From:	de Varona, Bryan
To:	IDEM OLQ Solid Waste Permits Submittals
Cc:	Wren, Kira; SGoodman@republicservices.com
Subject:	National Serv-All 2024 Phase 1 GCCS CQA Report
Date:	Wednesday, July 3, 2024 9:59:08 AM
Attachments:	image008677.png image411092.png image701294.png NSA 2024 Ph. 1 GCCS CQA Report_7-3-24.pdf

Hello,

Attached is the construction documentation report for the 2024 Phase 1 GCCS construction at the National Serv-All Landfill. Thank you and let us know if you have any questions.

Thanks,

Bryan de Varona, P.E.
Senior Project Director

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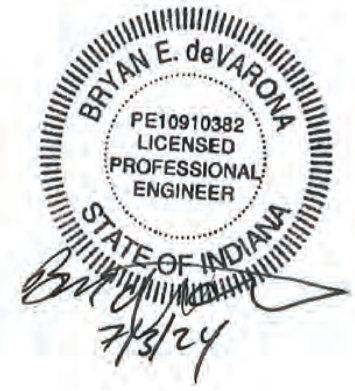
July 2024
0120-555-53-10

2024 PHASE 1 GAS SYSTEM CONSTRUCTION DOCUMENTATION REPORT

NATIONAL SERV-ALL LANDFILL

FORT WAYNE, ALLEN COUNTY , INDIANA

PREPARED FOR:
Republic Services of Indiana, LP
6231 MacBeth Road
Fort Wayne, IN 46809



PREPARED BY

Weaver Consultants Group

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1 INTRODUCTION

This construction documentation report details the materials, construction/installation methods, and observation/documentation and tests performed for the 2024 landfill gas system construction at the National Serv-All Landfill located in Fort Wayne, Indiana. This construction project included the installation of Lateral pipelines during the period of March 12, 2024, to May 6, 2024. The installation was performed in accordance with the Construction drawings titled "2024 Phase 1 GCCS Construction, National Serv-All Landfill, Fort Wayne, Indiana", prepared by Tetra Tech, and the landfill gas collection and control system (GCCS) design plan.

This report details the results of the construction quality assurance (CQA) services provided by Weaver Consultants Group (WCG) during the construction of the 2024 landfill gas system.

1.1 Involved Parties

The following parties were involved in the 2024 Landfill Gas System construction at the National Serv-All Landfill:

- National Serv-All Landfill, Inc. – Owner
    - Stephanie Goodman – Environmental Manager
    - Sean Conklin – Landfill Operations Manager
    - David Bussard – General Manager
- Tetra Tech – Design
    - Jakub Sowa – Design Engineer
- Weaver Consultants Group (WCG) – Construction Quality Assurance
    - Bryan de Varona –Certifying Engineer
    - James Sandmel – CQA Monitor
- Continuum Environmental Services (CES) – Piping Contractor
    - Jason Carter – Project Manager
    - John Beeman – Operations Manager
- Lakewood Surveyors, Inc. (Lakewood) – Surveying Services
    - Ryan Weber – Field Survey Supervisor

1.2 Governing Plans and Specifications

The governing plans and specification for the construction of the gas system expansion were as follows:

- 2024 Phase 1 Gas System Construction Drawings for the National Serv-All Landfill, issued for construction March 2023, prepared by Tetra Tech.

2 LANDFILL GAS COLLECTION SYSTEM

WCG provided on-site CQA for the installation of gas collection lines, and associated components. The gas collection lateral lines installed during this event consisted of 24-inch SDR 17, 8-inch SDR 11, 6-inch SDR 11, 6-inch SDR 17, 3-inch SDR 11, 3-inch SDR 9, and 2-inch SDR 9 high-density polyethylene (HDPE) pipe. A pipe installation summary can be found in **Appendix B-1.**

Piping was fusion welded and placed in the trenches in accordance with the manufacturer recommendations. The pipe and fittings were visually inspected for conformance with the construction drawings, as well as to document there were no signs of damage. The components were determined to be in conformance with the construction drawings and no visual damage to the components was observed. Butt-fusion welds were visually inspected prior to backfilling the trenches. WCG observed hot plate temperature, holding times, and welding techniques which were consistent with the manufacturer's guidelines.

HDPE piping for this project was air pressure tested after being placed in the excavated trenches. Air tests for landfill gas pipes were conducted over a one (1) hour time period for the lateral pipes. The lateral piping was pressurized to 4 pounds per square inch (psi) for one (1) hour Air tests for leachate and compressed air pipes were conducted over one (1) hour time period. The piping was pressurized to 4 pounds per square inch (psi) for thirty (30) minutes, then pressurized to one hundred (100) pounds per square inch (psi) for an additional thirty (30) minutes. In order to achieve a passing result, the pressure after one (1) hour of testing could not vary by more than 10%. HDPE piping for the project was observed to meet air pressure testing requirements. Results for the HDPE air pressure testing are included in **Appendix B-2.**

Trenching and excavation for the piping installation was performed using a Caterpillar 323 Excavator. Piping was placed on a minimum 6-inches of soil bedding prior to installation. Metallic warning tape was placed in the soil backfill atop the piping at approximately 12-inches below the existing grade. Plastic pipe markers were installed upon completion of the trench backfill.

2.1 Pipe Installation

WCG provided on-site CQA for the completion of the lateral piping to new gas extraction wells. The piping installation is summarized below. The locations of the new piping are shown on the Record Drawings in **Appendix D.** Changes were made to the original construction design and are mentioned throughout the piping installation section.

- Approximately 720 lf of 24-inch HDPE SDR 17 landfill gas header pipe was installed. The pipe was installed in an out-of-waste trench adjacent to the perimeter road. The pipe was tied into the out-of-waste condensate sump CS-D8.
- Approximately 720 lf of 3-inch HDPE SDR 11 air line and 3-inch by 6-inch HDPE dual contained force main were installed in the same trench as the 24-inch header. The dual contained force main was placed on the outside (farther away from the solid waste boundary) of the 24-inch header and the air line was placed on the inside of the 24-inch header. Stubs were provided at locations of future tie-in.
- Two CMP road casings were installed to protect the 24-inch header on the north side of Cell 4B.
- Approximately 510 linear feet of 12-inch HDPE SDR 17 pipe was installed on the north side of Unit II to replace a malfunctioning portion of the existing header pipe.
- Survey markers were placed at 50-foot intervals along the pipelines and at fitting locations. The survey markers were removed following completion of the field survey activities.
- Locations of the pipelines, components and appurtenances are provided on the record drawings in **Appendix D.**

2.2 Condensate Pump Station

WCG provided on-site CQA for the installation of the condensate pump station CS-D9 and the associated condensate force main (referred to as the "ozone" force main). The out-of-waste condensate pump station consisted of a 36-inch diameter SDR 26 HDPE pipe with a 48-inch diameter containment installed around the bottom 10 feet of the pump station. Inside the 36-inch pipe a 6-inch diameter SDR-17 HDPE pipe was installed to house the pump and act as a vacuum break to the header system. The lower portion of the 6-inch pipe was perforated. The condensate pump station was installed in-line with the 24-inch header. The soil was excavated to an approximate depth of 20-feet to install the sump vertically at its location. The total length of the sump is 23-feet with approximately 3-feet installed above grade. The sump included the installation of a pneumatic pump for removal of collected condensate. The pneumatic pump was connected to the 3-inch diameter SDR-9 HDPE air header also installed in the 24-inch header trench for operation of the pump. The discharge line from the pneumatic pump was connected to the 3-inch by 6-inch diameter SDR-11 HDPE dual contained ozone force main also installed in the same trench as the 24-inch header. The ozone force main was installed to direct the liquid

from the condensate pump station to the ozone system located at the flare. The location of the condensate pump station and associated piping is shown on the record drawings located in **Appendix D.**

3 SUMMARY

Weaver Consultants Group (WCG) was retained by Republic Services of Indiana, LP. to provide CQA services during the construction of the 2024 Phase 1 Gas System at the National Serv-All Landfill located in Fort Wayne, Indiana. The services provided included CQA of the lateral piping, associated fittings, and pressure testing of the piping. Based on the observations documented in this report, the Gas System Construction was installed in compliance with the approved CQA Plan and the construction plans provided by Tetra Tech.

Construction photographs are presented in **Appendix A.** A summary of construction activities that was documented by WCG personnel on Daily Field Reports can be found in **Appendix C.** Record drawings of the constructed gas system surveyed by Lakewood is presented in **Appendix D.**

APPENDIX A

Photograph Log

Field Photolog

Weaver Consultants Group

Project Name: NSA 2024 Phase 1 GCCS Construction

QA/QC Monitor: James Sandmel

Project Number: 0120-555-53-10

Photo Number	Date	Time	Description
1	3/19/24	1143	Capping abandoned LFG transmission pipe at CS-8
2	3/19/24	1413	Installation of 24" valve on CS-8 for the 24" header running south
3	3/20/24	1121	Trenching for the perimeter header running south / Damaged signal loop
4	3/21/24	1754	Repaired signal loop / Installation of 24" pipe running below existing pipe
5	3/22/24	848	Bolt up of 24" pipe to south end
6	3/22/24	1011	Verifing the slope of the 24" perimeter header
7	3/22/24	1015	Verifing the slope of the 24" perimeter header
8	3/23/24	1204	Installation of the 3" x 6" clean-outs and 3" air line
9	3/23/24	1446	Back filling and dressing the trench of the 24" pipe and associated lines
10	3/23/24	1518	Installation of the west most road crossing
11	3/23/24	1740	Installation of 3" x 6" and 3" lines for west most road crossing
12	3/25/24	1552	Setting of CS-9 condensate sump
13	3/27/24	1753	Bolt up of the 24" pipe to CS-9 / Header Access Riser #2
14	3/28/24	958	Excavation of the east most road crossing for perimeter header
15	3/28/24	1909	Installation of the east most road crossing along the perimeter header
16	3/29/24	813	Coating of bolts with rubberizing polymer
17	4/3/24	1848	Installation of 24" perimeter header near LS-4E
18	4/4/24	1258	Installation of the 3" x 6" Clean-outs near LS-4E
19	4/4/24	1714	End of pipe for 24", 3" x 6", and 3". Ozone isolation valve
20	4/5/24	952	8" lateral running south, Header Access Riser 1, and future tie-in
21	4/5/24	938	8" lateral running south toward bottom up collection wells in cell 5A
22	4/5/24	1725	Anit-Seep collar on 8" lateral crossing over the anchor trench
23	4/9/24	1017	Installation of remote line for GW-D172
24	4/13/24	1034	Installation of 12" header replacement from C7 to 59-V
25	4/16/24	1542	Installation of sample ports on isolation valve at C7
26	4/20/24	1133	Installation of new 6", 3", and 2" lines and risers at GW-D64A
27	4/24/24	916	Installation of barriers at condensate sump CS-9
28	4/26/24	1115	Installation of new 3" force main running from D163 and D164 to D135
29	4/26/24	1117	Installation of 3" and 2" lines running from D120B to D135

NSA 2024 Phase 1 GCCS CQA Report Photolog

Photograph #1
03/19/2024

1

Photograph #2
03/19/2024

2

Photograph #3
03/20/2024

3

Photograph #4
03/21/2024

4

Photograph #5
03/22/2024

5

Photograph #6
03/22/2024

6

Photograph #7
03/22/2024

7

Photograph #8
03/23/2024

8

Photograph #9
03/23/2024

9

Photograph #10
03/23/2024

10

Photograph #11
03/23/2024

11

Photograph #12
03/25/2024

12

Photograph #13
03/27/2024

13

Photograph #14
03/28/2024

14

Photograph #15
03/28/2024

15

Photograph #16
03/29/2024

16

Photograph #17
04/03/2024

17

Photograph #18
04/04/2024

18

Photograph #19
04/04/2024

19

Photograph #20
04/05/2024

20

Photograph #21
04/05/2024

21

Photograph #22
04/05/2024

22

Photograph #23
04/09/2024

23

Photograph #24
04/13/2024

24

Photograph #25
04/16/2024

25

Photograph #26
04/20/2024

26

Photograph #27
04/24/2024

27

Photograph #28
04/26/2024

28

Photograph #29
04/26/2024

29

APPENDIX B

Piping Installation

B-1 Pipe Installation Summary

B-2 Pipe Pressure Testing Summary

Daily Pipe Installation Summary

Weaver Consultants Group

Project Name: NSA 2024 Phase 1 GCCS Construction

QA Monitor James Sandmel

Project Number: 0120-555-53-10

DATE	INSTALLED PIPE				
	TYPE	SDR or SCH	DIAMETER	LENGTH	LOCATION
3/21/2024	Header	SDR 17	24"	130'	CS-8 to western road crossing
3/21/2024	Air	SDR 9	3"	130'	CS-8 to western road crossing
3/21/2024	Ozone force main	SDR 11 / 17	3"x6"	130'	CS-8 to western road crossing
3/23/2024	Header	SDR 17	24"	90'	Beginning of western road crossing to CS-9
3/23/2024	Air	SDR 9	3"	90'	Beginning of western road crossing to CS-9
3/23/2024	Ozone force main	SDR 11 / 17	3"x6"	90'	Beginning of western road crossing to CS-9
3/29/2024	Header	SDR 17	24"	240'	CS-9 to Force main crossing at LS-4E
3/29/2024	Air	SDR 9	3"	240'	CS-9 to Force main crossing at LS-4E
3/29/2024	Ozone force main	SDR 11 / 17	3"x6"	240'	CS-9 to Force main crossing at LS-4E
4/4/2024	Header	SDR 17	24"	250'	LS-4E crossing to End of Pipe
4/4/2024	Air	SDR 9	3"	252'	LS-4E crossing to End of Pipe
4/4/2024	Ozone Force Main	SDR 11 / 17	3" x 6"	252'	LS-4E crossing to End of Pipe
4/5/2024	Lateral	SDR 11	8"	80'	H.A.R. 1 to Remote wells
4/13/2024	Header	SDR 11	12"	250'	C7 to C9
4/15/2024	Header	SDR 11	12"	260'	C9 to V-59
4/17/2024	Lateral	SDR 11	6"	240'	D5A to D64A
4/17/2024	Air	SDR 9	2"	240'	D5A to D64A
4/17/2024	Force Main	SDR 11	3"	120'	D5A to D64A
4/17/2024	Force Main Dual Contained	SDR 11 / 17	3" x 6"	120'	D5A to D64A
4/22/2024	Force Main	SDR 11	3"	120'	D165 to D94B
4/24/2024	Lateral	SDR 11	8"	110'	H.A.R. 1 to D149
4/26/2024	Force Main	SDR 11	3"	230''	D164 to D135

TYPE = LATERAL, HEADER, AIR, FM, ETC.

Pipe Pressure Test Summary

Weaver Consultants Group

Project Name: NSA 2024 Phase 1 GCCS Construction

QA Monitor: James Sandmel

Project Number: 0120-555-53-10

Test Number	Date Started	Size and SDR of Pipe	Length (ft)	Air Pressure				Elapsed Time (hr)	Ambient Air Temp (ºF)	Pressure Test Results (P/F)	Description of Test
				Start		End					
				PSIG	Time	PSIG	Time				
1	4/6/2024	3" SDR 9	722'	4	9:45	4	10:15	30m	56	Pass	CS-8 to End of Pipe
				100	10:35	100	11:05	30m	56	Pass	
2	4/8/2024	3" SDR 11	722'	4	11:45	4	12:15	30m	64	Pass	CS-8 to End of Pipe / Dual Contained Inner
				100	12:45	100	13:15	30m	64	Pass	
3	4/8/2024	6" SDR 17	722'	4	11:45	4	12:15	30m	64	Pass	CS-8 to End of Pipe / Dual Contained Outer
				50	12:40	50	13:10	30m	64	Pass	
4	4/16/2024	12" SDR 11	510'	4	10:33	4	11:33	1hr	68	Pass	C7 to V-59
5	4/18/2024	6" SDR 11	240'	4	15:25	4	16:25	1hr	59	Pass	D5A to D64A
6	4/18/2024	3" SDR 11	240'	4	18:35	4	19:05	30m	58	Pass	D5A to D64A
				100	19:13	99	19:43	30m	56	Pass	
7	4/18/2024	6" SDR 17	120'	4	14:41	4	18:11	30m	60	Pass	D5A to D64A, Outer Containment of the Dual Contained portion.
				50	18:39	50	19:09	30m	57	Pass	
8	4/18/2024	2" SDR 9	240'	4	18:35	4	19:05	30m	58	Pass	D5A to D64A
				100	19:13	99	19:43	30m	56	Pass	
9	4/20/2024	24" SDR 17	720'	4	11:40	4	12:40	1hr	72	Pass	CS-8 to End of Pipe
10	4/22/2024	3" SDR 11	120'	4	15:55	4	16:25	30m	68	Pass	D165 to D94B
				100	16:37	98	17:07	30m	68	Pass	
11	4/24/2024	8" SDR 11	110'	4	10:10	4	11:10	1hr	72	Pass	H.A.R. 1 to D149
12	4/26/2024	3" SDR 11	230'	4	7:58	4	8:28	30m	57	Pass	D164 to D135
				100	8:36	100	9:06	30m	59	Pass	

APPENDIX C

Daily Field Reports

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 03/06/2023

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 45 F
Client:	Republic Services	PM:	Overcast 36 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin welding stringers of 24" HDPE pipe in preparation for future header. Sticks of approximately 200 feet were welding. The shavings were removed to ensure proper welding of the pipe.

Observed Continuum continue to dress and back fill areas affected by on going construction events. Clean backfill soil was hauled and placed to dress trenches and depressions of excavated areas.

Observed Continuum replace the well head at C26. The well head was broken due to a clump of soil hitting it from on going site dressing. The air and force main risers were dressed to be straightened up.

The parts staging area on the top north side of the "C" hill was consolidated and organized for inventory of parts. The inventory, once completed, is in preparation of up coming construction.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:00 PM

Equipment Used:
Excavator (2)
Haul Truck (1)
Dozer (1)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 03/18/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Snowing 39 F
Client:	Republic Services	PM:	Snowing 27 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue to fusion weld stringers of 6", 3"x6" pipe, and 24" pipe. Stringer lengths are approximately 200'. Pipes are inspected to ensure shavings, dirt, and stone are cleaned out.

Observed Continuum inspecting and adjusting the canaflex hose on each well drilled for construction. The hoses were trimmed and adjusted to allow maximum flow without obstruction from watering in at bellies.

Observed Continuum build and install the ball valves for the ozone and force main clean out risers. The valve was installed on the 3" S.S. tee before the gauge. The cleanouts were inspect to ensure the camlock dust caps were in place.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Tuesday 03/19/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 36 F
Client:	Republic Services	PM:	Cloudy 51 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum excavate and locate the 24” flange on the south end of the condensate sump that was installed phase 3 2023. The area was excavated to expose an existing 12” header. The header was cut and a section was removed. Each end of the 12” header was capped with a end cap and fusion welded. The blind flange on the sump was removed. a 24” butterfly valve was installed with valve spacers to allow clearance of the valve. The valve was exercised to ensure smooth operation.

Observed Continuum pull the pump at GW-C26R. Once removed, the well casing was lowered by cutting approx.. 3 feet off. A new flange was fusion welded on. A new pump and tri-tubing set was installed and lowered into the well. The wellhead installed and reconnected to vacuum.

Observed Continuum remove the wellhead from GW-C28. Once removed the well casing was extended by fusion welding approx. 4 feet for 6” HDPE pipe. Once completed, the wellhead was reinstalled and connected to vacuum.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 7:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 03/20/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 37 F
Client:	Republic Services	PM:	Clear 49 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum Begin trench for the 24” header. Moving south from the sump. The 3”x6” force main line was located and excavated around with out major damage to the pipe. A small gash in the outer pipe was witnessed. Repairs will be made prior to back filling. The operator ripped and damaged unknown electrical lines that were not marked nor shown on the drawing. The site was contacted and discovered it was the signal loop. Excavation continued south and the existing force main was also located without damage. Excavation continued to the first proposed header access riser location.

Observed Continuum begin fusion welding fittings to construct the proposed header access riser as well as the future tie-in point.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 7:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Thursday 03/21/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 34 F
Client:	Republic Services	PM:	Cloudy 37 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue fusion welding fittings to construct the proposed header access riser as well as the future tie-in point. The HAR-1, future tie-in point, and the 90 elbow were constructed as per the proposed design. The constructed HAR and tie-in point were fusion welded to the 24" pipe. Carefully measured to ensure proper placement.

Observed Continuum continue to trench from the proposed header access riser location to the first road crossing. The trench was excavated at a 0.85% grade.

The constructed header was placed in the trench and guided under the force mains and electrical lines as to not damage existing crossings. Once the header was in the approximate location, the pipe was cleared of any debris during the placement of the pipe.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:30 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Friday 03/22/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 30 F
Client:	Republic Services	PM:	Cloudy 41 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum complete the bolt up of the 24” header to the sump. A blind flange was added at station 1+35 to allow better installation of the road crossing. The 24” header grade was shot to ensure proper slope.

Observed Continuum fusion weld and assemble the ozone force main clean out and valve. The section of 3”x6” pipe was then tied-in at the existing sump. The ozone force main will sit to the outside of the 24” pipe in the trench with the 3” air sitting to the inside. The trench was partially backfilled to allow installation of the 3”x6” pipe

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:30 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Saturday 03/23/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 28 F
Client:	Republic Services	PM:	Cloudy 38 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin the first road crossing. The trench was excavated up to the approximate location of HAR-2. The section of 24” to include HAR-2 and the future tie-in point. 40 feet of 48” CMP was installed around the 24” section. The entire assembled section was lowered in to the trench and ensured the placement of the CMP. 3” and 3”x6” pipe were fed through the CMP and fusion welded to the previously installed sections of pipe. The road crossing was backfilled and compacted to allow the resuming passing of traffic. Survey risers were added at both ends of the road crossing.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:30 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 03/25/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 48 F
Client:	Republic Services	PM:	Clear 68 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin excavating at the proposed location for the sump. The top 6 feet approximately comprised of stone, soil, and clay. Below this the excavation slowed due to sand and fine gravel. Once the required depth was reach, a 1 foot layer of gravel was placed in the excavation. As the sump was being lowered the side continued to undercut and cave in. The operation of setting the sump was halted. The sump was set in the hole but remained unbolted to the 24" pipe. Additional equipment will be required to continue.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:30 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Tuesday 03/26/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Raining 41 F
Client:	Republic Services	PM:	Raining 57 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue to fusion weld 24" fitting for future header access risers and tie-in points. The header access risers were assembled per the design drawings. HAR-3 has been assembled and ready for installation.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 4:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 03/27/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 35 F
Client:	Republic Services	PM:	Cloudy 49 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue setting the sump. Due to unstable sand they utilized a man lift to access the flange connection to the previously installed 24" pipe. The bolts were installed and tightened. The western road crossing was dressed and backfilled to restore the area to its previous conditions. The 24" was also backfilled and dressed. Survey risers were placed and marked.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 7:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Thursday 03/28/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 38 F
Client:	Republic Services	PM:	Cloudy 52 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue the trenching operations for the 24” header. The second road crossing was blocked off for safety and excavation continued. The 48” CMP was prepared for the installation of the road crossing. Upon reaching the end of the road crossing, they continued with the trench. The force main and signal loop were successfully located and excavated the area without damage to the pipe or electrical lines. Approximately 30 feet south, Continuum hit an electrical line. The line was not marked or staked for location. This line did not appear on any drawing or map. The crew immediately cleared the area until it was confirmed the lines were no longer live.

Observed Continuum proceed to install the 24” header from the sump, moving south. 60 feet of CMP installed at the eastern road crossing. Approximately 240 feet of 24”, 3”x6”, and 3” pipe installed.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Friday 03/29/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Sunny 45 F
Client:	Republic Services	PM:	Sunny 69 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum complete the bolt up of the 24” pipe to the sump. The bolts were coated with a rubberizing spray and wrapped in plastic. The 24” valve extension was installed on the valve for the sump. Continuum backfilled and dressed the road crossing to restore vehicle traffic. Survey risers were installed to mark the edges of the CMP.

Observed Continuum assemble and install the 3” isolation for the 3” air line. The valve was installed between the future tie in and the air riser for the sump. The isolation valve was assembled in accordance with the design plan.

Observed continuum install the 3” valve extension on the force main isolation valve running to GW-D148. The area was not backfilled to allow access to pinching off the ozone force main for future installation.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Tuesday 04/02/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	N/A
Client:	Republic Services	PM:	N/A
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site N/A

No work completed due to weather conditions.

Weaver Consultants Group off site N/A

Equipment Used:
N/A

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 04/03/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Raining 39 F
Client:	Republic Services	PM:	Raining 45 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum continue trenching for the 24" header line. The trench was excavated at a 0.8% slope with a laser. While trenching it was observed that the pipe will end short to maintain minimal 2 feet of cover. Jakub Sowa was contacted and approved the pipe stopping short by approximately 50 feet to maintain proper cover.

The remaining length of pipe was welded and assembled to include HAR-3, the isolation valve and future tie-in flange.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Thursday 04/04/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Raining 37 F
Client:	Republic Services	PM:	Overcast 49 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum install the remaining section of 24” pipe. A blind flange was bolted on at the end of the pipe per design. The remaining 3” air line and 3”x6” ozone line were installed. The ozone clean-out section was welded in at the proposed location. 3” Air tee was installed at the future tie-in point at HAR-3. End caps at both were welded on at end of pipe.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Friday 04/05/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 42 F
Client:	Republic Services	PM:	Overcast 51 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum complete the bolt up of the 24” pipe. Once all sections of pipe were placed, survey risers were placed and backfilling began. The trench was backfilled and risers adjusted. The ditch line running along the trench was dressed and graded to allow proper flow of storm water.

The perimeter road was dressed and clean to restore traffic flow for the site.

The 3” air isolation valve was assembled and installed at CS-8. The air was tied-in to the existing air line. The ozone forcemain isolation valve was removed and repaired to ensure proper dual containment by adding an end seal to the open end of the dual contained valve. Once repaired, the valve was reinstalled on the ozone force main.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Saturday 04/06/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 43 F
Client:	Republic Services	PM:	Sunny 58 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin the road crossing for the 4 remote wells D-170, 171,172, and 173. The trench was shot in at 3% per the design plan. The 6” pipes was ran through 18” CMP. The CMP measured 40 feet long, with 2 runs installed. Two 6” pipes were ran in each CMP. The pipes for the road crossing were welded to the previously installed 6” pipe running to each well. The vacuum manifold was assembled and build per the design plan.

Observed continuum pressure test the perimeter 3” air line. The pressure test was completed in accordance with Republic Services’ SOP. The 3” air test was passed.

Observed Continuum begin the pressure test for the header and sump. While pressurizing the header, multiple leaks were detected on the sump. A leak on the equalizing valves was detected and repaired by tightening the joint. A leak was detected at the sample port on the lid. The connection was tightened. A leak of the gasket for the 36” lid was detected. The air was shut off and the lid clamp was being tightened. While tightening the bolts for the lid, one of the bolts sheered off. The lid clamp failed and the test was unable to continue.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 04/08/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 41 F
Client:	Republic Services	PM:	Sunny 64 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin the pressure tests for the 4 remote wells. Each remote line had a cap fusion welded to both ends. The lines were pressurized to 4 psi, as per Republic Services SOP. The pressure was monitored for 60 mins. Air loss less than 10% was observed, qualifying for a passing test.

Observed Continuum begin the air tests for the 3”x6” ozone for main running along the perimeter. The inner pipe and outer pipes were tested separate to ensure proper containment of both pipes. Both inner and outer pipes passed the test.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 6:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Tuesday 04/09/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 43 F
Client:	Republic Services	PM:	Sunny 61 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum begin to tie-in the remote lines to the proposed gas wells. Each well was excavated approximately 7 feet. The top section of pipe, approximately 5 feet, was cut and removed from the well. A 8” tee was welded atop the remaining well pipe. The section of pipe that was cut and removed was fusion welded on top of the tee. They added an 8”-6” reducer to each tee. The previously installed 6” lines were welled to the reducer.

Observed Continuum tie-in to the existing vacuum line in the area of GW C-68. From the tie-in point, the previously assembled manifold was installed. Each of the remote well lines were installed, organized to reflect their placement as installed, at the manifold. Well heads were installed and ensured they were 100% closed for proper start up.

SCS was notified of the completion of the remote wells for start up.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 04/10/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 39 F
Client:	Republic Services	PM:	Sunny 55 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum backfill the trenches and excavated areas of the remote wells. Clean soil was hauled for dressing and to restore the area to previous conditions. The storm water berms were reconstructed where they were removed for access to the gas wells. The remote lines were properly marked with gas line markers every 50 feet. The road crossing marked easier locating by site personal. The sumps CS-8 and CS-9 were back filled and dressed. The flange connections for the valves were coated and wrapped in plastic prior to backfilling. The area was dressed and berms restored.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Thursday 04/11/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Raining 38 F
Client:	Republic Services	PM:	Raining 45 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

No work was completed due to weather conditions.

Weaver Consultants Group off site 8:00 AM

Equipment Used:
Excavator (2)
N/A

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Friday 04/12/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Cloudy 39 F
Client:	Republic Services	PM:	Cloudy 55 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum fusion weld sections of 12” HDPE pipe in preparation of the header replacement on the north side of the C-hill. The replacement was measured and documented all tie-in points along the line. 12” tees with reducers down to 6” were assembled and welded.

Observed Continuum weld sections of 6” pipe in preparation for the lateral replacement on the west side of the D-hill.

Approximately 600 feet of 12” welded.
Approximately 400 feet of 6” welded.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 3:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Saturday 04/13/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Clear 45 F
Client:	Republic Services	PM:	Sunny 65 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum excavated and locate the existing 12” header in the area of C-7, on the northwest corner of the C-hill. The existing 12” was cut and capped on the side to be abandoned. They tied-in to the valve side and began trenching toward the east along the staked points. The trench was excavated at 5% with a laser to verify grade. A tee was welded at approximately station 1+98 for the riser at C-8. The existing riser at C-8 was cut and capped below grade. A new riser installed and cap welded to seal the riser for the future air test.

Approximately 250 feet of 12” installed.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 5:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 04/15/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Clear 52 F
Client:	Republic Services	PM:	Sunny 73 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum Continue to excavate and abandon the existing 12” header between C7 and 59-V. I section of the 12” header was cut and removed to allow the new pipe to maintain grade. Both ends were cut and capped. The new pipe installation continued until reaching V-59. A 12’ tee was installed and reduced to 6” to tie-in to the existing 6” lateral running south to C10. Upon reaching the tie-in point at V-59, the existing 12” was cut back and capped. The new 12” line was fusion welding to the flange. The installation of the replacement 12” is complete.

Photos were taken for documentation.

Weaver Consultants Group off site 5:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Tuesday 04/16/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Clear 46 F
Client:	Republic Services	PM:	Overcast 81 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum replace the valve at C7 along the 12” header. The existing valve was not attaining a tight seal. The valve was replaced and the existing valve stem reinstalled. Sample ports were added to the valve replacement. The bolts were coated and wrapped in plastic per the design plan. The 12” header was air tested between valves once the bolt up was complete. The air test was a pass.

Observed Continuum cut and remove the previously installed 6” jumper running from C7 to C10. The vacuum was isolated and the 6” pipe cut, removed, and capped at the risers. The vacuum was restored allowing the vacuum along the 12” to bring online. Once installation and pressure testing was complete, the area was backfilled and dressed.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 5:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Wednesday 04/17/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 63 F
Client:	Republic Services	PM:	Rain 72 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum Excavate and locate the existing air and force main lines at D5A and D64A. The existing line was suspected to be compromised below the surface. The existing vacuum, force main, and air lines were cut and capped for abandonment. New pipe will be ran along the proposed 6” lateral replacement per Stephanie Goodman. The trench excavation began at D5A, running south east. Minimal depth was kept while trenching above the closed portion on the hill.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer’s recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 3:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Saturday 04/20/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 39 F
Client:	Republic Services	PM:	Overcast 48 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum replace the band clamp on the condensate sump CS-9. The band was tightened to ensure a proper seal. The sump and 24" header was sealed and prepped for pressure testing. The sump and header pressure test was a pass.

Observed Continuum begin the installation of the 6", 3" , and 2" lateral lines running from D5A to D64A. at the location of D64A, the 3" lateral lines were installed with 3" wyes to ensure proper flow from the force mains being tied-in to. 3" x 6" dual contained pipe was installed from D5A until crossing over the anchor trench of the cap. Once beyond the anchor trench, the force main transitioned to 3" single walled pipe. The lines were all pressure tested in accordance with the Republic Services S.O.P. and passed. The 3 tie-ins at D5A were completed. Vacuum, Force main, and air restored to D64A and D162.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 3:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 04/26/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 36 F
Client:	Republic Services	PM:	Overcast 66 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 7:00 AM

Observed Continuum excavate and investigate around the tie-in point for GW-D134B. Continuum was informed that the site believes there to be an issue with the tie-in from previous construction. The tie-in was excavated and no visible issues were discovered. Per Stephanie Goodman, The force main line with D134B, D163, and D164 will be directed and tied into the force main between D120B and D135. The liquid flows were directed with 3" wyes and sweeping elbow to allow greatest flow without resistance. New laterals and risers were installed from the tie-in point east of D120B to D135 to allow air and force main access to the gas well for future pump installation by the site.

Fusion welding of HDPE pipe was performed in accordance with the manufacturer's recommendations and Republic Services Standard Operating Procedures. Contractor removed shavings from the pipe during welding operations and no obstructions were observed in the pipe after welding.

Photos were taken for documentation.

Weaver Consultants Group off site 8:00 PM

Equipment Used:
Excavator (2)

Name: James Sandmel
Title: Senior Engineering Technician

Weaver Consultants Group
Daily Field Report

Day/Date: Monday 05/06/2024

Project:	GCCS Ph 1 Construction	Project No.	0120-555-53-10
Location:	NSA Landfill, Fort Wayne, IN	Weather: AM:	Overcast 40 F
Client:	Republic Services	PM:	Overcast 65 F
Contractor(s):	Continuum Environmental Services		
Contractor Sub(s):			

Summary of Technical and/or Engineering Services performed, including Field Test Data, Locations, Elevations and Depths are Estimated.

Weaver Consultants Group on site 9:00 AM

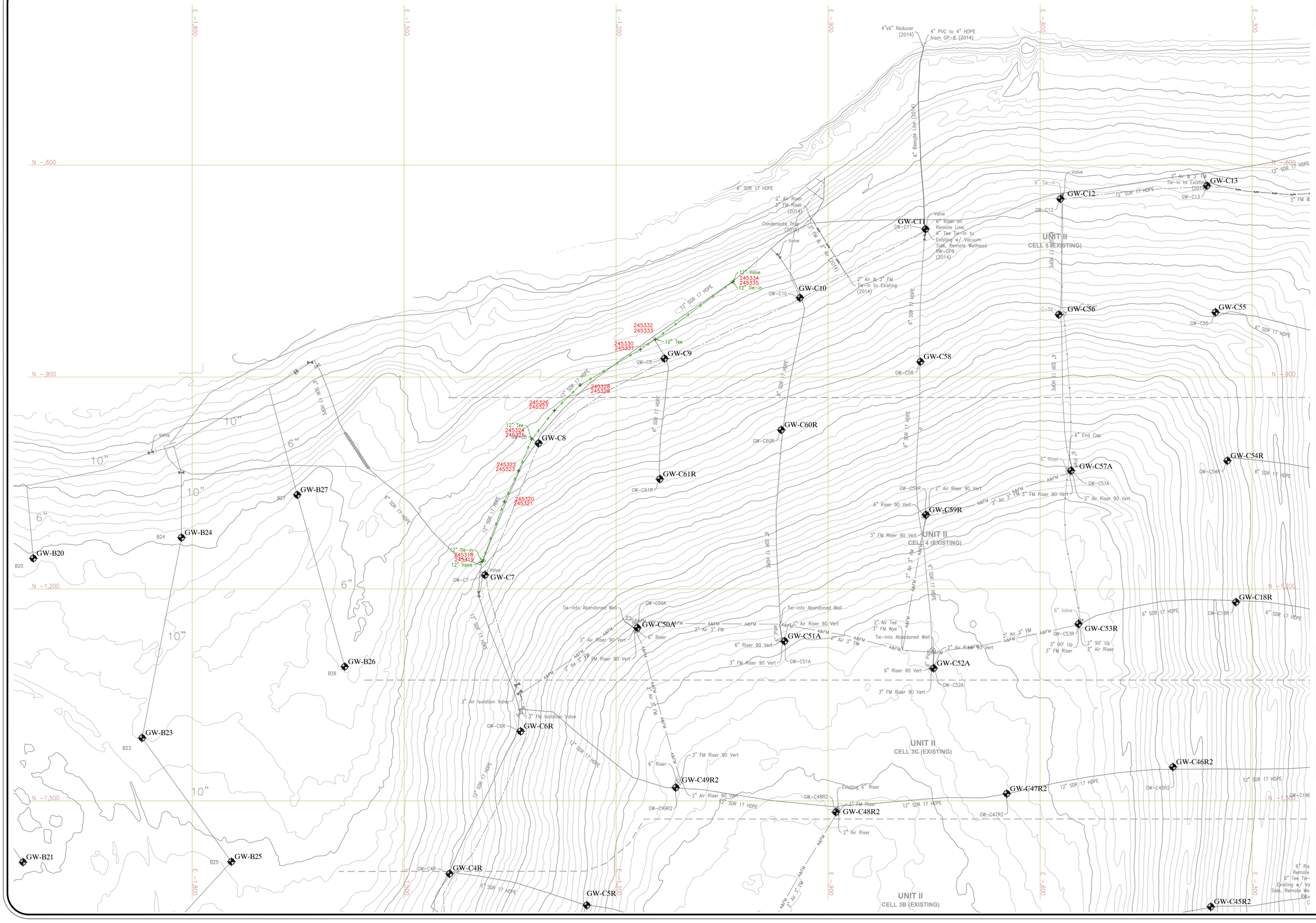
Final walk through performed on Phase 1 gas work performed. Work was deemed to be complete.

Weaver Consultants Group off site 2:00 PM

Name: Bryan de Varona
Title: Senior Project Director

APPENDIX D

Record Drawings



Legend

- Closure Boundary
- Cell Boundary
- Waste Limit
- Intermediate Cover
- 805 Contour Elevation
- Intermediate Contour Line
- Index Contour Line
- Gas Extraction Well
- 6" Riser Pipe
- Valve
- Cleanout
- Header Access Riser
- Condensate Sump
- Carbon Tank & Tote
- 6" HDPE Gas Pipe
- 12" HDPE Gas Pipe
- 24" HDPE Gas Pipe
- 2" Air & 3" Forcemain Pipe
- Abandoned Pipe

SCALE: 1" = 60'

GRAPHIC SCALE

0' 30' 60' 120'

(IN FEET)

Survey Notes

The basis of bearings is a local landfill coordinate system and is on a local datum.

Topographic Survey map provided by Firmatek Dates of Survey: July 27, 2023.

All Gas System As-Built Data Collected by October 30, 2023

LAKEWOOD SURVEYING, LLC
P.O. Box 726
Wolf Lake, Indiana 46796
(765) 635-1150
(765) 466-6842
Email: ryan.weber@lakewoodsurvey.com
www.lakewoodsurvey.com

CLIENT: Republic Services
FILE #: Serv-All – 2024 – Gas System 2024 Ph1
FIELD CREW: CJM, KPB
PROJECT #: Serv-All\2024\SV Gas 2024 Phase 1\CAD\
DOCUMENT #: SV Gas System 2024 Ph1.dwg

DATE DRAWN	ISSUE/REVISION	DRAWN BY
05/20/2024	Gas System As-Built	CJM

Project Description:

National Serv-all, Inc. MacBeth Road, Ft. Wayne, Indiana

Gas System As-Builts
Phase 3 Fall/Winter 2023-2024

Prepared For:

REPUBLIC SERVICES

Page #:

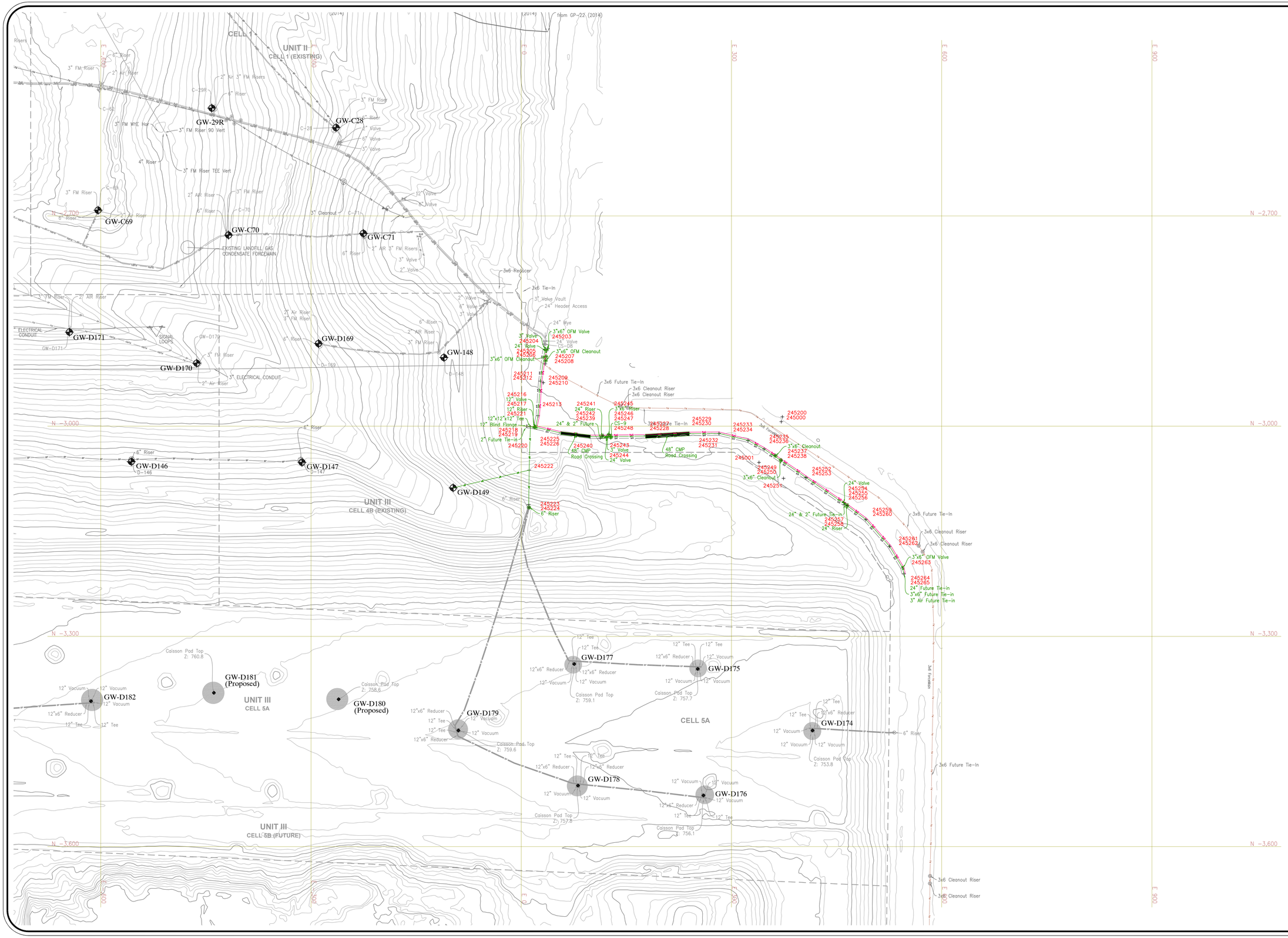
Page 1 of 3

Certification

I, Ryan C Weber certify that I am a Land Surveyor licensed in compliance with the laws of the State of Indiana; that to the best of my knowledge, and belief all information shown hereon is true and accurate:

RYAN C WEBER REGISTERED LS 20800107 STATE OF INDIANA LAND SURVEYOR

Ryan C Weber, IN. Reg. L.S.# 20800107



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SURVEYING, LLC

Legend

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CLIENT: Republic Services
FILE #: Serv-All ~ 2024 ~ Gas System 2024 PH1
FIELD CREW: CJM, KPB
PROJECT #: Serv-All\2024\SV Gas 2024 Phase 1\CAD\
DOCUMENT #: SV Gas System 2024 PH1.dwg

DATE DRAWN	ISSUE/REVISION	DRAWN BY
05/20/2024	Gas System As-Built	CJM

Project Description:

National Serv-all, Inc.
MacBeth Road,
Ft. Wayne, Indiana

Gas System As-Builts
Phase 1 Winter/Spring 2024

Prepared For:

REPUBLIC SERVICES

Page #:

Page 2 of 3

Certification

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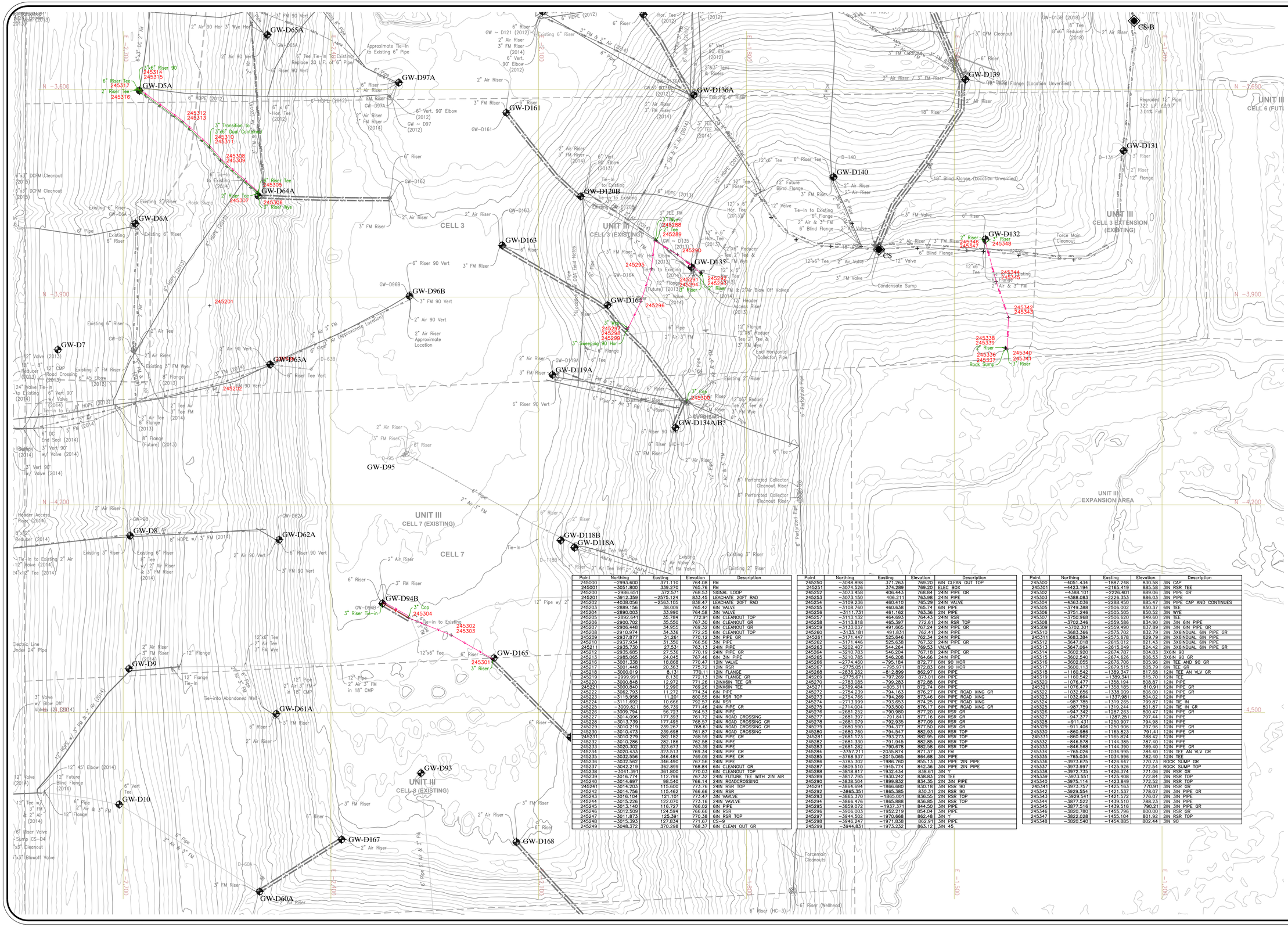
RYAN C WEBER
REGISTERED
LS 20800107
STATE OF INDIANA
LAND SURVEYOR

Ryan C Weber, IN. Reg. L.S.# 20800107



Point	Northing	Easting	Elevation	Description
245000	−2993.600	371.110	764.08	FM
245001	−3051.800	339.270	765.76	FM
245200	−2986.651	372.571	768.53	SIGNAL LOOP
245201	−3912.359	−2575.124	833.45	LEACHATE 20FT RAD
245202	−4038.056	−2563.105	838.47	LEACHATE 20FT RAD
245203	−2889.156	38.009	765.42	6IN VALVE
245204	−2890.003	33.990	764.58	3IN VALVE
245205	−2892.641	35.784	772.91	6IN CLEANOUT TOP
245206	−2900.702	35.550	767.30	6IN CLEANOUT GR
245207	−2906.448	34.955	769.32	6IN CLEANOUT GR
245208	−2910.974	34.336	772.25	6IN CLEANOUT TOP
245209	−2937.877	31.261	770.12	3IN PIPE GR
245210	−2937.934	31.350	766.56	3IN PIPE
245211	−2935.730	27.531	763.13	24IN PIPE
245212	−2935.685	27.536	770.19	24IN PIPE GR
245213	−2985.065	24.045	767.46	6IN 3IN PIPE
245216	−3001.338	18.868	770.47	12IN VALVE
245217	−3001.448	20.363	775.72	12IN RSR
245218	−3000.019	8.131	770.11	12IN FLANGE
245219	−2999.991	8.130	772.13	12IN FLANGE GR
245220	−3000.848	12.972	771.26	12INX6IN TEE GR
245221	−3000.840	12.990	769.26	12INX6IN TEE
245222	−3062.793	11.272	774.34	6IN PIPE
245223	−3115.958	11.201	800.55	6IN RSR TOP
245224	−3111.692	10.666	792.57	6IN RSR
245225	−3009.821	56.739	771.46	24IN PIPE GR
245226	−3009.794	56.723	764.53	24IN PIPE
245227	−3014.096	177.393	761.72	24IN ROAD CROSSING
245228	−3013.739	177.495	768.57	24IN ROAD CROSSING GR
245229	−3010.219	239.267	768.61	24IN ROAD CROSSING GR
245230	−3010.473	239.698	761.87	24IN ROAD CROSSING
245231	−3010.279	282.182	768.59	24IN PIPE GR
245232	−3010.286	282.186	762.58	24IN PIPE
245233	−3020.302	323.673	763.39	24IN PIPE
245234	−3020.433	323.513	769.34	24IN PIPE GR
245235	−3032.556	346.484	769.09	24IN PIPE GR
245236	−3032.562	346.490	767.56	24IN PIPE
245237	−3042.219	362.899	768.84	6IN CLEANOUT GR
245238	−3041.391	361.800	770.03	6IN CLEANOUT TOP
245239	−3016.774	112.796	767.32	24IN FUTURE TEE WITH 2IN AIR
245240	−3014.697	98.540	766.14	24IN ROADCROSSING
245241	−3014.203	115.600	773.76	24IN RSR TOP
245242	−3014.756	115.462	766.66	24IN RSR
245243	−3016.104	121.101	773.47	3IN VAVLVE
245244	−3015.226	122.070	773.16	24IN VAVLVE
245245	−3013.140	116.727	766.02	6IN PIPE
245246	−3012.509	124.594	766.66	6IN RSR
245247	−3011.873	125.391	770.38	6IN RSR TOP
245248	−3015.393	127.834	771.67	CS−9
245249	−3048.372	370.298	768.37	6IN CLEAN OUT GR

Point	Northing	Easting	Elevation	Description
245250	−3048.898	371.263	769.20	6IN CLEAN OUT TOP
245251	−3074.526	374.289	769.20	ELEC BOX
245252	−3073.458	406.443	768.84	24IN PIPE GR
245253	−3073.150	406.211	763.98	24IN PIPE
245254	−3109.236	460.410	765.29	24IN VALVE
245255	−3108.760	460.638	765.74	6IN PIPE
245256	−3111.731	461.162	763.36	2IN PIPE
245257	−3113.132	464.693	764.43	24IN RSR
245258	−3113.818	465.397	772.61	24IN RSR TOP
245259	−3133.037	491.665	767.24	24IN PIPE GR
245260	−3133.181	491.831	762.41	24IN PIPE
245261	−3171.447	525.646	762.34	24IN PIPE
245262	−3171.446	525.638	767.32	24IN PIPE GR
245263	−3202.407	544.264	769.53	VALVE
245264	−3210.783	546.204	767.18	24IN PIPE GR
245265	−3210.785	546.208	764.66	24IN PIPE
245266	−2774.460	−795.184	872.77	6IN 90 HOR
245267	−2775.051	−795.971	872.83	6IN 90 HOR
245268	−2836.262	−812.899	862.97	6IN PIPE
245269	−2775.671	−797.269	873.01	6IN PIPE
245270	−2783.085	−799.283	872.88	6IN PIPE
245271	−2789.484	−805.311	872.74	6IN PIPE
245272	−2754.239	−794.163	876.27	6IN PIPE ROAD XING GR
245273	−2754.766	−794.269	873.46	6IN PIPE ROAD XING
245274	−2713.999	−793.653	874.25	6IN PIPE ROAD XING
245275	−2714.004	−793.500	876.17	6IN PIPE ROAD XING GR
245276	−2681.252	−790.980	877.20	6IN RSR GR
245277	−2681.397	−791.841	877.16	6IN RSR GR
245278	−2681.079	−792.935	877.09	6IN RSR GR
245279	−2680.590	−794.377	877.50	6IN RSR GR
245280	−2680.760	−794.547	882.93	6IN RSR TOP
245281	−2681.173	−793.273	882.95	6IN RSR TOP
245282	−2681.330	−791.945	882.85	6IN RSR TOP
245283	−2681.282	−790.678	882.58	6IN RSR TOP
245284	−3757.211	−2035.874	871.37	3IN FM
245285	−3768.937	−2015.065	864.68	3IN PIPE
245286	−3785.302	−1986.760	855.13	3IN PIPE 2IN PIPE
245287	−3809.510	−1945.774	842.36	3IN PIPE 2IN PIPE
245288	−3818.817	−1932.434	838.61	3IN Y
245289	−3817.795	−1930.242	838.83	2IN TEE
245290	−3838.504	−1899.832	834.35	2IN 3IN PIPE
245291	−3864.694	−1866.680	830.18	3IN RSR 90
245292	−3865.351	−1865.385	830.31	2IN RSR 90
245293	−3865.370	−1865.001	836.55	2IN RSR TOP
245294	−3866.476	−1865.888	836.85	3IN RSR TOP
245295	−3859.072	−1937.371	844.50	3IN PIPE
245296	−3906.003	−1952.219	854.04	3IN PIPE
245297	−3944.502	−1970.668	862.48	3IN Y
245298	−3946.247	−1971.838	862.91	3IN PIPE
245299	−3944.831	−1973.232	863.12	3IN 45

Point	Northing	Easting	Elevation	Description
245300	−4051.434	−1887.248	830.58	3IN CAP
245301	−4423.194	−2165.419	885.58	3IN RSR TEE
245302	−4388.101	−2226.401	889.06	3IN PIPE GR
245303	−4388.083	−2226.353	886.03	3IN PIPE
245304	−4363.036	−2288.450	885.47	3IN PIPE CAP AND CONTINUES
245305	−3749.388	−2506.002	850.37	6IN TEE
245306	−3751.246	−2505.505	850.52	3IN WYE
245307	−3750.968	−2506.620	849.60	2IN TEE
245308	−3702.346	−2559.586	834.90	2IN 3IN 6IN PIPE
245309	−3702.301	−2559.490	837.89	2IN 3IN 6IN PIPE GR
245310	−3683.366	−2575.702	832.79	2IN 3X6INDUAL 6IN PIPE GR
245311	−3683.384	−2575.678	829.79	2IN 3X6INDUAL 6IN PIPE
245312	−3647.018	−2615.012	821.43	2IN 3X6INDUAL 6IN PIPE
245313	−3647.064	−2615.049	824.42	2IN 3X6INDUAL 6IN PIPE GR
245314	−3602.920	−2674.787	804.83	3X6IN 90
245315	−3602.540	−2674.626	806.53	3X6IN 90 GR
245316	−3602.055	−2676.706	805.96	2IN TEE AND 90 GR
245317	−3600.113	−2679.515	805.79	6IN TEE GR
245318	−1160.542	−1389.347	817.68	12IN TEE AN VLV GR
245319	−1160.542	−1389.341	815.70	12IN TEE
245320	−1076.477	−1358.194	808.87	12IN PIPE
245321	−1076.477	−1358.185	810.91	12IN PIPE GR
245322	−1032.656	−1338.009	806.00	12IN PIPE GR
245323	−1032.664	−1337.981	804.02	12IN PIPE
245324	−987.785	−1319.265	799.87	12IN TIE IN
245325	−987.759	−1319.244	801.87	12IN TIE IN GR
245326	−947.342	−1287.263	800.47	12IN PIPE GR
245327	−947.377	−1287.251	797.44	12IN PIPE
245328	−911.431	−1250.907	794.98	12IN PIPE
245329	−911.406	−1250.906	797.96	12IN PIPE GR
245330	−860.986	−1165.823	791.41	12IN PIPE GR
245331	−860.962	−1165.824	788.42	12IN PIPE
245332	−846.578	−1144.385	787.40	12IN PIPE
245333	−846.568	−1144.390	789.40	12IN PIPE GR
245334	−765.026	−1034.995	784.40	12IN TEE AN VLV GR
245335	−765.034	−1034.996	782.40	12IN TEE
245336	−3973.675	−1426.647	770.73	ROCK SUMP GR
245337	−3973.997	−1425.926	772.54	ROCK SUMP TOP
245338	−3972.735	−1426.374	771.06	2IN RSR GR
245339	−3973.551	−1425.408	772.84	2IN RSR TOP
245340	−3975.114	−1423.849	772.52	3IN RSR TOP
245341	−3973.757	−1425.163	770.91	3IN RSR GR
245342	−3929.554	−1421.537	778.07	2IN 3IN PIPE GR
245343	−3929.541	−1421.572	776.07	2IN 3IN PIPE
245344	−3877.522	−1439.510	788.23	2IN 3IN PIPE
245345	−3877.516	−1439.516	790.21	2IN 3IN PIPE GR
245346	−3820.780	−1455.796	800.00	2IN RSR GR
245347	−3822.028	−1455.104	801.92	2IN RSR TOP
245348	−3820.540	−1454.885	802.44	3IN 90

LAKEWOOD SURVEYING, LLC
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Legend

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0' 30' 60' 120'
(IN FEET)

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Topographic Survey map provided by Firmatek Dates of Survey: July 27, 2023.

All Gas System As-Built Data Collected by October 30, 2023

CLIENT: Republic Services
FILE #: Serv-All ~ 2024 ~ Gas System 2024 PH1
FIELD CREW: CJM, KPB
PROJECT #: Serv-All\2024\SV Gas 2024 Phase 1\CAD\
DOCUMENT #: SV Gas System 2024 PH1.dwg

DATE DRAWN	ISSUE/REVISION	DRAWN BY
05/20/2024	Gas System As-Built	CJM

Project Description:

National Serv-all, Inc.
MacBeth Road,
Ft. Wayne, Indiana

Gas System As-Builts
Phase 1 Winter/Spring 2024

Prepared For:

REPUBLIC SERVICES

Page #:

Page 3 of 3

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LS 20800107

Ryan C Weber, IN. Reg. L.S.# 20800107

APPENDIX E

Construction Drawings

(for Reference)

PLANS FOR THE

2024 PHASE 1 GCCS CONSTRUCTION

NATIONAL SERV-ALL LANDFILL

FORT WAYNE, INDIANA

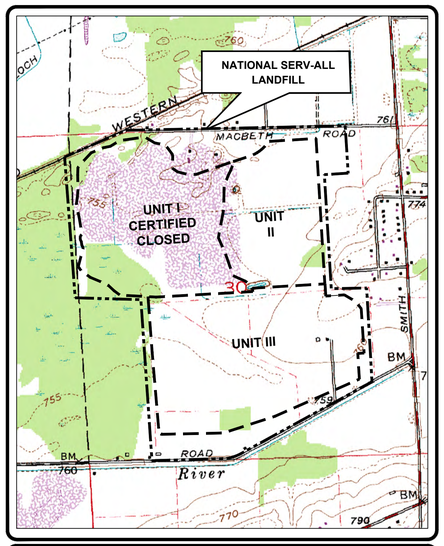
PREPARED FOR:

REPUBLIC SERVICES OF INDIANA, L.P.

FORT WAYNE, INDIANA

MARCH 2024

REVISED 3-22-2024



LOCATION MAP

SCALE: 0 1000 2000 SCALE IN FEET

SOURCE: FORT WAYNE WEST, IND. 7.5 MIN. U.S.G.S. QUADRANGLE MAPS

SHEET INDEX

1	EXISTING CONDITIONS SITE PLAN
2	PROPOSED CONSTRUCTION SITE PLAN 2
3	PROPOSED PERIMETER HEADER PLAN/PROFILE 2
4	PROPOSED PERIMETER HEADER STAKING PLAN 2
DS1	DETAILS
DS2	DETAILS
DS3	DETAILS
DS4	DETAILS 1
DS5	DETAILS

2 REVISION 2

PREPARED BY:

TETRA TECH

1250 E. DIEHL ROAD
SUITE 103
NAPERVILLE, ILLINOIS 60563
Tel: (877) 633-5520
Fax (630) 791-9003

NOTE:

THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE, AND UTILITY LINES MAY EXIST WHERE NONE ARE SHOWN. SOME INFORMATION MAY HAVE BEEN DERIVED FROM INFORMATION PROVIDED TO THE ENGINEER BY OTHERS. SUCH INFORMATION MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. CONTACT INDIANA 811 AT 1-800-382-5544 OR CALL 811 (OR UTILIZE THEIR E-LOCATE SERVICE) AND ANY NON-PARTICIPATING UTILITY COMPANIES AT LEAST 48 HOURS BEFORE CONSTRUCTION. THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF PERTINENT UTILITIES, LANDFILL LINERS, AND OTHER EXISTING FEATURES IN OR NEAR THE AREA OF WORK, WHETHER INDICATED ON THESE DRAWINGS OR NOT. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE. THE CONTRACTOR SHALL EXERCISE DUE CARE TO AVOID DISTURBING ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL COORDINATE ANY POTENTIAL DISRUPTIONS IN UTILITY SERVICE WITH THE UTILITY COMPANIES AFFECTED AT LEAST 24 HOURS PRIOR TO THE DISRUPTION. THE CONTRACTOR SHALL REPAIR DAMAGE TO EXISTING UTILITIES AT THE CONTRACTOR'S EXPENSE.

ISSUED FOR CONSTRUCTION

1" 1/2" 0" 1"

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LEGEND

- FACILITY BOUNDARY
- SOLID WASTE BOUNDARY
- CELL BOUNDARY
- CLOSURE LIMITS
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING GAS HEADER
- EXISTING ABOVE GRADE GAS HEADER
- EXISTING HORIZONTAL COLLECTOR
- EXISTING AIRLINE AND FORCEMAIN TRENCH
- EXISTING AIRLINE
- EXISTING FORCEMAIN
- EXISTING LANDFILL GAS EXTRACTION WELL
- EXISTING LANDFILL GAS EXTRACTION WELL WITH CAISSON
- EXISTING LANDFILL GAS EXTRACTION WELL WITH PUMP
- EXISTING REMOTE WELLHEAD
- EXISTING ISOLATION VALVE
- EXISTING AIR AND FORCEMAIN ISOLATION VALVE
- EXISTING ROAD CROSSING
- EXISTING BLIND FLANGE
- EXISTING FLANGE CONNECTION
- EXISTING HEADER ACCESS RISER
- EXISTING CONDENSATE PUMP STATION
- EXISTING HIGH POINT
- EXISTING FORCEMAIN CLEANOUT
- EXISTING GAS VENT
- EXISTING GAS PROBE
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING LEACHATE LIFT STATION
- EXISTING MONITORING PORT
- EXISTING CONDENSATE DRIPLEG
- EXISTING FINAL COVER

NOTES:

1. EXISTING CONTOURS FROM TOPOGRAPHIC SURVEY PROVIDED BY WEAVER CONSULTANTS GROUP. DATE OF SURVEY 11/10/2023.
2. 2023 PHASE 1 AND PHASE 3 GCCS COMPONENTS BASED ON PROPOSED LOCATIONS. ASBUILTS TO BE UPDATED UPON COMPLETION OF RECORD DRAWINGS.
3. 2023 PHASE 2 GCCS AS-BUILT SURVEY PROVIDED BY LAKEWOOD SURVEYING, LLC. IN DRAWING TITLED 'GAS SYSTEM AS-BUILTS 2023 PHASE 2 (ARCHAEA ENERGY)' DATED 09/28/2023.
4. 2022 GCCS AS-BUILT SURVEY PROVIDED BY LAKEWOOD SURVEYING, LLC. IN DRAWING TITLED 'GAS SYSTEM 2022' DATED 09/29/2022.
5. 2021 GCCS AS-BUILT SURVEYS PROVIDED BY LAKEWOOD SURVEYING, LLC. IN DRAWINGS TITLED 'GAS SYSTEM AS-BUILTS – 2021' DATED 06/28/2022.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
	DATE OF ISSUE 3/11/24	DRAWN BY MJD DESIGNED BY JPS			CHECKED BY TAB APPROVED BY TAB	

TETRA TECH

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV-ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
EXISTING CONDITIONS SITE PLAN

SHEET NO. 1
PROJECT NO. 209-4241287

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POINT	NORTHING	EASTING	T.O.P. DEPTH	DESCRIPTION
632	-3605	-2676	-	TIE-IN TO EXISTING LATERAL RISER AT D5A
633	-3643	-2631	-	6" LATERAL
634	-3678	-2590	-	ANTI-SEEP COLLAR
635	-3717	-2543	-	6" LATERAL
636	-3758	-2495	-	TIE-IN TO EXISTING LATERAL; NEW LATERAL RISER AT D64A

LEGEND

- FACILITY BOUNDARY
- SOLID WASTE BOUNDARY
- CELL BOUNDARY
- CLOSURE LIMITS
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING GAS HEADER
- EXISTING HORIZONTAL COLLECTOR
- EXISTING AIRLINE AND FORCEMAIN TRENCH
- EXISTING AIRLINE
- EXISTING FORCEMAIN
- EXISTING LANDFILL GAS EXTRACTION WELL
- EXISTING LANDFILL GAS EXTRACTION WELL WITH CAISSON
- EXISTING LANDFILL GAS EXTRACTION WELL WITH PUMP
- EXISTING REMOTE WELLHEAD
- EXISTING ISOLATION VALVE
- EXISTING AIR AND FORCEMAIN ISOLATION VALVE
- EXISTING ROAD CROSSING
- EXISTING BLIND FLANGE
- EXISTING FLANGE CONNECTION
- EXISTING HEADER ACCESS RISER
- EXISTING CONDENSATE PUMP STATION
- EXISTING HIGH POINT
- EXISTING FORCEMAIN CLEANOUT
- EXISTING GAS VENT
- EXISTING GAS PROBE
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING LEACHATE LIFT STATION
- EXISTING MONITORING PORT
- EXISTING CONDENSATE DRIPLEG
- EXISTING FINAL COVER
- PROPOSED LANDFILL GAS HEADER/LATERAL
- PROPOSED 3" AIR LINE
- PROPOSED 3X6" DUAL CONTAINED OZONE FORCEMAIN LINE
- PROPOSED REMOTE WELLHEAD
- PROPOSED HEADER ACCESS RISER
- PROPOSED HEADER ISOLATION VALVE
- PROPOSED AIR LINE ISOLATION VALVE
- PROPOSED DUAL CONTAINED OZONE FORCEMAIN ISOLATION VALVE
- PROPOSED ROAD CROSSING
- PROPOSED BLIND FLANGE
- PROPOSED FLANGE CONNECTION
- PROPOSED CONDENSATE SUMP
- PROPOSED DUAL CONTAINED OZONE FORCEMAIN CLEANOUT
- PROPOSED ANTI-SEEP COLLAR
- PROPOSED VACUUM RISER ABANDONMENT
- PROPOSED STAKING POINT

NOTES:

1. EXISTING CONTOURS FROM TOPOGRAPHIC SURVEY PROVIDED BY WEAVER CONSULTANTS GROUP. DATE OF SURVEY 11/10/2023.
2. 2023 PHASE 1 AND CELL 5 GCCS COMPONENTS BASED ON PROPOSED LOCATIONS. ASBUILTS TO BE UPDATED UPON COMPLETION OF RECORD DRAWINGS.
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7. ALL HEADER AND LATERAL PIPELINES TO BE SDR-17 HDPE WITH SDR-11 HDPE FITTINGS.
8. ALL AIR LINES AND FITTINGS TO BE SDR-9 HDPE.
9. ALL FORCEMAIN AND FITTINGS TO BE SDR-11 HDPE. FORCEMAIN AND FITTINGS INSTALLED OUTSIDE THE LIMITS OF WASTE AND IN THE FINAL COVER AREAS TO HAVE SDR-17 HDPE CONTAINMENT.
10. NO HARD ELBOWS (45° OR 90°) OR TEE FITTINGS TO BE USED ON ANY FORCEMAIN PIPING OR TIE-INS. MOLDED SWEEPING ELBOWS (45° OR 90°), MOLDED WYES AND FIELD BENDS TO BE USED FOR ALL SINGLE PIPE FORCEMAIN. SHOP FABRICATED DUAL CONTAINED SWEEP ELBOWS (45°) AND SHOP FABRICATED DUAL CONTAINED WYES TO BE USED FOR ALL DUAL PIPE FORCEMAIN. NO HARD ELBOWS (45° OR 90°), NO SWEEP 90° ELBOWS, OR TEE FITTINGS TO BE USED IN ANY DUAL PIPE FORCEMAIN.
11. CONTRACTOR TO SURVEY AND STAKE PIPING ALIGNMENTS WITH GRADES AND OBTAIN APPROVAL FROM ENGINEER AND OWNER PRIOR TO PROCEEDING.
12. THE CONTRACTOR SHALL LAY OUT THE PIPE TO CONFORM TO FIELD CONDITIONS. PROVIDE 48" MINIMUM COVER AND 5% MINIMUM SLOPE CROSSING BELOW PERIMETER AND MAIN HAUL ROADS. PROVIDE MINIMUM PIPE DRAINAGE SLOPES OF 3% WITHIN WASTE LIMIT AND 1% OUTSIDE OF WASTE LIMIT. CONTRACTOR RESPONSIBLE FOR CUT (12" MAX, UNLESS OTHERWISE NOTED PER PLAN) AND FILL BENEATH PIPE TO ENSURE PROPER DRAINAGE, AS APPROVED BY THE OWNER/ENGINEER.
13. FEATURES, CONTOURS, AND ELEVATIONS OF THESE BASE MAPS ARE APPROXIMATE INDICATIONS OF CURRENT AND FUTURE CONDITIONS. CONTRACTOR SHALL VERIFY THE ACTUAL LOCATIONS OF THESE ELEMENTS PRIOR TO, AND DURING CONSTRUCTION, AND SHALL FINALIZE THE GAS SYSTEM LOCATIONS TO ACCOMMODATE FINAL FIELD CONDITIONS, AS APPROVED BY THE OWNER/ENGINEER.
14. ALL CONNECTIONS TO EXISTING PIPING SHALL BE CONFIRMED BY THE CONTRACTOR. SOME CONNECTIONS MAY REQUIRE EXCAVATION.
15. ALL PIPE PRESSURE TESTING TO BE PERFORMED WITHIN REPUBLIC GUIDELINES.
16. WORK SHALL NOT VARY FROM DESIGN WITHOUT APPROVAL OF THE OWNER/ENGINEER.
17. CONTRACTOR TO REMOVE AND REUSE EXISTING PIPING AND FITTINGS WHERE APPLICABLE. CAP ALL ABANDONED PIPE. IF ABANDONED PIPE IS HDPE, USE FUSED ON HDPE CAP. IF ABANDONED PIPE IS PVC, USE PVC SCH 40 CAP SECURED WITH SET SCREWS AT 90° AND SOLVENT WELD AS NECESSARY.
18. CONTRACTOR TO USE REDUCER FITTINGS AS NECESSARY.
19. ALL PROPOSED ITEMS SHOULD BE INSPECTED IMMEDIATELY UPON ARRIVAL ON SITE. OWNER SHOULD BE PROVIDED WITH LIST OF REPAIRS, COSTS, SCHEDULES WITHIN 3 DAYS OF MATERIALS ARRIVING ON SITE.
20. REMOVE ALL PUMP COMPONENTS AND VALVES FROM SUMP CS-A AND ABANDON IN PLACE.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	3/22/24	RELOCATED SUMP, REVISED STAKING POINTS	JRD	JPS	CLD	TAB

DATE OF ISSUE 3/11/24 | DRAWN BY MJD | DESIGNED BY JPS | CHECKED BY TAB | APPROVED BY TAB

TETRA TECH

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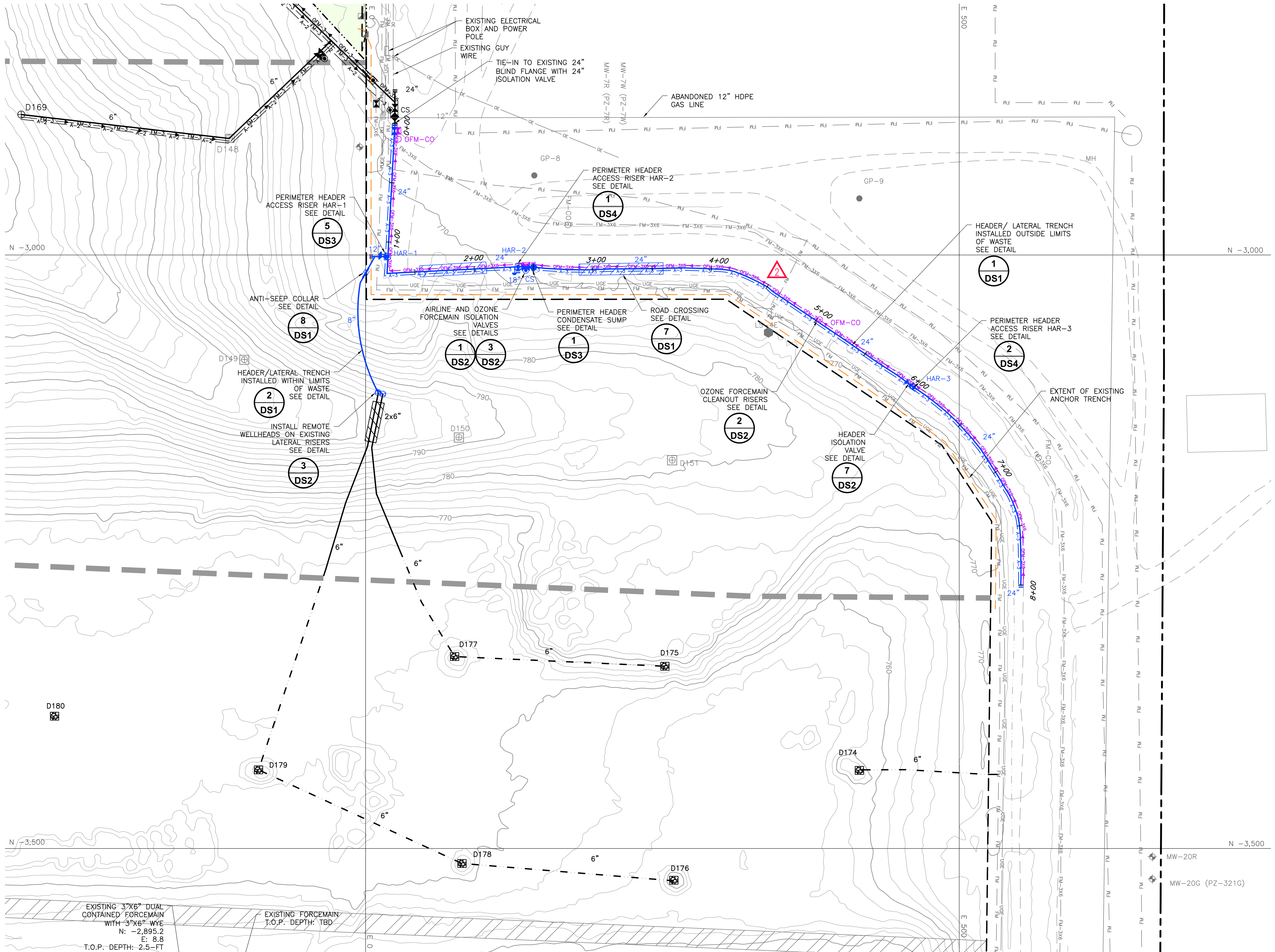
REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV-ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
PROPOSED CONSTRUCTION SITE PLAN

SHEET NO. 2

PROJECT NO. 209-4241287



LEGEND

	FACILITY BOUNDARY
	SOLID WASTE BOUNDARY
	CELL BOUNDARY
	CLOSURE LIMITS
	EXISTING 2' CONTOUR
800	EXISTING 10' CONTOUR
12"	EXISTING GAS HEADER
	EXISTING HORIZONTAL COLLECTOR
A&FM	EXISTING AIRLINE AND FORCEMAIN TRENCH
A	EXISTING AIRLINE
FM	EXISTING FORCEMAIN
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	EXISTING BLIND FLANGE
	EXISTING FLANGE CONNECTION
	EXISTING HEADER ACCESS RISER
CS	EXISTING CONDENSATE PUMP STATION
HP	EXISTING HIGH POINT
	EXISTING FORCEMAIN CLEANOUT
GV-20	EXISTING GAS VENT
GP-24	EXISTING GAS PROBE
	EXISTING GROUNDWATER MONITORING WELL
LS-3	EXISTING LEACHATE LIFT STATION
WZ-2	EXISTING MONITORING PORT
DL-	EXISTING CONDENSATE DRIPLEG
	EXISTING FINAL COVER
6"	PROPOSED LANDFILL GAS HEADER/LATERAL
A-3	PROPOSED 3" AIR LINE
OFM-3X6	PROPOSED 3X6" DUAL CONTAINED OZONE FORCEMAIN LINE
	PROPOSED REMOTE WELLHEAD
	PROPOSED HEADER ACCESS RISER
	PROPOSED HEADER ISOLATION VALVE
	PROPOSED AIR LINE ISOLATION VALVE
	PROPOSED DUAL CONTAINED OZONE FORCEMAIN ISOLATION VALVE
	PROPOSED ROAD CROSSING
	PROPOSED BLIND FLANGE
	PROPOSED FLANGE CONNECTION
CS-	PROPOSED CONDENSATE SUMP
OFM-CO	PROPOSED DUAL CONTAINED OZONE FORCEMAIN CLEANOUT
	PROPOSED ANTI-SEEP COLLAR

NOTES:

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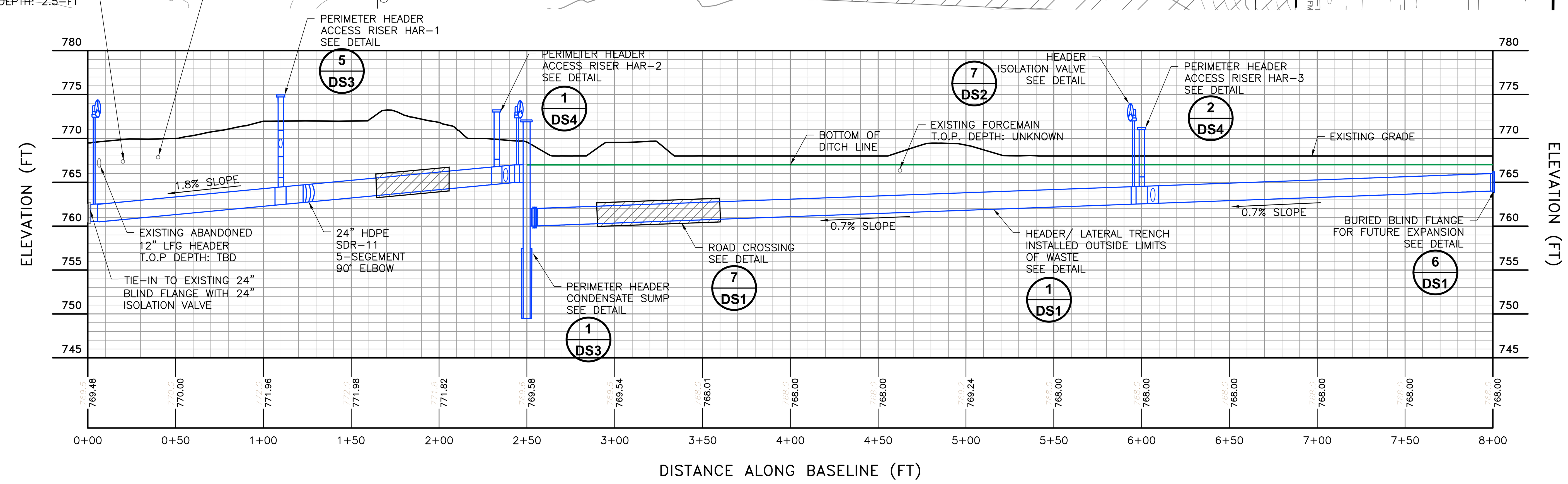

PROPOSED 24" PERIMETER HEADER

PROFILE 1/3

SCALE:

0 40 80 HORIZONTAL SCALE IN FEET

0 8 16 VERTICAL SCALE IN FEET

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ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	3/22/24	RELOCATED SUMP, REVISED HEADER PROFILE	JRD	JPS	CLD	TAB

DATE OF ISSUE 3/11/24 | DRAWN BY MJD | DESIGNED BY JPS | CHECKED BY TAB | APPROVED BY TAB

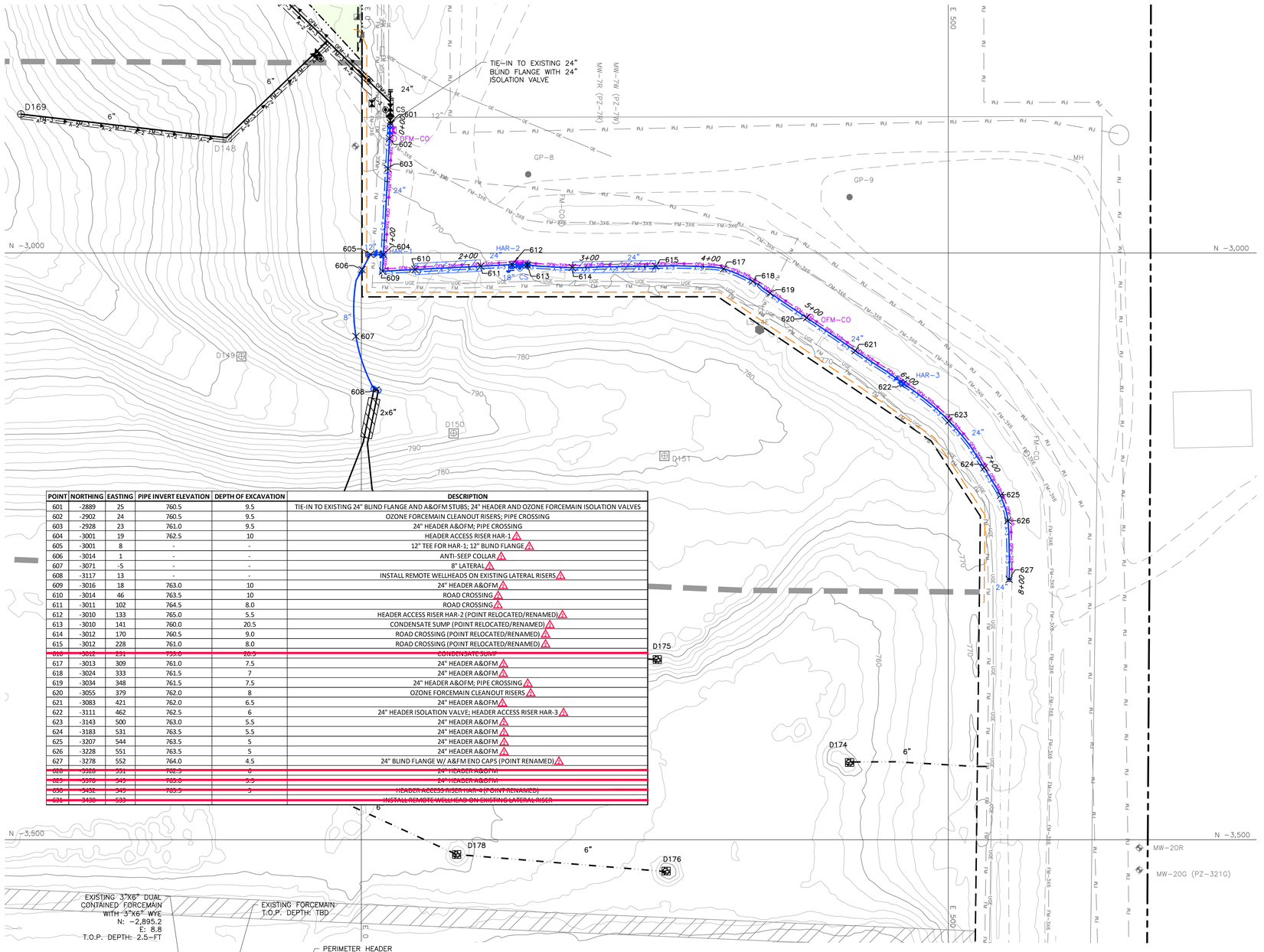
TETRA TECH

REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV-ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

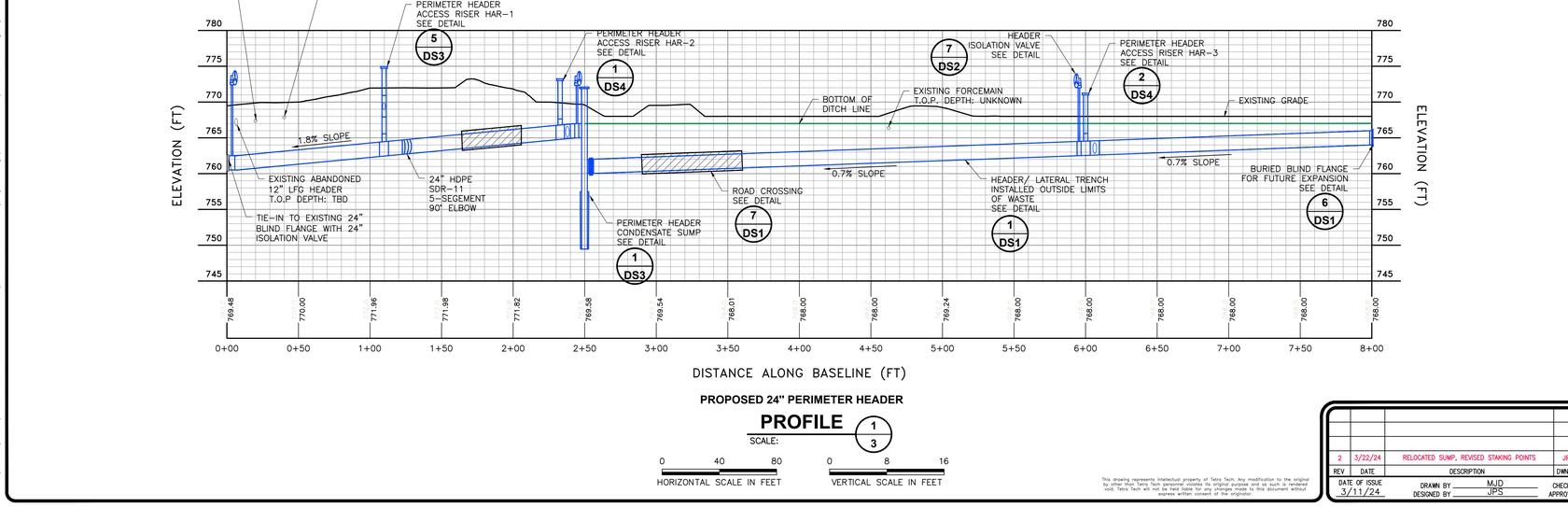
2024 PHASE 1 GCCS CONSTRUCTION
PROPOSED PERIMETER HEADER PLAN/ PROFILE

SHEET NO. 3

PROJECT NO. 209-4241287



POINT	NORTHING	EASTING	PIPE INVERT ELEVATION	DEPTH OF EXCAVATION	DESCRIPTION
601	-2889	25	760.5	9.5	TIE-IN TO EXISTING 24" BLIND FLANGE AND A&OFM STUBS; 24" HEADER AND OZONE FORCEMAIN ISOLATION VALVES
602	-2902	24	760.5	9.5	OZONE FORCEMAIN CLEANOUT RISERS; PIPE CROSSING
603	-2928	23	761.0	9.5	24" HEADER A&OFM; PIPE CROSSING
604	-3001	19	762.5	10	HEADER ACCESS RISER HAR-1
605	-3001	8	-	-	12" TEE FOR HAR-1; 12" BLIND FLANGE
606	-3014	1	-	-	ANTI-SEEP COLLAR
607	-3071	-5	-	-	8" LATERAL
608	-3117	13	-	-	INSTALL REMOTE WELLHEADS ON EXISTING LATERAL RISERS
609	-3016	18	763.0	10	24" HEADER A&OFM
610	-3014	46	763.5	10	ROAD CROSSING
611	-3011	102	764.5	8.0	ROAD CROSSING
612	-3010	133	765.0	5.5	HEADER ACCESS RISER HAR-2 (POINT RELOCATED/RENAMED)
613	-3010	141	760.0	20.5	CONDENSATE SUMP (POINT RELOCATED/RENAMED)
614	-3012	170	760.5	9.0	ROAD CROSSING (POINT RELOCATED/RENAMED)
615	-3012	228	761.0	8.0	ROAD CROSSING (POINT RELOCATED/RENAMED)
~~616~~	~~-3012~~	~~231~~	~~759.6~~	~~20.5~~	~~CONDENSATE SUMP~~
617	-3013	309	761.0	7.5	24" HEADER A&OFM
618	-3024	333	761.5	7	24" HEADER A&OFM
619	-3034	348	761.5	7.5	24" HEADER A&OFM; PIPE CROSSING
620	-3055	379	762.0	8	OZONE FORCEMAIN CLEANOUT RISERS
621	-3083	421	762.0	6.5	24" HEADER A&OFM
622	-3111	462	762.5	6	24" HEADER ISOLATION VALVE; HEADER ACCESS RISER HAR-3
623	-3143	500	763.0	5.5	24" HEADER A&OFM
624	-3183	531	763.5	5.5	24" HEADER A&OFM
625	-3207	544	763.5	5	24" HEADER A&OFM
626	-3228	551	763.5	5	24" HEADER A&OFM
627	-3278	552	764.0	4.5	24" BLIND FLANGE W/ A&FM END CAPS (POINT RENAMED)
~~628~~	~~-3326~~	~~551~~	~~762.5~~	~~9~~	~~24" HEADER A&OFM~~
~~629~~	~~-3376~~	~~545~~	~~765.0~~	~~5.5~~	~~24" HEADER A&OFM~~
~~630~~	~~-3402~~	~~545~~	~~765.5~~	~~5~~	~~HEADER ACCESS RISER HAR-4 (POINT RENAMED)~~
~~631~~	~~-3436~~	~~535~~			~~INSTALL REMOTE WELLHEAD ON EXISTING LATERAL RISER~~



PROPOSED 24" PERIMETER HEADER

PROFILE 1/3

SCALE:

0 40 80 — HORIZONTAL SCALE IN FEET

0 8 16 — VERTICAL SCALE IN FEET

N

0 40 80

SCALE IN FEET

LEGEND

- FACILITY BOUNDARY
- SOLID WASTE BOUNDARY
- CELL BOUNDARY
- CLOSURE LIMITS
- EXISTING 2' CONTOUR
- 800 EXISTING 10' CONTOUR
- 12" EXISTING GAS HEADER
- EXISTING HORIZONTAL COLLECTOR
- A&FM A&FM A&FM A&FM EXISTING AIRLINE AND FORCEMAIN TRENCH
- A A A A EXISTING AIRLINE
- FM FM FM FM EXISTING FORCEMAIN
- C28 EXISTING LANDFILL GAS EXTRACTION WELL
- D17 EXISTING LANDFILL GAS EXTRACTION WELL WITH CAISSON
- C28 EXISTING LANDFILL GAS EXTRACTION WELL WITH PUMP
- EXISTING REMOTE WELLHEAD
- EXISTING ISOLATION VALVE
- EXISTING AIR AND FORCEMAIN ISOLATION VALVE
- EXISTING ROAD CROSSING
- EXISTING BLIND FLANGE
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- EXISTING HEADER ACCESS RISER
- CS EXISTING CONDENSATE PUMP STATION
- HP EXISTING HIGH POINT
- EXISTING FORCEMAIN CLEANOUT
- GV-20 EXISTING GAS VENT
- GP-24 EXISTING GAS PROBE
- EXISTING GROUNDWATER MONITORING WELL
- LS-3 EXISTING LEACHATE LIFT STATION
- WZ-2 EXISTING MONITORING PORT
- DL- EXISTING CONDENSATE DRIPLEG
- EXISTING FINAL COVER
- 6" PROPOSED LANDFILL GAS HEADER/LATERAL
- A-3 A-3 A-3 PROPOSED 3" AIR LINE
- OFM-3X6 OFM-3X6 PROPOSED 3X6" DUAL CONTAINED OZONE FORCEMAIN LINE
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- PROPOSED HEADER ISOLATION VALVE
- PROPOSED AIR LINE ISOLATION VALVE
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- PROPOSED FLANGE CONNECTION
- CS- PROPOSED CONDENSATE SUMP
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- PROPOSED STAKING POINT

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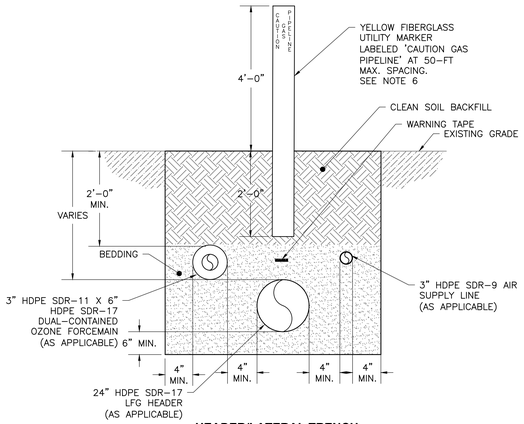
REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV-ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
PROPOSED PERIMETER HEADER STAKING PLAN

SHEET NO. 4

PROJECT NO. 209-4241287

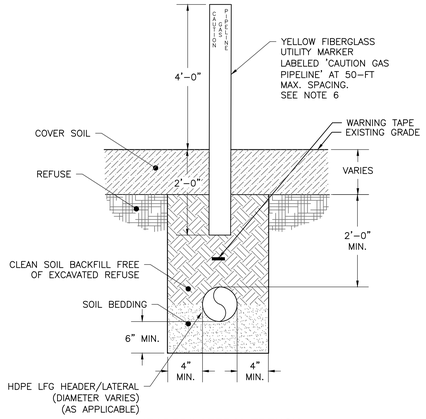


HEADER/LATERAL TRENCH INSTALLED OUTSIDE LIMITS OF WASTE

DETAIL 1 DS1
SCALE: NOT TO SCALE

NOTES:

1. ALL HEADER AND LATERAL PIPELINES TO BE SDR–17 HDPE WITH SDR–11 HDPE FITTINGS. ALL AIRLINES AND FITTINGS TO BE SDR–9 WITH YELLOW STRIPE MARKING. ALL FORCEMAINS AND FITTINGS TO BE SDR–11 WITH BLUE STRIPE MARKING. FORCEMAIN INSTALLED OUTSIDE THE LIMITS OF WASTE OR IN THE FINAL COVER AREAS TO HAVE HDPE SDR–17 DUAL CONTAINMENT.
2. NO HARD ELBOWS (45° OR 90°) OR TEE FITTINGS TO BE USED ON ANY FORCEMAIN PIPING OR TIE–INS. MOLDED SWEEPING ELBOWS (45° OR 90°), MOLDED WYES AND FIELD BENDS TO BE USED FOR ALL SINGLE PIPE FORCEMAIN. SHOP FABRICATED DUAL CONTAINED SWEEP ELBOWS (45°) AND SHOP FABRICATED DUAL CONTAINED WYES TO BE USED FOR ALL DUAL PIPE FORCEMAIN. NO HARD ELBOWS (45° OR 90°), NO SWEEP 90° ELBOWS, OR TEE FITTINGS TO BE USED IN ANY DUAL PIPE FORCEMAIN.
3. WARNING TAPE TO BE MIN. 3" WIDE AND IMPRINTED WITH 'GAS LINE BURIED BELOW'.
4. ALL HEADER AND LATERAL OUTSIDE LIMITS OF WASTE TO BE INSTALLED AT 0.5% MIN. SLOPE UNLESS APPROVED IN ADVANCE BY ENGINEER.
5. THE NUMBER AND TYPES OF PIPES TO BE INSTALLED IN THE TRENCH MAY VARY. REFER TO SITE PLAN.
6. UTILITY MARKER TO BE CARSONITE MODEL CRM3–060–02 OR APPROVED EQUAL.

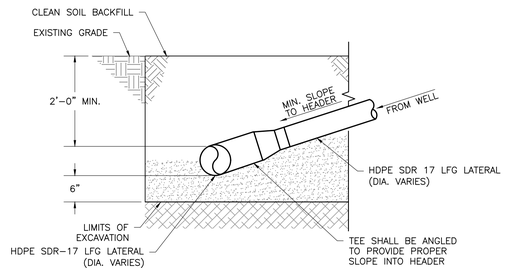


HEADER/LATERAL TRENCH INSTALLED WITHIN LIMITS OF WASTE

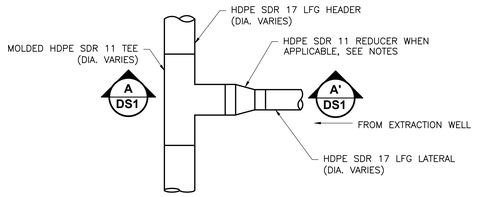
DETAIL 2 DS1
SCALE: NOT TO SCALE

NOTES:

1. ALL HEADER AND LATERAL PIPELINES TO BE SDR–17 HDPE WITH SDR–11 HDPE FITTINGS.
2. WARNING TAPE TO BE MIN. 3" WIDE AND IMPRINTED WITH 'GAS LINE BURIED BELOW'.
3. ALL HEADER AND LATERAL WITHIN LIMITS OF WASTE TO BE INSTALLED AT 3% MIN. SLOPE UNLESS APPROVED IN ADVANCE BY ENGINEER.
4. THE NUMBER AND TYPES OF PIPES TO BE INSTALLED IN THE TRENCH MAY VARY. REFER TO SITE PLAN.
6. UTILITY MARKER TO BE CARSONITE MODEL CRM3–060–02 OR APPROVED EQUAL.



SECTION A–A' DS1
SCALE: NOT TO SCALE

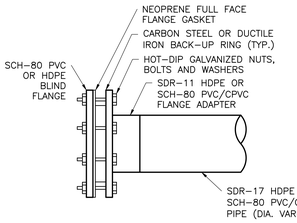


LFG LATERAL TIE–IN WITH TEE

DETAIL 3 DS1
SCALE: NOT TO SCALE

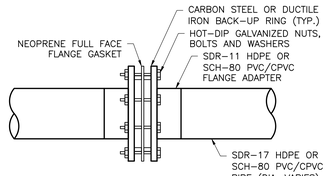
NOTES:

1. MOLDED HDPE TEES SHALL BE INSTALLED FOR ALL TIE–INS OF LATERALS TO HEADER 12"ø AND SMALLER. TEE SHALL BE ANGLED TO MAINTAIN SLOPE INTO THE HEADER AS SHOWN IN SECTION VIEW.
2. CONSECUTIVE SIZE REDUCERS SHALL BE USED TO TRANSITION FROM THE MOLDED TEE TO THE LFG LATERAL. FOR EXAMPLE, TO TRANSITION FROM A 12" TEE, A 12"x10" REDUCER, 10"x8" REDUCER, AND 8"x6" REDUCER SHALL BE INSTALLED.
3. 6" MIN. OF BEDDING SHALL BE PLACED BELOW EACH TEE. THE BEDDING SHALL BE INSTALLED SO IT EXTENDS 3' MIN. IN EACH DIRECTION OF THE TEE. BEDDING SHALL BE SLIGHTLY MOISTENED AND HAND–TAMPED PROVIDING SUPPORT TO ALL POINTS OF THE TEE. CLEAN, GRADED SOIL SHALL BE HAND–TAMPED ABOVE TEE (1' MIN.) BEING CAREFUL TO ELIMINATE VOIDS.



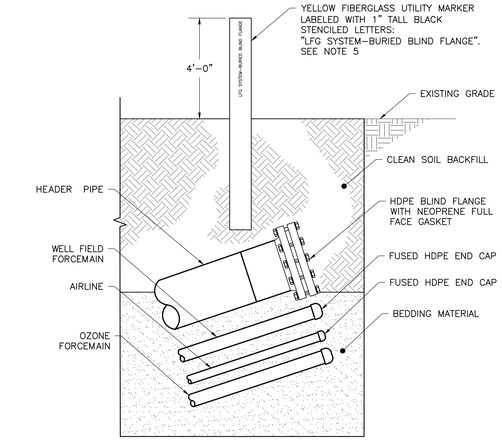
BLIND FLANGE ASSEMBLY

DETAIL 4 DS1
SCALE: NOT TO SCALE



FLANGE CONNECTION

DETAIL 5 DS1
SCALE: NOT TO SCALE

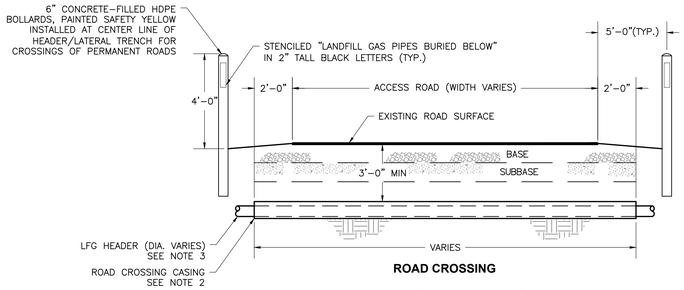


BURIED BLIND FLANGE FOR FUTURE EXPANSION

DETAIL 6 DS1
SCALE: NOT TO SCALE

NOTES:

1. NUTS, BOLTS, AND WASHERS SHALL BE HOT–DIP GALVANIZED. STAINLESS STEEL BOLTS AND NUTS WILL NOT BE PERMITTED.
2. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL, AFTER TIGHTENING NUTS. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.
3. INSTALL FLANGE WITH THE PROPER SLOPE TO PROVIDE FOR FUTURE CONDENSATE DRAINAGE.
4. NUMBER AND TYPE OF PIPES MAY VARY AT DIFFERENT LOCATIONS. REFER TO SITE PLAN.
5. UTILITY MARKER TO BE CARSONITE MODEL CRM3–060–02 OR APPROVED EQUAL.

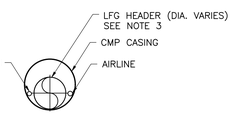


ROAD CROSSING

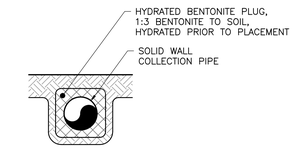
DETAIL 7 DS1
SCALE: NOT TO SCALE

NOTES:

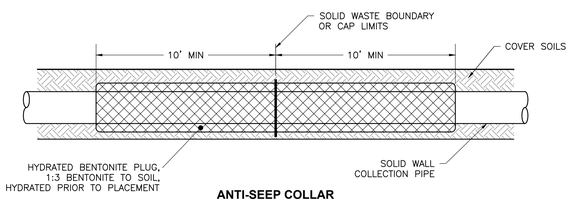
1. ROAD SHALL BE RESTORED TO MATCH ORIGINAL CONDITIONS.
2. CMP CASING A MINIMUM OF 5" GREATER THAN THE CUMULATIVE DIAMETER OF THE PIPES ENCASED.
3. NUMBER AND TYPES OF PIPES ENCASED IN ROAD CROSSING VARIES. SEE SITE PLAN.



END VIEW



END VIEW



ANTI–SEEP COLLAR

DETAIL 8 DS1
SCALE: NOT TO SCALE

NOTES:

1. ANTI–SEEP COLLAR TO BE INSTALLED AT ALL PIPES CROSSING OVER FROM OUTSIDE WASTE LIMITS AND FINAL COVER AREAS TO WITHIN WASTE LIMITS.
2. NUMBER AND TYPE OF PIPES IN TRENCH MAY VARY. ALL PIPES IN THE TRENCH TO BE WITHIN ANTI–SEEP COLLAR.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 3/11/24 | DRAWN BY MJD | DESIGNED BY JPS | CHECKED BY TAB | APPROVED BY TAB

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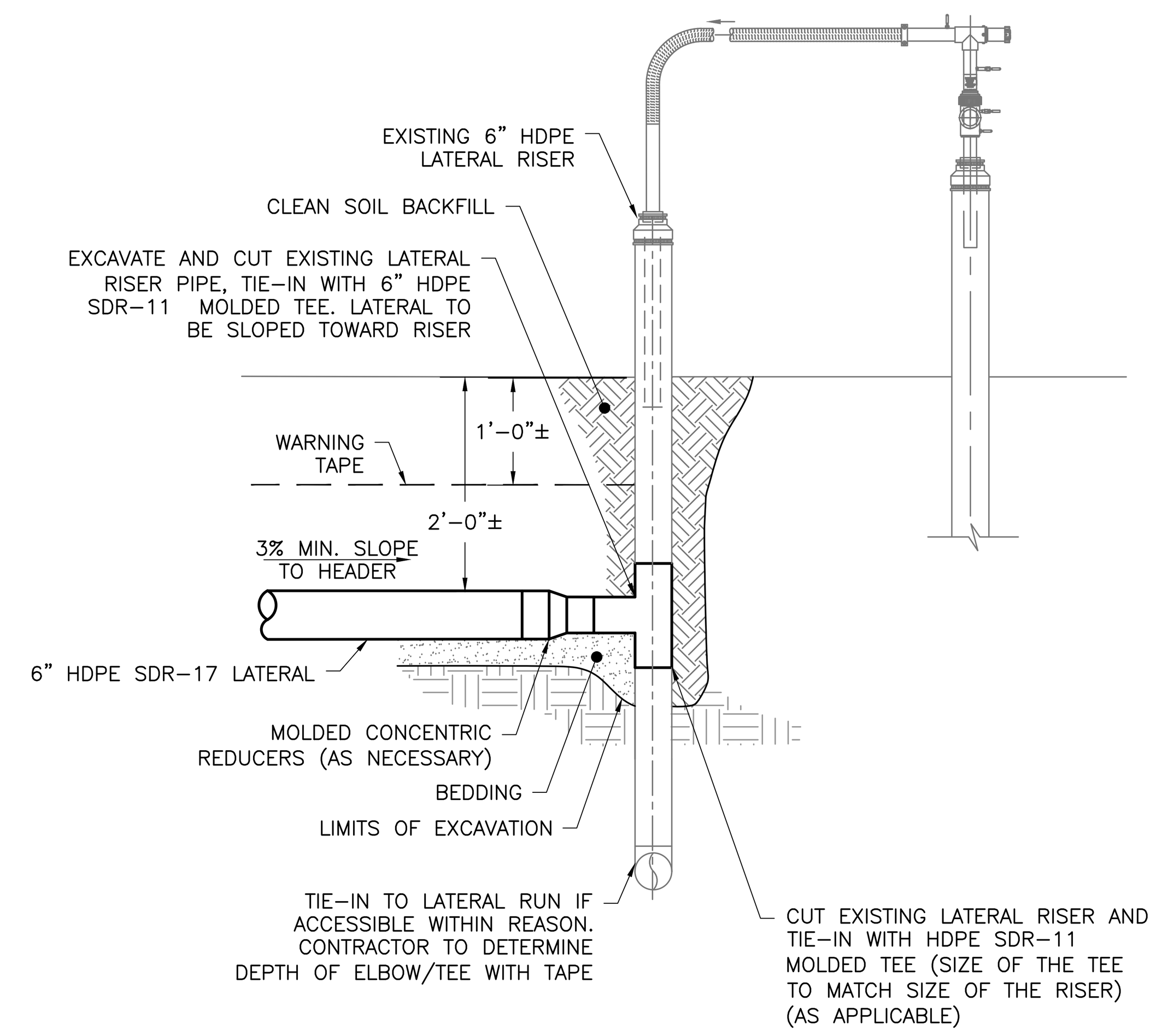
REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV–ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
DETAILS

SHEET NO. **DS1**
PROJECT NO. 209–4241287

1" 1/2" 0" 1"

File: C:\Users\JJAMES1–1207\AppData\Local\Temp\AcPublish_24208\WMS–2024–DS01.dwg Layout: DS1 User: jamesjustin Mar 22, 2024 – 4:10pm

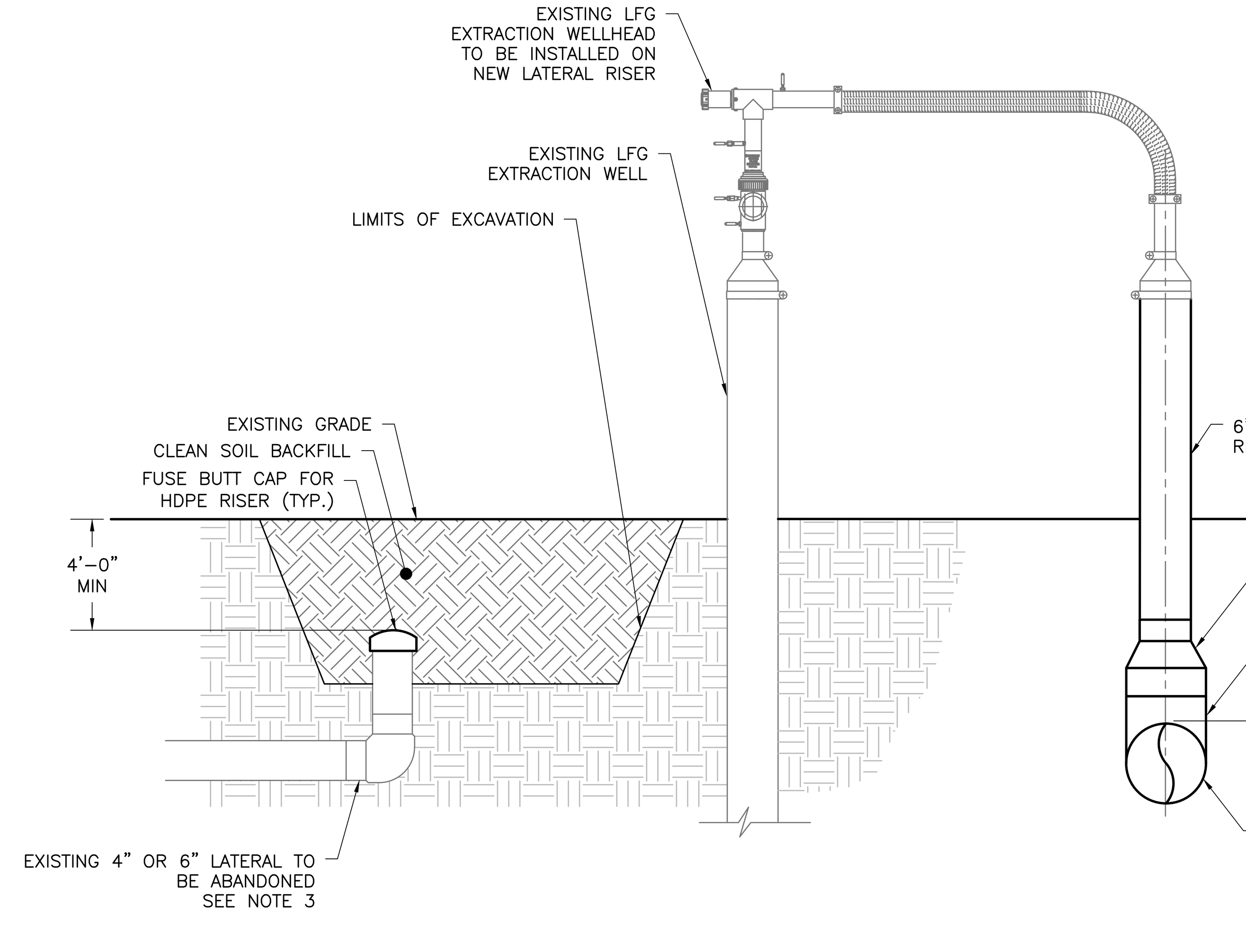


TIE-IN TO EXISTING LATERAL RISER

DETAIL 1/DS2
SCALE: NOT TO SCALE

NOTES:

1. TIE-INS IN FINAL COVER AREAS TO BE COMPLETED ABOVE LINER.

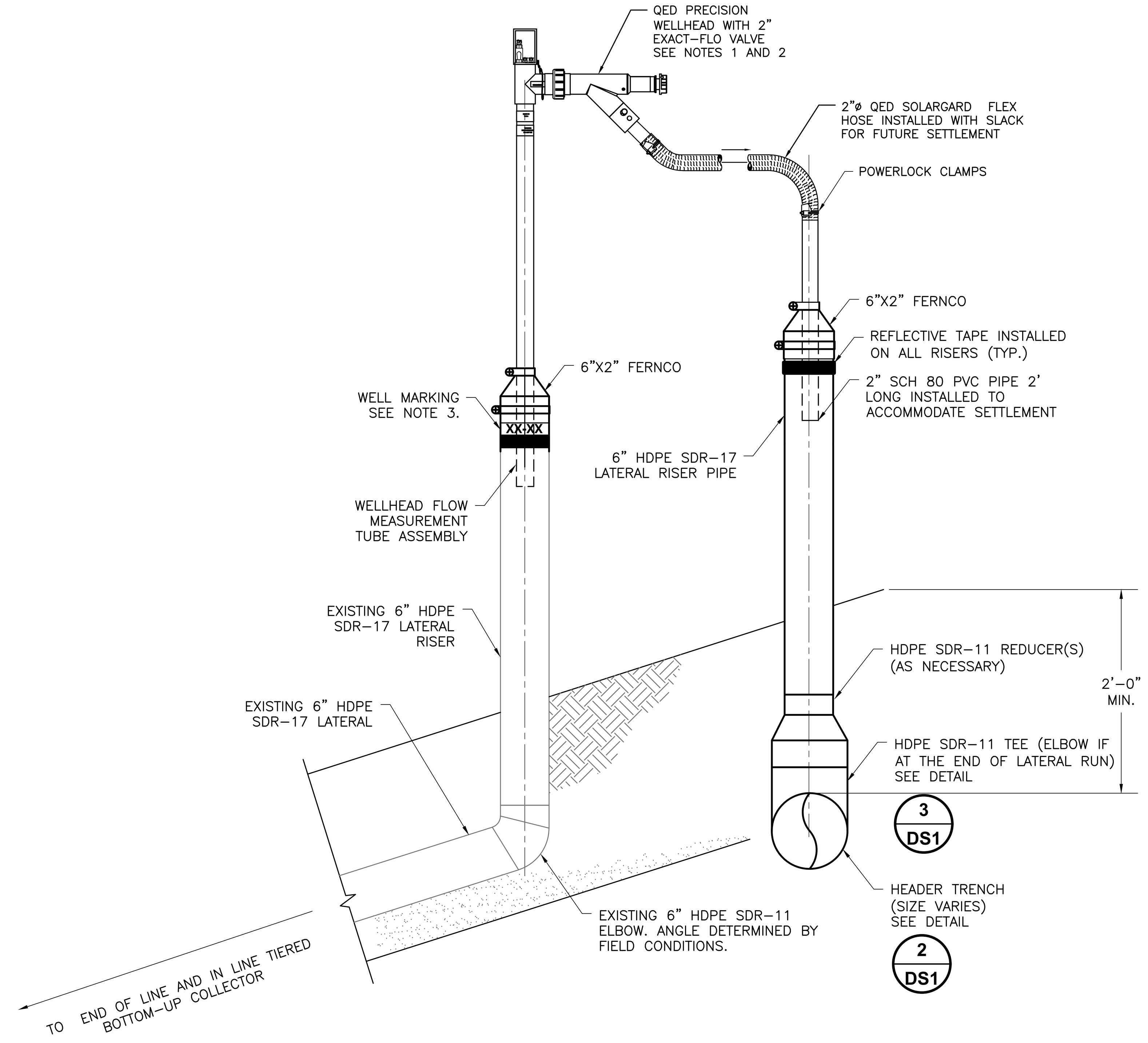


NEW LATERAL RISER TIE-IN TO EXISTING WELL

DETAIL 2/DS2
SCALE: NOT TO SCALE

NOTES:

1. EXISTING WELLHEAD TO BE INSTALLED TO NEW VACUUM RISER.
2. CONTRACTOR TO ABANDON HORIZONTAL PORTION OF EXISTING LATERAL IF PRACTICAL.
3. RISERS IN FINAL COVER AREAS TO BE ABANDONED ABOVE LINER. CUT AND CAP EXISTING RISERS MIN. 3'-6" ABOVE FINAL COVER BOOT EXTENT. REFER TO PENETRATION BOOT IN FINAL COVER DETAIL 3/DS4.

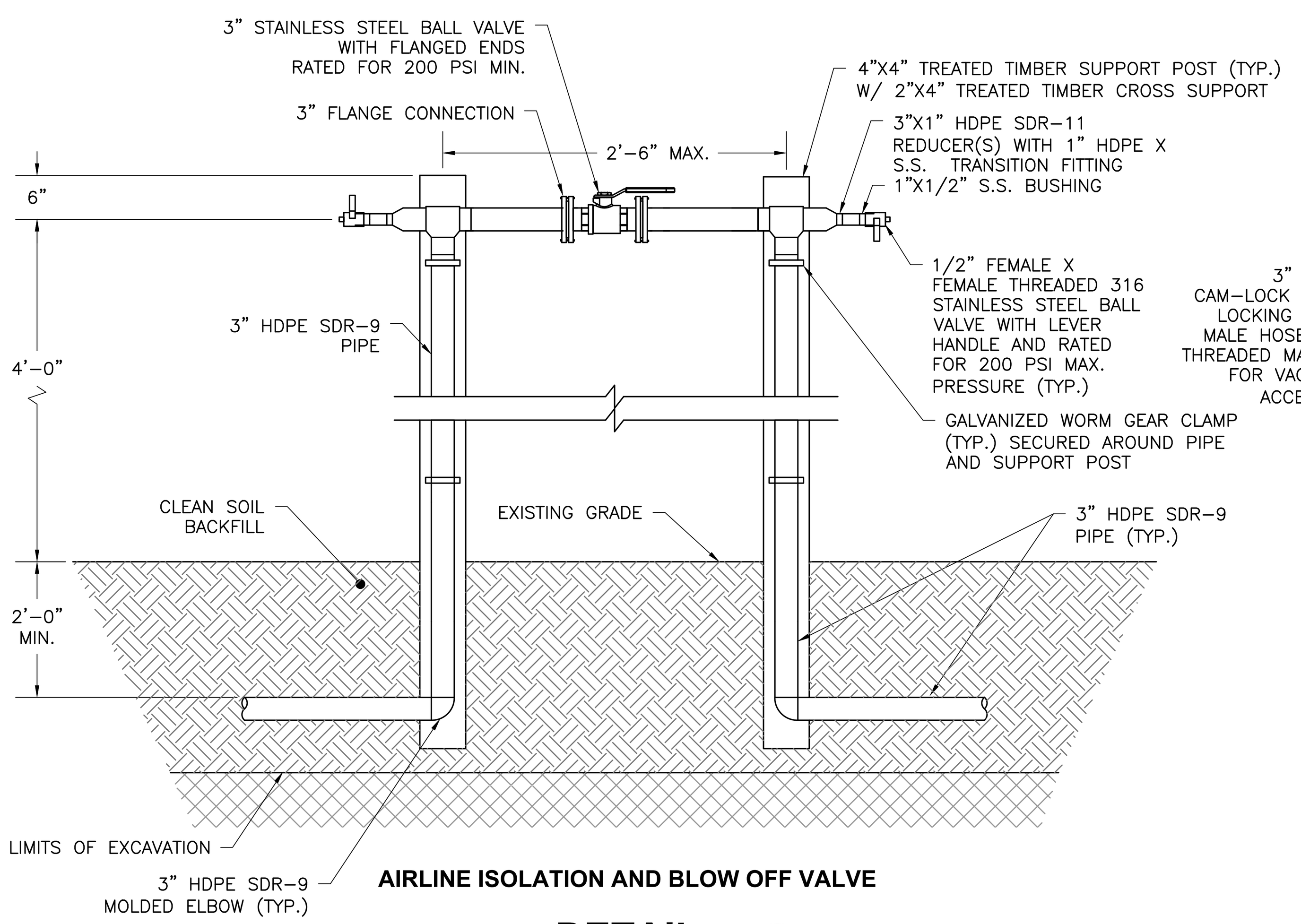


INSTALL REMOTE WELLHEAD ON EXISTING LATERAL RISER

DETAIL 3/DS2
SCALE: NOT TO SCALE

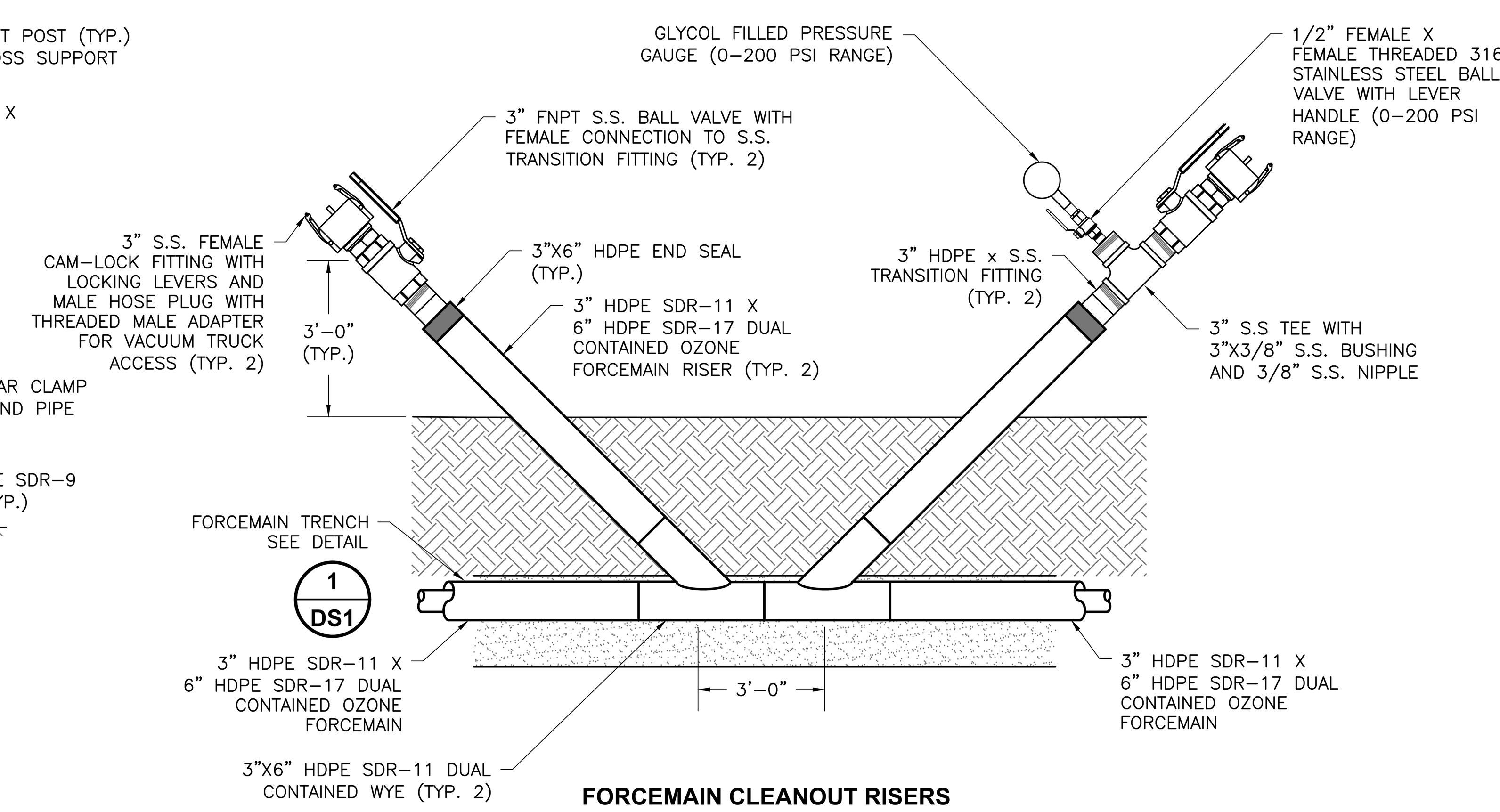
NOTES:

1. WELLHEAD DEPICTED IS QED PRECISION WELLHEAD. CONTRACTOR TO VERIFY OWNER PREFERENCE.
2. WELLHEAD MAY BE SUBSTITUTED WITH AN APPROVED EQUAL PER ENGINEER.
3. EACH WELL TO BE MARKED RISER WITH IDENTIFICATION NUMBER WITH YELLOW OR WHITE PAINT AND 2" TALL STENCILS, OR ADHESIVE LABEL.
4. CONTRACTOR TO ENSURE DRAINAGE OF SURFACE WATER AWAY FROM THE WELLHEAD.
5. LATERAL PIPING TO DRAIN TO THE MAIN HEADER, AWAY FROM THE WELLHEAD, AT A MINIMUM SLOPE OF 3%.
6. FLEX HOSE TO BE INSTALLED WITH EXCESS HOSE TO ALLOW MOVEMENT OF LATERAL BUT CONFIGURED AS NECESSARY TO PREVENT SAG AND WATER ACCUMULATION. ALL INSTALLATIONS TO BE INSPECTED BY ENGINEER PRIOR TO APPROVAL.



AIRLINE ISOLATION AND BLOW OFF VALVE

DETAIL 4/DS2
SCALE: NOT TO SCALE

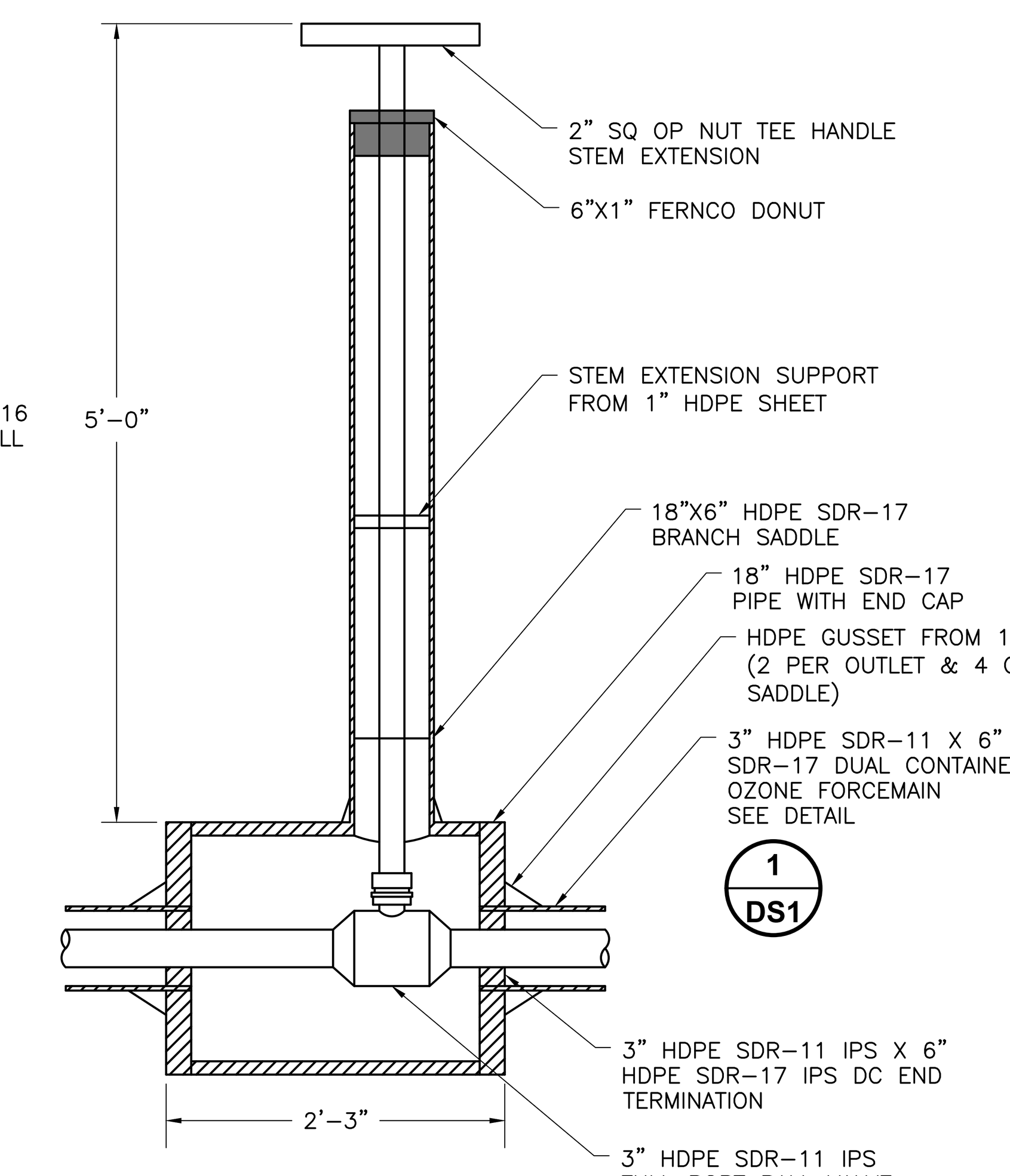


FORCEMAIN CLEANOUT RISERS

DETAIL 5/DS2
SCALE: NOT TO SCALE

NOTES:

1. FORCEMAIN INSTALLED WITHIN LIMITS OF WASTE SHALL HAVE NO HDPE SDR-17 DUAL CONTAINMENT.

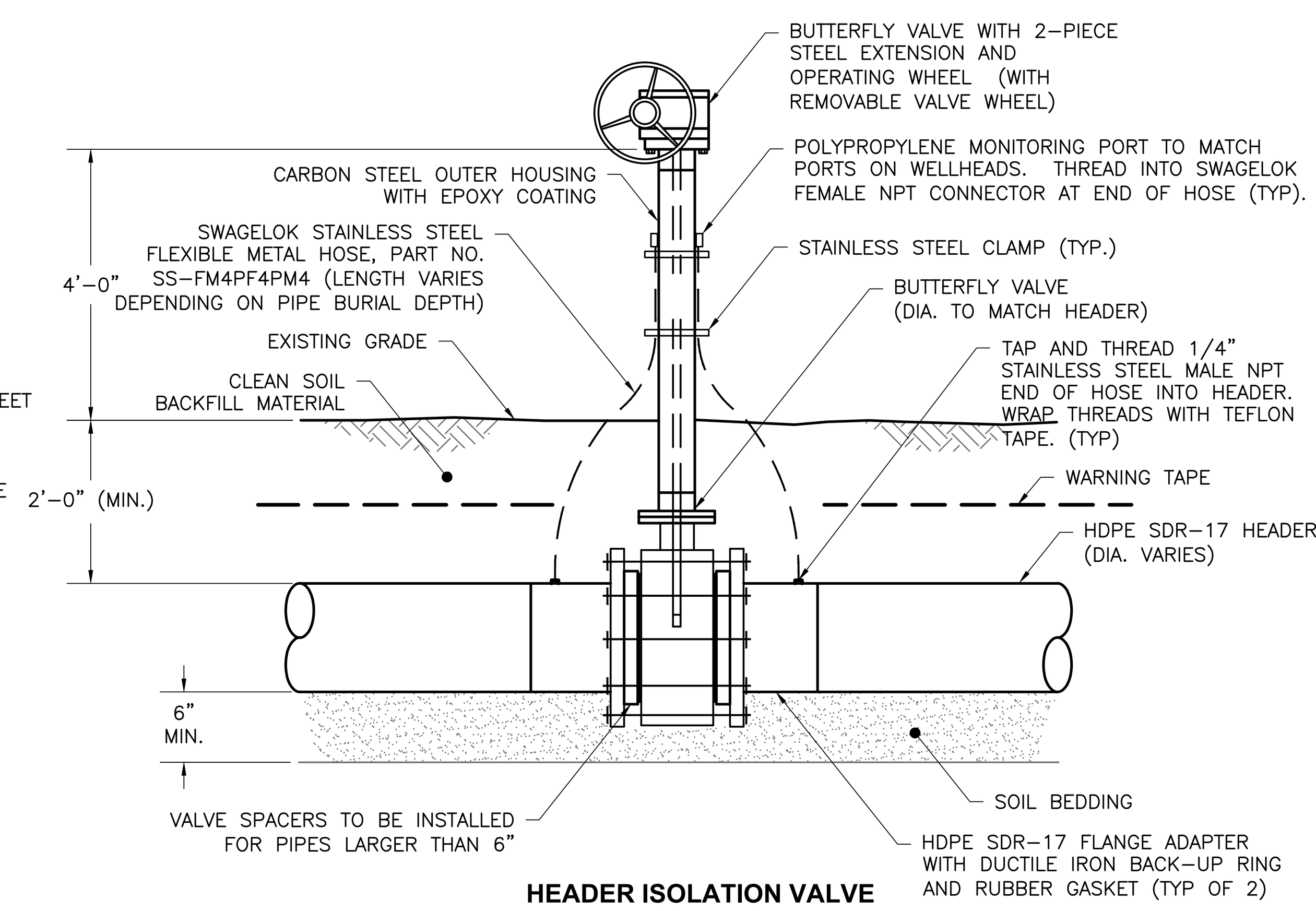


DUAL CONTAINED FORCEMAIN ISOLATION VALVE

DETAIL 6/DS2
SCALE: NOT TO SCALE

NOTES:

1. DUAL CONTAINED FORCEMAIN VALVE SHALL BE INSTALLED ON DUAL CONTAINED FORCEMAINS IN FINAL COVER AREAS, ABOVE FINAL COVER LINER.



HEADER ISOLATION VALVE

DETAIL 7/DS2
SCALE: NOT TO SCALE

NOTES:

1. NUTS, BOLTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED. STAINLESS STEEL BOLTS AND NUTS WILL NOT BE PERMITTED.
2. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL, AFTER TIGHTENING BOLTS. COATING SHALL HAVE NO "HOLIDAYS", OR GAPS IN ITS APPLICATION.
3. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 3/11/24 DRAWN BY MJD DESIGNED BY JPS CHECKED BY TAB APPROVED BY TAB

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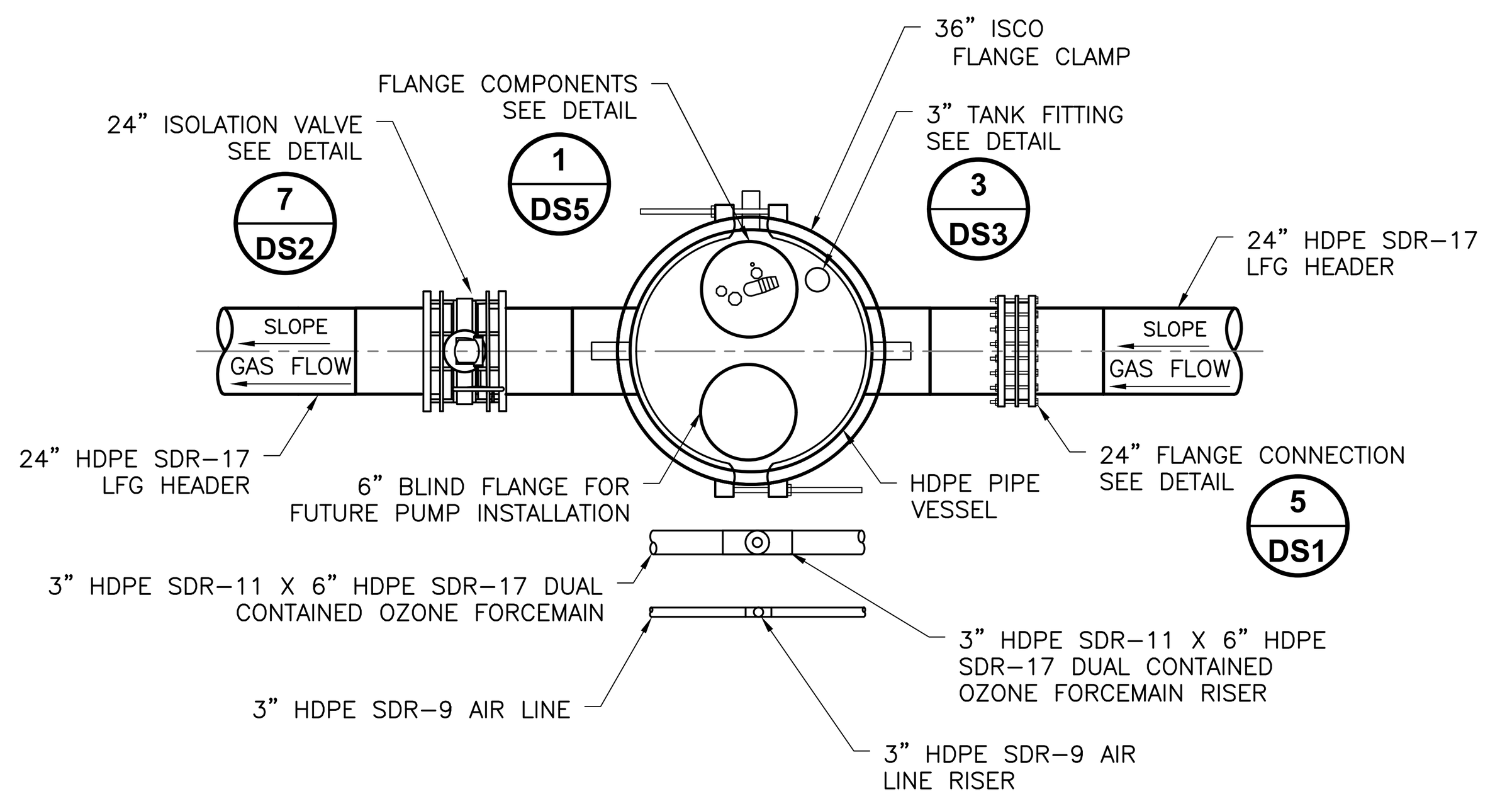
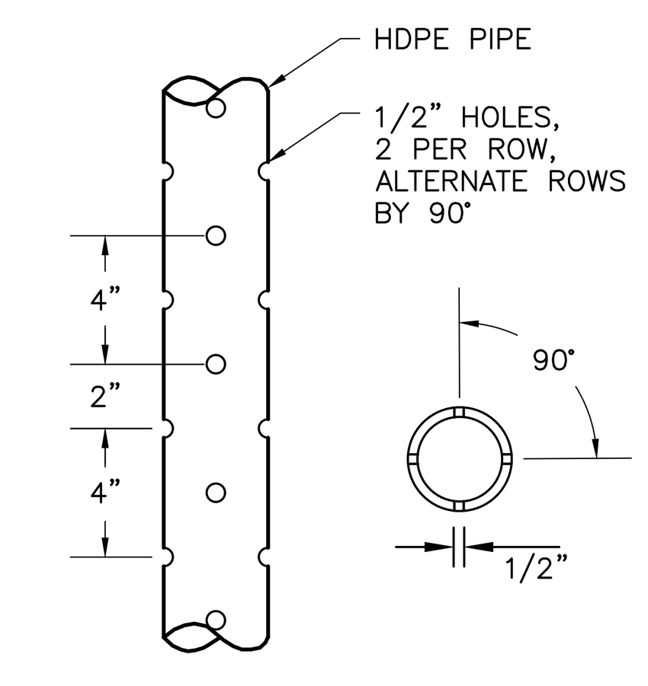
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION DETAILS

SHEET NO. **DS2**
PROJECT NO. 209-4241287



TOP VIEW

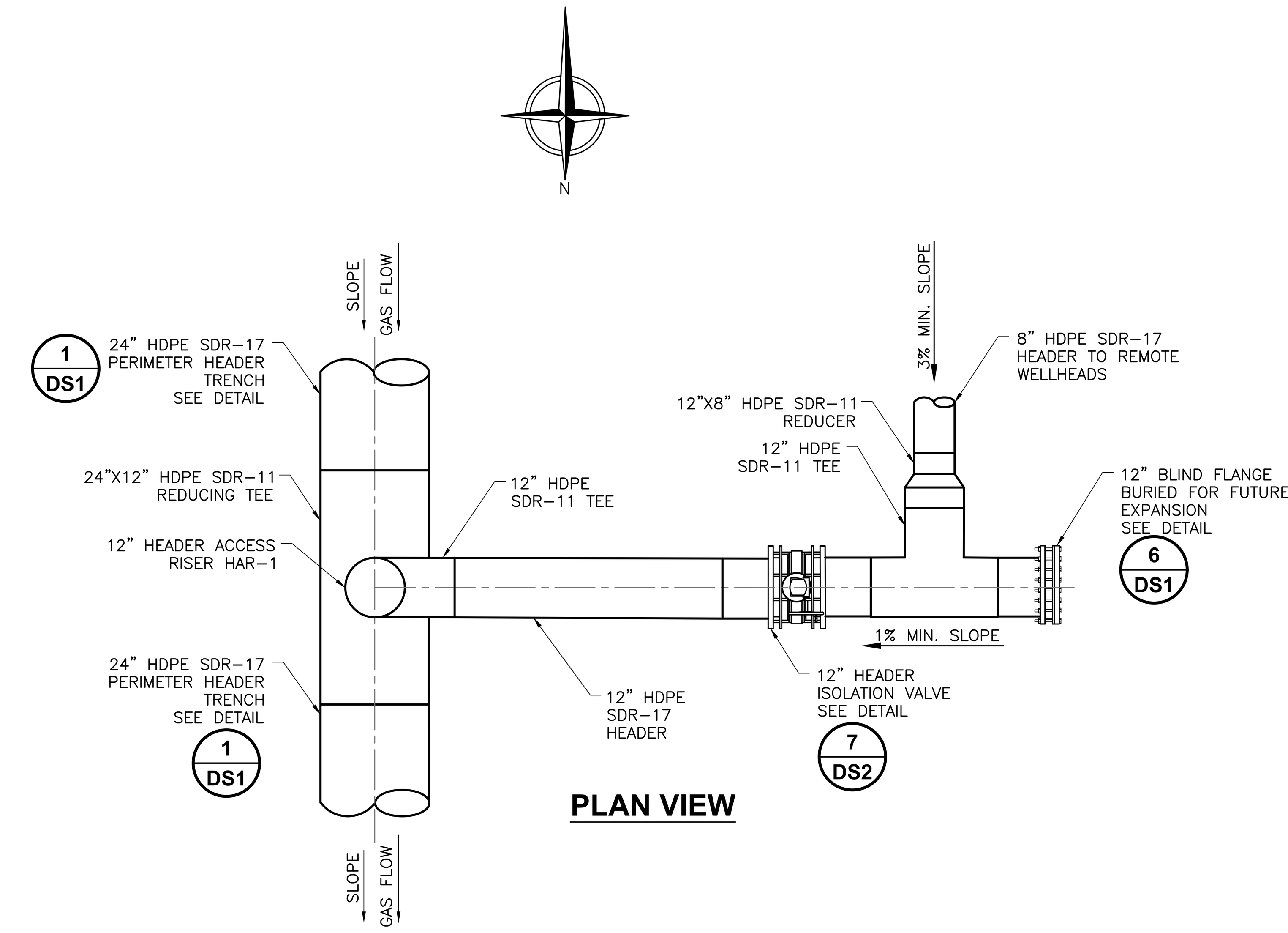


PERFORATED PIPE DETAIL

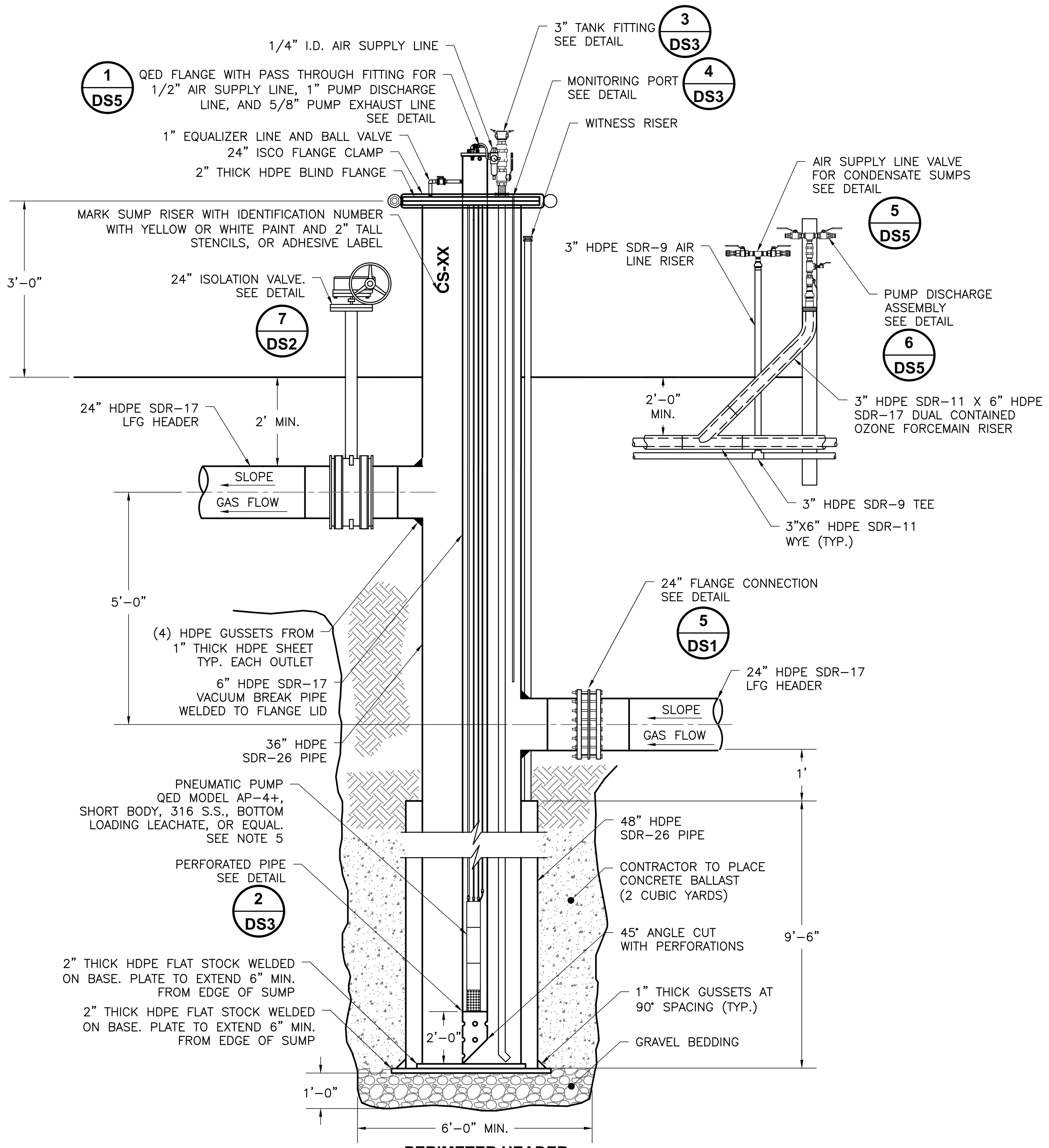
DETAIL 2 / DS3
SCALE: NOT TO SCALE

NOTES:

1. PERFORATIONS SPACED 90° APART HORIZONTALLY.
2. PERFORATIONS SPACED 4" APART VERTICALLY.
3. 90° AND 270° ROWS STAGGERED 2" BELOW 0° AND 180° ROWS.
4. CONTRACTOR MAY USE PLASMA TORCH OR OTHER DEVICE TO PRODUCE APPROXIMATELY 1/2" PERFORATIONS.



PLAN VIEW

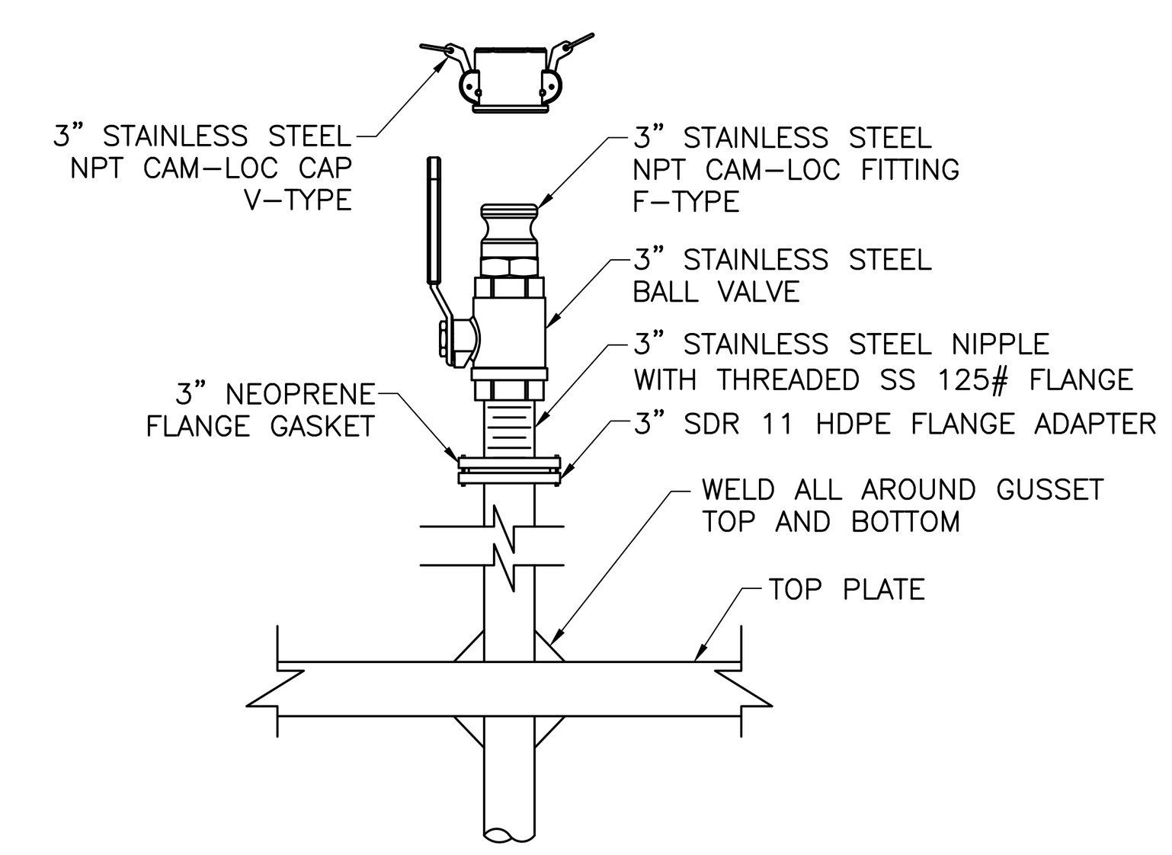


PERIMETER HEADER CONDENSATE SUMP

DETAIL 1 / DS3
SCALE: NOT TO SCALE

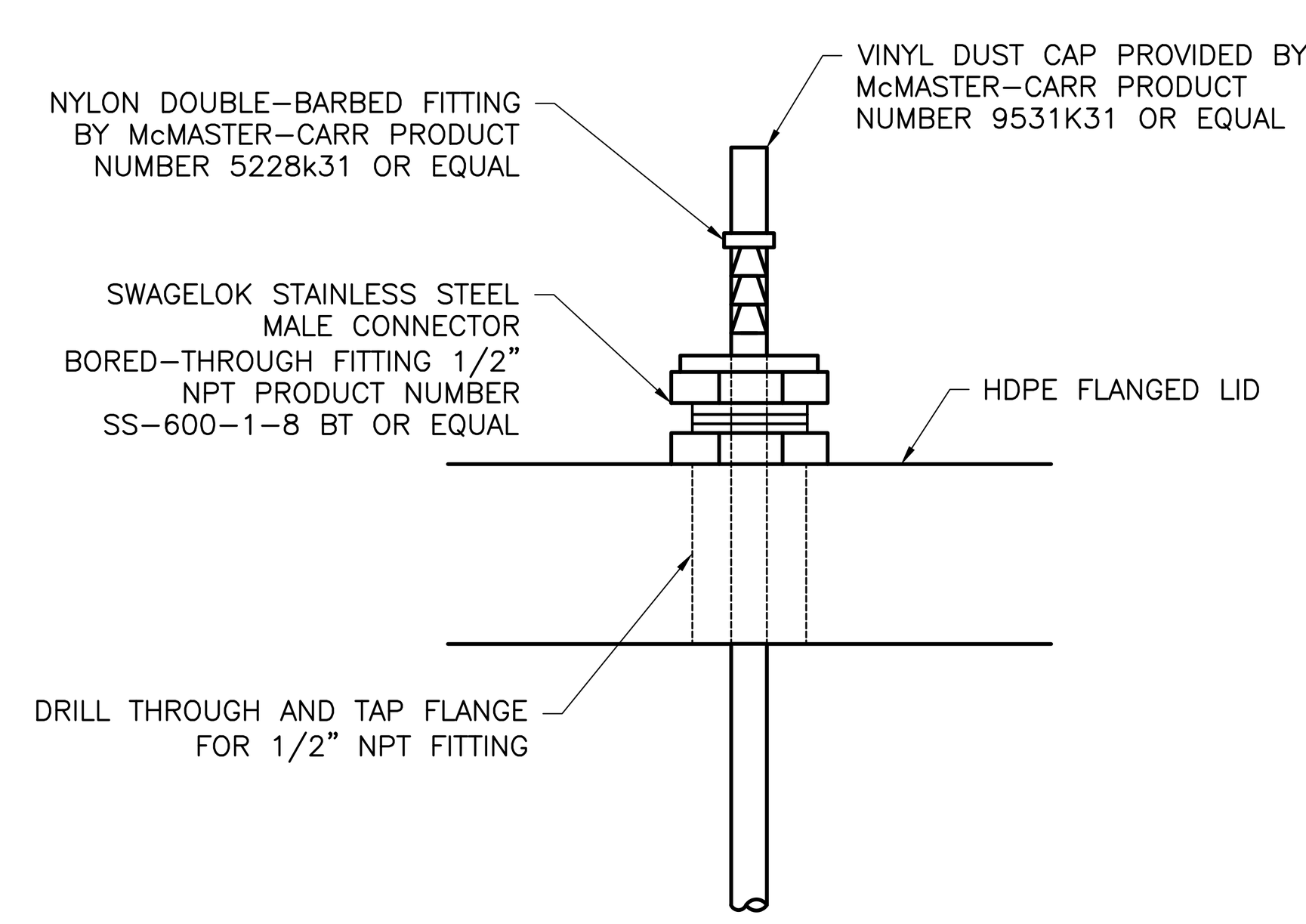
NOTES:

1. 6"ø HDPE SDR-17 VACUUM BREAK PIPE EXTRUSION WELDED TO FLANGE LID. 1'-0" OF PIPE TO PROTRUDE THROUGH TOP OF FLANGE.
2. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL, AFTER TIGHTENING BOLTS. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.
3. CONTRACTOR SHALL VERIFY CONDENSATE SUMP CONFIGURATION AND NECESSARY ELEVATIONS IN FIELD. ADJUSTMENTS SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION.
4. AIRLINE AND FORCEMAIN RISERS SHOWN OFFSET FOR CLARITY. RISERS TO BE INSTALLED WITHIN 6" (TYP.) OF SUMP.
5. ONE PUMP TO BE INSTALLED AS PART OF THIS CONSTRUCTION EVENT. SECOND PUMP ACCESS TO HAVE BLIND FLANGE FOR FUTURE INSTALLATION.



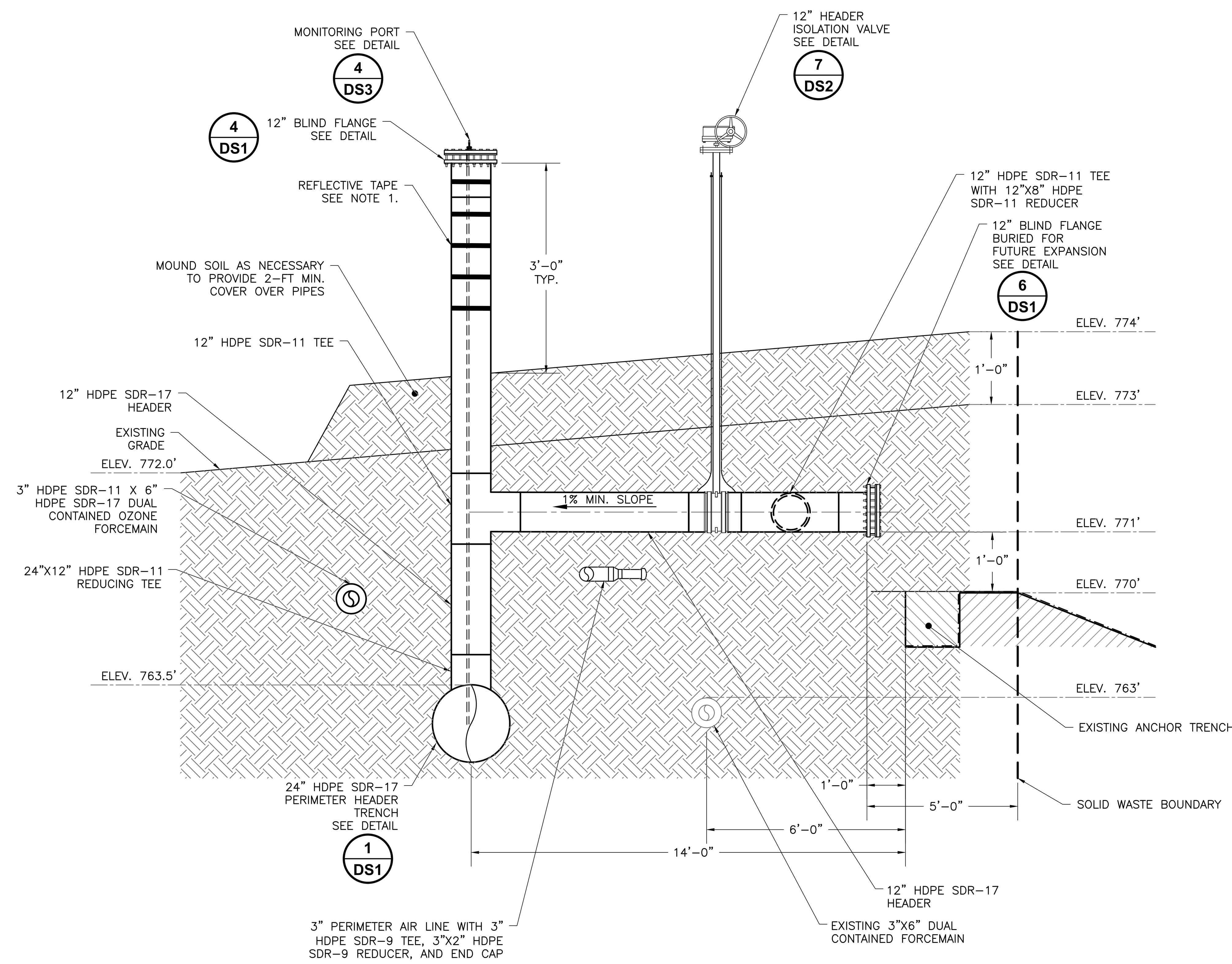
TANK FITTING

DETAIL 3 / DS3
SCALE: NOT TO SCALE



MONITORING PORT (TYP.)

DETAIL 4 / DS3
SCALE: NOT TO SCALE



PROFILE VIEW

PERIMETER HEADER ACCESS RISER HAR-1

DETAIL 5 / DS3
SCALE: NOT TO SCALE

NOTES:

1. WRAP ACCESS RISERS WITH 4" WIDE PREMIUM GRADE REFLECTIVE TAPE, FLUORESCENT YELLOW, EVERY 6"-12".

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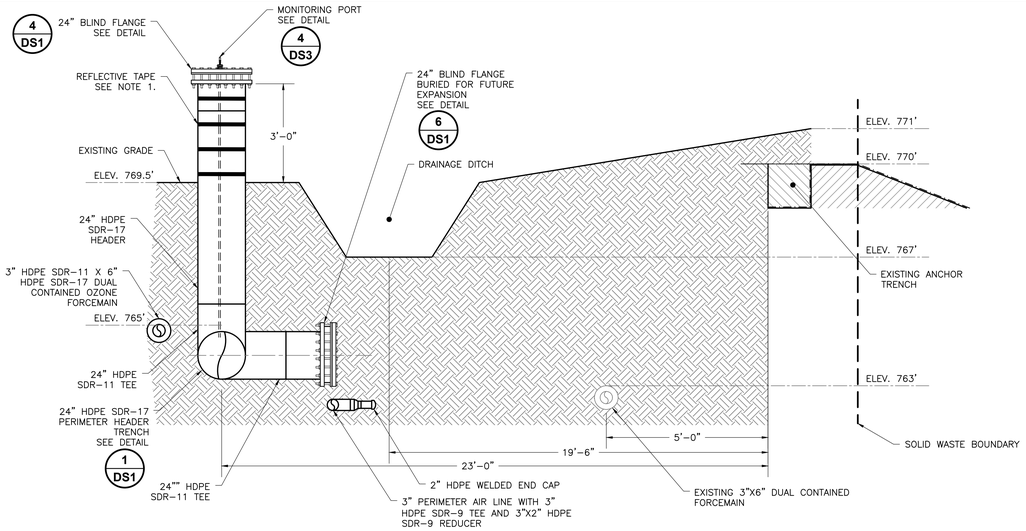
2024 PHASE 1 GCCS CONSTRUCTION
DETAILS

SHEET NO. **DS3**
PROJECT NO. 209-4241287

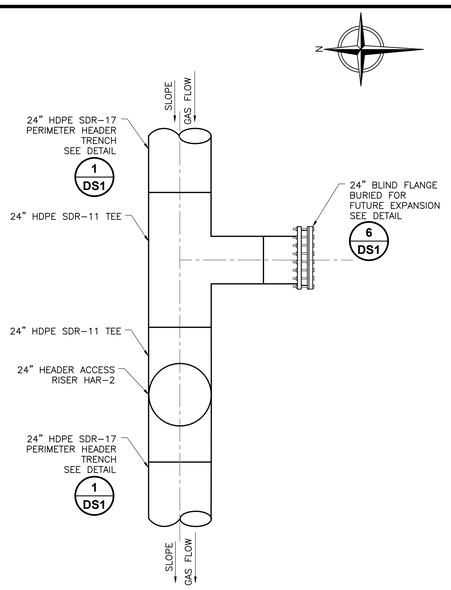


PERIMETER HEADER ACCESS RISER HAR-2

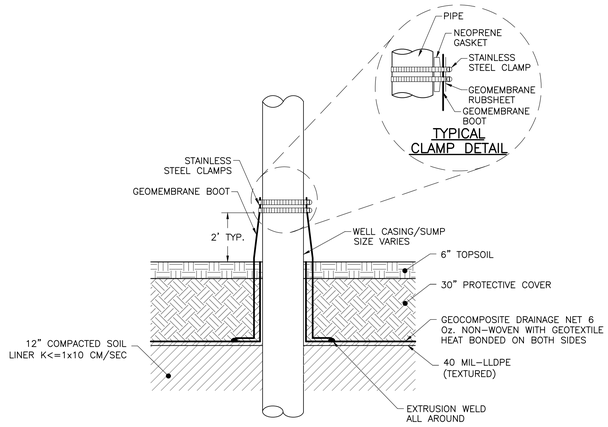
DETAIL SCALE: NOT TO SCALE — 1 DS4

NOTES:

1. WRAP ACCESS RISERS WITH 4" WIDE PREMIUM GRADE REFLECTIVE TAPE, FLUORESCENT YELLOW, EVERY 6"–12".



PLAN VIEW

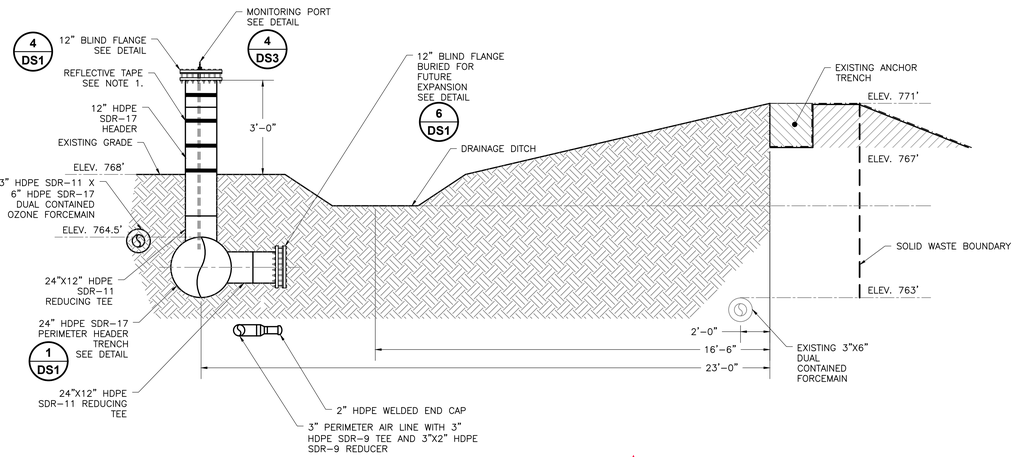


PIPE PENETRATION BOOT

DETAIL SCALE: NOT TO SCALE — 3 DS4

NOTE:

1. MOUND PROTECTIVE COVER/TOPSOIL AROUND WELL TO TOP OF BOOT AS DIRECTED BY OWNER/ENGINEER.

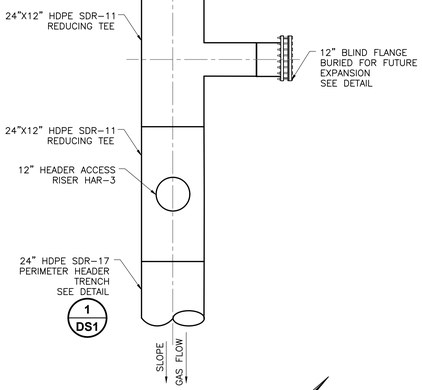


PERIMETER HEADER ACCESS RISER HAR-3

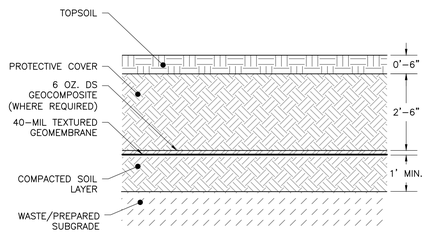
DETAIL SCALE: NOT TO SCALE — 2 DS4

NOTES:

1. WRAP ACCESS RISERS WITH 4" WIDE PREMIUM GRADE REFLECTIVE TAPE, FLUORESCENT YELLOW, EVERY 6"–12".

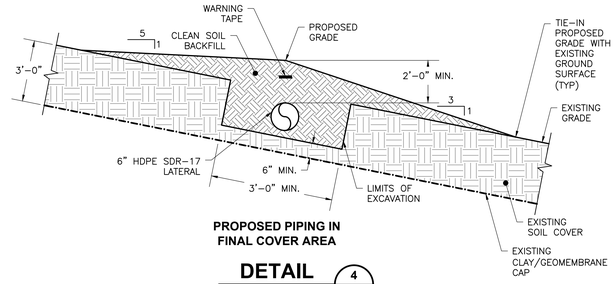


PLAN VIEW



FINAL COVER

DETAIL SCALE: NOT TO SCALE — 5 DS4



PROPOSED PIPING IN FINAL COVER AREA

DETAIL SCALE: NOT TO SCALE — 4 DS4

NOTES:

1. IN AREAS WHERE CLAY/GEOMEMBRANE FINAL CAP HAS BEEN CONSTRUCTED, HEADER/LATERAL SHALL BE INSTALLED ABOVE EXISTING GEOMEMBRANE CAP.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO GEOMEMBRANE CAP AND SHALL REPAIR TO ENGINEER'S SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
3. THE NUMBER AND TYPES OF PIPES TO BE INSTALLED IN THE TRENCH MAY HAVE VARY. SEE SITE PLAN.
4. WARNING TAPE SHALL BE MIN. 3" WIDE AND IMPRINTED WITH ''GAS LINE BURIED BELOW''.
5. ALL HEADER AND LATERAL SHALL BE INSTALLED AT 3% MIN. SLOPE UNLESS APPROVED IN ADVANCE BY ENGINEER.
6. MOUND SOIL OVER PIPE, AS NECESSARY, TO MAINTAIN 2' MINIMUM COVER OVER PIPES.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	3/22/24	REVISED HAR-2 AND HAR-3, REMOVED HAR-4	JRD	JPS	CLD	TAB

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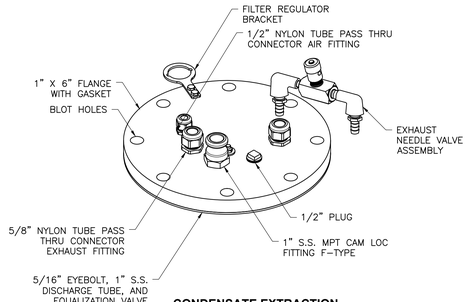
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
DETAILS

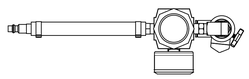
SHEET NO. **DS4**
PROJECT NO. 209-4241287

1" 1" 1/2" 0"

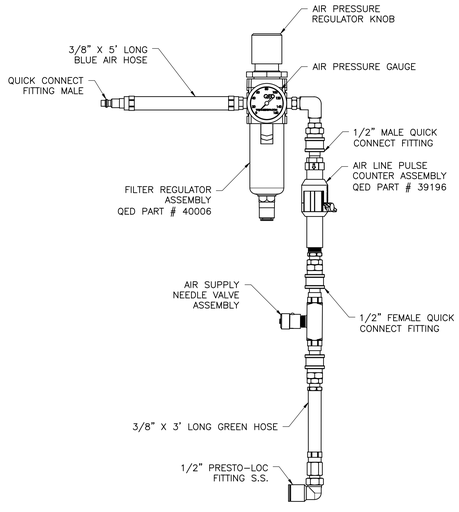


CONDENSATE EXTRACTION FLANGE COMPONENTS

DETAIL 1/DS5
SCALE: NOT TO SCALE



PLAN VIEW

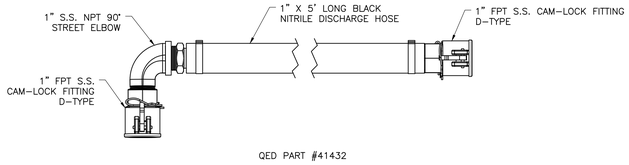


SIDE VIEW

QED PART #40006
QED PART #39196

DUAL EXTRACTION WELL AIR REGULATOR AND COUNTER

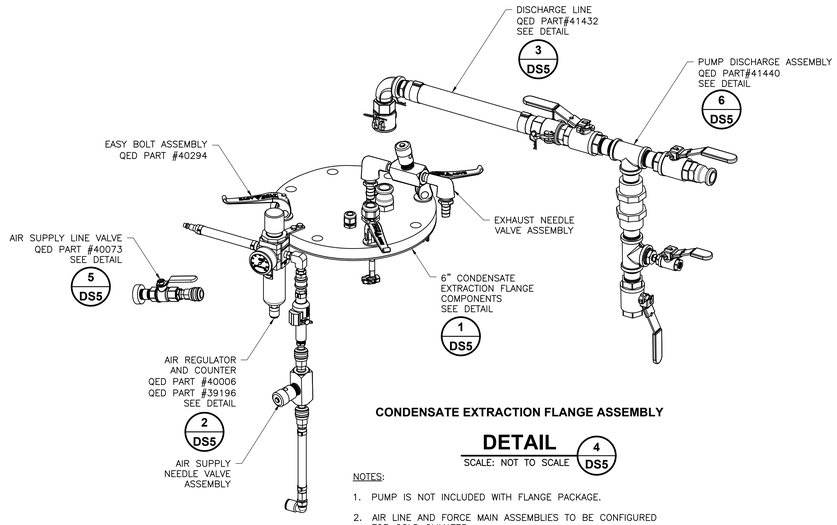
DETAIL 2/DS5
SCALE: NOT TO SCALE



QED PART #41432

DUAL EXTRACTION WELL DISCHARGE LINE

DETAIL 3/DS5
SCALE: NOT TO SCALE

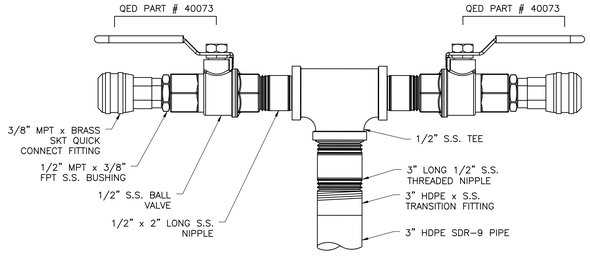


CONDENSATE EXTRACTION FLANGE ASSEMBLY

DETAIL 4/DS5
SCALE: NOT TO SCALE

NOTES:

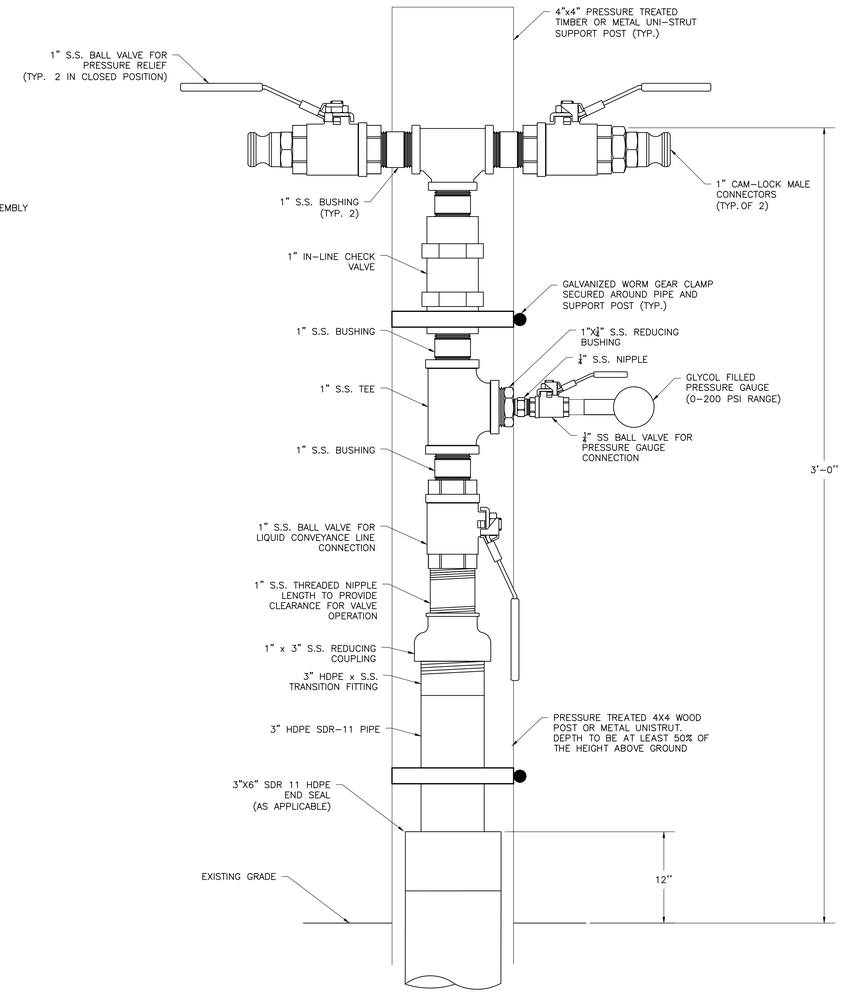
1. PUMP IS NOT INCLUDED WITH FLANGE PACKAGE.
2. AIR LINE AND FORCE MAIN ASSEMBLIES TO BE CONFIGURED FOR COLD CLIMATES.
3. PUMP TO BE SET 6-IN OFF THE BOTTOM OF THE SUMP.
4. PUMP EXHAUST PORTS TO BE FITTED WITH THROTTLING NEEDLE VALVE.
5. PUMP HOSE CONNECTIONS TO BE FITTED WITH EASY FITTINGS.
6. PUMP AIR EXHAUST TO BE FITTED WITH EQUALIZATION VALVE.



QED PART # 40073

AIR SUPPLY LINE VALVE FOR SUMPS

DETAIL 5/DS5
SCALE: NOT TO SCALE



QED PART #41440

PUMP DISCHARGE ASSEMBLY

DETAIL 6/DS5
SCALE: NOT TO SCALE

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
	DATE OF ISSUE 3/11/24	DRAWN BY MJD DESIGNED BY JPS	CHECKED BY TAB APPROVED BY TAB			

TETRA TECH

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE MINNESOTA STATE REGISTERED PROFESSIONAL DUTY.

REPUBLIC SERVICES OF INDIANA, L.P.
NATIONAL SERV-ALL LANDFILL
FORT WAYNE, ALLEN COUNTY, INDIANA

2024 PHASE 1 GCCS CONSTRUCTION
DETAILS

SHEET NO. **DS5**
PROJECT NO. 209-4241287