

May 24, 2021

Delivery via Email and FedEx Overnight Delivery

Mr. Jeffery E. Mendenhall
South Carolina Department of Health and Environmental Control
Assessment Section, UST Management Division
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAY 25 2021
UST DIVISION



Subject: Corrective Action Plan Addendum #2
Products (SE) Pipe Line Corporation
Lewis Drive Remediation Site
Belton, South Carolina
Site ID #18693, "Kinder Morgan Belton Pipeline Release"

Dear Mr. Mendenhall,

On behalf of Products (SE) Pipe Line Corporation (PPL), Jacobs Engineering Group, Inc. (Jacobs) has prepared this 2nd addendum to the Corrective Action Plan for the Lewis Drive Release Site dated September 1, 2016.

As presented during a meeting with SCDEHC on February 25, 2021, PPL plans to expand the existing air sparge network to include three new horizontal sparging wells (HAS-4 and HAS-5 in the Browns Creek Protection Zone (BCPZ) and HAS-6 in the Cupboard Creek Protection Zone (CCPZ). The proposed layout is shown in attached **Figure 1**. The objective of the new HAS wells is to expand and reinforce the existing sparging network in both areas.

Key design parameters for the new proposed horizontal wells are summarized as follows (subject to minor adjustments based on conditions encountered in the field):

- HAS-4 (BCPZ): 3-inch DR 11 HDPE, 120 ft riser, 305 ft screen, depth ranges from 17-26 ft below ground surface (bgs)
- HAS-5 (BCPZ): 3-inch DR 11 HDPE, 160 ft riser, 250 ft screen, depth ranges from 17-26 ft bgs
- HAS-6 (CCPZ): 3-inch DR 11 HDPE, 280 ft riser, 500 ft screen, depth ranges from 16-18 ft bgs

All wells will be installed using horizontal directional drilling methods. Screens will be installed flat (constant elevation), although the ground elevation changes across the borehole trajectory, as shown in the cross section (**Figure 2**). HAS-4 and HAS-5 will be pulled into a single double ended borehole (approximately 12-inches diameter), with the drill rig staged at the HAS-5 wellhead location. As shown in **Figure 1**, there is an approximate 20 ft casing section separating the HAS-4 and HAS-5 well screens, where a grout seal will be installed. HAS-6 will be installed in a single blind end borehole (approximately 8-inches diameter).

May 24, 2021

Subject: Corrective Action Plan Addendum #2

Design flow rates for HAS-4, HAS-5, and HAS-6 will range from 0.5-1.0 cfm/ft screen (similar to Hayfield Zone horizontal well flow rates), and the existing air compressors and manifold system will be used. A new valve box (**Figure 3**) will be installed, adjacent to the existing AS system compound (refer to **Figure 1** for location of the proposed valve box). Gate valves inside the manway will allow all or a portion of air flow originally routed to the Hayfield Zone to be redirected to the new BCPZ and CCPZ wells. Note that all three Hayfield Zone wells were deactivated on October 1, 2020, for the purpose of a rebound assessment.

An air permit exemption request for the expanded system has been approved by Kirk Schneider (SCDHEC) as of May 20, 2021, an encroachment permit for directional drilling under Lewis Drive has been approved by Anderson County as of May 14, 2021, and an encroachment permit for directional drilling under West Calhoun Road is in progress and will be submitted to the South Carolina Department of Transportation. An underground injection control permit (#SCHE03020469M4) for construction of the three HAS wells was received by PPL on April 22, 2021. Installation of the new wells is expected to occur sometime in the summer of 2021. SCHEDC will be notified at least two weeks in advance of drilling activity. In addition, weekly documented erosion prevention and sediment control inspections will be performed during expansion activities in accordance with the Stormwater Pollution Prevention Plan, which was approved by the Anderson County Stormwater Department on May 17, 2021.

If you have any further questions or concerns, please contact me at 919-859-5789 or Mr. Greg Dempsey with PPL at 770-751-4143.

Regards,



William M. Waldron
Program Manager

Copies: Greg Dempsey, PPL (Digital, greg_dempsey@kindermorgan.com)
Mary Clair Lyons, Esq., PPL (Digital, Mary_Lyons@kindermorgan.com)
Richard Morton, Esq., Womble Bond Dickinson, LLP (Digital, ric.morton@wbd-us.com)

Attachments:

Figure 1: Air Sparge System Expansion Layout
Figure 2: HAS 4 and HAS 5 Cross-Section
Figure 3: Air Sparge System Expansion Valve Box

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The material and data presented in this submittal were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following Jacobs licensed professional.



Tom Wiley, P.G.
South Carolina Registered Professional Geologist No. 2787



May 24, 2021
Date

Figures

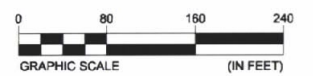


ENGINEERS CERTIFICATION
 I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the erosion & sediment control plan. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 46, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000.

- NOTES:**
- UPON COMPLETION OF CLEAN-UP ACTIVITIES, DISTURBED AREAS SHALL BE RETURNED TO PRE-DEVELOPED CONTOURS AND VEGETATED (GRASSSED) CONDITIONS.
 - TOTAL DISTURBED ACREAGE: 31.9 ACRES

LEGEND

- EXISTING GROUND SURFACE
- UNDERGROUND ELECTRICAL
- PROPERTY LINE
- DL — DL — LIMITS OF DISTURBANCE
- EXISTING HORIZONTAL SPARGING WELL RISER
- EXISTING HORIZONTAL SPARGING WELL SCREEN
- EXISTING AIR SPARGE CONVEYANCE PIPING (VERTICAL WELLS)
- PROPOSED AIR SPARGE CONVEYANCE PIPING (HORIZONTAL WELLS)
- PROPOSED HORIZONTAL SPARGING WELL RISER
- PROPOSED HORIZONTAL SPARGING WELL SCREEN
- MW MONITORING WELL (INSTALLED)
- RS RECOVERY SUMP (INSTALLED)
- RW RECOVERY WELL (INSTALLED)
- VAS VERTICAL SPARGE WELL (INSTALLED)
- GP PROPOSED/COMPLETED SOIL BORING
- PB PRELIMINARY BORING FOR HORIZONTAL WELL INSTALLATION
- OBC INJECTION BORINGS
- PROPOSED HORIZONTAL WELL ACCESS MANWAY (3 x 6 FT)
- PROPOSED VALVE BOX (6 x 6 FT)
- ▨ CARBON TRENCH
- DRAINAGE PATHWAYS



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NO.	DATE	DESCRIPTION	BY	CHK	APPV
1		LOD ADDED FOR MW & SPARGE SYSTEM EXPANSION			

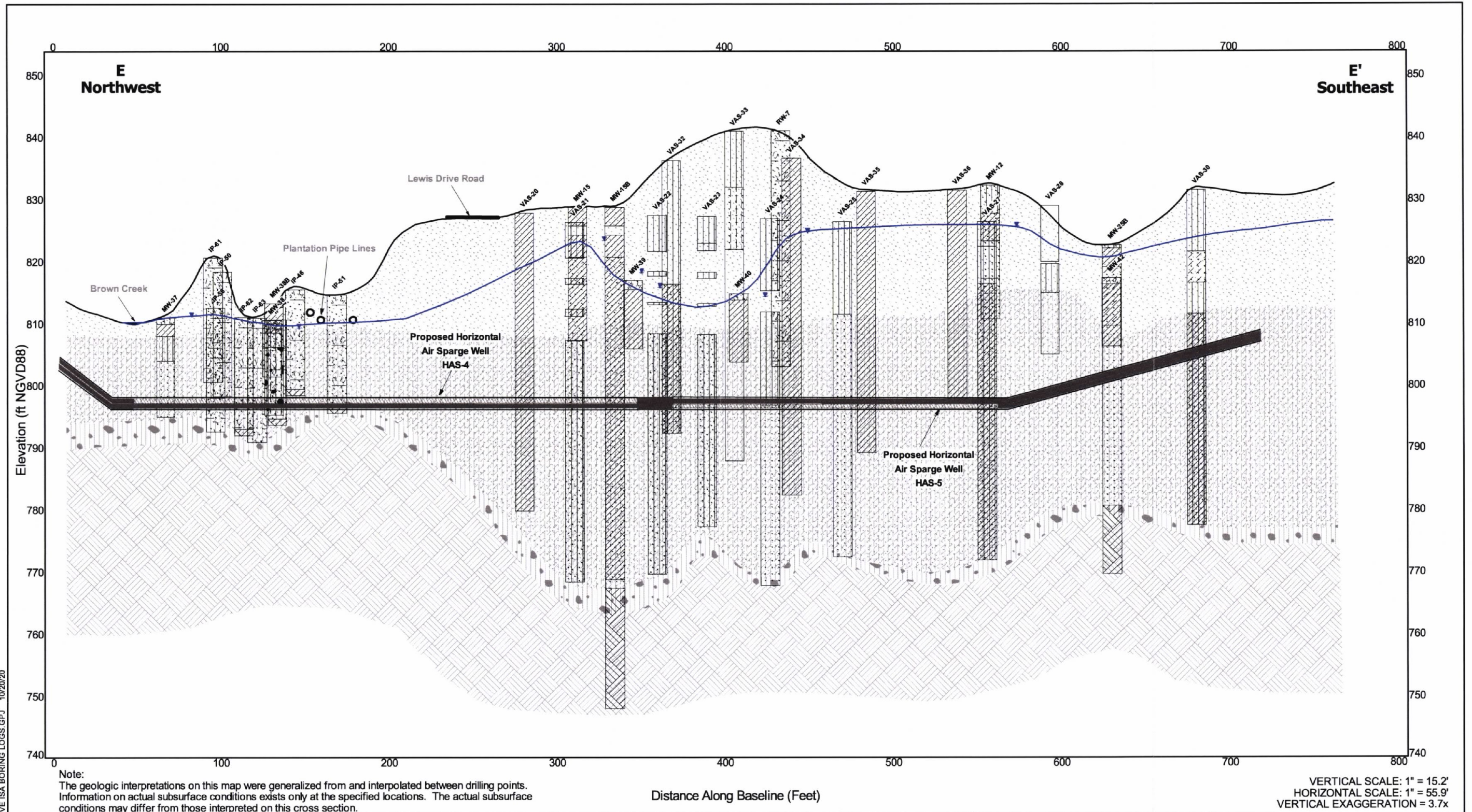
AIR SPARGE SYSTEM EXPANSION LAYOUT

LEWIS DRIVE RELEASE CLEAN UP
 PRODUCTS (SE) PIPE LINE CORPORATION
 BELTON, ANDERSON COUNTY, SOUTH CAROLINA

PROJECT NUMBER: **KMLDOM21**

FIGURE 1

DRAWING PATH: \\atlapp01\proj\atlanta\small\projects\LEWIS DRIVE\2021 AIR SPARGE.dwg



CROSS SECTION C - LEWIS DRIVE ISA BORING LOGS GPJ - 10/20/20

GEOLOGIC UNITS

	SOIL Completely weathered; sand, silt, and clayey.
	SAPROLITE Completely weathered with relict rock structure.
	TRANSITION ZONE Mixed soil and rock fragments.
	FRESH BEDROCK Few open fractures may be weathered or fresh; high rock-quality designation (RQD); competent rock.

LEGEND

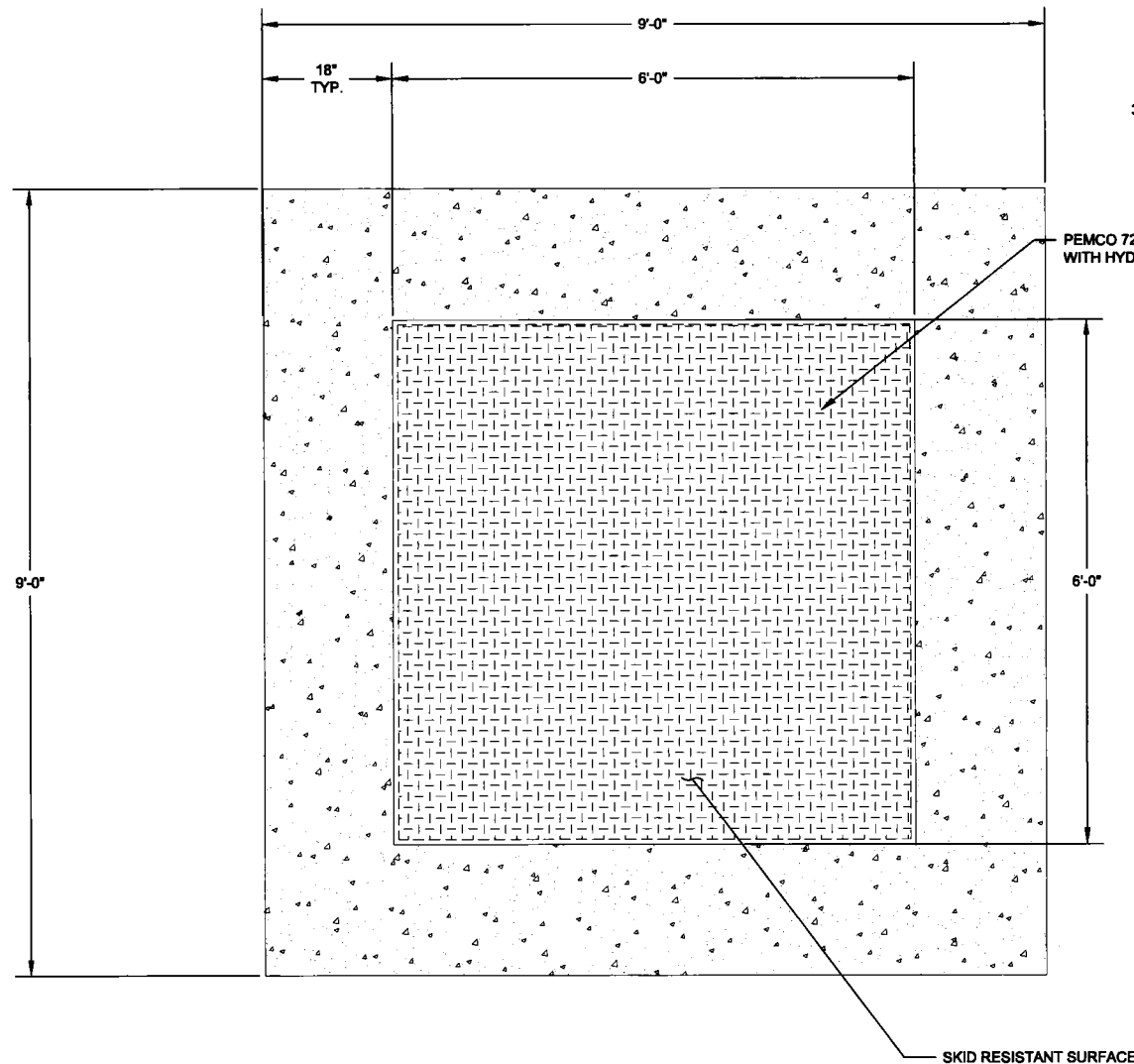
	Depth to Water tblgs (Measured in March 2020)		Groundwater level
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LITHOLOGY GRAPHICS

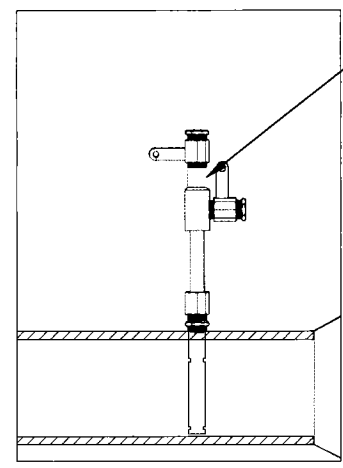
	Bedrock		Well-Graded Sand		Silty Sand
	Clayey Sand		Well-Graded Sand with Clay		BR-Lean Clay
	Poorly Graded Gravel with Silt		Well-Graded Sand with Silt		Silt



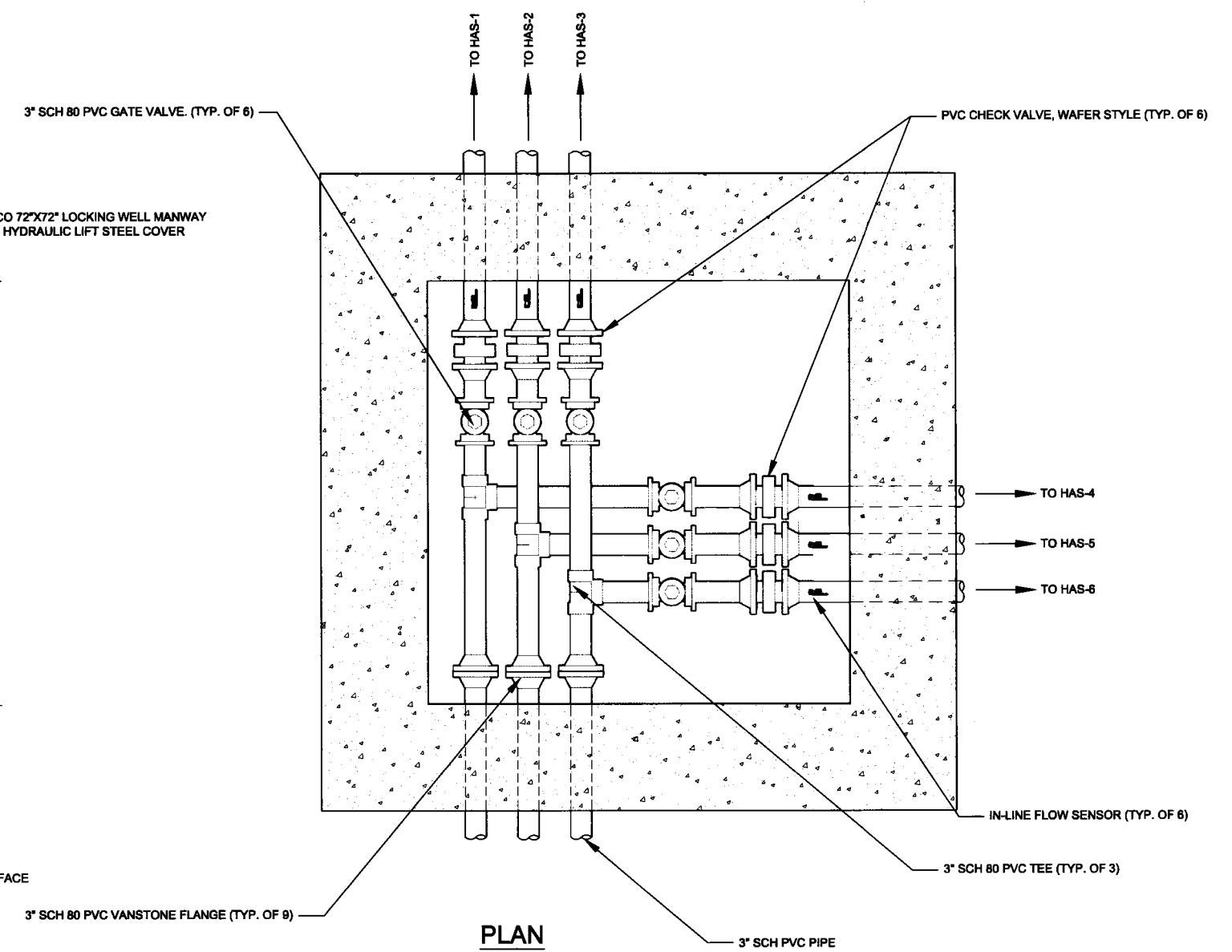
FIGURE 2 HAS-4 and HAS-5 Cross-Section
Air Sparge System Expansion
Lewis Drive Release, Belton, South Carolina Site ID #18693 "Kinder Morgan Belton Pipeline Release"



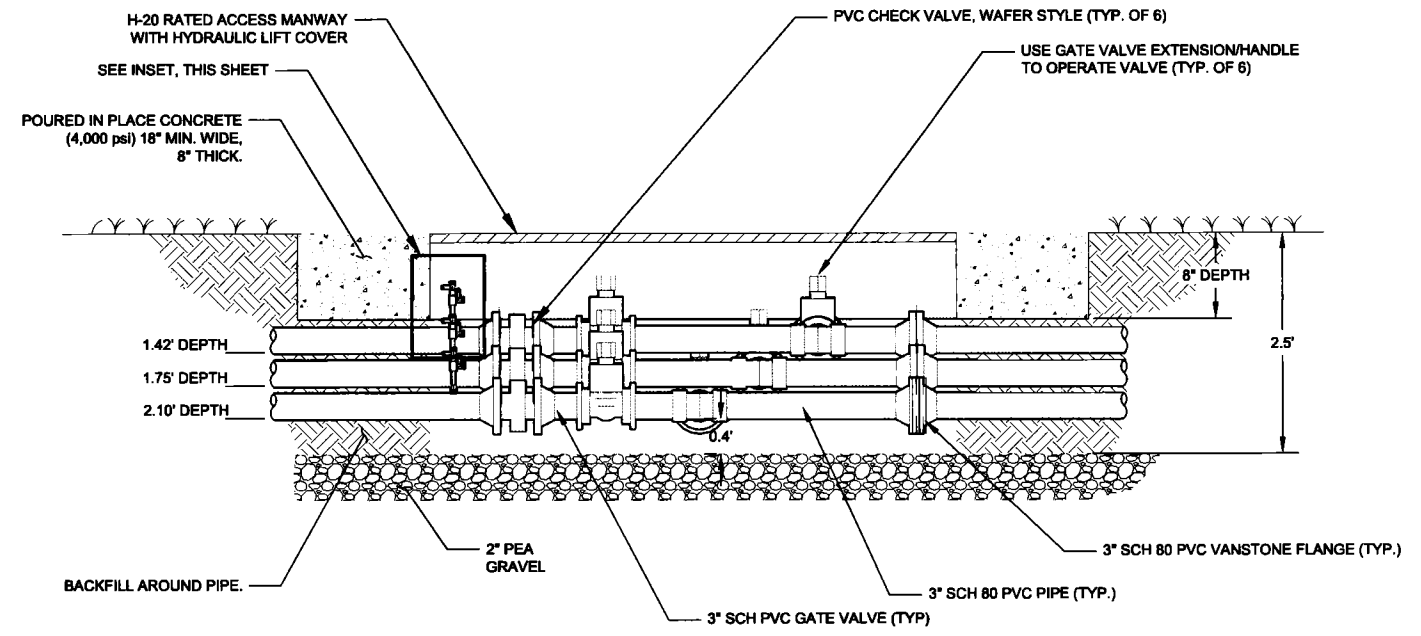
COVER PLAN
SCALE: 1" = 1'-0"



INSET
SCALE: NTS



PLAN
SCALE: 1" = 1'-0"



PROFILE
SCALE: 1" = 1'-0"

DRAWING PATH: \\p001\proj\Material\Small\Projects\LEWIS DRIVE VALVE BOX DETAIL.dwg

Jacobs

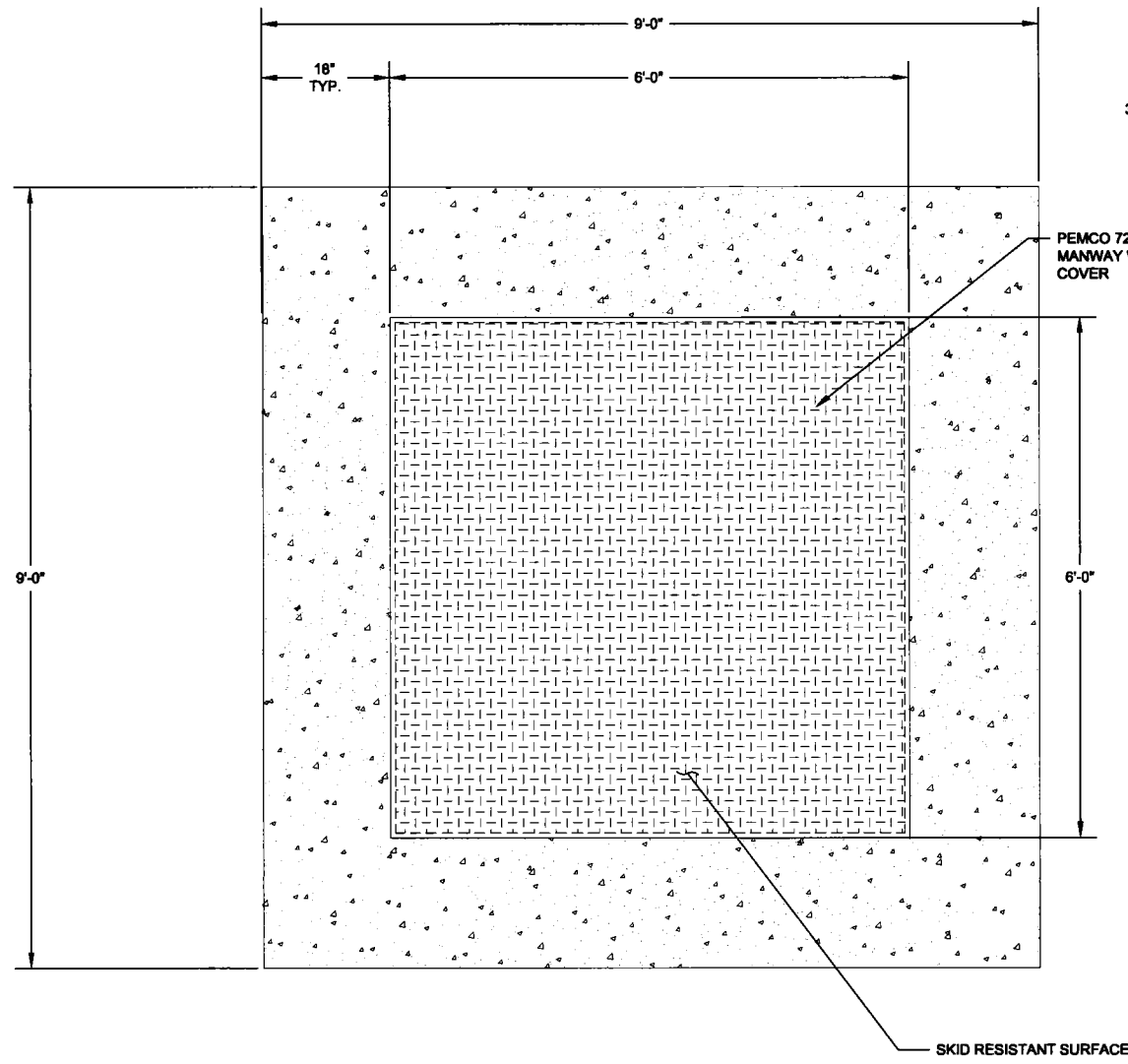
NO.	DATE	DESCRIPTION	BY	CHK	APP
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**AIR SPARGE SYSTEM
EXPANSION VALVE BOX**

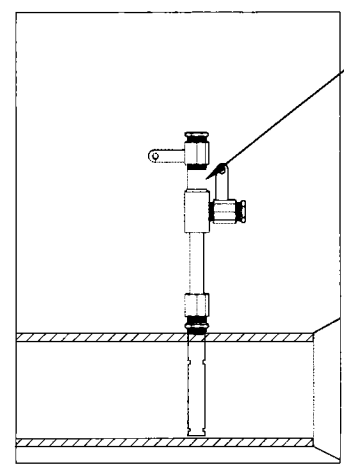
LEWIS DRIVE RELEASE CLEAN UP
PRODUCTS (SE) PIPE LINE CORPORATION
BELTON, ANDERSON COUNTY, SOUTH CAROLINA

PROJECT NUMBER
KMLDOM21

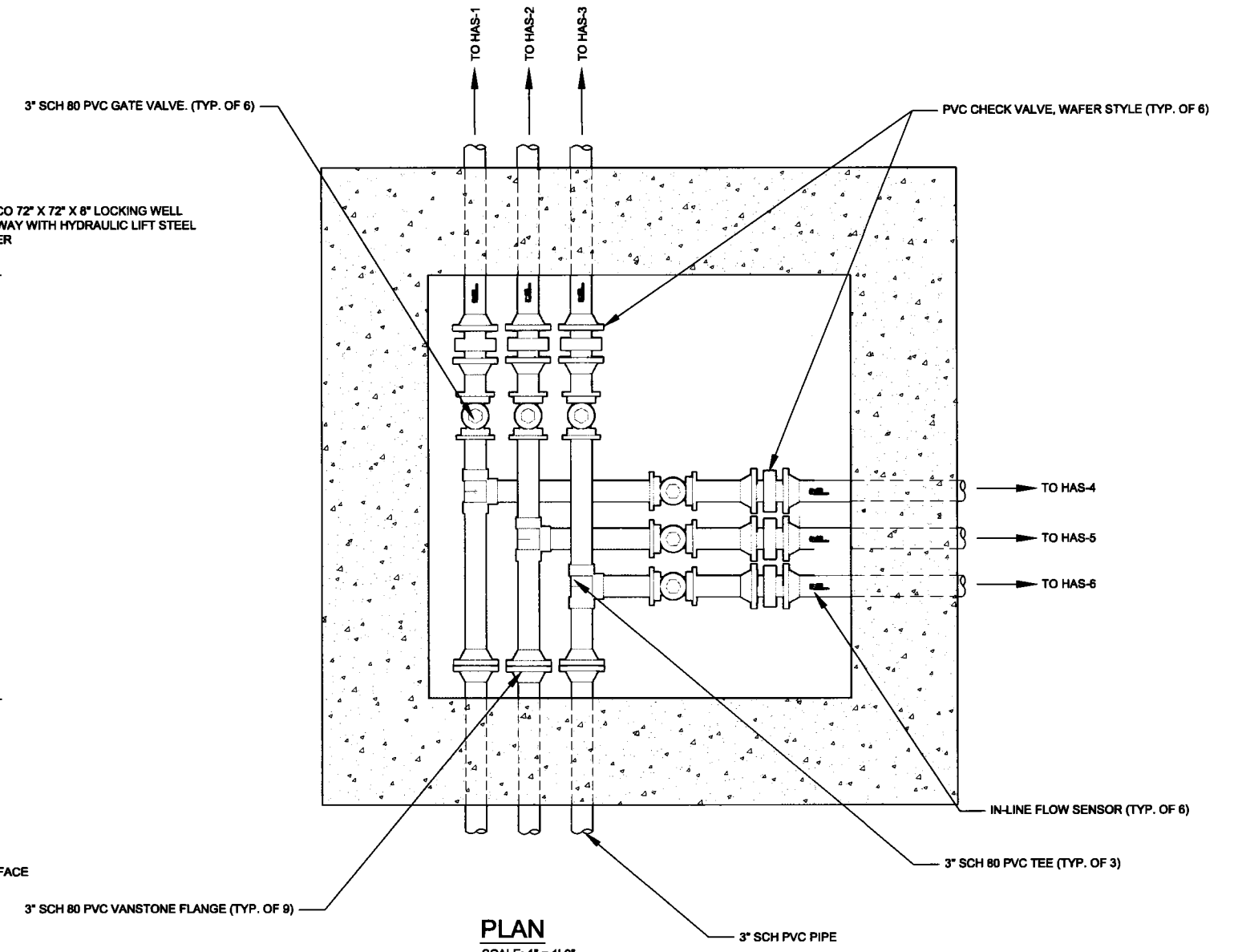
FIGURE 3



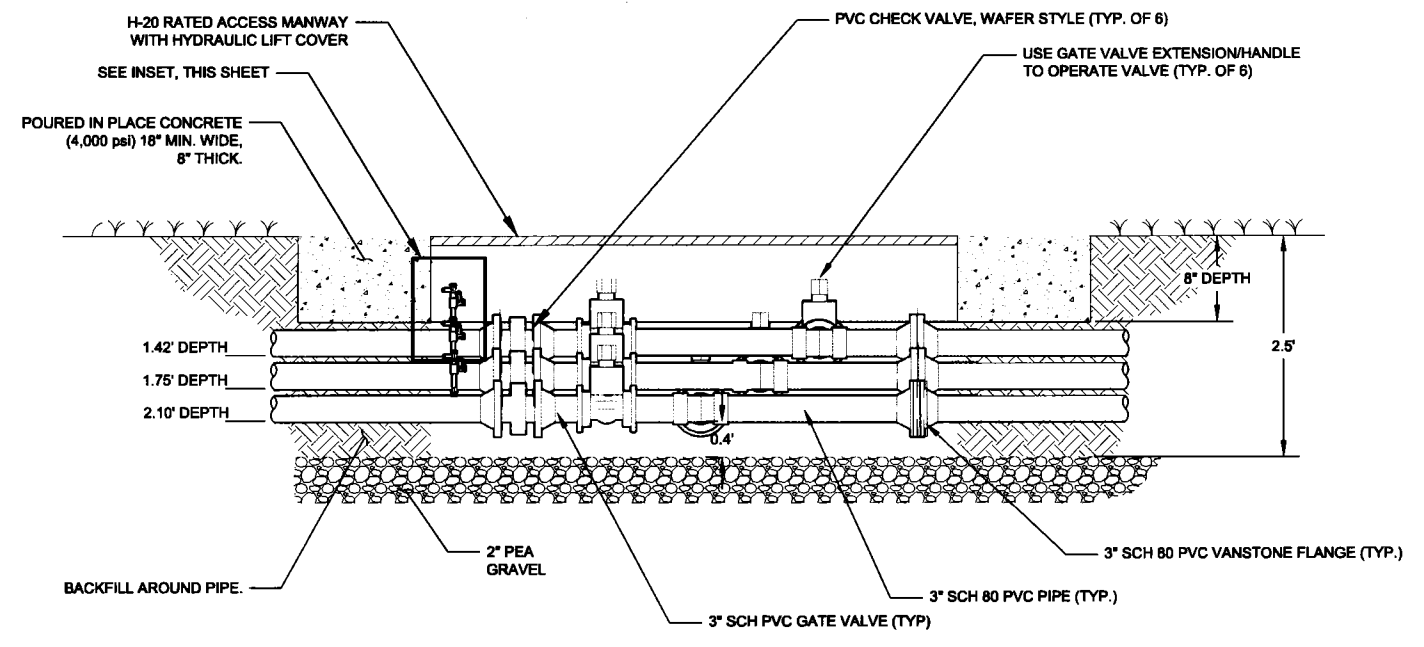
COVER PLAN
SCALE: 1" = 1'-0"



INSET
SCALE: NTS



PLAN
SCALE: 1" = 1'-0"



PROFILE
SCALE: 1" = 1'-0"

DRAWING PATH: \\p01p01\proj\Material\Small\Projects\LEWIS DRIVE VALVE BOX DETAIL.dwg

Jacobs

NO.	DATE	DESCRIPTION	BY	CHK	APP
1		LOD ADDED FOR MW & BRANCH SYSTEM EXPANSION	PVC		

**AIR SPARGE SYSTEM
EXPANSION VALVE BOX**

LEWIS DRIVE RELEASE CLEAN UP
PRODUCTS (SE) PIPE LINE CORPORATION
BELTON, ANDERSON COUNTY, SOUTH CAROLINA

PROJECT NUMBER
KMLDOM21

FIGURE 3