

OWNER

Civil Design Criteria and Site Description

Report



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Project:



TORUS

, County,

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ISSUE SUMMARY AND APPROVAL

This page records each issue of CIV-RPT-001. The preparer, reviewer and approver sign for each revision.

Rev.	Date	Issue purpose	Description
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Contributors

Rev.	Discipline	Prepared by	Reviewed by	Approved by
A	Civil			

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APPENDICES

APPENDIX A. OVERALL SITE PLAN 15



1. INTRODUCTION

This report describes the site of the (the station) in County, , and sets the civil design criteria that the grading, drainage, road, foundation and structural designs follow. It also defines the geotechnical investigation and the survey that must be completed before the civil and structural work is issued for construction, and it sets the strategy for building on the expansive clay that underlies the site.

The report covers the lease tract, the station pad and fence, the access road to the county road, and the outlet lateral as far as the receiving pipeline operator's tap valve. It does not cover the Owner's upstream lateral, the hot tap and tap valve (scope), or the electric utility's line extension. The design values of the station process and mechanical systems are in the other volumes of this package.

At this issue no survey or geotechnical data exists. The site description and soil parameters in this report are therefore assumptions, each listed in Section 7 with the party that will confirm it.

2. SITE DESCRIPTION

2.1. LOCATION

The station lies in the Basin, about 7 miles south of , at approximately 34.95° N, 97.93° W, at a nominal elevation of 1,150 ft. It sits beside the receiving pipeline operator's east-west trunkline and is reached from a section-line county road to the east. Figure 2-1 shows its location.

Figure 2-1. Vicinity and Location Map

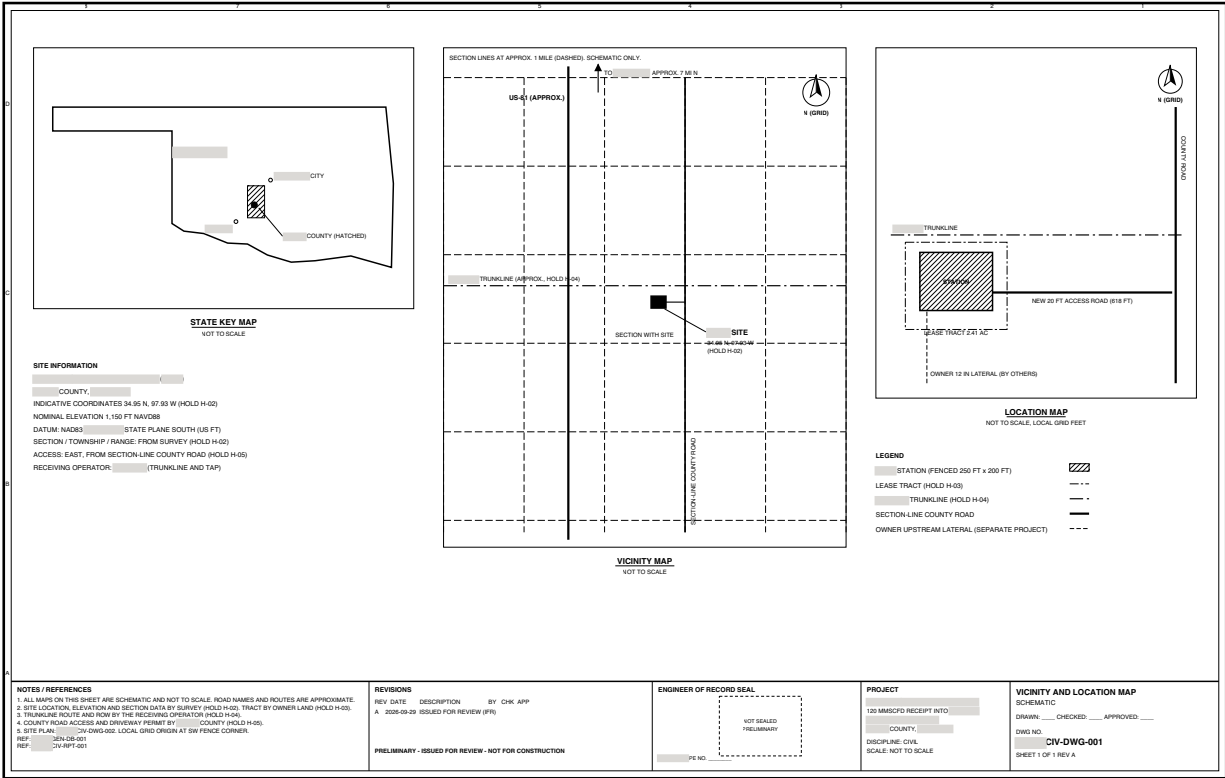


Table 2-1 summarizes the site data from the Basis of Design (GEN-DB-001).

Table 2-1: Site Data

Parameter	Value	Status
Location	County,	GEN-DB-001
Coordinates	34.95° N, 97.93° W	HOLD H-02
Datum	NAD83 State Plane South (US ft); NAVD88	GEN-DB-001
Elevation	1,150 ft; atmospheric pressure 14.10 psia	HOLD H-02

Parameter	Value	Status
Lease tract	350 ft x 300 ft, 2.41 ac	HOLD H-03
Fenced station	250 ft x 200 ft	GEN-DB-001
Receiving pipeline	East-west trunkline, 60 ft north of the fence, 50 ft right-of-way	HOLD H-04
Access	New 20 ft gravel road, 618 ft, from the county road on the east	HOLD H-05
Temperature	-5 °F to 110 °F; frost depth 12 in	GEN-DB-001
Wind, snow, ice, seismic	108 mph Exposure C; 10 psf ground snow; 0.5 in ice; Seismic Design Category B	HOLD H-06
Soils	Permian red-bed lean clay over weathered sandstone, moderately expansive	HOLD H-07
Soil resistivity	1,500 ohm-cm (corrosive)	HOLD H-08
Flood zone	FEMA Zone X	HOLD H-09
Land use	Grazed pasture; no trees, structures or waters	HOLD H-02, H-03

2.2. SITE LAYOUT AND COORDINATES

The drawings and calculations use a local grid with its origin at the southwest corner of the station fence, X east and Y north, in feet. The survey will tie it to State Plane coordinates (HOLD H-02). TORUS placed the lease tract so that its north line is the south line of the receiving pipeline operator's right-of-way. This lets the outlet lateral run straight north from the outlet riser into the right-of-way with the shortest buried run. Table 2-2 gives the principal coordinates, and the overall site plan, CIV-DWG-002, is in Appendix A.

Table 2-2: Principal Site Coordinates

Feature	Local coordinates (ft)	Status
Station fence	X 0 to 250, Y 0 to 200	GEN-DB-001
Lease tract	X -50 to 300, Y -65 to 235	HOLD H-03
Receiving pipeline right-of-way	Y 235 to 285, trunkline centerline Y 260	HOLD H-04
Tap valve	(220, 257)	scope
Gravel pad	X -10 to 260, Y -10 to 210	CIV-CAL-001
Main gate (east)	X 250, Y 50 to 74	MEC-DWG-001
Emergency gate (west)	X 0, Y 130 to 154	MEC-DWG-001
Access road centerline	Y 62, X 250 to 868	CIV-CAL-003
County road	Centerline X 880; right-of-way line X 847	HOLD H-05
Entrance culvert CUL-1	X 855, under the driveway	CIV-CAL-002

2.3. TOPOGRAPHY

No survey is available at this issue. TORUS assumed the existing ground is a plane typical of the gently rolling prairie of the area, 1,150.0 ft at the center of the fenced area and falling 1.2 % to the east and 0.8 % to the south:

TORUS assumption, HOLD H-02

$$EG(x, y) = 1150.0 - 0.012(x - 125) + 0.008(y - 100)$$

On this surface the ground within the tract ranges from 1146.58 ft at the southeast corner to 1153.18 ft at the northwest corner, and falls to 1140.78 ft at the county road. Every grading, drainage and earthwork quantity in this package depends on this assumption and shall be recomputed from the survey.



3. CIVIL DESIGN CRITERIA

Table 3-1 sets the civil design criteria. Each is developed in the calculation named.

Table 3-1: Civil Design Criteria

Item	Criterion	Reason or reference
Pad grading	Finished pad at least 0.5 ft above existing ground at every edge; 1 % minimum slope; no internal low points	Keeps offsite runoff off the pad (CIV-CAL-001)
Pad surfacing	6 in Type A aggregate on 12 in moisture-conditioned subgrade	CIV-CAL-003
Roads	20 ft wide, 12 in Type A on woven geotextile; 3 % crown on the access road; 50 ft entrance returns	CIV-CAL-003
Slopes	Fill slopes 4H:1V maximum; ditch side slopes 3H:1V maximum	Mowable and traversable
Drainage	Ditches and culverts for the 25-year storm, checked for the 10-year; access road not overtopped in the 100-year storm	CIV-CAL-002
Culverts	24 in minimum; headwater no more than 1.2 diameters; 12 in minimum cover	County practice (HOLD H-05)
Erosion control	SWPPP; seed and erosion control blanket on all ditches; riprap at outlets	CIV-RPT-002
Buried pipe cover	36 in minimum; 48 in under roads and ditches	GEN-DB-001
Above-grade pipe	18 in to 36 in to bottom of pipe	GEN-DB-001
Fence	7 ft chain link, 9 ga, 2 in mesh, with 3-strand barbed wire on 45°	GEN-DB-001
Foundations	Allowable bearing 2,000 psf; minimum depth 18 in; top of concrete 6 in above finished grade	STR-CAL-002 (HOLD H-07)
Concrete and reinforcement	4,000 psi at 28 days (ACI 318-19); ASTM A615 Grade 60	Sulfate class from the geotechnical report
Expansive clay	Section 6 of this report	

3.1. FENCE AND GATES

Table 3-2 gives the fence and gate take-off from the plot plan (MEC-DWG-001). The vehicle gates are 24 ft double-swing so that the lowboy and crane can enter without the gate leaves projecting into the county road side of the pad. The personnel gates open outward with panic hardware so that no one can be locked inside.

Table 3-2: Fence and Gate Take-Off

Item	Quantity	Description
Fence perimeter	900 ft	X 0 to 250, Y 0 to 200

Item	Quantity	Description
Fence fabric, perimeter less gate openings	844 ft	7 ft chain link with 3-strand barbed wire
Main vehicle gate, east fence X = 250, Y 50 to 74	1	24 ft double swing (2 x 12 ft leaves)
Emergency vehicle gate, west fence X = 0, Y 130 to 154	1	24 ft double swing (2 x 12 ft leaves)
Personnel gate PG-1, east fence X = 250, Y 7 to 11	1	4 ft single leaf, panic hardware
Personnel gate PG-2, north fence Y = 200, X 148 to 152	1	4 ft single leaf, panic hardware
Corner and gate posts	4 and 8	2-7/8 in OD corner; 4 in OD at vehicle gates, 2-7/8 in at personnel gates
Line posts at 10 ft maximum	78	2-3/8 in OD

3.2. ITEMS LOCATED BY OTHER DISCIPLINES

Several items that other disciplines design have a civil interface, and they are shown on the site plan for coordination (Table 3-3).

Table 3-3: Items With a Civil Interface

Item	Location (local grid)	Designed by	Civil interface
Perimeter ground loop, 4/0 bare copper	3 ft outside the fence; 924 ft of trench	Electrical (ELE-CAL-005)	Trench inside the gravel pad, backfilled per CIV-CAL-001
Crushed rock surfacing, 4 in	X 176 to 250, Y 0 to 40	Electrical	Replaces the top 4 in of pad surfacing; finished grade unchanged
Deep anode well DW-101	(285, -45), outside the fence	Cathodic protection (HOLD H-19)	Grassed access track; reinforced crossing of ditch D-7
Antenna mast ANT-201, 50 ft breakpoint monopole	(150, 22), 20 ft fall radius	Instrumentation	Drilled pier; boring B-11
Demarcation panel JB-W01	(214, 197.5), inside the north fence	Instrumentation	Post-mounted
CP rectifier RECT-101	B-102 south wall	Cathodic protection	Wall-mounted; no pad

4. GEOTECHNICAL INVESTIGATION

4.1. BORINGS

The investigation is sized to the foundations: a boring at each major equipment foundation and at the mast, where drilled piers will carry uplift and overturning, and shallow borings along the access road and at the entrance culvert, where only the subgrade matters. The foundation borings extend to 20 to 30 ft, below the 8 ft zone of seasonal moisture change and at least 10 ft below the expected pier tips. Table 4-1 gives the locations. The surveyor stakes them and records their as-drilled coordinates and elevations.

Table 4-1: Boring Locations

Boring	X (ft)	Y (ft)	Depth (ft)	Purpose	Sampling
B-1	84	44	30	V-101 mat, SDV-101	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-2	35	34	25	PR-101 supports, IJ-101	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-3	84	97	30	SK-110 skid and canopy piers	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-4	190	140	30	H-101 mat	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-5	40	160	30	VS-101 drilled pier	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-6	30	100	25	T-101 containment	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-7	150	90	25	Control valve station, SDV-102/103	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-8	225	38	30	B-102, G-101, XF-101	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-9	118	118	20	B-101	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-10	220	165	20	Outlet riser, outlet lateral, JB-W01	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
B-11	150	22	30	ANT-201 mast pier	Continuous tubes to 10 ft, then SPT or tubes every 5 ft
RB-1	420	62	10	Access road	Bulk sample 0 to 3 ft, then SPT or tubes every 2.5 ft
RB-2	640	62	10	Access road	Bulk sample 0 to 3 ft, then SPT or tubes every 2.5 ft
RB-3	855	62	15	Entrance culvert CUL-1	Bulk sample 0 to 3 ft, then SPT or tubes every 2.5 ft

The program totals 14 borings and 330 ft of drilling. Borings shall be advanced with hollow-stem augers, without drilling fluid in the upper 10 ft so that the natural moisture profile is preserved. Where weathered sandstone is met above the planned depth in borings B-1, B-3, B-4, B-5 or B-11, at least 10 ft of rock shall be cored and the recovery and RQD recorded, because the drilled piers may then bear in rock.

Groundwater shall be recorded during drilling, at completion and after 24 hours in borings B-1, B-4 and B-5. Every tube sample shall be tested with a pocket penetrometer and torvane. Borings shall be backfilled with bentonite or grout under the Water Resources Board rules. OKIE811 shall locate utilities before drilling, and the receiving pipeline operator shall locate its trunkline and stand by for any work within 25 ft of it.

A Wenner four-pin soil resistivity survey (ASTM G57) shall be made at the same time, at pin spacings of 2.5, 5, 10, 20 and 40 ft, on two perpendicular traverses through the station and one along the outlet lateral, for the cathodic protection and grounding designs (HOLD H-08).

4.2. LABORATORY TESTING

Table 4-2 sets the laboratory program. The swell tests are the most important: they establish the depth of the active zone and the swell pressure that the drilled piers and slabs must resist.

Table 4-2: Laboratory Testing Program

Test	Standard	Frequency	Used for
Classification	ASTM D2488, D2487	All samples	Soil profile
Moisture content	ASTM D2216	All samples	Moisture profile, active zone
Atterberg limits	ASTM D4318	2 per boring in the top 10 ft, 1 per stratum below	Expansion potential, fill suitability
Fines content and gradation	ASTM D1140, D6913	1 per stratum per boring	Classification, fill suitability
Dry density	ASTM D7263	All tube samples	Swell and settlement
One-dimensional swell and swell pressure	ASTM D4546	3 per foundation boring, at 1, 3 and 6 ft	Heave, pier uplift, active zone
Unconfined or UU triaxial compression	ASTM D2166, D2850	2 per foundation boring	Bearing, pier friction, lateral capacity
Consolidation	ASTM D2435	Borings B-4 and B-6	Settlement of the heaviest mats
Standard Proctor	ASTM D698	Bulk samples from RB-1, RB-2, B-2 and the borrow source	Compaction control
Soaked CBR	ASTM D1883	RB-1, RB-2, RB-3 and one pad location	Road and pad sections

Test	Standard	Frequency	Used for
Water-soluble sulfate	ASTM C1580	2 per boring, 0 to 6 ft	Concrete exposure class (ACI 318-19 Table 19.3.1.1)
Chloride	ASTM D4327	2 per boring	Corrosion of reinforcement and pipe
Soil box resistivity	ASTM G187	2 per boring at pipe depth	Cathodic protection and grounding
pH and redox potential	ASTM G51, G200	2 and 1 per boring	Corrosivity
Rock core compression	ASTM D7012	2 per cored boring	Pier end bearing in rock

4.3. GEOTECHNICAL REPORT

The geotechnical report shall provide the boring logs and laboratory results; the groundwater levels; the soil profile; the active zone depth and the estimated potential vertical rise; the allowable bearing for mats and slabs on select fill; drilled pier parameters for skin friction, end bearing, swell uplift and minimum anchorage below the active zone, and lateral soil parameters for pier analysis; the modulus of subgrade reaction; lateral earth pressures for the containment walls; settlement estimates; the sulfate exposure class and cement type; a corrosivity summary; the suitability of the site clay as fill and the select fill criteria; the subgrade CBR; the OSHA soil type for excavations; and recommendations for moisture conditioning, proof-rolling and wet-weather construction.

5. SURVEY REQUIREMENTS

The survey shall establish two permanent control points outside the disturbed area, tied to NAD83
 State Plane South and NAVD88 by GNSS on the
 CORS network, with the transformation to the local grid, and one protected benchmark within 100 ft of the fence.

The topographic survey shall give 1 ft contours and spot elevations on a 25 ft grid over the tract and 100 ft beyond on every side, a 100 ft wide corridor along the access road, and the county road for 800 ft each side of the entrance, which is needed for the sight distance check and the county ditch profile. The boundary survey shall locate the lease tract, the access easement, the county road right-of-way and the section corners (HOLD H-03).

The receiving pipeline operator's trunkline shall be located by electronic locate and by potholing, witnessed by the operator, at the tap location and every 50 ft across the tract frontage, with its depth of cover and right-of-way lines (HOLD H-04). All other utilities shall be located through OKIE811, and overhead power lines recorded with their voltage and pole numbers for the AC interference study (HOLD H-08). Any drainage features, waters or wetlands shall be mapped.

During construction the surveyor shall stake the fence corners, foundation centers, anchor bolt templates, drilled pier locations, road centerlines at 50 ft stations, culvert inverts and ditch flowlines, and shall record the as-built location of foundations, anchor bolts, buried piping and conduit, culverts and fence.

6. EXPANSIVE CLAY MITIGATION

The Permian red-bed clays of central shrink and swell with seasonal changes in moisture. Untreated, the swell can crack slabs, rack equipment skids and load piping that connects foundations resting on different supports. TORUS combined four measures, each suited to a different kind of foundation, rather than one measure applied everywhere, because the measures differ widely in cost and the station has both heavy mats and many small isolated supports.

6.1. MOISTURE CONDITIONING

The top 12 in of clay under the pad, the roads and all fill shall be scarified and recompactd at 0 to +4 % of optimum moisture and 95 % of standard Proctor density, and clay fill shall be placed at the same moisture. Clay compacted wet of optimum has already taken on much of the water that would otherwise make it swell. This is inexpensive and applies to the whole site.

6.2. SELECT FILL UNDER MATS, SLABS AND BUILDINGS

Mats, slabs and buildings shall bear on 2 ft of non-expansive select fill (plasticity index 8 to 20, liquid limit under 40, 30 to 70 % passing the No. 200 sieve), compacted to 98 % of standard Proctor density, extending 2 ft beyond the foundation, over 12 in of moisture-conditioned clay. The select fill replaces the most active part of the clay directly under the foundation. It is specified as a low-plasticity cohesive soil rather than a clean granular fill, because a free-draining layer would collect water and feed it to the clay beneath.

6.3. DRILLED PIERS THROUGH THE ACTIVE ZONE

Isolated supports (pipe and valve supports, the meter skid and canopy, the vent stack and the mast) shall be carried on drilled piers founded below the active zone, assumed to be 8 ft deep. Swelling clay grips the shaft within the active zone and lifts it. The pier resists this with its own weight, the structure load, skin friction on the shaft below the active zone, and full-length reinforcement to carry the tension. STR-CAL-002 sizes the anchorage for the assumed swell pressure of 3,000 psf and undrained strength of 2,000 psf. The top 4 ft of each shaft shall be formed with a smooth tube or wrapped with two layers of polyethylene to reduce the grip, and no shaft shall be belled or mushroomed at grade. Where a grade beam spans between piers, it shall be cast over 6 in void forms so that the clay can swell without lifting it.

6.4. DRAINAGE AND MOISTURE CONTROL

The pad slopes at least 1 % and stands at least 0.5 ft above the surrounding ground, and the perimeter ditches keep offsite water away (CIV-CAL-001, CIV-CAL-002). There shall be no irrigation, planting beds or trees within 20 ft of a foundation, and no permanent water lines on site. Every utility trench entering the pad shall have a 3 ft clay plug where it crosses the pad edge, so that trench water cannot travel under the foundations.

6.5. ESTIMATED HEAVE

TORUS estimated the potential heave with a simple model. The swell strain is taken as 2.5 % at the surface, decreasing linearly to zero at the base of the active zone. Select fill does not swell, and the moisture-conditioned layer keeps half its swell:

TORUS simplified potential vertical rise

$$\Delta H = \int_0^{z_a} \varepsilon(z) dz, \quad \varepsilon(z) = 0.025 \left(1 - \frac{z}{8} \right)$$

For untreated clay this gives $\Delta H = 0.5 \times 0.025 \times 96 \text{ in} = 1.20 \text{ in}$. Table 6-1 gives the result for each treatment.

Table 6-1: Estimated Heave

Condition	Select fill (ft)	Conditioned layer (ft)	Estimated heave (in)
Native clay, no treatment	0.0	0.0	1.20
Pad and roads: top 12 in moisture conditioned at 0 to +4 % of optimum	0.0	1.0	1.06
Mats, slabs, buildings: 24 in select fill over 12 in moisture-conditioned clay	2.0	1.0	0.57
Alternative: 36 in select fill over 12 in moisture-conditioned clay	3.0	1.0	0.38

With 24 in of select fill over 12 in of conditioned clay, the estimated heave under mats and buildings falls from 1.20 in to 0.57 in. This is within the 1 in of differential movement for which the mats and slabs are detailed, with flexible pipe connections at skid and building entries. If the swell tests show more than 2.5 % surface swell or a deeper active zone, the select fill shall be increased to 36 in (estimated 0.38 in), or the building slabs carried on drilled piers as structural slabs over void forms.

7. ASSUMPTIONS AND OPEN ITEMS

The civil and structural design uses the parameters in Table 7-1 until the geotechnical report and survey are available. Each shall be confirmed or replaced before issue for construction.

Table 7-1: Assumed Design Parameters

Parameter	Assumed value	Open item	To be confirmed by
Allowable bearing on select fill	2,000 psf	HOLD H-07	Geotechnical engineer
Moist unit weight	125 pcf	HOLD H-07	Geotechnical engineer
Undrained shear strength	2,000 psf	HOLD H-07	Geotechnical engineer
Sliding coefficient, concrete on clay	0.30	HOLD H-07	Geotechnical engineer
Allowable lateral bearing	100 psf per ft of depth	HOLD H-07, H-11	Geotechnical engineer, EOR
Elastic modulus and Poisson ratio	250,000 psf and 0.35	HOLD H-07	Geotechnical engineer
Active zone depth	8 ft	HOLD H-07	Geotechnical engineer
Swell pressure and surface swell	3,000 psf and 2.5 %	HOLD H-07	Geotechnical engineer
Modulus of subgrade reaction	100 pci	HOLD H-07	Geotechnical engineer
Groundwater	Deeper than 20 ft	HOLD H-07	Geotechnical engineer
Subgrade CBR	3 (soaked)	HOLD H-07	Geotechnical engineer
Topography	Plane in Section 2.3	HOLD H-02	Surveyor
Tract boundaries	Table 2-2	HOLD H-03	Owner land department
Trunkline location and right-of-way	Table 2-2	HOLD H-04	Receiving pipeline operator
County road, entrance and permit	Table 2-2	HOLD H-05	County
Flood zone	FEMA Zone X	HOLD H-09	TORUS civil

8. SUMMARY AND CONCLUSIONS

The station site is a gently sloping pasture on moderately expansive red-bed clay. TORUS has set the civil design criteria in Section 3, and the grading, drainage, road and foundation designs in this package follow them. The designs rest on assumed topography and soil parameters, and TORUS recommends the following next steps before issue for construction:

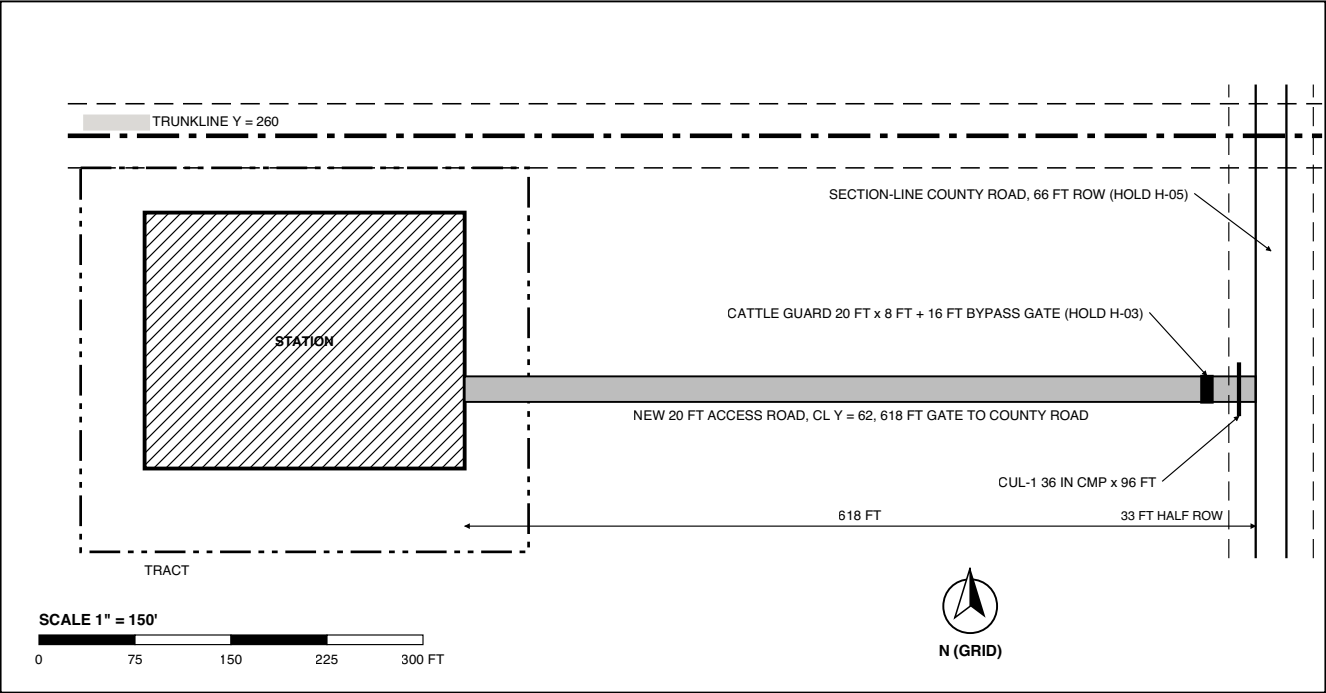
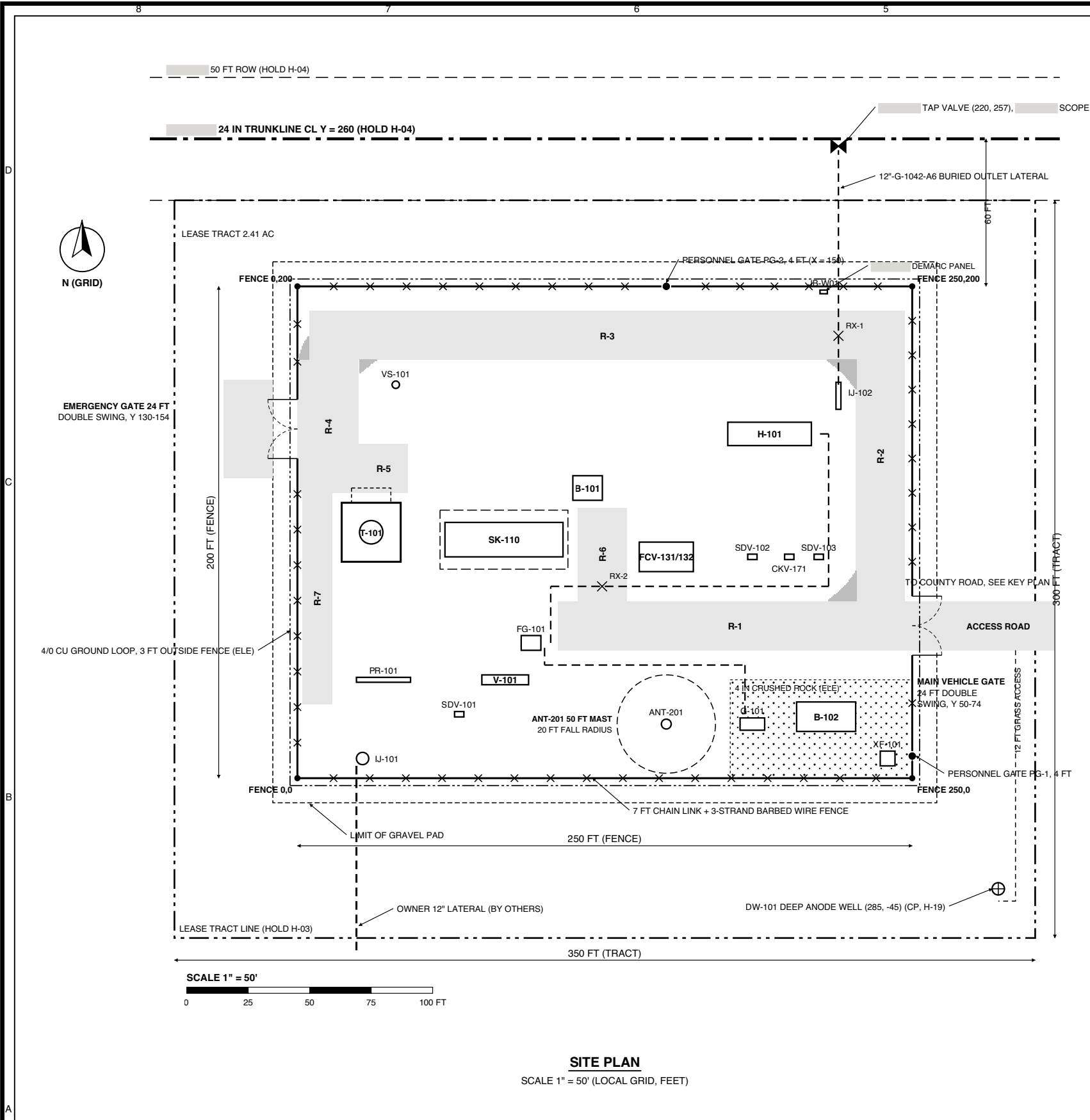
1. Complete the geotechnical investigation in Section 4: 14 borings, 330 ft of drilling, the laboratory program in Table 4-2, and the soil resistivity survey.
2. Complete the control, topographic, boundary and utility survey in Section 5, including the potholed location of the trunkline.
3. Revise the grading, drainage, road and foundation calculations with the survey and geotechnical results, in particular the active zone depth and swell pressure, which set the drilled pier lengths.

The expansive clay measures in Section 6 apply to all civil and structural work regardless of the investigation results; only their dimensions may change.



APPENDIX A. OVERALL SITE PLAN





KEY COORDINATES (LOCAL GRID, FT; STATE PLANE TIE BY SURVEY, HOLD H-02)

POINT	X	Y
FENCE SW / SE CORNER	0 / 250	0
FENCE NW / NE CORNER	0 / 250	200
TRACT SW / NE CORNER	-50 / 300	-65 / 235
PAD LIMITS	-10 TO 260	-10 TO 210
MAIN GATE CL	250	62
EMERGENCY GATE CL	0	142
ACCESS ROAD END (COUNTY EDGE)	868	62
CUL-1 CL	855	62
CATTLE GUARD CL	830	62
IJ-101 INLET	26.5	8
OUTLET RISER / IJ-102	220	160 / 152.5
TAP VALVE	220	257
T-101	30	100
H-101 CENTRE	192.0	140
ANT-201 MAST / JB-W01	150 / 214	22 / 197.5
DW-101 ANODE WELL	285	-45

LEGEND

- FENCE (7 FT CHAIN LINK)
- LEASE TRACT LINE
- ROW LINE
- TRUNKLINE CL
- BURIED PIPE (BY THIS PACKAGE OR OTHERS)
- GRAVEL ROAD (12 IN SECTION)
- LIMIT OF GRAVEL PAD (6 IN)
- SK-110 CANOPY OUTLINE
- BURIED ROAD CROSSING RX-n
- PERSONNEL GATE
- 4/0 GROUND LOOP (ELE, FOR COORDINATION)
- 4 IN CRUSHED ROCK (ELE)
- CORNER FILLET (CIV-CAL-003)
- DW-101 ANODE WELL + GRASS TRACK

NOTES / REFERENCES

- LOCAL GRID: ORIGIN SW FENCE CORNER, X EAST, Y NORTH, FT. SURVEY TIE TO NAD83 S / NAVD88 (H-02).
 - TRACT PLACEMENT ASSUMED (H-03). TRUNKLINE, ROW AND TAP BY THE RECEIVING OPERATOR (H-04).
 - LAYOUT, ROADS R-1 TO R-7 AND BURIED PIPE PER MEC-DWG-001 PLOT PLAN.
 - CROSSINGS RX-n PER PLOT PLAN, 48 IN MIN COVER. ELE / CP / TELECOM ITEMS SHOWN FOR COORDINATION ONLY.
 - FOUNDATIONS: STR-DWG-001. GROUND LOOP: ELE-CAL-005. DW-101: CP DRAWINGS (H-19).
 - GRADING: CIV-DWG-003. SECTIONS AND DETAILS: CIV-DWG-004. ESC: CIV-DWG-005.
- REF: CIV-CAL-003
- REF: GEN-DB-001 SEC 10.1

REVISIONS

REV	DATE	DESCRIPTION	BY	CHK	APP
A	2026-09-29	ISSUED FOR REVIEW (IFR)			

PRELIMINARY - ISSUED FOR REVIEW - NOT FOR CONSTRUCTION

ENGINEER OF RECORD SEAL

NOT SEALED
PRELIMINARY

PE NO. _____

PROJECT

120 MMSCFD RECEIPT INTO _____

COUNTY, _____

DISCIPLINE: CIVIL
SCALE: AS SHOWN

OVERALL SITE PLAN

TRACT, ROW, ACCESS ROAD, FENCE AND GATES

DRAWN: _____ CHECKED: _____ APPROVED: _____

DWG NO. _____

CIV-DWG-002

SHEET 1 OF 1 REV A