

Dallas to Houston High-Speed Rail Final Environmental Impact Statement

Appendix G: Dallas to Houston High-Speed Rail Passenger Service from Houston to Dallas Final Conceptual Engineering Plans and Details Set 7 of 14



**TEXAS
CENTRAL**



**TEXAS
CENTRAL**



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

**FINAL CONCEPTUAL ENGINEERING
PLANS AND DETAILS**
PROJECT DEFINITION FOR FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

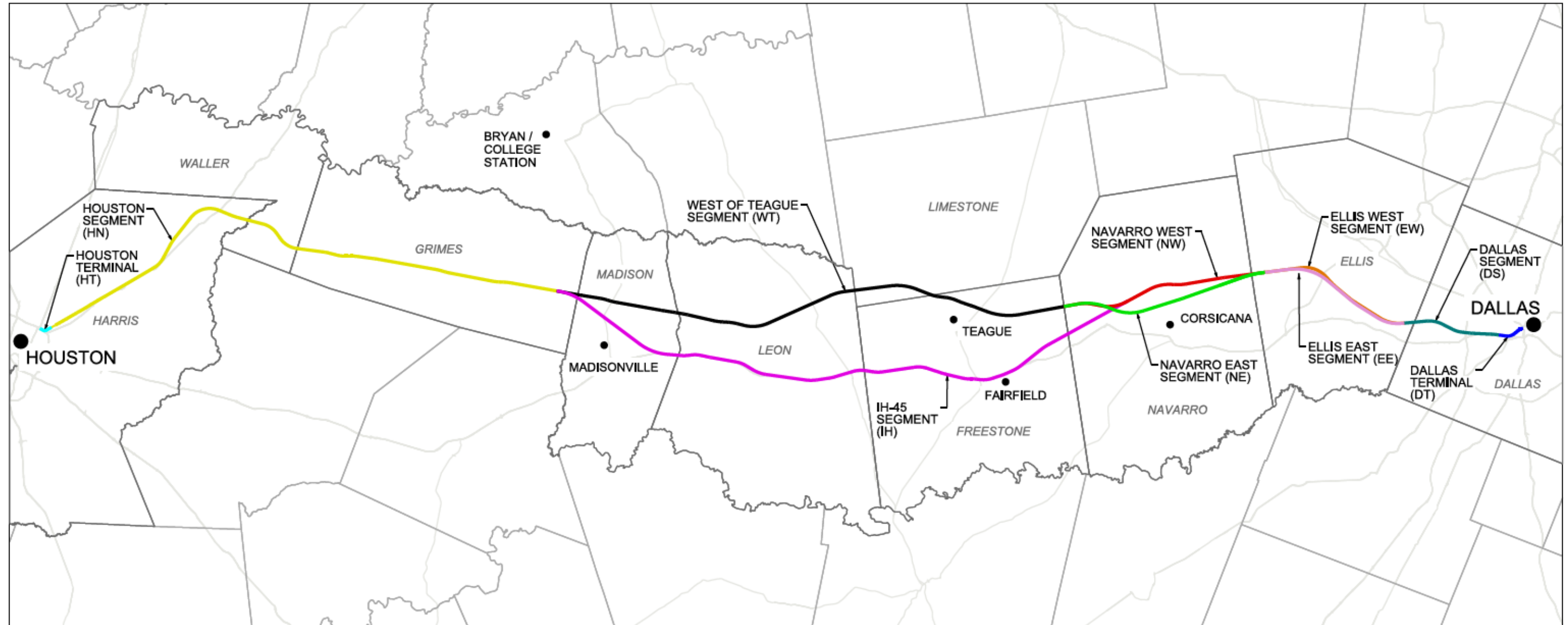
JULY 1, 2019



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COVER SHEET



| ALIGNMENT ALTERNATIVE | FRA SEGMENT ID | SEGMENT NAMES | SEGMENT ABBREVIATION |
|-----------------------|----------------|---|----------------------|
| A | 5.4, 3A, 2A, 1 | DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT | DS, EW, NW, WT, HN |
| B | 5.4, 3B, 2A, 1 | DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT | DS, EW, NE, WT, HN |
| C | 5.3C, 2A, 1 | DALLAS SEGMENT, ELLIS WEST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT | DS, EW, IH, HN |
| D | 5.4, 3A, 2B, 1 | DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT | DS, EE, NW, WT, HN |
| E | 5.4, 3B, 2B, 1 | DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT | DS, EE, NE, WT, HN |
| F | 5.3C, 2B, 1 | DALLAS SEGMENT, ELLIS EAST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT | DS, EE, IH, HN |

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



| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
| | | | | | |
| | | | | | |

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

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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

 1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

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

VOLUME 1A - GENERAL SHEETS & TYPICAL SECTIONS

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

VOLUME 1B - GENERAL SHEETS & TYPICAL SECTIONS

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

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 2A-1 HOUSTON SEGMENT with drawings CVL-HN-01101 through CVL-HN-01154-B.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 2A-1 HOUSTON SEGMENT with drawings CVL-HN-01155 through CVL-HN-01206, and section 2A-2 WEST OF TEAGUE SEGMENT with drawings CVL-WT-01250 through CVL-WT-01252.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes design and drawing information for D. THOMPSON, R. BURNS, and C. TAYLOR.

Project information block including logos for ARUP, FREESE NICHOLS, and TEXAS CENTRAL, project name 'DALLAS TO HOUSTON HIGH-SPEED RAIL', drawing title 'GENERAL INDEX SHEET 1 OF 5', and scale 'NO SCALE'.

Plot by: N:\P\W\03018

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers and descriptions for the West of Teague Segment.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers and descriptions for the West of Teague Segment, Navarro West Segment, and Ellis West Segment.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers and descriptions for the Dallas Segment and Ellis West Segment.

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: 02/25/2019

Project information including logos for ARUP, FREESE NICHOLS, TEXAS CENTRAL, and drawing details like 'GENERAL INDEX SHEET 2 OF 5' and 'NO SCALE'.

Vertical text on the right edge: PLOT TIME: 5/31/2019 9:48:27 AM, PLOT BY: N-PPW/C3018

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 2B-1 IH-45 SEGMENT and descriptions for various segments (IH-45 SEGMENT - CIVIL - KEY MAP - SHEET 1 OF 5, etc.)

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 2B-1 IH-45 SEGMENT, 2B-2 NAVARRO EAST SEGMENT, and 2B-3 ELLIS EAST SEGMENT and descriptions for various segments

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 2B-3 ELLIS EAST SEGMENT and descriptions for various segments (ELLIS EAST SEGMENT - CIVIL - PLAN AND PROFILE EE 706+00 TO EE 762+00, etc.)

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. Designer information table.

Logos for ARUP and FREESE NICHOLS with contact information for both firms.

Logos for DALLAS TO HOUSTON HIGH-SPEED RAIL FINAL CONCEPTUAL ENGINEERING and TEXAS CENTRAL.

Project information including Scale (NO SCALE), Drawing Status (FINAL), Job No (234180), Drawing No (GEN-00-00005), and Rev (01).

Plot Time: 5/24/2019 3:25:14 PM Plot By: N-YPM/C3018

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sub-sections 3A-1 STATIONS, 3A-2 MAINTENANCE FACILITIES, YARDS AND SHOPS, 3A-3 RAILWAY FACILITIES, and 3A-4 ROADWAY FACILITIES.

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sub-sections 3B-1 STATIONS (NOT USED), 3B-2 MAINTENANCE FACILITIES, YARDS AND SHOPS, and 3B-3 RAILWAY FACILITIES.

VOLUME 4B - NOT USED

VOLUME 4B - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Sub-section 4B-1 IH-45 SEGMENT. Lists various drawing numbers and descriptions for highway segments.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes design and check information for the drawing.

Project information block including logos for ARUP, FREESE NICHOLS, and TEXAS CENTRAL, drawing title 'GENERAL INDEX SHEET 4 OF 5', scale 'NO SCALE', and drawing status 'FINAL'.

Plot by: N:\PWC0318 Plot Time: 5/24/2018 3:22:19 PM

VOLUME 4B - ROADWAY PLAN SHEETS

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

Volume 5A - WILDLIFE CROSSING SHEETS

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

VOLUME 5B - WILDLIFE CROSSING SHEETS

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

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



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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title

GENERAL INDEX SHEET 5 OF 5

Scale
NO SCALE

Drawing Status

FINAL

Job No
234180

Drawing No
GEN-00-00007

Rev
01

GENERAL NOTES:

1. THESE DRAWINGS ACCOMPANY FINAL CONCEPTUAL ENGINEERING (FCE) REPORT.
2. DRAWING SET INCLUDES FIVE (5) VOLUMES. AFTER RELEASE OF THE DRAFT EIS (DEIS), WHICH IDENTIFIED ALTERNATIVE A AS THE PREFERRED ALTERNATIVE. ADDITIONAL DESIGN DEVELOPMENT AND REFINEMENT OF ALTERNATIVE A WAS UNDERTAKEN TO MITIGATE IMPACTS AND TO IMPROVE CONSTRUCTABILITY. THIS REPORT ADDRESSES THE REFINED DESIGN APPROACHES AND DETAILS FOR THE SEGMENTS IN BUILD ALTERNATIVE A, FOR ALL OTHER SEGMENTS IS A PART OF THE PREFERRED ALTERNATIVE (ELLS EAST, NAVARRO EAST, AND IH-45 SEGMENTS), NO CHANGES TO DESIGN WAS ADVANCED OTHER THAN ALIGNMENT REVISIONS REQUIRED TO ACCOUNT FOR ALIGNMENT REVISIONS ADVANCED IN ALTERNATIVE A. TO FACILITATE COMPARISON FOR IMPACT ANALYSIS, THE APPENDICES TO THE FCE REPORT INCLUDES ALL SEGMENTS. THE DRAWING SET HAS BEEN ORGANIZED INTO VOLUMES 1A-6A AND 1B-6B, WITH THE PREFERRED ALTERNATIVE DESIGN DRAWINGS INCLUDED IN THE 1A-6A VOLUMES.
3. CONCEPTUAL ENGINEERING WAS DEVELOPED TO IDENTIFY PROJECT LIMIT OF DISTURBANCE (LOD), OR "PROJECT FOOTPRINT". CONCEPTUAL ENGINEERING DRAWINGS AND FCE REPORT ARE ISSUED TO PROVIDE PROJECT DEFINITION FOR ENVIRONMENTAL ANALYSIS ONLY. FINAL DESIGN WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSIS, NOT FOR CONSTRUCTION.
4. FOR STANDARD GENERAL ABBREVIATIONS, SEE DRAWING GEN-00-0009.
5. FOR STANDARD GENERAL SYMBOLS, SEE DRAWING GEN-00-0005.
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, 2009,
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 AROGIS ONLINE SERVICES. SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEX, GETMAPPING, AEROGRID, 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, DEMOLISHED, RECONFIGURED, OR CONSTRUCTED. 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).
2. LOD USED FOR EIS ANALYSIS FOOTPRINT, 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.

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 FACILITIES, 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 (TMF).

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 IMAGERY BACKGROUNDS.
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-00-03034B FOR TYPICAL ROADWAY CROSS SECTIONS.
7. FOR SEGMENTS HH, WT, NW, EW, AND DS, ROADWAY REMOVALS ARE SHOWN ON RAIL PLAN AND PROFILE SHEETS. FOR SEGMENTS IH, NE, AND EE, ROADWAY REMOVALS ARE NOT SHOWN ON RAIL PLAN AND PROFILE SHEETS. REFER TO ROADWAY PLAN SHEETS IN VOLUME 4 FOR SEGMENT 2B, 3B, AND 4B 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 CROSSINGS DO NOT REPRESENT THE PROPOSED ROADWAY ELEVATION, BUT RATHER THE MINIMUM HEIGHT REQUIRED FOR CLEARANCES, INCLUDING ALLOWANCES FOR ROADWAY STRUCTURAL ELEMENTS. SEE FCE 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 REQUIRE THE APPROPRIATE APPROVAL FROM TXDOT.
13. PLANNED ROADS, SUCH AS MTPP ROADS IN HOUSTON, ARE SHOWN IN PROFILES IN VOLUME 2, BUT ARE NOT SHOWN IN PLAN IN VOLUME 2. AS THESE ROADS ARE PLANNED AND NOT EXISTING, THE AERIAL IMAGERY BACKGROUNDS DO NOT SHOW THESE ROADS. PLANNED ROADS ARE SHOWN IN THE FCE REPORT APPENDIX B: ROAD SEPARATION DATABASE.

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 FCE 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 AND ARE BASED ON INFORMATION RECEIVED, AS DOCUMENTED IN THE FINAL 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 FCE 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 COORDINATION WITH LANDOWNER WILL BE UNDERTAKEN TO DEVELOP IMPROVEMENTS CONSIDERING LANDOWNER 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 ANALYSES.
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 9FT 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-00-02006, 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 GENERALLY CALLED OUT AS "RAIL SYSTEMS SITES" ON THE PLAN AND PROFILE SHEETS, REFER TO FCE 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-00-01006.
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 |
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| DESIGNED BY D. THOMPSON |
| DRAWN BY D. THOMPSON |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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

Drawing 11a

GENERAL NOTES

Scale: NO SCALE

Drawing Status: FINAL

Job No: 234180 Drawing No: GEN-00-00008 Rev: 01

ABBREVIATIONS

LEGEND

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

PLAN



FOR CONTINUATION SEE SHEET XXX

10+00

420

100

UTILITY / PRELINE

NORTH ARROW

CITY / COUNTY BOUNDARY LINE

MATCH LINE

CONCEPTUAL ENGINEERING LIMITS OF DISTURBANCE (LOD)

PROPOSED CENTERLINE OF HIGH-SPEED RAIL WITH STATIONING

EDGE OF VIADUCT

PROPOSED ROADWAY EDGE OF PAVEMENT

CONTOURS

EXISTING TRANSMISSION LINE

FENCE

RETAINING WALL

CULVERT

TEMPORARY CONSTRUCTION AREA

UTILITY LIMIT OF DISTURBANCE (LOD)

RAIL SYSTEMS SITE

DETENTION BASIN

BUILDING TO BE DEMOLISHED

RAIL ON EMBANKMENT (FLL)

RAIL IN CUT

NOTE:

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

PROFILE

TOP OF RAIL

EXISTING GROUND

FEMA 100 YR FLOOD LEVEL

VIADUCT ABUTMENT AND STRUCTURE SOFFIT

UTILITY CROSSING

EXISTING CROSSING

PROPOSED CROSSING

CROSSING REMOVED



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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

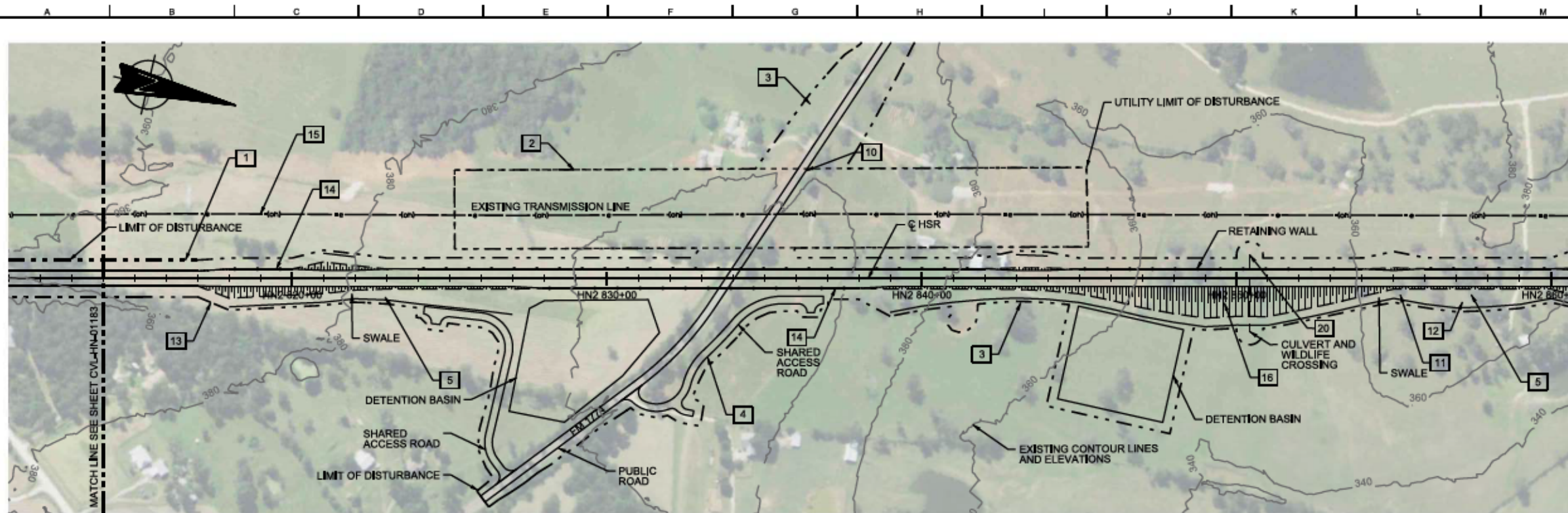


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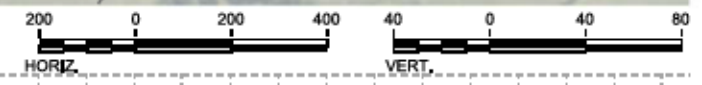
Drawing 11a

GENERAL ABBREVIATIONS AND LEGEND

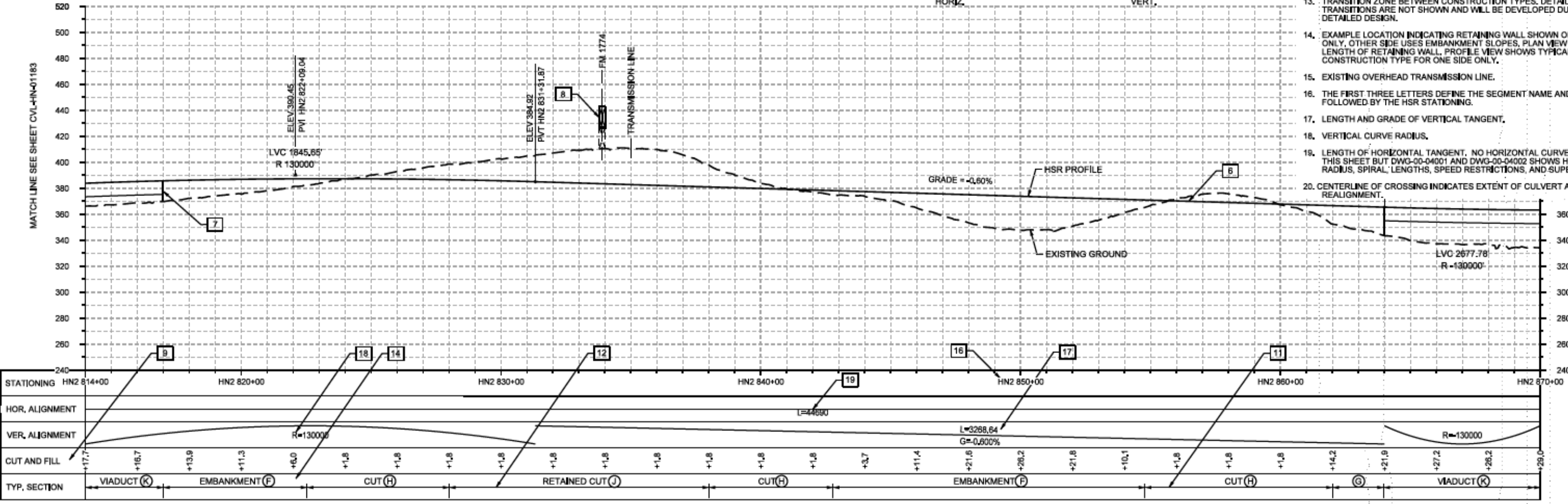
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| Scale: NO SCALE | | |
| Drawing Status: FINAL | | |
| Job No: 234180 | Drawing No: GEN-00-00009 | Rev: 01 |



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 SHOWING 16'-6" FROM EXISTING ROADWAY ALIGNMENT. CLEARANCE BOX SHOWS APPROXIMATE SPACE OCCUPIED BY EXISTING OR PROPOSED ROADWAYS OR FREIGHT RAIL LINES. ACTUAL CLEARANCE REQUIRED VARIES BASED ON ROAD OR RAIL TYPE. FOR DETAILS ON REQUIRED CLEARANCE SEE FCE 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 8 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. FULL EXTENTS OF ROAD REALIGNMENT SHOWN ON ROADWAY SHEETS IN VOLUME 2.
 - 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.
 - CENTERLINE OF CROSSING INDICATES EXTENT OF CULVERT AND STREAM REALIGNMENT.



PROFILE

| |
|-----------------------------------|
| DESIGNED BY J. ENRIQUEZ |
| DRAWN BY P. TONKIN |
| CHECKED BY R. BURNS |
| IN CHARGE C. TAYLOR |
| DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

 1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title: **GENERAL**
RAIL ANNOTATION TO CLARIFY DESIGN INTENT

| | | |
|------------------------------|---------------------------------|----------------|
| Scale: AS SHOWN | | |
| Drawing Status: FINAL | | |
| Job No: 234180 | Drawing No: GEN-00-00010 | Rev: 01 |

VOLUME 2A

RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

(SEGMENTS HN, WT, NW, EW, DS)

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
GENERAL

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

2A-5

DALLAS SEGMENT

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

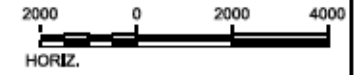
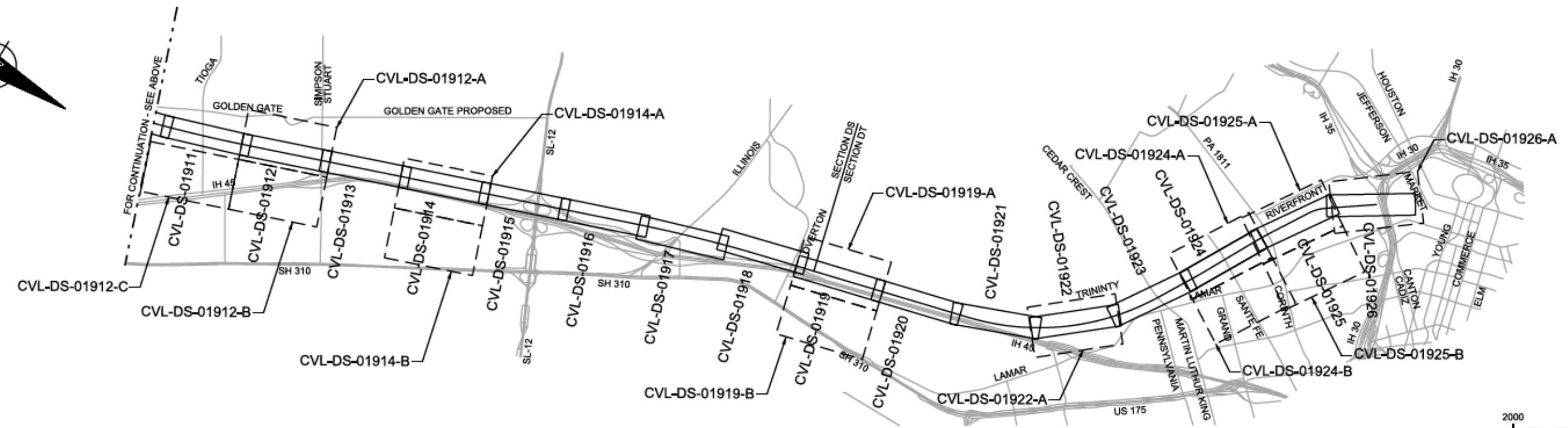
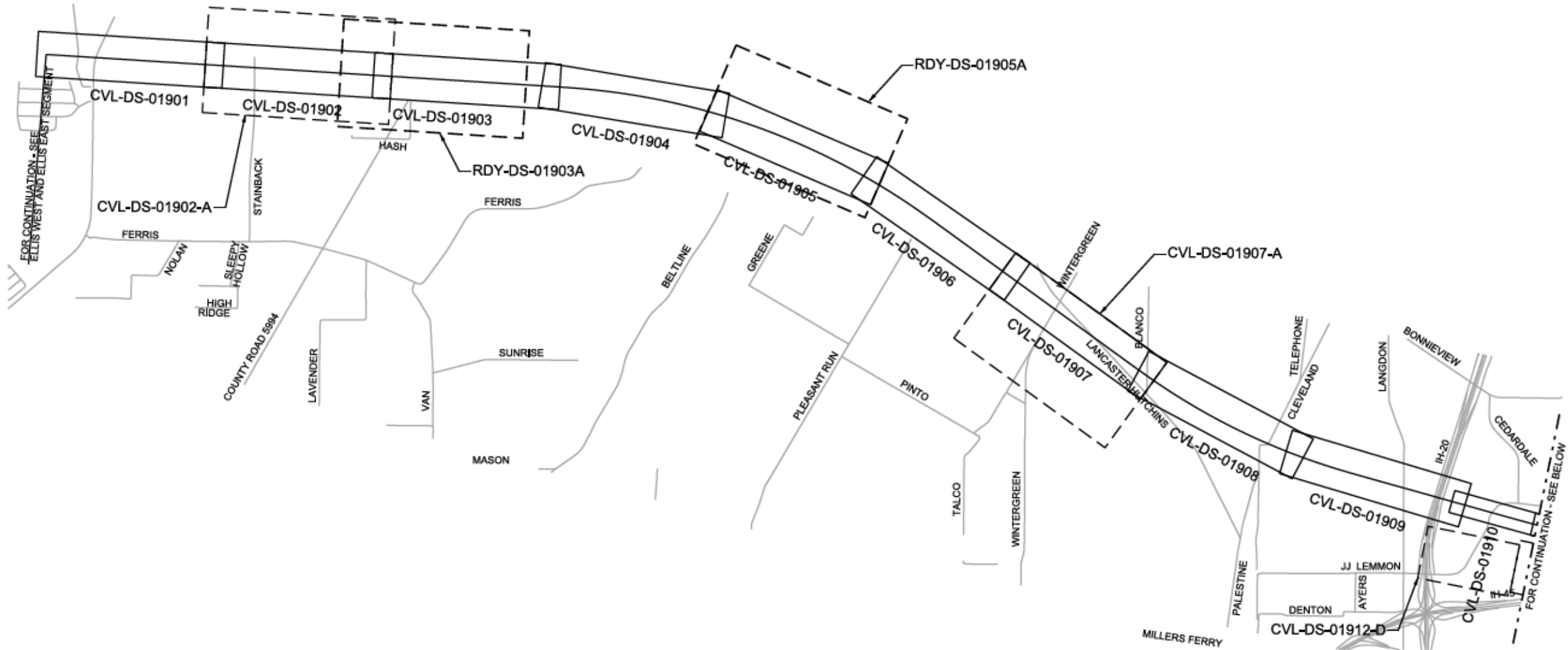
IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
GENERAL

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



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

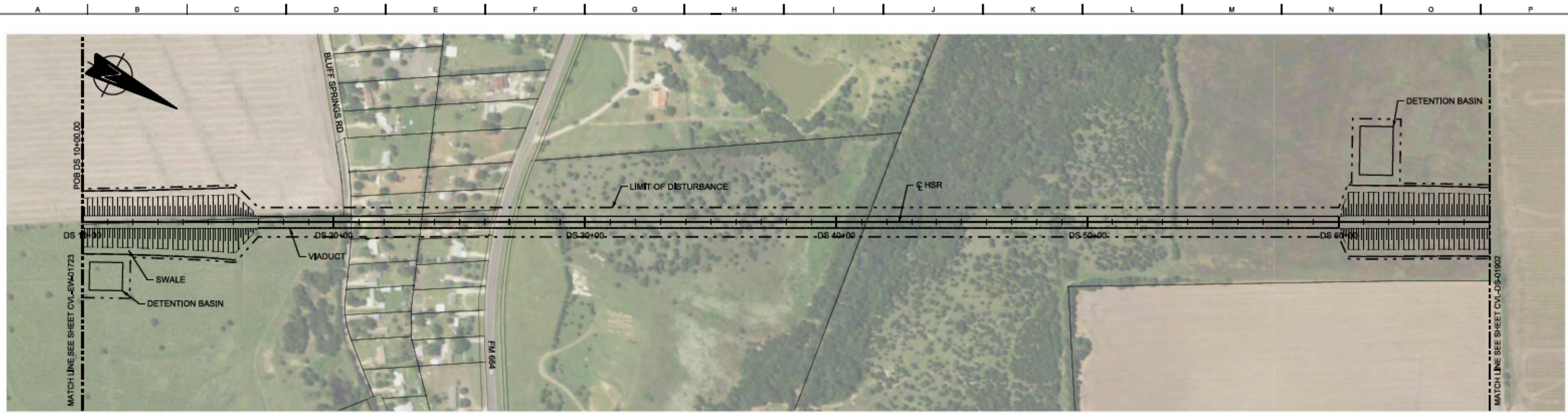
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
KEY MAP
DS 10+00 TO DT 216+59**

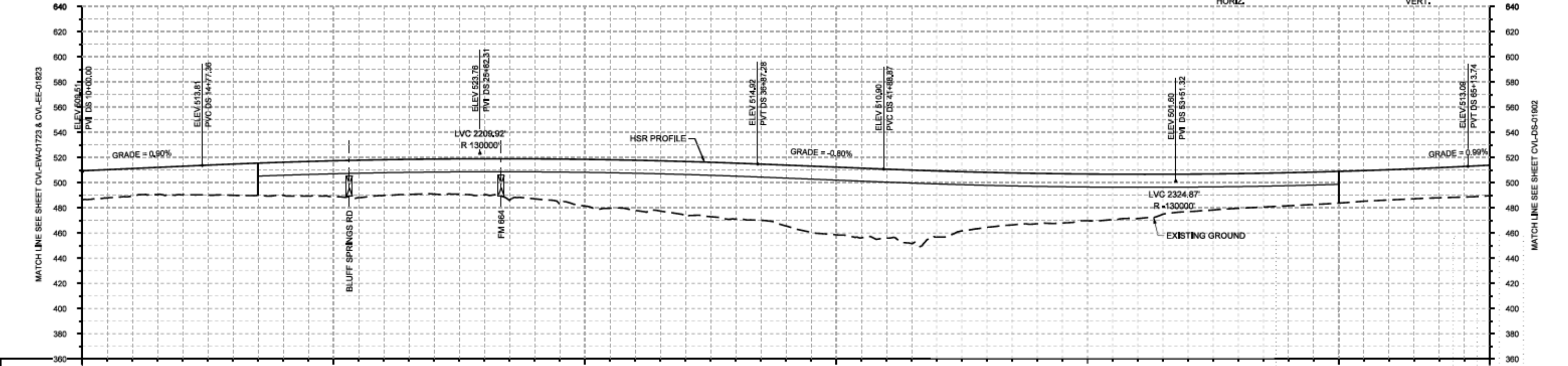
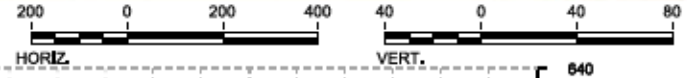
Scale
AS SHOWN

Drawing Status
FINAL

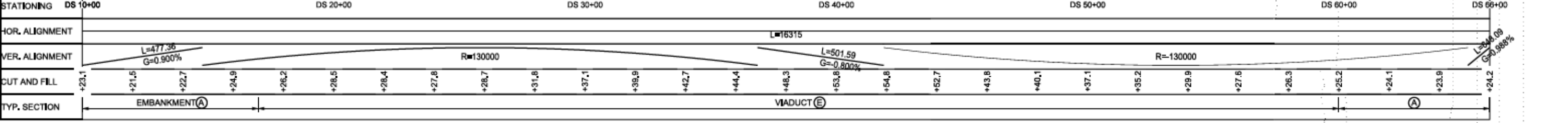
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| Job No 234180 | Drawing No CVL-DS-01900 | Rev 01 |
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PLAN



PROFILE



| |
|---------------------------------|
| DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWIEBEL |
| IN CHARGE C. TAYLOR |
| DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 10+00 TO DS 66+00**

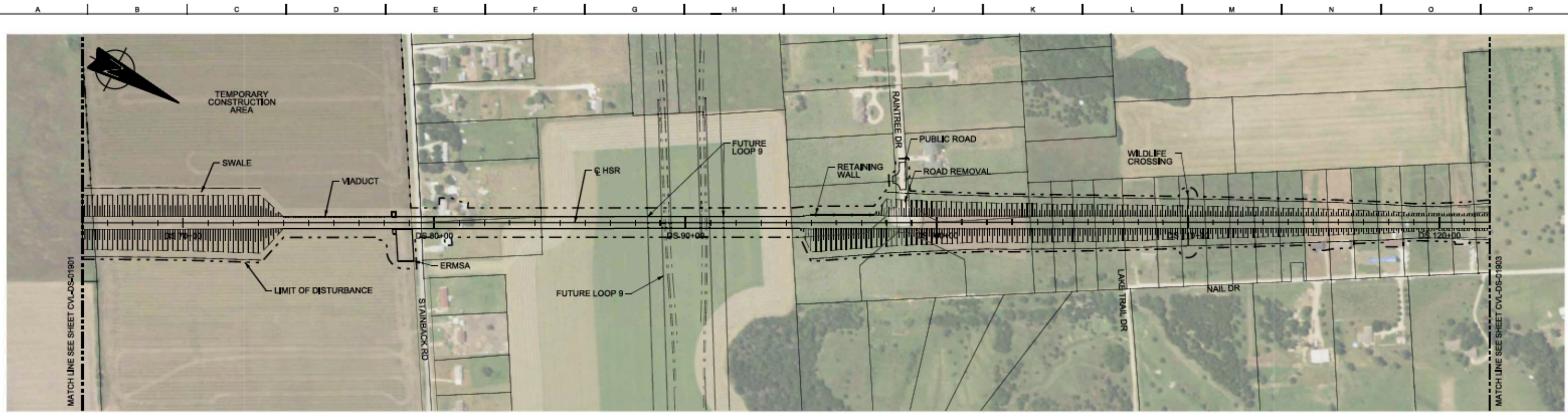
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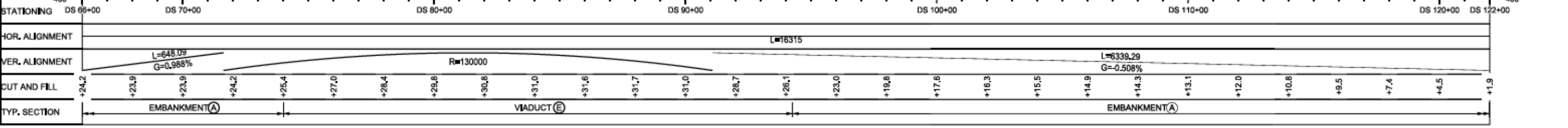
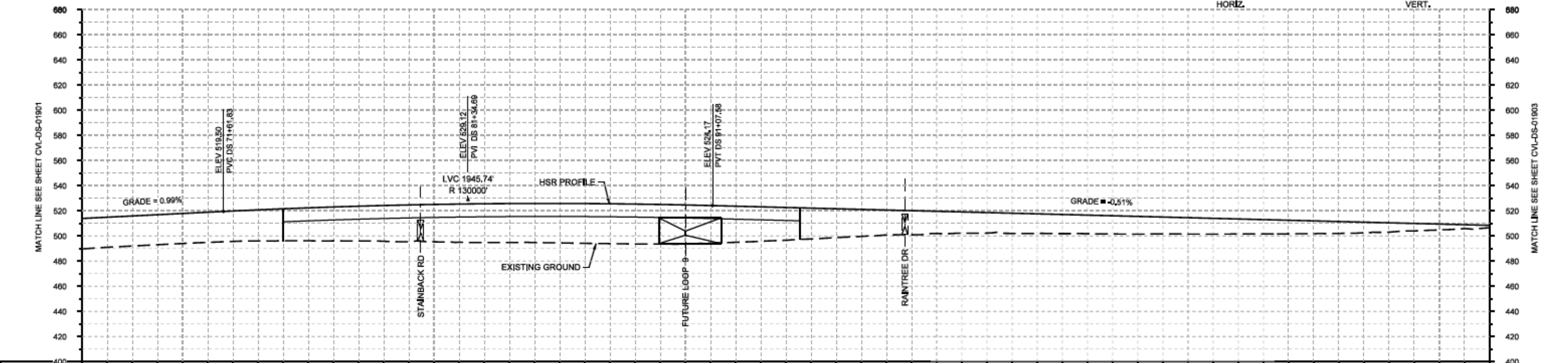
Drawing Status

FINAL

| | | |
|--------|--------------|-----|
| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01901 | 01 |



PLAN



PROFILE

| |
|---------------------------------|
| DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI |
| CHECKED BY K. SEYMOUR |
| IN CHARGE C. TAYLOR |
| DATE 2/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 66+00 TO DS 122+00**

Scale

AS SHOWN

Drawing Status

FINAL

| | | |
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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01902 | 01 |



PLAN



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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

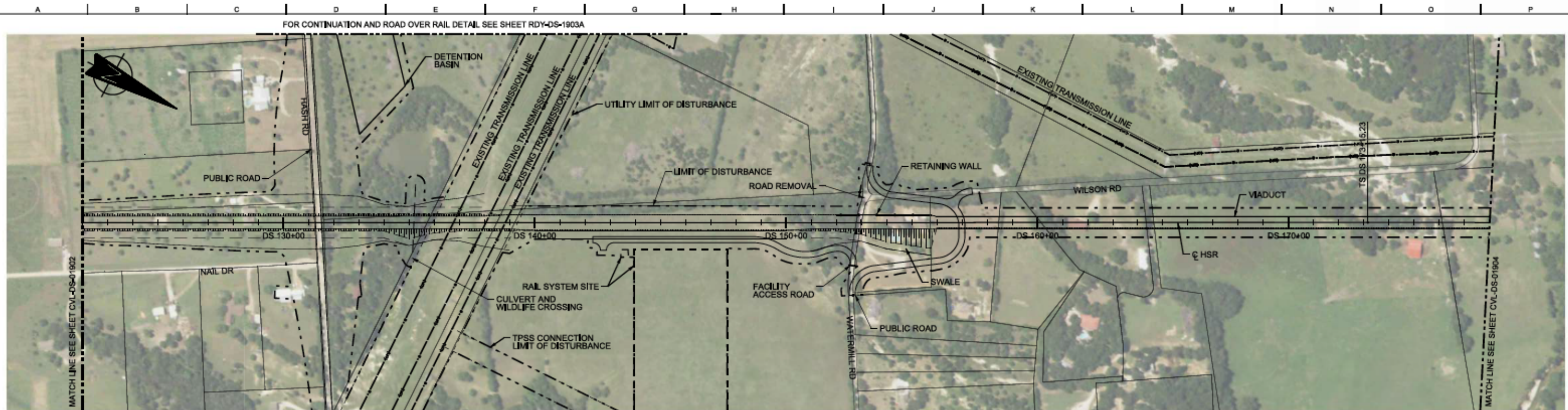
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

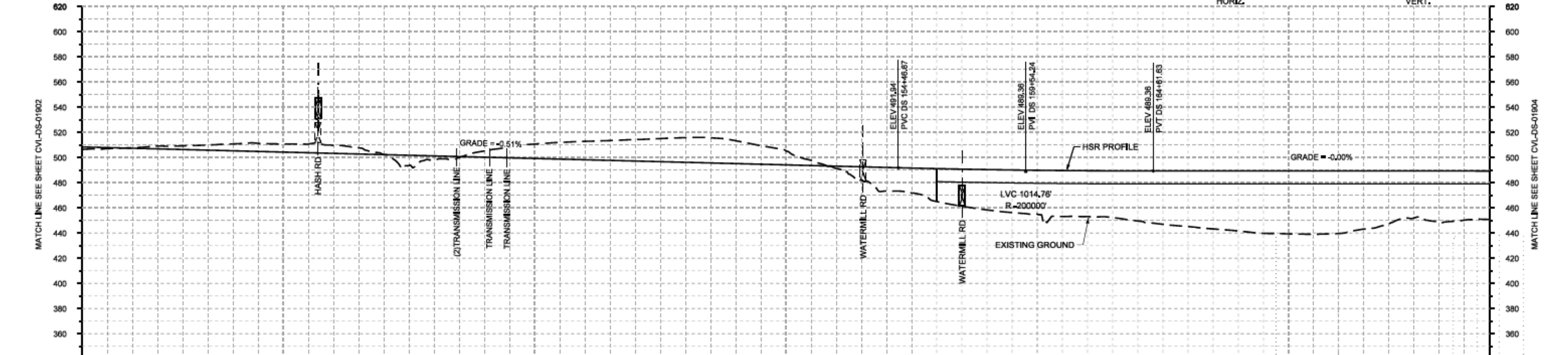
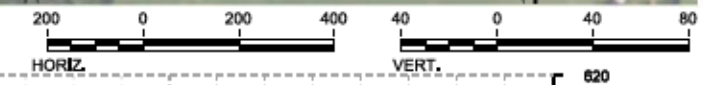
Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01902-A | Rev 01 |
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PLAN



PROFILE

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| STATIONING | DS 122+00 | DS 130+00 | DS 140+00 | DS 150+00 | DS 160+00 | DS 170+00 | DS 178+00 |
| HOR. ALIGNMENT | L=16315 | | | | | | |
| VER. ALIGNMENT | L=6339.29 G=-0.508% | | | | | | |
| CUT AND FILL | +1.9 | -0.4 | -2.9 | -0.5 | -6.3 | -6.3 | +3.0 |
| | | | | | | | -4.9 |
| | | | | | | | -11.5 |
| | | | | | | | -14.6 |
| | | | | | | | -17.1 |
| | | | | | | | -19.7 |
| | | | | | | | -16.2 |
| | | | | | | | -11.2 |
| | | | | | | | +1.9 |
| | | | | | | | +18.6 |
| | | | | | | | +26.2 |
| | | | | | | | +32.1 |
| | | | | | | | +34.8 |
| | | | | | | | +36.3 |
| | | | | | | | +39.8 |
| | | | | | | | +44.2 |
| | | | | | | | +47.7 |
| | | | | | | | +50.1 |
| | | | | | | | +49.8 |
| | | | | | | | +42.2 |
| | | | | | | | +40.4 |
| | | | | | | | +36.5 |
| TYP. SECTION | CUT (C) | | | A | | VIADUCT (E) | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

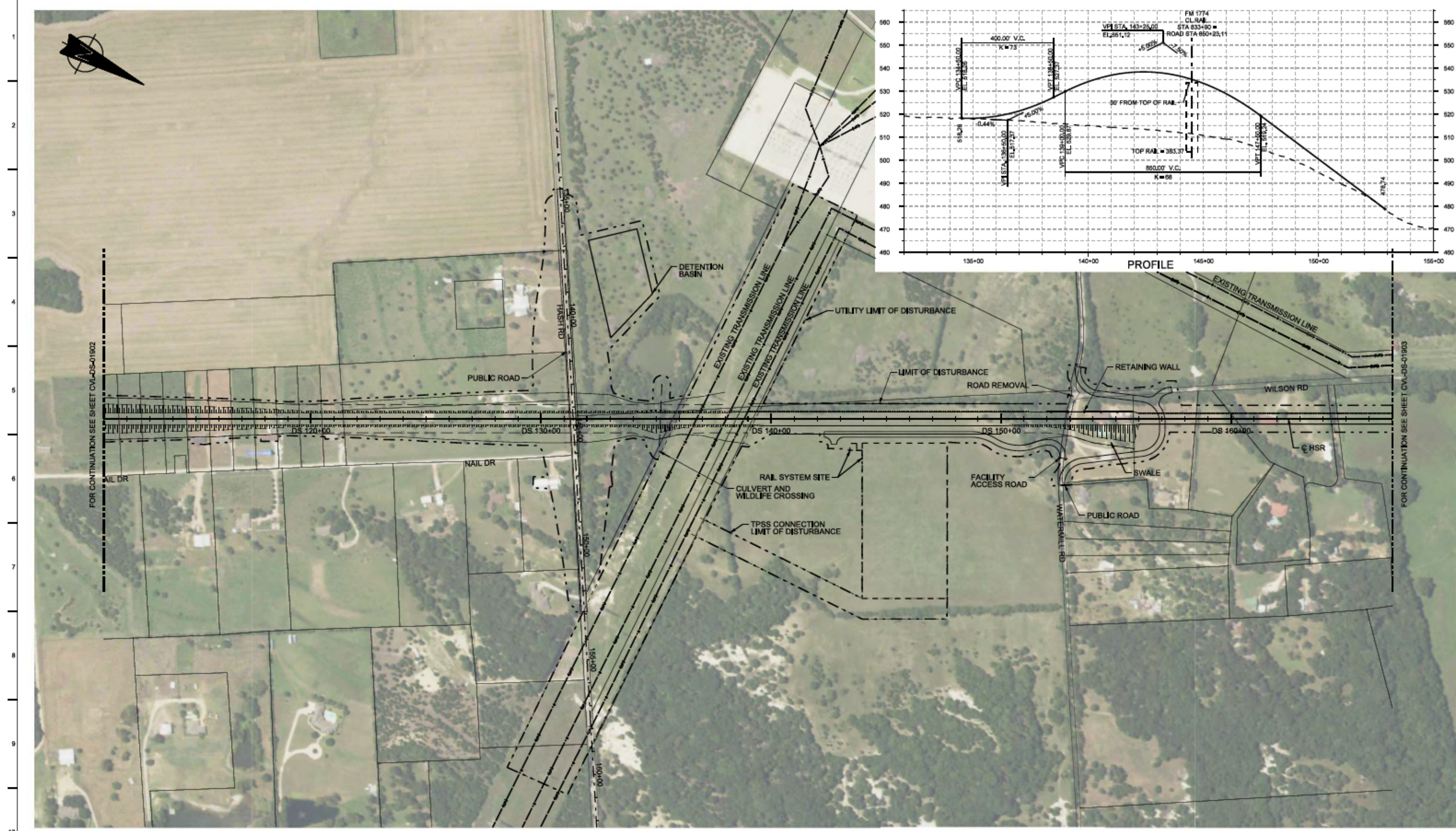
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title:
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 122+00 TO DS 178+00**

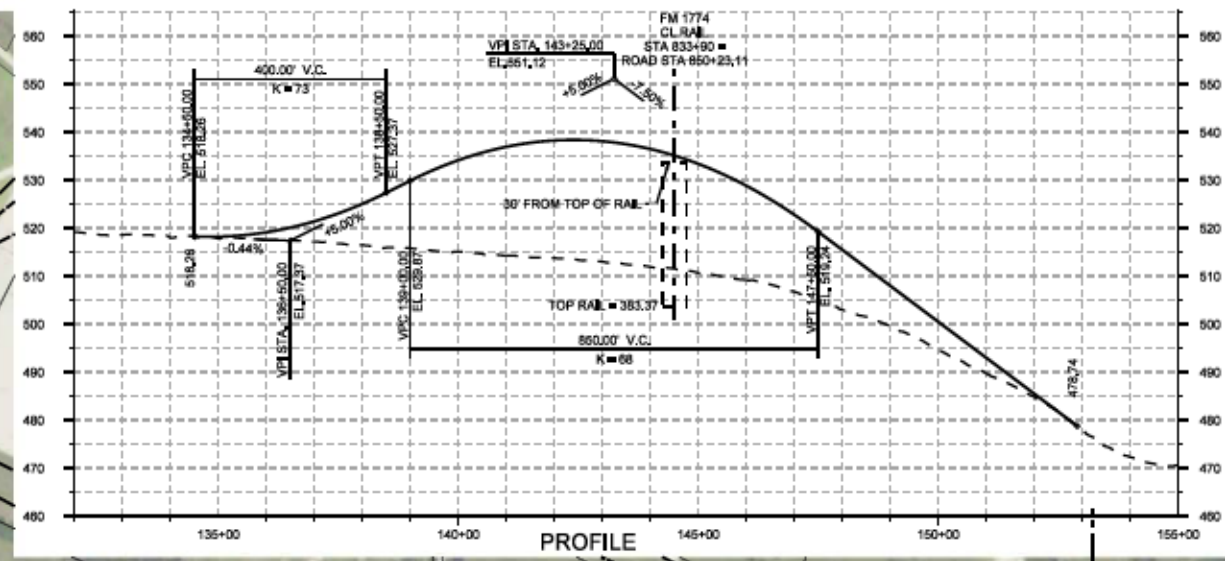
Scale:
AS SHOWN

Drawing Status:
FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01903 | 01 |



PLAN



PROFILE

FOR CONTINUATION SEE SHEET CIVL-DS-01902

FOR CONTINUATION SEE SHEET CIVL-DS-01903

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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|-------------|-----------|
| DESIGNED BY | S. SASSER |
| DRAWN BY | S. SASSER |
| CHECKED BY | G. VOWELS |
| IN CHARGE | C. TAYLOR |
| DATE | 2/25/2019 |

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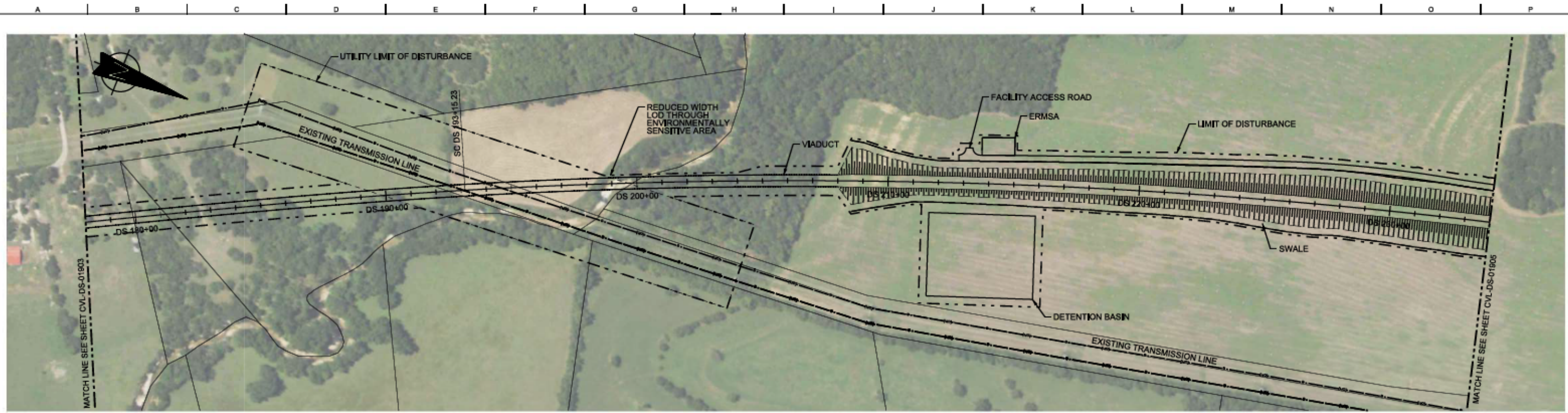
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

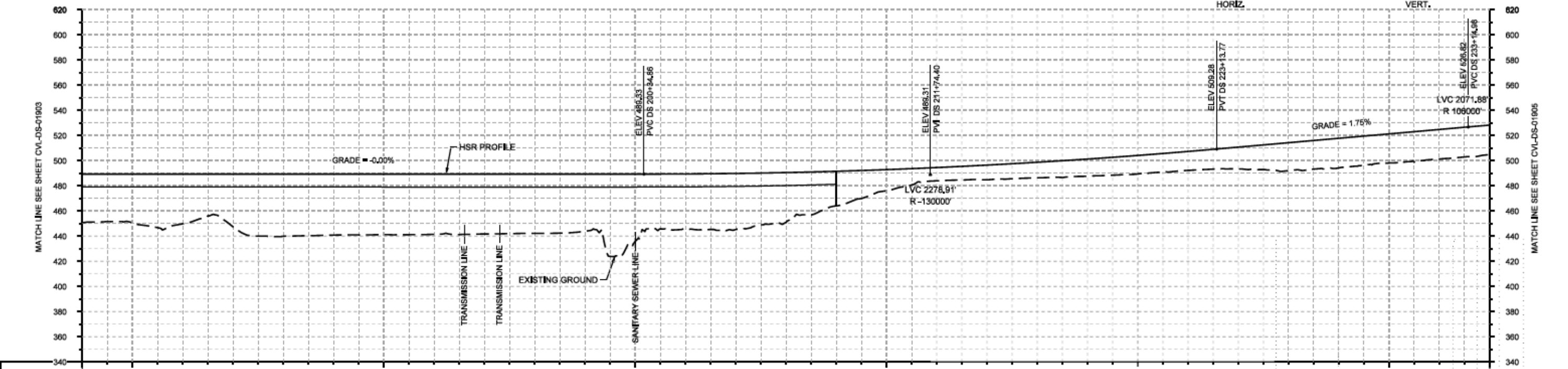
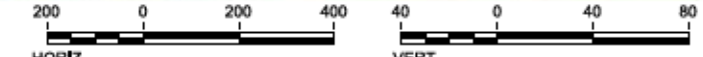
 1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 CIVIL HIGHWAY
 PLAN
 HASH ROAD**

Scale
 AS SHOWN
 Drawing Status
FINAL
 Job No 234180 Drawing No RDY-DS-01903A Rev 01



PLAN



PROFILE

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| STATIONING | DS 178+00 | DS 180+00 | DS 190+00 | DS 200+00 | DS 210+00 | DS 220+00 | DS 230+00 | DS 234+00 |
| HOR. ALIGNMENT | L=2000 | | | | R=23000 L=10967 | | | |
| VER. ALIGNMENT | L=3573.23 G=0.001% | | | | R=130000 | | | |
| CUT AND FILL | +36.5 | +36.5 | +39.5 | +42.0 | +45.5 | +48.2 | +47.9 | +47.6 |
| TYP. SECTION | VIADUCT (E) | | | | EMBANKMENT (A) | | | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title:

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 178+00 TO DS 234+00**

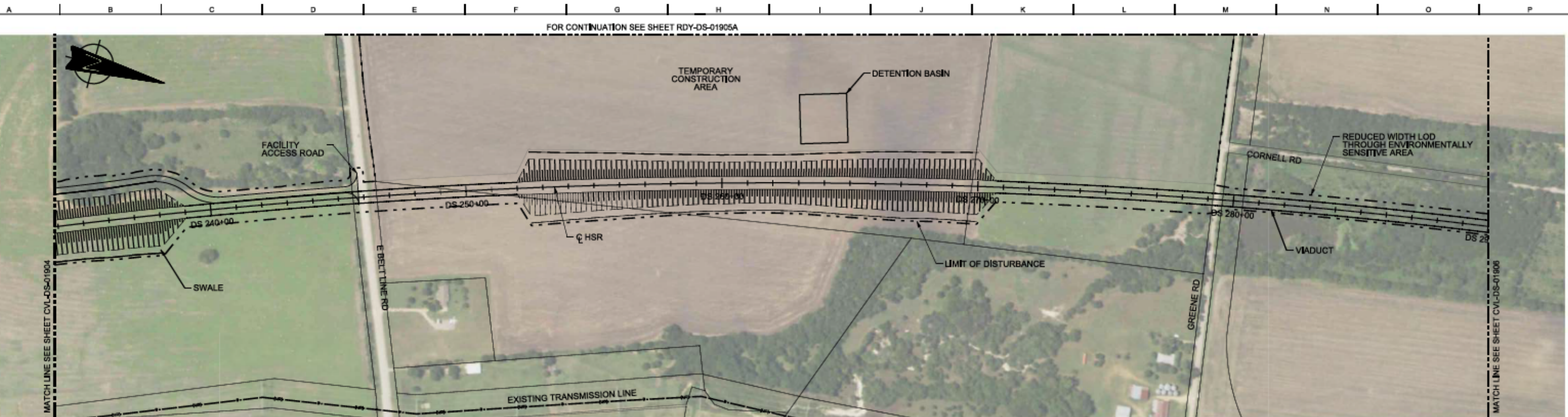
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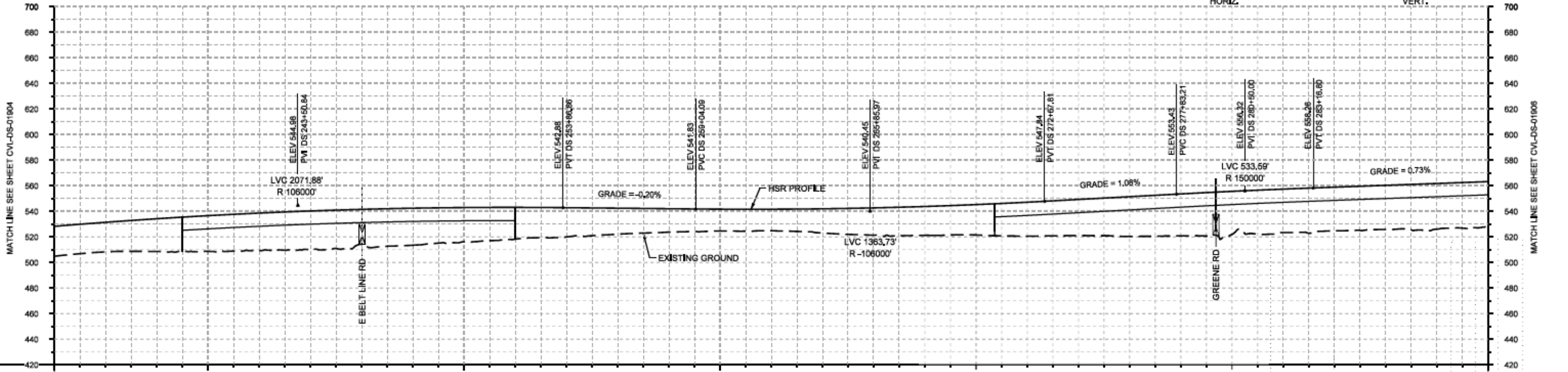
Drawing Status:

FINAL

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| Job No. | Drawing No. | Rev. |
| 234180 | CVL-DS-01904 | 01 |



PLAN



PROFILE

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| STATIONING | DS 234+00 | DS 240+00 | DS 250+00 | DS 260+00 | DS 270+00 | DS 280+00 | DS 290+00 |
| HOR. ALIGNMENT | $R=23000$ $L=10987$ | | | | | | |
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| CUT AND FILL | +23.4 | +23.1 | +25.5 | +27.9 | +29.1 | +30.4 | +27.4 |
| TYP. SECTION | EMBANKMENT(A) | | VIADUCT(E) | | EMBANKMENT(A) | | VIADUCT(E) |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

 1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title:
**DALLAS SEGMENT
 CIVIL
 PLAN AND PROFILE
 DS 234+00 TO DS 290+00**

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|-----------------|--------------|
| Scale: | AS SHOWN |
| Drawing Status: | FINAL |
| Job No: | 234180 |
| Drawing No: | CVL-DS-01905 |
| Rev: | 01 |



FOR CONTINUATION SEE SHEET CIVL-DS-01904

FOR CONTINUATION SEE SHEET CIVL-DS-01906



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
S. SASSER

DRAWN BY
S. SASSER

CHECKED BY
G. VOWELS

IN CHARGE
C. TAYLOR

DATE
2/25/2019

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Texas Registered Engineering Firm K-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

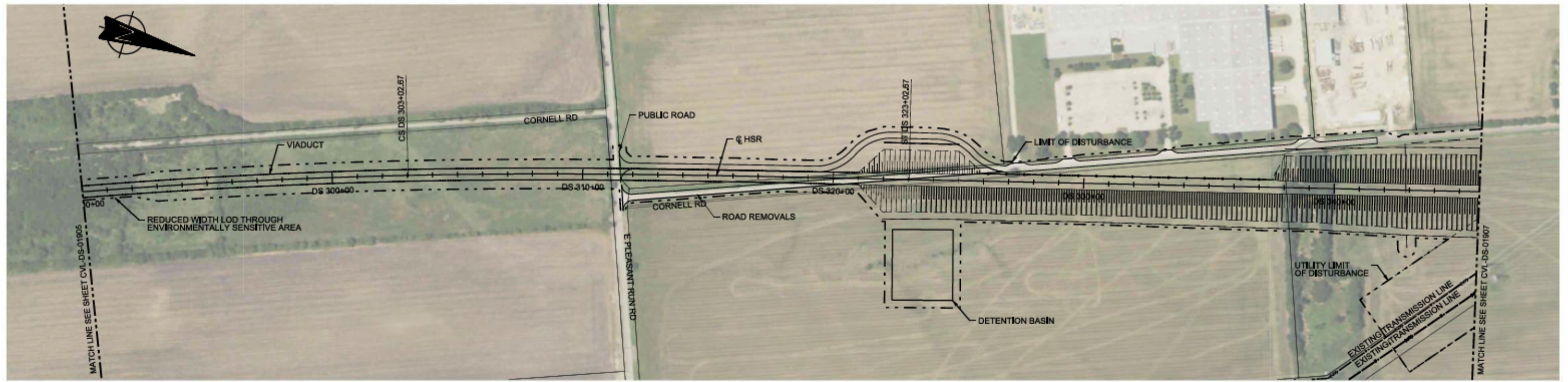
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL HIGHWAY
PLAN
DS 234+00 TO DS 290+00**

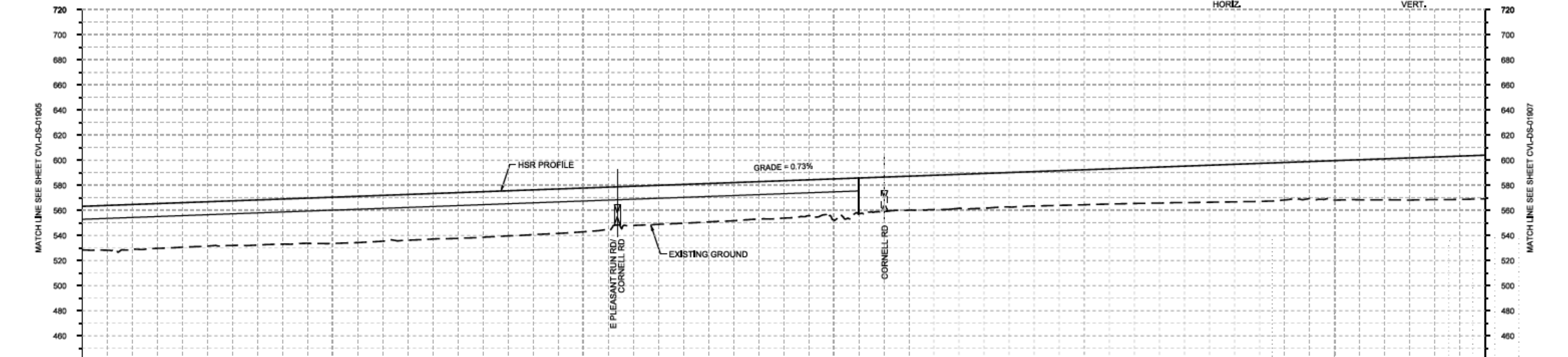
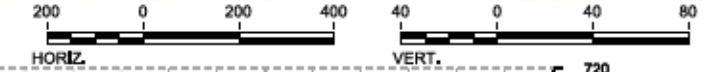
Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No RDY-DS-01905A | Rev 01 |
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PLAN



PROFILE

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|----------------|--------------------|-----------|-----------|-----------|-----------------------|-----------|-----------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DS 290+00 | DS 300+00 | DS 310+00 | DS 320+00 | DS 330+00 | DS 340+00 | DS 346+00 | | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | R=23000 L=10987 | | L=2000 | | L=6659 | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | | | | | L=6391.87 G=0.728% | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +34.7 | +35.7 | +35.6 | +35.6 | +36.0 | +36.9 | +36.6 | +36.2 | +36.3 | +35.6 | +34.8 | +31.3 | +30.9 | +30.5 | +29.8 | +32.6 | +27.3 | +27.3 | +27.8 | +27.4 | +27.9 | +28.3 | +29.1 | +29.9 | +29.9 | +31.5 | +32.6 | +34.0 | +34.8 |
| TYP. SECTION | VIADUCT (E) | | | | | | | | | | EMBANKMENT (A) | | | | | | | | | | | | | | | | | | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | K. SEYMOUR |
| IN CHARGE | C. TAYLOR |
| DATE | 2/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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ARUP
Arup Texas, Inc.
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2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2251
www.freese.com
Texas Registered Engineering Firm F-2144

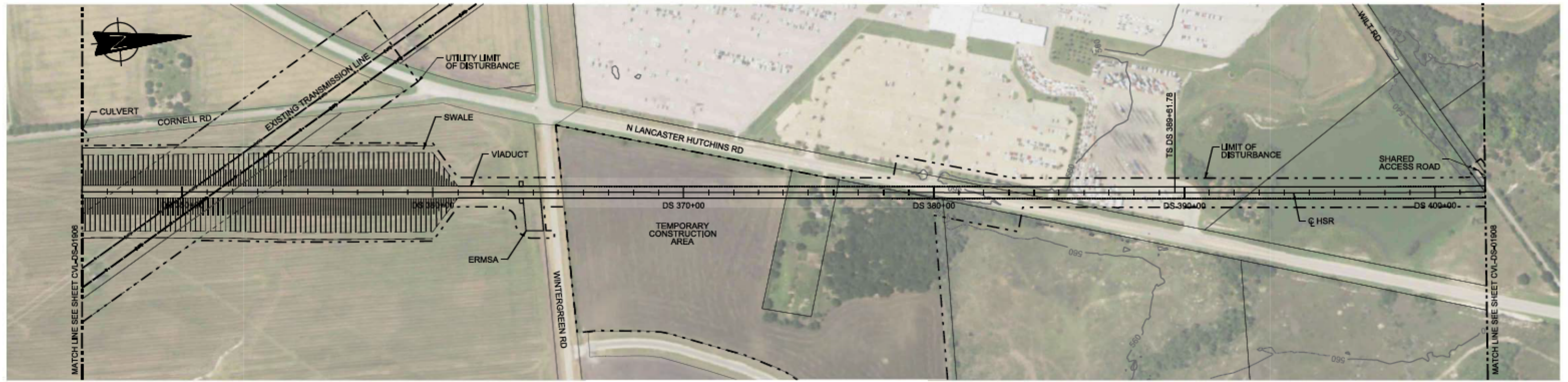
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title: DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 290+00 TO DS 346+00

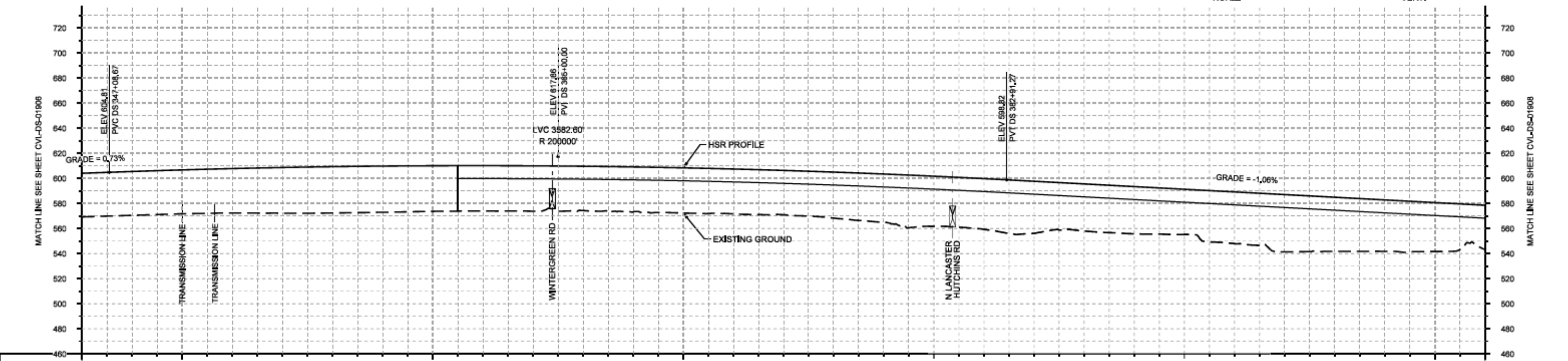
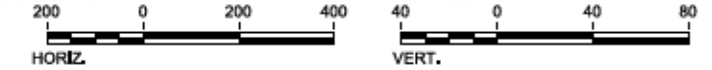
Scale: AS SHOWN

Drawing Status: FINAL

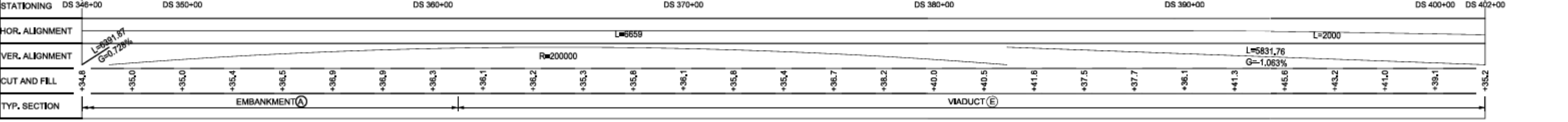
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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01906 | 01 |



PLAN



PROFILE



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| DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWEBEL |
| IN CHARGE C. TAYLOR |
| DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 346+00 TO DS 402+00**

Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01907 | Rev 01 |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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www.freesenichols.com
Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

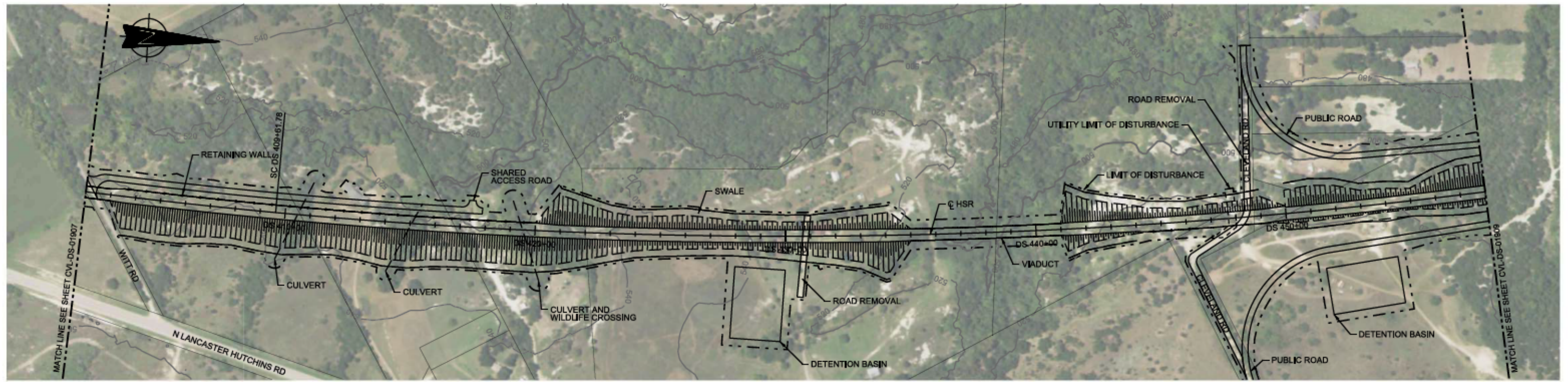
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

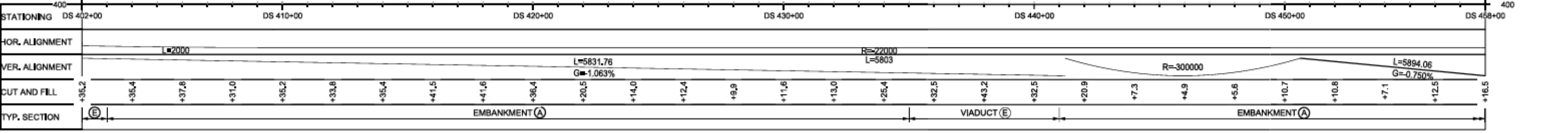
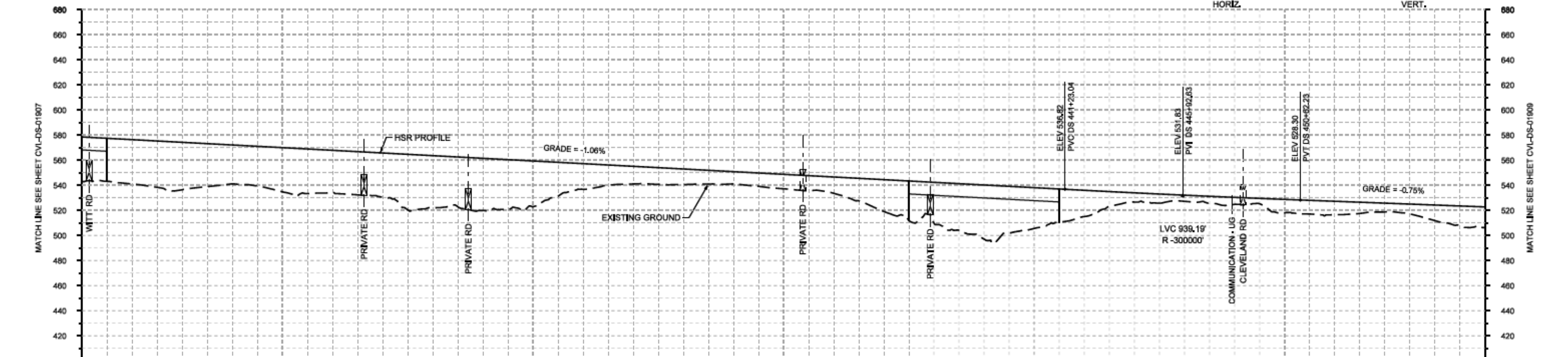
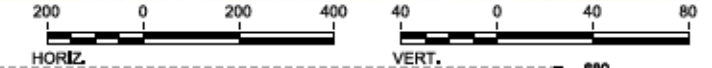
Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01907-A | Rev 01 |
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PLAN



PROFILE

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 402+00 TO DS 458+00**

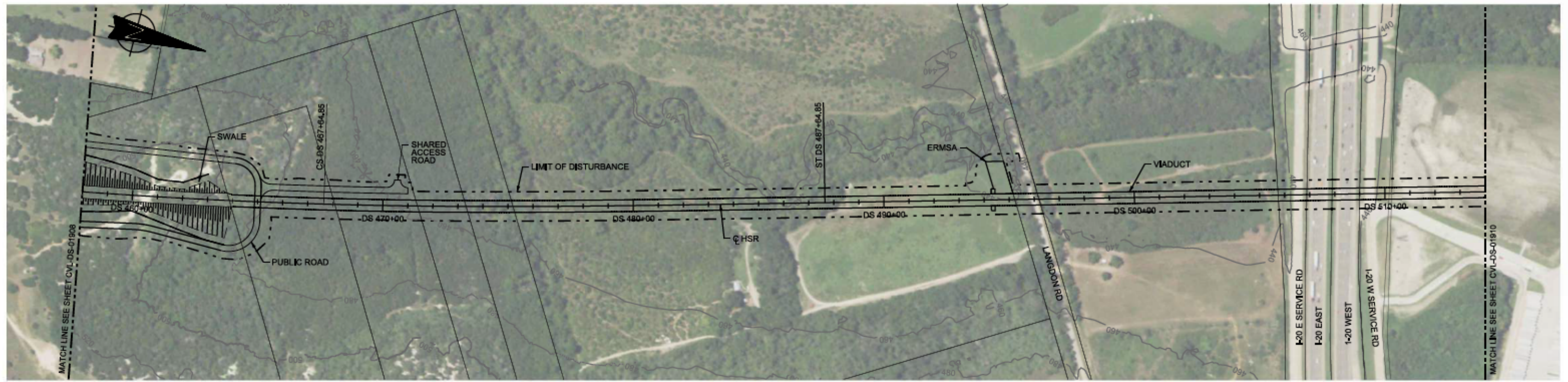
Scale

AS SHOWN

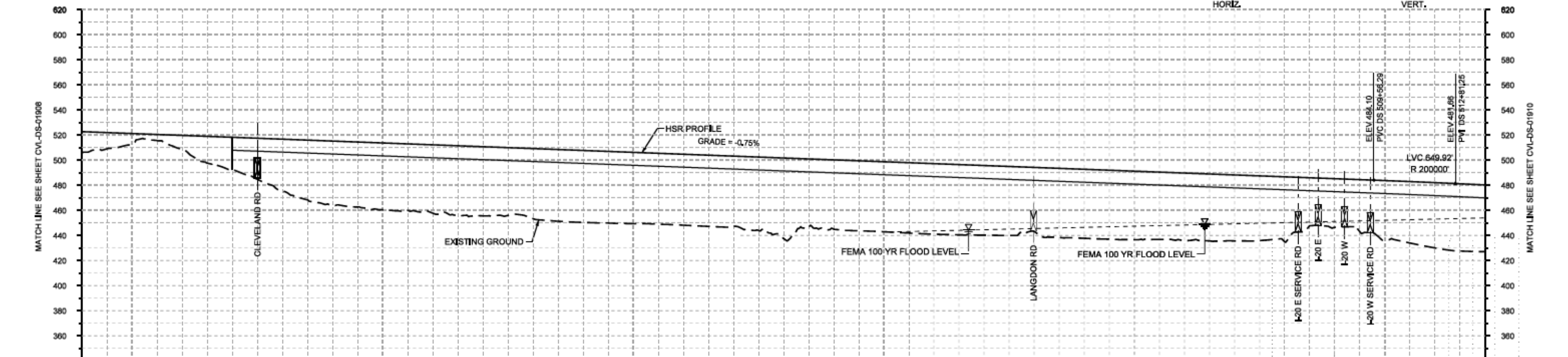
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01908 | 01 |



PLAN



PROFILE

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| STATIONING | DS 458+00 | DS 460+00 | DS 470+00 | DS 480+00 | DS 490+00 | DS 500+00 | DS 510+00 | DS 514+00 | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | R=2000 | | | | L=2000 | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=5803 | | L=5894.06 | | L=3959 | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +16.5 | +8.3 | +10.9 | +25.8 | +41.8 | +51.5 | +53.3 | +54.5 | +55.2 | +55.9 | +57.4 | +56.8 | +56.2 | +64.3 | +55.3 | +55.8 | +56.3 | +55.5 | +51.1 | +55.1 | +64.7 | +53.9 | +52.7 | +51.9 | +38.8 | +47.8 | +52.0 | +53.2 |
| TYP. SECTION | EMBANKMENT (A) | | | | VIADUCT (E) | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 458+00 TO DS 514+00**

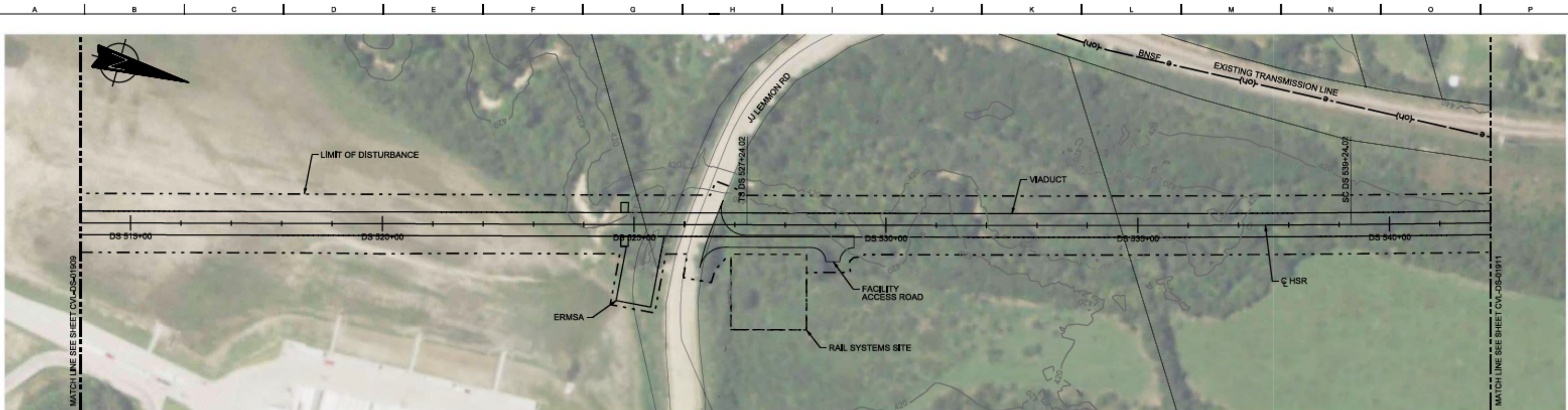
Scale

AS SHOWN

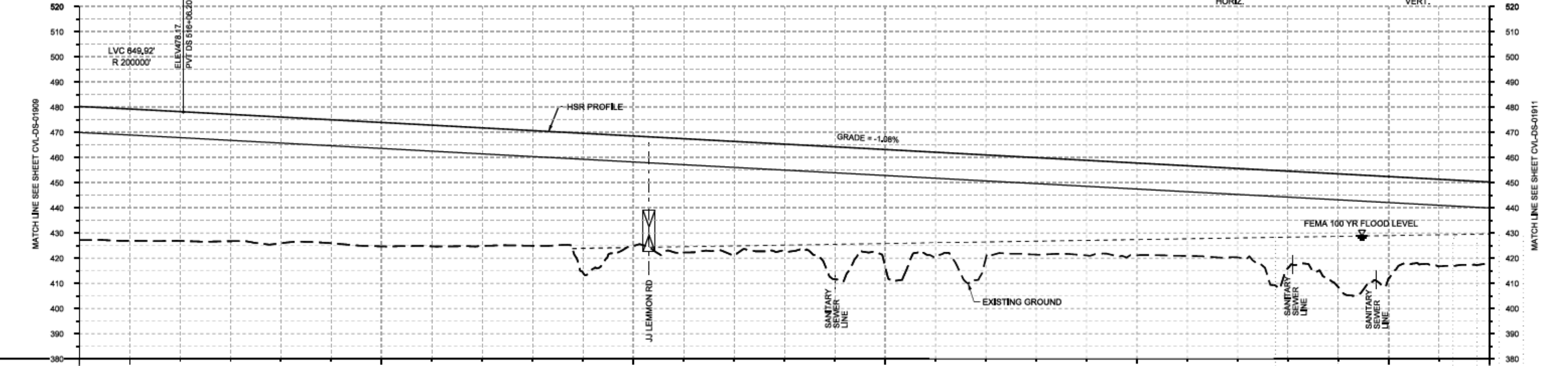
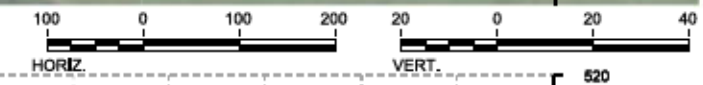
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01909 | 01 |



PLAN



PROFILE

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| STATIONING | DS 514+00 | DS 515+00 | DS 520+00 | DS 525+00 | DS 530+00 | DS 535+00 | DS 540+00 | DS 542+00 |
| HOR. ALIGNMENT | L=3958 | | | L=2774.25 | | | L=1200 | |
| VER. ALIGNMENT | R=200000 | | | G=-1.075% | | | R=50000 | |
| CUT AND FILL | +53.2 | +52.4 | +51.3 | +50.5 | +50.2 | +49.1 | +48.2 | +46.9 |
| TYP. SECTION | VIADUCT (E) | | | | | | VIADUCT (U) | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 514+00 TO DS 542+00**

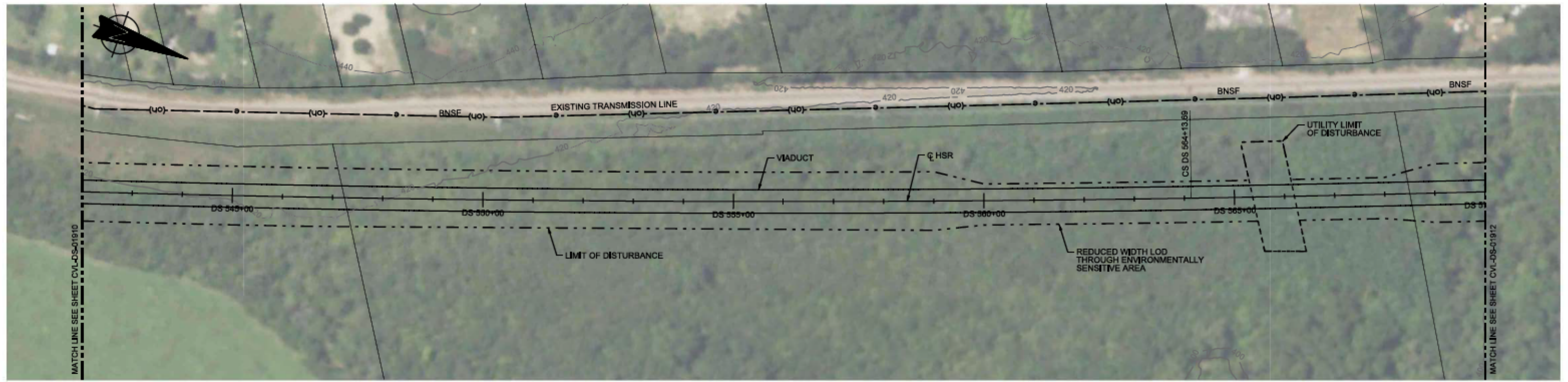
Scale

AS SHOWN

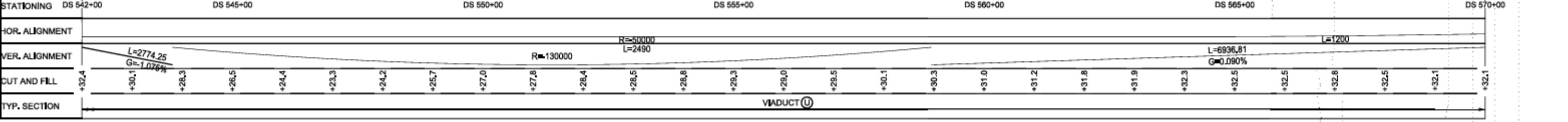
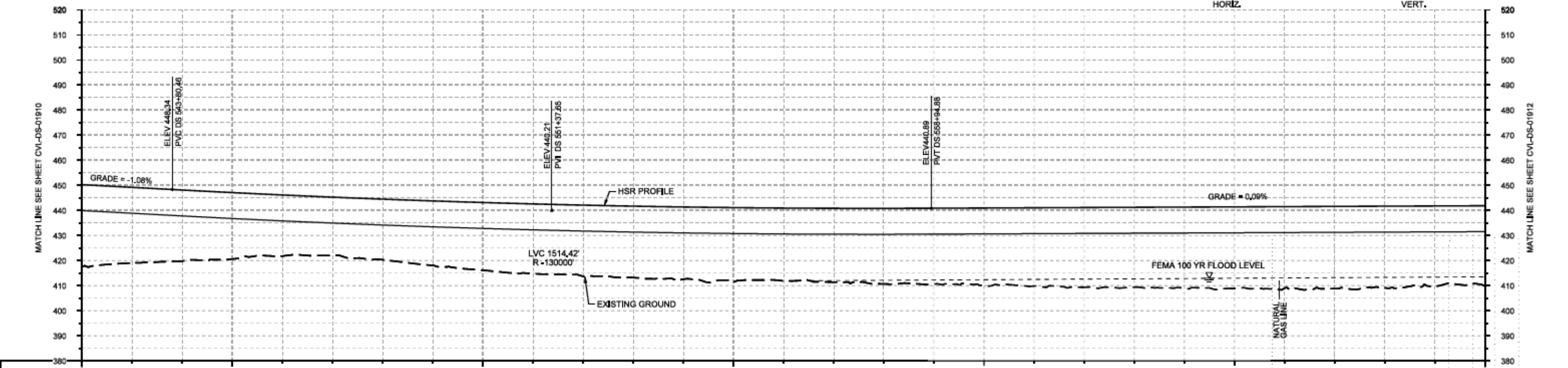
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01910 | 01 |



PLAN



PROFILE

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|--------------------------------|--------------------------------|
| DESIGNED BY A. UTZ | DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI | DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWEBEL | CHECKED BY C. ZWEBEL |
| IN CHARGE C. TAYLOR | IN CHARGE C. TAYLOR |
| DATE 02/25/2019 | DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
| | | | | | |

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 542+00 TO DS 570+00**

Scale

AS SHOWN

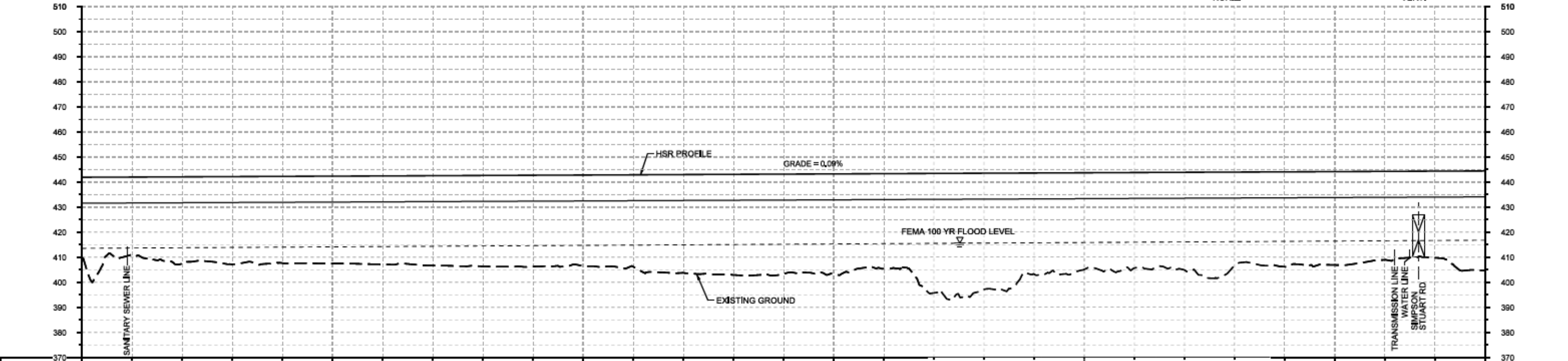
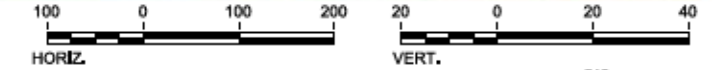
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01911 | 01 |



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| STATIONING | DS 570+00 | DS 575+00 | DS 580+00 | DS 585+00 | DS 590+00 | DS 595+00 | DS 598+00 | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=1200 | | L=12462 | | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | | | L=6936.81 G=0.090% | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +32.1 | +31.3 | +34.4 | +35.0 | +34.5 | +34.8 | +35.3 | +36.3 | +36.4 | +36.3 | +36.7 | +39.3 | +40.2 | +39.8 | +40.0 | +37.9 | +47.7 | +46.3 | +40.4 | +38.6 | +38.2 | +39.0 | +37.4 | +37.8 | +37.2 | +35.3 | +34.5 | +39.7 |
| TYP. SECTION | | | VIADUCT (U) | | | | | | | | | | | | | | | | | | | | | | | | | |

PROFILE

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ
DRAWN BY
J. BORGHESI
CHECKED BY
C. ZWEBEL
IN CHARGE
C. TAYLOR
DATE
02/25/2019

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 570+00 TO DS 598+00**

Scale
AS SHOWN
Drawing Status
FINAL
Job No. 234180 Drawing No. CVL-DS-01912 Rev. 01



MATCH LINE SEE SHEET CVL-DS-01912-B

PLAN



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| DESIGNED BY A. UTZ | DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWIBEL | IN CHARGE C. TAYLOR |
| DATE 02/25/2019 | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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DESIGNED BY
A. UTZ
DRAWN BY
J. BORGHESI
CHECKED BY
C. ZWIBEL
IN CHARGE
C. TAYLOR
DATE
02/25/2019

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 Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL
 1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 CIVIL
 PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01912-A | Rev 01 |
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PLAN



MATCH LINE SEE SHEET CVL-DS-01912-C

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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Texas Registered Engineering Firm E-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01912-B | Rev 01 |
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PLAN



MATCH LINE SEE SHEET CVL-DS-01912-D

MATCH LINE SEE SHEET CVL-DS-01912-B

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

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|-------------------------|-------------------------------------|------------------|
| Job No 234180 | Drawing No CVL-DS-01912-C | Rev 01 |
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PLAN



PLOT BY: N-PPWC3018 PLOT TIME: 5/8/2019 12:29:33 PM
MATCH LINE SEE SHEET CVL-DS-01912-C

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 470
Houston, Texas 77042 USA
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

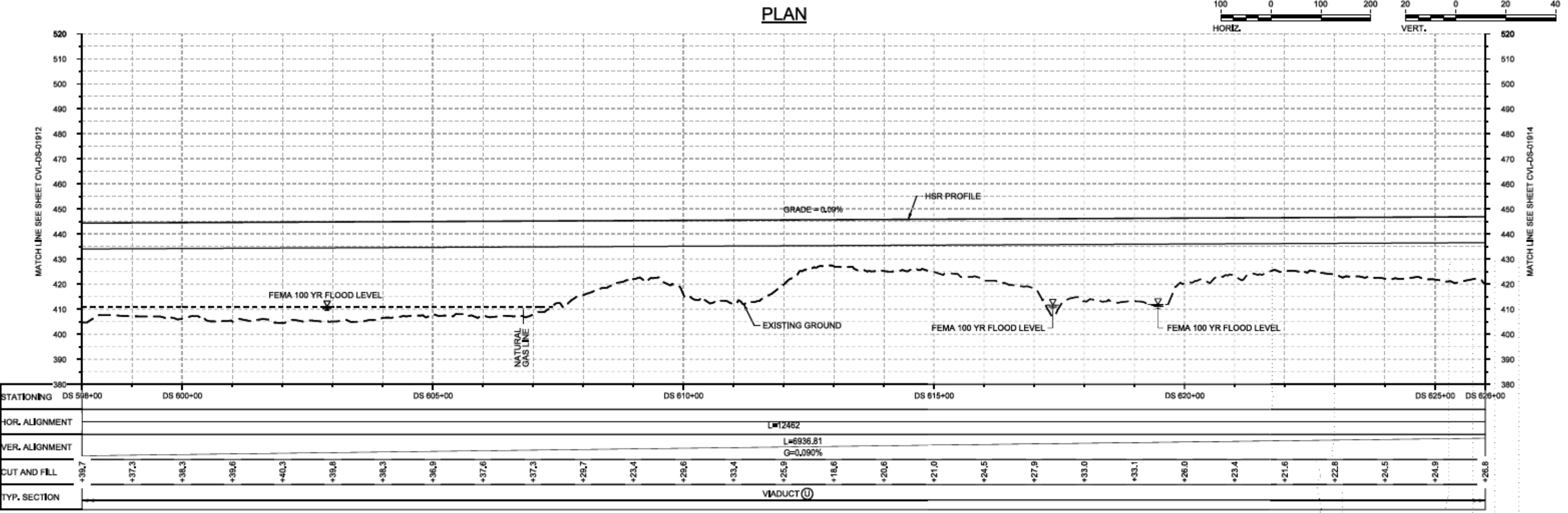
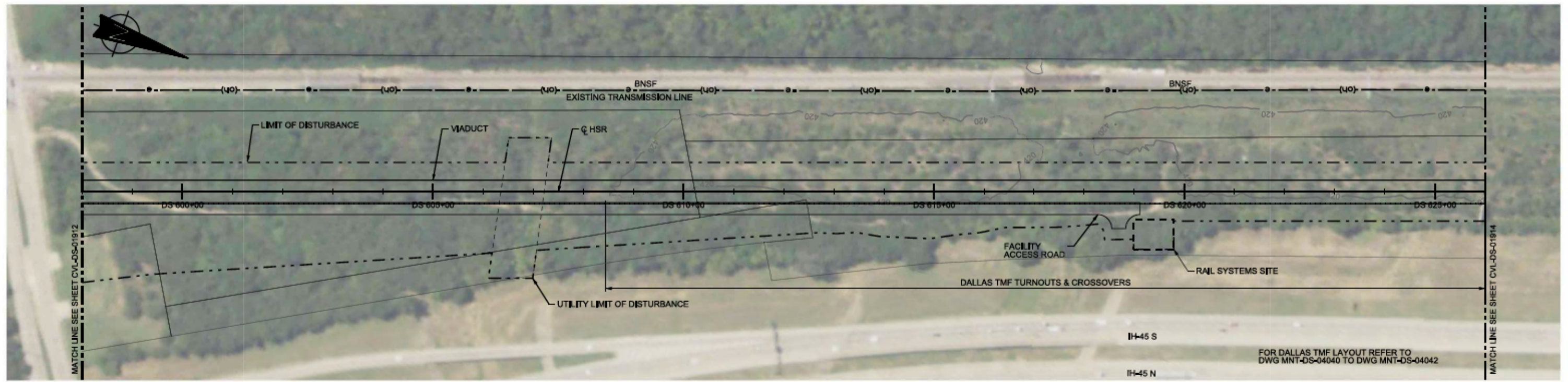
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

Job No. 234180 Drawing No. CVL-DS-01912-D Rev 01



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|--------------------------------|
| DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWIBEL |
| IN CHARGE C. TAYLOR |
| DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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Dallas, Texas 75204
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www.fn.com
Texas Registered Engineering Firm F-2144

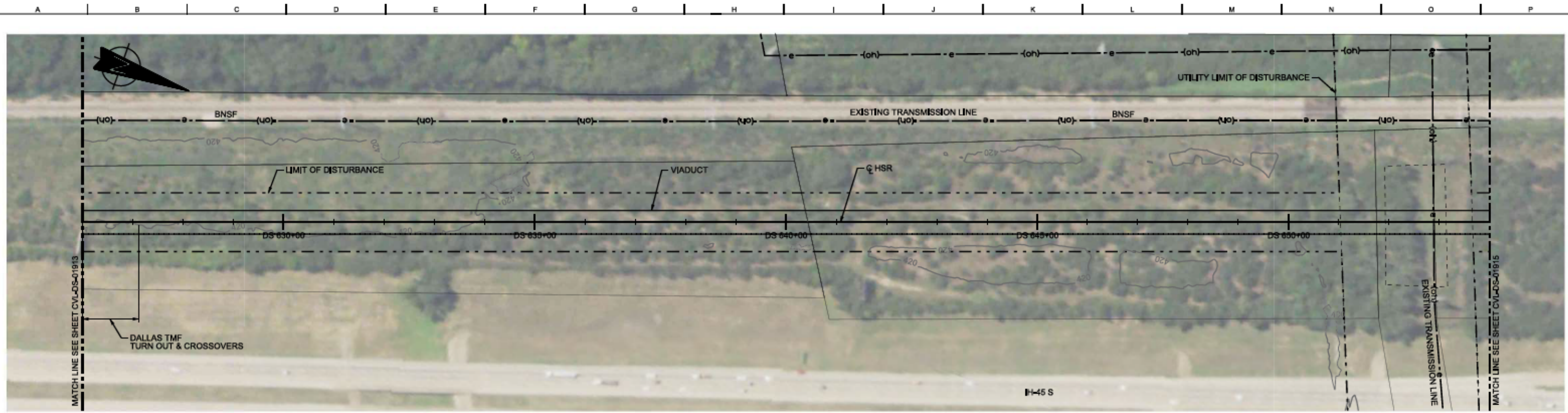
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title:
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 598+00 TO DS 626+00**

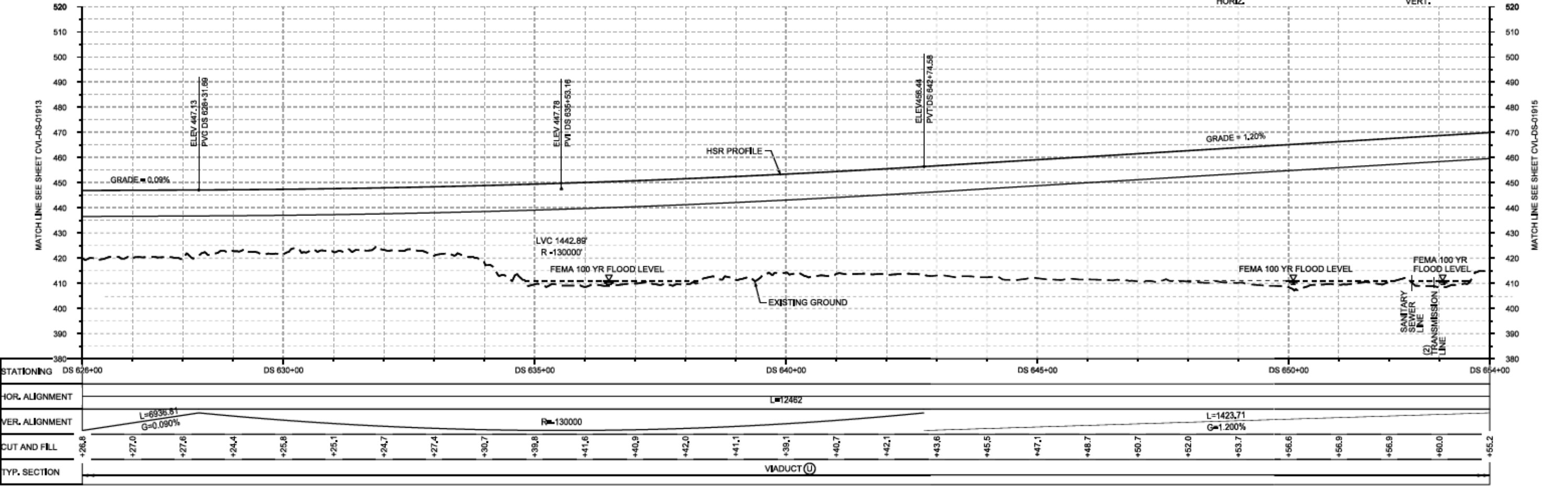
Scale:
AS SHOWN

Drawing Status:
FINAL

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|--------------------------|------------------------------------|-------------------|
| Job No. 234180 | Drawing No. CVL-DS-01913 | Rev. 01 |
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PLAN



PROFILE

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| STATIONING | DS 626+00 | DS 630+00 | DS 635+00 | DS 640+00 | DS 645+00 | DS 650+00 | DS 654+00 | | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=12482 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=6936.61 G=0.090% | | R=130000 | | | L=1423.71 G=1.200% | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +26.8 | +27.0 | +27.6 | +24.4 | +25.8 | +25.1 | +24.7 | +27.4 | +30.7 | +39.8 | +41.6 | +40.9 | +42.0 | +41.1 | +39.1 | +40.7 | +42.1 | +43.6 | +45.5 | +47.1 | +48.7 | +50.7 | +52.0 | +53.7 | +56.6 | +56.9 | +56.9 | +60.0 | +55.2 |
| TYP. SECTION | VIADUCT (U) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 626+00+00 TO DS 654+00**

Scale
AS SHOWN

Drawing Status
FINAL

| | | |
|--------|--------------|-----|
| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01914 | 01 |



MATCH LINE SEE SHEET CVL-DS-01914-B

PLAN



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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Texas Registered Engineering Firm K-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

| | | |
|-------------------------|-------------------------------------|------------------|
| Job No 234180 | Drawing No CVL-DS-01914-A | Rev 01 |
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MATCH LINE SEE SHEET CVL-DS-01914-A

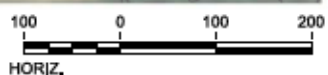


UTILITY LIMIT OF DISTURBANCE

RIVERROCKS DR

S CENTRAL EXPY

PLAN



MATCH LINE SEE SHEET CVL-DS-01913

PLOT BY: N-PPWC3018 PLOT TIME: 5/8/2019 12:30:04 PM

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

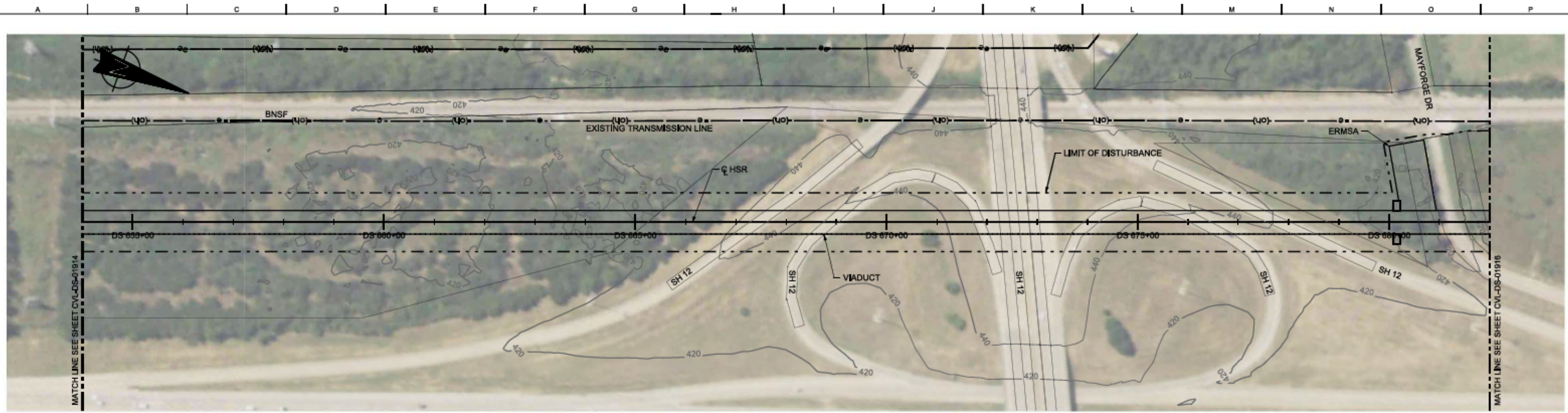
1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

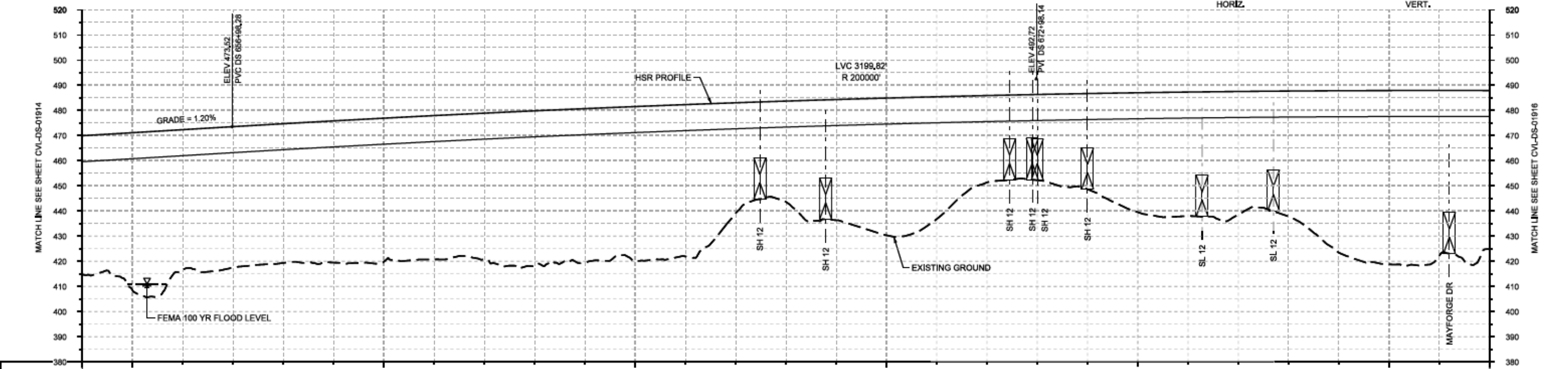
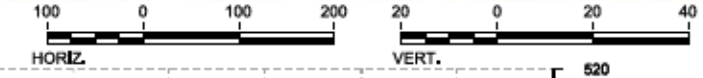
Scale
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Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01914-B | Rev 01 |
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PLAN



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| STATIONING | DS 654+00 | DS 655+00 | DS 660+00 | DS 665+00 | DS 670+00 | DS 675+00 | DS 680+00 | DS 682+00 | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=1248.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=1423.71 G=1.200% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +55.2 | +62.7 | +55.6 | +55.8 | +55.3 | +57.0 | +57.2 | +58.1 | +61.8 | +61.2 | +61.4 | +60.4 | +43.8 | +40.1 | +47.9 | +54.5 | +48.6 | +34.5 | +34.1 | +38.0 | +47.5 | +49.3 | +48.9 | +49.8 | +61.3 | +69.1 | +65.7 | +63.1 |
| TYP. SECTION | VIADUCT (U) | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 654+00 TO DS 682+00**

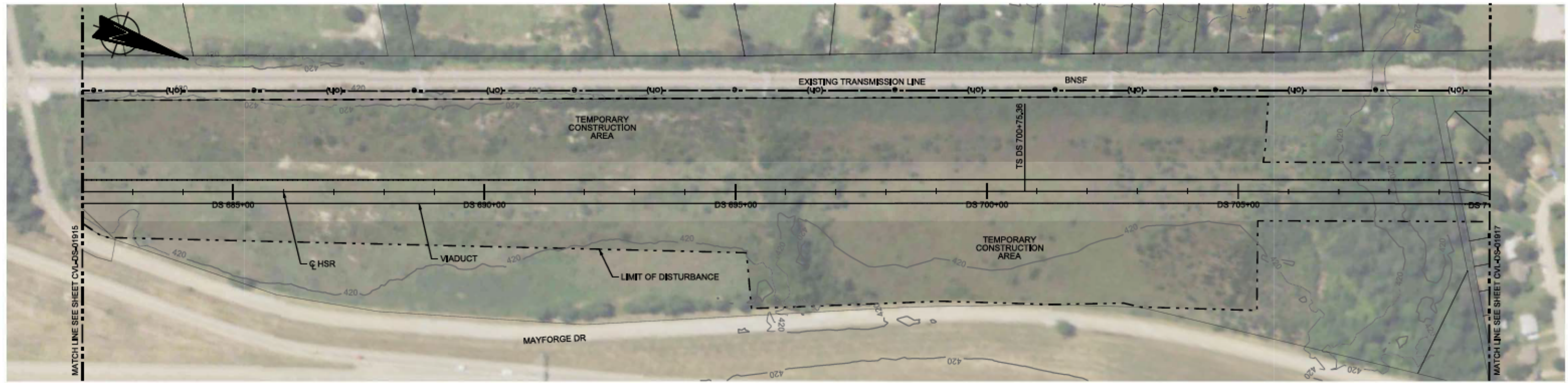
Scale

AS SHOWN

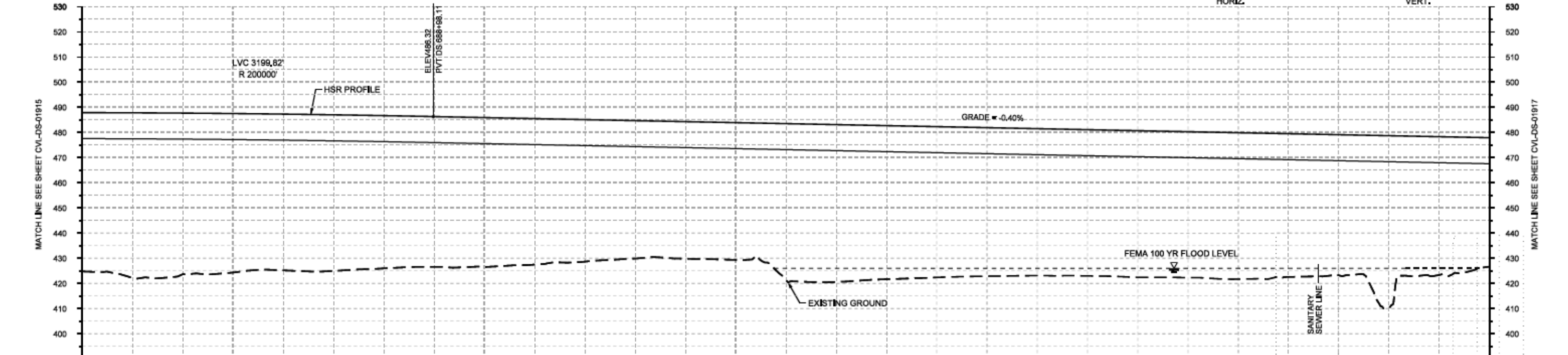
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01915 | 01 |



PLAN



PROFILE

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|----------------|-------------|-----------|-----------|-----------|------------------------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DS 682+00 | DS 685+00 | DS 690+00 | DS 695+00 | DS 700+00 | DS 705+00 | DS 710+00 | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=12462 | | | | L=1200 | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | R=200000 | | | | L=8179.95 G=-0.400% | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +65.4 | +65.6 | +64.0 | +63.1 | +62.1 | +62.0 | +60.7 | +59.7 | +59.3 | +58.0 | +56.4 | +54.8 | +54.5 | +62.1 | +62.5 | +61.0 | +59.9 | +59.0 | +58.4 | +58.1 | +58.3 | +58.0 | +58.2 | +56.9 | +55.9 | +68.5 | +54.9 | +51.2 |
| TYP. SECTION | VIADUCT (U) | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 682+00 TO DS 710+00**

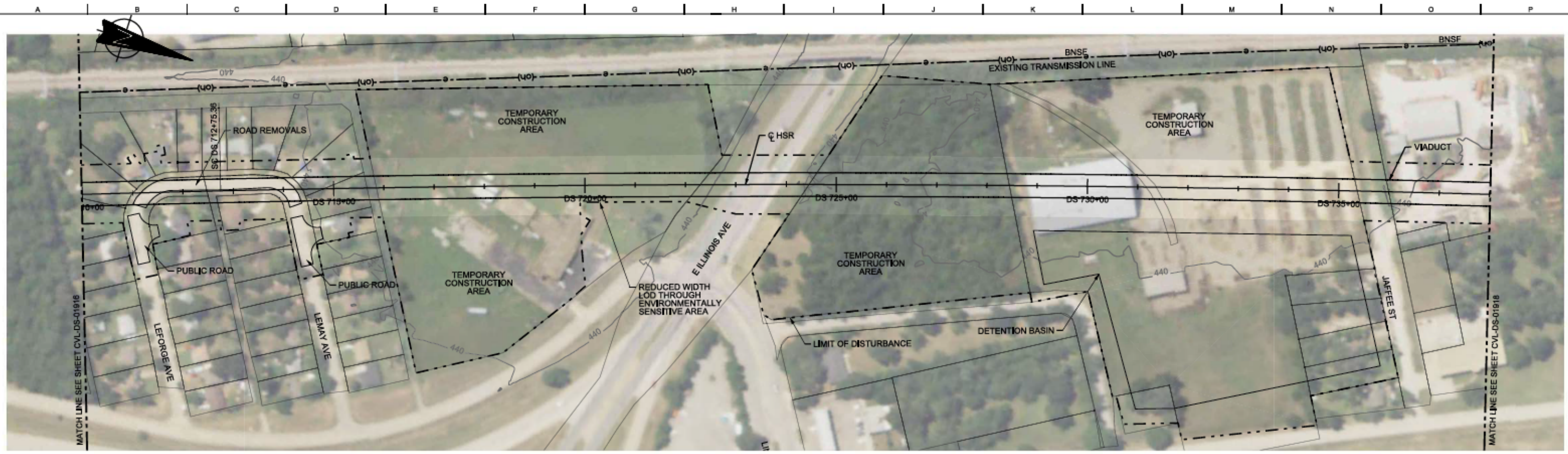
Scale

AS SHOWN

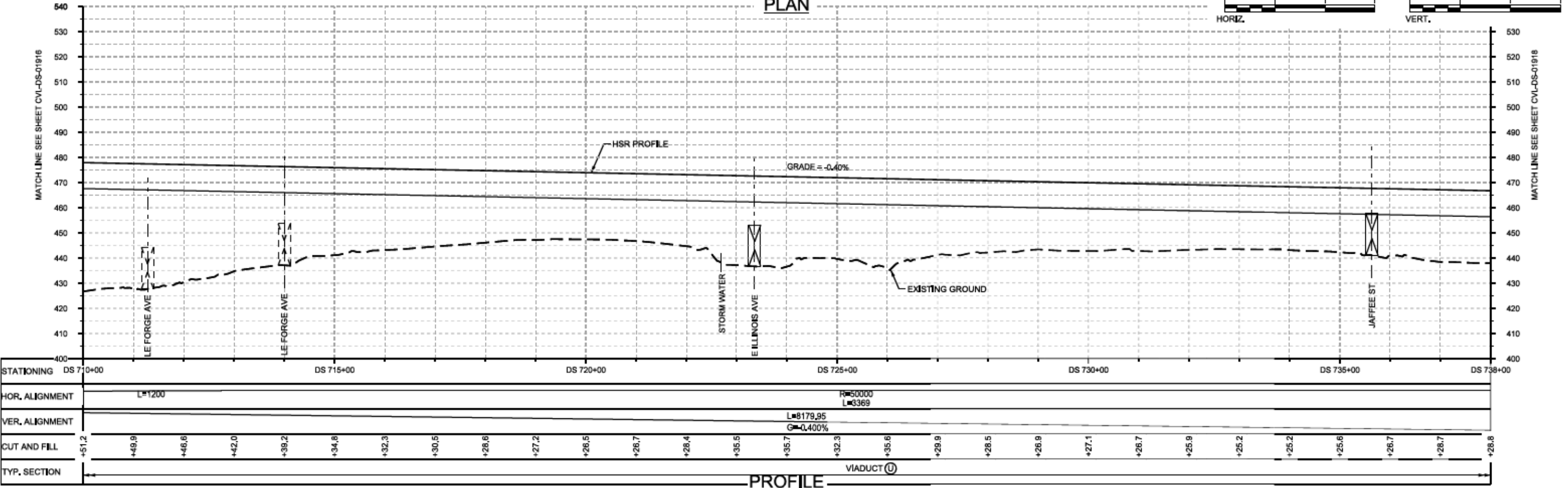
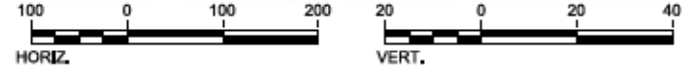
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01916 | 01 |



PLAN



PROFILE

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|----------------|------------------------|-----------|-----------|-------------------|-----------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DS 710+00 | DS 715+00 | DS 720+00 | DS 725+00 | DS 730+00 | DS 735+00 | DS 738+00 | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=1200 | | | R=50000 L=3369 | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=8179.95 G=-0.400% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +51.2 | +49.9 | +46.6 | +42.0 | +39.2 | +34.8 | +32.3 | +30.5 | +28.6 | +27.2 | +26.5 | +26.7 | +26.4 | +35.5 | +35.7 | +32.3 | +35.6 | +29.9 | +28.5 | +26.9 | +27.1 | +26.7 | +25.9 | +25.2 | +25.2 | +25.6 | +26.7 | +28.7 |
| TYP. SECTION | VIADUCT (U) | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
| | | | | | |

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Dallas, Texas 75204
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www.freesenichols.com
Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 710+00 TO DS 738+00**

Scale

AS SHOWN

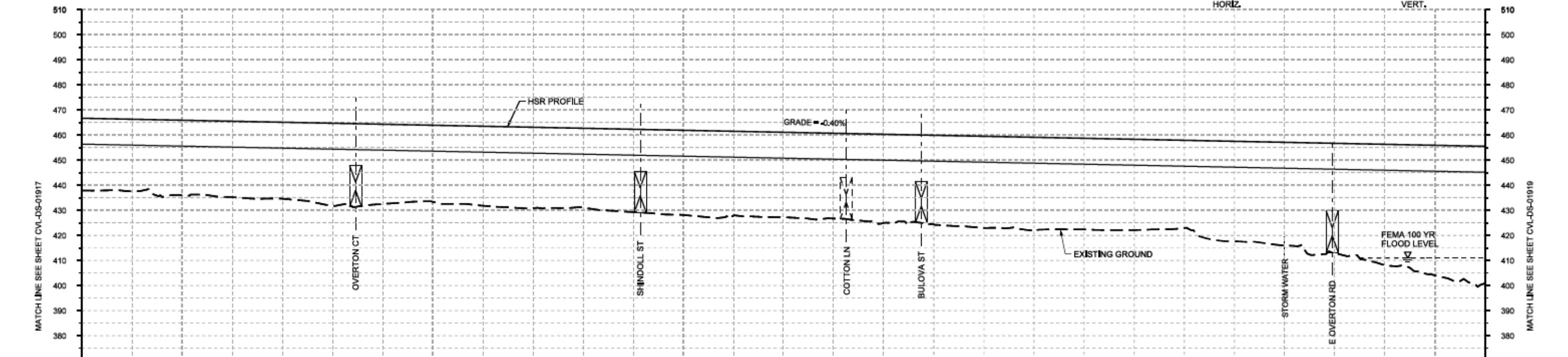
Drawing Status

FINAL

| | | |
|--------|--------------|-----|
| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01917 | 01 |



PLAN



PROFILE

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|----------------|-------------------|-----------|-----------|------------------------|-----------|-----------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DS 738+00 | DS 740+00 | DS 745+00 | DS 750+00 | DS 755+00 | DS 760+00 | DS 765+00 | DS 766+00 | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | R=50000 L=3369 | | | L=1200 | | | L=1234 | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | | | | L=8179.95 G=-0.400% | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +28.6 | +28.7 | +28.8 | +30.3 | +30.5 | +32.8 | +31.9 | +30.5 | +31.7 | +32.3 | +31.6 | +33.0 | +33.8 | +33.6 | +33.9 | +34.0 | +35.3 | +35.5 | +36.5 | +37.1 | +36.4 | +36.2 | +35.0 | +39.9 | +41.1 | +43.7 | +48.2 | +51.8 | +54.6 |
| TYP. SECTION | VIADUCT (T) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 738+00 TO DS 766+00**

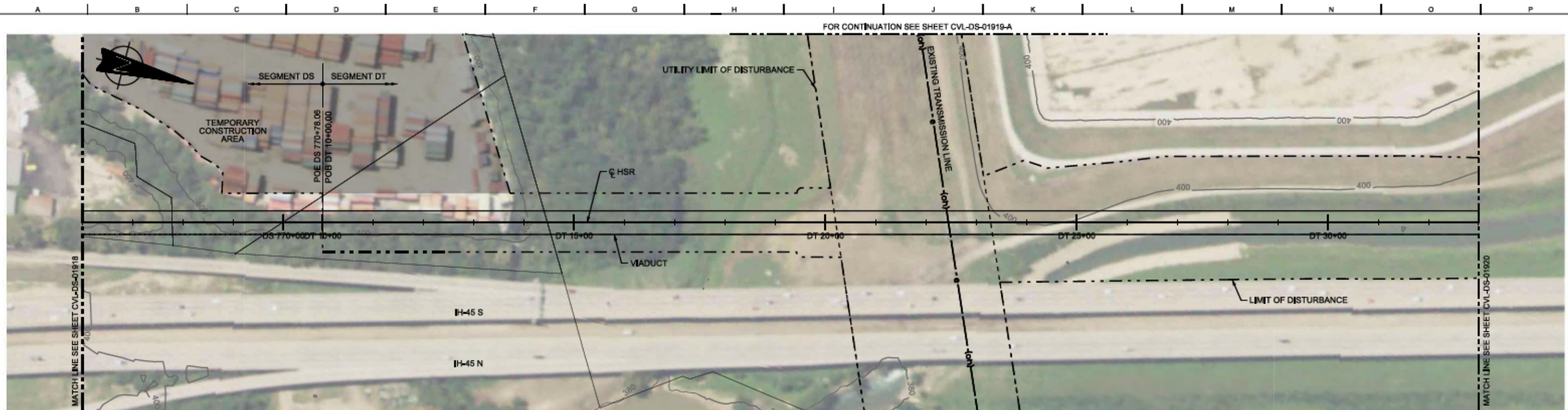
Scale

AS SHOWN

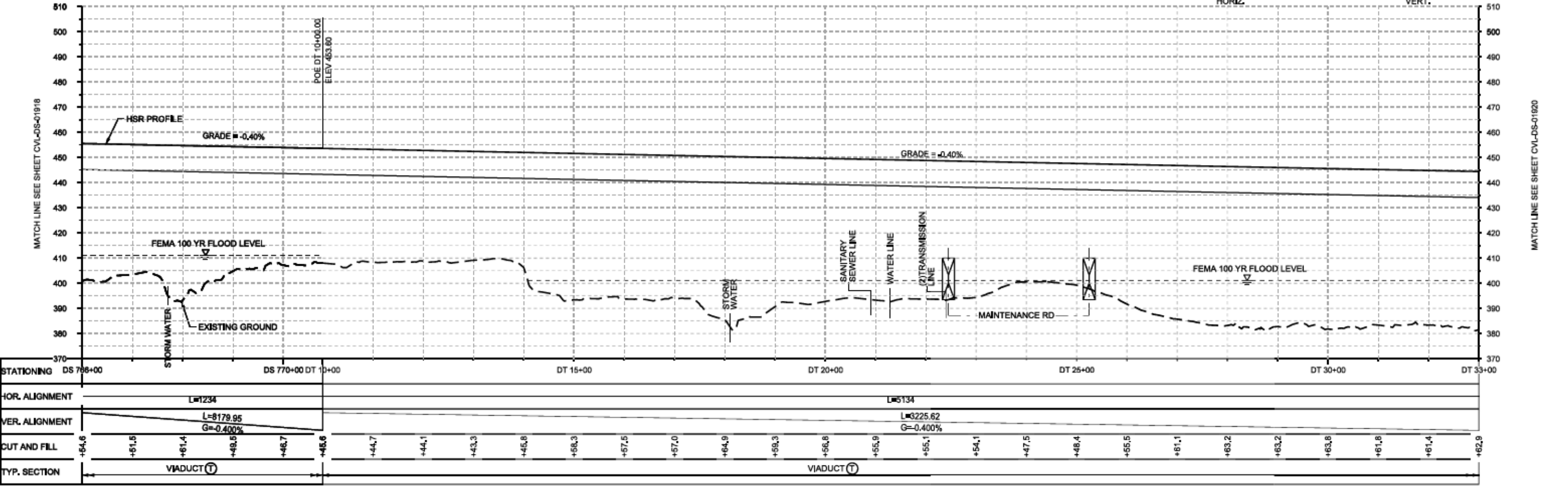
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01918 | 01 |



PLAN



PROFILE

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 766+00 TO DT 33+00**

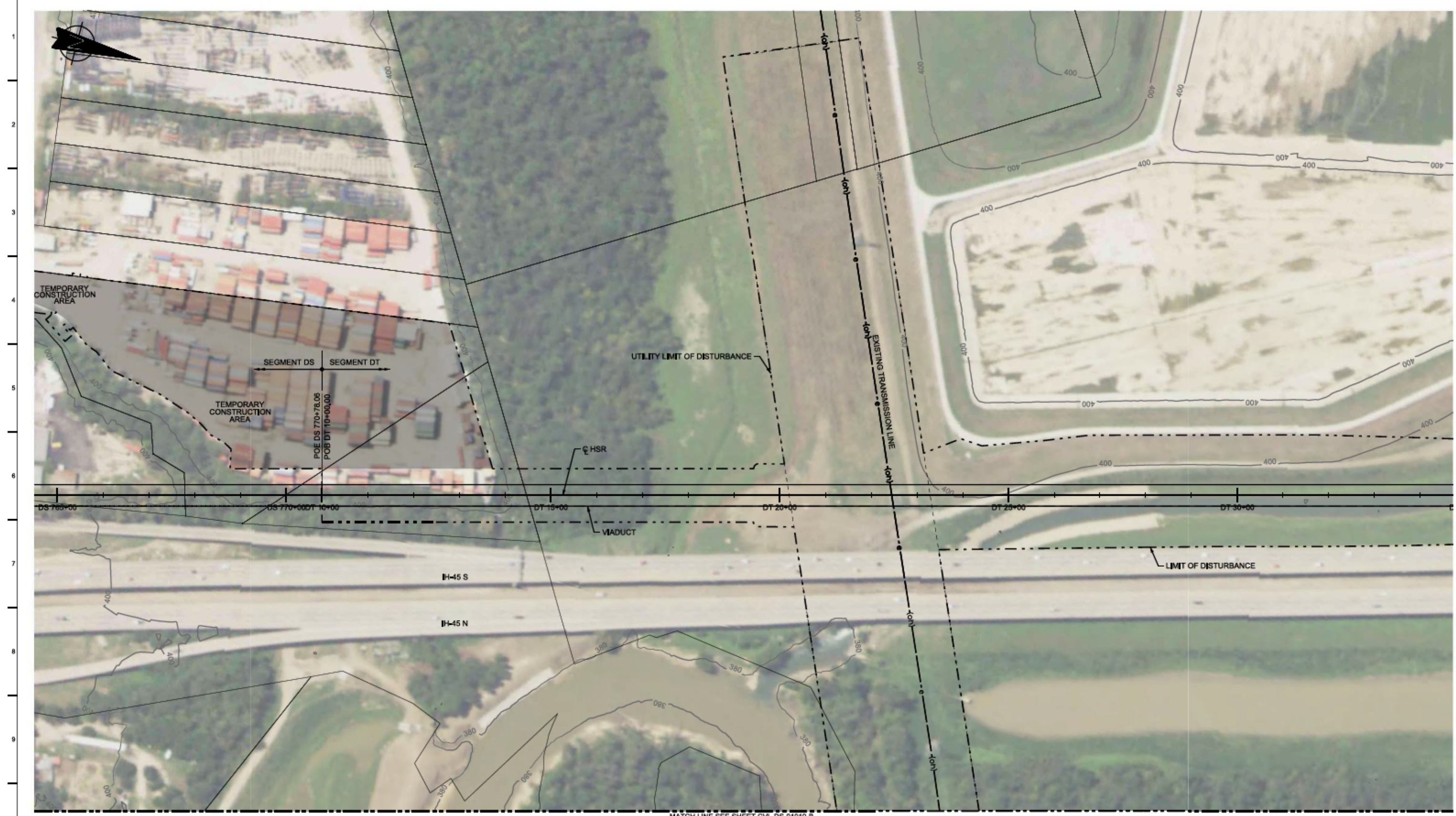
Scale

AS SHOWN

Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01919 | 01 |



MATCH LINE SEE SHEET CVL-DS-01919-B

PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

| | | |
|-------------------------|-------------------------------------|------------------|
| Job No 234180 | Drawing No CVL-DS-01919-A | Rev 01 |
|-------------------------|-------------------------------------|------------------|

MATCH LINE SEE SHEET CVL-DS-01919-A



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PLOT BY: N-PPWC3018 PLOT TIME: 5/8/2019 12:38:42 PM

PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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Texas Registered Engineering Firm F-1990

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Texas Registered Engineering Firm E-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

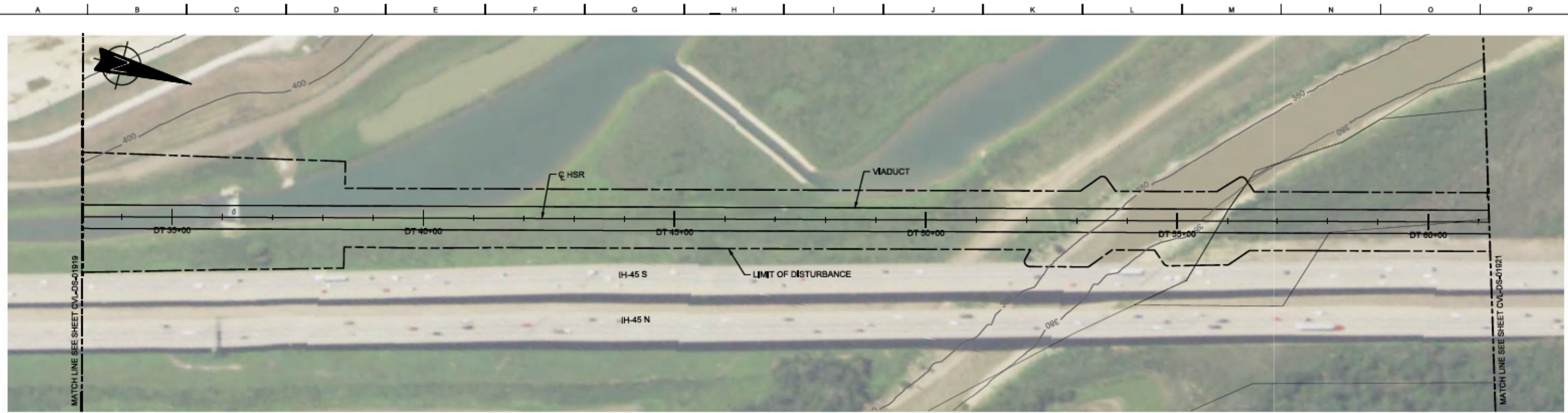
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

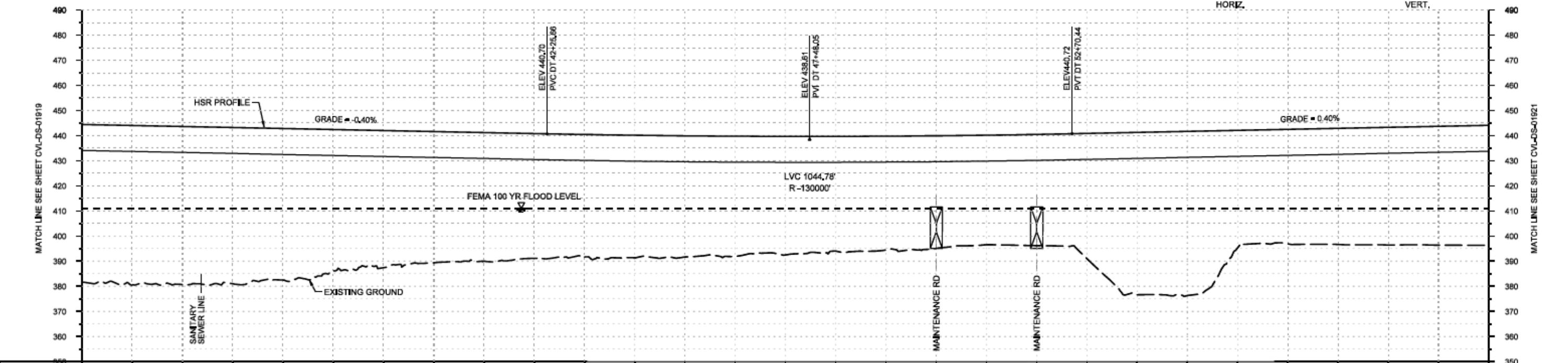
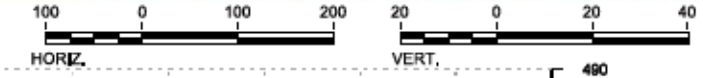
Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01919-B | Rev 01 |
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PLAN



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|----------------|------------------------|----------|----------|----------|----------|----------|------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DT 33+00 | DT 35+00 | DT 40+00 | DT 45+00 | DT 50+00 | DT 55+00 | DT 60+00 | DT 61+00 | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=5134 | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=3225.86 G=-0.400% | | | | R=130000 | | L=10286.82 G=0.404% | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +62.9 | +63.4 | +62.9 | +62.2 | +60.3 | +54.6 | +52.2 | +51.2 | +48.7 | +48.8 | +45.7 | +45.2 | +44.8 | +43.6 | +44.3 | +48.8 | +64.6 | +63.3 | +46.7 | +45.5 | +46.2 | +46.9 | +47.3 | +47.8 |
| TYP. SECTION | VIADUCT (T) | | | | | | | | | | | | | | | | | | | | | | | |

PROFILE

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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Texas Registered Engineering Firm: E-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 33+00 TO DT 61+00**

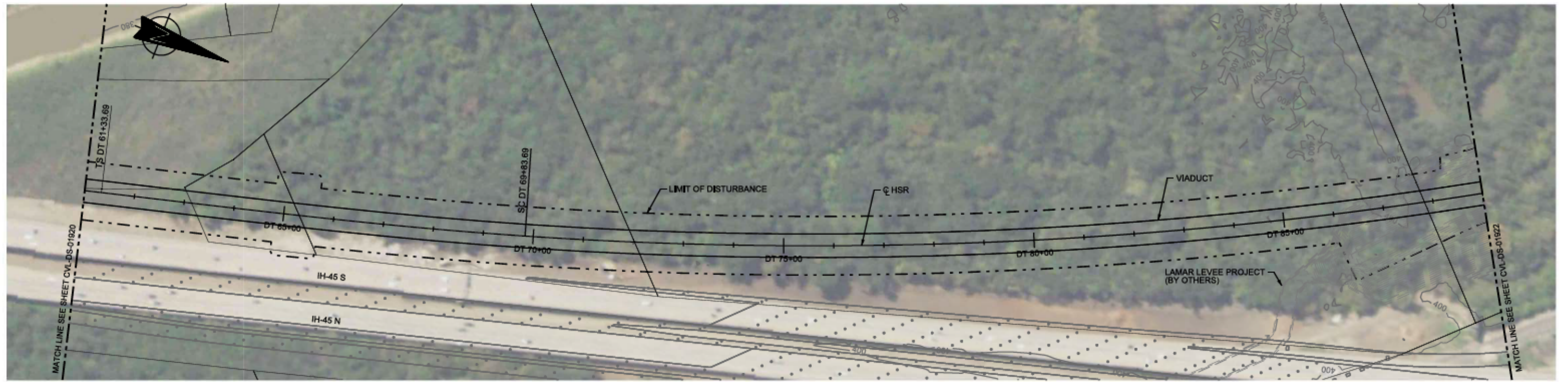
Scale

AS SHOWN

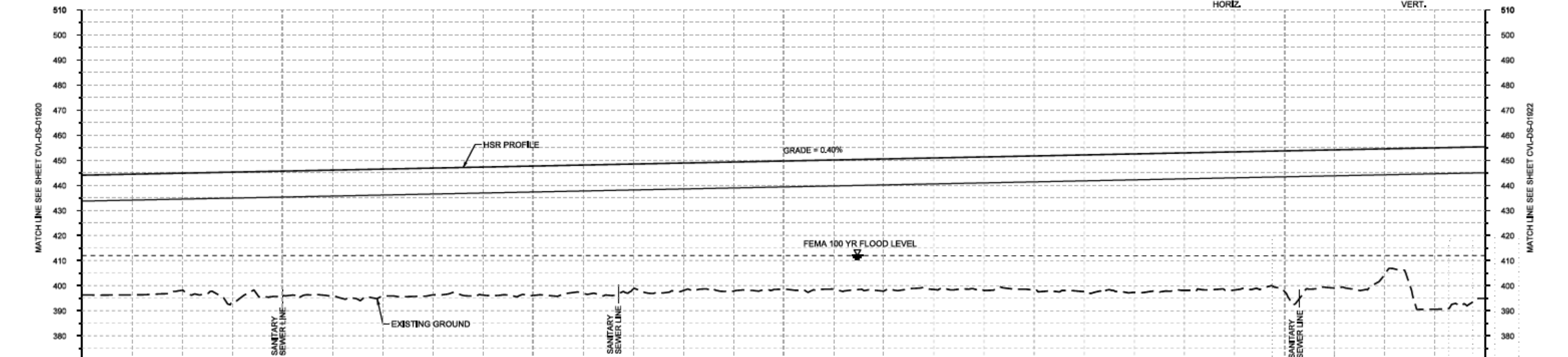
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01920 | 01 |



PLAN



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|----------------|-------------|----------|------------|----------|----------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DT 61+00 | DT 65+00 | DT 70+00 | DT 75+00 | DT 80+00 | DT 85+00 | DT 89+00 | | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | L=850 | | L=10266.82 | | L=5929 | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | G=0.404% | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +47.9 | +48.1 | +48.7 | +51.9 | +49.5 | +50.4 | +50.6 | +50.8 | +51.0 | +51.6 | +51.1 | +49.8 | +50.8 | +51.4 | +51.1 | +51.4 | +52.6 | +52.4 | +53.2 | +53.2 | +54.4 | +55.1 | +54.7 | +55.0 | +56.1 | +55.1 | +49.9 | +64.4 | +60.5 |
| TYP. SECTION | VIADUCT (E) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROFILE

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|-----|------|----|-----|-----|-------------|
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www.freesse.com
Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

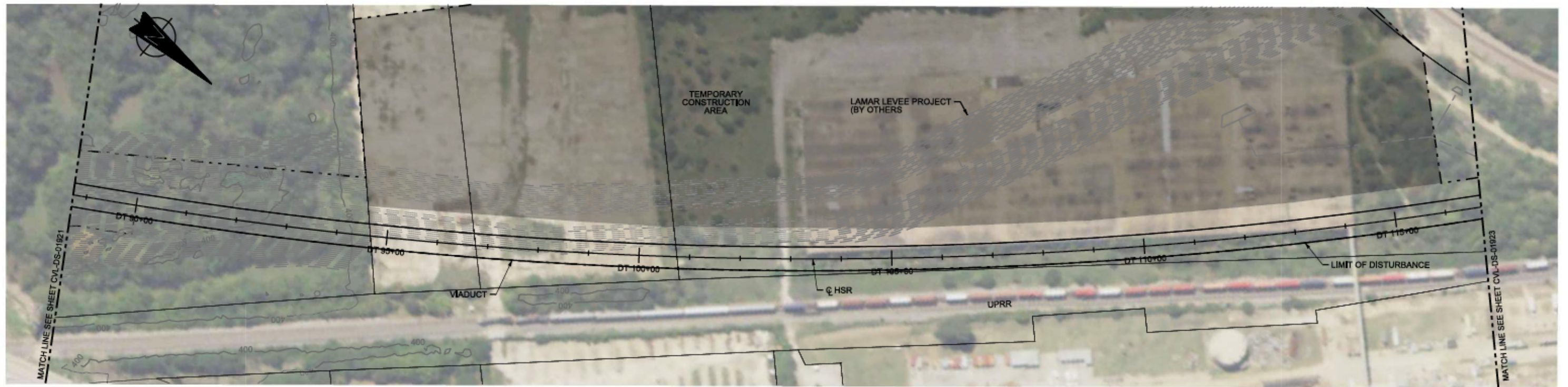
1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title: DALLAS SEGMENT CIVIL PLAN AND PROFILE DT 61+00 TO DT 89+00

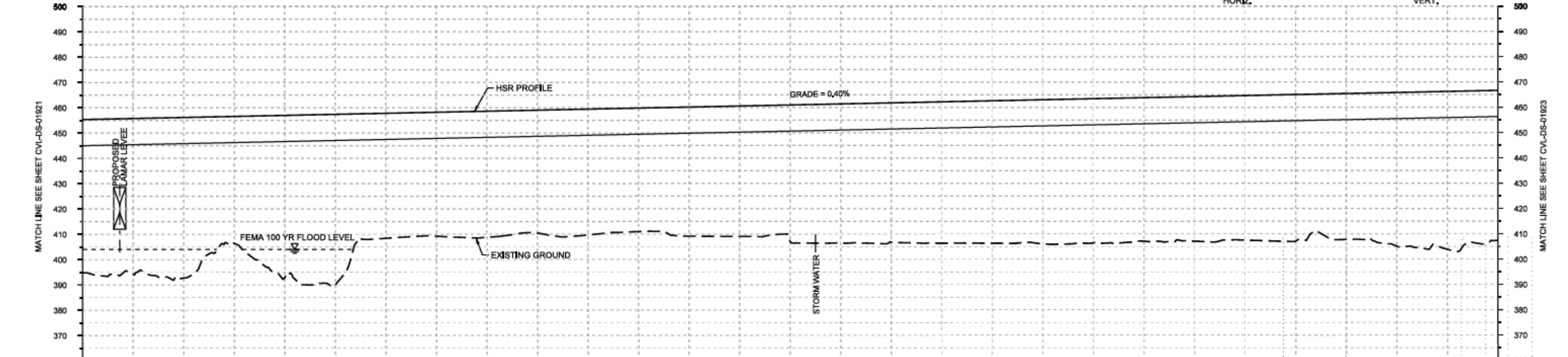
Scale: AS SHOWN

Drawing Status: FINAL

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|----------------|--------------------------|---------|
| Job No: 234180 | Drawing No: CVL-DS-01921 | Rev: 01 |
|----------------|--------------------------|---------|



PLAN



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|----------------|------------------------|----------|-------|----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DT 89+00 | DT 90+00 | | DT 95+00 | | DT 100+00 | | DT 105+00 | | DT 110+00 | | DT 115+00 | DT 117+00 | | | | | | | | | | | | | |
| HOR. ALIGNMENT | R=3550 R=3550 | | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | L=5929 L=5929 G=0.404% | | | | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +60.5 | +61.5 | +63.5 | +60.2 | +64.1 | +67.5 | +49.4 | +49.0 | +49.8 | +49.6 | +51.0 | +51.5 | +64.1 | +55.0 | +55.0 | +55.8 | +55.2 | +55.9 | +55.8 | +56.7 | +57.2 | +57.9 | +57.7 | +60.8 | +62.4 | +59.4 |
| TYP. SECTION | VIADUCT (E) | | | | | | | | | | | | | | | | | | | | | | | | | |

PROFILE

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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| | | | | | |

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title: DALLAS SEGMENT CIVIL PLAN AND PROFILE DT 89+00 TO DT 117+00

Scale: AS SHOWN

Drawing Status: FINAL

| | | |
|----------------|--------------------------|---------|
| Job No: 234180 | Drawing No: CVL-DS-01922 | Rev: 01 |
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PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

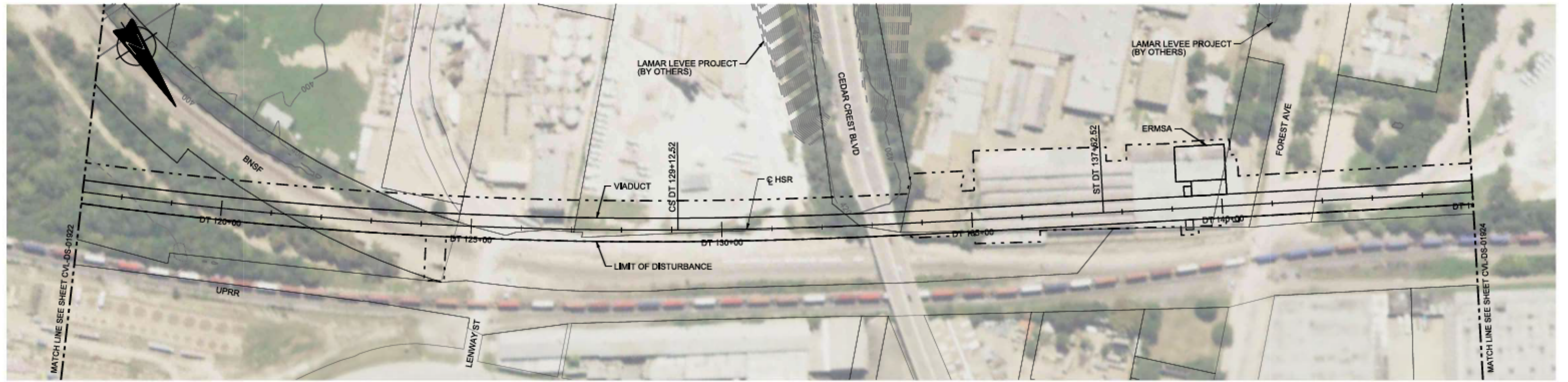
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN

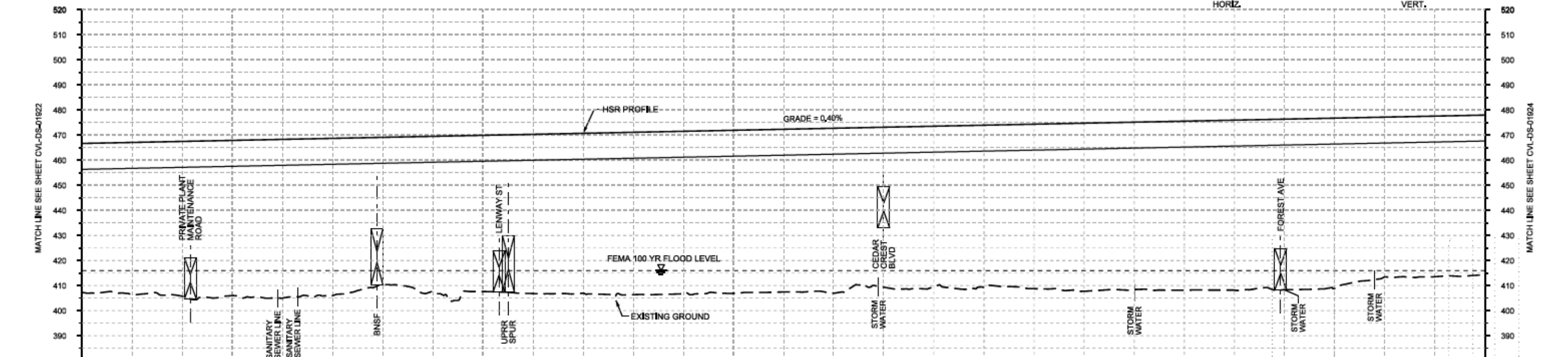
Scale
AS SHOWN

Drawing Status
FINAL

Job No. **234180** Drawing No. **CVL-DS-01922-A** Rev. **01**



PLAN



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|----------------|-------------|-----------|------------------|------------------------|-----------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| STATIONING | DT 117+00 | DT 120+00 | DT 125+00 | DT 130+00 | DT 135+00 | DT 140+00 | DT 145+00 | | | | | | | | | | | | | | | | | | | | | | |
| HOR. ALIGNMENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VER. ALIGNMENT | | | R=8550 L=5929 | L=10286.82 G=0.404% | L=850 | | L=832 | | | | | | | | | | | | | | | | | | | | | | |
| CUT AND FILL | +59.4 | +60.9 | +61.8 | +61.9 | +63.3 | +62.7 | +63.6 | +62.2 | +62.3 | +63.5 | +63.8 | +64.7 | +64.8 | +65.0 | +64.9 | +65.8 | +63.8 | +64.0 | +64.8 | +65.6 | +66.9 | +66.7 | +67.4 | +67.8 | +68.1 | +66.0 | +63.7 | +64.1 | +63.4 |
| TYP. SECTION | VIADUCT (E) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROFILE

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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www.freese.com
Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 117+00 TO DT 145+00**

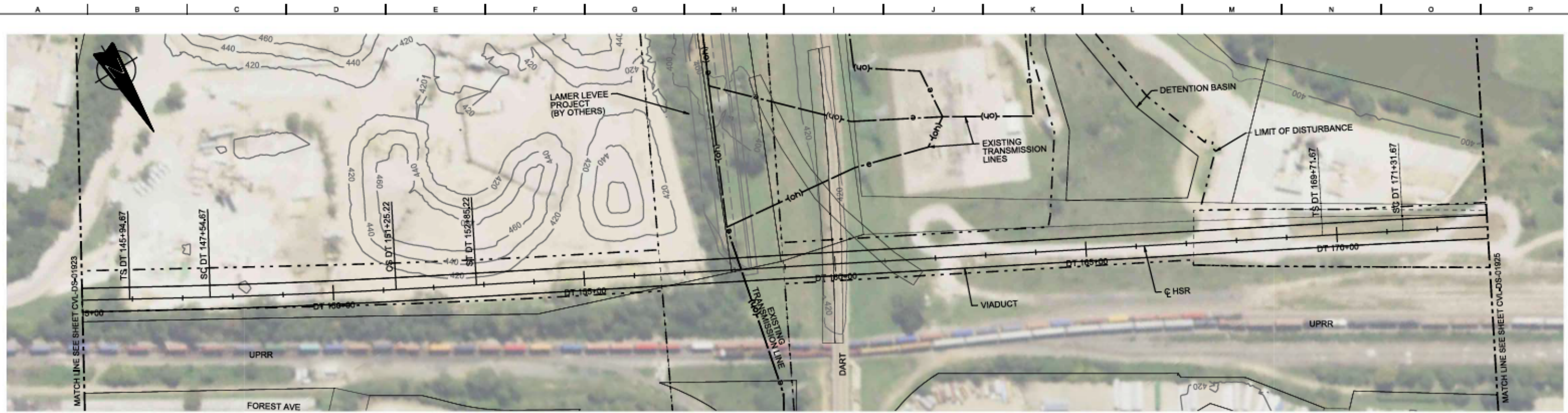
Scale

AS SHOWN

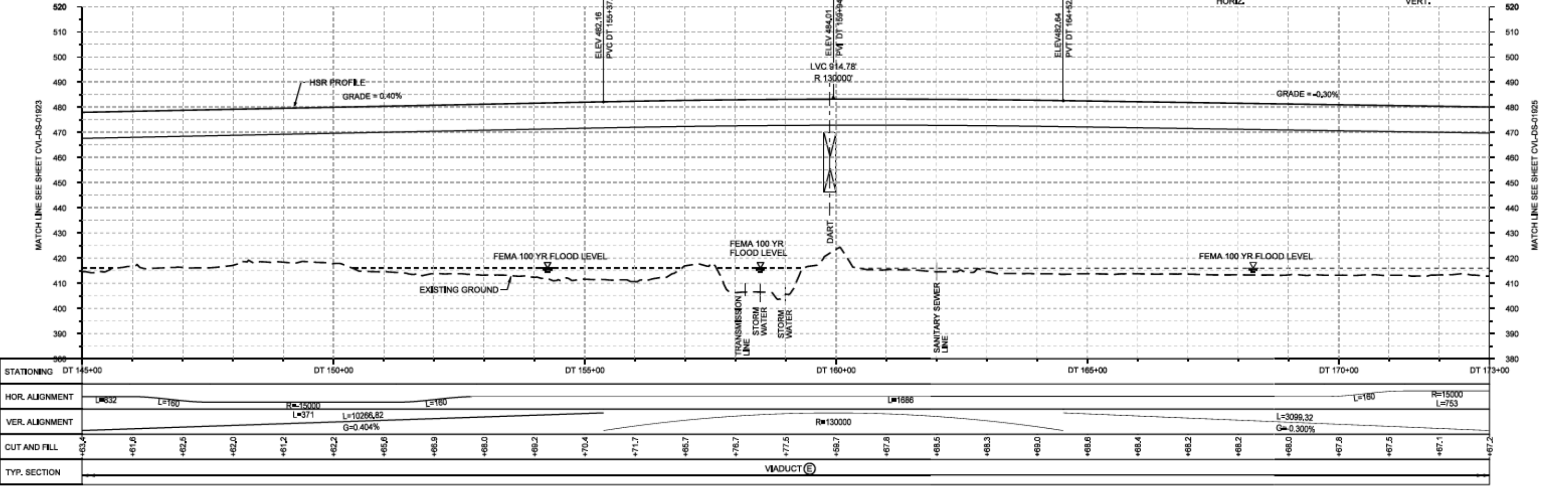
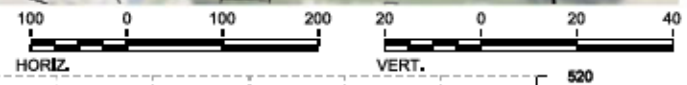
Drawing Status

FINAL

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| Job No | Drawing No | Rev |
| 234180 | CVL-DS-01923 | 01 |



PLAN



PROFILE

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|--------------------------------|
| DESIGNED BY A. UTZ |
| DRAWN BY J. BORGHESI |
| CHECKED BY C. ZWIBEL |
| IN CHARGE C. TAYLOR |
| DATE 02/25/2019 |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
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 www.freesse.com
 Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

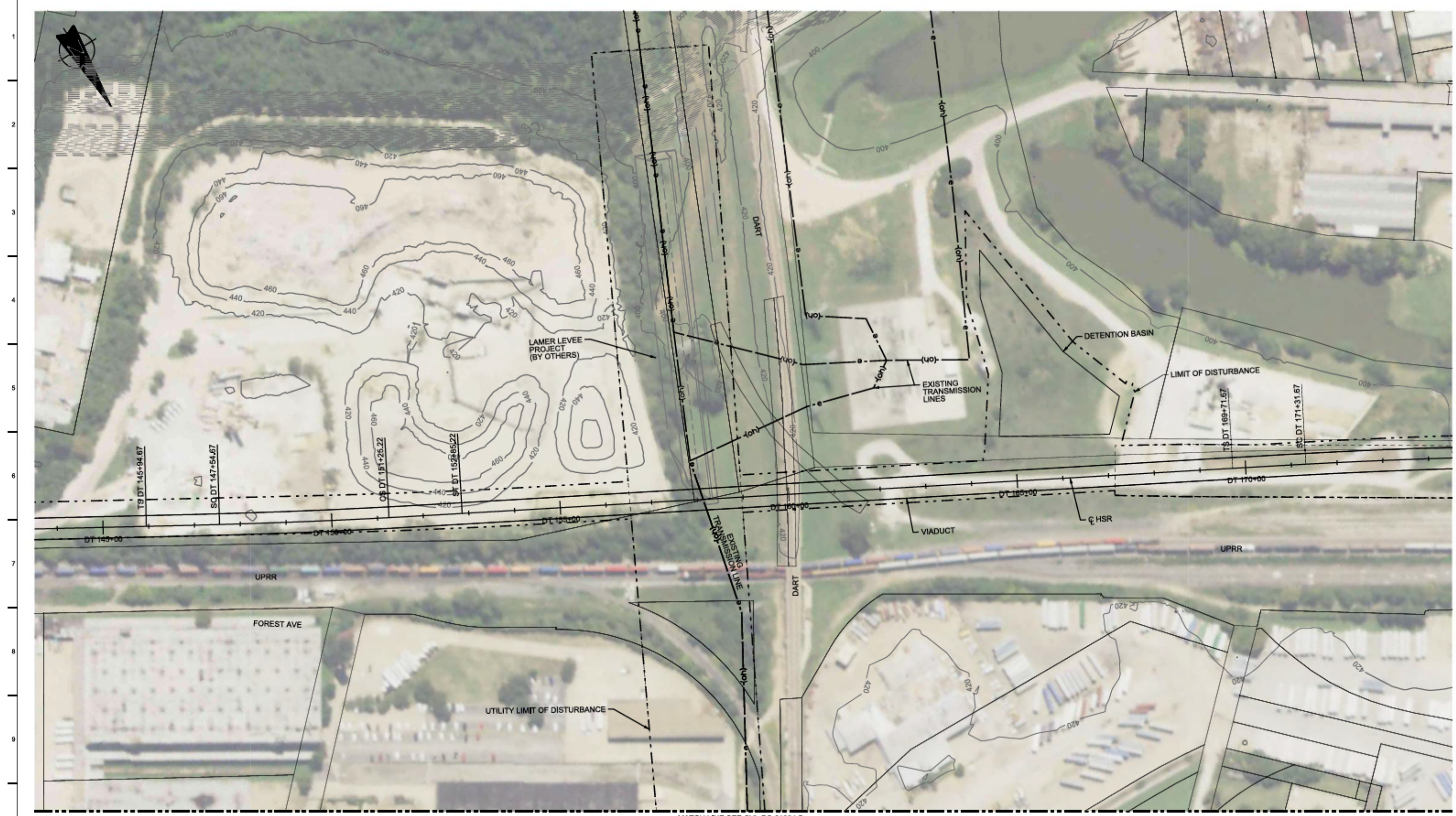
1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 CIVIL
 PLAN AND PROFILE
 DT 145+00 TO DT 173+00**

Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01924 | Rev 01 |
|-------------------------|-----------------------------------|------------------|



MATCH LINE SEE CVL-DS-01924-B

PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

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|-------------------------|-------------------------------------|------------------|
| Job No 234180 | Drawing No CVL-DS-01924-A | Rev 01 |
|-------------------------|-------------------------------------|------------------|

MATCH LINE SEE CVL-DS-01924-A



PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

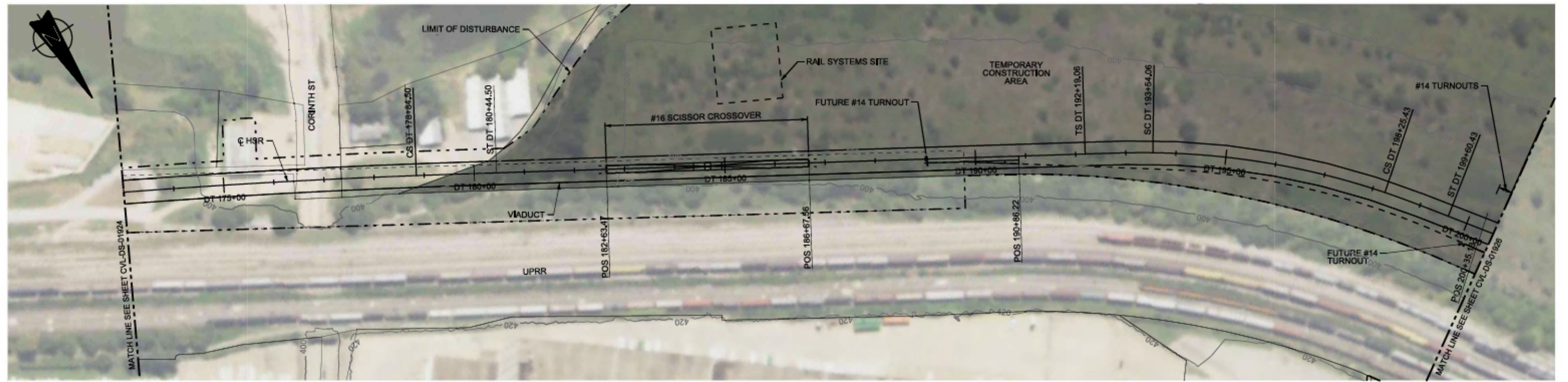
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN**

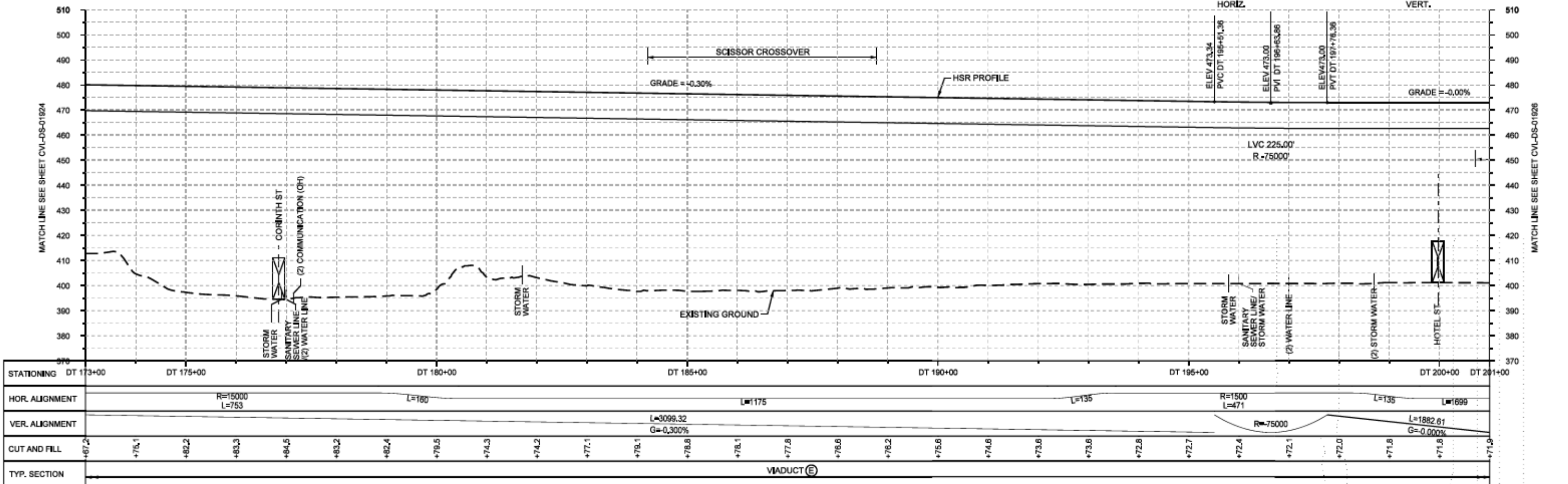
Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01924-B | Rev 01 |
|-------------------------|-------------------------------------|------------------|



PLAN



PROFILE

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|----------------|------------------------|-----------|-----------|-----------|----------------------|-----------------|-----------|-----------|
| STATIONING | DT 173+00 | DT 175+00 | DT 180+00 | DT 185+00 | DT 190+00 | DT 195+00 | DT 200+00 | DT 201+00 |
| HOR. ALIGNMENT | R=15000 L=753 | | L=160 | L=1175 | L=135 | R=1500 L=471 | L=135 | L=699 |
| VER. ALIGNMENT | L=3099.32 G=-0.300% | | | | R=75000 G=-0.000% | | | |
| CUT AND FILL | +87.2 | +75.1 | +82.2 | +83.3 | +84.5 | +83.2 | +82.4 | +79.5 |
| TYP. SECTION | VIADUCT (E) | | | | | | | |

| | |
|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

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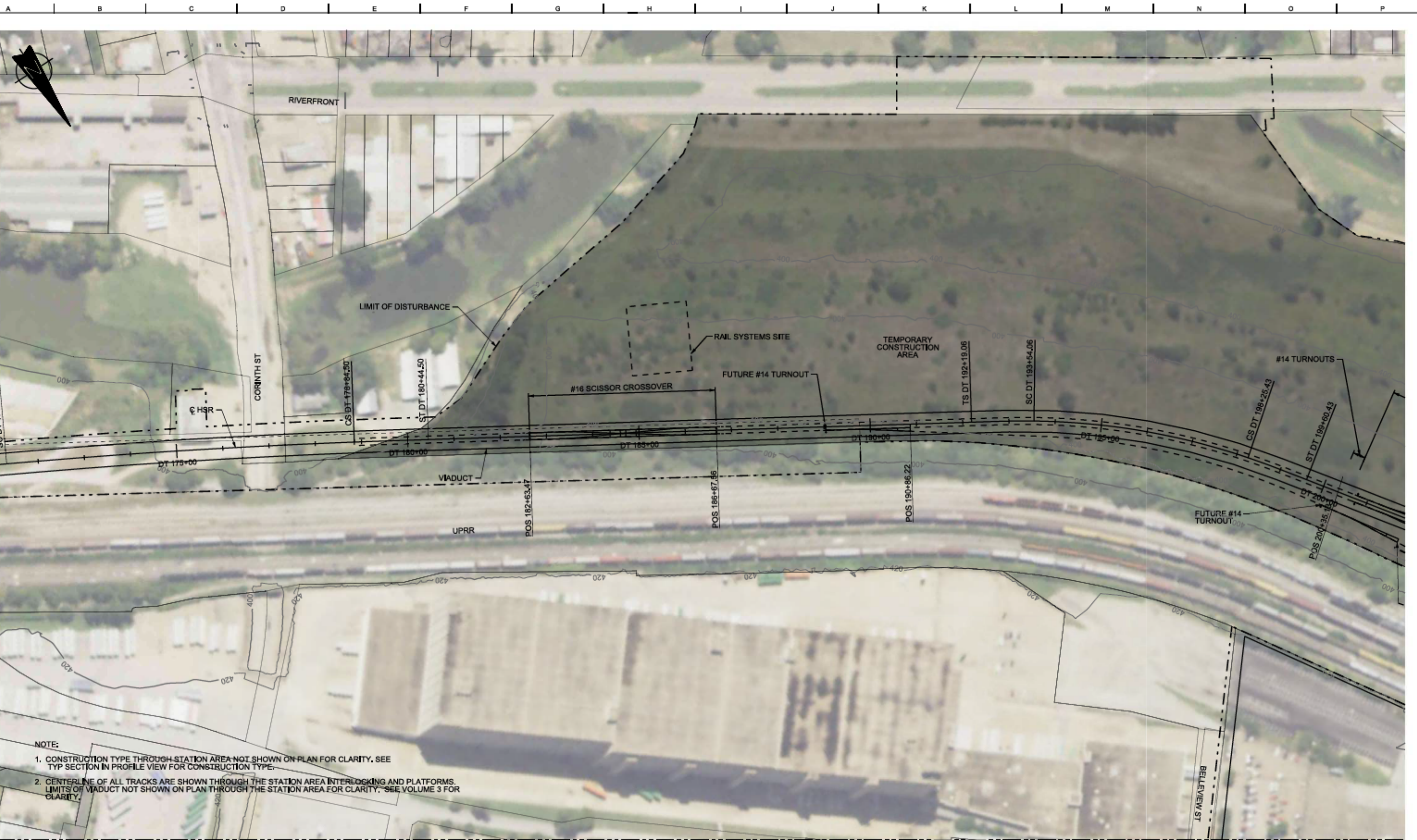
FREES & NICHOLS
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 Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

 1429 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title:
DALLAS SEGMENT CIVIL
 PLAN AND PROFILE
 DT 173+00 TO DT 201+00

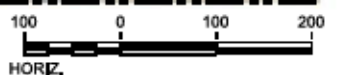
| | |
|-----------------|--------------|
| Scale: | AS SHOWN |
| Drawing Status: | FINAL |
| Job No: | 234180 |
| Drawing No: | CVL-DS-01925 |
| Rev: | 01 |



- NOTE:
1. CONSTRUCTION TYPE THROUGH STATION AREA NOT SHOWN ON PLAN FOR CLARITY. SEE TYP SECTION IN PROFILE VIEW FOR CONSTRUCTION TYPE.
 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.

MATCH LINE SEE SHEET CVL-DS-01925-B

PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN

Scale
AS SHOWN

Drawing Status
FINAL

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| Job No 234180 | Drawing No CVL-DS-01925-A | Rev 01 |
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PLAN



| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWIEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Texas Registered Engineering Firm F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

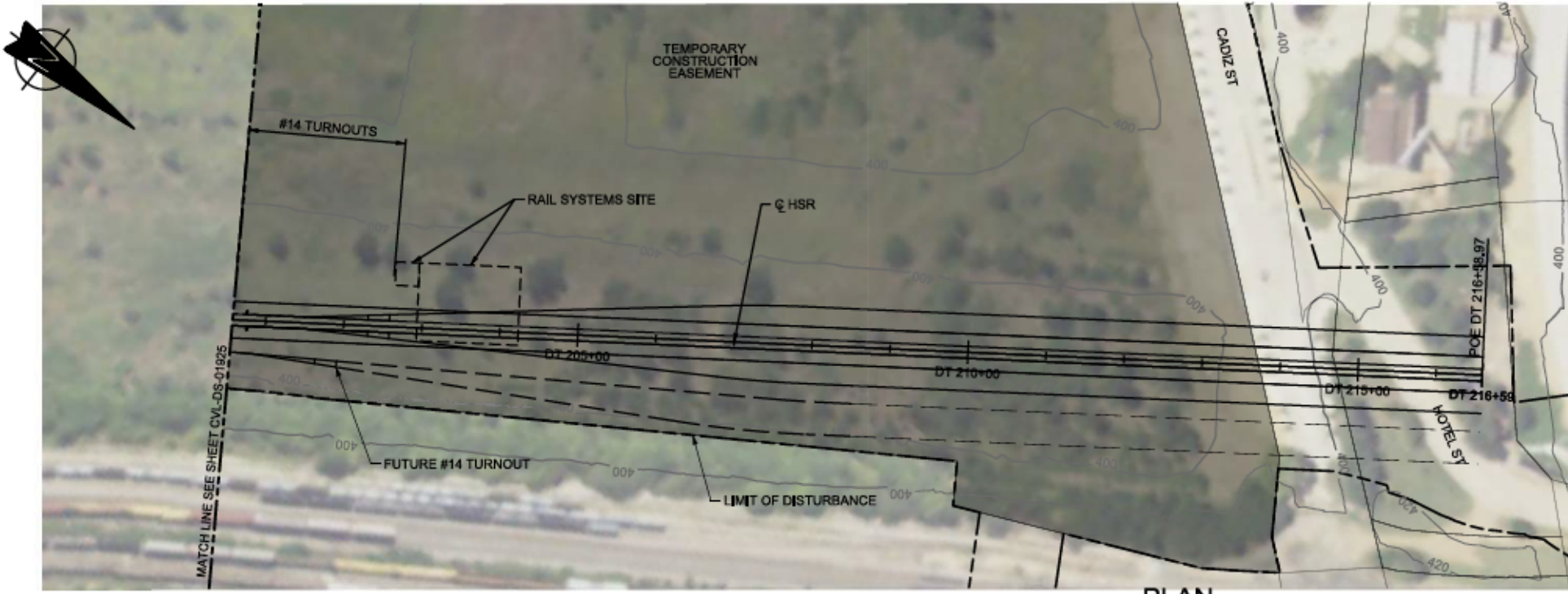
1420 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN

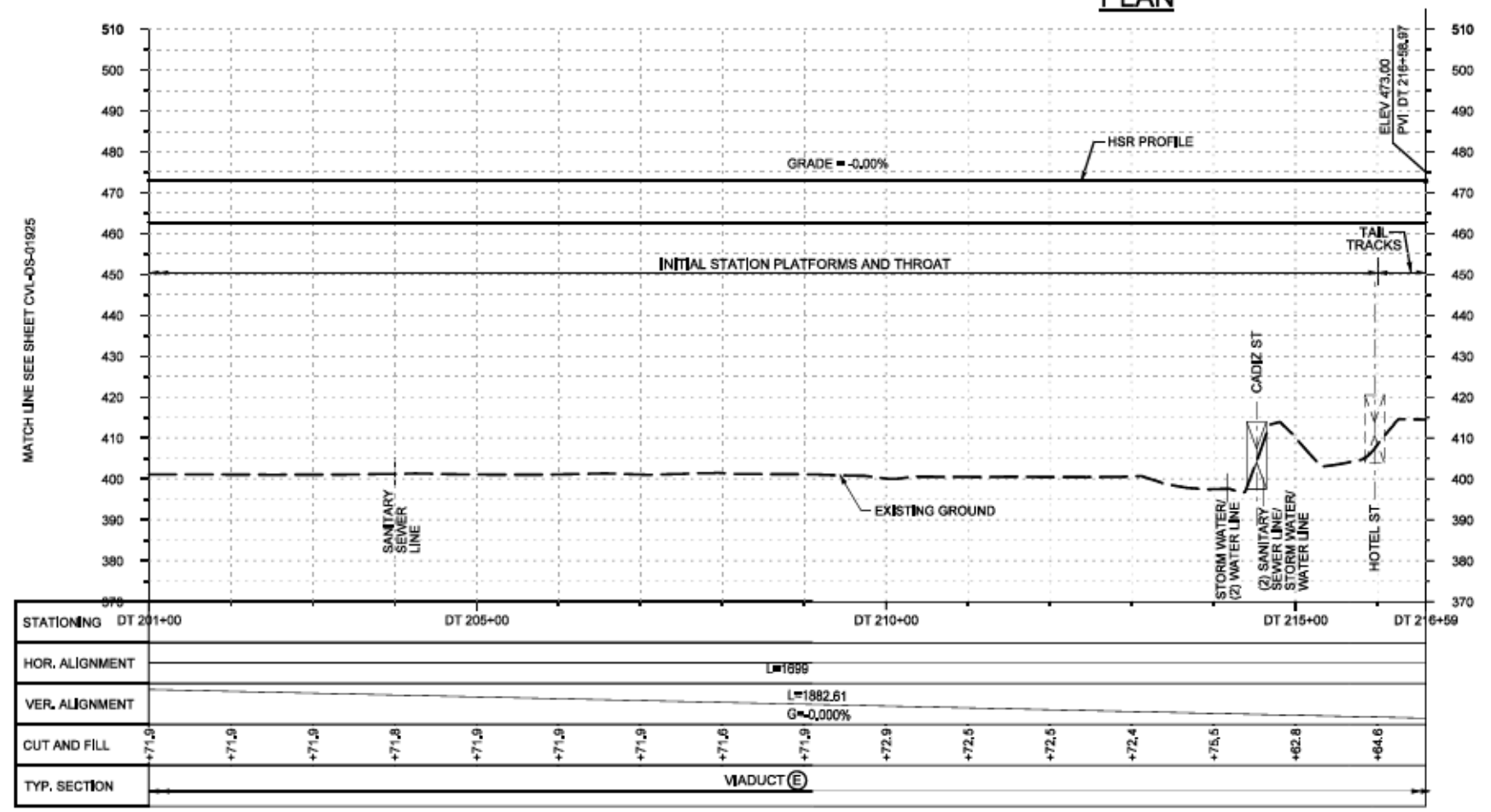
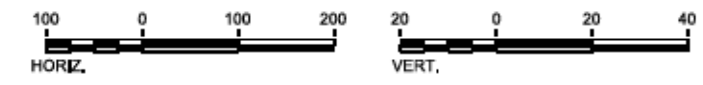
Scale
AS SHOWN

Drawing Status
FINAL

Job No. **234180** Drawing No. **CVL-DS-01925-B** Rev. **01**



- NOTE:
1. STATION ACCESS IMPROVEMENTS NOT SHOWN, REFER TO STATION AREA PLAN DRAWINGS
 2. 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 FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL.
 3. 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.



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|----------------|------------------------|-----------|-----------|-----------|-----------|
| STATIONING | DT 201+00 | DT 205+00 | DT 210+00 | DT 215+00 | DT 216+59 |
| HOR. ALIGNMENT | L=1899 | | | | |
| VER. ALIGNMENT | L=1882.61 G=-0.000% | | | | |
| CUT AND FILL | +71.9 | +71.9 | +71.9 | +71.9 | +71.9 |
| TYP. SECTION | VIADUCT (E) | | | | |

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|-------------|-------------|
| DESIGNED BY | A. UTZ |
| DRAWN BY | J. BORGHESI |
| CHECKED BY | C. ZWIEBEL |
| IN CHARGE | C. TAYLOR |
| DATE | 02/25/2019 |

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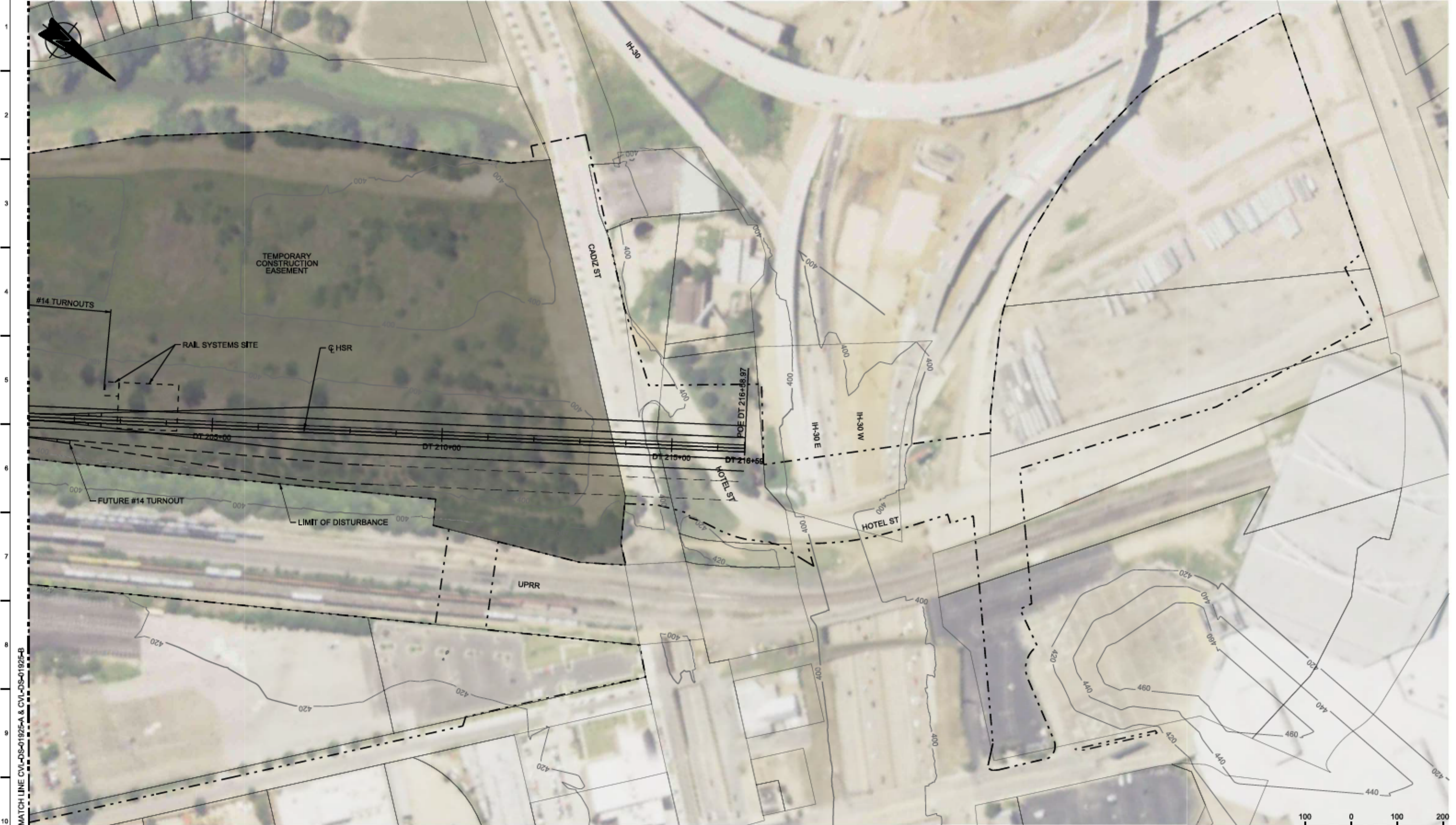
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

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

Drawing 116a
**DALLAS SEGMENT
 CIVIL
 PLAN AND PROFILE
 DT 201+00 TO DT 216+59**

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| Scale | AS SHOWN |
| Drawing Status | FINAL |
| Job No | 234180 |
| Drawing No | CVL-DS-01926 |
| Rev | 01 |



PLAN



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DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
C. ZWEBEL

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

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Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN**

Scale
AS SHOWN

Drawing Status
FINAL

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|-------------------------|-------------------------------------|------------------|
| Job No 234180 | Drawing No CVL-DS-01926-A | Rev 01 |
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