST 36" SQUARE HATCH.
11. EXTENDED VALVE STEM WITH SUPPORTS SPACED 5'-0" APART MAX. 2 UNIVERSAL JOINTS TO OFFSET VALVE STEM EXTENSION.
12. 6" VALVE BOX CAST IN TOP SLAB.
13. UNIVERSAL JOINT (TYPICAL OF 2).

1. PAINT NEW AND EXISTING FINISHED WATER PIPING IN VALVE VAULT IN ACCORDANCE WITH SECTION 09 91 00 - PROCESS PAINTING.
2. CLEAN AND INSPECT EXISTING PIPING AND CONCRETE STRUCTURE TO REMAIN, INCLUDING WALLS AND FLOORS. NOTIFY ENGINEER OF DEFECTS OR ABNORMALITIES.
3. KEEP CLEAN AND INSPECT EXISTING PIPING AND EQUIPMENT TO REMAIN UNALTERED.
4. KEEP CLEAN AND INSPECT EXISTING PIPING AND EQUIPMENT TO REMAIN UNALTERED.

KEY NOTES
1. VALVE VAULT 1 PLANS, SECTIONS AND ISOMETRIC
2. TOP HATCH PLAN
1. REMOVE EXISTING BLOCK MANHOLE RISER AND MANHOLE FRAME AND COVER.
2. REMOVE EXISTING PRECAST CONCRETE TOP SLAB.
3. REMOVE EXISTING 24" BUTTERFLY VALVE.
4. REMOVE EXISTING 24" BUTTERFLY VALVE, 24" PIPING AND 24" COUPLING.
5. REMOVE EXISTING MANHOLE STEPS.
6. PRECAST CONCRETE TOP SLAB WITH OPENING TO ACCOMMODATE NEW MANHOLE RISER.
7. 5' SQUARE PRECAST CONCRETE MANHOLE RISER.
8. 5' SQUARE PRECAST CONCRETE TOP SLAB WITH CAST 36" SQUARE HATCH.
9. 24" BUTTERFLY VALVE AND 24" COUPLING.
10. 24" COUPLING.
11. 24" BUTTERFLY VALVE.
12. MANHOLE STEPS.
13. 6" VALVE BOX CAST IN TOP SLAB.
14. VALVE STEM SUPPORTS SPACED 5'-0" APART MAX.
15. UNIVERSAL JOINT (TYPICAL OF 2).

1. PAINT ALL NEW AND EXISTING FINISHED WATER PIPING IN VALVE VAULT IN ACCORDANCE WITH SECTION 09 91 00 - PROCESS PAINTING.
2. CLEAN AND INSPECT EXISTING PIPING AND CONCRETE STRUCTURE TO REMAIN, INCLUDING WALLS AND FLOORS. NOTIFY ENGINEER OF DEFECTS OR ABNORMALITIES.
3. A TEMPORARY CAP WILL NEED TO BE INSTALLED ON THE END OF THE EXISTING 24" CW PIPE IN UNIT 2 TO FACILITATE THE REPLACEMENT OF VALVE 6307. IN ORDER TO MAINTAIN TWO RESERVOIR UNITS IN SERVICE AT ALL TIMES, RESERVOIR UNIT 2 WILL NEED TO BE SHUT DOWN AND THE CAP INSTALLED. RESERVOIR 2 WILL THEN NEED TO BE REFILLED AND DISINFECTED, SO THAT UNITS 1 & 3 CAN BE FILLED THROUGH UNIT 2. ONCE VALVE 6307 HAS BEEN REPLACED, THE CAP CAN BE REMOVED FROM THE 24" CW PIPE IN UNIT 2.
1. Remove existing block manhole riser and manhole frame and cover.
2. Remove existing precast concrete top slab.
3. Remove existing 24" butterfly valve, 24" piping and 24" coupling.
4. 24" butterfly valve and 24" coupling.
5. 5' square precast concrete top slab with cast 36" square hatch.
6. Precast concrete top slab with opening to accommodate new manhole riser.
7. 5' square precast concrete manhole riser.
8. Valve stem supports spaced 5'-0" apart max.
9. Manhole steps.
10. 6" valve box cast in top slab.
11. Universal joint (typical of 2).

Notes:
1. Provide 1/2" thick primed plywood facing intended to be 24" x 36" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.
2. Clean and inspect existing piping and concrete structure to remain, including walls and floors. Notify engineer of defects or abnormalities.

Key Notes:
1. Remove existing block manhole riser and manhole frame and cover.
2. Remove existing precast concrete top slab.
3. Remove existing 24" butterfly valve, 24" piping and 24" coupling.
4. Ensure precast concrete top slab with cast 36" square hatch.
5. Ensure precast concrete top slab with opening to accommodate new manhole riser.
6. Follow other applicable codes and standards.
7. Provide other applicable codes and standards.
8. Follow other applicable codes and standards.
9. Provide other applicable codes and standards.
10. Provide other applicable codes and standards.
1. REMOVE EXISTING PRECAST CONCRETE TOP SLAB, MANHOLE FRAME AND COVER.
2. REMOVE EXISTING 24" GATE VALVE.
3. 24" BUTTERFLY VALVE AND 24" COUPLING.
4. 6' DIA. PRECAST CONCRETE TOP SLAB WITH CAST 30" SQUARE HATCH.
5. VALVE STEM SUPPORTS SPACED 5'-0" APART MAX.
6. 6" VALVE BOX CAST IN TOP SLAB.
7. REMOVE PORTION OF EXISTING 6' DIAMETER BLOCK MANHOLE RISER NECESSARY TO COMPLETE VALVE REPLACEMENT.
8. RECONSTRUCT VALVE VAULT WITH PRECAST CONCRETE MANHOLE RISER SECTIONS.

1. PAINT ALL NEW AND EXISTING FINISHED WATER PIPING IN VALVE VAULT IN ACCORDANCE WITH SECTION 09 91 00 - PROCESS PAINTING.
2. CLEAN AND INSPECT EXISTING PIPING AND CONCRETE TO REMAIN, INCLUDING WALLS AND FLOORS. NOTIFY ENGINEER OF DEFECTS OR ABNORMALITIES.
NOTES
1. REMOVE EXISTING 24" GATE VALVES, 24" PIPING AND 24" COUPLINGS.
2. REMOVE EXISTING 12" OVERFLOW PIPING.
3. REMOVE EXISTING PIPING TO WALL. LEAVE ENOUGH SPACE TO INSTALL CAPS. UTILIZE EXISTING JOINTS WHERE POSSIBLE.

KEY NOTES
1. PAINT ALL NEW AND EXISTING FINISHED WATER PIPING IN VALVE VAULT IN ACCORDANCE WITH PROCESS PAINTING.
2. CLEAN AND INSPECT EXISTING PIPING AND CONCRETE STRUCTURE TO REMAIN, INCLUDING WALLS AND FLOORS. NOTIFY ENGINEER OF DEFECTS OR ABNORMALITIES.
3. REUSE EXISTING GRATING FRAMES.
4. REMOVE EXISTING GRATING.

VAULT HOUSE LOWER LEVEL EQUIPMENT AND PIPING DEMOLITION PLAN
VAULT HOUSE UPPER LEVEL EQUIPMENT AND PIPING DEMOLITION PLAN
VAULT HOUSE EXISTING ISOMETRIC
NOTES
1. Evaluated and tested for corrosion resistance:
   a. Galvanized steel grating and supports
   b. Galvanized saddle clips
2. Clean and inspect existing piping and concrete structure to remain, including walls and floors. Notify engineer of defects or abnormalities.

KEY NOTES
1. 24" Butterfly Valve.
2. 24" Coupling.
3. Fabricate new galvanized steel grating to span to existing support layout that was field verified. Coordinate layout of openings in new grating for pipe and operator penetrations. Openings 6 inch diameter and less need only be banded and need no supplementary support framing. Fabricate trap hatch in new grating to match existing. Install new grating. Anchor to supports with galvanized saddle clips in a configuration that permits grating to be removed in the future.
4. Field verify that the elevation of existing supports will support grating generally 1-1/2 inch thick (1-1/4 inch thick at hinged trap hatch) that will be flush with surrounding floor. Field verify layout and condition of existing grating supports and ledge angle embedded in concrete perimeter. Report deficiencies to engineer.
5. New grating with 6" openings over 24".
6. Field verify and match the existing size of grating.
7. Paint all new and existing finished water piping in valve vault in accordance with Section 09 91 00 - Process Painting.
1. **NOT ALL PIPING WITHIN THE GALLERY IS SHOWN FOR CLARITY.**

2. **PAINT THE 36" FILTER EFFLUENT PIPING AND FILTER EFFLUENT PIPING AT THE LOCATIONS OF SPOT REPAIRS AND PIPE WRAP REPAIRS IN ACCORDANCE WITH SECTION 09 91 00 - PROCESS PAINTING.**

### KEY NOTES

1. **LOCATION OF SPOT REPAIR.**
2. **LOCATION OF PIPE REPAIR WRAP.**
3. **REMOVE EXISTING CONCRETE PIPE SUPPORT. PERFORM PAINT MANUFACTURERS RECOMMENDED SURFACE PREPARATION AND RECOAT PIPING PER SECTION 09 91 00. PROVIDE CONCRETE PIPE SADDLE PER THE PROCESS DETAIL. PROVIDE TEMPORARY SUPPORT OF PIPING SYSTEM WHILE WORK IS OCCURRING.**
4. **NEW DRESSER COUPLING AND GASKETS.**
5. **NEW FLANGE COUPLING ADAPTER; SMITH BLAIR SERIES 913 OR APPROVED EQUAL.**
6. **WELD 150# FLANGE ONTO EXISTING 24" FE WATER PIPE. PAINT INTERIOR AND EXTERIOR OF PIPE AT WELD LOCATION PER SECTION 09 91 00.**
7. **NEW 24" FLANGE x PE SPOOL.**
8. **PAINT IN ACCORDANCE WITH SPECIFICATION SECTION 09 91 00.**

### NOTES

1. **NOT ALL PIPING WITHIN THE GALLERY IS SHOWN FOR CLARITY.**

2. **PAINT THE 36" FILTER EFFLUENT PIPING AND FILTER EFFLUENT PIPING AT THE LOCATIONS OF SPOT REPAIRS AND PIPE WRAP REPAIRS IN ACCORDANCE WITH SECTION 09 91 00 - PROCESS PAINTING.**
NOTES
1. NOT TO SCALE OR DEVELOPMENT. THE SITE PLAN SHOWS THE
   RELATIVE LOCATION OF THE STRUCTURES.
2. PAINT THE 24" FILTER EFFLUENT PIPING AND FILTER
   EFFLUENT WATER TREATMENT PLANT IN ACCORDANCE
   WITH SECTION 09 91 00 - PROCESS PAINTING.

KEY NOTES
1. LOCATION OF SPOT REPAIRS. REPAIRS TO BE PAID OUT OF
   SPOT REPAIR ALLOWANCE.
2. LOCATION OF PIPE REPAIR WRAP. SEE SPECIFICATION
   SECTION 40 48 00 FOR ADDITIONAL INFORMATION.
3. REMOVE EXISTING CONCRETE PIPE SUPPORT. PERFORM
   PAINT MANUFACTURER'S RECOMMENDED SURFACE
   PREPARATION AND RECOAT PIPING ACCORDING TO
   SECTION 09 91 00. PROVIDE CONCRETE PIPE SADDLE
   PER THE PROCESS DETAIL. PROVIDE TEMPORARY SUPPORT OF
   PIPING SYSTEM WHILE WORK IS OCCURRING.
4. NEW DRESSER COUPLING AND GASKETS.
5. NEW FLANGE COUPLING ADAPTER.
6. NEW 150# FLANGE ONTO EXISTING 24" FILTER EFFLUENT
   WATER PIPE. PAINT INTERIOR AND EXTERIOR OF PIPE AT
   WELD LOCATION ACCORDING TO SECTION 09 91 00.
7. NEW 24" FLANGE x PE SPOOL.
8. PAINT IN ACCORDANCE WITH SECTION 09 91 00.

NOT ALL PIPING WITHIN THE GALLERY IS SHOWN FOR
CLARITY.

PAINT THE 36" FILTER EFFLUENT PIPING AND FILTER
EFFLUENT WATER TREATMENT PLANT IN ACCORDANCE
WITH SECTION 09 91 00 - PROCESS PAINTING.
1. SEE STRUCTURAL FOR CONCRETE NOTES AND DETAILS.
2. FIELD VERIFY THE ELEVATION OF THE CONCRETE HEADWALL AT THE TOP OF THE EBANKMENT AND MATCH ELEVATION TO EXISTING SLOPE. ONCE CONFIRMED WITH THE ENGINEER, CONTRACTOR TO ADJUST THE FORMWORK FOR THE SIDEWALLS AS NEEDED TO MATCH THE EXISTING GRADE.
3. BACKFILL BEHIND HEADWALL AS NEEDED TO MATCH EXISTING SLOPE AND DIRECT DRAINAGE AROUND THE HEADWALL.

# KEY NOTES

1. 12" OVERFLOW PIPING. FIELD VERIFY ELEVATIONS OF EXISTING OVERFLOW PIPING AND MATCH ELEVATION.
2. 90 DEG DI FLANGED ELBOW.
3. 22.5° RESTRAINED DI MJ ELBOW.
4. CORE RESERVOIR WALL, SEE WALL PENETRATION DETAIL.
5. 12" FLAP GATE WITH #24 MESH SCREEN.
6. CONCRETE HEADWALL.
7. REPLACE EXISTING STORM MANHOLE CASTING AND COVER WITH CITY OF ANN ARBOR STANDARD YARD DRAIN CASTING, GRADE ADJACENT SOIL TO PROMOTE DRAINAGE FROM OVERFLOW TO MANHOLE.
8. WALL SLEEVE, SEE DETAIL.

NOTES

1. SCALE: 1/4" = 1'-0" OVERFLOW PIPING PLAN
2. SCALE: 1/4" = 1'-0" SECTION
3. SCALE: 3/4" = 1'-0" DETAIL

LOCATION OF EXISTING STORM MANHOLE

EXISTING VAULT HOUSE

VAULT HOUSE FLOOR

VAULT HOUSE BOTTOM

EXISTING GRADE

TOP OF WALL

TOP OF SLAB

SLOPE

#5@12" EACH WAY, TYP.

6" OF COMPACTED, NON-ORGANIC GRANULAR SOIL

8'-4" 8" 12" OF MJ 12" OF DI

EL. 986'-6" 992'-11" 986'-6 1/2" 986'-0" 984'-0" 988'-4" 986'-6 1/2"

WTP RESERVOIR EAST SIDE ISOMETRIC

WTP RESERVOIR WEST SIDE ISOMETRIC

WTP RESERVOIR OVERALL ISOMETRIC

WTP RESERVOIR OVERFLOW PIPING PLAN
NOTES

1. SEE STRUCTURAL FOR CONCRETE NOTES AND DETAILS.
3. BACKFILL BEHIND HEADWALL AS NEEDED TO MATCH EXISTING SLOPE AND DIRECT DRAINAGE AROUND THE HEADWALL.

KEY NOTES

1. 24" VENT PIPING.
2. CONCRETE CURB AND ACCESS HATCH. SEE STRUCTURAL FOR DETAILS.
3. WALL SLEEVE, SEE WALL SLEEVE VENT DETAIL.
4. #24 MESH SCREEN BETWEEN FLANGES.
5. 24" OVERFLOW PIPING.
6. 45° RESTRAINED DI MJ ELBOW.
7. CORE RESERVOIR WALL, SEE WALL PENETRATION DETAIL.
8. SUPPORT PIPING OFF PUMP STATION WALL, MINIMUM OF 2 PIPE SUPPORTS.
9. 24" FLAP GATE WITH #24 MESH SCREEN.
10. CONCRETE HEADWALL.
11. WALL SLEEVE, SEE DETAIL.

NOTES

1. SEE STRUCTURAL FOR CONCRETE NOTES AND DETAILS.
3. BACKFILL BEHIND HEADWALL AS NEEDED TO MATCH EXISTING SLOPE AND DIRECT DRAINAGE AROUND THE HEADWALL.

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11. WALL SLEEVE, SEE DETAIL.

NOTES

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10. CONCRETE HEADWALL.
11. WALL SLEEVE, SEE DETAIL.
LIBERTY RESERVOIR SITE PLAN

City of Ann Arbor
Ann Arbor, Michigan

Valve and Finished Water Tank & Reservoir Improvements

BIDS AND CONSTRUCTION

LIBERTY RESERVOIR SITE PLAN

REVISIONS

PROJECT NO. 211162

DATE: 5/31/2022
TIME: 5:29:39 PM
USER: IBLAZEVSKI

PLOT INFO:
Z:\2021\211162\CAD\CD\16_18_20_22_23_211162-SP.DWG

LAYOUT:
20  LIBERTY 3.0 MG  RESERVOIR

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NOTES
1. SEE STRUCTURAL FOR CONCRETE NOTES AND DETAILS.
2. FIELD VERIFY THE ELEVATION OF THE EXISTING OVERFLOW VENT AND MATCH ELEVATIONS.
3. BACKFILL AS NEEDED TO MATCH EXISTING GRADE AND DIRECT DRAINAGE AROUND THE HEADWALL.

KEY NOTES
1. 12" OVERFLOW PIPING. FIELD VERIFY ELEVATIONS OF EXISTING OVERFLOW VENT AND MATCH ELEVATIONS.
2. BACKFILL AS NEEDED TO MATCH EXISTING GRADE AND DIRECT DRAINAGE AROUND THE HEADWALL.

SCALE: 1/4" = 1'-0"
GENERAL NOTES

1. The information in this sheet shall apply to all structural work unless specifically modified in detail or general notes. Except as specifically provided herein, the information contained in this sheet is intended to conform to the standards of good engineering practice and the requirements of the applicable codes and specifications. These drawings are not intended to be a complete set of construction documents, but are to be used in conjunction with other sheets. Other documents, drawings, and the work of other disciplines shall be obtained from other sources.

2. The above is intended to conform to the standards of good engineering practice and the requirements of the applicable codes and specifications. These drawings are not intended to be a complete set of construction documents, but are to be used in conjunction with other sheets. Other documents, drawings, and the work of other disciplines shall be obtained from other sources.

3. Modifications to any drawings in this package are subject to approval by the Engineer. Modifications may include, but are not limited to, changes in design intent, material, or construction methods. Any modifications must be reviewed and approved by the Engineer before implementation.

4. The drawings included herein are not intended to be complete, but are intended to provide a general overview of the project. Additional drawings and details may be required for specific areas of the project.

5. The Engineer reserves the right to approve or reject any proposal for additional work or modifications to the drawings. All such proposals must be submitted in writing and approved by the Engineer before implementation.

6. The Contractor is responsible for ensuring that all work is performed in accordance with the approved plans and specifications. Any changes or modifications to the approved plans and specifications must be reviewed and approved by the Engineer before implementation.

CONSTRUCTION LOAD LIMIT

1. The live load on any part of the structure is limited to the maximum values specified in the applicable codes and standards. The maximum live load shall be determined by the Engineer and shall be indicated on the drawings.

2. The dead load on any part of the structure is limited to the maximum values specified in the applicable codes and standards. The maximum dead load shall be determined by the Engineer and shall be indicated on the drawings.

CONCRETE WALL AND SLAB OPENINGS ADDITIONAL REINFORCEMENT

SCHEDULES / DIAGRAMS

CONCRETE REINFORCEMENT COVER REQUIREMENTS

LEGENDS

CONCRETE LEGEND

ABBREVIATIONS

...
1. SQUARE SURFACE MOUNTED ACCESS HATCH CENTERED OVER 36" SQUARE OPENING IN NEW SLAB, POSITIONED OVER EXISTING MANHOLE OPENING. FIELD VERIFY NEW HATCH ORIENTATION WITH RESPECT TO EXISTING LADDERS OR MANHOLE RUNGS AND WITH OWNER.

2. REMOVE EXISTING MANHOLE COVER; MANHOLE FRAME TO REMAIN. DO NOT DISTURB EXISTING CAM LOCK COVER BELOW MANHOLE COVER.

3. FIELD VERIFY EXISTING WATERPROOFING. REMOVE AS REQUIRED TO PLACE NEW CONCRETE. PROTECT REMAINING WATERPROOFING IN PLACE. PLACE NEW WATERPROOFING AND PROTECTION BOARD, LAPPED WATER TIGHT OVER EXISTING AND UP NEW WALLS TO GRADE. SECURE TOP WITH CONTINUOUS TERMINATION BAR. VERIFY COMPATIBILITY OF NEW WATERPROOFING WITH EXISTING, IF ANY.

4. NEW MANHOLE RUNGS AT 12" ON CENTER. ALIGN OVER AND SPACE TO EXISTING LADDER OR RUNGS.

5. FIELD VERIFY THAT TOP OF NEW SLAB WILL BE 2'-0" MINIMUM ABOVE EXISTING GRADE.

6. ANCHOR BAR 8" INTO EXISTING SLAB WITH HILTI HY-200 SAFE SET.

7. REMOVE EXISTING HATCH LID.
KEY NOTES

1. SPACE EDGE SURFACE MOUNTED ACCESS HATCH CENTERED OVER 36" SQUARE OPENING IN NEW SLAB, POSITIONED OVER EXISTING MANHOLE OPENING. FIELD VERIFY NEW HATCH ORIENTATION WITH RESPECT TO EXISTING LADDERS OR MANHOLE RUNGS AND WITH OWNER.

2. REMOVE EXISTING MANHOLE COVER; MANHOLE FRAME TO REMAIN. DO NOT DISTURB EXISTING CAM LOCK COVER BELOW MANHOLE COVER.

3. FIELD VERIFY EXISTING WATERPROOFING. REMOVE AS REQUIRED TO PLACE NEW CONCRETE. PROTECT REMAINING WATERPROOFING IN PLACE. PLACE NEW WATERPROOFING AND PROTECTION BOARD, LAPPED WATERTIGHT OVER EXISTING AND UP NEW WALLS TO GRADE. SECURE TOP WITH CONTINUOUS TERMINATION BAR. VERIFY COMPATIBILITY OF NEW WATERPROOFING WITH EXISTING, IF ANY.

4. NEW MANHOLE RUNGS AT 12" ON CENTER. ALIGN OVER AND SPACE TO EXISTING LADDER OR RUNGS.

5. FIELD VERIFY THAT TOP OF NEW SLAB WILL BE 2'-0" MINIMUM ABOVE EXISTING GRADE.

6. ANCHOR BAR 8" INTO EXISTING SLAB WITH HILTI HY-200 SAFE SET.

7. DEMOLISH EXISTING CONCRETE CURB BACK TO FACE OF BUILDING FOUNDATION AND RESERVOIR LID. REMOVE EXPOSED DOWELS TO 1" BELOW CONCRETE SURFACE AND PATCH CONCRETE TO MATCH EXISTING.

8. NEW RESERVOIR VENT PIPE; SEE PROCESS.

9. REMOVE EXISTING 2'-8" HIGH x 2'-4" WIDE (APPROX.) LOUVER COVER AND LOUVER. PATCH WITH NEW 8" CMU IN OPENING TO MATCH EXISTING. COORDINATE SLEEVE WITH PROCESS.

10. PLACE 15# FELT BOND BREAKER BETWEEN EXISTING WALL AND NEW CONCRETE. TRIM EXPOSED EDGES AFTER FORM REMOVAL.
KEY NOTES

1. AT SQUARE SURFACE MOUNTED ACCESS HATCH CENTERED OVER 36" SQUARE OPENING IN NEW SLAB, POSITION CENTER OVER EXISTING MANHOLE OPENING. FIELD VERIFY NEW HATCH ORIENTATION WITH RESPECT TO EXISTING LADDERS WITH OWNER.

2. REMOVE EXISTING MANHOLE COVER. MANHOLE FRAME TO REMAIN. DO NOT DISTURB EXISTING CAM LOCK COVER BELOW MANHOLE Cover.

3. FIELD VERIFY THAT TOP OF NEW SLAB WILL BE 2'-0" MINIMUM ABOVE EXISTING GRADE.

4. HIT A C-2000 SAFE SET.

5. DEMOLISH EXISTING 11" x 5'-0" x 5'-4" x 8'-0" (APPROX.) SLAB. CUT EXISTING DOWELS FLUSH OR BELOW REMAINING CONCRETE SURFACE.
1. REMOVE EXISTING CONCRETE SLAB AND CURB DOWN TO RESERVOIR TOP SLAB. REMOVE MANHOLES AND FRAMES AND CAM LOCK IN MANHOLE COVERS BELOW. REMOVE DOWELS PROTRUDING FROM TOP SLAB AND PATCH TOP SLAB.

2. LOCATE NEW HATCHES AS CLOSE TO WEST WALL OF RESERVOIR WITHOUT CUTTING INTO THICKENED SLAB AT WEST WALL.

3. NEW MANHOLE RINGS AT 12" ON CENTER TO RESERVOIR FLOOR AT ELEVATION 887.25' FOR EACH ACCESS HATCH.

4. VERIFY THAT TOP OF MANHOLE SLAB WILL BE 2'-0" MINIMUM ABOVE EXISTING GRADE.

5. PROVIDE CARBON FIBER REINFORCING PLASTIC (CFRP) ON TOP OF TOP SLAB OF RESERVOIR, EACH SIDE OF NEW ACCESS HOLES, EACH DESIGNED TO OFFSET THE CUTTING OF 1.64 SQ. IN. OF GRADE 60 REINFORCING. LAP CFRP PAST HOLES AS REQUIRED TO DEVELOP FULL STRENGTH OF CFRP.