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APPROVED

Page 1 of 14

By Nelson Velez at 4:34 pm, Dec 29, 2021

May 25, 2021

VIA ELECTRONIC MAIL

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Review of the Soil Vapor Extraction and Air Sparge
Piping Installation Work Plan: Content satisfactory

1. OCD approves the work plan of the air sparge and soil vapor extraction piping
2. Provide OCD details and the schedule of the system start-up. Please submit separately and as soon as known

RE: 2021 Soil Vapor Extraction and Air Sparge Piping Installation Work Plan
Johnston Federal #4
El Paso CGP Company – Pit Groundwater Remediation Sites
NMOCD Incident Number: nAUTOfAB000305
NMOCD Order Number: 3RP-201-0

Dear Mr. Smith:

Stantec, on behalf of El Paso CGP Company, LLC (EPCGP), is submitting the enclosed 2021 Soil Vapor Extraction (SVE) and Air Sparge (AS) Piping Installation Work Plan (Work Plan) for the Johnston Fed #4 Site (Site). The enclosed document contains the proposed methodology for the installation of High-Density Polyethylene (HDPE) pipe for connecting the previously-installed AS and SVE wells to a future remediation system, including trenching, backfilling, and restoration activities. The procedures outlined in this Work Plan are being completed to comply with EPCGP's "Remediation Plan for Groundwater Encountered During Pit Closure Activities" document approved by the New Mexico Oil Conservation Division (NMOCD) on November 30, 1995. The scope of work contained herein is scheduled to begin June 1, 2021. Connection of the AS/SVE piping to a remediation system, and system start-up, is planned for 2022, with details and schedule of the system start-up and operation to be outlined in a separate submittal.

Please contact Mr. Joseph Wiley of EPCGP at (713) 420-3475, or me, if you have any questions or comments concerning the enclosed Work Plan.

Sincerely,

Stantec Consulting Services Inc.

A handwritten signature in blue ink, appearing to read 'Stephen Varsa'.

Stephen Varsa
Project Manager
Phone: (515) 251-1020
steve.varsa@stantec.com

cc: Joseph Wiley, EPCGP (via electronic mail)



El Paso CGP Company, LLC
1001 Louisiana
Houston, Texas 77002

2021 Soil Vapor Extraction and Air Sparge Piping Installation Work Plan

JOHNSTON FED #4 GROUNDWATER PIT SITE
NMOCD Incident Number: nAUTOAB000305
NMOCD Order Number: 3RP-201-0

SAN JUAN COUNTY, NEW MEXICO

May 25, 2021

Prepared by:

Stantec Consulting Services Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
(515) 253-0830

2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FENDERAL #4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

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2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

SECTION 1 - INTRODUCTION

This Work Plan presents the scope of work for the installation of air sparge (AS) and soil vapor extraction (SVE) conveyance piping between previously-installed AS and SVE wells, and the proposed location for a trailer mounted AS/SVE unit. Feasibility testing has been completed at the site, and AS and SVE methods are being planned as a remedy for the Site. The Site is located on private (fee) land and access has been established. The location of the Site is depicted on Figure 1. The existing well locations and other site features are depicted on Figure 2.

The purpose of this Work Plan is to provide the necessary field methods and implementation schedule for the AS/SVE piping installation activities. Section 2 describes the Site and the purpose behind the proposed AS/SVE piping installation activities. Section 3 provides details on the installation procedures. Section 4 presents the anticipated implementation schedule.

2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

SECTION 2 - SCOPE OF WORK

Previous activities at the Site have been conducted to delineate the extent of hydrocarbons present and assessed the feasibility of AS and SVE methods at the site. The AS and SVE wells were installed in 2020. Separate SVE lines will be placed and connected to the eight (8) 4-inch schedule 40 polyvinyl chloride (PVC) SVE wells. Separate AS lines will also be placed and connected to twenty-two (22) 2-inch schedule 40 PVC AS wells. Additional AS and SVE piping will also be placed to facilitate connection to future AS and SVE wells, if necessary. The piping will be constructed of High-Density Polyethylene (HDPE) and run from each well connection to the AS/SVE pad, as shown on Figure 3. These pipe runs shall be installed in trenches at depths between 1 to 3 feet below ground surface (bgs). The SVE piping will be sloped, when possible, downwards towards each SVE well to minimize buildup of condensed water in the SVE lines.

The installed AS and SVE wells, once connected to an operating AS/SVE system, are intended to provide sufficient coverage to effectively remediate the remaining hydrocarbon impacts at the Site to levels acceptable to the New Mexico Oil Conservation Division (NMOCD). The scope of work for this work plan includes trenching, HDPE connection and installation, site restoration, waste management and disposal, and reporting. A work plan describing the planned remediation system installation, startup, and operation and maintenance activities will be submitted under separate cover.

2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

SECTION 3 - FIELD METHODS

The following subsections describe field procedures to be followed during the Site activities.

3.1 SOIL TRENCHING

Prior to beginning any earthwork activities, a New Mexico 811 "One Call" locate will be completed across the Site to mark public utility lines. Known private utilities will also be confirmed to have been marked. No previously unknown or suspected utilities were identified during a private utility locate completed on April 18, 2021. The proposed trenching locations will also be measured-in and marked and air knife/vacuum excavation or hand digging will be used to clear portions of the trench located within 5 feet of suspected or known underground obstructions to confirm the location and depths of the marked utilities. Stantec will coordinate and obtain verbal approval from the operator's on-site representative prior to mechanically excavating. Trenching depths or piping locations may be modified based on the utility locations, although trenching is not planned to exceed 3 feet in depth. Near the AS/SVE trailer pad, trenching is expected to be approximately 1 foot deep where the piping exits the ground.

Based on previous soil sampling and assessment activities completed at the Site, shallow hydrocarbon-impacted soil is not expected to be encountered. Therefore, no soil sampling is proposed during the trenching activities. However, soil will be intermittently screened for the presence of hydrocarbons by Stantec field staff using a calibrated photoionization detector (PID). Trench spoils, unless suspected to have been impacted by hydrocarbons, will be used as backfill following HDPE installation. A clean borrow source will be identified in case additional fill material is needed to backfill trenches.

In the unlikely event suspected hydrocarbon-impacted soil is encountered (based on visual or olfactory observations, or PID readings from a field-screened sample exceeding 50 parts-per million vapor (ppmv)), those soils will be segregated from other excavated soils, placed on sheet plastic and covered, and transported off-site to the Envirotech landfarm for disposal.

Trench spoils, unless segregated for off-site disposal, will be used as backfill following HDPE installation, with additional backfill provided from a clean borrow source, if necessary. Given the known depth to groundwater across the site, groundwater management will not be required given the shallow depth of excavation activities.

3.2 HDPE INSTALLATION ACTIVITIES

Standard Dimension Ratio (SDR) 17 HDPE pipe will tee into each AS and SVE well below ground surface and run in trenches between the well location and the piping gallery. SVE laterals shall slope towards the well as much as practical, and toward the trailer pad otherwise. Slope shall be verified and documented with surveying transit or laser level. Heat fusion will be used between lengths of HDPE by performing butt-fusion or electrofusion with couplers along HDPE runs. Each AS/SVE lateral shall have dedicated insulated tracer wire running from the wellhead to the pipe gallery area. Once connected, AS and SVE well completions will be modified such that the top-of-casing for each completion is 6 inches below grade and protected in a plastic valve box (wells near access roads will be completed in standard well vaults). Each AS well will be completed with a threaded PVC cap, and SVE wells will be fitted with compression gripper plugs (Figure 4). AS/SVE lateral termination spacing shall be uniform at the piping stub-ups at the AS/SVE trailer pad. The end of each piping stub-up shall be securely sealed and labeled with well identification information for future connection to a remediation system. The individual tracer wires will also be taped to each corresponding piping stub-up.

**2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO**

As depicted on Figure 3, sixteen additional HDPE lines, 8 for SVE and 8 for AS, will also be placed between the trailer pad area to near the southwest corner of the current fenced-in area to facilitate connection to future SVE and AS wells. Tracer wire will also be buried with each line, and the SVE sloped in the southeast direction. The ends of the lines will be stubbed-up from the ground, capped, and marked for future reference.

Each of the HDPE lines will pass a shut-in pressure test prior to backfilling. The shut-in test will consist of sealing each HDPE line under a known applied pressure for ten minutes to confirm they are not leaking. Results of these shut-in tests will be documented.

3.3 SITE RESTORATION

A single lift of gravel will be installed on the southwest side of the Site to provide a stable and level area for the future remediation trailer to rest upon. Brush will be cleared from around the system pad area to remove any nearby combustible materials and avoid potential interference or damage to the equipment.

Equipment track compaction will be done over trenches that fall underneath access roads (with sand fill to protect HDPE). Otherwise, compaction will not be performed during backfilling, to avoid damaging HDPE bundles in shared trenching. Following trenching, HDPE installation, and backfilling, Site fencing will be reinstalled as shown on Figure 2.

3.4 WASTE DISPOSAL

If impacted soil is encountered, it will be containerized and disposed of off-site as described in section 3.1. Any encountered debris during trenching (i.e., loose pipes or wood) will be dry-decontaminated and disposed of off-site as general construction waste. Cleared brush and vegetation will also be disposed of off-site.

3.5 GENERAL PROTOCOLS

This subsection presents a discussion of health and safety, documentation procedures, buried piping or utility identification, waste handling, and other procedures to be performed as part of the activities.

3.5.1 Health and Safety

A Site-Specific Health and Safety Plan (HASP) will be utilized for the piping and earthwork activities. The HASP includes guidance on the personal protective equipment (PPE) necessary for field activities, identified hazards associated with the field activities, and directions to the nearest medical facility. Flame-resistant clothing and Level D protective equipment will be utilized, as required. A copy of the HASP will be on-site at all times while work is being performed. The HASP will apply to Stantec employees, Stantec's subcontractors, and visitors at the Site. Typically, subcontractors will operate under their own HASP, which will be reviewed and referenced by Stantec prior to the start of the project.

2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

3.5.2 Documentation Procedures

The progress of the scope of work will be documented on daily field report (DFR) forms. Onsite Stantec field personnel will also document the progress of the project in a bound field book with numbered pages. Each daily field book entry will contain:

- Date
- Name, location, and objective of the work activities
- Weather conditions
- Equipment calibration information
- Personnel and visitors onsite
- Photograph numbers and descriptions (if applicable)
- Description of decontamination activities (if applicable)
- Any deviations from the Work Plan
- Other relevant observations as the field work progresses
- Sample collection intervals and times (if applicable)
- Problems and corrective actions
- Results of HDPE shut-in pressure testing (as completed)
- Survey measurements
- Drawings of pertinent features (with labeled measurements)

As-built drawings will be created based on the final trenching layout.

3.5.3 Trenching Locations and Utility Identification

Prior to any excavation, a call will be made to the New Mexico 811 "One Call" to verify utility clearance and to notify the operator. "One Call" will be notified that the site is staked, and that the area should be marked. The clearance call must be made at least two working days prior to initiating ground disturbance activities, and site work must be completed within fourteen days of the clearance. The One Call ticket will be refreshed should ground disturbance work extend beyond the expiration date of the original ticket.

3.5.4 Field Equipment Calibration Procedures

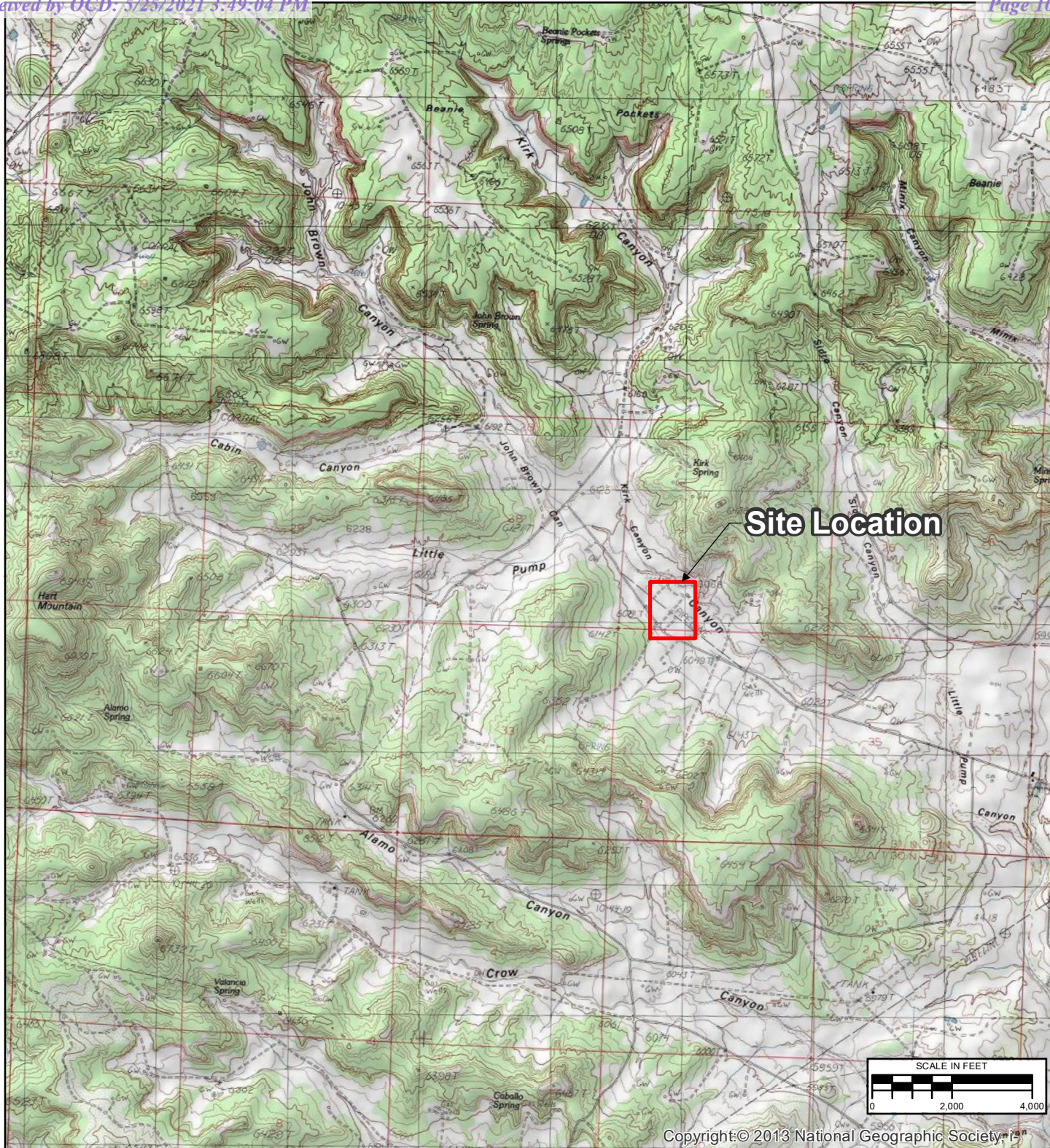
Field personnel will use a 10.6 electron volt (eV) PID for screening soil during advancement of soil trenches. This instrument will be calibrated prior to use according to the manufacturer's specifications. The instrument calibration will be checked at the beginning of each day of use and any time meter drift is suspected. All calibration information will be recorded in the field logbook.

The same PID will also be used to screen ambient air in the work areas a minimum of 3 times per day. If a sustained PID response to ambient air of greater than 10 ppm-v is observed, all field personnel will move away from the work area, upwind, either until vapors subside, or until mitigation can be installed.

2021 SOIL VAPOR EXTRACTION AND AIR SPARGE PIPING INSTALLATION WORK PLAN
JOHNSTON FED 4 GROUNDWATER PIT SITE, SAN JUAN COUNTY, NEW MEXICO

SECTION 4 – SCHEDULE


It is anticipated that remedial trenching activities will commence on June 1, 2021. Utility locates must be verified prior to the work. Completion of the planned activities will be summarized and reported in the 2021 Annual Report, anticipated for submittal in early 2022.



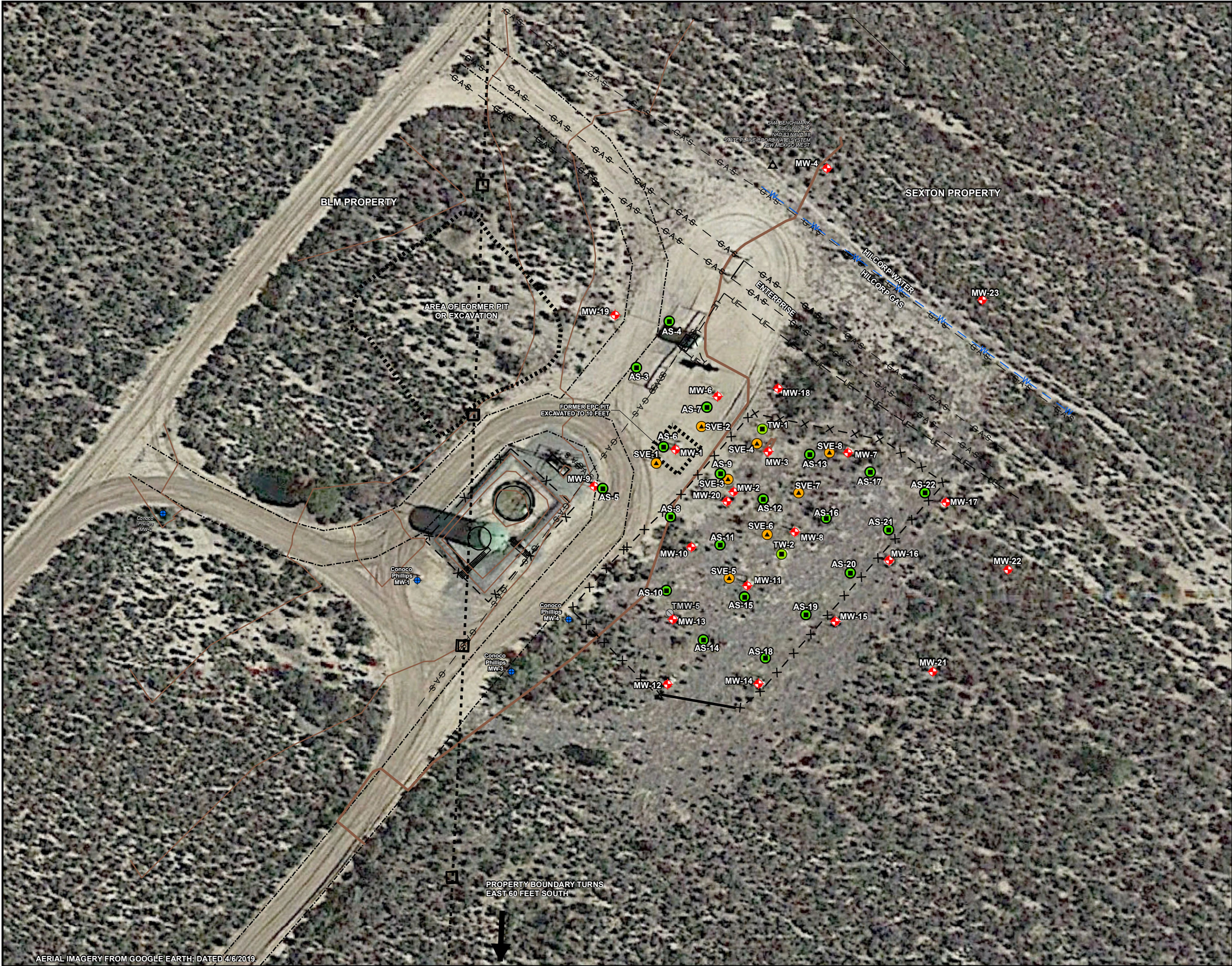
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REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/16/2021	SAH	SAH	SRV

TITLE		 Stantec
SITE LOCATION		
PROJECT	JOHNSTON FED #4 SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	FIGURE 1

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXD\SJOHNSTON FED #4\2020 MAPS\JFed_#4_SITEMAP_2020-07.mxd



AERIAL IMAGERY FROM GOOGLE EARTH, DATED 4/6/2019.

LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- GAS LINE
- WATER LINE
- FENCE
- UNDERGROUND ELECTRIC
- PROPERTY BOUNDARY
- ABANDONED MONITORING WELL
- CONOCO PHILLIPS MONITORING WELL
- MONITORING WELL
- AIR SPARGE WELL
- SOIL VAPOR EXTRACTION WELL
- SMA BENCHMARK
- SURVEY POST
- FENCE
- GATE



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/23/2021	SAH	SAH	SRV

TITLE:

SITE PLAN

PROJECT:

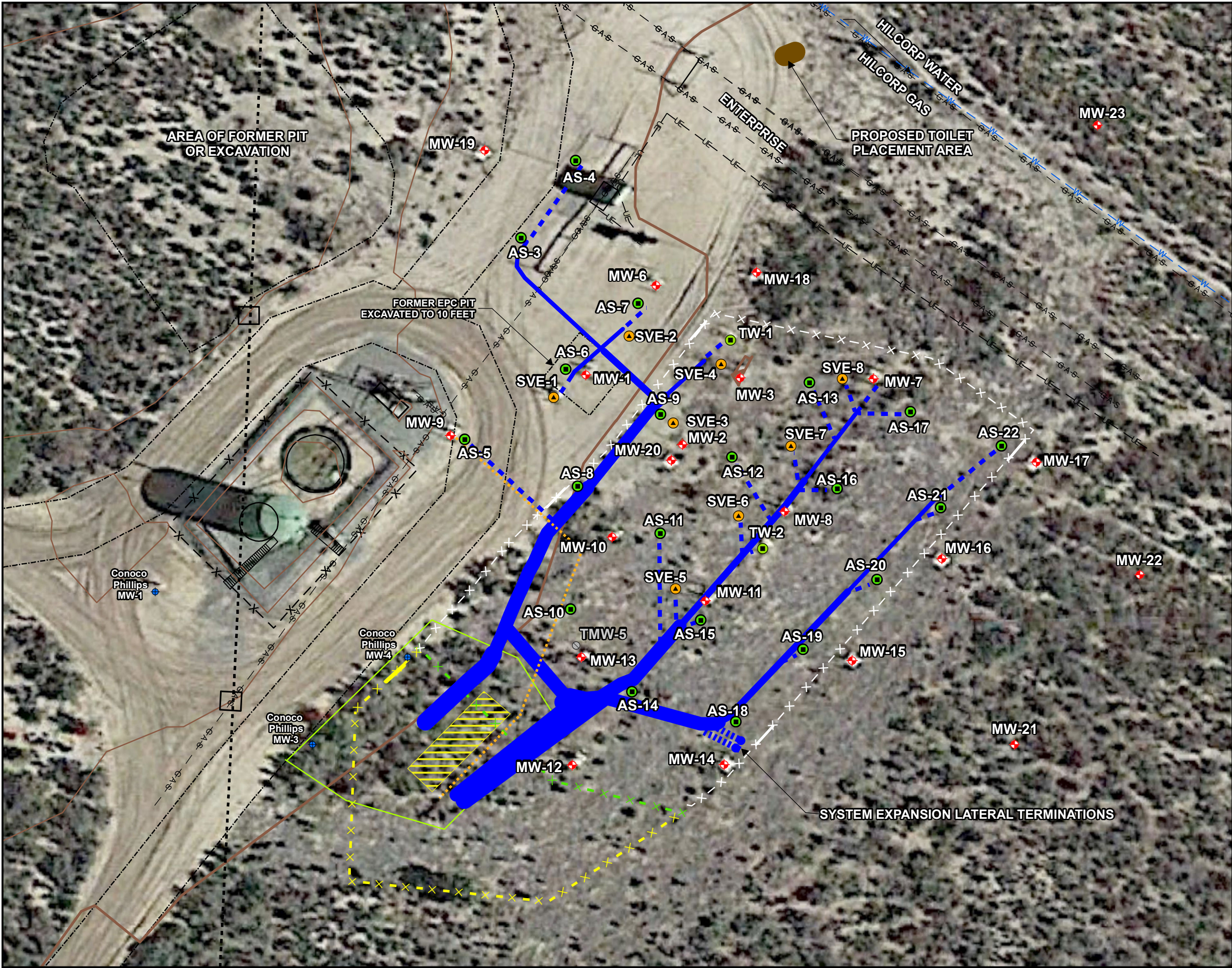
**JOHNSTON FED #4
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**



Figure No.:

2

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXD\JOHNSTON FED #4\2021 MAPS\JFED_#4_PROPOSED_SITE_LAYOUT_2021-04-07.mxd



LEGEND:

- 6070 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- GAS LINE
- WATER LINE
- FENCE
- UNDERGROUND ELECTRIC
- PROPERTY BOUNDARY
- ABANDONED MONITORING WELL
- CONOCO PHILLIPS MONITORING WELL
- MONITORING WELL
- AIR SPARGE WELL
- SOIL VAPOR EXTRACTION WELL
- SMA BENCHMARK
- SURVEY POST
- FENCE
- GATE

PROPOSED SITE FEATURES

- PROPOSED BRUSH REMOVAL AREA
- PROPOSED TRENCH (SHARED)
- PROPOSED TRENCH (UNSHARED)
- PROPOSED LATERALS
- PROPOSED 4-INCH UNDERGROUND CONDUIT
- PROPOSED EQUIPMENT PAD AREA
- PROPOSED FENCE REMOVAL
- PROPOSED FENCE LINE
- PROPOSED GATE

SCALE IN FEET

0 25 50

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	9/24/2021	SAH	SAH	SRV

TITLE:

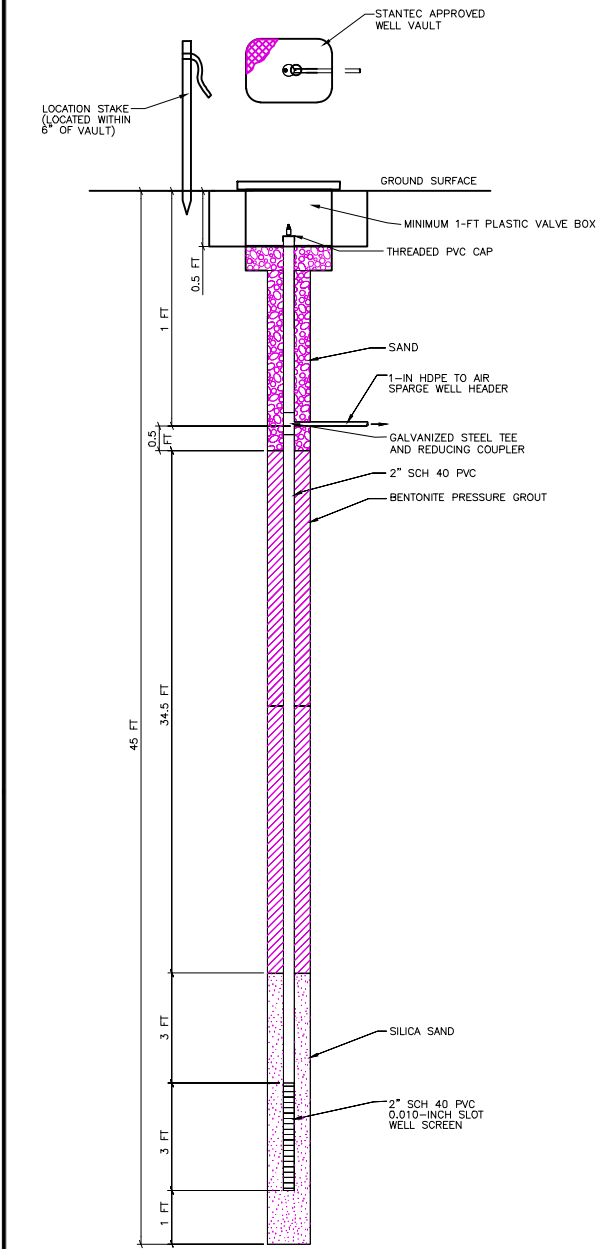
PROPOSED SITE LAYOUT

PROJECT: **JOHNSTON FED #4
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**

Stantec

Figure No.:
3

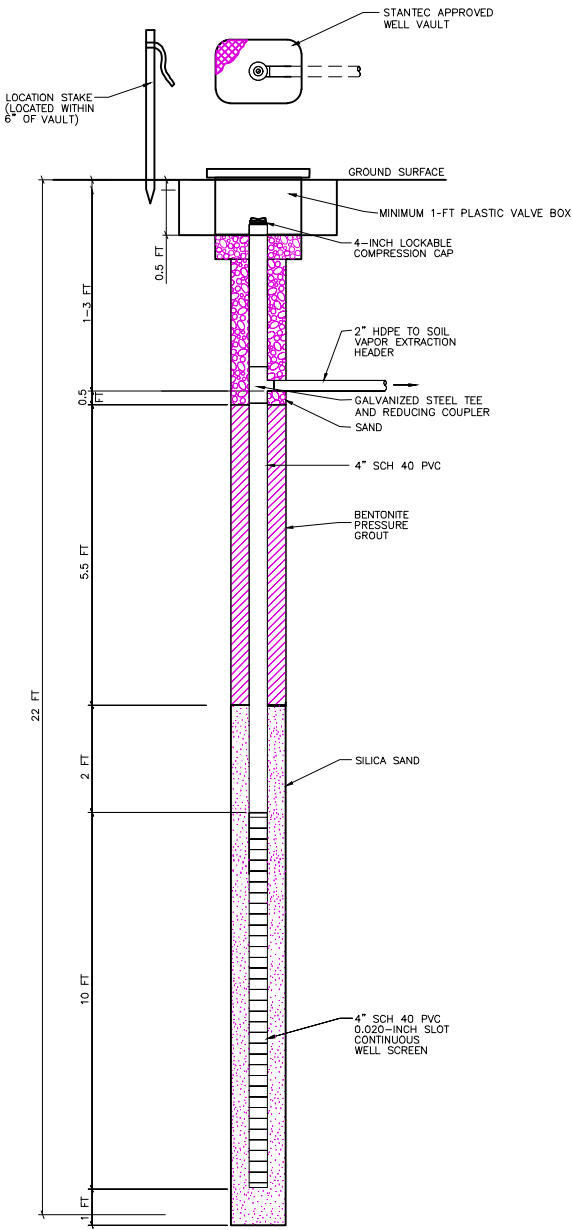
pw:\lamervp\int03.mwhglobal.com:AM_RMBU\Documents\MWH lowal\Projects A-F\El Paso (ELP_)SanJuan\Johnston Fed #4\TYPICAL WELL_ DETAILS 11 by 17 (J Fed #4).dwg



TYPICAL AIR SPARGE WELL
NOT TO SCALE

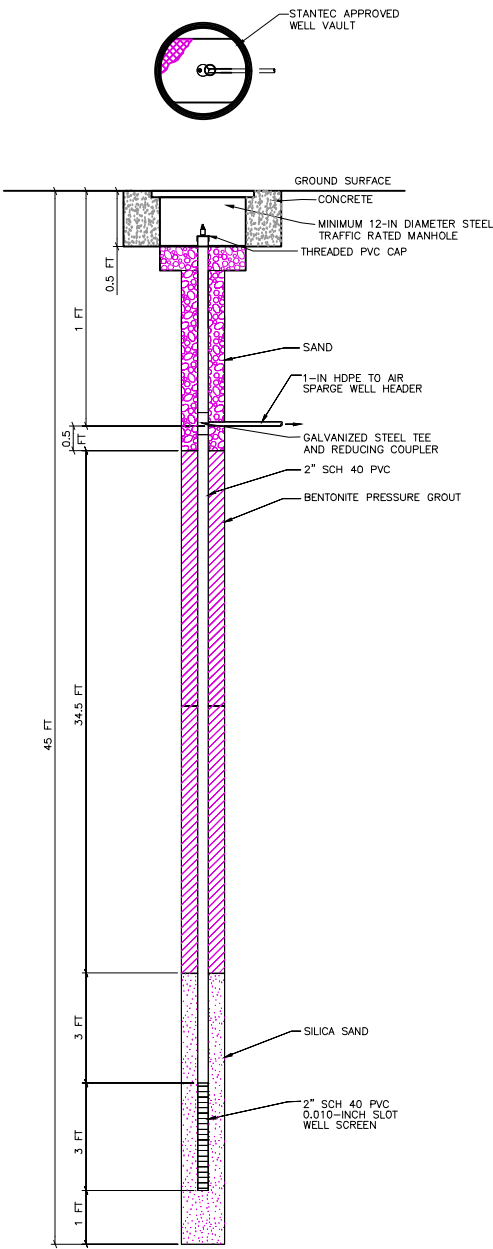
JOHNSTON FEDERAL #4 FENCED AREA AS/SVE WELLS INCLUDE:
(TW-1, AS-8, AS-9, AS-10, AS-11, AS-12, AS-13, AS-14,
AS-15, AS-16, AS-17, AS-18, AS-19, AS-20, AS-21, AND
AS-22)

WELLS OUTSIDE OF HILCORP PRODUCTION PAD



TYPICAL SOIL VAPOR EXTRACTION WELL
NOT TO SCALE

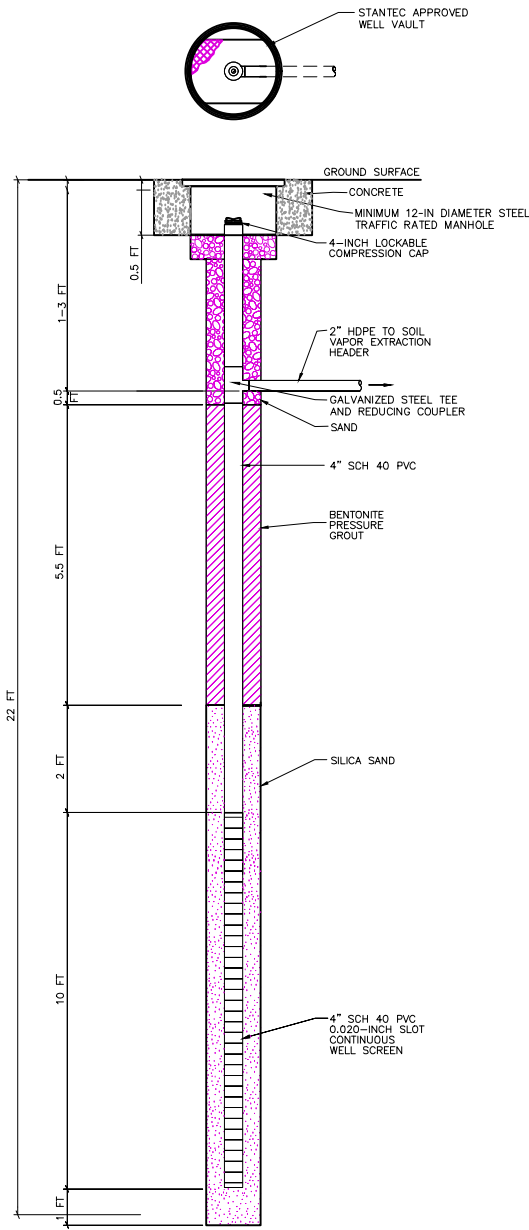
JOHNSTON FEDERAL #4 FENCED AREA AS/SVE WELLS INCLUDE:
(SVE-3, SVE-4, SVE-5, SVE-6, SVE-7, AND SVE-8)



TYPICAL AIR SPARGE WELL
NOT TO SCALE

HILCORP OPERATIONS AS/SVE WELLS INCLUDE:
(AS-3, AS-4, AS-5, AS-6 AND AS-7)

WELLS ON HILCORP PRODUCTION PAD



TYPICAL SOIL VAPOR EXTRACTION WELL
NOT TO SCALE

HILCORP OPERATIONS AS/SVE WELLS INCLUDE:
(SVE-1 AND SVE-2)

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2/09/2021	SAH	SAH	SRV

TITLE:	TYPICAL VAULTED AS AND SVE WELL DETAILS
PROJECT:	JOHNSTON FEDERAL #4 SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO
Figure No.:	4

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 29490

CONDITIONS

Operator: El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	OGRID: 7046
	Action Number: 29490
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of the Soil Vapor Extraction and Air Sparge Piping Installation Work Plan: Content satisfactory 1. OCD approves the work plan of the air sparge and soil vapor extraction piping 2. Provide OCD details and the schedule of the system start-up. Please submit separately and as soon as known	12/29/2021