LIGHT RAIL TRANSIT SYSTEM
DALLAS CBD SECOND LIGHT RAIL ALIGNMENT
D2 SUBWAY
VOLUME A

30% PRELIMINARY ENGINEERING
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING

PRELIMINARY 30% DESIGN

FOR THE PURPOSE OF REVIEW UNDER THE

THIS DOCUMENT IS RELEASED

DRAFT

WEDNESDAY, OCTOBER 26, 2020 09:56:52 AM

LIGHT RAIL TRANSIT SYSTEM

10/30/2020

AMANDA C. STAHLNECKER, P.E. NO. 124571

IN-PROGRESS

The following symbols are used in this diagram:

- **Symbol Legend:**
  - **Traffic Pole:**
  - **Utility Pole:**
  - **Sewer:**
  - **Pipeline:**
  - **Existing:**
  - **Proposed:**
  - **Foundation:**
  - **Structure:**
  - **Contour:**
  - **Intersection:**
  - **Direction:**
  - **Existing Foundation:**
  - **Proposed Foundation:**
  - **Berm:**
  - **Drainage:**
  - **Cable:**
  - **Electrical:**
  - **Telephone:**
  - **Telegraph:**
  - **Cablevision:**

These symbols represent various infrastructure elements, such as traffic poles, utility poles, pipelines, and foundations, as well as drainage systems and cabling. Each symbol is used to indicate the location and type of these elements on the plan.
DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
PROJECT KEY PLAN
SHEET 1 OF 3
DART D2 SUBWAY - CBD-2
GUIDEWAY PLAN AND PROFILE KEY PLAN

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PRELIMINARY 30% DESIGN

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
PROJECT KEY PLAN
SHEET 2 OF 3
DART D2 SUBWAY - SE-1 AND WYE GUIDEWAY PLAN AND PROFILE KEY PLAN
## Permanent Alignment Control Monuments

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### Notes:
1. GRID COORDINATES
2. COORDINATES SHOWN HERE ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, V.P.
3. THE CONTROL POINTS SHOWN HERE ARE PROVIDERS OF DATA IN THIS DOCUMENT ARE IN PROGRESS AND NOT FOR CONSTRUCTION.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

CONTRACT SHEET No. 21 OF 288

SCALE (IN FEET)

EXISTING PROPERTY LINE
EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL SURVEY. THE EXISTING ROW SHOULD BE REVIEWED BY THE FINAL DESIGNER.
2. PROPOSED ROW LINES SHOWN ARE BASED ON ENGINEERING NEEDS AND ARE SUBJECT TO CHANGE. THEIR LIMITS MAY INCLUDE ADJUSTMENTS, EXPANSIONS, ETC., AND CAN BE LENGTHENED ABOVE OR BELOW EXISTING GROUND. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
3. BASES OF MEASUREMENT - MEASUREMENTS FOR THIS SURVEY ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NORTH CENTRAL ZONE 4202, NAD83, SYSTEM, UTILIZING A SCALE FACTOR OF 1.000136506.
4. ARE SURFACE VALUES CONVERTED FROM GRID VALUES AND CAN BE EITHER ABOVE OR BELOW EXISTING GROUND. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
5. AREAS OF SURFACES - AREAS FOR THIS SURVEY ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NAD83, SYSTEM, UTILIZING A SCALE FACTOR OF 1.000136506.

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STA 95+00.00 TO STA 103+00.00

NORTH EGRESS
INSTR. NO. 201600112584

city of Dallas
cc #12-06223-b
vol. 964, pg. 140

south exit
in instr. no. 201600298150

proposed pedestrian/
bike path constructed

north exit
in instr. no. 201600298150

proposed row

light rail transit system
line section cbd-2
sta 95+00.00 to sta 103+00.00

nathan d. maier consulting engineers, inc.
tbpe firm no. f-356/tbpl firm reg. no. 100189-00

not for construction
not an approved drawing
preliminary 30% design

contract sheet no. 21 of 288

scale (in feet)

existing property line
existing right of way
proposed right of way

notes:
1. existing property line and right-of-way lines are shown from record information and do not represent an actual survey. the existing row should be reviewed by the final designer.
2. proposed row lines shown are based on engineering needs and are subject to change. their limits may include adjustments, expansions, etc., and can be lengthened above or below existing ground. these limits do not include construction needs.
3. bases of measurement - measurements for this survey are based on the texas state plane coordinate system, north central zone 4202, nad83, system, utilizing a scale factor of 1.000136506.
4. areas of surfaces - areas for this survey are based on the texas state plane coordinate system, north central zone 4202, nad83, system, utilizing a scale factor of 1.000136506.
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light rail transit system
line section cbd-2
sta 95+00.00 to sta 103+00.00

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NOT FOR CONSTRUCTION
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LEGEND
- - - - EXISTING RIGHT OF WAY
- - - - PROPOSED RIGHT OF WAY

NOTES:
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2. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NEEDS AND ARE SUBJECT TO CHANGE. THEIR LIMITS WILL INCLUDE ACQUISITIONS, AGREEMENTS, EASEMENTS, ETC., AND CAN BE EASED ABOVE OR BELOW EXISTING PROPERTY LINES. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS.
3. BOUNDARY LINES - ANY LINES FOR THIS SURVEY ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, NORTH CENTRAL ZONE 4202, ARE SURFACE VALUES CONVERTED FROM GRID VALUES OBTAINED WITH OVERSIGHT UTILIZING THE TXDOT RTK NETWORK. COORDINATES REFLECTED HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, NORTH CENTRAL ZONE 4202.
4. BASIS OF BEARING - BEARINGS FOR THIS SURVEY ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT ACTUAL BEARINGS. THESE LIMITS DO NOT INCLUDE CONSTRUCTION NEEDS. THE EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT ACTUAL SURFACE LINES. THESE LIMITS MAY INCLUDE ACQUISITIONS, AGREEMENTS, EASEMENTS, ETC., AND CAN BE EASED ABOVE OR BELOW EXISTING PROPERTY LINES.
5. MATCH LINE SE-1 TO STA 14+00.00.
6. MATCH LINE SE-1 TO STA 14+00.00.

CONTRACT SHEET No.

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

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LINE SECTION CBD-2

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LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

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5. MATCH LINE SE-1 TO STA 14+00.00.
6. MATCH LINE SE-1 TO STA 14+00.00.

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NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS
NOT A CONSTRUCTION DRAWING

LINE SECTION CBD-2

LIGHT RAIL TRANSIT SYSTEM
STA 14+00.00 TO STA 22+00.00

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDARY. THE EXISTING ROWS SHOWN ARE BASED ON THE FINAL DESIGN.
2. PROPOSED ROW LIMITS SHOWN ARE BASED ON ENGINEERING NEEDS AND ARE SUBJECT TO CHANGE. THEY MAY INCLUDE ACQUISITIONS, AGREEMENTS, EASEMENTS, ETC., AND CAN BE SHADED ABOVE OR BELOW EXISTING GROUND. THESE LIMITS DO NOT INCLUDING CONSTRUCTION NEEDS.
3. BASES OF MEASUREMENT - BEARINGS FOR THIS SURVEY ARE BASED ON THE Tarrant County Plane Coordinate System. COORDINATES OBTAINED WITH TRS SURVEYING UTILIZING THE NEW TXDOT RTK NETWORK COORDINATES REFLECTED HEREON ARE SURFACE VALUES CONVERTED FROM OBTAINED COORDINATES TO EASEMENT LIMITS UTILIZING A SCALE FACTOR OF 1.000136506.

LEGEND

EXISTING ROW OF WAY
EXISTING PROPERTY LINE
PROPOSED ROW OF WAY

INDEX

AMEND
DATE
REV

c

DWG No.
M o n d a y , O c t o b e r 2 6 , 2 0 2 0  1 1 :3 2 :2 2  A M

APP

DEF

RC6-0017

SEE DWG No. RC6-0018

MATCH LINE SE-1 SB STA 14+00.00

SEE DWG No. RC6-0017

MATCH LINE SE-1 SB STA 22+00.00

J.MELTON
D.GRIFFIN
D.VALDEZ
M.SALCEDO

1" = 40'

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PRO-INPROGRESS
PRELIMINARY 30% DESIGN
FOR THE PURPOSE OF REVIEW UNDER THE
THIS DOCUMENT IS RELEASED
DEFAULT
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MONDAY, OCTOBER 26, 2020 11:32:31 AM

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
RIGHT-OF-WAY PLAN
STA 28+00.00 TO END OF SE-1
10/30/2020
JOHN L. MELTON, RPLS
TBPE FIRM REG. NO. F-356/TBPLS NO. 100189-00
NATHAN D. MAIER CONSULTING ENGINEERS, INC.
ON 10/30/2020

NOTES:
1. EXISTING PROPERTY LINE AND RIGHT-OF-WAY LINES ARE SHOWN FROM RECORD INFORMATION AND DO NOT REPRESENT AN ACTUAL BOUNDARY ISSUE. THE EXISTING ROW SHALL BE MODIFIED BY THE FINAL DESIGNER.
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SCALE (IN FEET)
HORIZ
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20
40
80

MATCH LINE SE-1 SB ST A 28+00.00
MATCH LINE SE-1 NB ST A 28+00.00
MATCH LINE MONUMENT STREET
MATCH LINE ST A 31+
MATCH LINE ST / STATION EQUATION
MATCH LINE SE-1 NB STA 32+93.41
MATCH LINE SE-1 SB STA 32+93.40
MATCH LINE SE-1 SB
MATCH LINE SE-1 NB
MATCH LINE SE-1 NB ST / STATION EQUATION
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MATCH LINE SE-1 NB STA 31+62.43 (AHD)
MATCH LINE SE-1 NB STA 31+39.77 (BK)
MATCH LINE SE-1 NB STA 31+
MATCH LINE SE-1 NB STA 31+39.77 (BK)
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MATCH LINE SE-1 NB STA 31+
MATCH LINE SE-1 NB STA 31+39.77 (BK)
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

 Browning DREIER, INC.

HDR ENGINEERING, INC.

ON 10/30/2020

AMANDA C. STAHLNECKER, P.E. NO. 124571

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
HORIZONTAL ALIGNMENT
SCHEMATIC
SHEET 2 OF 4

TBPE FIRM NO. F-754

PRELIMINARY 30% DESIGN

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

10/30/2020
**LINE SECTION CBD-2 EB TRACK**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF EASTBOUND TRACK**

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**NOTES:**
1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY FOOT.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

**DEFINITION:**
- CENTERLINE OF EASTBOUND TRACK
- HORIZONTAL ALIGNMENT DATA
- LINE SECTION CBD-2 EB TRACK

**IN-PROGRESS**

**DART PROJECT**

**LIGHT RAIL TRANSIT SYSTEM**

**CONTRACT SHEET No.**

**CBDE2 EB**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF EASTBOUND TRACK**

**IN CHARGE**

**DRAWN**

**DESIGNED**

**CHECKED**

**FACSIMILE**

**AUTHORITY OF:**

**FOR THE PURPOSE OF REVIEW UNDER THE**

**THIS DOCUMENT IS RELEASED**

**AUTHORITY OF:**

**FOR THE PURPOSE OF REVIEW UNDER THE**

**THIS DOCUMENT IS RELEASED**

**ON 10/30/2020**

**AMANDA C. STAHLNECKER, P.E. NO. 124571**
### Curve Name | Shape | Distance | Radius | CH | FH | FH Percent | Degree of Curvature | Deflection Angle | Bearing
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**Notes:**
1. COORDINATES + SURFACE COORDINATES X 0.999863513
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

**Definition:**
- R = radius (feet)
- Ex = external (feet)
- Dc = degree of curvature
- Deflection Angle = angle of deflection (degrees)
- Bearing = direction of curve

**Horizontal Alignment Data**
- Line Section CBD-2 EB Track
- Centerline of Eastbound Track
- CBD-2 EB Track
- Details from the Light Rail Transit System Design Document.
## LINE SECTION CBD-2 EB TRACK

### HORIZONTAL ALIGNMENT DATA

**Centerline of Eastbound Track**

### Table of Curve Data

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<th>Length</th>
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### Notes:

1. **Notes:**
   - Grid Coordinates: Surface Coordinates x 0.999863513
   - Coordinates shown herein are based on the Texas State Plane Coordinate system, NAD83, U.S. Surface Foot.
   - Grid Coordinates = Survey Coordinates x 0.999863513

2. **Centerline of Eastbound Track - Horizontal Alignment Data:**
   - LINE SECTION CBD-2 EB TRACK
   - DART PROJECT LIGHT RAIL TRANSIT SYSTEM
   - NOT FOR CONSTRUCTION
   - NOT AN APPROVED DRAWING
   - PRELIMINARY 30% DESIGN

3. **Curve Data:**
   - Curve data is based on the chord definition.
### Horizontal Alignment Data

#### Line Section CBD-2 WB Track

**Centerline of Westbound Track**

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<td>1.73</td>
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#### Notes:

1. Grid coordinates are based on the Texas State Plane Coordinate System, NAD83, U.S. Survey Foot.
2. Coordinates shown herein are based on the Texas State Plane Coordinate System, NAD83, U.S. Survey Foot.
3. Curve radii are based on the chord definition.
LINE SECTION CBD-2 WB TRACK
HORIZONTAL ALIGNMENT DATA
CENTERLINE OF WESTBOUND TRACK

**CURVE NAME** | **MEASURE** | **CHAINAGE** | **HORIZONTAL** | **LENGTH** | **STRAIGHT ELEMENT** | **CURVATURE** | **DEGREE OF** | **ANGLE** | **DEFLECTION** | **SEATING**
---|---|---|---|---|---|---|---|---|---|---
PC | 0 + 00.00 | 6971730.20 | 2491043.09 | | | | | | | |
| CBD-EE | 64 + 36.51 | 6971756.67 | 2491355.89 | X = 11629.17 | 100.62 | Ex + D x 31° 15' | 0.02 | 0.14 | 30 | 31° 30' 00" Right |
| PT | 64 + 39.25 | 6971751.82 | 2491228.75 | | | | | | | |
| PC | 65 + 00.00 | 6971754.65 | 2491305.25 | | | | | | | |
| CBD-FF | 85 + 19.52 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 85 + 19.52 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 66 + 32.82 | 6971784.46 | 2491320.64 | | | | | | | |
| CBD-GG | 86 + 15.84 | 6971787.46 | 2491320.64 | | | | | | | |
| PT | 86 + 15.84 | 6971787.46 | 2491320.64 | | | | | | | |
| PC | 67 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-HH | 87 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 87 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 68 + 36.45 | 6971735.21 | 2491393.06 | | | | | | | |
| SC | 68 + 36.45 | 6971735.21 | 2491393.06 | | | | | | | |
| CBD-II | 88 + 86.46 | 6971755.61 | 2491393.06 | | | | | | | |
| PT | 88 + 86.46 | 6971755.61 | 2491393.06 | | | | | | | |
| PC | 89 + 36.45 | 6971756.67 | 2491425.08 | | | | | | | |
| SC | 89 + 36.45 | 6971756.67 | 2491425.08 | | | | | | | |
| CBD-JJ | 89 + 36.45 | 6971756.67 | 2491425.08 | | | | | | | |
| PT | 89 + 36.45 | 6971756.67 | 2491425.08 | | | | | | | |
| PC | 90 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-KK | 90 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 90 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 91 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-LL | 91 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 91 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 92 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
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| SC | 92 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-NN | 92 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
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| CBD-OO | 93 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 93 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 94 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-PP | 94 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 94 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 95 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBDQQ | 95 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 95 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 96 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-XX | 96 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 96 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 97 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-YY | 97 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 97 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PC | 98 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| CBD-ZZ | 98 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |
| PT | 98 + 00.00 | 6971781.52 | 2491228.75 | | | | | | | |

**NOTES:**
1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY 1983
3. CURVE BENDS BASED ON THE CHORD DEFINITION.
# Line Section CBD-2 WB Track

## Horizontal Alignment Data

### Centerline of Westbound Track

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<tr>
<th>Curve Name</th>
<th>Point</th>
<th>Distance</th>
<th>Northing</th>
<th>Easting</th>
<th>Length (ft)</th>
<th>Degree of Curvature</th>
<th>Ex</th>
<th>Ey</th>
<th>Passenger Loading</th>
<th>Deflection Angle</th>
<th>Deviation</th>
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### Notes:
1. Grid Coordinates = Surface Coordinates X 0.999863513
2. Coordinates shown herein are based on the Texas State Plane Coordinate System (UTM), NAD83, State Plane.
3. Curve radii are based on the chord definition.

---

**NOT FOR CONSTRUCTION**

**NOT AN APPROVED DRAWING**

**PRELIMINARY 30% DESIGN**

**CONTRACT SHEET No.** 27 OF 280
### LINE SECTION SE-1 SB TRACK

#### HORIZONTAL ALIGNMENT DATA

**CENTERLINE OF SOUTHBOUND TRACK**

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<th>Easting</th>
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<th>Degree of Curvature</th>
<th>Ex</th>
<th>Ey</th>
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**NOTES:**

1. GRID COORDINATES = SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (FT), U.S. BASE ON SURVEY GRID 92.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.

**DELRIO**

**IN-PROGRESS**

**DART PROJECT**

**LIGHT RAIL TRANSIT SYSTEM**

**LINE SECTION CSD-2**

**CENTERLINE OF SOUTHBOUND TRACK**

**TBPE FIRM NO. F-754**

**HDR ENGINEERING, INC.**

**ON 10/30/2020**

**AMANDA C. STAHLNECKER, P.E. NO. 124571**

**PRELIMINARY 30% DESIGN**

**NOT AN APPROVED DRAWING**

**NOT FOR CONSTRUCTION**

**PROD. ENGM: X. 30% DESIGN**

**CONTRACT SHEET No. 308 OF 308**
**LINE SECTION SE-1 NB TRACK**

**HORIZONTAL ALIGNMENT DATA**

**CENTERLINE OF NORTHBOUND TRACK**

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<th>CURVE NAME</th>
<th>POINT</th>
<th>CHAINAGE</th>
<th>NORTHING</th>
<th>EASTING</th>
<th>LENGTH</th>
<th>DEGREE OF CURVATURE</th>
<th>Ex</th>
<th>Ey</th>
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<td>PC2</td>
<td>32+50.40</td>
<td>6973682.18</td>
<td>2495114.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. GRID COORDINATES +/- SURFACE COORDINATES X 0.999863513
2. COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, U.S. SURVEY RCD.
3. CURVES AND CURVATURE ARE BASED ON THE CHORD DEFINITION.
### Line Section WYE-EB Track

**Horizontal Alignment Data**

**Centerline of Eastbound Track**

<table>
<thead>
<tr>
<th>Curve Name</th>
<th>P0B</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>SPIRAL</th>
<th>ST</th>
<th>STRAIGHT</th>
<th>SC</th>
<th>SB</th>
<th>PS</th>
<th>TC</th>
<th>PT</th>
<th>POE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element</td>
<td>Chainage</td>
<td>Northing</td>
<td>Easting</td>
<td>Length</td>
<td>Degree of Curvature</td>
<td>Ex</td>
<td>Ex</td>
<td>Inclination Angle</td>
<td>Deflection</td>
<td>Bearing</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>P0B</td>
<td>10+86.70</td>
<td>6973199.20</td>
<td>2494417.10</td>
<td>30.00</td>
<td>0.51° 29' 19.15&quot; E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>P1</td>
<td>10+30.96</td>
<td>6973010.20</td>
<td>2494460.00</td>
<td>91.00</td>
<td>4° 39' 11.25&quot; E</td>
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<tr>
<td>P2</td>
<td>11+02.26</td>
<td>6973010.20</td>
<td>2494460.00</td>
<td>30.00</td>
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</tr>
<tr>
<td>SC</td>
<td>11+52.26</td>
<td>6973084.10</td>
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<tr>
<td>WYE-A</td>
<td>12+47.30</td>
<td>6973048.10</td>
<td>2494706.04</td>
<td>373.03</td>
<td>0.50</td>
<td>1.00</td>
<td>10</td>
<td>80° 33' 27&quot; Left</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>15+00.00</td>
<td>6974052.00</td>
<td>2494515.16</td>
<td>30.00</td>
<td></td>
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<td></td>
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<tr>
<td>SB</td>
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<td>74.00</td>
<td>6° 28' 17.33&quot; V</td>
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<tr>
<td>PT</td>
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<td>2495022.04</td>
<td>30.00</td>
<td>6° 49' 37.21&quot; V</td>
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<td>2494953.08</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Notes:**

1. Grid coordinates + survey coordinates x 0.999863513
2. Coordinates shown herein are based on the Texas State Plane Coordinate System, NAD83, U.S. Survey Foot.
3. Curve radii are based on the chord definition.

**IN-PROGRESS**

We are working on this document for the purpose of review under the authority of:

**DART PROJECT**

Light Rail Transit System

**LINE SECTION WYE-EB**

**VYE-CO**

Horizontal Alignment Data

Centerline of Eastbound Track

**Contract No.**

Light Rail Transit System

**Line Section WYE-EB**

**VYE-CO**

Horizontal Alignment Data

Centerline of Eastbound Track

**Contract No.**

021-0013
## Horizontal Alignment Data

### Centerline of Westbound Track

<table>
<thead>
<tr>
<th>Curve Name</th>
<th>Station</th>
<th>Northing</th>
<th>Easting</th>
<th>Element</th>
<th>Length</th>
<th>Degree of Curvature</th>
<th>Deflection Angle</th>
<th>Deflection</th>
<th>Curve ( R )</th>
<th>Dc ( D.M.S. )</th>
</tr>
</thead>
<tbody>
<tr>
<td>POB</td>
<td>10+00.00</td>
<td>6973829.35</td>
<td>2494409.36</td>
<td>Straight</td>
<td>30.00</td>
<td>20° 30' 13&quot; E</td>
<td>N 52° 08' 21.13&quot; E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>10+30.00</td>
<td>6973829.35</td>
<td>2494435.39</td>
<td>Straight</td>
<td>30.00</td>
<td>20° 30' 13&quot; E</td>
<td>N 52° 08' 21.13&quot; E</td>
<td></td>
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<tr>
<td>NS</td>
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<td>6973829.35</td>
<td>2494409.36</td>
<td>Straight</td>
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<td>20° 30' 13&quot; E</td>
<td>N 52° 08' 21.13&quot; E</td>
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<tr>
<td>SC</td>
<td>11+30.00</td>
<td>6973829.35</td>
<td>2494435.39</td>
<td>Straight</td>
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<td>20° 30' 13&quot; E</td>
<td>N 52° 08' 21.13&quot; E</td>
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<tr>
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<td>20° 30' 13&quot; E</td>
<td>N 52° 08' 21.13&quot; E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:

1. COORDINATES SHOWN HEREON ARE SURFACE COORDINATES X 0.999863513 SURVEY FOOT.
2. GRID COORDINATES = SURFACE COORDINATES X 0.999863513.
3. CURVE RADII ARE BASED ON THE CHORD DEFINITION.
NOTE:

1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EXISTING TRACKS FOR SE-1, EXTERNAL TRACKS FOR SE-2, EXTERNAL TRACKS FOR SE-1, EXCEPT WHERE INDICATED.

2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR PANEL DESIGN/CONSTRUCTION INFORMATION ONLY.

3. CATERPILLAR POLICIES ARE GENERAL AND ONLY SHOWN IN THE ILLUSTRATIONS. ALL OTHER ELEMENTS SHOWN ARE FOR INFORMATION PURPOSES ONLY. SYSTEMS WILL BE DESIGNED AS PART OF THE FINAL DESIGN.


5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS AND LIMITS OF MECHANICAL AND STRUCTURAL TRACK GEOMETRY AND WALL LOCATIONS.

6. TOP OF BALLAST SHOULDER SHALL BE EQUIDISTANT FROM CURVE. MINIMUM BALLAST SHOULDER SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND END OF TIE. FOR RADIUS LESS THAN 2000 FEET, EXTEND BALLAST A MINIMUM OF 18 INCHES BEYOND END OF TIE ON THE OUTSIDE OF TRACK.

7. THE BALLAST SHOULDER SHALL BE AT LEAST ONE INCH BELOW THE BASE OF THE BALLAST CRIBS IN WITH TOP OF TIE SO THAT IT SHALL BE AT LEAST 12 INCHES BEYOND THE SIDE OF THE CURVE. THE SMALLER BALLAST SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND END OF TIE. FOR RADIUS LESS THAN 2000 FEET, EXTEND 18 INCHES BEYOND END OF TIE ON THE OUTSIDE OF TRACK.

8. BALLAST CRIBS SHALL BE A MINIMUM OF 1 FEET.

9. SEE TUNNEL SHEETS FOR DETAILS OF SUBBALLAST AND BALLAST OUTSIDE LIMITS OF HORIZONTAL AND VERTICAL TRACK GEOMETRY AND WALL LOCATIONS.

10. PROPOSED TRACK AS SHOWN ON PLANS, MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10 FEET.
NOTES:
1. ALL SECTIONS ARE LOOKING UPSTATION. WITH ALL STATIONING BASED ON THE CENTERLINE OF THE EXISTING TRACK FOR SE-1 AND OUTBOUND TRACK FOR SE-2, UNLESS OTHERWISE NOTED.
2. SEE TRACKWORK STANDARDS FOR DETAILS OF TRACK ELEMENTS. DETAILS ARE PROVIDED FOR FINAL DESIGNER/CONTRACTOR INFORMATION ONLY.
3. CATENARY POLE LOCATION IS TYPICAL AND ONLY SHOWN AS AN ILLUSTRATION. ALL OTHER ELEMENTS SHOWN ARE DESIGNER’S/CONTRACTOR’S INFORMATION ONLY. DETAILS ARE PROVIDED FOR FINAL DESIGN AS PART OF THE FINAL DESIGN.
4. IN CURVES AND SPIRALS, THE FIG. 2 THE TOP OF THE CURVE, ON THE OUTSIDE OF THE CURVE (EXCEPT OUTBOUND TRACKS)
5. SEE GUIDEWAY PLAN AND PROFILE SHEETS FOR DETAILS FOR SE-1, UNLESS OTHERWISE NOTED.
6. SEE ARCHITECTURAL SHEETS FOR DETAILS THROUGH STATIONS.
7. SEE CONSTRUCTION SHEETS FOR SECTIONS THROUGH STATIONS.
8. PROPOSED FENCE AS SHOWN ON PLANS. MINIMUM DISTANCE FROM TRACK CENTERLINE IS 10’.

CONTRACT SHEET NO. CC7-0002
DART PROJECT LIGHT RAIL TRANSIT SYSTEM LINE SECTION CBD-2 GUIDEWAY TYPICAL SECTIONS SHEET 2 OF 2

IN-PROGRESS

D R T

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTE TO SCALE
CBD-2 STA 10+00.00 TO CBD-2 STA 17+00.00
CBD-2 STA 24+80.00 TO CBD-2 STA 35+30.00
CBD-2 STA 35+30.00 TO CBD-2 STA 38+50.00

NOT TO SCALE
CBD-2 STA 26+00.00 TO CBD-2 STA 33+30.00
CBD-2 STA 33+30.00 TO CBD-2 STA 36+50.00
CBD-2 STA 36+50.00 TO CBD-2 STA 39+30.00
CBD-2 STA 39+30.00 TO CBD-2 STA 42+50.00
CBD-2 STA 42+50.00 TO CBD-2 STA 45+30.00

AT GRADE EMBEDDED TRACK - MUSEUM WAY
CBD-2 STA 18+51.65 TO CBD-2 STA 24+80.89

AT GRADE EMBEDDED TRACK
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROPOSED ROW FENCE ALONG THE PEDESTRIAN WALKWAY UNDER WOODALL RODGERS FREEWAY, FINAL DESIGNER SHALL COORDINATE THE FENCE TREATMENT WITH THE CITY OF DALLAS.

IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

L. GUBLO
AMANDA C. STAHLNECKER, P.E. NO. 124571
HDR ENGINEERING, INC.

FOR THE PURPOSE OF REVIEW UNDER THE
GUIDEWAY PLAN AND PROFILE
STA 28+00.00 TO STA 36+00.00

NOTE: 1. FOR PROPOSED ROW FENCE ALONG THE PEDESTRIAN WALKWAY UNDER WOODALL FREEWAY, FINAL DESIGNER SHALL COORDINATE THE FENCE TREATMENT WITH THE CITY OF DALLAS.

P0001
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 50% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY PLAN AND PROFILE
STA 36+00.00 TO STA 44+00.00

IN-PROGRESS

DART PROJECT

HDR

GPC

D. BROWN
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY PLAN AND PROFILE
STA 44+00.00 TO STA 51+00.00

IN-PROGRESS
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STATION DESCRIPTION:

- PROPOSED TOP OF RAIL ELEV
- EXISTING GROUND ELEV
- MATCH LINE CBD-2 WB
- SEE DWG No. CC1-0007

- APPROX LOCATION
  - ONCOR UGE
  - VPC 45+60.00
  - EL 385.64
  - SH 29 (1962)
  - ROSS AVENUE
  - TBPE 47+60.00
  - EL 385.64
  - SH 155 (2014)
  - Ross Avenue

- APPROX LOCATION
  - ONCOR UGE
  - VPT 49+60.00
  - EL 374.78
  - SH 001 (UNK.)
  - 8" GAS

- APPROX LOCATION
  - ONCOR UGE
  - VPT 49+60.00
  - EL 374.78
  - SH 001 (UNK.)
  - 16" GAS

- APPROX LOCATION
  - ONCOR UGE
  - VPT 49+60.00
  - EL 374.78
  - SH 001 (UNK.)
  - 12" GAS
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUARDIAN PLAN AND PROFILE
STA 96+00.00 TO STA 103+00.00
PRELIMINARY 30% DESIGN
CONTRACT SHEET No. 56 OF 2008

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUARDIAN PLAN AND PROFILE
STA 96+00.00 TO STA 103+00.00
PRELIMINARY 30% DESIGN
CONTRACT SHEET No. 56 OF 2008

IN-PROGRESS

DART PROJECT
For Proposed Row Fence Along the LRT Guideway, final designer shall coordinate the fence treatment with the City of Dallas.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 28+00.00 TO END PROJECT

GUIDEWAY PLAN AND PROFILE

SE-1 SB

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

PROPOSED TOP OF RAIL

EXISTING GROUND ELEV

PROPOSED TOP OF RAIL ELEV

SCALE (IN FEET)

SCALE (IN FEET)

HORIZ

0

20

40

80

10

15

20

5

600

610

550

560

570

580

590

600

610

472.70

472.16

474.72

474.52

474.31

474.11

473.90

473.70

473.49

473.29

473.08

472.97

472.16

474.72

474.52

474.31

474.11

473.90

473.70

473.49

473.29

473.08

472.97

EXISTING GROUND LINE

- 0.41%
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

NOTES:
1. FOR PROPOSED ROW FENCE ALONG THE LRT GUIDEWAY,
   FINAL DESIGNER SHALL COORDINATE THE FENCE
   TREATMENT WITH THE CITY OF DALLAS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS, OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
2. GRADING LIMITED TO AVAILABLE EXISTING GROUND SURVEY.

NOTES:

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
CC8-0001
STA 10+00.00 TO STA 11+50.00

VERT SCALE (IN FEET)
10+00
11+00

HORIZ SCALE (IN FEET)
5
10
20
40
7.5
2.5
0
400
410
420
430
-100 -80 -60 -40 -20 0 20 40 60 80 100
-200 -180 -160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100

-200 -180 -160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
2. GRADE LIMITS BY AVAILABLE EXISTING GROUND SURVEY.

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
CSD-2
GUIDEWAY CROSS SECTIONS
STA 12+00.00 TO STA 13+50.00

CONTRACT SHEET NO.: 65 OF 208

A. STAHLNECKER
D. BROWN
L. GUBLO

AS NOTED

PREPARED BY

IN CHARGE

CHECKED

DESIGNED

DRAWN

SCALE (IN FEET)
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
2. GRADING LIMITED BY AVAILABLE EXISTING GROUND SURVEY.

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 14+00.00 TO STA 15+50.00

NOTES:
GUIDEWAY CROSS SECTIONS
STA 16+00.00 TO STA 17+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
2. GRADES LIMITED BY AVAILABLE EXisting GROUND SURVEY.

NOTES:
CC8-0006

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 20+00.00 TO STA 21+50.00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

IN-PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY CROSS SECTIONS
STA 22+00.00 TO STA 23+50.00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 28+00.00 TO STA 29+50.00
GUIDEWAY CROSS SECTIONS

CBD-2

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.

GUIDEWAY CROSS SECTIONS
CBD-2
STA 30+00.00 TO STA 31+50.00

IN-PROGRESS
PRELIMINARY 30% DESIGN
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
CC8-0011

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

IN-PROGRESS
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 34+00.00 TO STA 35+00.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

 Vert.

 Scale (in feet)

 Horiz.

 Vert.

 Scale (in feet)

 Horiz.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

FOR THE PURPOSE OF REVIEW UNDER THE

THIS DOCUMENT IS RELEASED

IN PROGRESS

DISCIPLINE SHEETS.

OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.

NOTES:
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 41+00.00 TO STA 42+50.00

GUIDEWAY CROSS SECTIONS

A. STAHLNECKER
D. BROWN
L. GUBLO
L. GUBLO
AS NOTED
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 43+00.00 TO STA 44+00.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0018

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

DISCUSSION:
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### Notes:

1. Only track features displayed on cross sections. Other features can be referenced from specific discipline sheets.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

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NOTES:
- IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 49+50.00 TO STA 50+00.00

360 370 380 390 400
-20 -40 -60 -80 -100
0 20 40 60 80 100
0 20 40 60 80 100

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

10/30/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
360 370 380 390 400
-20 -40 -60 -80 -100
0 20 40 60 80 100
0 20 40 60 80 100

STA 49+50.00 TO STA 50+00.00
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 54+50.00 TO STA 56+00.00

GUIDEWAY CROSS SECTIONS

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.
GUIDEWAY CROSS SECTIONS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 58+50.00 TO STA 59+50.00

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.
GUIDEWAY CROSS SECTIONS

Notes:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OMISSIONS CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS
PRELIMINARY 30% DESIGN
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION

STA 60+00.00 TO STA 61+50.00

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

NOTES:
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

DISCIPLINE SHEETS.

NOTES:

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 62+00.00 TO STA 63+50.00

PG L

PG L

PG L

PG L

PG L

PG L

PG L

PG L
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NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020

IN-PROGRESS

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
GUIDEWAY CROSS SECTIONS
STA 67+00.00 TO STA 67+50.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIAL DISCIPLINE SHEETS.

NOTES:

- 99          288

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

GUIDEWAY CROSS SECTIONS
STA 69+00.00 TO STA 69+50.00

99 of 288
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PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.

NOTES:

ASA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC

STA 70+00.00 TO STA 70+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0037

VERT SCALE (IN FEET)
HORIZ SCALE (IN FEET)

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
NOT FOR CONSTRUCTION
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PRELIMINARY 30% DESIGN

STA 71+00.00 TO STA 71+50.00
GUIDEWAY CROSS SECTIONS
CBD-2

NOTES:
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PRELIMINARY 30% DESIGN
10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

STA 72+00.00 TO STA 72+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0039
A. STAHLNECKER
D. BROWN
L. GUBLO

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 74+00.00 TO STA 75+00.00

NOTES:
1. Only track features displayed on cross sections. Other features can be referenced from specific discipline sheets.
GUIDEWAY CROSS SECTIONS
STA 75+50.00 TO STA 77+00.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

STA 77+50.00 TO STA 79+00.00
GUIDEWAY CROSS SECTIONS
CBD-2
CC8-0043

A. STAHLNECKER
D. BROWN
L. GUBLO
AS NOTED
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

GUIDEWAY CROSS SECTIONS

CBD-2

CC8-0045

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
   OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

STA 81+50.00 TO STA 83+00.00
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING

PRELIMINARY 30% DESIGN

IN PROGRESS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

GUIDEWAY CROSS SECTIONS

CBD-2 CC8-0047

A. STAHLNECKER
D. BROWN
L. GUBLO

AS NOTED

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS, OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING
PRELIMINARY 30\% DESIGN

10/30/2020

AMANDA C. STAHLNECKER, P.E. NO. 124571

410 420 430 440 450
0 20 40 60 80 100
-20 -40 -60 -80 -100
91+00 92+00

91+00 91+50

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

CBD-2
LINE SECTION
GUIDEWAY CROSS SECTIONS
STA 91+00.00 TO STA 92+00.00
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 92+50.00 TO STA 94+00.00
GUIDEWAY CROSS SECTIONS

CBD-2
CC8-0051

A. STAHLNECKER
D. BROWN
L. GUBLO
L. GUBLO
AS NOTED

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CGD-2
GUIDEWAY CROSS SECTIONS
STA 92+50.00 TO STA 94+00.00

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

CONTACT SHEET No. 114 Of 288
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020
A. STAHLNECKER, P.E. NO. 124571
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
420
430
440
450
460
0
20
40
60
80
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-20
-40
-60
-80
-100
97+50
98+00
117
288
NOTES:
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CBP-39-01

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
GUIDEWAY CROSS SECTIONS
STA 97+50.00 TO STA 98+00.00
DART PROJECT
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

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PRELIMINARY 30% DESIGN

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STA 102+50.00 TO STA 103+50.00
GUIDEWAY CROSS SECTIONS
CBD-2
LIGHT RAIL TRANSIT SYSTEM

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTIONS CBD-2

CONTRACT SHEET NO. 120 OF 288

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

P G L
A. STAHLNECKER
D. BROWN
L. GUBLO
L. GUBLO
AS NOTED

0
-20
-40
-60
-80
-100
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40
60
80
100
102+50
103+00
103+50

0
20
40
60
80
100
440
450
460
470
480

0
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40
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470
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0
20
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80
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440
450
460
470
480

NOTES:
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NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
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IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

CBD-2
GUIDEWAY CROSS SECTIONS
STA 108+00.00 TO STA 109+50.00

DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
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NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

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PRELIMINARY 30% DESIGN

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NOT FOR CONSTRUCTION
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PRELIMINARY 30% DESIGN

NOTES:
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IN-PROGRESS
PRELIMINARY 30% DESIGN
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
CBD-2
GUIDEWAY CROSS SECTIONS
STA 114+00.00 TO STA 115+12.00

AMANDA C. STAHLNECKER, P.E. NO. 124571
ON 10/30/2020

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
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NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
DISCIPLINE SHEETS.

NOTES:
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STA 11+50.00 TO STA 13+00.00
GUIDEWAY CROSS SECTIONS

129 288
129 288
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
10/30/2020

TAPE MEASURED:
130          288

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
IN-PROGRESS
DISCIPLINE SHEETS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
2. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC
   DISCIPLINE SHEETS.

GUIDEWAY CROSS SECTIONS
STA 15+50.00 TO STA 17+00.00

LINE SECTION CBD-2
LIGHT RAIL TRANSIT SYSTEM
DART PROJECT

HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
BIDDING OR PERMIT PURPOSES.

L. GUBLA
A. STAHLNECKER
D. BROWN
AS NOTED

GUIDEWAY CROSS SECTIONS
STA 17+50.00 TO STA 19+00.00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 21+50.00 TO STA 23+00.00
GUIDEWAY CROSS SECTIONS

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

IN-PROGRESS
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2

ST-1
GUIDEWAY CROSS SECTIONS
STA 21+50.00 TO STA 23+00.00

IN PROGRESS

DART PROJECT

HDR

GPC

DART
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LINE SECTION CSD-2
GUIDEWAY CROSS SECTIONS
STA 23+50.00 TO STA 25+00.00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.

1. STA 23+50.00 TO STA 25+00.00
GUIDEWAY CROSS SECTIONS

IN-PROGRESS
DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
NOT FOR CONSTRUCTION

NOT AN APPROVED DRAWING

PRELIMINARY 30% DESIGN

IN PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2

GUIDEWAY CROSS SECTIONS
STA 25+50.00 TO STA 27+00.00

NOTES:

1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
   OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
GUIDEWAY CROSS SECTIONS

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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CSD-2
ST-1

A. STAHLNECKER
D. BROWN
L. GUBLO

3050-10024656
6.0_CAD_BIM
6.2_Work_In_Progress
TO_39_D2_Subway_Proj_Dev
6.2.2_Contract_Files
DGN
CVL-CIV
CBD2-CC8-0001.020

TBPE FIRM NO. F-754
HDR ENGINEERING, INC.
ON 10/30/2020
AMANDA C. STAHLNECKER, P.E. NO. 124571

PRELIMINARY 30% DESIGN
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
10/30/2020

DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

ST-1
GUIDEWAY CROSS SECTIONS
STA 29+50.00 TO STA 31+00.00

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 31+50.00 TO STA 32+93.00
GUIDEWAY CROSS SECTIONS

NOTES:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS. OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

NOTES:

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IN-PROGRESS
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
VPE GUIDEWAY CROSS SECTIONS
STA 10+00.00 TO STA 11+50.00

DATE: 10/30/2020
CONTRACT SHEET NO.: 140 of 288
NOTE:
1. ONLY TRACK FEATURES DISPLAYED ON CROSS SECTIONS.
OTHER FEATURES CAN BE REFERENCED FROM SPECIFIC DISCIPLINE SHEETS.
EXISTING MUSEUM WAY

PROPOSED VICTORY AVENUE

EXISTING MUSEUM WAY

PROPOSED MUSEUM WAY

PROPOSED HOUSTON STREET

NOTE 1:
DUE TO VARYING TRACK SPACING WITHIN CURVING DOUBLE TRACK ALIGNMENTS, THE CURVING MUSEUM WAY MIGHT WIDE AT CURVING HOUSTON STREET. HOUSTON STREET WILL COORDINATE WITH A PAIN DUE TO VARYING CURVING SPACING AND CURVING THE LIMITS OF CURVE BEYOND THE EXISTING CURB.

NOTE 1:
EXISTING CURB TO REMAIN.

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NOTE 1:
EXISTING CURB TO REMAIN.
PROPOSED BROOM STREET
SHOWING SECTION W/ WALL

PROPOSED BROOM STREET
SHOWING SECTION W/O WALL

BROOM STREET RAMP
PROPOSED PACIFIC AVENUE
EAST OF N. CESAR CHAVEZ BLVD.

PROPOSED N. CESAR CHAVEZ BLVD.
SOUTH OF PACIFIC AVENUE

PROPOSED PACIFIC AVENUE
WEST OF N. CESAR CHAVEZ BLVD.

PROPOSED N. CESAR CHAVEZ BLVD.
NORTH OF PACIFIC AVENUE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION 6.2.2
STREET MODIFICATIONS
TYPICAL SECTIONS
SHEET 8 OF 11

JENN MA
JENN-HWAN MA, P.E.

IN-PROGRESS
NOT FOR CONSTRUCTION
PRELIMINARY 30% DESIGN
PROPOSED N. GOOD LATIMER EXPY (NB)

PROPOSED N. GOOD LATIMER EXPY (SB)
SHOWING SECTION W/ PARKING LANE

PROPOSED N. GOOD LATIMER EXPY (SB)
SHOWING SECTION W/O PARKING LANE

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS
CIVIL ASSOCIATES INC.
9300 LBJ Freeway, Ste 1150
Dallas, Texas 75243

DIANA FARRAN

TYPICAL SECTIONS
LINE SECTION CBD-2
SHEET MODIFICATIONS
TYPICAL SECTIONS
SHEET 10 OF 11

LIGHT RAIL TRANSIT SYSTEM
CONTRACT SHEET No. 103 OF 208
NOTES:

1. See DWG No. CC6-0016 for proposed typical sections.
2. Broom Street to have gates and flashers and possible future evaluation of low clearance crossing.
3. Gates and flashers at Broom Street crossing will be installed in later phase.
4. See DWG No. CC6-0050 for parking lot modification.
5. Coordination with City for future evaluation of potential Broom connection to Continental.

LEGEND

- STREET/ALLEY/DRIVE RECONSTRUCTION
- PEDESTRIAN CROSSING
- PROPOSED SIDEWALK
- PROPOSED ROW
- PROPOSED ROW
- PROPOSED RETAINING WALL
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED FENCE
- SIGNAL
- TPSS

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

DART PROJECT
LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBS-02
STREET MODIFICATION PLAN
SB FRONTAGE ROAD (BROOM STREET)
OLD GRIFFIN STREET EXTENSION
LAWS STREET EXTENSION

JENN-HWAN MA, P.E. NO. 83964

CIVIL ASSOCIATES, INC.
ON 10/30/2020

BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,
MAINTAINED BY OTHERS.
PATH CONSTRUCTED BY DART,
MAINTAINED BY OTHERS.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
STREET MODIFICATION PLAN
AKARD STREET

NOTE:
1. USE Dwg N. CC6-0031 FOR PROPOSED TYPICAL SECTIONS:
   AKARD STREET

2. SIGNS & PAVEMENT MARKING ARE REQUIRED AT COMMERCE STREET PRIOR TO APPROACH AKARD STREET TO REDUCE TRAVEL LANES

3. COORDINATE WITH CITY OVERALL ALONG COMMERCE FOR OTHER IMPROVEMENTS IN PROGRESS OR PLANNED.

LEGEND
- STREET REALIGNMENT/RECONSTRUCTION
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243

TBPE FIRM NO. F-6981

JENN-HWAN MA, P.E. NO. 83964

ON 10/30/2020

1. SEE DWG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
   - Schwe Avenue
   - Paciﬁc Avenue/Gaston Avenue
   - Hawkins Street, N. Good Latimer Expwy (SB) at
     Gaston Avenue to become one-way westbound
   - See DwG No. CC6-0025 for Proposed Typical Sections:

2. **SEE DWG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:**

3. **See DwG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:**

   1. See DwG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
      - Schwe Avenue, and N. Good Latimer Expwy (NB) at
        Gaston Avenue to have gates and ﬂashers
   2. See DwG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
      - Schwe Avenue, and N. Good Latimer Expwy (NB) at
        Gaston Avenue to have gates and ﬂashers
   3. See DwG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:
      - Schwe Avenue, and N. Good Latimer Expwy (NB) at
        Gaston Avenue to have gates and ﬂashers
   4. See DwG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:
      - Schwe Avenue, and N. Good Latimer Expwy (NB) at
        Gaston Avenue to have gates and ﬂashers

5. Final Designer to coordinate with track group
   to determine if crosswalks are feasible between end
   post and centerline points of diamond crossing.

LEGEND

- STREET/ALLEY/DRIVE RECONSTRUCTION

NOTES:

1. See DwG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
   - Schwe Avenue
   - Paciﬁc Avenue/Gaston Avenue
   - Hawkins Street, N. Good Latimer Expwy (SB) at
     Gaston Avenue to become one-way westbound

2. See DwG No. CC6-0024 FOR PROPOSED TYPICAL SECTIONS:
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3. See DwG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:
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4. See DwG No. CC6-0025 FOR PROPOSED TYPICAL SECTIONS:
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LEGEND

- STREET/ALLEY/DRIVE RECONSTRUCTION

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- STREET/ALLEY/DRIVE RECONSTRUCTION

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5. Final Designer to coordinate with track group
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   post and centerline points of diamond crossing.

LEGEND

- STREET/ALLEY/DRIVE RECONSTRUCTION
WHERE:
c. SHIELD PRECAST SEGMENT LINER: ASTM A572 GRADE 60 Fy=60,000 PSI.
a. PLATES AND BARS: ASTM A36 AND A501 Fy = 36,000 PSI.

G. STRUCTURAL STEEL:
F. WELDED WIRE FABRIC: ASTM A1064.
E. REINFORCING STEEL:
b. SMOOTHING LAYER f'c=5000 PSI.
a. SHOTCRETE - STEEL FIBER REINFORCED f'c=5000 PSI.

B. SHOTCRETE f'c=5000 PSI.
b. FOR TUNNEL FINAL LINING f'c=5000 PSI.

d. SEISMIC LOADS: REFER TO DART DESIGN CRITERIA MANUAL, SECTION 10.3.
a. RAPID TRANSIT VEHICLE PER DART DESIGN CRITERIA MANUAL

B. LIVE LOADS:
e. HYDROSTATIC PRESSURE: GROUNDWATER TABLE SHOWN IN GEOTECHNICAL PROFILE.

d. CONCRETE = 150 PCF
a. MATERIALS: ACTUAL UNIT WEIGHT

A. DEAD LOADS:
I. GEOTECHNICAL DESIGN MEMORANDUM (GDM)
TESTING AND MATERIALS, (ASTM).
H. “2017 ANNUAL BOOK OF ASTM STANDARDS” OF THE AMERICAN SOCIETY FOR
F. ACI COLLECTION OF CODES, SPECIFICATIONS AND PRACTICES (2017 OR LATEST RELEASE).
G. SCALES NOTED ON THE DRAWINGS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS.
TUNNEL MONITORING, ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING, AND CIVIL
E. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE
D. REINFORCEMENT DETAILING, BAR SUPPORT, SPACERS, AND ACCESSORIES SHALL BE IN
C. THE MINIMUM LAP SPLICE AND EMBEDMENT LENGTHS SHALL BE ACCORDING TO ACI 318.

6. SHOTCRETE AND CAST-IN-PLACE CONCRETE:
I. TRANSVERSE CONSTRUCTION JOINTS AT DIFFERENT LOCATIONS OR IN ADDITION TO THOSE
AT ENDS WILL BE PERMITTED ONLY WITH THE WRITTEN ACCEPTANCE OF THE ENGINEER.

THE WATERSTOPS.

G. ALL CONDUITS IN THE EXTERIOR WALLS AND SLABS SHALL BE ROUTED ON THE DRY SIDE OF
WATERSTOPS IN ALL EXTERIOR WALLS AND SLABS AT ALL CONSTRUCTION AND CONTRACTION
JOINTS AS SHOWN ON DRAWINGS. ORIENTATION OF THE CONSTRUCTION AND CONTRACTION
THE RAIL GRADE.

IN TUNNELS AND CUT-AND-COVER BOXES, WHERE THE JOINTS SHALL BE PERPENDICULAR TO
EXISTING BUILDING FOUNDATIONS.
C. EXCAVATION FOR UNDERPINNING SHALL BE STAGED AS NECESSARY TO LIMIT THE IMPACT ON

EXISITNG STRUCTURES AND UTILITIES, SHALL CONFORM TO DART SPECIFICATIONS SECTION
10. UNDERPINNING AND STATIONS.
A. FOR WATERPROOFING OF CUT-AND-COVER TUNNELS, STATIONS, ENTRANCE AND VENTILATION
MINING TOLERANCES AND THICKNESS OF WATERPROOFING SYSTEM.

JOINTS AS SHOWN ON DRAWINGS. ORIENTATION OF THE CONSTRUCTION AND CONTRACTION
THE WATERSTOPS.

B. UNLESS NOTED OTHERWISE, ROUGHEN OR KEY ALL CONSTRUCTION AND CONTRACTION
THE RAIL GRADE.

IN TUNNELS AND CROSS PASSAGES WHERE THE JOINTS SHALL BE PERPENDICULAR TO
EXISTING BUILDING FOUNDATIONS.
C. EXCAVATION FOR UNDERPINNING SHALL BE STAGED AS NECESSARY TO LIMIT THE IMPACT ON

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JOINTS AS SHOWN ON DRAWINGS. ORIENTATION OF THE CONSTRUCTION AND CONTRACTION
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IN TUNNELS AND CROSS PASSAGES WHERE THE JOINTS SHALL BE PERPENDICULAR TO
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C. EXCAVATION FOR UNDERPINNING SHALL BE STAGED AS NECESSARY TO LIMIT THE IMPACT ON
### Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
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<td>ART</td>
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### Legend

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<td>Waterproofing Underground</td>
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### Section Designation Letters

- DRAFT
- SECTION
- SECTION DESIGNATION
- LETTER
- SECTION NUMBER
- SECTION NUMBER ON WHICH DRAFT IS IDENTIFIED
- SECTION NUMBER ON WHICH DETAIL IS IDENTIFIED

### Detail Designation Letters

- DRAFT
- SECTION
- SECTION NUMBER
- DETAIL NUMBER
- DETAIL NUMBER ON WHICH DETAIL IS IDENTIFIED

### Not for Construction

Not for construction. An approved drawing is required for construction.
TBM RUNNING TUNNEL WITH PRECAST SEGMENTAL LINER

TYPICAL SECTION - OPTION 1
WESTBOUND TUNNEL AS SHOWN
EASTBOUND TUNNEL OPP HAND

TBM RUNNING TUNNEL WITH CAST-IN-PLACE CONCRETE LINER

TYPICAL SECTION - OPTION 2
EASTBOUND TUNNEL AS SHOWN
WESTBOUND TUNNEL OPP HAND

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. DYNAMIC ENVELOPES SHOWN ARE FOR CURVED TRACK, R=300', WITH SUPERELEVATION 1.5".
4. MINIMUM CLEARANCE BETWEEN TOP OF RAIL AND BOTTOM OF Catenary Cable SHALL BE 14-FEET.
5. SYMBOLS, SYMBOLIC EQUIPMENT, PIPE AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE PRELIMINARY AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.
SEM RUNNING TUNNEL TYPICAL SECTION - OPTION 3

EASTBOUND TUNNEL AS SHOWN
WESTBOUND TUNNEL OPP HAND

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING NO. GC3-0002.
3. DYNAMIC ENVELOPE SHOWN IS FOR CURVED TRACK, 61'-0" RADIUS, SUPERELEVATION 1.5%.
4. MINIMUM CLEARANCE BETWEEN TOP OF RAIL AND BOTTOM OF CATENARY CABLE SHALL BE 14 FEET.
5. SOURCES, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE INCORRECT AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.
TWIN BORE RUNNING TUNNEL TYPICAL SECTION

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. SYMBOLS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THIS CROSS-SECTION ARE FOR ILLUSTRATION ONLY, SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.
4. TUNNEL ROW AND KEYSIZE OF PILLAR BETWEEN DETAILS.
5. TYPICAL SECTION SHOWN FOR TBM TUNNEL WITH THE TUNNEL BORES TO BE FURTHER INVESTIGATED.
6. TUNNEL ROW AND ADEQUACY OF PILLAR BETWEEN DETAILS.
7. SEE RELEVANT DISCIPLINE DRAWINGS FOR FACILITIES SHOWN ON THIS CROSS-SECTION ARE INCOMPLETE AND FOR ILLUSTRATION ONLY.

NOTES:

1. TBM RUNNING TUNNEL - TWIN BORE TYPICAL SECTION
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

CROSS PASSAGE WITH GROUND SUPPORT - SECTION 1

CROSS PASSAGE IN ROCK CLASS I - SECTION 2

CROSS PASSAGE IN ROCK CLASS I - SECTION 3

FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.

FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.

1. FOR ROCK CLASS DEFINITIONS, SEE GEOTECHNICAL SPECIFIC INFORMATION.

NOTES:

3. ALL INITIAL AND FINAL SUPPORTS SHOWN ON THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION PURPOSES ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.

4. FOR ROCK CLASS DEFINITIONS, SEE GEOTECHNICAL DESIGN MEMORANDUM 3 (GDM 3).

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.

2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.

3. ALL INITIAL AND FINAL SUPPORTS SHOWN ON THIS DRAWING ARE PRELIMINARY, FOR ILLUSTRATION PURPOSES ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.

4. FOR ROCK CLASS DEFINITIONS, SEE GEOTECHNICAL DESIGN MEMORANDUM 3 (GDM 3).
**Lateral Pressures Due to Weight of Soil and Water**

<table>
<thead>
<tr>
<th>Location</th>
<th>( z )</th>
<th>( y )</th>
<th>( P' )</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>3</td>
<td>100</td>
<td>100</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Additional Lateral Pressure Due to Surcharge Loads**

1. For structural general notes, see drawing No. GC3-0001.
2. For structural symbols and abbreviations, see drawing No. GC3-0002.
3. For notes concerning loading diagram on load sheet, see structural drawings.
4. Adjusting lateral pressure due to surcharge loads based on DART design criteria manual.
5. Apply lateral pressure due to surcharge to new conditions and non-existent sections.

**Definition of Symbols:**

- \( GWT \): Ground water table
- \( P \): Design of retaining structure (PSF)
- \( W \): Footing load or line load
- \( B' \): Distance from retaining structure to retaining structure (FT)
- \( P' \): Lateral pressure due to surcharge (PSF)
- \( P'_{s} \): Lateral pressure due to endwall (PSF)
- \( P'_{t} \): Lateral pressure due to top wall (PSF)

**Notes:**

1. The lateral pressure due to surcharge is based on DART design criteria.
2. Additional lateral pressure due to surcharge based on DART design criteria manual.
3. Apply lateral pressure due to surcharge to new conditions and non-existent sections.

---

**Additional Traffic and Construction Equipment Loads Where Applicable:**

- Traffic and construction equipment loads are based on DART design criteria manual.
- Additional lateral pressure due to surcharge based on DART design criteria manual.
- Apply lateral pressure due to surcharge to new conditions and non-existent sections.
CROSS-SECTION AT COMMERCE STREET
LOOKING EAST
Scale: 1'-0"
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. 055-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. 055-0002.
3. ALL INITIAL AND FINAL SUPPORTS SHOWN IN DRAFT DRAWINGS ARE PRELIMINARY. FOR ILLUSTRATION PURPOSES ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. FOR EXCAVATION SEQUENCES, SEE DRAWING No. 055-0021.
5. STATION PLATFORM LIMITS ARE FROM CBD-2 EB STA 72+00.0 TO CBD-2 EB STA 74+66.1. (NOT AN APPROVED DRAWING)

COMMERCE STATION - SEM SECTION FROM CBD-2 EB STA 72+00.0 TO CBD-2 EB STA 74+66.1

HNTB Corporation

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STREET STATION
SECTION STA 72+00.0 TO STA 74+66.1

TBPE Firm Registration No. F-420
Engineers Architects Planners
The HNTB Companies

pw://pwhdruscen01:HDR_US_Central_01/Documents/Dallas_Area_Rapid_Transit_DART_Dallas_TX/DART_General_Planning_CS_VI/6.0_CAD...ARCH TUNNEL SECTION - OPTION 4 - 26FT10IN

EXCAVATION LINE
THEORETICAL STATION
INVERT SLAB
REINFORCED CONCRETE
CONCRETE TRACK SLAB
REINFORCED
1'-0"
36'-2"
1'-0"
19'-7"
6'-2"
2'-0"
2'-0"
15'-4"
13'-5"
13'-3"
13'-5"
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

COMMERCE STATION - SEM SECTION
FROM CBD-2 EB STA 68+05.0 TO CBD-2 EB STA 72+00.0 AND
FROM CBD-2 EB STA 74+66.1 TO CBD-2 EB STA 75+26.1

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING
   No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE
   DRAWING No. GC3-0002.
3. ALL INITIAL AND FINAL SUPPORTS SHOWN IN DRAWINGS ARE PRELIMINARY, FOR ILLUSTRATION
   PURPOSE ONLY, AND ARE TO BE CONFIRMED BASED ON SITE-SPECIFIC INFORMATION.
4. FOR EXCAVATION SEQUENCES, SEE DRAWING
   No. GC3-0001.
5. STATION PLATFORM LIMITS ARE FROM CBD-2 EB STA 68+05 TO CBD-2 EB STA 74+66.1.

IN-PROGRESS DRAWING IS RELEASED
SUBSURFACE INVESTIGATIONS
CONFIRMED UPON COMPLETION OF
IT SHALL BE UPDATED AND
PRELIMINARY DESIGN
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

SCALE: "1'-0"

DRAFT FOR REVIEW UNDER THE AUTHORITY OF:
Running Tunnel and Commerce Station Cavern Initial Support - Typical Sections

NOTES:
1. For structural general notes, see drawing No. GC3-0001.
2. For structural symbols and abbreviations, see drawing No. GC3-0002.
3. All initial supports shown in this drawing are preliminary, for illustration only, and are subject to change based on site-specific information.
4. For station excavation sequence, see drawing No. GC3-0003.

SCALE: 1" = 1'-0"

1. For structural general notes, see drawing No. GC3-0001.
2. For structural symbols and abbreviations, see drawing No. GC3-0002.
3. All initial supports shown in this drawing are preliminary, for illustration only, and are subject to change based on site-specific information.
4. For station excavation sequence, see drawing No. GC3-0003.
**Pre-Construction Condition**

**Stage 1**  
TBM Mining

1. Excavate right side drift.  
2. Install rock bolts.  
3. Install initial liner.  
4. Install permanent wall if necessary.

**Stage 2**  
First Side Drift Excavation and Support

1. Excavate left side drift.  
2. Install rock bolts.  
3. Install initial liner.  
4. Install permanent wall if necessary.

**Stage 3**  
Second Side Drift Excavation and Support

1. Excavate center side drift.  
2. Install rock bolts.  
3. Complete installation of initial liner.  
4. Install permanent wall if necessary.

**Stage 4**  
Center Drift Excavation and Support

1. Excavate center side drift.  
2. Complete installation of initial liner.  
3. Install permanent wall if necessary.
CUT-AND-COVER TUNNEL DIMENSIONS

<table>
<thead>
<tr>
<th>PORTAL LOCATION</th>
<th>TYPE</th>
<th>STATION LIMITS</th>
<th>TRACK SPACING (FT)</th>
<th>MINIMUM/OVERALL WEIGHT (H)</th>
<th>INVERT THICKNESS (FT)</th>
<th>ROOF THICKNESS (FT)</th>
<th>WALL THICKNESSES (IN)</th>
<th>OVERALL WIDTH (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST A</td>
<td>40-50.00</td>
<td>45-07.00</td>
<td>15'-0&quot; to 21'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>N/A</td>
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<tr>
<td>WEST B</td>
<td>45-07.00</td>
<td>46-05.00</td>
<td>21'-0&quot; to 28'-11&quot;</td>
<td>25'-4&quot;</td>
<td>3'-3&quot;</td>
<td>3'-0&quot;</td>
<td>1'-6&quot;</td>
<td>44'-6&quot; to 52'-7&quot;</td>
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<tr>
<td>WEST C</td>
<td>46-05.00</td>
<td>49-26.18</td>
<td>28'-11&quot; to 40'-0&quot;</td>
<td>25'-9&quot;</td>
<td>3'-6&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>52'-7&quot; to 63'-8&quot;</td>
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<tr>
<td>EAST B</td>
<td>80-29.81</td>
<td>92-25.60</td>
<td>36'-2&quot; to 45'-0&quot;</td>
<td>25'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>50'-10&quot; to 68'-4&quot;</td>
</tr>
<tr>
<td>EAST A</td>
<td>9835.00</td>
<td>1001+27.00</td>
<td>45'-0&quot; to 52'-11&quot;</td>
<td>24'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>1'-6&quot;</td>
<td>68'-0&quot; to 84'-8&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING NO. GC3-0001.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. SIGNALS, SYSTEMS EQUIPMENT, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.
5. OVERALL HEIGHT (H) TO BE INCREASED AS NECESSARY. IF REQUIRES THE INSTALLATION OF JET FANS.

WEST PORTAL: STA 41+50.00 TO STA 45+07.00
EAST PORTAL: STA 101+27.00 TO STA 101+55.23

CUT-AND-COVER TUNNEL TYPE A (SECTION LOOKING WEST)
CUT-AND-COVER TUNNEL DIMENSIONS

<table>
<thead>
<tr>
<th>PORTAL LOCATION</th>
<th>TYPE</th>
<th>STATION LIMITS</th>
<th>TRACK SPACING (FT)</th>
<th>MINIMUM OVERALL HEIGHT (FT)</th>
<th>INVERT THICKNESS (IN)</th>
<th>ROOF THICKNESS (IN)</th>
<th>WALL THICKNESSES (IN)</th>
<th>OVERALL WIDTH (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST A</td>
<td></td>
<td>45+00.00</td>
<td>15'-0&quot; to 21'-0&quot;</td>
<td>25'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-6&quot;</td>
<td>3'-0&quot;</td>
</tr>
<tr>
<td>WEST B</td>
<td></td>
<td>46+00.00</td>
<td>21'-0&quot; to 28'-11&quot;</td>
<td>25'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>1'-6&quot;</td>
<td>4'-0&quot;</td>
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<tr>
<td>WEST C</td>
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<td>46+50.00</td>
<td>28'-11&quot; to 40'-6&quot;</td>
<td>25'-9&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>5'-2&quot;</td>
</tr>
<tr>
<td>EAST A</td>
<td></td>
<td>86+29.81</td>
<td>36'-2&quot; to 45'-0&quot;</td>
<td>25'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>5'-10&quot;</td>
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<tr>
<td>EAST B</td>
<td></td>
<td>93+13.09</td>
<td>45'-0&quot; to 51'-11&quot;</td>
<td>24'-6&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6'-8&quot;</td>
</tr>
</tbody>
</table>

WEST PORTAL: STA 45+07.00 TO STA 46+50.00 (SECTION LOOKING WEST)
EAST PORTAL: STA 86+29.81 TO STA 93+13.09 (SECTION LOOKING EAST)
EAST PORTAL: STA 98+05.17 TO STA 101+65.00 (SECTION LOOKING WEST)

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. SC8-001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0001.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. OVERALL HEIGHT (H) TO BE INCREASED AS NEEDED, IF REQUIRED FOR INSTALLATION OF JET FANS.
5. SMALL, PREFERRED SYMBOLS, RAIL AND FACILITIES SHOWN ON UNDERGROUND CROSS-SECTIONS ARE FOR ILLUSTRATION ONLY, SEE RELEVANT SITE DRAWINGS FOR DETAILS.
CUT-AND-COVER TUNNEL DIMENSIONS

<table>
<thead>
<tr>
<th>PORTAL LOCATION</th>
<th>TYPE</th>
<th>START</th>
<th>END STATION</th>
<th>TRIPLE SPACING (FT)</th>
<th>MINIMUM OVERALL WEIGHT (LBS)</th>
<th>INVERT THICKNESS (IN)</th>
<th>ROOF THICKNESS (IN)</th>
<th>WALL THICKNESSES (IN)</th>
<th>INTERIOR (W/12 IN)</th>
<th>EXTERIOR (W/12 IN)</th>
<th>OVERALL WIDTH (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST A</td>
<td>45</td>
<td>40+00</td>
<td>40+00</td>
<td>15'-6&quot; TO 21'-0&quot;</td>
<td>25'0&quot;</td>
<td>3'0&quot;</td>
<td>3'6&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>N/A</td>
<td>38'-0&quot;</td>
</tr>
<tr>
<td>WEST B</td>
<td>45</td>
<td>40+00</td>
<td>40+00</td>
<td>21'-0&quot; TO 28'-11&quot;</td>
<td>25'6&quot;</td>
<td>3'6&quot;</td>
<td>3'0&quot;</td>
<td>1'-6&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>46'-0&quot;</td>
</tr>
<tr>
<td>WEST C</td>
<td>45</td>
<td>40+00</td>
<td>40+00</td>
<td>28'-11&quot; TO 40'-0&quot;</td>
<td>25'9&quot;</td>
<td>3'9&quot;</td>
<td>3'9&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>52'-0&quot;</td>
</tr>
<tr>
<td>EAST B</td>
<td>80</td>
<td>92+25</td>
<td>92+25</td>
<td>36'-2&quot; TO 45'-0&quot;</td>
<td>25'9&quot;</td>
<td>3'9&quot;</td>
<td>3'9&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>59'-0&quot;</td>
</tr>
<tr>
<td>EAST C</td>
<td>80</td>
<td>92+25</td>
<td>92+25</td>
<td>45'-0&quot; TO 21'-0&quot;</td>
<td>24'6&quot;</td>
<td>3'6&quot;</td>
<td>3'0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>2'-0&quot;</td>
<td>66'-0&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING DWG No. GC3-0002.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING DWG No. GC3-0001.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. OVERALL HEIGHT (H) TO BE INCREASED AS NECESSARY, IF REQUIRED FOR INSTALLATION OF JET FANS.
5. WATER STOP AT CJ (TYP) 10" X 8" TRENCH DRAIN

SCALE: NTS
CUT-AND-COVER TUNNEL TYPE C (SECTION LOOKING WEST)

WEST PORTAL: STA 46+50.00 TO STA 49+26.58

DRAFT
CONCEPTUAL DESIGN DRAWING
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
PRELIMINARY DESIGN

DRAFT
CONCEPTUAL DESIGN DRAWING
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
PRELIMINARY DESIGN

DRAFT
CONCEPTUAL DESIGN DRAWING
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
PRELIMINARY DESIGN
U-WALL CROSS-SECTION
EGRESS WALKWAYS AT OUTSIDE OF TRACKWAY

SCALE: 1" = 1'-0"

NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE END No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS CROSS-SECTION.
4. SYSTEMS, RAIL AND FACILITIES SHOWN ON THESE CROSS-SECTIONS ARE CONCEPTUAL AND FOR ILLUSTRATION ONLY. SEE RELEVANT DISCIPLINE DRAWINGS FOR DETAILS.

U-WALL DIMENSIONS

<table>
<thead>
<tr>
<th>STRUCTURE</th>
<th>STATION LIMITS</th>
<th>MAXIMUM DESIGN HEIGHT (ft)</th>
<th>INVERT SLAB THICKNESS (ft)</th>
<th>WALL THICKNESS (ft)</th>
<th>STRUCTURE WIDTH (ft)</th>
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<tbody>
<tr>
<td>WEST PORTAL</td>
<td>35+29.77</td>
<td>12'-0&quot;</td>
<td>7'-6&quot;</td>
<td>1'-6&quot;</td>
<td>37'-6&quot;</td>
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<tr>
<td>WEST PORTAL</td>
<td>38+50.00</td>
<td>18'-0&quot;</td>
<td>3'-0&quot;</td>
<td>2'-6&quot;</td>
<td>35'-10&quot;</td>
</tr>
<tr>
<td>WEST PORTAL</td>
<td>40+10.00</td>
<td>26'-0&quot;</td>
<td>3'-3&quot;</td>
<td>2'-6&quot;</td>
<td>41'-0&quot;</td>
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<tr>
<td>EAST PORTAL</td>
<td>104+49.22</td>
<td>12'-0&quot;</td>
<td>2'-6&quot;</td>
<td>1'-6&quot;</td>
<td>37'-6&quot;</td>
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

DRAFT
CONSTRUCTION DRAWINGS PENDINO
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
EAST/WEST PORTAL SECTION U-WALL

HNTB Corporation
Light Rail Transit System
Line Section CBD-2
East/West Portal Section U-Wall

HNTB Corporation
5600 West Loop South
San Antonio, TX 78284
(210) 341-4100
www.hntb.com

DART General Planning
General Notes

2'-5" ENVELOPE (TYP)
189          288

1'-3" MAX FINISHED GRADE

5'-8" 4'-4" 5'-7" 5'-8" 3'-10" 5'-0" 3'-10" WT

4'-8"

HCR WATERSTOP AT CJ (TYP)

HCR MEMBRANE

TOP OF U-WALL

TOP OF RAIL

1'-3"

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TOP OF TUNNEL

TOP OF U-WALL

6'-0"

FENCE

6'-0"

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1'-3"

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NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. SC6-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

PLATFORM LEVEL PLAN A

LIMIT OF C/C TUNNEL, SEE DRAWING NO. SC6-2101

DRAWING SHEET NO. SC6-2102

MATCHLINE SEE DWG NO. SC6-2105

MATCHLINE SEE DWG NO. SC6-2105

MATCHLINE

NOT A FINAL DRAWING
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

METRO CENTER STATION
PLATFORM LEVEL PLAN
SHEET 1 OF 8

SCALE 1'-0" = 8'-0"

TYPICAL TRACK - WITH FILL CONCRETE INVERT SLAB

STA 49+26.58 TO 28'-6"

STA 50+00.00 TO 26'-1"

17'-6" TO 26'-0"

LIMIT OF PLATFORM

1'-0" TO 1'-6"

2'-11" TO 2'-11"

3'-0" TO 3'-0"

4'-8" TO 4'-8"

6'-0" TO 6'-0"

9'-0" TO 9'-0"

13'-10" TO 13'-10"

15'-2" TO 15'-2"

17'-6" TO 17'-6"

20'-0" TO 20'-0"

20'-0" TO 20'-0"

22'-9" TO 22'-9"

26'-6" TO 26'-6"

28'-6" TO 28'-6"

29'-0" TO 29'-0"

190 TO 190

288 TO 288

6'-4" TO 6'-4"

1'-6" TO 1'-6"

6'-0" TO 6'-0"

MATCHLINE SEE DWG NO. SC6-2105

190 TO 288

6'-4" TO 6'-4"

1'-6" TO 1'-6"

6'-0" TO 6'-0"

MATCHLINE SEE DWG NO. SC6-2105

190 TO 288

6'-4" TO 6'-4"

1'-6" TO 1'-6"

6'-0" TO 6'-0"

MATCHLINE SEE DWG NO. SC6-2105

190 TO 288

6'-4" TO 6'-4"

1'-6" TO 1'-6"

6'-0" TO 6'-0"
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

MATCHLINE
SEE DWG No. SC6-2105

PLATFORM LEVEL PLAN B
SCALE: =1'-0"

MATCHLINE
SEE DWG No. SC6-2101

NOTES:
1. FOR STRUCTURAL, GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ELEVATOR AND ESCALATOR PITS TO BE 5'-0" DEEP.

DRAFT CONCEPTUAL DESIGN DRAWING
MULTICATLY INPUTS AND TRANSPORTATION SIMULATION DATA
AND ADDITIONAL SITE SPECIFIC DATA

191          288
191          288

MATCHLINE
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ESCALATOR PIT TO BE 5'-0" DEEP.

SUPPORT STRUCTURAL SHEET METALS FOR METAL BEAMS:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ESCALATOR PIT TO BE 5'-0" DEEP.

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ESCALATOR PIT TO BE 5'-0" DEEP.

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ESCALATOR PIT TO BE 5'-0" DEEP.
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. SC6-2101.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING NO. SC6-2102.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

MATCHLINE
SEE DWG No. SC6-2101
MATCHLINE
SEE DWG No. SC6-2102
MATCHLINE
SEE DWG No. SC6-2106

PLATFORM LEVEL PLAN E
SCALE: "=1'-0"

SHEET 5 OF 8
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

MATCHLINE
SEE DWG No. SC6-2205
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DRAWING No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. ELEVATOR PIT TO BE 5'-0" DEEP.
MEZZANINE LEVEL PLAN D

NOTES:
1. FOR STRUCTURAL, GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE Dwg No. SC6-G2.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE Dwg NO. SC6-G2.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
NOTES:
1. FOR STRUCTURAL, GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. TEAR TO WALL AND TEAR TO WALL HANCHES 1'-6" X 1'-6" TO SCALE.

FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.

FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.

1. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
2. TEAR TO WALL AND TEAR TO WALL HANCHES 1'-6" X 1'-6" TO SCALE.

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN
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SECURITY
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. SC6-2401.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SEE DWG No. SC6-2402.

NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

NOT FOR CONSTRUCTION

REVISION HISTORY:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. SC6-2401.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. SEE DWG No. SC6-2402.
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.
3. SUPPORTS OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF CONSTRUCTION OF EXISTING BUILDING.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION SEQUENCE AND AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS ACTION Q13 "SUBSURFACE SUPPORT AND RESTORATION OF STRUCTURES ADJACENT TO UNDERGROUND CONSTRUCTION" TO MITIGATE載荷 모멘트 AND PREVENT ANY REVERSAL OF STRUCTURES THAT WOULD EXCEED ALLOWABLE LIMIT.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDING, ENSURE THAT THE INSTALLATION OF THE EXCAVATION SUPPORT SYSTEM DOES NOT INFRINGE UNNECESSARILY ON THE EXISTING STRUCTURES HARMING EXISTING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN THESE MATERIALS ARE REACHED.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
6. MEASURES FOR RESISTANCE TO FLOATATION MAY BE OBTAINED IF ALTERNATIVE MEASURES TO RESIST FLOATATION ARE NEEDED.

NOT FOR CONSTRUCTION NOT AN APPROVED DRAWING PRELIMINARY DESIGN

SCALE: "=1'-0"

NOTES:

- DESCRIPTOR B W T H I T E S I D E
- TBPE FIRM NO. F-420
- HNTB CORPORATION
- ON 10/30/2020
- CHARLES A. STONE, P.E. NO. 133866
- DRAFT FOR REVIEW UNDER THE AUTHORITY OF:

- THIS IN-PROGRESS DRAWING IS RELEASED SUBSURFACE INVESTIGATIONS CONFIRMED UPON COMPLETION OF IT SHALL BE UPDATED AND

- PRELIMINARY DESIGN NOT AN APPROVED DRAWING NOT FOR CONSTRUCTION
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. SC6-3101.
3. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. REFER TO EXCAVATION FOR HEADHOUSE CONSTRUCTION.
5. (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD INVESTIGATIONS THE TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING.
6. (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN EXCAVATION PLAN AND AN EXCAVATION SEQUENCE IN ACCORDANCE WITH DART SPECIFICATIONS SECTION 02151 "EXCAVATION, SUPPORT AND RESTORATION OF STRUCTURES ADJACENT TO UNDERGROUND CONSTRUCTION" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
7. (C) BASED ON THE CONDITION OF THE EXISTING BUILDING, STRENGTHS AND DEPTH OF EXCAVATION, CONSTRUCTION OF HEADHOUSE STRUCTURE. CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
8. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
9. CONSTRUCTION OF HEADHOUSE STRUCTURE FOR THE EXISTING BUILDING.
10. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDING AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
11. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
12. EXISTING BUILDING AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
13. SUPPORT OF EXCAVATION NOT SHOWN IN THIS PLAN.
14. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDING AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN this PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION OF EXISTING BUILDINGS.
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOTECHNICAL INFORMATION FROM GDM, DEVELOP AN INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
   (C) BASED ON THE CONDITIONS OF THE EXISTING BUILDINGS, ESTABLISH AND IMPLEMENT AN UNDERPINNING DESIGN IN ACCORDANCE WITH DART SPECIFICATIONS ACTION QTS "UNDERPINNING, SUPPORT AND RESTORATION OF STRUCTURES ADJACENT TO UNDERGROUND CONSTRUCTION" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.
   (D) SUPPORT OF EXCAVATION NOT SHOWN IN this PLAN.
5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN THRESHOLDS ARE REACHED.

5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN THRESHOLDS ARE REACHED.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY DESIGN

DRAFT
CONCEPTUAL DESIGN
SPOCILITY STUDIES AND TRANSFORMATION SIMULATION STUDIES.
AND ADDITIONAL SITE SPECIFIC DATA

.valueOf()
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.

2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.

3. SUPPORT OF EXCAVATION NOT SHOWN IN DWG No. GC3-0002.

5. PRIOR TO EXCAVATION FOR MEANINGLESS CONSTRUCTION:
(a) Determine from as-built drawings and field surveys the type of construction and depth of foundations of existing buildings.
(b) Share on information on existing buildings and geotechnical information with the contractor.
(c) Develop an excavation sequence and an undraining plan in accordance with the specifications of the design.
(d) Undermining, support and restoration of structures adjacent to underground construction to maintain ground movements and building displacement that will exceed allowable limits.
(e) Review on the conditions of the existing building, existing and existing information on building movement and the structure. To record the existing building during excavation and to determine appropriate action to be taken when movement is detected.
(f) Construction shall provide appropriate measures to protect exposed side of existing buildings and facilities from damage that may occur during excavation, construction and backfilling for the structural and building structure.

6. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE MEANINGLESS STRUCTURE.

3. SUPPORT OF EXCAVATION NOT SHOWN IN DWG No. GC3-0002.

5. PRIOR TO EXCAVATION FOR MEANINGLESS CONSTRUCTION:
(a) Determine from as-built drawings and field surveys the type of construction and depth of foundations of existing buildings.
(b) Share on information on existing buildings and geotechnical information with the contractor.
(c) Develop an excavation sequence and an undraining plan in accordance with the specifications of the design.
(d) Undermining, support and restoration of structures adjacent to underground construction to maintain ground movements and building displacement that will exceed allowable limits.
(e) Review on the conditions of the existing building, existing and existing information on building movement and the structure. To record the existing building during excavation and to determine appropriate action to be taken when movement is detected.
(f) Construction shall provide appropriate measures to protect exposed side of existing buildings and facilities from damage that may occur during excavation, construction and backfilling for the meaningless structure.

3. SUPPORT OF EXCAVATION NOT SHOWN IN DWG No. GC3-0002.

5. PRIOR TO EXCAVATION FOR MEANINGLESS CONSTRUCTION:
(a) Determine from as-built drawings and field surveys the type of construction and depth of foundations of existing buildings.
(b) Share on information on existing buildings and geotechnical information with the contractor.
(c) Develop an excavation sequence and an undraining plan in accordance with the specifications of the design.
(d) Undermining, support and restoration of structures adjacent to underground construction to maintain ground movements and building displacement that will exceed allowable limits.
(e) Review on the conditions of the existing building, existing and existing information on building movement and the structure. To record the existing building during excavation and to determine appropriate action to be taken when movement is detected.
(f) Construction shall provide appropriate measures to protect exposed side of existing buildings and facilities from damage that may occur during excavation, construction and backfilling for the meaningless structure.
NOTES:
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. GC3-0002.
3. SUPPORT OF EXCAVATION NOT SHOWN IN HOOD.
NOT FOR CONSTRUCTION

Preliminary Design

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

COMMERCE STATION HEADHOUSE
ROOF PLAN

SHEET 3 OF 3

NOT AN APPROVED DRAWING

HNTB

CONCEPTUAL DESIGN SHOWING MULTIPLE LAYOUT OPTIONS AND TRANSPORTATION RELATIONSHIPS AND ADDITIONAL SITE SPECIFIC DATA

SCALE: "=1'-0"

ROOF LEVEL PLAN C

APPROX LIMIT OF EXISTING BUILDING

APPROX LIMIT OF EXISTING BUILDING

APPROX LIMIT OF EXISTING BUILDING

MATCHLINE SEE DWG No. SC6-3501

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING No. SC6-3501.

2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG No. SC6-3501.

3. SURFACE OF EXISTING SUBGRADE NOT SHOWN IN THIS PLAN.

4. PERMUTATIONS FOR NEAREST CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING,
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOLOGY, DEVELOP A CONSTRUCTION PLAN IN ACCORDANCE WITH DART SPECIFICATIONS.

   "CONSTRUCTION AND RESTORATION OF EXISTING BUILDING" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.

5. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING CONSTRUCTION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.

6. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF FOUNDATION OF EXISTING BUILDING,
   (B) BASED ON INFORMATION ON EXISTING BUILDING AND GEOLOGY, DEVELOP A CONSTRUCTION PLAN IN ACCORDANCE WITH DART SPECIFICATIONS.

   "CONSTRUCTION AND RESTORATION OF EXISTING BUILDING" TO MITIGATE GROUND MOVEMENTS AND BUILDING SETTLEMENTS THAT WOULD EXCEED ALLOWABLE LIMIT.

7. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDINGS AND FACILITIES FROM DAMAGE THAT MAY OCCUR DURING CONSTRUCTION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWING NO. GC3-0001.
2. FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS, SEE DWG NO. GC3-0002.
3. SUPPORTS OF EXCAVATION NOT SHOWN IN THIS PLAN.
4. PRIOR TO EXCAVATING FOR HEADHOUSE CONSTRUCTION:
   (A) DETERMINE FROM AS-BUILT DRAWINGS AND FIELD INSTRUMENTATION THE TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION AS SHOWN ON SHEET.
   (B) BASED ON INFORMATION OBTAINED FROM EXISTING BUILDING SURVEYS, DEVELOP INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.
   (C) BASED ON INFORMATION OBTAINED FROM EXISTING BUILDING SURVEYS, DEVELOP INSTRUMENTATION AND MONITORING PLAN TO RECORD THE STRUCTURES BEHAVIOR DURING EXCAVATION AND TO ALERT FOR APPROPRIATE ACTION TO BE TAKEN WHEN PRESET THRESHOLDS ARE REACHED.

5. CONTRACTOR SHALL INTEGRATE AND CONSIDER SURVEYS TYPE OF CONSTRUCTION AND DEPTH OF EXCAVATION AS SHOWN ON SHEET.
6. KEYWAY FOR RESISTANCE TO FLOATATION MAY BE PROVIDED.
7. CONTRACTOR SHALL UNDERTAKE APPROPRIATE MEASURES TO PROTECT EXISTING BUILDING FROM DAMAGE THAT MAY OCCUR DURING EXCAVATION, CONSTRUCTION AND BACKFILLING FOR THE HEADHOUSE STRUCTURE.
8. FOR RESISTANCE TO FLOATATION MAY BE PROVIDED.
9. KEYWAY FOR RESISTANCE TO FLOATATION MAY BE PROVIDED.
A drawing showing the Master Ventilation Schematic Diagram for the Light Rail Transit System. The diagram includes various stations and tracks, with annotations for fire zones, fans, and ventilation shafts. The stations are labeled with their respective names, and the diagram indicates the flow of air and ventilation systems through the subway system. The scale of the drawing is not specified. This is a preliminary design and not for construction.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

DRAINAGE AREA MAP
SHEET 6 OF 13

LEGEND

-- DRAINAGE AREA BOUNDARY

100 YEAR FLOODPLAIN LIMIT

DRAINAGE FLOW

DRAINAGE AREA NUMBER

DRAINAGE AREA IN ACRES

RAIL CENTERLINE

SCALE (IN FEET)

0
20
40
80

SEE DWG No. CC6-0105
MATCH LINE CBD-2 EB STA 55+00.00

SEE DWG No. CC6-0107
MATCH LINE CBD-2 EB STA 65+00.00

1"=40'

ICONIC CONSULTING GROUP, INC.

FOR THE PURPOSE OF REVIEW UNDER THE THIS DOCUMENT IS RELEASED
IN-PROGRESS
PRELIMINARY 30% DESIGN

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
DRAINAGE AREA MAP
SHEET 6 OF 13
### DRAINAGE AREA SUMMARY TABLE

<table>
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<th>DRAINAGE AREA NO.</th>
<th>AREA (ACRES)</th>
<th>RUNOFF COEFF.</th>
<th>Tc (MIN.)</th>
<th>Q (100 YR) (CFS)</th>
<th>COMMENTS</th>
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**NOTES:**
1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS) ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 1993.
2. ALL DRAINAGE AREAS ARE CALCULATED FOR THE 100-YEAR FREQUENCY STORM.
3. ALIGNMENT IS WITHIN THE ZONING DISTRICT: CA-1(A), CENTRAL AREA - I.
4. INTENSITY WERE DETERMINED USING THE RAINFALL INTENSITY DURATION TABLE LOCATED ON PAGE 2 OF THE APPENDIX.
5. RUNOFF COEFFICIENTS ARE TAKEN FROM THE INLET TIMES LOCATED ON PAGE 1 OF THE APPENDIX.

**FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:**
JEFFREY E. BRISCOE, P.E. NO. 99558
ICONIC CONSULTING GROUP, INC.
THIS DOCUMENT IS RELEASED TBPE FIRM NO. F-10715

**DATE** 10/30/2020
**IN CHARGE** J. BRISCOE
**CHECKED** J. TAYLOR
**DESIGNED** K. SIMS
**DRAWN** NO SCALE
**SCALE** LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
DRAINAGE AREA CALCULATIONS
SHEET 1 OF 3

**CONTRACT SHEET No.** 207 OF 288

**CONTRACT** LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2
DRAINAGE AREA CALCULATIONS
SHEET 1 OF 3
### DRAINAGE AREA SUMMARY TABLE

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<th>DRAINAGE AREA NO.</th>
<th>RUNOFF COEFF.</th>
<th>Tc (MIN.)</th>
<th>DRAINAGE AREA CALCULATIONS</th>
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NOTES:

1. DRAINAGE DESIGN CRITERIA (FREQUENCY, INTENSITY, AND RUNOFF COEFFICIENTS) ARE BASED ON THE CITY OF DALLAS DRAINAGE DESIGN MANUAL, DATED MAY 1993.
2. ALL DRAINAGE AREAS ARE CALCULATED FOR THE 100-YEAR FREQUENCY STORM.
3. ALIGNMENT IS WITHIN THE ZONING DISTRICT: CA-1(A), CENTRAL AREA - 1.
4. INTENSITY WAS DETERMINED USING THE CITY OF DALLAS DRAINAGE DESIGN MANUAL EQUATIONS 2.1 AND THE APPENDIX.
5. RUNOFF COEFFICIENTS ARE TAKEN FROM THE TABLES UNLESS OTHER SPECIFICATIONS ARE PROVIDED. NO SCALE
## DRAINAGE AREA SUMMARY TABLE

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<th>Area (Acres)</th>
<th>Tc (MIN.)</th>
<th>Drainage (In/HR)</th>
<th>Comments</th>
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### Tc (MIN.) Table:

#### Table: Runoff Coefficients and Maximum Inlet Times Located on Page 1 of the Sheet 3 of 3

### Remarks:

- **NOT FOR CONSTRUCTION**
- **NOT AN APPROVED PLAN**

---

**Jeffrey E. Briscoe, P.E. No. 99558**

**Bidding or Permit Purposes.**

**On 10/30/2020**

**Drainage**

**Area (ACRES)**

**Q (100 YR)** (CFS)

**COMMENTS**

---

**In Charge**

J. TAYLOR

K. SIMS

**Contract Sheet No.**

LIGHT RAIL TRANSIT SYSTEM

---

**ICONEC Group Inc.**

**gpc**

**DART**

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**NOT FOR CONSTRUCTION**

**NOT AN APPROVED PLAN**

**Rev.**

**E56**

**E49**

**E46**

**E36**

**E29**

**E26**

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**E05**

**E63**

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**REV.**

**CC6-0116**
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
1. FOR HORIZONTAL AND VERTICAL GEOMETRY, SEE
   HORIZONTAL ALIGNMENT DATA TABLE SHEETS AND PROFILE SHEETS.
2. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
   RELATED TO UTILITY CONSTRUCTION, SEE DWG No. GC1-0003
   AND GC1-0004.
3. UTILITY INFORMATION IS BASED UPON EXISTING UTILITY
   PLANS PROVIDED BY CITY OF DALLAS AND DALLAS WATER
   UTILITIES. HOWEVER, NOT PRECISE THE EXISTENCE OF
   OTHER UNDERGROUND FACILITIES. INFORMATIONS IS
   BASED UPON DATA COLLECTED FROM BOTH PUBLIC AND
   PRIVATE SOURCES. THE COMPLETENESS AND/OR ACCURACY
   OF THESE DRAWINGS IS NOT GUARANTEED EXCEPT BY FIELD
   MEASUREMENT. UTILITIES SHALL BE VERIFIED BY FINAL
   DESIGNER.
4. INDIVIDUAL GAS SERVICES ARE UNKNOWN AND NOT SHOWN
   ON THESE DRAWINGS.
5. FINAL DESIGNER SHALL VERIFY THE HEIGHT OF ALL
   UTILITY CROSSINGS AND PERFORM THE FOR ALL HIGH
   PRESSURE GAS.
6. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY
   IN ANY AREA OF THE PROJECT, THE CONTRACTOR SHALL
   CONTACT ALL COMPANIES KNOWN TO OPERATE UTILITY
   SYSTEMS IN THE AREA AND SHALL HAVE THEIR FACILITIES
   PHYSICALLY LOCATED.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING
   THE EXACT SIZE OF EXISTING WATER AND WASTEWATER
   SERVICES.
8. EXISTING UTILITY COMPOSITE
9. FOR PROPOSED STATIONS, SEE ARCHITECTURAL SHEETS.
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PRELIMINARY 30% DESIGN
10/30/2020
BIDDING OR PERMIT PURPOSES.
IT IS NOT TO BE USED FOR CONSTRUCTION,

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOTES:

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EXISTING UTILITY COMPOSITE

STA 21+00.00 TO STA 28+00.00

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

SEE DWG No. UC2-0002
MATCH LINE CBD-2 EB STA. 21+00.00

SEE DWG No. UC2-0004
MATCH LINE CBD-2 EB STA. 28+00.00

MATCH LINE CBD-2 WB STA. 21+00.00

MATCH LINE CBD-2 WB STA. 28+00.00

SCALE (IN FEET)
0 20 40 20 80

STA 21+00.00 TO STA 28+00.00
1" = 40'

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
MATCH LINE CBD-2 EB STA. 28+00.00
SEE DWG No. UC2-0003

MUSEUM WAY STATION

SECTION

NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 28+00.00 TO STA 36+00.00

NOTES:
1. SEE DWG No. UC2-0005 FOR ADDITIONAL NOTES.

F. SYED
P. SYED
L. WYANDON
H. RAZA

CONTRACT SHEET No. 223 OF 288

CONTRACT
No.

SCALE (IN FEET)
12 = 1'0"}

1" = 40'

APPROX LOCATION
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NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 44+00.00 TO STA 51+00.00

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

IN-PROGRESS

DART PROJECT

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 58+00.00 TO STA 65+00.00

NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. SEE DWG No. UC2-001, UC2-003, AND SECTION 6.3.3 OF 'METHOD OF CONSTRUCTION REPORT' FOR RELATIVE LOCATION OF EXISTING 7-FT CONCRETE EXCAVATION ALONG COMMERCE STREET.
3. SEE DWG No. AC5-3013, AC5-3018, AND SECTION 1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.

SCALE (IN FEET)

1" = 40'

CONTRACT SHEET No. 277 OF 288

CONTRACT No. UE2-0008

NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. SEE DWG No. UC2-0011, UC2-0012, AND SECTION 3.3.3 OF 'METHOD OF CONSTRUCTION REPORT' FOR
   RELATIVE LOCATION OF EXISTING 7-FT CONCRETE
   STORM HORSESHOE DRAIN SYSTEM TO TUNNEL
   EXCAVATION ALONG COMMERCE STREET.

KEY:
- UEG = Urban Engineers Group, Inc.
- gpc = General Permitting Company
- DART = Dallas Area Rapid Transit
- STA = Station

SCALE (IN FEET):
1" = 40'
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

STA 81+00.00 TO STA 89+00.00

NOTES:
1. SEE DWG No. UC2-0011 FOR ADDITIONAL NOTES.
2. SEE DWG NO. AC5-3013, AC5-3018, AND SECTION 2.3.3.10 OF METHOD OF CONSTRUCTION REPORT FOR RELATIVE LOCATION OF EXISTING 7-FT CONCRETE STORM HORSESHOE DRAIN SYSTEM TO TUNNEL EXCAVATION ALONG COMMERCE STREET.

STA 81+00.00 TO STA 89+00.00

MATCH LINE CBD-2 EB STA 81+00.00
SEE DWG No. UC2-0011

ST. PAUL ST

MAGNOLIA

APPROX LOCATION
6" GAS

ONCOR UGE

APPROX LOCATION
8" SS (UNK.)

MAGNOLIA

APPROX LOCATION
6" GAS

ONCOR UGE

APPROX LOCATION
8" SS 411Q-1599

SH 205 (2018)

MAGNOLIA

APPROX LOCATION
12" W 411Q-1599

SH 205 (2018)

MAGNOLIA

APPROX LOCATION
12" SS 411Q-5000

URBAN ENGINEERS GROUP, INC.

THIS DOCUMENT IS RELEASED
FOR THE PURPOSE OF REVIEW UNDER THE
BIDDING OR PERMIT PURPOSES.

FAISAL S. SYED, P.E. NO. 84833

THEMATIC PLAN
1" = 40'

10/30/2020

LIGHT RAIL TRANSIT SYSTEM
LINE SECTION CBD-2

EXISTING UTILITY COMPOSITE
STA 81+00.00 TO STA 89+00.00
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN
FOR THE PURPOSE OF REVIEW UNDER THE
TBPE FIRM NO. F-5332
FAISAL S. SYED, P.E. NO. 84833
URBAN ENGINEERS GROUP, INC.
ON 10/30/2020
IN-PROGRESS
WITHDRAWN 10/26/20
FOR ADDITIONAL NOTES.
NOTES:
1. SEE DWG No. UC2-001 FOR ADDITIONAL NOTES.
2. FOR PORTAL U-WALL, SEE STRUCTURAL SHEETS.

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2. FOR PORTAL U-WALL, SEE STRUCTURAL SHEETS.

10/30/2020
FAISAL S. SYED, P.E. NO. 84833
URBAN ENGINEERS GROUP, INC.
ON 10/30/2020
IN-PROGRESS
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NOT FOR CONSTRUCTION
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PRELIMINARY 30% DESIGN
FOR THE PURPOSE OF REVIEW UNDER THE TBPE FIRM NO. F-5332
URBAN ENGINEERS GROUP, INC.
ON 10/30/2020
FAISAL S. SYED, P.E. NO. 84833
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PROVISIONAL 30% DESIGN

DATE
CONTRACT SHEET NO.

CONTRACT
Dwg No.

IN PROGRESS

REV
CHG
ENG
APP

IN CHARGE

IN PROGRESS
MATCH LINE SE-1 SB STA. 14+00.00

SEE DWG No. UC2-0016

PRELIMINARY 30% DESIGN
NOT AN APPROVED DRAWING
NOT FOR CONSTRUCTION
10/30/2020

FAISAL S. SYED, P.E. NO. 84833

TBPE FIRM NO. F-5332

URBAN ENGINEERS GROUP, INC.

ON 10/30/2020

FAISAL S. SYED, P.E. NO. 84833

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TBPE FIRM NO. F-5332

URBAN ENGINEERS GROUP, INC.
NOT FOR CONSTRUCTION
NOT AN APPROVED DRAWING
PRELIMINARY 30% DESIGN

1. SEE ENG NO. UEG-001 FOR ADDITIONAL NOTES.

EXISTING UTILITY COMPOSITE
EXISTING GREEN LINE

SE-1 SB STA 32+93.40 (BK)
SE-1 NB STA 31+62.43 (AHD)
SE-1 NB STATION EQUATION

STA 31+30.42
CS 31+30.42
ST 31+30.42

1" = 40'

SCALE (IN FEET)
0
20
40
80