

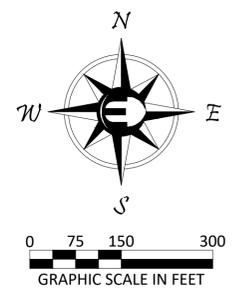
**LEGEND**

**PROPOSED**

- FILL
- 12" LFG PIPING
- 6" LFG PIPING
- - - AIR & FORCE MAIN PIPING
- - - FORCE MAIN PIPING
- AIR PIPING
- ⊕ VERTICAL LFG WELL
- ⊕ VERTICAL LFG WELL WITH PUMP
- ⊗ LFG/AIR & LIQUID CONVEYANCE ISOLATION VALVE
- LIQUID CONVEYANCE CLEANOUT/AIR BLOWOFF
- △ REDUCER
- SLOPE
- ▨ ROAD CROSSING
- 1" ELECTRICAL CONDUIT

**EXISTING**

- 10" LFG HEADER
- 18" LFG HEADER
- 12" LFG HEADER (ON 8% ROAD)
- ⊗ HORIZONTAL MANIFOLD/WELLHEAD
- ⊗ SUMP



- NOTES:**
1. TOPOGRAPHY SHOWN REPRESENTS PROJECTED GRADES PROVIDED BY COWLITZ COUNTY ON JANUARY 7, 2025.
  2. VACUUM, LIQUID, AND AIR LINES SHOULD BE INSTALLED ON THE DOWN HILL SIDE OF ALL WELLS
  3. FIELD GRADE TO MAINTAIN 3% MINIMUM DROP FOR DRAINAGE BACK INTO WASTE
  4. WELLS CONNECT TO HEADER/LATERAL PIPING WITH 6" RISER
  5. TIE IN 3" FORCE MAIN LINE INTO (E) 8" LCS NEAR CLEANOUT

0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB
REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY

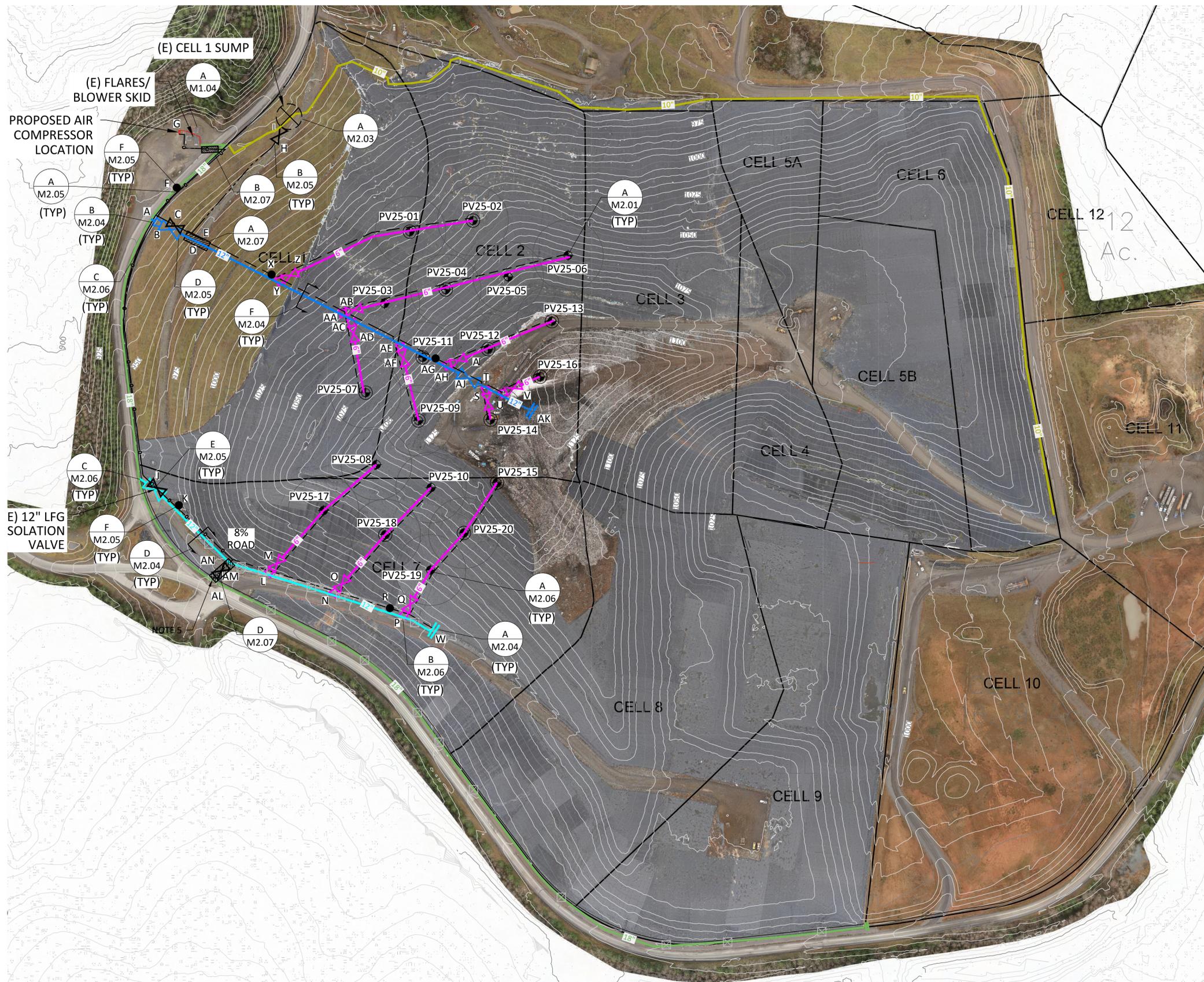


**COWLITZ COUNTY**  
 DEPARTMENT OF PUBLIC WORKS  
 1600 13TH AVENUE SOUTH  
 KELSO, WASHINGTON 98626

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2025 GCCS EXPANSION LAYOUT  
 PROPOSED 2025 GCCS EXPANSION  
 HEADQUARTERS LANDFILL  
 CASTLE ROCK, WA

**M1.01A**  
 077.517



**LEGEND**

<b>PROPOSED</b>	
	FILL
	12" LFG PIPING
	6" LFG PIPING
	AIR & FORCE MAIN PIPING
	FORCE MAIN PIPING
	AIR PIPING
	VERTICAL LFG WELL
	VERTICAL LFG WELL WITH PUMP
	LFG/AIR & LIQUID CONVEYANCE ISOLATION VALVE
	LIQUID CONVEYANCE CLEANOUT/AIR BLOWOFF
	REDUCER
	SLOPE
	ROAD CROSSING
	1" ELECTRICAL CONDUIT
<b>EXISTING</b>	
	10" LFG HEADER
	18" LFG HEADER
	12" LFG HEADER (ON 8% ROAD)
	HORIZONTAL MANIFOLD/WELLHEAD
	SUMP

- NOTES:**
1. TOPOGRAPHY SHOWN REPRESENTS PROJECTED GRADES PROVIDED BY COWLITZ COUNTY ON JANUARY 7, 2025.
  2. VACUUM, LIQUID, AND AIR LINES SHOULD BE INSTALLED ON THE DOWN HILL SIDE OF ALL WELLS
  3. FIELD GRADE TO MAINTAIN 3% MINIMUM DROP FOR DRAINAGE BACK INTO WASTE

0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB
REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY

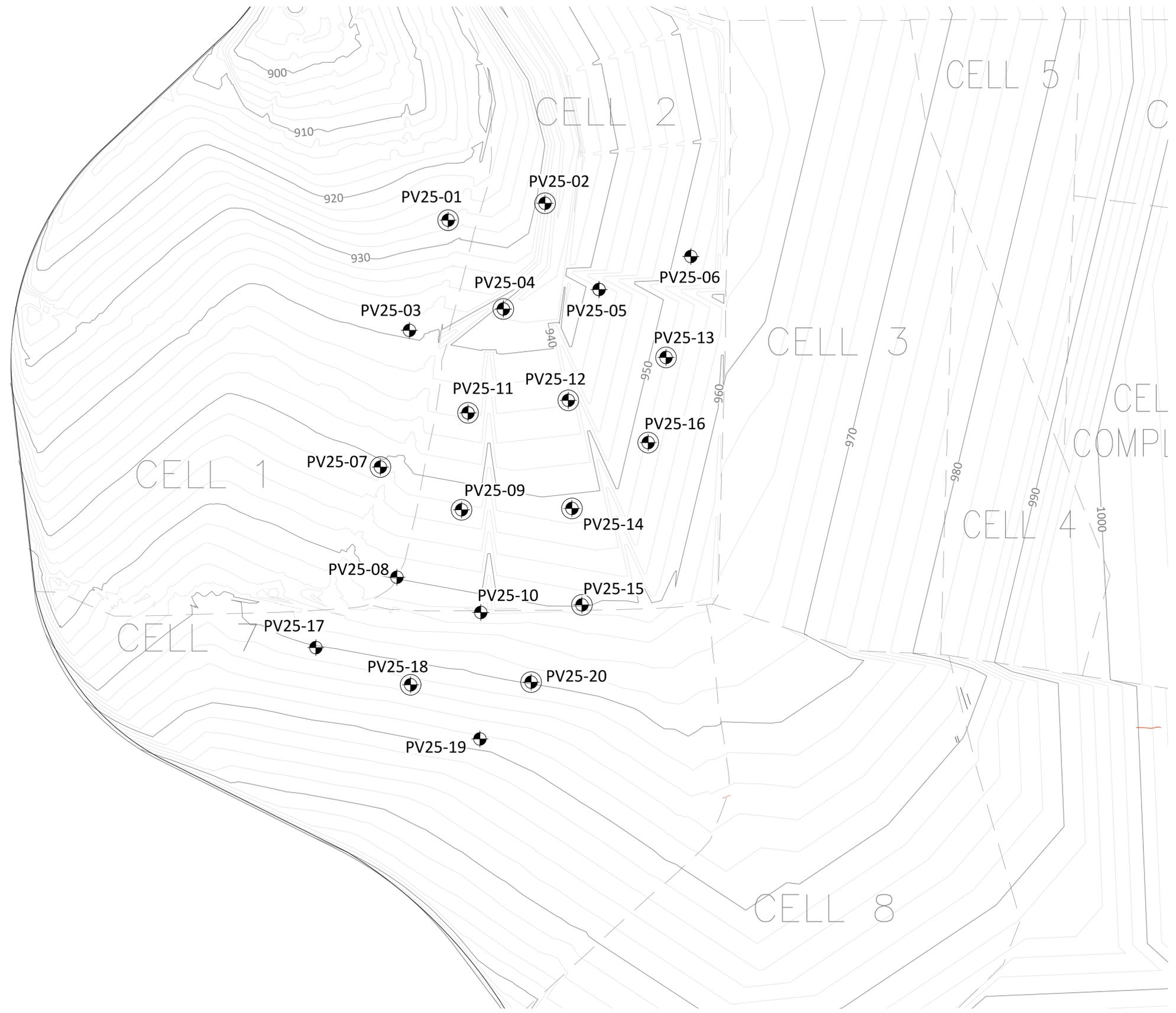


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2025 GCCS EXPANSION ORTHO LAYOUT  
PROPOSED 2025 GCCS EXPANSION HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

**M1.01B**  
077.517



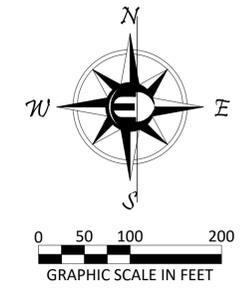
**LEGEND**

**PROPOSED**

- VERTICAL LFG WELL
- VERTICAL LFG WELL WITH PUMP

**EXISTING**

- LINER
- CELL BOUNDARY



- NOTES:**
1. LINER TOPOGRAPHY SHOWN REPRESENTS PROJECTED GRADES PROVIDED BY COWLITZ COUNTY ON MARCH 3, 2025.
  2. LINER ELEVATIONS ARE APPROXIMATELY 2 FEET LOWER THAN TOP OF OPERATIONS LAYER.

REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY
0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB



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EXPANSION LAYOUT-  
 LINER ELEVATIONS

PROPOSED 2025 GCCS EXPANSION  
 HEADQUARTERS LANDFILL  
 CASTLE ROCK, WA

**M1.02**

077.517

VERTICAL WELL SCHEDULE												
WELL I.D.	NORTHING (FT)	EASTING (FT)	ELEVATION (FT)				BOREHOLE DEPTH (FT)	PIPE LENGTH (FT)			THICKNESS OF GRAVEL PACK	CASING MATERIAL
			GROUND	LINER	BOTTOM OF BOREHOLE	WEYERHAEUSER FILL		PERFORATED	SOLID WALL	ABOVE GRADE RISER		
PV25-01	341141.1926	1065185.5218	1012	924	944	1012	68	38	30	3	41	8" SCH 80 PVC
PV25-02	341172.4174	1065362.8185	1034	939	959	1034	75	45	30	3	48	
PV25-03	340937.7054	1065111.9764	1040	931	951	1040	89	59	30	3	62	
PV25-04	340977.1821	1065285.7649	1055	936	956	1053	99	69	30	3	72	
PV25-05	341013.1918	1065462.8540	1075	947	967	1054	108	78	30	3	81	
PV25-06	341074.1521	1065632.6742	1047	956	976	1046	71	41	30	3	44	
PV25-07	340685.3259	1065058.2271	1072	943	963	1035	109	79	30	3	82	
PV25-08	340481.9113	1065088.8196	1112	951	971	992	141	111	30	3	114	
PV25-09*	340606.4217	1065208.3715	1114	946	994	1022	120	90	30	3	93	
PV25-10	340416.8962	1065243.9712	1123	953	973	974	150	120	30	3	123	
PV25-11*	340785.3941	1065220.4171	1087	939	967	1060	120	90	30	3	93	
PV25-12*	340808.4699	1065405.8890	1107	947	987	1060	120	90	30	3	93	
PV25-13	340887.7008	1065586.7410	1098	958	978	1062	120	90	30	3	93	
PV25-14*	340608.9209	1065412.6901	1120	950	1000	1022	120	90	30	3	93	
PV25-15	340430.8078	1065431.1283	1123	955	975	976	148	118	30	3	121	
PV25-16*	340730.4940	1065553.7523	1124	958	1004	1050	120	90	30	3	93	
PV25-17	340351.9380	1064938.8555	1076	960	980	964	96	66	30	3	69	
PV25-18	340283.3404	1065114.1413	1083	962	982	964	101	71	30	3	74	
PV25-19	340183.2984	1065242.4074	1084	967	987	967	97	67	30	3	70	
PV25-20	340288.7248	1065337.1078	1115	960	980	960	135	105	30	3	108	

\* SEE NOTE 6

**A** VERTICAL WELL SCHEDULE  
M1.01 | M1.03 (NOTES 1-3)

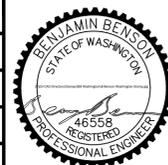
POINTS OF INTEREST			
I.D.	NORTHING (FT)	EASTING (FT)	DESCRIPTION
A	341176.3526	1064450.7939	12" LFG HEADER TIE INTO (E) 18" LFG HEADER
B	341146.5589	1064506.1622	12" LFG HEADER ISOLATION VALVE
C	341145.7076	1064542.7916	AIR ISOLATION VALVE
D	341111.6597	1064583.6799	12" LFG HEADER ROAD CROSSING
E	341111.6597	1064583.6799	AIR & LIQUID CONVEYANCE ROAD CROSSING
F	341265.5757	1064521.3548	AIR & LIQUID CONVEYANCE CLEANOUT/BLOWOFF
G	341422.7847	1064525.7854	PROPOSED AIR COMPRESSOR LOCATION
H	341413.5447	1064812.4004	LIQUID CONVEYANCE ISOLATION VALVE
I	341430.1264	1064824.5694	3" LIQUID CONVEYANCE TIE INTO (E) 60" SUMP
J	340416.3337	1064468.5777	AIR ISOLATION VALVE
K	340365.4829	1064529.4089	AIR & LIQUID CONVEYANCE CLEANOUT/BLOWOFF
L	340170.9218	1064780.4701	6" LFG LATERAL TIE INTO " LFG HEADER
M	340200.7688	1064804.8022	6" LFG LATERAL ISOLATION VALVE
N	340113.4373	1064965.1721	6" LFG LATERAL TIE INTO " LFG HEADER
O	340146.6017	1064991.7146	6" LFG LATERAL ISOLATION VALVE
P	340049.2934	1065164.0345	6" LFG LATERAL TIE INTO " LFG HEADER
Q	340085.3129	1065184.3504	6" LFG LATERAL ISOLATION VALVE
R	340676.1441	1065127.9873	AIR & LIQUID CONVEYANCE CLEANOUT/BLOWOFF
S	340662.6213	1065405.7745	6" LFG LATERAL ISOLATION VALVE
T	340701.9060	1065395.9462	6" LFG LATERAL TIE INTO 12" LFG HEADER
U	340681.6091	1065440.5014	6" LFG LATERAL TIE INTO 12" LFG HEADER
V	340696.6681	1065476.5407	6" LFG LATERAL ISOLATION VALVE
W	340009.8464	1065242.5784	(E) 12" LFG HEADER FLANGED TERMINATION
X	341017.8399	1064973.4502	AIR & LIQUID CONVEYANCE CLEANOUT/BLOWOFF
Y	341001.4794	1064807.2040	6" LFG LATERAL TIE INTO 12" LFG HEADER
Z	341017.8399	1064843.8788	6" LFG LATERAL ISOLATION VALVE
AA	340911.1683	1064985.3360	6" LFG LATERAL TIE INTO 12" LFG HEADER
AB	340920.3305	1065025.9402	6" LFG LATERAL ISOLATION VALVE
AC	340894.8078	1065018.0814	6" LFG LATERAL TIE INTO 12" LFG HEADER
AD	340854.2339	1065024.6297	6" LFG LATERAL ISOLATION VALVE
AE	340819.5491	1065155.6093	6" LFG LATERAL TIE INTO 12" LFG HEADER
AF	340784.8654	1065164.7785	6" LFG LATERAL ISOLATION VALVE
AG	340783.4824	1065256.5373	AIR & LIQUID CONVEYANCE CLEANOUT/BLOWOFF
AH	340761.8867	1065281.4241	6" LFG LATERAL TIE INTO 12" LFG HEADER
AI	340778.9018	1065319.4074	6" LFG LATERAL ISOLATION VALVE
AJ	340727.2020	1065350.8443	12" LFG HEADER ISOLATION VALVE
AK	340634.5814	1065525.5778	12" LFG HEADER FLANGED TERMINATION
AL	340156.7776	1064623.6597	3" LIQUID CONVEYANCE TIE-IN TO (E) 8" LCS CLEANOUT
AM	340181.6854	1064646.8102	3" LIQUID ISOLATION STEM VALVE
AN	340181.6854	1064646.8102	3" LIQUID ISOLATION ROAD CROSSING

**B** POINTS OF INTEREST  
M1.01 | M1.03 (NOTES 1-5)

NOTES:

- LOCATIONS AND LENGTHS ARE APPROXIMATE AND INTENDED FOR BUDGETARY PURPOSES. ACTUAL LENGTHS WILL NEED FIELD VERIFIED AT TIME OF INSTALLATION. LENGTHS ARE BASED ON THE LATEST FILL PLANNING AND TOPOGRAPHIC SURVEY INFORMATION AVAILABLE, WHICH ARE DESCRIBED ON SHEET G0.01.
- ALL LFG PIPING TO BE SDR 11 HDPE PIPE UNLESS OTHERWISE SPECIFIED.
- INSTALL ALL PIPING AND TERMINATE ALL PIPING AT LOCATIONS NOT TO INTERFERE WITH FUTURE FILLING OPERATIONS.
- UNLESS OTHERWISE SPECIFIED, ALL LOCATIONS WITH LFG PIPING TIE-INS, TERMINATIONS, AND STUB-UPS CORRESPOND TO LOCATIONS OF AIR AND LIQUID CONVEYANCE PIPING TIE-INS, TERMINATIONS, AND STUB-UPS, RESPECTIVELY.
- POINTS AM THROUGH AN ARE APPROXIMATE LOCATIONS, VERIFY COORDINATES BEFORE TIE-IN.
- WELL DEPTH HAS BEEN ADJUSTED FROM STANDARD 20' ABOVE LINER TO REDUCE WEYERHAEUSER FILL PENETRATION.

REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY
0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB

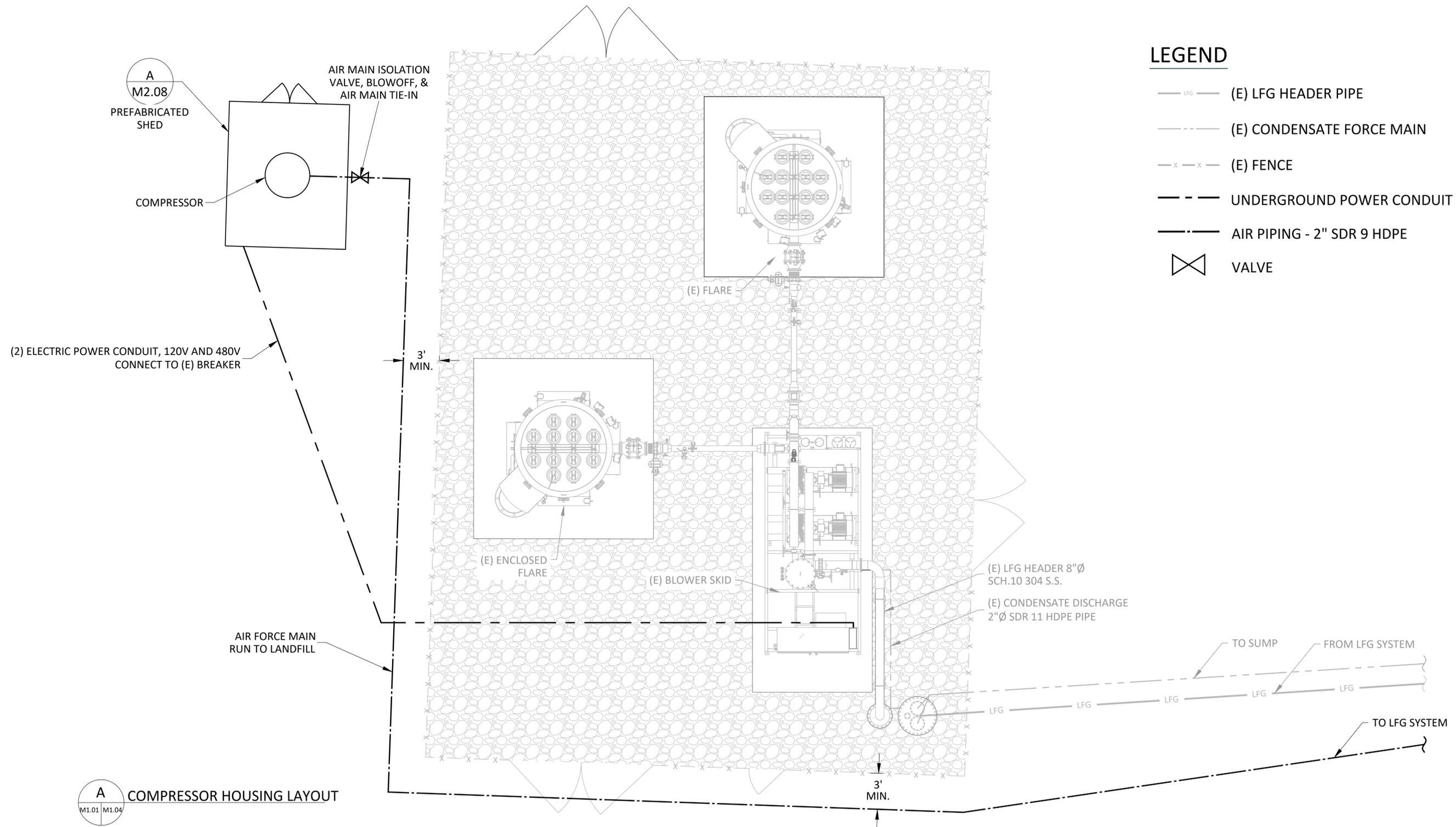


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WELL SCHEDULE & POINTS OF INTEREST  
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

**M1.03**  
077.517



**LEGEND**

- LFG — (E) LFG HEADER PIPE
- · — · — (E) CONDENSATE FORCE MAIN
- x — x — (E) FENCE
- - - UNDERGROUND POWER CONDUIT
- · — · AIR PIPING - 2" SDR 9 HDPE
- ⊗ VALVE

(2) ELECTRIC POWER CONDUIT, 120V AND 480V  
CONNECT TO (E) BREAKER

AIR FORCE MAIN  
RUN TO LANDFILL

(E) LFG HEADER 8"Ø  
SCH.10 304 S.S.  
(E) CONDENSATE DISCHARGE  
2"Ø SDR 11 HDPE PIPE

TO SUMP FROM LFG SYSTEM

TO LFG SYSTEM

**A** COMPRESSOR HOUSING LAYOUT  
M1.01 M1.04

0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB
REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY

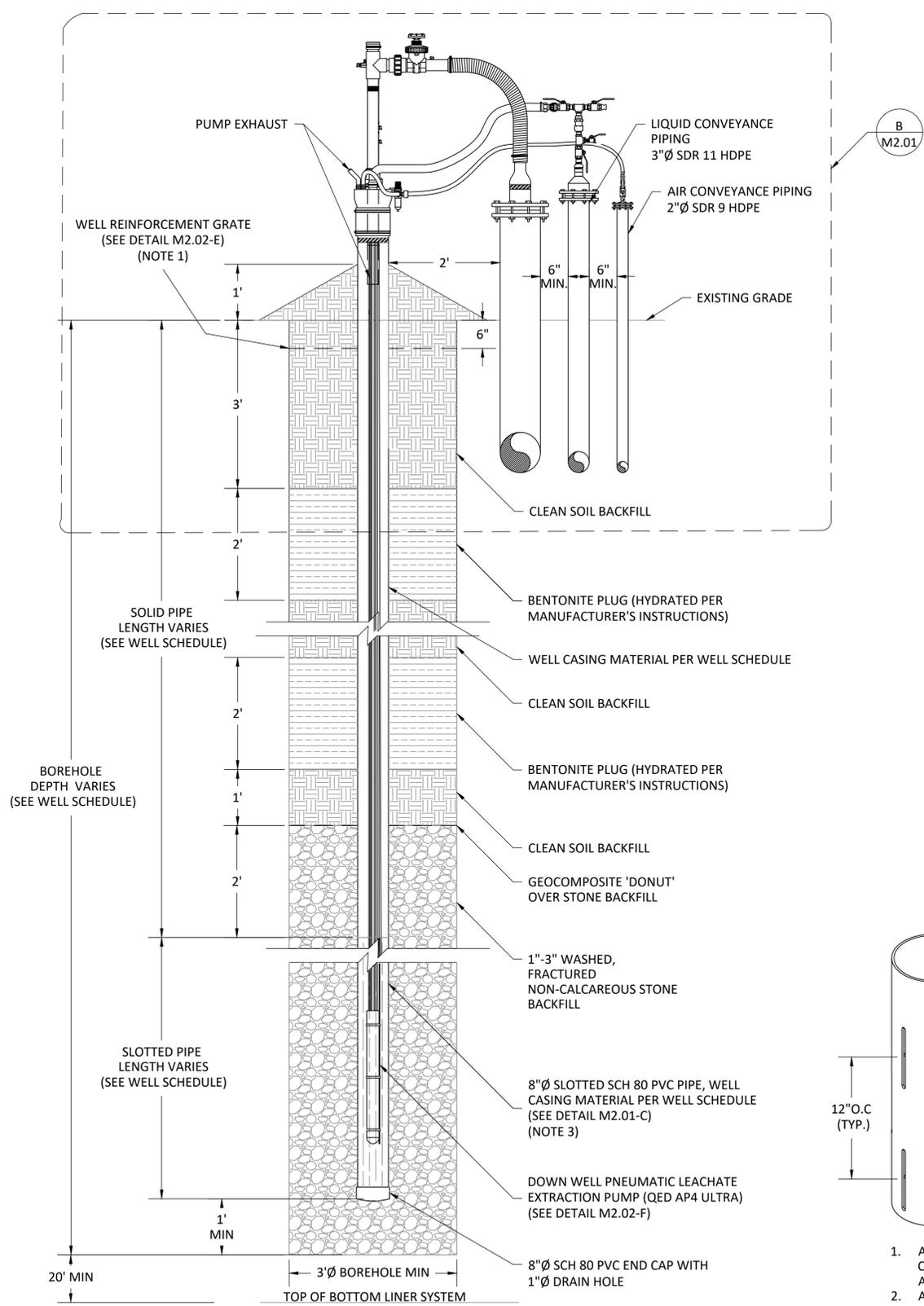


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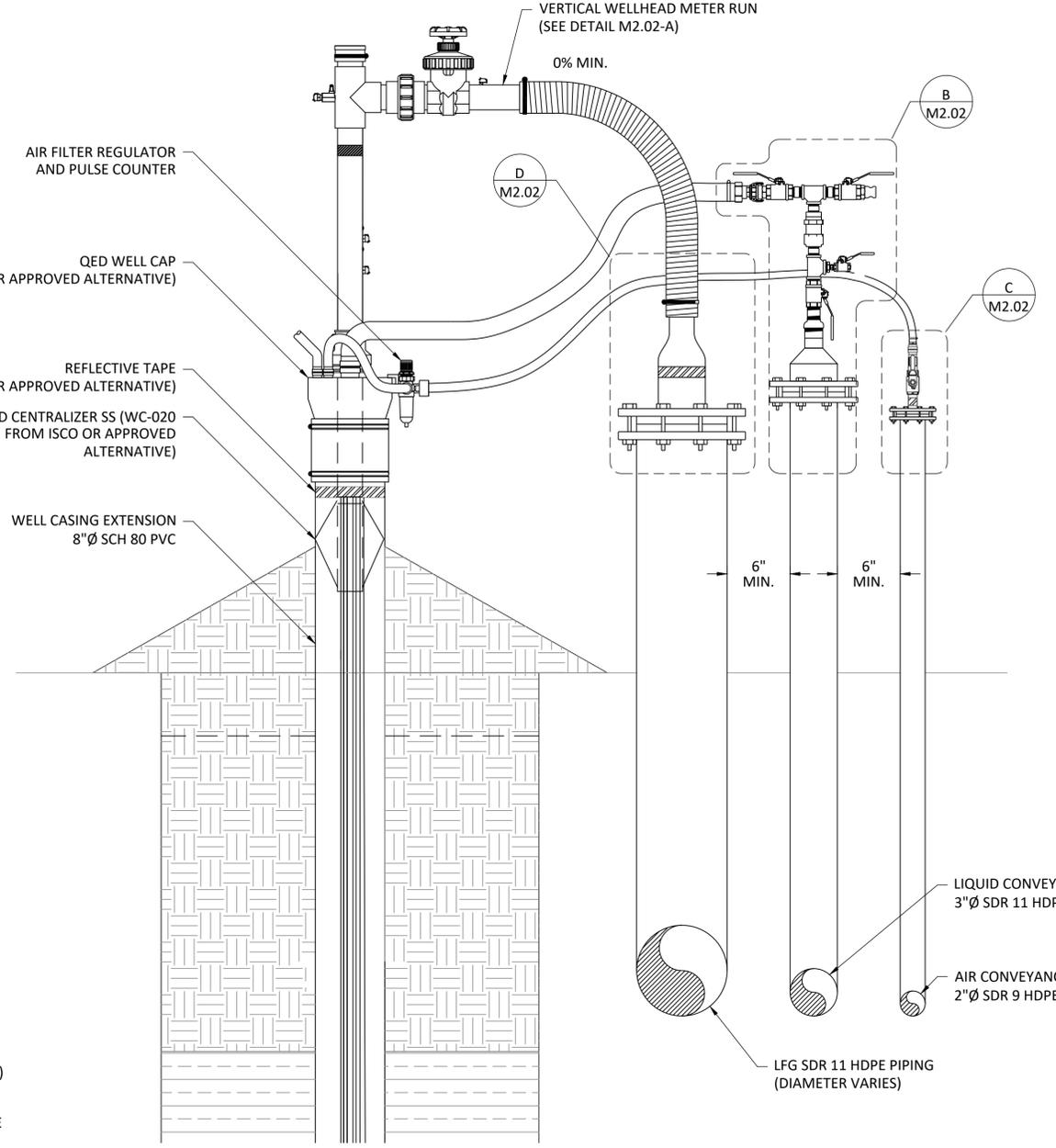
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COMPRESSOR HOUSING LAYOUT  
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

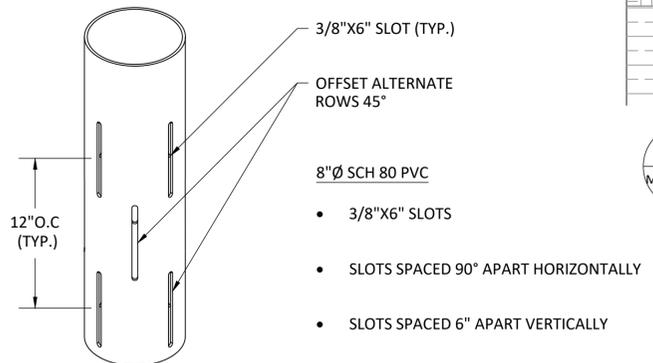
DRAWING NO.  
**M1.04**  
PROJECT NO.  
077.517



**A** LFG VERTICAL EXTRACTION WELL  
M1.01 M2.01



**B** STANDARD LFG VERTICAL WELLHEAD DETAIL (NOTE 2)  
M2.01 M2.01



**C** PERFORATED WELL CASING DETAIL I  
M2.01 M2.01

1. ALTERNATE SLOT DETAILS MAY BE SUBMITTED IF THE CONTRACTOR HAS PREFERRED FABRICATION OR AVAILABILITY.
2. ALTERNATES TO BE APPROVED BY THE DESIGN ENGINEER.

- NOTES:
1. WELL BORE REINFORCEMENT GRATES ARE REQUIRED FOR ALL WELLS AND BOREHOLE ABANDONMENTS IN ORDER TO PROVIDE A SAFEGUARD FROM COLLAPSE OF BACKFILL MATERIAL.
  2. AIR AND LIQUID CONVEYANCE STUB-UPS TO BE LOCATED AT EVERY VERTICAL LFG COLLECTION WELL AND WHERE APPLICABLE.
  3. CONTRACTOR TO DETERMINE JOINING METHOD FOR WELL CASING. ACCEPTABLE OPTIONS INCLUDE COUPLINGS, FLANGES, OR WELDED SEAMS. JOINING METHOD SELECTED SHALL BE SUBMITTED TO THE OWNER AND THE ENGINEER TWO WEEKS PRIOR TO CONSTRUCTION OF CASING FOR APPROVAL.
  4. IN PLACE OF TEE, USE A WYE FITTING TO TIE INTO LIQUID CONVEYANCE PIPING.

REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY
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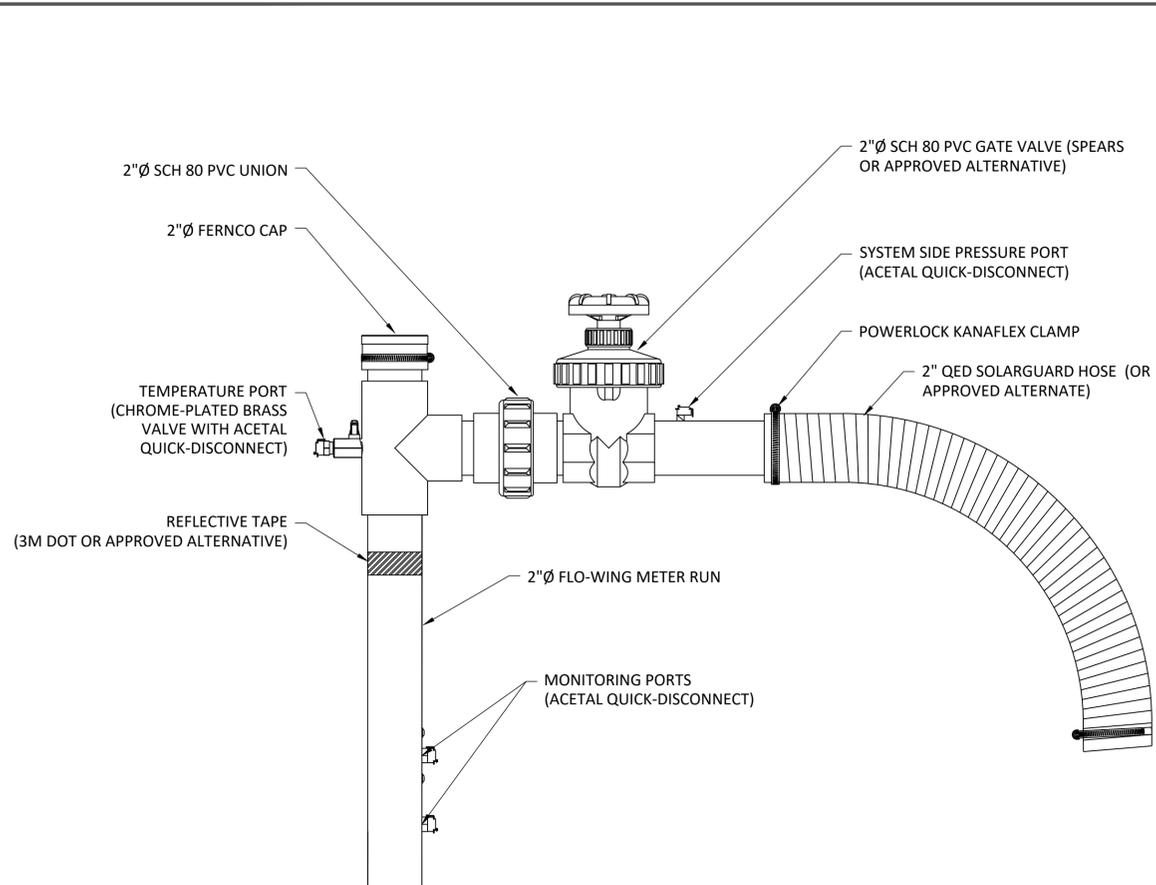


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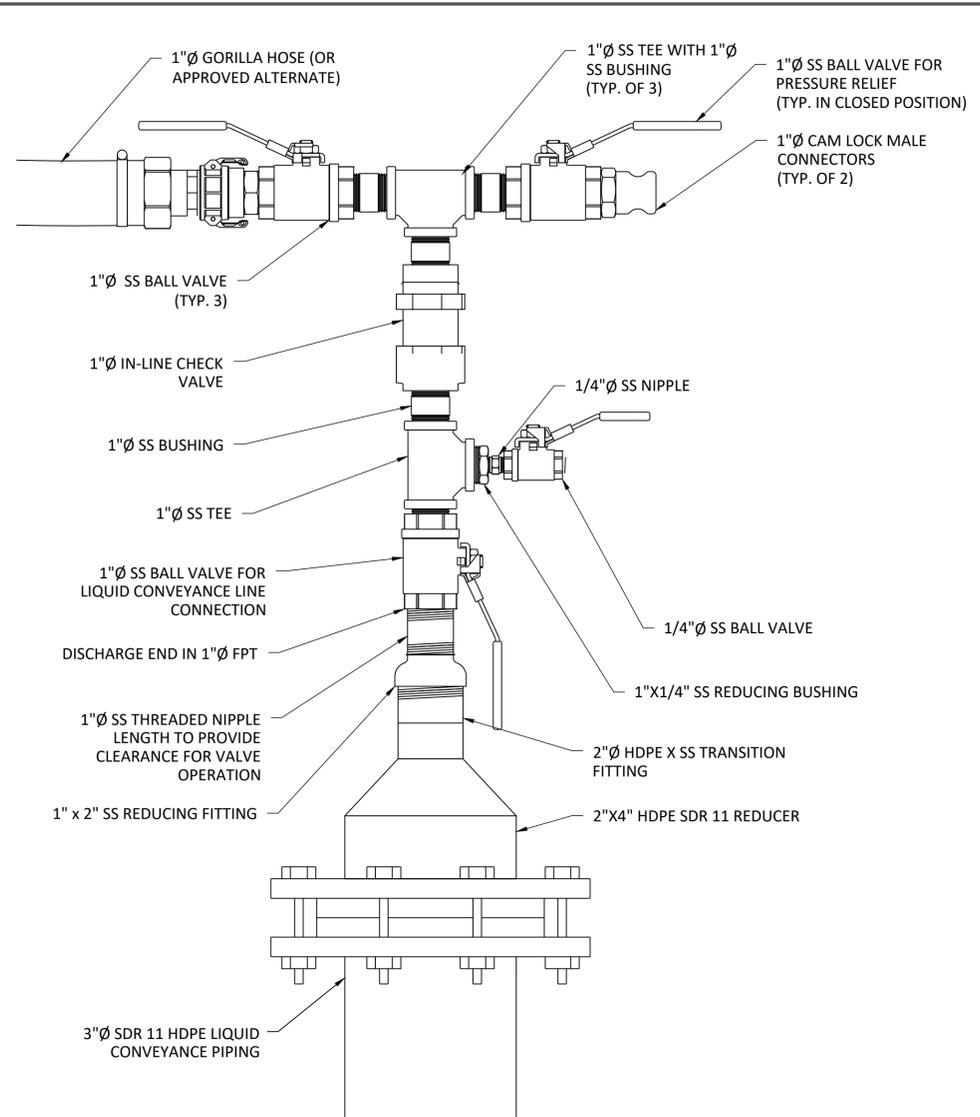


VERTICAL WELL DETAILS I  
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

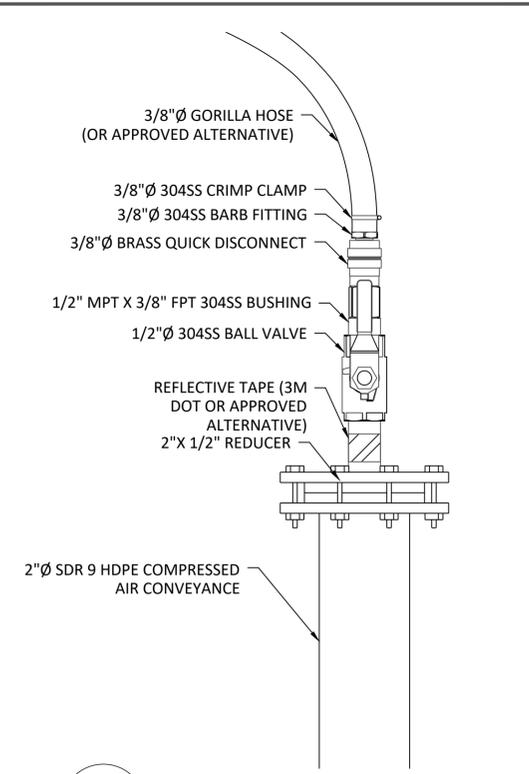
DRAWING NO.  
**M2.01**  
PROJECT NO.  
077.517



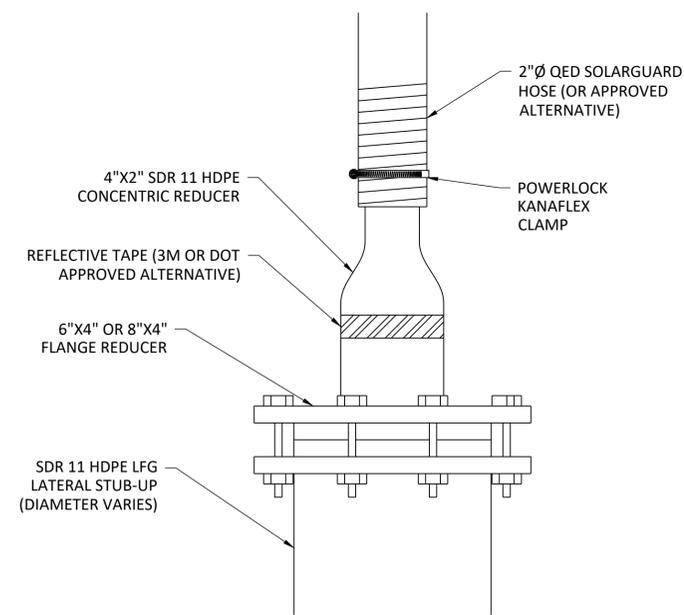
**A** VERTICAL WELLHEAD METER RUN  
M2.01 M2.02



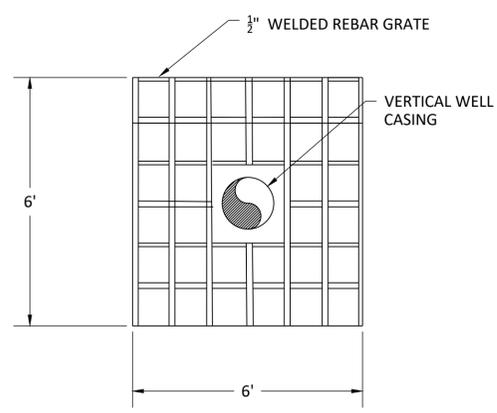
**B** STANDARD LIQUID CONVEYANCE STUB-UP DETAIL AT WELL  
M2.01 M2.02



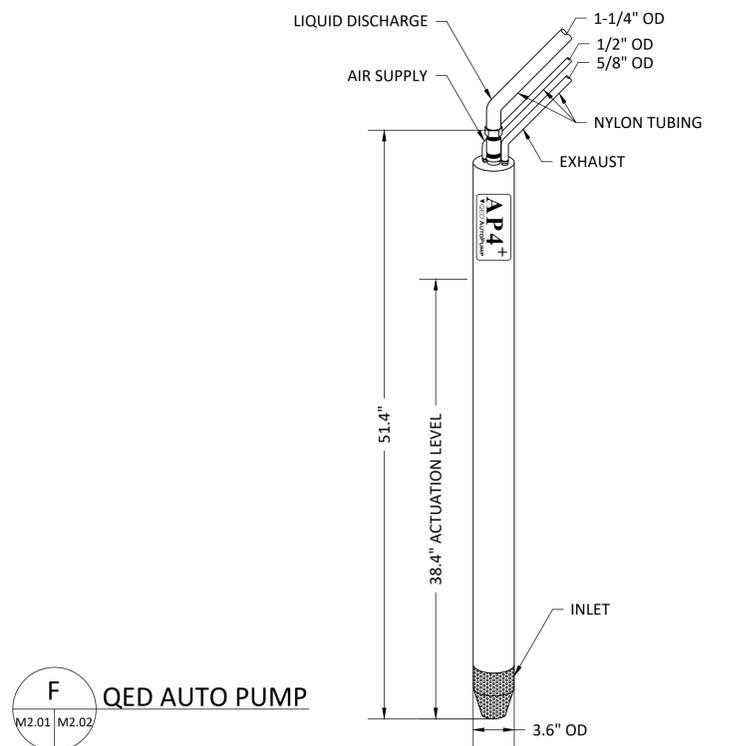
**C** STANDARD AIR CONVEYANCE STUB-UP DETAIL AT WELL  
M2.01 M2.02



**D** STANDARD LFG LATERAL STUB-UP DETAIL  
M2.01 M2.02



**E** WELL REINFORCEMENT GRATE DETAIL (TOP VIEW)  
M2.01 M2.02



**F** QED AUTO PUMP  
M2.01 M2.02

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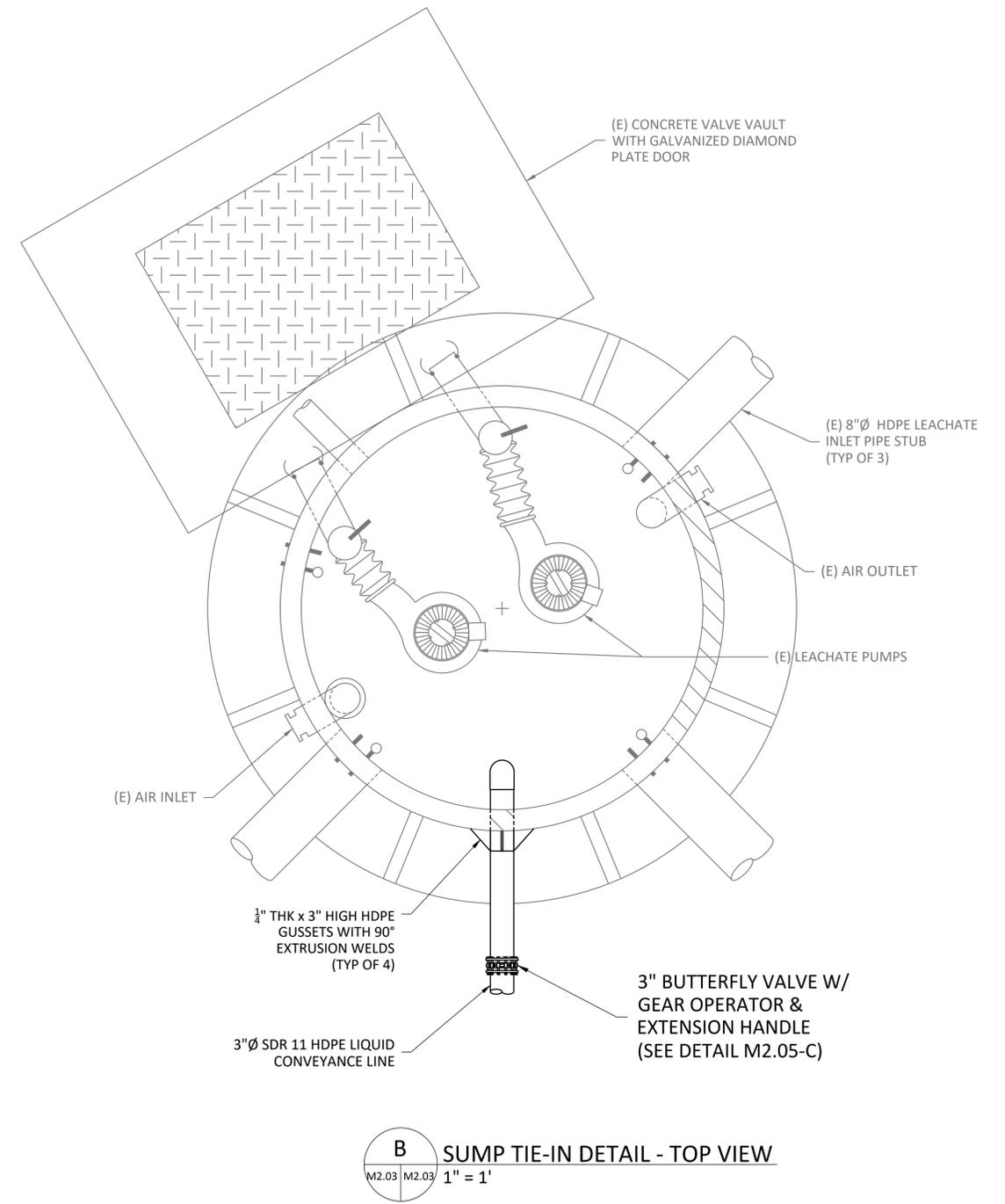
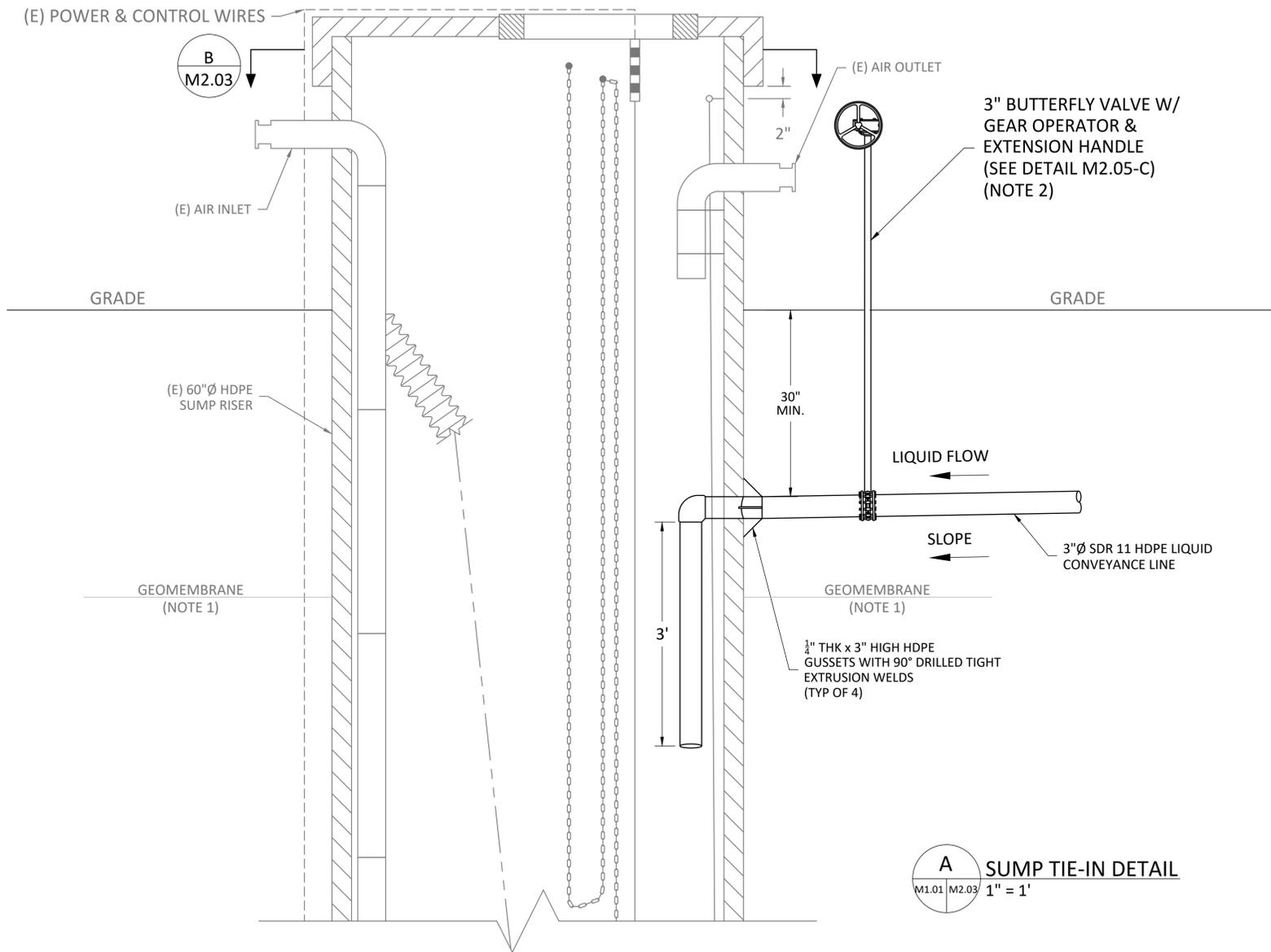


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VERTICAL WELL DETAILS II  
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.  
**M2.02**  
PROJECT NO.  
077.517



- NOTES:
- EXCAVATION NOT TO INTERFERE WITH THE LANDFILL GEOMEMBRANE.
  - THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR APPROVED ALTERNATIVE, AFTER TIGHTENING BOLTS. THOROUGHLY WRAP BURIED VALVES IN PLASTIC WRAP PRIOR TO BACKFILLING.

0	9/3/25	ISSUED FOR ADDENDUM 2	PD	QM	BB
REV	DATE	DESCRIPTION	DRN BY	DSN BY	CHK BY



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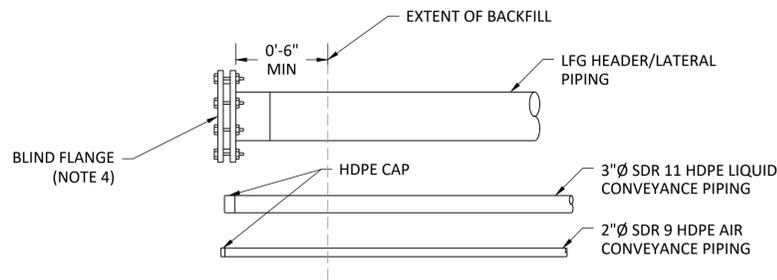
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SUMP DETAILS

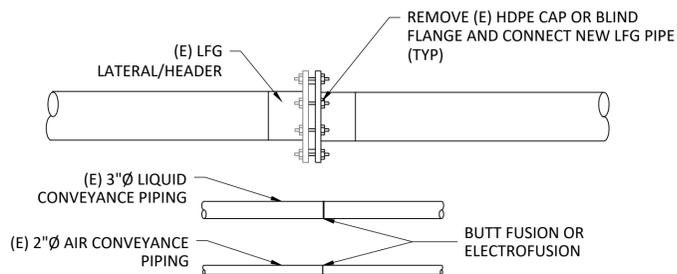
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.  
**M2.03**

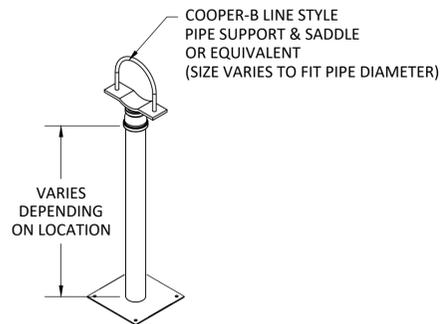
PROJECT NO.  
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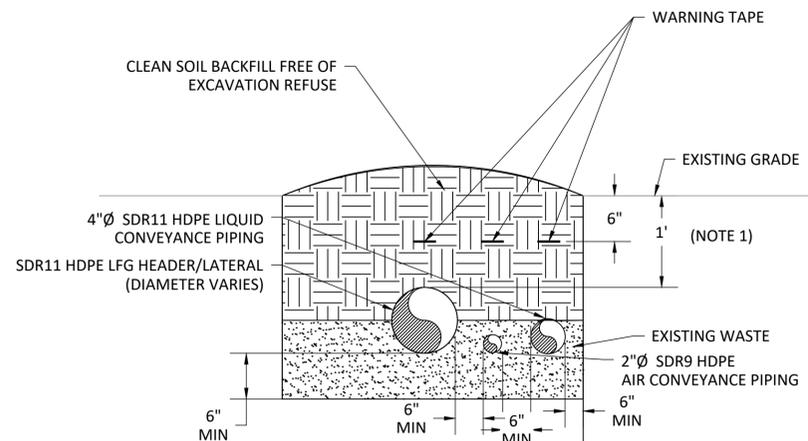
**A** LFG LATERAL, AIR & LIQUID PIPE TERMINATION DETAIL  
M1.01 M2.04



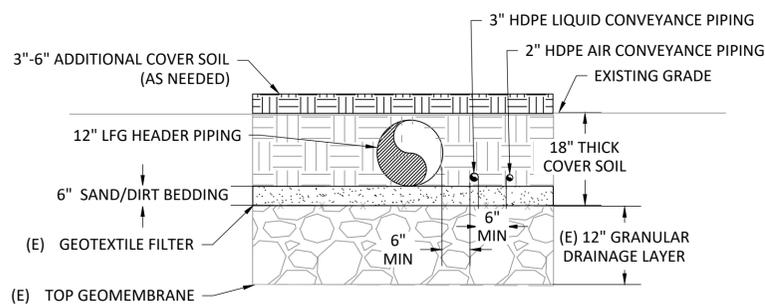
**B** CONNECTION TO LFG LATERAL, HEADER, AIR & LIQUID PIPING FLANGE  
M1.01 M2.04



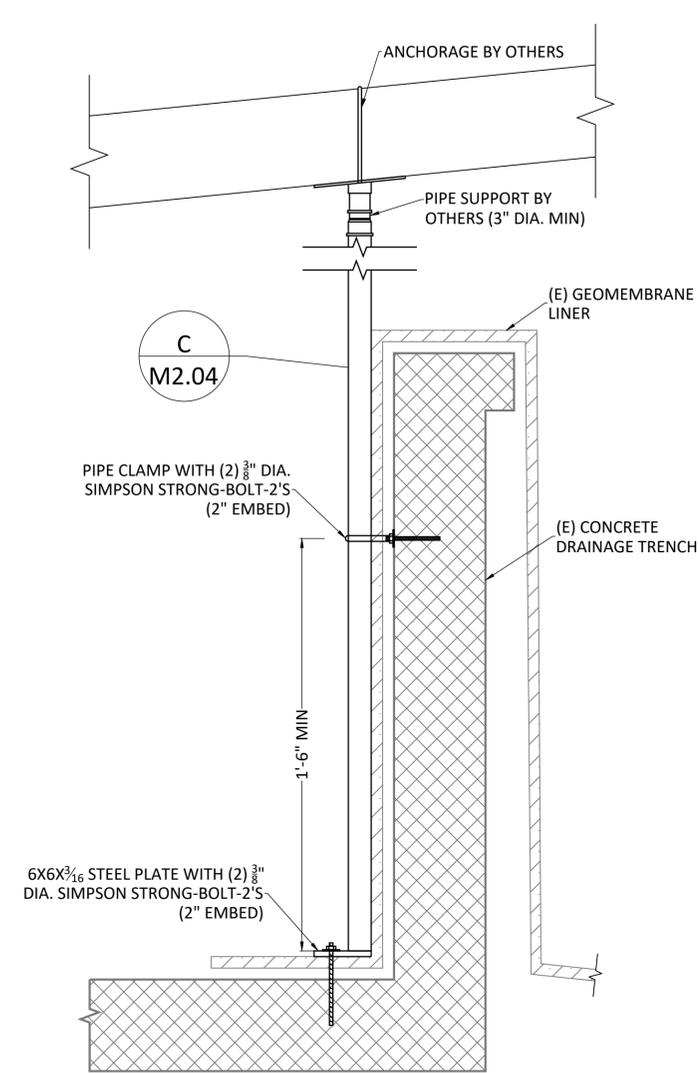
**C** PIPE SUPPORT (AS NEEDED)  
M2.04 M2.04



**D** LFG TRENCH DETAIL  
M1.01 M2.04



**F** CELL 1 LFG TRENCH DETAIL  
M1.01 M2.04



**E** TRENCH PIPE SUPPORT DETAIL  
M2.06 M2.04

NOTES:

- EXCAVATION NOT TO INTERFERE WITH THE LANDFILL LINER.
- PROVIDE PIPE SUPPORTS AT A MAXIMUM SPACING OF 8' TO PREVENT SAG IN LFG PIPING AND MAINTAIN A MINIMUM OF 1% SLOPE. ALTERNATIVE METHODS OF PIPE SUPPORT MAY BE USED WITH OWNER OR ENGINEER APPROVAL
- INSTALL SOIL MOUNDS WHERE NEEDED TO HOLD LFG PIPING IN PLACE.
- IF TERMINATING INSIDE THE WASTE, PIPE MAY BE TERMINATED WITH AN HDPE CAP (INSTEAD OF BLIND FLANGE)

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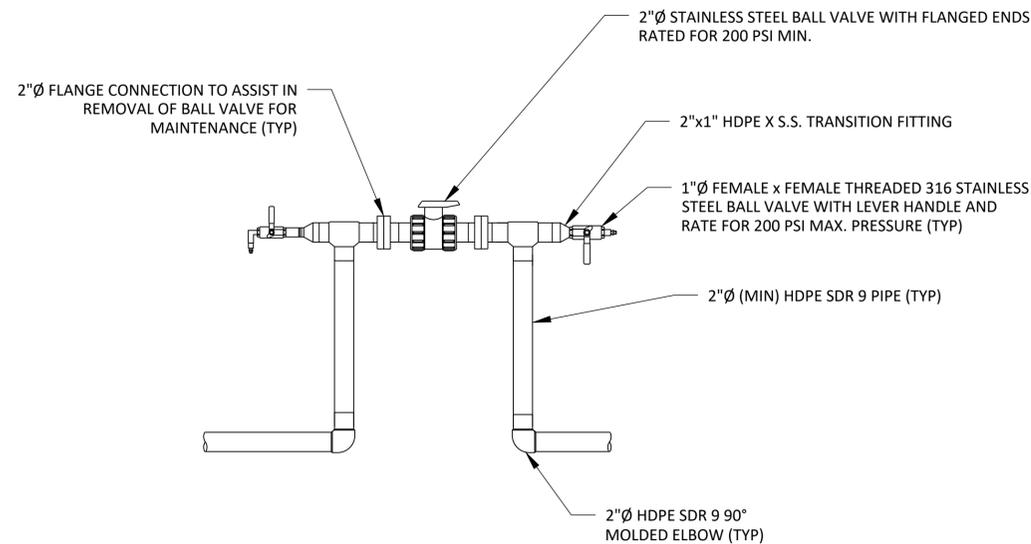
LFG CONNECTION, PIPE TERMINATION, & TRENCH DETAILS

PROPOSED 2025 GCCS EXPANSION HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.

**M2.04**

PROJECT NO.  
077.517

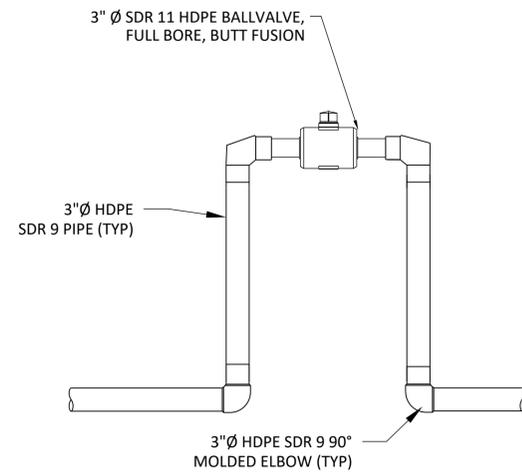


**A** AIR LINE ISOLATION AND BLOWOFF VALVES DETAIL

M1.01 M2.05

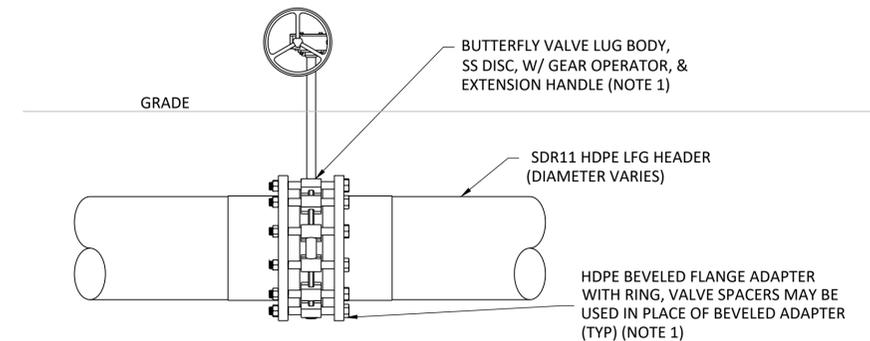
NOTES:

1. ALL AIR SUPPLY PIPING SHALL BE 2" HDPE SDR 9 (MIN).
2. 1" VALVES ARE USED TO BLOW OFF LIQUIDS THAT ACCUMULATE IN THE AIR LINE AND FOR PRESSURIZING PIPE SEGMENTS FOR TROUBLESHOOTING PURPOSES.
3. PVC FITTINGS AND VALVES MAY NOT BE USED IN COMPRESSED AIR APPLICATIONS UNDER ANY CIRCUMSTANCES.



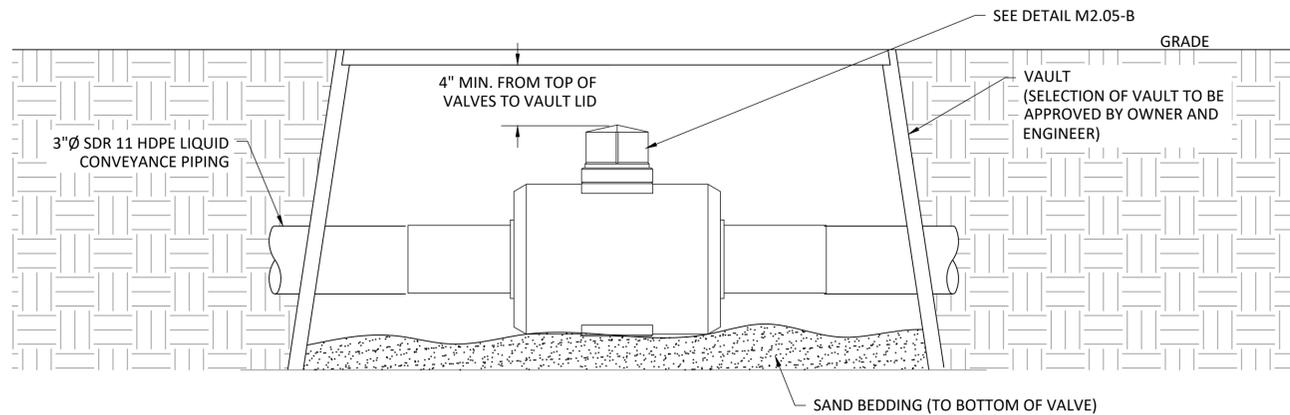
**B** LIQUID CONVEYANCE LINE ISOLATION VALVE DETAIL

M1.01 M2.05



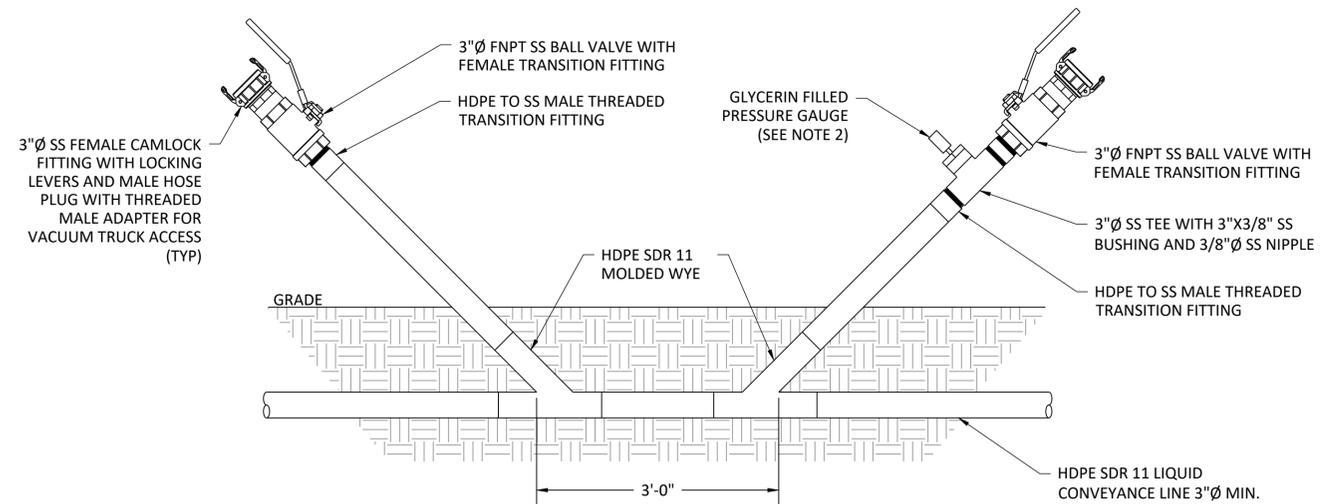
**C** BELOWGRADE LFG ISOLATION VALVE DETAIL

M1.01 M2.05



**D** LIQUID CONVEYANCE ISOLATION VALVE VAULT DETAIL

M1.01 M2.05



**E** LIQUID CONVEYANCE CLEANOUT

M1.01 M2.05

NOTES:

1. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR APPROVED ALTERNATIVE, AFTER TIGHTENING BOLTS. THOROUGHLY WRAP BURIED VALVES IN PLASTIC WRAP PRIOR TO BACKFILLING.
2. 3/8" SS BALL VALVE AND GLYCERIN FILLED PRESSURE GAUGE (0-200 PSI RANGE).

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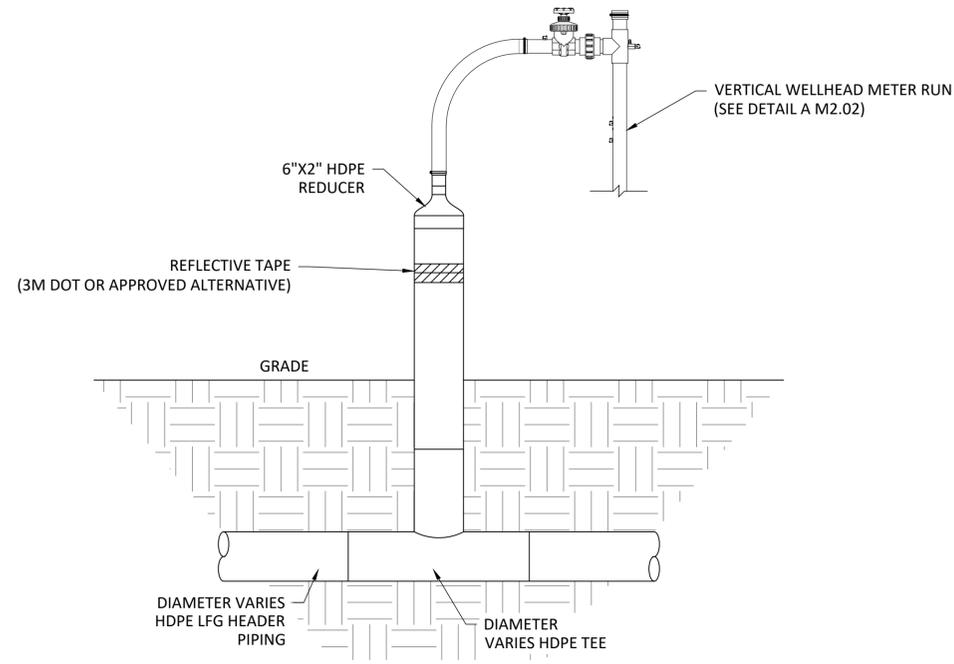
MISCELLANEOUS DETAILS

PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

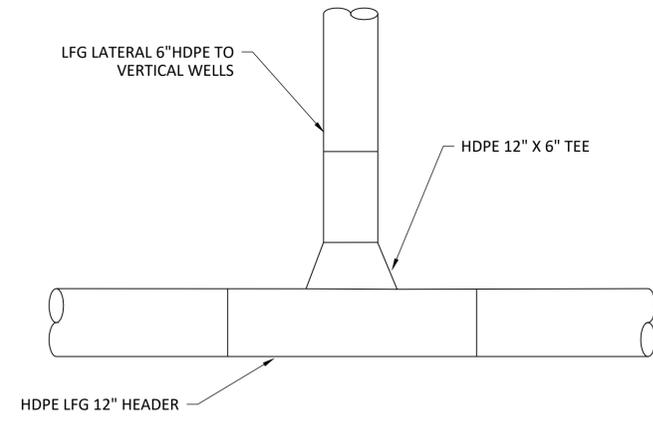
DRAWING NO.

**M2.05**

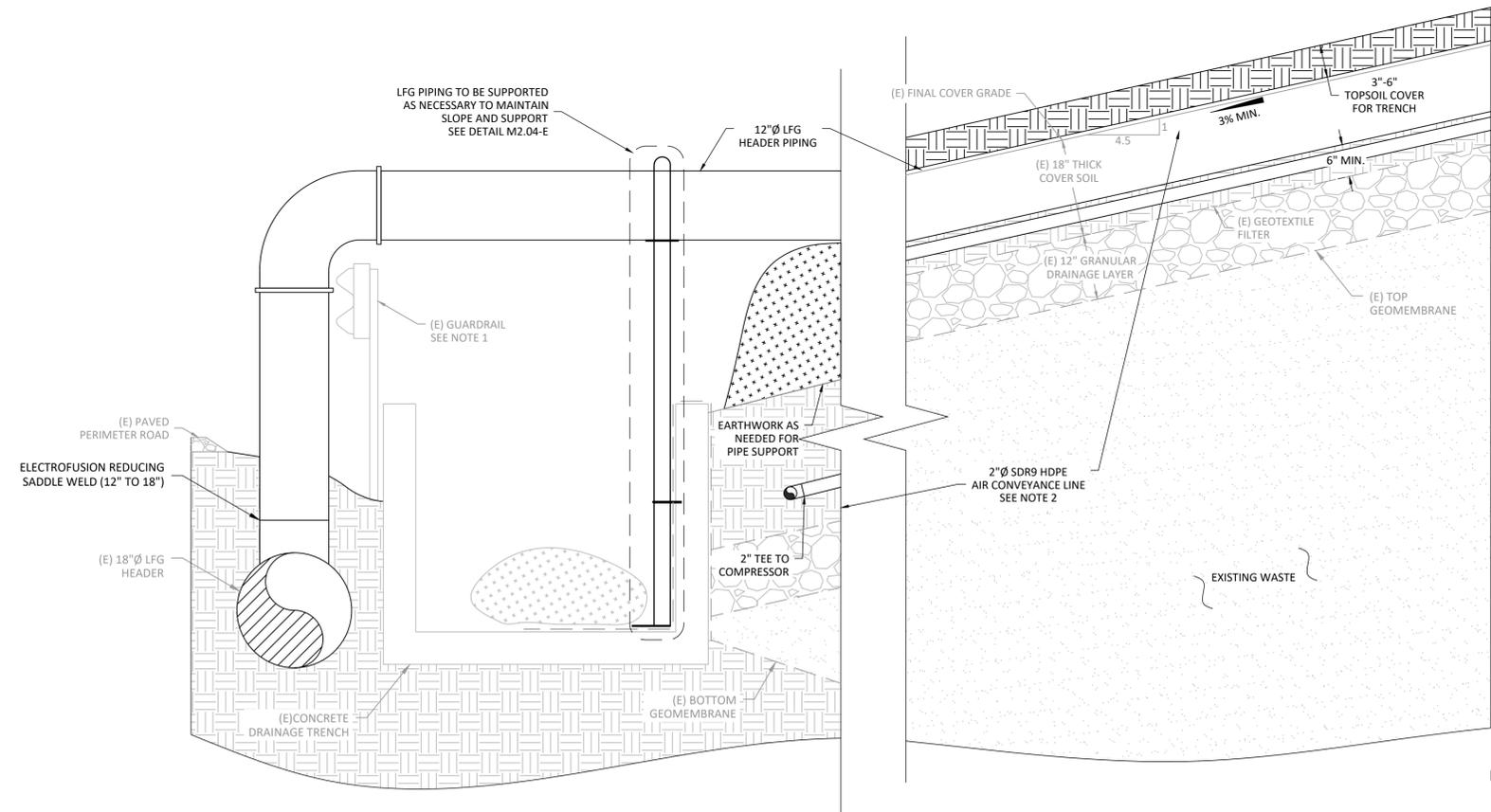
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**A** WELLHEAD LATERAL AND HEADER TIE-IN DETAIL  
M1.01 M2.06



**B** 6" LATERAL TIE-IN TO 12" LFG HEADER  
M1.01 M2.06



**C** 12" HEADER TIE-IN TO (E) 18" LFG HEADER  
M1.01 M2.06

- NOTES:
1. SUPPORT 12" HEADER CROSSING OVER CONCRETE TRENCH AS NEEDED TO MAINTAIN 3% DROP TO ELBOW INTO (E) 18" HEADER
  2. AIR CONVEYANCE LINE IS SHOWN BELOW HEADER FOR CLARITY, BUT SHOULD BE TRENCHED SIDE BY SIDE (SEE DETAIL M2.04-F)

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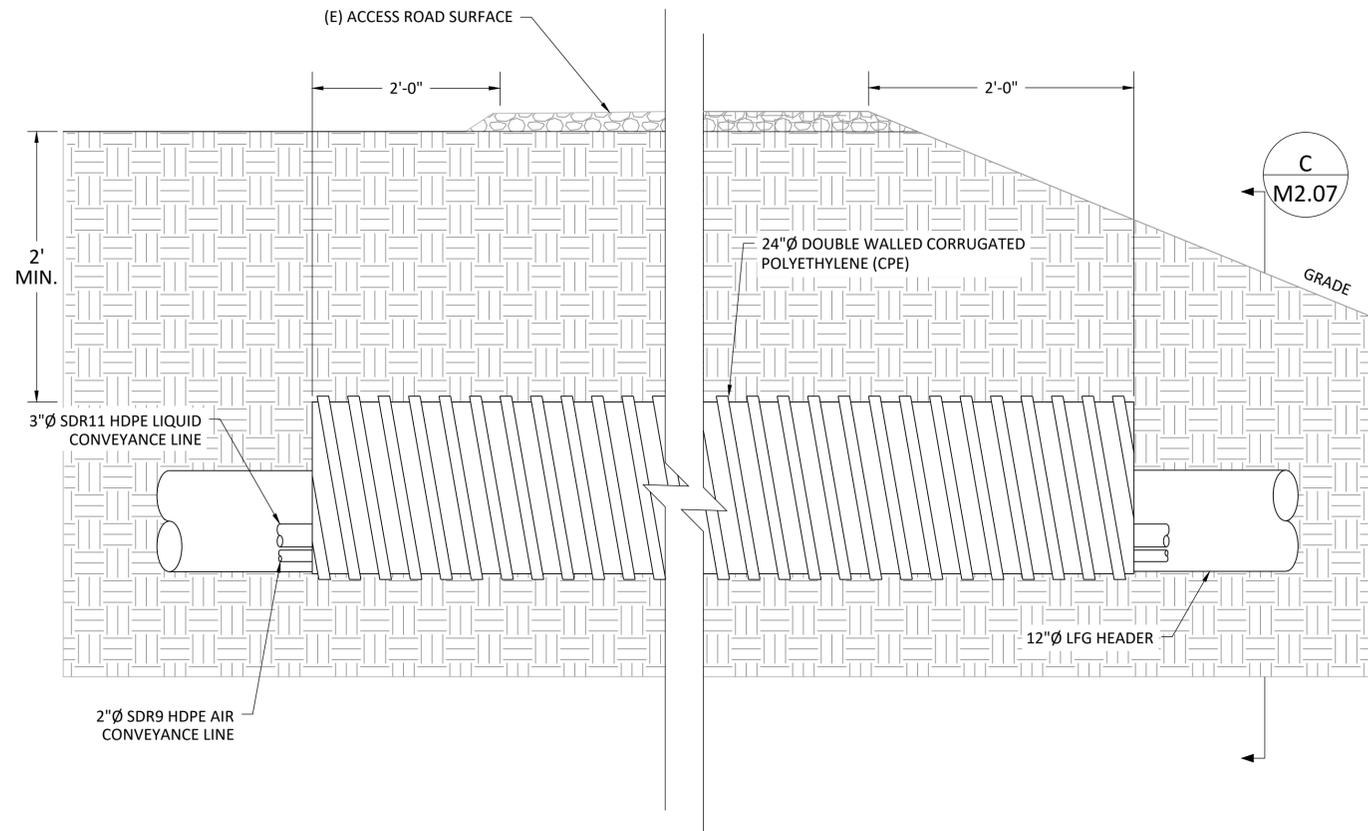
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TIE-IN DETAILS

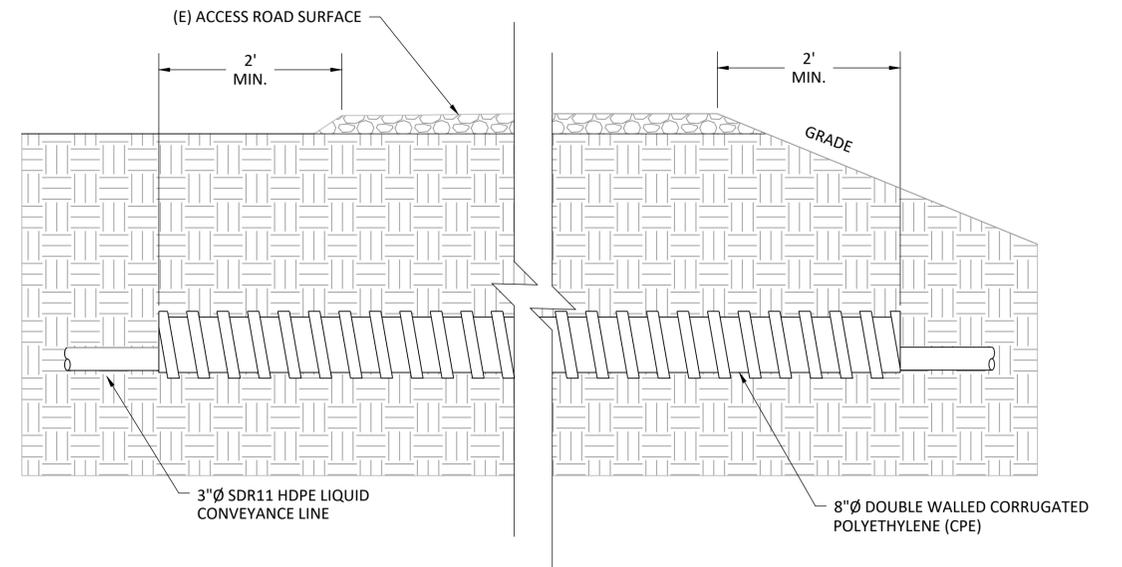
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HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

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**M2.06**

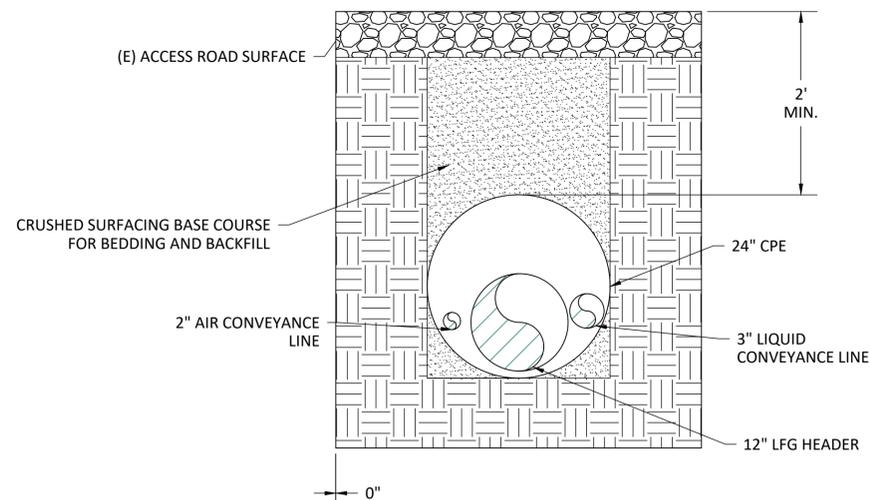
PROJECT NO.  
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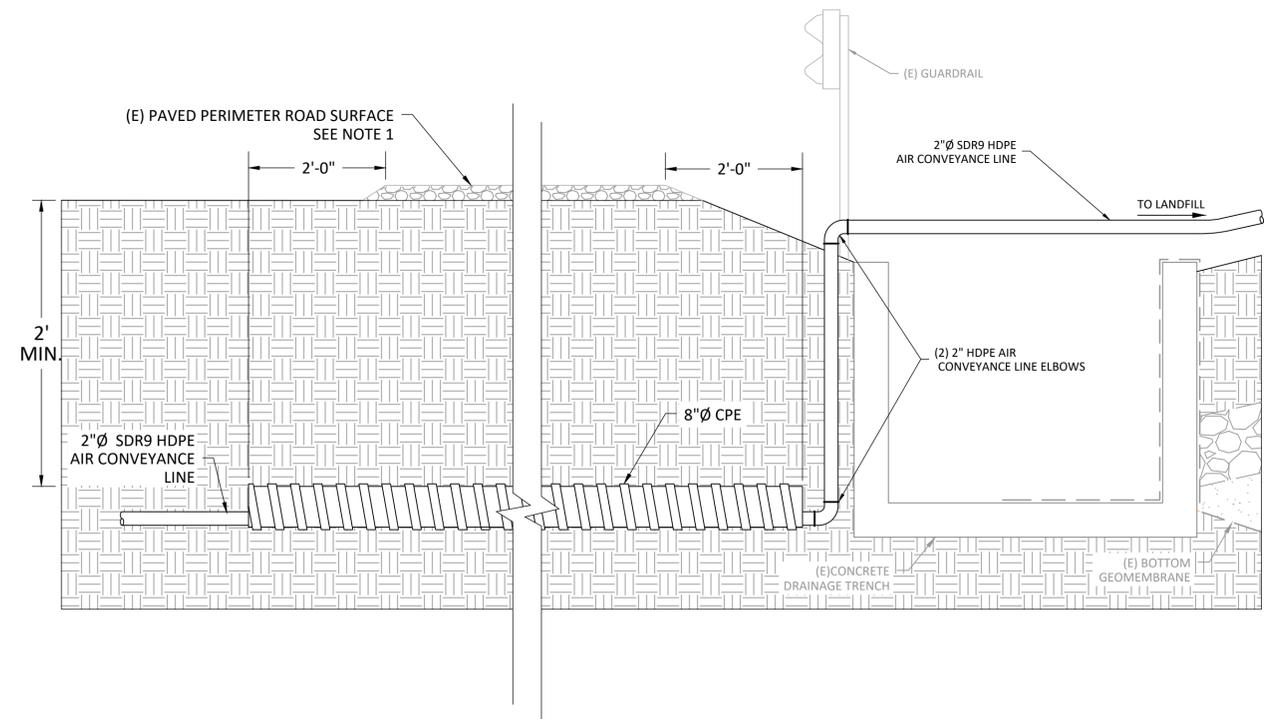
**A** ROAD CROSSING - 12" HEADER  
M1.01 M2.07



**D** ROAD CROSSING - 3" LIQUID LINE  
M1.01 M2.07



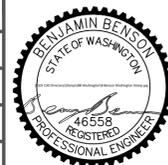
**C** ROAD CROSSING - 12" HEADER CROSS SECTION  
M2.07 M2.07



**B** ROAD CROSSING - 2" AIR LINE  
M1.01 M2.07

- NOTES:
1. PATCH PAVEMENT WITH 4" THICK HMA CLASS 3/8" PG58H-22 PER COWLITZ COUNTY STANDARD PLAN CC-1303.

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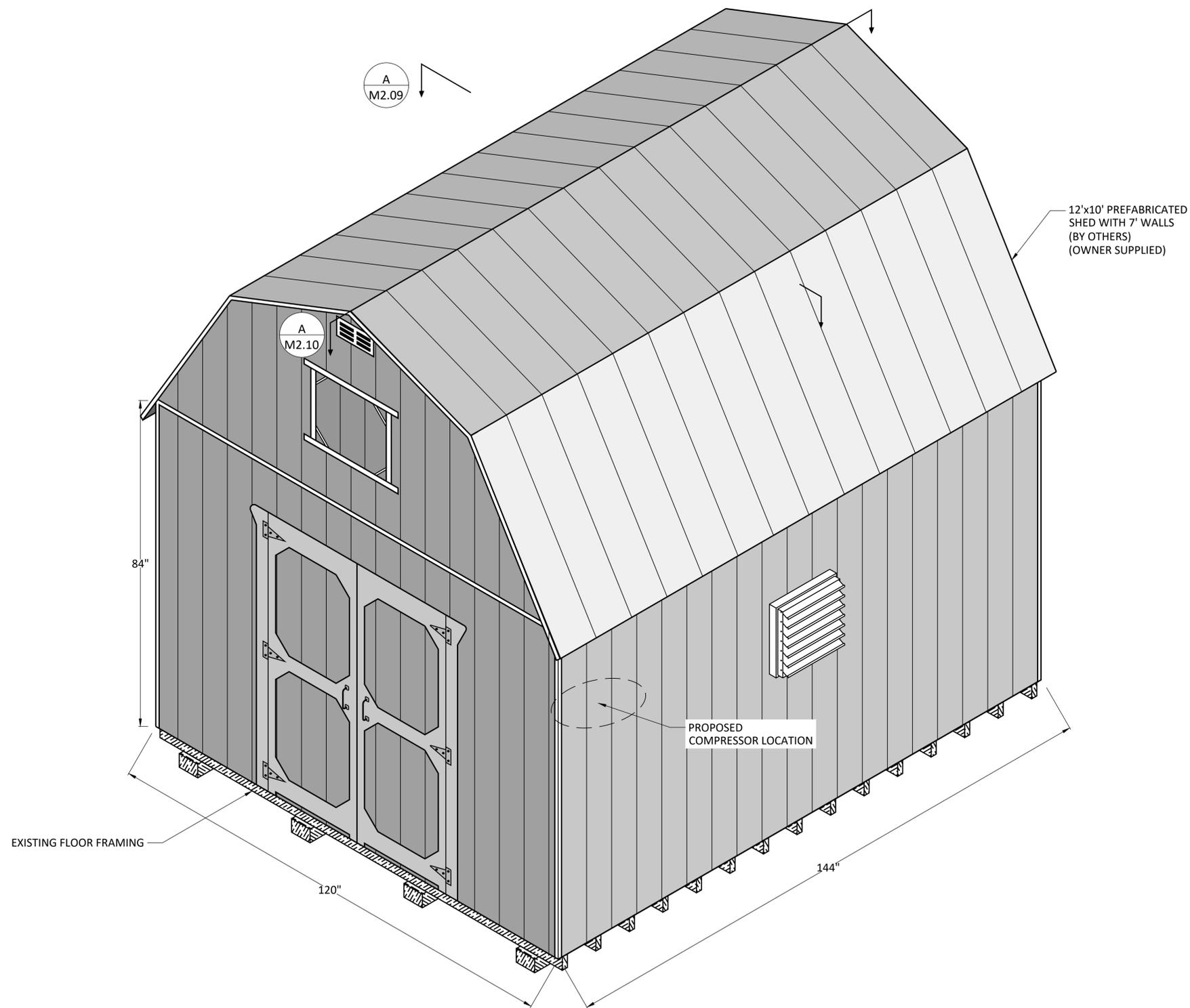
ROAD CROSSING DETAILS

PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.

**M2.07**

PROJECT NO.  
077.517



**A** AIR COMPRESSOR HOUSING  
M1.04 M2.08 OVERVIEW

NOTES:

1. ALTERNATE COMPRESSOR HOUSING TO BE APPROVED BY OWNER AND ENGINEER

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AIR COMPRESSOR HOUSING  
PROPOSED 2025 GCCS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.  
**M2.08**  
PROJECT NO.  
077.517

**A** AIR COMPRESSOR HOUSING -  
CROSS SECTION I

12'x10' PREFABRICATED  
SHED WITH 7' WALLS  
(BY OTHERS)

1" BLOWOFF  
BALL VALVE

3" TO 1"  
HDPE TO SS  
REDUCER

38 1/2"

3" HDPE  
AIR FORCE MAIN

EXISTING GRADE

REGULATOR

1" OUTPUT  
BALL VALVE

1" SS AIR  
FORCE MAIN

(3) 2"x12" STUDS TO  
SUPPORT COMPRESSOR

1/2" DIA. LAG SCREWS  
SEE DETAIL M2.11-A

2-STAGE ELECTRIC  
RECIPROCATING AIR  
COMPRESSOR -  
7.5HP

POWER SHUTOFF  
SWITCH

ELECTRONIC AUTOMATIC  
DRAIN VALVE  
DRILL HOLE THROUGH  
FLOORING TO DRAIN

EXISTING 5/8"  
PLYWOOD FLOORING

EXISTING 2"x4" JOISTS

120"

8' LED LIGHT STRIP  
BELOW LOFT  
(TYP. OF 2)

TEMPERATURE ACTUATED  
HEAT EXHAUST FAN

120V POWER  
OUTLETS

120V ELECTRICAL CONDUIT  
480V ELECTRICAL CONDUIT

EXISTING 4"x6"  
FLOOR BEAMS

CONNECT TO  
(E) ELECTRICAL  
SYSTEM  
SEE M1.04

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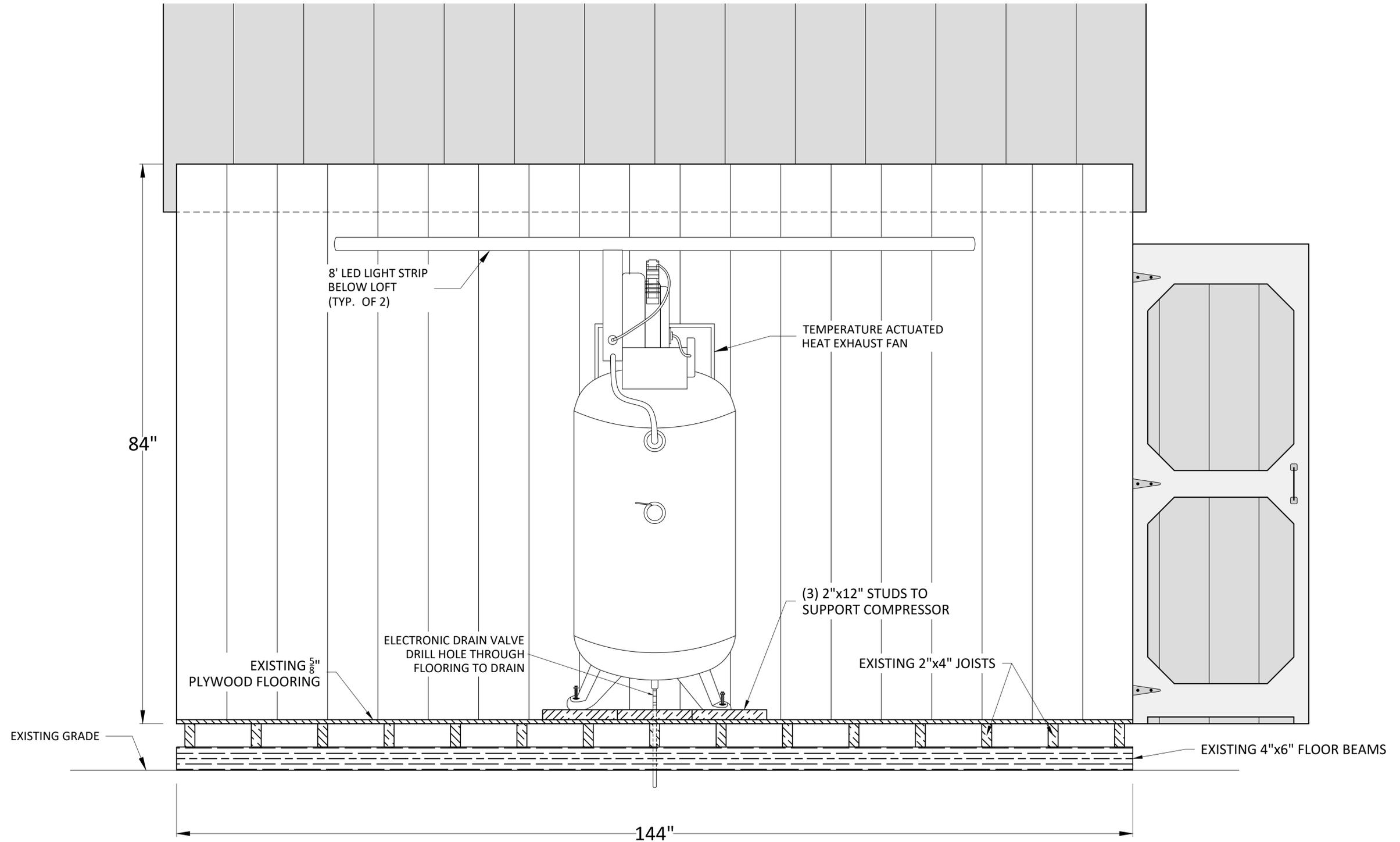
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COMPRESSOR HOUSING -  
CROSS SECTION I

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HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.  
**M2.09**

PROJECT NO.  
077.517



**A** COMPRESSOR HOUSING - CROSS SECTION II  
M2.08 | M2.10

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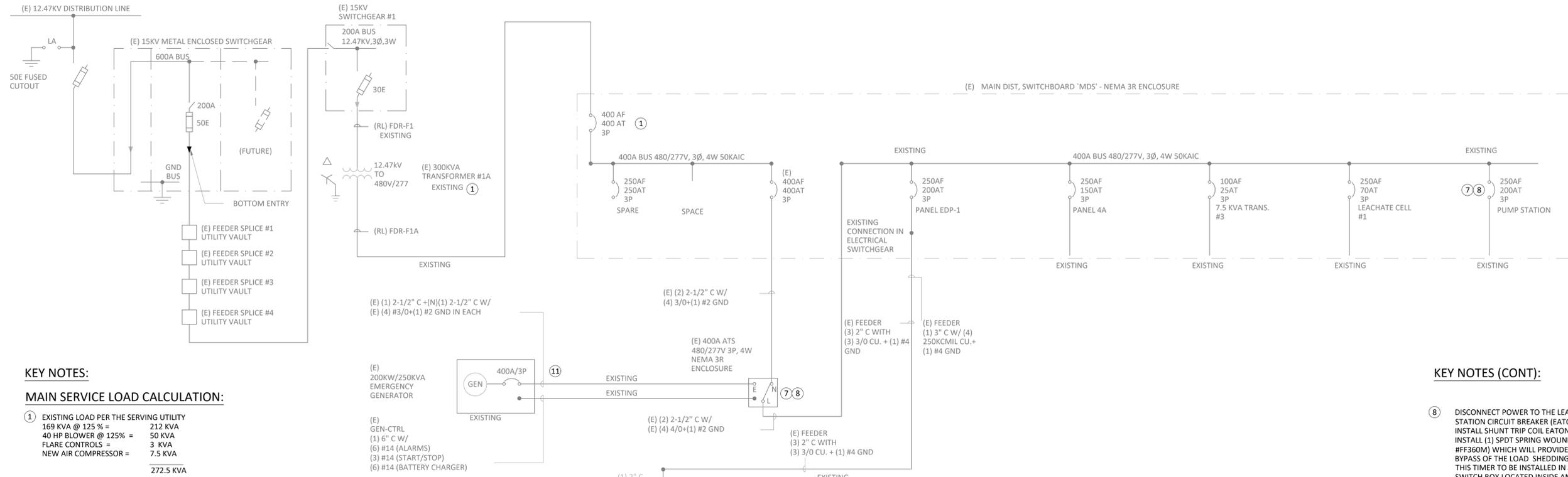
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COMPRESSOR HOUSING - CROSS SECTION II  
PROPOSED 2025 GCCS EXPANSION HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO. **M2.10**  
PROJECT NO. 077.517





**KEY NOTES:**

**MAIN SERVICE LOAD CALCULATION:**

1	EXISTING LOAD PER THE SERVING UTILITY	169 KVA @ 125% = 212 KVA
	40 HP BLOWER @ 125% =	50 KVA
	FLARE CONTROLS =	3 KVA
	NEW AIR COMPRESSOR =	7.5 KVA
	<b>272.5 KVA</b>	
	272.5 KVA @ 480 V 3 PHASE = 328 AMPS ON 400 AMP 480 V 3 PHASE ELECTRICAL SERVICE = OK.	
	172.5 KVA ON 250 KVA GENERATOR - SEE AUTOMATIC LOAD SHED NOTES #7,8,11.	

**PANEL EDP-1 FEEDER LOAD CALCULATION:**

2	BLOWER - 301 40 HP =	52 AMPS
	BLOWER - 302 40 HP =	52 AMPS
	15 KVA 1 PH. TRANSFORMER =	32 AMPS
	25% OF 40 HP MOTOR =	13 AMPS
	NEW AIR COMPRESSOR =	11 AMPS
	<b>160 AMPS</b>	
	160 AMPS ON A 200 AMP FEEDER WITH (3) SETS OF 3/0 CU. = OK.	

**PANEL EDP-1 FEEDER VOLTAGE DROP CALC.**

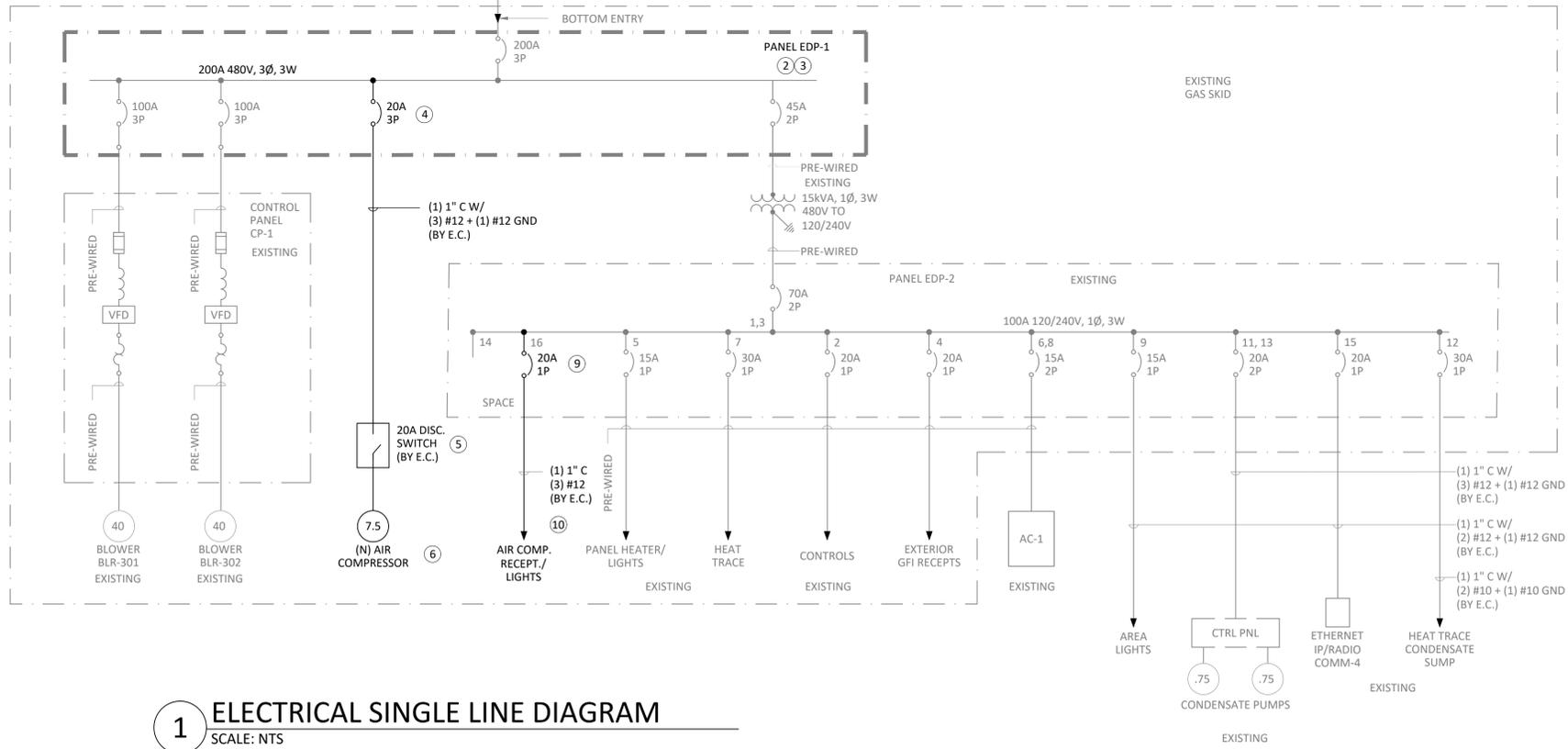
3 750 FT. ONE WAY DISTANCE FROM FEEDER SUPPLY CIRCUIT BREAKER TO BLOWER SKID PANEL.  
 160 AMP @ 150% WITH (3) SETS OF 3/0 CU. =  
 9.0 VOLT DROP = 1.89% V.D. = OK.  
 3% MAXIMUM FEEDER V.D. PER NEC RECOMMENDATION.

**INSTALLATION NOTES:**

- 4 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 3-POLE 20 AMP CIRCUIT BREAKER - EATON #FD3020 WITH PRL3A FD 3-POLE HARDWARE MOUNTING KIT IN EXISTING PANEL EDP-1.
- 5 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL AIR COMPRESSOR DISCONNECT SWITCH
- 6 USE #6 SOFT STRAND COPPER AND UL LISTED TERMINATIONS TO BOND AIR COMPRESSOR FRAME TO EXISTING GROUND GRID
- 7 BLOWER SKID, FLARES #1,2 AND SITE EQUIPMENT REQUIRES MANUAL RE-START IN THE EVENT OF THE LOSS OF UTILITY POWER. AUTOMATIC LOAD SHEDDING IS PROVIDED BY INSTALLING A SHUNT TRIP COIL IN THE 200 AMP CIRCUIT BREAKER FOR THE LEACHATE PUMP STATION WHICH DISCONNECTS THIS FEEDER WHEN THE GENERATOR IS SUPPLYING THE FACILITY. SEE DETAIL #7 ON SHEET #12 FOR DETAILS.

**KEY NOTES (CONT):**

- 8 DISCONNECT POWER TO THE LEACHATE PUMP STATION CIRCUIT BREAKER (EATON #HJD3250F) AND INSTALL SHUNT TRIP COIL EATON PART # SNT2P04K. INSTALL (1) SPDT SPRING WOUND TIMER (INTERMATIC #FF360M) WHICH WILL PROVIDE AN EMERGENCY BYPASS OF THE LOAD SHEDDING SHUNT TRIP CIRCUIT. THIS TIMER TO BE INSTALLED IN A SINGLE GANG SWITCH BOX LOCATED INSIDE AN 8"x8"x6" NEMA 3R LOCKABLE ENCLOSURE ADJACENT TO THE A.T.S. THE KEY FOR THIS ENCLOSURE IS TO BE CONTROLLED BY THE SITE SUPERVISOR ONLY. SEE DETAIL #7 ON SHEET #12 FOR CONNECTIONS AND WIRING. FOR MANUAL OPERATION, SEE NOTE #9 BELOW.
- 9 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 1-POLE 20A CIRCUIT BREAKER IN PANEL EDP-2
- 10 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL CONDUIT/WIRING TO AIR COMPRESSOR HOUSING FOR 120V RECEPTACLES AND LIGHTING. USE 1" SCH 40 PVC UNDERGROUND AND RIGID ABOVE GRADE. WIRE TO BE #12 AWG THHN/THWN.



**GENERATOR LOAD CALCULATION:**

11	EXISTING LOAD PER THE SERVING UTILITY =	169 KVA @ 125% = 212 KVA
	EXISTING LOAD =	212 KVA
	40 HP BLOWER @ 125% =	50 KVA
	FLARE CONTROLS =	3 KVA
	NEW AIR COMPRESSOR =	7.5 KVA
	<b>LOAD ON THE LEACHATE PUMP STATION FEEDER IS: (2) 50 HP MOTORS = 100 KVA</b>	
	<b>THE TOTAL LOAD ON THE GENERATOR IN AUTOMATIC MODE IS 172.5 KVA. 250 KVA GENERATOR=OK.</b>	<b>172.5 KVA</b>

**1 ELECTRICAL SINGLE LINE DIAGRAM**  
SCALE: NTS

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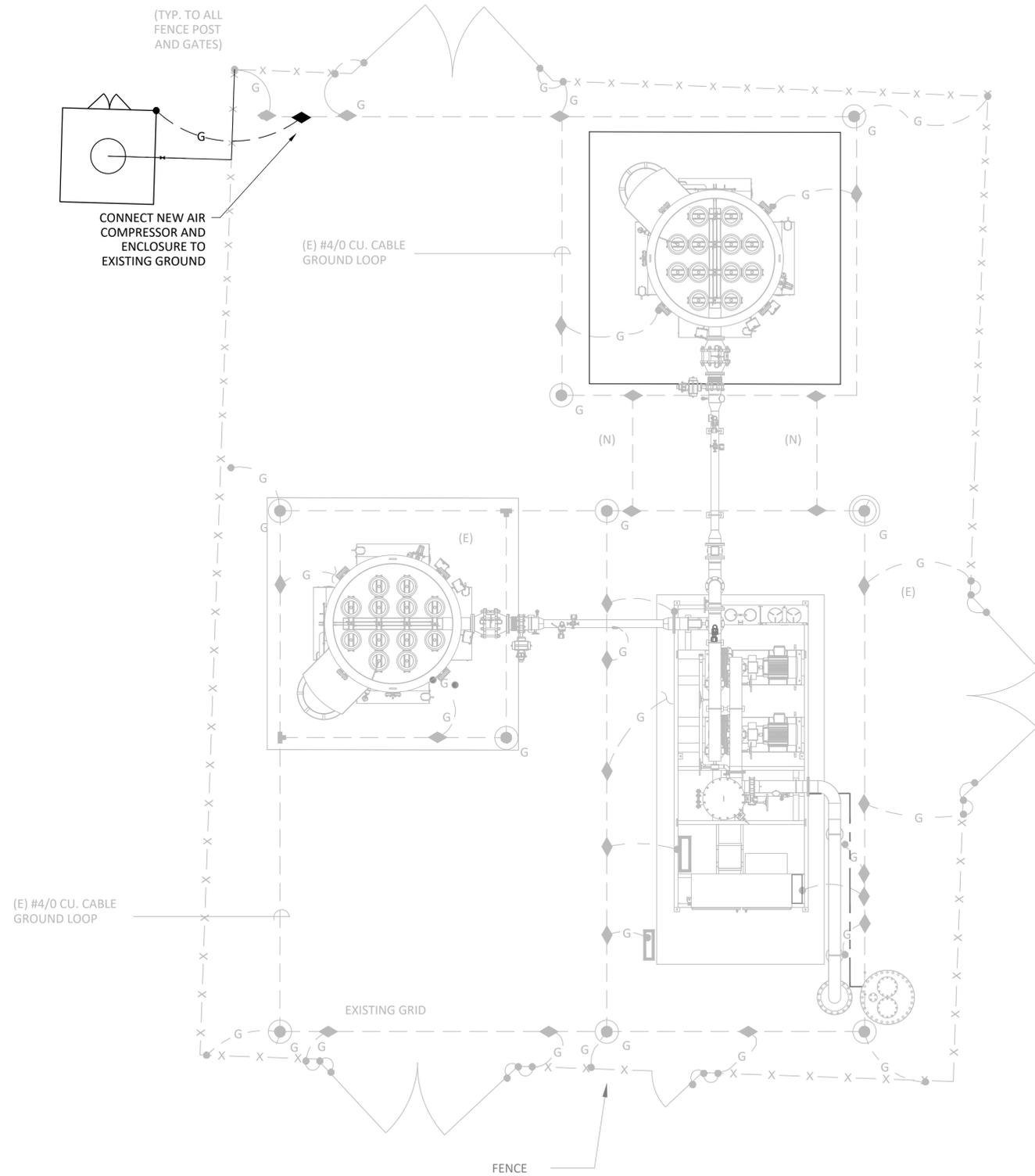
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**SITE ONE-LINE**  
 PROPOSED 2025 GCSS EXPANSION  
 HEADQUARTERS LANDFILL  
 CASTLE ROCK, WA

DRAWING NO.  
**E1.01**  
 PROJECT NO.  
 077.516



**SHEET NOTES:**

1. E.C. SHALL PROVIDE ALLOWANCE IN HIS BID FOR 10% ADDITIONAL GROUNDING CONNECTIONS. ENGINEER WILL INDICATE IN FIELD WHERE THESE SHALL BE REQUIRED.
2. DRAWING DOES NOT INCORPORATE ALL BONDING CONNECTIONS. THIS IS A GUIDE ONLY. E.C. SHALL BOND ALL EQUIPMENT FOR SAFE TOUCH POTENTIALS.

**GROUNDING LEGEND:**

- (E) 4/0 SOFT DRAWN STRANDED CU. GROUND LOOP.
- ⊙ (N) 3/4" x 10' COPPER CLAD GROUND ROD WITH GROUND ROD COUPLER AND EXOTHERMIC WELD CONNECTIONS. SEE DETAIL #1, E5.01
- ⊙ (E) 3/4" x 10' COPPER CLAD GROUND RODS WITH GROUND ROD COUPLER AND EXOTHERMIC WELD CONNECTIONS IN TEST WELL.
- G--- (N) #6, SOFT DRAWN STRANDED COPPER CONDUCTOR FOR THE CONNECTION OF EQUIPMENT.
- ◆ (N) EXOTHERMIC WELD

**2 ELECTRICAL GROUNDING PLAN**  
SCALE: NTS

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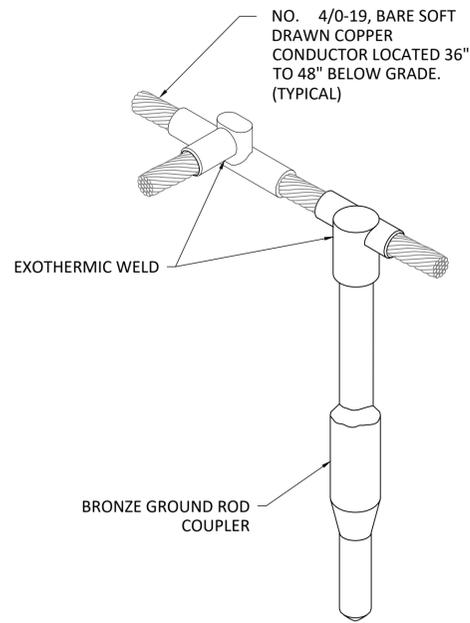
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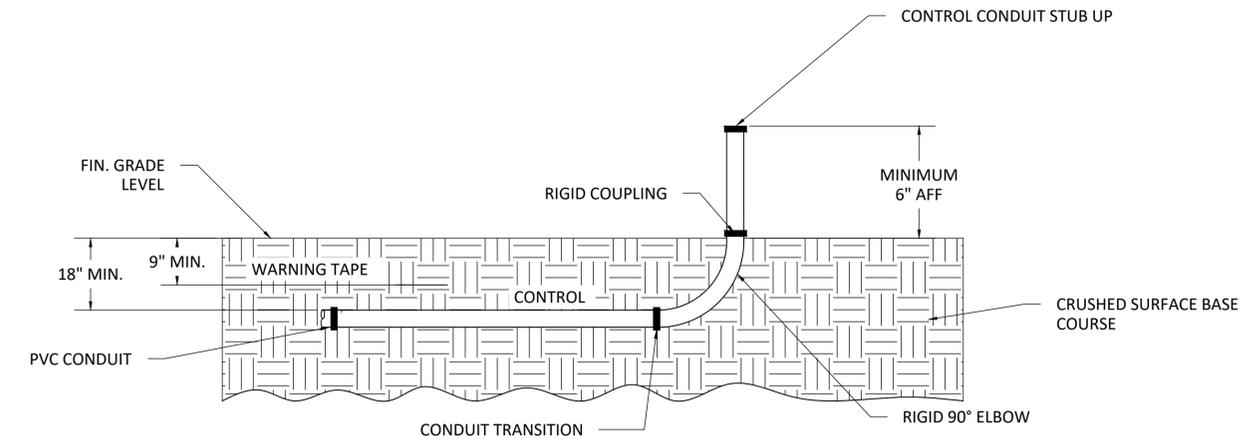
GROUNDING PLAN  
PROPOSED 2025 GCSS EXPANSION  
HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

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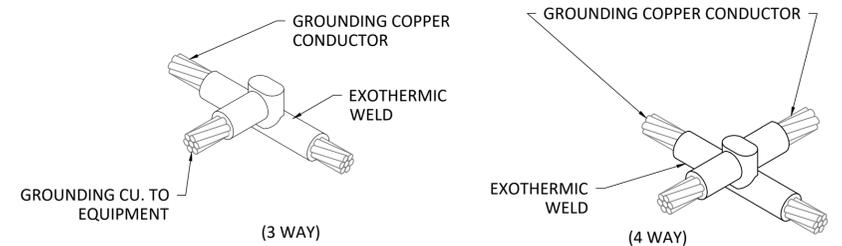


**1** GROUND ROD DETAIL  
SCALE: NTS

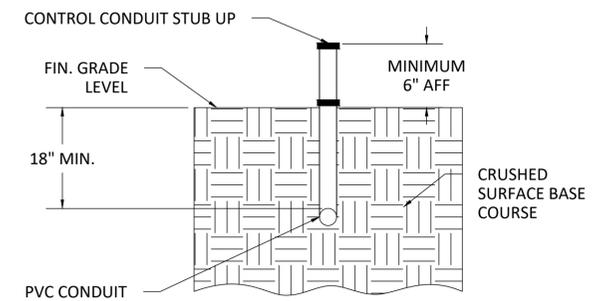


NOTE: EXCAVATION BY CONTRACTOR

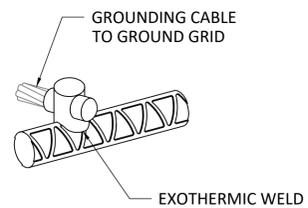
**2** TYPICAL GROUND FILL AND CONDUIT STUB UP DETAIL (OUTDOORS)  
SCALE: NTS



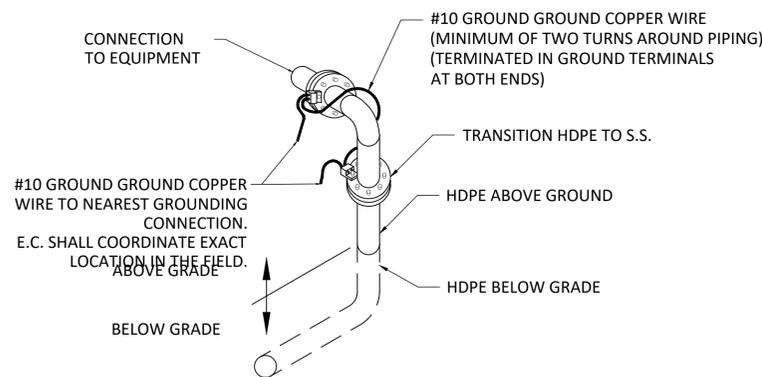
**3** EXOTHERMIC WELD CONNECTION DETAIL  
SCALE: NTS



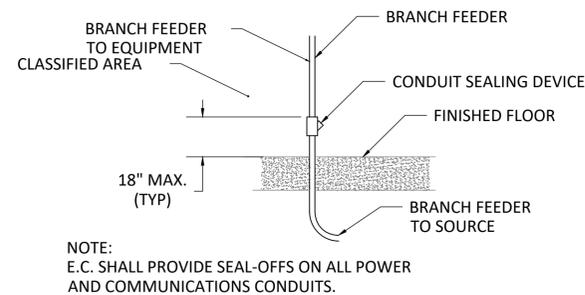
**4** TYPICAL TRENCH DETAIL  
SCALE: NTS



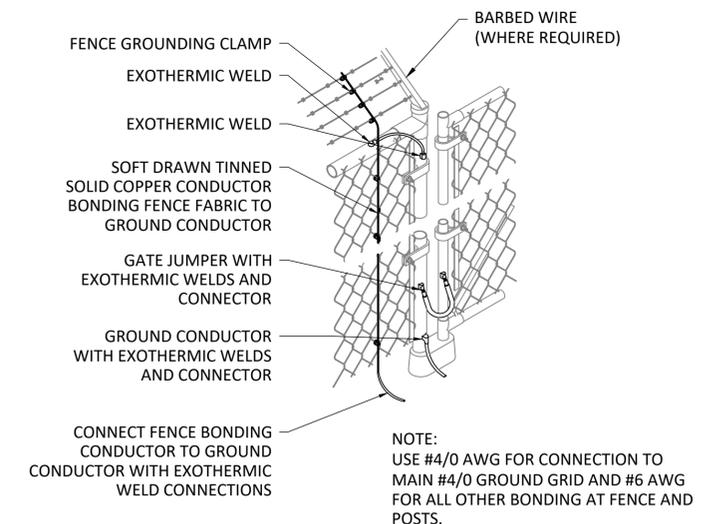
**5** TYPICAL GROUND WIRE TO REBAR CONNECTION  
SCALE: NTS



**7** EXPOSED MECHANICAL PIPING (HDPE-STEEL) ELECTRICAL GROUNDING DETAIL  
SCALE: NTS

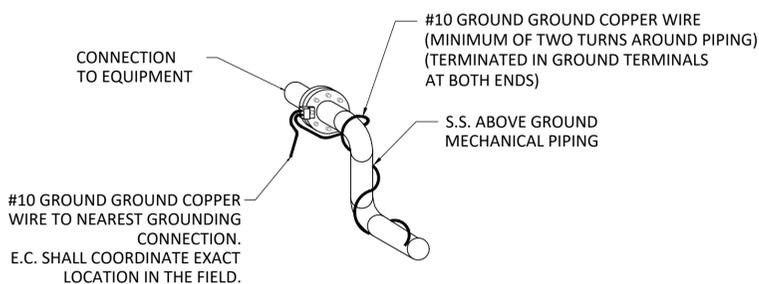


**8** CONDUIT SEAL FOR CLASS I AREAS DETAIL  
SCALE: NTS

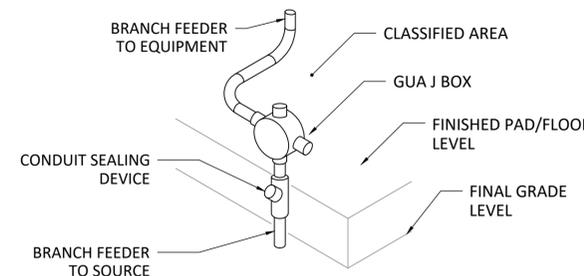


NOTE: USE #4/0 AWG FOR CONNECTION TO MAIN #4/0 GROUND GRID AND #6 AWG FOR ALL OTHER BONDING AT FENCE AND POSTS.

**10** FENCE/SWING GATE GROUND DETAIL  
SCALE: NTS



**6** EXPOSED MECHANICAL PIPING (STEEL) ELECTRICAL GROUNDING DETAIL  
SCALE: NTS



**9** CONDUIT STUB-UP WITH SEAL FOR CLASS I AREAS DETAIL  
SCALE: NTS

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ELECTRICAL DETAILS

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HEADQUARTERS LANDFILL  
CASTLE ROCK, WA

DRAWING NO.

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