

**Dallas to Houston High-Speed Rail
Draft Environmental Impact Statement**

**Appendix G:
Dallas to Houston High-Speed Rail
Passenger Service from Houston to Dallas
Final Draft Conceptual Engineering
Plans and Details
Set 2 of 21**



**TEXAS
CENTRAL**

Transmittal

To	Megan Inman, AECOM	Date	November 17, 2017
Copies	FRA: K. Wright AECOM: J. Smiley TCRR: A. Greer File: HOU TCR	TRA Number	00211
From	Christopher Taylor, Arup		
Subject	FINAL DRAFT CONCEPTUAL ENGINEERING DESIGN DOCUMENTATION – FDCE v7 Transmittal Final Version for Publication with Draft Environmental Impact Statement (DEIS) FDCE for Public Release		

We Are Sending You: ENTER DOCUMENT TYPE CODE(S) ONLY

Date of Document	DEIS Appendix	Set # of #	Title of Document or Drawing Title
11/17/17	-	-	234180-AFN-TRA-00211 FDCEv7.PDF (this transmittal)
REPORTS			
9/15/17	F	1 of 2	TCRR FDCE v7 REPORT.PDF (<i>Final Draft Conceptual Engineering Report v7 – Project Definition for publication with Draft EIS</i>)
9/15/17	F	2 of 2	TCRR CONSTRUCTABILITY v4 REPORT.PDF
TCRR FDCE v7 DWGS VOLUME 1 (General Sheets and Typical Sections)			
9/15/17	G	1 of 21	TCRR FDCE v7 DWGS VOLUME 1.PDF (<i>General Sheets and Typical Sections</i>)
TCRR FDCE v7 DWGS VOLUME 2 (Railway Alignment Plan and Profile Sheets)			
9/15/17	G	2 of 21	TCRR FDCE v7 DWGS VOLUME 2-1.PDF (<i>Houston Segment</i>)
9/15/17	G	3 of 21	TCRR FDCE v7 DWGS VOLUME 2-2.PDF (<i>West of Teague Segment</i>)
9/15/17	G	4 of 21	TCRR FDCE v7 DWGS VOLUME 2-3.PDF (<i>IH-45 Segment</i>)
9/15/17	G	5 of 21	TCRR FDCE v7 DWGS VOLUME 2-4.PDF (<i>Navarro West Segment</i>)
9/15/17	G	6 of 21	TCRR FDCE v7 DWGS VOLUME 2-5.PDF (<i>Navarro East Segment</i>)
9/15/17	G	7 of 21	TCRR FDCE v7 DWGS VOLUME 2-6.PDF (<i>Ellis West Segment</i>)
9/15/17	G	8 of 21	TCRR FDCE v7 DWGS VOLUME 2-7.PDF (<i>Ellis East Segment</i>)
9/15/17	G	9 of 21	TCRR FDCE v7 DWGS VOLUME 2-8.PDF (<i>Dallas Segment</i>)
TCRR FDCE v7 DWGS VOLUME 3 (Stations, Maintenance Facilities, and Railway Systems Sheets)			
9/15/17	G	10 of 21	TCRR FDCE v7 DWGS VOLUME 3-1.PDF (<i>Stations</i>)
9/15/17	G	11 of 21	TCRR FDCE v7 DWGS VOLUME 3-2.PDF (<i>Maintenance Facilities, Yards and Shops</i>)
9/15/17	G	12 of 21	TCRR FDCE v7 DWGS VOLUME 3-3.PDF (<i>Rail Systems</i>)
TCRR FDCE v7 DWGS VOLUME 4 (Roadway Plan Sheets)			
9/15/17	G	13 of 21	TCRR FDCE v7 DWGS VOLUME 4-1.PDF (<i>Houston Segment</i>)
9/15/17	G	14 of 21	TCRR FDCE v7 DWGS VOLUME 4-2.PDF (<i>West of Teague Segment</i>)
9/15/17	G	15 of 21	TCRR FDCE v7 DWGS VOLUME 4-3.PDF (<i>IH-45 Segment</i>)
9/15/17	G	16 of 21	TCRR FDCE v7 DWGS VOLUME 4-4.PDF (<i>Navarro West Segment</i>)
9/15/17	G	17 of 21	TCRR FDCE v7 DWGS VOLUME 4-5.PDF (<i>Navarro East Segment</i>)

Document Format	Date of Document	Number of Copies	Title of Document or Drawing Title
9/15/17	G	18 of 21	TCRR FDCE v7 DWGS VOLUME 4-6.PDF (<i>Ellis West Segment</i>)
9/15/17	G	19 of 21	TCRR FDCE v7 DWGS VOLUME 4-7.PDF (<i>Ellis East Segment</i>)
9/15/17	G	20 of 21	TCRR FDCE v7 DWGS VOLUME 4-8.PDF (<i>Dallas Segment</i>)
TCRR FDCE v7 DWGS VOLUME 5 (<i>Wildlife Crossing Sheets</i>)			
9/15/17	G	21 of 21	TCRR FDCE v7 DWGS VOLUME 5.PDF (<i>Wildlife Crossing Sheets</i>)

These are transmitted as checked below:

- Deliverable For Information As requested For your use
 For approval For Review and Comment Return Other: Publication with DEIS

REMARKS:

The files transmitted herewith represent a final submittal of the Final Draft Conceptual Engineering (FDCE) design report and drawings for the Dallas to Houston High-Speed Rail Project. This v7 submittal of the FDCE report is intended for distribution on the FRA website with the Draft EIS (DEIS) for public review.



Delivered VIA Outlook Email Hand Delivery Courier PMS Notification USPS

PREPARED BY: Christopher Taylor **Date:** November 17, 2017

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE.



**TEXAS
CENTRAL**



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

**FINAL DRAFT
CONCEPTUAL ENGINEERING PLANS AND DETAILS**
VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

SEPTEMBER 15, 2017



U.S. Department of Transportation
Federal Railroad Administration

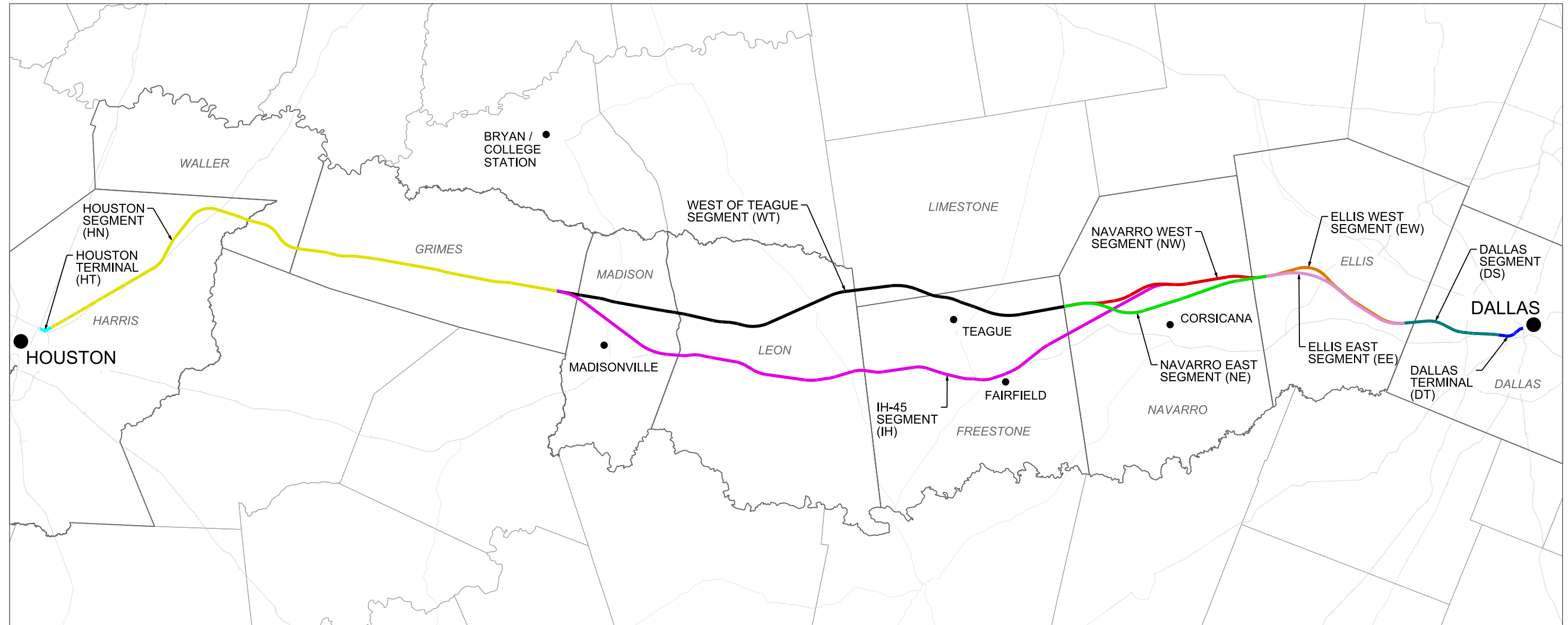
ARUP

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
OF
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

COVER SHEET



ALIGNMENT ALTERNATIVE	OE SEGMENT ID	SEGMENT NAMES	SEGMENT ABBREVIATION
A	5, 4A, 3A, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NW, WT, HN
B	5, 4A, 3B, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NE, WT, HN
C	5, 4A, 2B, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EW, IH, HN
D	5, 4B, 3A, 2A, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NW, WT, HN
E	5, 4B, 3A, 2A, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NE, WT, HN
F	5, 4B, 2B, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EE, IH, HN

NOTES:
 1. REFER TO FDCE v5 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
09/15/2017

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

Client

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

Drawing Title
GENERAL LOCATION PLAN

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

VOLUME 1 - GENERAL SHEETS & TYPICAL SECTIONS

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

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-1 HOUSTON SEGMENT, listing drawings from CVL-HN-01101 to CVL-HN-01108-2.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-2 WEST OF TEAGUE SEGMENT, listing drawings from CVL-HN-01107-3 to CVL-HN-01180.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-2 WEST OF TEAGUE SEGMENT, listing drawings from CVL-WT-01250 to CVL-WT-01296.

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: Client, Drawing Title, Scale, Drawing Status, Job No, Drawing No, Rev. Project information and status.

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections for 2-2 WEST OF TEAGUE SEGMENT and 2-3 IH-45 SEGMENT.

Table with columns: Drawing No., Description. Lists individual drawing sheets for various segments like IH-45 SEGMENT and NAVARRO WEST SEGMENT.

Table with columns: Drawing No., Description. Lists individual drawing sheets for NAVARRO WEST SEGMENT and 2-5 NAVARRO EAST SEGMENT.

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

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



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

HOUSTON SEGMENT - CIVIL - KEY MAP - Sheet 2 of 4 - HN1 1024+00 TO HN1 2082+00

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing list for 2-6 ELLIS WEST SEGMENT, 2-7 ELLIS EAST SEGMENT, and 2-8 DALLAS SEGMENT.

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing list for 3-1 STATIONS.

Table with columns: Drawing ID, Description. Contains drawing list for HOUSTON SEGMENT - STATIONS - HOUSTON TRANSIT STATION OPTION - STATION SECTIONS, HOUSTON SEGMENT - STATIONS - HOUSTON TRANSIT STATION OPTION - CIVIL SITE PLAN, HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL STATION OPTION - STATION AREA PLAN, HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL STATION OPTION - STATION FLOOR PLAN SHEET 1 OF 2, HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL STATION OPTION - STATION FLOOR PLAN SHEET 2 OF 2, HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL STATION OPTION - STATION SECTIONS, HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL STATION OPTION - CIVIL SITE PLAN, HOUSTON SEGMENT - STATIONS - HOUSTON INDUSTRIAL STATION OPTION - STATION AREA PLAN, HOUSTON SEGMENT - STATIONS - HOUSTON INDUSTRIAL STATION OPTION - STATION FLOOR PLAN SHEET 1 OF 2, HOUSTON SEGMENT - STATIONS - HOUSTON INDUSTRIAL STATION OPTION - STATION FLOOR PLAN SHEET 2 OF 2, HOUSTON SEGMENT - STATIONS - HOUSTON INDUSTRIAL STATION OPTION - STATION SECTIONS, HOUSTON SEGMENT - STATIONS - HOUSTON INDUSTRIAL STATION OPTION - CIVIL SITE PLAN, HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - STATION AREA PLAN, HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - STATION FLOOR PLAN SHEET, HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - STATION SECTIONS, HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - CIVIL SITE PLAN, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION AREA PLAN, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION FLOOR PLAN SHEET 1 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION FLOOR PLAN SHEET 2 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION FLOOR PLAN SHEET 3 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION SECTIONS SHEET 1 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION SECTIONS SHEET 2 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - STATION SECTIONS - FUTURE EXPANSION SHEET 3 OF 3, DALLAS SEGMENT - STATIONS - DALLAS STATION - TYPICAL PEDESTRIAN STREETScape, DALLAS SEGMENT - STATIONS - DALLAS STATION - CIVIL SITE PLAN, DALLAS SEGMENT - STATIONS - DALLAS STATION - HOTEL STREET REALIGNMENT - SHEET 1 OF 2, DALLAS SEGMENT - STATIONS - DALLAS STATION - HOTEL STREET REALIGNMENT - SHEET 2 OF 2, DALLAS SEGMENT - STATIONS - DALLAS STATION - BELLEVIEW STREET REALIGNMENT, DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 1 REALIGNMENT, DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 2 REALIGNMENT, 3-2 MAINTENANCE FACILITIES, YARDS AND SHOPS, GENERAL - MAINTENANCE FACILITIES - TYPICAL MOW FACILITY, GENERAL - MAINTENANCE FACILITIES - TYPICAL SIDING OFF, GENERAL - MAINTENANCE AND TMF FACILITIES - KEY MAP, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - SHEET 1 OF 3, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - SHEET 2 OF 3, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - SHEET 3 OF 3, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - TRACK REALIGNMENT - SHEET 1 OF 5, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - TRACK REALIGNMENT - SHEET 2 OF 5, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - TRACK REALIGNMENT - SHEET 3 OF 5, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - TRACK REALIGNMENT - SHEET 4 OF 5, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON SOUTH TMF - TRACK REALIGNMENT - SHEET 5 OF 5, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON NORTH TMF - SHEET 1 OF 3, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON NORTH TMF - SHEET 2 OF 3, HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON NORTH TMF - SHEET 3 OF 3, HOUSTON SEGMENT - MOW FACILITY HN-2 - LAYOUT, HOUSTON SEGMENT - MOW FACILITY HN-4 - LAYOUT - SHEET 1 OF 2, HOUSTON SEGMENT - MOW FACILITY HN-4 - LAYOUT - SHEET 2 OF 2, HOUSTON SEGMENT - MOW FACILITY HN-5 - LAYOUT - SHEET 1 OF 2, HOUSTON SEGMENT - MOW FACILITY HN-5 - LAYOUT - SHEET 2 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - LAYOUT - SHEET 1 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - LAYOUT - SHEET 2 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - LAYOUT - SHEET 1 OF 2, WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - LAYOUT - SHEET 2 OF 2, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 1 OF 3, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 2 OF 3, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 3 OF 3, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 3 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 4 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 5 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 6 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 7 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 8 OF 8, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 1 OF 3, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 2 OF 3, IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 3 OF 3, ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - LAYOUT - SHEET 1 OF 2, ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - LAYOUT - SHEET 2 OF 2, ELLIS EAST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EE-1 - LAYOUT, DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS SOUTH TMF - SHEET 1 OF 3

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes design and in-charge information for D. THOMPSON and R. BURNS.

ARUP logo and contact information: Arup Texas, Inc. 10370 Richmond Ave., Suite 475 Houston, Texas 77042 USA

FRESE & NICHOLS logo and contact information: 2711 North Haskell Ave., Suite 3300 Dallas, Texas 75204

Client logo: TEXAS CENTRAL logo and address: 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title: GENERAL INDEX SHEET 3 OF 5

Scale: NO SCALE. Drawing Status: FINAL DRAFT. Job No: 234180. Drawing No: GEN-00-00005. Rev: 01

PLOT TIME: 9/25/2017 5:41:24 PM

PLOT BY: N-YPWICS01S

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

Table with 2 columns: DRAWING NO. and DRAWING DESCRIPTIONS. Includes sections for 3-2 MAINTENANCE FACILITIES, YARDS AND SHOPS and 3-3 RAILWAY SYSTEMS.

VOLUME 4 - ROADWAY PLAN SHEETS

Table with 2 columns: DRAWING NO. and DRAWING DESCRIPTIONS. Includes section for 4-1 HOUSTON SEGMENT with numerous drawing entries.

Table with 2 columns: Drawing ID and Description. Includes sections for WEST OF TEAGUE SEGMENT, IH-45 SEGMENT, and 4-3 IH-45 SEGMENT.

Table with 5 columns: REV, DATE, BY, CHK, APP, and DESCRIPTION. Used for revision tracking.

Table with 2 columns: Field Name and Value. Includes fields for DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, and DATE.



Table with 3 columns: Drawing Title, Scale, and Job No. Includes drawing title 'GENERAL INDEX SHEET 4 OF 5' and job number '234180'.

PLOT TIME: 9/25/2017 5:42:37 PM

VOLUME 4 - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings 1H-45 SEGMENT and 4-4 NAVARRO WEST SEGMENT.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings 4-5 NAVARRO EAST SEGMENT, 4-6 ELLIS WEST SEGMENT, 4-7 ELLIS EAST SEGMENT, and 4-8 DALLAS SEGMENT.

VOLUME 5 - WILDLIFE CROSSING SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings 5-1 WILDLIFE CROSSING TYPICAL SECTIONS and various wildlife crossing sheets (WLC-00-04000 to WLC-00-04040).

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

DESIGNED BY: D. THOMPSON
DRAWN BY: D. THOMPSON
CHECKED BY: R. BURNS
IN CHARGE: C. TAYLOR
DATE: 09/15/2017



Drawing Title: GENERAL INDEX SHEET 5 OF 5

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

PLOT TIME: 9/25/2017 5:41:28 PM

GENERAL NOTES:

1. THESE DRAWINGS ACCOMPANY FINAL DRAFT CONCEPTUAL ENGINEERING REPORT (FDCE) V7 REPORT DATED SEPTEMBER 15, 2017.
2. DRAWING SET INCLUDES FIVE (5) VOLUMES.
3. CONCEPTUAL ENGINEERING WAS DEVELOPED TO IDENTIFY PROJECT LIMIT OF DISTURBANCE (LOD), OR "PROJECT FOOTPRINT". CONCEPTUAL ENGINEERING DRAWINGS AND FDCE REPORT ARE ISSUED TO PROVIDE PROJECT DEFINITION FOR ENVIRONMENTAL ANALYSES ONLY. FINAL DESIGN WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSES, NOT FOR CONSTRUCTION.
4. FOR STANDARD GENERAL ABBREVIATIONS, SEE DRAWING GEN-00-0009.
5. FOR STANDARD GENERAL SYMBOLS, SEE DRAWINGS GEN-00-0009.
6. "ORIGINAL GROUND" SHOWN ON PROFILES REFERS TO THE APPROXIMATE EXISTING GROUND LINE AT HSR CENTERLINE AS SHOWN ON PLAN AND PROFILE DRAWINGS.
7. ALL HORIZONTAL AND VERTICAL DISTANCES ARE IN US CUSTOMARY UNITS EXCEPT AS NOTED OTHERWISE.
8. GENERAL NOTES FOR PROJECT ELEMENTS INCLUDED ON GENERAL NOTES PAGES. REFER TO INDIVIDUAL DISCIPLINE DRAWINGS FOR ADDITIONAL NOTES.

BASEMAPPING NOTES:

1. DTM DATA SHOWN ON THE DRAWINGS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM (TNRIS) AND HOUSTON-GALVESTON AREA COUNCIL (HGAC).
 - DALLAS COUNTY LIDAR, 2009, SOURCED FROM TNRIS.
 - HGAC LIDAR, 2008.
 - TNRIS LIDAR, 2009-2013.
 - TNRIS STRATMAP CONTOURS, 1997.
2. LIDAR SOURCES WERE FILTERED TO SHOW ONLY BARE EARTH, AND SUPPLEMENTED BY CONTOUR DATA WHERE LIDAR SOURCES WERE NOT AVAILABLE.
3. NAD 83 HORIZONTAL CONTROL DATUM WAS USED FOR HORIZONTAL COORDINATE VALUES.
4. NAVD 88 VERTICAL DATUM WAS USED FOR ELEVATION VALUES.
5. ALL DATA HAS BEEN REPROJECTED TO TEXAS STATE PLANE, SOUTH CENTRAL, CENTRAL, AND NORTH CENTRAL ZONES, US SURVEY FEET.
6. AERIAL IMAGERY WAS OBTAINED FROM ARCGIS ONLINE SERVICES. SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
7. THE BACKGROUND IMAGERY ON THE PLAN SHEETS MAY SHOW BUILDINGS AND OTHER INFRASTRUCTURE FEATURES THAT HAVE SUBSEQUENTLY BEEN REMOVED AND/OR DEMOLISHED, WHERE IT HAS BEEN VERIFIED THAT BUILDINGS HAVE BEEN REMOVED, THE AERIAL IMAGERY ON THE PLAN SHEET IS MARKED WITH HATCHING.

LOD NOTES:

1. THE PROJECT LOD WAS DEVELOPED TO DEFINE A CONSERVATIVE ESTIMATE OF THE POTENTIAL "PROJECT FOOTPRINT" FOR ENVIRONMENTAL ANALYSIS AND DOES NOT REPRESENT THE FINAL HSR RIGHT-OF-WAY (ROW), PROPERTY WITHIN THE LOD MAY BE RETURNED TO ADJACENT LANDOWNERS OR OTHER PRIVATE PARTIES FOLLOWING PROJECT CONSTRUCTION OR MAY BE TRANSFERRED TO ROADWAY OR UTILITY AUTHORITY AS APPROPRIATE. PROPOSED PROJECT WORKS WITHIN PRIVATE PROPERTIES WOULD BE SUBJECT TO NEGOTIATION WITH LANDOWNERS. ANY TEMPORARY OR PERMANENT USE OF LAND OWNED BY TXDOT, COUNTY, MUNICIPAL, OR OTHER PUBLIC ENTITIES WOULD REQUIRE APPROPRIATE APPROVALS.
2. LOD USED FOR EIS ANALYSIS FOOTPRINT.

TRACK NOTES:

1. THE ALIGNMENT SHOWN ON THE PLAN AND PROFILE DRAWINGS REPRESENTS THE CENTERLINE OF THE TWO-TRACK HSR MAINLINE TRACKS.
2. THE PROFILE SHOWN ON THE PLAN AND PROFILE DRAWINGS REPRESENTS THE TOP OF THE LOWER RAIL THROUGH HORIZONTAL CURVES AND SPIRALS FOR THE TWO-TRACK HSR SYSTEM.
3. THE PROPOSED HSR SYSTEM INCLUDES TWO TRACKS WITH ADDITIONAL TRACKS AT STATIONS, MAINTENANCE OF WAY, AND TRAINSET MAINTENANCE FACILITIES, AS SHOWN ON DRAWINGS.
4. MAINLINE CROSSOVERS ARE PROVIDED AT THE ENTRANCE AND EXIT OF ALL STATIONS, MAINTENANCE OF WAY (MOW) FACILITIES, AND TRAINSET MAINTENANCE FACILITIES (TMFS).

PLAN AND PROFILE GENERAL NOTES:

1. SECTION TYPE DETAIL SHOWN ON PROFILE SHEETS REPRESENT A SIMPLIFIED SUMMARY OF THE MAJOR STRUCTURAL TYPE OF THE PROPOSED HSR. THE ACTUAL PLAN DIMENSIONS TAKE PRECEDENCE OVER THE SECTION TYPE IDENTIFIED IN PROFILE.
2. ALL EXISTING AND PROPOSED STRUCTURAL ELEMENTS SHOWN ARE BASED ON CONCEPTUAL ENGINEERING DESIGN AND AERIAL IMAGERY AND MAY BE REVISED BASED ON MORE ADVANCED SURVEY AND DESIGNS.
3. SEE SHEET GEN-00-00010 FOR A KEY TO INFORMATION SHOWN ON PLAN AND PROFILE DRAWINGS.
4. LIMITS OF SPECIAL TRACK WORK ARE INDICATED ON THE PLAN SHEETS. ADDITIONAL DETAILS FOR MAINTENANCE OF WAY FACILITIES AND TRAINSET MAINTENANCE FACILITIES ARE SHOWN ON THE VOLUME 3 DRAWINGS.

ROADWAY NOTES:

1. EXISTING ROADWAY LOCATIONS ARE APPROXIMATE BASED ON AERIAL MAPS.
2. PROPOSED ROADWAY WORKS, INCLUDING NEW ROADWAYS, RECONFIGURATION AND REALIGNMENTS OF EXISTING ROADWAYS, AND ROADWAY REMOVALS ARE CONCEPTUAL IN NATURE AND WERE DEVELOPED TO IDENTIFY GENERAL CONFIGURATION AND LOCATION FOR ENVIRONMENTAL IMPACT ANALYSES. ROADWAY WORKS WOULD BE DETAILED DURING FINAL DESIGN AND WOULD COMPLY WITH APPLICABLE STATE, CITY, COUNTY, OR LOCAL REQUIREMENTS.
3. SEE SHEET GEN-00-00011 FOR A KEY TO INFORMATION SHOWN ON ROADWAY PLAN DRAWINGS.
4. ROADWAY GEOMETRY IS BASED ON TXDOT ROADWAY DESIGN MANUAL. ROAD DESIGN SPEEDS MATCH EXISTING POSTED SPEED LIMITS OR MATCH DESIGN SPEED DETERMINED FROM TXDOT ROADWAY FUNCTIONAL CLASSIFICATION SPEED GUIDELINES, WHICHEVER IS GREATER.
5. SUPERELEVATION TRANSITION LENGTHS WERE NOT DETAILED IN ROADWAY APPROACH DESIGN.
6. SEE DRAWINGS CVL-00-03030 TO CVL-00-03036 FOR TYPICAL ROADWAY CROSS SECTIONS.
7. ROADWAY REMOVALS ARE NOT SHOWN ON RAIL PLAN AND PROFILE SHEETS, REFER TO ROADWAY PLAN SHEETS IN VOLUME 3 FOR ALL ROADWAY REMOVALS.
8. NOT ALL PRIVATE ROADS AND DRIVEWAYS ARE REPRESENTED ON THE RAIL PLAN AND PROFILE SHEETS.
9. THE CLEARANCE ENVELOPES SHOWN ON THE RAIL PLAN AND PROFILE SHEETS REPRESENT THE APPROXIMATE ROADWAY CLEARANCE ENVELOPE. THE BOTTOM OF THE CLEARANCE ENVELOPE REPRESENTS THE TOP OF THE ROADWAY PAVEMENT. CLEARANCE ENVELOPE DOES NOT INCLUDE ROADWAY STRUCTURAL ELEMENTS.
10. ROADWAY ELEVATIONS FOR ROADWAY OVER RAILWAY CROSSING DO NOT REPRESENT THE PROPOSED ROADWAY ELEVATION, BUT RATHER THE MINIMUM HEIGHT REQUIRED FOR CLEARANCES, INCLUDING ALLOWANCES FOR ROADWAY STRUCTURAL ELEMENTS. SEE FDCE REPORT FOR ADDITIONAL INFORMATION.
11. ROADWAY TYPICAL SECTIONS ACCOUNT FOR THE NECESSARY SPACE TO CONSTRUCT TEMPORARY ROADWAYS DURING CONSTRUCTION. CLOSE COORDINATION WITH ROADWAY AUTHORITIES, COMMUNITIES, AND EMERGENCY RESPONSE ENTITIES WOULD BE UNDERTAKEN DURING FINAL DESIGN AND CONSTRUCTION TO ENSURE ACCESS DURING THE CONSTRUCTION PHASE.
12. USE OF TXDOT RIGHT-OF-WAY FOR PERMANENT IMPROVEMENTS WILL REQUIRED THE APPROPRIATE APPROVAL FROM TXDOT.

TYPICAL SECTIONS NOTES:

1. SECTIONS ILLUSTRATE TYPICAL REQUIREMENTS TO GUIDE CONCEPTUAL ENGINEERING DESIGN DEVELOPMENT. LOCATION SPECIFIC CONDITIONS WOULD ESTABLISH REQUIREMENTS AT EACH LOCATION AND OVERALL WIDTH OF LIMIT OF DISTURBANCE WOULD VARY AS IDENTIFIED ON DIMENSION LINES AND IN NOTES.
2. OFFSET BETWEEN INFRASTRUCTURE ELEMENTS SUCH AS DISTANCE BETWEEN EMBANKMENT, FENCES, DRAINAGE SWALE, ACCESS ROAD, ETC. WOULD VARY BASED ON LOCAL REQUIREMENTS AND SITE SPECIFIC CONDITIONS.
3. TYPICAL ROADWAY DRAINAGE SYSTEM PROVIDED AS SHOWN IN TYPICAL SECTIONS. LOCATION SPECIFIC CONFIGURATION AND SIZE WOULD BE ADVANCED DURING MORE DETAILED DESIGN.
4. LOCATION SPECIFIC CONDITIONS WOULD DICTATE FENCING REQUIREMENTS.
5. EMBANKMENT HEIGHTS AND CUT DEPTHS VARY WITH SURROUNDING GRADE AND RAIL PROFILE ELEVATION.
6. CRASH BARRIERS NOT SHOWN. LOCATION SPECIFIC CONDITIONS WILL DICTATE CRASH BARRIER REQUIREMENTS TO ENSURE SAFETY AND TO SATISFY APPLICABLE REGULATORY REQUIREMENTS.
7. SUBSURFACE GROUND IMPROVEMENTS ARE NOT SHOWN AND WILL BE BASED ON SITE SPECIFIC REQUIREMENTS.
8. RAIL HEIGHT VARIES WITH SURROUNDING GRADE AND RAIL PROFILE. THE BOTTOM OF SUBBALLAST SHALL BE NO LESS THAN 2FT ABOVE 100 YEAR FLOODPLAIN.

UTILITIES NOTES:

1. REFER TO THE FDCE REPORT FOR A LIST OF MAJOR UTILITY CROSSINGS, THEIR ASSUMED SIZE, AND ASSOCIATED LOCATIONS ALONG THE ALIGNMENT.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND ARE BASED ON INFORMATION RECEIVED, AS DOCUMENTED IN THE FINAL DRAFT CONCEPTUAL ENGINEERING REPORT.
3. NO FIELD SURVEYS HAVE BEEN CONDUCTED TO LOCATE AND VERIFY UTILITY LOCATIONS.
4. NOT ALL EXISTING UNDERGROUND UTILITIES HAVE BEEN SHOWN. REFER TO THE FDCE REPORT FOR MAJOR UTILITIES INCLUDED IN PROJECT MAPPING.
5. LOD NOT SHOWN FOR UTILITIES THAT ARE NOT IMPACTED BY THE ALIGNMENT. ONLY MAJOR UTILITIES THAT ARE PROTECTED, RELOCATED OR ELEVATED ARE SHOWN ON THE PLAN AND PROFILE VIEW, REFER TO DRAWING NO. CUT-00-0100 FOR TYPICAL UTILITY CROSSING DETAILS. UTILITY LODS FOR FUTURE PROPOSED CONNECTIONS TO TPSS FACILITIES ARE SHOWN.
6. FOR PARALLEL TRANSMISSION LINE CROSSINGS OVER NEW ELEVATED ROADWAYS, A LOD IS SHOWN ON THE PLAN ONLY. REFER TO DRAWING NO. CUT-00-0100 FOR TYPICAL UTILITY CROSSING DETAILS.
7. MANY UTILITY CONFLICTS ALONG THE HEMPSTEAD ROAD CORRIDOR IN HOUSTON WOULD BE RESOLVED DURING FINAL DESIGN. A CONTINUOUS LOD IS SHOWN ON THE DRAWINGS TO REPRESENT THAT UTILITIES WOULD BE RELOCATED ON ONE OR BOTH SIDES OF THE ROADWAY AS REQUIRED. ALL WORK WOULD BE COORDINATED WITH UTILITY PROVIDERS TO MINIMIZE IMPACTS AND COORDINATE WITH OTHER PLANNED UTILITY PROJECTS ALONG CORRIDOR.
8. FOR UTILITY WORK REQUIRED BY UTILITY COMPANIES, EACH UTILITY OWNER WOULD DEVELOP THE DESIGN IN ACCORDANCE WITH APPLICABLE DESIGN STANDARDS AND REGULATORY AGENCY REVIEW PROCESSES.

DRAINAGE NOTES:

1. PROPOSED DETENTION BASIN LOCATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE AND ARE INTENDED FOR PRELIMINARY PLANNING AND ENVIRONMENTAL IMPACT ANALYSIS PURPOSES ONLY. SITE SPECIFIC CONFIGURATIONS WOULD BE DEVELOPED DURING FINAL DESIGN IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
2. EXISTING CULVERTS ARE NOT SHOWN.
3. PROPOSED TRACK AND ROADWAY STORMWATER DRAINAGE WOULD BE DEVELOPED DURING FINAL DESIGN IN ACCORDANCE WITH APPLICABLE REQUIREMENTS. REFER TO TYPICAL SECTION DRAWINGS FOR PROPOSED CONFIGURATIONS.
4. EXISTING STORMWATER FACILITIES ARE NOT SHOWN.
5. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) WATER QUALITY CRITERIA WOULD BE MET FOR STORMWATER RUNOFF AND PROTECTION OF EXISTING WATER RESOURCES.
6. CONSTRUCTION OF THE RAIL MAY REQUIRE THE RECONFIGURATION OF PONDS OR STOCK TANKS IMMEDIATELY ADJACENT TO THE RAIL CORRIDOR. IN CASES WHERE THE CURRENT DESIGN NECESSITATES A FULL RELOCATION OF THE POND, ALLOWANCES HAVE BEEN MADE WITHIN THE LOD. IN CASES WHERE THE FULL RELOCATION OF THE POND IS NOT REQUIRED UNDER THE CURRENT DESIGN, ADDITIONAL LANDOWNER NEGOTIATIONS WILL BE REQUIRED TO DETERMINE LAND OWNER PREFERENCES.

STRUCTURES GENERAL NOTES:

1. TYPICAL SECTIONS WERE DEVELOPED TO IDENTIFY GENERAL ARRANGEMENTS AND ALLOWANCES FOR STRUCTURAL ELEMENTS. TYPICAL SECTIONS WERE USED AS THE BASIS FOR DEVELOPMENT OF LOD FOR ENVIRONMENTAL ANALYSIS.
2. APPROXIMATE HSR VIADUCT AND BRIDGE STRUCTURE LIMITS AND DEPTHS ARE SHOWN ON THE PROFILES TO SUPPORT ENVIRONMENTAL IMPACT ANALYSIS. LIMITS OF STRUCTURES AND EMBANKMENTS WOULD BE REFINED DURING FINAL DESIGN.
3. PLAN AND PROFILE DRAWINGS DO NOT SHOW LIMITS OF STRUCTURES IN PLAN VIEW. SITE SPECIFIC STRUCTURAL DESIGN WOULD BE DEVELOPED DURING FINAL ENGINEERING IN ACCORDANCE WITH APPLICABLE REQUIREMENTS. DESIGN OF FOUNDATIONS, ABUTMENTS, PIERS AND OTHER STRUCTURES WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSIS.
4. HSR PROFILE WAS DEVELOPED TO PROVIDE A MINIMUM 3FT VERTICAL CLEAR DISTANCE FROM ESTIMATED 100 YEAR FLOOD LEVEL TO BRIDGE SOFFIT FOR RIVER AND FLOODPLAIN CROSSINGS. FINAL DESIGN WOULD BE DEVELOPED TO MEET OR EXCEED THIS REQUIREMENT.
5. SPECIAL STRUCTURES WOULD BE REQUIRED TO MITIGATE IMPACTS OR ADDRESS UNIQUE SITE SPECIFIC ISSUES SUCH AS LONG SPANS, CROSSOVER STRUCTURES, AND STRADDLE BENTS TO AVOID OR MITIGATE IMPACTS. THE CONSTRUCTABILITY REPORT IDENTIFIES SPECIAL STRUCTURE LOCATIONS. PLAN AND PROFILE DRAWINGS IDENTIFY ADDITIONAL LOD EXPECTED FOR CONSTRUCTION STAGING AND WORKING AREAS FOR SPECIAL STRUCTURES.

SYSTEMS GENERAL NOTES:

1. SYSTEMS SCHEMATICS, SHOWN ON SHEETS SYS-00-02000 THROUGH SYS-00-02005, SHOW LOCATIONS OF SYSTEMS FACILITIES THAT HAVE BEEN INCLUDED FOR EACH END-TO-END ALTERNATIVE.
2. AREA FOR SYSTEMS FACILITY SITES HAVE BEEN INCLUDED WITHIN THE PROJECT LOD. THESE AREAS ARE GENERICALLY CALLED OUT AS "RAIL SYSTEMS SITES" ON THE PLAN AND PROFILE SHEETS, REFER TO FDCE REPORT TO DETERMINE THE SPECIFIC FACILITY TYPE AT EACH INDIVIDUAL LOCATION.
3. TYPICAL LAYOUT PLANS FOR EACH OF THE SYSTEMS FACILITIES ARE INCLUDED IN SHEETS SYS-00-01000 THROUGH SYS-00-01002.
4. LOD DEVELOPED FOR ENVIRONMENTAL IMPACT ANALYSIS OF SYSTEMS SITES INCLUDED SPACE FOR A DRIVEWAY AND SPACE TO PARK A LIMITED NUMBER OF MAINTENANCE VEHICLES.
5. SYSTEMS BUILDINGS WOULD BE DETAILED DURING FINAL DESIGN TO CONSIDER SITE SPECIFIC CONDITIONS, BE CONTEXT SENSITIVE, AND MINIMIZE VISUAL IMPACT. THE RADIO MAST AT COMMUNICATION FACILITIES WOULD BE APPROXIMATELY 50FT (15M) ABOVE THE TOP OF RAIL ELEVATION.
6. TPSS WOULD BE CONNECTED TO THE NEAREST 138KV TRANSMISSION LINES DESIGNED BY UTILITY PROVIDER AND SUBJECT TO ENVIRONMENTAL REVIEW.

FACILITY NOTES:

1. PROPOSED HSR FACILITIES WOULD INCLUDE STATIONS AND ASSOCIATED PARKING GARAGES, MAINTENANCE OF WAY (MOW) FACILITIES, TRAINSET MAINTENANCE FACILITIES (TMF), AND RAILWAY SYSTEMS SITES, INCLUDING TRACTION POWER SUPPLY FACILITIES, SIGNAL HOUSES, AND COMMUNICATIONS HOUSES. LOCATIONS, LIMITS OF DISTURBANCE, AND AREAS SHOWN FOR THE VARIOUS PROPOSED FACILITIES ARE FOR PRELIMINARY PLANNING PURPOSES ONLY.
2. ALL FACILITIES WOULD BE POWERED FROM THE LOCAL UTILITY GRID.
3. ACCESS, SECURITY, AND UTILITY PROVISION REQUIREMENTS FOR ALL FACILITIES WOULD BE DETAILED DURING FINAL DESIGN.

CONSTRUCTION CONSIDERATION NOTES:

1. CONSTRUCTION REQUIREMENTS WERE CONSIDERED DURING DEVELOPMENT OF THE CONCEPTUAL ENGINEERING AND ARE DOCUMENTED IN THE PROJECT CONSTRUCTABILITY REPORT.
2. TEMPORARY CONSTRUCTION AREAS REQUIRED FOR CONSTRUCTION ACCESS, CONSTRUCTION STAGING, AND PRECASTING FACILITIES WERE IDENTIFIED DURING DEVELOPMENT OF THE CONCEPTUAL ENGINEERING. CONSTRUCTION STAGING AREAS AND PRECAST FACILITIES ARE INCLUDED IN THE PROJECT LOD.
3. SPECIAL STRUCTURES REQUIRED TO MITIGATE IMPACTS OR ADDRESS UNIQUE SITE SPECIFIC ISSUES SUCH AS LONG SPANS, CROSSOVER STRUCTURES, AND STRADDLE BENTS ARE IDENTIFIED IN THE CONSTRUCTABILITY REPORT.
4. MEASURES REQUIRED TO MITIGATE NOISE, TRAFFIC, AND OTHER ENVIRONMENTAL IMPACTS WOULD BE IDENTIFIED THROUGH THE ENVIRONMENTAL ANALYSES. MORE DETAILED DESIGN INCLUDING DEVELOPMENT OF MAINTENANCE AND PROTECTION OF TRAFFIC AND OTHER CONSTRUCTION SPECIFIC PLANS AND PROCEDURES WOULD BE REQUIRED TO SECURE APPLICABLE PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017



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



Client
Drawing Title
GENERAL NOTES

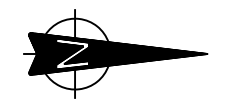
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ABBREVIATIONS

LEGEND

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

PLAN



--- --- ---
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. SEE ROAD ANNOTATION TO CLARIFY DESIGN INTENT, DRAWING GEN-00-00011.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017



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



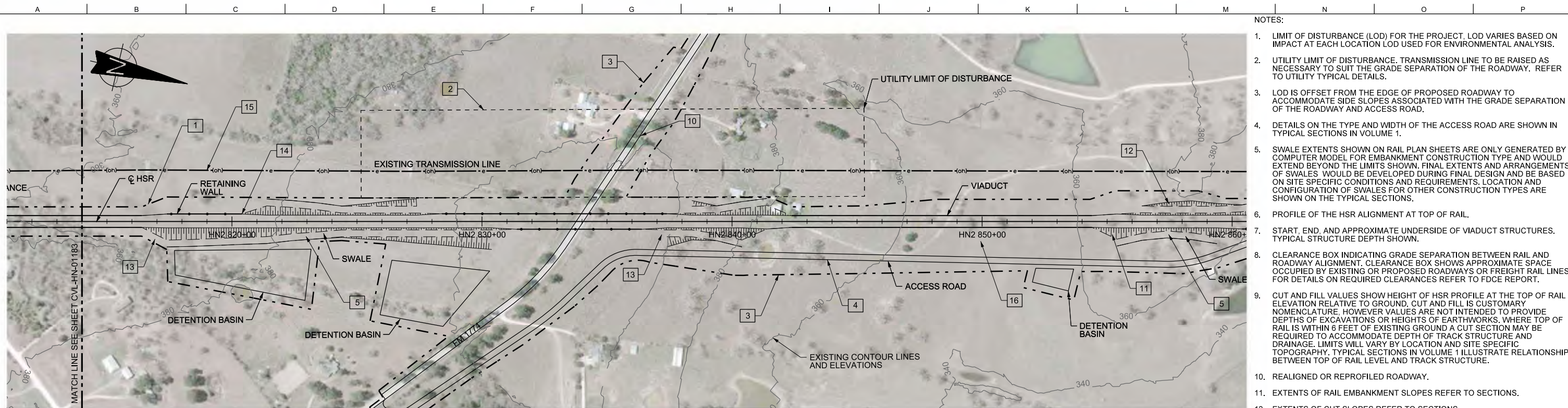
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



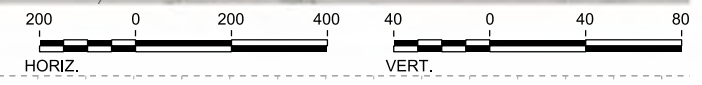
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Drawing Title
GENERAL ABBREVIATIONS AND LEGEND

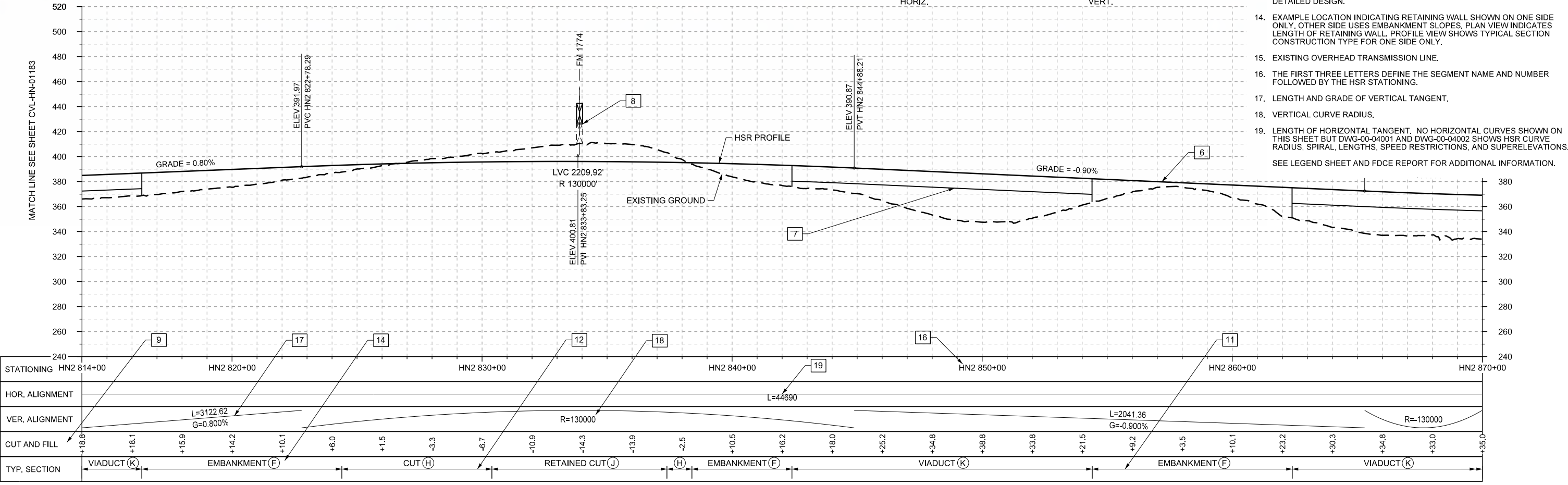
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Drawing Status FINAL DRAFT		
Job No 234180	Drawing No GEN-00-00009	Rev 01



PLAN



- NOTES:
- LIMIT OF DISTURBANCE (LOD) FOR THE PROJECT. LOD VARIES BASED ON IMPACT AT EACH LOCATION LOD USED FOR ENVIRONMENTAL ANALYSIS.
 - UTILITY LIMIT OF DISTURBANCE. TRANSMISSION LINE TO BE RAISED AS NECESSARY TO SUIT THE GRADE SEPARATION OF THE ROADWAY. REFER TO UTILITY TYPICAL DETAILS.
 - LOD IS OFFSET FROM THE EDGE OF PROPOSED ROADWAY TO ACCOMMODATE SIDE SLOPES ASSOCIATED WITH THE GRADE SEPARATION OF THE ROADWAY AND ACCESS ROAD.
 - DETAILS ON THE TYPE AND WIDTH OF THE ACCESS ROAD ARE SHOWN IN TYPICAL SECTIONS IN VOLUME 1.
 - SWALE EXTENTS SHOWN ON RAIL PLAN SHEETS ARE ONLY GENERATED BY COMPUTER MODEL FOR EMBANKMENT CONSTRUCTION TYPE AND WOULD EXTEND BEYOND THE LIMITS SHOWN. FINAL EXTENTS AND ARRANGEMENTS OF SWALES WOULD BE DEVELOPED DURING FINAL DESIGN AND BE BASED ON SITE SPECIFIC CONDITIONS AND REQUIREMENTS. LOCATION AND CONFIGURATION OF SWALES FOR OTHER CONSTRUCTION TYPES ARE SHOWN ON THE TYPICAL SECTIONS.
 - PROFILE OF THE HSR ALIGNMENT AT TOP OF RAIL.
 - START, END, AND APPROXIMATE UNDERSIDE OF VIADUCT STRUCTURES. TYPICAL STRUCTURE DEPTH SHOWN.
 - CLEARANCE BOX INDICATING GRADE SEPARATION BETWEEN RAIL AND ROADWAY ALIGNMENT. CLEARANCE BOX SHOWS APPROXIMATE SPACE OCCUPIED BY EXISTING OR PROPOSED ROADWAYS OR FREIGHT RAIL LINES. FOR DETAILS ON REQUIRED CLEARANCES REFER TO FDCE REPORT.
 - CUT AND FILL VALUES SHOW HEIGHT OF HSR PROFILE AT THE TOP OF RAIL ELEVATION RELATIVE TO GROUND. CUT AND FILL IS CUSTOMARY NOMENCLATURE. HOWEVER VALUES ARE NOT INTENDED TO PROVIDE DEPTHS OF EXCAVATIONS OR HEIGHTS OF EARTHWORKS. WHERE TOP OF RAIL IS WITHIN 6 FEET OF EXISTING GROUND A CUT SECTION MAY BE REQUIRED TO ACCOMMODATE DEPTH OF TRACK STRUCTURE AND DRAINAGE. LIMITS WILL VARY BY LOCATION AND SITE SPECIFIC TOPOGRAPHY. TYPICAL SECTIONS IN VOLUME 1 ILLUSTRATE RELATIONSHIP BETWEEN TOP OF RAIL LEVEL AND TRACK STRUCTURE.
 - REALIGNED OR REPROFILED ROADWAY.
 - EXTENTS OF RAIL EMBANKMENT SLOPES REFER TO SECTIONS.
 - EXTENTS OF CUT SLOPES REFER TO SECTIONS.
 - TRANSITION ZONE BETWEEN CONSTRUCTION TYPES. DETAILS OF TRANSITIONS ARE NOT SHOWN AND WILL BE DEVELOPED DURING MORE DETAILED DESIGN.
 - EXAMPLE LOCATION INDICATING RETAINING WALL SHOWN ON ONE SIDE ONLY. OTHER SIDE USES EMBANKMENT SLOPES. PLAN VIEW INDICATES LENGTH OF RETAINING WALL. PROFILE VIEW SHOWS TYPICAL SECTION CONSTRUCTION TYPE FOR ONE SIDE ONLY.
 - EXISTING OVERHEAD TRANSMISSION LINE.
 - THE FIRST THREE LETTERS DEFINE THE SEGMENT NAME AND NUMBER FOLLOWED BY THE HSR STATIONING.
 - LENGTH AND GRADE OF VERTICAL TANGENT.
 - VERTICAL CURVE RADIUS.
 - LENGTH OF HORIZONTAL TANGENT. NO HORIZONTAL CURVES SHOWN ON THIS SHEET BUT DWG-00-04001 AND DWG-00-04002 SHOWS HSR CURVE RADIUS, SPIRAL, LENGTHS, SPEED RESTRICTIONS, AND SUPERELEVATIONS. SEE LEGEND SHEET AND FDCE REPORT FOR ADDITIONAL INFORMATION.



PROFILE

DESIGNED BY J. ENRIQUEZ
DRAWN BY P. TONKIN
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017

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

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

Drawing Title
GENERAL

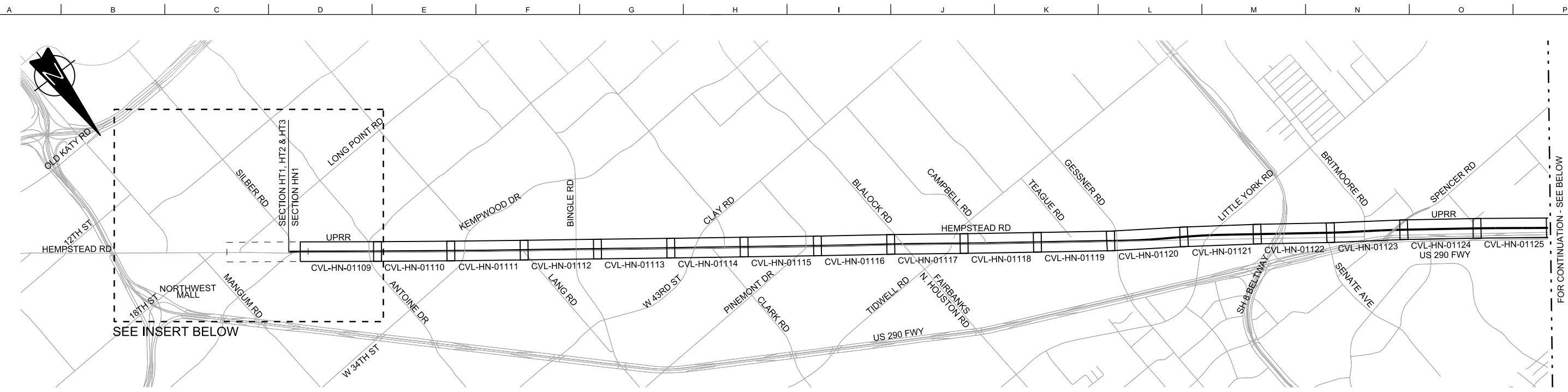
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Scale
AS SHOWN

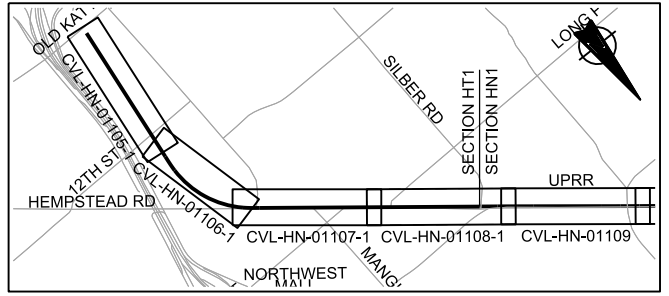
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Job No 234180	Drawing No GEN-00-00010	Rev 01
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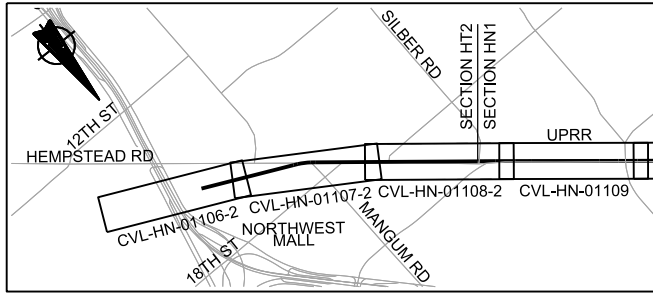
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HOUSTON SEGMENT



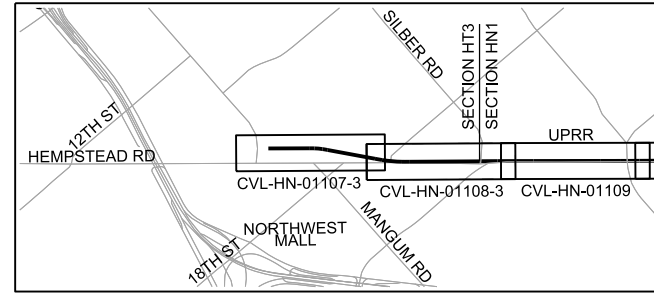
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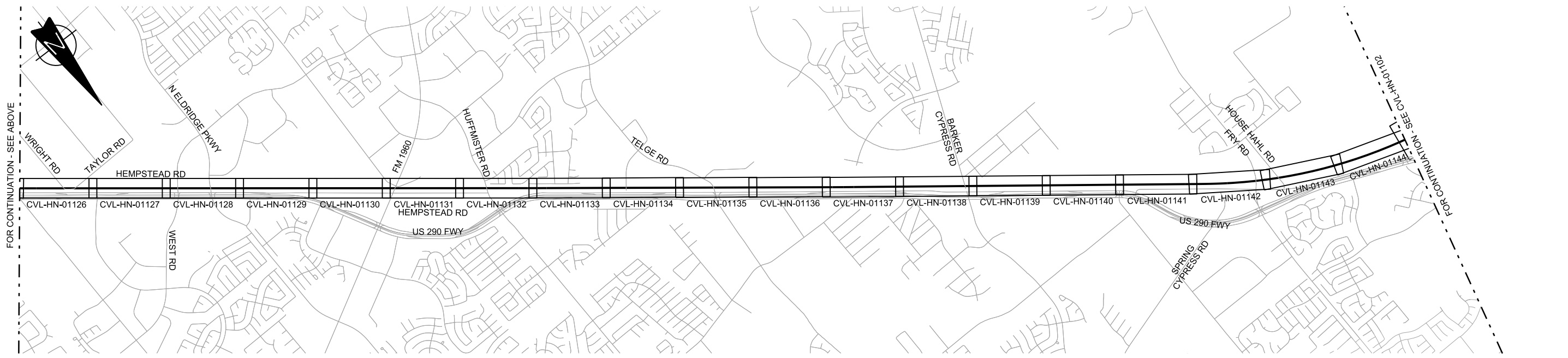
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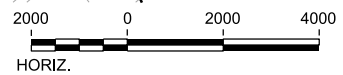
SECTION HT2/HN1



SECTION HT3/HN1



SECTION HN1



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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



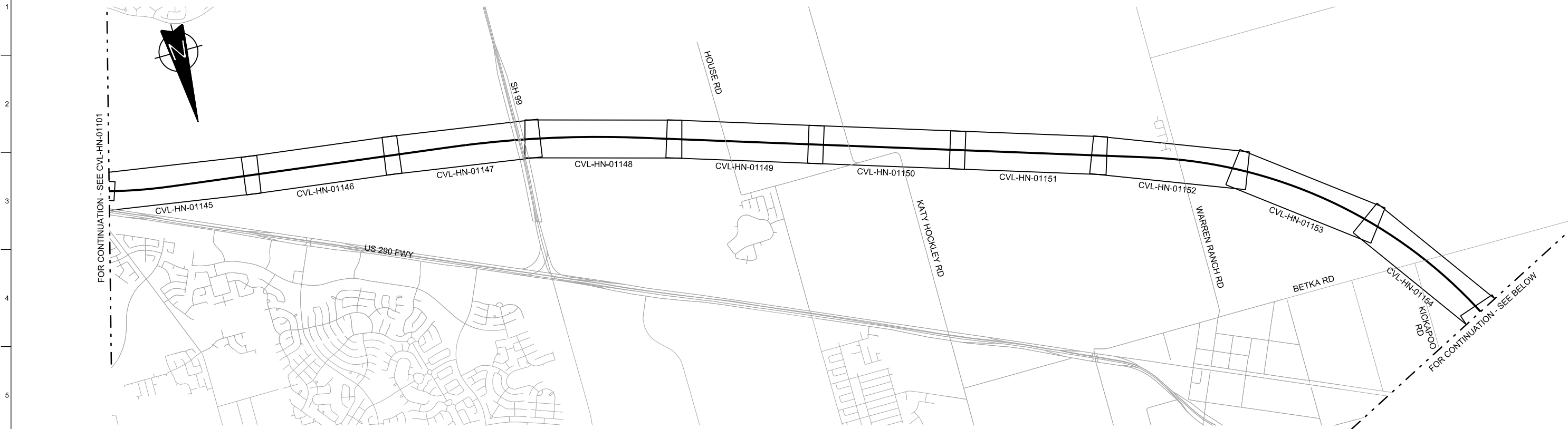
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144



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

Drawing Title
**HOUSTON SEGMENT
CIVIL
KEY MAP - SHEET 1 OF 4
HT1 10+00 TO HN1 1024+00**

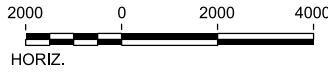
Scale AS SHOWN	Drawing Status FINAL DRAFT	
Job No 234180	Drawing No CVL-HN-01101	Rev 01



SECTION HN1



SECTION HN1



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
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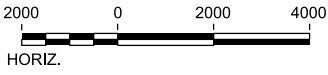
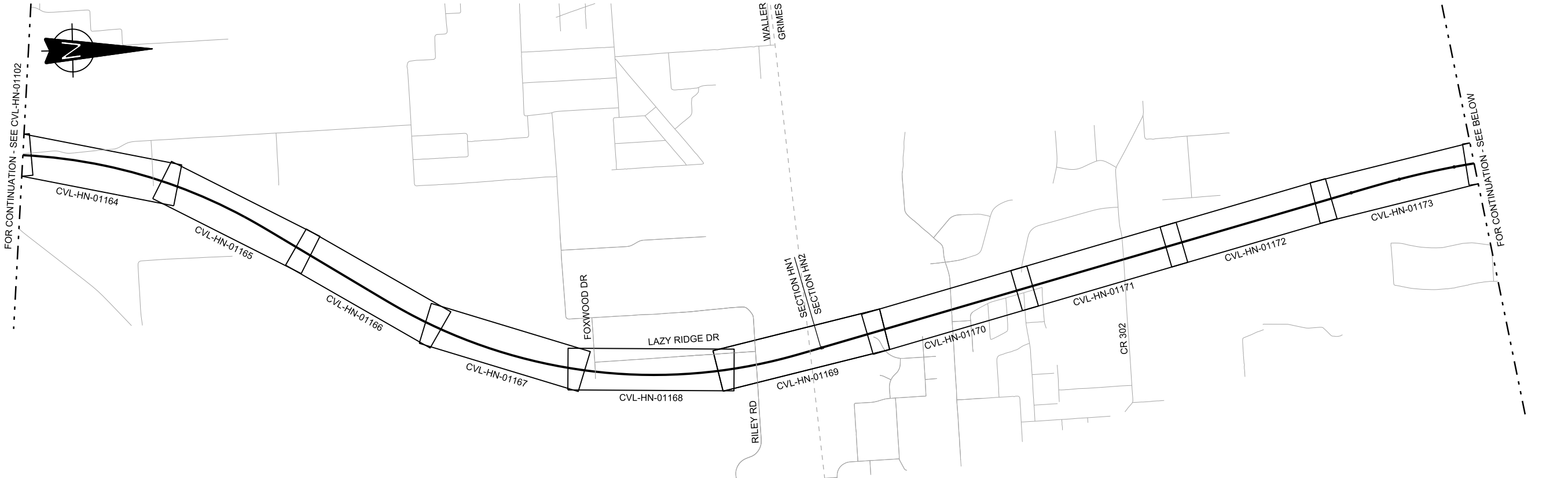
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
CIVIL
KEY MAP - SHEET 2 OF 4
HN1 1024+00 TO HN1 2082+00**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-HN-01102	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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

FREESSE AND NICHOLS

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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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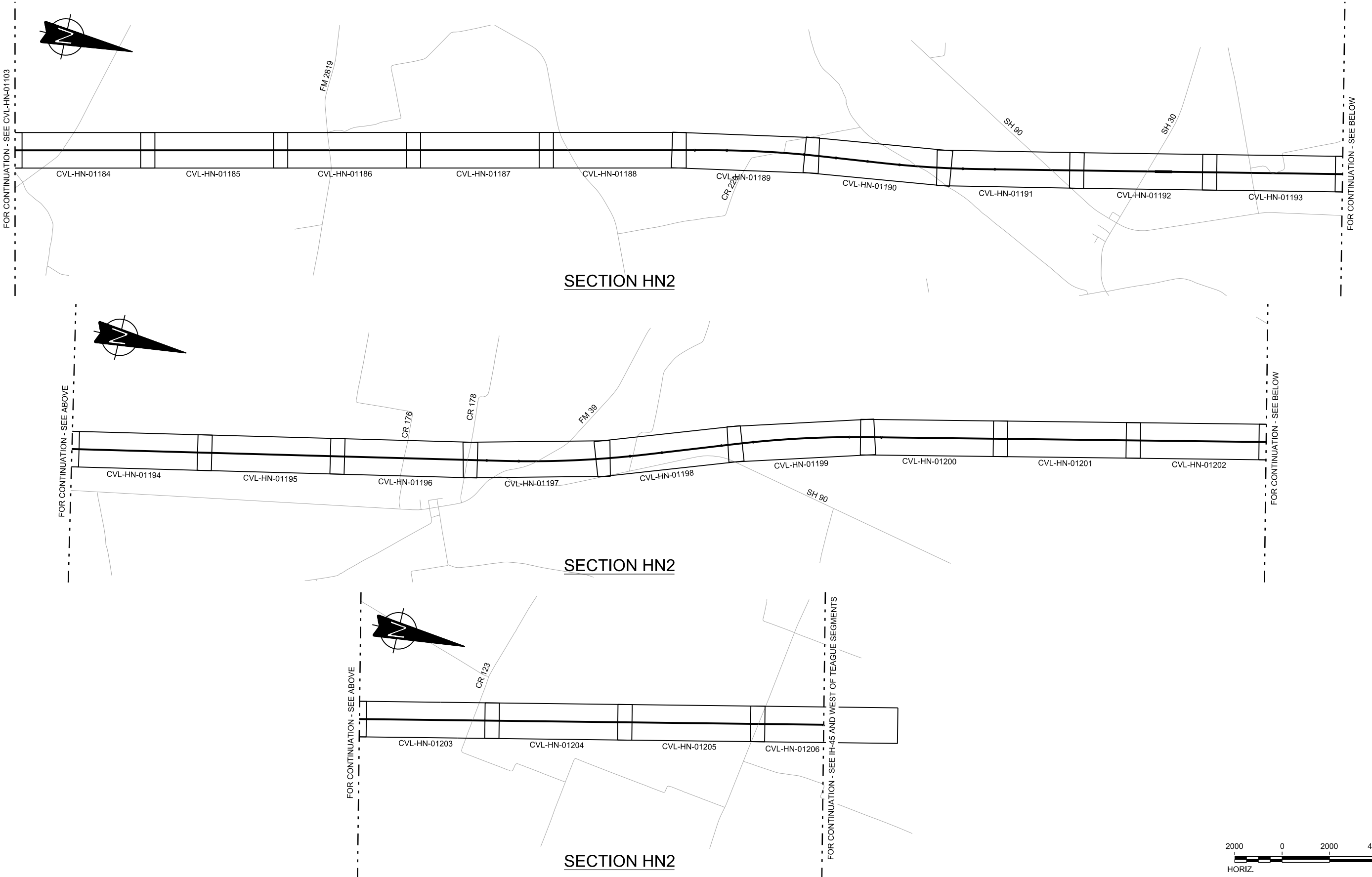
Client

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

Drawing Title

**HOUSTON SEGMENT
CIVIL
KEY MAP - SHEET 3 OF 4
HN1 2082+00 TO HN2 814+00**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-HN-01103	Rev 01



FOR CONTINUATION - SEE CVL-HN-01103

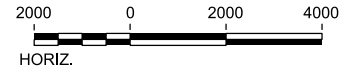
FOR CONTINUATION - SEE BELOW

FOR CONTINUATION - SEE ABOVE

FOR CONTINUATION - SEE BELOW

FOR CONTINUATION - SEE ABOVE

FOR CONTINUATION - SEE IH-45 AND WEST OF TEAGUE SEGMENTS



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

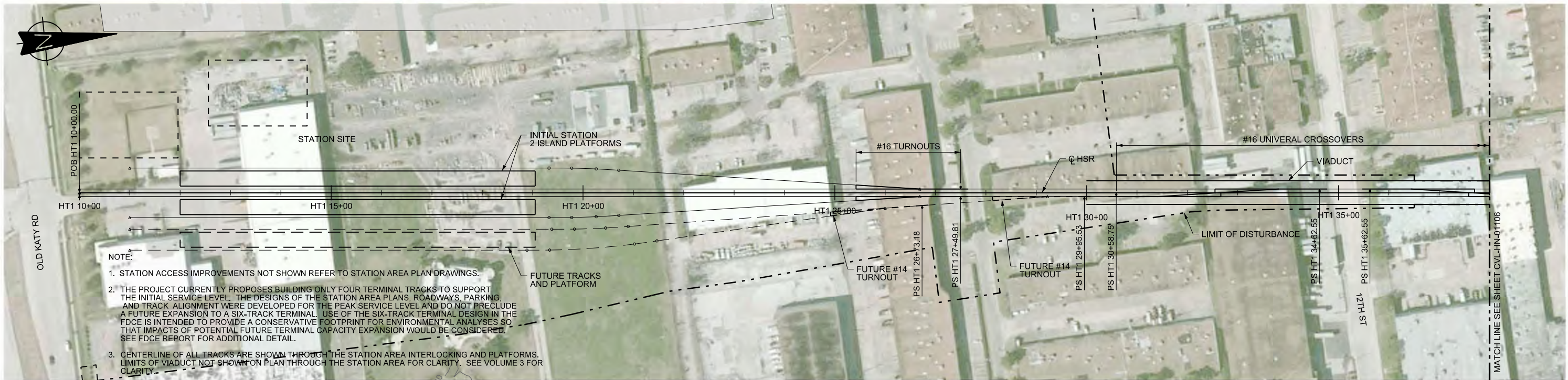


2711 North Haskell Ave., Suite 3300
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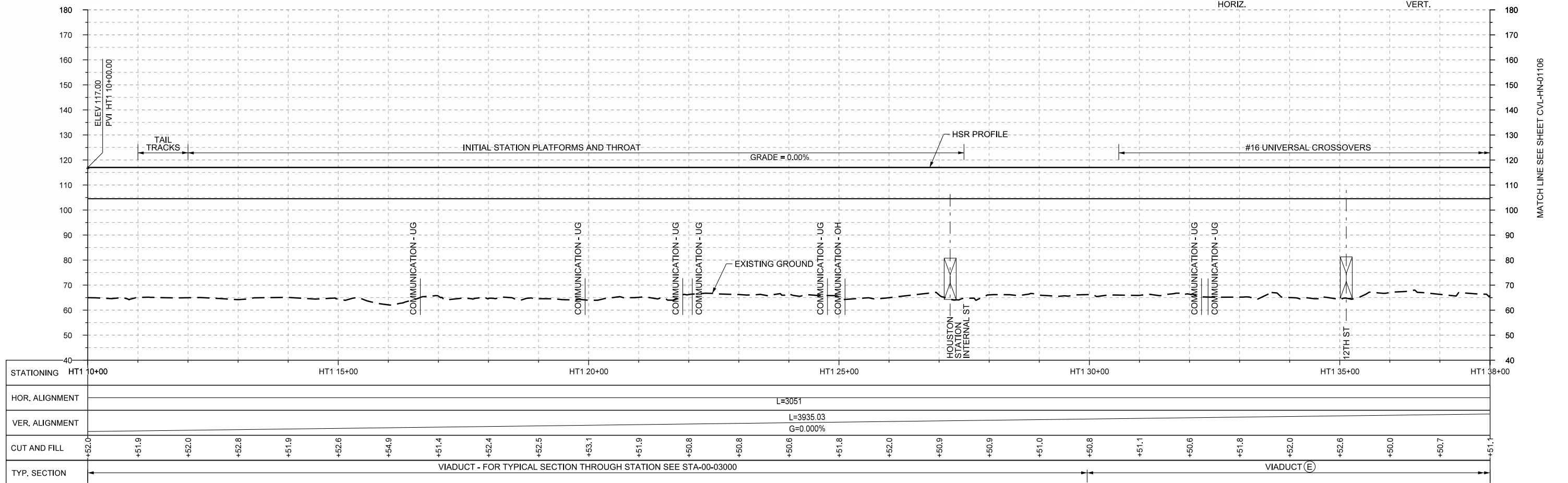
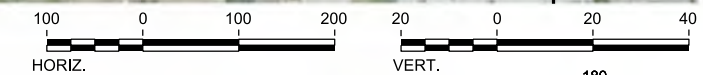


Drawing Title
**HOUSTON SEGMENT
CIVIL
KEY MAP - SHEET 4 OF 4
HN2 814+00 TO HN2 2073+80**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-HN-01104	Rev 01



PLAN



PROFILE

STATIONING	HT1 10+00	HT1 15+00	HT1 20+00	HT1 25+00	HT1 30+00	HT1 35+00	HT1 38+00
HOR. ALIGNMENT	L=3051						
VER. ALIGNMENT	L=3935.03 G=0.000%						
CUT AND FILL	+52.0	+51.9	+52.0	+52.8	+51.9	+52.6	+54.9
TYP. SECTION	VIADUCT - FOR TYPICAL SECTION THROUGH STATION SEE STA-00-03000						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

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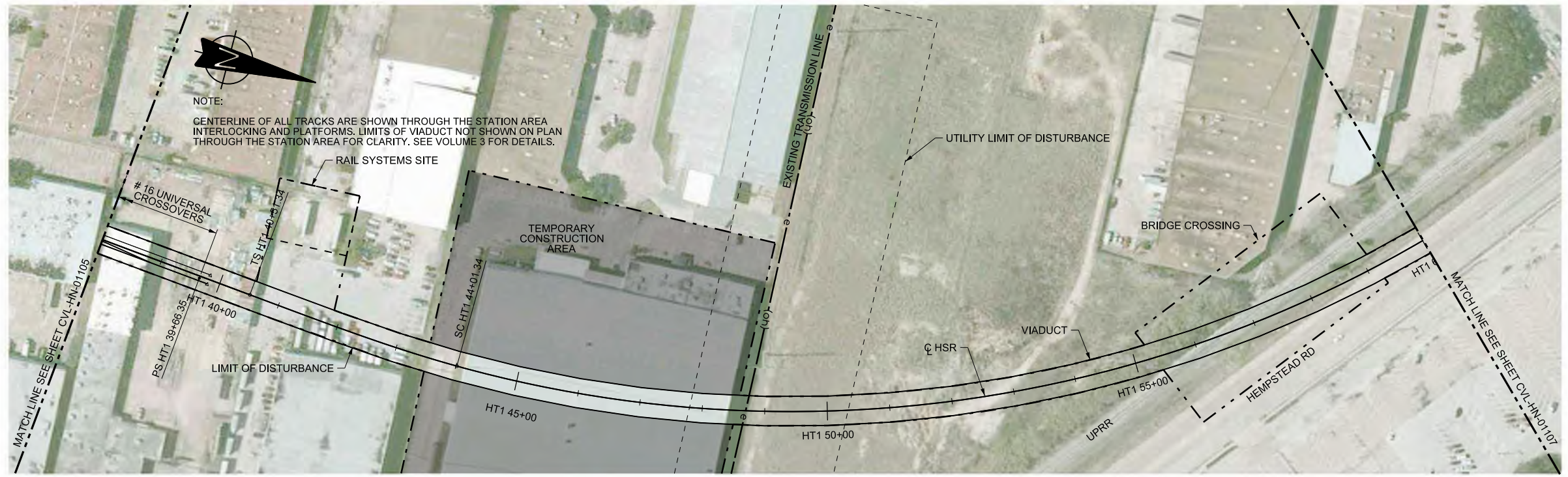
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

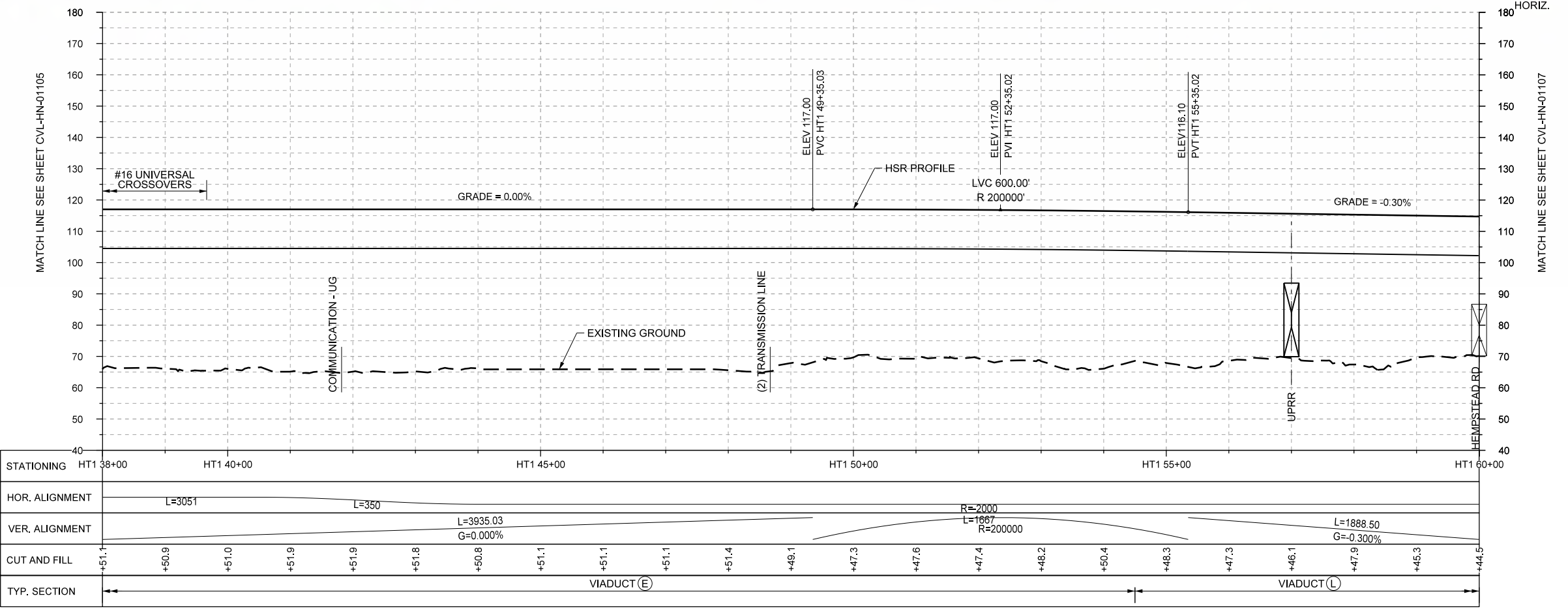
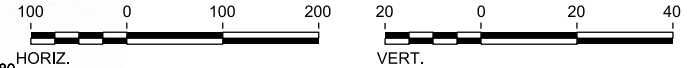
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT1 10+00 TO HT1 38+00

Scale
 AS SHOWN
 Drawing Status
FINAL DRAFT
 Job No 234180 Drawing No CVL-HN-01105 Rev 01



PLAN



PROFILE

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHEI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION

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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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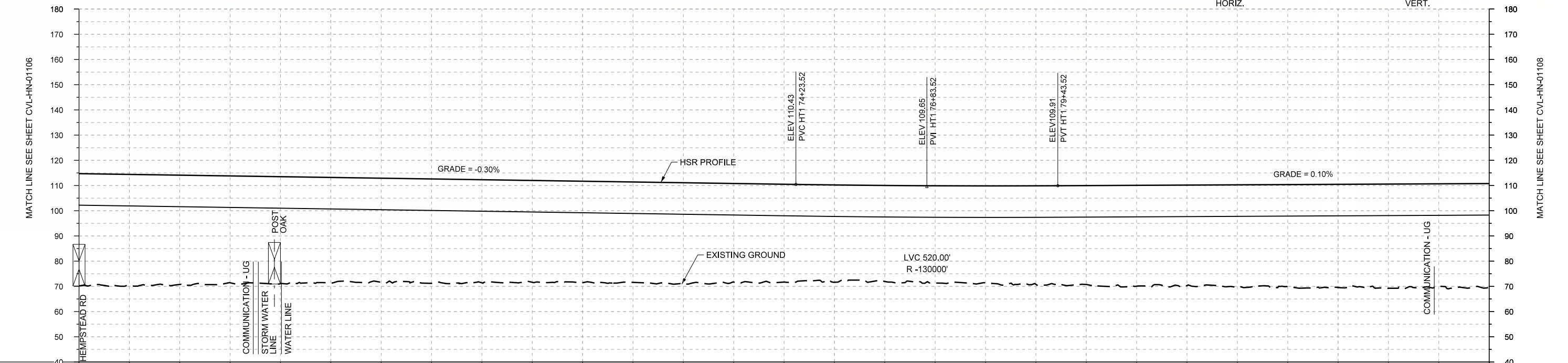
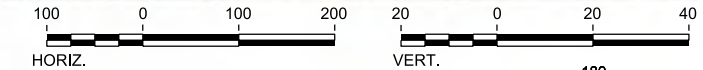
Client

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

Drawing Title		
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT1 38+00 TO HT1 60+00		
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-HN-01106	Rev 01



PLAN



PROFILE

STATIONING	HT1 60+00	HT1 65+00	HT1 70+00	HT1 75+00	HT1 80+00	HT1 85+00	HT1 88+00																						
HOR. ALIGNMENT	R=2000 L=350		L=4581			L=3056.48 G=0.100%																							
VER. ALIGNMENT	L=1888.50 G=-0.300%		R=130000			L=3056.48 G=0.100%																							
CUT AND FILL	+44.5	+44.2	+43.4	+42.4	+42.5	+41.8	+41.3	+41.4	+40.9	+40.4	+40.3	+39.8	+40.1	+39.1	+38.8	+38.6	+38.1	+36.6	+38.5	+39.1	+39.3	+40.0	+39.9	+40.7	+40.4	+41.0	+41.4	+40.7	+41.2
TYP. SECTION	VIADUCT (L)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

Client

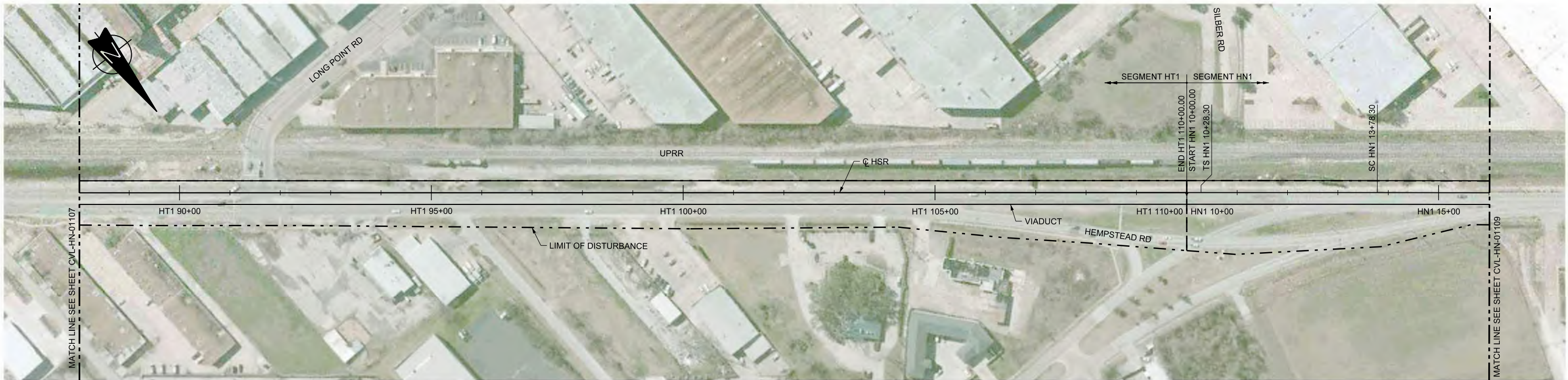
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT1 60+00 TO HT1 88+00

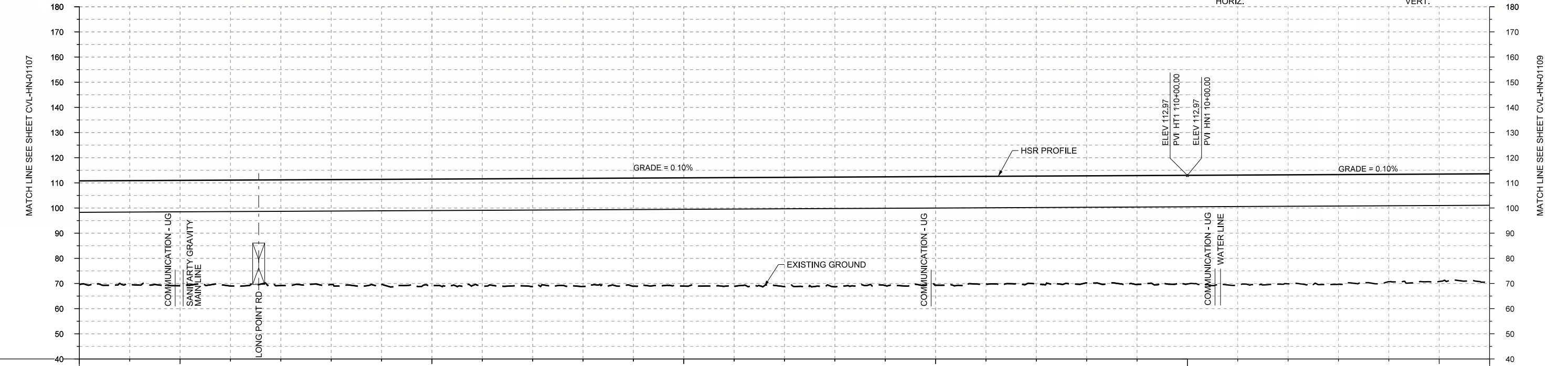
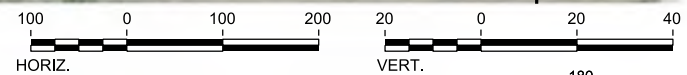
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01107	01



PLAN



PROFILE

STATIONING	HT1 88+00	HT1 90+00	HT1 95+00	HT1 100+00	HT1 105+00	HT1 110+00+00	HN1 15+00	HN1 16+00																			
HOR. ALIGNMENT	L=4581						L=28	L=350	R=160000 L=404																		
VER. ALIGNMENT	L=3056.48 G=0.100%						L=33495.01 G=0.100%																				
CUT AND FILL	+41.2	+41.3	+41.9	+42.1	+42.0	+41.7	+41.9	+42.4	+42.7	+42.9	+43.0	+43.1	+43.3	+43.5	+43.6	+43.2	+42.8	+42.9	+42.6	+43.3	+43.2	+43.9	+43.3	+43.6	+42.7	+42.7	+43.1
TYP. SECTION	VIADUCT (L)															VIADUCT (L)											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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
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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

Client

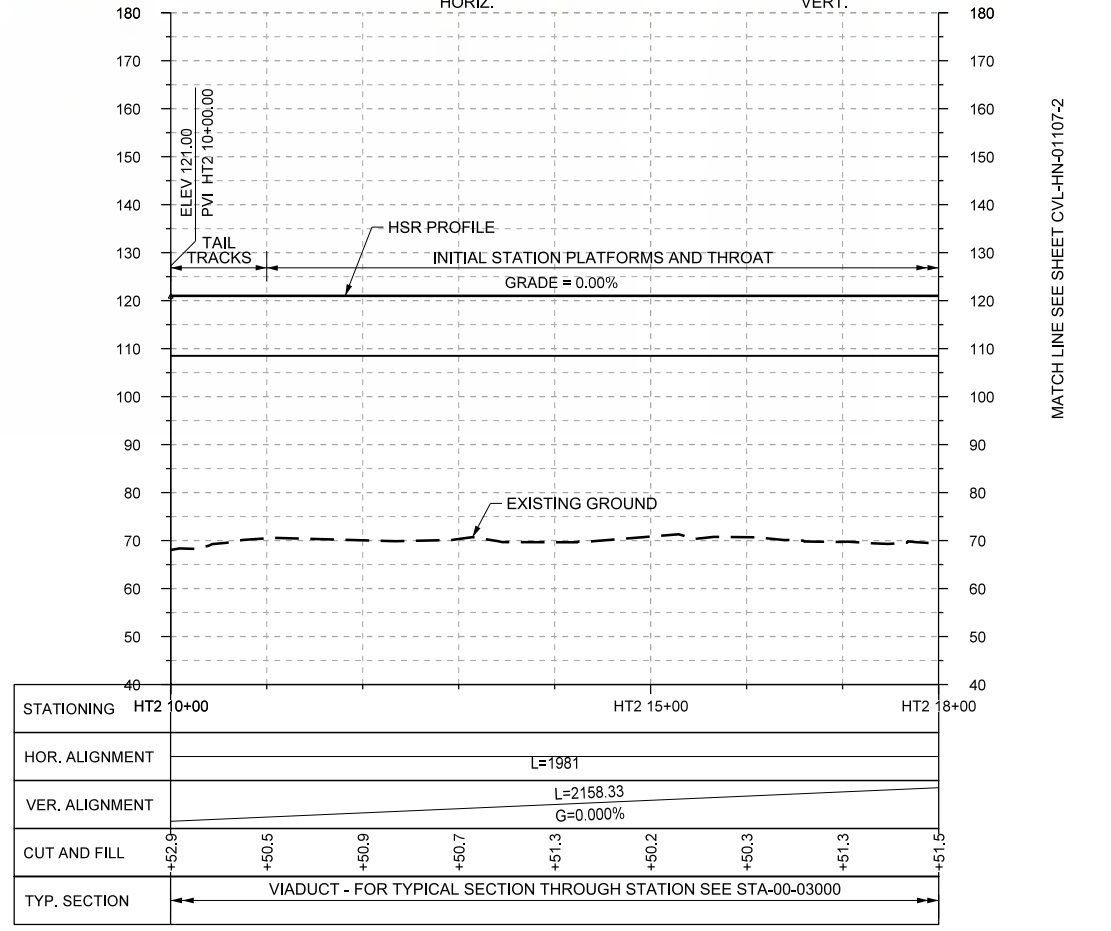
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT1 88+00 TO HN1 16+00

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01108	01



PROFILE

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION



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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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Client

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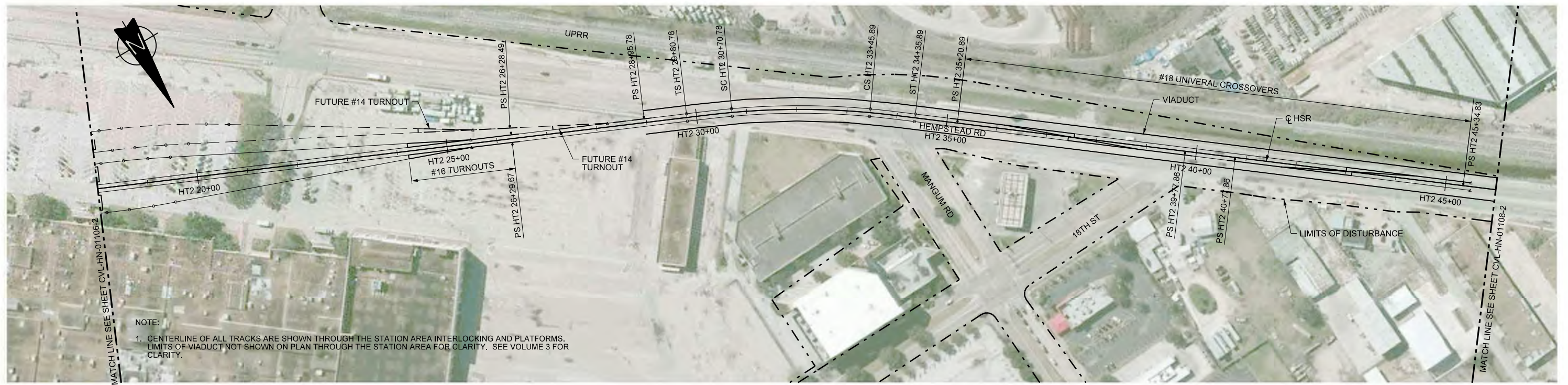
Drawing Title

HOUSTON SEGMENT
CIVIL
PLAN AND PROFILE
HT2 10+00 TO HT2 18+00

Scale
AS SHOWN

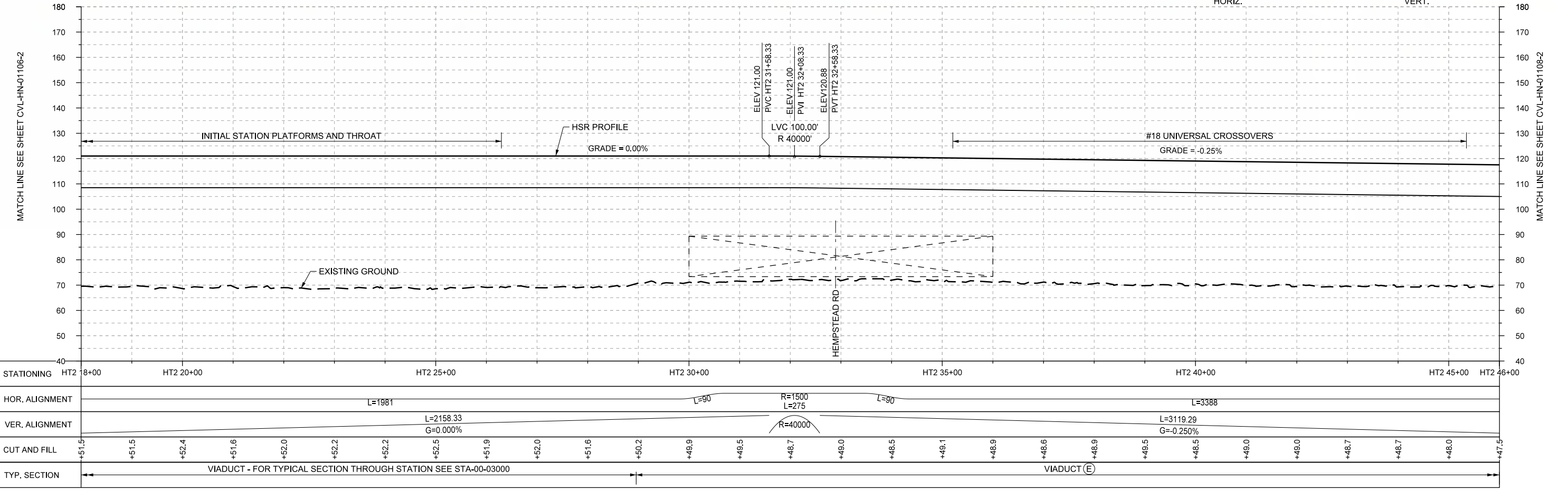
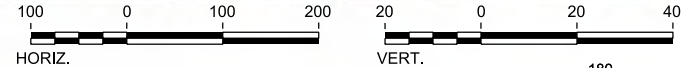
Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01106-2	01



NOTE:
1. CENTERLINE OF ALL TRACKS ARE SHOWN THROUGH THE STATION AREA INTERLOCKING AND PLATFORMS. LIMITS OF VIADUCT NOT SHOWN ON PLAN THROUGH THE STATION AREA FOR CLARITY. SEE VOLUME 3 FOR CLARITY.

PLAN



PROFILE

STATIONING	HT2 18+00	HT2 20+00	HT2 25+00	HT2 30+00	HT2 35+00	HT2 40+00	HT2 45+00	HT2 46+00																			
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VER. ALIGNMENT	L=2158.33 G=0.000%			R=40000		L=3119.29 G=-0.250%																					
CUT AND FILL	+51.5	+51.5	+52.4	+51.6	+52.0	+52.2	+52.2	+52.5	+51.9	+52.0	+51.6	+50.2	+49.9	+49.5	+48.7	+49.0	+49.5	+48.9	+48.6	+48.9	+49.5	+48.5	+49.0	+49.0	+48.7	+48.0	+47.5
TYP. SECTION	VIADUCT - FOR TYPICAL SECTION THROUGH STATION SEE STA-00-03000												VIADUCT (E)														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017

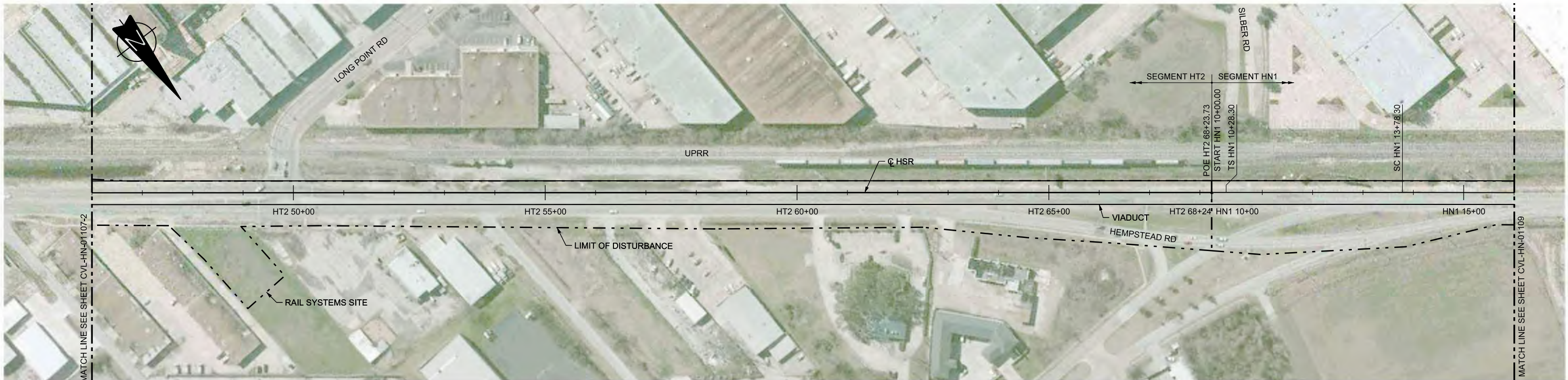
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE AND NICHOLS
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Texas Registered Engineering Firm: F-2144

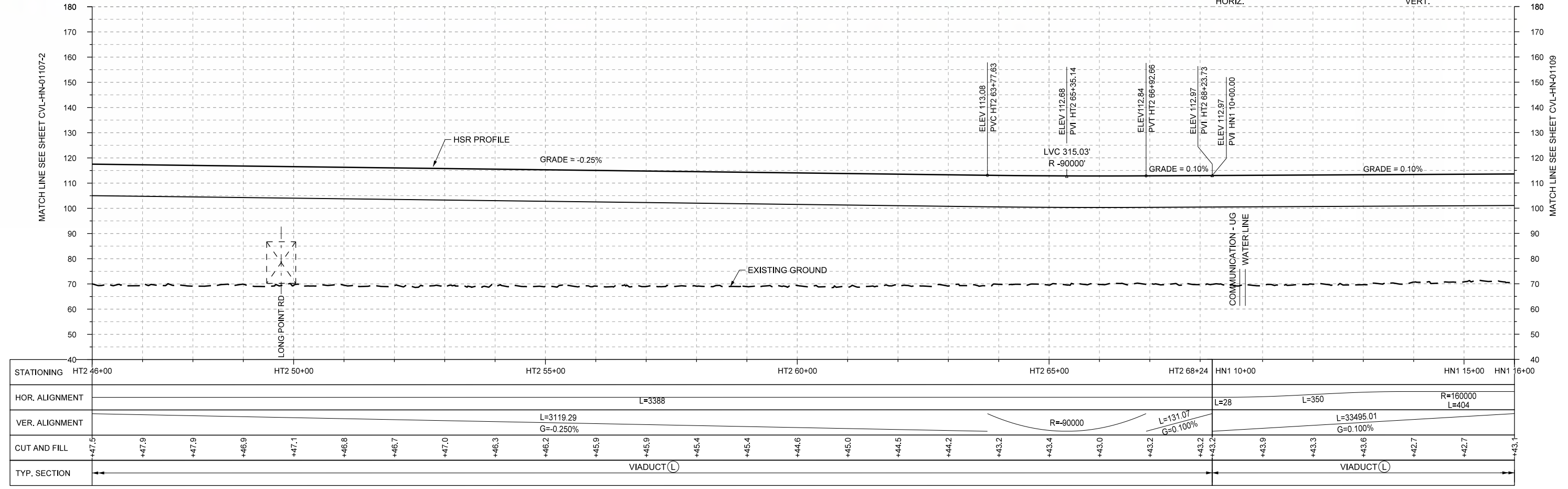
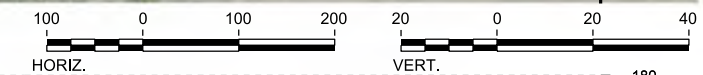
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT2 18+00 TO HT2 46+00

Scale
AS SHOWN
Drawing Status
FINAL DRAFT
Job No
234180
Drawing No
CVL-HN-01107-2
Rev
01



PLAN



PROFILE

STATIONING	HT2 46+00	HT2 50+00	HT2 55+00	HT2 60+00	HT2 65+00	HT2 68+24	HN1 10+00	HN1 15+00	HN1 16+00																			
HOR. ALIGNMENT	L=3388						L=28	L=350	R=160000	L=404																		
VER. ALIGNMENT	L=3119.29 G=-0.250%						R=90000	L=131.07 G=0.100%	L=33495.01 G=0.100%																			
CUT AND FILL	+47.5	+47.9	+47.9	+46.9	+47.1	+46.8	+46.7	+47.0	+46.3	+46.2	+45.9	+45.4	+45.4	+44.6	+45.0	+44.5	+44.2	+43.2	+43.4	+43.0	+43.2	+43.2	+43.9	+43.3	+43.6	+42.7	+42.7	+43.1
TYP. SECTION	VIADUCT (L)															VIADUCT (L)												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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

FREESSE AND NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Client

TEXAS CENTRAL

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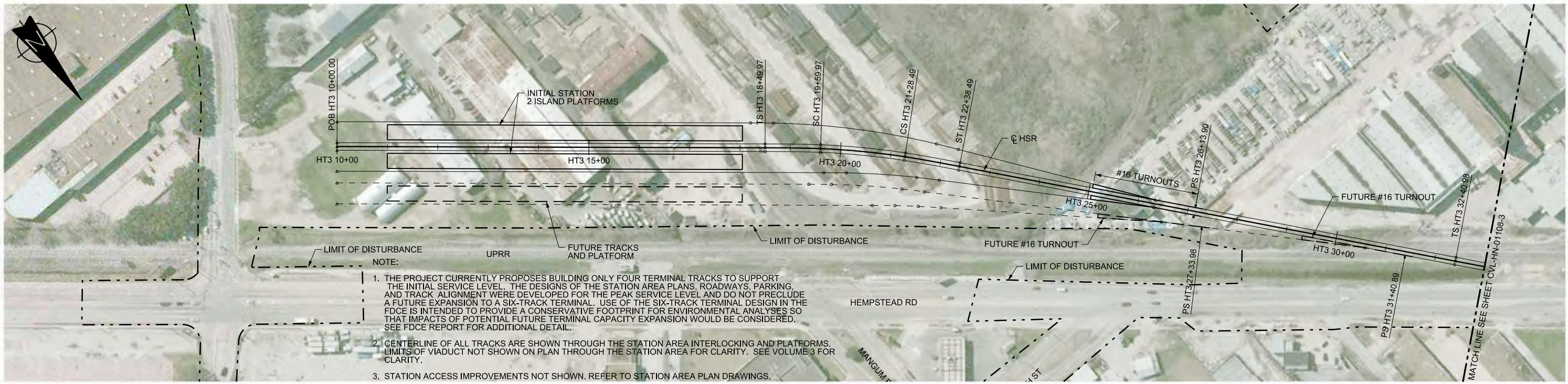
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT2 46+00 TO HN1 16+00

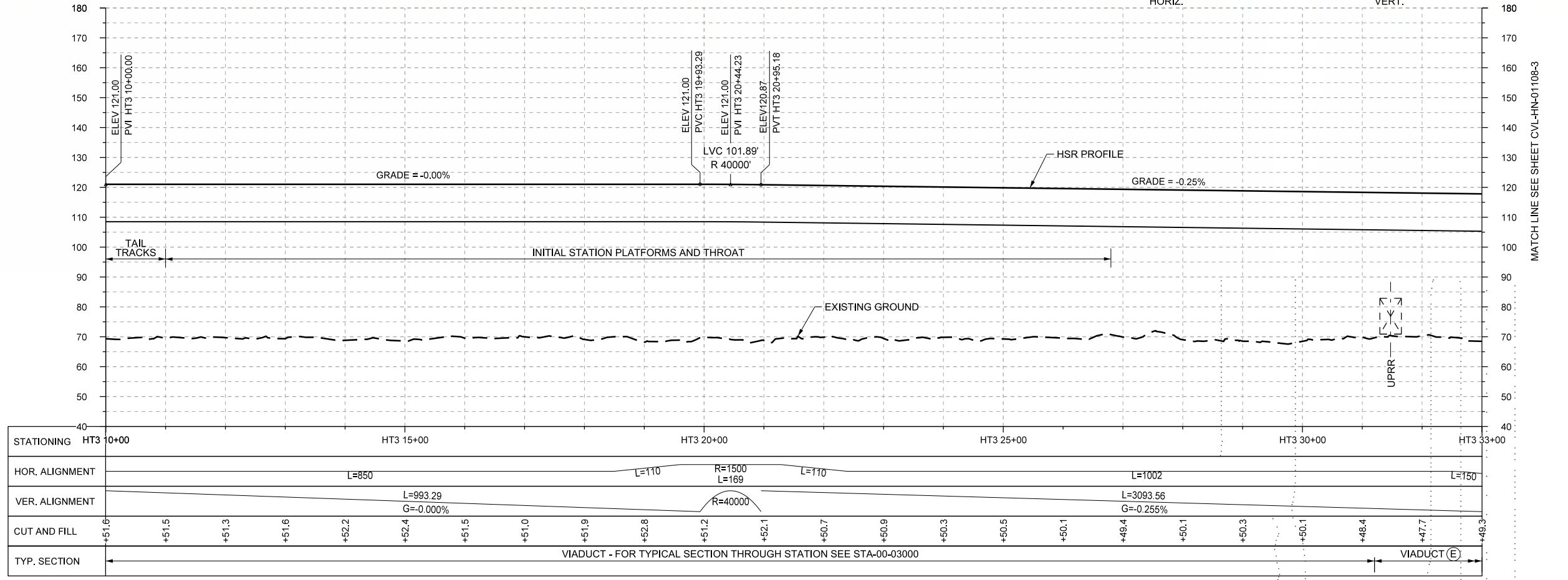
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01108-2	01



- NOTE:
1. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.
 2. CENTERLINE OF ALL TRACKS ARE SHOWN THROUGH THE STATION AREA INTERLOCKING AND PLATFORMS. LIMITS OF VIADUCT NOT SHOWN ON PLAN THROUGH THE STATION AREA FOR CLARITY. SEE VOLUME 3 FOR CLARITY.
 3. STATION ACCESS IMPROVEMENTS NOT SHOWN. REFER TO STATION AREA PLAN DRAWINGS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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DRAWN BY
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CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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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Client

TEXAS CENTRAL

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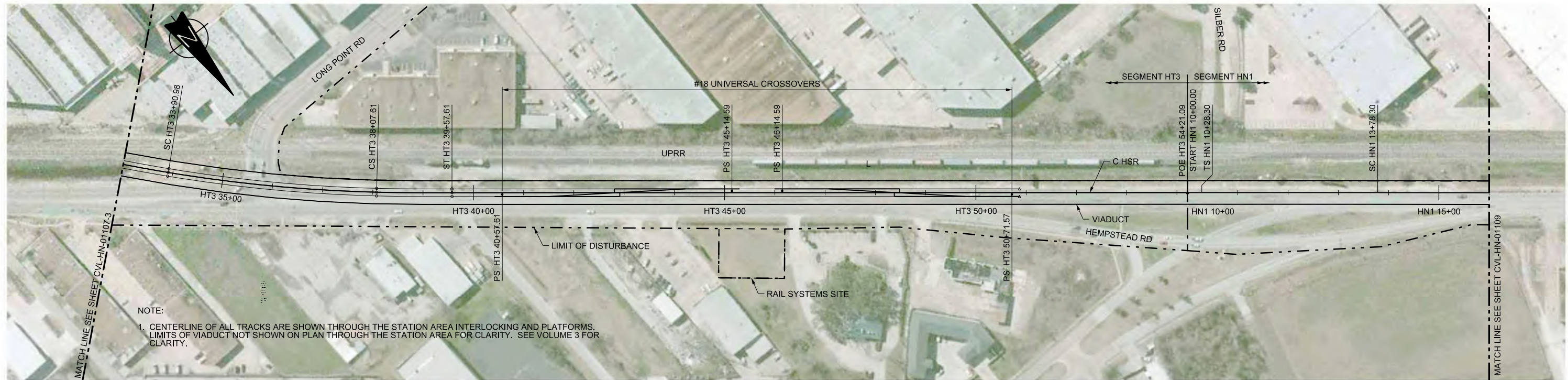
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT3 10+00 TO HT3 38+00

Scale: AS SHOWN

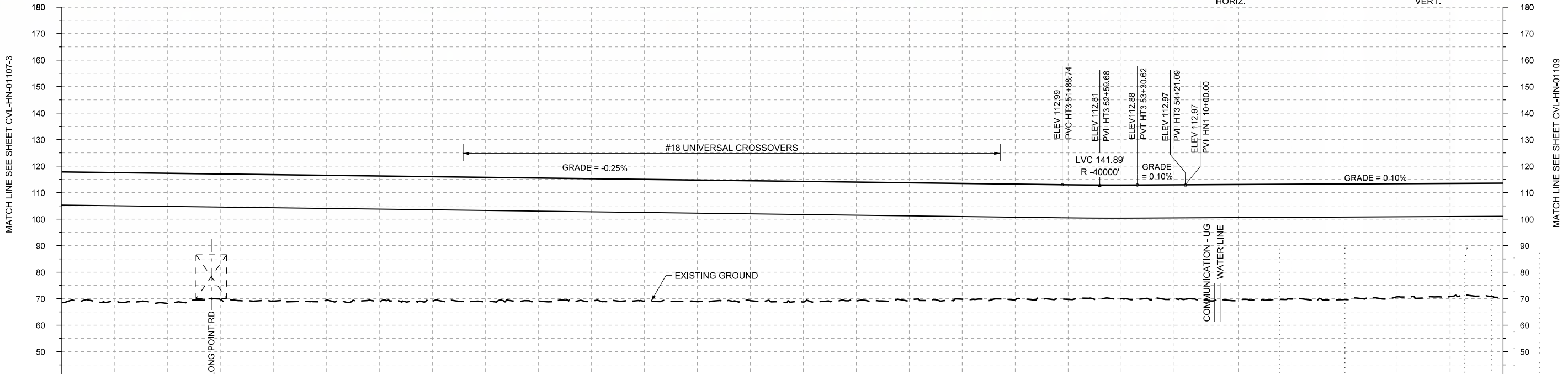
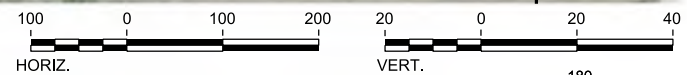
Drawing Status: **FINAL DRAFT**

Job No	Drawing No	Rev
234180	CVL-HN-01107-3	01



NOTE:
 1. CENTERLINE OF ALL TRACKS ARE SHOWN THROUGH THE STATION AREA INTERLOCKING AND PLATFORMS. LIMITS OF VIADUCT NOT SHOWN ON PLAN THROUGH THE STATION AREA FOR CLARITY. SEE VOLUME 3 FOR CLARITY.

PLAN



STATIONING	HT3 33+00	HT3 35+00	HT3 40+00	HT3 45+00	HT3 50+00	HT3 54+21	HN1 10+00	HN1 15+00	HN1 16+00																				
HOR. ALIGNMENT	L=150		R=3000 L=417	L=150	L=1463	R=40000	L=28	L=350	R=160000 L=404																				
VER. ALIGNMENT	L=3093.56 G=-0.255%			L=90.47 G=0.100%		L=33495.01 G=0.100%																							
CUT AND FILL	+49.3	+48.3	+49.1	+47.4	+47.8	+47.0	+47.5	+47.1	+46.7	+46.4	+46.3	+45.9	+45.8	+45.2	+45.5	+44.9	+44.4	+43.7	+43.6	+43.3	+42.9	+43.0	+43.2	+43.9	+43.3	+43.6	+42.7	+42.7	+43.1
TYP. SECTION	VIADUCT (L)															VIADUCT (L)													

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
 DRAWN BY
J. BORGHESI
 CHECKED BY
K. SEYMOUR
 IN CHARGE
C. TAYLOR
 DATE
09/15/2017

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
 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

Client

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

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HT3 33+00 TO HN1 16+00

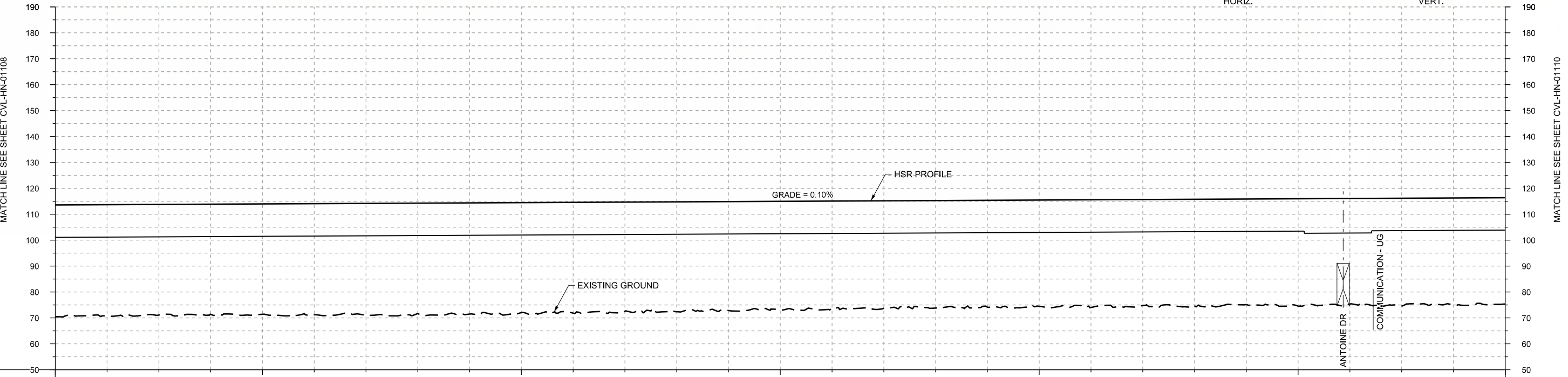
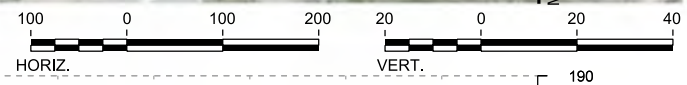
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01108-3	01



PLAN



PROFILE

STATIONING	HN1 16+00	HN1 20+00	HN1 25+00	HN1 30+00	HN1 35+00	HN1 40+00	HN1 44+00																							
HOR. ALIGNMENT	R=160000 L=404		L=1400			R=145000 L=402																								
VER. ALIGNMENT	L=33495.01 G=0.100%																													
CUT AND FILL	+43.1	+42.9	+42.7	+42.5	+42.6	+42.9	+43.2	+42.7	+42.9	+42.4	+42.8	+42.1	+42.4	+42.0	+41.9	+41.9	+41.5	+41.5	+41.3	+41.0	+41.6	+41.0	+41.1	+41.1	+40.7	+41.4	+40.8	+41.5	+41.3	+41.0
TYP. SECTION	VIADUCT (L)																													

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION

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

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

Client

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

Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 16+00 TO HN1 44+00

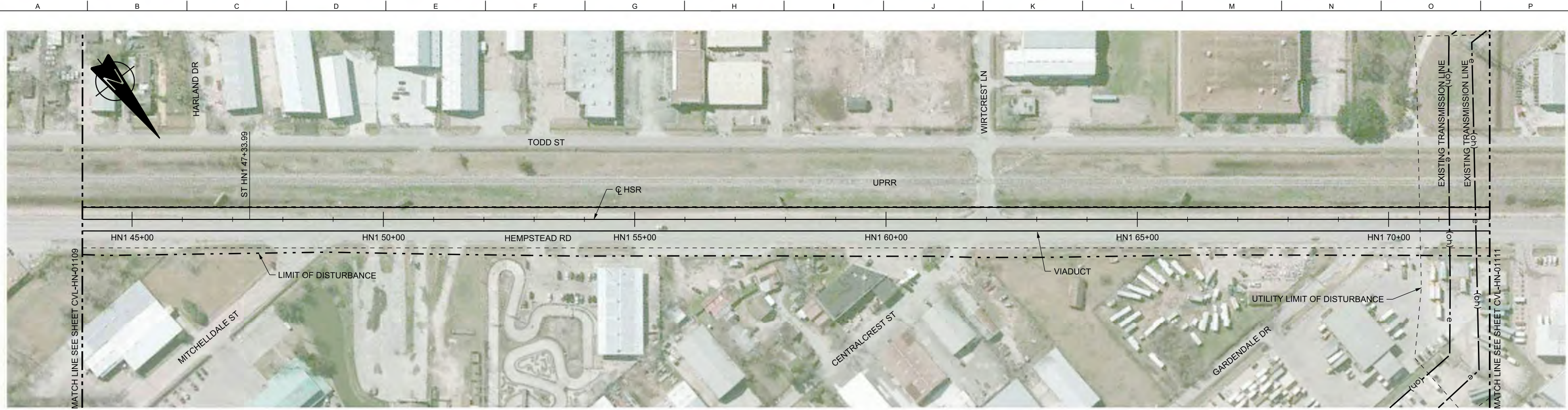
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AS SHOWN

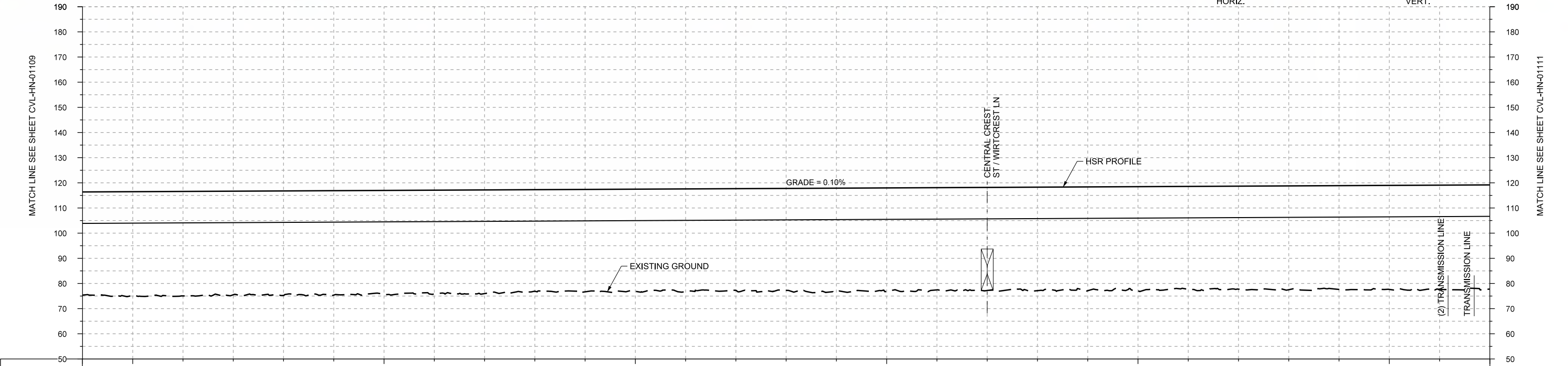
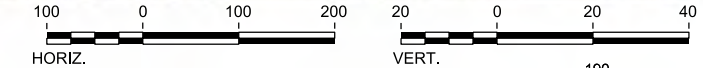
Drawing Status

FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01109	01



PLAN



STATIONING	HN1 44+00	HN1 45+00	HN1 50+00	HN1 55+00	HN1 60+00	HN1 65+00	HN1 70+00	HN1 72+00																				
HOR. ALIGNMENT	L=400		L=2870																									
VER. ALIGNMENT			L=33495.01 G=0.100%																									
CUT AND FILL	+41.0	+41.3	+41.6	+41.2	+41.6	+41.5	+41.3	+41.3	+41.2	+40.4	+40.7	+40.6	+40.8	+40.4	+40.5	+41.0	+41.2	+40.7	+41.0	+41.3	+41.4	+40.9	+41.0	+41.3	+41.3	+41.4	+41.5	+41.4
TYP. SECTION	VIADUCT (L)																											

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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
Tel (214) 217 2200 Fax (214) 217 2201
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Client

TEXAS CENTRAL

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

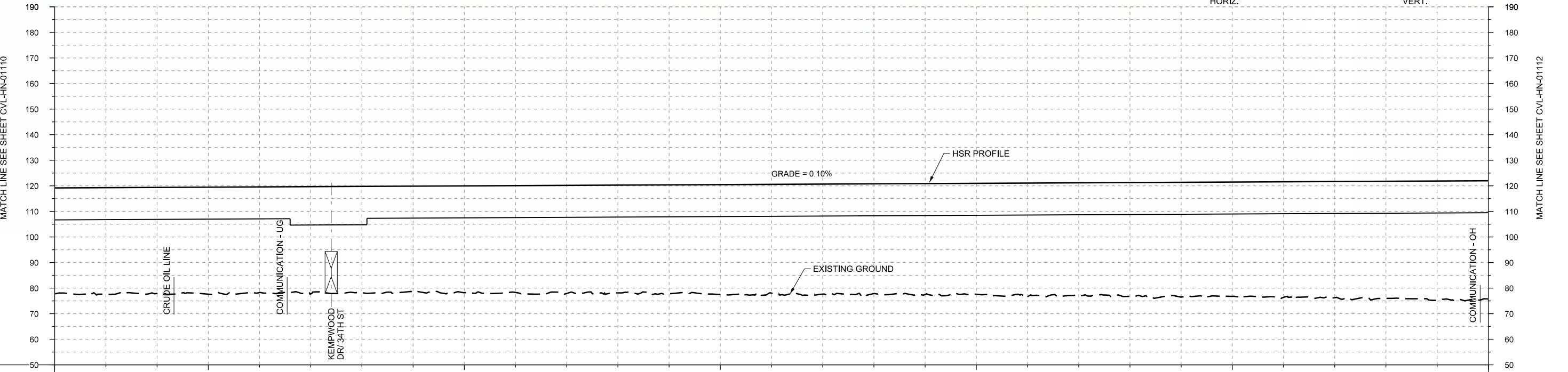
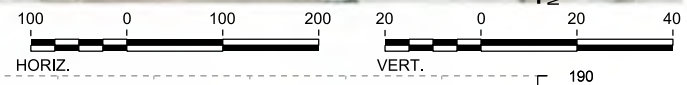
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 44+00 TO HN1 72+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-HN-01110
Rev	01



PLAN



PROFILE

STATIONING	HN1 72+00	HN1 75+00	HN1 80+00	HN1 85+00	HN1 90+00	HN1 95+00	HN1 100+00
HOR. ALIGNMENT	L=2870		L=450		L=33495.01		L=2334
VER. ALIGNMENT			R=120000 L=558		G=0.100%		
CUT AND FILL	+41.4	+41.7	+41.5	+41.9	+41.3	+42.0	+41.4
TYP. SECTION	←		VIADUCT (L)		→		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017

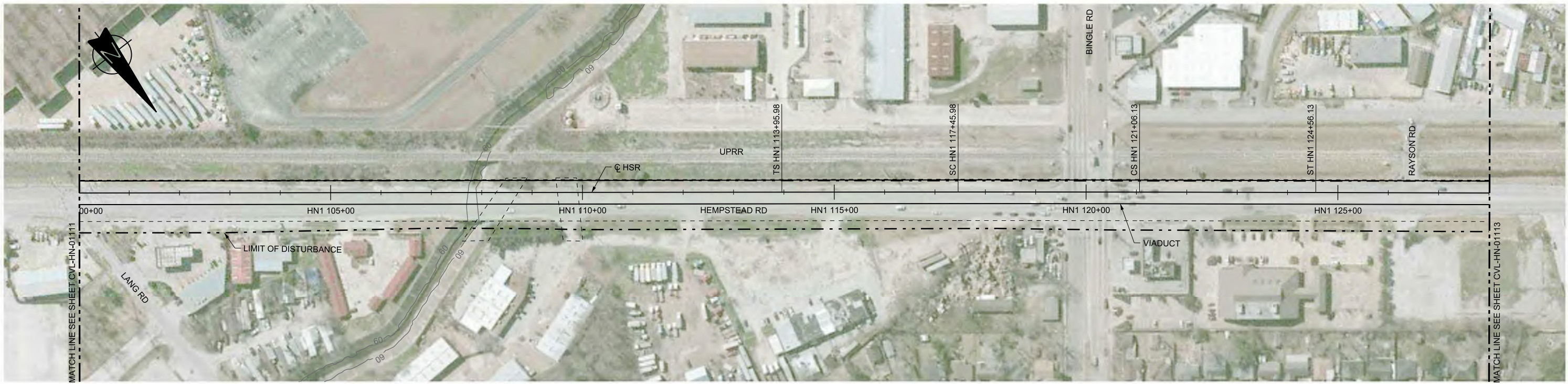
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE AND NICHOLS
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144

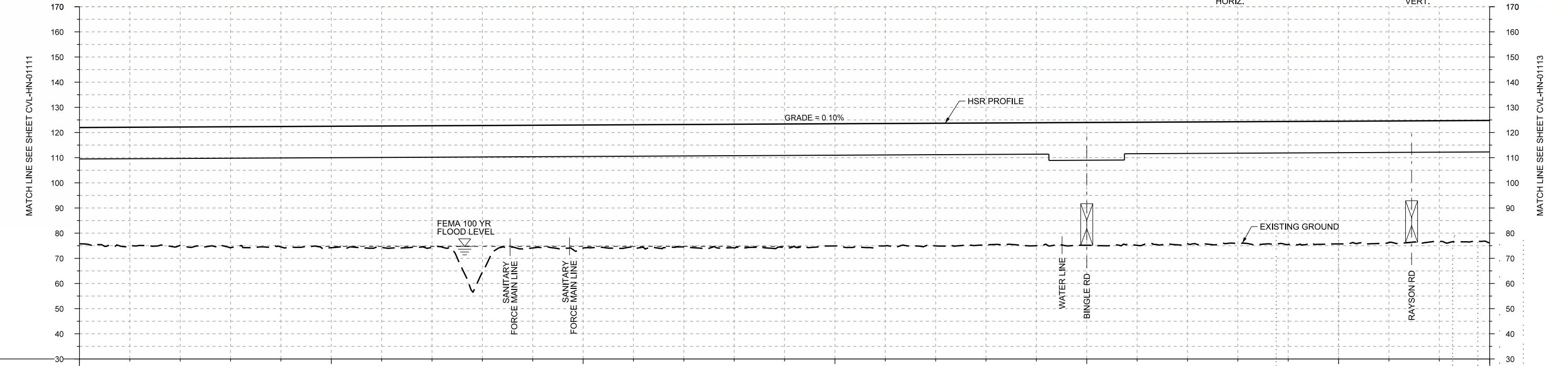
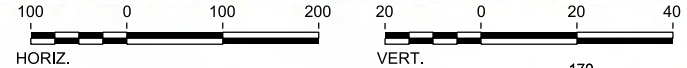
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 72+00 TO HN1 100+00

Scale
AS SHOWN
Drawing Status
FINAL DRAFT
Job No
234180
Drawing No
CVL-HN-01111
Rev
01



PLAN



PROFILE

STATIONING	HN1 100+00	HN1 105+00	HN1 110+00	HN1 115+00	HN1 120+00	HN1 125+00	HN1 128+00																					
HOR. ALIGNMENT	L=2334		L=350		R=190000 L=360	L=350	L=1741																					
VER. ALIGNMENT	L=33495.01 G=0.100%																											
CUT AND FILL	+46.2	+47.3	+47.1	+48.1	+47.9	+48.3	+48.5	+48.4	+56.2	+48.8	+49.0	+48.7	+48.7	+49.1	+49.1	+48.6	+48.7	+48.8	+48.5	+48.9	+48.8	+48.4	+48.4	+48.9	+48.8	+48.3	+48.0	+48.6
TYP. SECTION	VIADUCT (L)																											

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

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

Client

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

Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 100+00 TO HN1 128+00

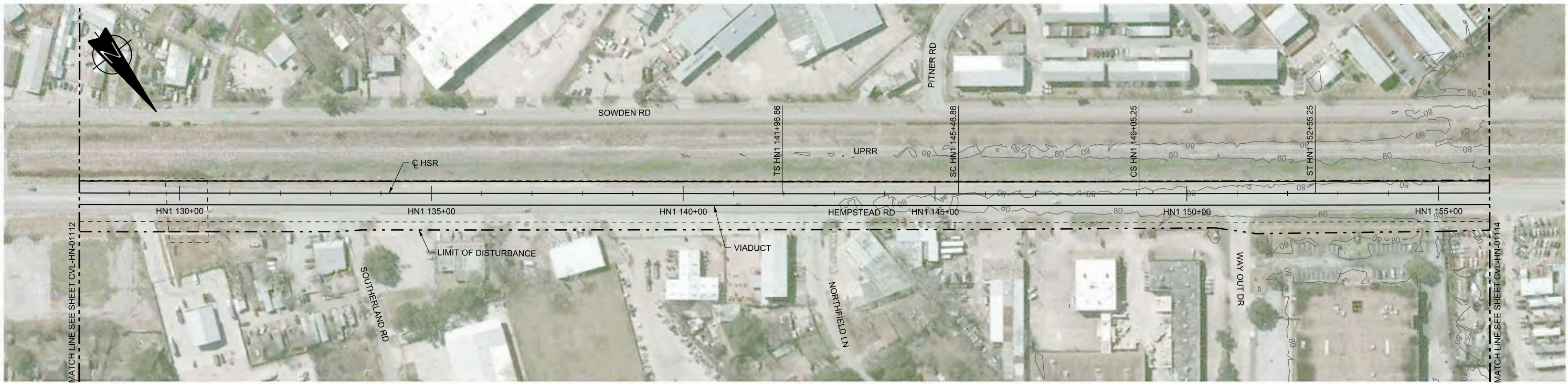
Scale

AS SHOWN

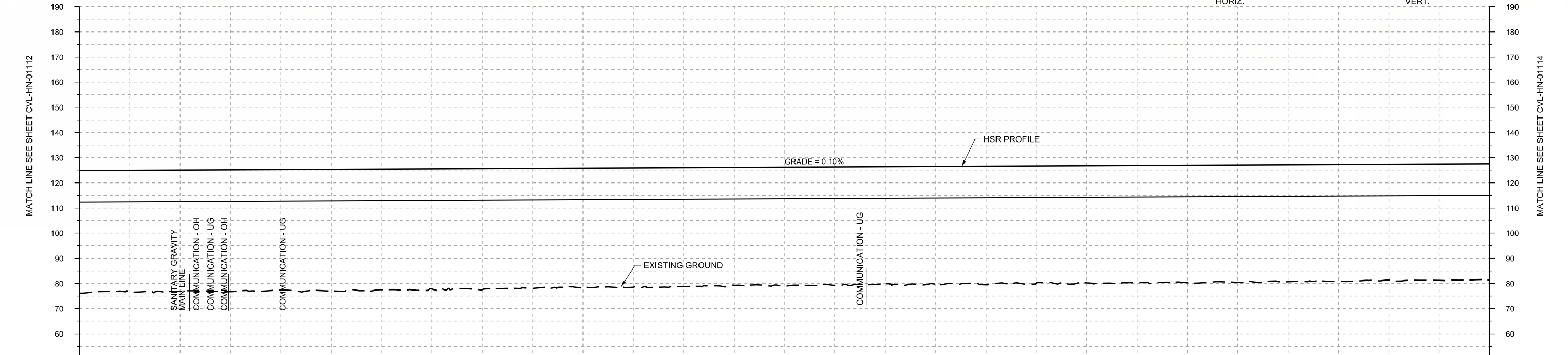
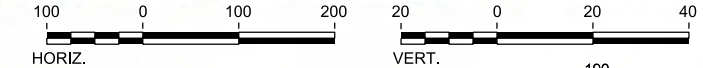
Drawing Status

FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01112	01



PLAN



PROFILE

STATIONING	HN1 128+00	HN1 130+00	HN1 135+00	HN1 140+00	HN1 145+00	HN1 150+00	HN1 155+00	HN1 156+00																				
HOR. ALIGNMENT	L=1741			L=350		R=205000 L=358	L=350	L=5943																				
VER. ALIGNMENT	G=0.100%																											
CUT AND FILL	+48.6	+48.0	+48.1	+48.3	+47.8	+48.2	+47.9	+47.7	+48.0	+47.7	+47.2	+47.4	+47.2	+48.8	+47.3	+47.1	+48.6	+48.8	+47.1	+48.7	+48.5	+48.6	+48.7	+48.5	+48.5	+48.1	+48.3	+48.2
TYP. SECTION	VIADUCT (L)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

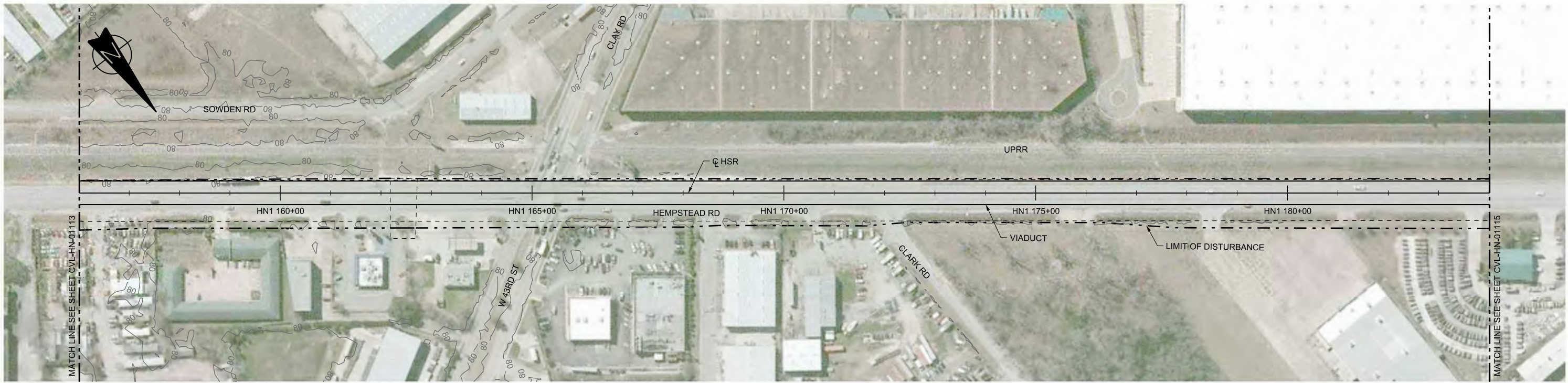
Client

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

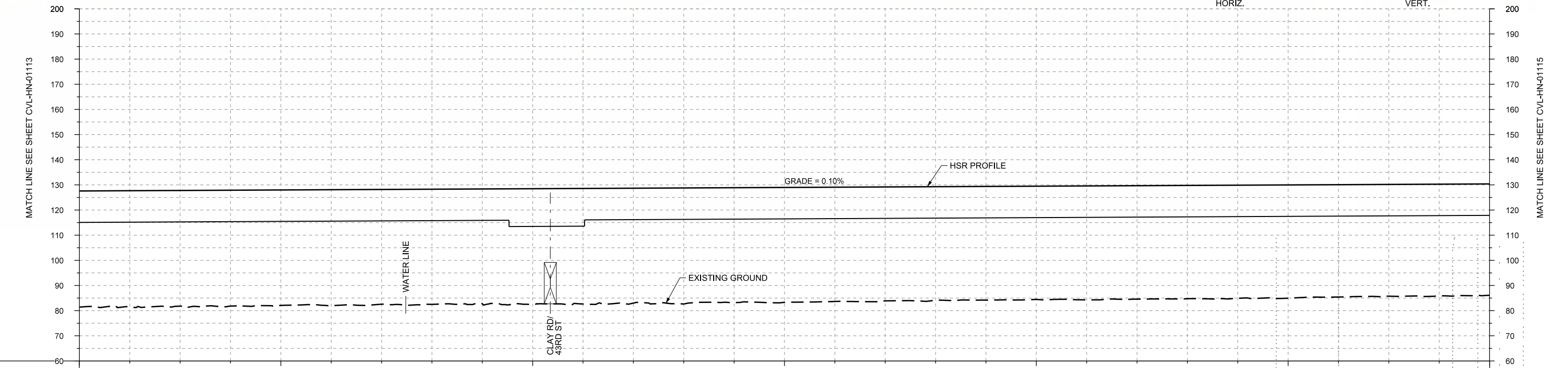
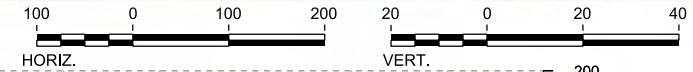
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
 HN1 128+00 TO HN1 156+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	234180	Drawing No	CVL-HN-01113
Rev			01



PLAN



PROFILE

STATIONING	HN1 156+00	HN1 160+00	HN1 165+00	HN1 170+00	HN1 175+00	HN1 180+00	HN1 184+00																					
HOR. ALIGNMENT	L=5943																											
VER. ALIGNMENT	L=33495.01 G=0.100%																											
CUT AND FILL	+46.2	+46.2	+46.0	+46.1	+45.9	+46.1	+45.6	+45.8	+45.6	+46.0	+45.7	+46.2	+45.7	+45.7	+45.5	+45.3	+45.2	+45.2	+45.0	+45.3	+45.1	+45.0	+45.0	+45.0	+44.7	+44.5	+44.3	+44.3
TYP. SECTION	←																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

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

Client

TEXAS CENTRAL

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

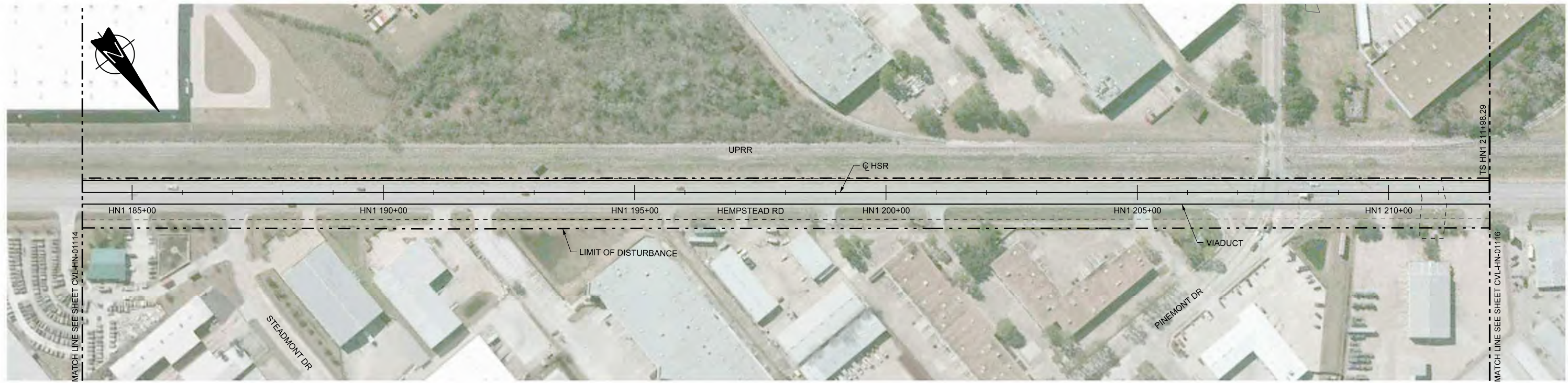
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 156+00 TO HN1 184+00

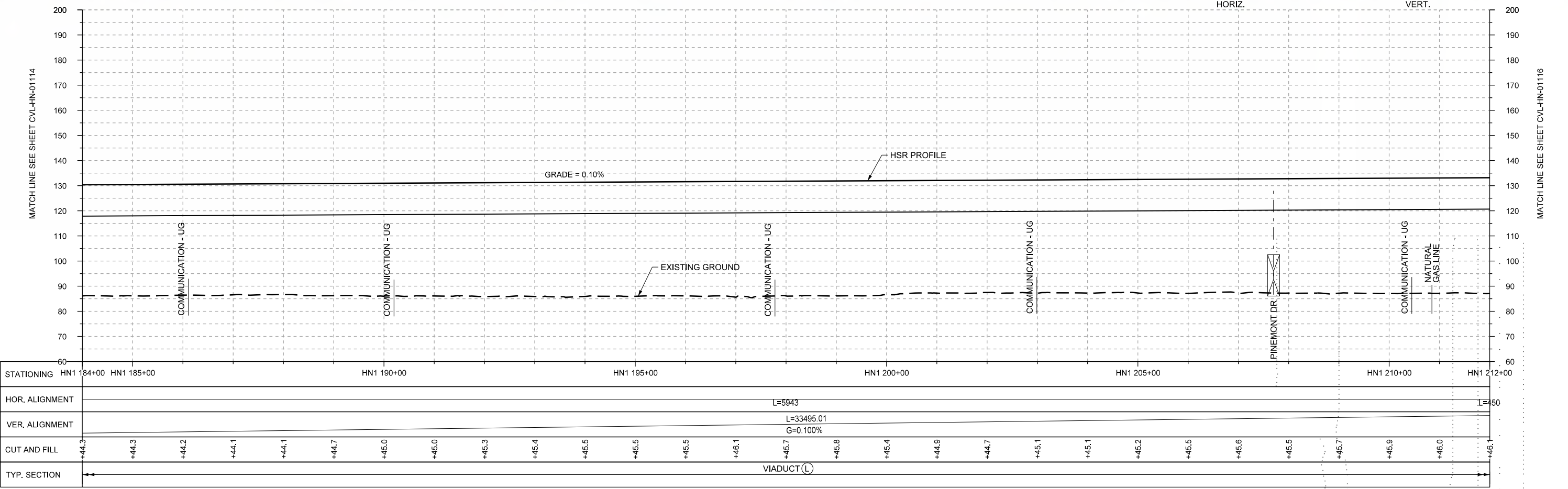
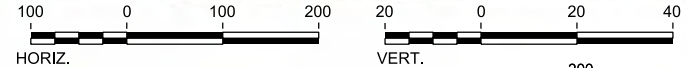
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01114	01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
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FRESE AND 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

Client

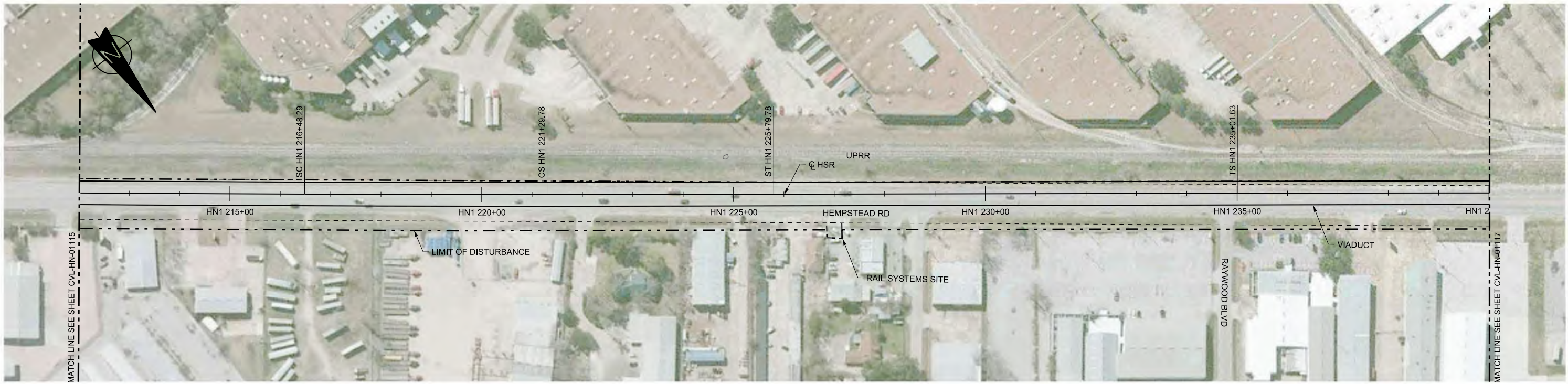
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 184+00 TO HN1 212+00

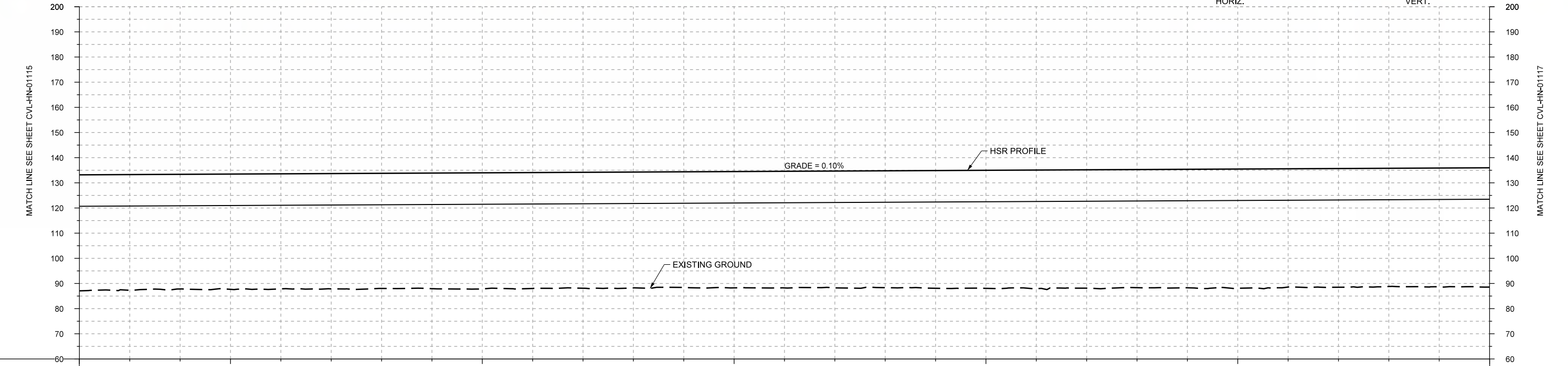
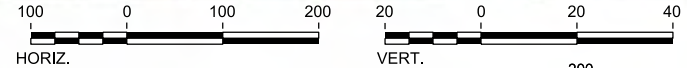
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No CVL-HN-01115	Rev 01
-------------------------	-----------------------------------	------------------



PLAN



PROFILE

STATIONING	HN1 212+00	HN1 215+00	HN1 220+00	HN1 225+00	HN1 230+00	HN1 235+00	HN1 240+00																					
HOR. ALIGNMENT	L=450		R=125000 L=481	L=450	L=33495.01 G=0.100%	L=922	L=550																					
VER. ALIGNMENT																												
CUT AND FILL	+46.1	+46.0	+45.6	+45.8	+45.8	+45.8	+46.0	+46.2	+46.1	+46.1	+46.1	+46.0	+46.3	+46.4	+46.5	+46.5	+46.8	+46.9	+47.2	+47.1	+47.0	+47.1	+47.4	+47.0	+47.2	+47.0	+47.2	+47.4
TYP. SECTION	VIADUCT (L)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
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Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
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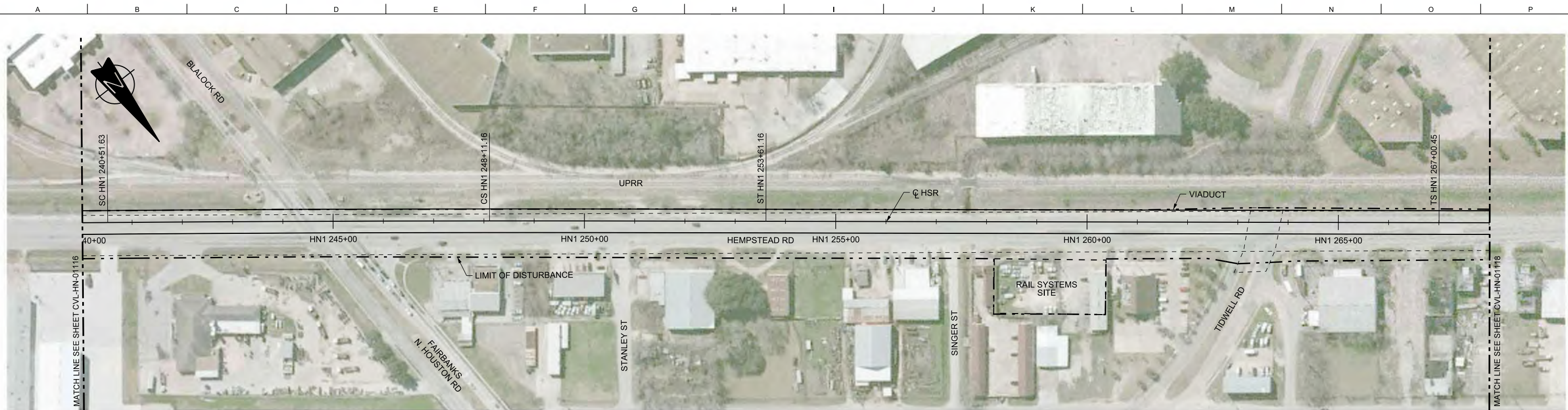
2711 North Haskell Ave., Suite 3300
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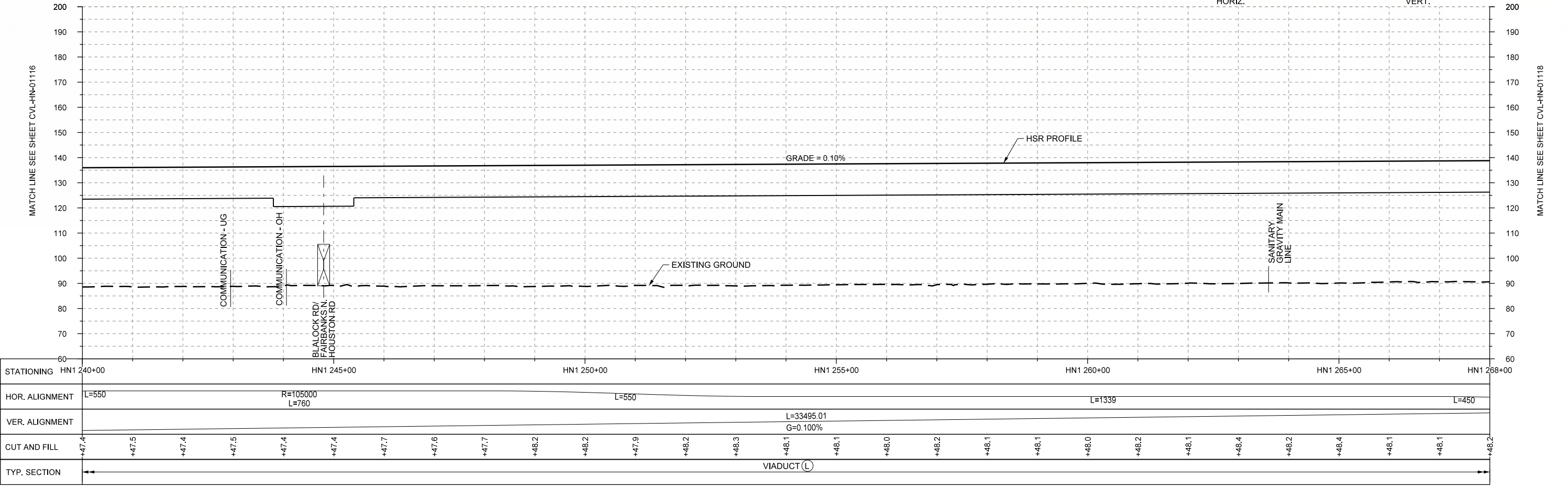
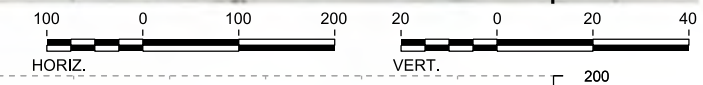
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 212+00 TO HN1 240+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01116	01	



PLAN



PROFILE

STATIONING	HN1 240+00	HN1 245+00	HN1 250+00	HN1 255+00	HN1 260+00	HN1 265+00	HN1 268+00																	
HOR. ALIGNMENT	L=550	R=105000 L=760	L=550	L=33495.01 G=0.100%	L=1339		L=450																	
VER. ALIGNMENT																								
CUT AND FILL	+47.4	+47.5	+47.4	+47.4	+47.7	+47.6	+47.7	+48.2	+48.2	+47.9	+48.2	+48.3	+48.1	+48.1	+48.0	+48.2	+48.1	+48.4	+48.2	+48.4	+48.1	+48.1	+48.2	
TYP. SECTION	VIADUCT (L)																							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
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 www.arup.com
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 Tel (214) 217 2200 Fax (214) 217 2201
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Client

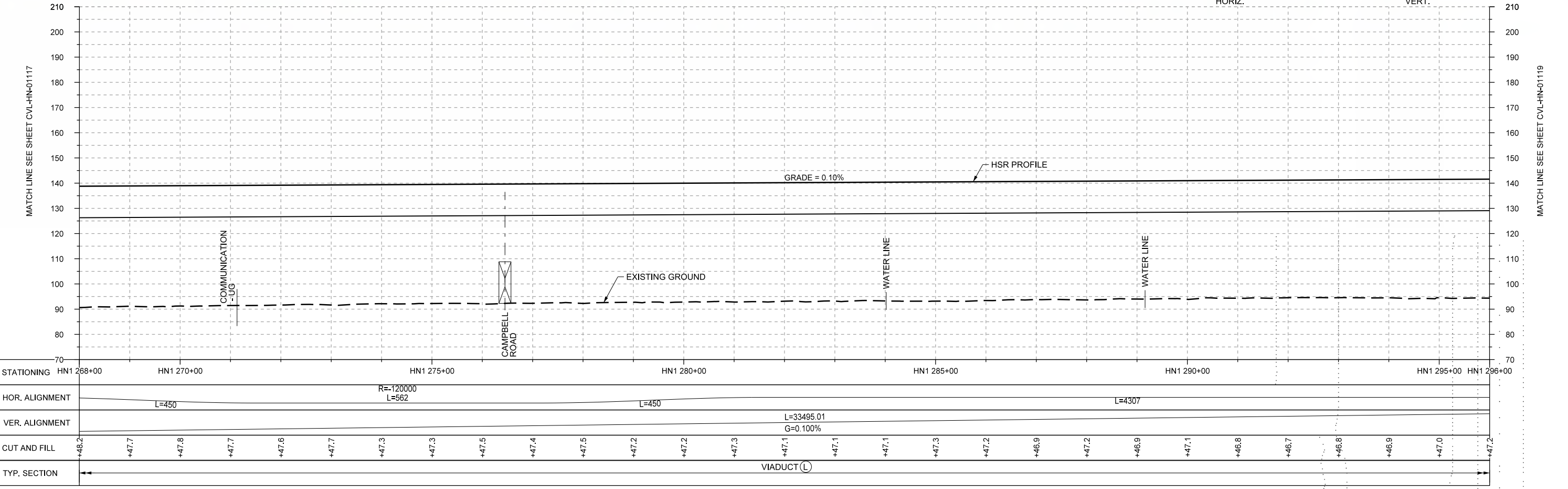
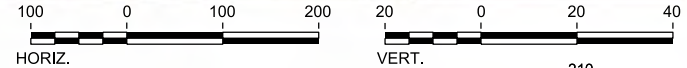
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
 HN1 240+00 TO HN1 268+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01117	01	



PLAN



PROFILE

STATIONING	HN1 268+00	HN1 270+00	HN1 275+00	HN1 280+00	HN1 285+00	HN1 290+00	HN1 295+00	HN1 296+00
HOR. ALIGNMENT	L=450		R=-120000 L=562	L=450	L=33495.01 G=0.100%	L=4307		
VER. ALIGNMENT								
CUT AND FILL	+46.2	+47.7	+47.8	+47.7	+47.6	+47.7	+47.3	+47.3
TYP. SECTION	VIADUCT (L)							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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
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FREESSE AND 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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Client

TEXAS CENTRAL

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

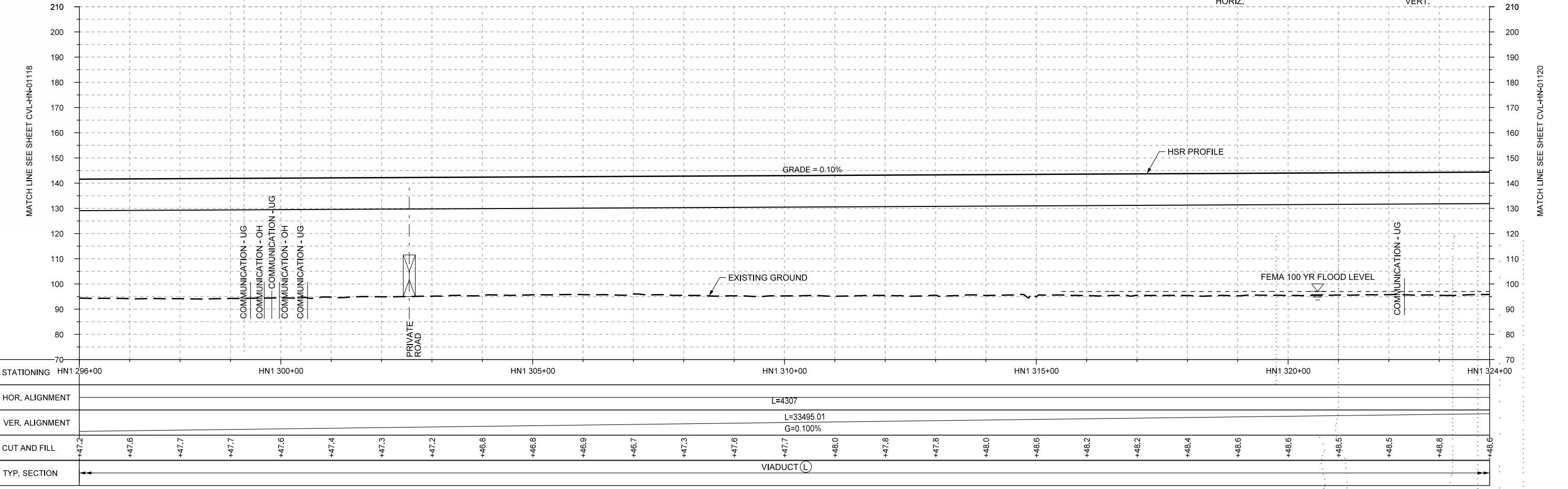
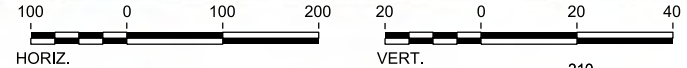
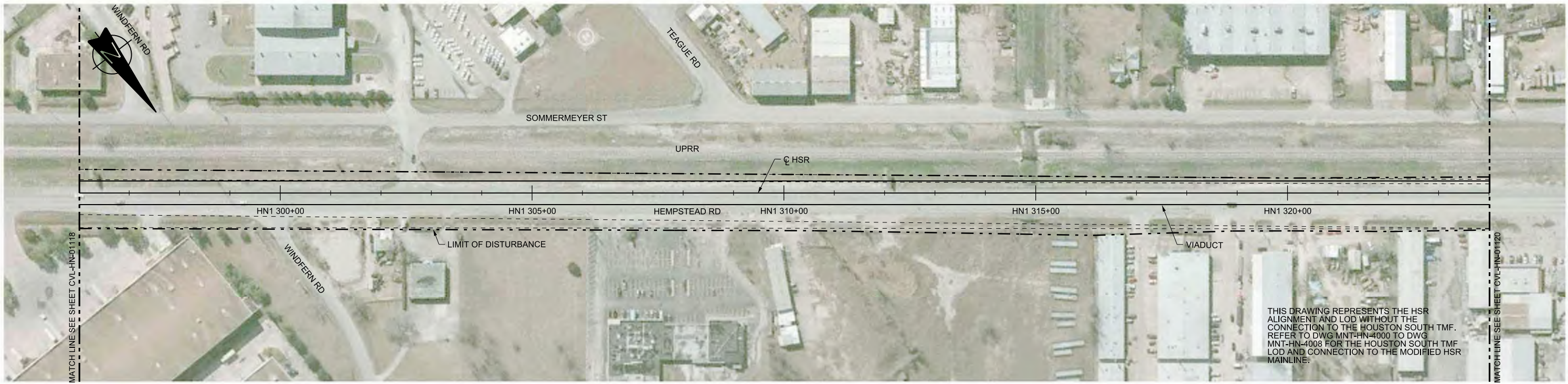
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 268+00 TO HN1 296+00

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01118	01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

Client

TEXAS CENTRAL

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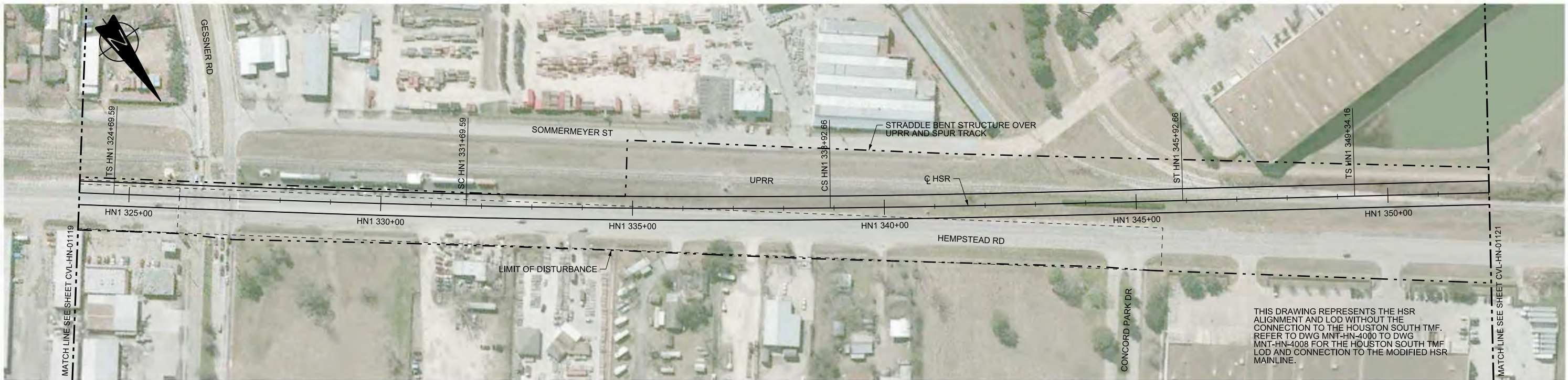
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 296+00 TO HN1 324+00

Scale
AS SHOWN

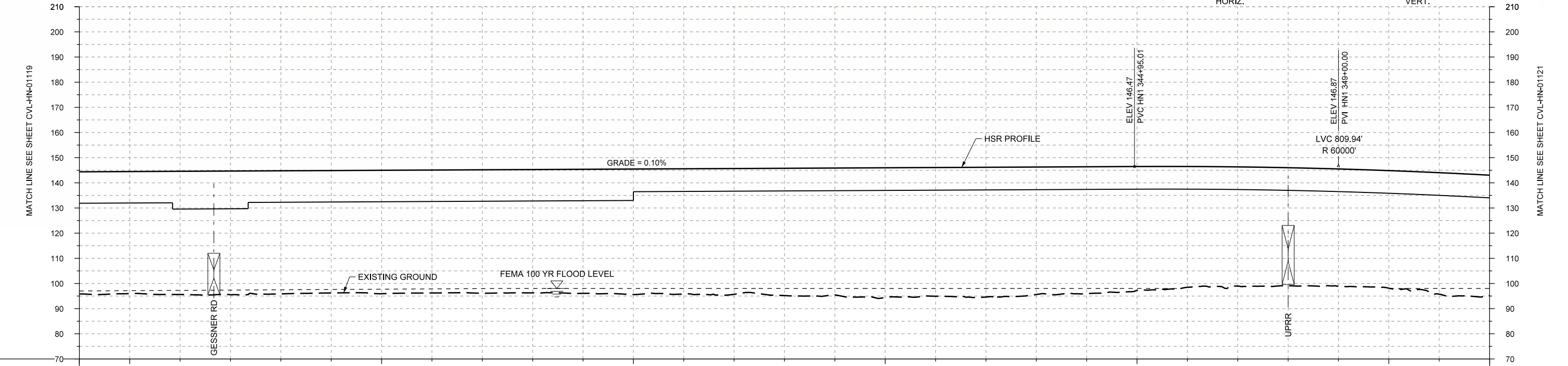
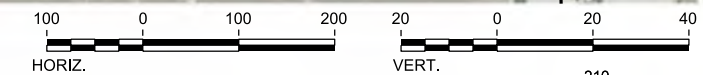
Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01119	01



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE HOUSTON SOUTH TMF. REFER TO DWG MNT-HN-4000 TO DWG MNT-HN-4008 FOR THE HOUSTON SOUTH TMF LOD AND CONNECTION TO THE MODIFIED HSR MAINLINE.

PLAN



PROFILE

STATIONING	HN1 324+00	HN1 325+00	HN1 330+00	HN1 335+00	HN1 340+00	HN1 345+00	HN1 350+00	HN1 352+00
HOR. ALIGNMENT	L=4307		L=700		R=22500 L=723		L=700	
VER. ALIGNMENT	L=33495.01		G=0.100%		L=700		L=342	
CUT AND FILL	+48.6	+48.5	+49.0	+49.2	+48.9	+48.7	+48.1	+48.9
TYP. SECTION	VIADUCT (L)				VIADUCT (N)			

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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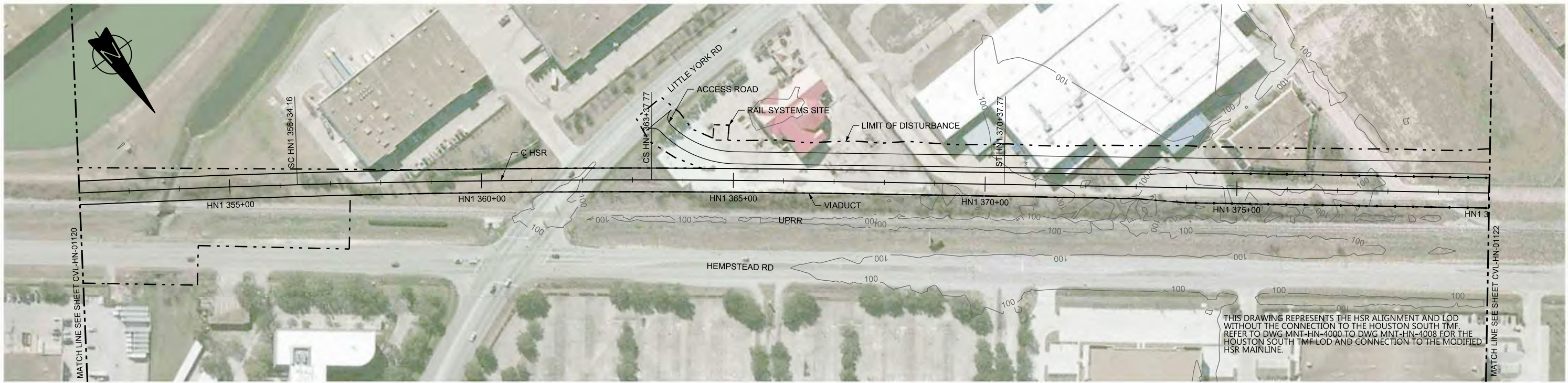
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144



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

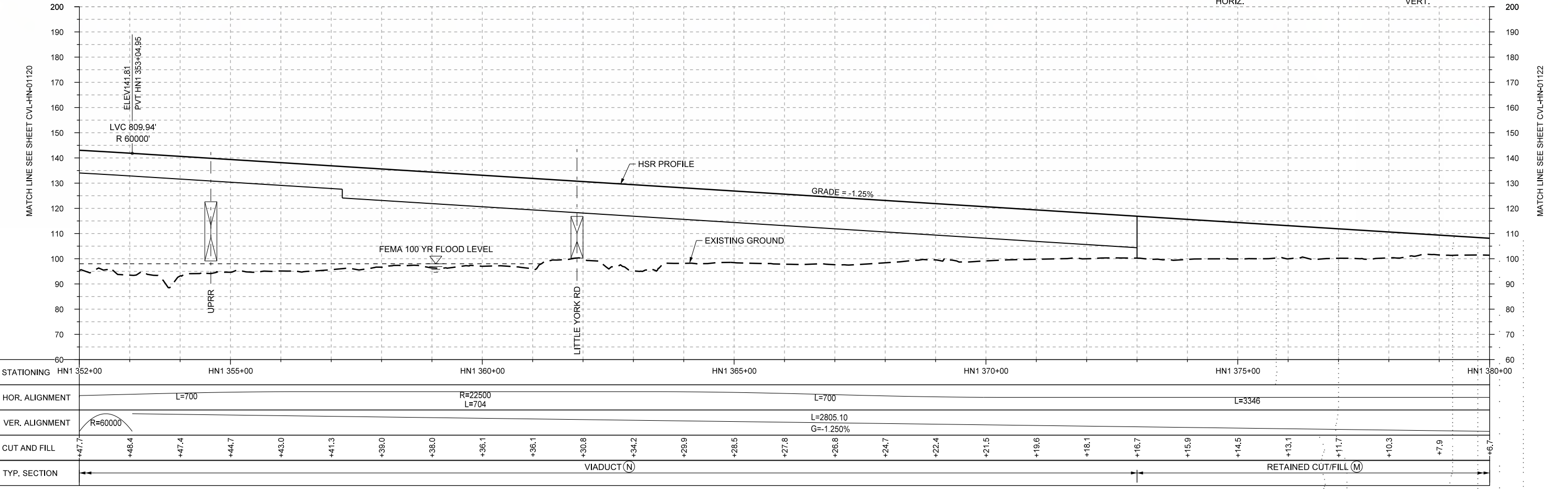
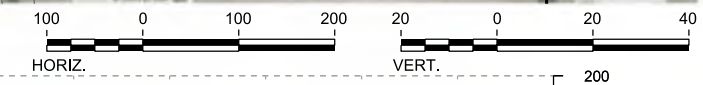
Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 324+00 TO HN1 352+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01120	01	



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE HOUSTON SOUTH TMF. REFER TO DWG MNT-HN-4000 TO DWG MNT-HN-4008 FOR THE HOUSTON SOUTH TMF LOD AND CONNECTION TO THE MODIFIED HSR MAINLINE.

PLAN



PROFILE

STATIONING	HN1 352+00	HN1 355+00	HN1 360+00	HN1 365+00	HN1 370+00	HN1 375+00	HN1 380+00																						
HOR. ALIGNMENT	L=700		R=22500 L=704		L=700	L=3346																							
VER. ALIGNMENT	R=60000				L=2805.10 G=-1.250%																								
CUT AND FILL	+47.7	+48.4	+47.4	+44.7	+43.0	+41.3	+39.0	+38.0	+36.1	+36.1	+30.8	+34.2	+29.9	+28.5	+27.8	+26.8	+24.7	+22.4	+21.5	+19.6	+18.1	+16.7	+15.9	+14.5	+13.1	+11.7	+10.3	+7.9	+6.7
TYP. SECTION	VIADUCT (N)											RETAINED CUT/FILL (M)																	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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
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 Texas Registered Engineering Firm: F-2144

Client

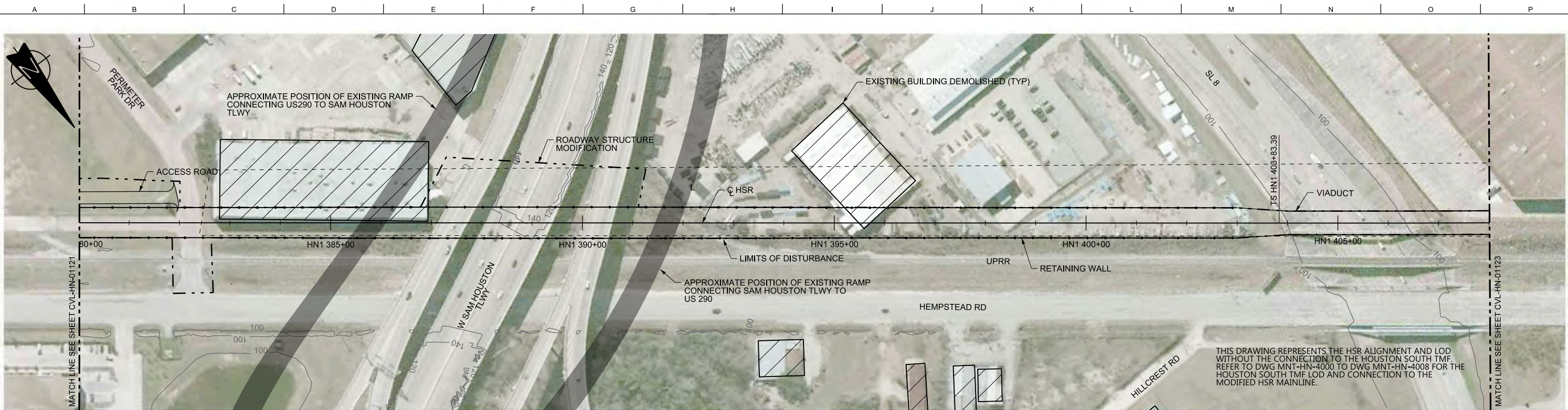
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 352+00 TO HN1 380+00

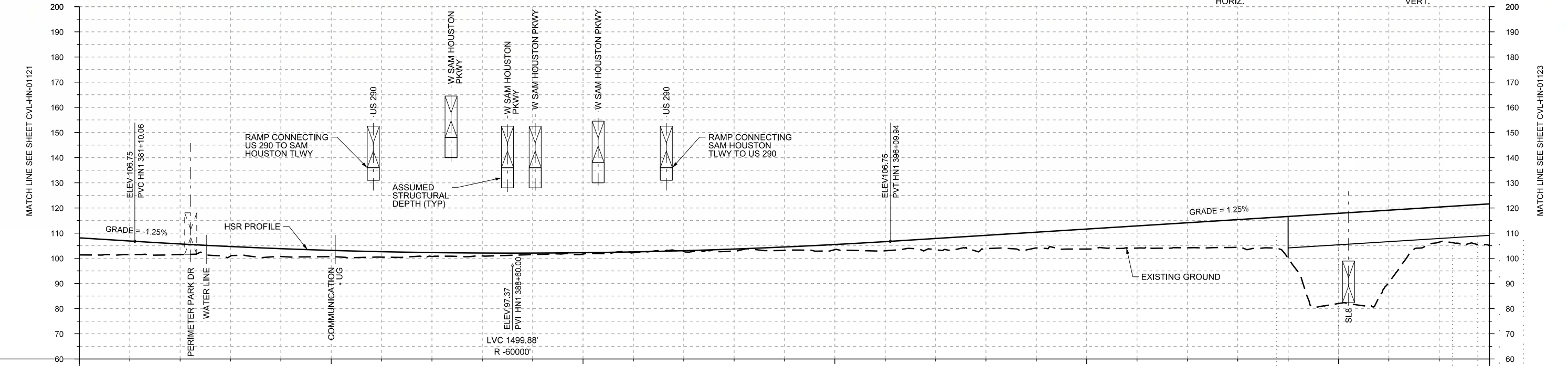
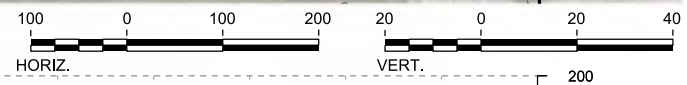
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01121	01



PLAN



PROFILE

STATIONING	HN1 380+00	HN1 385+00	HN1 390+00	HN1 395+00	HN1 400+00	HN1 405+00	HN1 408+00	
HOR. ALIGNMENT	L=3346						L=500	
VER. ALIGNMENT	L=2805.10 G=-1.250%			R=60000		L=4510.10 G=1.250%		
CUT AND FILL	+6.7	+4.2	+3.8	+3.1	+2.5	+2.2	+1.6	
TYP. SECTION	RETAINED CUT/FILL (M)						VIADUCT (N)	

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION

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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

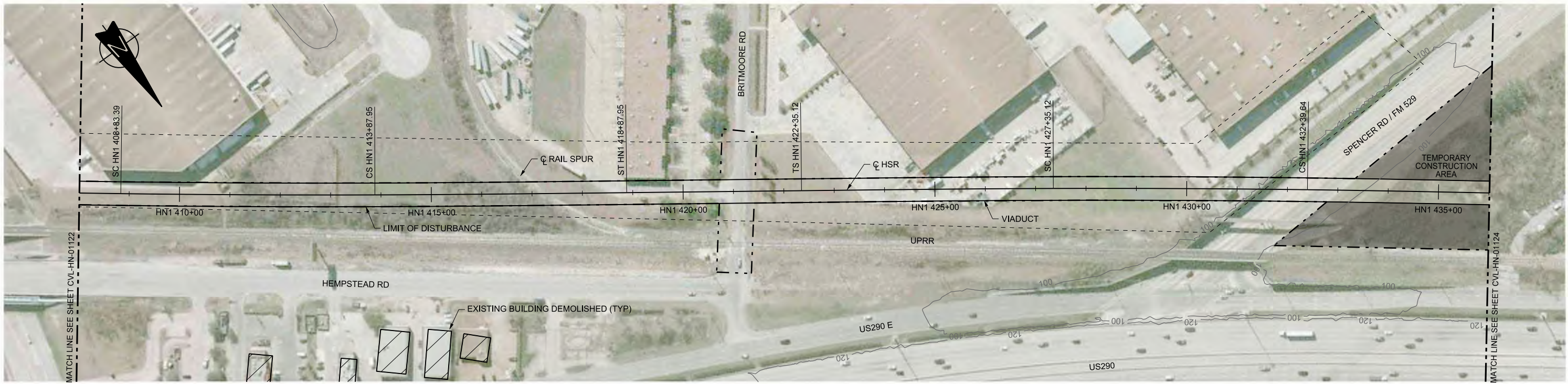
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 380+00 TO HN1 408+00

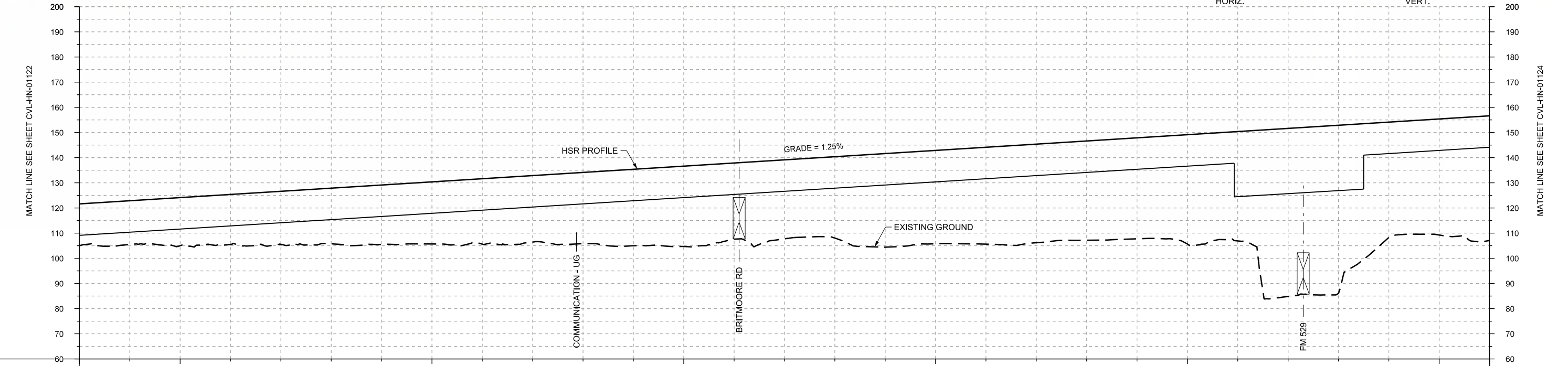
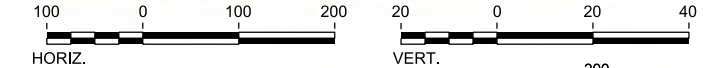
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01122	01



PLAN



PROFILE

STATIONING	HN1 408+00	HN1 410+00	HN1 415+00	HN1 420+00	HN1 425+00	HN1 430+00	HN1 435+00	HN1 436+00																					
HOR. ALIGNMENT	L=500		R=31000 L=505		L=347	L=500	R=31000 L=505	L=500																					
VER. ALIGNMENT	L=4510.10 G=1.250%																												
CUT AND FILL	+16.5	+17.4	+18.1	+19.9	+21.0	+22.1	+23.6	+24.7	+26.0	+26.5	+28.3	+30.4	+31.9	+30.3	+31.4	+32.4	+37.2	+37.1	+38.5	+39.2	+39.4	+40.2	+43.4	+43.5	+66.8	+66.9	+43.8	+46.1	+48.5
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

Client

TEXAS CENTRAL

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

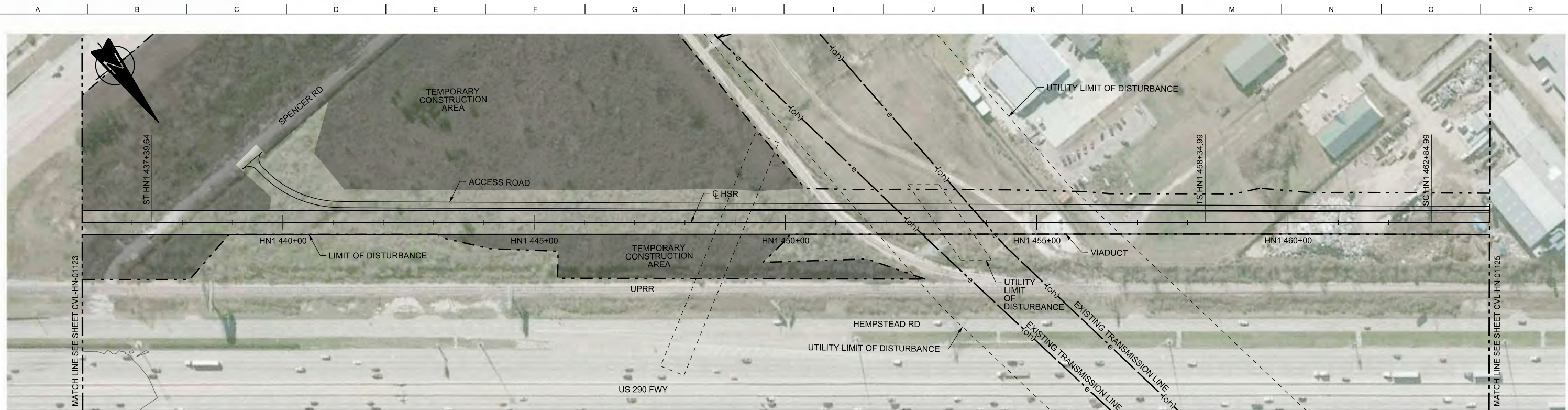
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 408+00 TO HN1 436+00

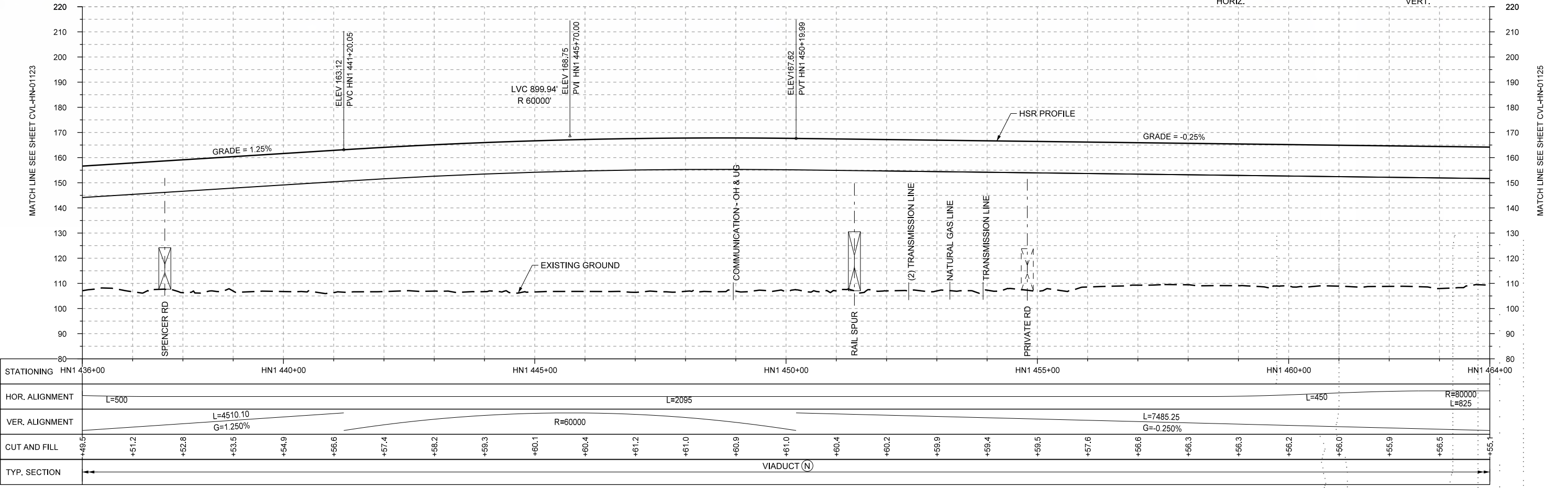
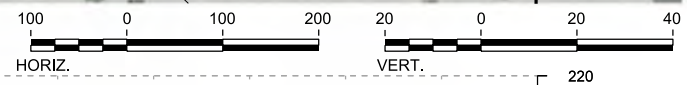
Scale
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Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01123	01



PLAN



PROFILE

STATIONING	HN1 436+00	HN1 440+00	HN1 445+00	HN1 450+00	HN1 455+00	HN1 460+00	HN1 464+00																					
HOR. ALIGNMENT	L=500		L=2095			L=450	R=80000 L=825																					
VER. ALIGNMENT	L=4510.10 G=1.250%		R=80000			L=7485.25 G=-0.250%																						
CUT AND FILL	+49.5	+51.2	+52.8	+53.5	+54.9	+56.6	+57.4	+58.2	+59.3	+60.1	+60.4	+61.2	+61.0	+60.9	+61.0	+60.4	+60.2	+59.9	+59.4	+59.5	+57.6	+56.6	+56.3	+56.2	+56.0	+55.9	+56.5	+55.1
TYP. SECTION	VIADUCT (N)																											

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

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

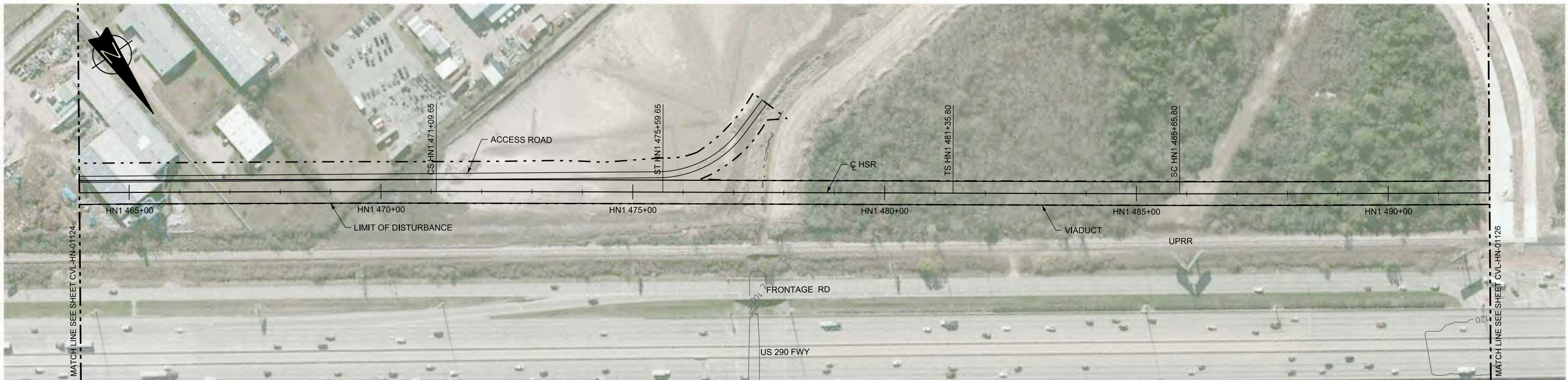
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 436+00 TO HN1 464+00

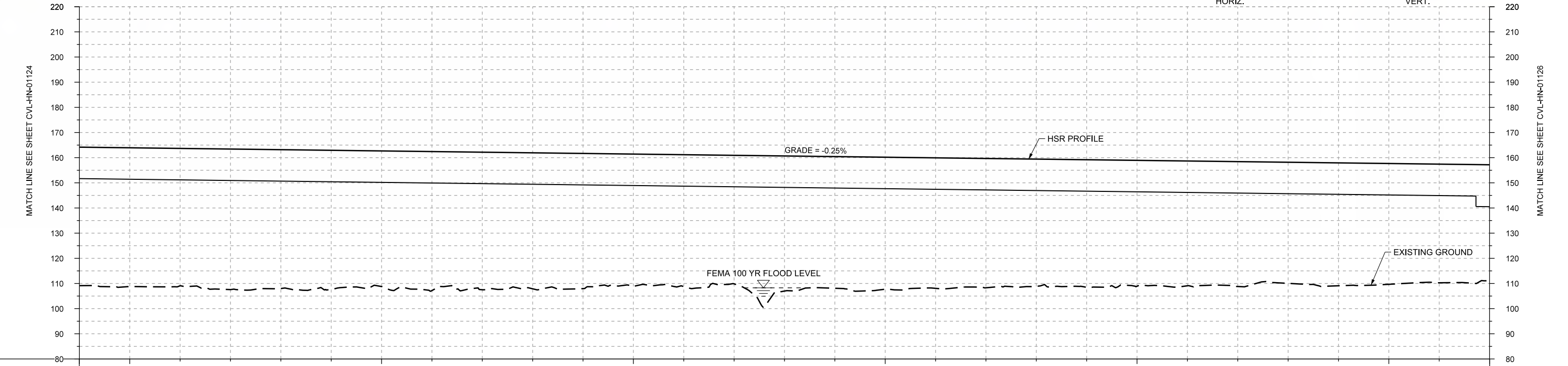
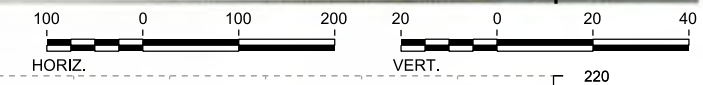
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01124	01



PLAN



PROFILE

STATIONING	HN1 464+00	HN1 465+00	HN1 470+00	HN1 475+00	HN1 480+00	HN1 485+00	HN1 490+00	HN1 492+00																					
HOR. ALIGNMENT	R=80000 L=825		L=450		L=576		R=80000 L=799																						
VER. ALIGNMENT	L=7485.25 G=-0.250%																												
CUT AND FILL	+55.1	+55.1	+54.6	+55.8	+55.2	+55.3	+53.9	+55.2	+54.7	+54.0	+53.7	+52.6	+52.4	+51.1	+53.7	+52.3	+52.5	+51.8	+51.4	+50.6	+50.7	+50.0	+49.6	+49.6	+48.2	+48.8	+48.0	+47.1	+46.1
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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



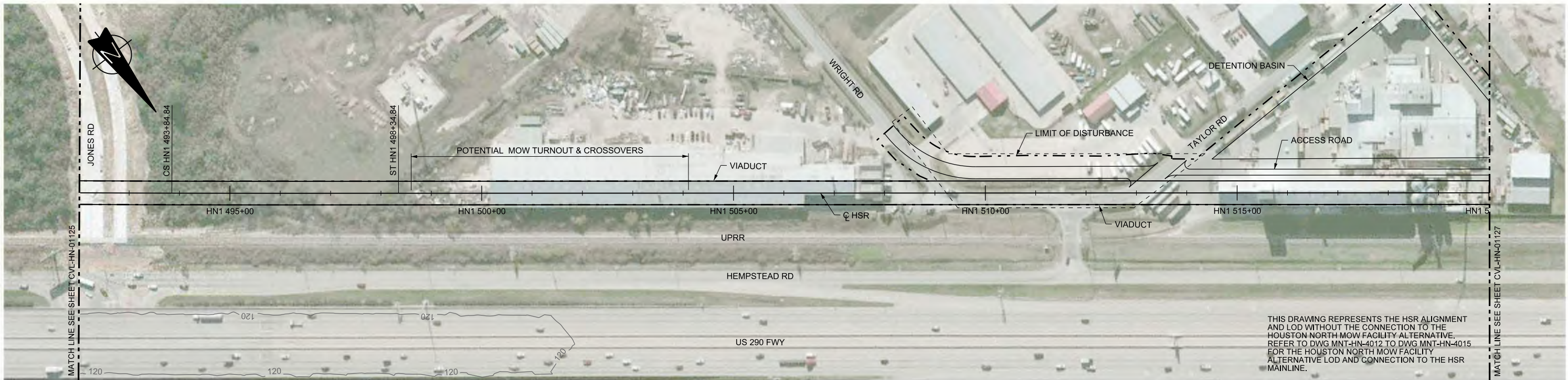
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144



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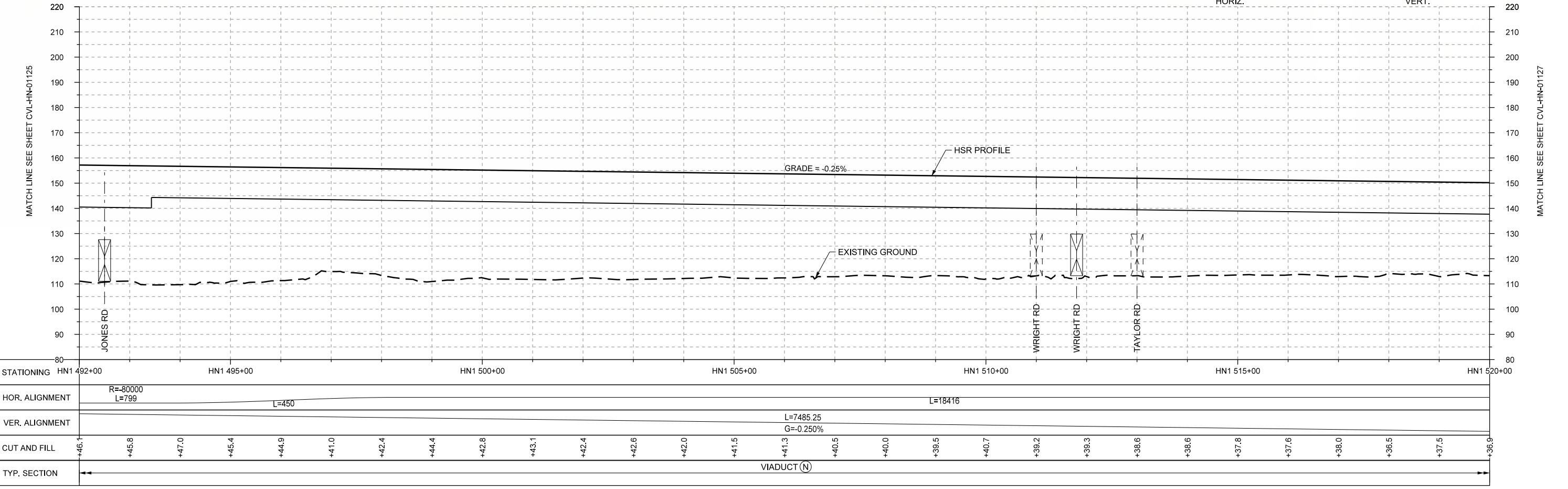
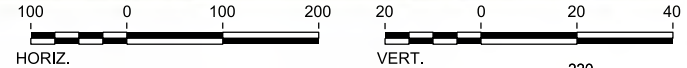
Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 464+00 TO HN1 492+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01125	01	



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE HOUSTON NORTH MOW FACILITY ALTERNATIVE. REFER TO DWG MNT-HN-4012 TO DWG MNT-HN-4015 FOR THE HOUSTON NORTH MOW FACILITY ALTERNATIVE LOD AND CONNECTION TO THE HSR MAINLINE.

PLAN



PROFILE

STATIONING	HN1 492+00	HN1 495+00	HN1 500+00	HN1 505+00	HN1 510+00	HN1 515+00	HN1 520+00																						
HOR. ALIGNMENT	R=80000 L=799		L=450		L=7485.25 G=-0.250%																								
VER. ALIGNMENT	L=18416																												
CUT AND FILL	+46.1	+45.8	+47.0	+45.4	+44.9	+41.0	+42.4	+44.4	+42.8	+43.1	+42.4	+42.6	+42.0	+41.5	+41.3	+40.5	+40.0	+39.5	+40.7	+39.2	+39.3	+38.6	+38.6	+37.8	+37.6	+38.0	+38.5	+37.5	+36.9
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017



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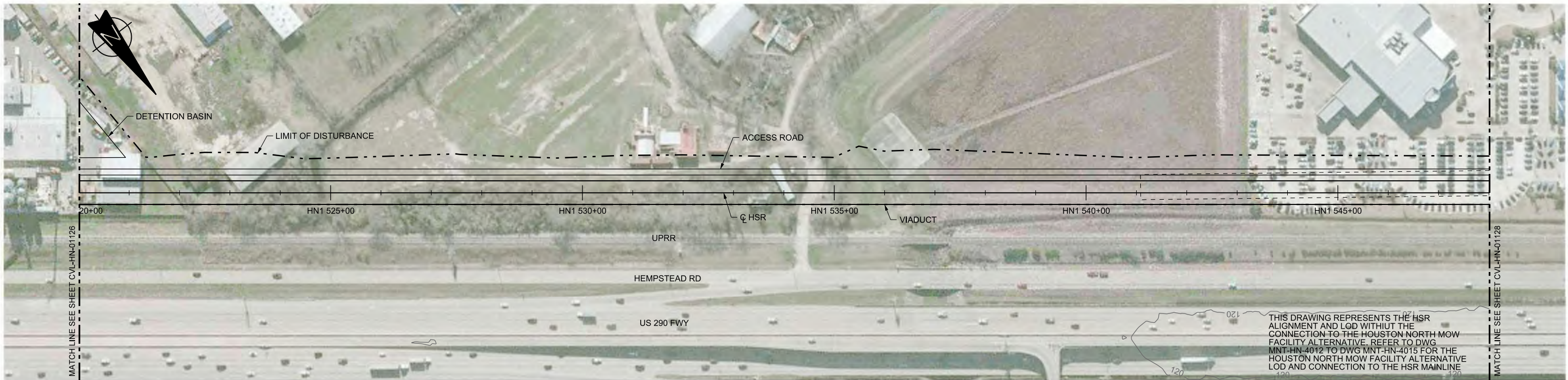
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144



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

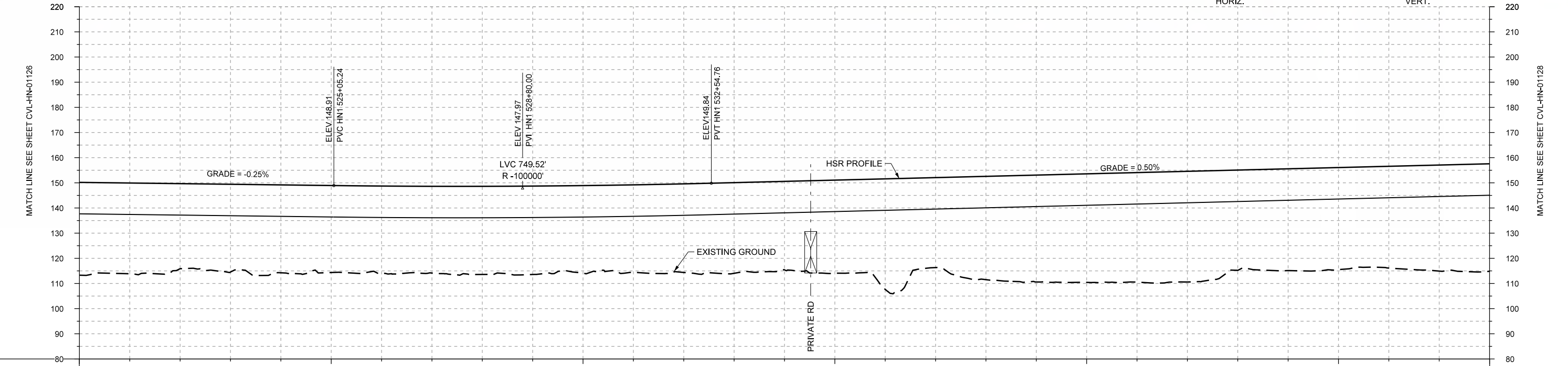
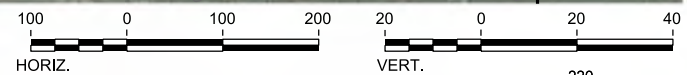
Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 492+00 TO HN1 520+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	234180	Drawing No	CVL-HN-01126
Rev			01



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE HOUSTON NORTH MOW FACILITY ALTERNATIVE. REFER TO DWG MNT-HN-4012 TO DWG MNT-HN-4015 FOR THE HOUSTON NORTH MOW FACILITY ALTERNATIVE LOD AND CONNECTION TO THE HSR MAINLINE

PLAN



PROFILE

STATIONING	HN1 520+00	HN1 525+00	HN1 530+00	HN1 535+00	HN1 540+00	HN1 545+00	HN1 548+00																					
HOR. ALIGNMENT	L=18416																											
VER. ALIGNMENT	L=7485.25 G=-0.250%			R=100000		L=9545.49 G=0.500%																						
CUT AND FILL	+36.9	+36.0	+33.8	+34.9	+35.0	+34.9	+34.5	+35.0	+35.1	+34.8	+34.8	+35.2	+36.1	+35.2	+37.1	+43.9	+36.8	+41.1	+42.5	+43.2	+43.6	+44.0	+39.9	+40.5	+40.6	+40.5	+42.2	+42.8
TYP. SECTION	VIADUCT (N)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017



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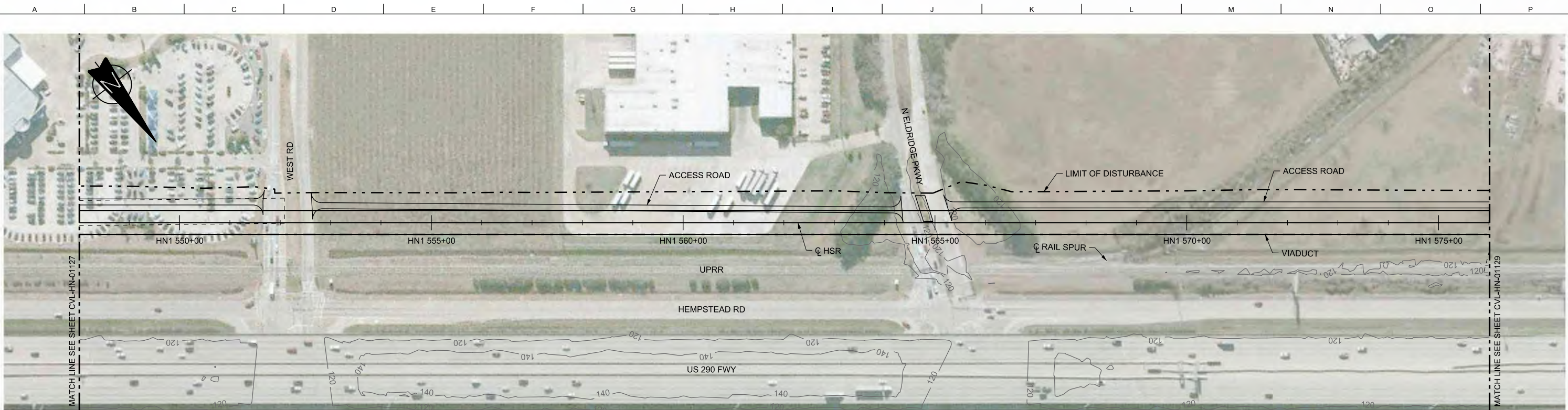
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Texas Registered Engineering Firm: F-2144



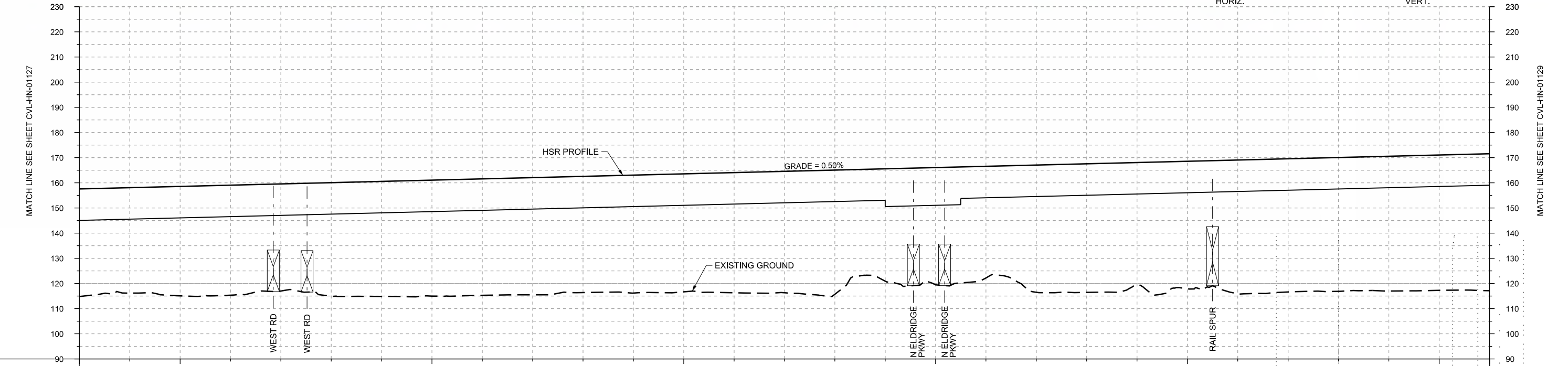
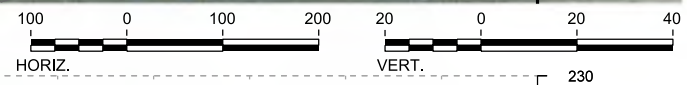
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 520+00 TO HN1 548+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-HN-01127
Rev	01



PLAN



PROFILE

STATIONING	HN1 548+00	HN1 550+00	HN1 555+00	HN1 560+00	HN1 565+00	HN1 570+00	HN1 575+00	HN1 576+00																				
HOR. ALIGNMENT	L=18416																											
VER. ALIGNMENT	L=9545.49 G=0.500%																											
CUT AND FILL	+42.8	+41.9	+43.5	+43.8	+42.6	+45.1	+45.8	+46.1	+46.3	+46.3	+46.9	+46.9	+47.8	+46.3	+49.4	+44.7	+46.6	+44.4	+50.6	+51.1	+48.6	+50.7	+53.2	+53.0	+53.2	+53.5	+53.7	+54.4
TYP. SECTION	VIADUCT (N)																											

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

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

Client

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

Drawing Title

**HOUSTON SEGMENT
CIVIL
PLAN AND PROFILE
HN1 548+00 TO HN1 576+00**

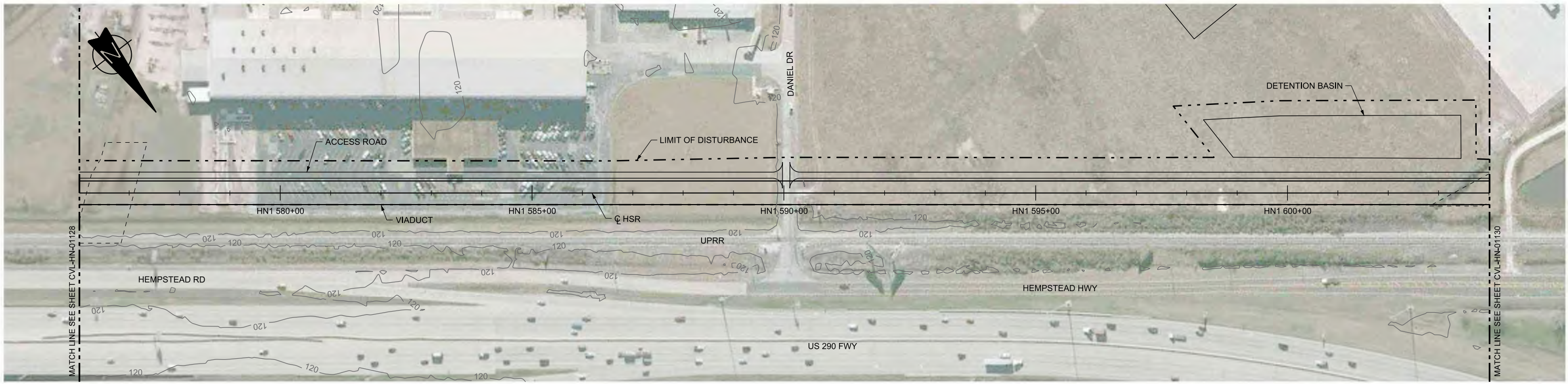
Scale

AS SHOWN

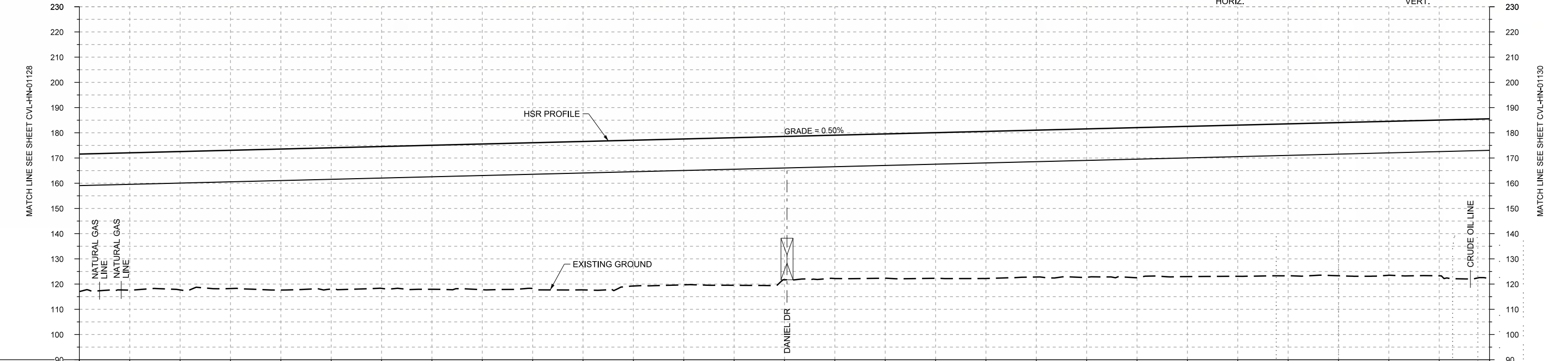
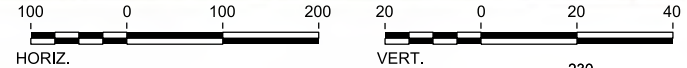
Drawing Status

FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01128	01



PLAN



PROFILE

STATIONING	HN1 576+00	HN1 580+00	HN1 585+00	HN1 590+00	HN1 595+00	HN1 600+00	HN1 604+00																					
HOR. ALIGNMENT	L=18416																											
VER. ALIGNMENT	L=9545.49 G=0.500%																											
CUT AND FILL	+54.4	+54.8	+55.9	+56.0	+56.2	+57.1	+57.7	+57.8	+58.8	+57.8	+57.8	+58.5	+58.8	+57.2	+57.7	+58.3	+58.2	+58.8	+59.4	+59.5	+59.9	+60.2	+60.7	+61.0	+61.7	+63.1		
TYP. SECTION	VIADUCT (N)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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Client

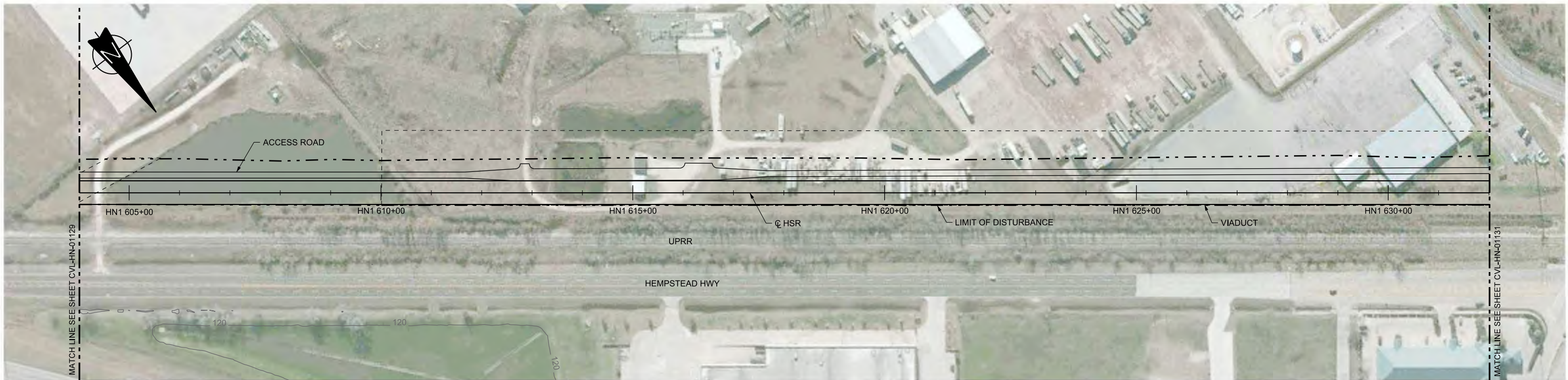
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
 HN1 576+00 TO HN1 604+00

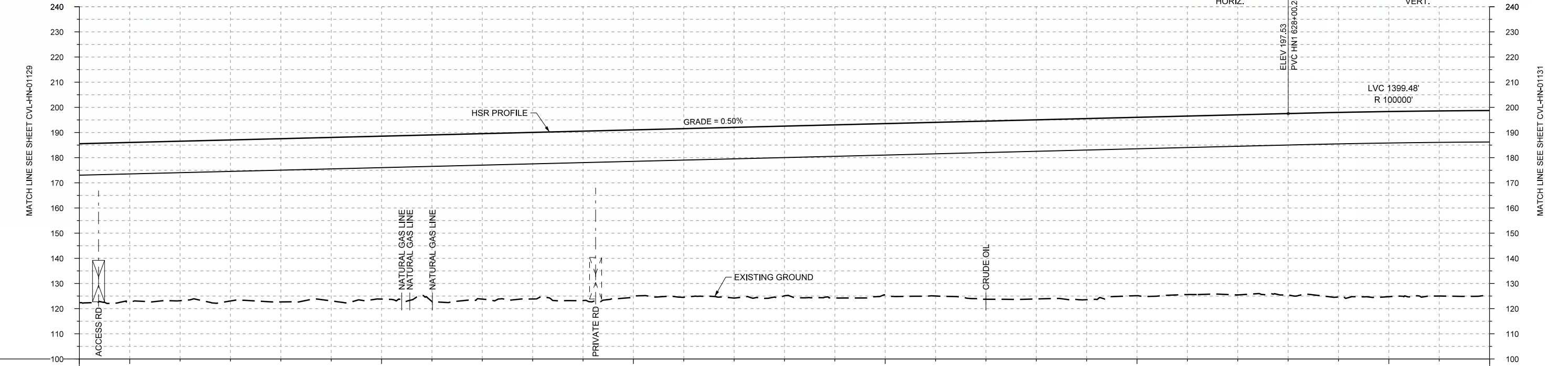
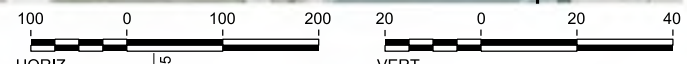
Scale
 AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01129	01



PLAN



PROFILE

STATIONING	HN1 604+00	HN1 605+00	HN1 610+00	HN1 615+00	HN1 620+00	HN1 625+00	HN1 630+00	HN1 632+00																				
HOR. ALIGNMENT	L=18416																											
VER. ALIGNMENT	L=9545.49 G=0.500%																											
CUT AND FILL	+63.1	+63.3	+63.3	+64.0	+64.8	+64.9	+64.7	+66.2	+65.7	+66.2	+67.3	+66.0	+67.0	+67.8	+67.4	+68.8	+68.1	+69.0	+70.8	+71.2	+71.9	+70.9	+70.9	+71.6	+72.1	+73.4	+73.6	+73.6
TYP. SECTION	VIADUCT (N)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

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Client

TEXAS CENTRAL

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

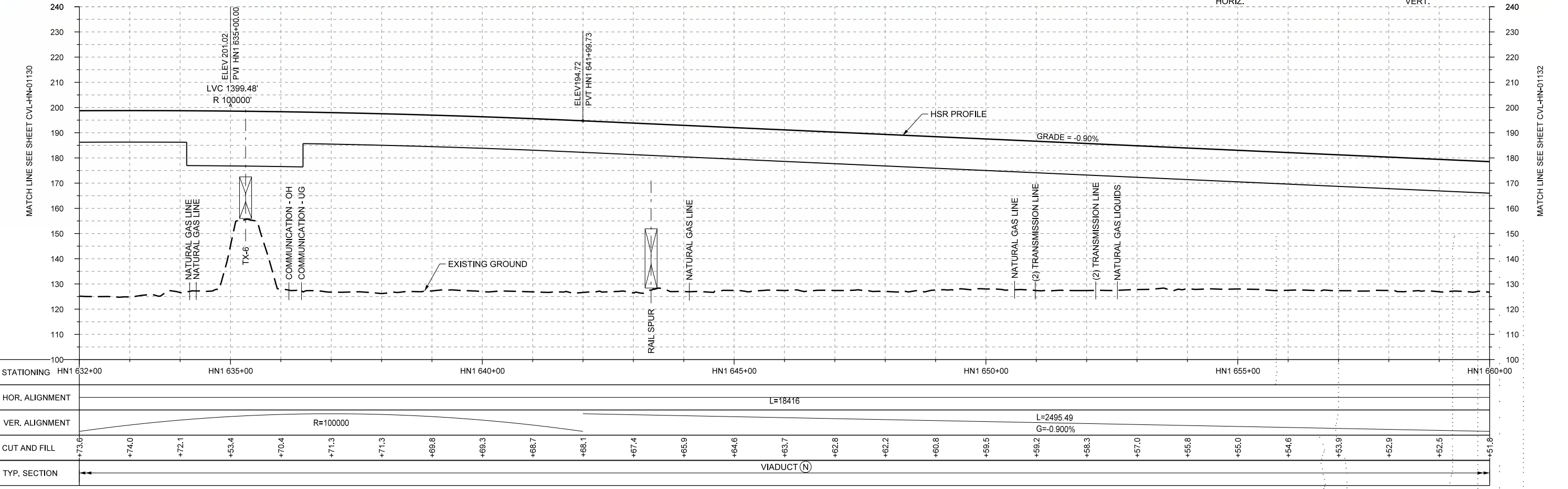
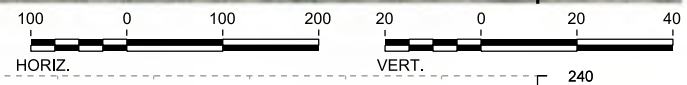
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 604+00 TO HN1 632+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01130	01	



PLAN



PROFILE

STATIONING	HN1 632+00	HN1 635+00	HN1 640+00	HN1 645+00	HN1 650+00	HN1 655+00	HN1 660+00
HOR. ALIGNMENT	L=18416						
VER. ALIGNMENT	R=100000						
CUT AND FILL	+73.6	+74.0	+72.1	+53.4	+70.4	+71.3	+71.3
TYP. SECTION	VIADUCT (N)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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TEXAS CENTRAL

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

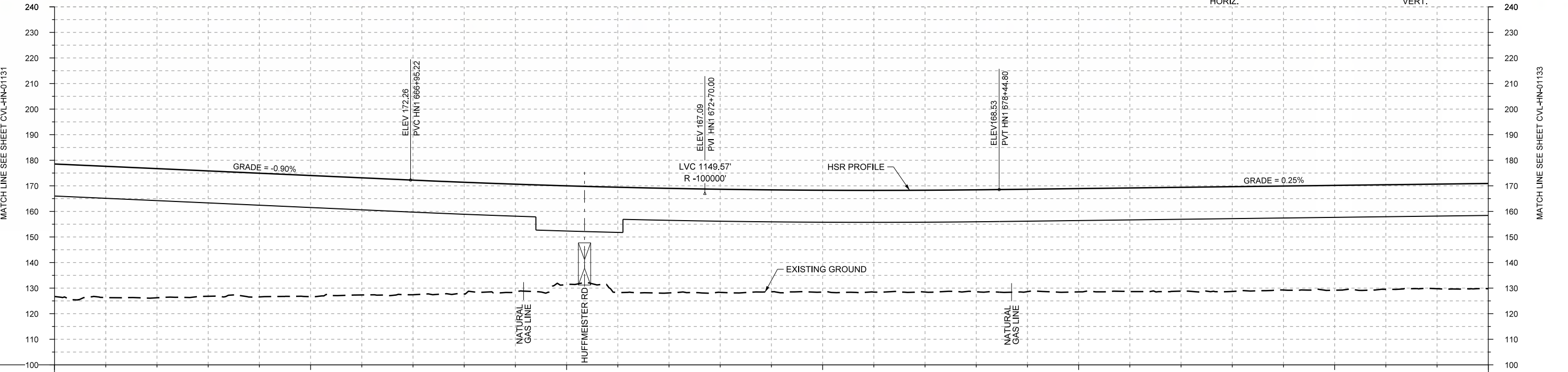
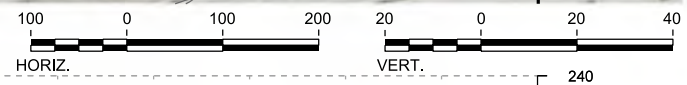
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 632+00 TO HN1 660+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-HN-01131
Rev	01



PLAN



PROFILE

STATIONING	HN1 660+00	HN1 665+00	HN1 670+00	HN1 675+00	HN1 680+00	HN1 685+00	HN1 688+00
HOR. ALIGNMENT							R=270000 L=369
VER. ALIGNMENT	L=2495.49 G=-0.900%		R=100000			L=16930.40 G=0.250%	
CUT AND FILL	+51.8	+51.3	+50.5	+49.0	+48.4	+47.4	+45.8
TYP. SECTION	VIADUCT (N)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

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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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Client

TEXAS CENTRAL

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

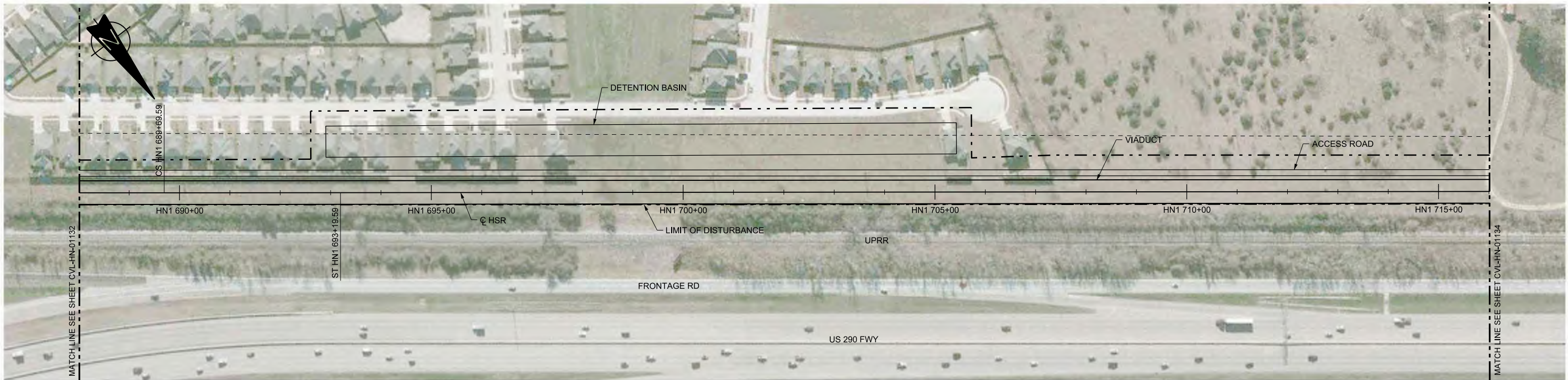
Drawing Title

**HOUSTON SEGMENT CIVIL
PLAN AND PROFILE
HN1 660+00 TO HN1 688+00**

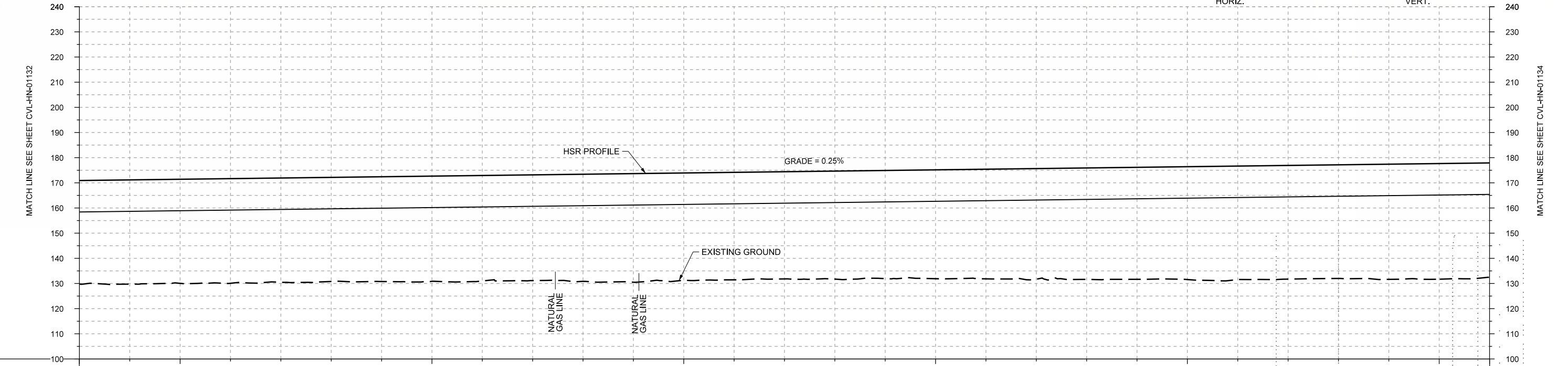
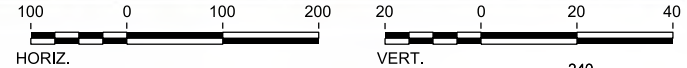
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01132	01



PLAN



PROFILE

STATIONING	HN1 688+00	HN1 690+00	HN1 695+00	HN1 700+00	HN1 705+00	HN1 710+00	HN1 715+00	HN1 716+00																					
HOR. ALIGNMENT	R=270000 L=369				L=10522																								
VER. ALIGNMENT					L=16930.40 G=0.250%																								
CUT AND FILL	+41.2	+41.5	+41.4	+41.6	+41.4	+41.4	+41.6	+41.9	+41.9	+42.1	+42.6	+43.2	+42.7	+42.8	+42.6	+43.0	+43.0	+43.3	+43.6	+44.0	+44.3	+44.6	+44.8	+45.1	+45.2	+45.1	+45.8	+45.9	+45.5
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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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 AND NICHOLS

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Client

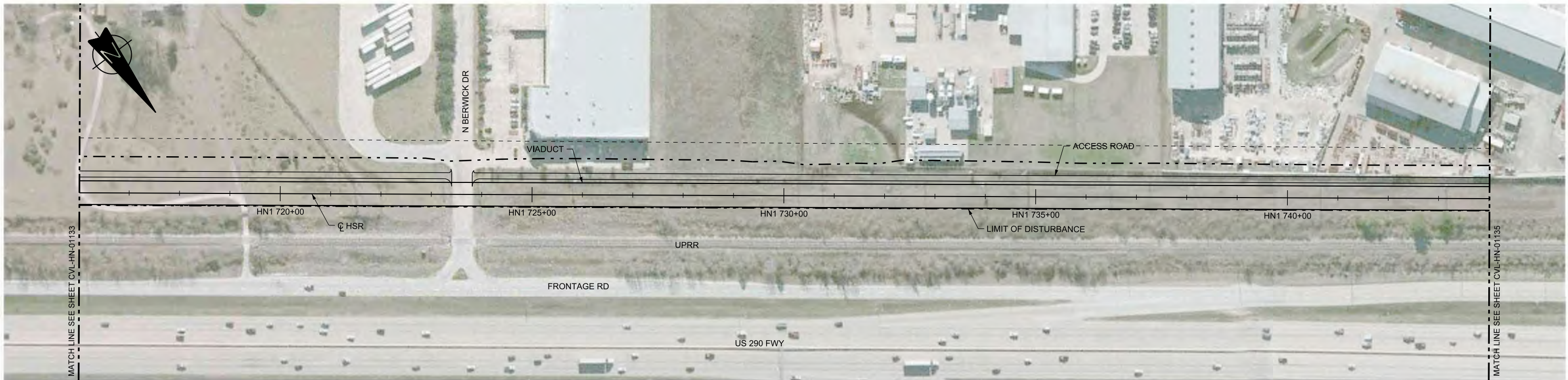
TEXAS CENTRAL

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

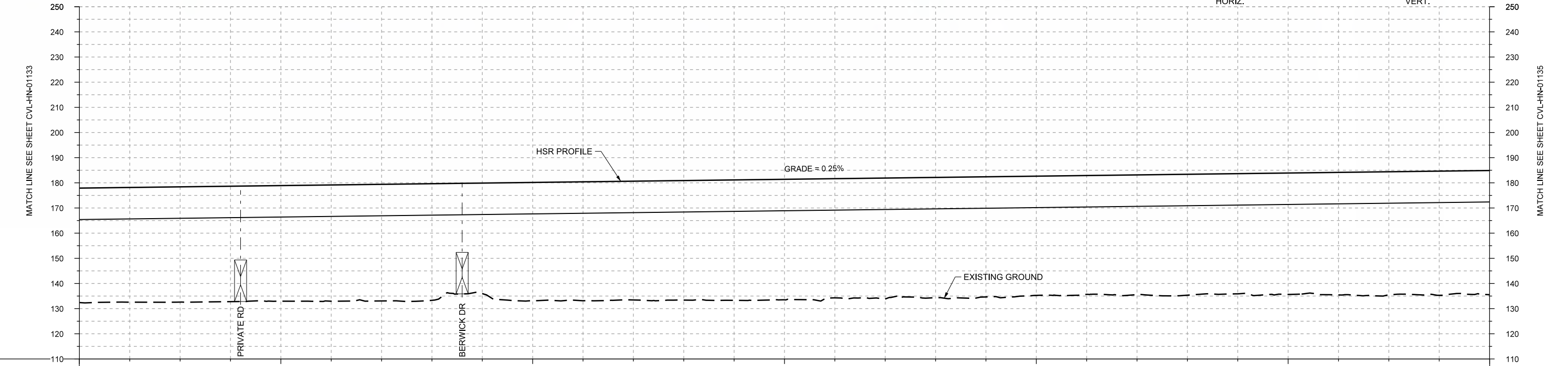
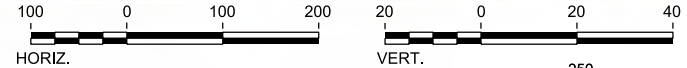
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 688+00 TO HN1 716+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-HN-01133
Rev	01



PLAN



PROFILE

STATIONING	HN1 716+00	HN1 720+00	HN1 725+00	HN1 730+00	HN1 735+00	HN1 740+00	HN1 744+00																						
HOR. ALIGNMENT	L=10522																												
VER. ALIGNMENT	L=16930.40 G=0.250%																												
CUT AND FILL	+45.5	+45.5	+45.8	+45.8	+45.9	+46.2	+46.3	+46.3	+43.9	+47.0	+47.3	+47.2	+47.5	+47.8	+47.9	+47.3	+48.1	+47.8	+47.8	+47.3	+47.2	+47.5	+48.1	+47.7	+48.2	+48.7	+49.0	+49.3	+49.4
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

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J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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www.arup.com
Texas Registered Engineering Firm: F-1990

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Client

TEXAS CENTRAL

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

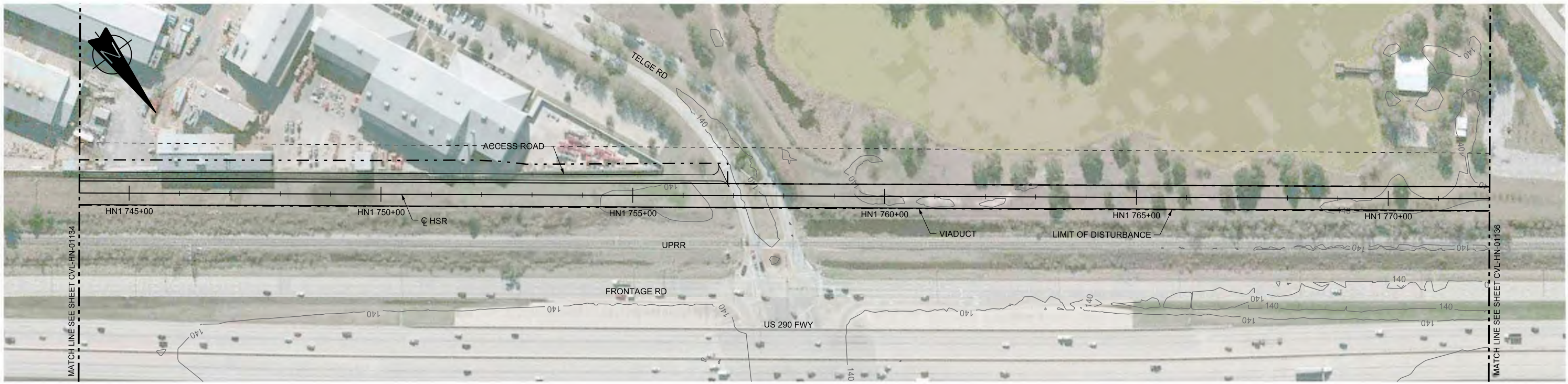
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 716+00 TO HN1 744+00

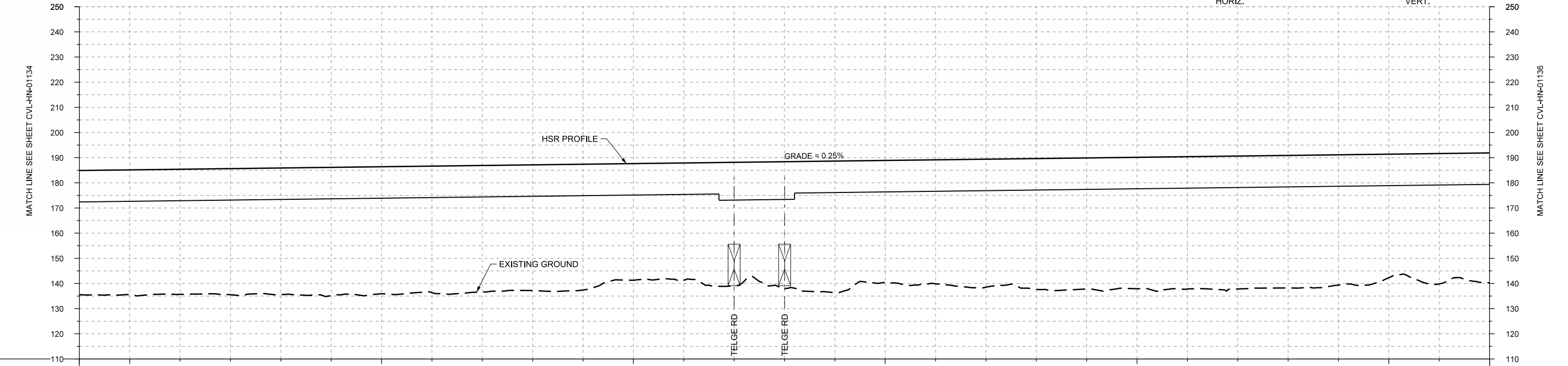
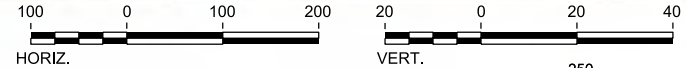
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01134	01



PLAN



PROFILE

STATIONING	HN1 744+00	HN1 745+00	HN1 750+00	HN1 755+00	HN1 760+00	HN1 765+00	HN1 770+00	HN1 772+00																					
HOR. ALIGNMENT	L=10522																												
VER. ALIGNMENT	L=16930.40 G=0.250%																												
CUT AND FILL	+49.4	+49.5	+49.7	+50.1	+50.3	+50.9	+50.5	+50.2	+50.3	+49.9	+50.0	+46.3	+46.7	+49.0	+50.4	+52.2	+48.4	+49.2	+50.9	+52.0	+52.1	+52.2	+52.6	+52.8	+52.7	+51.8	+48.1	+51.8	+51.6
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

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FREESSE AND NICHOLS

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www.freese.com
Texas Registered Engineering Firm: F-2144

Client

TEXAS CENTRAL

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

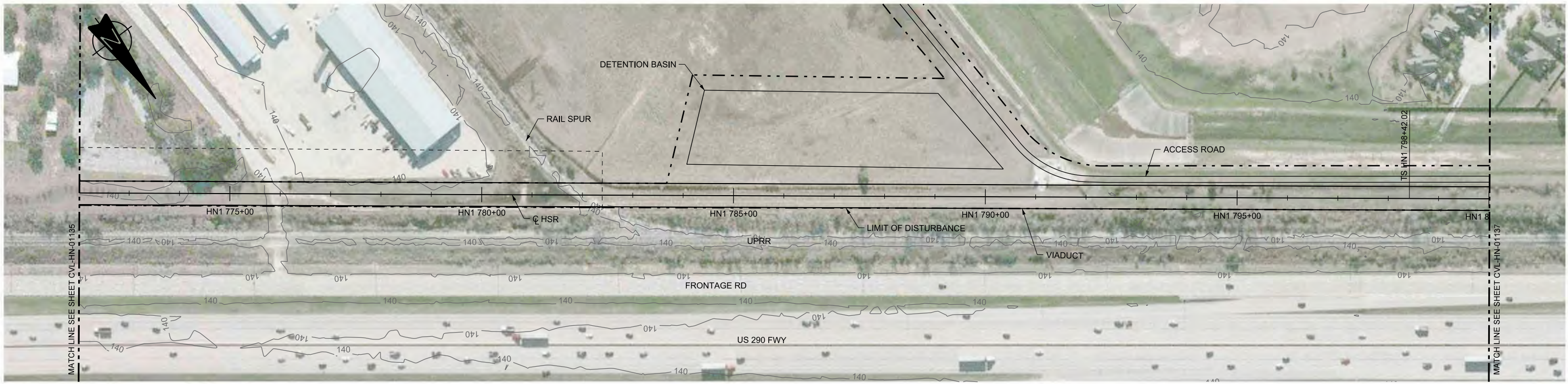
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 744+00 TO HN1 772+00

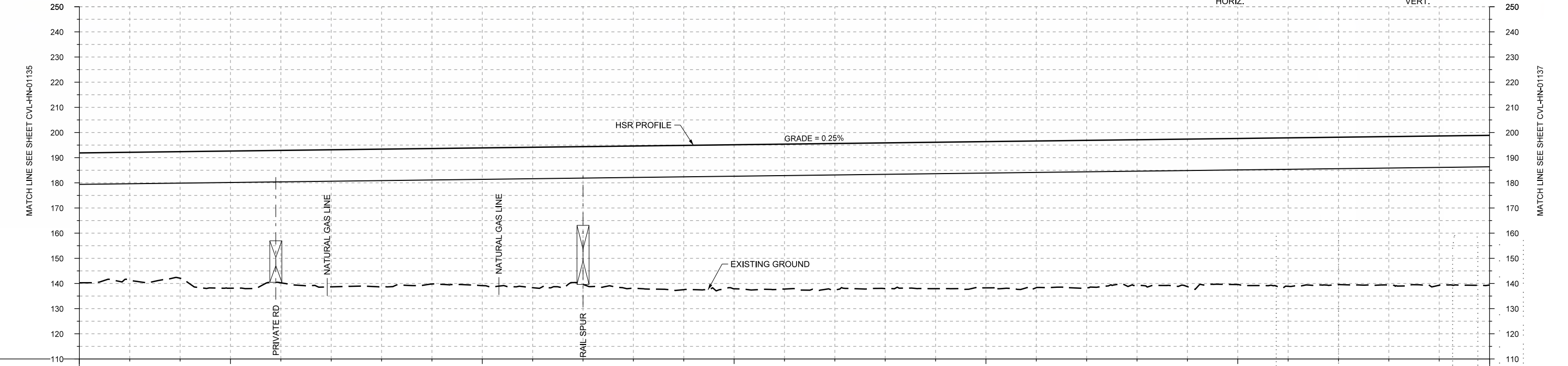
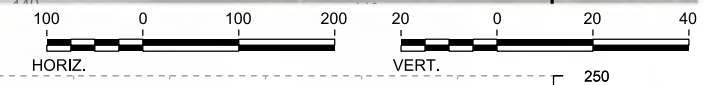
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01135	01



PLAN



PROFILE

STATIONING	HN1 772+00	HN1 775+00	HN1 780+00	HN1 785+00	HN1 790+00	HN1 795+00	HN1 800+00																						
HOR. ALIGNMENT	L=10522						L=400																						
VER. ALIGNMENT	L=16930.40						G=0.250%																						
CUT AND FILL	+51.6	+50.6	+50.3	+54.5	+52.6	+54.5	+54.7	+53.8	+54.8	+55.8	+54.8	+56.5	+57.4	+57.2	+57.6	+58.2	+57.9	+58.2	+56.2	+58.3	+58.6	+57.9	+58.7	+58.0	+59.0	+58.5	+59.0	+59.3	+58.5
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

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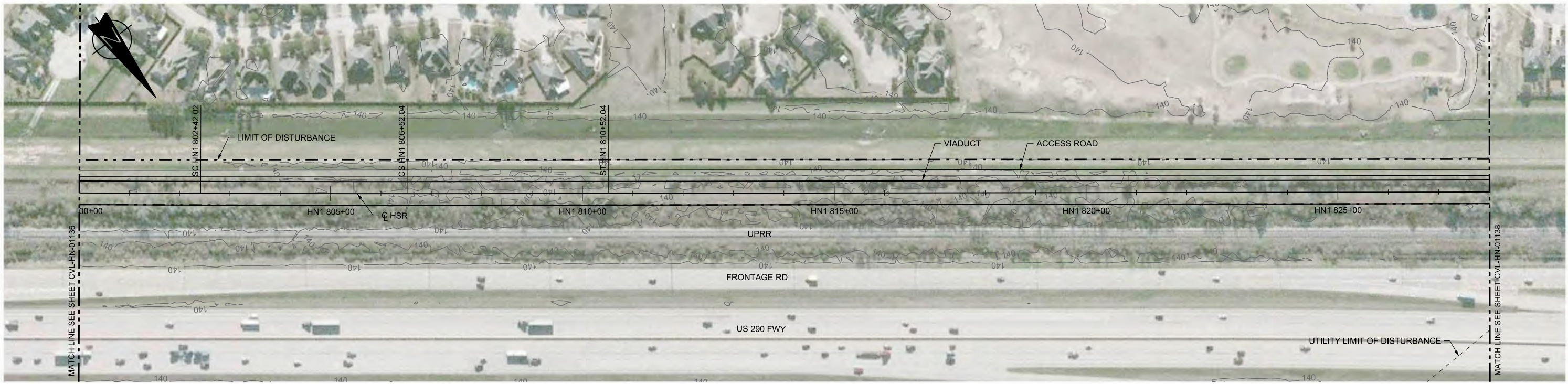
FRESE AND NICHOLS
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Client

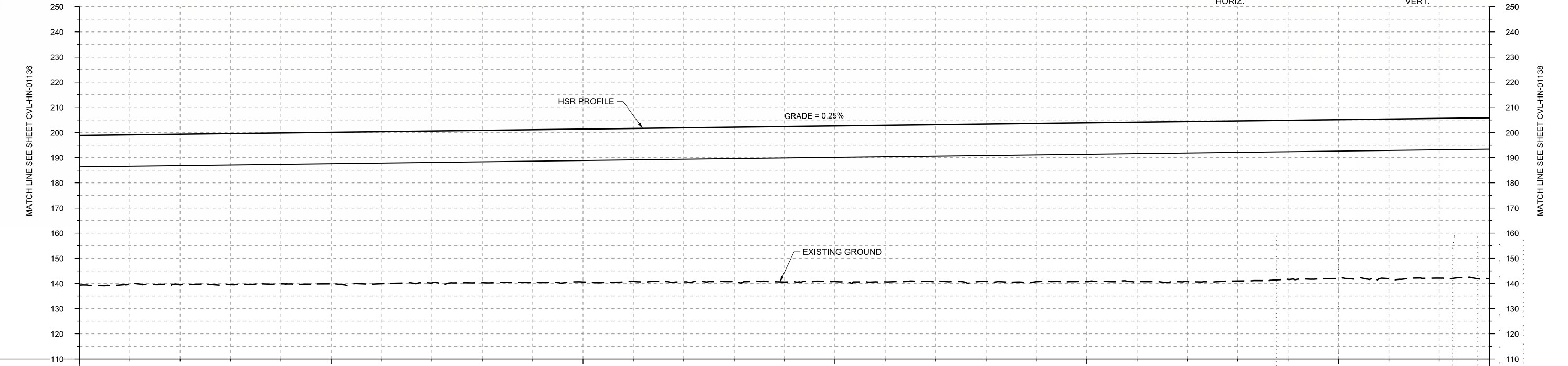
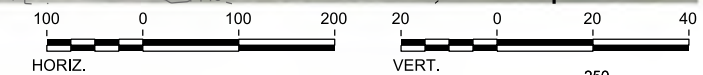
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 772+00 TO HN1 800+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-HN-01136
Rev	01



PLAN



PROFILE

STATIONING	HN1 800+00	HN1 805+00	HN1 810+00	HN1 815+00	HN1 820+00	HN1 825+00	HN1 828+00																					
HOR. ALIGNMENT	L=400		R=140000	L=400	L=12644																							
VER. ALIGNMENT	L=410		L=16930.40																									
CUT AND FILL	+59.5	+59.3	+59.9	+60.0	+60.2	+60.5	+60.4	+60.6	+60.8	+60.8	+61.3	+61.2	+61.8	+61.8	+62.3	+62.4	+62.6	+62.9	+63.2	+63.4	+63.7	+63.6	+63.3	+63.1	+63.6	+63.5	+64.0	
TYP. SECTION	VIADUCT (N)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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C. TAYLOR

DATE
09/15/2017



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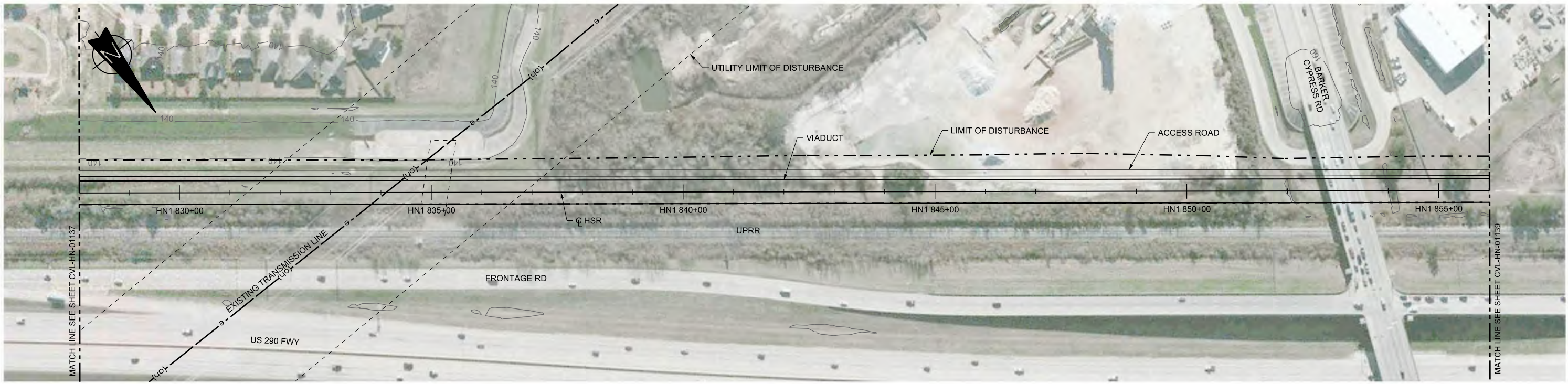
2711 North Haskell Ave., Suite 3300
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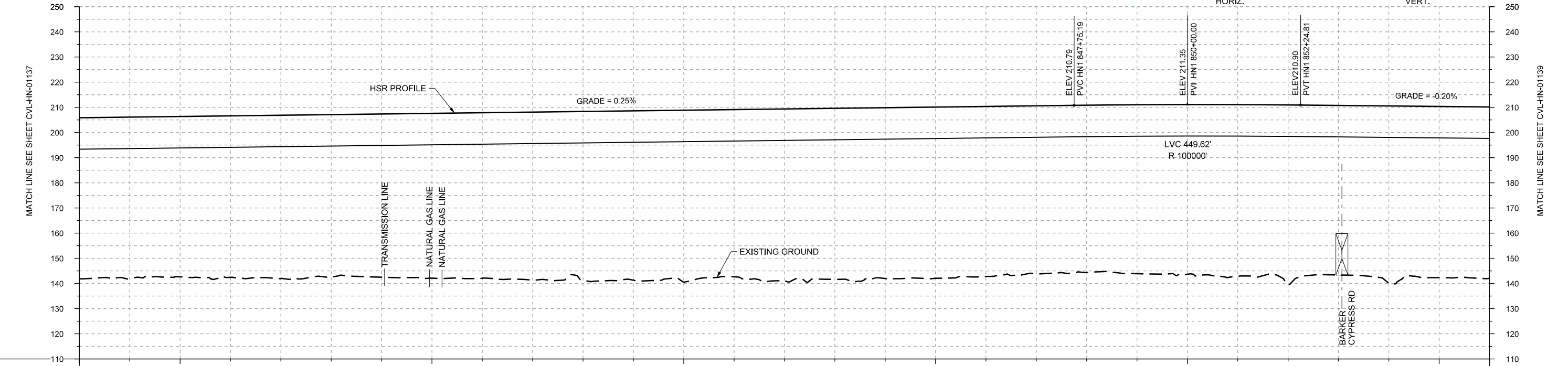
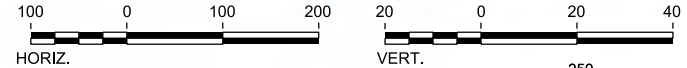
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE HN1 800+00 TO HN1 828+00

Scale AS SHOWN	Drawing Status FINAL DRAFT
Job No 234180	Drawing No CVL-HN-01137
	Rev 01



PLAN



PROFILE

STATIONING	HN1 828+00	HN1 830+00	HN1 835+00	HN1 840+00	HN1 845+00	HN1 850+00	HN1 855+00	HN1 856+00																					
HOR. ALIGNMENT	L=12644																												
VER. ALIGNMENT	L=16930.40 G=0.250%																												
CUT AND FILL	+64.0	+64.3	+63.8	+64.2	+64.9	+64.6	+64.9	+65.5	+65.8	+66.8	+67.2	+67.3	+68.4	+66.5	+66.2	+66.0	+67.8	+68.1	+67.5	+66.8	+66.4	+67.1	+67.5	+68.2	+71.5	+67.3	+70.5	+68.0	+68.1
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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 Texas Registered Engineering Firm: F-2144

Client

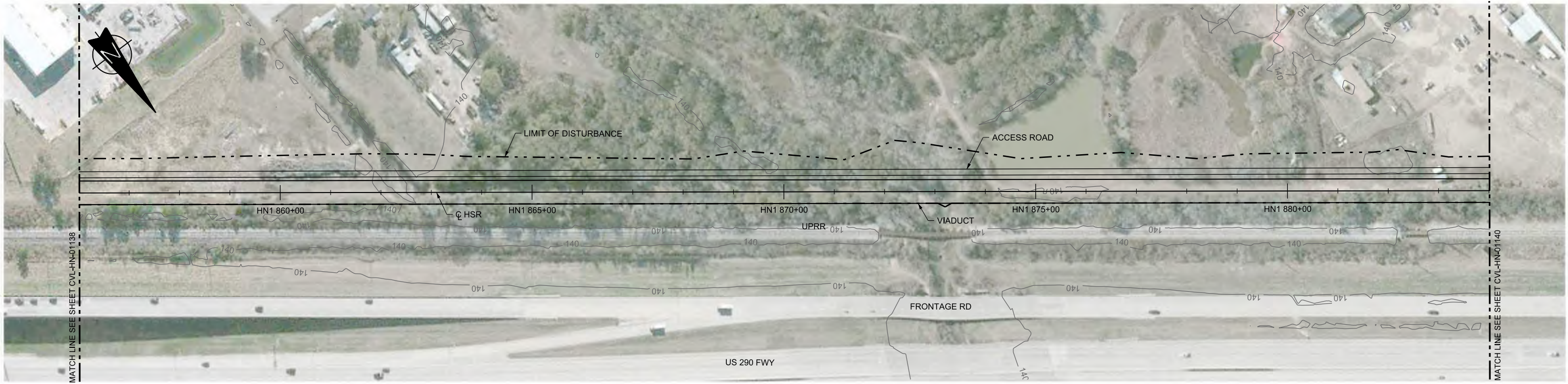
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT CIVIL PLAN AND PROFILE
 HN1 828+00 TO HN1 856+00

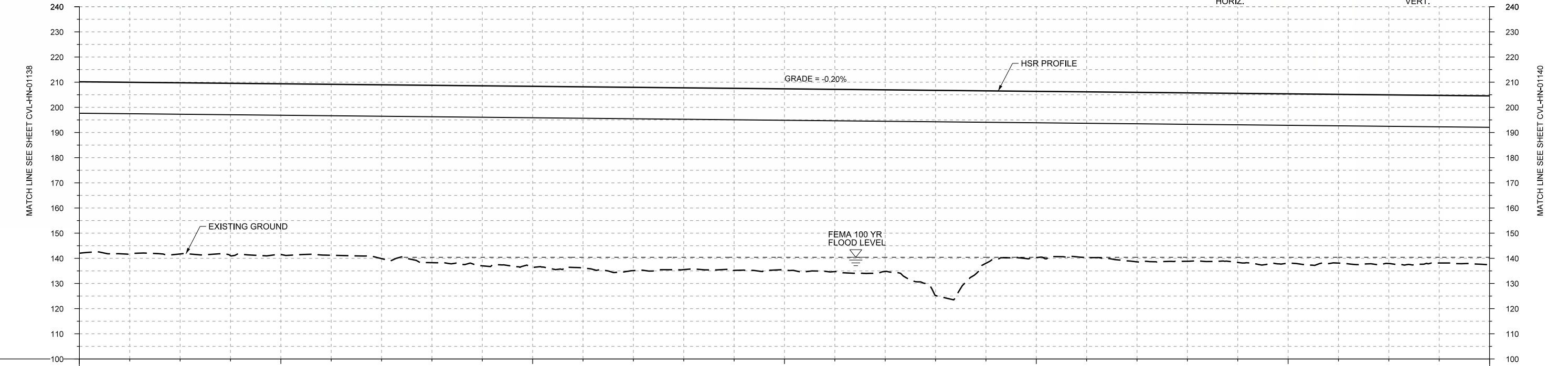
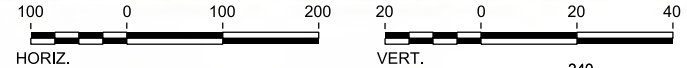
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01138	01



PLAN



PROFILE

STATIONING	HN1 856+00	HN1 860+00	HN1 865+00	HN1 870+00	HN1 875+00	HN1 880+00	HN1 884+00																						
HOR. ALIGNMENT	L=12644																												
VER. ALIGNMENT	L=11600.34 G=-0.200%																												
CUT AND FILL	+68.1	+68.1	+68.0	+68.5	+67.8	+67.9	+68.0	+70.5	+71.5	+71.9	+72.0	+72.8	+72.2	+72.3	+71.9	+72.4	+72.1	+81.5	+68.5	+68.0	+68.8	+67.3	+68.9	+67.2	+67.3	+67.0	+67.0	+66.6	+67.1
TYP. SECTION	←							VIADUCT (N)							→														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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



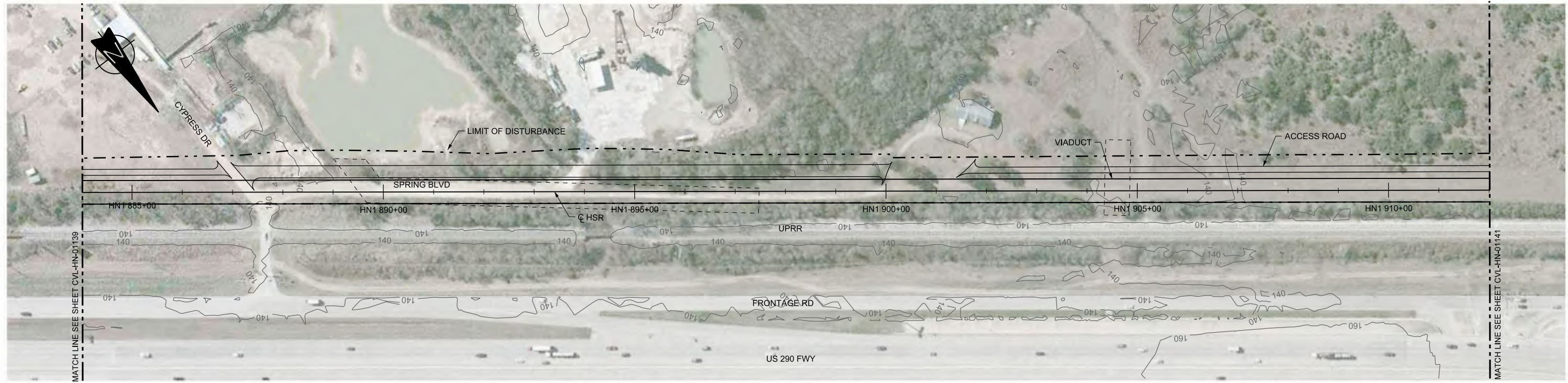
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



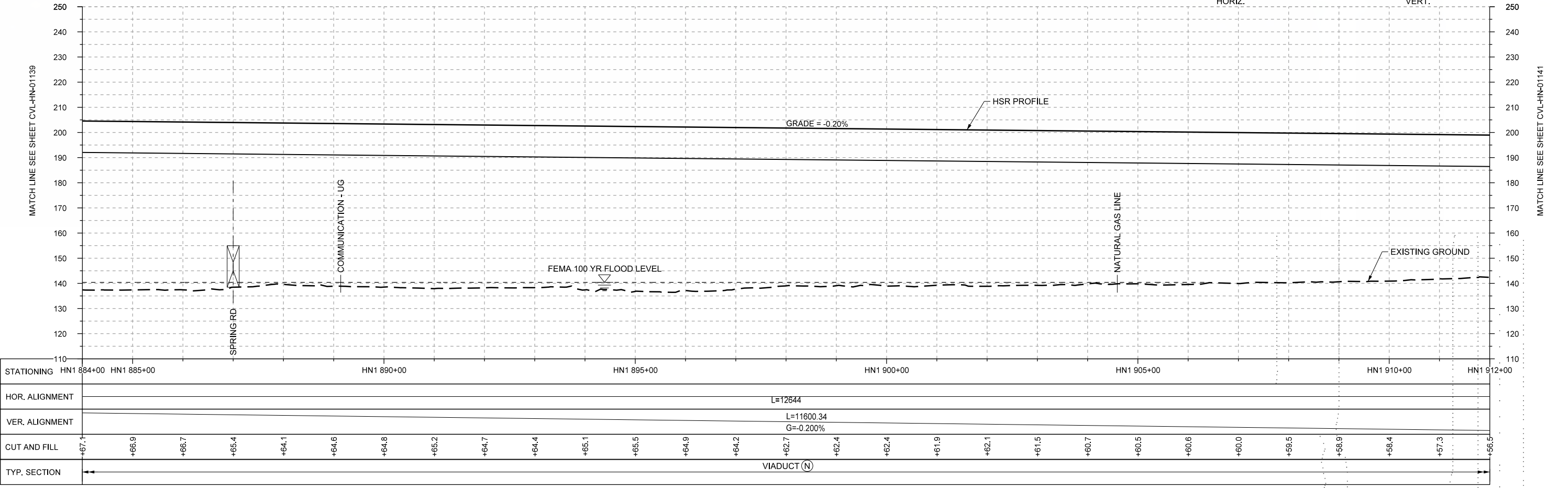
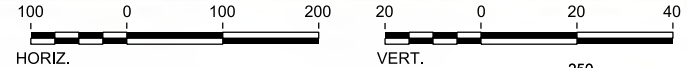
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
CIVIL
PLAN AND PROFILE
HN1 856+00 TO HN1 884+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-HN-01139	01	



PLAN



PROFILE

STATIONING	HN1 884+00	HN1 885+00		HN1 890+00		HN1 895+00		HN1 900+00		HN1 905+00		HN1 910+00	HN1 912+00															
HOR. ALIGNMENT	L=12644																											
VER. ALIGNMENT	L=11600.34 G=-0.200%																											
CUT AND FILL	+67.1	+66.9	+66.7	+65.4	+64.1	+64.6	+64.8	+65.2	+64.7	+64.4	+65.1	+65.5	+64.9	+64.2	+62.7	+62.4	+61.9	+62.1	+61.5	+60.7	+60.5	+60.6	+60.0	+59.5	+58.9	+58.4	+57.3	+56.5
TYP. SECTION	VIADUCT (N)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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

Client

TEXAS CENTRAL

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

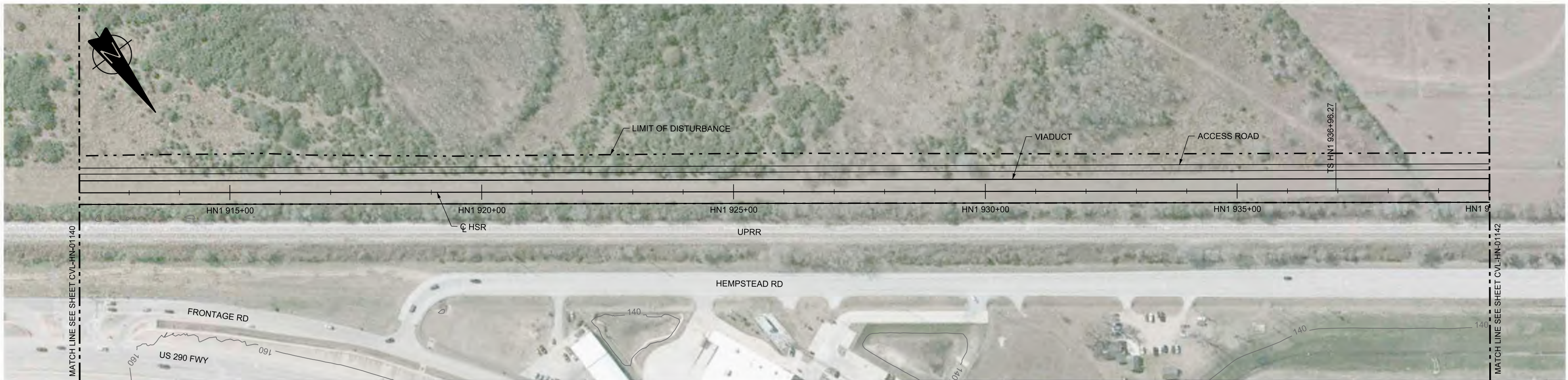
Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 884+00 TO HN1 912+00

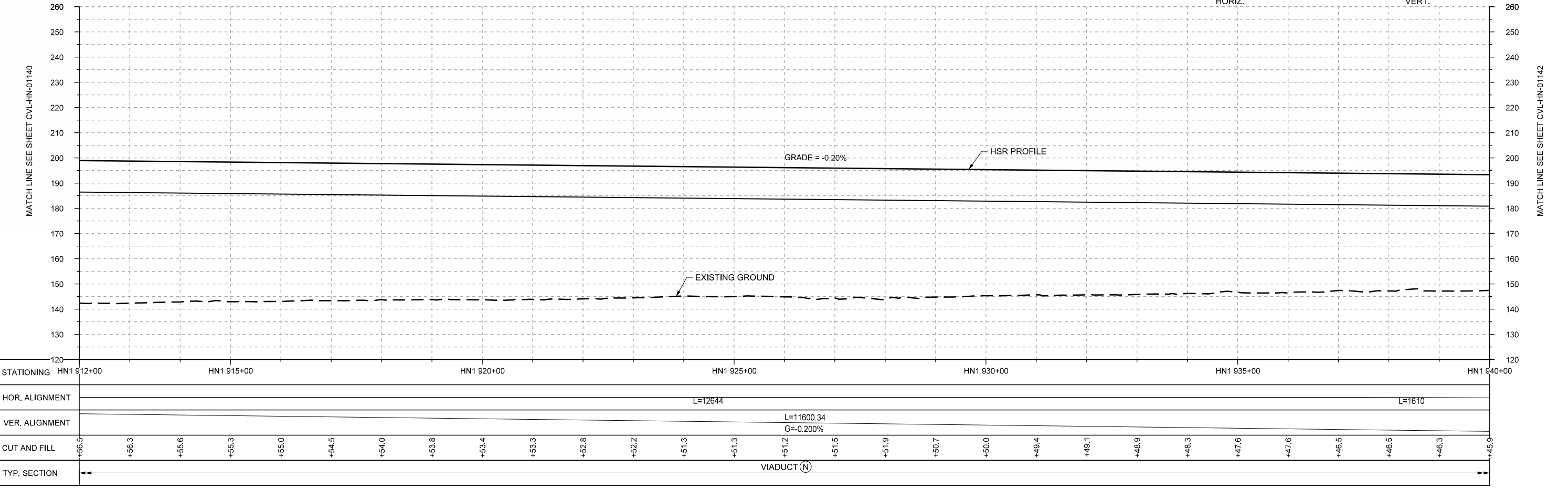
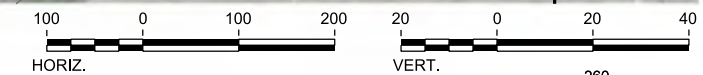
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01140	03



PLAN



PROFILE

STATIONING	HN1 912+00	HN1 915+00	HN1 920+00	HN1 925+00	HN1 930+00	HN1 935+00	HN1 940+00																						
HOR. ALIGNMENT	L=12644				L=1610																								
VER. ALIGNMENT	L=11600.34 G=-0.200%																												
CUT AND FILL	+56.5	+56.3	+55.6	+55.3	+55.0	+54.5	+54.0	+53.8	+53.4	+53.3	+52.8	+52.2	+51.3	+51.3	+51.2	+51.5	+51.9	+50.7	+50.0	+49.4	+49.1	+48.9	+48.3	+47.6	+47.6	+46.5	+46.5	+46.3	+46.3
TYP. SECTION	VIADUCT (N)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
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Texas Registered Engineering Firm: F-2144

Client

TEXAS CENTRAL

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

Drawing Title

HOUSTON SEGMENT CIVIL PLAN AND PROFILE
HN1 912+00 TO HN1 940+00

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-HN-01141	01