

Dallas to Houston High-Speed Rail Final Environmental Impact Statement

Appendix G: Dallas to Houston High-Speed Rail Passenger Service from Houston to Dallas Final Conceptual Engineering Plans and Details Set 10 of 14



**TEXAS
CENTRAL**



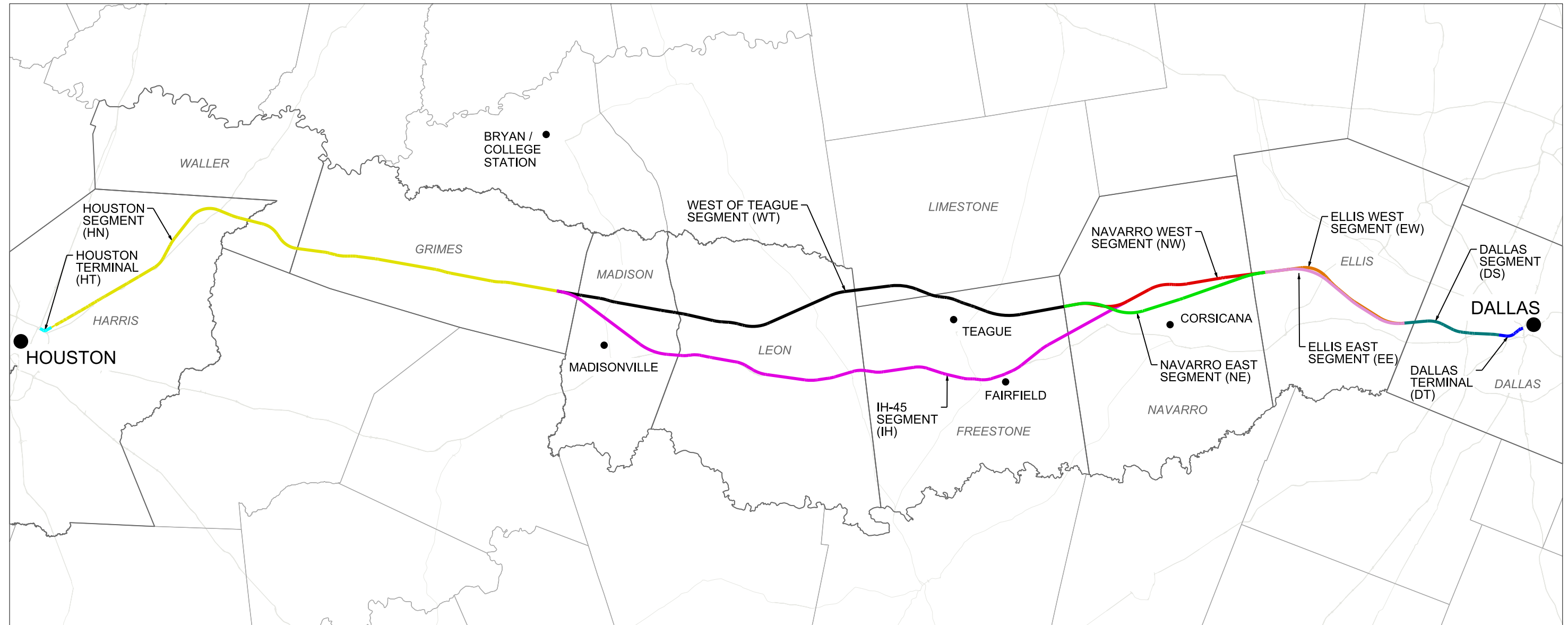
DALLAS TO HOUSTON HIGH-SPEED RAIL
PASSENGER SERVICE FROM HOUSTON TO DALLAS

**FINAL CONCEPTUAL ENGINEERING
PLANS AND DETAILS**
PROJECT DEFINITION FOR FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME 3 - STATIONS, MAINTENANCE FACILITIES, AND RAILWAY
SYSTEM SHEETS

JULY 1, 2019



<p>ARUP Arup Texas, Inc. 10370 Richmond Ave., Suite 475 Houston, Texas 77042 USA Tel (713) 783 2787 Fax (713) 343 1467 www.arup.com Texas Registered Engineering Firm: F-1990</p>	<p>FRESE NICHOLS 2711 North Haskell Ave., Suite 3300 Dallas, Texas 75204 Tel (214) 217 2200 Fax (214) 217 2201 www.freese.com Texas Registered Engineering Firm: F-2144</p>	<p>COVER SHEET</p>
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ALIGNMENT ALTERNATIVE	FRA SEGMENT ID	SEGMENT NAMES	SEGMENT ABBREVIATION
A	5, 4, 3A, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NW, WT, HN
B	5, 4, 3B, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NE, WT, HN
C	5, 3C, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EW, IH, HN
D	5, 4, 3A, 2B, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NW, WT, HN
E	5, 4, 3B, 2B, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NE, WT, HN
F	5, 3C, 2B, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EE, IH, HN

- NOTES:
 1. REFER TO FCE REPORT FOR SEGMENT NAMES AND ALIGNMENT ALTERNATIVES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. THOMPSON

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL LOCATION PLAN

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-00002	Rev 01

VOLUME 1A - GENERAL SHEETS & TYPICAL SECTIONS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections 1A-1 GENERAL, 1A-2 RAILWAY TYPICAL SECTIONS, 1A-3 ROADWAY AND GRADE SEPARATION TYPICAL SECTIONS, 1A-4 CIVIL STRUCTURES TYPICAL DETAILS, 1A-5 CIVIL UTILITIES TYPICAL DETAILS, 1A-6 GENERAL - ALIGNMENT CURVE DATA TABLES.

VOLUME 1B - GENERAL SHEETS & TYPICAL SECTIONS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 1B-1 RAILWAY TYPICAL SECTIONS and 1B-2 ROADWAY AND GRADE SEPARATION TYPICAL SECTIONS.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

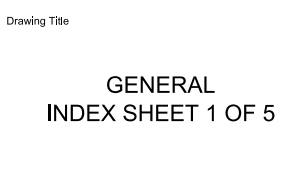
Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 2A-1 HOUSTON SEGMENT with various drawing numbers and descriptions for the Houston Segment.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 2A-1 HOUSTON SEGMENT and 2A-2 WEST OF TEAGUE SEGMENT with various drawing numbers and descriptions.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION.

Design and drawing information table with fields: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE.



Scale, Drawing Status, Job No, Drawing No, Rev information table.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-2 WEST OF TEAGUE SEGMENT.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-2 WEST OF TEAGUE SEGMENT, 2A-3 NAVARRO WEST SEGMENT, and 2A-4 ELLIS WEST SEGMENT.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-4 ELLIS WEST SEGMENT and 2A-5 DALLAS SEGMENT.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Revision table for the drawing.

Table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE. Design and drawing information.



Table with columns: Drawing Title, Scale, Drawing Status, Job No, Drawing No, Rev. Project metadata.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-IH-01350 to CVL-IH-01420 and their corresponding descriptions for the IH-45 segment.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-IH-01421 to CVL-IH-01442, CVL-NE-01600 to CVL-NE-01631, and CVL-EE-01800-1 to CVL-EE-01813, covering IH-45, Navarro East, and Ellis East segments.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-EE-01814 to CVL-EE-01823 and their corresponding descriptions for the Ellis East segment.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a header row and several empty rows for revisions.

Design and drawing information table with fields: DESIGNED BY (D. THOMPSON), DRAWN BY (D. THOMPSON), CHECKED BY (R. BURNS), IN CHARGE (C. TAYLOR), DATE (02/25/2019).



Project information including Drawing Title (GENERAL INDEX SHEET 3 OF 5), Scale (NO SCALE), Drawing Status (FINAL), Job No (234180), Drawing No (GEN-00-00005), and Rev (01).

PLOT TIME: 5/24/2018 3:22:14 PM

PLOT BY: M-YPWICS01S

VOLUME 3A - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
3A-1 STATIONS	
STA-00-03000	GENERAL - STATIONS - TYPICAL SECTIONS
STA-HN-06000	HOUSTON SEGMENT - STATIONS - STATIONS SECTIONS
STA-HN-06001	HOUSTON SEGMENT - STATIONS - STATION SECTIONS - FUTURE EXPANSION
STA-HN-01005	HOUSTON SEGMENT - STATIONS - HOUSTON TRANSIT STATION - CIVIL SITE PLAN
STA-HN-01015	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - CIVIL SITE PLAN (FSL)
STA-HN-01016	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - TERMINAL ROAD - PLAN & PROFILE
STA-HN-01017	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - MANGUM ROAD - PLAN & PROFILE
STA-HN-01018	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - 18TH STREET - PLAN & PROFILE
STA-HN-01019	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - CIVIL SITE PLAN - FUTURE BUILD
STA-HN-01025	HOUSTON SEGMENT - STATIONS - INDUSTRIAL STATION - CIVIL SITE PLAN
STA-HN-01034	HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - CIVIL SITE PLAN
STA-DS-01045	DALLAS SEGMENT - STATIONS - STATION SECTIONS
STA-DS-01046	DALLAS SEGMENT - STATIONS - STATION SECTIONS - FUTURE EXPANSION
STA-DS-01049	DALLAS SEGMENT - STATIONS - DALLAS STATION - CIVIL SITE PLAN
STA-DS-01050	DALLAS SEGMENT - STATIONS - DALLAS STATION - HOTEL STREET - PLAN & PROFILE
STA-DS-01053	DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 1 - PLAN & PROFILE
STA-DS-01054	DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 2 - PLAN & PROFILE
3A-2 MAINTENANCE FACILITIES, YARDS AND SHOPS	
MNT-00-02002	HN, WT, EW, DS - MAINTENANCE FACILITIES - TYPICAL MOW FACILITY
MNT-00-02003	GENERAL - MAINTENANCE FACILITIES - TYPICAL SIDING OFF
MNT-00-02004	GENERAL - MAINTENANCE FACILITIES - KEY MAP
MNT-HN-04008	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW-HN-2 - LAYOUT
MNT-HN-04009	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW-HN-2 - PROFILE
MNT-HN-04010	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 1 OF 3
MNT-HN-04011	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 2 OF 3
MNT-HN-04012	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 3 OF 3
MNT-HN-04013	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - PROFILE
MNT-HN-04014	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY HN-5 - LAYOUT
MNT-HN-04015	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY HN-5 - PROFILE
MNT-WT-04016	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - LAYOUT
MNT-WT-04017	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - PROFILE
MNT-WT-04018	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 2
MNT-WT-04019	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 2
MNT-WT-04020	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - LAYOUT
MNT-WT-04021	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - PROFILE
MNT-EW-04036	ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - LAYOUT
MNT-EW-04037	ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - PROFILE
MNT-DS-04042	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - SHEET 1 OF 2
MNT-DS-04043	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - SHEET 2 OF 2
MNT-DS-04044	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - PROFILE
3A-3 RAILWAY FACILITIES	
SYS-00-01001	HN, WT, NW, EW, DS - RAILWAY FACILITIES - SP, SSP, ATP - TYPICAL LAYOUT PLAN
SYS-00-01002	HN, WT, NW, EW, DS - RAILWAY FACILITIES - MSH, SSH, ISH, CH - TYPICAL LAYOUT PLAN
SYS-00-01003	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS LOOP 2FDR - TYPICAL LAYOUT PLAN
SYS-00-01004	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS LOOP 1FDR - TYPICAL LAYOUT PLAN
SYS-00-01005	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS RADIAL 2FDR - TYPICAL LAYOUT PLAN
SYS-00-01006	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS RADIAL 1FDR - TYPICAL LAYOUT PLAN
SYS-00-02000	GENERAL - RAILWAY FACILITIES - FACILITIES SPACING - ALIGN ALT A FSL
SYS-00-02001	GENERAL - RAILWAY FACILITIES - FACILITIES SPACING - ALIGN ALT A ISL
SYS-00-03000	HT1, HT2, HT3, HN1, HN2, - WT, NW, EW, DS, DT - RAILWAY FACILITIES - FACILITY LOCATIONS
3A-4 ROADWAY FACILITIES	
RDY-00-03037	GENERAL - ROADWAY FACILITIES - EMERGENCY RESPONSE MAINTENANCE - AND STAGING AREA LAYOUTS

VOLUME 3B - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
3B-1 STATIONS (NOT USED)	
3B-2 MAINTENANCE FACILITIES, YARDS AND SHOPS	
MNT-00-02012	IH, EE - MAINTENANCE FACILITIES - TYPICAL MOW FACILITY
MNT-IH-04022	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 1 OF 3
MNT-IH-04023	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 2 OF 3
MNT-IH-04024	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 3 OF 3
MNT-IH-04025	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 8
MNT-IH-04026	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 8
MNT-IH-04027	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 3 OF 8
MNT-IH-04028	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 4 OF 8
MNT-IH-04029	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 5 OF 8
MNT-IH-04030	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 6 OF 8
MNT-IH-04031	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 7 OF 8
MNT-IH-04032	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 8 OF 8
MNT-IH-04033	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 1 OF 3
MNT-IH-04034	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 2 OF 3
MNT-IH-04035	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 3 OF 3
MNT-EE-04038	ELLIS EAST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EE-1 - LAYOUT
3B-3 RAILWAY FACILITIES	
SYS-00-01010	IH, NE, EE - RAILWAY FACILITIES - TPSS - TYPICAL LAYOUT PLAN
SYS-00-01011	IH, NE, EE - RAILWAY FACILITIES - SP, SSP, ATP - TYPICAL LAYOUT PLAN
SYS-00-01012	IH, NE, EE - RAILWAY FACILITIES - MSH, SSH, ISH, CH - TYPICAL LAYOUT PLAN
SYS-00-02002	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE B
SYS-00-02003	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE C
SYS-00-02004	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE D
SYS-00-02005	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE E
SYS-00-02006	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE F
SYS-00-03010	IH, NE, EE - RAILWAY FACILITIES - FACILITY LOCATIONS

VOLUME 4B - NOT USED

VOLUME 4B - ROADWAY PLAN SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
4B-1 IH-45 SEGMENT	
RDY-IH-01101	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 5 IH1 10+00 TO IH1 1120+00
RDY-IH-01102	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 5 IH1 1120+00 TO IH1 2240+00
RDY-IH-01103	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 3 OF 5 IH1 2240+00 TO IH1 3360+00
RDY-IH-01104	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 4 OF 5 IH1 3360+00 TO IH2 224+00
RDY-IH-01105	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 5 OF 5 IH2 224+00 TO IH2 540+81
RDY-IH1-04001	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 100+00 TO IH1 100+00
RDY-IH1-04002	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 100+00 TO IH1 190+00
RDY-IH1-04003	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 190+00 TO IH1 280+00
RDY-IH1-04004	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 280+00 TO IH1 370+00
RDY-IH1-04005	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 370+00 TO IH1 460+00
RDY-IH1-04006	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 460+00 TO IH1 550+00
RDY-IH1-04007	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 550+00 TO IH1 640+00
RDY-IH1-04008	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 640+00 TO IH1 730+00
RDY-IH1-04009	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 730+00 TO IH1 820+00
RDY-IH1-04010	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 820+00 TO IH1 910+00
RDY-IH1-04011	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 910+00 TO IH1 1000+00
RDY-IH1-04012	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1000+00 TO IH1 1090+00
RDY-IH1-04013	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1090+00 TO IH1 1180+00
RDY-IH1-04014	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1180+00 TO IH1 1270+00
RDY-IH1-04015	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1270+00 TO IH1 1360+00
RDY-IH1-04016	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1360+00 TO IH1 1450+00
RDY-IH1-04017	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1450+00 TO IH1 1540+00
RDY-IH1-04018	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1540+00 TO IH1 1630+00
RDY-IH1-04019	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1630+00 TO IH1 1720+00
RDY-IH1-04020	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1720+00 TO IH1 1810+00
RDY-IH1-04021	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1810+00 TO IH1 1900+00
RDY-IH1-04022	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1900+00 TO IH1 1990+00
RDY-IH1-04023	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1990+00 TO IH1 2080+00
RDY-IH1-04024	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2080+00 TO IH1 2170+00
RDY-IH1-04025	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2170+00 TO IH1 2260+00
RDY-IH1-04026	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2260+00 TO IH1 2350+00
RDY-IH1-04027	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2350+00 TO IH1 2440+00
RDY-IH1-04028	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2440+00 TO IH1 2530+00
RDY-IH1-04029	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2530+00 TO IH1 2620+00
RDY-IH1-04030	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2620+00 TO IH1 2710+00
RDY-IH1-04031	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2710+00 TO IH1 2800+00
RDY-IH1-04032	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2800+00 TO IH1 2890+00
RDY-IH1-04033	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2890+00 TO IH1 2980+00
RDY-IH1-04034	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2980+00 TO IH1 3070+00

DESIGNED BY	D. THOMPSON
DRAWN BY	D. THOMPSON
CHECKED BY	R. BURNS
IN CHARGE	C. TAYLOR
DATE	02/25/2019

REV	DATE	BY	CHK	APP	DESCRIPTION



Drawing Title
GENERAL INDEX SHEET 4 OF 5

Scale	NO SCALE
Drawing Status	FINAL
Job No	234180
Drawing No	GEN-00-00006
Rev	01

VOLUME 4B - ROADWAY PLAN SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
4B-1 IH-45 SEGMENT	
RDY-IH1-04035	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3070+00 TO IH1 3160+00
RDY-IH1-04036	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3160+00 TO IH1 3250+00
RDY-IH1-04037	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3250+00 TO IH1 3340+00
RDY-IH1-04038	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3340+00 TO IH1 3430+00
RDY-IH1-04039	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3430+00 TO IH1 3520+00
RDY-IH1-04040	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3520+00 TO IH1 3610+00
RDY-IH1-04041	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3610+00 TO IH1 3700+00
RDY-IH1-04042	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3700+00 TO IH1 3790+00
RDY-IH1-04043	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3790+00 TO IH1 3880+00
RDY-IH1-04044	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3880+00 TO IH1 3970+00
RDY-IH1-04045	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3970+00 TO IH1 4060+00
RDY-IH1-04046	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4060+00 TO IH1 4150+00
RDY-IH1-04047	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4150+00 TO IH1 4240+00
RDY-IH1-04048	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4240+00 TO IH1 4329+69
RDY-IH2-04049	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 10+00 TO IH2 100+00
RDY-IH2-04050	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 100+00 TO IH2 190+00
RDY-IH2-04051	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 190+00 TO IH2 280+00
RDY-IH2-04052	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 280+00 TO IH2 370+00
RDY-IH2-04053	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 370+00 TO IH2 460+00
RDY-IH2-04054	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 460+00 TO IH2 540+81
4B-2 NAVARRO EAST SEGMENT	
RDY-NE-01101	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 2 NE 10+00 TO NE 1070+00
RDY-NE-01102	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 2 NE 1070+00 TO NE 1652+05
RDY-NE-04001	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 10+00 TO NE 100+00
RDY-NE-04002	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 100+00 TO NE 190+00
RDY-NE-04003	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 190+00 TO NE 280+00
RDY-NE-04004	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 280+00 TO NE 370+00
RDY-NE-04005	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 370+00 TO NE 460+00
RDY-NE-04006	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 460+00 TO NE 550+00
RDY-NE-04007	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 550+00 TO NE 640+00
RDY-NE-04008	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 640+00 TO NE 730+00
RDY-NE-04009	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 730+00 TO NE 820+00
RDY-NE-04010	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 820+00 TO NE 910+00
RDY-NE-04011	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 910+00 TO NE 1000+00
RDY-NE-04011A	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - MATCHLINE RDY-NE-04011
RDY-NE-04012	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1000+00 TO NE 1090+00
RDY-NE-04013	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1090+00 TO NE 1180+00
RDY-NE-04014	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1180+00 TO NE 1270+00
RDY-NE-04015	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1270+00 TO NE 1360+00
RDY-NE-04016	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1360+00 TO NE 1450+00
RDY-NE-04017	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1450+00 TO NE 1540+00
RDY-NE-04018	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1540+00 TO NE 1630+00
RDY-NE-04019	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1630+00 TO NE 1652+05
4B-3 ELLIS EAST SEGMENT	
RDY-EE-01101	ELLIS EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 2 EE 9+56 TO EE 1064+00
RDY-EE-01102	ELLIS EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 2 EE 1064+00 TO EE 1232+15
RDY-EE-04001	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 9+56 TO EE 100+00
RDY-EE-04002	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 100+00 TO EE 190+00
RDY-EE-04003	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 190+00 TO EE 280+00
RDY-EE-04004	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 280+00 TO EE 370+00
RDY-EE-04005	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 370+00 TO EE 460+00
RDY-EE-04006	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 460+00 TO EE 550+00
RDY-EE-04007	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 550+00 TO EE 640+00
RDY-EE-04008	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 640+00 TO EE 730+00
RDY-EE-04009	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 730+00 TO EE 820+00
RDY-EE-04010	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 820+00 TO EE 910+00
RDY-EE-04011	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 910+00 TO EE 1000+00
RDY-EE-04012	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1000+00 TO EE 1090+00
RDY-EE-04013	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1090+00 TO EE 1180+00
RDY-EE-04014	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1180+00 TO EE 1232+15

Volume 5A - WILDLIFE CROSSING SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
Volume 5A	
WLC-DS-04001	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 1 OF 23)
WLC-DS-04002	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 2 OF 23)
WLC-DS-04003	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 3 OF 23)
WLC-EW-04001	EW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 4 OF 23)
WLC-EW-04002	EW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 5 OF 23)
WLC-NW-04001	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 6 OF 23)
WLC-NW-04002	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 7 OF 23)
WLC-NW-04003	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 8 OF 23)
WLC-WT-04001	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 9 OF 23)
WLC-WT-04002	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 10 OF 23)
WLC-WT-04003	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 11 OF 23)
WLC-WT-04004	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 12 OF 23)
WLC-WT-04005	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 13 OF 23)
WLC-WT-04006	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 14 OF 23)
WLC-WT-04007	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 15 OF 23)
WLC-HN-04001	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 16 OF 23)
WLC-HN-04002	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 17 OF 23)
WLC-HN-04003	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 18 OF 23)
WLC-HN-04004	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 19 OF 23)
WLC-HN-04005	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 20 OF 23)
WLC-HN-04006	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 21 OF 23)
WLC-HN-04007	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 22 OF 23)
WLC-HN-04008	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 23 OF 23)

VOLUME 5B - WILDLIFE CROSSING SHEETS

DRAWING NO.	DRAWING DESCRIPTIONS
Volume 5B	
WLC-EE-04001	EE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 1 OF 15)
WLC-EE-04002	EE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 2 OF 15)
WLC-NE-04001	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 3 OF 15)
WLC-NE-04002	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 4 OF 15)
WLC-NE-04003	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 5 OF 15)
WLC-IH-04001	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 6 OF 15)
WLC-IH-04002	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 7 OF 15)
WLC-IH-04003	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 8 OF 15)
WLC-IH-04004	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 9 OF 15)
WLC-IH-04005	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 10 OF 15)
WLC-IH-04006	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 11 OF 15)
WLC-IH-04007	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 12 OF 15)
WLC-IH-04008	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 13 OF 15)
WLC-IH-04009	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 14 OF 15)
WLC-IH-04010	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 15 OF 15)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 02/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL INDEX SHEET 5 OF 5

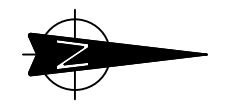
Scale NO SCALE	Drawing Status FINAL
Job No 234180	Drawing No GEN-00-00007
	Rev 01

ABBREVIATIONS

LEGEND

ALT	ALTERNATE ALIGNMENT	SC	SPIRAL CURVE
APPROX	APPROXIMATE	SH	STATE HIGHWAY
ATP	AUTOTRANSFORMER POST	SO	SIDING OFF
AVE	AVENUE	SP	SECTIONING POST
BLVD	BOULEVARD	SSH	SUB-SIGNAL HOUSE
BNSF	BURLINGTON NORTH SANTE FE RAILROAD	SSP	SUB-SECTIONING POST
BOT	BOTTOM	ST	STREET, SPIRAL TO TANGENT
CH	COMMUNICATION HOUSE	STA	STATION
CO RD	COUNTY ROAD	STD	STANDARD
CL	CENTERLINE	SYM	SYMMETRICAL
C	CENTERLINE	TBD	TO BE DETERMINED
CLSM	CONTROLLED LOW STRENGTH MATERIAL	TCEQ	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CO	COUNTY	TEMP	TEMPORARY
CR	COUNTY ROAD	THFN	TEXAS HIGHWAY FREIGHT NETWORK
CS	CURVE TO SPIRAL	TMF	TRAINSET MAINTENANCE FACILITY
CVL	CIVIL	TPSS	TRACTION POWER SUBSTATION
DIA	DIAMETER	TS	TANGENT SPIRAL
DIST	DISTANCE, DISTRICT	TYP	TYPICAL
DR	DRIVE	TOR	TOP OF RAIL
DRG	DRAWING	US	UNITED STATES, UNITED STATES HIGHWAY
DS	DALLAS SEGMENT	UPRR	UNION PACIFIC RAILROAD
DSN	DALLAS SEGMENT NORTH	VAR	VARIABLE
DSS	DALLAS SEGMENT SOUTH	VERT, V	VERTICAL
DT	DALLAS TERMINUS SEGMENT	WB	WESTBOUND
DWY	DRIVEWAY	WT	WEST OF TEAGUE
Ea	ACTUAL SUPERELEVATION	XING	CROSSING
EE	ELLIS EAST SEGMENT	YR	YEAR
ELECT	ELECTRIC		
ELEV	ELEVATION		
EMB	EMBANKMENT		
ENGR	ENGINEER		
EPA	ENVIRONMENTAL PROTECTION AGENCY		
ERMISA	EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA		
Eu	UNBALANCED SUPERELEVATION		
EW	ELLIS WEST SEGMENT		
EXIST, EX.	EXISTING		
EXT	EXTERIOR		
FDN	FOUNDATION		
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY		
FG	FINISHED GRADE		
FIG	FIGURE		
FL	FLOW LINE		
FM	FARM TO MARKET ROAD		
FRS	FREIGHT RAIL SIDING		
FTG	FOOTING		
FWY	FREEWAY		
G	GRADIENT		
GEN	GENERAL		
H	HEIGHT, HIGHWAY BRIDGE		
HN	HOUSTON SEGMENT		
HNN	HOUSTON SEGMENT NORTH		
HNS	HOUSTON SEGMENT SOUTH		
HORIZ, H	HORIZONTAL		
HRW	HIGHWAY RETAINING WALL		
HSR	HIGH SPEED RAIL		
HT	HOUSTON TERMINUS SEGMENT		
HWY	HIGHWAY		
IH	INTERSTATE HIGHWAY		
ISH	INTERMEDIATE SIGNAL HOUSE		
JRC	CENTRAL JAPAN RAILWAY COMPANY		
KV	KILOVOLT		
L	LENGTH		
LN	LANE		
LOD	LIMITS OF DISTURBANCE		
LVC	LENGTH OF VERTICAL CURVE		
MAINT	MAINTENANCE		
MAX	MAXIMUM		
MOW	MAINTENANCE-OF-WAY		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MPH	MILES PER HOUR		
MSH	MAIN SIGNAL HOUSE		
MTFP	(CITY OF HOUSTON) MAJOR THOROUGHFARE AND FREEWAY PLAN		
NB	NORTHBOUND		
NE	NAVARRO EAST SEGMENT		
NED	NATIONAL ELEVATION DATASET		
NHD	NATIONAL HYDROGRAPHY DATASET		
NLCD	NATIONAL LAND COVER DATASET		
NO	NUMBER		
NTS	NOT TO SCALE		
N/A	NOT APPLICABLE		
NW	NAVARRO WEST SEGMENT, NOISE WALL		
NWI	NATIONAL WETLANDS INVENTORY		
NWIH	PORTION OF NAVARRO WEST ASSOCIATED WITH IH-45 SEGMENT		
OCS	OVERHEAD CATENARY SYSTEM		
OD	OUTSIDE DIAMETER		
OG	ORIGINAL GRADE		
OH	OVERHEAD		
OPP	OPPOSITE		
PKWY	PARKWAY		
POB	POINT OF BEGINNING		
POE	POINT OF END		
PVMT	PAVEMENT		
PVC	POINT VERTICAL CURVATURE		
PVI	POINT VERTICAL INTERSECTION		
PVT	POINT VERTICAL TANGENT		
R	RADIUS, RAIL BRIDGE		
RD	ROAD		
RDWY	ROADWAY		
RM	RANCH TO MARKET ROAD		
ROW	RIGHT OF WAY		
RR, R/R	RAILROAD		
RTE	ROUTE		
RWY	RAILWAY		

PLAN



NORTH ARROW

CITY / COUNTY BOUNDARY LINE

MATCH LINE

CONCEPTUAL ENGINEERING LIMITS OF DISTURBANCE (LOD)

PROPOSED CENTERLINE OF HIGH-SPEED RAIL WITH STATIONING

EDGE OF VIADUCT

PROPOSED ROADWAY EDGE OF PAVEMENT

CONTOURS

EXISTING TRANSMISSION LINE

FENCE

RETAINING WALL

CULVERT

PROFILE

TOP OF RAIL

EXISTING GROUND

FEMA 100 YR FLOOD LEVEL

VIADUCT ABUTMENT AND STRUCTURE SOFFIT

UTILITY CROSSING

UTILITY / PIPELINE

TEMPORARY CONSTRUCTION AREA

UTILITY LIMIT OF DISTURBANCE (LOD)

RAIL SYSTEMS SITE

DETENTION BASIN

BUILDING TO BE DEMOLISHED

RAIL ON EMBANKMENT (FILL)

RAIL IN CUT

NOTE:
1. FOR ADDITIONAL DETAIL REGARDING INFORMATION SHOWN ON DRAWINGS, SEE RAIL ANNOTATION TO CLARIFY DESIGN INTENT, DRAWING GEN-00-00010. FOR SEGMENTS IH, NE, AND EE, SEE ROAD ANNOTATION TO CLARIFY DESIGN INTENT, DRAWING GEN-00-00011.

DESIGNED BY	D. THOMPSON
DRAWN BY	D. THOMPSON
CHECKED BY	R. BURNS
IN CHARGE	C. TAYLOR
DATE	02/25/2019

REV	DATE	BY	CHK	APP	DESCRIPTION



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL ABBREVIATIONS AND LEGEND

Scale	NO SCALE
Drawing Status	FINAL
Job No	234180
Drawing No	GEN-00-00009
Rev	01

VOLUME 3A

STATIONS, MAINTENANCE FACILITIES, AND RAILWAY SYSTEMS SHEETS (SEGMENTS HN, WT, NW, EW, DS)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesse.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL

Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01

3A-1

STATIONS

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
GENERAL

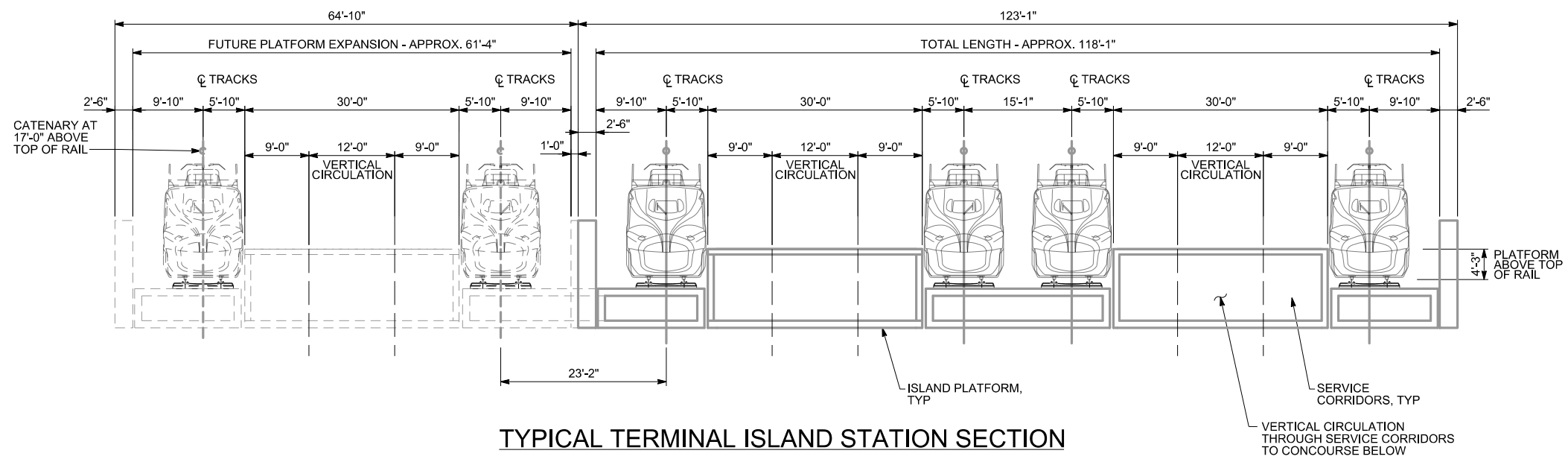
Scale
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Drawing Status
FINAL

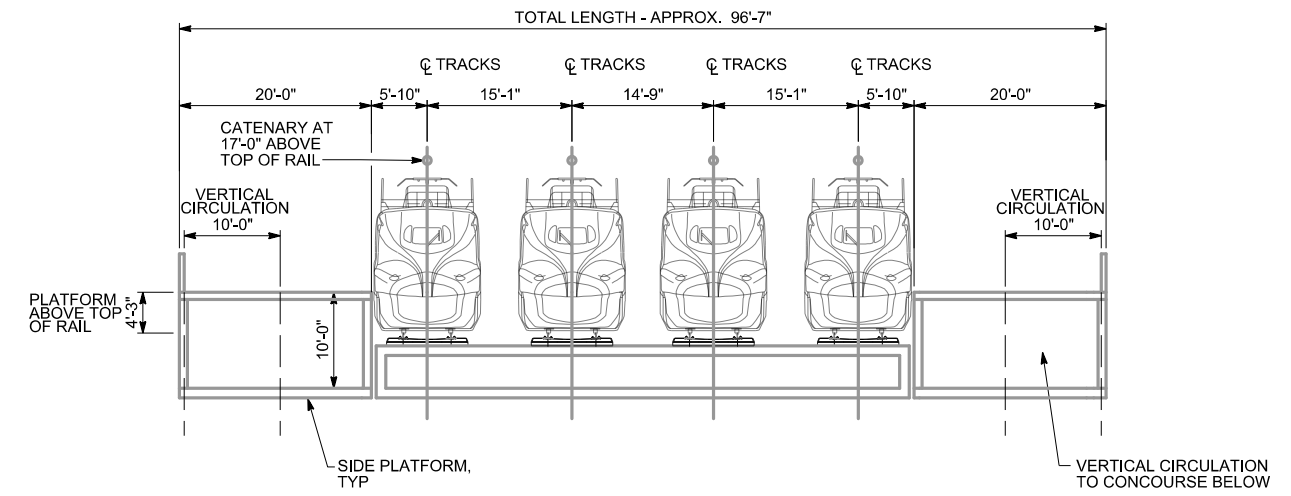
Job No
234180

Drawing No
GEN-00-0000

Rev
01



TYPICAL TERMINAL ISLAND STATION SECTION



TYPICAL INTERMEDIATE STATION SECTION

NOTES:

- DRAWING INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
C. ZWIEBEL

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

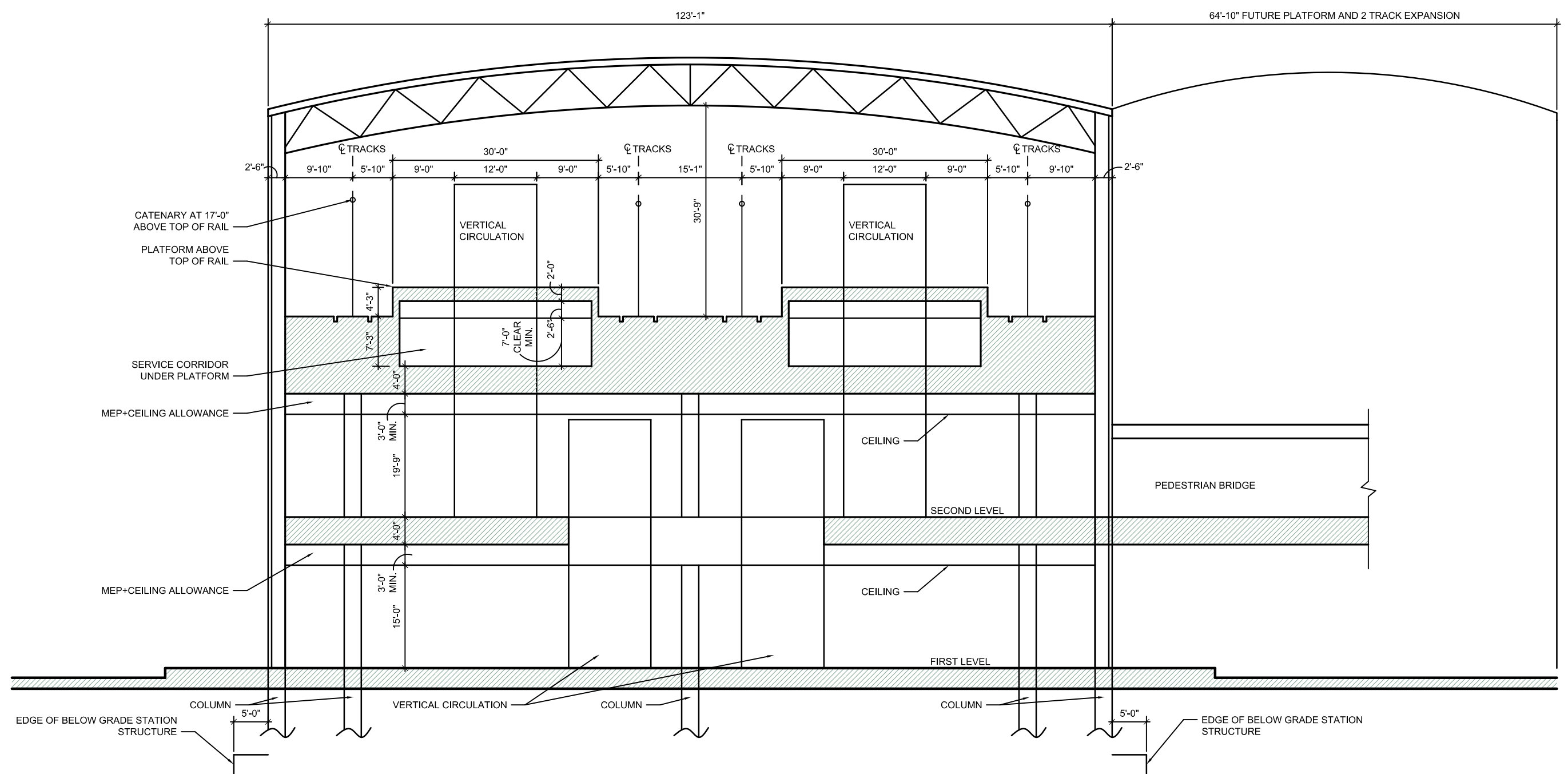
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**GENERAL STATIONS
TYPICAL SECTIONS**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-00-03000	Rev 01



- NOTES:
1. DRAWINGS INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.
 2. SECTION ILLUSTRATES PEDESTRIAN BRIDGE FOR TCRR PREFERRED NORTHWEST MALL LOCATION.

SECTION @ STATION
1/8" = 1'-0"



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. MILLICAN

DRAWN BY
S. BUNDY

CHECKED BY
K. MILLICAN

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

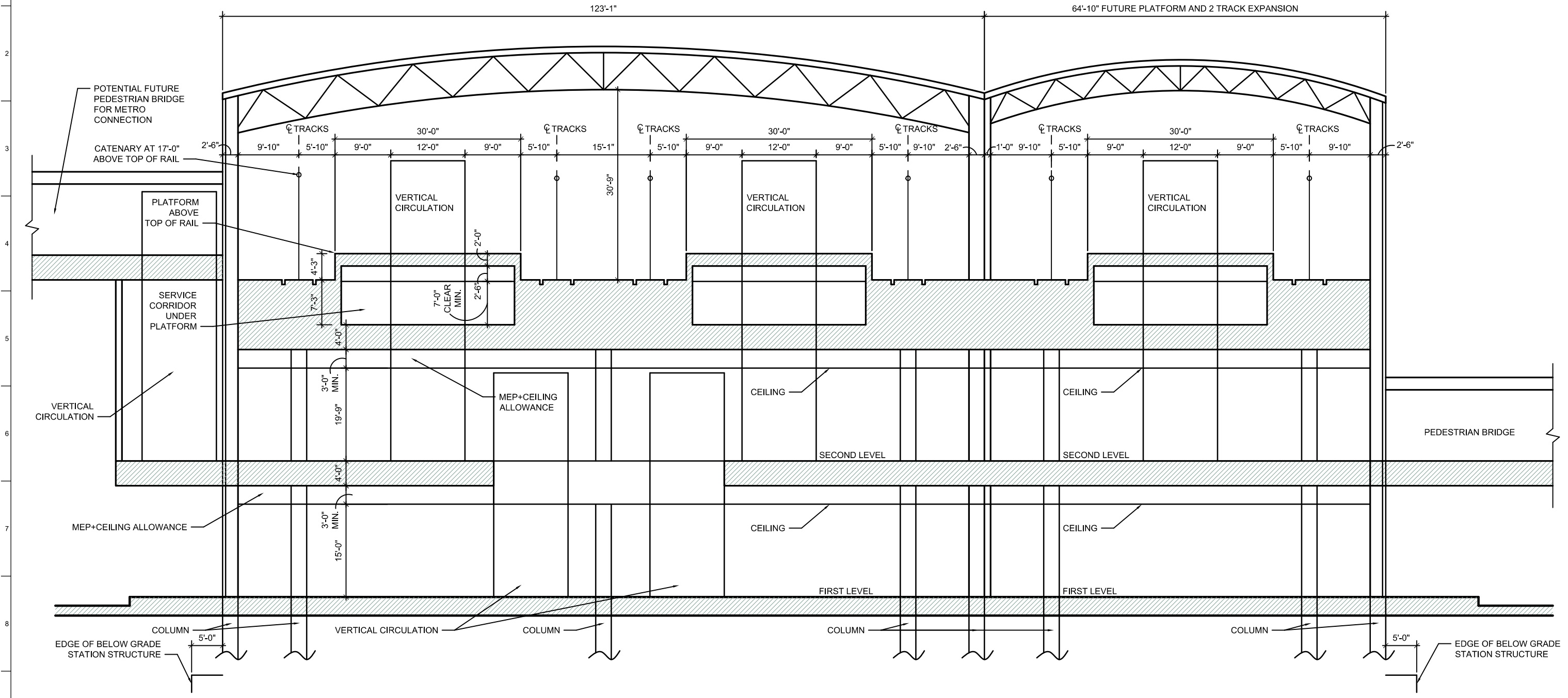
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT STATIONS SECTIONS

Scale AS SHOWN	Drawing Status FINAL
Job No 234180	Drawing No STA-HN-06000
	Rev



SECTION @ STATION - FUTURE EXPANSION
 1/8" = 1'-0"

- NOTES:
1. DRAWINGS INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.
 2. SECTION ILLUSTRATES PEDESTRIAN BRIDGE FOR TCRR PREFERRED NORTHWEST MALL LOCATION.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. MILLICAN

DRAWN BY
S. BUNDY

CHECKED BY
K. MILLICAN

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
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FREESSE & NICHOLS

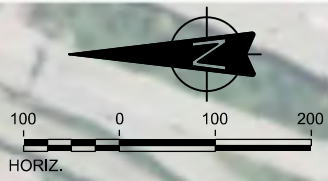
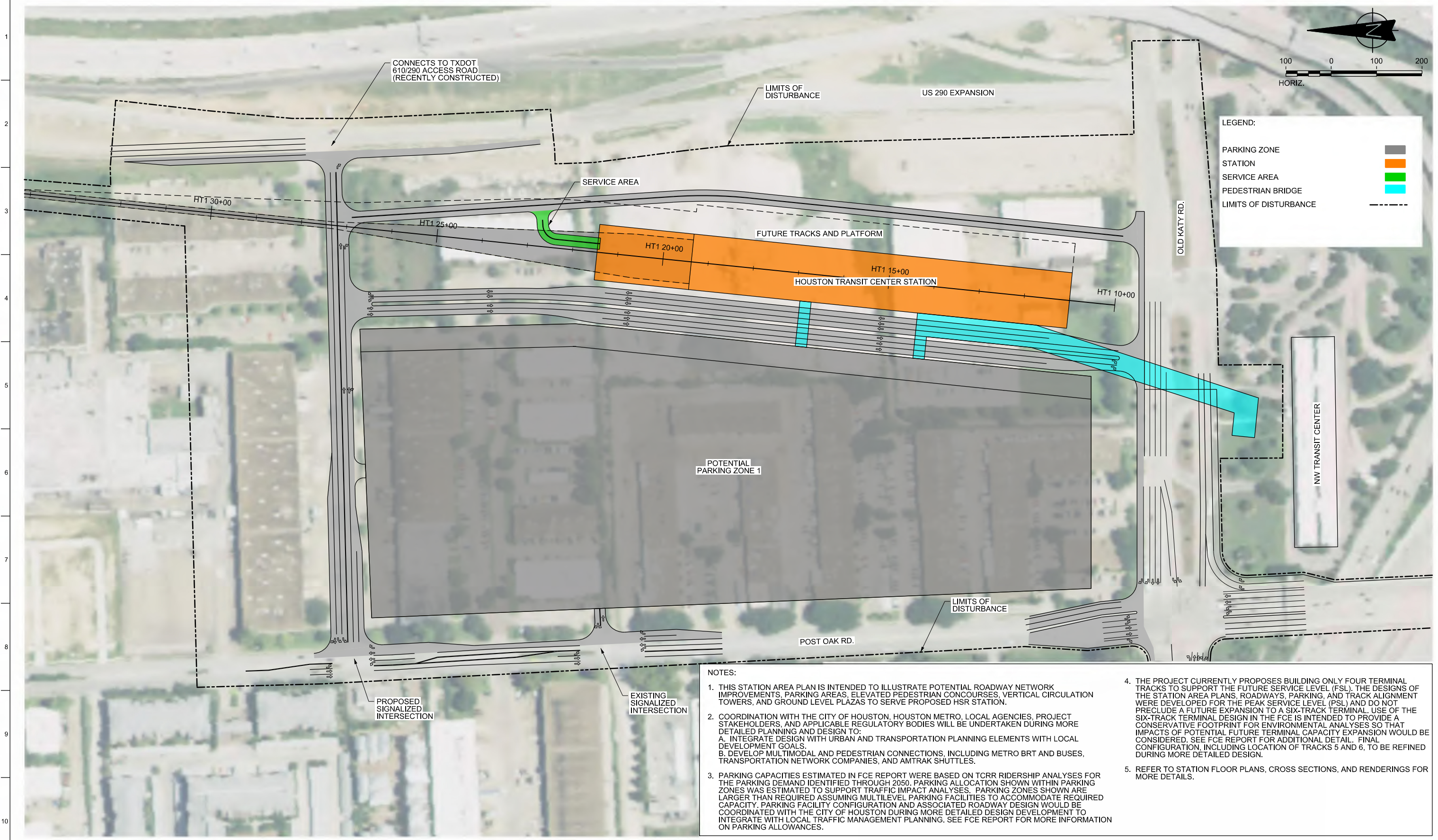
2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
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 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT STATIONS
 STATION SECTIONS
 FUTURE EXPANSION**

Scale AS SHOWN	Drawing Status FINAL
Job No 234180	Drawing No STA-HN-06001
	Rev



LEGEND:

PARKING ZONE	Grey
STATION	Orange
SERVICE AREA	Green
PEDESTRIAN BRIDGE	Cyan
LIMITS OF DISTURBANCE	Dashed line

- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
 2. COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCIES, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
 - A. INTEGRATE DESIGN WITH URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
 - B. DEVELOP MULTIMODAL AND PEDESTRIAN CONNECTIONS, INCLUDING METRO BRT AND BUSES, TRANSPORTATION NETWORK COMPANIES, AND AMTRAK SHUTTLES.
 3. PARKING CAPACITIES ESTIMATED IN FCE REPORT WERE BASED ON TCRP RIDERSHIP ANALYSES FOR THE PARKING DEMAND IDENTIFIED THROUGH 2050. PARKING ALLOCATION SHOWN WITHIN PARKING ZONES WAS ESTIMATED TO SUPPORT TRAFFIC IMPACT ANALYSES. PARKING ZONES SHOWN ARE LARGER THAN REQUIRED ASSUMING MULTILEVEL PARKING FACILITIES TO ACCOMMODATE REQUIRED CAPACITY. PARKING FACILITY CONFIGURATION AND ASSOCIATED ROADWAY DESIGN WOULD BE COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO INTEGRATE WITH LOCAL TRAFFIC MANAGEMENT PLANNING. SEE FCE REPORT FOR MORE INFORMATION ON PARKING ALLOWANCES.
 4. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE FUTURE SERVICE LEVEL (FSL). THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL (PSL) AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL. FINAL CONFIGURATION, INCLUDING LOCATION OF TRACKS 5 AND 6, TO BE REFINED DURING MORE DETAILED DESIGN.
 5. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
**HOUSTON SEGMENT STATIONS
HOUSTON TRANSIT STATION
CIVIL SITE PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-HN-01005	Rev

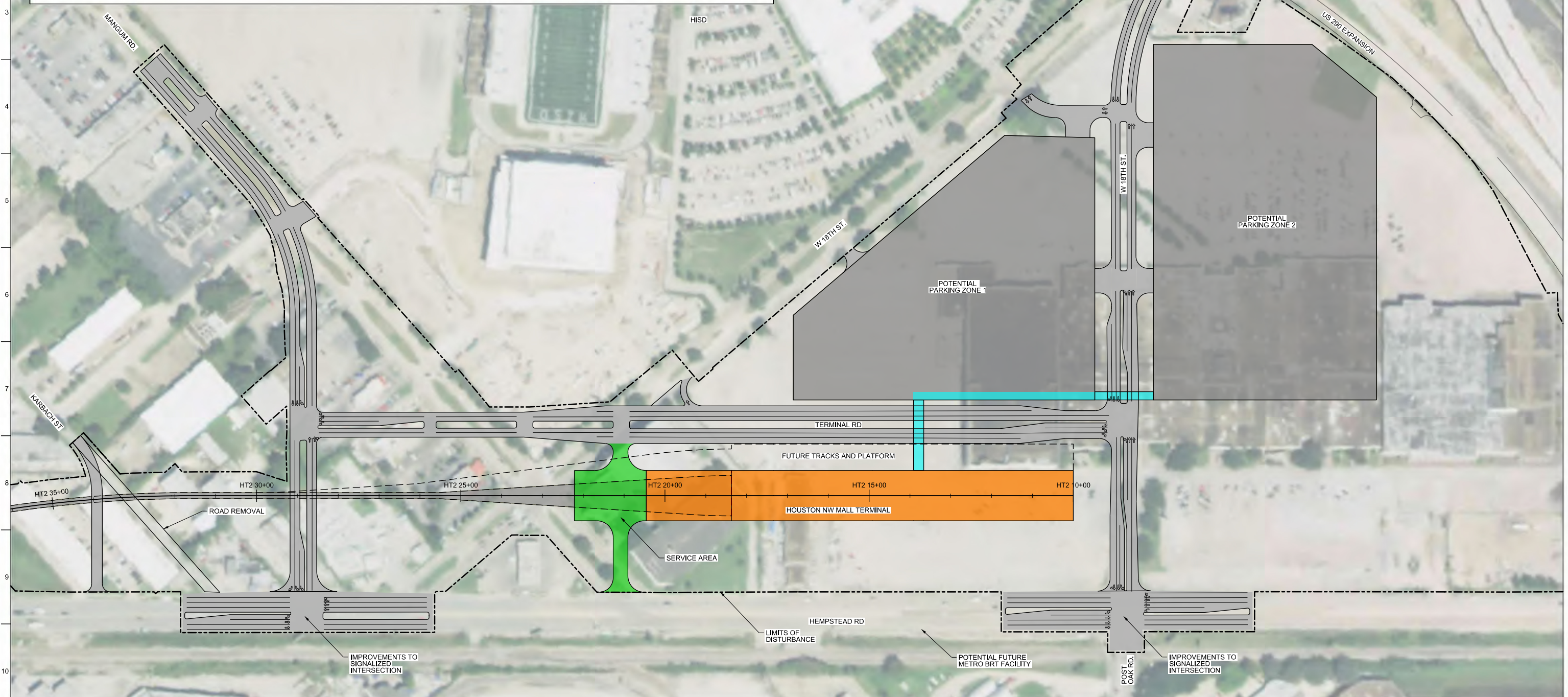
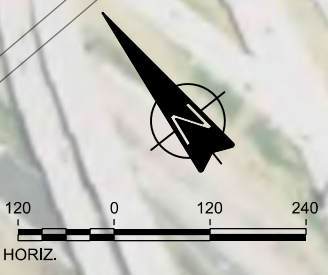
NOTES:

1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
2. COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCIES, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
 - A. INTEGRATE DESIGN WITH URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
 - B. DEVELOP MULTIMODAL AND PEDESTRIAN CONNECTIONS, INCLUDING METRO BRT AND BUSES, TRANSPORTATION NETWORK COMPANIES, AND AMTRAK SHUTTLES.
3. PARKING CAPACITIES ESTIMATED IN FCE REPORT WERE BASED ON TCRR RIDERSHIP ANALYSES FOR THE PARKING DEMAND IDENTIFIED THROUGH 2050. PARKING ALLOCATION SHOWN WITHIN PARKING ZONES WAS ESTIMATED TO SUPPORT TRAFFIC IMPACT ANALYSES. PARKING ZONES SHOWN ARE LARGER THAN REQUIRED ASSUMING MULTILEVEL PARKING FACILITIES TO ACCOMMODATE REQUIRED CAPACITY. PARKING FACILITY CONFIGURATION AND ASSOCIATED ROADWAY DESIGN WOULD BE COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO INTEGRATE WITH LOCAL TRAFFIC MANAGEMENT PLANNING. SEE FCE REPORT FOR MORE INFORMATION ON PARKING ALLOWANCES.

4. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE FUTURE SERVICE LEVEL (FSL). THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL (PSL) AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL. FINAL CONFIGURATION, INCLUDING LOCATION OF TRACKS 5 AND 6, TO BE REFINED DURING MORE DETAILED DESIGN.
5. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.

LEGEND:

- PARKING ZONE
- STATION
- PEDESTRIAN BRIDGE
- POTENTIAL METRO BRT CONNECTION
- PROPOSED US 290/HMTL PROJECT
- LIMIT OF DISTURBANCE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

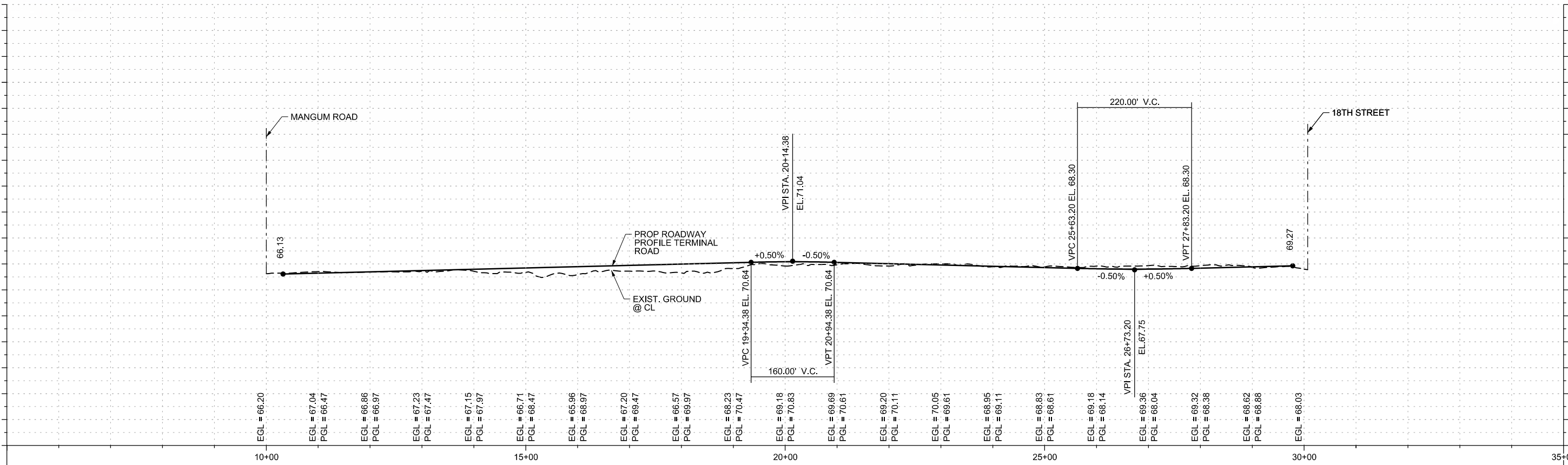
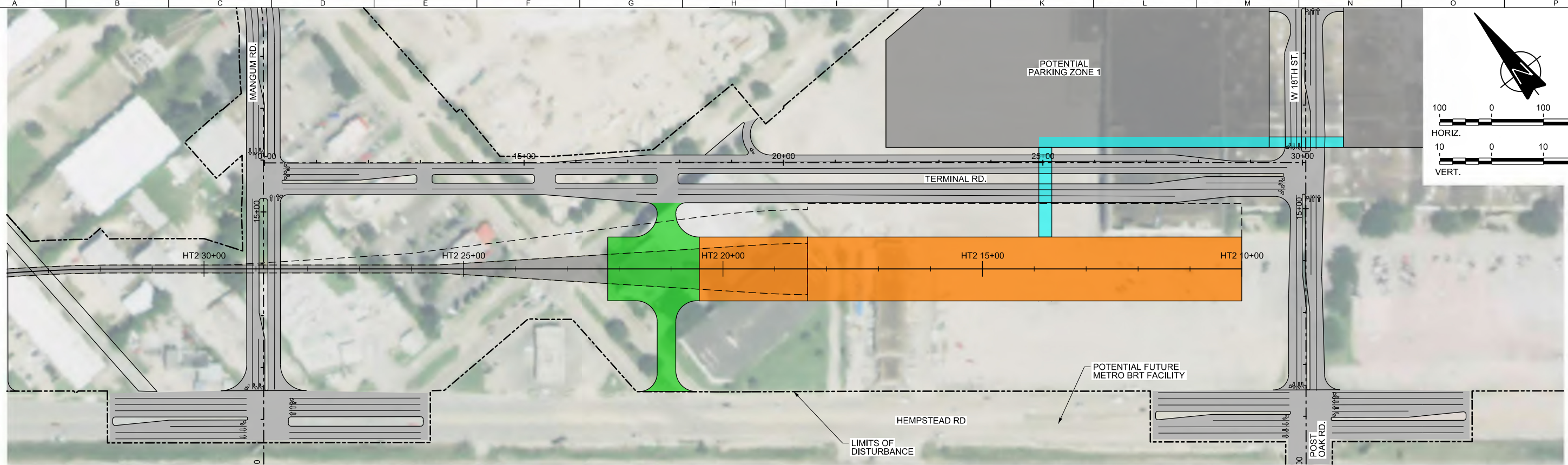
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT STATIONS
HOUSTON NORTHWEST MALL
CIVIL SITE PLAN (FSL)**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	STA-HN-01015		



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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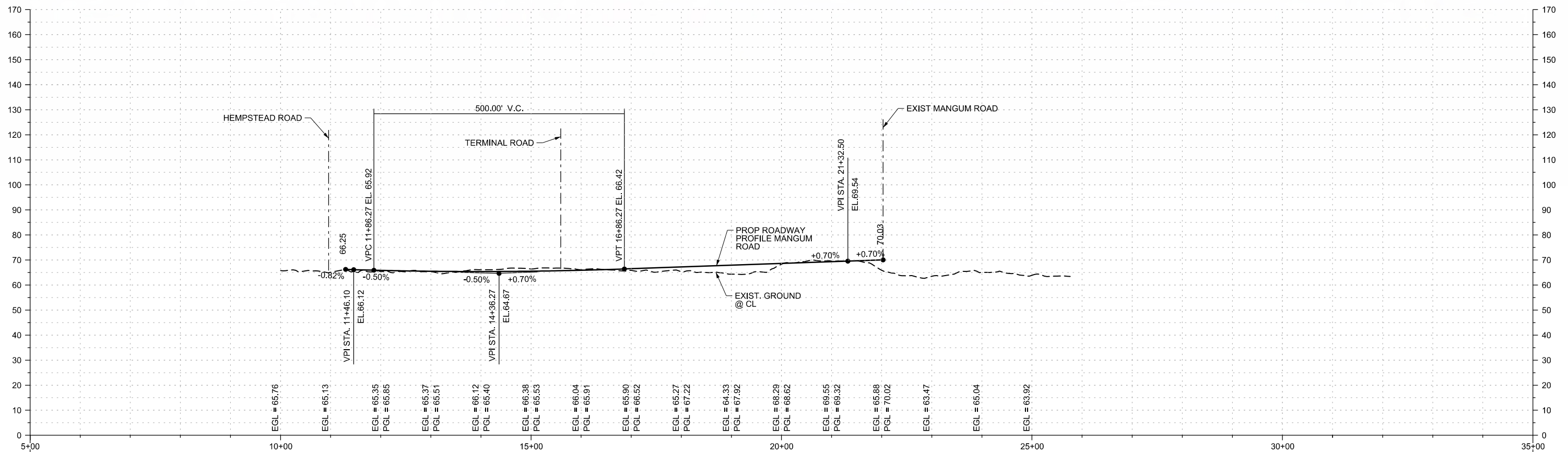
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
STATIONS
HOUSTON NORTHWEST MALL
TERMINAL ROAD
PLAN & PROFILE**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	STA-HN-01016
Rev			



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS

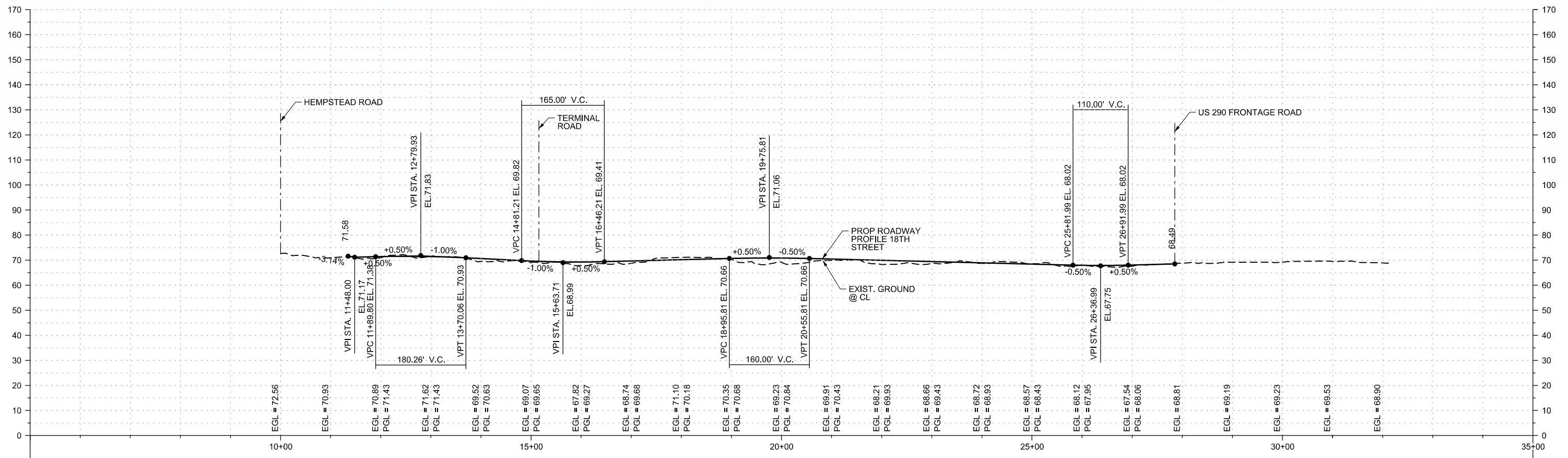
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Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT STATIONS
HOUSTON NORTHWEST MALL
MANGUM ROAD
PLAN & PROFILE**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-HN-01017	Rev



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
STATIONS
HOUSTON NORTHWEST MALL
18TH STREET
PLAN & PROFILE**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-HN-01018	Rev

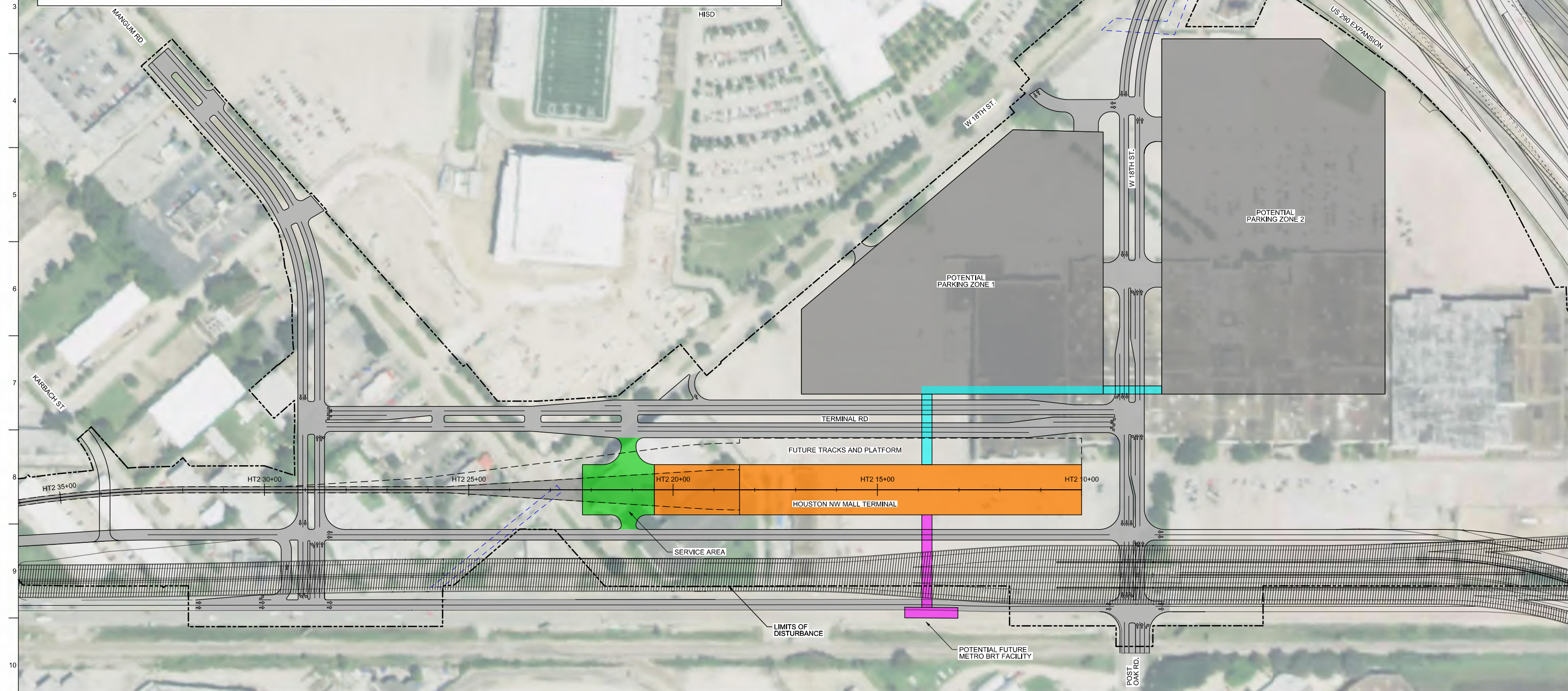
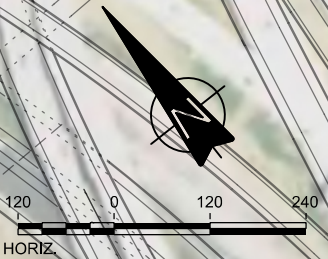
NOTES:

1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
2. COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCIES, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
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 - B. DEVELOP MULTIMODAL AND PEDESTRIAN CONNECTIONS, INCLUDING METRO BRT AND BUSES, TRANSPORTATION NETWORK COMPANIES, AND AMTRAK SHUTTLES.
3. PARKING CAPACITIES ESTIMATED IN FCE REPORT WERE BASED ON TCRR RIDERSHIP ANALYSES FOR THE PARKING DEMAND IDENTIFIED THROUGH 2050. PARKING ALLOCATION SHOWN WITHIN PARKING ZONES WAS ESTIMATED TO SUPPORT TRAFFIC IMPACT ANALYSES. PARKING ZONES SHOWN ARE LARGER THAN REQUIRED ASSUMING MULTILEVEL PARKING FACILITIES TO ACCOMMODATE REQUIRED CAPACITY. PARKING FACILITY CONFIGURATION AND ASSOCIATED ROADWAY DESIGN WOULD BE COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO INTEGRATE WITH LOCAL TRAFFIC MANAGEMENT PLANNING. SEE FCE REPORT FOR MORE INFORMATION ON PARKING ALLOWANCES.

4. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE FUTURE SERVICE LEVEL (FSL). THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL (PSL) AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL. FINAL CONFIGURATION, INCLUDING LOCATION OF TRACKS 5 AND 6, TO BE REFINED DURING MORE DETAILED DESIGN.
5. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.

LEGEND:

- PARKING ZONE
- STATION
- PEDESTRIAN BRIDGE
- POTENTIAL METRO BRT CONNECTION
- PROPOSED US 290/HMTL PROJECT
- LIMIT OF DISTURBANCE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



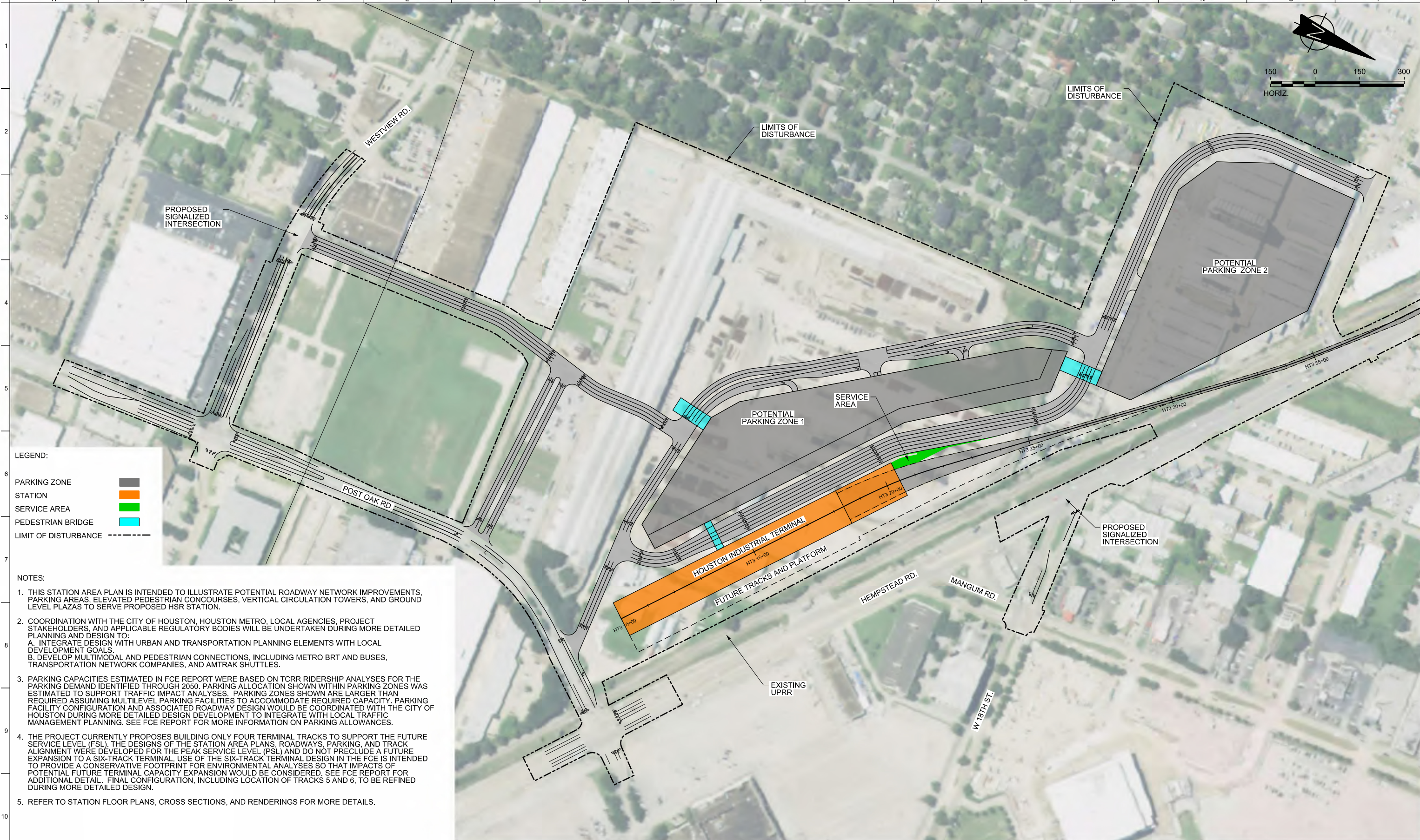
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT STATIONS HOUSTON NORTHWEST MALL CIVIL SITE PLAN FUTURE BUILD

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	STA-HN-01019		



LEGEND:

PARKING ZONE	
STATION	
SERVICE AREA	
PEDESTRIAN BRIDGE	
LIMIT OF DISTURBANCE	

- NOTES:**
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
 2. COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCIES, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
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 4. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE FUTURE SERVICE LEVEL (FSL). THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL (PSL) AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL. FINAL CONFIGURATION, INCLUDING LOCATION OF TRACKS 5 AND 6, TO BE REFINED DURING MORE DETAILED DESIGN.
 5. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY S. KIRBY
DRAWN BY J. ALMAGUER
CHECKED BY R. SUTTON
IN CHARGE C. TAYLOR
DATE 2/25/2019

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

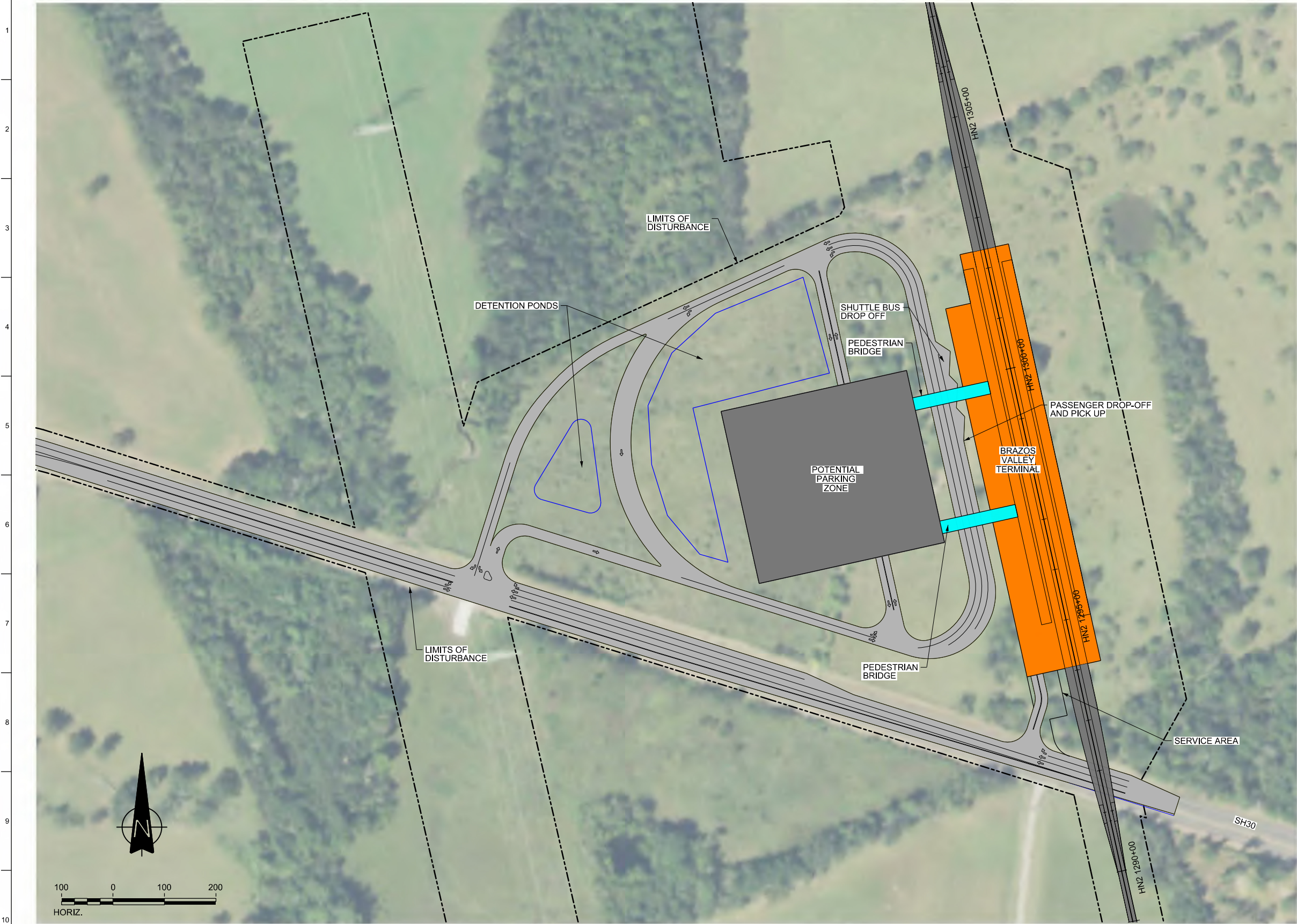
FRESE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

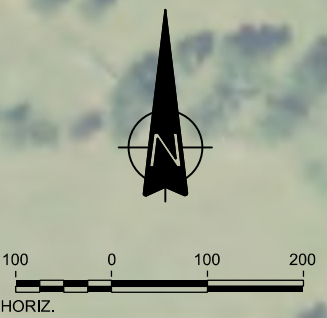
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT STATIONS INDUSTRIAL STATION CIVIL SITE PLAN

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	STA-01025		



- NOTES:**
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
 2. COORDINATION WITH THE LOCAL AGENCIES, CITY OF BRYAN, COLLEGE STATION, TEXAS A&M, HUNTSVILLE, BRAZOS TRANSIT DISTRICT, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
 - A. INTEGRATE DESIGN WITH URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
 - B. DEVELOP MULTIMODAL AND PEDESTRIAN CONNECTIONS, INCLUDING BUSES, TRANSPORTATION NETWORK COMPANIES, AND SHUTTLES.
 3. PARKING CAPACITY ESTIMATED IN FCE REPORT WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE PARKING DEMAND IDENTIFIED THROUGH 2050. PARKING ZONE SHOWN IS LARGER THAN REQUIRED ASSUMING MULTILEVEL PARKING FACILITY TO ACCOMMODATE REQUIRED CAPACITY. PARKING FACILITY CONFIGURATION AND ASSOCIATED ROADWAY DESIGN WOULD BE COORDINATED DURING MORE DETAILED DESIGN DEVELOPMENT TO INTEGRATE WITH LOCAL TRAFFIC MANAGEMENT PLANNING. SEE FCE REPORT FOR MORE INFORMATION ON PARKING ALLOWANCES.
 5. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.



PLOT BY: collen.zwiebel PLOT TIME: 6/8/2019 6:37:38 PM

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. SPIVEY

DRAWN BY
M. MARROQUIN

CHECKED BY
T. SANSONE

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesse.com
Texas Registered Engineering Firm: F-2144

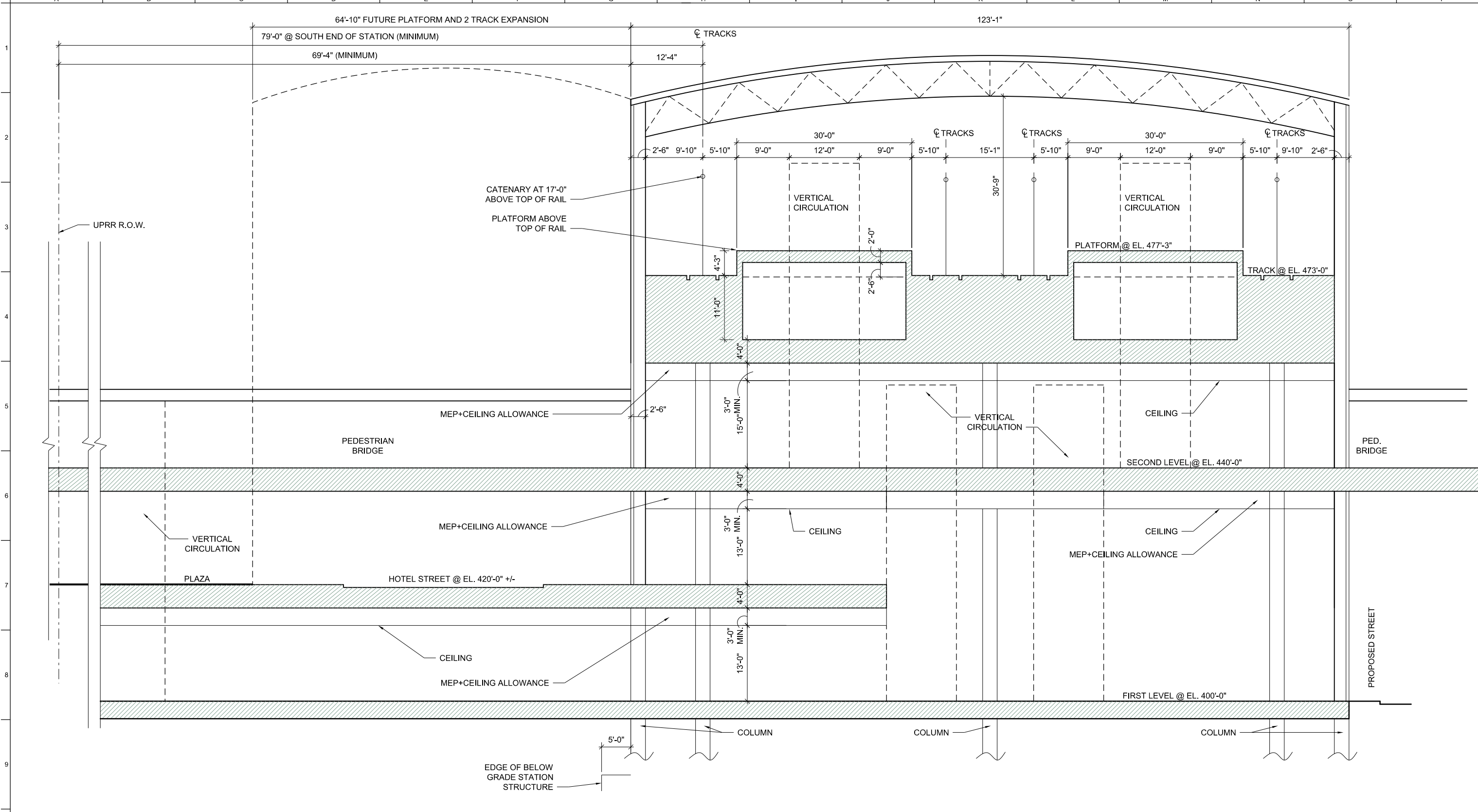
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT STATIONS
BRAZOS VALLEY STATION
CIVIL SITE PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-HN-01034	Rev



NOTES:
 1. DRAWINGS INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.

SECTION AT STATION
 1/8" = 1'-0"



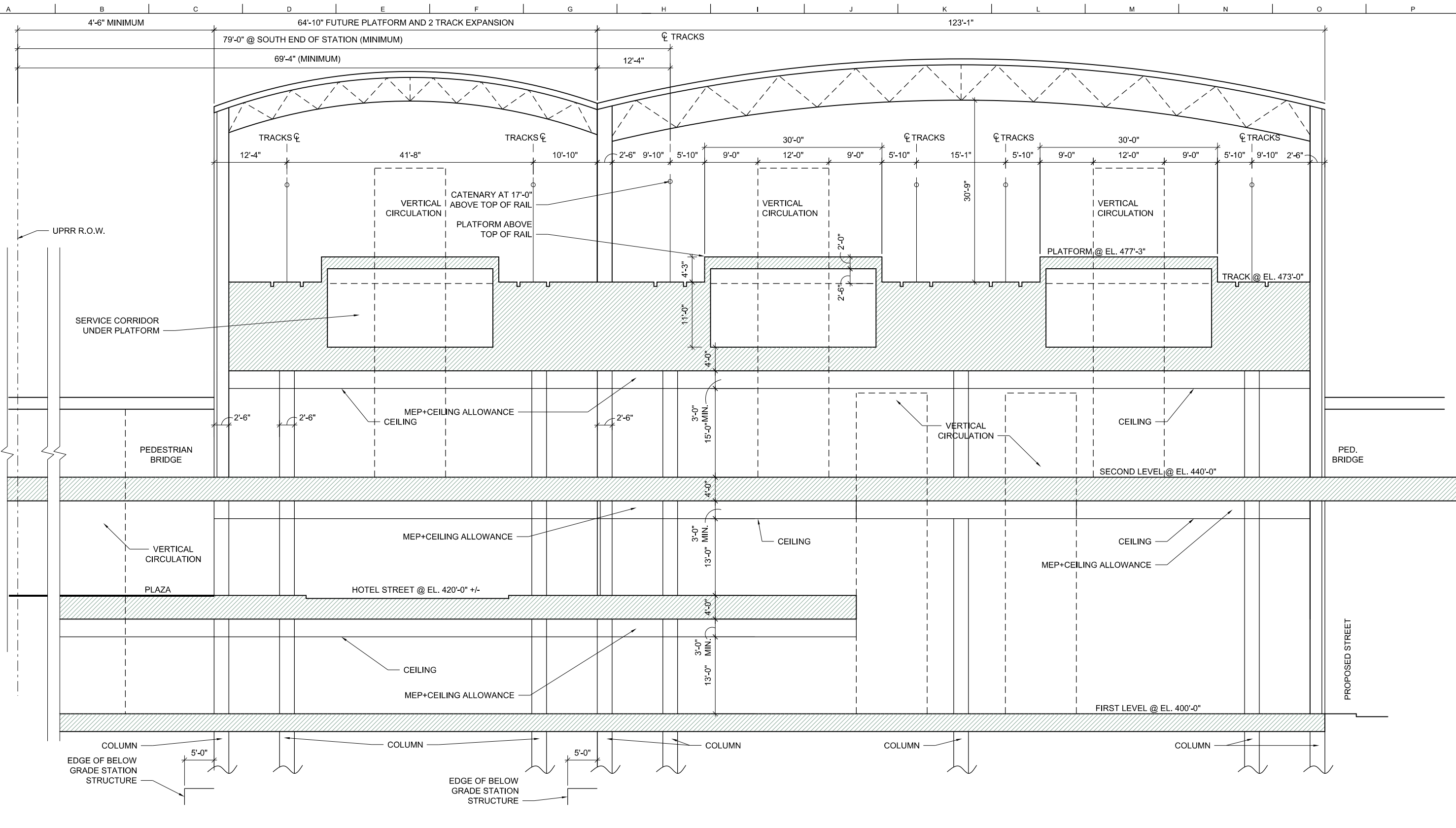
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. MILLICAN
 DRAWN BY
S. BUNDY
 CHECKED BY
K. MILLICAN
 IN CHARGE
C. TAYLOR
 DATE
2/25/2019



Drawing Title
DALLAS SEGMENT STATIONS STATION SECTIONS

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-DS-01045	Rev



SECTION AT STATION
1/8" = 1'-0"

NOTES:
1. DRAWINGS INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. MILLICAN
DRAWN BY
S. BUNDY
CHECKED BY
K. MILLICAN
IN CHARGE
C. TAYLOR
DATE
2/25/2019

ARUP
Arup Texas, Inc.
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Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
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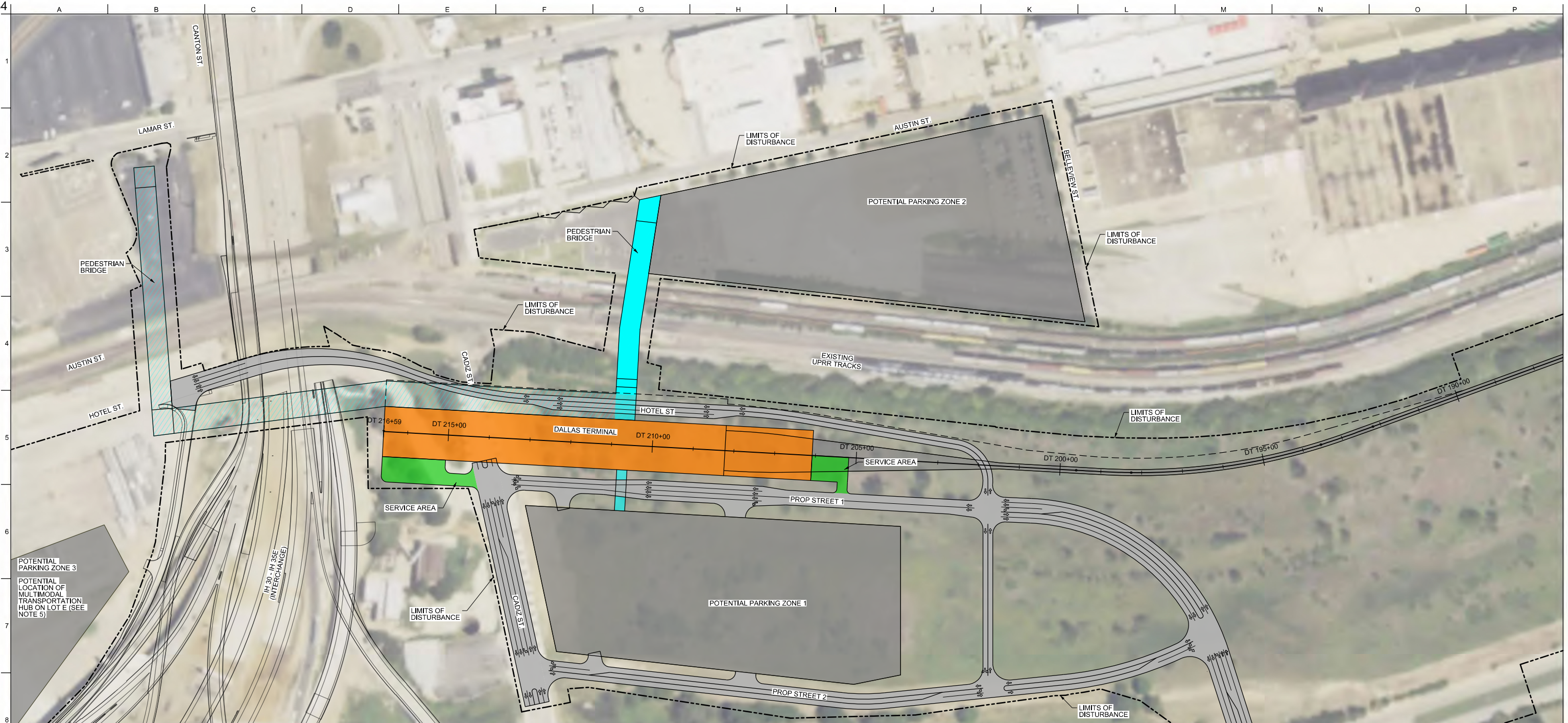
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT STATIONS STATION SECTIONS FUTURE EXPANSION

Scale
AS SHOWN
Drawing Status
FINAL
Job No
234180
Drawing No
STA-DS-01046
Rev

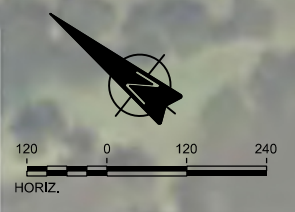


- NOTES:**
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION.
 2. COORDINATION WITH THE CITY OF DALLAS, DART, LOCAL AGENCIES, PROJECT STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO:
 - A. INTEGRATE DESIGN WITH URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
 - B. DEVELOP MULTIMODAL AND PEDESTRIAN CONNECTIONS, INCLUDING BUSES, TRANSPORTATION NETWORK COMPANIES, AND AMTRAK SHUTTLES.
 3. PARKING CAPACITIES ESTIMATED IN FCE REPORT WERE BASED ON TCRR RIDERSHIP ANALYSES FOR THE PARKING DEMAND IDENTIFIED THROUGH 2050. PARKING ALLOCATION SHOWN WITHIN PARKING ZONES WAS ESTIMATED TO SUPPORT TRAFFIC IMPACT ANALYSES. PARKING ZONES SHOWN ARE LARGER THAN REQUIRED ASSUMING MULTILEVEL PARKING FACILITIES TO ACCOMMODATE REQUIRED CAPACITY. PARKING FACILITY CONFIGURATION AND ASSOCIATED ROADWAY DESIGN WOULD BE COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO INTEGRATE WITH LOCAL TRAFFIC MANAGEMENT PLANNING. SEE FCE REPORT FOR MORE INFORMATION ON PARKING ALLOWANCES.

4. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE FUTURE SERVICE LEVEL (FSL). THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL (PSL) AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL.
5. CITY OF DALLAS SUSTAINABILITY COMMITTEE RECOMMENDED A FEASIBILITY STUDY FOR A NEW TRANSPORTATION HUB ON LOT E TO ACCESS AMTRAK, DART, TRE, PASSENGER BUSES, AUTOMOBILES, BICYCLES, AND OTHER TRANSIT MODES ON OCTOBER 8, 2018. DEVELOPMENT OF STATION AREA PLAN DURING MORE DETAILED DESIGN WILL BE COORDINATED WITH THE CITY OF DALLAS TO INCORPORATE FINDINGS FROM THAT SEPARATE EFFORT.
6. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS.

LEGEND:

- SERVICE AREA
- PARKING ZONE
- STATION
- PEDESTRIAN BRIDGE
- POTENTIAL PEDESTRIAN BRIDGE (SEE NOTE 5)
- LIMIT OF DISTURBANCE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144

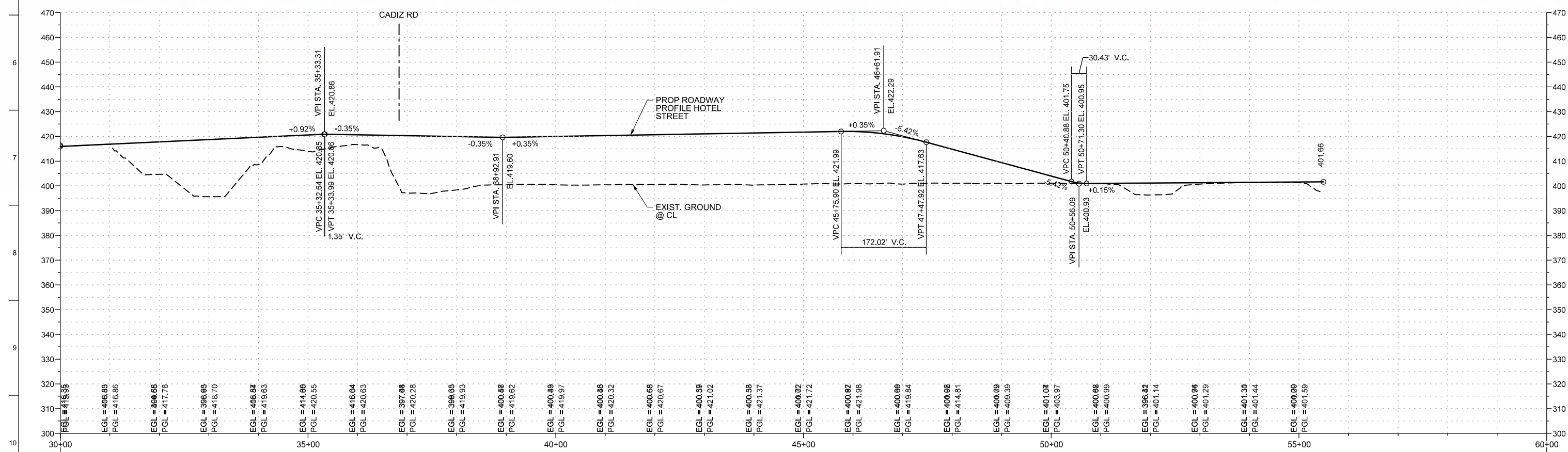
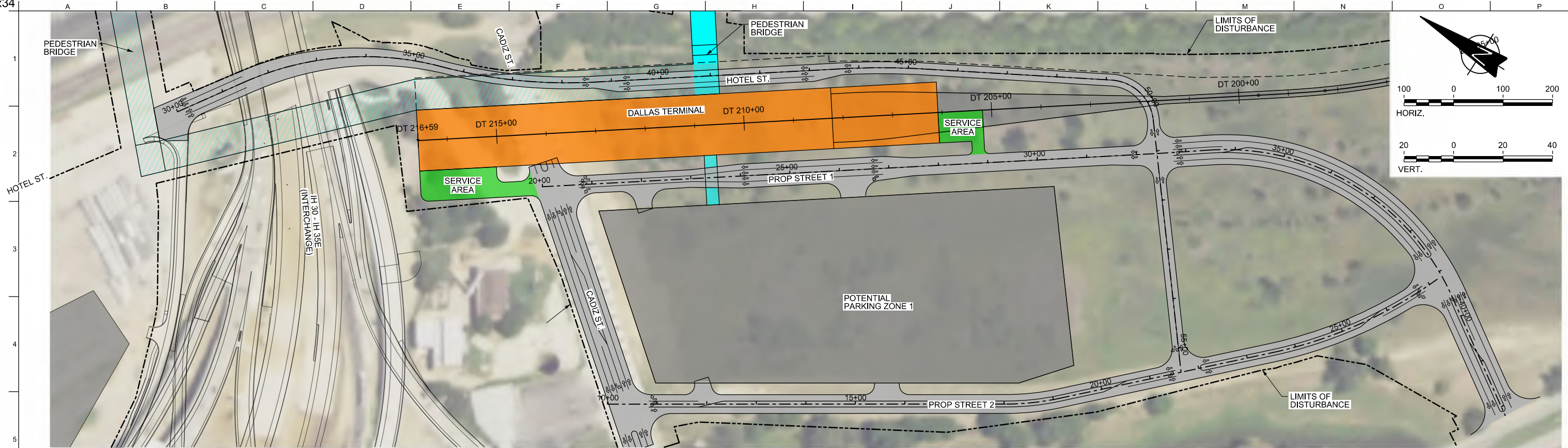
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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Drawing Title

**DALLAS SEGMENT
STATIONS
DALLAS STATION
CIVIL SITE PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-DS-01049	Rev 01



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S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
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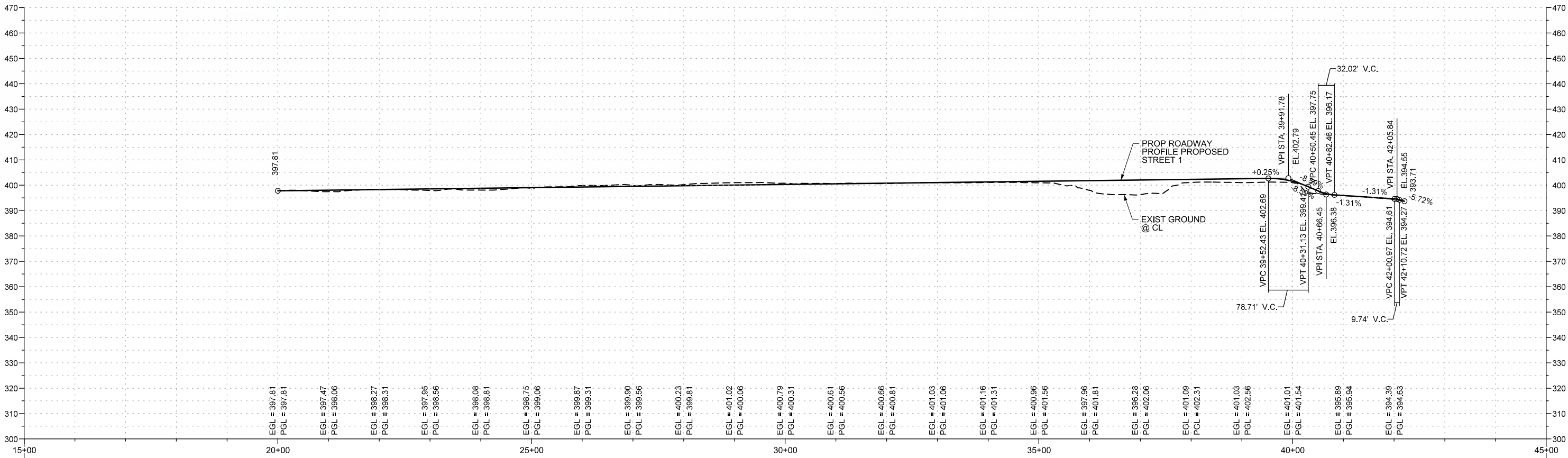
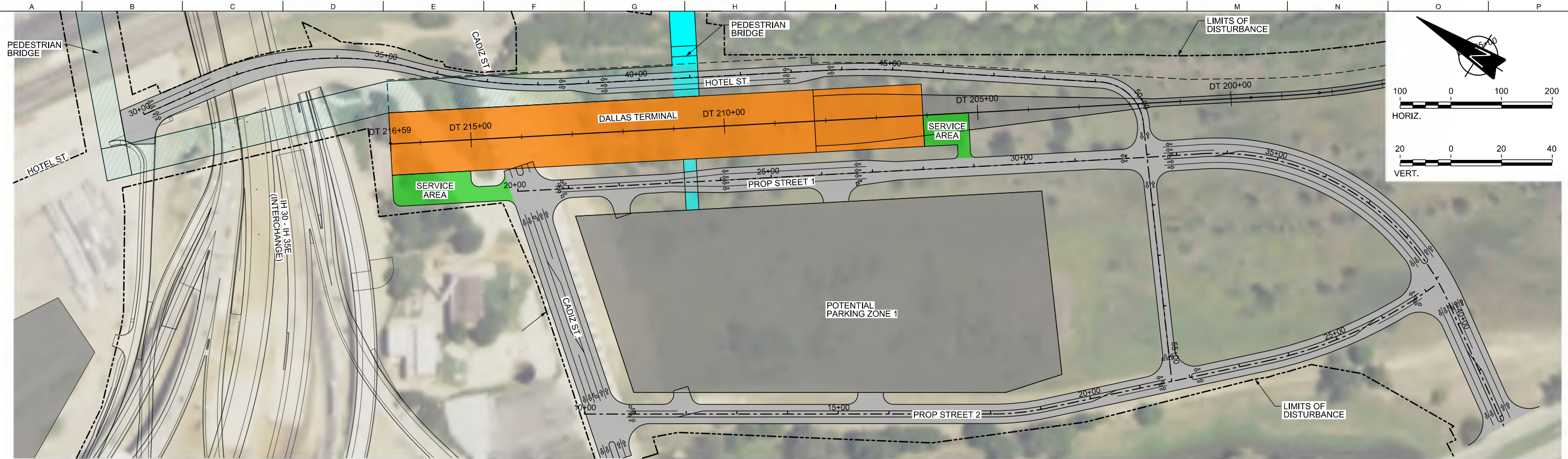
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

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Drawing Title
DALLAS SEGMENT STATIONS DALLAS STATION HOTEL STREET PLAN & PROFILE

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-DS-01050	Rev 01



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S. KIRBY
DRAWN BY
J. ALMAGUER
CHECKED BY
R. SUTTON
IN CHARGE
C. TAYLOR
DATE
2/25/2019

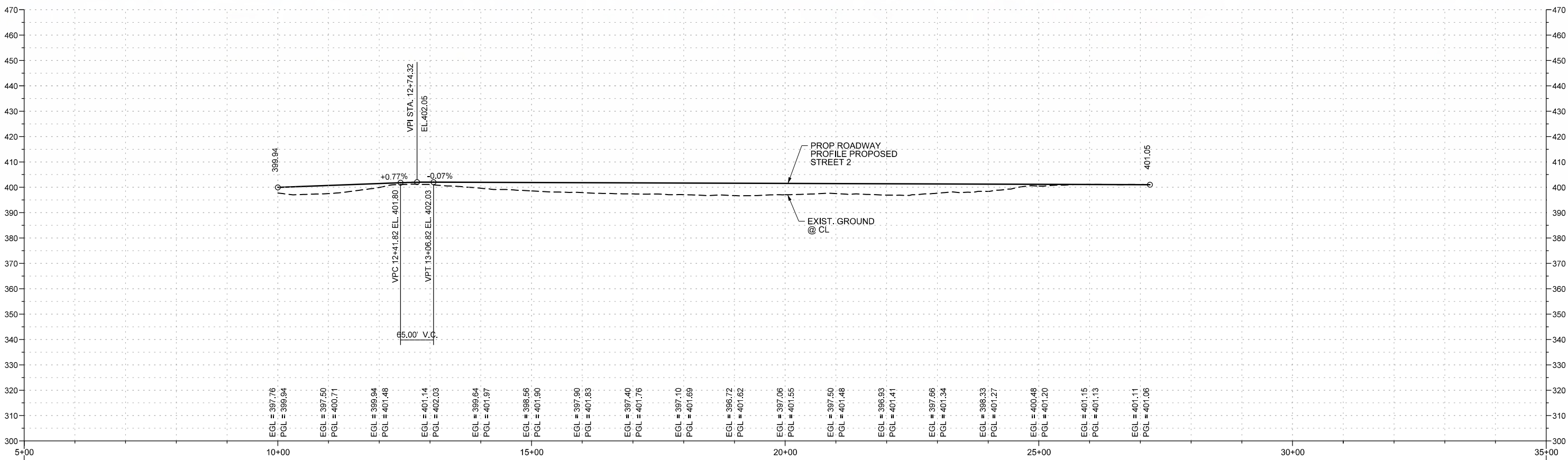
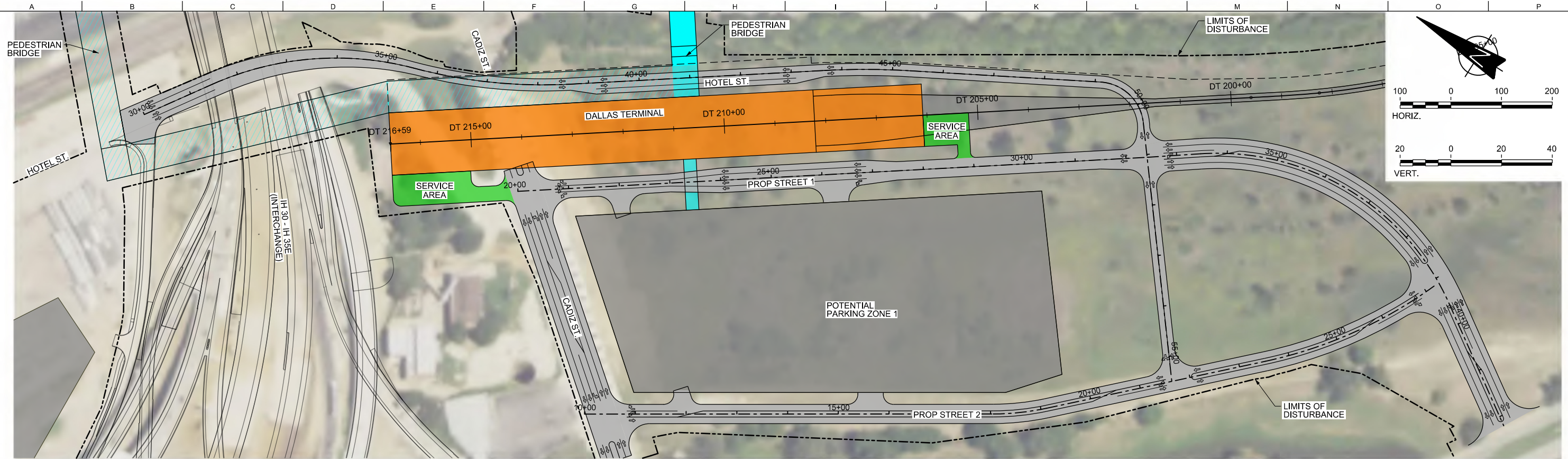
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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

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FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT STATIONS DALLAS STATION PROPOSED STREET 1 PLAN & PROFILE

Scale
AS SHOWN
Drawing Status
FINAL
Job No
234180
Drawing No
STA-DS-01053
Rev
01



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S. KIRBY

DRAWN BY
J. ALMAGUER

CHECKED BY
R. SUTTON

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

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FINAL CONCEPTUAL ENGINEERING

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Drawing Title
DALLAS SEGMENT STATIONS DALLAS STATION PROPOSED STREET 2 PLAN & PROFILE

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No STA-DS-01054	Rev 01

3A-2

MAINTENANCE FACILITIES, YARDS, AND SHOPS

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

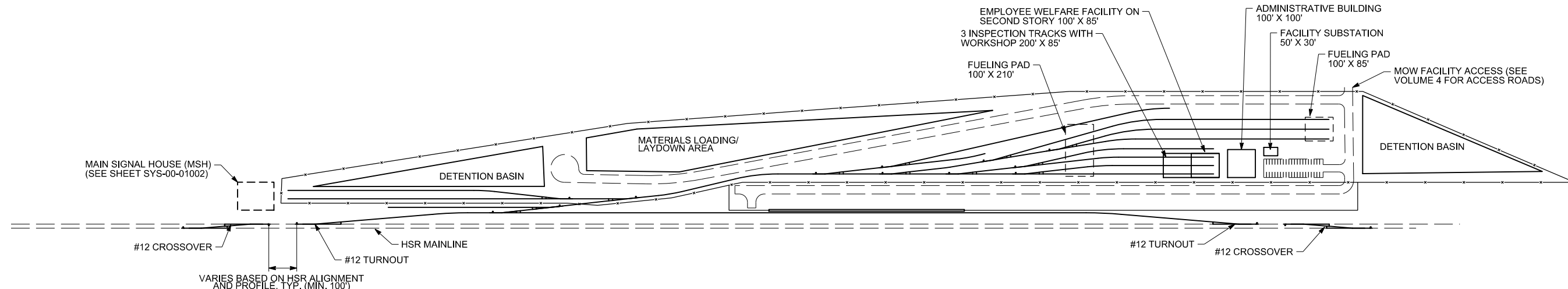
IN CHARGE
C. TAYLOR

DATE
2/25/2019

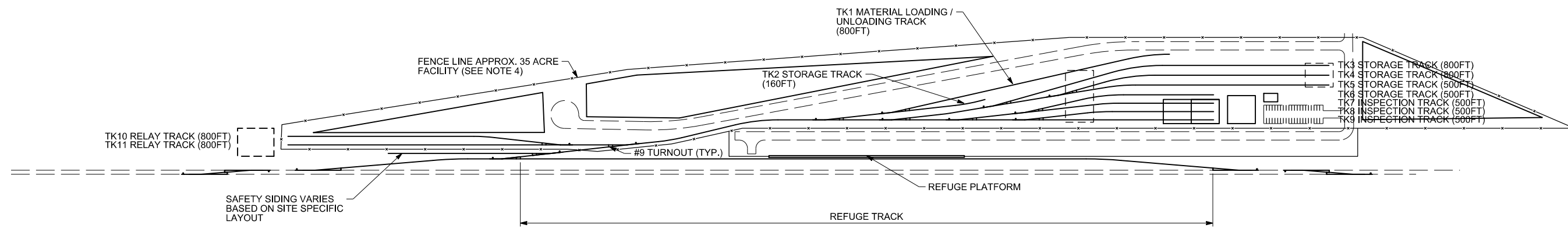


Drawing Title
GENERAL

Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01



TYPICAL SPACE ALLOCATION PLAN



TYPICAL TRACK LAYOUT PLAN

NOTES:

- ALL TURNOUTS WITHIN MOW FACILITY ARE NO. 9 UNLESS NOTED OTHERWISE. ALL TURNOUTS CONNECTING A MOW OR TMF TO A MAINLINE ARE NO. 12 UNLESS OTHERWISE NOTED.
- NO. 12 CROSSOVERS WILL BE LOCATED ON MAINLINE TRACKS ON EITHER SIDE OF MOW FACILITY.
- TRACK LENGTHS SHOWN MEASURED FROM FOULING POINT TO END OF TRACK FOR RELAY, INSPECTION, AND STORAGE TRACKS. FOR REFUGE TRACK, LENGTH MEASURED FROM FOUNDING POINT TO FOULING POINT.
- SPACE REQUIREMENTS WILL VARY BASED ON SITE SPECIFIC CONSTRAINTS INCLUDING ROADWAY ACCESS, GRADING, DRAINAGE AND ELECTRICAL FACILITIES.
- DETAILS OF THE FENCING, GAPS, ACCESS GATES, AND CONNECTIONS WITH MAINLINE FENCING WILL BE DEVELOPED DURING MORE DETAILED DESIGN. FENCING AND OTHER INTRUSION PROTECTION MEASURES FOR MAINLINE HSR NOT SHOWN.
- MINIMUM TRACK SPACING IN MOW FACILITY WAS 30FT. MOW TRACK OFFSET FROM THE MAINLINE WAS 40FT.
- REFUGE PLATFORM SHALL BE 700FT BY 6FT.
- REFUGE TRACK SHALL BE AS LEVEL AS POSSIBLE. STORAGE LENGTH IS 1575FT.
- FINAL DESIGN WOULD BE DEVELOPED WITH UTILITIES, LANDOWNERS, AND OTHER STAKEHOLDER COORDINATION. SITE SPECIFIC LAYOUTS WOULD BE DEVELOPED DURING MORE DETAILED DESIGN AND COORDINATE WITH OPERATIONS AND MAINTENANCE PLAN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
C. TAYLOR

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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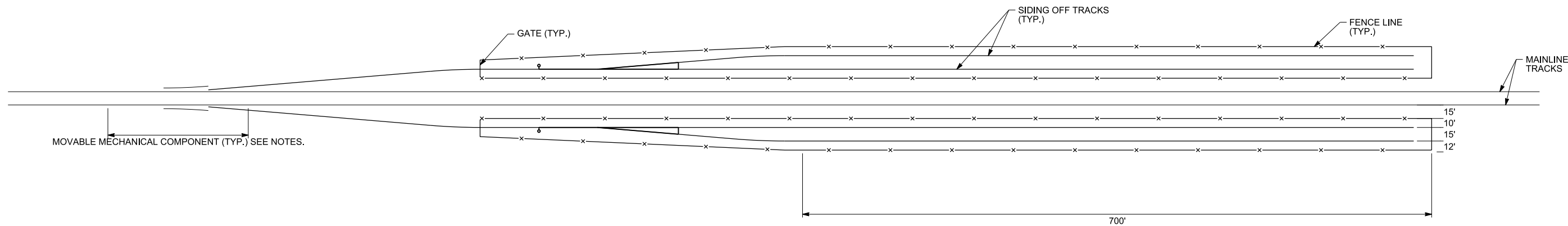
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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Drawing Title
**HN, WT, NE, EW, DS
MAINTENANCE FACILITIES
TYPICAL MOW FACILITY**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-00-02002	Rev 01



TYPICAL SIDING OFF FACILITY

- NOTES:
1. MOVEABLE MECHANICAL COMPONENT PERMITS ACCESS TO MAINLINE HSR TRACKS FOR MOW EQUIPMENT WITHOUT INSTALLATION OF TURNOUT OR ASSOCIATED SIGNALS.
 2. MOVEABLE MECHANICAL COMPONENT DRAWN AS GRAPHICAL REPRESENTATION ONLY.
 3. MOVEABLE MECHANICAL COMPONENT SHOWN IN OPEN POSITION. WHEN OPEN, OR NOT IN USE, SWITCH IS CLEAR OF HSR TRACKS. CLOSED POSITION ALLOWS ACCESS TO SIDING OFF TRACKS.
 4. SEE FCE REPORT FOR MORE DETAILS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
C. ZWIEBEL

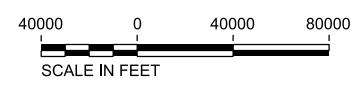
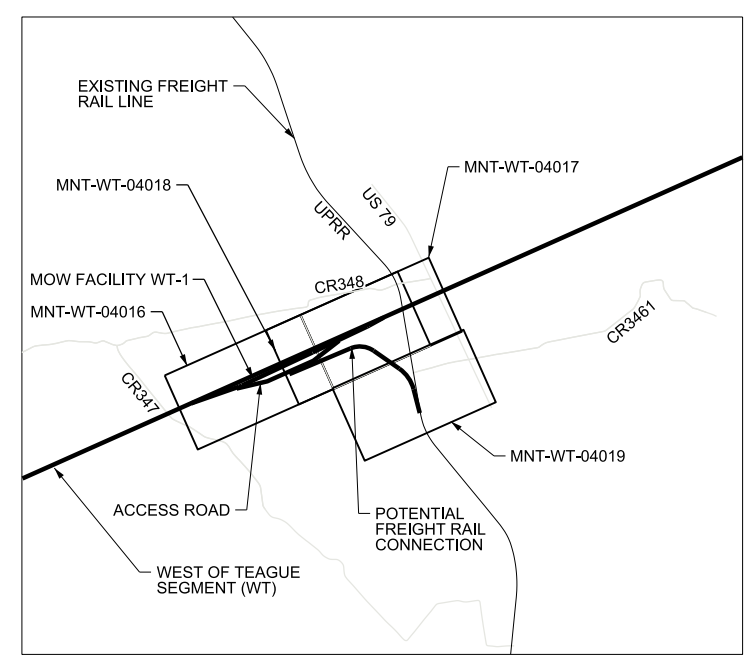
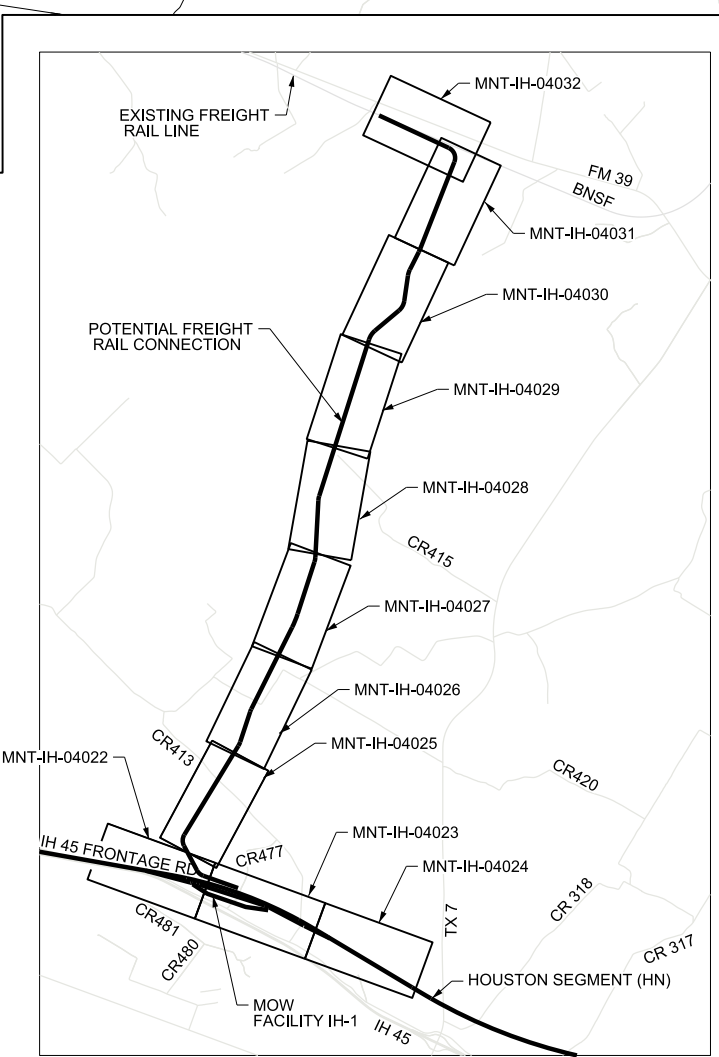
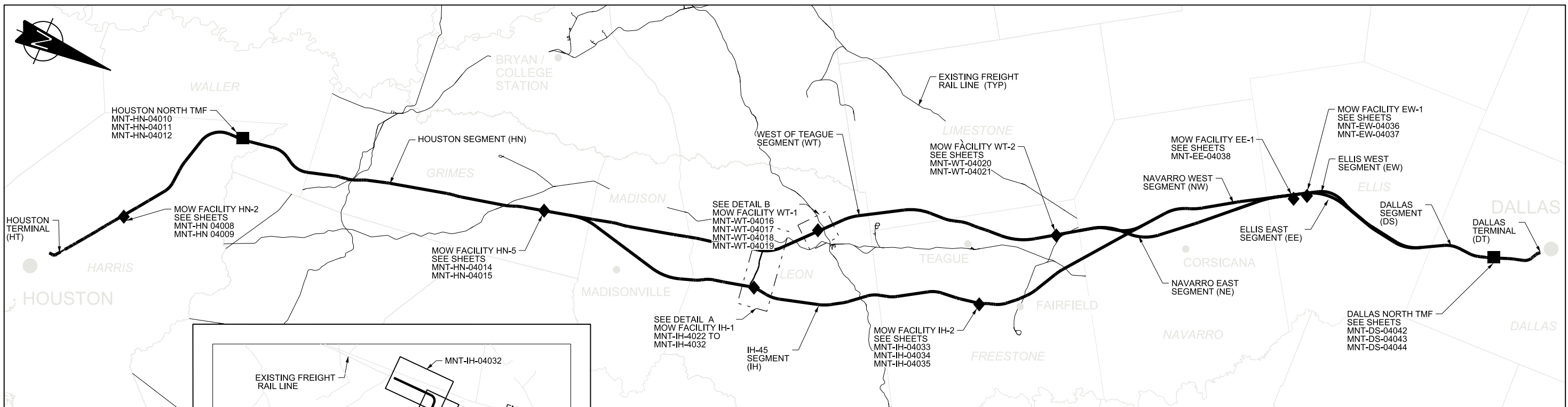
IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
**GENERAL MAINTENANCE FACILITIES
TYPICAL SIDING OFF**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-00-02003	Rev 01



LEGEND
 ◆ - MOW
 ■ - TMF

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
G. MEJIA
 DRAWN BY
Y. NIKOLOV
 CHECKED BY
K. SEYMOUR
 IN CHARGE
C. TAYLOR
 DATE
2/25/2019

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
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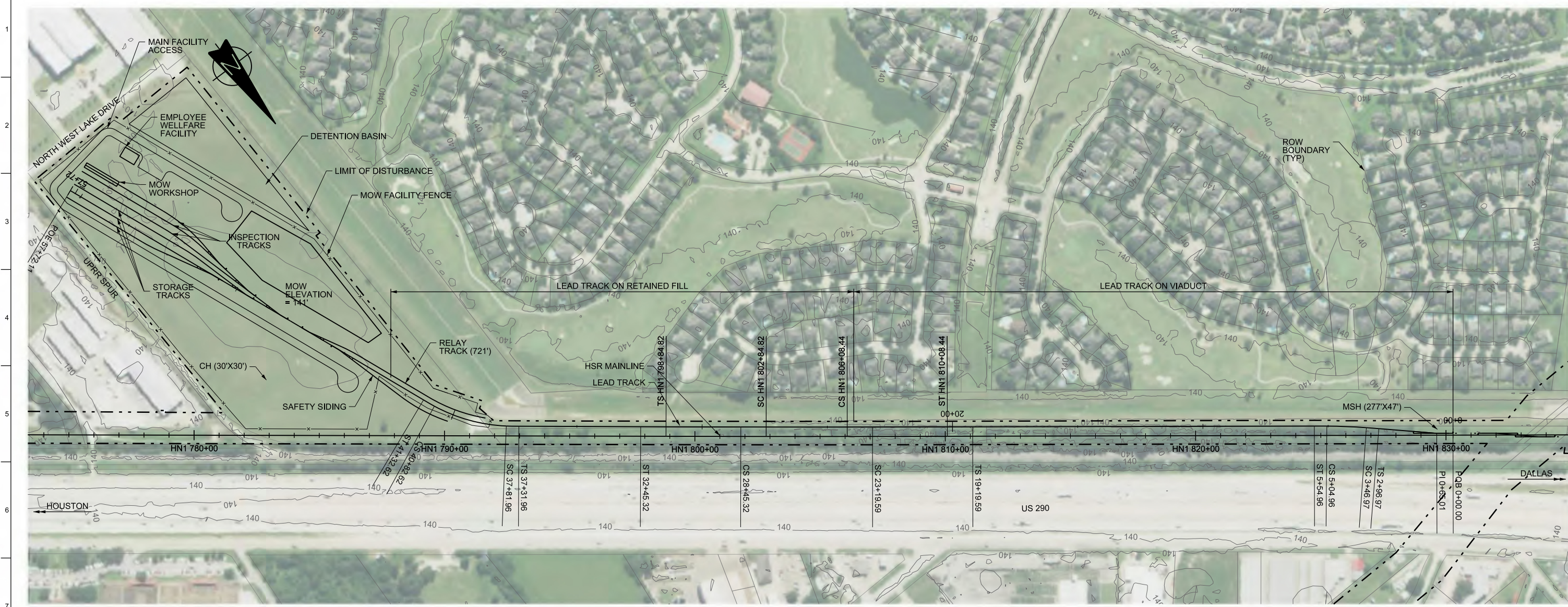
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Drawing Title
GENERAL MAINTENANCE FACILITIES KEY MAP

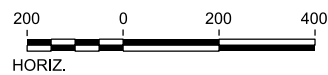
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-00-02004	Rev 01
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- NOTES:
1. NO REFUGE TRACK AT MOW-HN-2.
 2. HSR MAINLINE IS ON VIADUCT.
 3. MOW LEAD TRACK ON RETAINED FILL WHERE LESS THAN 20FT ABOVE EXISITNG GRADE. RETAINING WALLS USED TO LIMIT ROW REQUIREMENTS AND TO FACILITATE FUTURE US290 PROJECT.
 4. MOW LAYOUT DOES NOT PRECLUDE FUTURE US 290 MANAGED/TOLL LANE PROJECT.
 5. SEE MNT-HN-04009 FOR PROFILE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

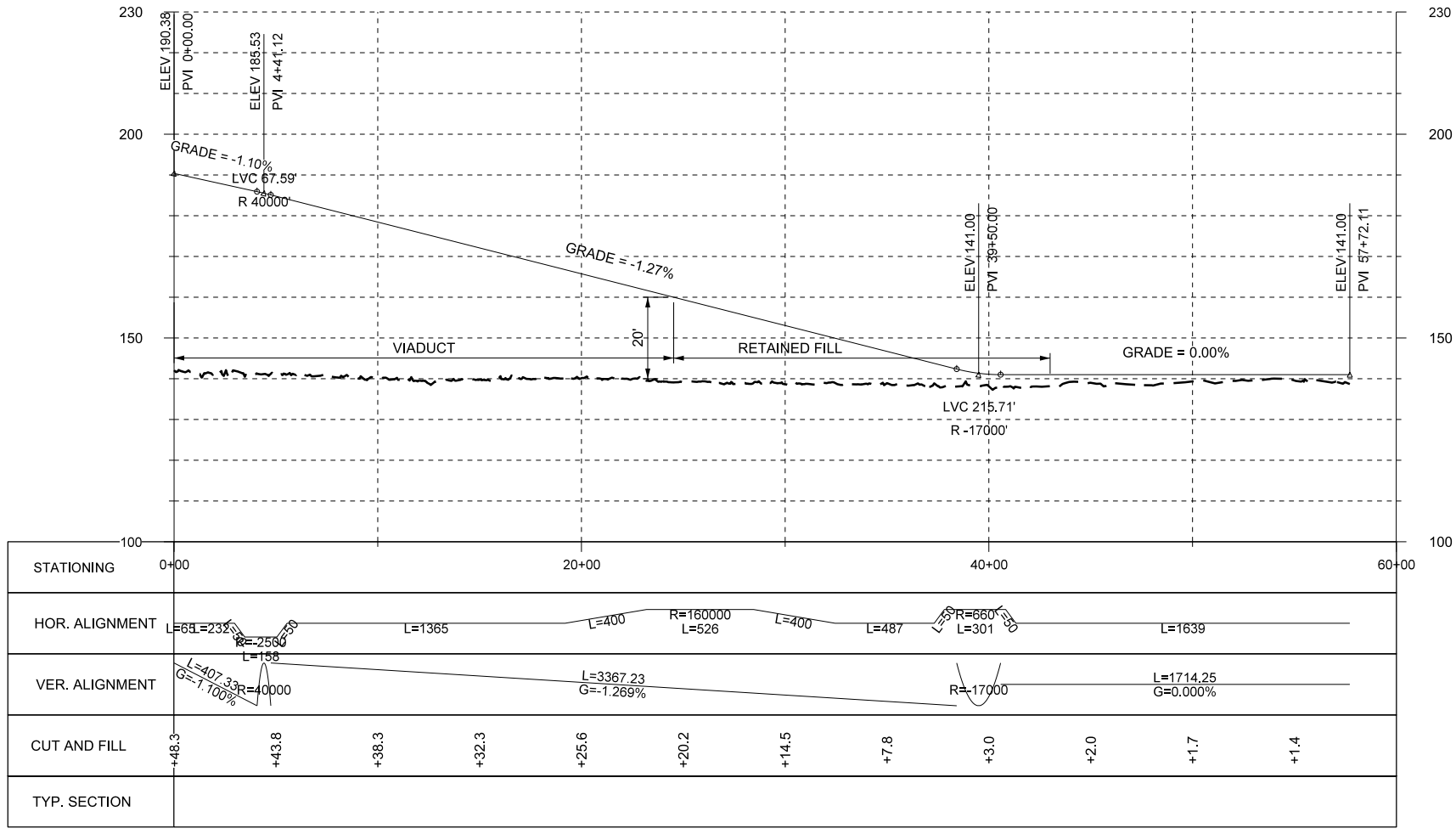
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW-HN-2
LAYOUT**

Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-HN-04008	Rev
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NOTES:
1. SEE MNT-HN-04008 FOR NOTES

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL
DRAWN BY
C. ZWIEBEL
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T. WAGNER
IN CHARGE
C. TAYLOR
DATE
2/25/2019



Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW-HN-2
PROFILE**

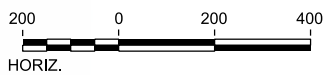
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Drawing Status FINAL		
Job No 234180	Drawing No MNT-HN-04009	Rev 01



SEE DRAWING MNT-HN-04009

NOTES:

- 1. SEE SHEET MNT-HN-04012 FOR NOTES.



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DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON TMF
SHEET 1 OF 3**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-HN-04010	Rev

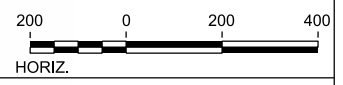


SEE DRAWING MNT-HN-04008

SEE DRAWING MNT-HN-04010

NOTES:

- 1. SEE SHEET MNT-HN-04012 FOR NOTES.
- 2. SEE MNT-HN-04013 FOR PROFILE.



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DESIGNED BY	C. ZWIEBEL
DRAWN BY	C. ZWIEBEL
CHECKED BY	T. WAGNER
IN CHARGE	C. TAYLOR
DATE	2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
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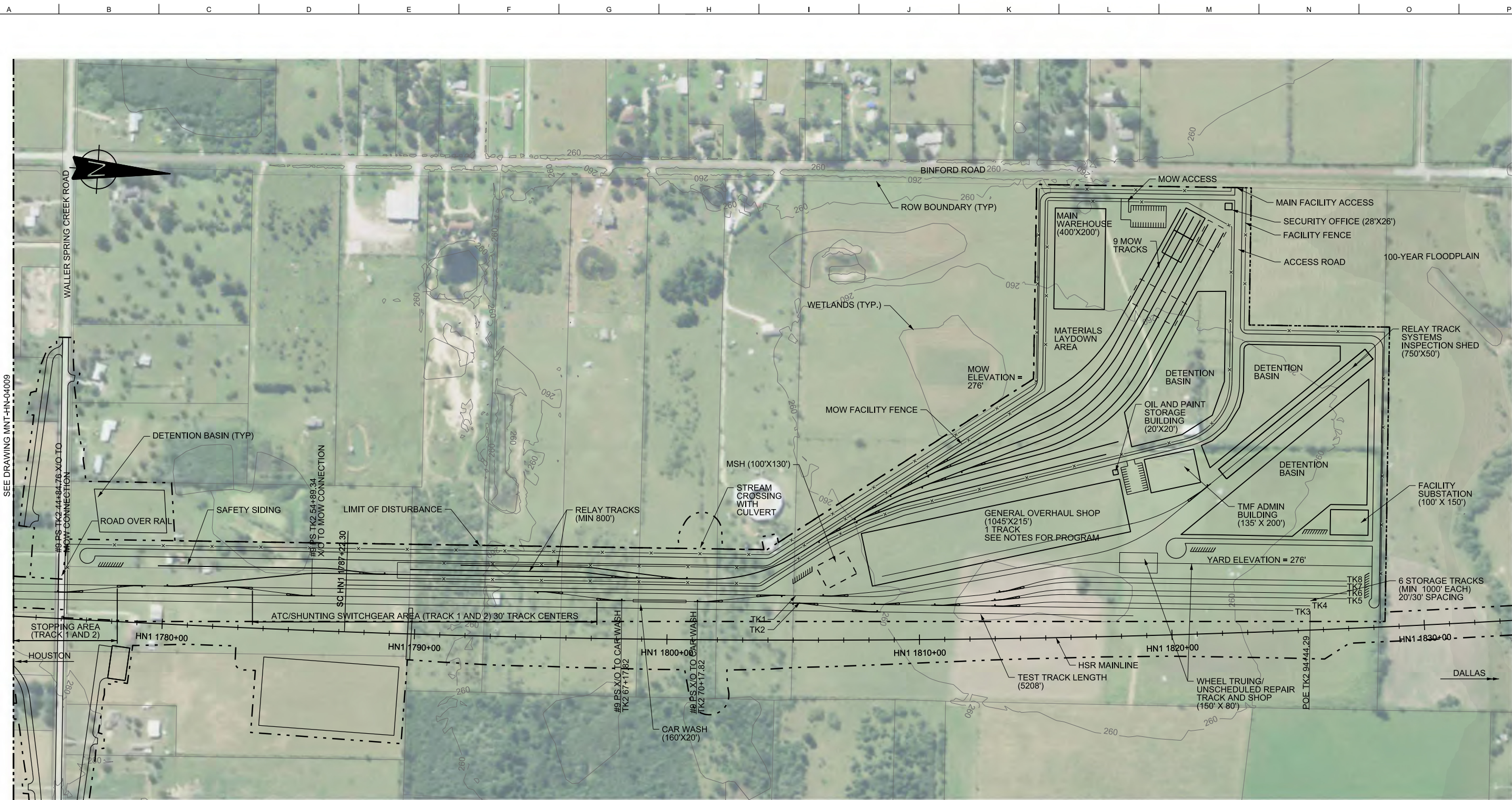
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FINAL CONCEPTUAL ENGINEERING



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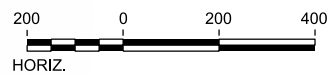
Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON TMF
SHEET 2 OF 3**

Scale	AS SHOWN	
Drawing Status	FINAL	
Job No	Drawing No	Rev
234180	MNT-HN-04011	01



NOTES:

- OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.
- ATC/SHUNTING SWITCHGEAR REQUIRED TO SUPPORT CHANGE TO THE SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000' (PROVIDED WITHIN STORAGE TRACK AREA).
- SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'). STORAGE YARD TRACK SPACING OF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
- TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY ON MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
- CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
- NO. 16 TURNOUTS USED FOR FLAT JUNCTION TURNOUTS AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
- IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW.
- GENERAL OVERHAUL FACILITY PROGRAM
- SHOP APPROXIMATELY 225,000 SF
- RELAY TRACK FOR MOVEMENT OF TRAINS TO AND FROM HEAVY REPAIR TRACK WITHOUT OVERHEAD CATENARY
- MINIMUM SHOP TRACK LENGTH OF 1000' PROVIDED
- TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF. INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS.
- SEE SHEET MNT-HN-04013 FOR PROFILE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

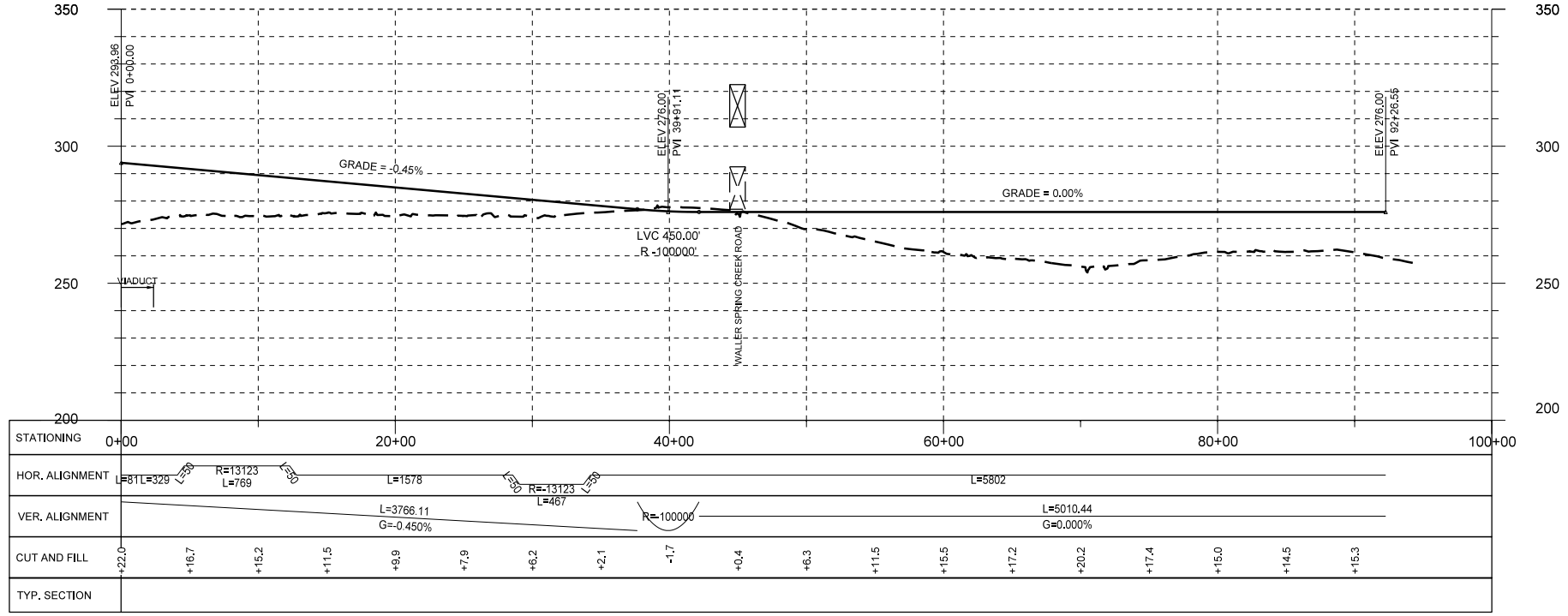
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Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON TMF
SHEET 3 OF 3**

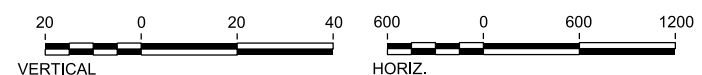
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-HN-04012	Rev
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- NOTES:
- SEE MNT-HN-04012 FOR PLAN, LAYOUTS, AND NOTES.
 - PROFILE SHOWN IS FOR THE INNER TRACK (TMF TRACK 2) TO THE STORAGE TRACK CLOSEST TO THE MAINLINE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
R. GIBBINS

CHECKED BY
T. WAGNER

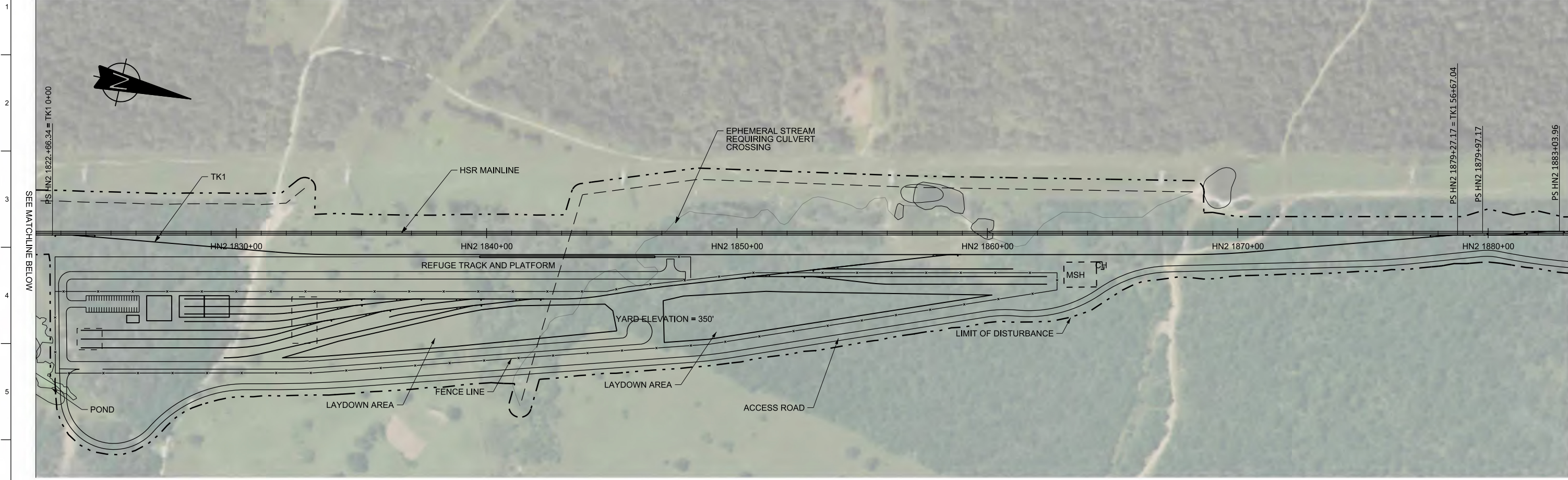
IN CHARGE
C. TAYLOR

DATE
2/25/2019

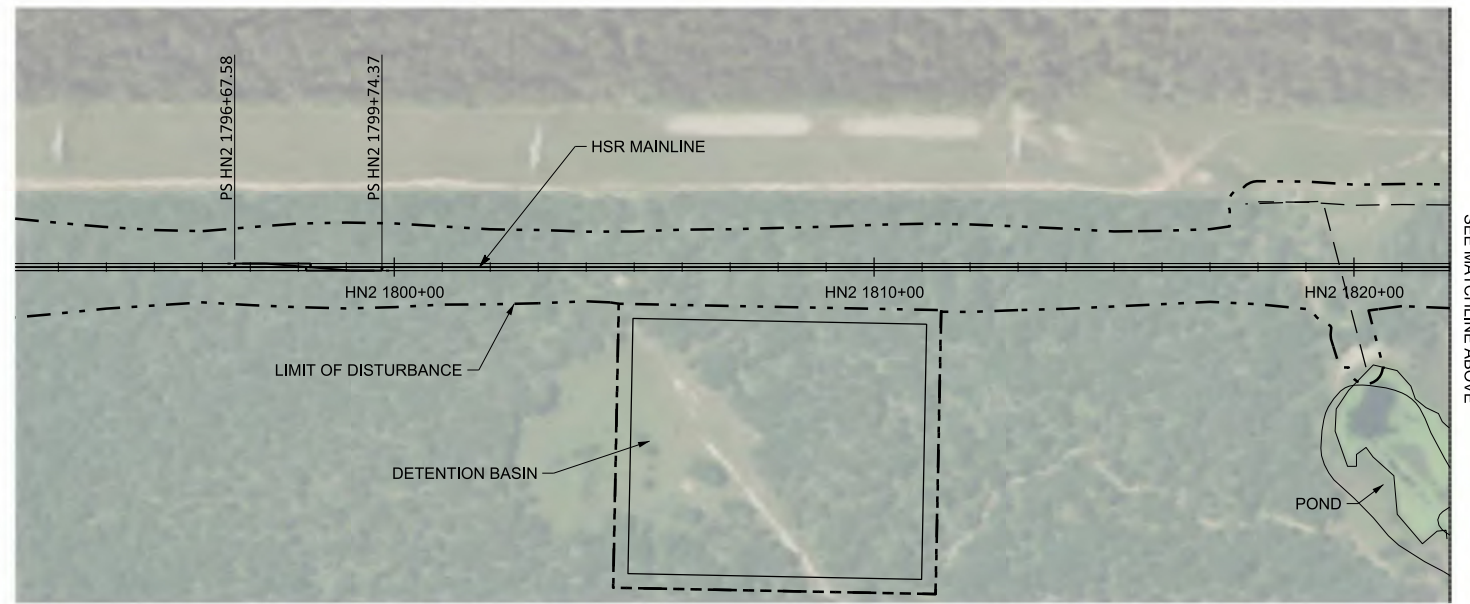


Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON TMF
PROFILE**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-HN-04013	Rev

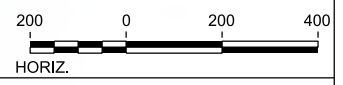


SEE MATCHLINE BELOW



SEE MATCHLINE ABOVE

- NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.
 2. SEE SHEET MNT-HN-04016 FOR PROFILE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. STEELE

DRAWN BY
E. BURKHARDT

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

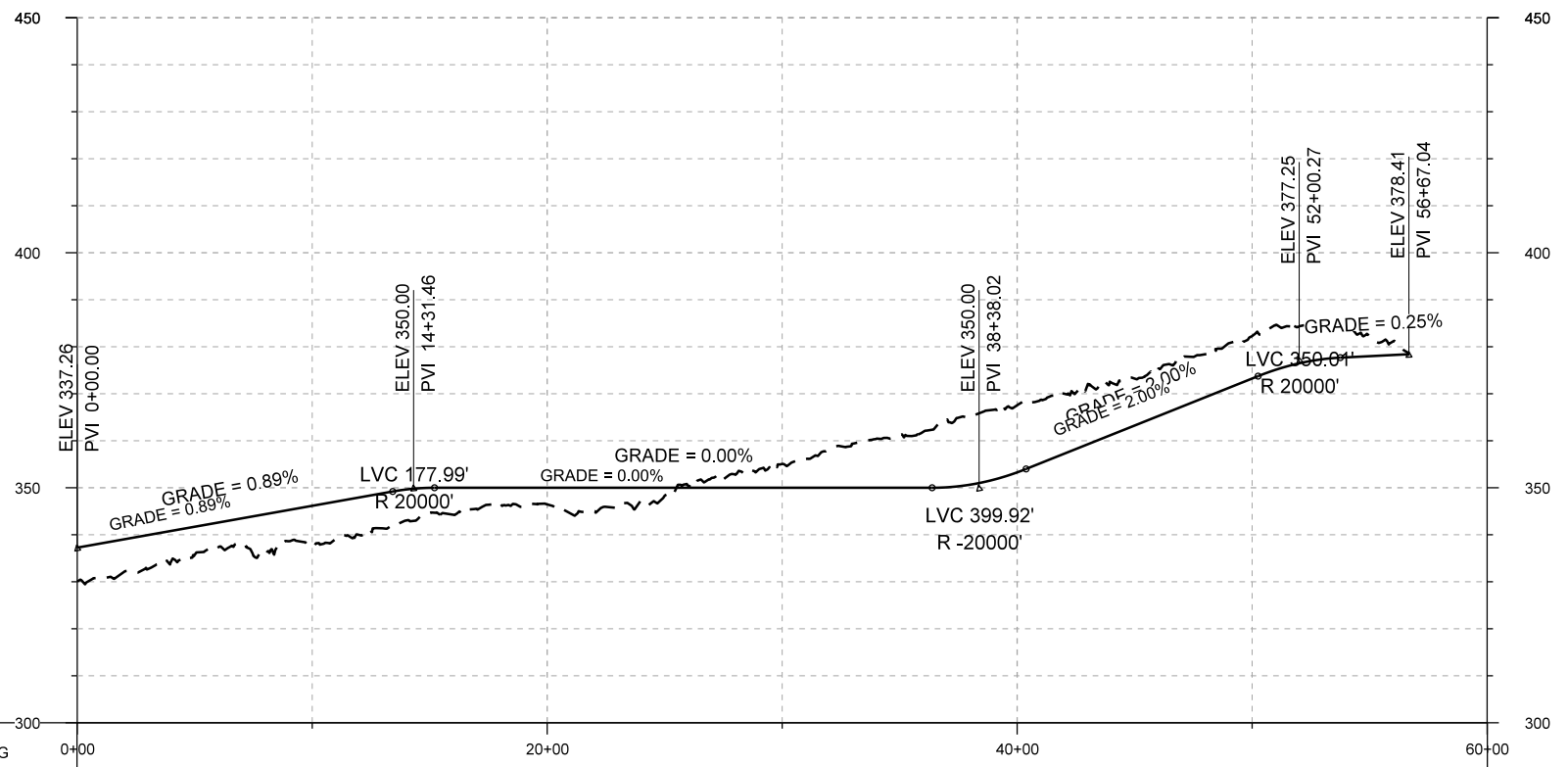
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY HN-5
LAYOUT**

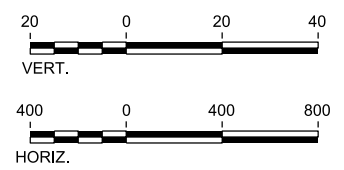
Scale AS SHOWN	Drawing Status FINAL	
Job No 234180	Drawing No MNT-HN-04014	Rev 01

1
2
3
4
5
6
7
8
9
10



STATIONING	0+00	20+00	40+00	60+00
HOR. ALIGNMENT	L=65	L=791	L=3345	L=791 L=65
VER. ALIGNMENT	L=1353.36 G=0.890%	R=20000	L=2106.64 G=0.000%	R=-20000
CUT AND FILL				
TYP. SECTION				

- NOTES:
- SEE SHEET MNT-00-02002 FOR MOW NOTES.
 - SEE SHEET MNT-HN-04014 FOR LAYOUT.
 - PROFILE SHOWN FOR REFUGE TRACK.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. STEELE

DRAWN BY
B. STEELE

CHECKED BY
C. ZWIEBEL

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
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Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

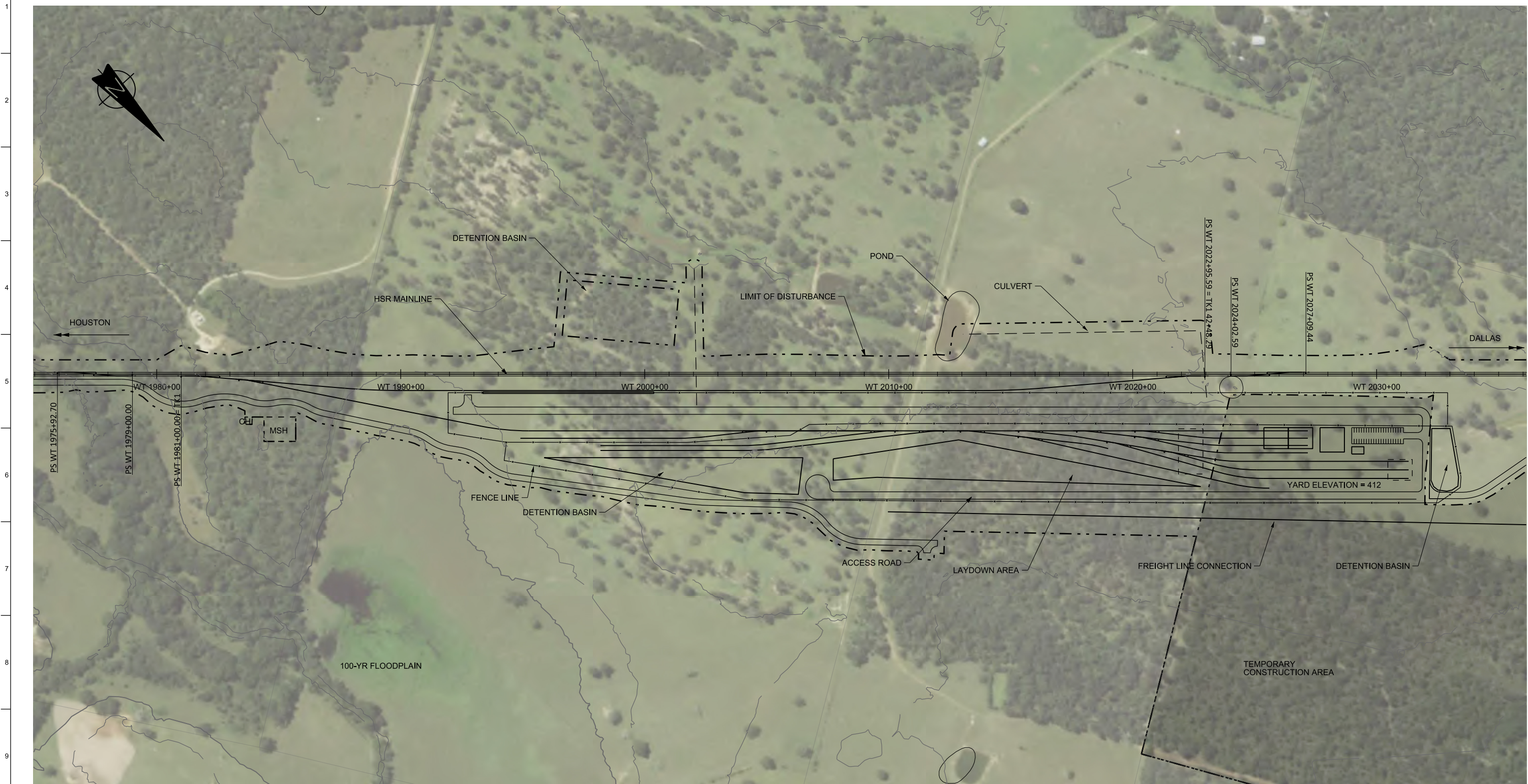
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY HN-5
PROFILE**

Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-HN-04015	Rev 01
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- NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.
 2. SEE SHEET MNT-WT-04017 FOR PROFILE.
 3. POTENTIAL FREIGHT RAIL CONNECTION TO BE FURTHER DEVELOPED DURING MORE DETAILED DESIGN IN COORDINATION WITH FREIGHT RAILROAD.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
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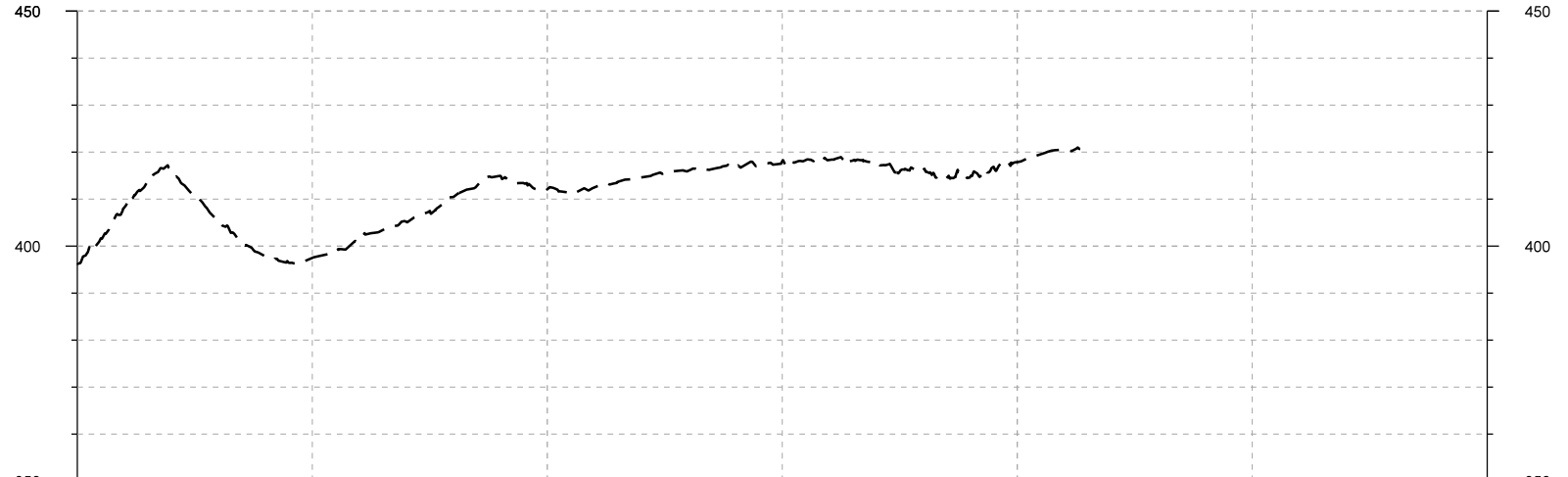
2711 North Haskell Ave., Suite 3300
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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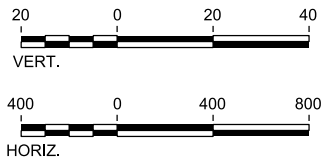
Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-1
LAYOUT**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-WT-04016	Rev 01



STATIONING	0+00	20+00	40+00	60+00
HOR. ALIGNMENT	L=65	L=567	L=2328	L=567 L=65
VER. ALIGNMENT	L=30000 G=-0.300%	L=190	L=2014.01 G=0.000%	R=17000 L=17490.7 G=1.080% R=17000 L=367.39 G=0.700%
CUT AND FILL	+17.0	+14.5	+4.5	-0.1 -3.7 -1.5 +6.7 +8.7
TYP. SECTION				

- NOTES:
- SEE SHEET MNT-00-02002 FOR MOW NOTES.
 - SEE SHEET MNT-WT-04016 FOR LAYOUT.
 - PROFILE SHOWN FOR TK1 (REFUGE TRACK).



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

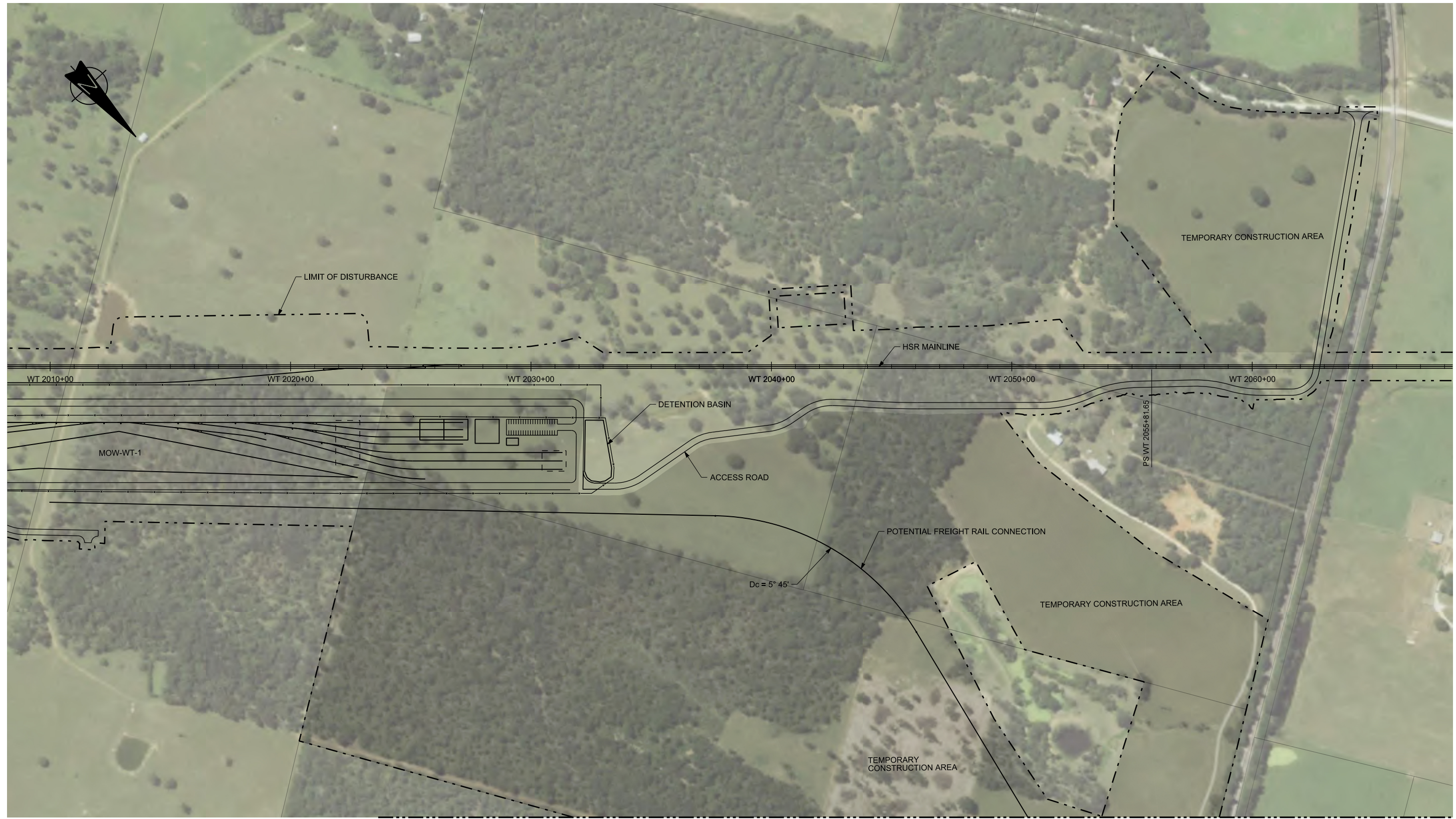
IN CHARGE
C. TAYLOR

DATE
2/25/2019



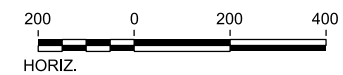
Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-1
PROFILE**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	MNT-WT-04017	01	



NOTE: MATCHLINE SEE SHEET MNT-WT-04019

1. THIS SHEET REPRESENTS FREIGHT RAIL CONNECTION WITH THE MOW. FOR MOW SHEET DETAIL REFER TO SHEET MNT-WT-04016.
2. SEE SHEET MNT-00-02002 FOR MOW NOTES.
3. POTENTIAL FREIGHT RAIL CONNECTION TO BE FURTHER DEVELOPED DURING MORE DETAILED DESIGN IN COORDINATION WITH FREIGHT RAILROAD.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
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Texas Registered Engineering Firm: F-1990

FREES & NICHOLS

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 1 OF 2**

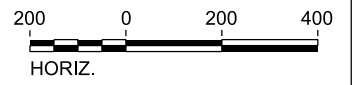
Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-WT-04018	Rev 01

MATCHLINE SEE SHEET MNT-WT-04018



NOTE:

1. THIS SHEET REPRESENTS FREIGHT RAIL MONNECTION WITH THE MOW. FOR MOW SHEET DETAIL REFER TO SHEET MNT-WT-04016.
2. SEE SHEET MNT-00-02002 FOR MOW NOTES.
3. POTENTIAL FREIGHT RAIL CONNECTION TO BE FURTHER DEVELOPED DURING MORE DETAILED DESIGN IN COORDINATION WITH FREIGHT RAILROAD.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C.ZWIEBEL

DRAWN BY
C.ZWIEBEL

CHECKED BY
T.WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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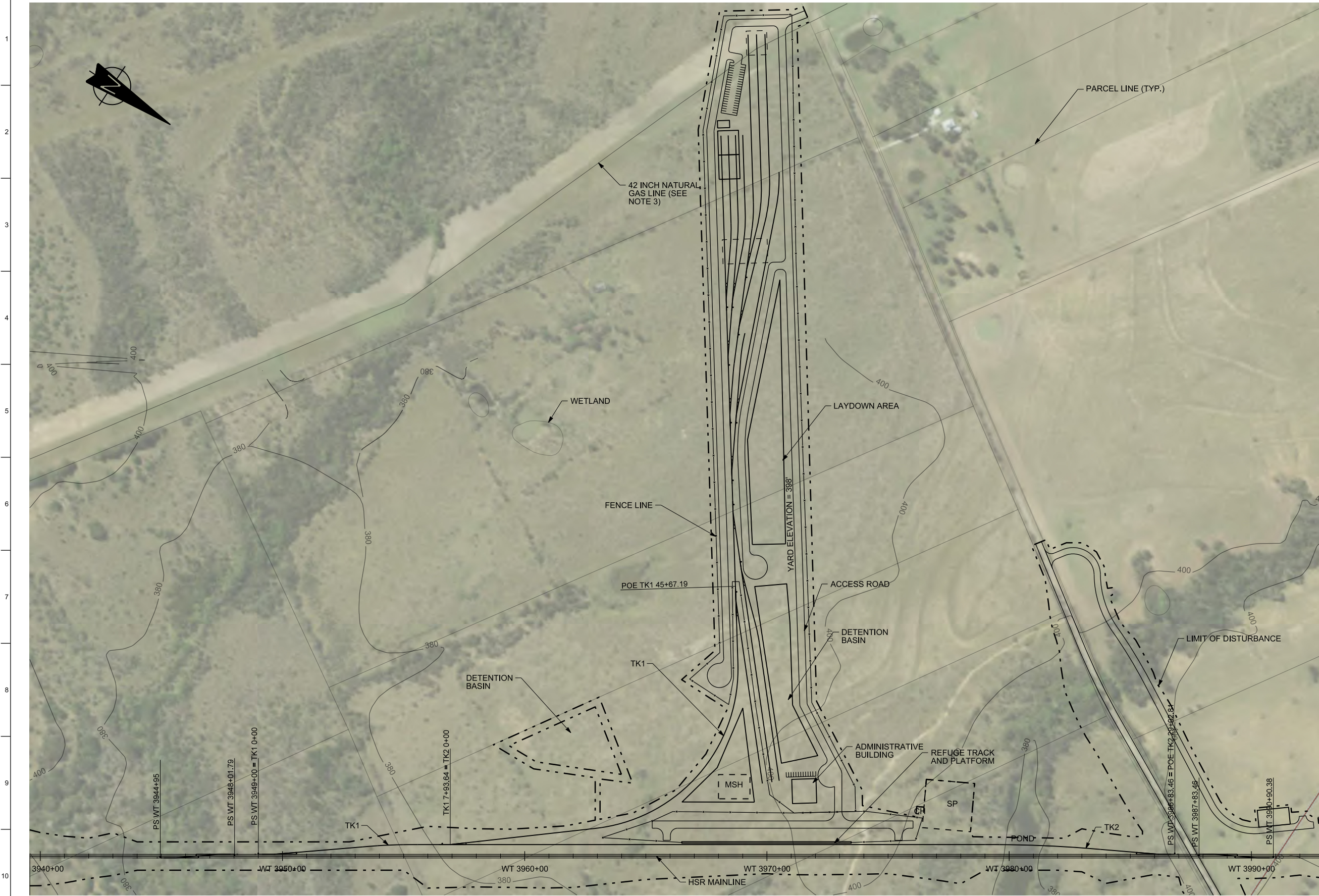
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-WT-04019	Rev 01



- NOTES:**
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.
 2. SEE SHEET MNT-WT-02021 FOR PROFILE.
 3. FINAL DESIGN WILL BE DEVELOPED WITH UTILITY, LANDOWNER, AND OTHER STAKEHOLDER COORDINATION. SITE SPECIFIC LAYOUTS WILL BE DEVELOPED DURING MORE DETAILED DESIGN AND COORDINATED WITH OPERATIONS AND MAINTENANCE PLAN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
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Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
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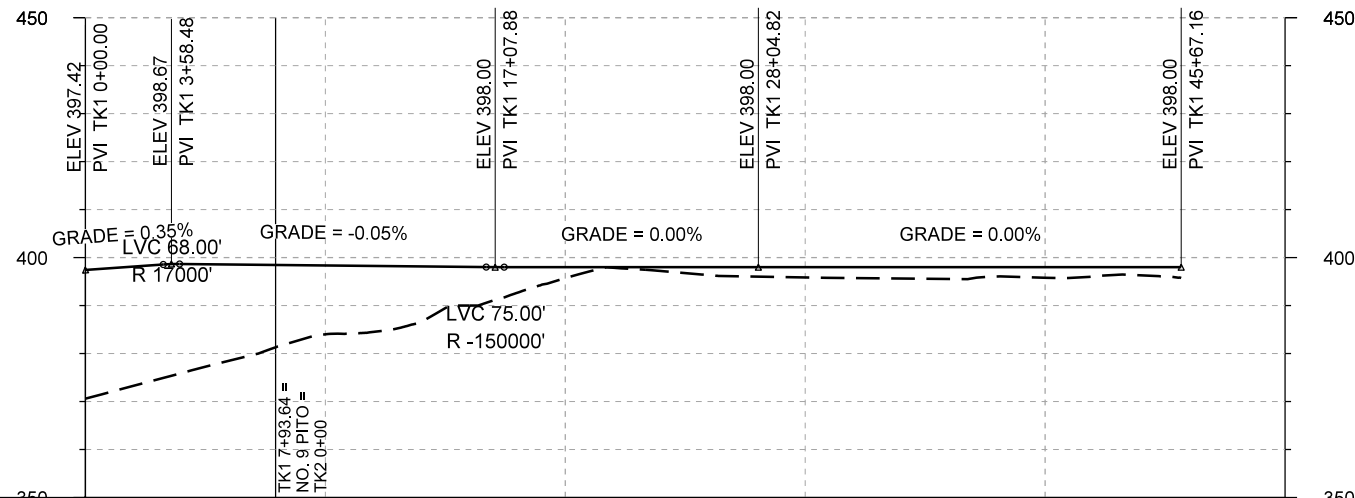
2711 North Haskell Ave., Suite 3300
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

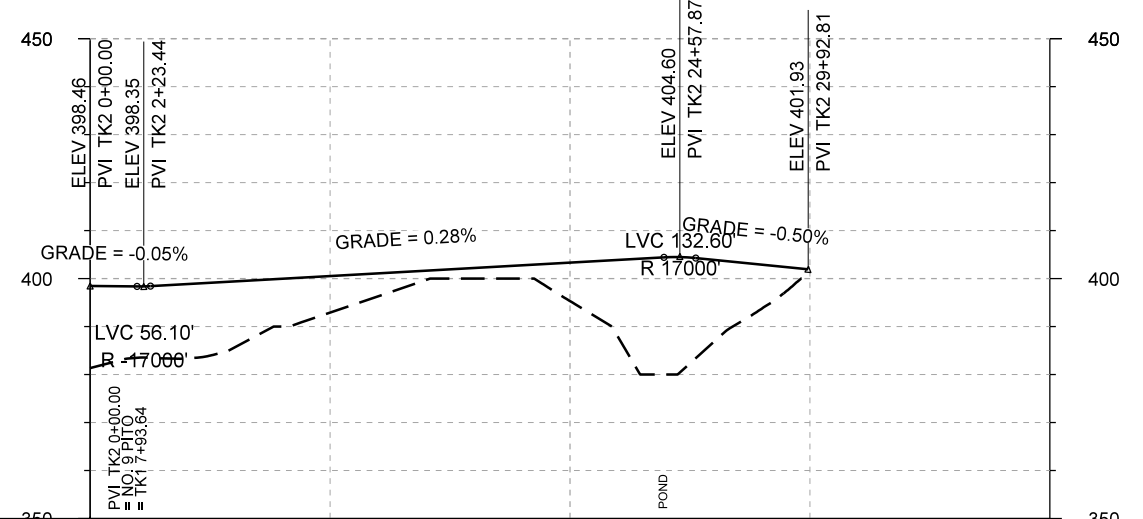
Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-2
LAYOUT**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-WT-04020	Rev 01



STATIONING	TK1 0+00	TK1 20+00	TK1 40+00	TK1 50+00						
HOR. ALIGNMENT	L=65 L=368 R=17000 G=0.35%	L=106 L=134 L=580 R=150000 G=-0.05%	L=396 L=1059.44 G=0.000%	L=1762 L=1762.34 G=0.000%						
VER. ALIGNMENT	L=324.48 R=17000 G=0.35%	L=1277.89 R=150000 G=-0.050%	L=935 R=660 L=1059.44 G=0.000%	L=1762.34 R=17000 L=1762 G=0.000%						
CUT AND FILL	+26.8	+21.3	+14.4	+8.6	+2.3	+1.2	+2.1	+2.4	+2.2	+1.9
TYP. SECTION										

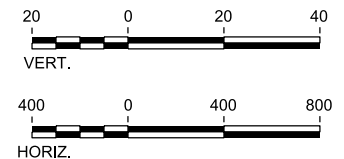
TRACK 1 PROFILE
SOUTH MAINLINE CONNECTION INTO MOW YARD



STATIONING	TK2 0+00	TK2 20+00	TK2 40+00			
HOR. ALIGNMENT	L=2209	SR=5000 L=356	L=248=65			
VER. ALIGNMENT	R=17000 L=196.39 G=-0.050%	L=2140.08 G=0.280%	R=17000 L=468.64 G=-0.500%			
CUT AND FILL	+17.2	+15.2	+7.6	+1.9	+8.0	+22.1
TYP. SECTION						

TRACK 2 PROFILE
TURNOUT FROM MOW TO NORTH MAINLINE CONNECTION

- NOTES:
- SEE SHEET MNT-00-02002 FOR MOW NOTES.
 - SEE SHEET MNT-WT-04020 FOR LAYOUT.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE AND NICHOLS

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Dallas, Texas 75204
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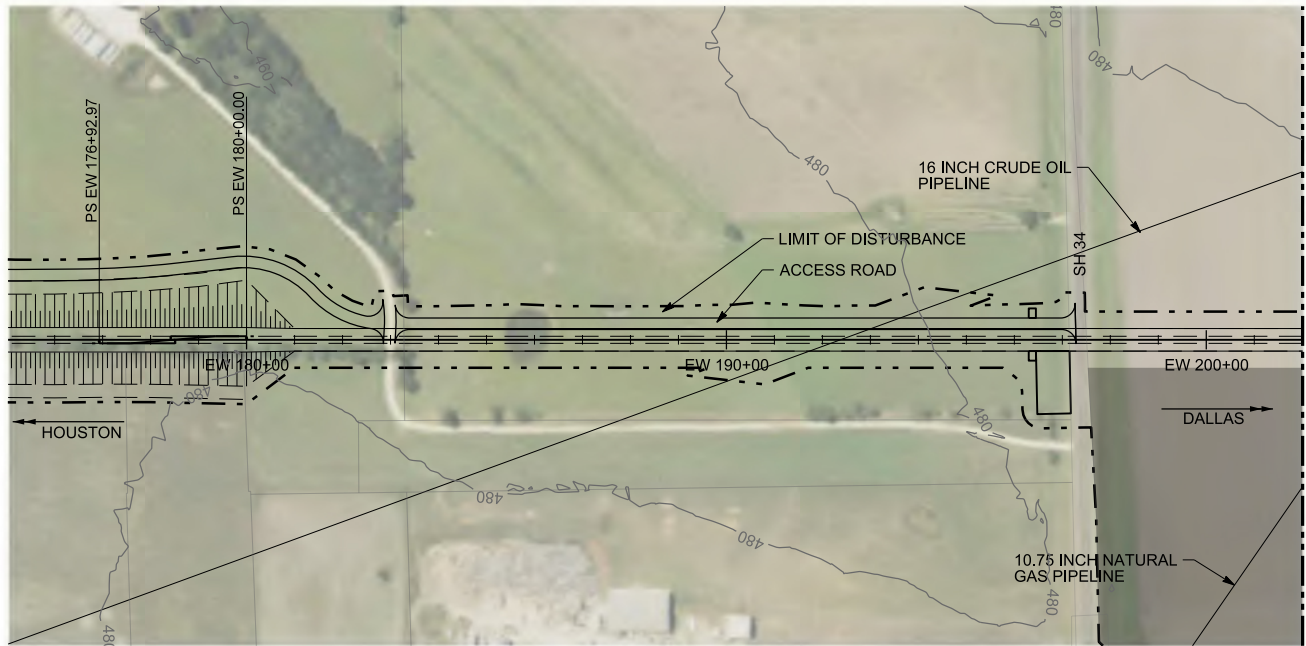
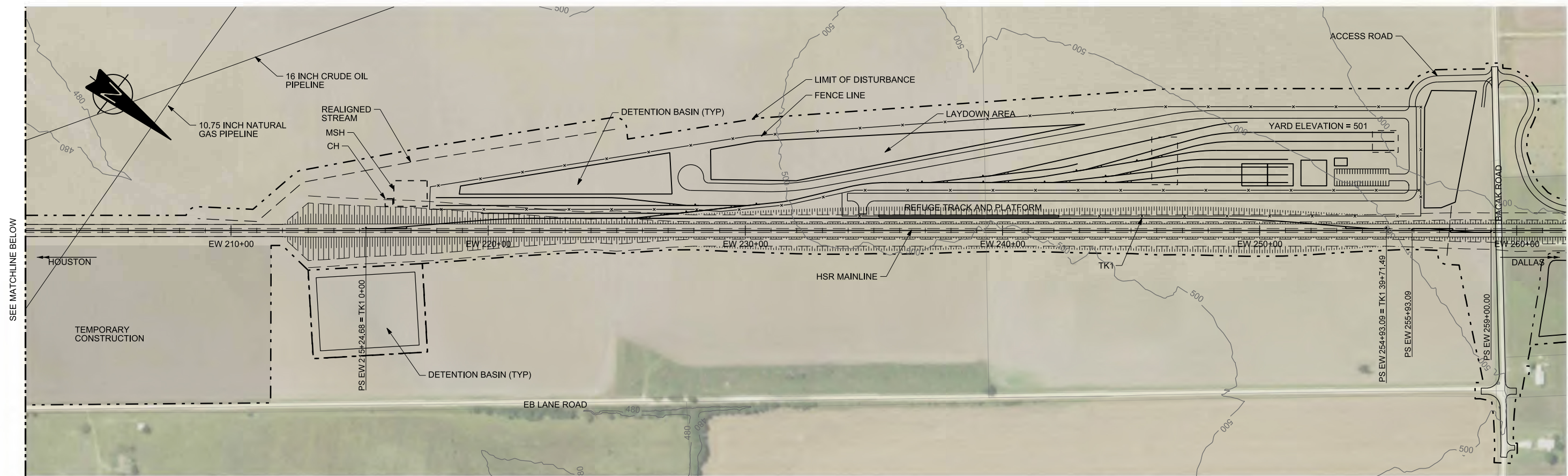
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-2
PROFILE**

Scale AS SHOWN	Drawing Status FINAL
Job No 234180	Drawing No MNT-WT-04021
	Rev 01



- NOTES:
- SEE SHEET MNT-00-02002 FOR MOW NOTES.
 - SEE SHEET MNT-EW-04037 FOR PROFILE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

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T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
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Texas Registered Engineering Firm: F-1990

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Dallas, Texas 75204
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

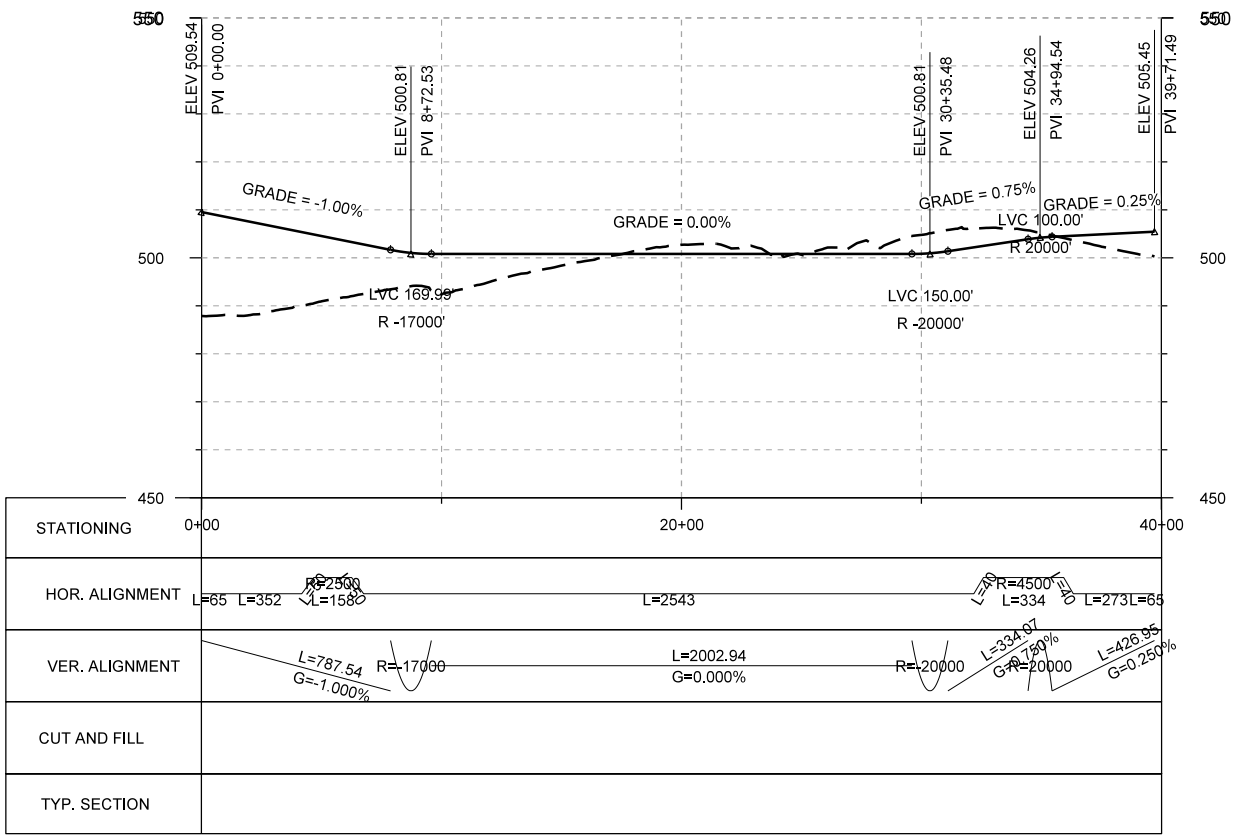
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY EW-1
LAYOUT**

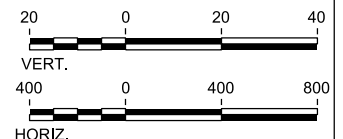
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-EW-04036	Rev 01
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- NOTES:
- SEE SHEET MNT-00-02002 FOR MOW NOTES.
 - SEE SHEET MNT-EW-04036 FOR LAYOUT.
 - PROFILE SHOWN FOR REFUGE TRACK.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

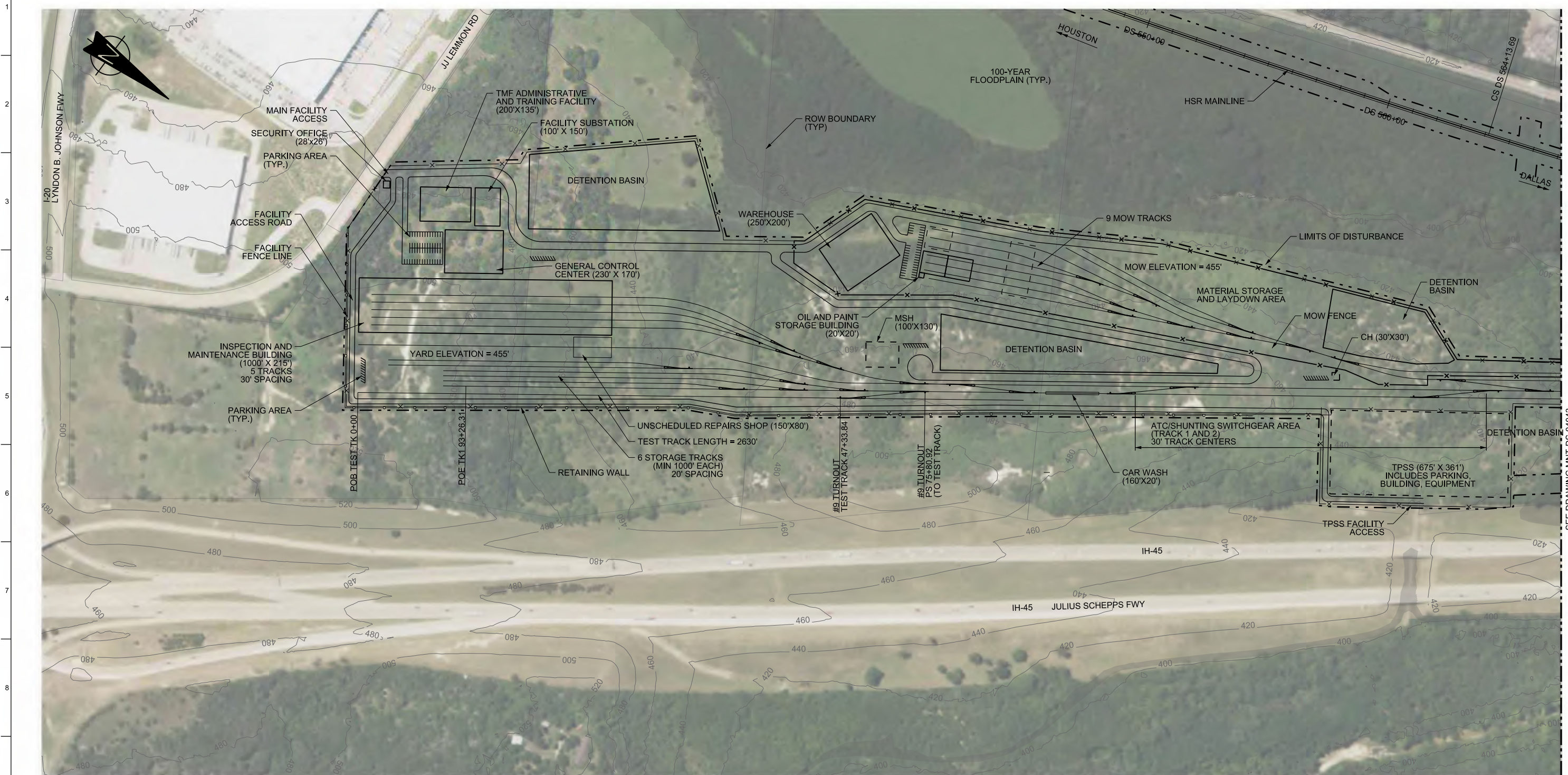
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY EW-1
PROFILE**

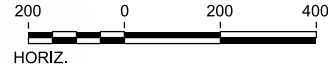
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-EW-04037	Rev 01
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- NOTES:
- HSR MAINLINE ALIGNMENT AND STATIONING SHOWN FOR DALLAS SEGMENT.
 - SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'). STORAGE YARD TRACK SPACING IF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
 - TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY ON MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
 - CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
 - NO. 16 TURNOUTS USED FOR FLAT JUNCTION AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
 - IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW.
 - INSPECTION TRACKS IN SHOP INCLUDE PIT FOR UNDERCAR INSPECTION. FLOOR LEVEL ACCESS, AND ROOF LEVEL ACCESS.
 - TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF, INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS.
 - SEE SHEET MNT-DS-04044 FOR TRACK 1 PROFILE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Arup Texas, Inc.
10370 Richmond Ave., Suite 475
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Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

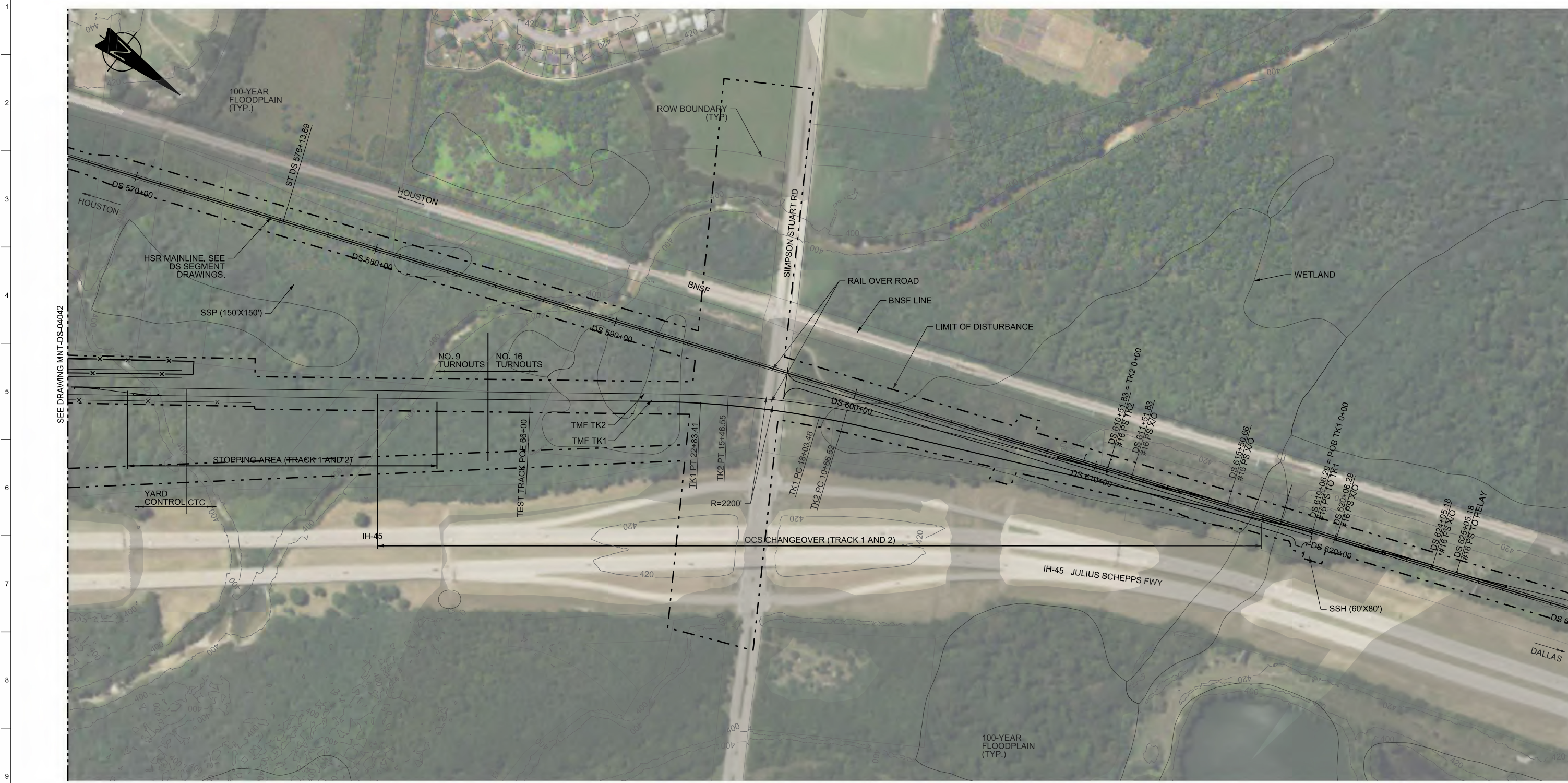
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS TMF
SHEET 1 OF 2**

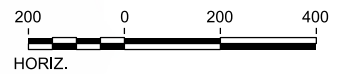
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No MNT-DS-04042	Rev
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- NOTES:
- SEE SHEET MNT-DS-04042 FOR ADDITIONAL NOTES.
 - ATC/SHUNTING SWITCHOVER REQUIRED TO SUPPORT CHANGE TO SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000'.
 - OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.



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IN CHARGE
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DATE
2/25/2019

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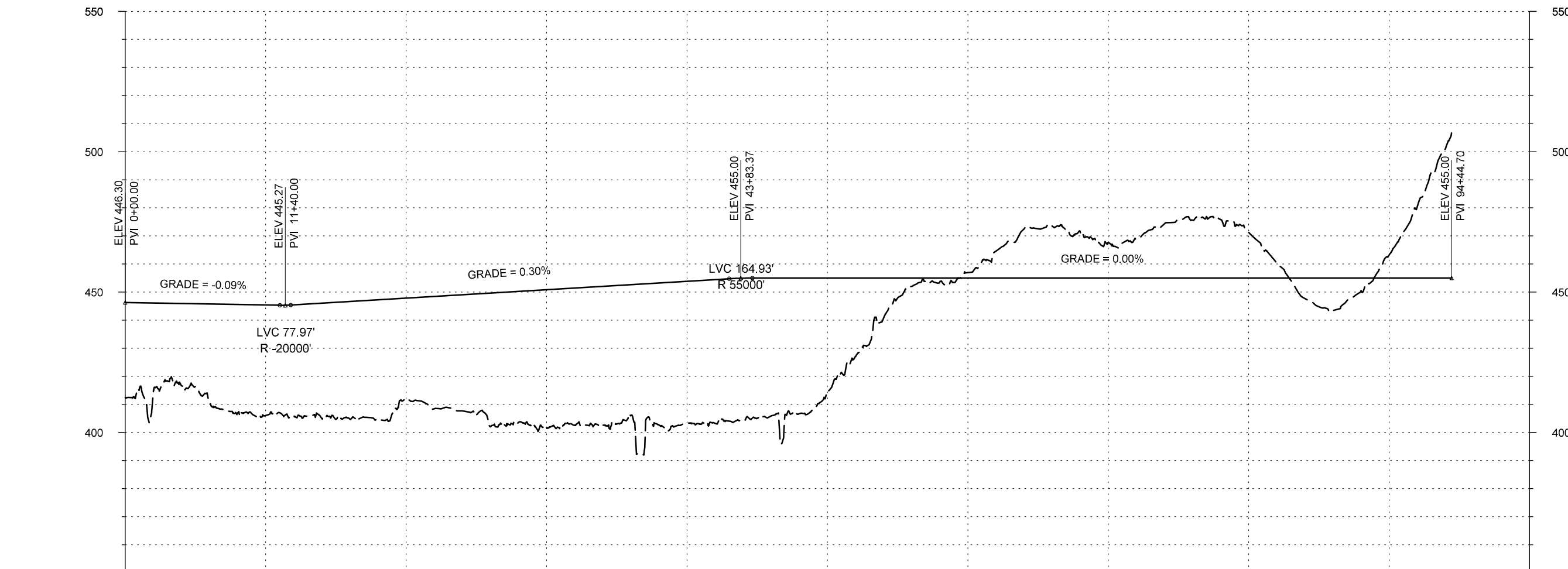
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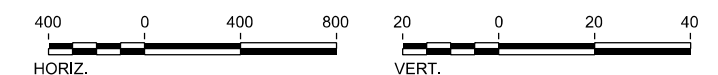
Drawing Title
**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS TMF
SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No MNT-DS-04043	Rev



STATIONING	0+00	20+00	40+00	60+00	80+00	100+00														
HOR. ALIGNMENT	L=81	L=1658	L=170 R=4000 L=170	L=6662																
VER. ALIGNMENT		L=1101.02 R=20000 G=-0.090%	L=703	L=3121.91 G=0.300%	R=55000	L=4978.87 G=0.000%														
CUT AND FILL	+33.8	+29.6	+39.4	+41.7	+35.7	+43.1	+49.0	+49.3	+50.6	+49.9	+40.5	+7.0	-1.9	-17.5	-12.7	-20.5	-16.2	+10.3	-8.3	
TYP. SECTION																				

- NOTES: 1. SEE MNT-DS-04042 AND MNT-DS-04043 FOR PLAN & NOTES.
 2. PROFILE SHOWN IS FOR THE OUTER TRACK (TMF TRACK 1) TO THE STORAGE TRACK FARTHEST FROM MAIN LINE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. ZWIEBEL
 DRAWN BY
C. ZWIEBEL
 CHECKED BY
T. WAGNER
 IN CHARGE
C. TAYLOR
 DATE
2/25/2019

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freesse.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 MAINTENANCE FACILITIES
 DALLAS TMF
 PROFILE**

Scale
 AS SHOWN
 Drawing Status
FINAL
 Job No
 234180
 Drawing No
 MNT-DS-04044
 Rev

3A-3

RAILWAY FACILITIES

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

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FINAL CONCEPTUAL ENGINEERING



TEXAS CENTRAL

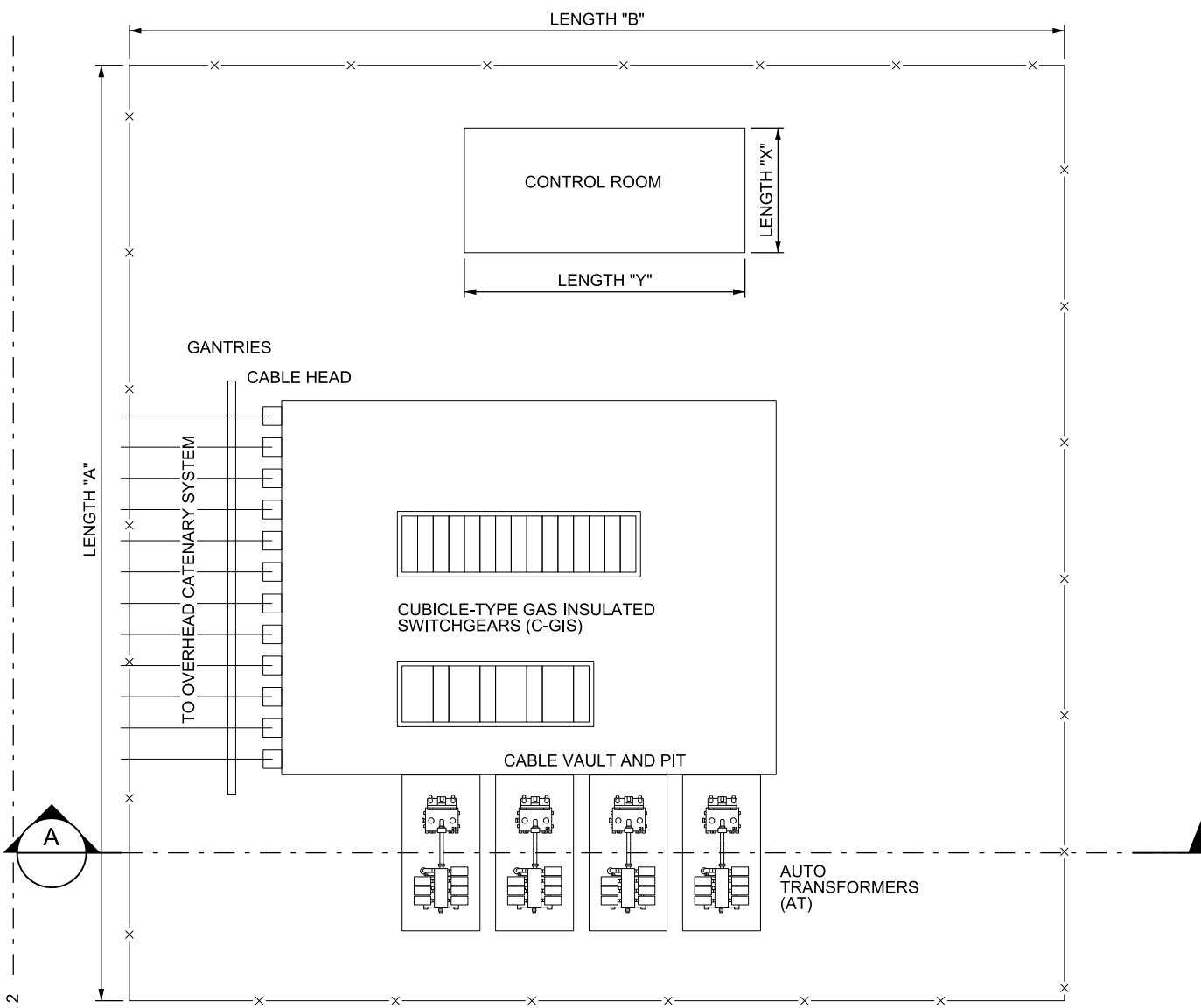
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL

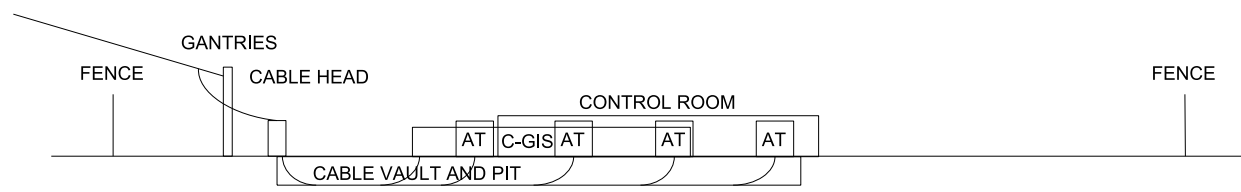
Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01

NOTES:

1. TYPICAL ARRANGEMENT OF SECTIONING POST/SUB-SECTIONING POST/AUTO TRANSFORMER POST SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES.
2. SITE SPECIFIC CONSTRAINTS AT EACH LOCATION WILL INFLUENCE EQUIPMENT ARRANGEMENTS DEPENDING ON THE AMOUNT OF EQUIPMENT REQUIRED AT EACH LOCATION.
3. POWER SUPPLY NEEDS AND ASSOCIATED INFRASTRUCTURE REQUIREMENTS AT EACH LOCATION WILL BE DETERMINED THROUGH DETAILED OPERATIONAL AND TRACTION POWER DEMAND ANALYSES.
4. COMMUNICATION HOUSES AND ASSOCIATED RADIO TOWER MAY BE INTEGRATED INTO TRACTION POWER FACILITIES WHERE PRACTICABLE TO MINIMIZE ROW REQUIREMENTS AND IMPACTS. SEE DRAWING SYS-00-01002 FOR COMMUNICATIONS FACILITIES LAYOUTS.
5. ACCESS ROAD LOCATION RELATIVE TO SITE ARRANGEMENTS VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR LOCATIONS AND ASSOCIATED LIMIT OF DISTURBANCE.



POWER FACILITIES ADJACENT TO ROW



ELEVATION A-A

POWER FACILITIES ADJACENT TO ROW					
FACILITY NAME	TLA	CONTROL ROOM		YARD	
		X (FT)	Y (FT)	A (FT)	B (FT)
AUTO TRANSFORMER POST	ATP	27	60	130	150
SECTIONING POST	SP	27	60	200	200
SUB-SECTIONING POST	SSP	27	60	150	150

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. SMITH

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
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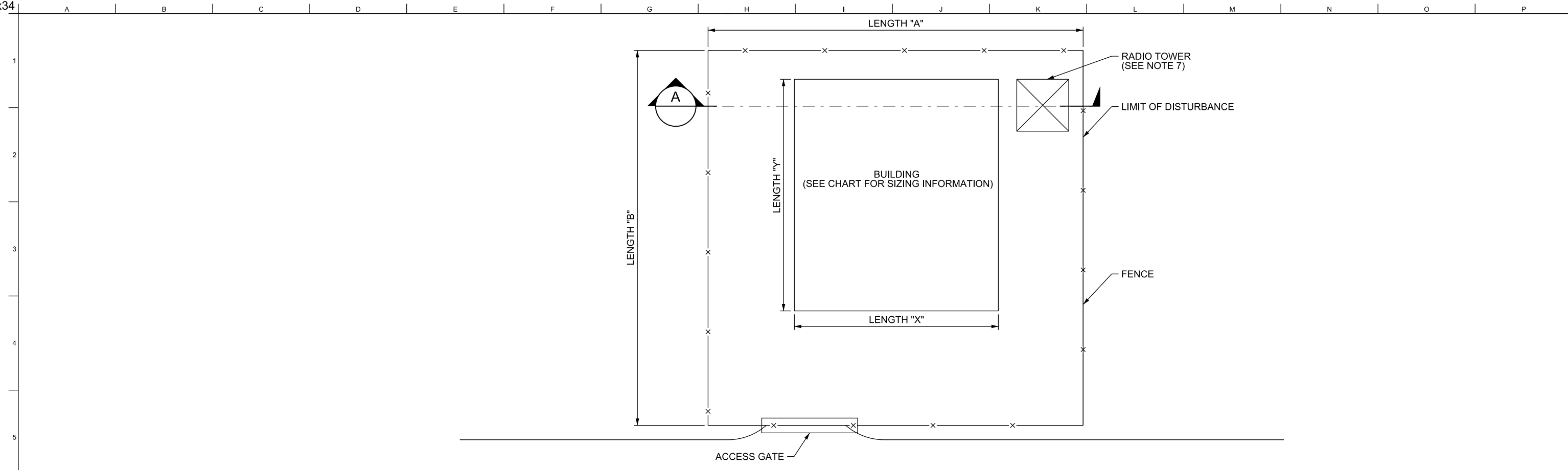
FREESSE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freesse.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HN, WT, NW, EW, DS
 RAILWAY FACILITIES
 SP, SSP, ATP
 TYPICAL LAYOUT PLAN**

Scale NOT TO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No SYS-00-01001	Rev 01

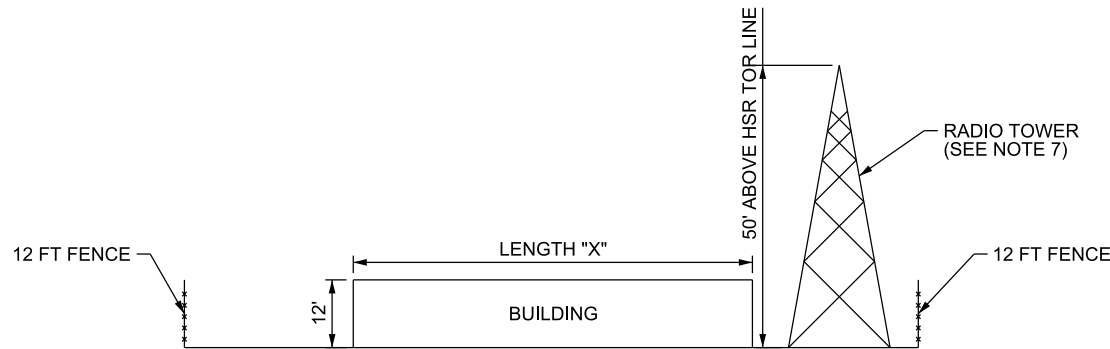


NOTES:

1. TYPICAL ARRANGEMENT OF SIGNALING AND COMMUNICATIONS FACILITIES SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES.
2. SITE SPECIFIC CONSTRAINTS AT EACH LOCATION WILL INFLUENCE EQUIPMENT ARRANGEMENTS DEPENDING ON THE COMPLEXITY OF THE TRACK LOCATION BEING CONTROLLED AND THE AMOUNT OF EQUIPMENT REQUIRED AT EACH LOCATION.
3. SIGNALING AND COMMUNICATIONS NEEDS AND ASSOCIATED INFRASTRUCTURE REQUIREMENTS AT EACH LOCATION WILL BE DETERMINED THROUGH DETAILED SYSTEM ANALYSES DURING MORE ADVANCED DESIGN.
4. COMMUNICATION HOUSES AND ASSOCIATED RADIO TOWER MAY BE INTEGRATED INTO SIGNALING FACILITIES WHERE PRACTICABLE TO MINIMIZE ROW REQUIREMENTS AND IMPACTS.
5. ACCESS ROAD LOCATION RELATIVE TO SITE ARRANGEMENTS VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR LOCATIONS AND ASSOCIATED LIMIT OF DISTURBANCE.
6. THESE FACILITIES WILL BE LOCATED CLOSE TO THE ROW TO SUPPORT CONNECTIONS TO THE TRACK AND TO FACILITATE RADIO COMMUNICATIONS WITH CONTROL SYSTEMS WITHIN THE TRAIN AND MAINTENANCE CREWS ALONG THE ROW. SEE PLAN AND PROFILE DRAWINGS FOR LOCATIONS AND ASSOCIATED LIMIT OF DISTURBANCE.
7. RADIO ANTENNA SHALL BE LOCATED ONLY IF FACILITY IS A COMMUNICATION HOUSE.

SIGNALING AND COMMUNICATIONS FACILITIES ADJACENT TO ROW

SIGNALING AND COMMUNICATIONS FACILITIES ADJACENT TO ROW					
FACILITY NAME	TLA	BUILDING		YARD	
		X (FT)	Y (FT)	A (FT)	B (FT)
COMMUNICATION HOUSE	CH	16	16	30	30
SUB-SIGNAL HOUSE	SSH	50	50	60	80
MAIN SIGNAL HOUSE	MSH	100	43	130	100
INTERMEDIATE SIGNAL HOUSE	ISH	66	46	100	115



ELEVATION A-A

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY J. HAMMOND
DRAWN BY C. ZWIEBEL
CHECKED BY T. SMITH
IN CHARGE C. TAYLOR
DATE 2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

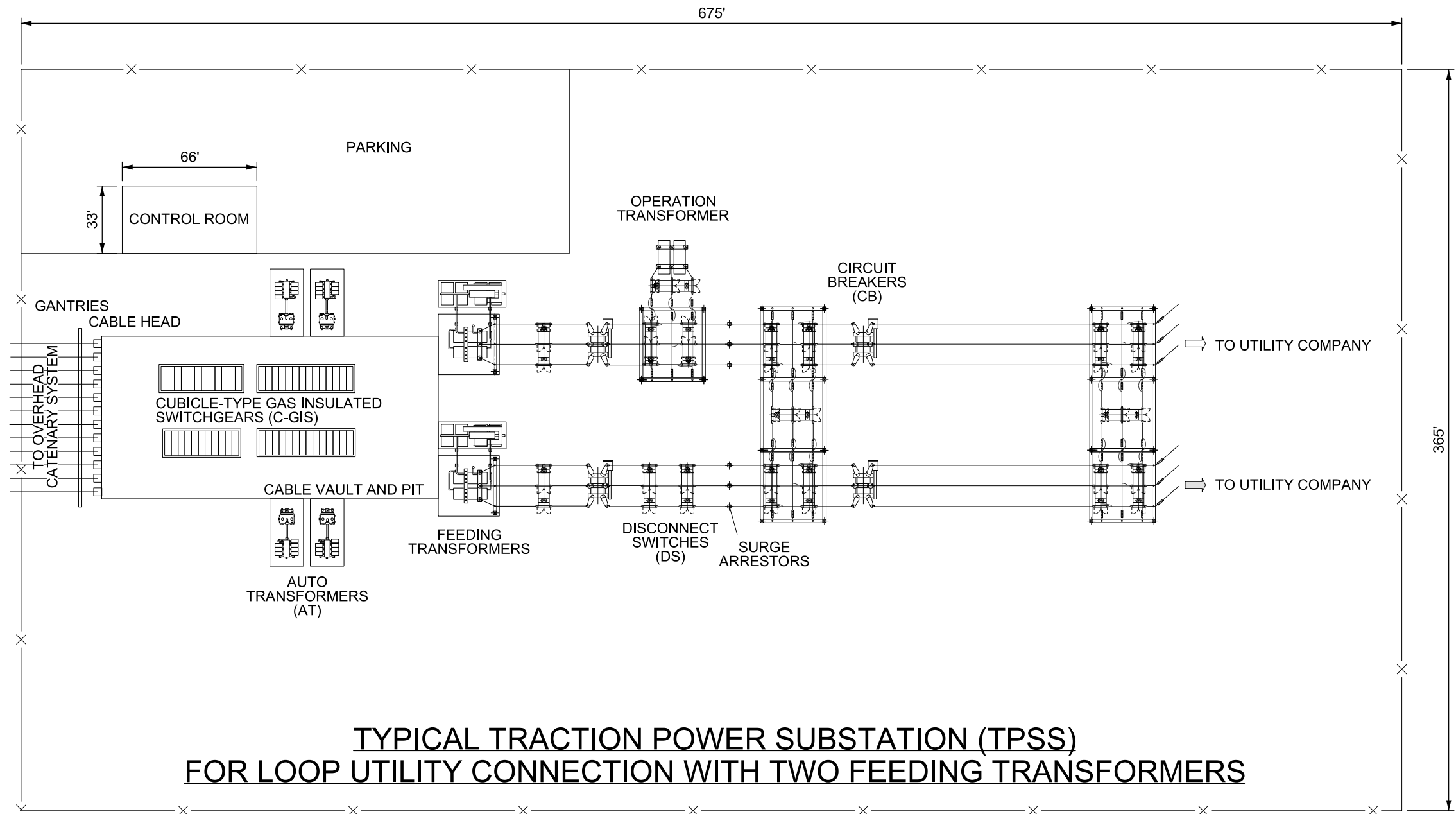
HN, WT, NW, EW, DS
RAILWAY FACILITIES
MSH, SSH, ISH, CH
TYPICAL LAYOUT PLAN

Scale
NOT TO SCALE

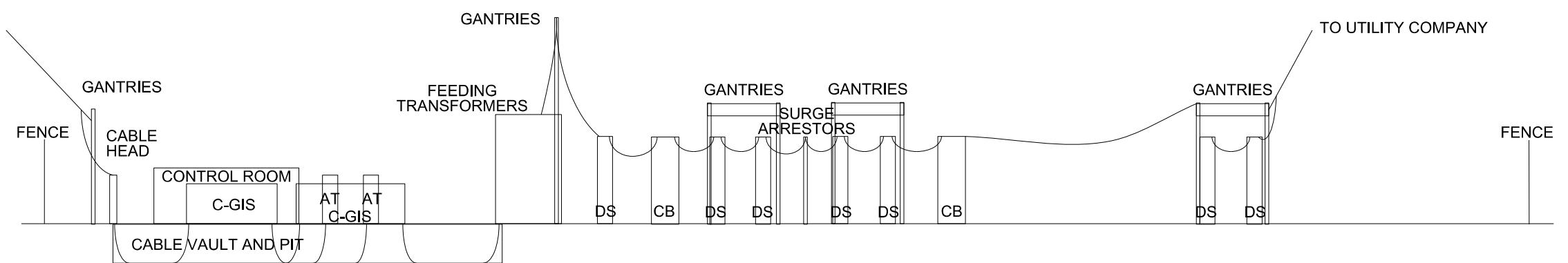
Drawing Status FINAL		
Job No 234180	Drawing No SYS-00-01002	Rev 01

NOTES:

1. TYPICAL ARRANGEMENT OF TRACTION POWER SUBSTATION SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES. ARRANGEMENT SHOWN INCLUDES ALLOWANCE FOR UTILITY SUBSTATIONS, REQUIRED TRACTION POWER DISTRIBUTION EQUIPMENT, PARKING, ADEQUATE WORK AREA FOR MAINTENANCE AND STAGING OF EQUIPMENT INSIDE FENCE, AND GENERAL SITE GRADING AND IMPROVEMENTS.
2. POWER SUPPLY NEEDS AND ASSOCIATED INFRASTRUCTURE REQUIREMENTS AT EACH LOCATION WILL BE DETERMINED THROUGH DETAILED OPERATIONAL AND TRACTION POWER DEMAND ANALYSES.
3. SITE SPECIFIC CONSTRAINTS AND EQUIPMENT REQUIRED AT EACH LOCATION WILL INFLUENCE EQUIPMENT ARRANGEMENTS AND SITE CONFIGURATION. SITE SPECIFIC DESIGN FOR EACH LOCATION WOULD BE ADVANCED DURING MORE DETAILED DESIGN IN COORDINATION WITH UTILITY TO OPTIMIZE LAYOUT AND MINIMIZE IMPACTS.
4. COMMUNICATION HOUSES AND ASSOCIATED RADIO TOWER MAY BE INTEGRATED INTO TPSS FACILITIES WHERE PRACTICABLE TO MINIMIZE ROW REQUIREMENTS AND IMPACTS. SEE DRAWING SYS-00-01002 FOR COMMUNICATIONS FACILITIES LAYOUTS.
5. ACCESS ROAD LOCATION RELATIVE TO SITE ARRANGEMENTS VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR LOCATIONS AND ASSOCIATED LIMIT OF DISTURBANCE.
6. ORIENTATION OF EXISTING UTILITY SERVICES RELATIVE TO SUBSTATION VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR TRANSMISSION LINE CONNECTIONS. FINAL CONFIGURATION WILL BE DETERMINED BY UTILITY.
7. TPSS-HN-2, TPSS-HN-4, TPSS-HN-6, AND TPSS-DS-3 WOULD HAVE 200FT WIDE LOOP CONNECTIONS. OTHER TPSS WOULD HAVE 100FT WIDE RADIAL CONNECTIONS.
8. BASED ON PRELIMINARY DESIGN, THERE WILL BE
 A. 546KG OF SF6 GAS WITHIN THE C-GIS PANELS FOR EACH TPSS. THE ANNUAL LEAKAGE RATE WILL BE NO MORE THAN 0.5%.
 B. 40KG OF SF6 GAS WITHIN EACH 138KV BREAKERS. THE ANNUAL LEAKAGE RATE WILL BE NO MORE THAN 1%. FOR ALTERNATIVE ALIGNMENT A:
 -TWO (2) WITH FOUR (4) 138KV BREAKERS EACH
 -ONE (1) WITH THREE (3) 138KV BREAKERS
 -TWO (2) WITH TWO (2) 138KV BREAKERS EACH
 -NINE (9) WITH ONE (1) 138KV BREAKERS EACH



**TYPICAL TRACTION POWER SUBSTATION (TPSS)
 FOR LOOP UTILITY CONNECTION WITH TWO FEEDING TRANSFORMERS**



ELEVATION A-A



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
J. GAIBORT

CHECKED BY
T. SMITH

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING



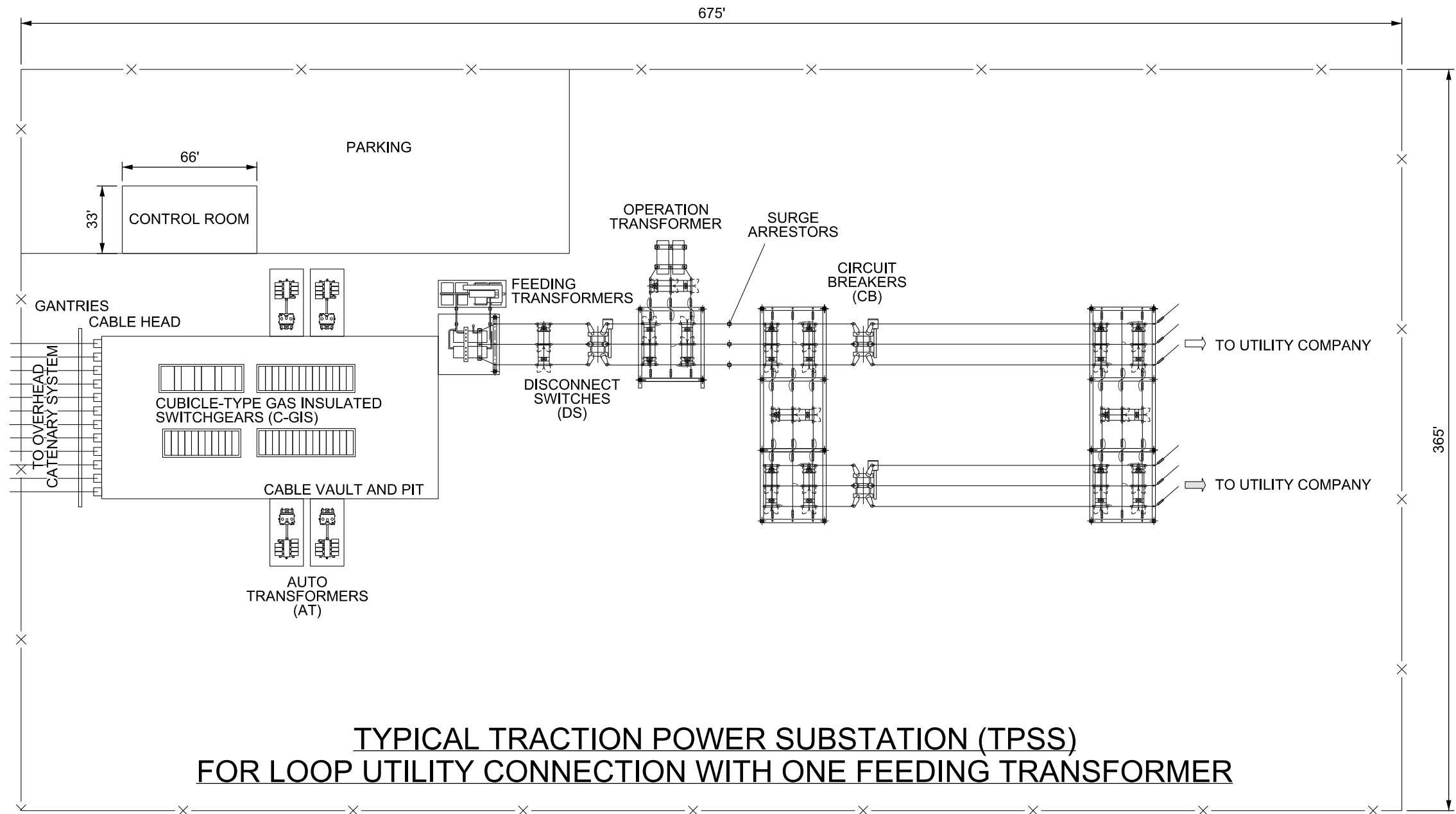
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HN, WT, NW, EW, DS
 RAILWAY FACILITIES
 TPSS LOOP 2FDR
 TYPICAL LAYOUT PLAN**

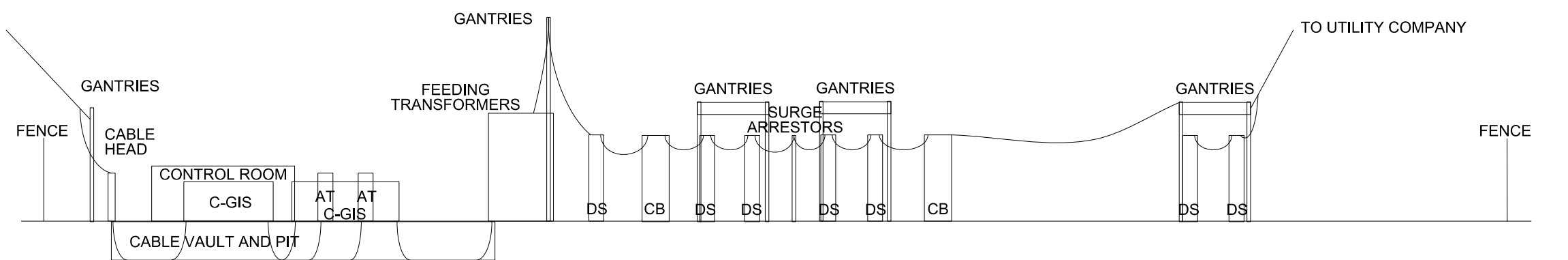
Scale AS SHOWN	Drawing Status FINAL	
Job No 234180	Drawing No SYS-00-01003	Rev 01

NOTES:

1. TYPICAL ARRANGEMENT OF TRACTION POWER SUBSTATION SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES. ARRANGEMENT SHOWN INCLUDES ALLOWANCE FOR UTILITY SUBSTATIONS, REQUIRED TRACTION POWER DISTRIBUTION EQUIPMENT, PARKING, ADEQUATE WORK AREA FOR MAINTENANCE AND STAGING OF EQUIPMENT INSIDE FENCE, AND GENERAL SITE GRADING AND IMPROVEMENTS.
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5. ACCESS ROAD LOCATION RELATIVE TO SITE ARRANGEMENTS VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR LOCATIONS AND ASSOCIATED LIMIT OF DISTURBANCE.
6. ORIENTATION OF EXISTING UTILITY SERVICES RELATIVE TO SUBSTATION VARIES BY LOCATION. SEE PLAN AND PROFILE DRAWINGS FOR TRANSMISSION LINE CONNECTIONS. FINAL CONFIGURATION WILL BE DETERMINED BY UTILITY.
7. TPSS-HN-2, TPSS-HN-4, TPSS-HN-6, AND TPSS-DS-3 WOULD HAVE 200FT WIDE LOOP CONNECTIONS. OTHER TPSS WOULD HAVE 100FT WIDE RADIAL CONNECTIONS.
8. BASED ON PRELIMINARY DESIGN, THERE WILL BE
 A. 546KG OF SF6 GAS WITHIN THE C-GIS PANELS FOR EACH TPSS. THE ANNUAL LEAKAGE RATE WILL BE NO MORE THAN 0.5%.
 B. 40KG OF SF6 GAS WITHIN EACH 138KV BREAKERS. THE ANNUAL LEAKAGE RATE WILL BE NO MORE THAN 0.5%.



**TYPICAL TRACTION POWER SUBSTATION (TPSS)
FOR LOOP UTILITY CONNECTION WITH ONE FEEDING TRANSFORMER**



ELEVATION A-A

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
J. GAIBORT

CHECKED BY
T. SMITH

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



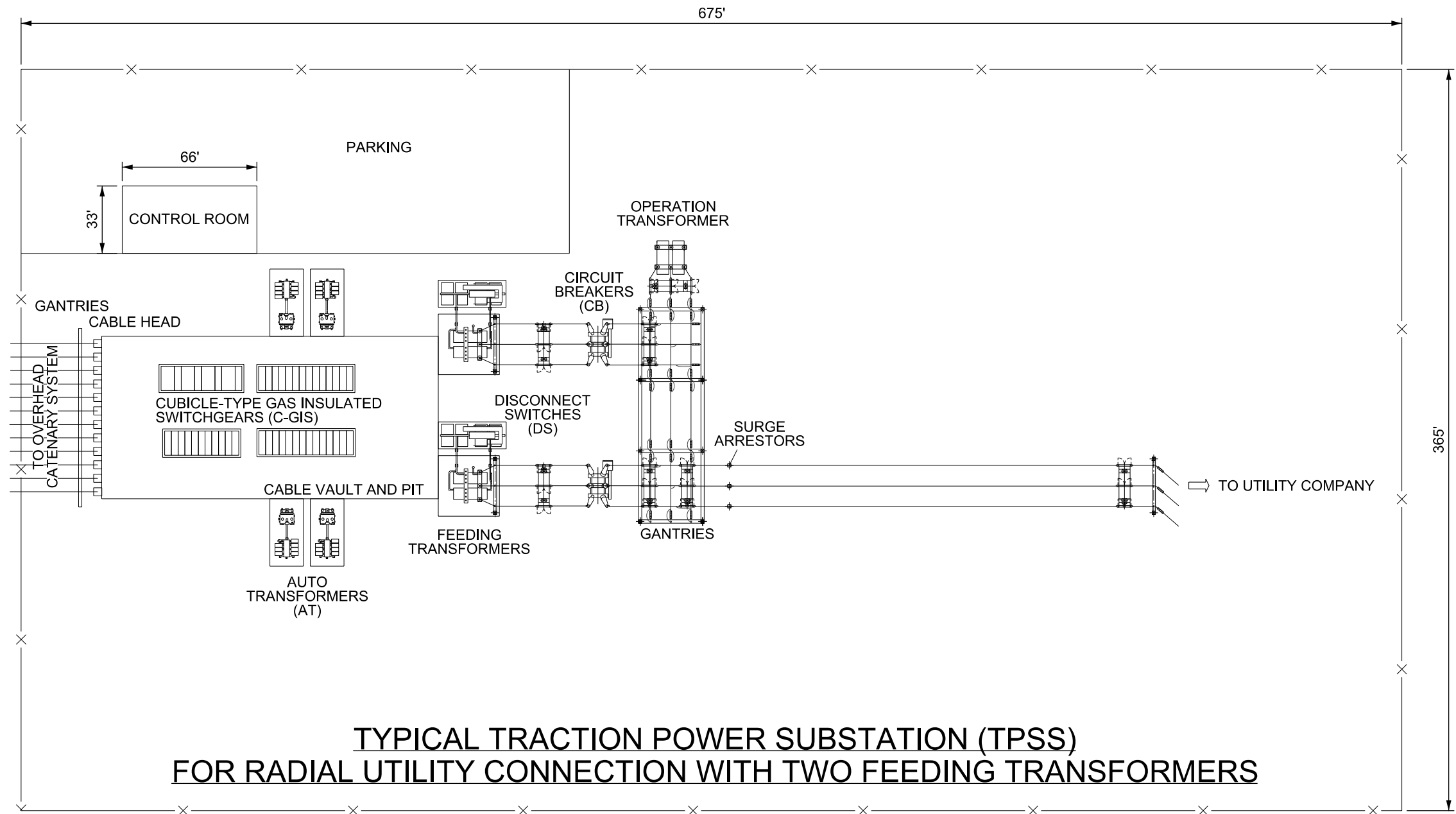
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HN, WT, NW, EW, DS
RAILWAY FACILITIES
TPSS LOOP 1FDR
TYPICAL LAYOUT PLAN**

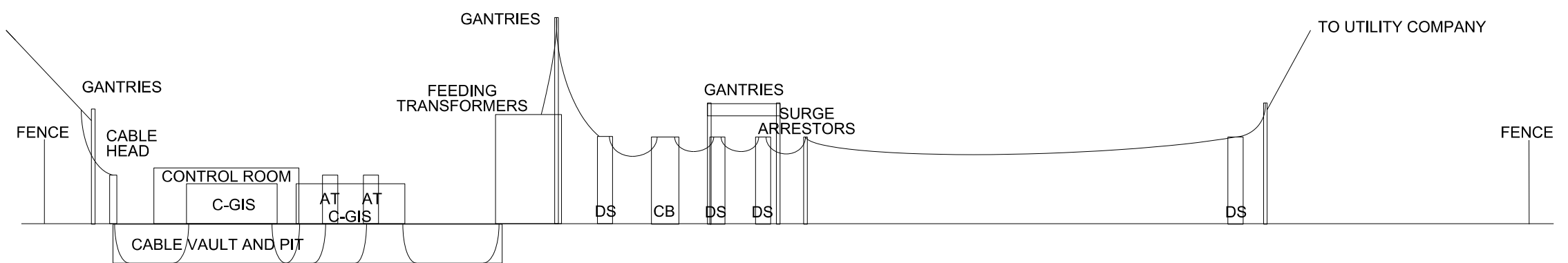
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Drawing Status FINAL		
Job No 234180	Drawing No SYS-00-01004	Rev 01

NOTES:

1. TYPICAL ARRANGEMENT OF TRACTION POWER SUBSTATION SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES. ARRANGEMENT SHOWN INCLUDES ALLOWANCE FOR UTILITY SUBSTATIONS, REQUIRED TRACTION POWER DISTRIBUTION EQUIPMENT, PARKING, ADEQUATE WORK AREA FOR MAINTENANCE AND STAGING OF EQUIPMENT INSIDE FENCE, AND GENERAL SITE GRADING AND IMPROVEMENTS.
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 -TWO (2) WITH FOUR (4) 138KV BREAKERS EACH
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**TYPICAL TRACTION POWER SUBSTATION (TPSS)
 FOR RADIAL UTILITY CONNECTION WITH TWO FEEDING TRANSFORMERS**



ELEVATION A-A



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
J. GAIBORT

CHECKED BY
T. SMITH

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
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 Dallas, Texas 75204
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING



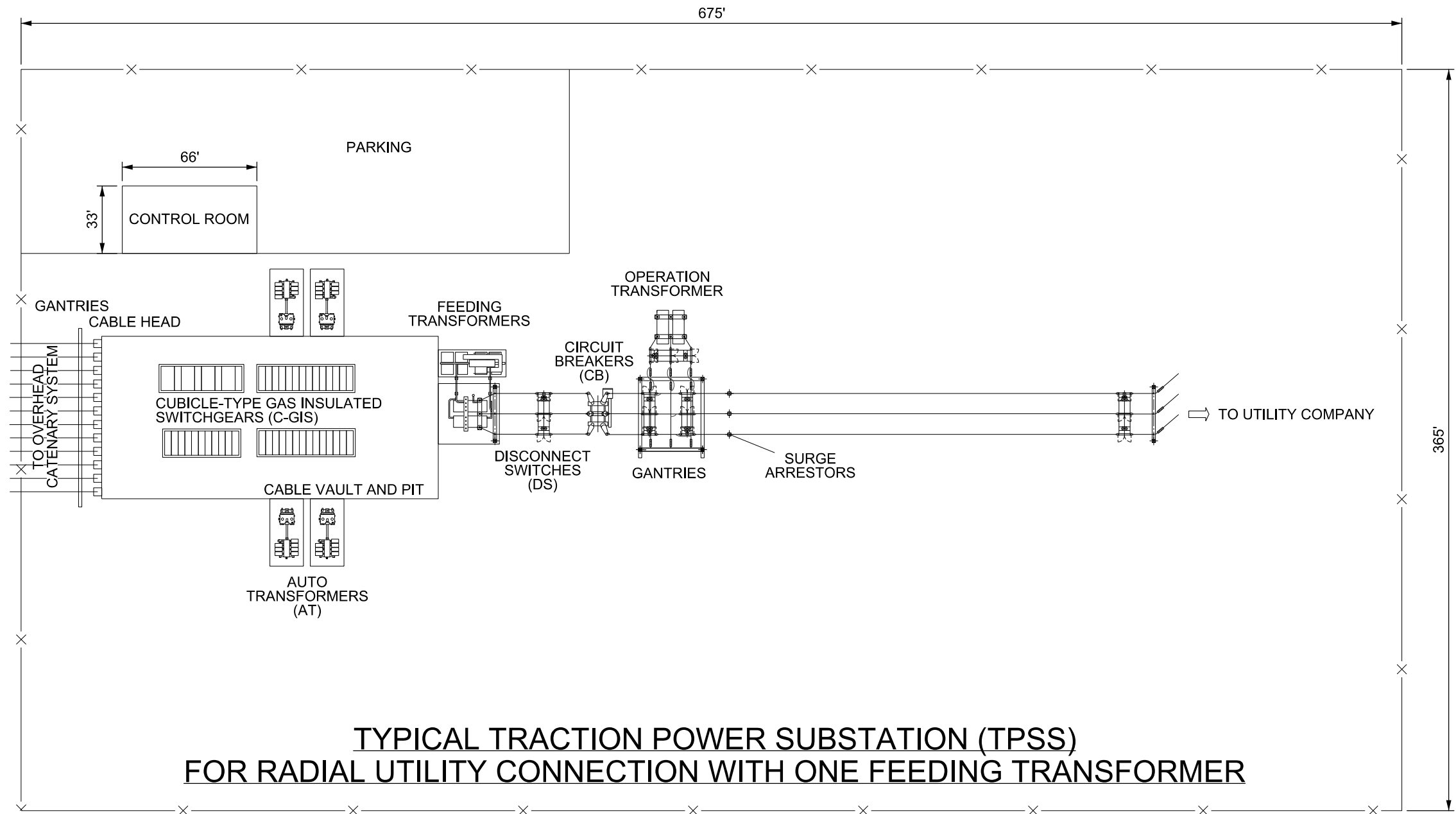
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HN, WT, NW, EW, DS
 RAILWAY FACILITIES
 TPSS RADIAL 2FDR
 TYPICAL LAYOUT PLAN**

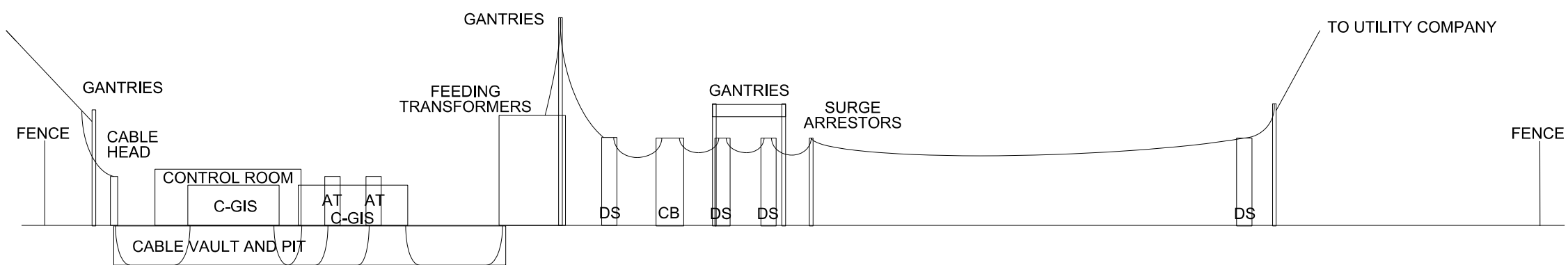
Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No SYS-00-01005	Rev 01

NOTES:

1. TYPICAL ARRANGEMENT OF TRACTION POWER SUBSTATION SHOWN FOR PURPOSES OF ENVIRONMENTAL IMPACT ANALYSES. ARRANGEMENT SHOWN INCLUDES ALLOWANCE FOR UTILITY SUBSTATIONS, REQUIRED TRACTION POWER DISTRIBUTION EQUIPMENT, PARKING, ADEQUATE WORK AREA FOR MAINTENANCE AND STAGING OF EQUIPMENT INSIDE FENCE, AND GENERAL SITE GRADING AND IMPROVEMENTS.
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 -TWO (2) WITH TWO (2) 138KV BREAKERS EACH
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**TYPICAL TRACTION POWER SUBSTATION (TPSS)
 FOR RADIAL UTILITY CONNECTION WITH ONE FEEDING TRANSFORMER**



ELEVATION A-A



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
J. GAIBORT

CHECKED BY
T. SMITH

IN CHARGE
C. TAYLOR

DATE
2/25/2019



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 Tel (214) 217 2200 Fax (214) 217 2201
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING



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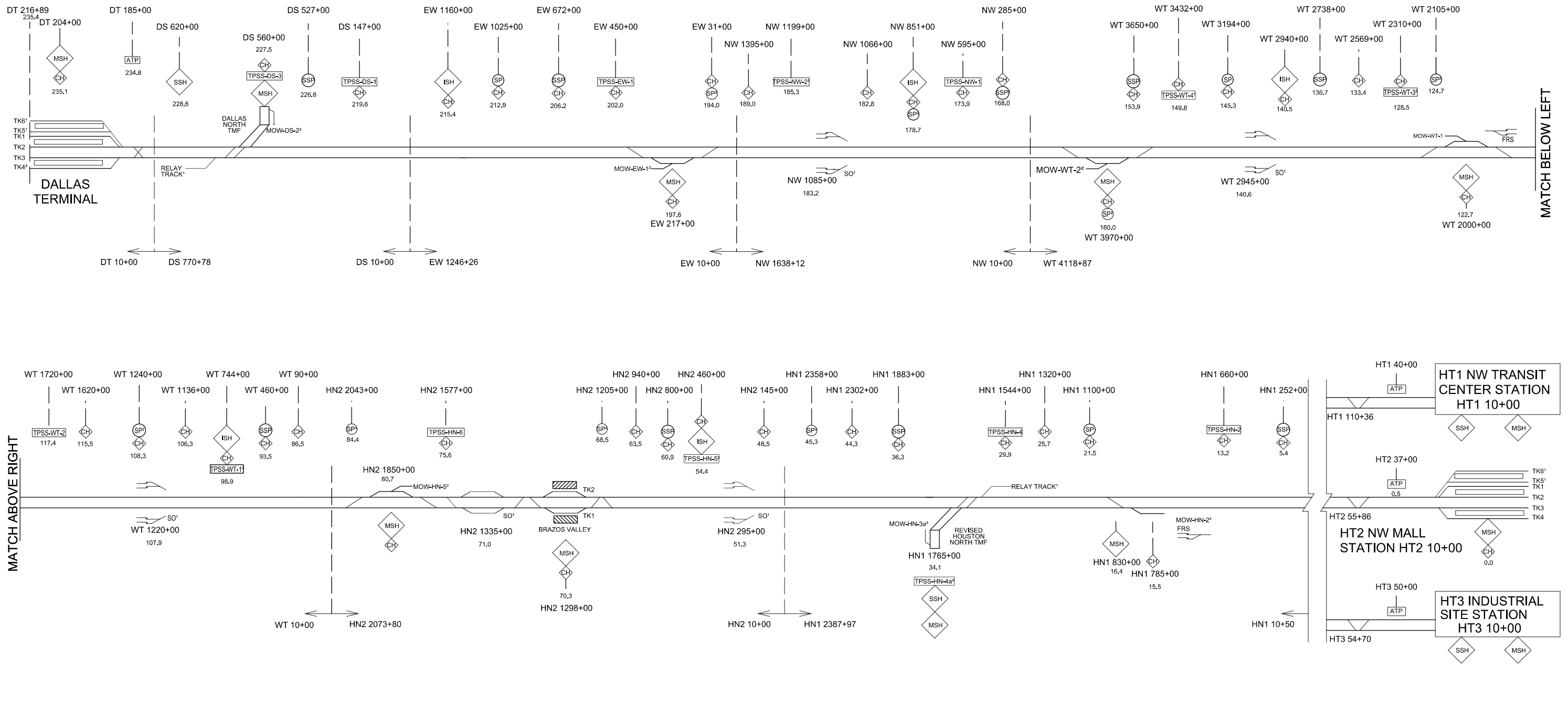
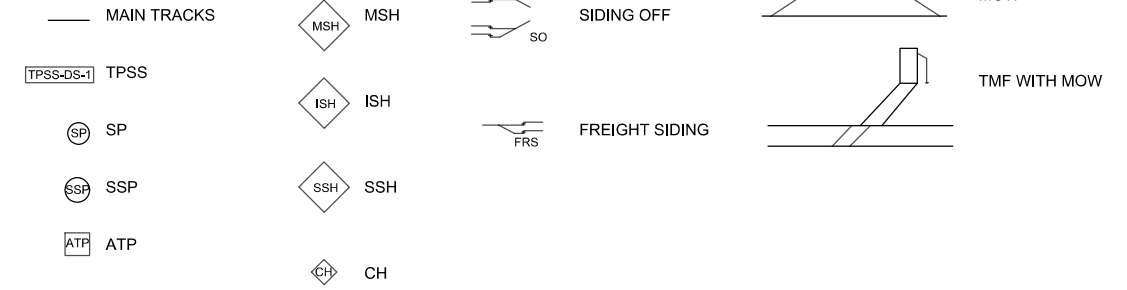
Drawing Title
**HN, WT, NW, EW, DS
 RAILWAY FACILITIES
 TPSS RADIAL 1FDR
 TYPICAL LAYOUT PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No SYS-00-01006	Rev 01

NOTES:

- 1. REFER TO GEN-00-0009 IN VOLUME 1A FOR DEFINITION OF ABBREVIATIONS
 - 2. SYSTEMS SCHEMATIC INCLUDES THREE STATION TERMINAL ALTERNATIVES IN HOUSTON (NORTHWEST TRANSIT CENTER, NORTHWEST MALL, AND INDUSTRIAL SITE) AND INCLUDES ONE TMF ALTERNATIVE LOCATION FOR BOTH HOUSTON AND DALLAS. ALL ALIGNMENT ALTERNATIVES WOULD USE THE SAME TMF SITES.
 - 3. MILE MARKERS INDICATE DISTANCE FROM HOUSTON TERMINAL. ALL MILE MARKERS ARE TAKEN FROM THE NW MALL TERMINAL SITE (HT2).
 - 4. SEE FCE REPORT FOR FULL LIST OF AND MORE INFORMATION ON SYSTEMS FACILITIES, INCLUDING COMMUNICATION HOUSES.
 - 5. SIDING DETAILS CAN BE FOUND ON SHEET MNT-00-02023 IN VOLUME 1A.
 - 6. SMALLER FACILITIES AT MOWS, TMFS, AND STATIONS ARE SHOWN AT THE MOW/TMF/STATION STATIONING IN THIS SCHEMATIC. MORE PRECISE STATIONING CAN BE FOUND ON SYS-00-30000.
 - 7. CO-LOCATED FACILITIES ARE SHOWN AT THE SAME STATIONING IN THIS SCHEMATIC. MORE PRECISE STATIONING CAN BE FOUND ON SYS-00-03000 FOR ALIGNMENT ALTERNATIVE, AND SYS-00-03010 FOR ALL OTHER ALIGNMENT ALTERNATIVES.
- ¹FACILITY WOULD BE FSL AND NOT IN ISL.
²FACILITY WOULD BE UPGRADED IN FSL.

LEGEND



MATCH ABOVE RIGHT

MATCH BELOW LEFT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL RAILWAY FACILITIES FACILITIES SPACING ALIGN ALT A FSL

Scale
NOT TO SCALE

Drawing Status
FINAL

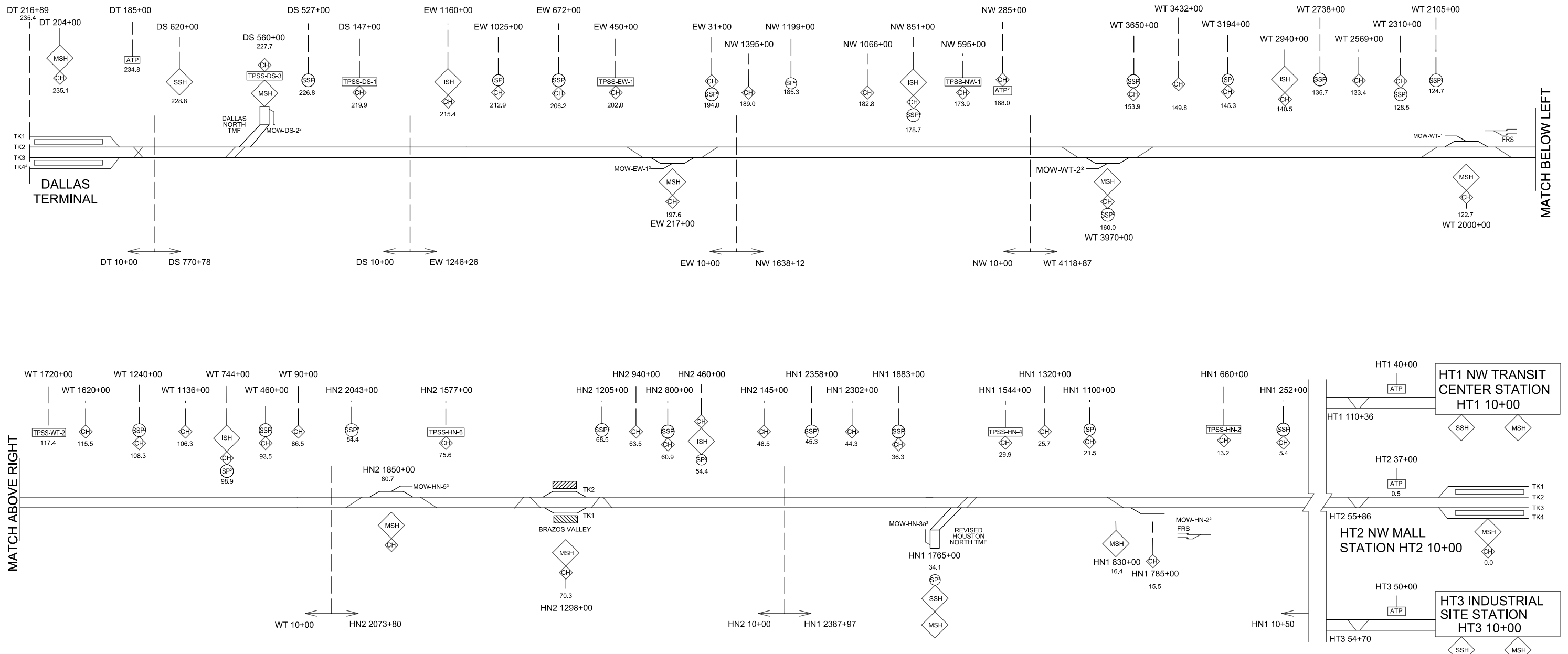
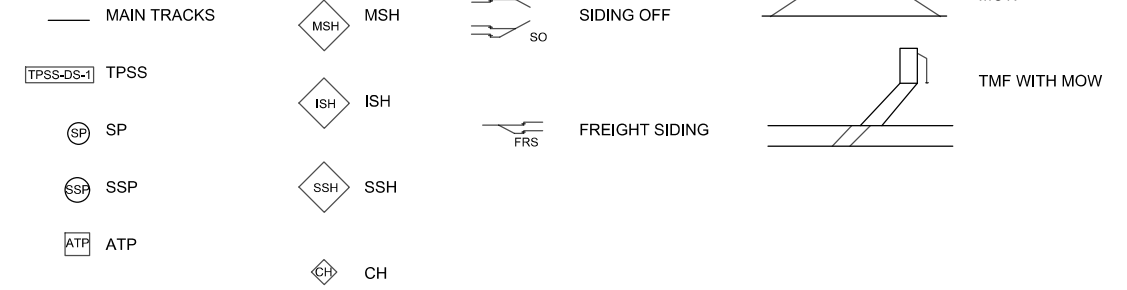
Job No 234180	Drawing No SYS-00-02000	Rev 01
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NOTES:

- 1. REFER TO GEN-00-0009 IN VOLUME 1A FOR DEFINITION OF ABBREVIATIONS
- 2. SYSTEMS SCHEMATIC INCLUDES THREE STATION TERMINAL ALTERNATIVES IN HOUSTON (NORTHWEST TRANSIT CENTER, NORTHWEST MALL, AND INDUSTRIAL SITE) AND INCLUDES ONE TMF ALTERNATIVE LOCATION FOR BOTH HOUSTON AND DALLAS. ALL ALIGNMENT ALTERNATIVES WOULD USE THE SAME TMF SITES.
- 3. MILE MARKERS INDICATE DISTANCE FROM HOUSTON TERMINAL. ALL MILE MARKERS ARE TAKEN FROM THE NW MALL TERMINAL SITE (HT2).
- 4. SEE FCE REPORT FOR FULL LIST OF AND MORE INFORMATION ON SYSTEMS FACILITIES, INCLUDING COMMUNICATION HOUSES.
- 5. SIDING DETAILS CAN BE FOUND ON SHEET MNT-00-02023 IN VOLUME 1A.
- 6. SMALLER FACILITIES AT MOWS, TMFS, AND STATIONS ARE SHOWN AT THE MOW/TMF/STATION STATIONING IN THIS SCHEMATIC. MORE PRECISE STATIONING CAN BE FOUND ON SYS-00-30000.
- 7. CO-LOCATED FACILITIES ARE SHOWN AT THE SAME STATIONING IN THIS SCHEMATIC. MORE PRECISE STATIONING CAN BE FOUND ON SYS-00-03000 FOR ALIGNMENT ALTERNATIVE, AND SYS-00-03010 FOR ALL OTHER ALIGNMENT ALTERNATIVES.

¹FACILITY WOULD BE FSL AND NOT IN ISL.
²FACILITY WOULD BE UPGRADED IN FSL.

LEGEND



MATCH ABOVE RIGHT

MATCH BELOW LEFT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. HAMMOND

DRAWN BY
C. ZWIEBEL

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
2/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREES & NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL RAILWAY FACILITIES FACILITY SPACING ALIGN ALT A ISL

Scale
NOT TO SCALE

Drawing Status
FINAL

Job No 234180	Drawing No SYS-00-02001	Rev 01
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Table with columns: SECTION, COUNTY, FACILITY TYPE, SYSTEMS FACILITY, APPROX. STATIONING, and ALIGNMENT ALTERNATIVES (A-F miles).

Table with columns: SECTION, COUNTY, FACILITY TYPE, SYSTEMS FACILITY, APPROX. STATIONING, and ALIGNMENT ALTERNATIVES (A-F miles).

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- NOTES:
1. SEE FCE REPORT FOR MORE INFORMATION ON SYSTEMS FACILITIES.
2. REFER TO GEN-00-0009 FOR DEFINITION OF ABBREVIATIONS
3. TABLE INCLUDES THREE STATION TERMINAL ALTERNATIVES IN HOUSTON (NORTH WEST TRANSIT CENTER, NORTHWEST MALL, AND INDUSTRIAL SITE).

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION.

DESIGNED BY J. HAMMOND
DRAWN BY C. ZWIEBEL
CHECKED BY C. TAYLOR
IN CHARGE C. TAYLOR
DATE 2/25/2019



Drawing Title: HT1, HT2, HT3, HN1, HN2, WT, NW, EW, DS, DT RAILWAY FACILITIES FACILITY LOCATIONS
Scale: NTS
Drawing Status: FINAL
Job No: 234180
Drawing No: SYS-00-03000
Rev: 01

3A-4

ROADWAY SYSTEMS

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

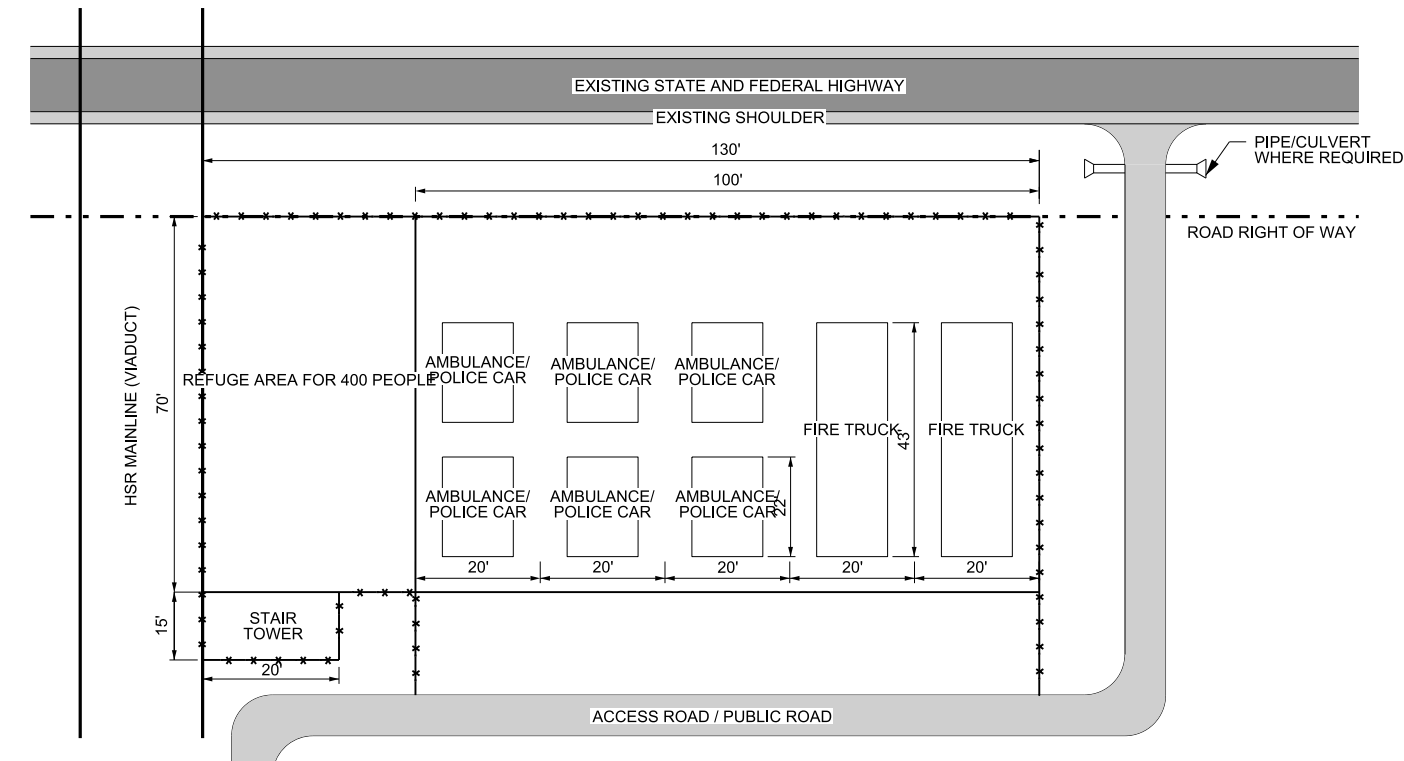
IN CHARGE
C. TAYLOR

DATE
2/25/2019

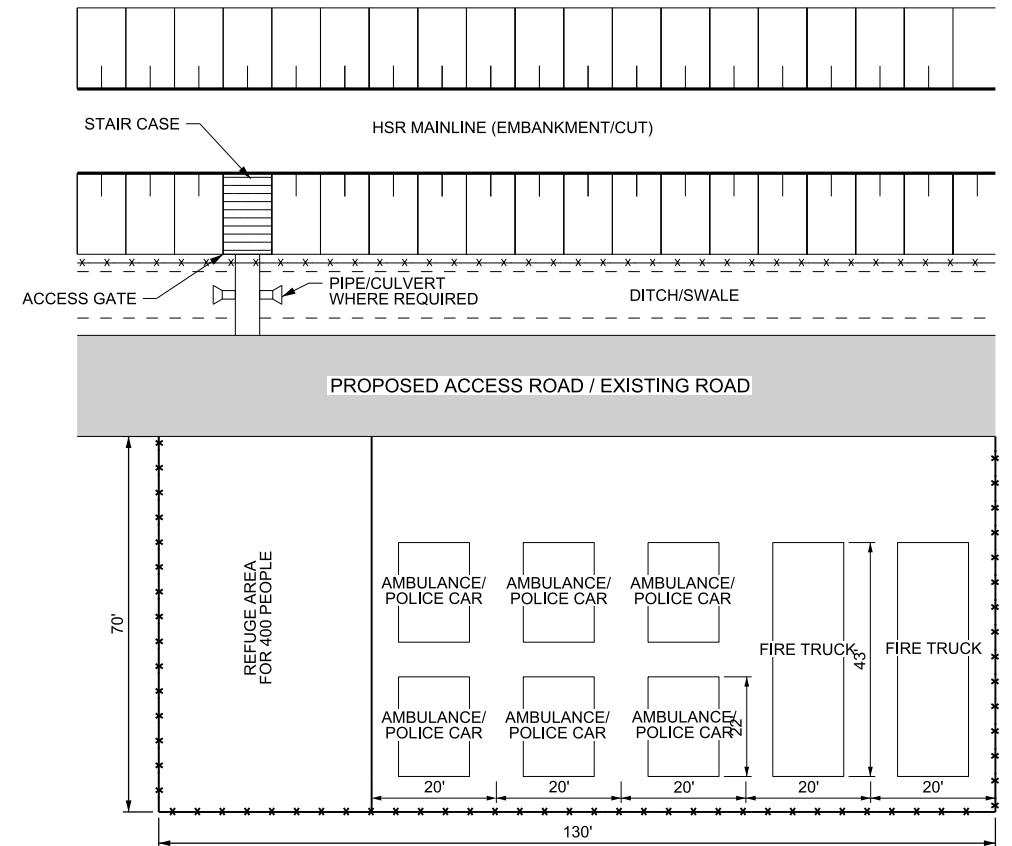


Drawing Title
GENERAL

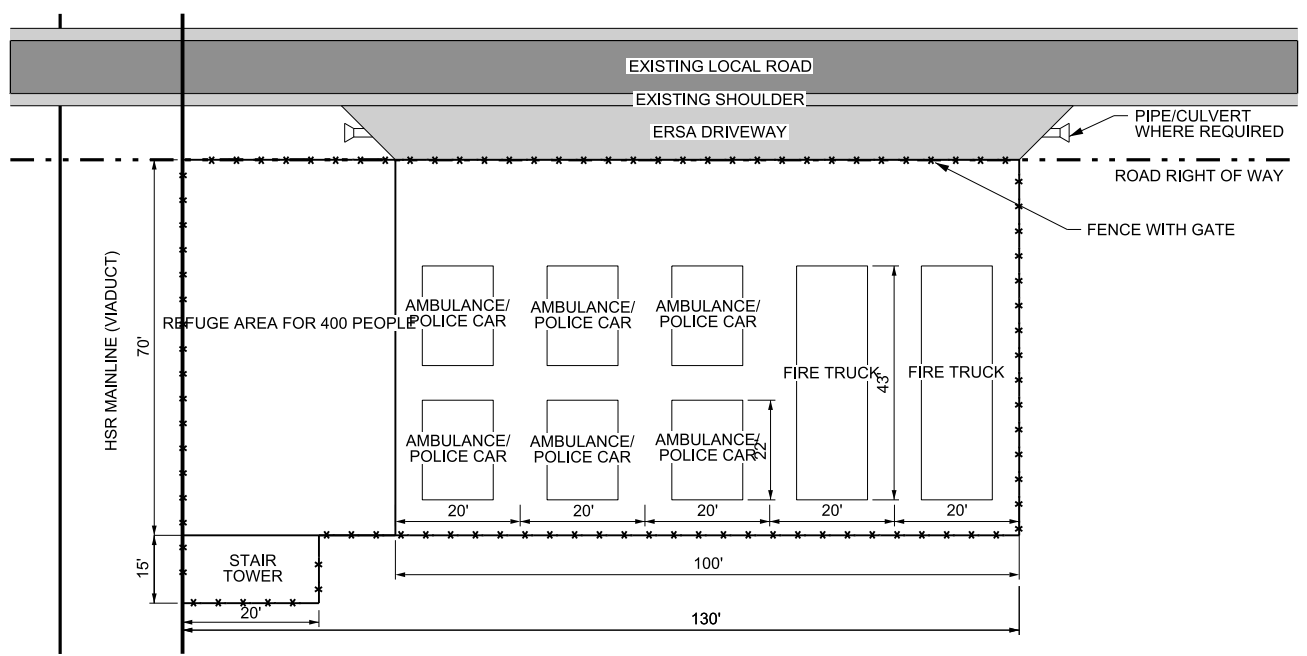
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Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01



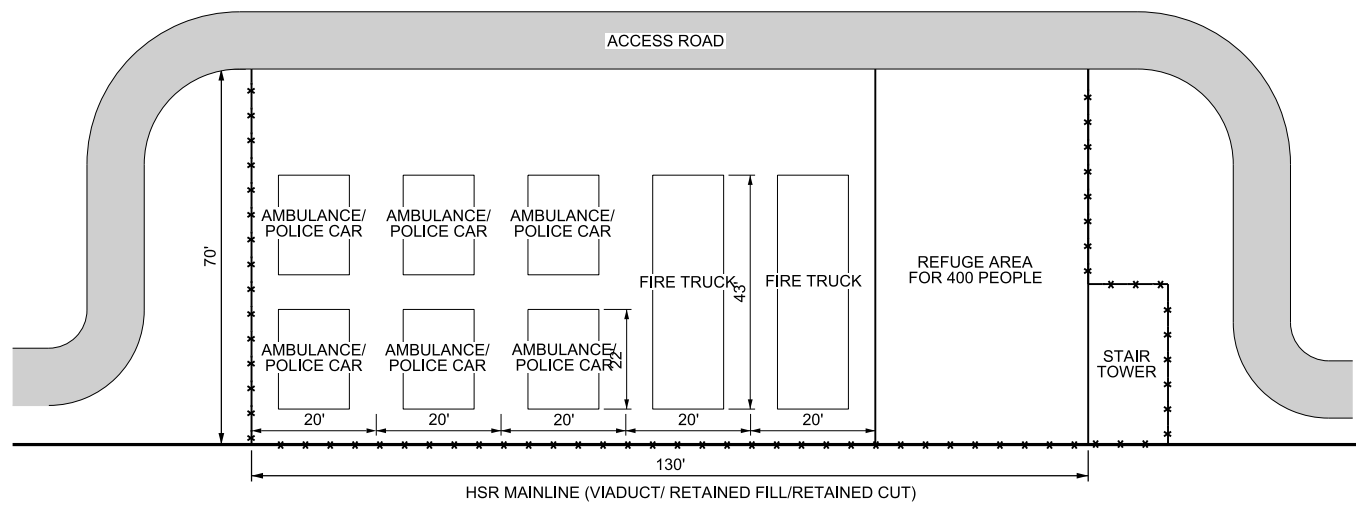
PROPOSED LAYOUT FOR EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA ON VIADUCTS ALONG STATE AND FEDERAL HIGHWAYS



PROPOSED LAYOUT FOR EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA ALONG EMBANKMENT OR CUT SECTION



PROPOSED LAYOUT FOR EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA ON VIADUCTS ALONG LOCAL ROADS OR ACCESS ROADS



PROPOSED LAYOUT FOR EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA ON VIADUCT/RETAINED FILL/RETAINED CUT ALONG ACCESS ROADS

REV	DATE	BY	CHK	APP	DESCRIPTION

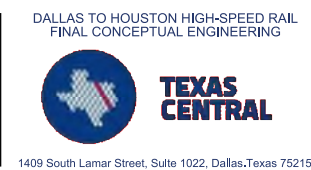
DESIGNED BY
G. VOWELS

DRAWN BY
J. ALMAGUER

CHECKED BY
D. PETRIN

IN CHARGE
C. TAYLOR

DATE
02/25/2019



Drawing Title
GENERAL CIVIL HIGHWAY EMERG. RESPONSE MAINT. AND STAGING AREA LAYOUTS

Scale NOT TO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No RDY-00-03037	Rev 01