

1. DESIGN CRITERIA

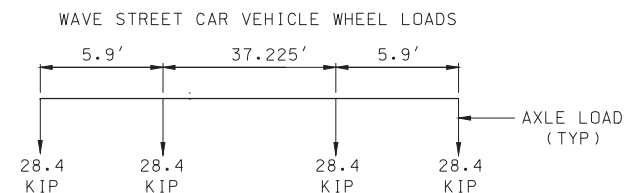
- A. DESIGN CRITERIA WAVE MODERN STREET CAR, JUNE 2014.
- B. AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA), 2014.
- C. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" CUSTOMARY U.S. UNITS, 7TH EDITION, WITH 2015 INTERIMS..
- D. TRANSIT COOPERATIVE RESEARCH PROGRAM (TCRP) REPORT 155, TRACK DESIGN HANDBOOK FOR LIGHT RAIL TRANSIT.
- E. DESIGN OF CONCRETE STRUCTURES (DCS), 9TH EDITION.
- F. AMERICAN CONCRETE INSTITUTE (ACI), 2008.

2. CONSTRUCTION SPECIFICATIONS

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2015 EDITION) AND SUPPLEMENTS THEREOF.

3. DESIGN LOADING

- A. LIVE LOAD HL-93



- B. DEAD LOAD TRACK RAILS, INSIDE GUARD RAILS, AND RAIL FASTENINGS 0.20 KIP PER TRACK.

4. DIMENSIONS

- A. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSIONS. PRINTED DIMENSIONS SHALL GOVERN.
- B. THE SCALE SHOWN ON THESE DRAWINGS ARE FOR FULL SIZE SHEETS. THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED BY REPRODUCTION.
- C. ALL PLAN DIMENSIONS SHOWN ARE MEASURED IN A TRUE HORIZONTAL PLANE, UNLESS NOTED OTHERWISE.
- D. ALL VERTICAL DIMENSIONS SHOWN ARE MEASURED IN A TRUE VERTICAL PLANE, UNLESS NOTED OTHERWISE.

5. GEOTECHNICAL BASIS FOR DESIGN

THE TRACK SLAB DESIGN IS BASED ON GEOTECHNICAL RECOMMENDATIONS FOR EXISTING SUBGRADE WITH A MINIMUM MODULUS OF SUBGRADE REACTION (K) OF 200 PCI.

6. MATERIALS

- A. UNLESS OTHERWISE NOTED, ALL MATERIALS SHALL CONFORM TO THE FOLLOWING:
 - 1) CONCRETE SHALL CONFORM TO FDOT CLASS II (BRIDGE DECK) AND SHALL HAVE 4,500 PSI COMPRESSIVE STRENGTH (f'c) AT 28 DAYS.
 - 2) REINFORCING STEEL SHALL CONFORM TO ASTM A706 GRADE 60. REINFORCING STEEL MAT REQUIRES WELDING FOR CONTINUITY. SEE CORROSION CONTROL DRAWINGS AND STRAY CURRENT DRAWINGS FOR ADDITIONAL DETAILS.
 - 3) STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
 - 4) CASTINGS (DRAINAGE) SHALL CONFORM TO FDOT SPECIFICATION SECTION 962.
 - 5) SCHEDULE 80 PVC (DRAINAGE AND CONDUIT) SHALL CONFORM TO FDOT SPECIFICATION SECTION 948.
- B. ALL PERMANENT EXPOSED MISCELLANEOUS METAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 962.

7. REINFORCING STEEL

- A. REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH THE ACI DETAILING MANUAL (ACI SP-66) AND FDOT STANDARD INDEX 21300 UNLESS OTHERWISE NOTED.
- B. ALL LAP SPLICES SHALL BE AASHTO CLASS C UNLESS OTHERWISE NOTED. (CLASS C LAP LENGTH = 2'-2" MIN FOR #5 BARS)
- C. ALL DIMENSIONS RELATING TO SPACING OF REINFORCING BARS ARE CENTER TO CENTER OF BARS, UNLESS NOTED OTHERWISE.
- D. DIMENSIONS SHOWN FOR BENDING OF REINFORCING BARS ARE SHOWN OUT-TO-OUT OF THE BAR.
- E. REINFORCING SHALL BE SECURELY TIED AT ALL INTERSECTIONS AND LAP SPLICES AND SHALL BE HELD IN PLACE DURING CONCRETE PLACEMENT TO MAINTAIN THE LOCATION SHOWN ON THE DRAWINGS.
- F. THE MINIMUM CLEAR COVER FROM THE FACE OF CONCRETE TO THE FACE OF THE BAR SHALL BE 3" UNLESS NOTED OTHERWISE.
- G. WELDING OF REINFORCING STEEL IS REQUIRED FOR CORROSION CONTROL. SEE CORROSION CONTROL PLANS.
- H. REINFORCING STEEL WELDING IS FOR PURPOSES OF STRAY CURRENT PROTECTION. REFER TO CORROSION DRAWINGS AND STRAY CURRENT DRAWINGS FOR ADDITIONAL DETAILS.
- I. WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185.



8. JOINTS

- A. CONSTRUCTION JOINTS NOT SHOWN IN THESE DRAWINGS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER.

9. GENERAL

- A. SEE COMMUNICATION PLANS FOR DETAILS, LOCATION OF CONDUCTS, PULL BOXES AND MANHOLE LAYOUT.
- B. SEE OCS LAYOUT PLANS AND FOUNDATION SCHEDULES FOR OCS FOUNDATION LOCATIONS AND DETAILS.
- C. RAIL SHALL BE CONSTRUCTED WITH 1:40 CANT (TOWARD GAUGE) EXCEPT RAIL WITHIN SPECIAL TRACKWORK SHALL BE CONSTRUCTED LEVEL.
- D. SEE ROADWAY MODIFICATION PLANS FOR TRACK AND ROADWAY TIE-INS. TRACK SLAB TO EXTEND TO EDGE OF ROADWAY CURB IF DISTANCE TO CURB IS LESS THEN 2 FT. SEE "EMBEDDED SINGLE TRACK SECTION (EXTENDED TO CURB)" ON SHEET NUMBER 000-K-001 FOR DETAILS.
- E. COMPOSITE TIES SPACING SHALL BE AS FOLLOWS:
 - 5'-0" MAX. FOR R ≤ 300'
 - 7'-6" MAX. FOR 300' < R ≤ 500'
 - 10'-0" FOR R > 500'
- F. CROSS SLOPE BETWEEN RAILS (GAUGE SIDE) SHALL BE 0% (LEVEL).
- G. CROSS SLOPE OUTSIDE OF RAILS (FIELD SIDE) SHALL NOT EXCEED 5%. GRADE BREAK BETWEEN TRACK SLAB CROSS SLOPE AND ROADWAY SHALL NOT EXCEED 4%.
- H. PROPOSED PROFILE IS TOP OF RAIL. NOTE THAT TOP OF CONCRETE BETWEEN RAILS IS 1/4" BELOW TOP OF RAIL.

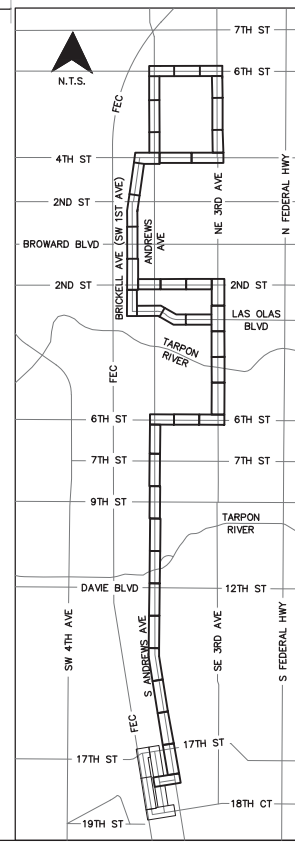
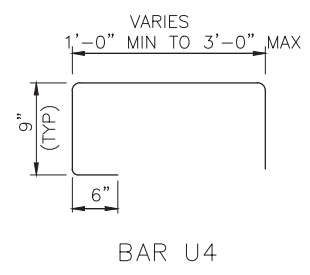
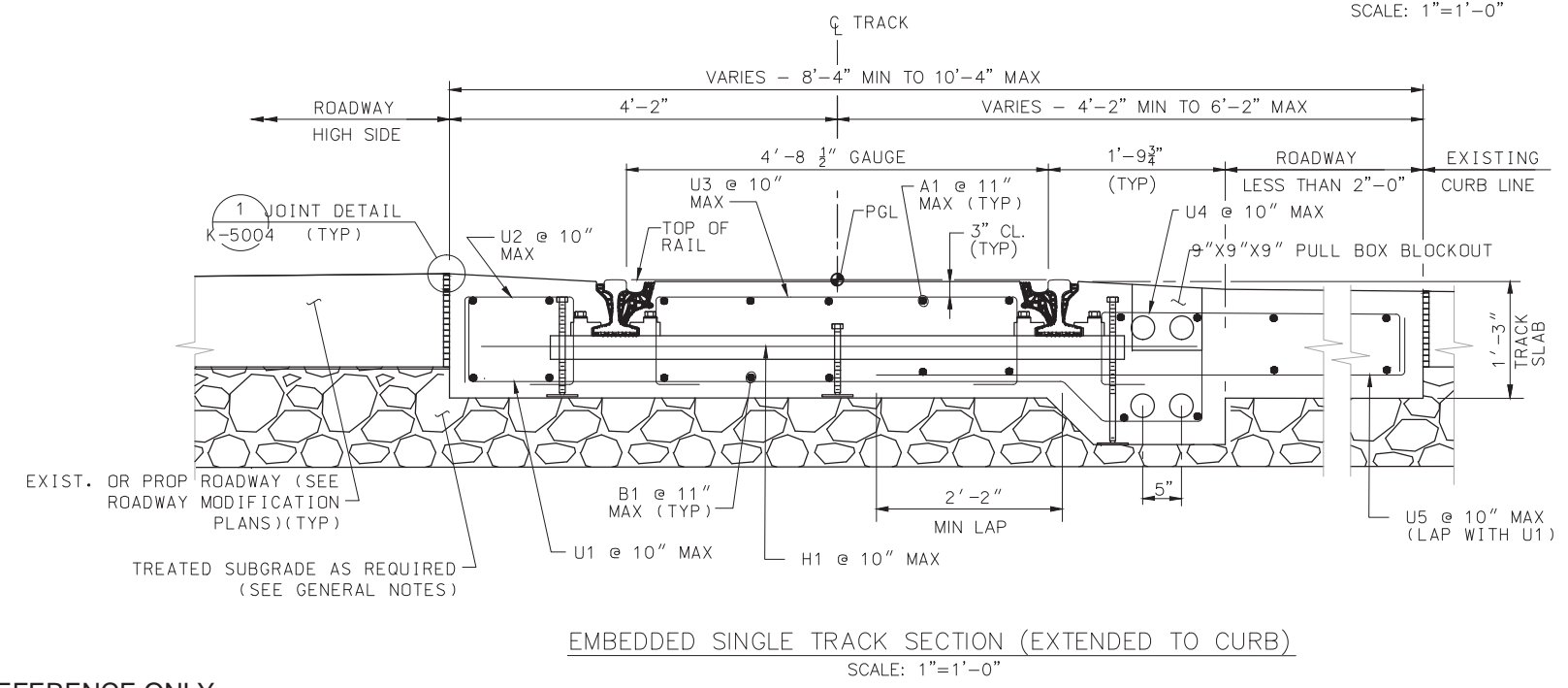
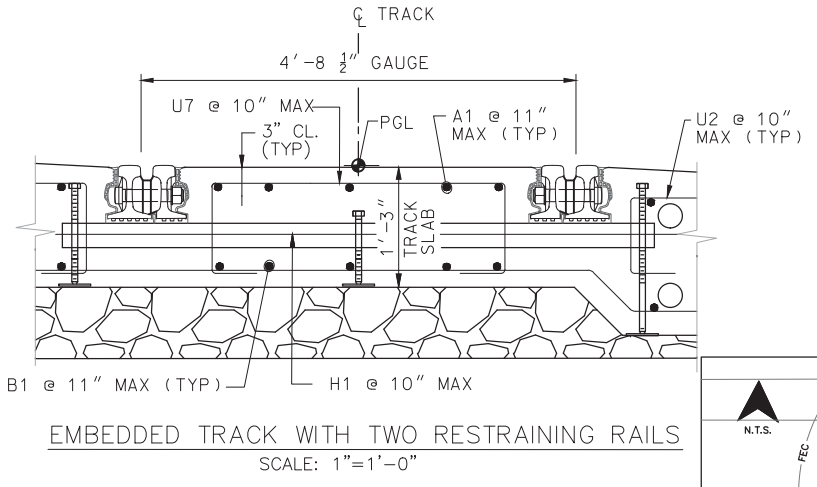
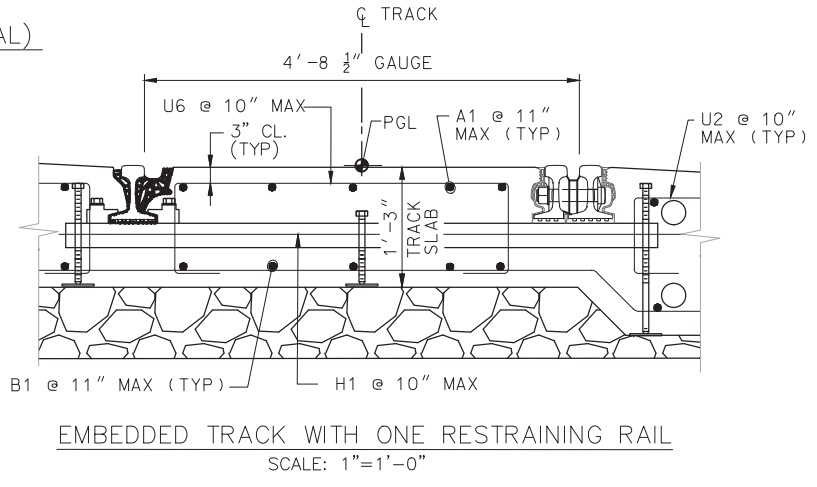
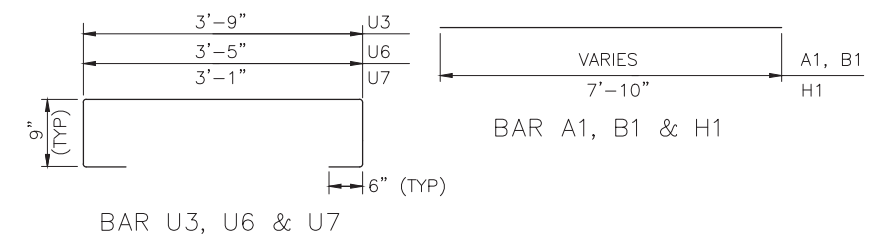
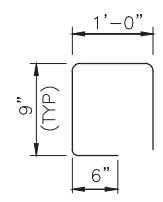
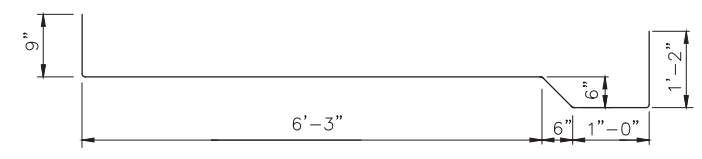
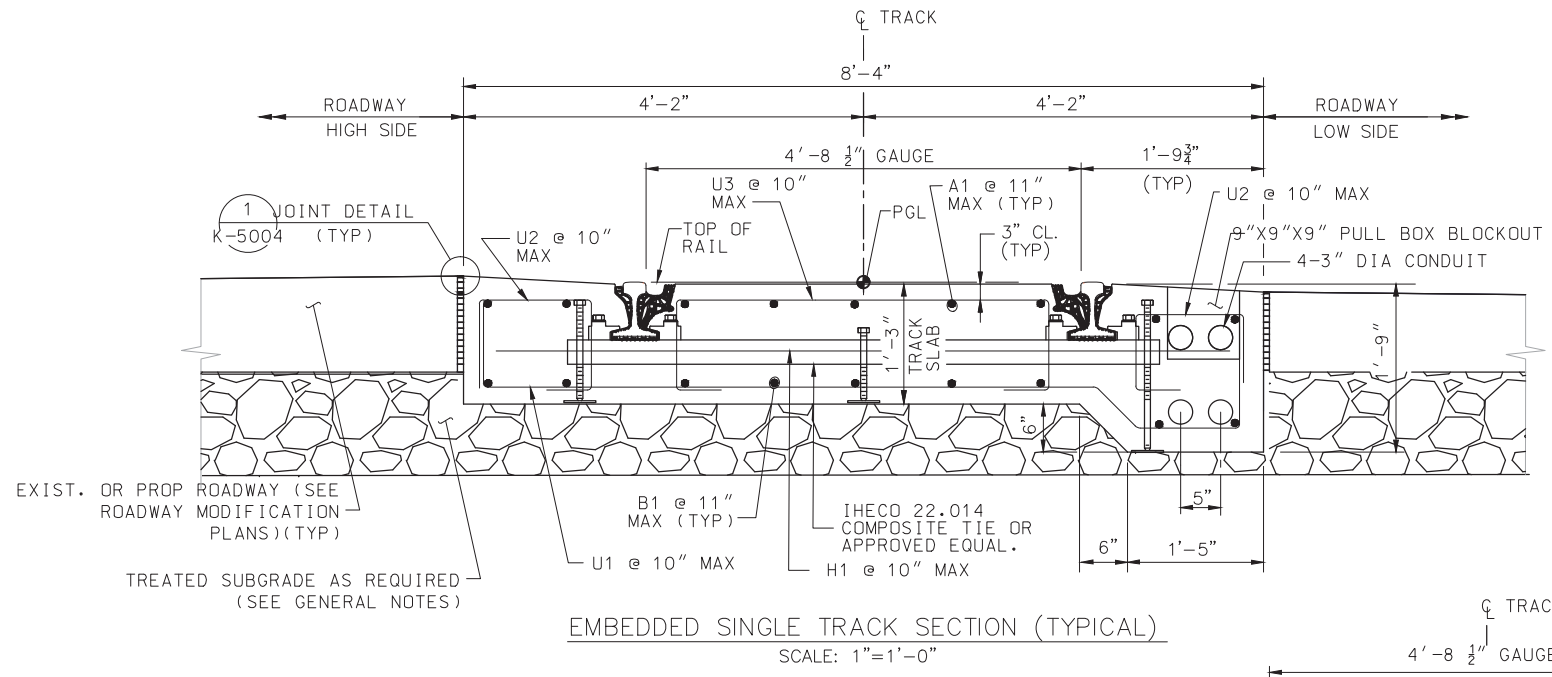
FOR REFERENCE ONLY

No.	REVISIONS	DATE	BY			SUB-CONSULTANT:	PROJECT NO:	648043	SHEET TITLE:	
							DATE:	1/2016	EMBEDDED TRACK SLAB GENERAL NOTES	
							DRAWN BY:	MC		
							CHECKED BY:	STP	SHEET NUMBER: 000-K-5000	
							COPYRIGHT:	PARSONS CORPORATION		
							CONTRACT SHEET NO. _____ OF _____			

800 NW 33RD STREET
SUITE 100
POMPANO BEACH, FL 33064
SFRTA CONTRACT NUMBER:
14-006

PARSONS
7600 CORPORATE CENTER DR, STE 104
MIAMI, FL 33126 - (305) 507-5577
C.A. No. 1838

BAR TABLE	
A	#5
B	#5
U	#5
H	#5



FOR REFERENCE ONLY

No.	REVISIONS	DATE	BY



800 NW 33RD STREET
SUITE 100
POMPANO BEACH, FL 33064

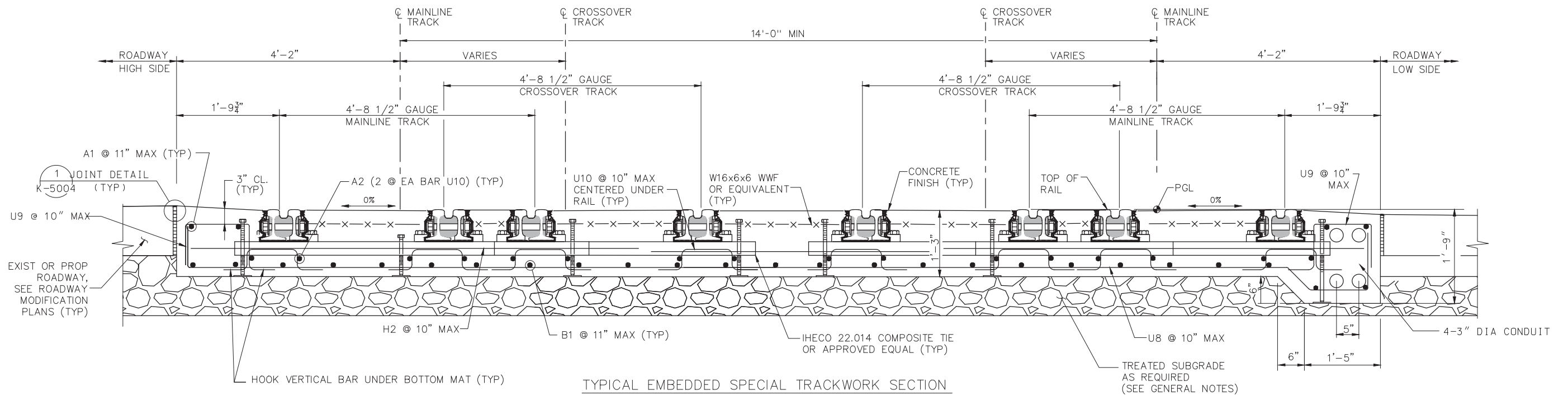
SFRTA CONTRACT NUMBER:
14-006



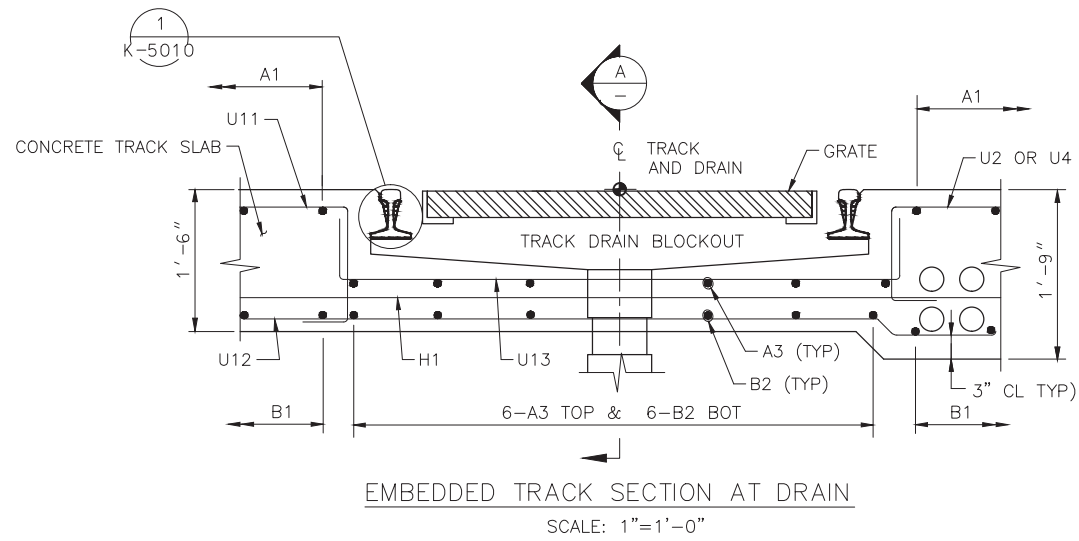
SUB-CONSULTANT:

PROJECT NO:	648043
DATE:	1/2016
DRAWN BY:	MC
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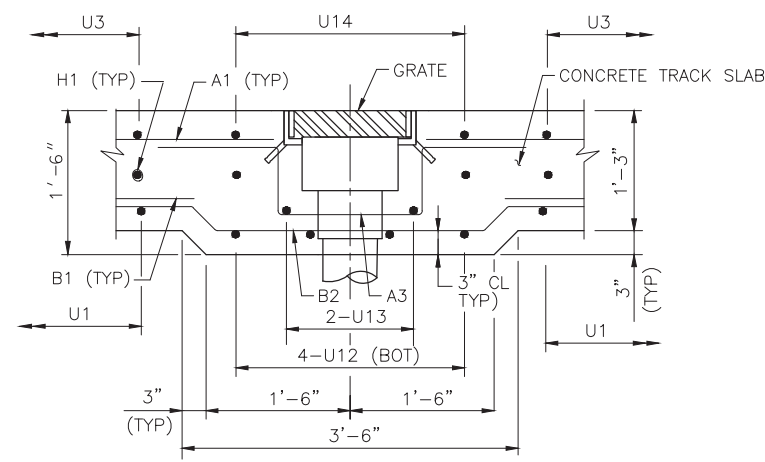
SHEET TITLE:	
EMBEDDED TRACK SLAB REINFORCEMENT 1 OF 2	
SHEET NUMBER:	000-K-5001



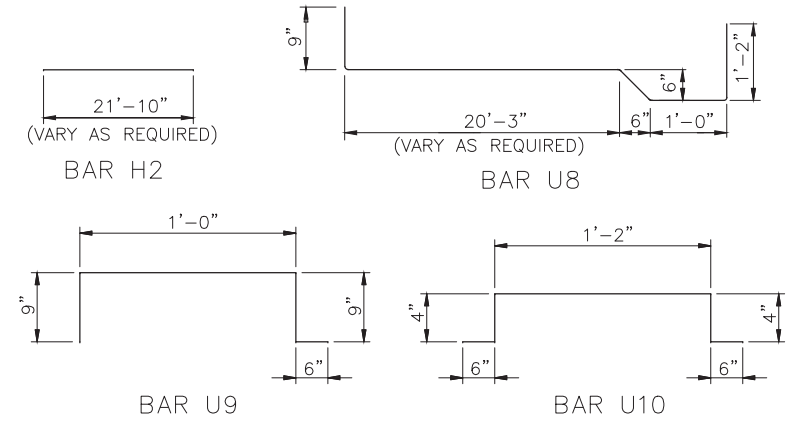
TYPICAL EMBEDDED SPECIAL TRACKWORK SECTION
 SCALE: 1"=1'-0"
 (CROSSOVER TRACK SHOWN - OTHER SPECIAL TRACKWORK SIMILAR)



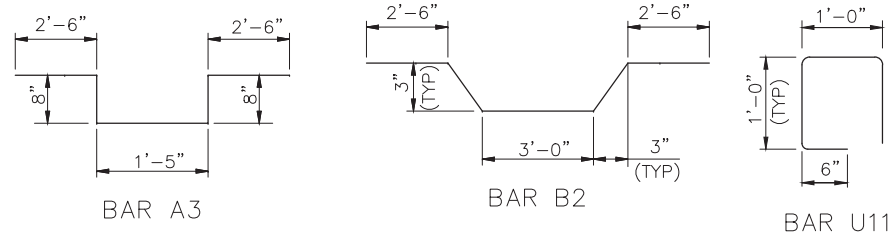
EMBEDDED TRACK SECTION AT DRAIN
 SCALE: 1"=1'-0"



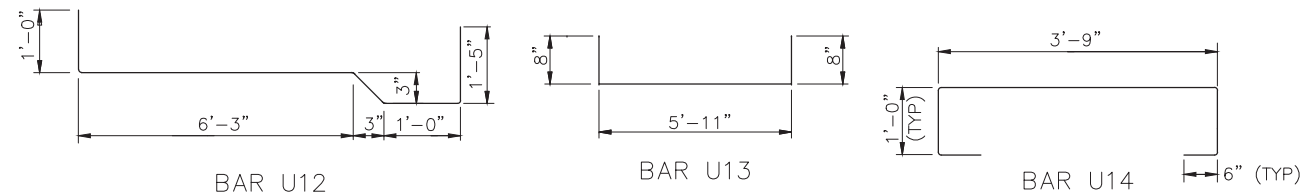
SECTION A-A
 SCALE: 1"=1'-0"



BAR TABLE	
A	#5
B	#5
H	#5
U	#5



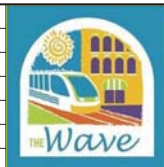
BAR TABLE	
A	#5
B	#5
U	#5



- NOTES:
- REFER TO GENERAL NOTES ON SHEET K-5000.
 - CONDUITS SHALL BE SCHEDULE 80 PVC. REFER TO COMMUNICATION PLANS.

FOR REFERENCE ONLY

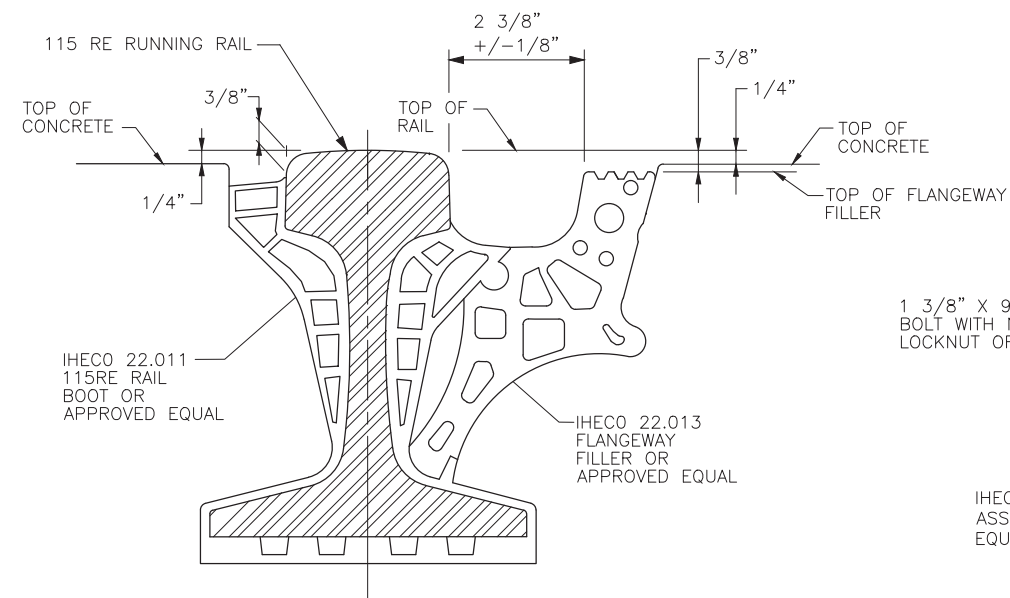
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SUB-CONSULTANT:	PROJECT NO: 648043	SHEET TITLE:
DATE: 1/2016	DRAWN BY: MC	EMBEDDED TRACK SLAB REINFORCEMENT 2 OF 2
CHECKED BY: STP	COPYRIGHT: PARSONS CORPORATION	
CONTRACT SHEET NO. _____ OF _____	SHEET NUMBER:	000-K-5002

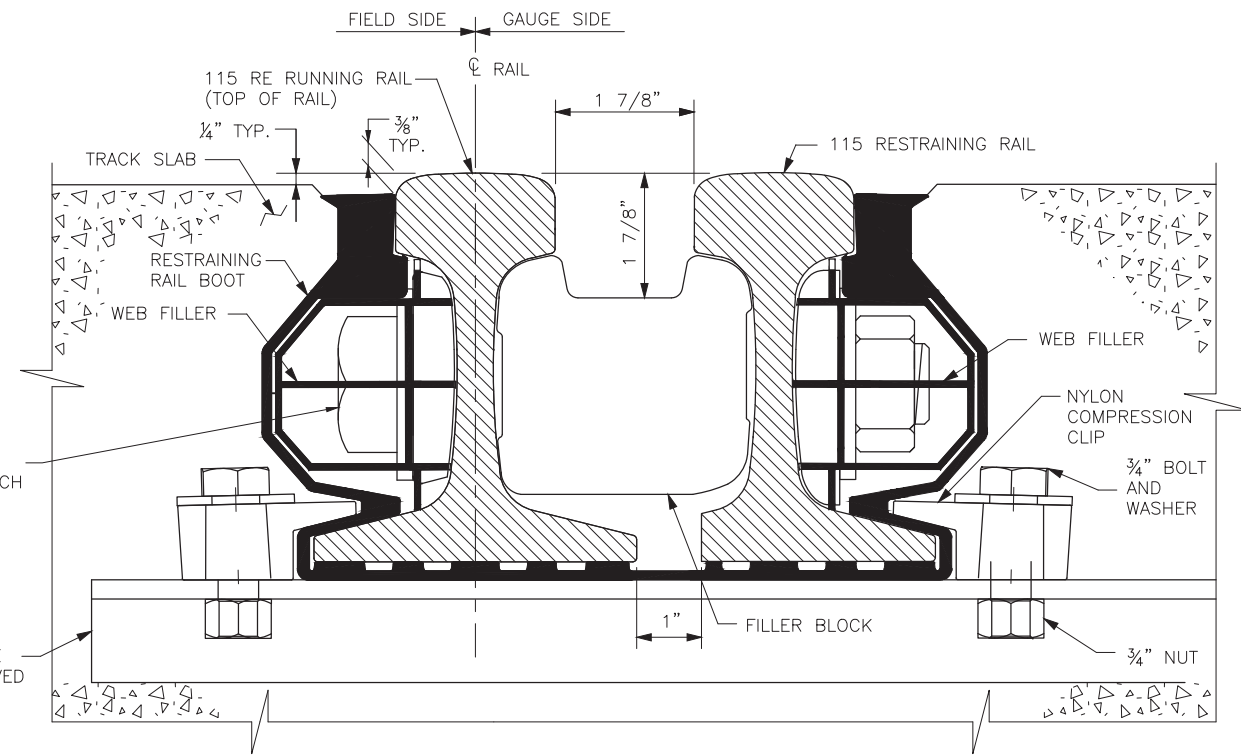


RAIL BOOT WITH FLANGEWAY FILLER DETAIL

NTS
USE SUITABLE SPACERS OR SYSTEM TO MAINTAIN FLANGEWAY DIMENSIONS WHEN CASTING TRACK SLAB

1 3/8" X 9" SQUARE HEAD BOLT WITH NYLOCK TORQ-PATCH LOCKNUT OR EQUAL

IHECO C-CHANNEL TIE ASSEMBLY OR APPROVED EQUAL



RESTRAINING RAIL BOOT/TIE ASSEMBLY AND FLANGEWAY DETAIL

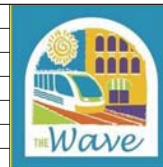
NTS

NOTES:

1. AT CLIP LOCATIONS, CONTRACTOR TO NOTCH OUT BOOT FILLER SECTION TO ALLOW FOR GAP PER MANUFACTURER'S INSTRUCTIONS.
2. AVOID DAMAGING THE RAIL BOOT DURING STORAGE AND INSTALLATION. REPAIR ALL PUNCTURES, RIPS, TEARS AND GOUGES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO PREVENT STRAY CURRENT LEAKAGE.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING RESTRAINING RAIL BOOT DETAILS PRIOR TO INSTALLATION.
4. CONTRACTOR SHALL SUBMIT C-CHANNEL TIE ASSEMBLY DESIGN FOR APPROVAL.
5. RAIL CANT SHALL BE 1:40 AND SHALL BE APPLIED UNDER THE RAIL IN THE TIE ASSEMBLY.

FOR REFERENCE ONLY

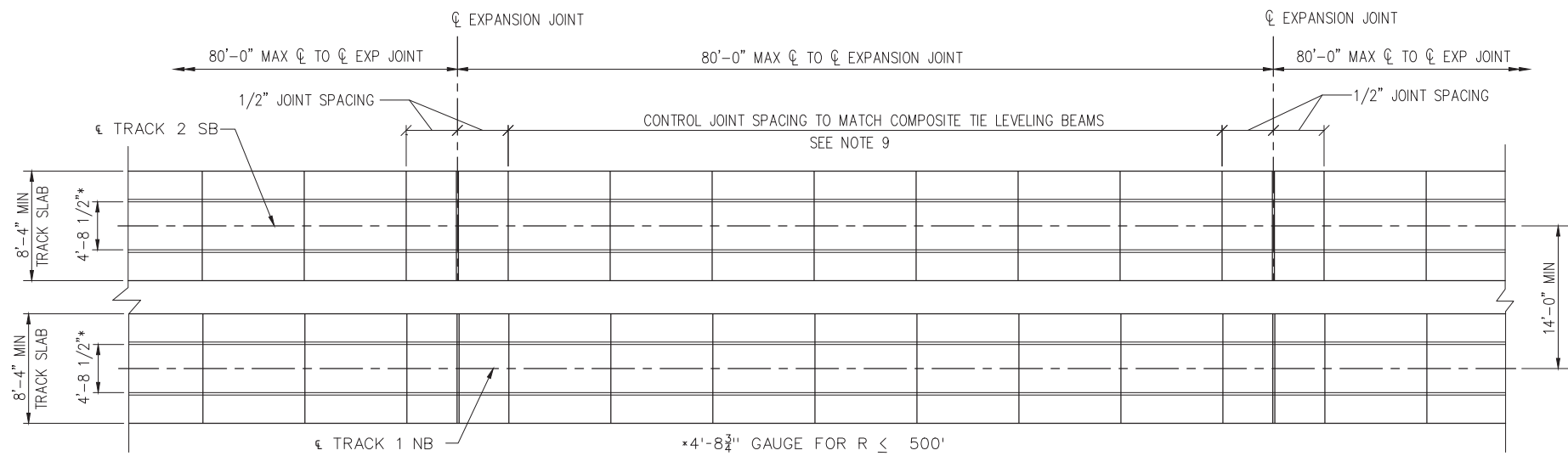
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14-006

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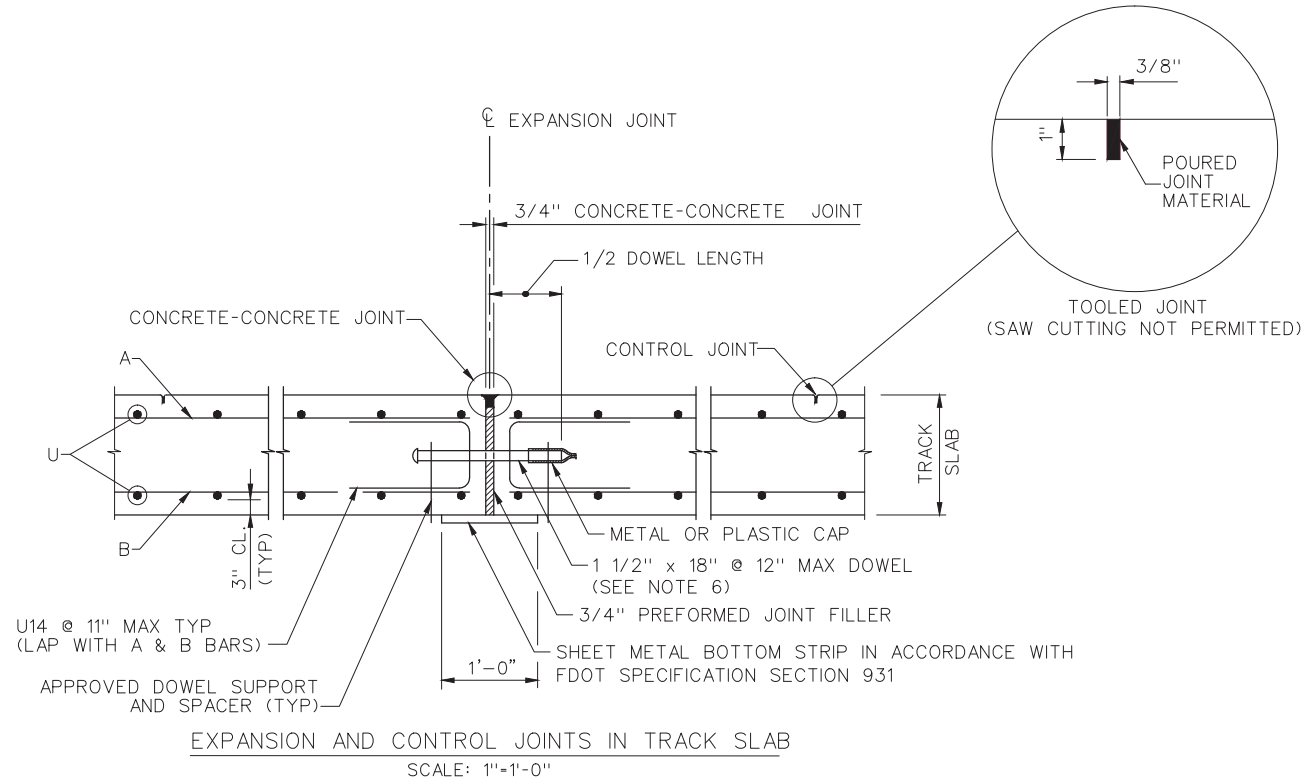
SUB-CONSULTANT:	PROJECT NO: 648403	SHEET TITLE:
	DATE: 1/2016	RAIL BOOT DETAILS STANDARD & RESTRAINING
	DRAWN BY: BK	
	CHECKED BY: FB	SHEET NUMBER: 000-K-5003
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	CONTRACT SHEET	
	No. _____ OF _____	



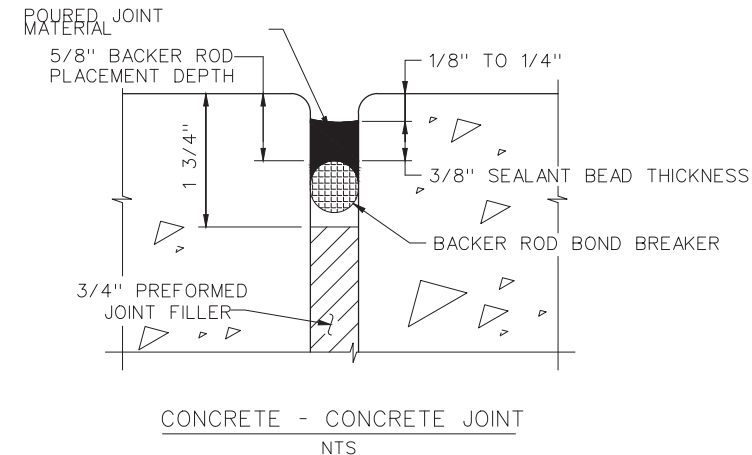
EMBEDDED DOUBLE TRACK SLAB PLAN
SCALE: 1/8"=1'-0"

NOTES:

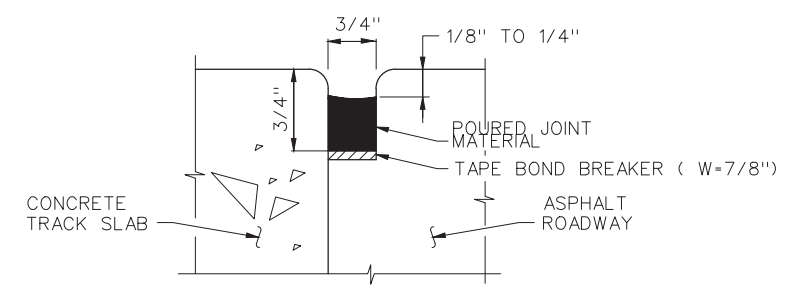
1. DOWEL IS CENTERED IN SLAB.
2. CONSTRUCTION JOINTS MAY BE FORMED BY THE USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE TRACK SLAB, OR BY OTHER MEANS WHICH HAVE BEEN APPROVED BY THE ENGINEER PRIOR TO THEIR USE.
3. CONCRETE SHALL NOT BE DISCHARGED FROM THE MIXER DIRECTLY ON TOP OR ON THE SIDES OF THE JOINT ASSEMBLY.
4. ANY APPROVED METAL CHAIR TYPE OR DESIGN WHICH WILL SATISFY THE REQUIREMENTS NOTED HEREON WILL BE PERMITTED. CHAIR SPACINGS SHALL NOT BE GREATER THAN 48" CENTERS MEASURED PARALLEL WITH THE TRACK SLAB CENTERLINE AND 34" CENTERS MEASURED PERPENDICULAR TO THE TRACK SLAB CENTERLINE. ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET THE STEEL PLACEMENT REQUIREMENT.
5. CONTROL JOINTS SHALL BE TOOLED JOINT.
6. DOWELS SHALL BE SECURED PARALLEL WITH THE TRACK SLAB SURFACE AND PERPENDICULAR TO THE JOINT WITH THE AID OF APPROVED DOWEL SUPPORT AND SPACER. PLAIN STEEL DOWEL BAR (COAT AND LUBRICATE IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 350). REFER TO FDOT STANDARD INDEX 305 FOR ADDITIONAL TRANSVERSE EXPANSION JOINT DETAILS.
7. ADJUST CONTROL JOINTS TO ALIGN WITH GAUGE TIE.
8. EXPANSION JOINTS MAY BE ELIMINATED AT INTERSECTIONS AND WITHIN SPECIAL TRACKWORK SECTIONS, BUT MAY NOT BE SPACED MORE THAN 200'.
9. COMPOSITE TIES SPACING SHALL BE AS FOLLOWS:
5'-0" MAX. FOR $R < 300'$
7'-6" MAX. FOR $300' < R < 500'$
10'-0" MAX. FOR $R > 500'$
10. POURED JOINT MATERIAL SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 458 AND 932 USING TYPE D SILICONE SEALANT MATERIAL.



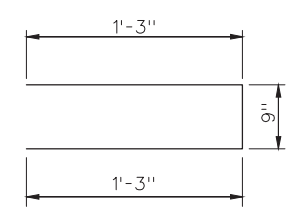
EXPANSION AND CONTROL JOINTS IN TRACK SLAB
SCALE: 1"=1'-0"



CONCRETE - CONCRETE JOINT
NTS



CONCRETE - ASPHALT ROADWAY JOINTS
SCALE: 1"=1'-0"



BAR TABLE	
U14	#5

FOR BARS A, B & U
SEE SHEETS 000-K-5001, 5002

FOR REFERENCE ONLY

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SUITE 100
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SFRTA CONTRACT NUMBER:
14-006



SUB-CONSULTANT:	PROJECT NO: 648403	SHEET TITLE:
	DATE: 1/2016	EMBEDDED TRACK SLAB JOINT DETAILS
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