Iowa Department of Natural Resources

Construction Documents for

Lake Wapello State Park

Davis County, Iowa

Lift Station Rehabilitation

Project No. 25-05-26-02

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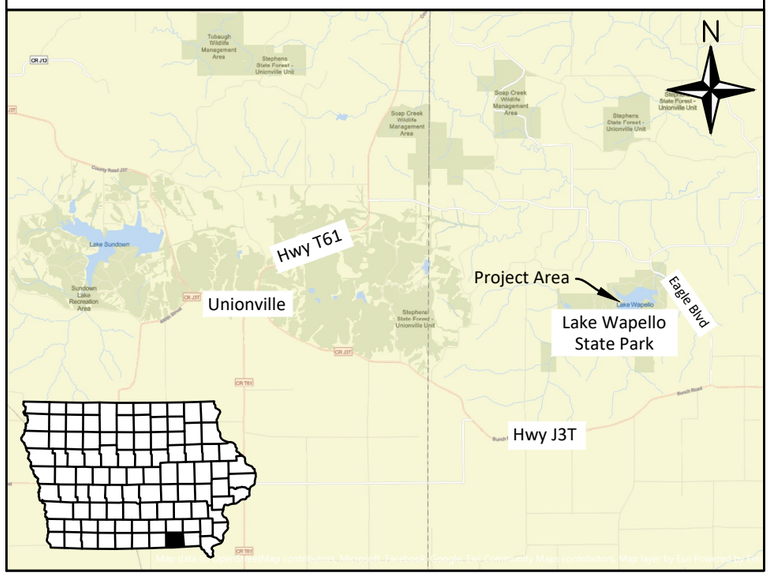
Project Description

This lift station rehabilitation project includes the removal and replacement of 3" and 4" ductile iron piping and valves. It also includes valve vault restoration, excavation, pipe coating, and a 2" PVC drain line.

Project Location



LICENSED PROFESSIONAL ENGINEER
Jason K. Kruse 19718
I O W A

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Jason Kruse
Digitally signed by Jason Kruse
DN: C=US, E=jason.kruse@dnr.iowa.gov, O=Iowa Department of Natural Resources, OU=Engineering Bureau, CN=Jason Kruse
Date: 2025.11.18 08:19:07-06'00'

Jason K. Kruse — Date
License Number: 19718
My license renewal date is December 31, 2025
Pages or sheets covered by this seal:
All

Iowa Department of Natural Resources Engineering Section - 6200 Park Ave., Suite 200 Des Moines, IA 50321-1270	Drawn by: DP Revision: Bid — Date: 11/18/25	Date: 11/18/2025	Project Number: 25-05-26-02	Lift Station Rehabilitation Lake Wapello State Park, Davis County	Cover Sheet	Sheet No: 1

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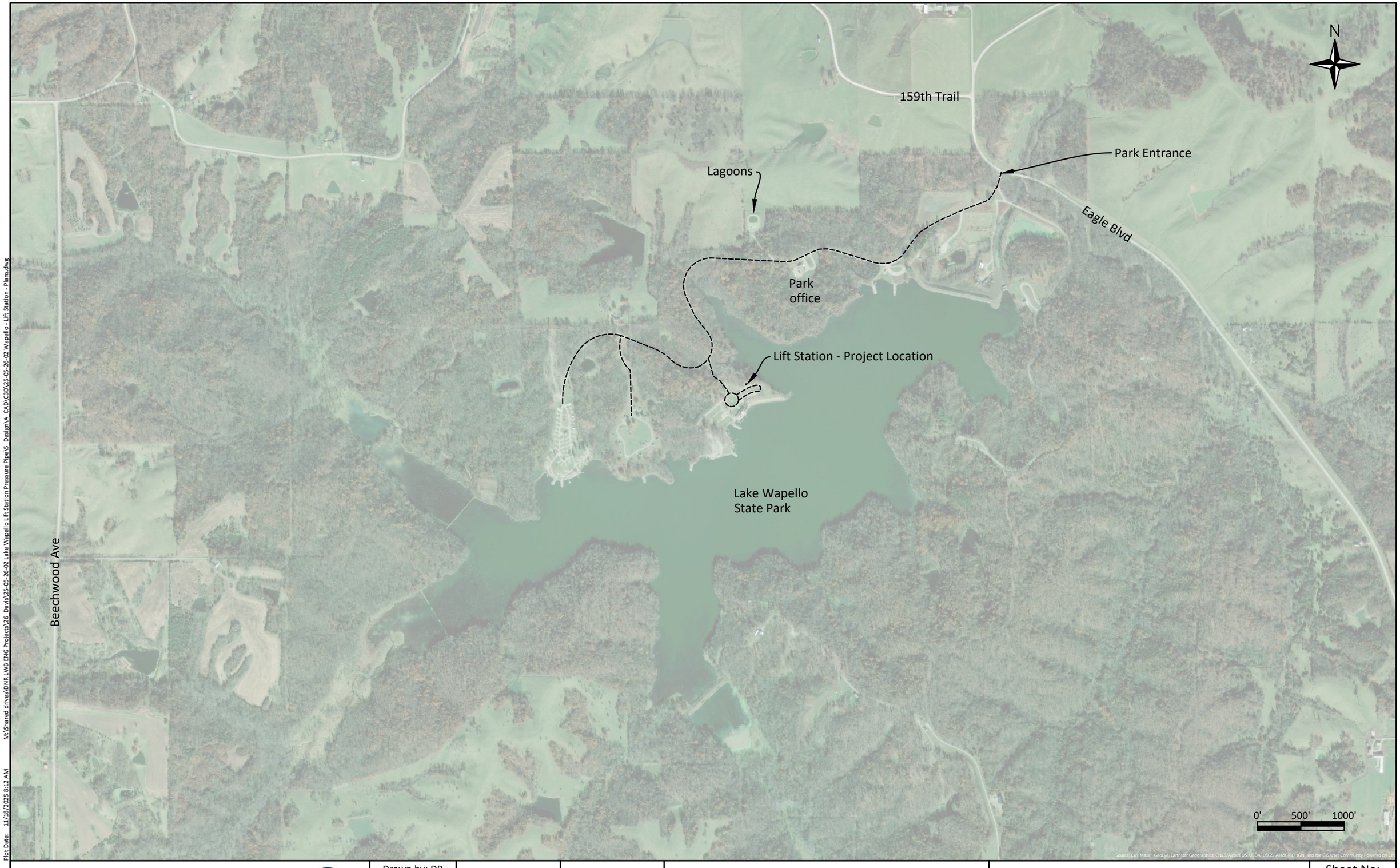

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Estimated Quantities

Item	Description	Quantity	Unit
1	Mobilization	1	LS
2	Demolition	1	LS
3	Valve Vault Restoration	1	LS
4	Ductile Iron Piping and Fittings, Forcemain	1	LS
5	Pipe Coating	1	LS
6	Check Valve, 4"	2	Each
7	Plug Valve, 4"	2	Each
8	Combination Air Valve, 2"	1	Each
9	Flushing Device	1	Each
10	Sch. 40 PVC Drain, 2"	15	LF
11	Erosion Control Wattles	50	LF
12	Site Restoration	1	LS

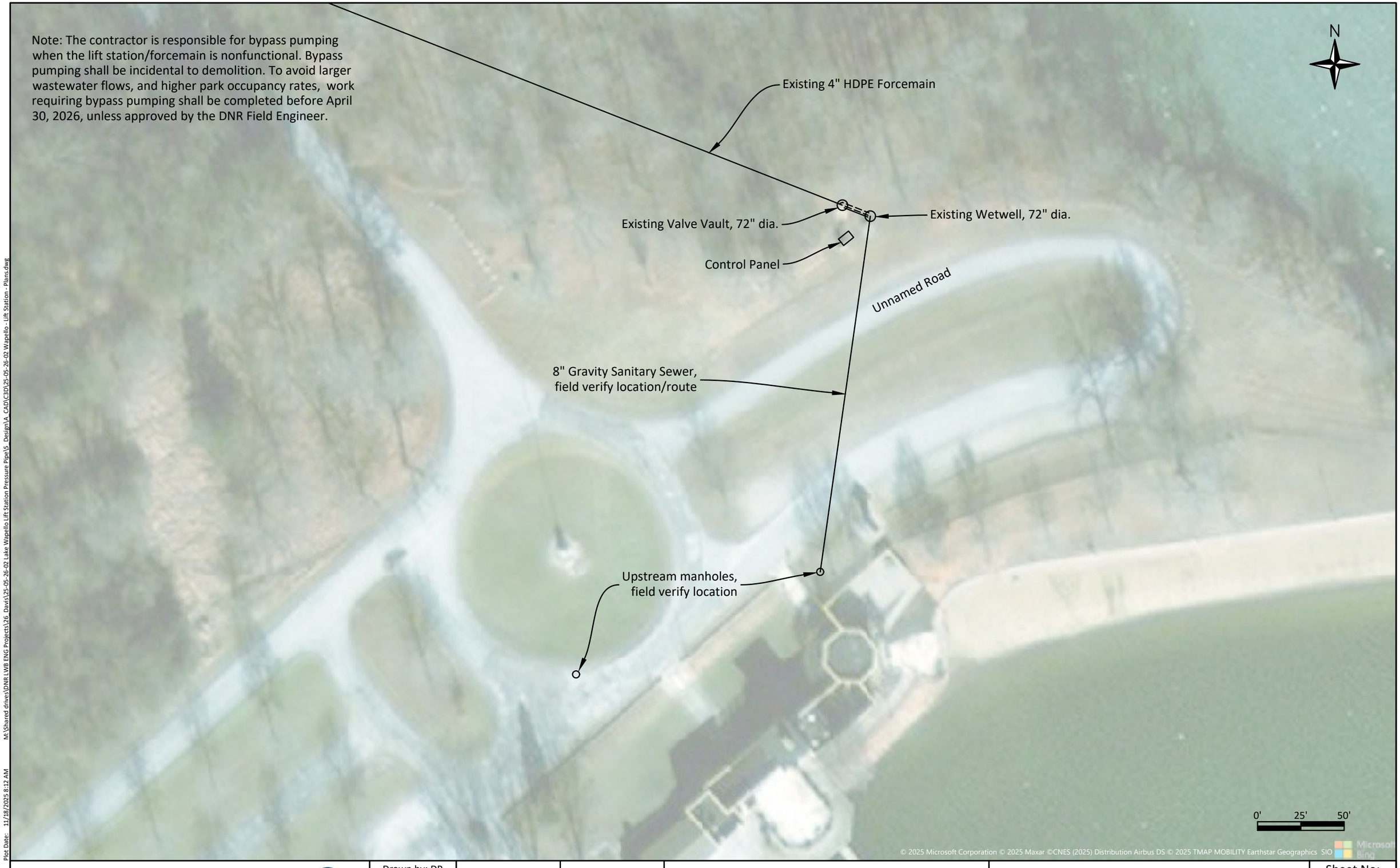
General Information

1. Verify actual locations and elevations with DNR Engineer.
2. All work shall conform to and be performed in accordance with all applicable codes and ordinances.
3. The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.
4. The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.
5. It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.
6. The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.
7. Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.
8. The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.
9. The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

Estimate Reference Information

1. Mobilization - Mobilization per SUDAS 11020.
2. Demolition - Shall include removal of existing ductile iron pipe, appurtenances, valves, and all other removals shown in the plans. Excavation shall be incidental. Existing conduit(s) shall not be undermined or disturbed. The contractor is responsible for bypass pumping when the lift station/forcemain is nonfunctional. Bypass pumping shall be incidental to demolition. To avoid larger wastewater flows, and higher park occupancy rates, work requiring bypass pumping shall be completed before April 30, 2026, unless approved by the DNR Field Engineer.
3. Valve Vault Restoration - Shall include cleaning, sealing joints/sump, and any other repairs shown in the plans for the valve vault. Excavation and backfill shall be incidental.
4. Ductile Iron Piping and Fittings, Forcemain - Shall include 3" and 4" ductile iron pipe, fittings, eccentric reducers (wetwell), buried 3" x 4" reducers, and discharge elbows. Excavation, bedding, wall penetrations, saddle pipe supports, and wall penetration seals shall be incidental. Polyethylene encasement for buried ductile iron pipe shall be incidental and completed per AWWA C105-21. Ductile Iron pipe shall be AWWA C151, Class 53 or approved equivalent. Flanged joints shall be used.
5. Pipe Coating - All new ductile iron piping and fittings within the wetwell and valve vault shall receive surface preparation and coating per the plans. Existing (to remain) piping and fittings, such as the pipe spool in the valve vault shall also receive surface preparation and coating per the plans. All work must be completed per coating manufacturer recommendations.
6. Check Valve, 4" - Furnish and install 4" Henry Pratt , "Series 8001" check valve, or approved equivalent. Check valve shall have Bronze body seat and Buna-N disc seat ring. Install according to manufacturer recommendations.
7. Plug Valve, 4" - Furnish and install 4" Henry Pratt, "Ballcentric" plug valve, or approved equivalent. Plug valves shall be flanged and shall be wrench operated. Provide the associated wrenches. Install according to manufacturer recommendations.
8. Combination Air Valve, 2" - Furnish and install 2" Henry Pratt, "Series WWCV" combination air valve, or approved equivalent. Connection to forcemain pipe shall be incidental. Install according to manufacturer recommendations.
9. Flushing Device - Furnish and install a flushing device as shown on the plans.
10. Sch. 40 PVC Drain, 2" - Furnish and install drain line from valve vault to wetwell. Wall penetrations, flexible seals, and p trap shall be incidental.
11. Erosion Control Wattles - Contractor shall install and maintain 9" Straw wattles around excavated and disturbed areas to prevent sediment from leaving the site or reaching the lake. Wattles shall be removed upon project completion.
12. Site Restoration - Shall include regrading, topsoil placement per SUDAS 2010, covering existing conduits with topsoil, seeding, and mulch. Type 1 Seed Mixture and mlch per SUDAS 9010. Seeding shall occur between March 1 and May 31.

Note: The contractor is responsible for bypass pumping when the lift station/forcemain is nonfunctional. Bypass pumping shall be incidental to demolition. To avoid larger wastewater flows, and higher park occupancy rates, work requiring bypass pumping shall be completed before April 30, 2026, unless approved by the DNR Field Engineer.



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Note: The contractor is responsible for bypass pumping when the lift station/forcemain is nonfunctional. Bypass pumping shall be incidental to demolition. To avoid larger wastewater flows, and higher park occupancy rates, work requiring bypass pumping shall be completed before April 30, 2026, unless approved by the DNR Field Engineer.

N

Existing 4" HDPE Forcemain

Approximate Excavation Area
Avoid undermining conduits at wetwell. Backfill and place 8" topsoil, per SUDAS 3010. Seed and Mulch all disturbed area.

Place and maintain 9" Straw wattle around disturbed areas for the duration of the project.

Appx. 15'

Existing Wetwell, 72" dia.

Existing Valve Vault, 72" dia.

Remove and Replace 3" and 4" Ductile Iron pipe, see details.

2" Sch. 40 PVC Drain

Existing Control Panel

Cover exposed conduits with 8" of topsoil, per SUDAS 2010. This shall be incidental to site restoration.

Unnamed Road

0' 5' 10'

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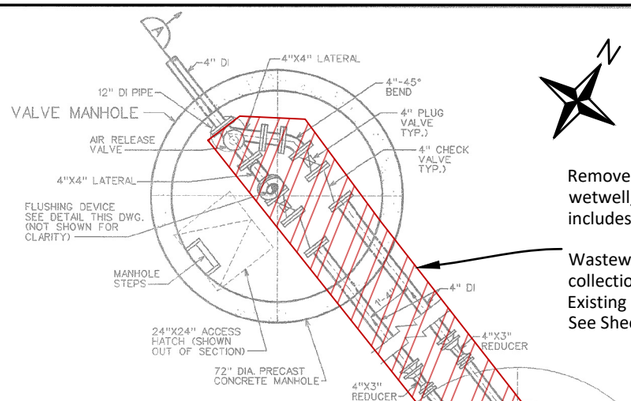
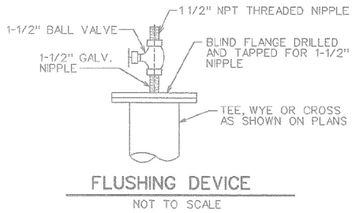
Notes:

1. Original plans from 2001, DNR Project number 00-04-26-02
2. Drawings are **not to scale.**



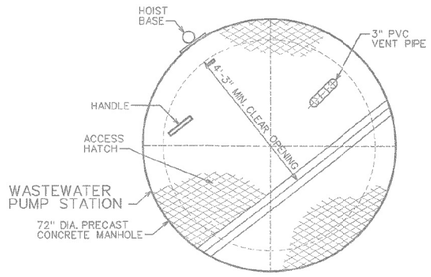
Remove and replace piping and appurtenances in the wetwell, valve vault and between the structures. This includes the pump discharge elbows.

Wastewater shall not be allowed to backup into the collection system. Contractor shall coordinate bypass. Existing pump & piping may be used when possible. See Sheet 4.

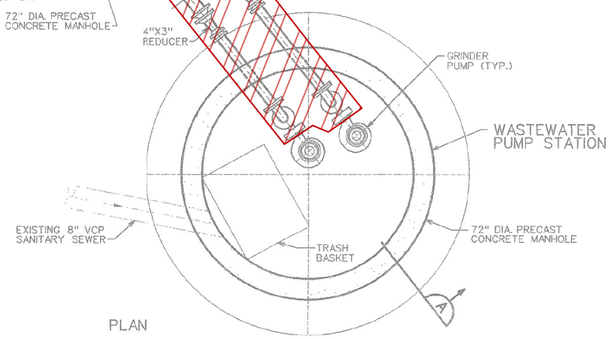


FLUSHING DEVICE

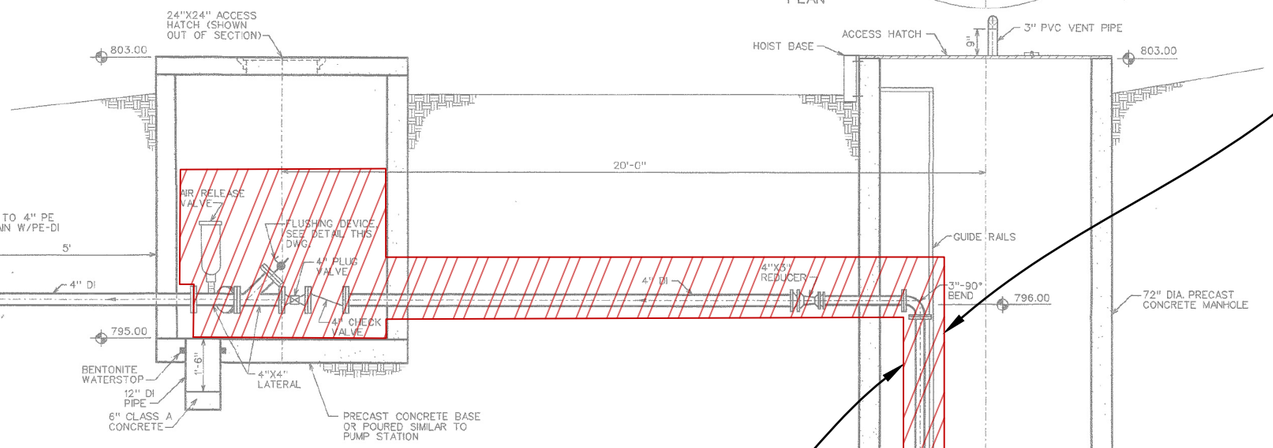
NOT TO SCALE



GRADE PLAN



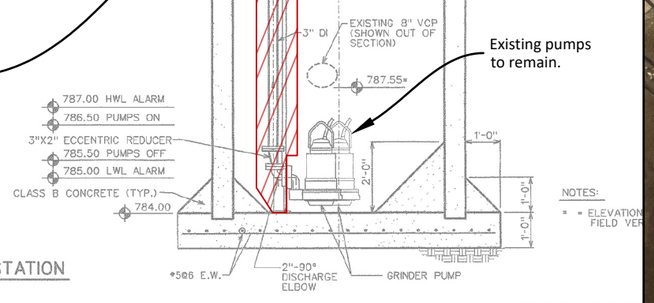
PLAN



Existing piping is crooked and does not align well with discharge elbows/pumps.

Field verify new piping can be installed without strained joints.

Coordinate with DNR Field Engineer.



NOTES:

* = ELEVATION FIELD VER

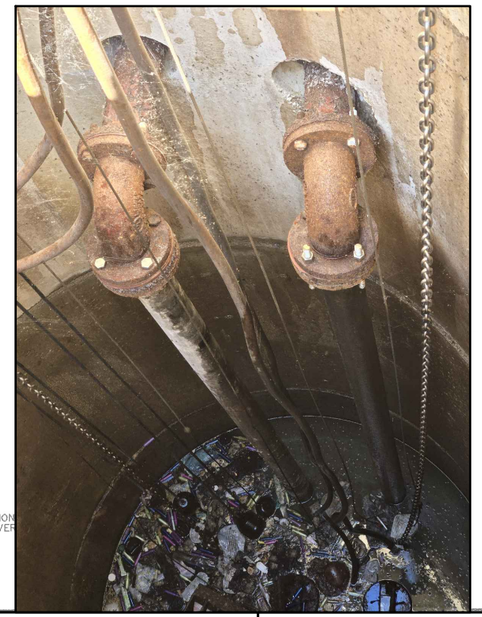
SECTION A

WASTEWATER PUMP STATION

SCALE: 1/2"=1'-0"

Existing pumps to remain.

Wetwell Piping



Valve Vault

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Notes:
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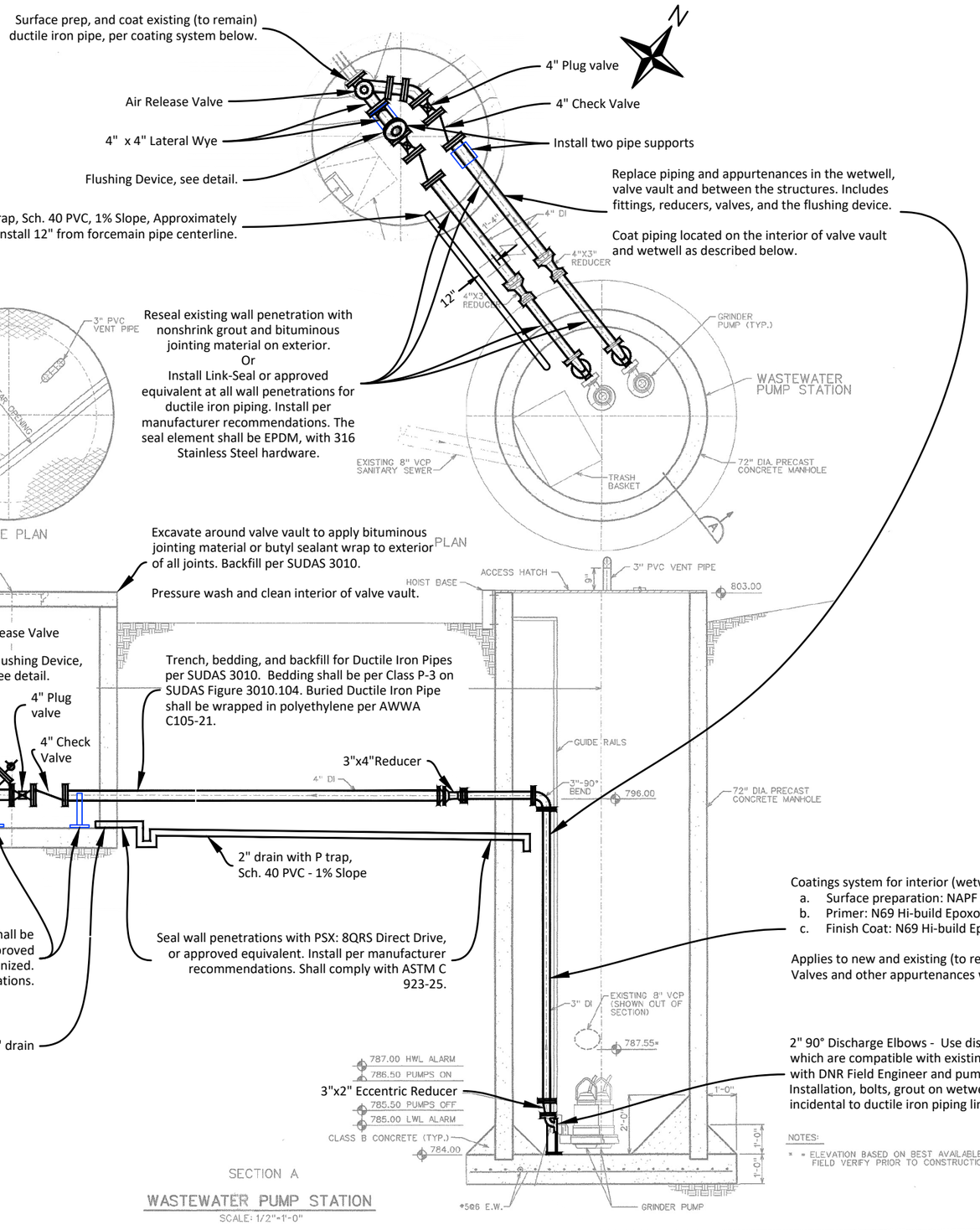
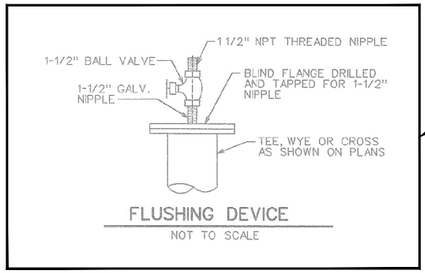
2. Drawings are **not to scale.**





Install new flushing device.

Coatings system for interior (wetwell & valve vault) ductile iron piping:
a. Surface preparation: NAPF 500-03-04 (Abrasive Blast Cleaning of Ductile Iron Pipe)
b. Primer: N69 Hi-build Epoxoline 3.0 to 5.0 DFT or approved equivalent.
c. Finish Coat: N69 Hi-build Epoxoline 4.0 to 6.0 DFT or approved equivalent.

Applies to new and existing (to remain) piping. Follow manufacturer recommendation. Valves and other appurtenances which arrive factory finished shall not be recoated.

2" 90° Discharge Elbows - Use discharge elbows which are compatible with existing pumps. Verify with DNR Field Engineer and pump supplier. Installation, bolts, grout on wetwell floor shall be incidental to ductile iron piping line item.

NOTES:
* = ELEVATION BASED ON BEST AVAILABLE INFORMATION; FIELD VERIFY PRIOR TO CONSTRUCTION.

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