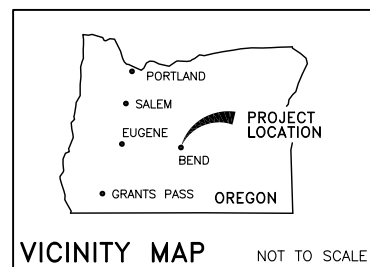


Contract Drawings for the Construction of

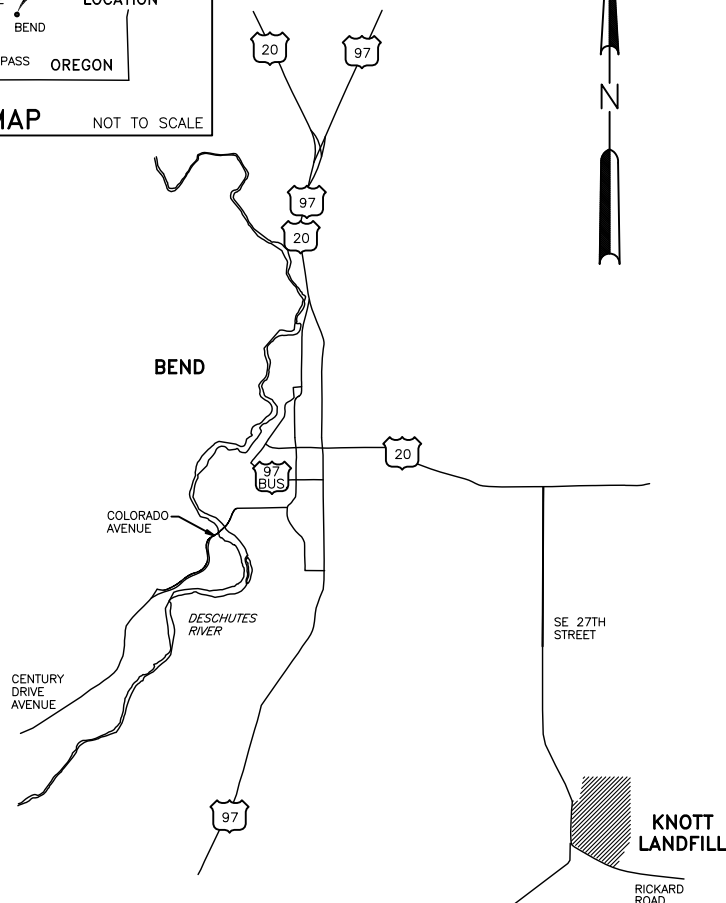
Knott Landfill

◆

Cell 9 Construction Project

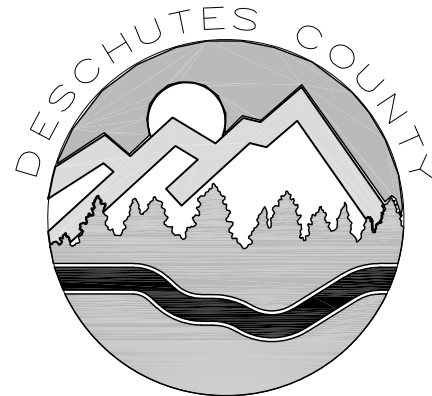


VICINITY MAP NOT TO SCALE



LOCATION MAP

0 3000 6000 12,000
APPROXIMATE SCALE IN FEET



DEPARTMENT OF SOLID WASTE
61050 SE 27th Street
Bend, Oregon 97702

County Commissioners

Tony DeBone
Patti Adair
Phil Chang

Director of Solid Waste

Tim Brownell

August, 2023

Project Directory

Owner

Deschutes County
Department of Solid Waste
61050 SE 27th Street
Bend, Oregon 97702
Phone: 541-317-3163
Director: Tim Brownell
Operations Manager: Todd Sween

Mechanical Engineer

William Song PE
Tent Engineering Inc.
452 NE Greenwood Avenue
Bend, Oregon 97701
Phone: 541-241-8986

Project Engineer

Gerry Friesen PE
G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Phone: 971-235-3317

Surveying

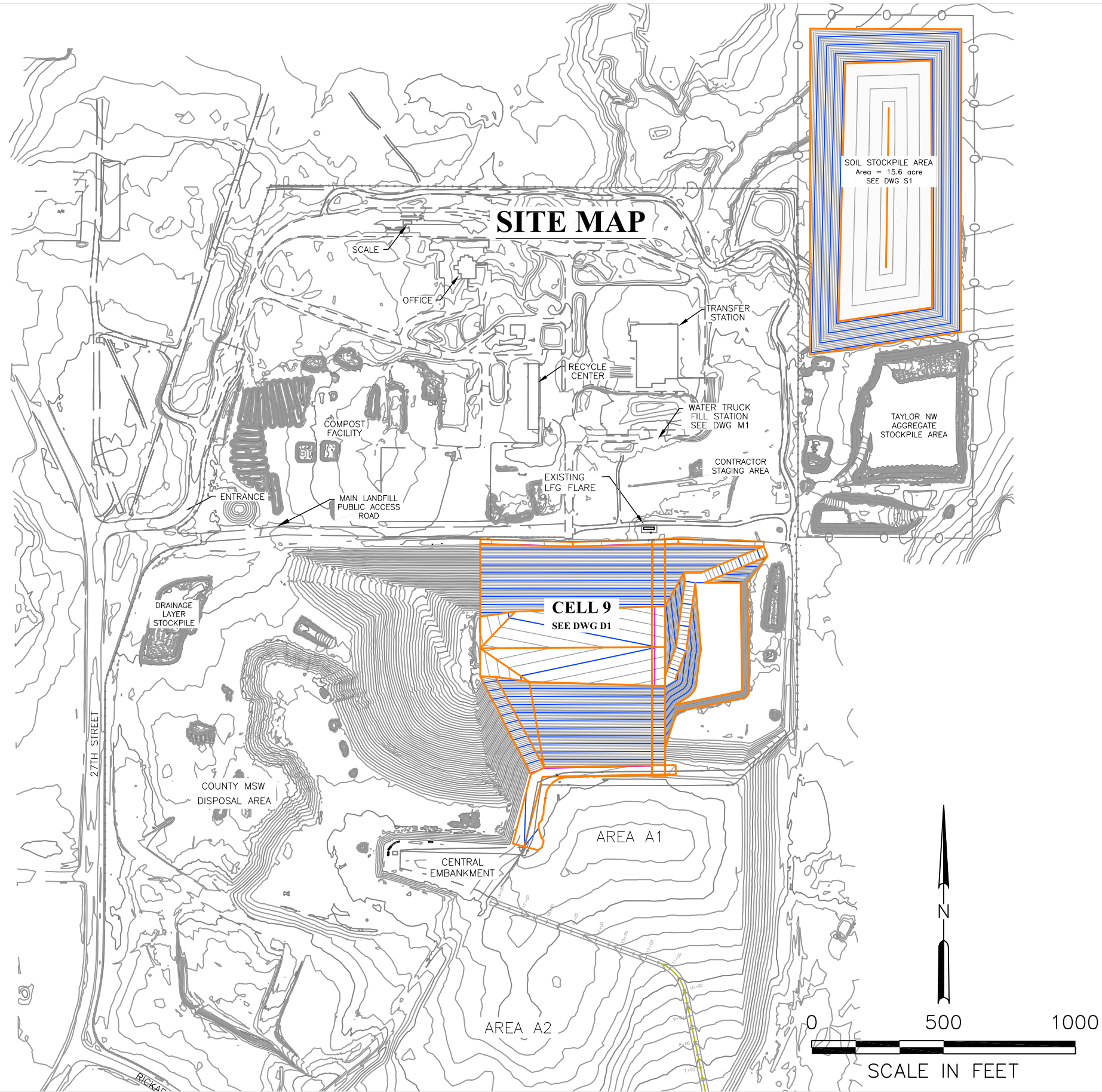
John Thompson PLS
John Thompson & Associates, Inc.
PO Box 683
Bend, Oregon 97709
Phone: 541-312-9421

Geotechnical Engineer

Andy Siemens PE
Siemens & Associates
19134 River Woods Drive
Bend, Oregon 97702
Phone: 541-385-6500

Geosynthetic CQA

John Stein
Peak Geosolutions
5060 SW Philomath Blvd. #303
Corvallis, Oregon 97339
Phone: 541-231-0779



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Renews: 12/31/2023

No.	DATE	BY	REVISION
A	8/24/23	GF	ISSUED FOR CONSTRUCTION

JOB No. 00185	DESIGNED: GF	PROJ. ENGINEER: GF
SCALE: AS SHOWN	DRAWN BY: GF	APPROVED BY: JM
	CHECKED BY: GF	DATE: 8/24/23

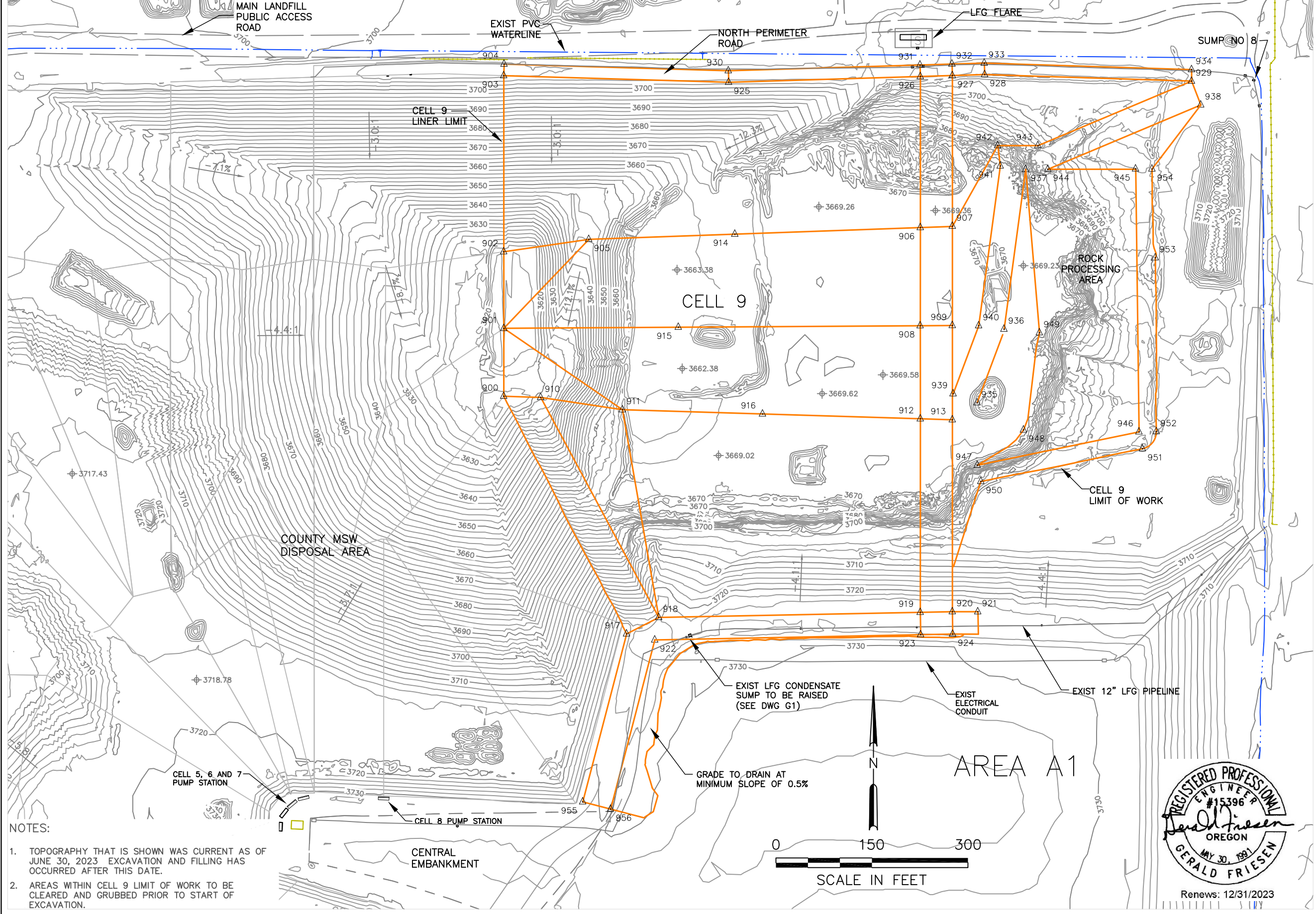


G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Tel: (503) 635-1233
Fax: (866) 533-5543

KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON

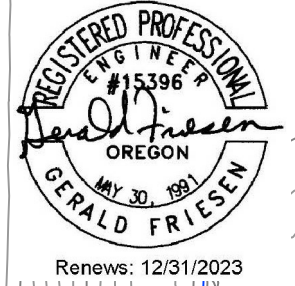
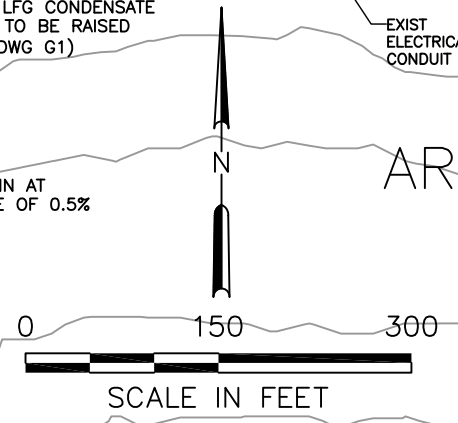
CELL 9
SITE MAP AND DRAWING INDEX

DRAWING NUMBER: A1	
CAD FILE NUMBER: A01	
SHEET: 2 of 24	REV. A

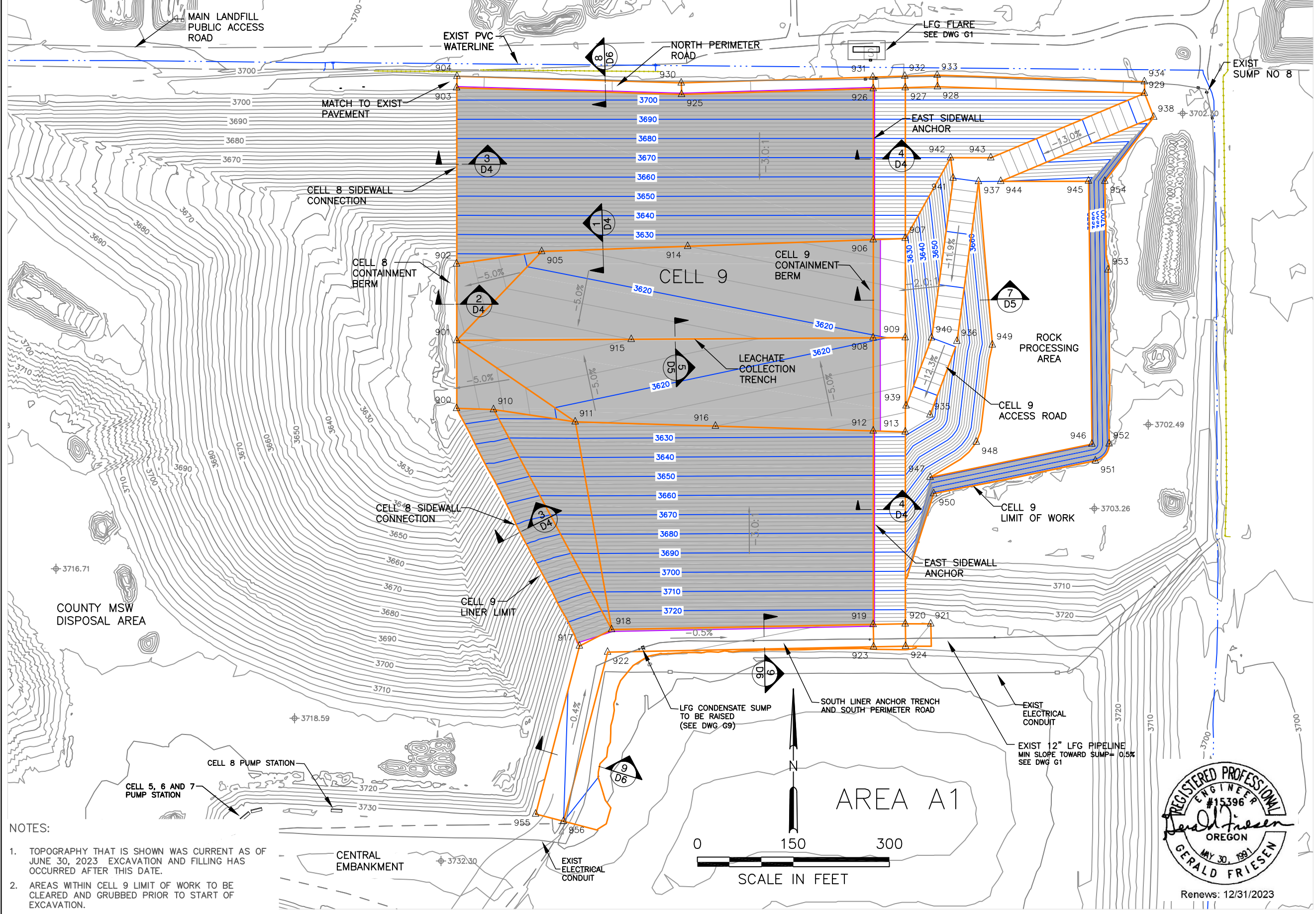


Point Table			
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901	369680.28	3307879.78	3613.28
902	369800.19	3307879.59	3614.70
903	370075.42	3307879.59	3706.42
904	370093.42	3307880.11	3706.42
905	369819.53	3308012.49	3621.39
906	369837.99	3308530.48	3627.31
907	369840.12	3308580.41	3628.00
908	369684.54	3308530.27	3619.78
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918	369228.60	3308121.72	3729.64
919	369236.60	3308530.35	3727.60
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921	369237.50	3308620.32	3726.00
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954	369929.51	3308892.36	3704.03
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956	368928.94	3308046.54	3730.00

- NOTES:
- TOPOGRAPHY THAT IS SHOWN WAS CURRENT AS OF JUNE 30, 2023 EXCAVATION AND FILLING HAS OCCURRED AFTER THIS DATE.
 - AREAS WITHIN CELL 9 LIMIT OF WORK TO BE CLEARED AND GRUBBED PRIOR TO START OF EXCAVATION.

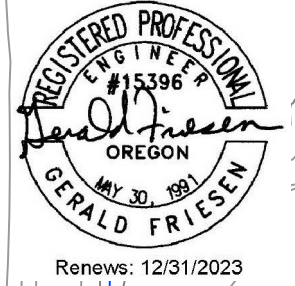


JOB No. 00185		DESIGNED: GF	PROJ. ENGINEER: GF	 G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543	KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON	CELL 9 EXISTING SITE PLAN	DRAWING NUMBER: D1
SCALE: AS SHOWN		DRAWN BY: GF	APPROVED BY: JM				CAD FILE NUMBER: D01
A 8/24/23 GF ISSUED FOR CONSTRUCTION		CHECKED BY: GF	DATE: 8/24/23				SHEET: 3 of 24
No.	DATE	BY	REVISION				

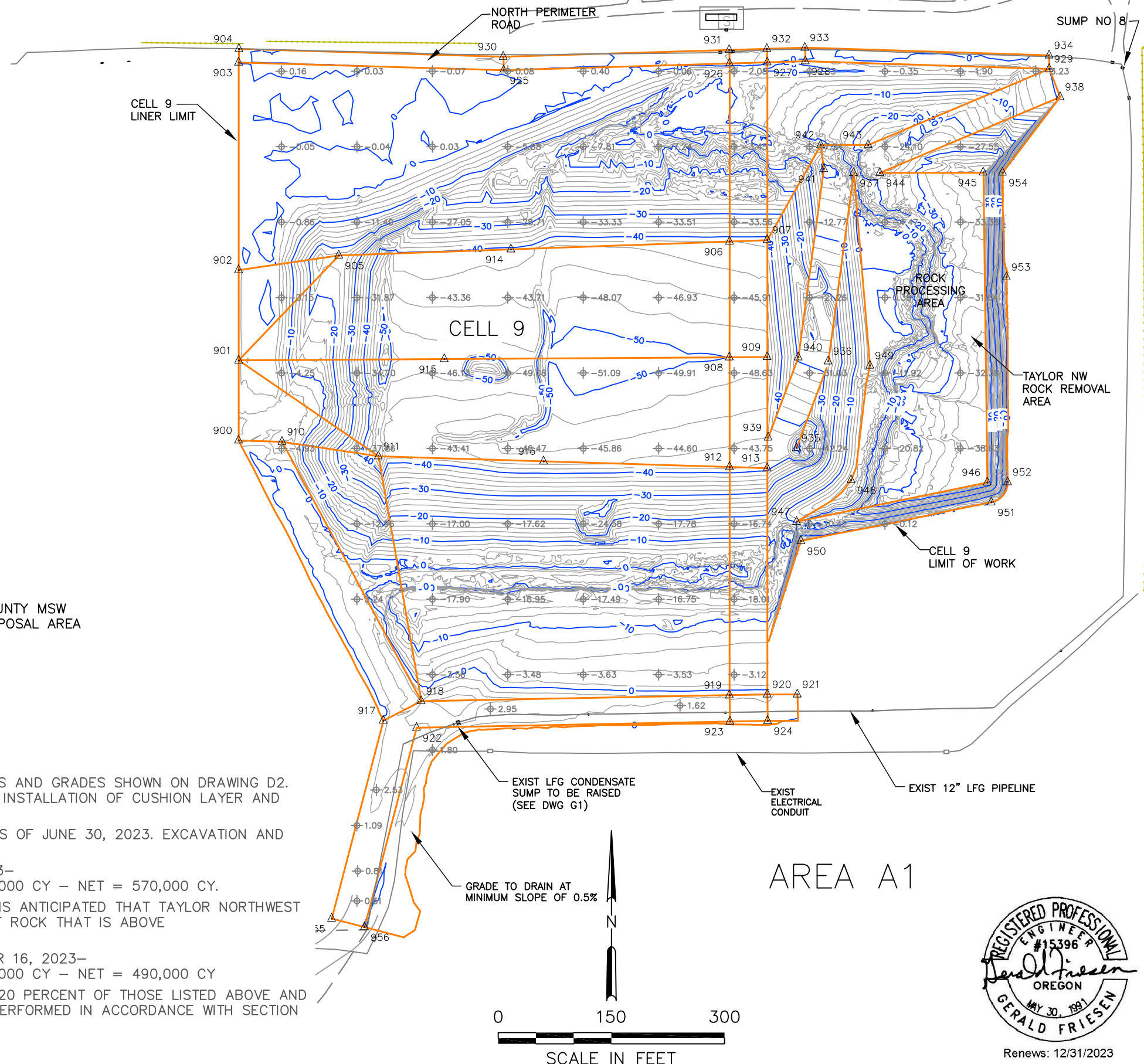


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955	368940.30	3308002.99	3731.00
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NOTES:
 1. TOPOGRAPHY THAT IS SHOWN WAS CURRENT AS OF JUNE 30, 2023 EXCAVATION AND FILLING HAS OCCURRED AFTER THIS DATE.
 2. AREAS WITHIN CELL 9 LIMIT OF WORK TO BE CLEARED AND GRUBBED PRIOR TO START OF EXCAVATION.



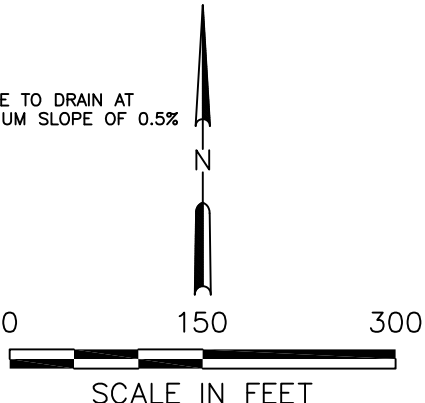
JOB No. 00185		DESIGNED: GF	PROJ. ENGINEER: GF	 G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543	KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON	CELL 9 SUBGRADE PLAN	DRAWING NUMBER: D2	
SCALE: AS SHOWN		DRAWN BY: GF	APPROVED BY: JM				CAD FILE NUMBER: D02	
A 8/24/23 GF ISSUED FOR CONSTRUCTION		CHECKED BY: GF	DATE: 8/24/23				SHEET: 4 OF 24	REV. A



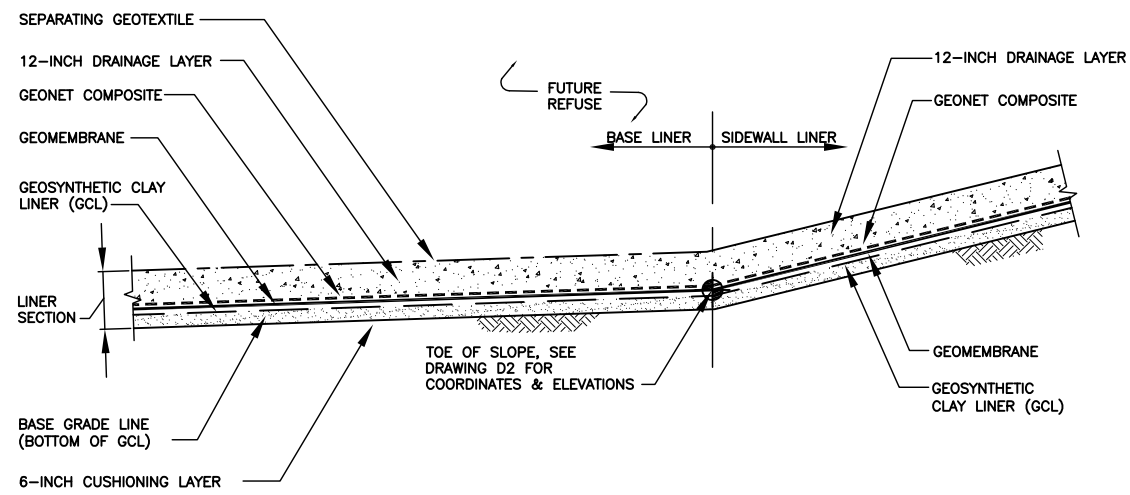
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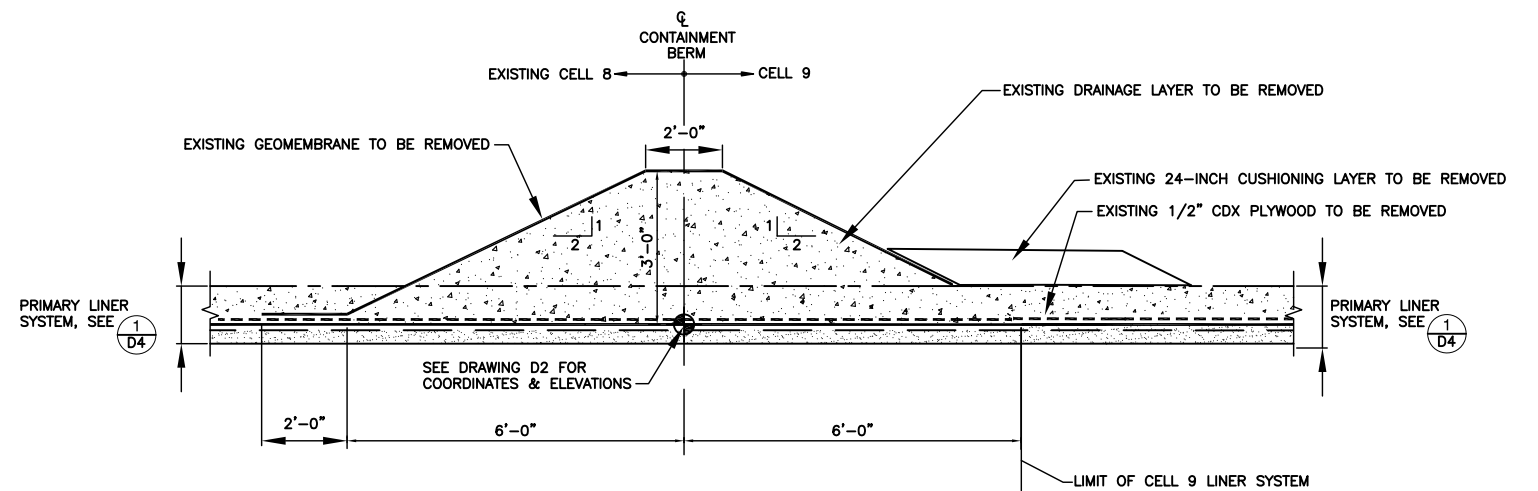
- CUT AND FILL DEPTHS SHOWN ARE TO THE LINES AND GRADES SHOWN ON DRAWING D2. ADDITIONAL EXCAVATION WILL BE REQUIRED FOR INSTALLATION OF CUSHION LAYER AND LEACHATE COLLECTION TRENCHES.
- CUT AND FILL DEPTHS SHOWN WERE CURRENT AS OF JUNE 30, 2023. EXCAVATION AND FILLING HAS OCCURRED AFTER THIS DATE.
- TOTAL REMAINING QUANTITIES ON JUNE 30, 2023— EXCAVATION= 580,000 CY — EMBANKMENT= 10,000 CY — NET = 570,000 CY.
- BETWEEN JUNE 30 AND NOVEMBER 15, 2023 IT IS ANTICIPATED THAT TAYLOR NORTHWEST LLC WILL REMOVE APPROXIMATELY 80,000 CY OF ROCK THAT IS ABOVE ELEVATION 3670 FT MSL.
- PROJECTED REMAINING QUANTITIES ON NOVEMBER 16, 2023— EXCAVATION= 500,000 CY — EMBANKMENT= 10,000 CY — NET = 490,000 CY
- ACTUAL QUANTITIES COULD BE PLUS OR MINUS 20 PERCENT OF THOSE LISTED ABOVE AND WILL BE COMPUTED BASED ON FIELD SURVEYS PERFORMED IN ACCORDANCE WITH SECTION 01050 OF THE SPECIAL PROVISIONS.
- LINER LIMIT AREA = 12.5 AC



		JOB No. 00185	DESIGNED: GF	PROJ. ENGINEER: GF	 G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543	KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON	CELL 9 SUBGRADE PLAN - CUT AND FILL DEPTHS	DRAWING NUMBER: D3	
		SCALE: AS SHOWN	DRAWN BY: GF	APPROVED BY: JM				CAD FILE NUMBER: DO3	
			CHECKED BY: GF	DATE: 8/24/23				SHEET: 5 of 24	REV. A
A	8/24/24	GF	ISSUED FOR CONSTRUCTION						
No.	DATE	BY	REVISION						



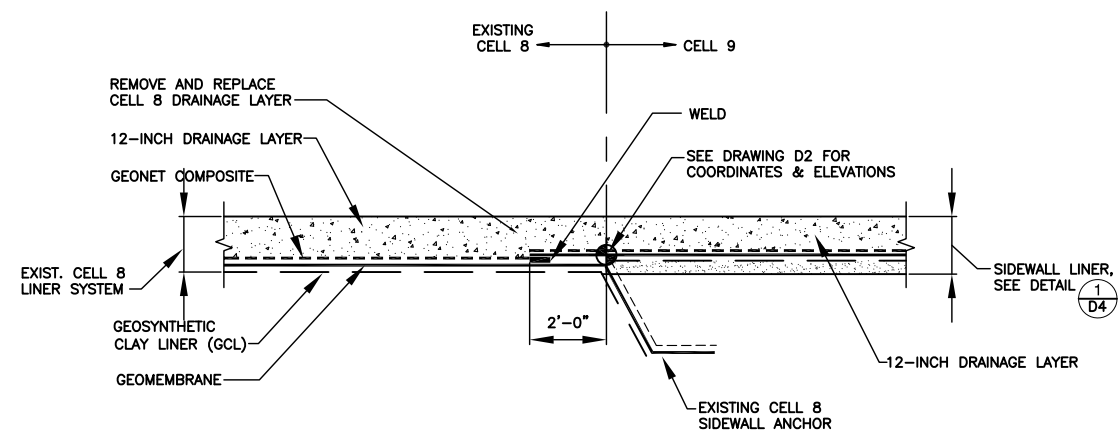
PRIMARY LINER SYSTEM ①
N.T.S.



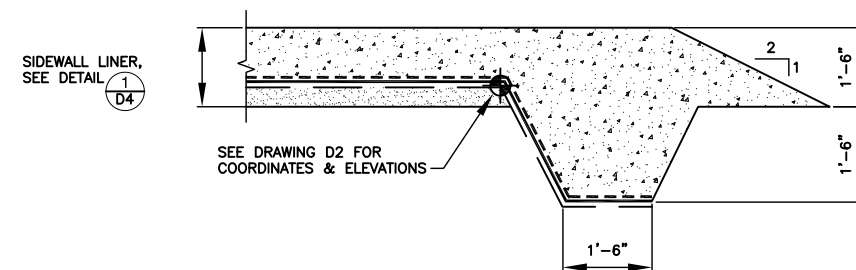
CELL 8 CONTAINMENT BERM CONNECTION ②
N.T.S.

LEGEND

- GEOMEMBRANE
- - - - - CUSHIONING GEOTEXTILE
- GEOSYNTHETIC CLAY LINER (GCL)
- - - - - GEONET COMPOSITE
- - - - - SEPARATING GEOTEXTILE



CELL 8 SIDEWALL CONNECTION ③
N.T.S.



EAST SIDEWALL ANCHOR ④
N.T.S.



Renews: 12/31/2023

JOB No.		DESIGNED:		PROJ. ENGINEER:		
00185		GF		GF		
SCALE:		DRAWN BY:		APPROVED BY:		
N.T.S.		GF		JM		
		CHECKED BY:		DATE:		
		GF		8/24/23		
A	8/24/23	GF	ISSUED FOR CONSTRUCTION			
No.	DATE	BY	REVISION			

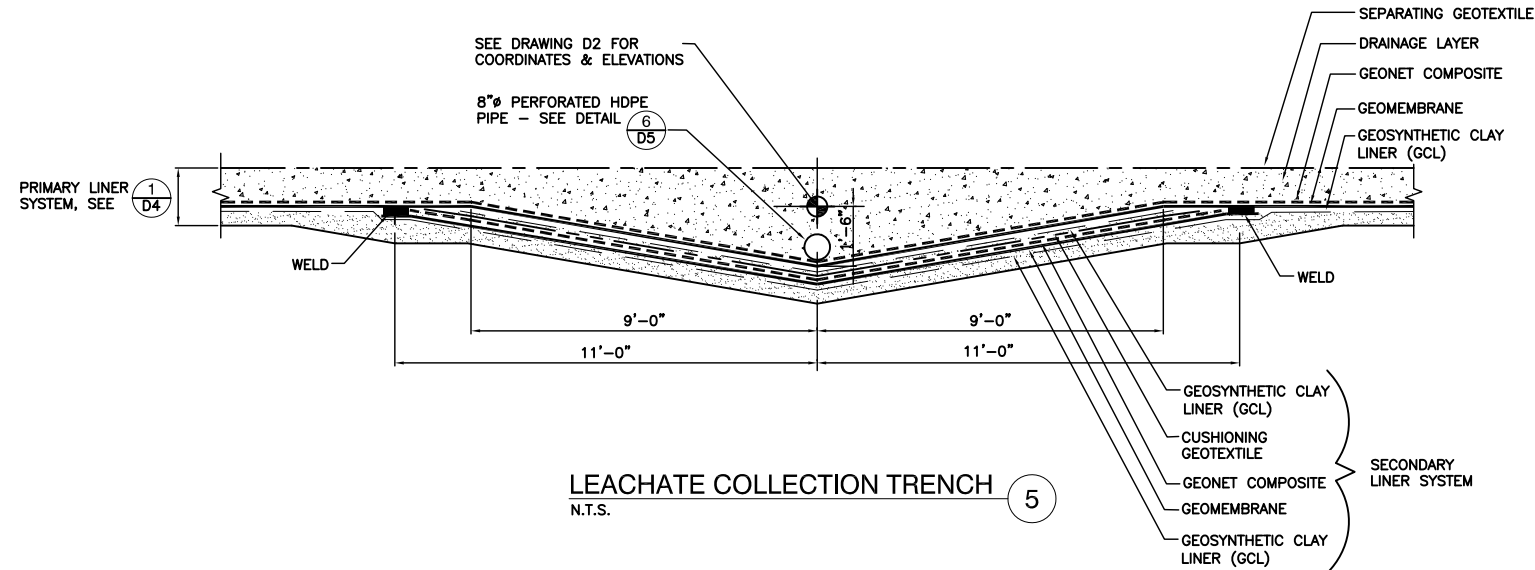


G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Tel: (503) 635-1233
Fax: (866) 533-5543

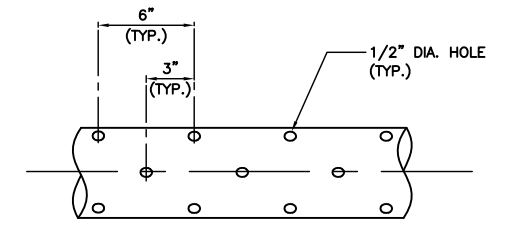
**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

**CELL 9
LINER SECTIONS AND DETAILS**

DRAWING NUMBER:	
D4	
CAD FILE NUMBER:	
D04	
SHEET:	REV.
6 OF 24	A

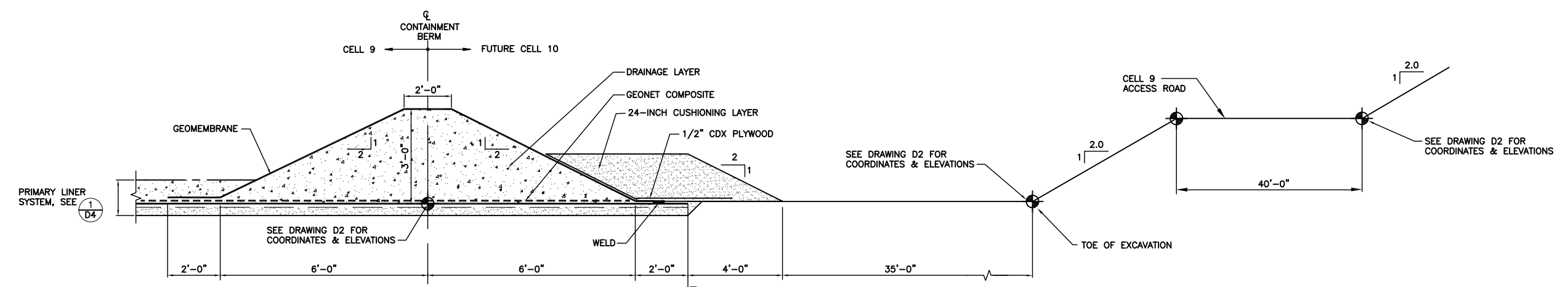


LEACHATE COLLECTION TRENCH 5
N.T.S.



- NOTES:
- Holes shall be drilled at 90° around pipe circumference. Successive rows shall be separated by 2" and staggered 45°
 - Remove interior weld beads and all cuttings inside and out before pipe is installed.

PERFORATED HDPE PIPE 6
N.T.S.



CELL 9 CONTAINMENT BERM 7
N.T.S.

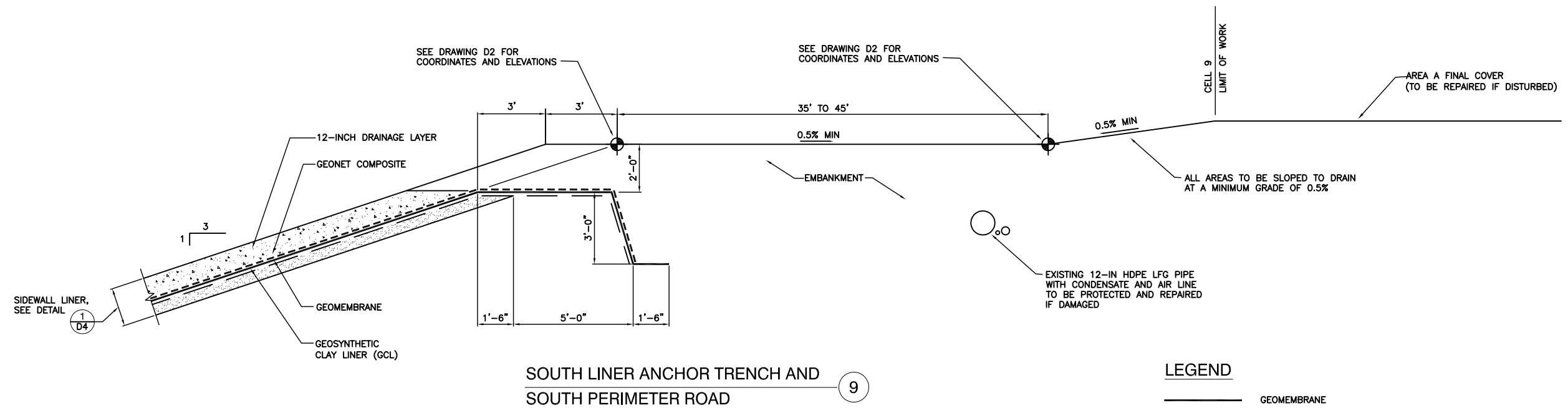
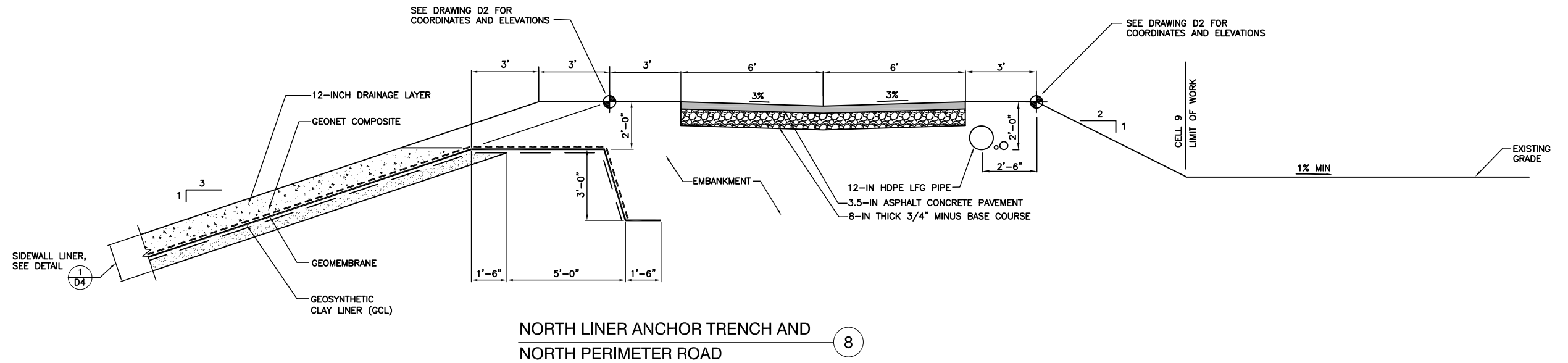
LEGEND

- GEOMEMBRANE
- - - - - CUSHIONING GEOTEXTILE
- GEOSYNTHETIC CLAY LINER (GCL)
- - - - - GEONET COMPOSITE
- - - - - SEPARATING GEOTEXTILE



Renews: 12/31/2023

JOB No. 00185		DESIGNED: GF	PROJ. ENGINEER: GF	 G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97075 Tel: (503) 635-1233 Fax: (866) 533-5543	KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON	CELL 9 LINER SECTIONS AND DETAILS		DRAWING NUMBER: D5	
SCALE: N.T.S.		DRAWN BY: GF	APPROVED BY: JM					CAD FILE NUMBER: D05	
A 8/24/23 GF ISSUED FOR CONSTRUCTION		CHECKED BY: GF	DATE: 8/24/23					SHEET: 7 of 24	REV. A
No.	DATE	BY	REVISION						




LEGEND

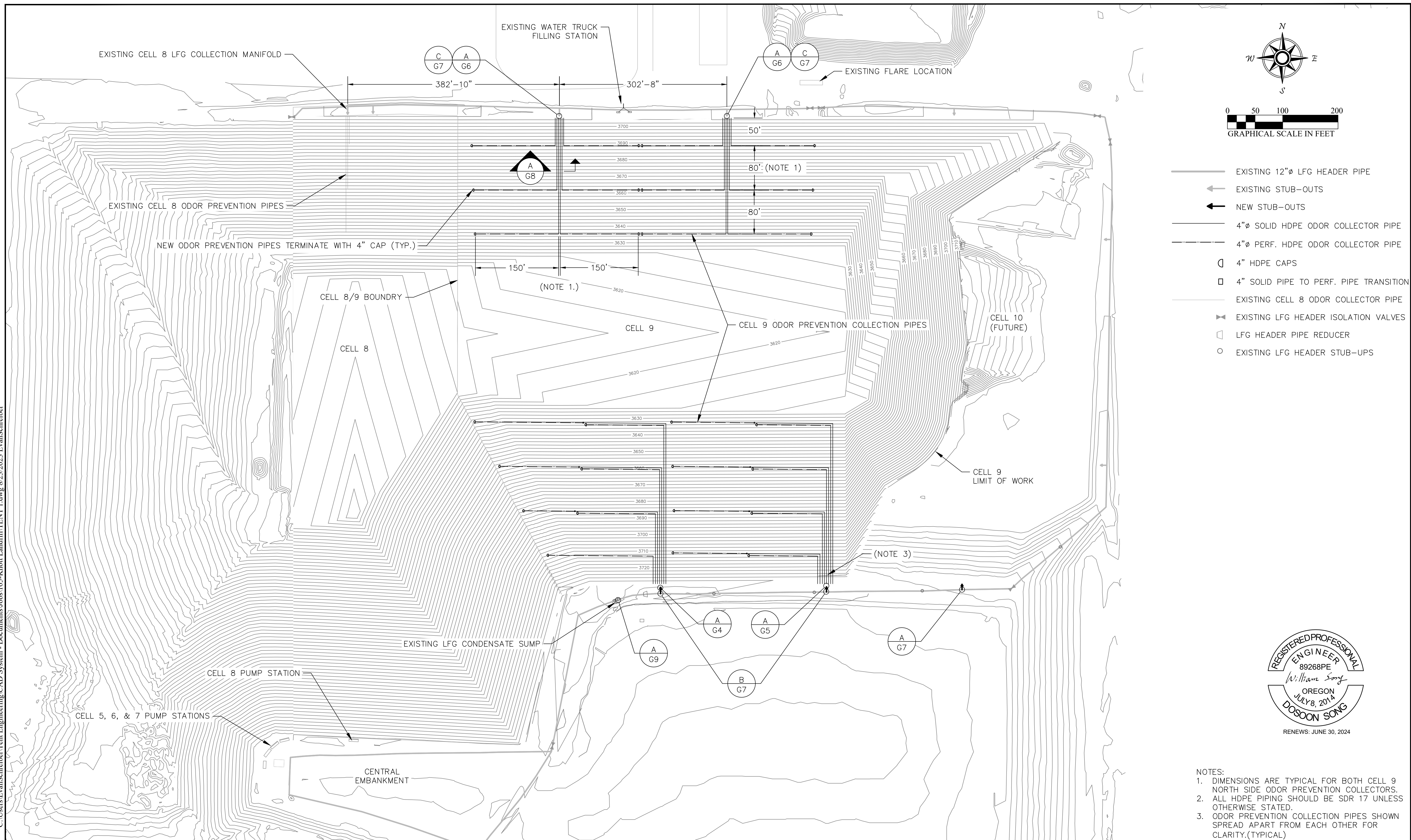
- GEOMEMBRANE
- - - - CUSHIONING GEOTEXTILE
- GEOSYNTHETIC CLAY LINER (GCL)
- - - - GEONET COMPOSITE
- - - - SEPARATING GEOTEXTILE



Renews: 12/31/2023

		JOB No. 00185		DESIGNED: GF	PROJ. ENGINEER: GF	 <p>G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97075 Tel: (503) 635-1233 Fax: (866) 533-5543</p>	<p>KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON</p>	<p>CELL 9 LINER SECTIONS AND DETAILS</p>	D6	
		SCALE: N.T.S.		DRAWN BY: GF	APPROVED BY: JM				CAD FILE NUMBER: D06	
				CHECKED BY: GF	DATE: 8/24/23				SHEET: 8 OF 24	REV. A
A	8/24/23	GF	ISSUED FOR CONSTRUCTION							
No.	DATE	BY	REVISION							

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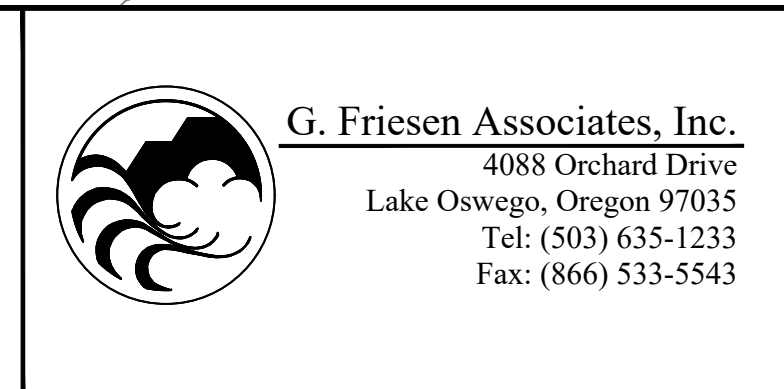
- EXISTING 12" Ø LFG HEADER PIPE
- ← EXISTING STUB-OUTS
- ➔ NEW STUB-OUTS
- 4" Ø SOLID HDPE ODOR COLLECTOR PIPE
- 4" Ø PERF. HDPE ODOR COLLECTOR PIPE
- ⊙ 4" HDPE CAPS
- ◻ 4" SOLID PIPE TO PERF. PIPE TRANSITION
- EXISTING CELL 8 ODOR COLLECTOR PIPE
- ⋈ EXISTING LFG HEADER ISOLATION VALVES
- ◻ LFG HEADER PIPE REDUCER
- EXISTING LFG HEADER STUB-UPS

NOTES:
 1. DIMENSIONS ARE TYPICAL FOR BOTH CELL 9 NORTH SIDE ODOR PREVENTION COLLECTORS.
 2. ALL HDPE PIPING SHOULD BE SDR 17 UNLESS OTHERWISE STATED.
 3. ODOR PREVENTION COLLECTION PIPES SHOWN SPREAD APART FROM EACH OTHER FOR CLARITY.(TYPICAL)



No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS
SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS
	CHECKED BY: WS	DATE: 08/24/23

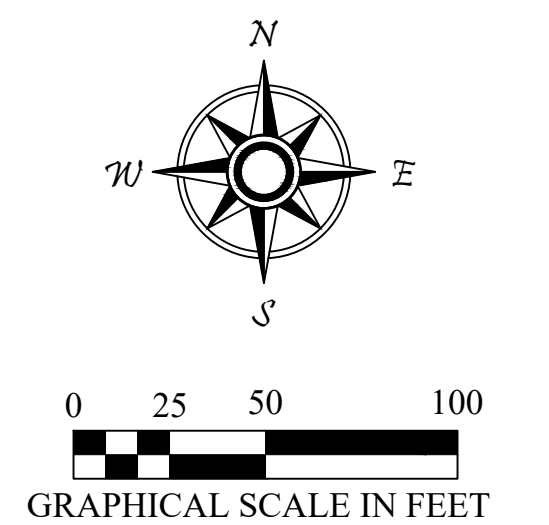
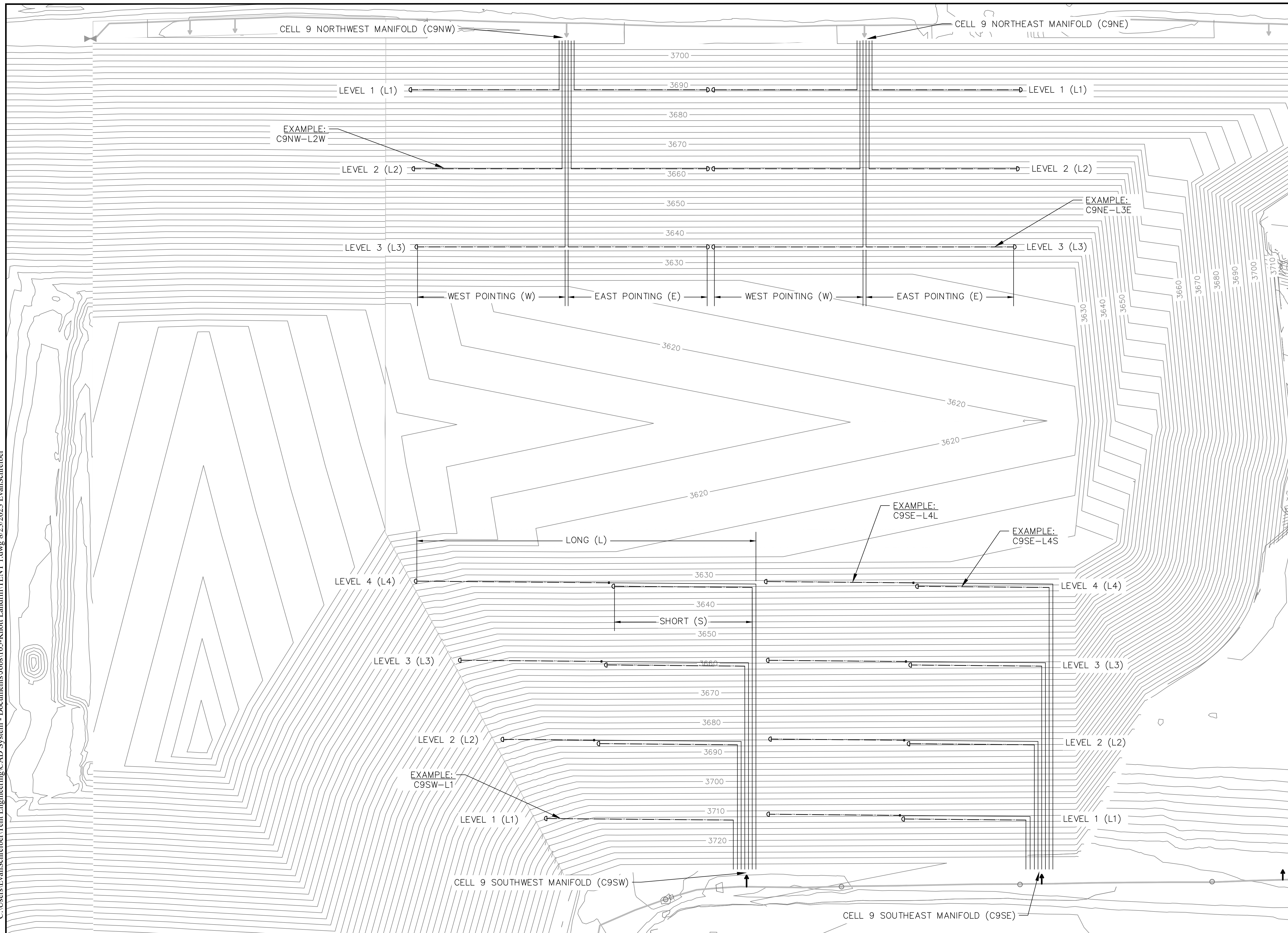


**KNOTT LANDFILL
 CELL 9 CONSTRUCTION
 PROJECT
 DESCHUTES COUNTY, OREGON**

**CELL 9
 LFG COLLECTION SYSTEM SITE PLAN**

DRAWING NUMBER: G1	
CAD FILE NUMBER: TENT 1	
SHEET: 9 OF 24	REV. A

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- EXISTING 12" Ø LFG HEADER PIPE
- ← EXISTING STUB-OUTS
- ➔ NEW STUB-OUTS
- 4" Ø SOLID HDPE ODOR COLLECTOR PIPE
- 4" Ø PERF. HDPE ODOR COLLECTOR PIPE
- ⊘ 4" HDPE CAPS
- 4" SOLID PIPE TO PERF. PIPE TRANSITION
- EXISTING CELL 8 ODOR COLLECTOR PIPE
- ⊘ EXISTING LFG HEADER ISOLATION VALVES
- ▭ LFG HEADER PIPE REDUCER
- EXISTING LFG HEADER STUB-UPS

CELL 9 NORTH ODOR COLLECTOR NAMING CONVENTION:
(LFG COLLECTION MANIFOLD NAME)-(LEVEL)(DIRECTION)

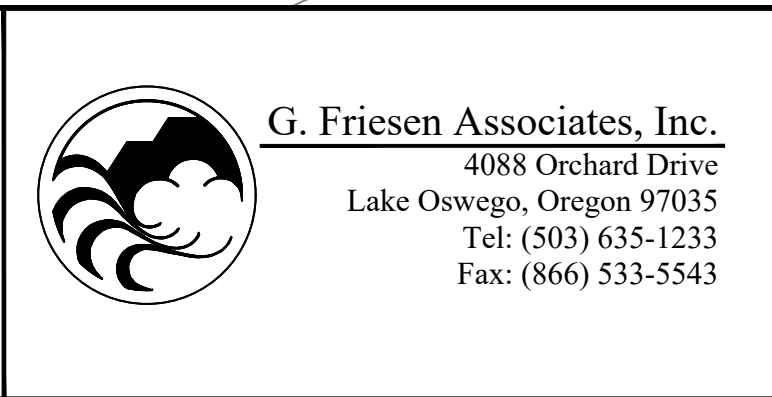
CELL 9 SOUTH ODOR COLLECTOR NAMING CONVENTION:
(LFG COLLECTION MANIFOLD NAME)-(LEVEL)(LENGTH)



NOTES:
1. ODOR PREVENTION COLLECTION PIPES SHOWN SPREAD APART FROM EACH OTHER FOR CLARITY.

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS
SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS
	CHECKED BY: WS	DATE: 08/24/23

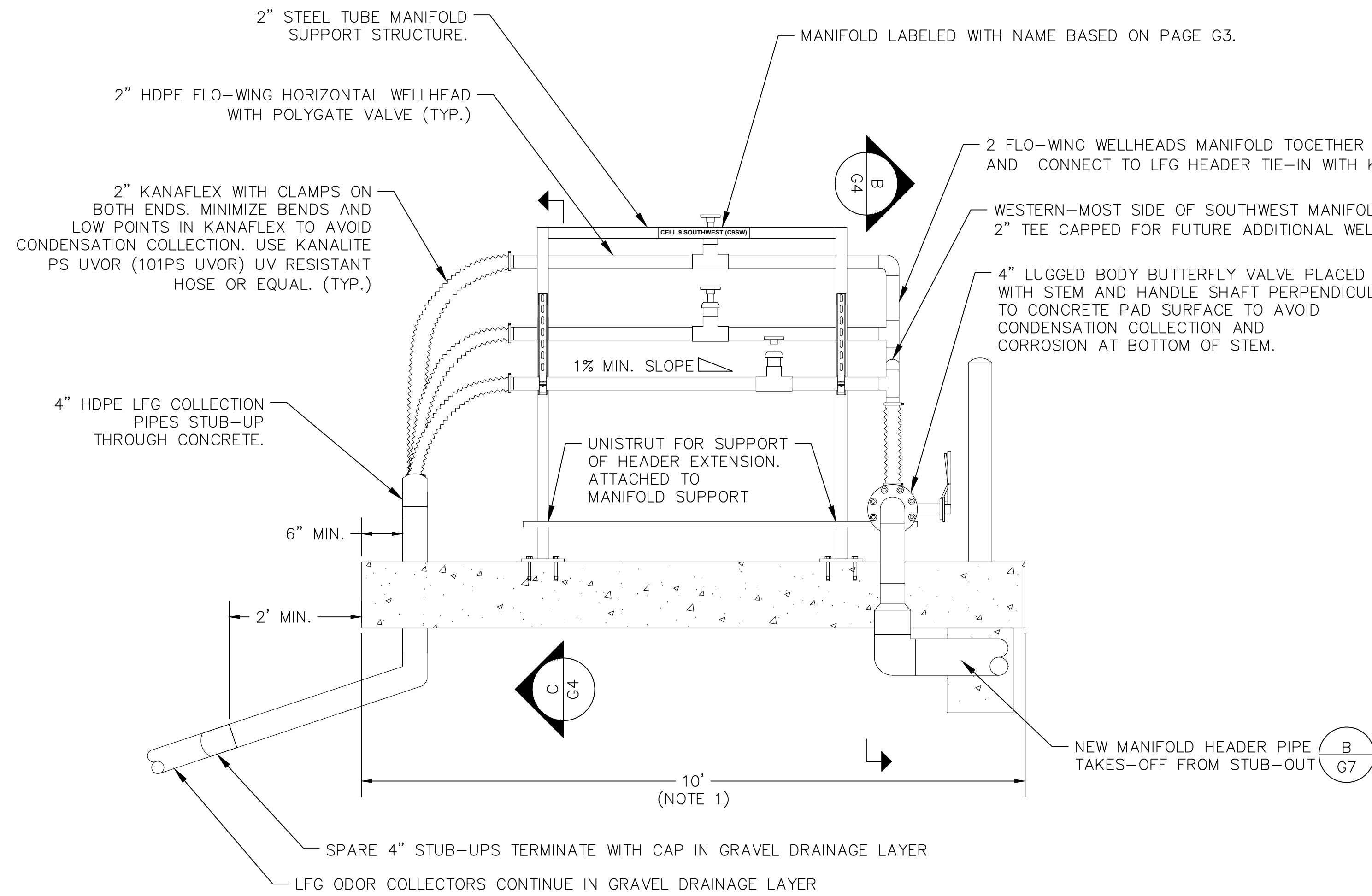


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

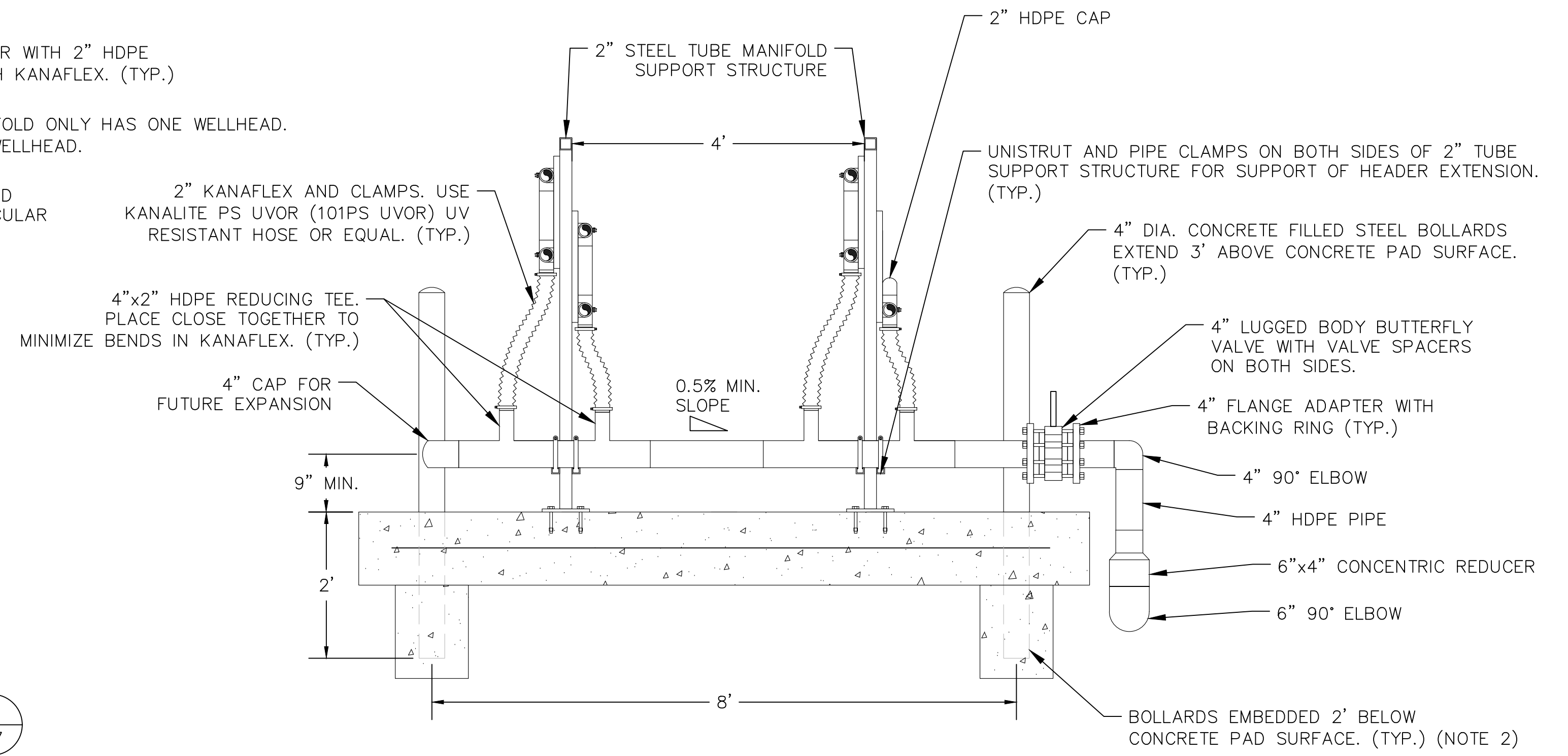
**CELL 9
PIPE NAMING CONVENTIONS**

DRAWING NUMBER: G3	
CAD FILE NUMBER: TENT 1	
SHEET: 11 of 24	REV. A

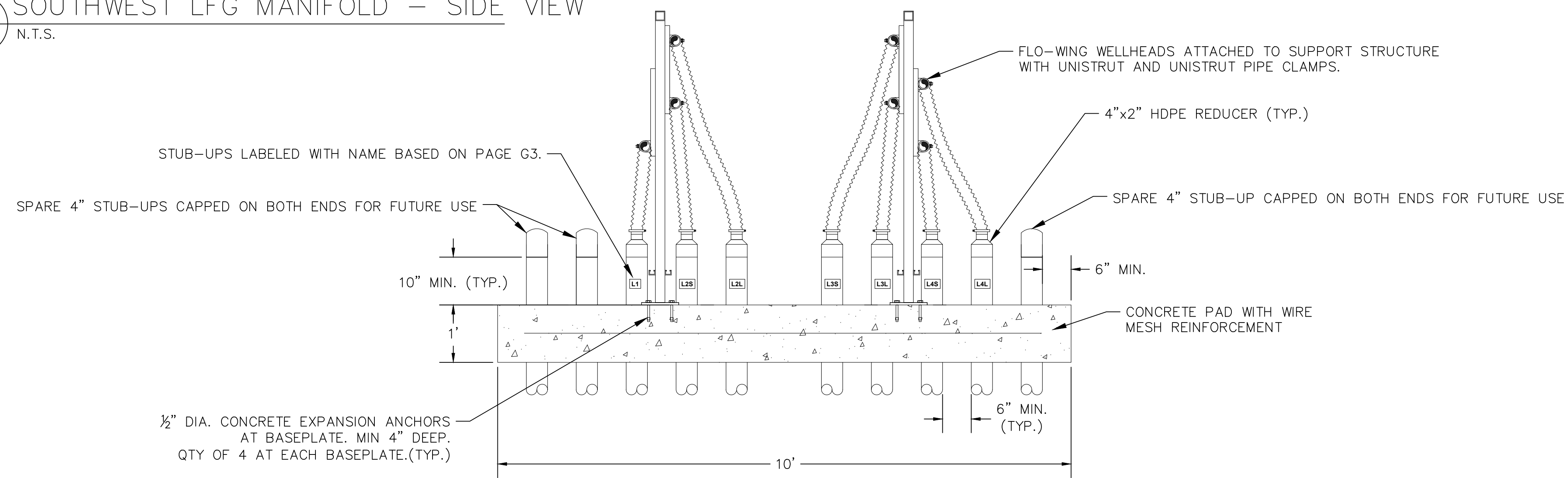
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A **SOUTHWEST LFG MANIFOLD – SIDE VIEW**
G4 N.T.S.



B **SOUTHWEST LFG MANIFOLD – HEADER TIE-IN**
G4 N.T.S.



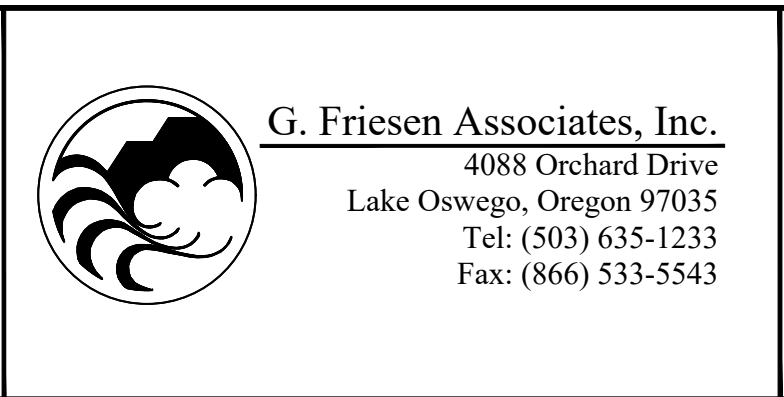
C **SOUTHWEST LFG MANIFOLD – SUPPORT**
G4 N.T.S.



- NOTES:**
1. LENGTH OF CONCRETE PAD CAN BE ADJUSTED AS NEEDED PROVIDED THERE IS STILL ADEQUATE ROOM ON PAD FOR MAINTENANCE AND PROPER OPERATION OF MANIFOLD.
 2. CONTRACTOR TO USE CAUTION WHEN DIGGING TO AVOID DISTURBANCE OF ANCHOR TRENCH AND CELL LINER.

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

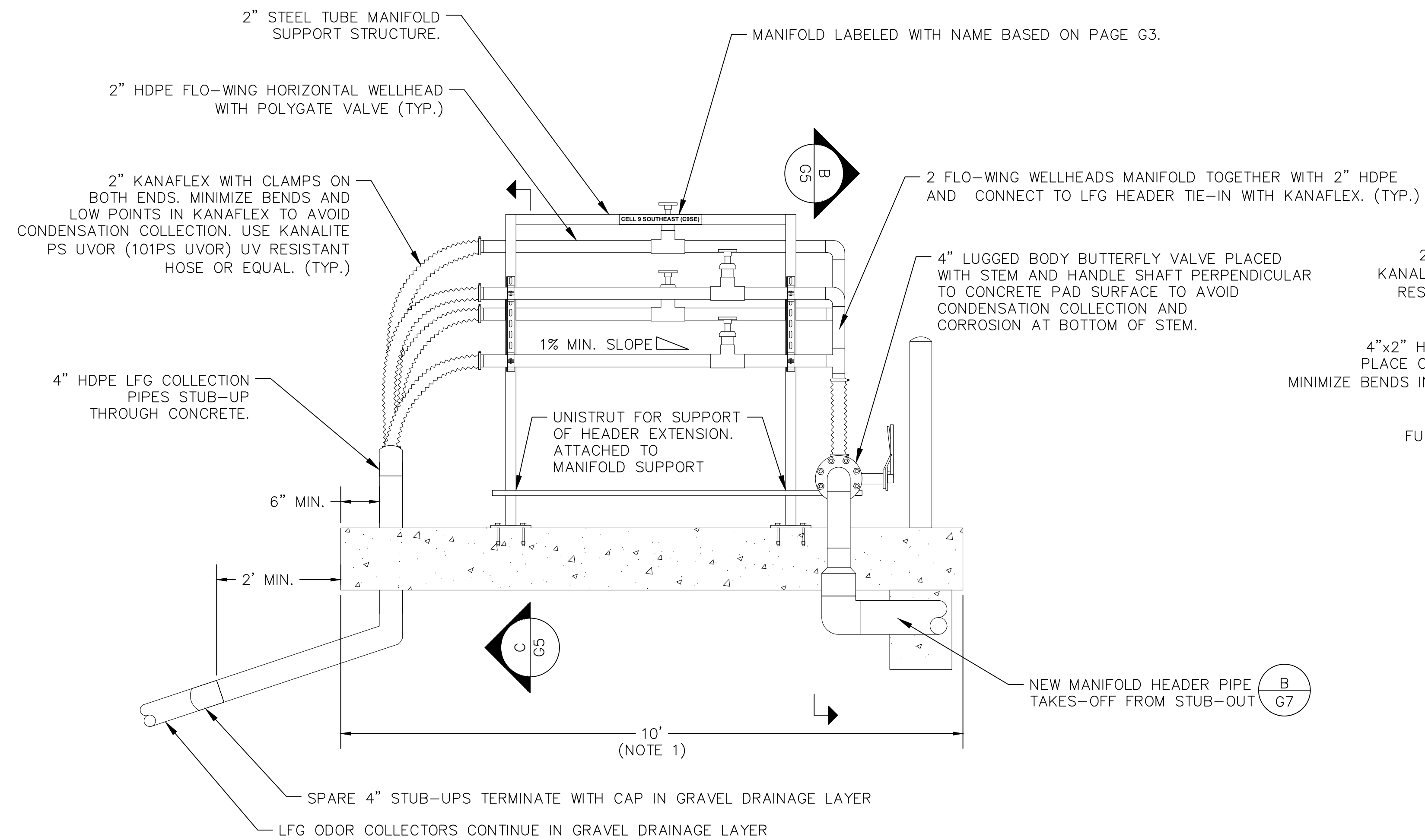


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

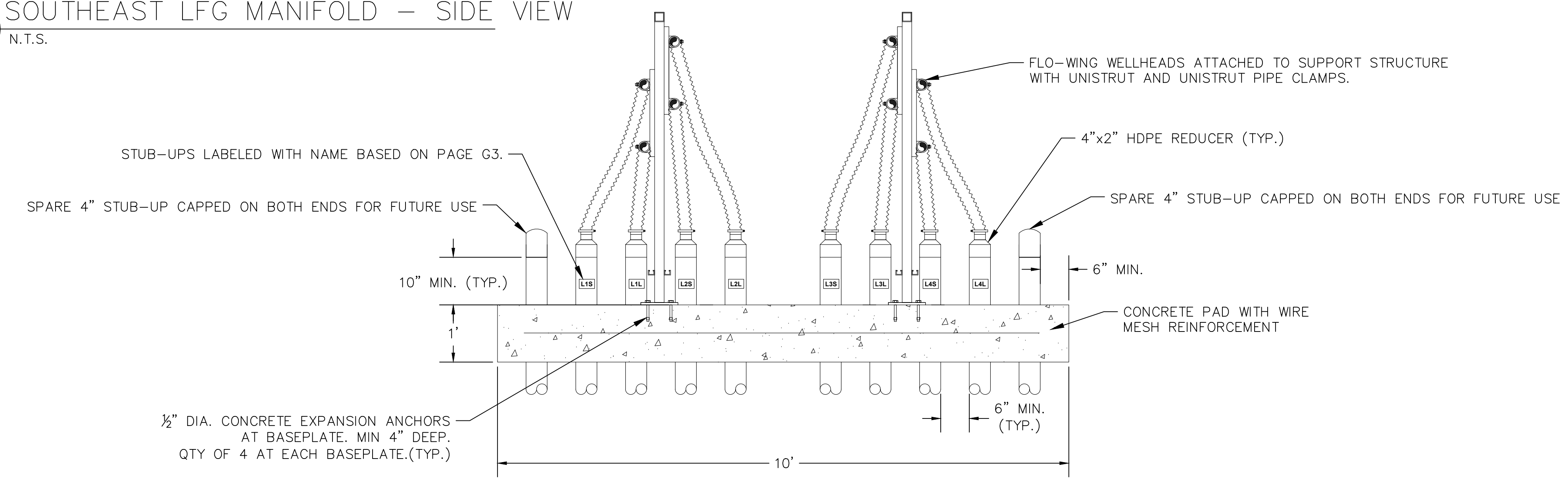
**CELL 9
SOUTHWEST LFG MANIFOLD**

DRAWING NUMBER: G4	
CAD FILE NUMBER: TENT 2	
SHEET: 12 OF 24	REV. A

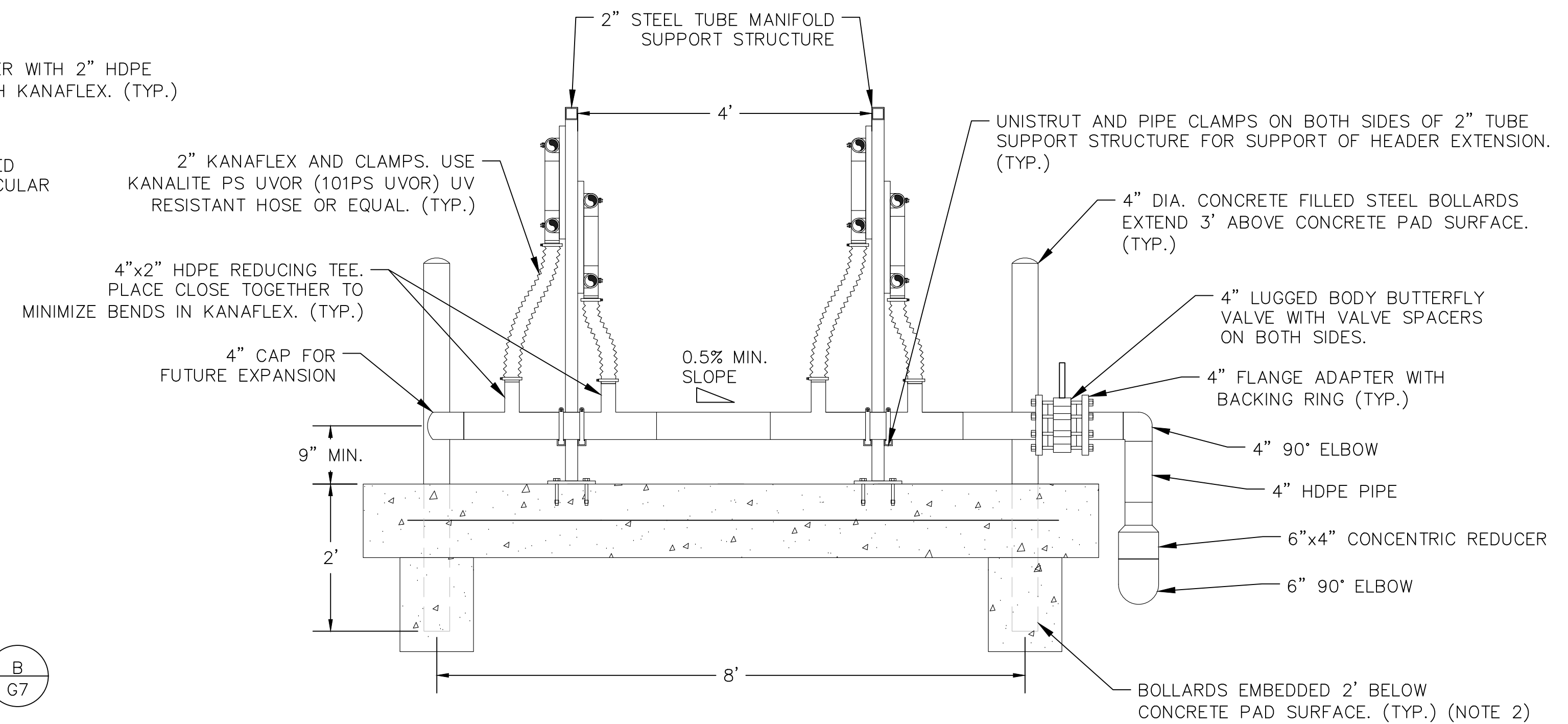
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A SOUTHEAST LFG MANIFOLD – SIDE VIEW
G5 N.T.S.



C SOUTHEAST LFG MANIFOLD – SUPPORT
G5 N.T.S.



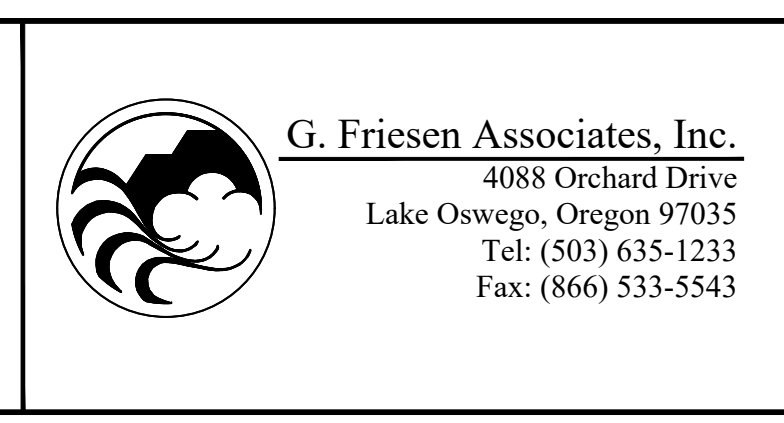
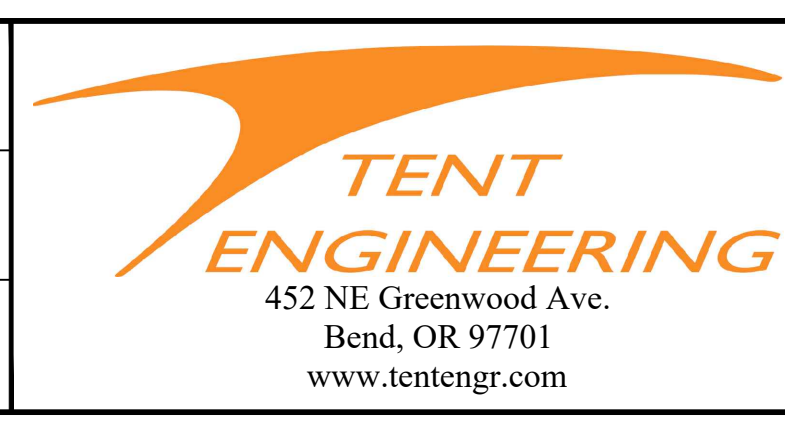
B SOUTHEAST LFG MANIFOLD – HEADER TIE-IN
G5 N.T.S.



- NOTES:
1. LENGTH OF CONCRETE PAD CAN BE ADJUSTED AS NEEDED PROVIDED THERE IS STILL ADEQUATE ROOM ON PAD FOR MAINTENANCE AND PROPER OPERATION OF MANIFOLD.
 2. CONTRACTOR TO USE CAUTION WHEN DIGGING TO AVOID DISTURBANCE OF ANCHOR TRENCH AND CELL LINER.

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

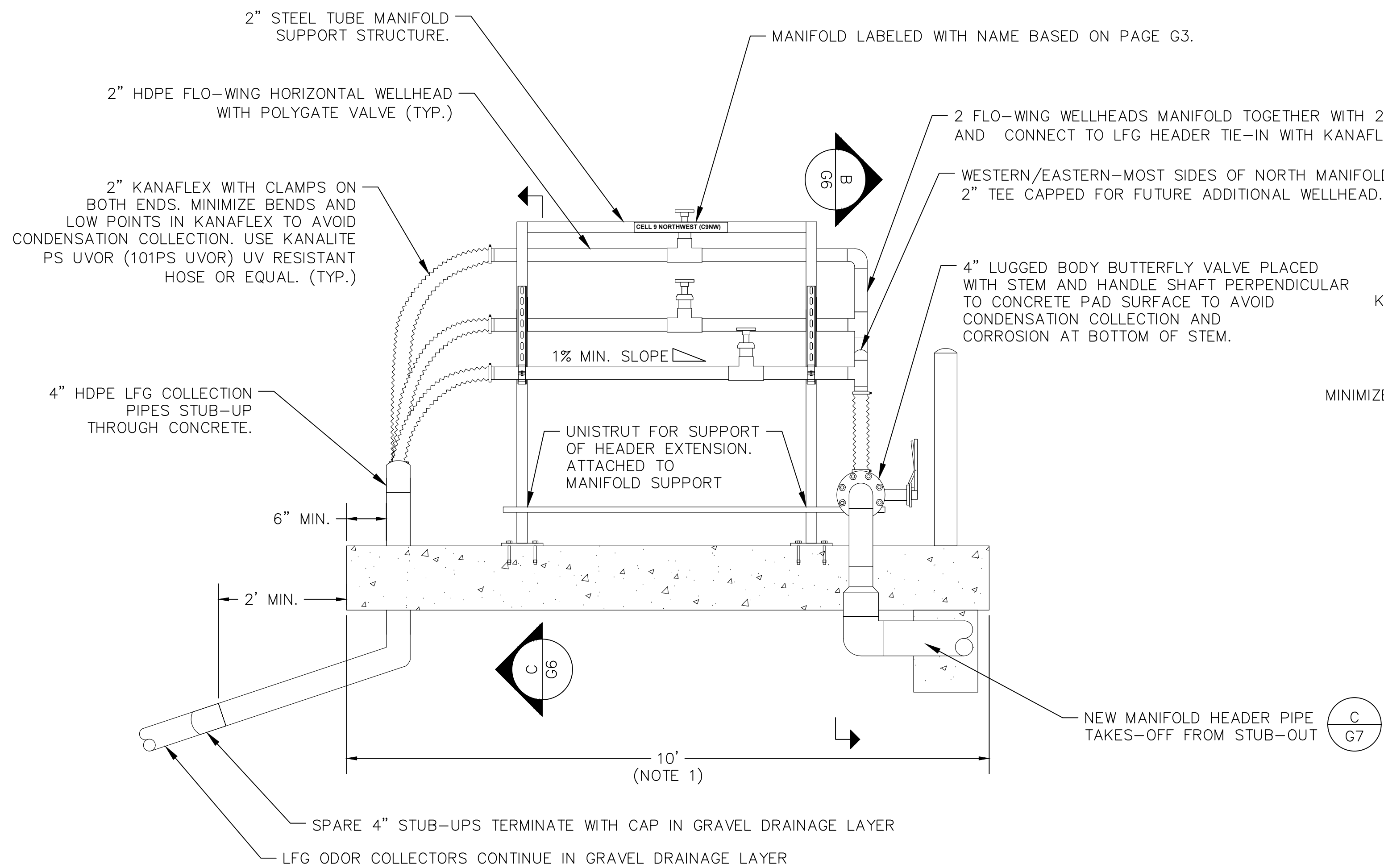


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

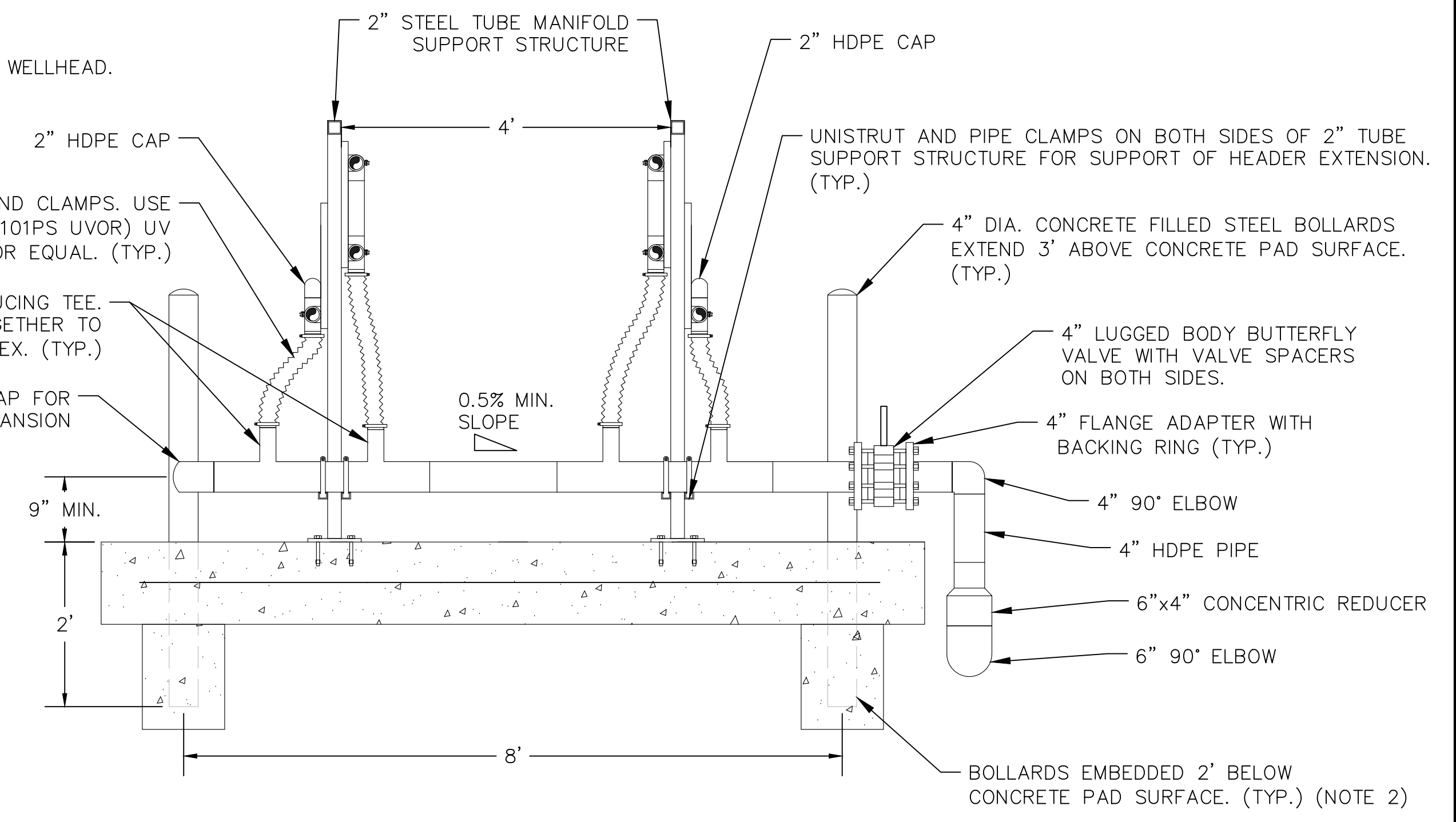
**CELL 9
SOUTHEAST LFG MANIFOLD**

DRAWING NUMBER: G5	
CAD FILE NUMBER: TENT 2	
SHEET: 13 OF 24	REV. A

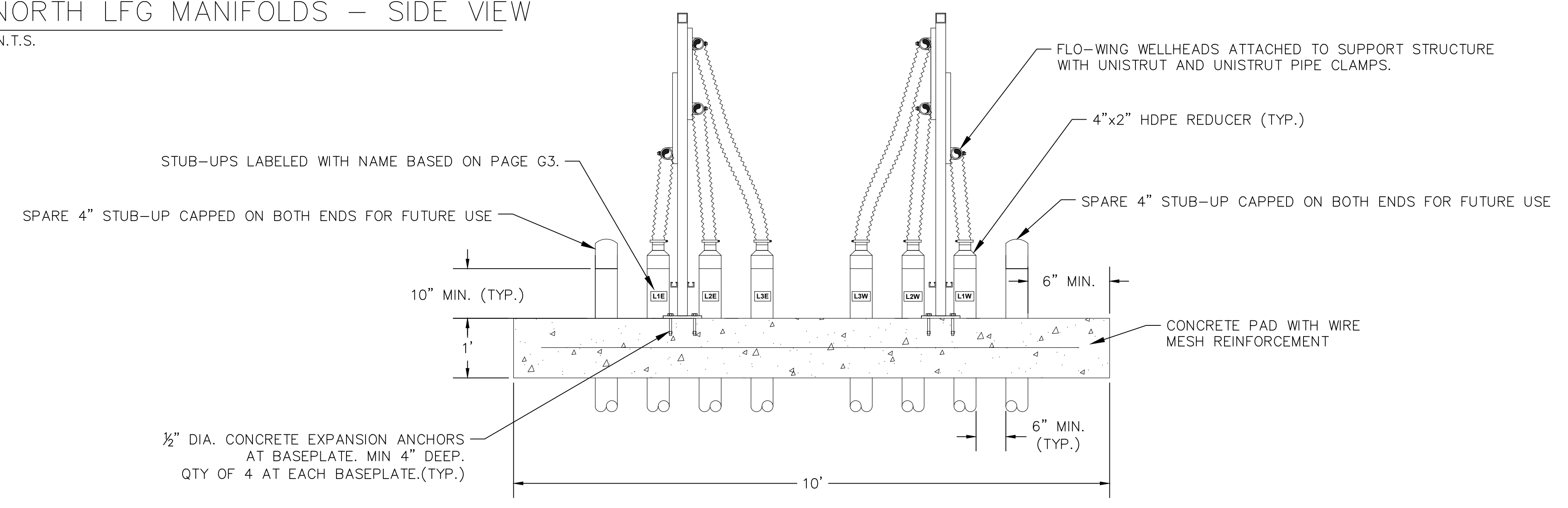
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A NORTH LFG MANIFOLDS – SIDE VIEW
G6 N.T.S.



B NORTH LFG MANIFOLDS – HEADER TIE-IN
G6 N.T.S.



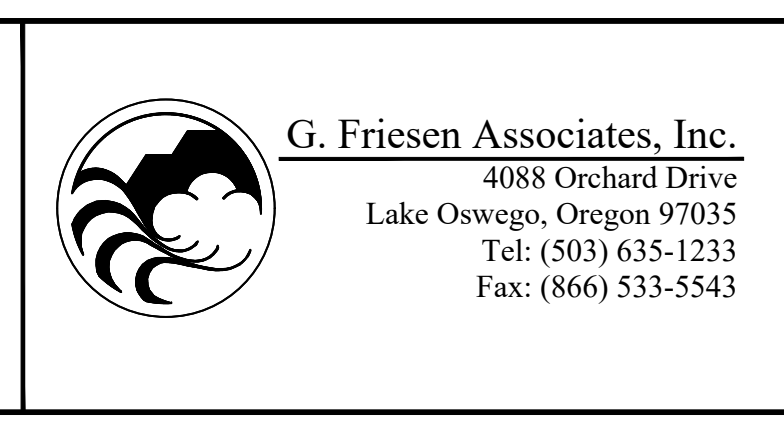
C NORTH LFG MANIFOLDS – SUPPORT
G6 N.T.S.



- NOTES:
1. LENGTH OF CONCRETE PAD CAN BE ADJUSTED AS NEEDED PROVIDED THERE IS STILL ADEQUATE ROOM ON PAD FOR MAINTENANCE AND PROPER OPERATION OF MANIFOLD.
 2. CONTRACTOR TO USE CAUTION WHEN DIGGING TO AVOID DISTURBANCE OF ANCHOR TRENCH AND CELL LINER.

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

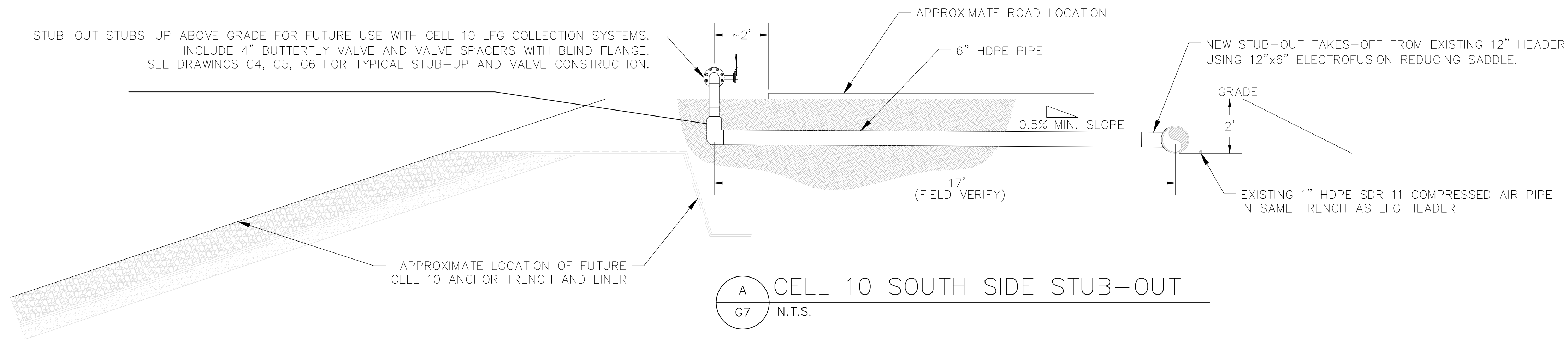


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

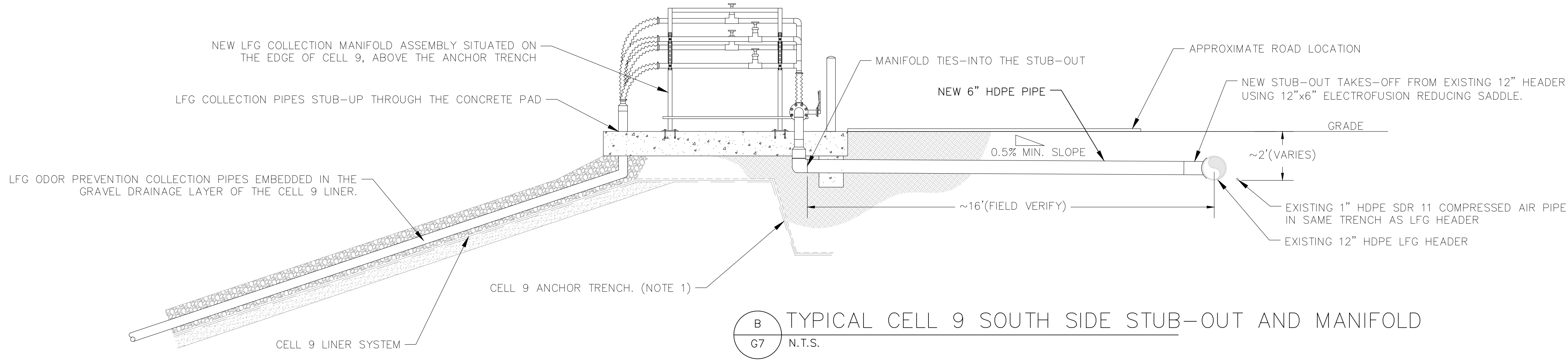
**CELL 9
NORTH SIDE LFG MANIFOLDS**

DRAWING NUMBER: G6	
CAD FILE NUMBER: TENT 2	
SHEET: 14 OF 24	REV. A

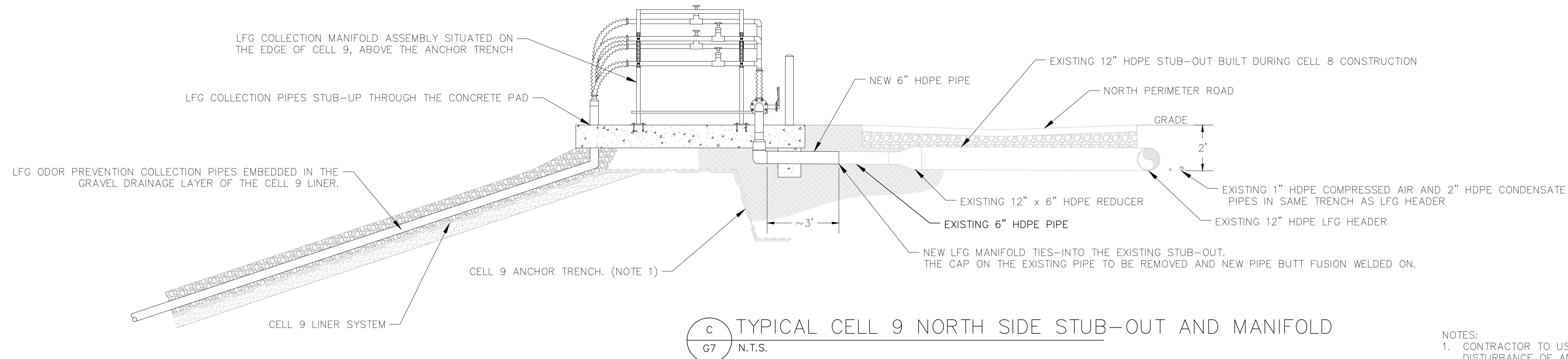
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A CELL 10 SOUTH SIDE STUB-OUT
G7 N.T.S.



B TYPICAL CELL 9 SOUTH SIDE STUB-OUT AND MANIFOLD
G7 N.T.S.



C TYPICAL CELL 9 NORTH SIDE STUB-OUT AND MANIFOLD
G7 N.T.S.

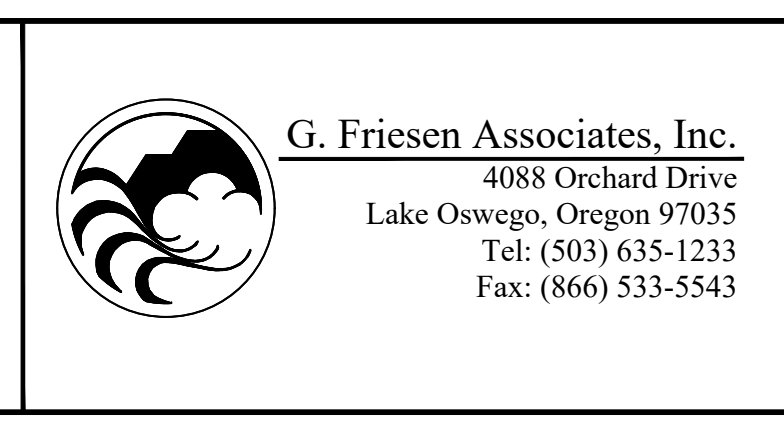
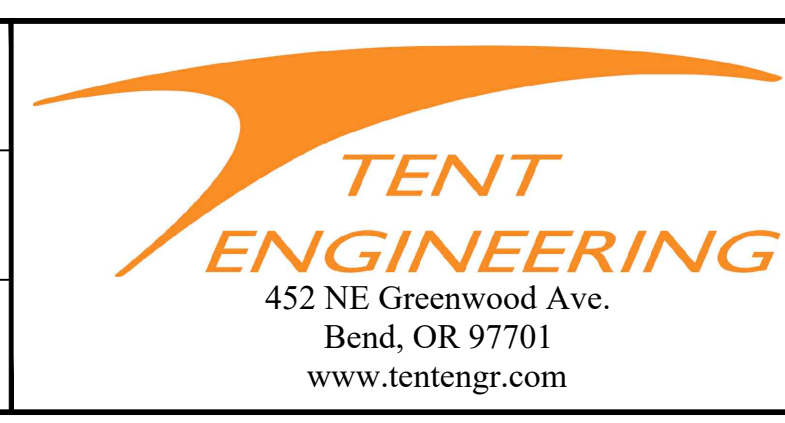


RENEWS: JUNE 30, 2024

NOTES:
1. CONTRACTOR TO USE CAUTION WHEN DIGGING TO AVOID DISTURBANCE OF ANCHOR TRENCH AND CELL LINER. SEE DRAWING NUMBER D6 FOR ANCHOR TRENCH DIMENSIONS.

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

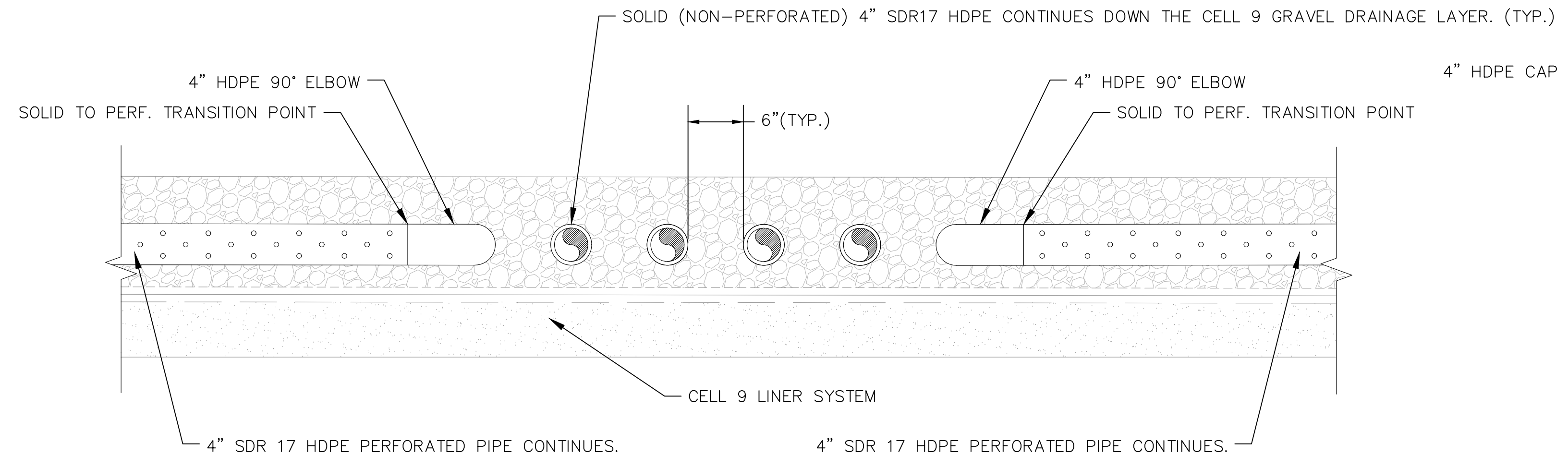


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

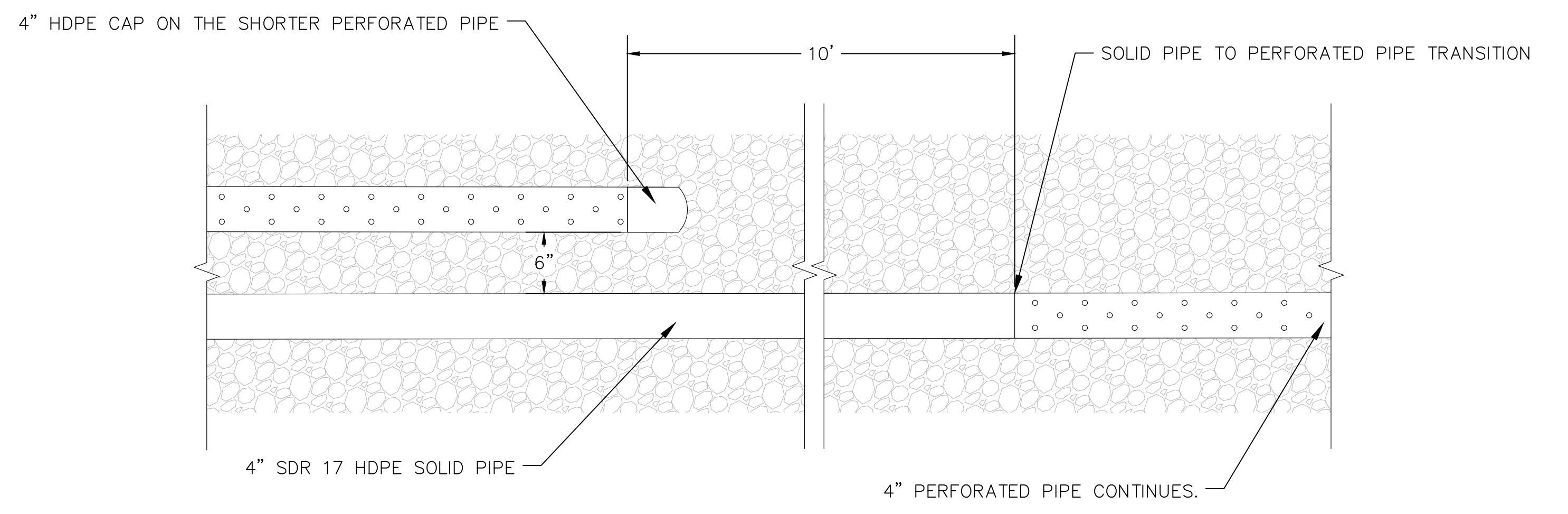
**CELL 9
LFG HEADER ROAD CROSSING STUB-OUTS**

DRAWING NUMBER:	
G7	
CAD FILE NUMBER:	
TENT 2	
SHEET:	REV.
15 OF 24	A

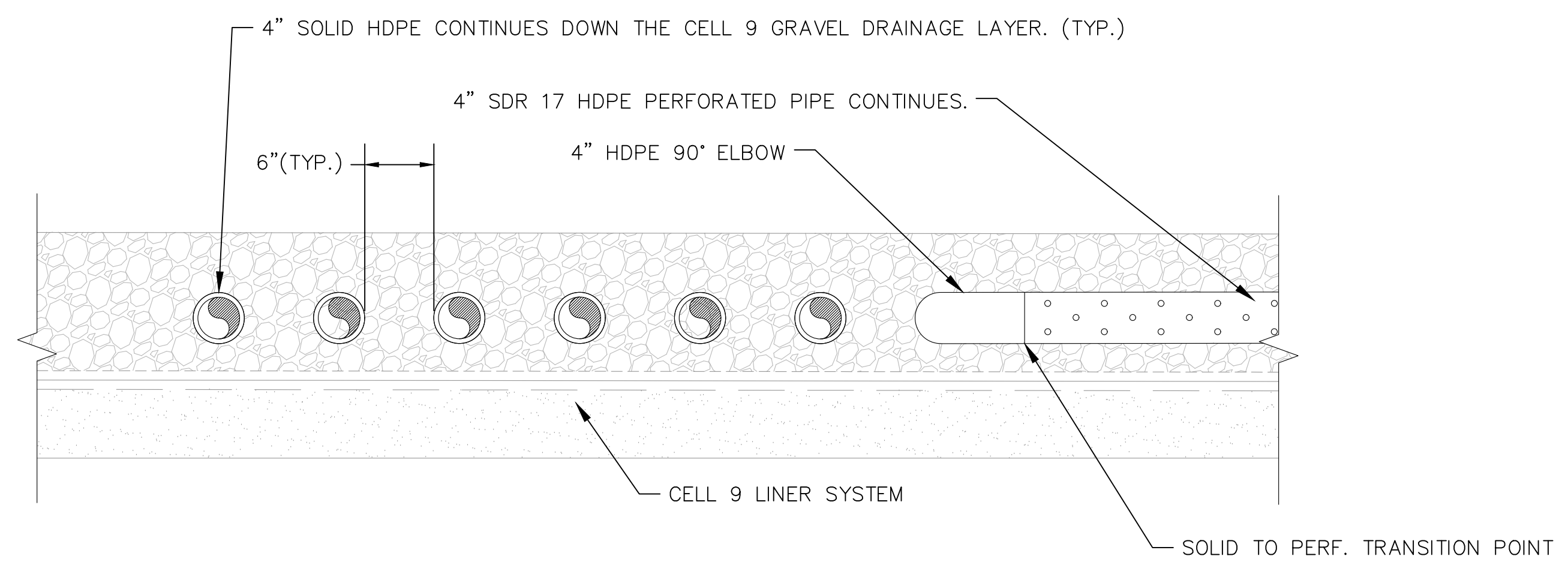
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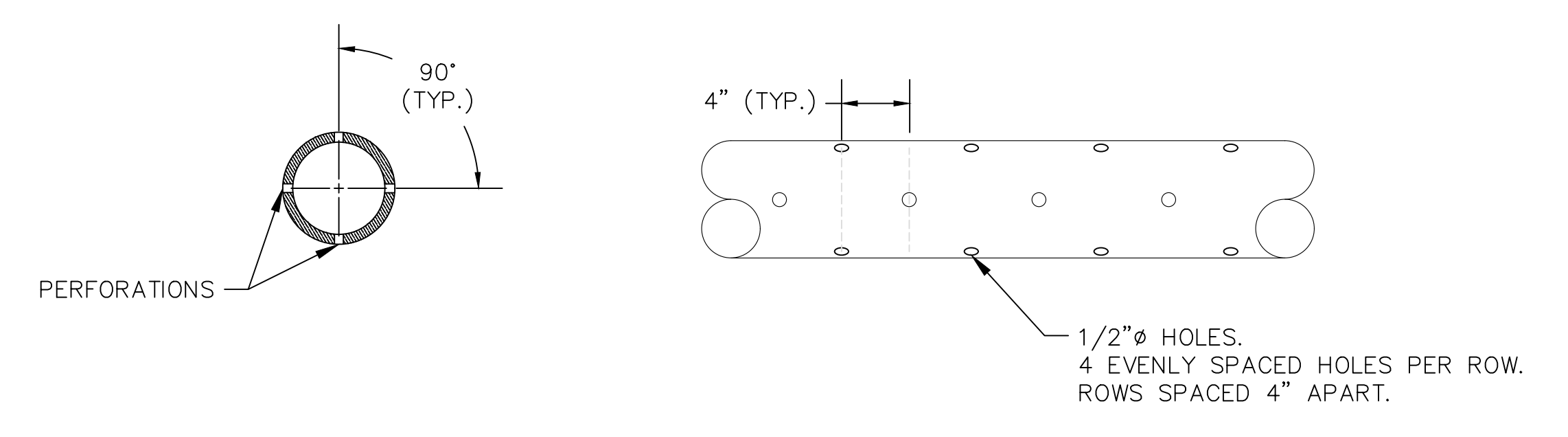
A CELL 9 NORTH SIDE ODOR COLLECTOR TRENCH
G8 N.T.S.



B TYPICAL CELL 9 SOUTH SIDE ODOR COLLECTORS
G8 SOLID TO PERFORATED PIPE TRANSITION AREA
N.T.S.



C CELL 9 SOUTHWEST ODOR COLLECTOR TRENCH
G8 N.T.S.



D TYPICAL LFG COLLECTION PIPE PERFORATIONS
G8 N.T.S.



RENEWS: JUNE 30, 2024

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS
SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS
	CHECKED BY: WS	DATE: 08/24/23



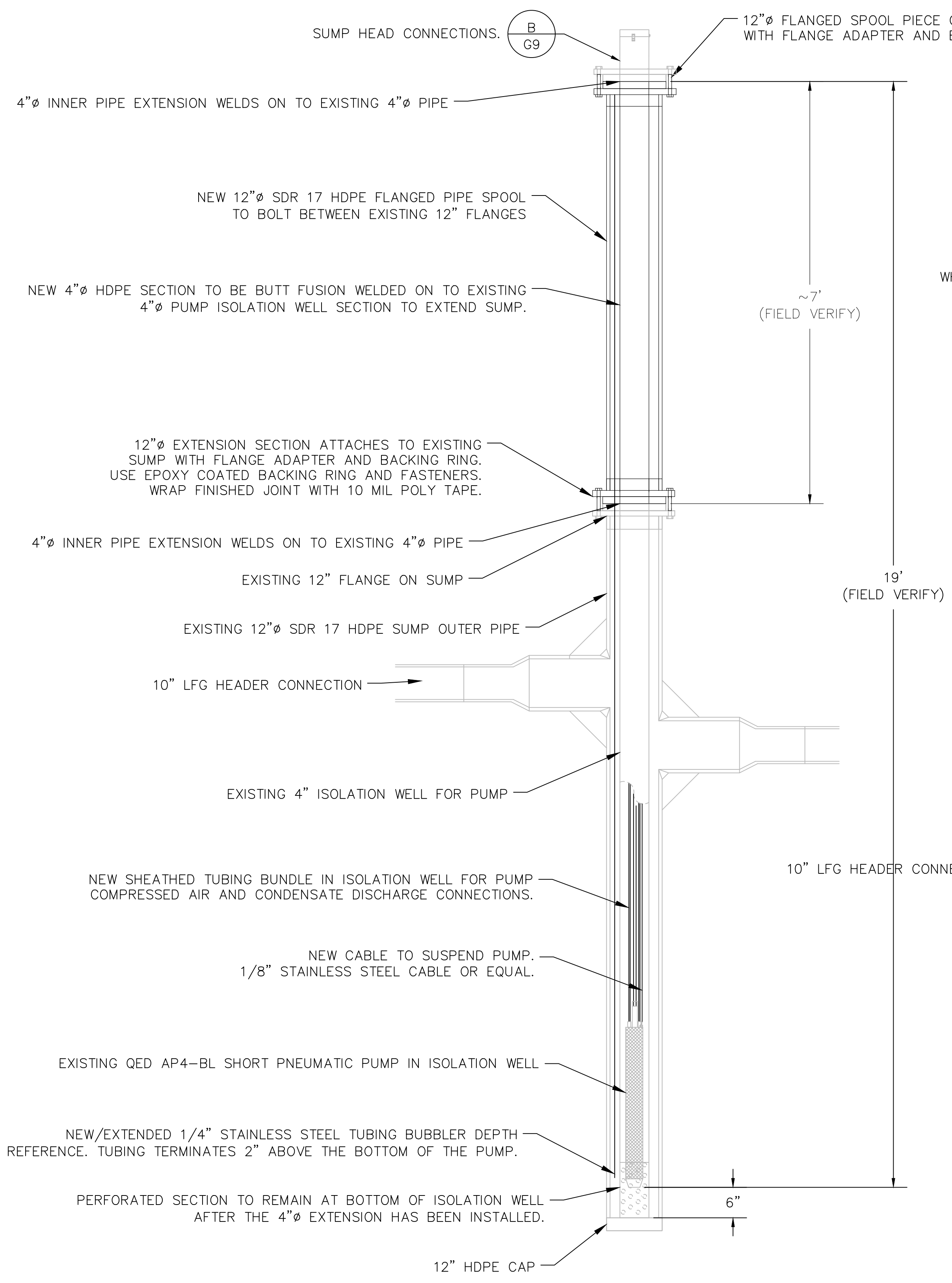
G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Tel: (503) 635-1233
Fax: (866) 533-5543

**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

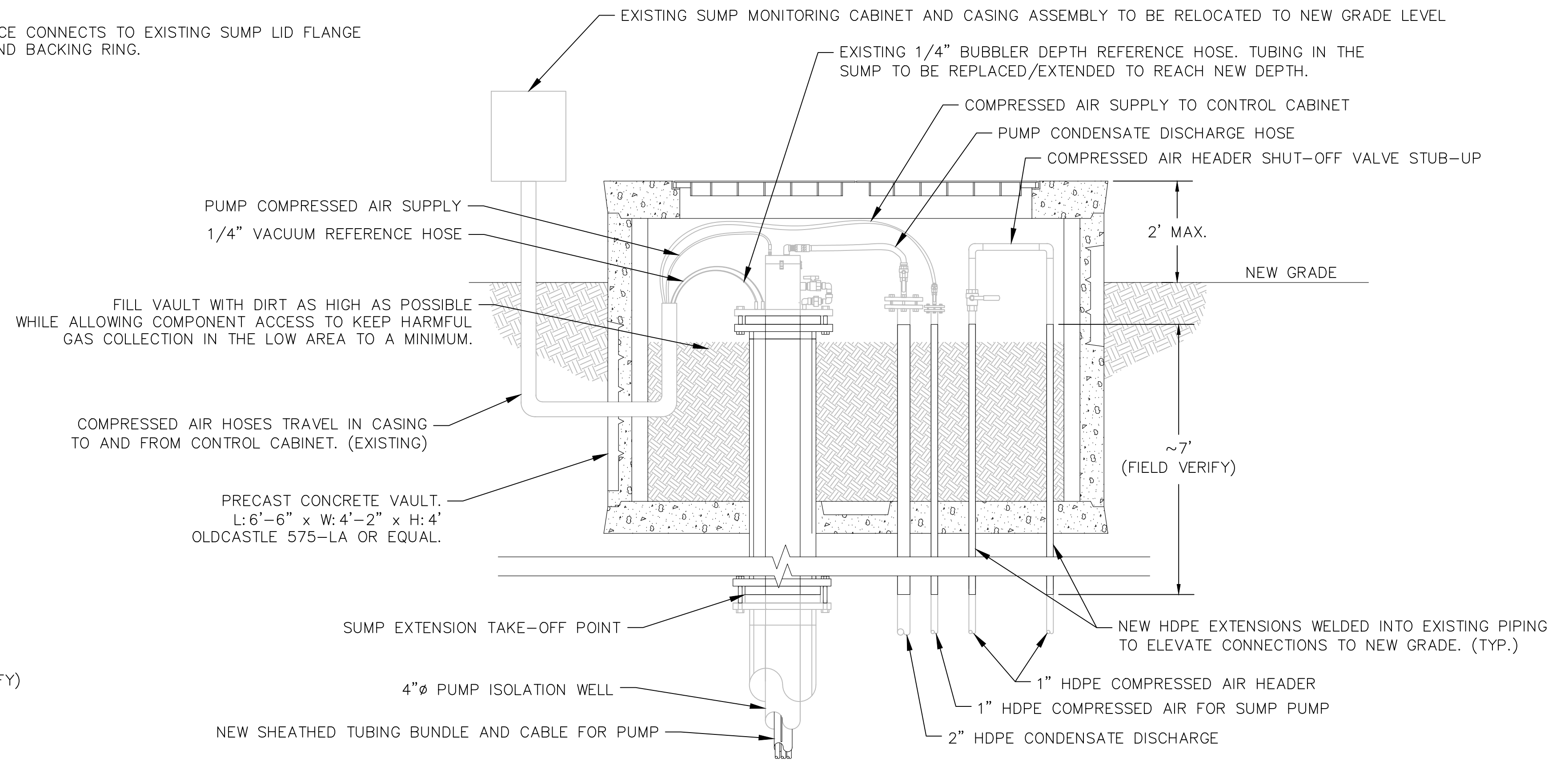
**CELL 9
LFG ODOR COLLECTOR PIPE DETAILS**

DRAWING NUMBER: G8	
CAD FILE NUMBER: TENT 2	
SHEET: 16 OF 24	REV. A

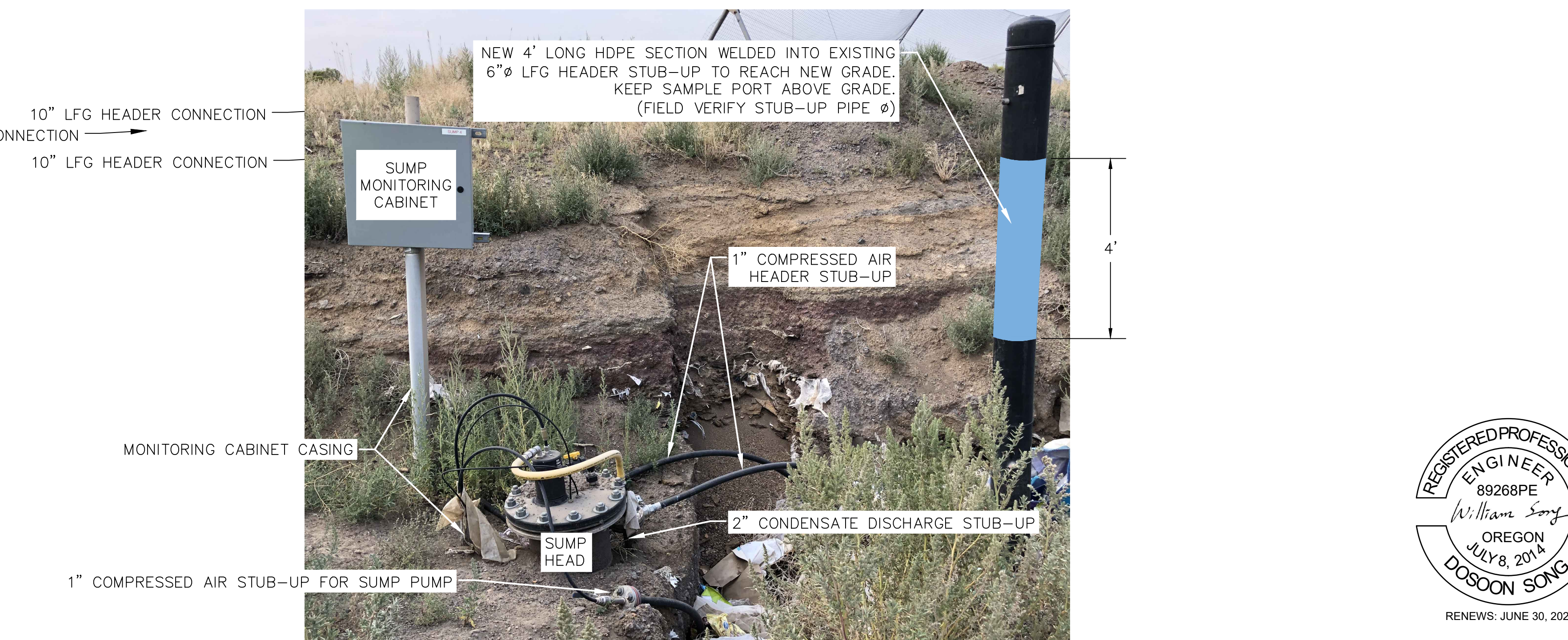
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A EXISTING LFG CONDENSATE SUMP
G9 N.T.S.



B SUMP HEAD CONNECTIONS EXTENSIONS
G9 N.T.S.



C SUMP PICTURE AND LFG HEADER STUB-UP EXTENSION
G9 N.T.S.

NOTES:
1. SEE SECTION D DRAWINGS FOR GRADE ELEVATIONS.
2. CONFIRM DESIGN WITH COUNTY ENGINEER BEFORE CONSTRUCTION.



No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

TENT ENGINEERING
452 NE Greenwood Ave.
Bend, OR 97701
www.tentengr.com

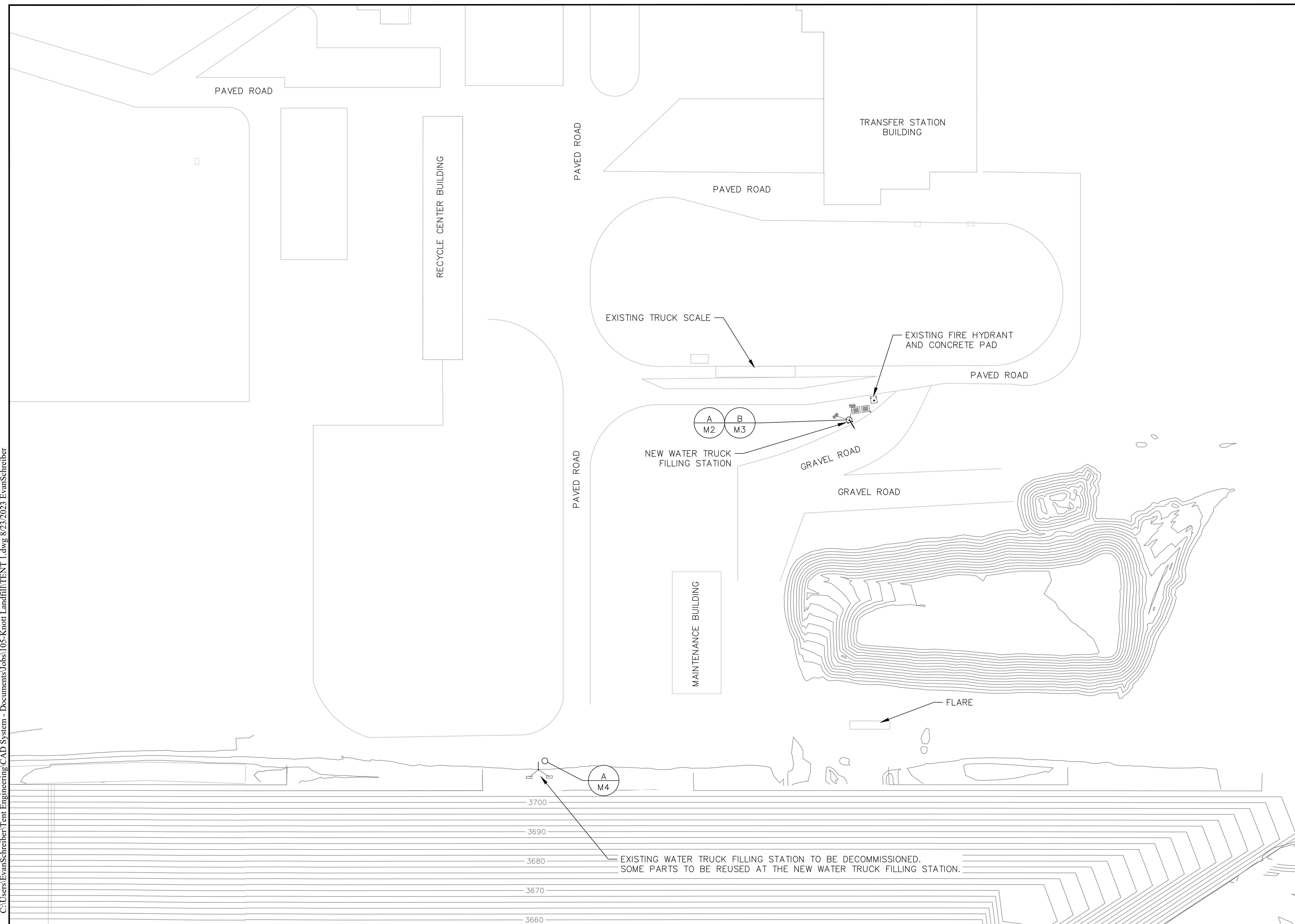
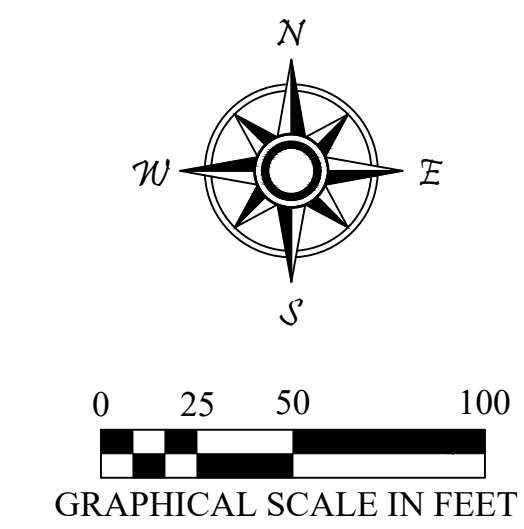
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4088 Orchard Drive
Lake Oswego, Oregon 97035
Tel: (503) 635-1233
Fax: (866) 533-5543

**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

**CELL 9
EXISTING CONDENSATE SUMP EXTENSION**

DRAWING NUMBER: G9	
CAD FILE NUMBER: TENT 2	
SHEET: 17 OF 24	REV. A

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No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS
SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS
	CHECKED BY: WS	DATE: 08/24/23

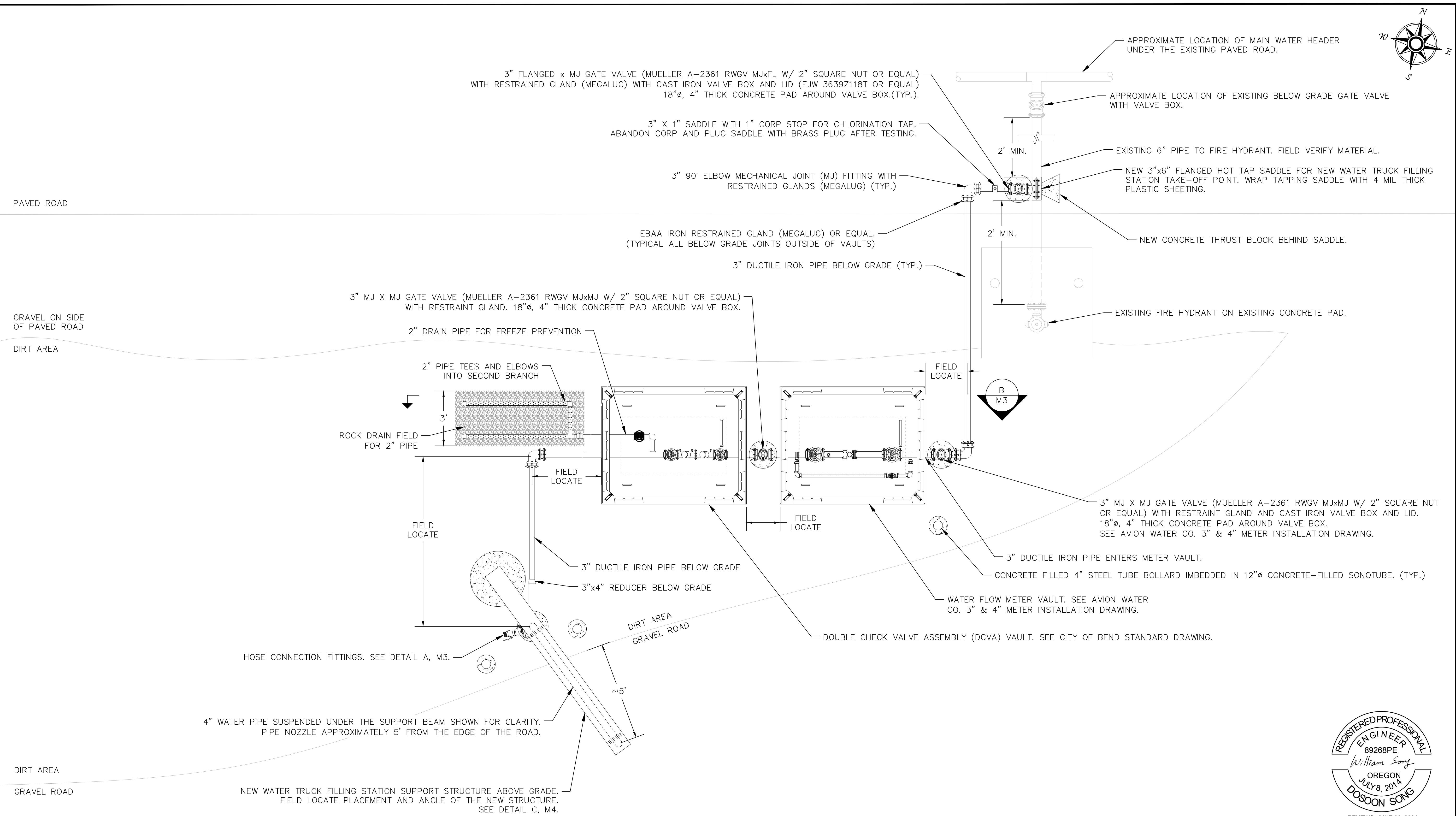
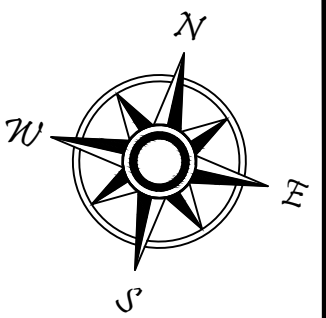
TENT ENGINEERING
452 NE Greenwood Ave.
Bend, OR 97701
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**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

**CELL 9
SITE PLAN**

DRAWING NUMBER: M1	
CAD FILE NUMBER: TENT 1	
SHEET: 18 OF 24	REV. A



A WATER TRUCK FILLING STATION TOP DOWN VIEW
M2 N.T.S.

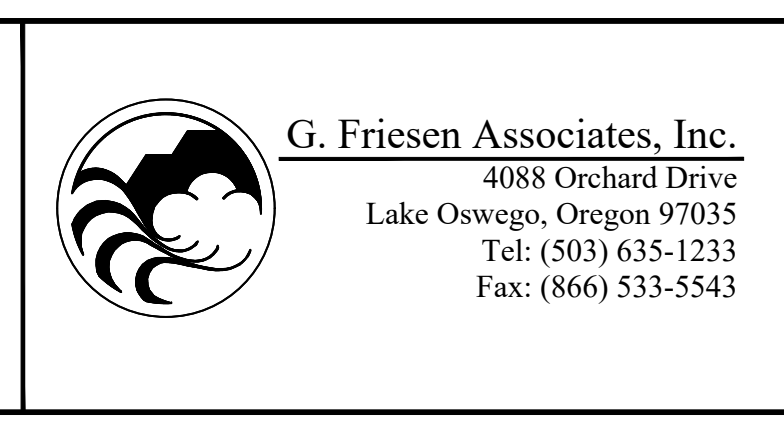
NOTES:
1. RELOCATED ITEMS FROM THE EXISTING WATER TRUCK FILLING STATION TO BE INSPECTED FOR INTEGRITY BEFORE REUSE. REPLACE PARTS AS NEEDED TO ENSURE INTEGRITY AND SAFETY OF SYSTEM.



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No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

JOB No.	DESIGNED:	PROJ. ENGINEER:
105.02	ES	WS
SCALE:	DRAWN BY:	APPROVED BY:
AS SHOWN	ES	WS
	CHECKED BY:	DATE:
	WS	08/24/23

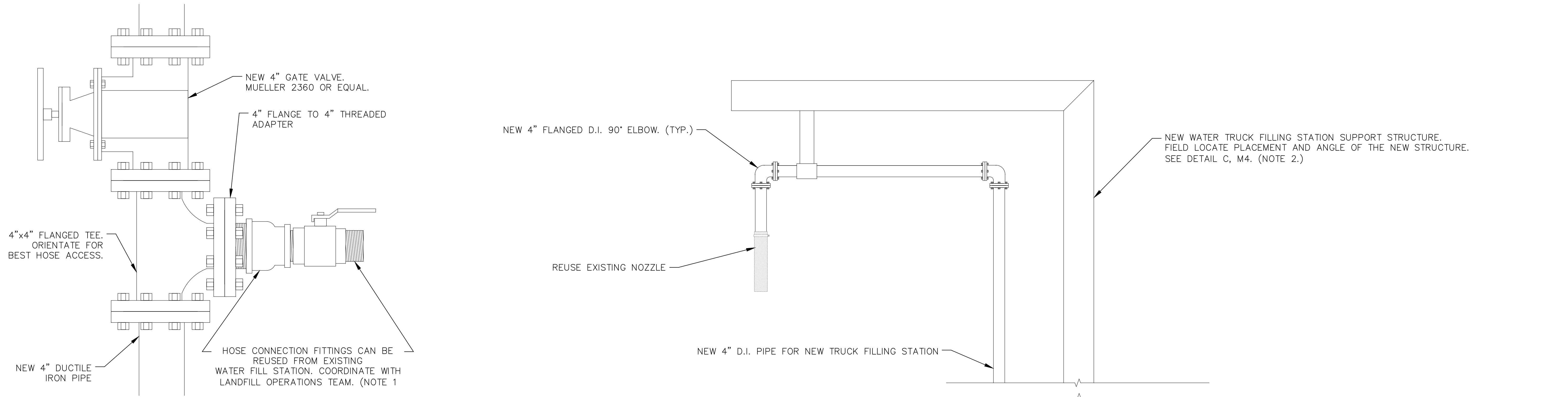


**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

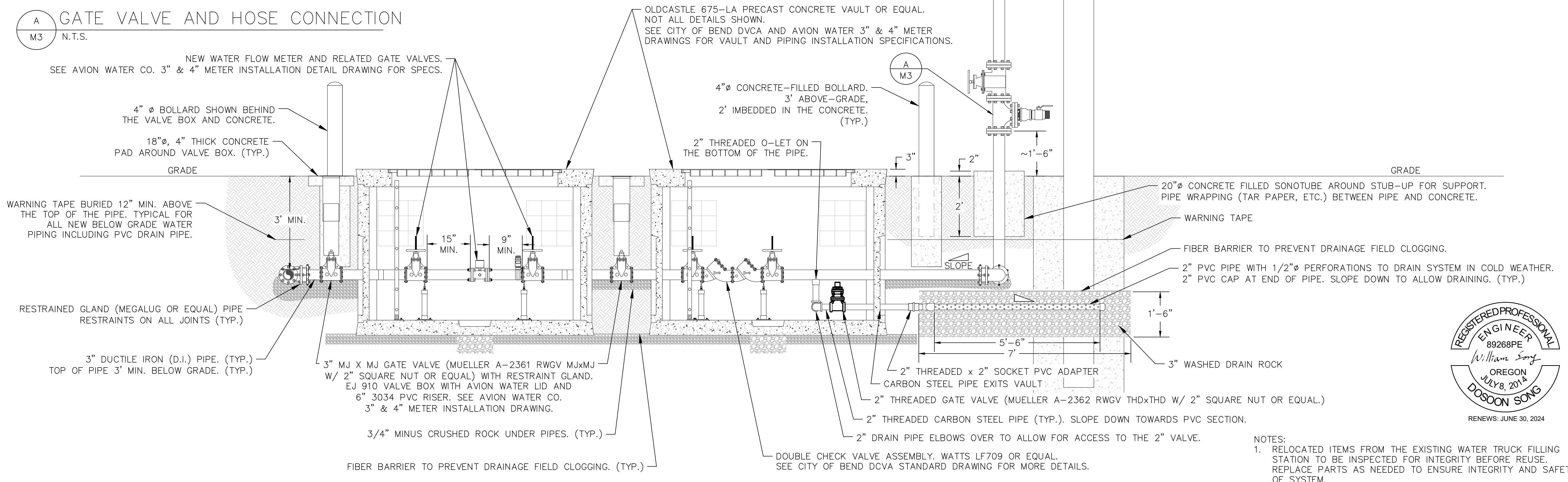
**CELL 9
SECTIONS AND DETAILS**

DRAWING NUMBER: M2	
CAD FILE NUMBER: TENT 2	
SHEET: 19 of 24	REV. A

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A GATE VALVE AND HOSE CONNECTION
M3 N.T.S.



B WATER TRUCK FILLING STATION STRUCTURE AND VAULTS
M3 N.T.S.

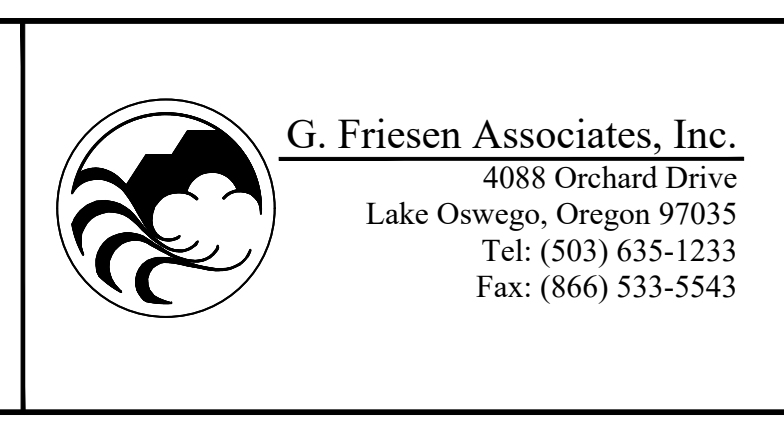
- NOTES:
1. RELOCATED ITEMS FROM THE EXISTING WATER TRUCK FILLING STATION TO BE INSPECTED FOR INTEGRITY BEFORE REUSE. REPLACE PARTS AS NEEDED TO ENSURE INTEGRITY AND SAFETY OF SYSTEM.
 2. ABOVE GRADE WATER TRUCK FILLING STRUCTURE SHOWN AT THIS ANGLE FOR CLARITY. SEE DETAIL A, M2 FOR APPROXIMATE ANGLE. FIELD VERIFY ACTUAL ANGLE AND LOCATION NEEDED.
 3. VAULTS, METER, AND DOUBLE CHECK VALVE ASSEMBLY (DCVA) TO BE INSTALLED CONCURRENTLY FOR TESTING & DISINFECTION TO THE CITY MAIN.



RENEWS: JUNE 30, 2024

No.	DATE	BY	REVISION
A	8/24/23	ES	ISSUED FOR CONSTRUCTION

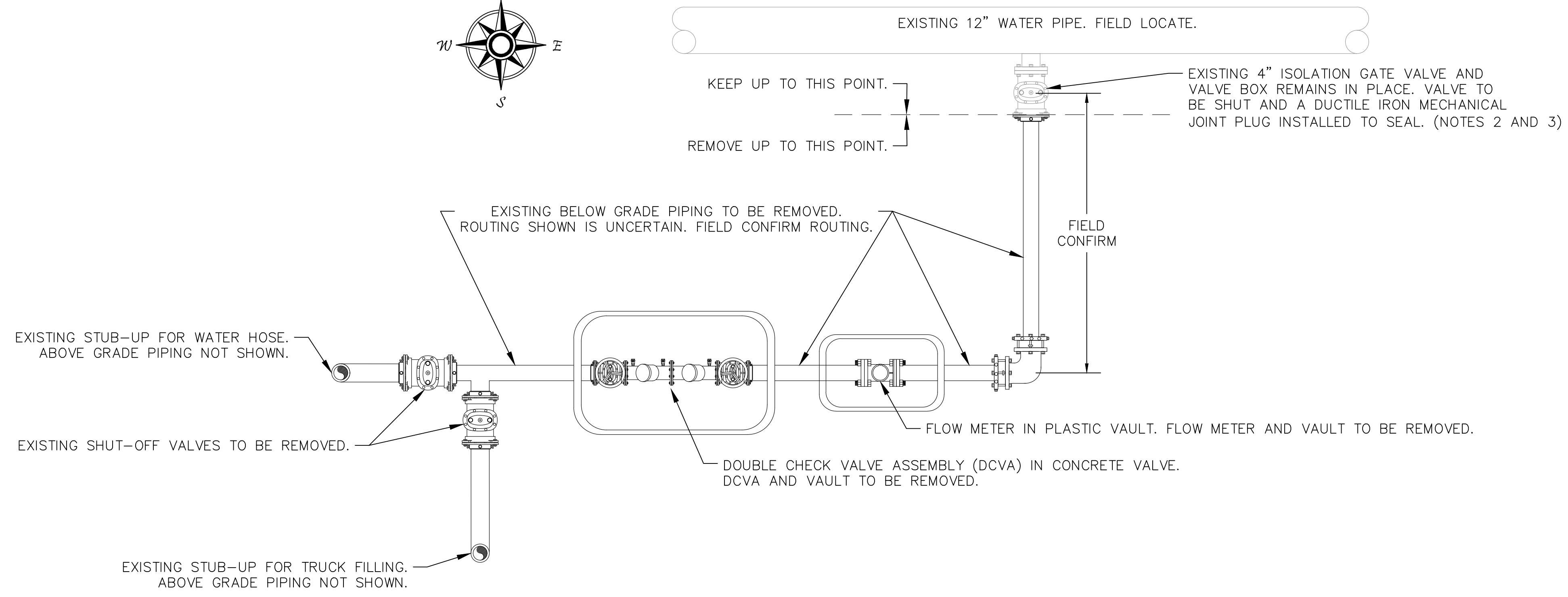
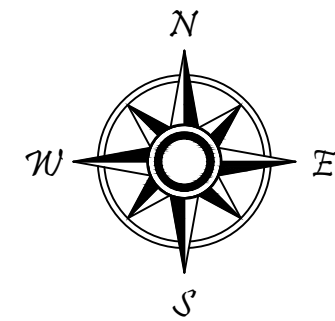
JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS
SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS
	CHECKED BY: WS	DATE: 08/24/23



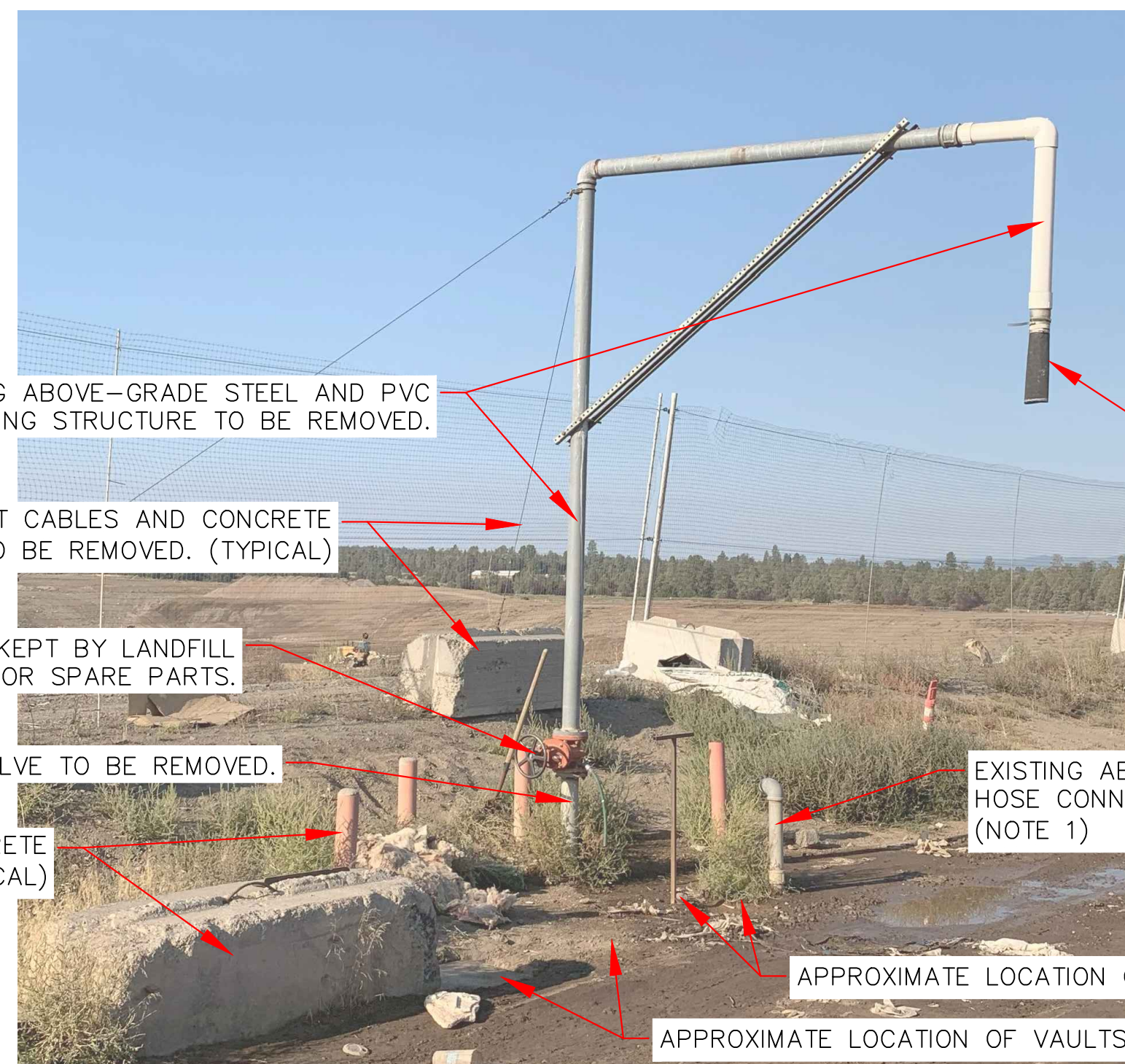
**KNOTT LANDFILL
CELL 9 CONSTRUCTION
PROJECT
DESCHUTES COUNTY, OREGON**

**CELL 9
SECTIONS AND DETAILS**

DRAWING NUMBER: M3	
CAD FILE NUMBER: TENT 2	
SHEET: 20 OF 24	REV. A



A OLD WATER TRUCK FILLING STATION DECOMMISSIONING—BELOW GRADE
M4 N.T.S.



EXISTING ABOVE-GRADE STEEL AND PVC PIPING STRUCTURE TO BE REMOVED.

EXISTING SUPPORT CABLES AND CONCRETE BLOCKS TO BE REMOVED. (TYPICAL)

EXISTING 4" GATE VALVE TO BE KEPT BY LANDFILL OPERATIONS TEAM AND USED FOR SPARE PARTS.

EXISTING 4" PIPE BELOW THE VALVE TO BE REMOVED.

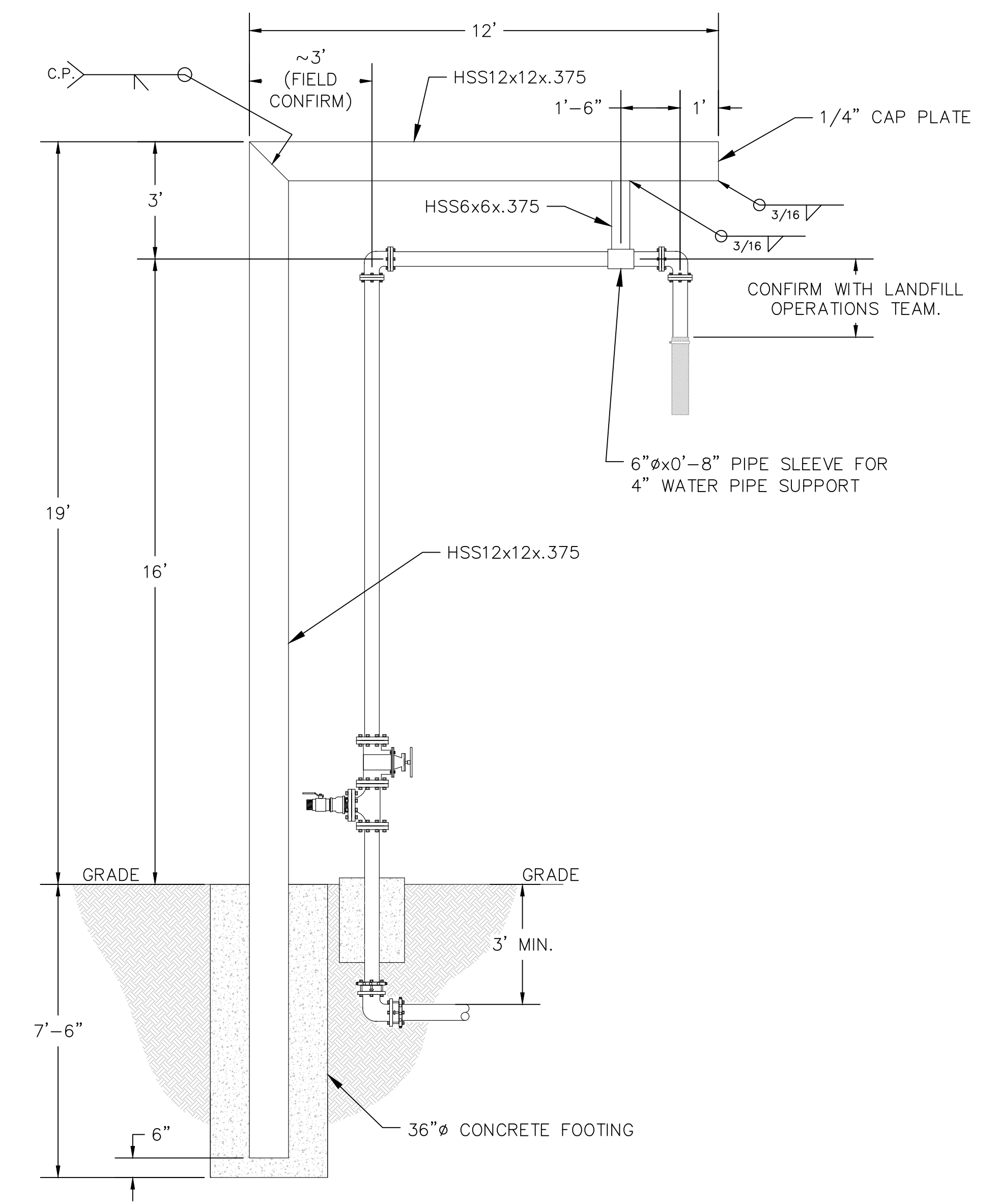
EXISTING BOLLARDS AND CONCRETE BLOCKS TO BE REMOVED. (TYPICAL)

EXISTING NOZZLE CAN BE REUSED. (NOTE 1)

APPROXIMATE LOCATION OF VALVES TO BE REMOVED. (NOTE 4)

APPROXIMATE LOCATION OF VAULTS TO BE REMOVED. (NOTE 4)

B OLD WATER TRUCK FILLING STATION DECOMMISSIONING—IMAGE
M4



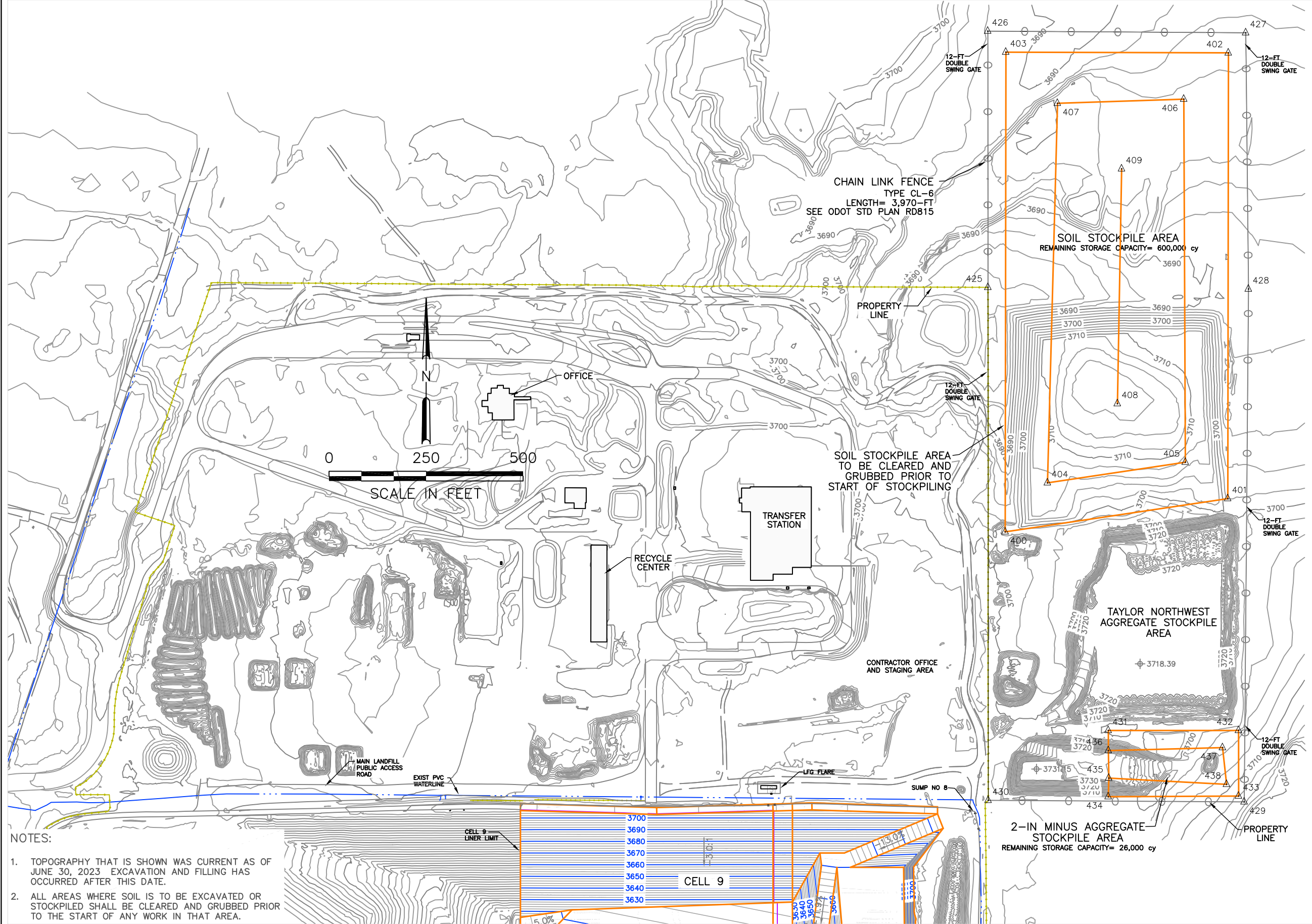
C NEW WATER PIPE SUPPORT STRUCTURE
M4 (NOTE 5)



- NOTES:
1. RELOCATED ITEMS FROM THE EXISTING WATER TRUCK FILLING STATION TO BE INSPECTED FOR INTEGRITY BEFORE REUSE. REPLACE PARTS AS NEEDED TO ENSURE INTEGRITY AND SAFETY OF SYSTEM.
 2. FIELD CONFIRM SIZE AND LOCATION OF THE VALVE. METAL DETECTOR MAY BE REQUIRED TO LOCATE.
 3. CONTRACTOR TO DIG WITH CAUTION TO AVOID DISTURBING THE EXISTING WATER AND GAS SYSTEMS.
 4. EXISTING VAULTS AND VALVES DIFFICULT TO SEE IN THE IMAGE DUE TO DIRT COVERAGE.
 5. CONFIRM ALL PIPE DIMENSIONS AND PLACEMENT WITH THE LANDFILL OPERATIONS TEAM.

C:\Users\EvanSchreiber\Tent Engineering\CAD System - Documents\Jobs\105-Knott Landfill\TENT 2.dwg 8/23/2023 EvanSchreiber

			JOB No. 105.02	DESIGNED: ES	PROJ. ENGINEER: WS	 <p>G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543</p>	<p>KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON</p>	<p>CELL 9 SECTIONS AND DETAILS</p>	DRAWING NUMBER: M4	
			SCALE: AS SHOWN	DRAWN BY: ES	APPROVED BY: WS				CAD FILE NUMBER: TENT 2	
				CHECKED BY: WS	DATE: 08/24/23				SHEET: 21 of 24	REV. A
A			8/24/23	ES	ISSUED FOR CONSTRUCTION					
No.	DATE	BY	REVISION							



Point #	Northing	Easting	Elevation
400	370793.22	3309128.52	3698.00
401	370878.95	3309702.10	3698.00
402	372026.98	3309703.62	3696.00
403	372028.72	3309130.31	3690.00
404	370919.52	3309237.51	3732.00
405	370972.61	3309592.74	3732.00
406	371907.66	3309588.74	3732.00
407	371897.06	3309263.23	3732.00
408	371123.46	3309417.74	3739.00
409	371728.17	3309428.48	3739.00
425	371422.99	3309084.20	3681.69
426	372082.97	3309083.83	3691.80
427	372078.75	3309748.41	3694.79
428	371418.69	3309755.33	3690.69
429	370097.67	3309744.33	3713.62
430	370101.63	3309084.93	3703.10
431	370281.71	3309394.28	3700.00
432	370281.71	3309729.84	3704.00
433	370112.76	3309729.91	3712.00
434	370111.10	3309394.23	3702.00
435	370159.02	3309395.50	3726.00
436	370229.71	3309394.42	3726.00
437	370237.57	3309688.56	3726.00
438	370142.98	3309698.94	3726.00



Renews: 12/31/2023

No.	DATE	BY	REVISION
A	8/24/23	GF	ISSUED FOR CONSTRUCTION

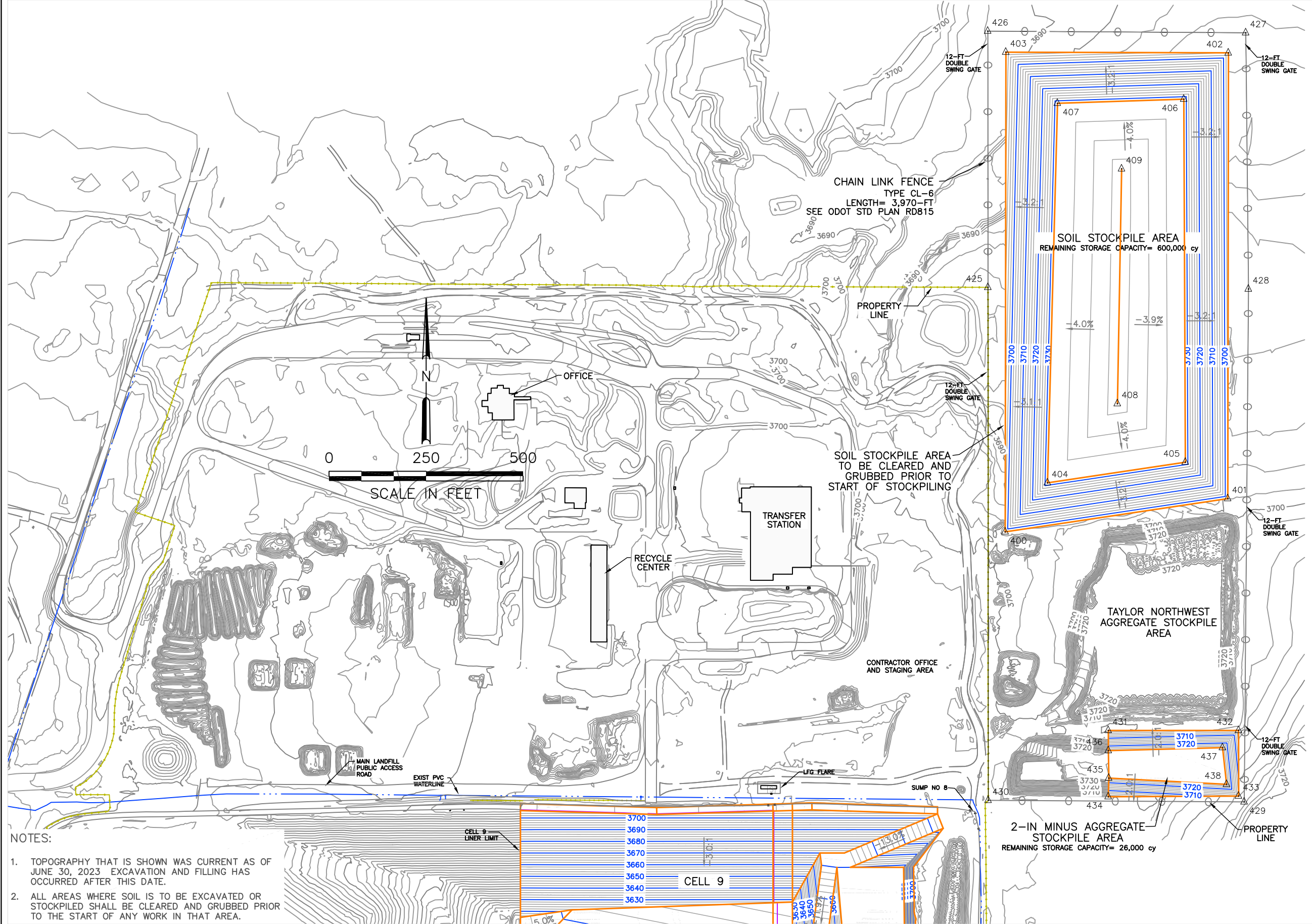
JOB No. 00185	DESIGNED: GF	PROJ. ENGINEER: GF
SCALE: AS SHOWN	DRAWN BY: GF	APPROVED BY: JM
	CHECKED BY: GF	DATE: 8/24/23

G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Tel: (503) 635-1233
Fax: (866) 533-5543

KNOTT LANDFILL
CELL 9 CONSTRUCTION PROJECT
DESCHUTES COUNTY, OREGON

CELL 9 - SOIL STOCKPILE AREA
EXISTING SITE PLAN

DRAWING NUMBER: S1	
CAD FILE NUMBER: S01	
SHEET: 22 of 24	REV. A



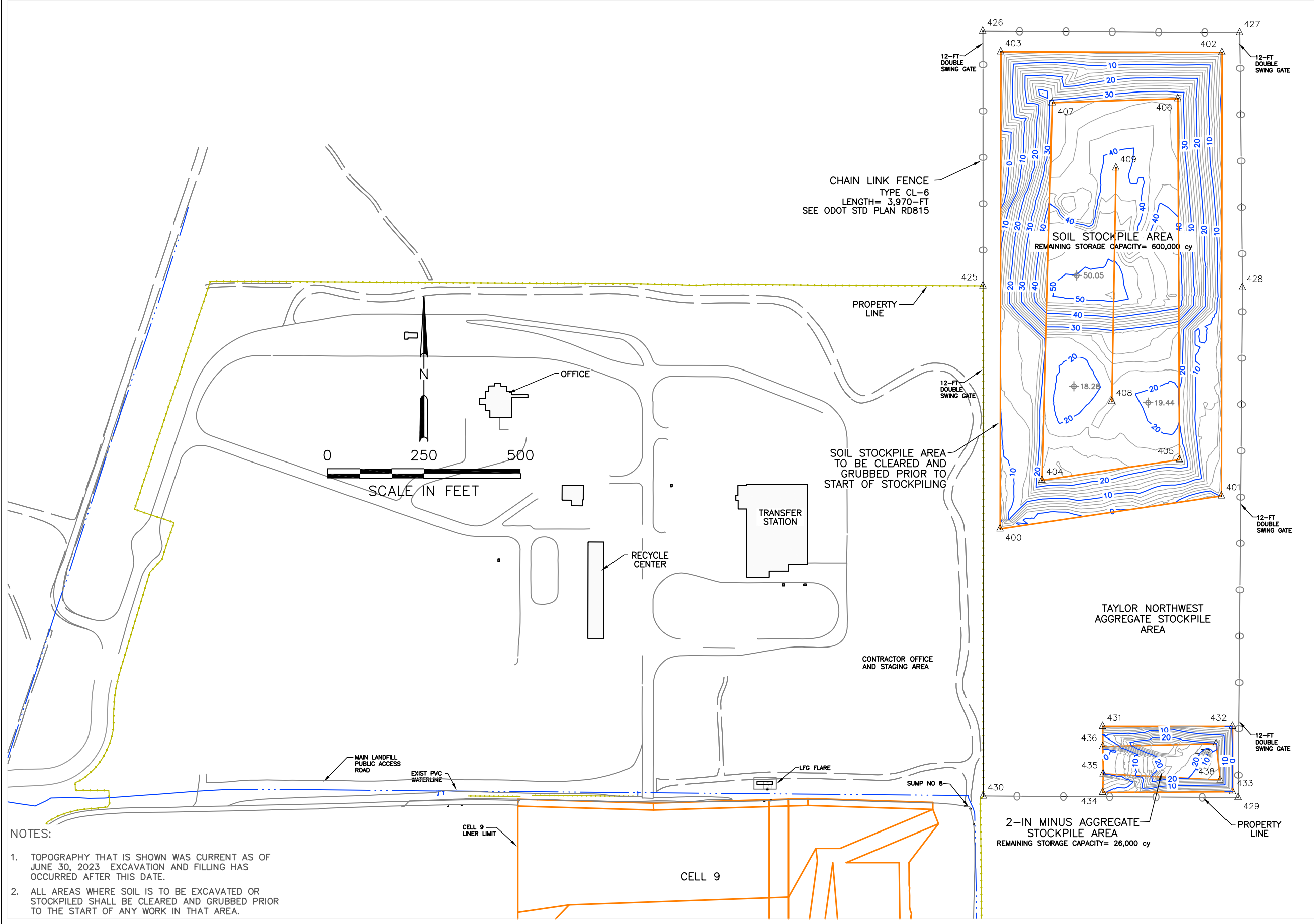
Point Table			
Point #	Northing	Easting	Elevation
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401	370878.95	3309702.10	3698.00
402	372026.98	3309703.62	3696.00
403	372028.72	3309130.31	3690.00
404	370919.52	3309237.51	3732.00
405	370972.61	3309592.74	3732.00
406	371907.66	3309588.74	3732.00
407	371897.06	3309263.23	3732.00
408	371123.46	3309417.74	3739.00
409	371728.17	3309428.48	3739.00
425	371422.99	3309084.20	3681.69
426	372082.97	3309083.83	3691.80
427	372078.75	3309748.41	3694.79
428	371418.69	3309755.33	3690.69
429	370097.67	3309744.33	3713.62
430	370101.63	3309084.93	3703.10
431	370281.71	3309394.28	3700.00
432	370281.71	3309729.84	3704.00
433	370112.76	3309729.91	3712.00
434	370111.10	3309394.23	3702.00
435	370159.02	3309395.50	3726.00
436	370229.71	3309394.42	3726.00
437	370237.57	3309688.56	3726.00
438	370142.98	3309698.94	3726.00

- NOTES:
1. TOPOGRAPHY THAT IS SHOWN WAS CURRENT AS OF JUNE 30, 2023. EXCAVATION AND FILLING HAS OCCURRED AFTER THIS DATE.
 2. ALL AREAS WHERE SOIL IS TO BE EXCAVATED OR STOCKPILED SHALL BE CLEARED AND GRUBBED PRIOR TO THE START OF ANY WORK IN THAT AREA.



Renews: 12/31/2023

A	8/24/23	GF	ISSUED FOR CONSTRUCTION	JOB No.	DESIGNED:	PROJ. ENGINEER:	G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543	KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON	CELL 9 - SOIL STOCKPILE AREA FINAL GRADING PLAN	DRAWING NUMBER:
				00185	GF	GF				S2
				SCALE:	DRAWN BY:	APPROVED BY:				CAD FILE NUMBER:
				AS SHOWN	GF	JM				S02
				CHECKED BY:	DATE:				SHEET:	REV.
				GF	8/24/23				23 OF 24	A



Point Table			
Point #	Northing	Easting	Elevation
400	370793.22	3309128.52	3698.00
401	370878.95	3309702.10	3698.00
402	372026.98	3309703.62	3696.00
403	372028.72	3309130.31	3690.00
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Renews: 12/31/2023

JOB No. 00185		DESIGNED: GF	PROJ. ENGINEER: GF	<p>G. Friesen Associates, Inc. 4088 Orchard Drive Lake Oswego, Oregon 97035 Tel: (503) 635-1233 Fax: (866) 533-5543</p>	<p>KNOTT LANDFILL CELL 9 CONSTRUCTION PROJECT DESCHUTES COUNTY, OREGON</p>	<p>CELL 9 - SOIL STOCKPILE AREA SOIL FILL DEPTHS</p>	DRAWING NUMBER: S3		
SCALE: AS SHOWN		DRAWN BY: GF	APPROVED BY: JM				CAD FILE NUMBER: S03		
A 8/24/23		CHECKED BY: GF	DATE: 8/24/23				SHEET: 24 of 24	REV. A	
No.	DATE	BY	REVISION						