

Oversight / NHS

FHWA PROJECTS OF DIVISION INTEREST (PoDI) OVERSIGHT? NO YES

NATIONAL HIGHWAY SYSTEM? NO YES

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

Related Projects:
P. E. UNDER PROJECT:
Project Number SRM R200-231
Project Code: 21393

R.O.W. Projects:
R.O.W. Project Description

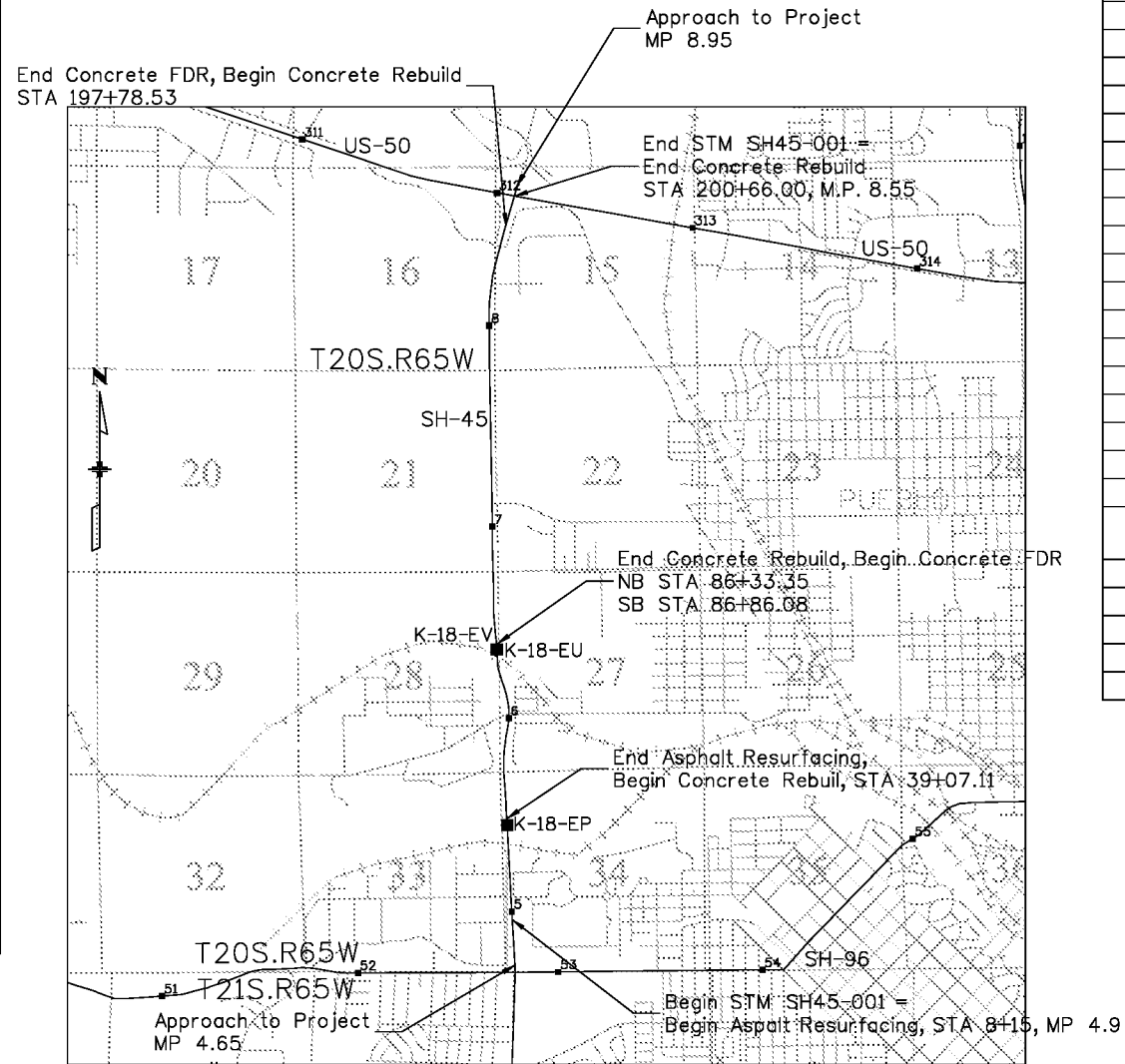
TABULATION OF LENGTH & DESIGN DATA

STATION	FEET		MAJOR STR.
	ROADWAY NB SH 45	ROADWAY SB SH 45	
APPROACH TO PROJECT M.P. 4.65			
BEGIN STM SH 45-001= BEGIN ASPHALT RESURFACING STA 8+15, M.P. 4.9	2659.0	2659.0	
BEGIN STRUCTURE K-18-EP, STA 34+74.00 END STRUCTURE K-18-EP, STA 39+07.11 END ASPHALT RESURFACING BEGIN CONCRETE REBUILD	4551.6		434.0
BEGIN STRUCTURE K-18-EU NB, STA 84+58.72 END STRUCTURE K-18-EU NB, STA 86+11.97			
END CONCRETE REBUILD, BEGIN CONCRETE FDR NB, STA 86+33.35	23.4		153.3
BEGIN STRUCTURE K-18-EV SB, STA 85+02.29 ** END STRUCTURE K-18-EV SB, STA 86+55.29**		4595.2	
END CONCRETE REBUILD, BEGIN CONCRETE FDR SB, STA 86+86.08		30.8	153.0
END CONCRETE FDR, BEGIN CONCRETE REBUILD STA 197+78.53	11143.2	11092.5	
END STM SH 45-001= END CONCRETE REBUILD STA 200+66.00, M.P. 8.55	287.5	287.5	
APPROACH TO PROJECT M.P. 8.95			
TOTAL	18664.6	18664.9	587.3
SUMMARY OF PROJECT LENGTH	FEET	FEET**	MILES
MAJOR STRUCTURE	587.3	587.0	0.1
PROJECT GROSS LENGTH	19251.9	19252.1	3.6

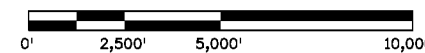
* MILE POSTS ARE ESTIMATES AND SHOULD BE VERIFIED IN THE FIELD.
** LENGTH NOT INCLUDED IN TOTAL

DESIGN DATA	S.H. 45
MAXIMUM DESIGN SPEED	65 MPH
2035 DESIGN TRAFFIC	DHV = 10 ADT = 45,711
DHV TRUCK %	4.6%

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. STM SH45-001 STATE HIGHWAY NO. 45 PUEBLO COUNTY CONSTRUCTION PROJECT CODE NO. 20755



PROJECT LOCATION MAP



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19	EARTHWORK QUANTITIES AND PAVEMENT DATA
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24	TABULATION OF REMOVALS
25	TABULATION OF GUARDRAIL
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134	SURVEY TABULATION



**Know what's below.
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Sheet Revisions		
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Colorado Department of Transportation

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 Pueblo, CO 81001
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Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

Contract Information	
Contractor:	
Resident Engineer:	
Project Engineer:	
PROJECT STARTED: / / ACCEPTED: / /	
Comments:	

Project No./Code	STM SH45-001
	20755
Sheet Number	1

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PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
M-100-1		STANDARD SYMBOLS (3 SHEETS).....	1-3	M-607-1		WIRE FENCES AND GATES (3 SHEETS).....	100-102	S-612-1	■	DELINEATOR INSTALLATIONS (7 SHEETS) (REVISED ON DEC. 1, 2016) . . .	151-157
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COLORADO
 DEPARTMENT OF TRANSPORTATION
M&S STANDARDS PLANS LIST
 July 04, 2012
 Revised on February 23, 2017

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

NEW OR REVISED STANDARD PLAN SHEETS APPLICABLE TO THIS PROJECT, INDICATED BY A MARKED BOX ■, WILL BE ATTACHED TO THE PLANS.

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Last Modification Date: 02/23/17	Initials: LTA
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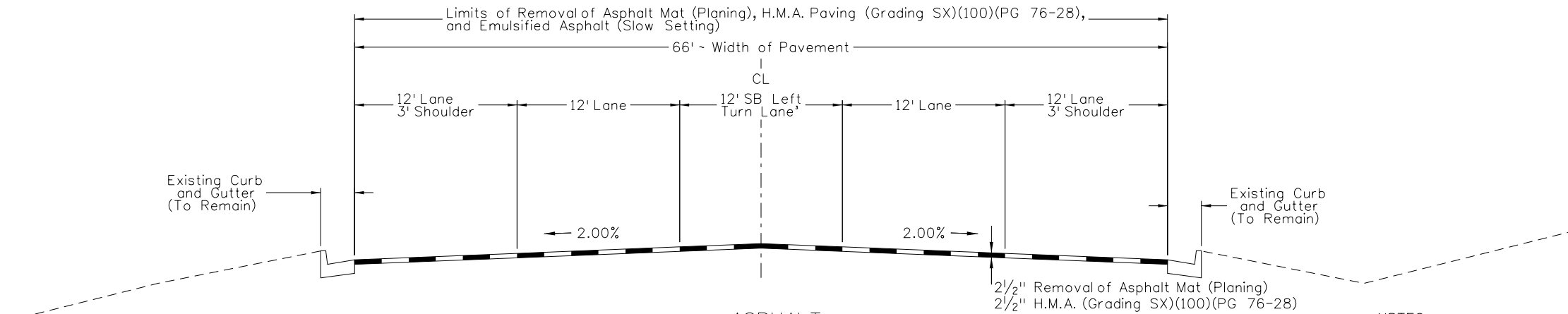
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 Division of Project Support JBK/LTA

STANDARDS PLANS LIST
 Issued By: Project Development Branch July 4, 2012

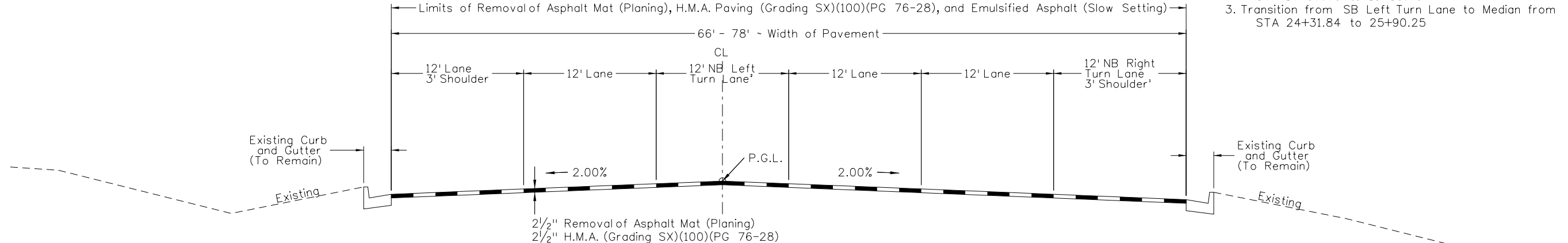
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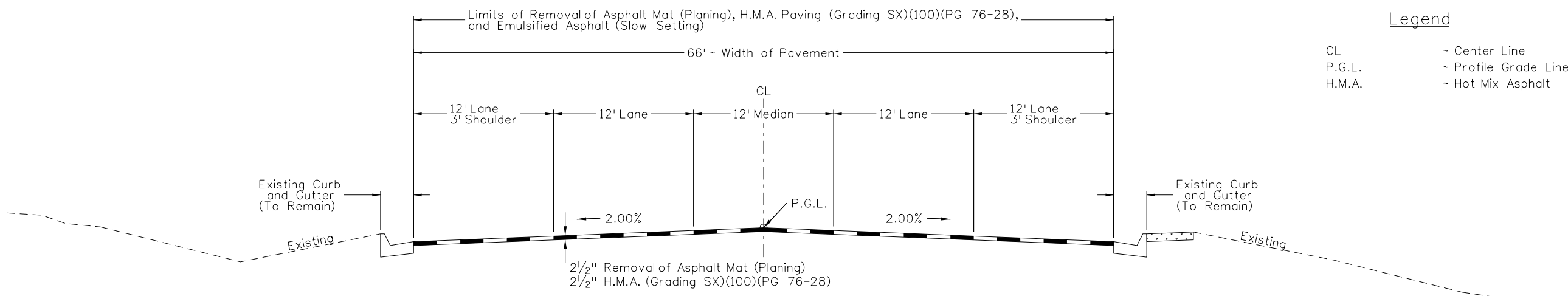


ASPHALT
STA 20+36.42 - 25+82.80

- NOTES:
1. Transition to NB Right Turn Lane from STA 14+51.81 to STA 16+22.83
 2. Transition Median to NB Left Turn Lane from STA 14+07.40 to 15+89.49
 3. Transition from SB Left Turn Lane to Median from STA 24+31.84 to 25+90.25



ASPHALT
STA 14+07.40 - 20+36.42



ASPHALT
STA 8+15.00 - 14+07.40

- Legend
- CL ~ Center Line
 - P.G.L. ~ Profile Grade Line
 - H.M.A. ~ Hot Mix Asphalt

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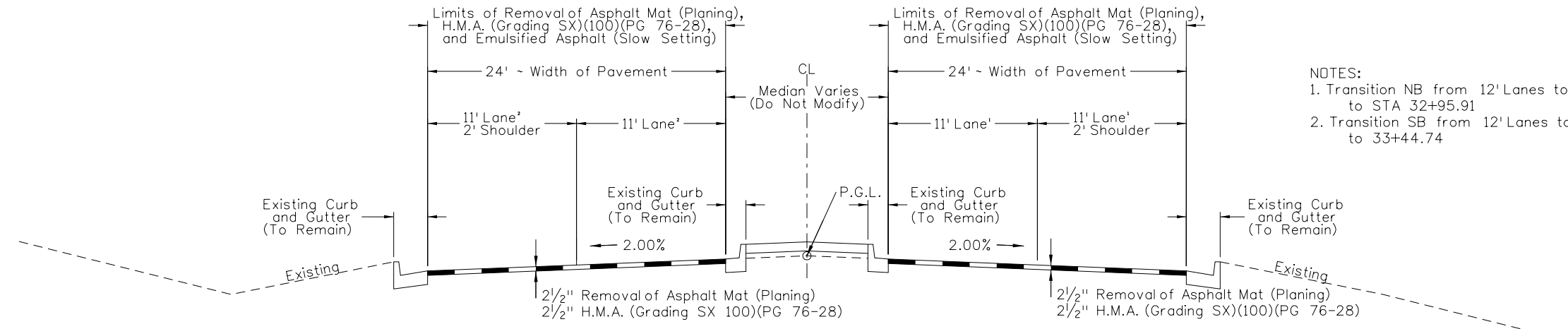
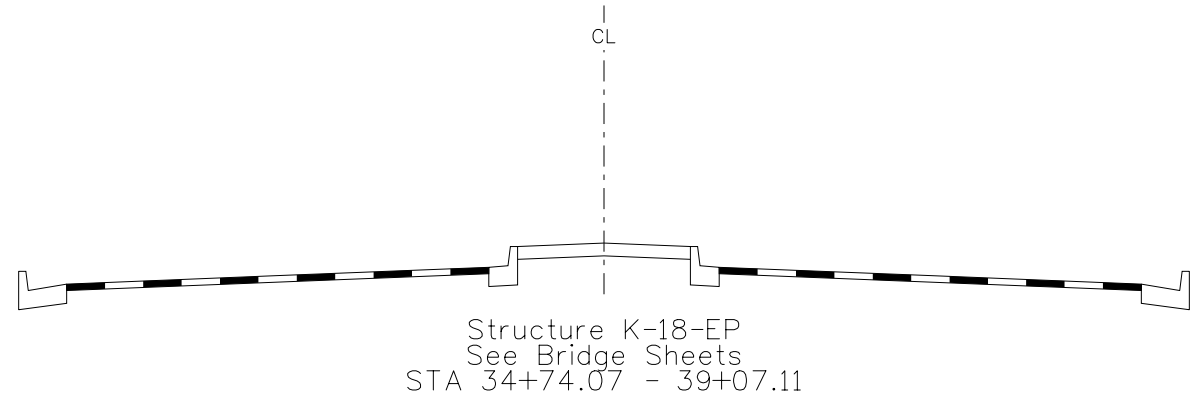
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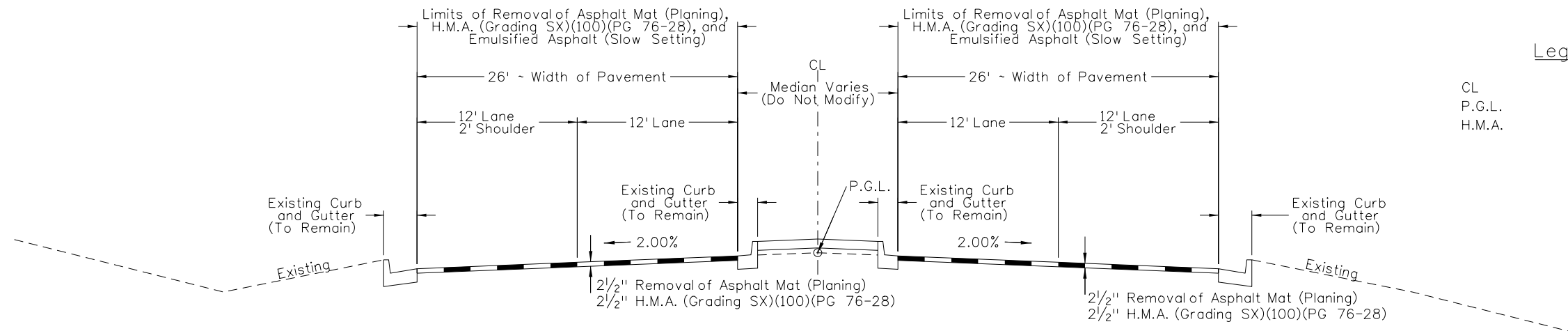
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TYPICAL SECTION			
Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	TYP	Subset Sheets:	01 of 09

Project No./Code
STM SH45-001
20755
Sheet Number 3



NOTES:
 1. Transition NB from 12' Lanes to 11' Lanes from STA 29+75.09 to STA 32+95.91
 2. Transition SB from 12' Lanes to 11' Lanes from STA 30+49.62 to 33+44.74



Legend
 CL ~ Center Line
 P.G.L. ~ Profile Grade Line
 H.M.A. ~ Hot Mix Asphalt

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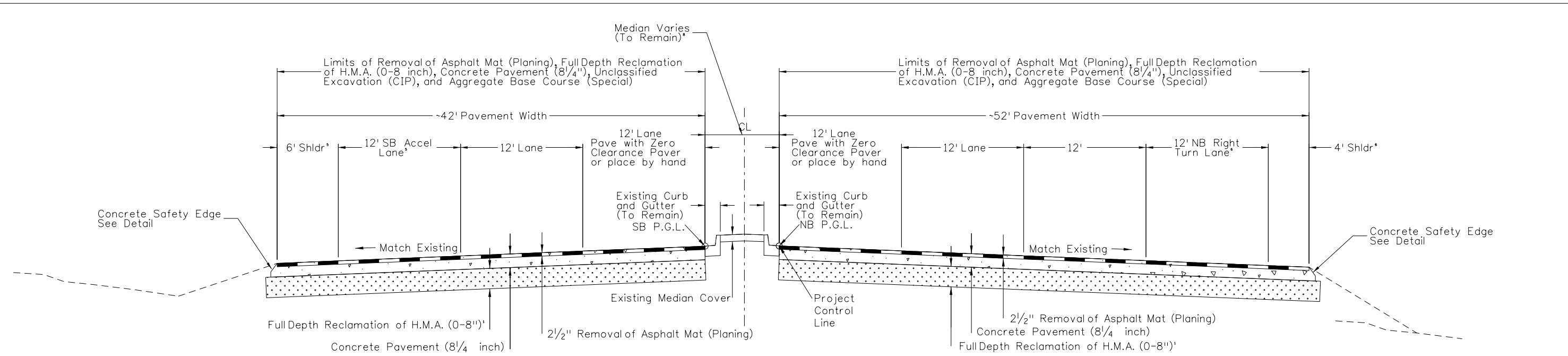
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Revised:
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TYPICAL SECTION			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	TYP	Subset Sheets:	02 of 09

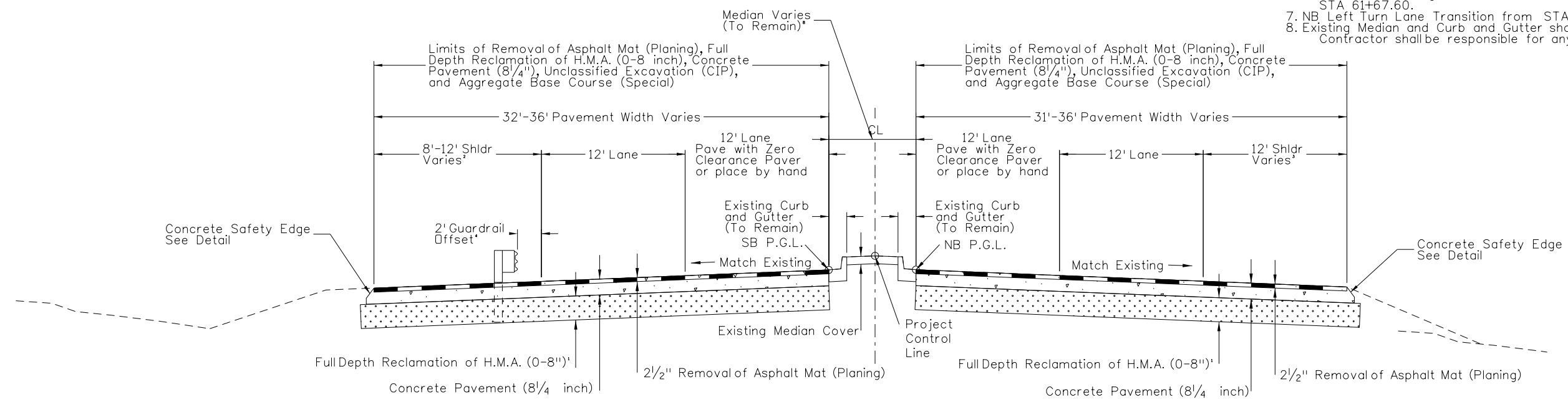
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	20755
Sheet Number	4

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Concrete Rebuild
STA 53+23.87 - 66+21.15

- NOTES:
1. Full Depth Reclamation Material shall be stockpiled and replaced after Unclassified Excavation (CIP) has been completed in order to maintain existing roadway profile. Removal, Stock piling, and replacement of FDR material shall be included in the cost of the Aggregate Base Course (Special).
 2. SB Shoulder Transition from STA 39+24.42 to STA 46+45.38.
 3. NB Shoulder Transition from STA 39+51.55 to STA 48+98.93.
 4. Guardrail offset varies for pedestrian and bike access. See Roadway Plans. Guardrail located from STA 39+43.14 to STA 91+35.43
 5. SB Shoulder and Accel Lane Transition from STA 53+23.87 to STA 57+02.43.
 6. NB Shoulder and Right Lane Transition from STA 59+21.70 to STA 61+67.60.
 7. NB Left Turn Lane Transition from STA 58+71.46 to STA 61+10.86.
 8. Existing Median and Curb and Gutter shall not be modified. The Contractor shall be responsible for any damage during construction.



Concrete Rebuild
STA 39+07.11 - STA 53+23.87

Legend

- CL - Center Line
- P.G.L. - Profile Grade Line
- H.M.A. - Hot Mix Asphalt

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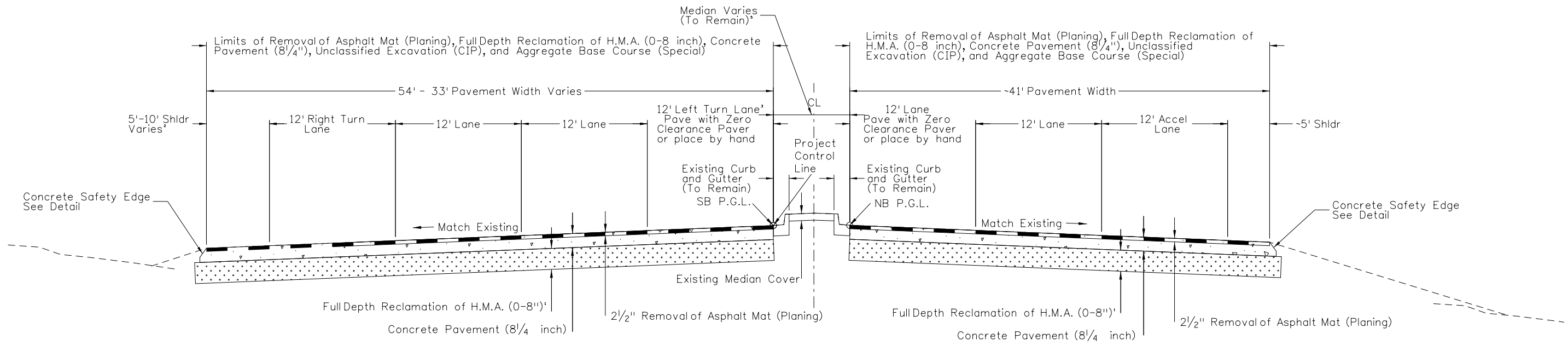
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Region 2 DTD

As Constructed	TYPICAL SECTION	
No Revisions:	Designer: LEP	Structure Numbers
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Project No./Code	STM SH45-001
	20755
Sheet Number	5

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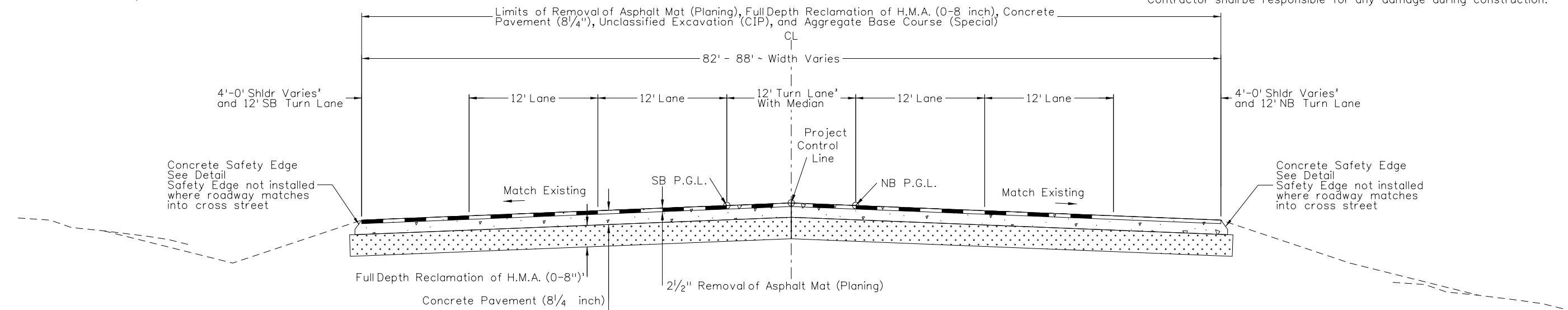
Concrete Rebuild
STA 68+57.77 - 77+92.33

Legend

- CL ~ Center Line
- P.G.L. ~ Profile Grade Line
- H.M.A. ~ Hot Mix Asphalt

NOTES:

1. Full Depth Reclamation Material shall be stockpiled and replaced after Unclassified Excavation (CIP) has been completed in order to maintain existing roadway profile. Removal, Stock piling, and replacement of FDR material shall be included in the cost of the Aggregate Base Course (Special).
2. SB Turn lane and shoulder are not typical through the intersection. See the Roadway Plan sheets for information.
3. NB Turn lane and median vary in the intersection. See roadway plan sheets for information.
4. Shoulder Transition from 5' to 10' and Right Turn Transition from STA 74+61.04 - STA 77+92.33.
5. Existing Median and Curb and Gutter shall not be modified. The Contractor shall be responsible for any damage during construction.



Concrete Rebuild
STA 66+21.15 - STA 68+57.77

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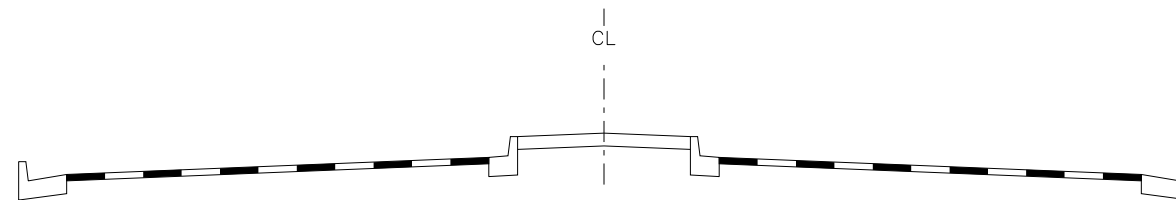
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As Constructed	TYPICAL SECTION			Project No./Code
No Revisions:				STM SH45-001
Revised:	Designer:	LEP	Structure Numbers	20755
Void:	Detailer:	LEP	Subset Sheets: 04 of 09	Sheet Number 6

Legend

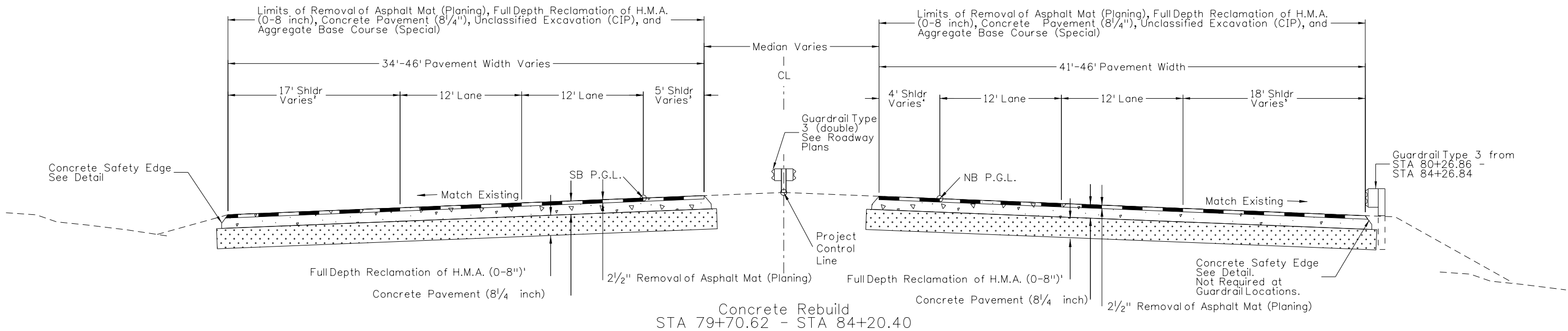
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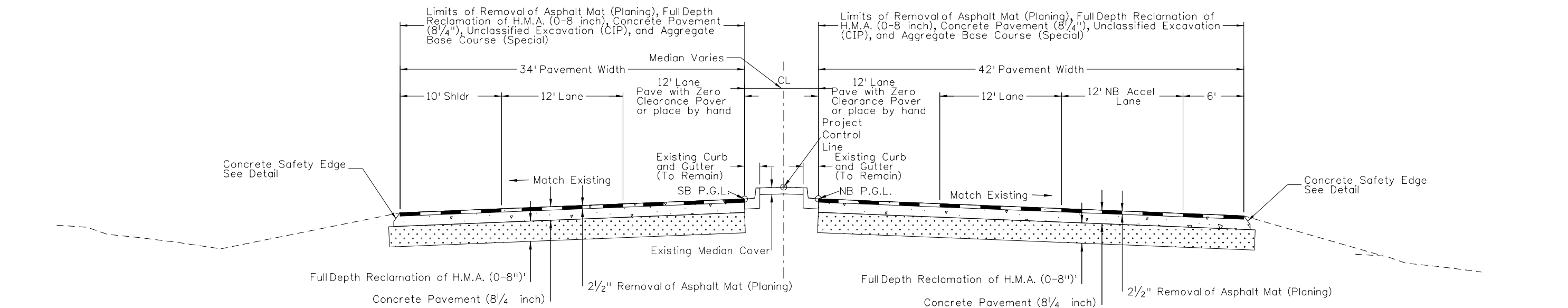
Structures K-18-EV and K-18-EU
See Bridge Sheets
STA 84+82.40 - STA 86+30.00

NOTES:

1. Full Depth Reclamation Material shall be stockpiled and replaced after Unclassified Excavation (CIP) has been completed in order to maintain existing roadway profile. Removal, Stock piling, and replacement of FDR material shall be included in the cost of the Aggregate Base Course (Special).
2. SB Shoulder Transition from STA 80+14.83 to STA 84+76.27.
3. Inside SB Shoulder Transitions from 0 to 5' from STA 79+70.62 to STA 84+20.40.
4. Inside NB Shoulder Transitions from 0-4' from STA 79+70.62 to STA 84+20.40.
5. NB Shoulder and Lane Transitions from STA 81+05.65 to STA 84+05.53.
6. Existing Median and Curb and Gutter shall not be modified. The Contractor shall be responsible for any damage during construction.



Concrete Rebuild
STA 79+70.62 - STA 84+20.40



Concrete Rebuild
STA 77+92.33 - STA 79+70.62

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Unit Information

Sheet Revisions		
Date:	Comments	Init.

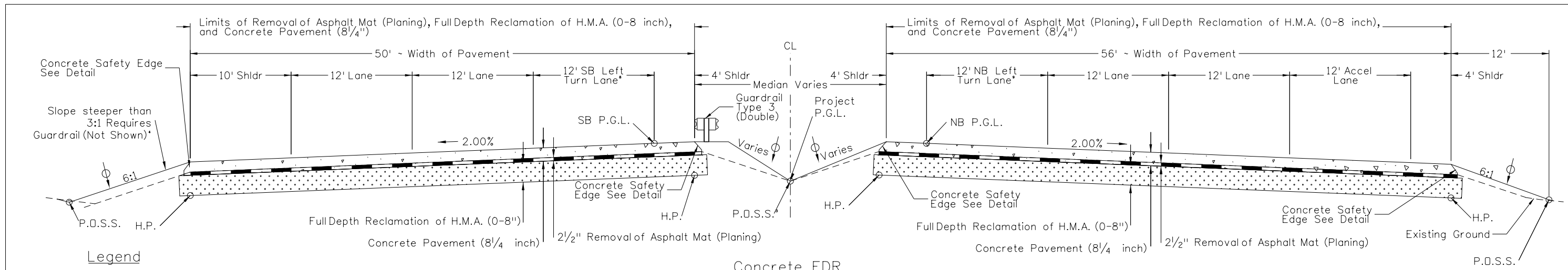
Colorado Department of Transportation
Region 2
902 Erie Avenue
Pueblo, CO 81001
Phone: 719-562-5509 FAX: 719-546-5702
DTD

As Constructed
No Revisions:
Revised:
Void:

TYPICAL SECTION			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	TYP	Subset Sheets:	05 of 09

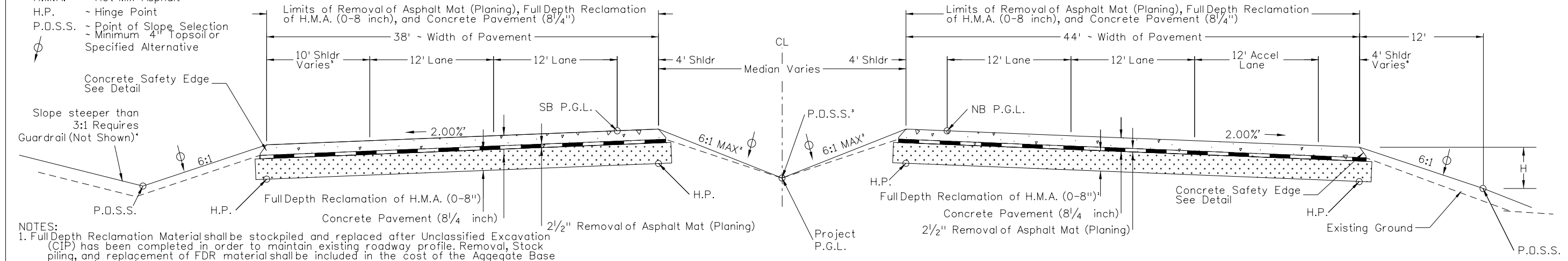
Project No./Code
STM SH45-001
20755
Sheet Number 7

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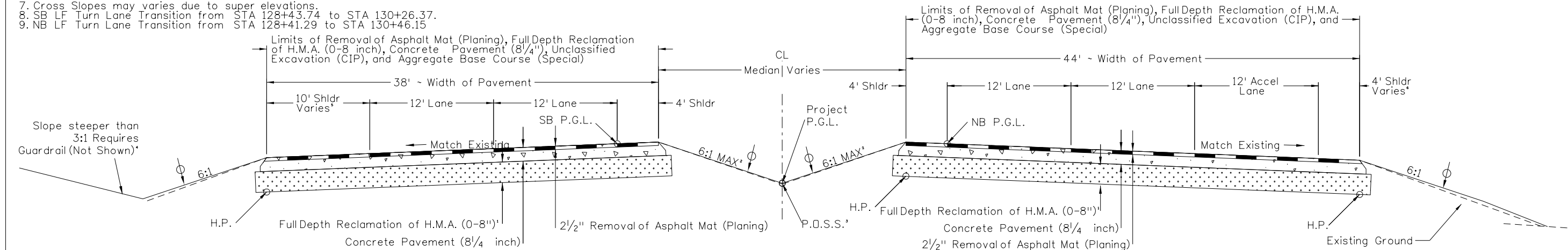
Concrete FDR
STA 123+86.38 - STA 130+46.15

- Legend**
- CL ~ Center Line
 - P.G.L. ~ Profile Grade Line
 - H.M.A. ~ Hot Mix Asphalt
 - H.P. ~ Hinge Point
 - P.D.S.S. ~ Point of Slope Selection - Minimum 4' Topsoil or Specified Alternative



Concrete FDR
STA 86+11.97 NB or STA 86+86.08 SB - STA 123+86.38
STA 130+46.15 - STA 176+24.21

- NOTES:**
1. Full Depth Reclamation Material shall be stockpiled and replaced after Unclassified Excavation (CIP) has been completed in order to maintain existing roadway profile. Removal, Stock piling, and replacement of FDR material shall be included in the cost of the Aggregate Base Course (Special).
 2. Median shall be sloped to match existing cable barrier. Slopes shall be no greater than 6:1.
 3. Cable barrier and median rail not shown.
 4. SB Guardrail from STA 86+85.54 to STA 91+35.43 not shown.
 5. SB Shoulder transition from STA 86+53.52 to STA 91+66.53.
 6. NB Shoulder from STA 86+10.37 to STA 88+71.13.
 7. Cross Slopes may vary due to super elevations.
 8. SB LF Turn Lane Transition from STA 128+43.74 to STA 130+26.37.
 9. NB LF Turn Lane Transition from STA 128+41.29 to STA 130+46.15.



Concrete Rebuild
STA 86+11.97 - STA 86+33.35 NB
And STA 86+55.29 - STA 86+86.08 SB

Print Date: 3/6/2017	
File Name: 20755DES_TypSect06.dgn	
Horiz. Scale: 1:10	Vert. Scale: As Noted
Unit Information	Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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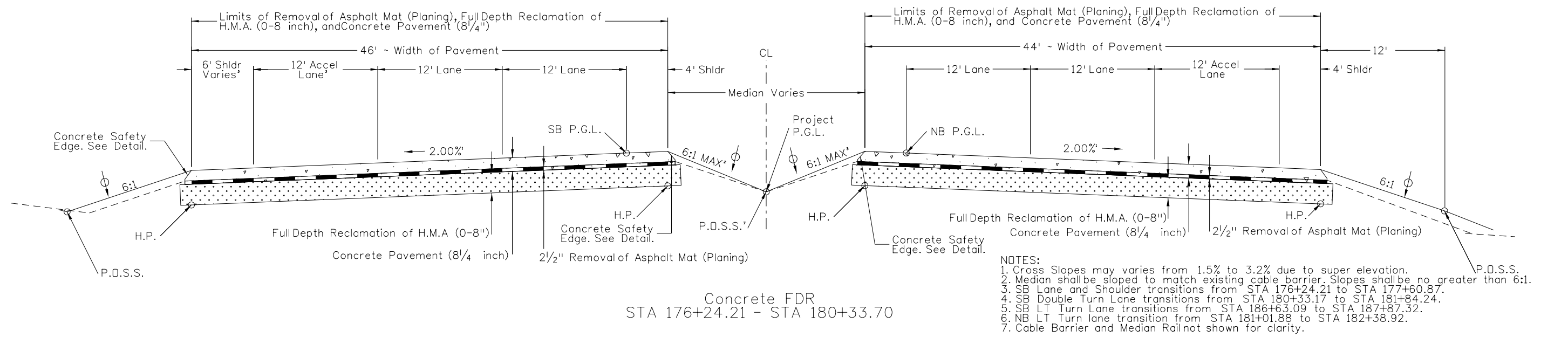
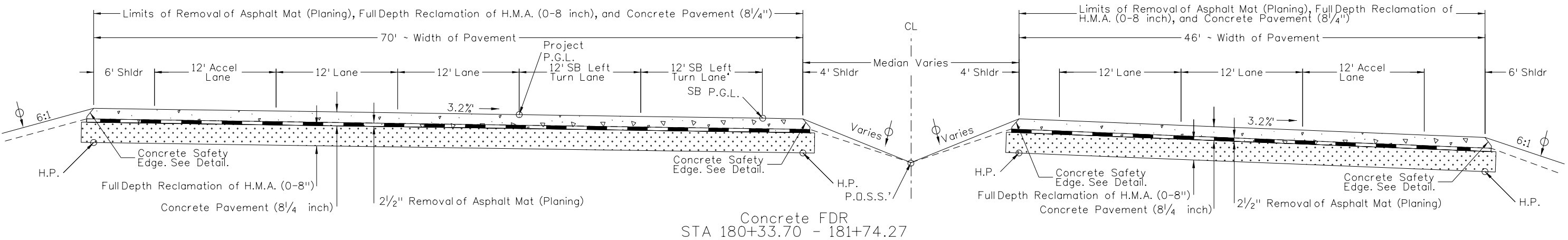
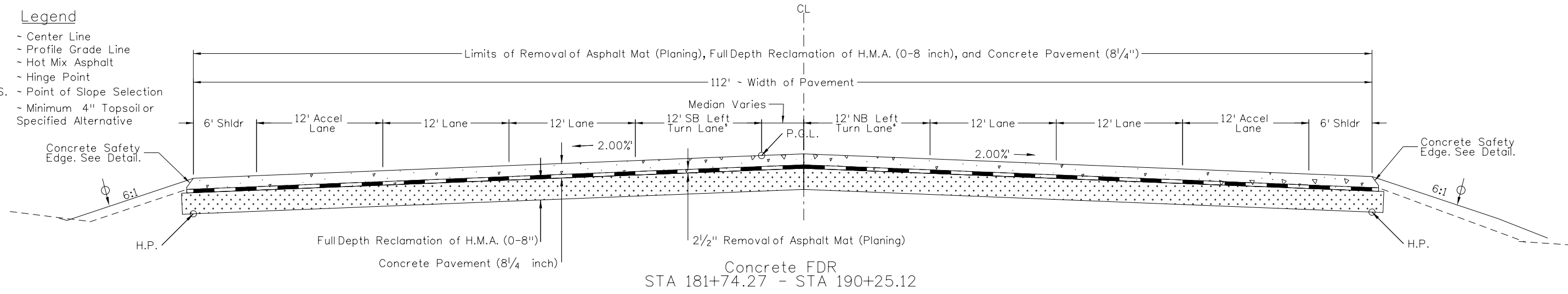
Region 2 DTD

As Constructed	TYPICAL SECTION		Project No./Code
No Revisions:			STM SH45-001
Revised:	Designer: LEP	Structure Numbers	20755
Void:	Detailer: LEP	Subset Sheets: 06 of 09	Sheet Number 8

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Legend

- CL ~ Center Line
- P.G.L. ~ Profile Grade Line
- H.M.A. ~ Hot Mix Asphalt
- H.P. ~ Hinge Point
- P.D.S.S. ~ Point of Slope Selection
- ⊕ ~ Minimum 4" Topsoil or Specified Alternative



- NOTES:**
1. Cross Slopes may varies from 1.5% to 3.2% due to super elevation.
 2. Median shall be sloped to match existing cable barrier. Slopes shall be no greater than 6:1.
 3. SB Lane and Shoulder transitions from STA 176+24.21 to STA 177+60.87.
 4. SB Double Turn Lane transitions from STA 180+33.17 to STA 181+84.24.
 5. SB LT Turn Lane transitions from STA 186+63.09 to STA 187+87.32.
 6. NB LT Turn lane transition from STA 181+01.88 to STA 182+38.92.
 7. Cable Barrier and Median Rail not shown for clarity.

Print Date: 3/6/2017	
File Name: 20755DES_Typ1Sect07.dgn	
Horiz. Scale: 1:10	Vert. Scale: As Noted
Unit Information	Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

902 Erie Avenue
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Phone: 719-562-5509 FAX: 719-546-5702


Region 2 DTD

As Constructed	TYPICAL SECTION		
No Revisions:	Designer:	LEP	Structure Numbers
Revised:	Detailer:	LEP	
Void:	Sheet Subset:	TYP	Subset Sheets: 07 of 09

Project No./Code	STM SH45-001
	20755
Sheet Number	9

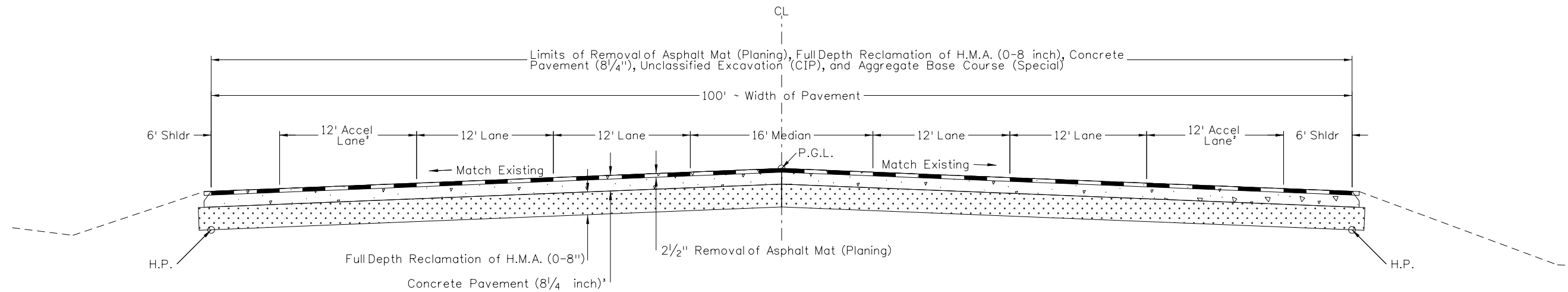
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Legend

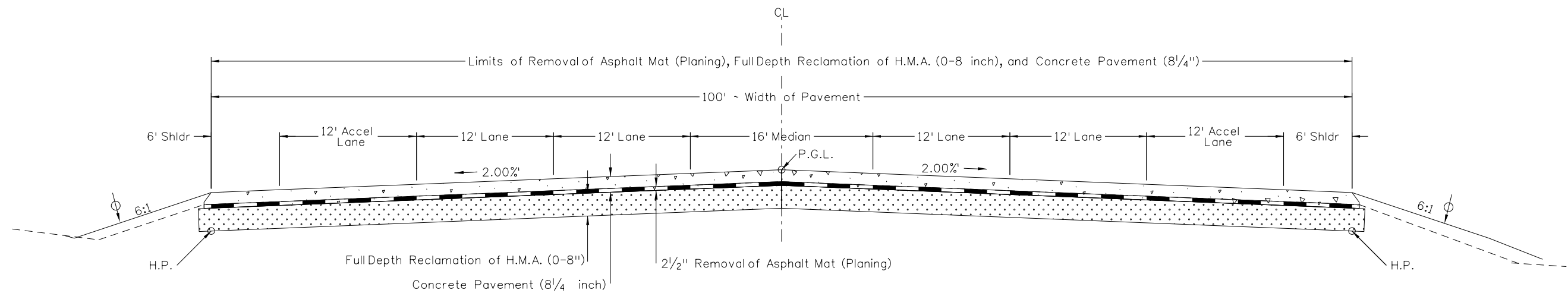
- CL ~ Center Line
- P.G.L. ~ Profile Grade Line
- H.M.A. ~ Hot Mix Asphalt
- H.P. ~ Hinge Point
- P.D.S.S. ~ Point of Slope Selection
-  ~ Minimum 4" Topsoil or Specified Alternative

NOTES:

1. Cross Slopes may varies due to super elevations.
2. Accellane does not continue after existing US 50 Ramps. Shoulders transition to match existing roadway.
3. Full Depth Reclamation Material shall be stockpiled and replaced after. Unclassified Excavation (CIP) has been completed in order to maintain existing roadway profile. Removal, Stock piling, and replacement of FDR material shall be included in the cost of the Aggregate Base Course (Special).



Concrete Rebuild
STA 197+78.53 - STA 200+66.00



Concrete FDR
STA 190+25.12 - STA 197-78.53

Print Date: 3/6/2017
File Name: 20755DES_TypSect08.dgn
Horiz. Scale: 1:10 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



902 Erie Avenue
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Phone: 719-562-5509 FAX: 719-546-5702

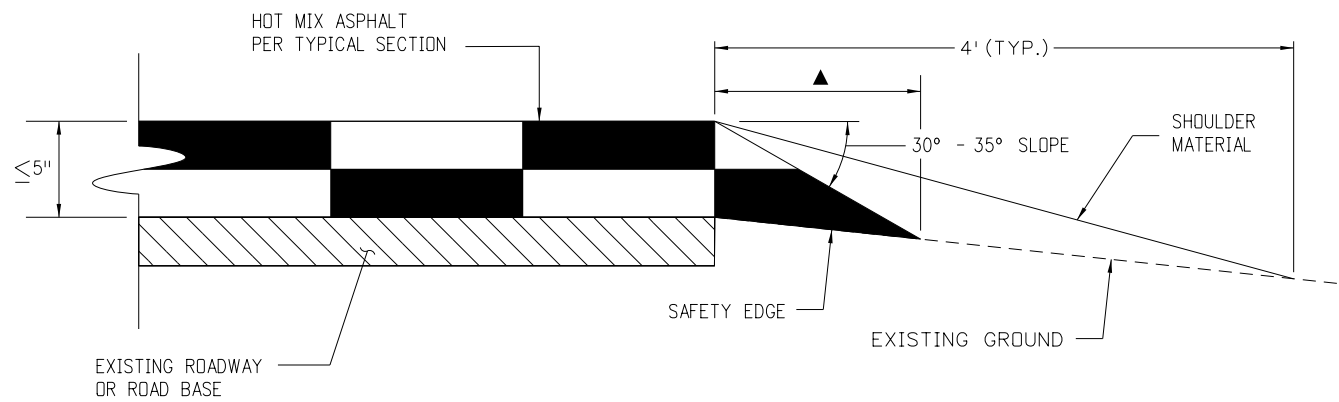
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

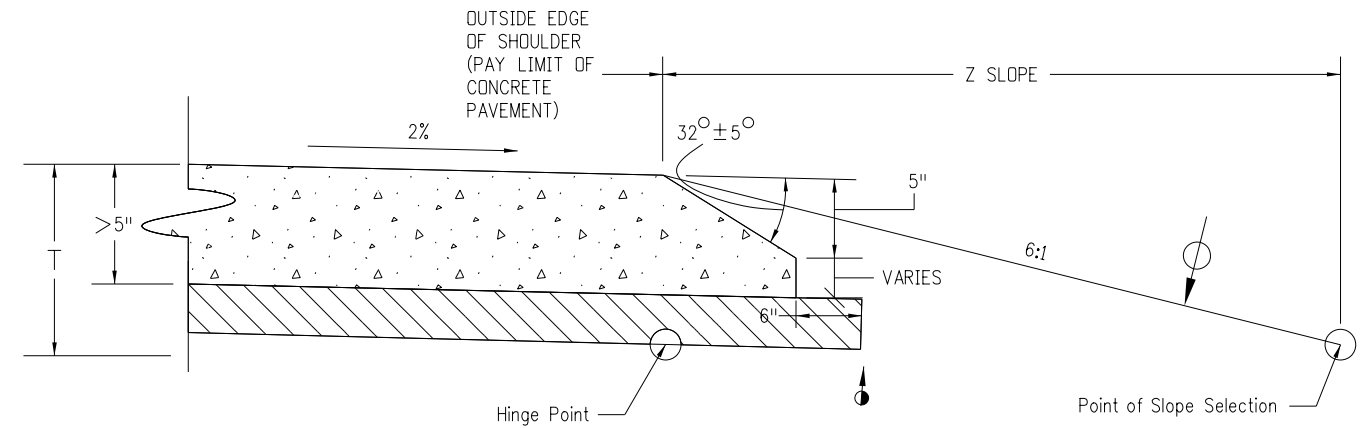
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Detailer:	LEP	Sheet Subset:	TYP
Subset Sheets:	08 of 09		

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20755
Sheet Number **10**

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SAFETY EDGE DETAIL FOR HOT MIX ASPHALT PAVEMENT
LESS THAN OR EQUAL TO 5 INCHES
(INCLUDED IN THE COST OF ASPHALT)



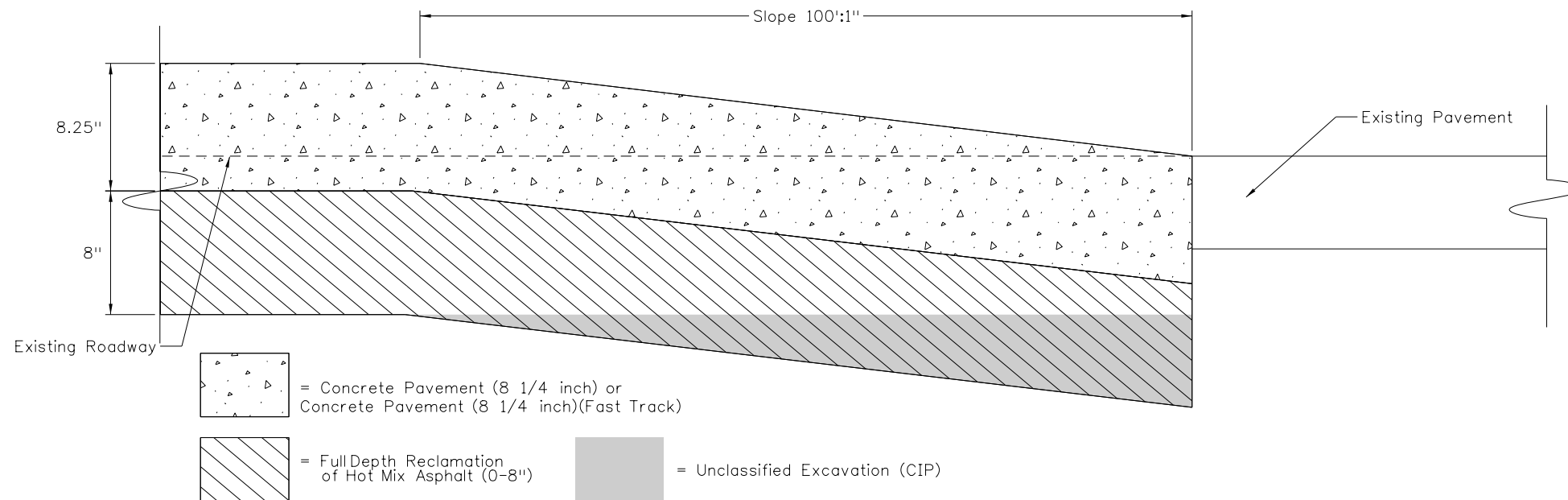
SAFETY EDGE DETAIL FOR CONCRETE PAVEMENT
GREATER THAN 5 INCHES
(PAID AS CONCRETE SAFETY EDGE (LF))

LEGEND

- ▲ - SAFETY EDGE WITH A 30°-35° SLOPE AND SHOULDER MATERIAL (SEE SAFETY EDGE DETAILS).
- T - TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.
- ▨ - BASE COURSE
- ▧ - SUBBASE
- - SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)
- ⊙ - MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.

GENERAL NOTES

1. THE SAFETY EDGE WILL BE CONSTRUCTED AS PART OF THE ROADWAY PAVEMENT. A SHOULDER WEDGE DEVICE WILL BE ADDED TO THE SCREED OF THE PAVING MACHINE.
2. THE CONTRACTOR MAY USE A SHOULDER WEDGE MAKER OR A SIMILAR DEVICE THAT PRODUCES THE SAME COMPACTION RESULTS.
3. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS.
4. SITE PREPARATION AND ADDITIONAL EARTHWORK REQUIRED TO CONSTRUCT THE SAFETY EDGE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.



CONCRETE TRANSITION FOR EXISTING ELEVATIONS
ALSO TO BE USED FOR EXISTING SIDE ROADS*

* The 100':1" slope requirements may not apply to the side road applications. Some will need to be field fit due to the roadway profile.

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File Name: 20755DES_TypSect09.dgn	
Horiz. Scale: 1:10 Vert. Scale: As Noted	
Unit Information Unit Leader DTD	

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



902 Erie Avenue
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Phone: 719-562-5509 FAX: 719-546-5702

Region 2 DTD

As Constructed	TYPICAL SECTION			Project No./Code
No Revisions:				STM SH45-001
Revised:	Designer: LEP	Structure Numbers		20755
Void:	Detailer: LEP	Sheet Subset: TYP	Subset Sheets: 09 of 09	Sheet Number 11

CONCRETE EXPANSION JOINTS WILL BE REQUIRED AT 1 MILE INTERVALS. SLEEPER SLABS FOR THE CONCRETE EXPANSIONS WILL BE CLASS P CONCRETE. REINFORCING STEEL WILL BE GRADE 60 EPOXY COATED. THE COST OF THE CONCRETE, REINFORCING STEEL, AND GALVANIZED STEEL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF ITEM 412 CONCRETE PAVEMENT BID ITEM.

AT EACH OF THE RECONSTRUCTION EXPANSION JOINTS A PIPE EDGE DRAIN SHALL BE INSTALLED PER M-605-1 OF THE M&S STANDARD PLANS. THE EDGE DRAIN SHALL CONTINUE 2 FEET BEYOND BOTH SIDES OF THE EXPANSION JOINT AND INCLUDE A TRANSVERSE UNDERDRAIN AT EACH END ON THE EDGE DRAIN. IF THE UNDERDRAIN PIPE CANNOT DRAIN OUTSIDE OF THE ROADWAY PRISM, THE PIPE EDGE DRAIN SHALL NOT BE INSTALLED. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE OF ITEM 412 CONCRETE PAVEMENT.

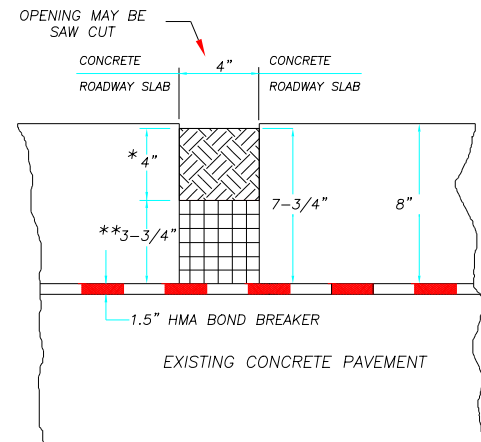
STATION +/- 50 FEET

4" X 4" OVERLAY JOINT
NOT REQUIRED

4" X 6" RECONSTRUCTION JOINT
ESTIMATED TO BE AT 10 LOCATIONS
(LOCATIONS TO BE VERIFIED IN THE
FIELD WITH THE ENGINEER)
STA 40+00 NB AND SB LANES
STA 84+00 NB AND SB LANES
STA 87+30 NB AND SB LANES
STA 143+00 NB AND SB LANES
STA 199+50 NB AND SB LANES

OVERLAY EXPANSION JOINT DETAIL

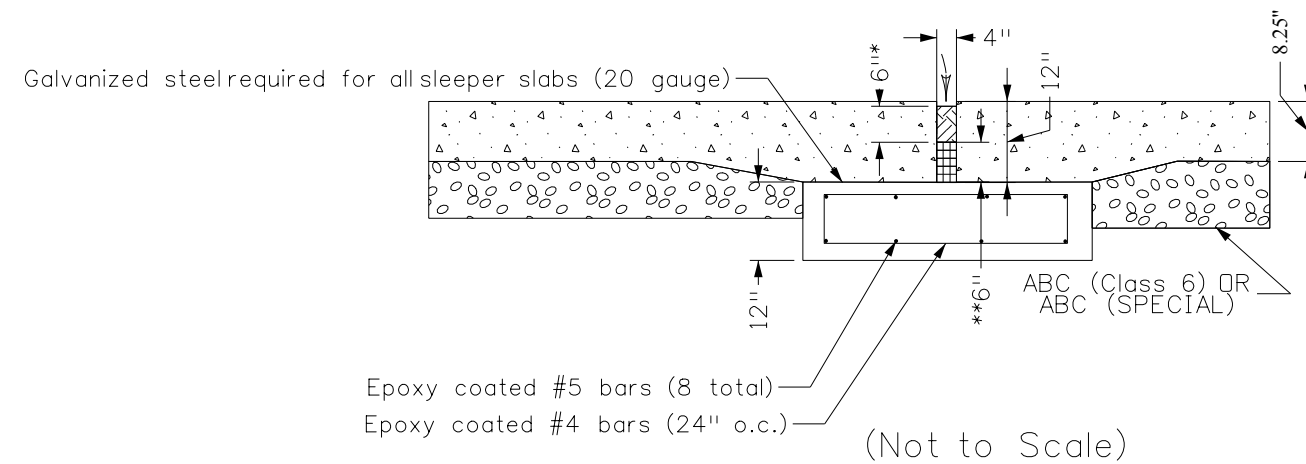
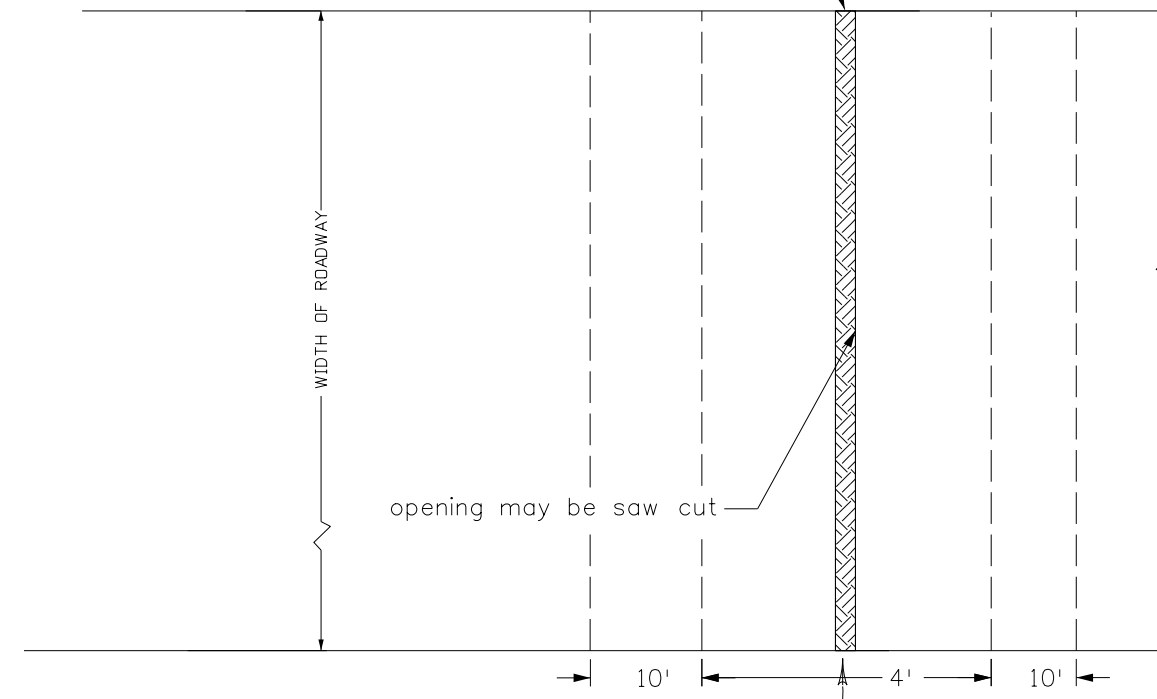
NOT TO SCALE. SECTIONS TAKEN PARALLEL TO ROADWAY



* 4" X 4" AND 4" X 6" PRECOMPRESSED CHEMICALLY RESISTANT FOAM SEALANT. COMPOSED OF OPEN CELL POLYURETHANE FOAM IMPREGNATED WITH NEOPRENE RUBBER SUSPENDED IN CHLORINATED HYDROCARBONS, SIMILAR TO WILLSEAL TYPE 150. THE COST SHALL BE INCLUDED IN THE 412 CONCRETE PAVEMENT ITEM.

** STYROFOAM OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.

APPROXIMATELY 100 FEET FROM BRIDGE EXPANSION JOINT AND EVERY 1 MILE



(Not to Scale)

Print Date: 3/22/2017	Sheet Revisions			Colorado Department of Transportation	As Constructed	CONCRETE COMPRESSION JOINT DETAIL			Project No./Code
File Name: 20755DES_Expansion Joint Detail.dgn	Date:	Comments	Init.		No Revisions:				STM SH45-001
Horiz. Scale: 1:12	Vert. Scale: As Noted			 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	Revised:	Designer: LEP	Structure Numbers	20755	
Unit Information	Unit Leader DTD				Void:	Detailer: LEP	Subset Sheets:	Sheet Number	
						Sheet Subset: DETAIL		12	

GENERAL NOTES

1. For preliminary plan quantities of pavement materials, the following rates of application were used:
 Tack Coat Diluted Emulsified Asphalt.....@ 0.1 Gals./Sq. Yd.
 Hot Mix Asphalt (Grade SX)(100)(76-28).....@ 110 Lbs./Sq. Yd./Inch
2. Diluted emulsified asphalt for tack coat shall consist of 1 part emulsified asphalt and 1 part water.
3. Water shall be used as a dust palliative where required. Locations shall be as directed by the Engineer.
4. The following shall be furnished with each bituminous paver:
 1. A ski type device at least 30 Feet in length.
 2. Short ski or shoe.
5. Any layer of Hot Mix Asphalt that is to have a succeeding layer placed thereon shall be completed full width before succeeding layer is placed.
6. Asphalt joints shall be constructed in accordance to Section 401.16 of the Standard Specifications. A longitudinal joint and pavement marking plan shall be submitted at least 3 days prior to the pre-pave conference.
7. All travel lanes are subject to smoothness incentive/disincentive payments. Asphalt Pavement smoothness incentive/disincentive shall be MRI Category I and shall be based on Inches/Mile. Portland Cement Concrete Construction (PCCP) smoothness incentive/disincentive shall be MRI Category II and shall be based on Inches/Mile. The new pavement does not have to match the existing curb and gutter.
8. The Contractor shall not park any vehicles or equipment in, or disturb any areas not approved by the Engineer.
9. Prior to placing any Hot Mix Asphalt, the paved or milled surface shall be swept and cleaned. This will not be paid for separately, but shall be included in the cost of the Hot Mix Asphalt Pavement or Removal of Asphalt Mat items.
10. The Contractor shall coordinate the shouldering operation such that full compliance to the existing grades is obtained on a daily basis following the paving operation for the affected area unless otherwise approved by the Engineer.
11. The pavement shall be cut to a neat line as directed by the Engineer. This will not be paid for separately, but shall be included in the Hot Mix Asphalt Pavement item.
12. Excavation required for compaction of bases of cuts and fills will be considered as subsidiary to that operation and will not be paid for separately.
13. It is estimated that **2 Sanitary Facility (EA)** will be required on this project for use by CDOT staff only and shall be paid for under 620 Sanitary Facilities (EA). The Contractor shall clean the sanitary facilities twice per week. The cost of cleaning will not be paid for separately, but shall be included in the cost of the item. The Contractor is required to provide sanitary facilities for construction personnel in compliance with OSHA requirements no additional cost to the project.
14. It is estimated that **1 Field Office (Class 2) (EA)** and **1 Field Laboratory (Class 2) (EA)** shall be required on this project.
15. It is estimated that **1 Public Information Services (Tier III) (LS)** will be required on this project.
16. It is estimated that **38 hours** will be required for **Potholing**. The Contractor shall be responsible for contacting and coordinating with the appropriate utility representatives to be onsite during potholing and shall likewise be responsible for determining the type and location of underground utilities as maybe necessary to avoid damage thereto. The Contractor shall refer to the utility specification for additional requirements.
17. It is estimated that **472 tons of Hot Mix Asphalt Pavement (patching)** will be required on this project. It is assumed that 172 tons will be required for widening at guardrail locations as indicated in the M&S standard plans. The remaining asphalt patching may be used for detours installed and shall be as directed by the Engineer.
18. No Right-Of-Way acquisition will be needed for this project. All work will be completed entirely within the existing Right-Of-Way.
19. Where new pavement is to abut existing pavement, the existing pavement shall be removed to a neat vertical line using a cutting saw or other method as approved by the Engineer. Saw cutting asphalt will not be paid for separately, but shall be included in the cost of Removal of Asphalt Mat.
20. All surveying necessary to complete the project shall be paid for as **625 Construction Survey (LS)**.
21. The Contractor shall protect all existing survey monumentation designated to remain from damage during construction operations. Any monuments disturbed by the Contractor that are not designated for relocation, shall be reset at the Contractor's expense. The Contractor and Engineer shall note those monuments in the field prior to construction. See Tabulation of Survey.
22. The Contractor shall submit a concrete pavement joint plan to the Engineer 10 days prior to beginning and Portland cement concrete construction.
23. It is estimated that **52,300 LF** of concrete safety edge shall be required and shall be paid for as **Concrete Safety Edge (LF)**.
24. It is estimated that Geogrid Reinforcement may be required at locations where the subgrade is unacceptable. The use of the Geogrid Reinforcement shall be paid for under **Stabilization (F.A.)** and shall be used at the discretion of the Engineer.
25. The minimum thickness of topsoil shall be **4 Inches**. It is estimated that **8870 Cu. Yds.** will be required based on the average thickness of **4 Inches** and shall be paid for as **Top Soil (CY)**.
26. Stabilization and Striping may require multiple mobilizations do to phasing of the project. The additional mobilizations shall not be paid for separately, but shall be included in the cost of the work.
27. Utility lines shown on the plan sheets are plotted from the best available information. The Contractor's attention is directed to subsection 105.11 of the Standard Specifications concerning utilities. The Contractor shall comply with article 1.5 of title 9, CRS ("excavation requirements") when excavating or grading is planned in areas of underground utilities. The Contractor shall notify all the affected utilities a least 2 business days, not including the actual day of notice, prior to commencing such operations. The Contractor shall contact the utility notification center of Colorado at 811 or 800-922-1987, to have lines of UNCC registered lines marked my member companies. UNCC does not locate CDOT owned fiber optic. For CDOT owned utilities call Tony Kerr at 719-251-4201. All other underground facilities shall be located by contacting the respective owners. The Contractor shall be responsible for the verification and protection of all utilities at no additional cost to the project.

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File Name: 20755DES_GenNote01.dgn		Date:	Comments	Init.		No Revisions:				STM SH45-001
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure		
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Numbers		
					Sheet Subset: GENERAL	Subset Sheets:	01 of 01	Sheet Number	13	

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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY			K-18-EP			K-18-EU			K-18-EV			Minor 045A-007100BL		PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.	PLAN	AS CONST.
			202-00090	Removal of Delineator	EACH	114														114	
			202-00195	Removal of Median Cover	SY	1,024														1,024	
			202-00200	Removal of Sidewalk	SY	19														19	
			202-00203	Removal of Curb and Gutter	LF	1,239														1,239	
			202-00240	Removal of Asphalt Mat (Planing)	SY	187,614														187,614	
			202-00241	Removal of Asphalt Mat (Planing)(Special)	CY					2,532					791					4,139	
			202-00504	Removal of Expansion Device	LF					59										59	
			202-00810	Removal of Ground Sign	EACH	6														6	
			202-01130	Removal of Guardrail Type 3	LF	5,250														5,250	
			202-01180	Removal of Median Barrier	LF	915														915	
			202-01300	Removal of End Anchorage	EACH	8														8	
			203-00010	Unclassified Excavation (Complete In Place)	CY	19,740														19,740	
			203-00060	Embankment Material (Complete In Place)	CY	5,722														5,722	
			203-01500	Blading	HOUR	160														160	
			203-01510	Backhoe	HOUR	160														160	
			203-01550	Dozing	HOUR	160														160	
			203-01594	Combination Loader	HOUR	160														160	
			203-01597	Potholing	HOUR	30														30	
			203-02330	Laborer	HOUR	80														80	
			206-00065	Structure Backfill (Flow-Fill)	CY													15		15	
			207-00205	Topsoil	CY	8,070														8,070	
			208-00002	Erosion Log Type 1 (12 Inch)	LF	5,000														5,000	
			208-00020	Silt Fence	LF	5,000														5,000	
			208-00035	Aggregate Bag	LF	150														150	
			208-00041	Rock Check Dam	EACH	10														10	
			208-00045	Concrete Washout Structure	EACH	4														4	
			208-00070	Vehicle Tracking Pad	EACH	4														4	
			208-00103	Removal and Disposal of Sediment (Labor)	HOUR	80														80	
			208-00105	Removal and Disposal of Sediment (Equipment)	HOUR	80														80	
			208-00106	Sweeping (Sediment Removal)	HOUR	80														80	
			208-00107	Removal of Trash	HOUR	80														80	
			208-00207	Erosion Control Management	DAY	218														218	
			210-00473	Reset TV Cameras	EACH	4														4	

Print Date: 3/7/2017		Sheet Revisions			Colorado Department of Transportation				As Constructed		SUMMARY OF APPROXIMATE QUANTITIES				Project No./Code	
File Name: 20755DES_SAO01.dgn		Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD				No Revisions:		Designer: LEP		Structure Numbers		STM SH45-001	
Horiz. Scale: 1:200 Vert. Scale: As Noted									Revised:						Detailer: LEP	
Unit Information Unit Leader DTD									Void:		Sheet Subset: SOAQ		Subset Sheets: 01 of 05		Sheet Number 14	


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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY			K-18-EP			K-18-EU			K-18-EV			Minor 045A-007100BL		PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.	PLAN	AS CONST.
			210-00476	Reset Microwave Vehicle Radar Detector (MVRD)	EACH	4														4	
			210-00810	Reset Ground Sign	EACH	2														2	
			210-04020	Modify Inlet	EACH	3														3	
			212-00006	Seeding (Native)	ACRE	15														15	
			212-00009	Seeding (Temporary)	ACRE	15														15	
			212-00032	Soil Conditioning	ACRE	15														15	
			213-00012	Spray-on Mulch Blanket	ACRE	30														30	
			213-00061	Mulch Tackifier	LB	3,000														3,000	
			304-06008	Aggregate Base Course (Class 6) (Special)	CY	13,540														13,540	
			310-00608	Full Depth Reclamation of Hot Mix Asphalt Pavement (0-8")	SY	168,437														168,437	
			403-00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	472														472	
			403-33871	Hot Mix Asphalt (Grading S) (100) (PG 76-28)	TON	2,872														2,872	
			403-34841	Hot Mix Asphalt (Grading SX) (100) (PG 64-22)	TON				275			86			89					450	
			411-10255	Emulsified Asphalt (Slow-Setting)	GAL	1,899														1,899	
			412-00825	Concrete Pavement (8-1/4 Inch)	SY	127,640														127,640	
			412-00835	Concrete Pavement (8-1/4 Inch) (Fast Track)	SY	32,865														32,865	
			412-02000	Concrete Safety Edge	LF	52,300														52,300	
			503-00018	Drilled Caisson (18 Inch)	LF	18														18	
			503-00036	Drilled Caisson (36 Inch)	LF	38														38	
			503-00048	Drilled Caisson (48 Inch)	LF	42														42	
			503-00054	Drilled Caisson (54 Inch)	LF	63														63	
			509-00001	Structural Steel (Galvanized)	LB				230											230	
			518-01001	Bridge Expansion Joint (Asphaltic Plug)	LF				53			107								160	
			518-01004	Bridge Expansion Device (0-4 Inch)	LF				59											59	
			518-03000	Sawing and Sealing Bridge Joint	LF									111						111	
			601-03041	Concrete Class D (Bridge) (Special)	CY				6											6	
			606-00301	Guardrail Type 3 (6-3 Post Spacing)	LF	3,075														3,075	
			606-00350	Guardrail Type 3 (Double) (6-3 Post Spacing)	LF	1,325														1,325	
			606-00720	Guardrail Type 7 (Style CC)	LF	90														90	
			606-01370	Transition Type 3G	EACH	7														7	
			606-01380	Transition Type 3H	EACH	5														5	
			606-01460	Median Terminal	EACH	4														4	

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SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SOAQ	Subset Sheets:	02 of 05

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	20755
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY			K-18-EP			K-18-EU			K-18-EV			Minor 045A-007100BL		PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.	PLAN	AS CONST.
			606-02005	End Anchorage (Flared)	EACH	8														8	
			607-11525	Fence (Plastic)	LF	300														300	
			608-00000	Concrete Sidewalk	SY	19														19	
			608-00010	Concrete Curb Ramp	SY	46														46	
			609-20010	Curb Type 2 (Section B)	LF	145														145	
			609-21011	Curb and Gutter Type 2 (Section I-M)	LF	1,115														1,115	
			610-00020	Median Cover Material (Patterned Concrete)	SF	4,250														4,250	
			610-00030	Median Cover Material (Concrete)	SF	2,430														2,430	
			612-00001	Delineator (Type I)	EACH	132														132	
			612-00002	Delineator (Type II)	EACH	76														76	
			612-00003	Delineator (Type III)	EACH	38														38	
			613-00206	2 Inch Electrical Conduit (Bored)	LF	1,325														1,325	
			613-00306	3 Inch Electrical Conduit (Bored)	LF	1,670														1,670	
			613-01200	2 Inch Electrical Conduit (Plastic)	LF	21														21	
			613-01300	3 Inch Electrical Conduit (Plastic)	LF	6														6	
			613-07001	Type One Pull Box	EACH	1														1	
			613-07003	Type Three Pull Box	EACH	7														7	
			613-07004	Type Four Pull Box	EACH	1														1	
			613-13000	Luminaire (LED)	EACH	7														7	
			614-00011	Sign Panel (Class I)	SF	6														6	
			614-00012	Sign Panel (Class II)	SF	36														36	
			614-01573	Steel Sign Support (2-1/2 Inch Round NP-40)(Post & Slipbase)	EACH	8														8	
			614-70150	Pedestrian Signal Face (16) (Countdown)	EACH	4														4	
			614-70337	Traffic Signal Face (12-12-12) (Install Only)	EACH	16														16	
			614-70450	Traffic Signal Face (12-12-12-12)(Install Only)	EACH	9														9	
			614-72860	Pedestrian Push Button	EACH	4														4	
			614-81135	Traffic Signal-Light Pole Steel (1-35 Foot Mast Arm)	EACH	1														1	
			614-81140	Traffic Signal-Light Pole Steel (1-40 Foot Mast Arm)	EACH	1														1	
			614-81160	Traffic Signal Light Pole Steel (1-60 Foot Mast Arm)	EACH	2														2	
			614-81170	Traffic Signal-Light Pole Steel (1-70 Foot Mast Arm)	EACH	1														1	

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SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SOAQ	Subset Sheets:	03 of 05

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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY			K-18-EP			K-18-EU			K-18-EV			Minor 045A-007100BL		PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.		PLAN	AS CONST.	PLAN	AS CONST.
			614-81175	Traffic Signal-Light Pole Steel (1-75 Foot Mast Arm)	EACH	2														2	
			614-84100	Traffic Signal Pedestal Pole Aluminum	EACH	3														3	
			620-00002	Field Office (Class 2)	EACH	1														1	
			620-00012	Field Laboratory (Class 2)	EACH	1														1	
			620-00020	Sanitary Facility	EACH	2														2	
			625-00000	Construction Surveying	L S	1														1	
			626-00000	Mobilization	L S	1														1	
			626-01103	Public Information Services (Tier III)	L S	1														1	
			627-00009	Modified Epoxy Pavement Marking(Inlaid)	GAL	488														488	
			627-00011	Pavement Marking Paint (Waterborne)	GAL	1,464														1,464	
			627-30405	Preformed Thermoplastic Pavement Marking (Word-Symbol)	SF	1,406														1,406	
			627-30410	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)	SF	27,425														27,425	
			630-00000	Flagging	HOUR	1,600														1,600	
			630-00007	Traffic Control Inspection	DAY	140														140	
			630-00012	Traffic Control Management	DAY	80														80	
			630-80002	Flashing Beacon (Solar)	EACH	40														40	
			630-80338	Barricade (Type 3 M-D) (Temporary)	EACH	40														40	
			630-80341	Construction Traffic Sign (Panel Size A)	EACH	108														108	
			630-80342	Construction Traffic Sign (Panel Size B)	EACH	162														162	
			630-80343	Construction Traffic Sign (Panel Size C)	EACH	8														8	
			630-80344	Construction Traffic Sign (Special)	SF	300														300	
			630-80355	Portable Message Sign Panel	EACH	2														2	
			630-80358	Advance Warning Flashing or Sequencing Arrow Panel (C Type)	EACH	4														4	
			630-80360	Drum Channelizing Device	EACH	200														200	
			630-80363	Drum Channelizing Device (With Light) (Flashing)	EACH	30														30	
			630-80370	Concrete Barrier (Temporary)	LF	2,000														2,000	
			630-80380	Traffic Cone	EACH	200														200	
			630-80384	Tubular Marker	EACH	250														250	
			630-80391	Channelizing Device (Fixed)	EACH	100														100	
			630-85010	Impact Attenuator (Temporary)	EACH	4														4	

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SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SOAQ	Subset Sheets:	04 of 05

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	20755
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INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		K-18-EP		K-18-EU		K-18-EV		Minor 045A-007100BL		PROJECT TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			630-85040	Impact Attenuator (Truck Mounted Attenuator) (Temporary)	EACH	2											2	
			630-86800	Traffic Signal (Temporary)	L S	1											1	
			700-70010	FORCE ACCOUNT =====	F A	1											1	
			700-70011	F/A Minor Contract Revisions	F A	1											1	
			700-70012	F/A Partnering	F A	1											1	
			700-70013	F/A Asphalt Pavement Incentive	F A	1											1	
			700-70016	F/A Concrete Pavement Incentive	F A	1											1	
			700-70018	F/A Fuel Cost Adjustment	F A	1											1	
			700-70019	F/A Roadway Smoothness Incentive	F A	1											1	
			700-70023	F/A Asphalt Cement Cost Adjustment	F A	1											1	
			700-70060	F/A On-The-Job Trainee	F A	1											1	
			700-70060	F/A Adjust Adjust Utilities	F A	1											1	
			700-70130	F/A Repair Structure Repair Work	F A	1											1	
			700-70380	F/A Erosion Control	F A	1											1	
			700-70426	F/A Stabilization	F A	1											1	
			900-00008	Added Item (F A)/ OCIP (Third Party)	F A	1											1	

Print Date: 3/13/2017
 File Name: 20755DES_SAO05.dgn
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 Unit Information Unit Leader DTD

Sheet Revisions		
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SUMMARY OF APPROXIMATE QUANTITIES			
Designer:	LEP	Structure Numbers	
Detailer:	LEP	Structure Numbers	
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SH 45 MP 4.86 To 8.73				
Design Parameters				
	FDR/PCCP	Mill/Fill		
Design Life:	30	10		
18-Kip ESALS:	8,155,000	1,639,218		
Heavy Trucks (Cumulative):	5,069,260	1,647,810		
Operational Speed (MPH):	55	55		
Joint Spacing (ft):	15	----		
Dowel Diameter (in):	1.5	----		
Slab Width (ft):	12	----		
Effective Binder Content (%):	----	11.3		
Voids (%):	----	6.7		
FDR Thickness (in):	8	----		
Milling Thickness (in):	----	2.5		
Pavement Thickness (in):	8.25	2.5		
HMA Grading:	----	SX		
HMA Design Gyration:	----	100		
HMA Grading (top lift):	----	PG 76-28		
HMA Grading (bottom lifts):	----	----		
Distress Prediction Summary				
	Target	Predicted	Target	Predicted
Terminal IRI (in/mile):	200	142.62	200	132.94
Reliability (%):	95	99.98	95	100
Mean Joint Faulting (in):	0.14	0.05	----	----
Reliability (%):	95	100	----	----
JPCP Transverse Cracking (% slabs):	3	2.47	----	----
Reliability (%):	95	97.72	----	----
Permanent Deformation (in):	----	----	0.65	0.28
Reliability (%):	----	----	95	100
AC Thermal Cracking (ft/mile):	----	----	1500	1
Reliability (%):	----	----	50	100
AC Bottom-Up Fatigue Cracking (%):	----	----	20	0
Reliability (%):	----	----	95	100
AC Top-Down Fatigue Cracking (ft/mile):	----	----	2500	2090.77
Reliability (%):	----	----	95	97.58
Permanent Deformation - AC Only (in):	----	----	0.5	0.28
Reliability (%):	----	----	95	100

SUMMARY OF EARTHWORK QUANTITIES		
EMBANKMENT MATERIAL (COMPLETE IN PLACE)(NET)		CUBIC YARDS
FOR ROADWAY (FDR Shouldering):	REGULAR EMBANKMENT	5,722
TOTAL		5,722
FOR INFORMATION ONLY		
UNCLASSIFIED EXCAVATION		CUBIC YARDS
FOR ROADWAY (Concrete Rebuild)		10,244
FOR ROADWAY (FDR)		8,556
FOR CUT SLOPE TREATMENT		940
TOTAL		19,740
EARTHWORK QUANTITIES BALANCE		
UNCLASSIFIED EXCAVATION		CUBIC YARDS
TOTAL UNCLASSIFIED EXCAVATION		19,740
TOTAL		19,740
EMBANKMENT (NET)		
TOTAL		5,722

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Unit Information

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EARTHWORK QUANTITIES AND PAVEMENT DATA

Designer:	LEP	Structure Numbers	
Detailer:	LEP	Subset Sheets:	01 of 01
Sheet Subset:	EARTH		

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20755

Sheet Number 19

Tabulation of Surfacing

Station		Removal of Asphalt Mat (Planing)	Unclassified Excavation (Complete In Place)	Aggregate Base Course (Special)	Full Depth Reclamation of Hot Mix Asphalt Pavement (0-8)	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	Emulsified Asphalt (Slow-Setting)	Concrete Pavement (8-1/4 Inch)	Concrete Pavement (8-1/4 Inch) (Fast Track)	Notes
From	To	SY	CY	CY	SY	TON	GAL	SY	SY	
Asphalt Resurfacing Section										
8+15.00	14+07.40	4351				598	435			
14+07.40	14+51.84	385				53	39			Turn Lane Transition
14+51.84	16+22.83	1482				204	148			Turn Lane Transition
16+22.83	20+36.44	3587				493	359			Goodnight Crossing
20+36.44	25+82.80	4029				554	403			
25+82.80	29+75.09	2335				321	234			
29+75.09	30+49.62	464				64	46			Lane Width Transition
30+49.62	34+74.07	2358				324	236			Lane Width Transition
Concrete Rebuild Section										Structure K-18-EP
39+07.11	46+45.38	5742	984	1312	5742			5742		Transition
46+45.38	48+98.93	1986	343	457	1986			1986		SB Shoulder Trans
48+98.93	53+23.87	3323	567	755	3323			3323		NB Shoulder Trans
53+23.87	57+02.43	3113	533	710	3113			3113		
57+02.43	58+71.46	1426	244	326	1426			1426		
58+71.46	59+21.70	516	88	118	516			516		NB LF Turn Trans
59+21.70	61+10.86	1944	333	444	1944			1944		NB Both Turn Trans
61+10.86	61+67.60	583	100	133	583			583		NB RT Turn Trans
61+67.60	65+21.60	3730	636	848	3730			3730		
65+21.60	69+58.13	4648	784	1046	4648			4705		
0+00.00	3+51.00	2477	429	572	2477			2496		11th Street
66+21.15	68+57.77	2315	394	526	2315			2366		
10% Irregularities						261				
Subtotals		50793	5435	7247	31762	2611	1899	22363	9567	
Sheet 1 Subtotals		50793	5435	7247	31762	2872	1899	22363	9567	

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Unit Information

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SURFACE TABULATION SHEET

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Sheet Subset:	TAB	Subset Sheets:	01 of 07

Project No./Code

STM SH45-001

20755

Sheet Number 20

Tabulation of Surfacing

Station		Removal of Asphalt Mat (Planing)	Unclassified Excavation (Complete In Place)	Aggregate Base Course (Special)	Full Depth Reclamation of Hot Mix Asphalt Pavement (0-8)	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	Emulsified Asphalt (Slow-Setting)	Concrete Pavement (8-1/4 Inch)	Concrete Pavement (8-1/4 Inch) (Fast Track)	Notes
		SY	CY	CY	SY	TON	GAL	SY	SY	
From	To	Top								
68+57.77	69+58.13	1063	180	240	1063				1082	
69+58.13	74+61.04	5253	903	1205	5308			5308		
74+61.04	77+92.33	2778	472	630	2778			2778		
77+92.33	79+70.62	1495	254	339	1495			1495		
79+70.62	80+14.83	381	65	87	381			381		SB Shoulder Trans
80+14.83	81+05.65	777	135	179	777			777		NB Shoulder Trans
81+05.65	84+05.53	2832	494	659	2832			2832		NB Shoulder Trans
84+05.53	84+82.40	796	124	165	796			796		
Structures K-18-EU and K-18-EV										
86+11.97	86+33.35	95	17	23	95			95		Rebuild Section after structure
Northbound FDR Section										
86+33.35	88+71.13	1057	176	235	1057			1057		Northbound
88+71.13	93+57.14	2376	225	300	2376			2376		Northbound
93+57.14	97+00.84	1680			1680				1757	
97+00.84	122+04.00	12238			12238			12238		
122+04.00	123+86.38	892			892				932	
123+86.38	124+83.53	475			475				497	NB Turn Lane Transition
124+83.53	129+91.91	2485			2485			2485		
129+91.91	130+46.15	265							277	
130+46.15	132+48.58	1260			1260				1305	NB Turn Lane
132+48.58	148+47.77	9951			9951			9951		
148+47.77	153+37.69	3048			3048				3157	
10% Irregularities						0				
Subtotals		51196	3047	4063	50986	0	0	42569	9006	
Sheet 2 Subtotals		51196	3047	4063	50986	0	0	42569	9006	

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 Region 2 DTD

As Constructed	SURFACE TABULATION SHEET		
No Revisions:	Designer:	LEP	Structure Numbers
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Void:	Sheet Subset:	TAB	Subset Sheets: 02 of 07

Project No./Code
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 20755
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Tabulation of Surfacing

Station		Removal of Asphalt Mat (Planing)	Unclassified Excavation (Complete In Place)	Aggregate Base Course (Special)	Full Depth Reclamation of Hot Mix Asphalt Pavement (0-8)	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	Emulsified Asphalt (Slow-Setting)	Concrete Pavement (8-1/4 Inch)	Concrete Pavement (8-1/4 Inch) (Fast Track)	Notes
		SY	CY	CY	SY	TON	GAL	SY	SY	
From	To	Top								
153+37.68	176+24.21	14227			14227			14227		
176+24.21	178+30.06	1006			1006			1006		Spaulding Ave Crossing
178+30.06	180+33.70	996			996				1041	
180+33.70	181+34.02	513			513				535	Left Turn Lane Transition
181+34.02	181+74.27	206			206			206		
Southbound FDR Section										
86+55.29	86+86.08	116	19	26	116			144		
86+86.08	91+66.53	1868	222	296	1868			1868		Southbound
91+66.53	93+57.14	805			805			805		Southbound
93+57.14	97+00.84	1451			1451				1528	
97+00.84	122+04.00	10569			10569			10569		
122+04.00	123+86.38	770			770				811	
123+86.38	124+83.53	410			410				432	
124+83.53	128+43.74	2001			2001			2001		Left Turn Lane
128+43.74	129+91.91	823			823			823		
129+91.91	130+26.37	145			145				153	Turn Lane Transition
130+26.37	132+48.58	938			938				988	Southbound
132+48.58	148+47.77	6752			6752			6752		
148+47.77	153+37.69	2069			2069				2177	
153+37.69	176+24.21	9654			9654					
176+24.21	177+60.87	698			698			698		Southbound
177+60.87	178+30.06	354			354			354		Transition
10% Irregularities						0				
Subtotals		56373	241	322	56373	0	0	39454	7664	
Sheet 3 Subtotals		56373	241	322	56373	0	0	39454	7664	

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As Constructed	SURFACE TABULATION SHEET		
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Tabulation of Surfacing

Station		Removal of Asphalt Mat (Planing)	Unclassified Excavation (Complete In Place)	Aggregate Base Course (Special)	Full Depth Reclamation of Hot Mix Asphalt Pavement (0-8)	Hot Mix Asphalt (Grading SX) (100) (PG 76-28)	Emulsified Asphalt (Slow-Setting)	Concrete Pavement (8-1/4 Inch)	Concrete Pavement (8-1/4 Inch) (Fast Track)	Notes
From	To	SY	CY	CY	SY	TON	GAL	SY	SY	
		Top								
178+30.06	180+33.70	1041			1041				1086	
180+33.70	181+34.02	513			513				803	
181+34.02	181+74.27	313			313			331		Southbound
Northbound and Southbound FDR Section										
181+74.27	190+25.12	10588			10588			10588		NB and SB
190+25.12	197+78.53	8371	572	763	8371			8539		NB and SB
Concrete Rebuild Section										
197+78.53	200+66.00	3194	543	724	3258			3258		
Secondary Streets										
0+15.91	1+00.00	473	56	56	473				477	18th Street
0+10.61	1+10.00	834	72	96	834				839	24th Street
0+09.84	1+69.89	1410	79	79	1410				1405	31st Street
0+08.94	1+05.97	306	45	36	306				302	Auction Access
0+08.94	1+05.97	492	57	57	492			539		Bill Dickey Drive
0+10.48	1+65.00	1717	97	97	1717				1717	Spaulding Ave
10% Irregularities						0				
Subtotals		29252	1522	1909	29316	0	0	23255	6628	
Sheet 4 Subtotals		29252	1522	1909	29316	0	0	23255	6628	
Sheet 3 Subtotals		56373	241	322	56373	0	0	39454	7664	
Sheet 2 Subtotals		51196	3047	4063	50986	0	0	42569	9006	
Sheet 1 Subtotals		50793	5435	7247	31762	2872	1899	22363	9567	
Project Totals		187614	10244	13540	168437	2872	1899	127640	32865	

Print Date: 3/7/2017
 File Name: 20755DES_TabSurf04.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed	SURFACE TABULATION SHEET		
No Revisions:	Designer:	LEP	Structure Numbers
Revised:	Detailer:	LEP	
Void:	Sheet Subset:	TAB	Subset Sheets: 04 of 07


Project No./Code
 STM SH45-001
 20755
 Sheet Number 23

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Tabulation of Removals									
Station		Side	Removal of Median Cover	Removal of Sidewalk	Removal of Curb and Gutter	Removal of Guardrail Type 3	Removal of Median Barrier	Removal of End Anchorage	Notes
From	To		SY	SY	LF	LF	LF	EACH	
39+24.45	56+93.42	LT				1732		1	
39+15.54	40+03.57	RT				51		1	
79+95.82	82+36.01						240		Median Rail
82+36.01	84+59.81					225			Median Rail
82+36.01	84+78.73					243			Median Rail
82+36.01	84+29.94	RT				156		1	
84+63.70	85+13.74	LT				51		1	
86+46.08	88+35.58					189			Median Rail
86+57.99	88+35.58					179			Median Rail
86+66.79	97+10.04	LT				1009		1	
119+13.48	123+10.27	RT				376		1	
122+52.22	128+14.33	LT				525		1	
124+05.68	130+81.05						675		Median Double rail
163+11.00	168+62.04	LT				514		1	
191+00.00	197+00.00								
ADA Ramps at 11th Street			270	19	24				
0+10.61	1+10.00		109		583				24th Street
0+09.84	1+69.89				64				31st Street
0+10.48	1+65.00		375		568				Spaulding Ave
Project Totals			754	19	1339	5250	915	8	

Print Date: 2/22/2017
 File Name: 20755DES_TabRem01.dgn
 Horiz. Scale: 1:1 Vert. Scale: As Noted
 Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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As Constructed
 No Revisions:
 Revised:
 Void:

TABULATION OF REMOVALS			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	TAB	Subset Sheets:	05 of 07

Project No./Code
 STM SH45-001
 20755
 Sheet Number 24

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Tabulation of Guardrail										
Station		Side	Guardrail Type 3 (6-3 Post Spacing)	Guardrail Type 3 (Double) (6-3 Post Spacing)	Guardrail Type 7 (Style CC)	Transition Type 3G	Transition Type 3H	Median Terminal	End Anchorage (Flared)	Remarks
From	To		LF	LF	LF	EACH	EACH	EACH	EACH	
39+43.14	43+05.44	LT	362.5			1			1	
39+32.81	39+51.55	RT	12.5				1		1	
79+70.62	84+41.06			475		1		1		Median
80+26.86	84+26.84	RT	400.0			1			1	
84+47.48	84+59.98	RT	12.5				1			Southbound after K-18-EV
84+82.00	84+94.50	LT	12.5				1			Southbound after K-18-EV
86+85.54	91+66.53	LT	450.0			1			1	
86+34.64	86+47.14	RT	12.5				1			Northbound after K-18-EU
86+64.75	86+77.25	LT	12.5				1			Northbound after K-18-EU
86+76.68	88+76.74	RT		200		1		1		Median
86+85.54	91+35.43	LT	450.0			1			1	
118+45.45	122+45.45	RT	400.0			1			1	
122+52.53	128+02.53	LT	550.0						1	
124+05.85	130+81.05			650				2		Median
164+06.21	168+06.21	LT	400.0						1	
00+10.61	01+10.00				90					24th Street
Project Totals			3075	1325	90	7	5	4	8	

Note:
Guardrail shall have metal posts with synthetic blocks and shall comply with the 31" Midwest Guardrail system as shown in the M&S Standards.

Print Date: 2/22/2017	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Sheet Revisions			Colorado Department of Transportation  902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	As Constructed	TABULATION OF GUARDRAIL			Project No./Code
File Name: 20755DES_TabGuard01.dgn		Date:	Comments	Init.		No Revisions:				STM SH45-001
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure Numbers		20755
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Subset Sheets: 06 of 07		Sheet Number 25

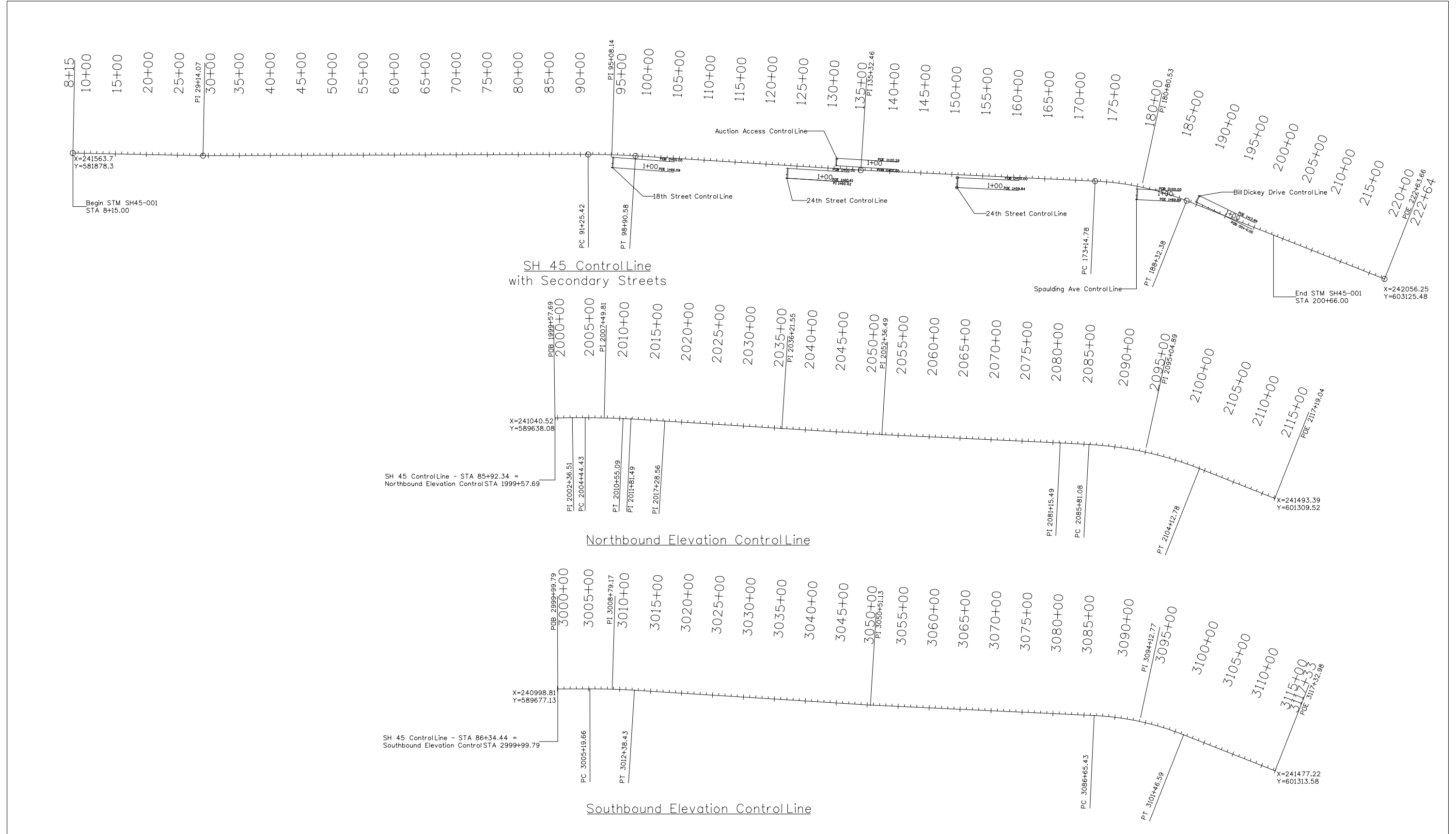
Tabulation of Misc Items										
Station		Side	Modify Inlet	Concrete Sidewalk	Concrete Curb Ramp	Curb Type 2 (Section B)	Curb and Gutter Type 2 (Section I-M)	Median Cover Material (Patterned Concrete)*	Median Cover Material (Concrete)*	Notes
From	To		EACH	SY	SY	LF	LF	SF	SF	
124+00.00			1							Median Inlet
149+55.02			1							Median Inlet
180+44.22			1							Median Inlet
124+39.14	124+79.14	RT					40			24th Street C&G continued on SH 45
0+10.61	1+10.00						176	980		24th Street
0+10.61	1+10.00	RT					130			24th Street
0+10.61	1+10.00	LT					130			24th Street
0+09.84	1+69.89	RT					35			31st Street
0+09.84	1+69.89	LT					36			31st Street
0+10.48	1+65.00						300	2620		Spaulding Median
0+10.48	1+65.00	RT					65			Spaulding
0+10.48	1+65.00	LT					93			Spaulding
0+10.48	1+65.00						110	750		Spaulding Island
11th Street ADA Ramps				19	46	145			2430	ADA Ramps 1-7 on 11st
Project Totals			3	19	46	145	1115	4350	2430	

* 3/4" (min) expansion joint material will be required between the back of curb and the median cover material. This material shall not be paid for separately, but shall be included in the cost.

Tabulation of Delineators						
Station		Removal of Delineator	Delineator (Flexible) (Type I)	Delineator (Flexible) (Type II)	Delineator (Flexible) (Type III)	Remarks
From	To	EACH	EACH	EACH	EACH	
08+15.00	65+71.30	29	26	6	8	MP 4.9-6
65+71.30	116+76.07	27	50	32	22	MP 6-7
116+76.07	172+83.86	37	26	14	8	MP 7-8
172+83.86	200+66.00	21	30	24		MP 8-end
Project Totals		114	132	76	38	

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File Name: 20755DES_TabMisc01.dgn		Date:	Comments	Init.		No Revisions:				STM SH45-001
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure Numbers	20755	
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Subset Sheets: 07 of 07	Sheet Number 26	

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File Name: 2075DES_Geometry01.dgn		Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		STM SH45-001		
Horiz. Scale: 1:1500							Revised:		20755		
Unit Information							Void:		27		
Unit Leader DTD					Region 2		DTP		GEOMETRY PLAN SHEET		
							Designer: LEP		Structure Numbers		
							Detailer: LEP		Sheet Subset: GEO		
							Sheet Subset: GEO		Subset Sheets: 01 of 02		

SH 45 Project Control Line

Element	Point Type	Point Number	Station	Northing	Easting	Radius	Length	Delta / Theta	Rotation Direction
Alignment Name:			20755 - Single Control Line						
Tangent	POB		8+14.65	581878.29	241563.7				
Tangent	PI		29+14.07	583974.8	241453.3				
Tangent	PI		29+14.07	583974.8	241453.3				
Tangent	PC		91+25.42	590168.34	240983.29				
Arc	PC		91+25.42	590168.34	240983.29				
Arc	PI		95+08.14	590549.97	240954.33	11500	765.16	3°48'44"	Right
Arc	CC			591038.53	252450.32				
Arc	PT		98+90.58	590932.67	240950.81				
Tangent	PT		98+90.58	590932.67	240950.81				
Tangent	PI		135+32.46	594574.4	240917.29				
Tangent	PI		135+32.46	594574.4	240917.29				
Tangent	PC		173+14.78	598355.45	240819.49				
Arc	PC		173+14.78	598355.45	240819.49				
Arc	PI		180+80.53	599120.95	240799.7	4600	1517.6	18°54'09"	Right
Arc	CC			598474.39	245417.96				
Arc	PT		188+32.38	599851.59	241028.96				
Tangent	PT		188+32.38	599851.59	241028.96				
Tangent	POE		222+63.66	603125.48	242056.25				

Southbound Profile Grade Line

Element	Point Type	Point Number	Station	Northing	Easting	Radius	Length	Delta / Theta	Rotation Direction
Alignment Name:			Southbound Control Line						
Tangent	POB		2999+99.79	589677.13	240998.81				
Tangent	PC		3005+19.66	590195.57	240960.22				
Arc	PC		3005+19.66	590195.57	240960.22				
Arc	PI		3008+79.17	590554.08	240933.54	11100	718.76	3°42'36"	Right
Arc	CC			591019.36	252029.61				
Arc	PT		3012+38.43	590913.57	240930.12				
Tangent	PT		3012+38.43	590913.57	240930.12				
Tangent	PI		3050+51.13	594726.11	240893.78				
Tangent	PI		3050+51.13	594726.11	240893.78				
Tangent	PC		3086+65.43	598339.18	240799.9				
Arc	PC		3086+65.43	598339.18	240799.9				
Arc	PI		3094+12.77	599086.27	240780.49	4500	1481.16	18°51'31"	Right
Arc	CC			598456.07	245298.38				
Arc	PT		3101+46.59	599799.53	241003.6				
Tangent	PT		3101+46.59	599799.53	241003.6				
Tangent	POE		3117+32.98	601313.58	241477.22				

Northbound Profile Grade Line

Element	Point Type	Point Number	Station	Northing	Easting	Radius	Length	Delta / Theta	Rotation Direction
Alignment Name:			Northbound Control Line						
Tangent	POB		1999+57.69	589638.08	241040.52				
Tangent	PI		2002+36.51	589915.83	241016.16				
Tangent	PI		2002+36.51	589915.83	241016.16				
Tangent	PC		2004+44.43	590123.22	241001.37				
Arc	PC		2004+44.43	590123.22	241001.37				
Arc	PI		2007+49.81	590427.83	240979.63	14100	610.66	2°28'53"	Right
Arc	CC			591126.3	255065.65				
Arc	PT		2010+55.09	590733.09	240971.13				
Tangent	PT		2010+55.09	590733.09	240971.13				
Tangent	PI		2011+81.49	590859.43	240967.61				
Tangent	PI		2011+81.49	590859.43	240967.61				
Tangent	PI		2017+28.56	591406.47	240961.56				
Tangent	PI		2017+28.56	591406.47	240961.56				
Tangent	PI		2036+21.55	593299.39	240944.51				
Tangent	PI		2036+21.55	593299.39	240944.51				
Tangent	PI		2052+36.49	594914.24	240927.18				
Tangent	PI		2052+36.49	594914.24	240927.18				
Tangent	PI		2081+15.49	597792.24	240851.43				
Tangent	PI		2081+15.49	597792.24	240851.43				
Tangent	PC		2085+81.08	598257.75	240843.16				
Arc	PC		2085+81.08	598257.75	240843.16				
Arc	PI		2095+04.89	599181.42	240826.74	5700	1831.7	18°24'44"	Right
Arc	CC			598359.04	246542.26				
Arc	PT		2104+12.78	600062.99	241102.9				
Tangent	PT		2104+12.78	600062.99	241102.9				
Tangent	POE		2117+19.04	601309.52	241493.39				

Print Date: 2/21/2017

File Name: 20755DES_Geometry02.dgn

Horiz. Scale: 1:1

Vert. Scale: As Noted

Unit Information

Unit Leader DTD

Sheet Revisions

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Colorado Department of Transportation



902 Erie Avenue
Pueblo, CO 81001
Phone: 719-562-5509 FAX: 719-546-5702

Region 2

DTD

As Constructed

No Revisions:

Revised:

Void:

GEOMETRY PLAN SHEET

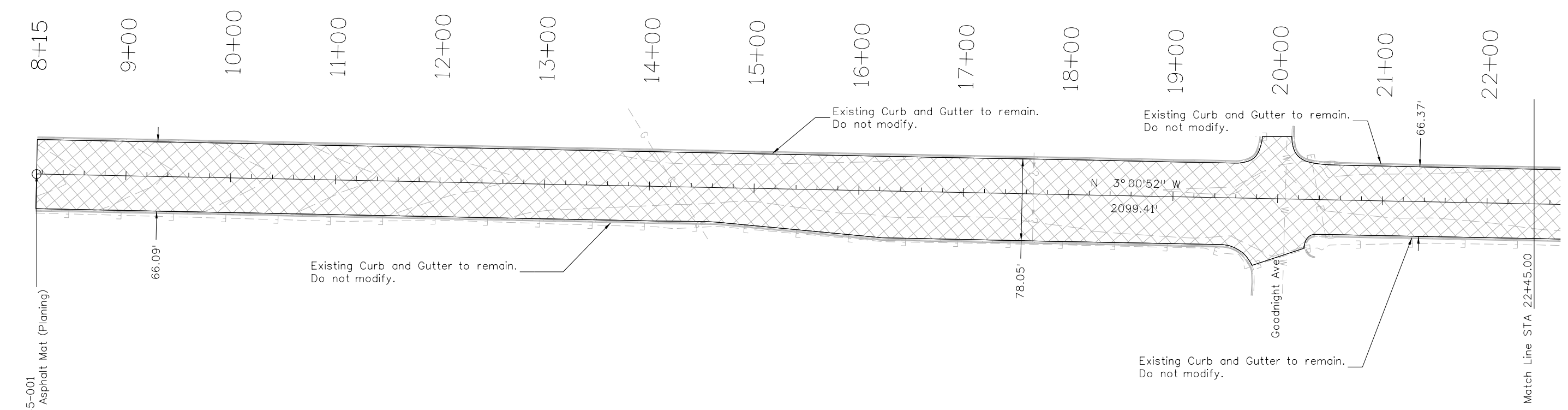
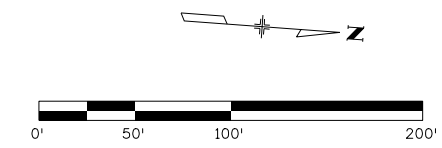
Designer:	LEP	Structure Numbers
Detailer:	LEP	
Sheet Subset:	GEO	Subset Sheets: 02 of 02

Project No./Code

STM SH45-001


20755

Sheet Number 28



STA 8+15.00
 Begin Project STM SH 45-001
 Begin 2 1/2" Removal of Asphalt Mat (Planing)

Match Line STA 22+45.00

 = 2 1/2" Removal of Asphalt Mat (Planing)



Print Date: 2/22/2017
File Name: 20755DES_Rem01.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

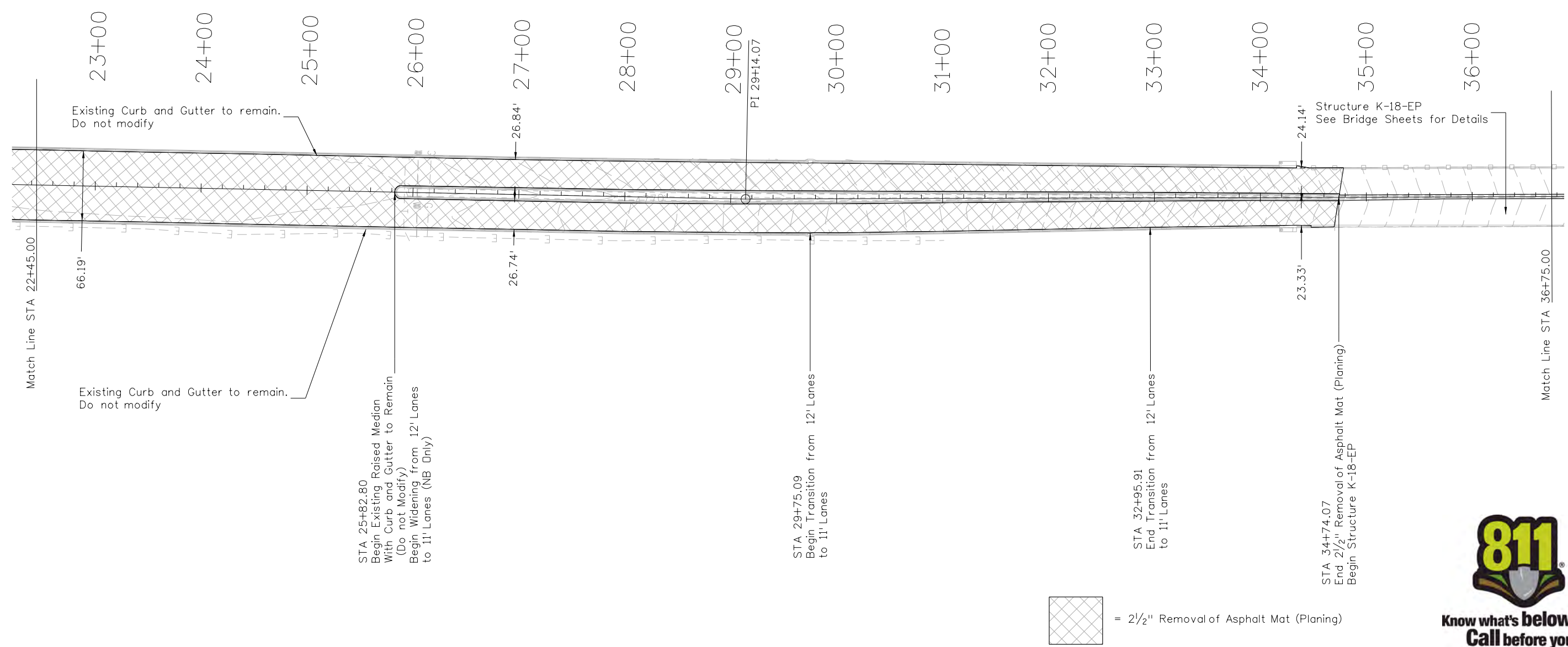
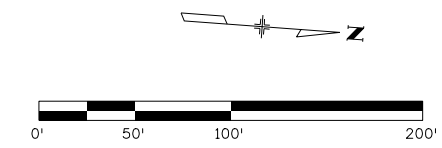
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 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

REMOVAL AND RESET PLAN			
SH 45			
Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	REMOVAL	Subset Sheets:	01 of 14

Project No./Code
STM SH45-001
20755
Sheet Number 29

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STA 25+82.80
Begin Existing Raised Median
With Curb and Gutter to Remain
(Do not Modify)
Begin Widening from 12' Lanes
to 11' Lanes (NB Only)

STA 29+75.09
Begin Transition from 12' Lanes
to 11' Lanes

STA 32+95.91
End Transition from 12' Lanes
to 11' Lanes

STA 34+74.07
End 2 1/2" Removal of Asphalt Mat (Planing)
Begin Structure K-18-EP

= 2 1/2" Removal of Asphalt Mat (Planing)



Print Date: 2/22/2017
File Name: 20755DES_Rem02.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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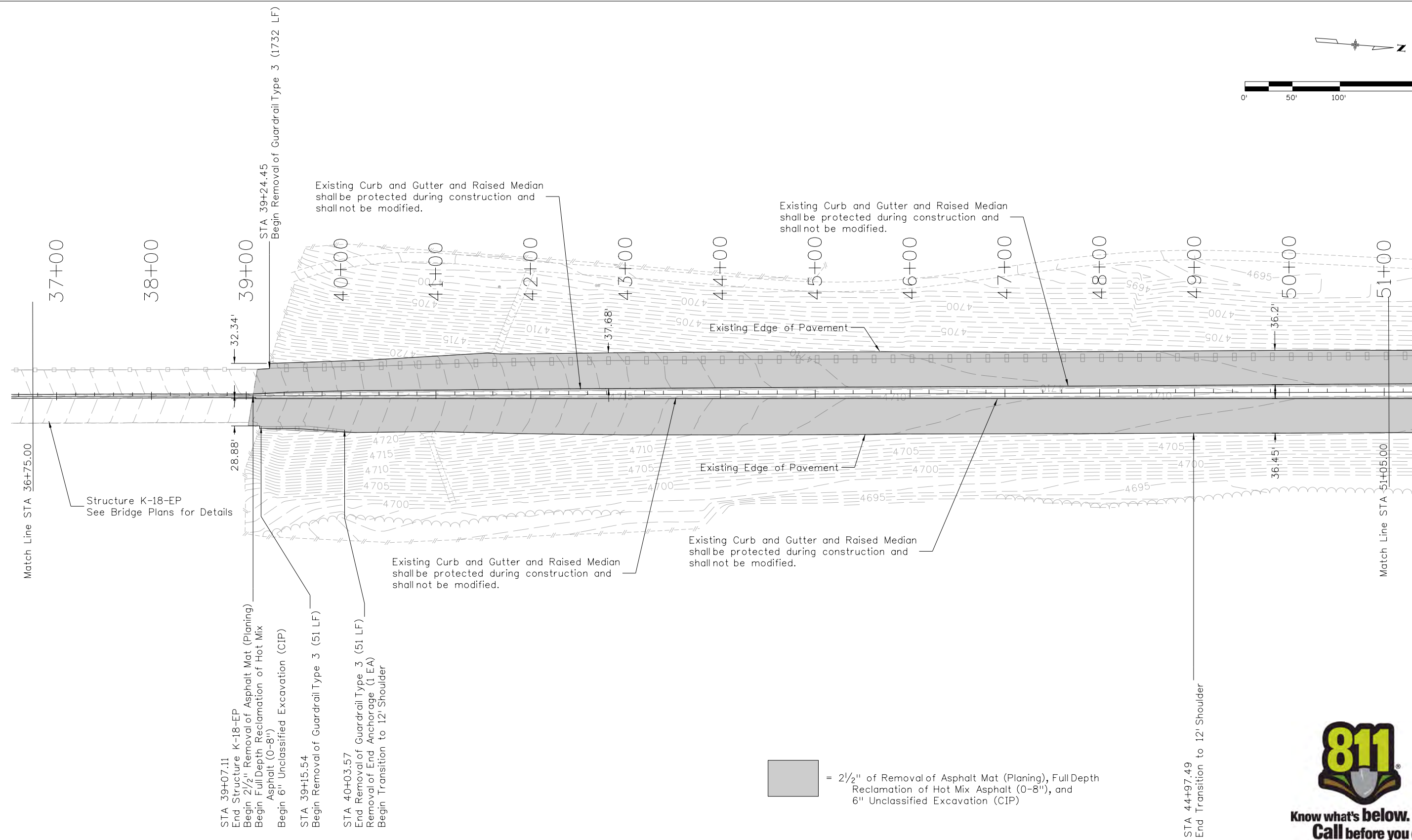
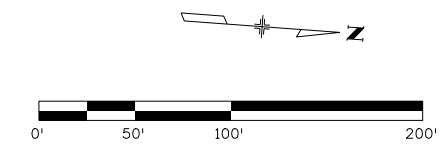
902 Erie Avenue
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Region 2 DTD

As Constructed	REMOVAL AND RESET PLAN			
No Revisions:	SH 45			
Revised:	Designer: LEP	Structure Numbers	K-18-EP	
Void:	Detailer: LEP	Sheet Subset: PLAN	Subset Sheets: 02 of 14	

Project No./Code
STM SH45-001
20755
Sheet Number 30

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Print Date: 2/22/2017
File Name: 20755DES_Rem03.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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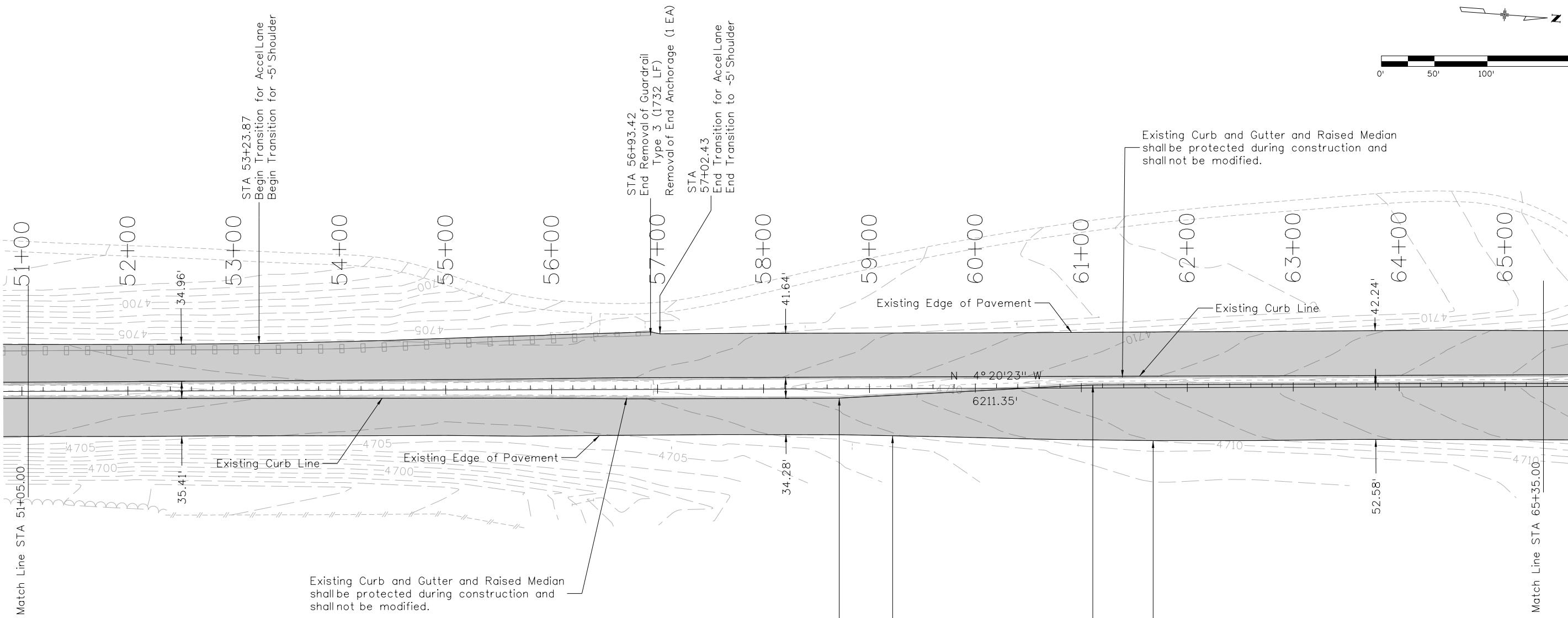
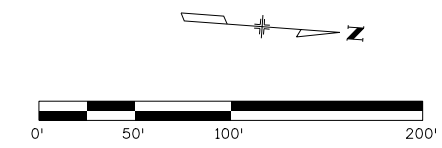
Region 2 DTD

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Revised:
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REMOVAL AND RESET PLAN			
SH 45			
Designer:	LEP	Structure Numbers	K-18-EP
Detailer:	LEP	Sheet Subset:	REMOVAL
		Subset Sheets:	03 of 14

Project No./Code
STM SH45-001
20755
Sheet Number 31





 = 2 1/2" of Removal of Asphalt Mat (Planing), Full Depth Reclamation of Hot Mix Asphalt (0-8"), and 6" Unclassified Excavation (CIP)

Existing Curb and Gutter and Raised Median shall be protected during construction and shall not be modified.

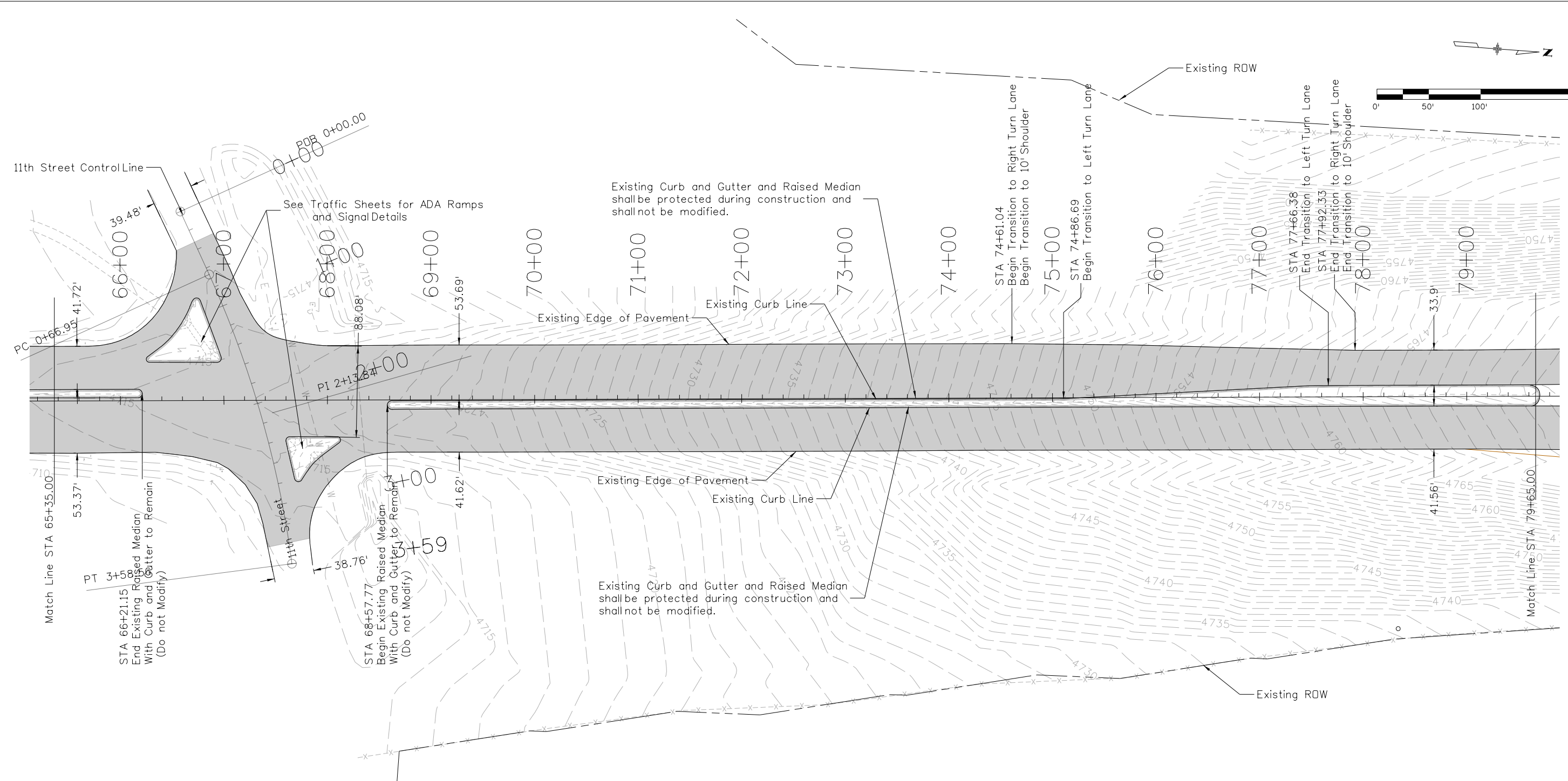
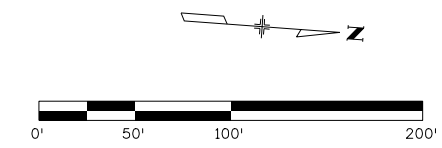
Existing Curb and Gutter and Raised Median shall be protected during construction and shall not be modified.



Know what's below. Call before you dig.

Print Date: 2/22/2017		Sheet Revisions			Colorado Department of Transportation  902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	As Constructed	REMOVAL AND RESET PLAN			Project No./Code
File Name: 20755DES_Rem04.dgn		Date:	Comments	Init.		No Revisions:	SH 45			STM SH45-001
Horiz. Scale: 1:100 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure		20755
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Numbers		Sheet Number 32
					Sheet Subset: REMOVAL	Subset Sheets: 04 of 14				

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 = 2 1/2" of Removal of Asphalt Mat (Planing), Full Depth Reclamation of Hot Mix Asphalt (0-8"), and 6" Unclassified Excavation (CIP)



**Know what's below.
Call before you dig.**

Print Date: 2/22/2017
File Name: 20755DES_Rem05.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

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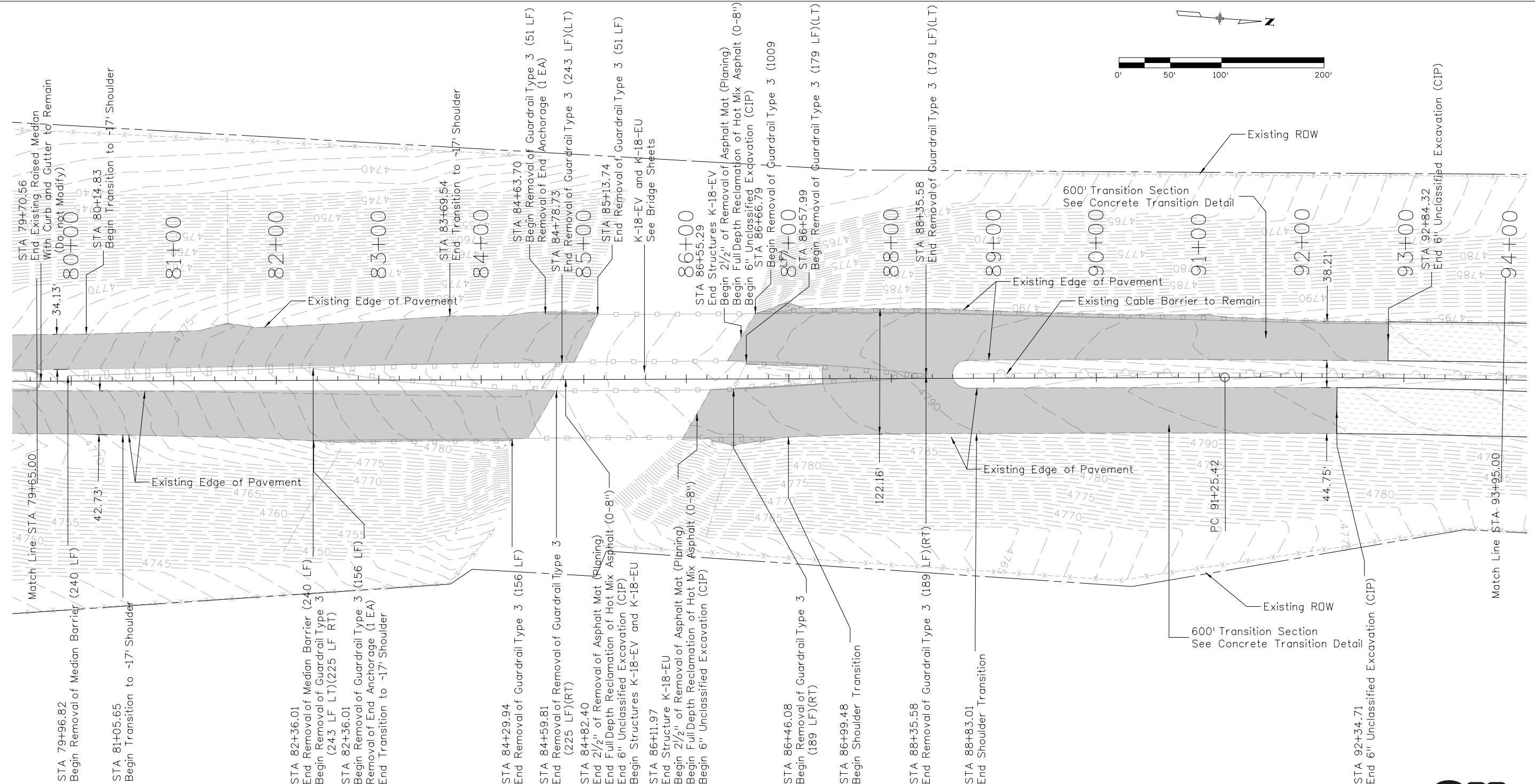
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Revised:
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REMOVAL AND RESET PLAN			
SH 45			
Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
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STM SH45-001
20755
Sheet Number 33

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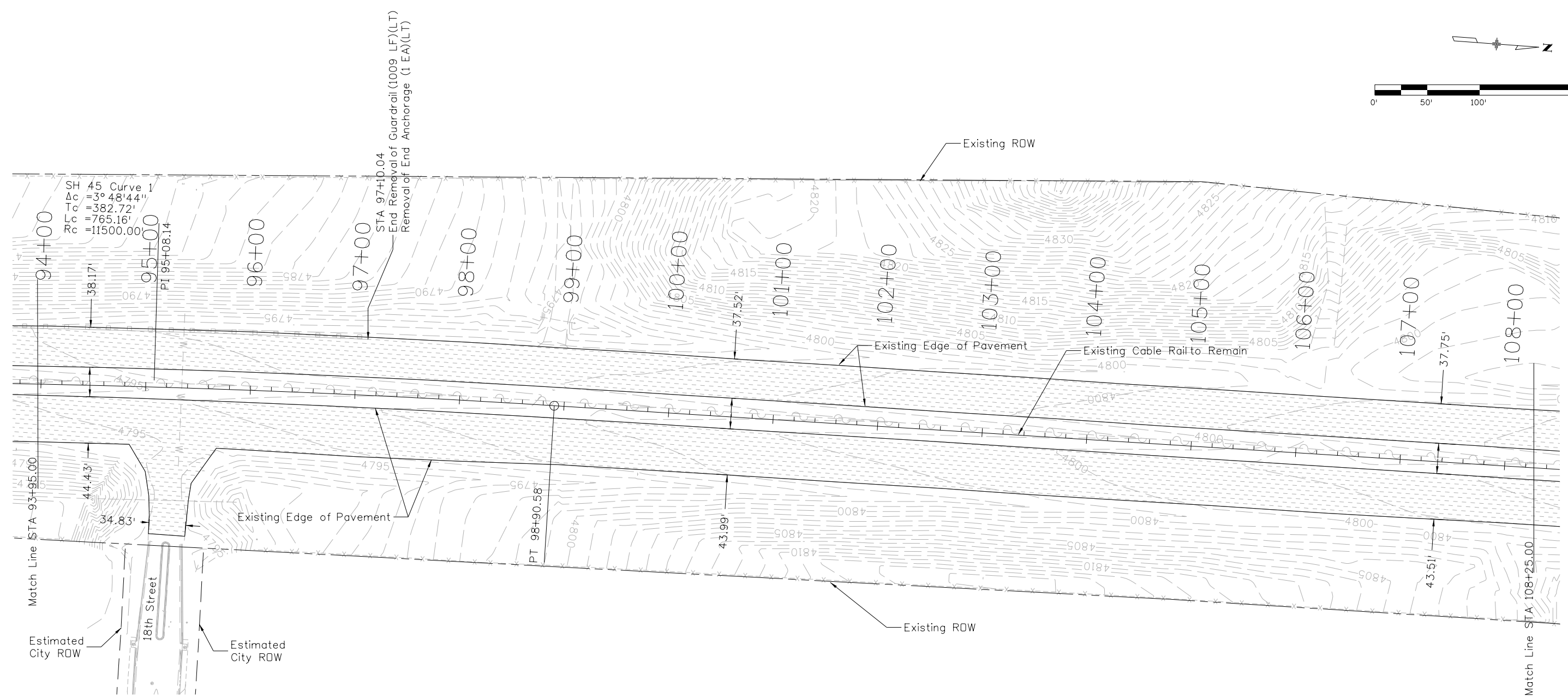
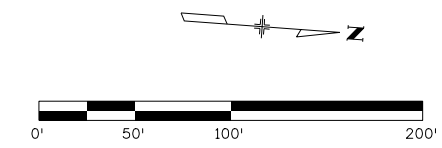
STA 79+96.82 Begin Removal of Median Barrier (240 LF)
 STA 81+05.65 Begin Transition to ~17' Shoulder
 STA 82+36.01 End Removal of Median Barrier (240 LF)
 STA 82+36.01 Begin Removal of Guardrail Type 3 (243 LF LT)(225 LF RT)
 STA 82+36.01 Begin Removal of Guardrail Type 3 (156 LF)
 STA 82+36.01 Removal of End Anchorage (1 EA)
 STA 82+36.01 End Transition to ~17' Shoulder
 STA 84+29.94 End Removal of Guardrail Type 3 (156 LF)
 STA 84+59.81 End Removal of Guardrail Type 3 (225 LF)(RT)
 STA 84+82.40 End 2 1/2" of Removal of Asphalt Mat (Planing)
 STA 84+82.40 End Full Depth Reclamation of Hot Mix Asphalt (0-8")
 STA 84+82.40 End 6" Unclassified Excavation (CIP)
 STA 84+82.40 Begin Structures K-18-EV and K-18-EU
 STA 86+11.97 End Structure K-18-EU
 STA 86+46.08 Begin 2 1/2" of Removal of Asphalt Mat (Planing)
 STA 86+46.08 Begin Full Depth Reclamation of Hot Mix Asphalt (0-8")
 STA 86+46.08 Begin 6" Unclassified Excavation (CIP)
 STA 86+46.08 End Structures K-18-EV
 STA 86+55.29 End Structures K-18-EV
 STA 86+55.29 Begin 2 1/2" of Removal of Asphalt Mat (Planing)
 STA 86+55.29 Begin Full Depth Reclamation of Hot Mix Asphalt (0-8")
 STA 86+55.29 Begin 6" Unclassified Excavation (CIP)
 STA 86+66.79 End Removal of Guardrail Type 3 (1009)
 STA 86+66.79 Begin Removal of Guardrail Type 3 (179 LF)(LT)
 STA 86+57.99 Begin Removal of Guardrail Type 3 (179 LF)(LT)
 STA 86+99.48 Begin Shoulder Transition
 STA 88+35.58 End Removal of Guardrail Type 3 (189 LF)(RT)
 STA 88+35.58 End Shoulder Transition
 STA 88+83.01 End Shoulder Transition
 STA 92+34.71 End 6" Unclassified Excavation (CIP)

 = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")
 = 2 1/2" of Removal of Asphalt Mat (Planing), Full Depth Reclamation of Hot Mix Asphalt (0-8"), and 6" Unclassified Excavation (CIP)



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File Name: 20755DES_Rem06.dgn	Date:	Comments	Init.	Region 2		No Revisions:		SH 45		STM SH45-001	
Horiz. Scale: 1:100				902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		Revised:		Designer: LEP	Structure Numbers	20755	
Unit Information				Region 2		Void:		Detailer: LEP	Subset Sheets:	Sheet Number 34	
				DTD				Sheet Subset: REMOVAL	06 of 14		



 = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")



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File Name: 20755DES_Rem07.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
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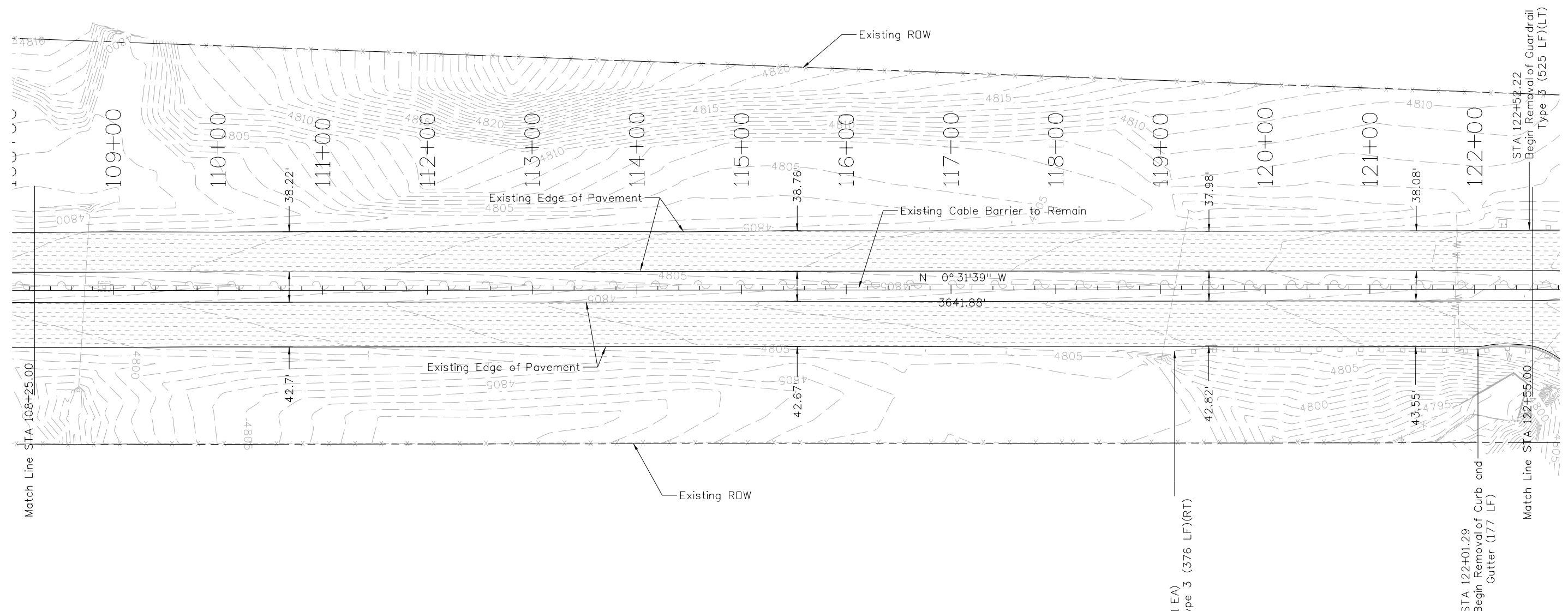
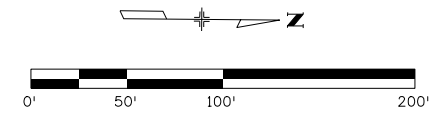
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As Constructed	REMOVAL AND RESET PLAN	
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 = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")

STA 119+13.48
Removal of End Anchorage (1 EA)
Begin Removal of Guardrail Type 3 (376 LF)(RT)

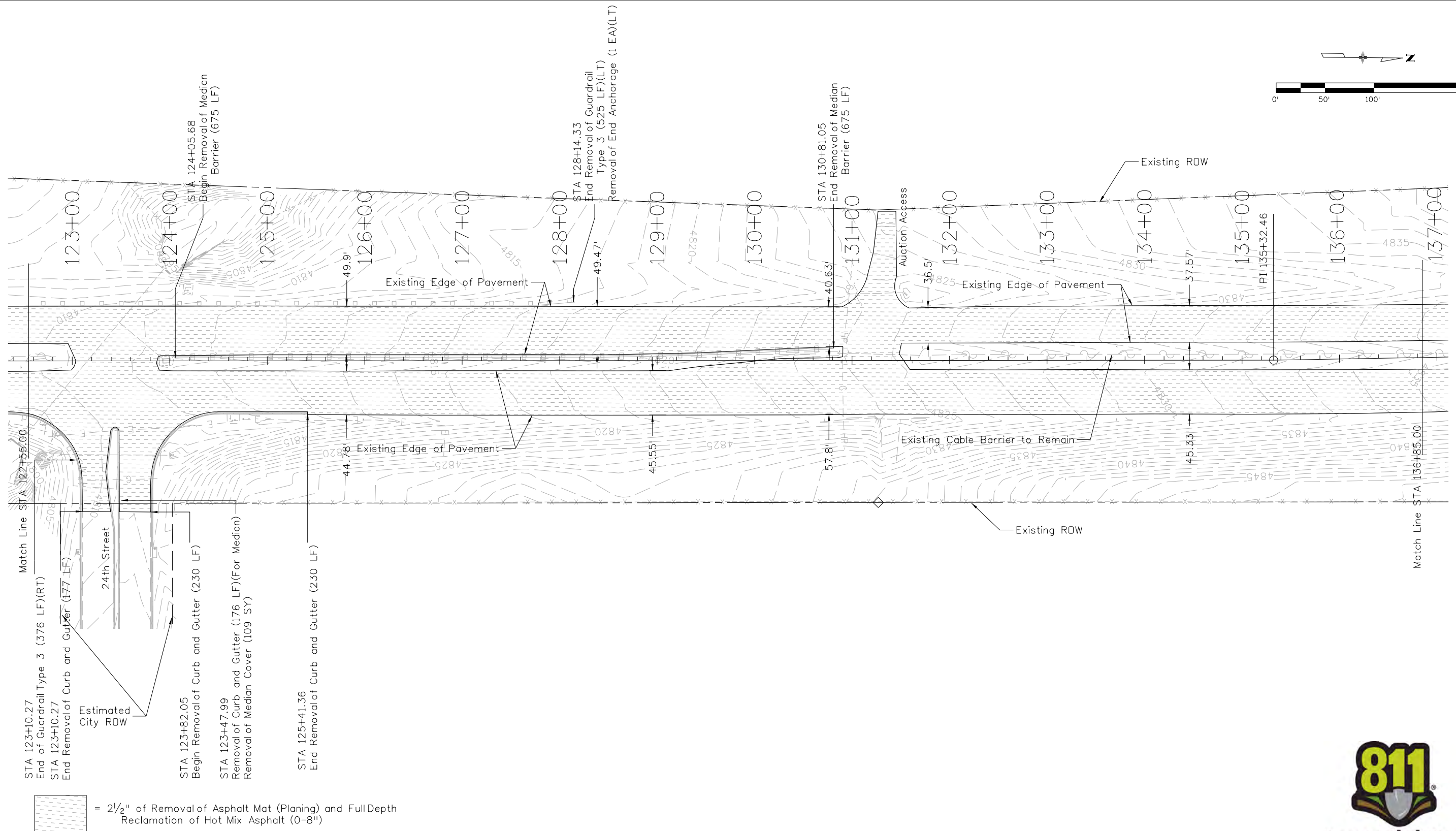


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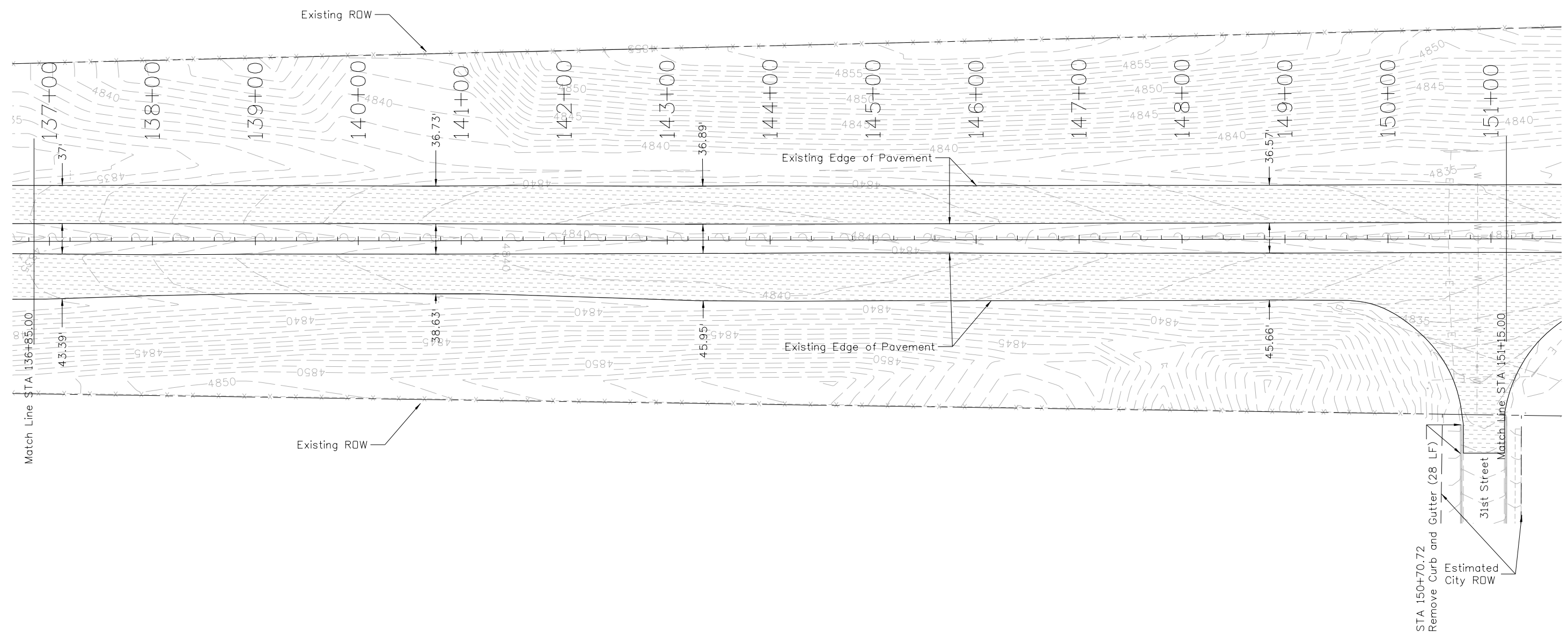
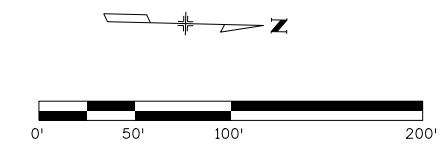
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 = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")



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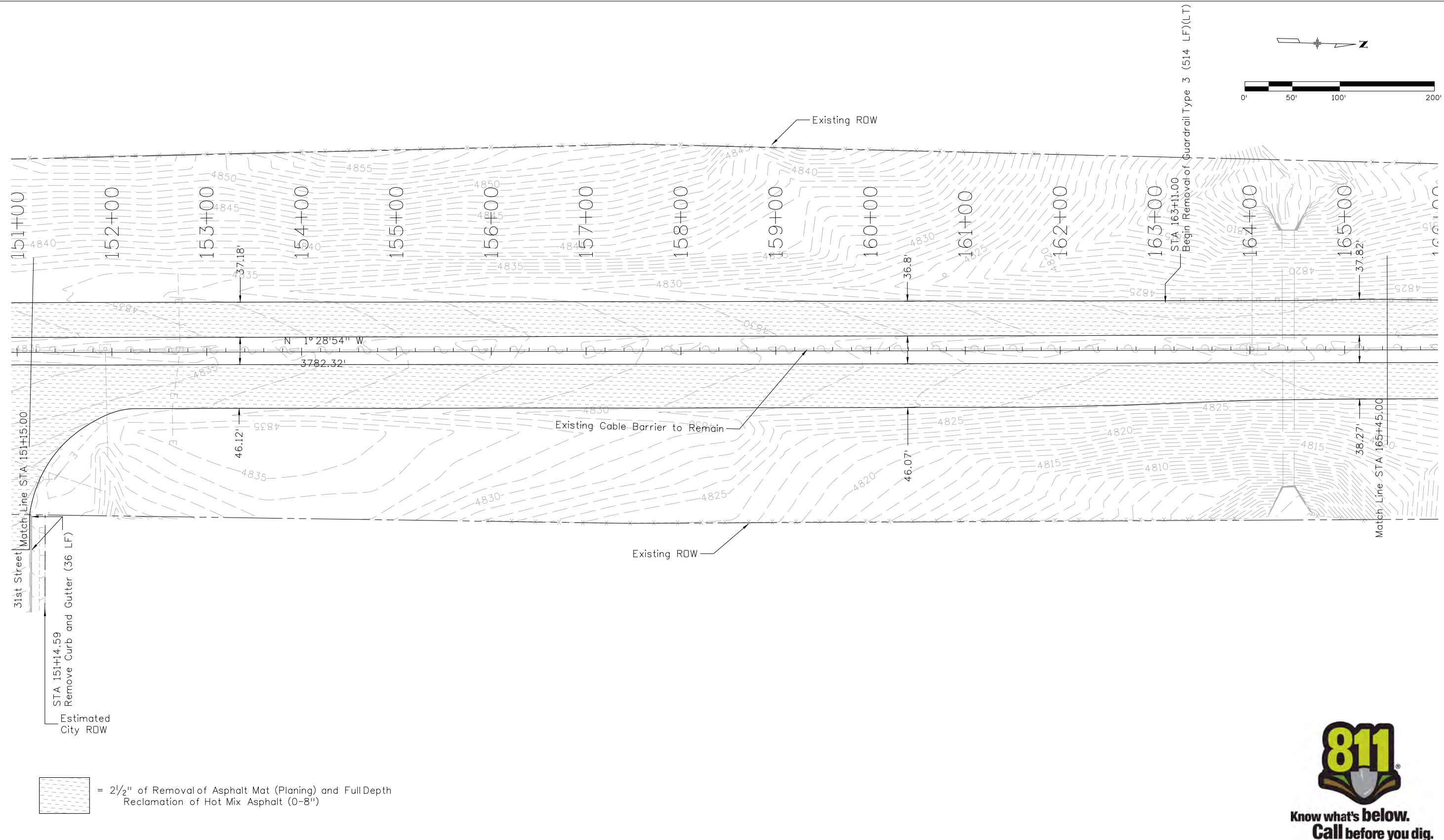
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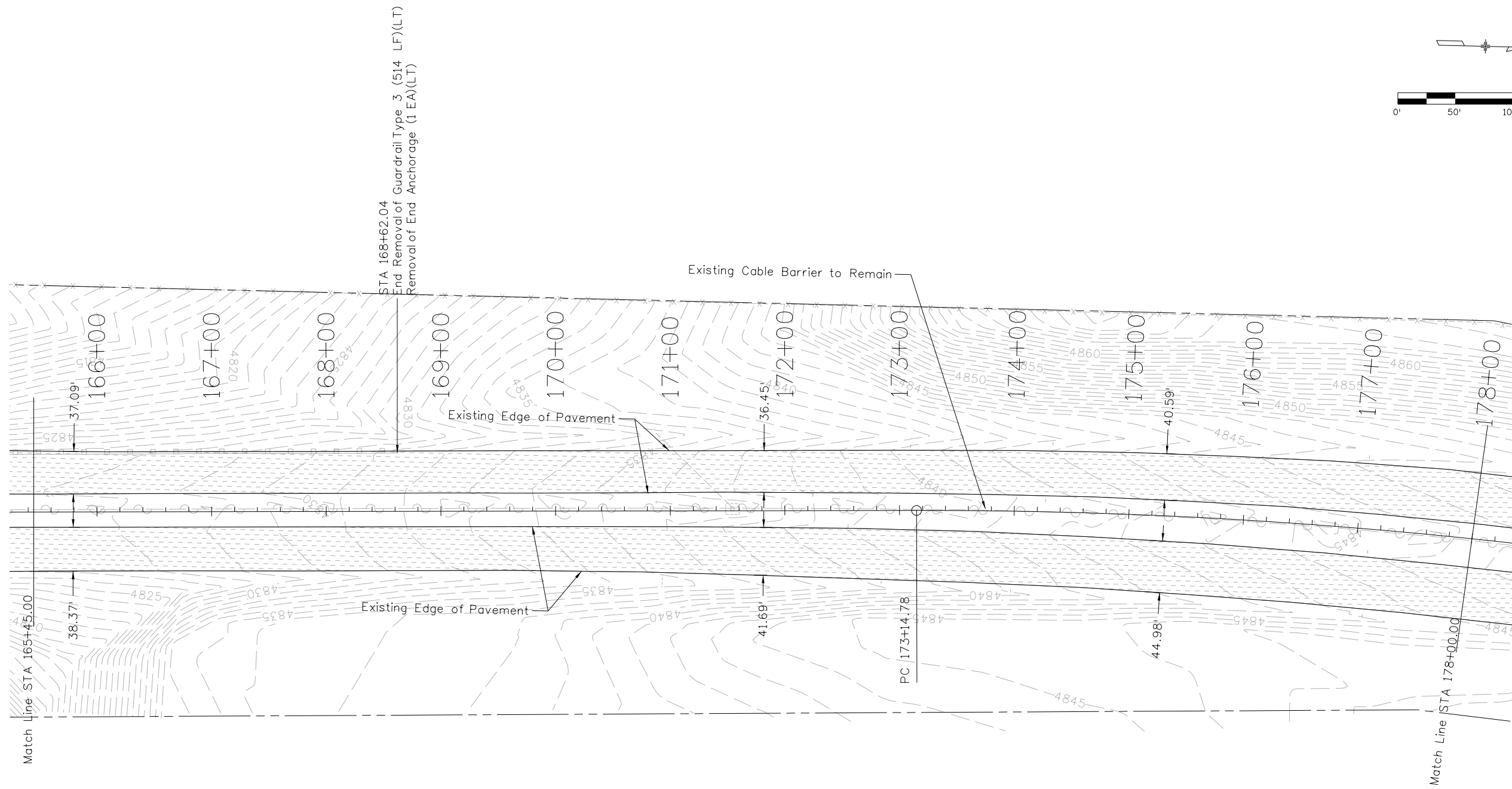
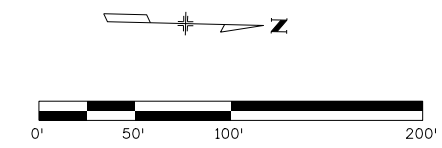
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SH 45			
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 = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")



Print Date: 2/22/2017
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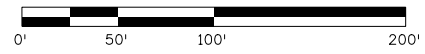
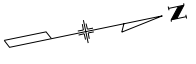
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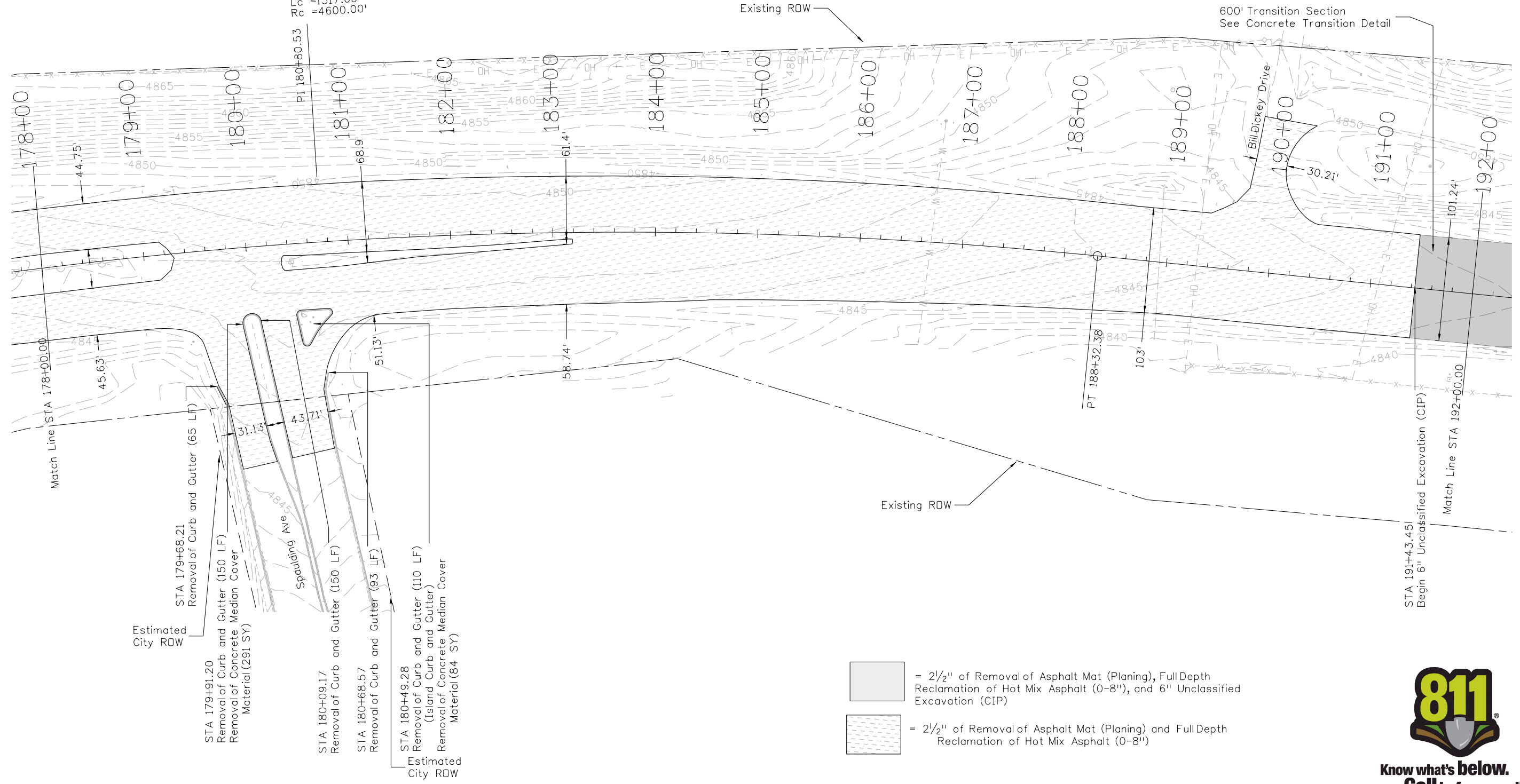
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SH 45 Curve 2
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 $Tc = 765.76'$
 $Lc = 1517.60'$
 $Rc = 4600.00'$



- = 2 1/2" of Removal of Asphalt Mat (Planing), Full Depth Reclamation of Hot Mix Asphalt (0-8"), and 6" Unclassified Excavation (CIP)
- = 2 1/2" of Removal of Asphalt Mat (Planing) and Full Depth Reclamation of Hot Mix Asphalt (0-8")



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Date:	Comments	Init.

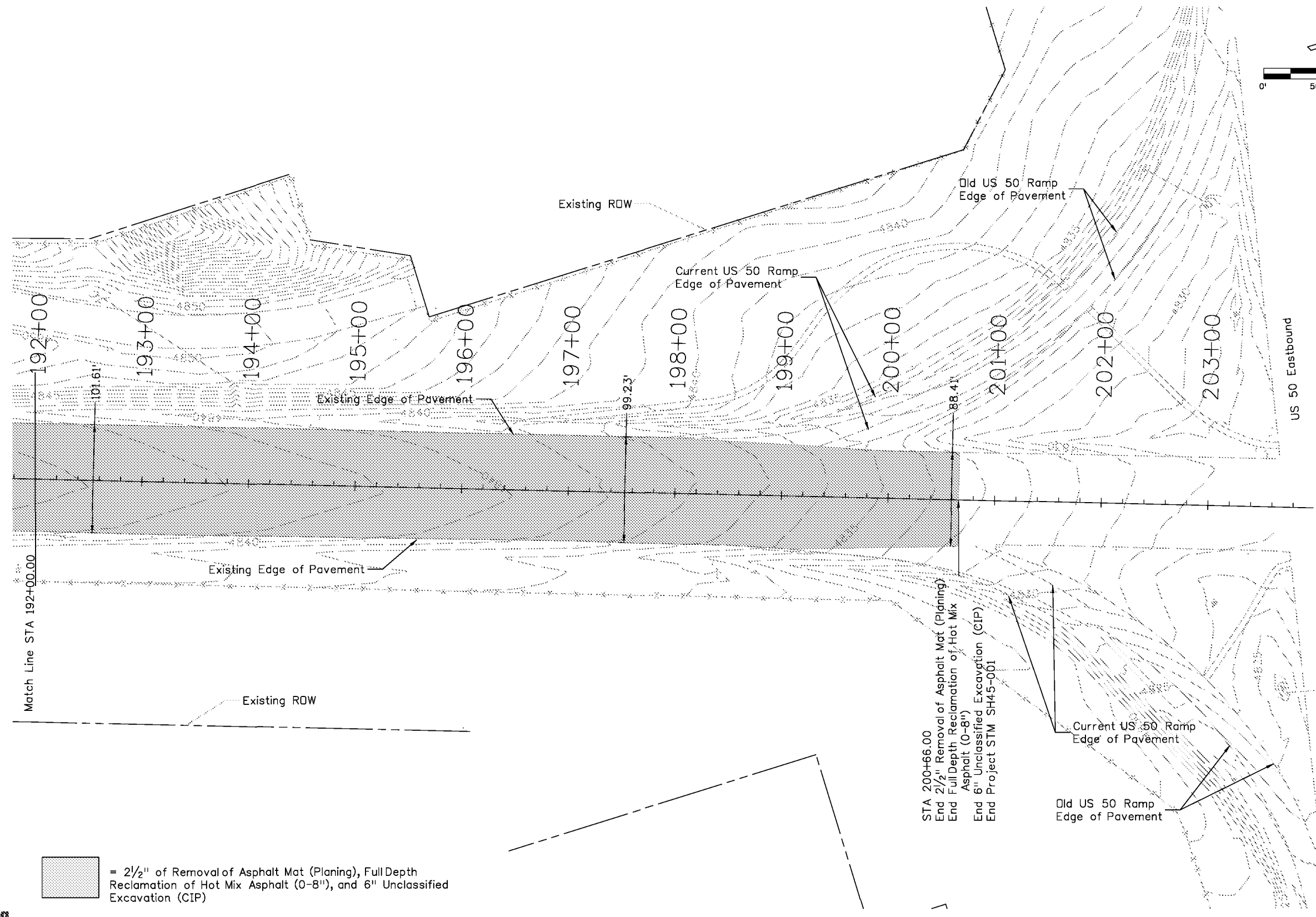
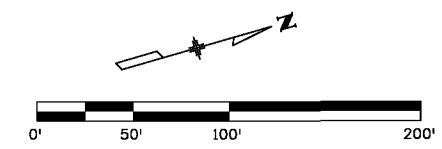
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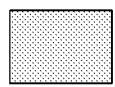
Project No./Code
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STA 200+66.00
 End 2 1/2" Removal of Asphalt Mat (Planing)
 End Full Depth Reclamation of Hot Mix Asphalt (0-8")
 End 6" Unclassified Excavation (CIP)
 End Project STM SH45-001



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 = 2 1/2" of Removal of Asphalt Mat (Planing), Full Depth Reclamation of Hot Mix Asphalt (0-8"), and 6" Unclassified Excavation (CIP)

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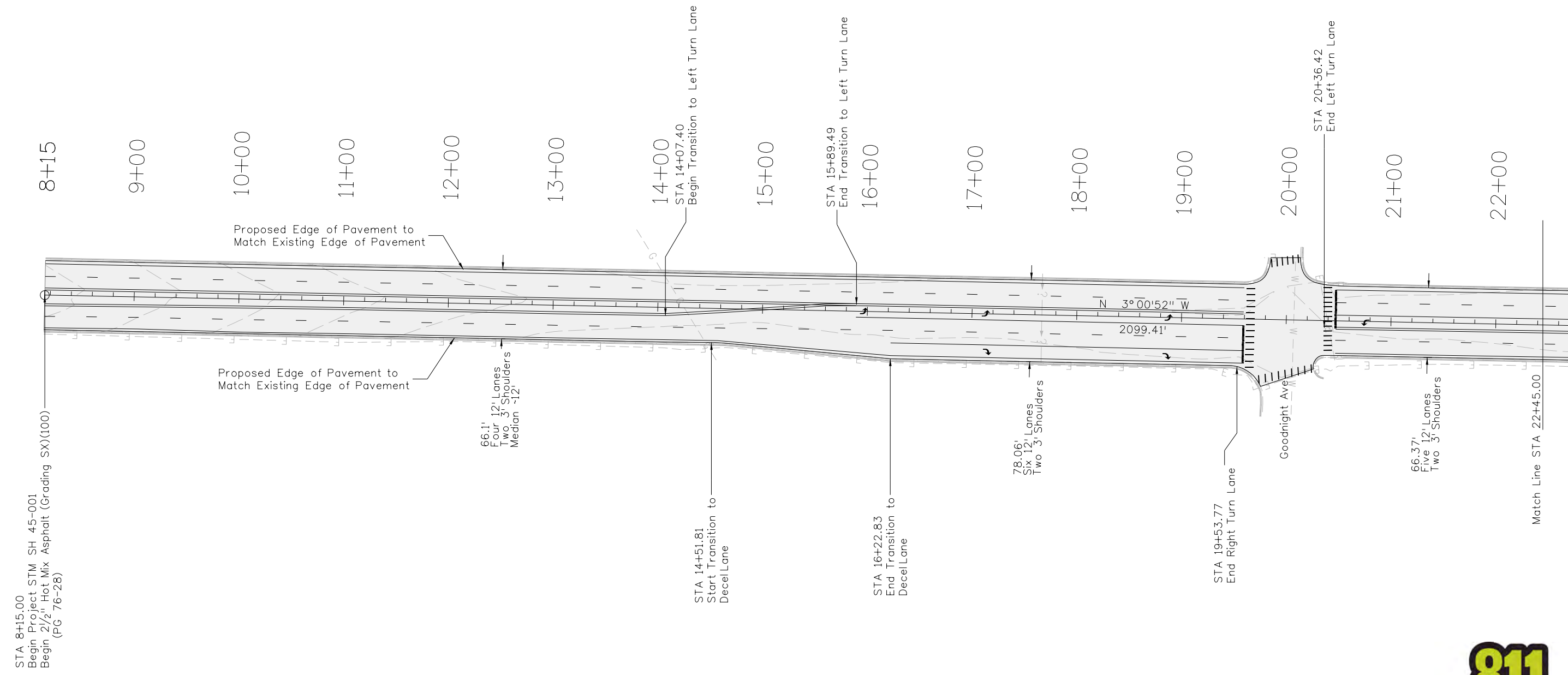
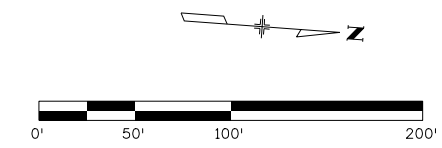
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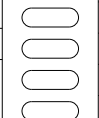
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 = 2 1/2" Hot Mix Asphalt (Grading SX)(100)
(PG 76-28)



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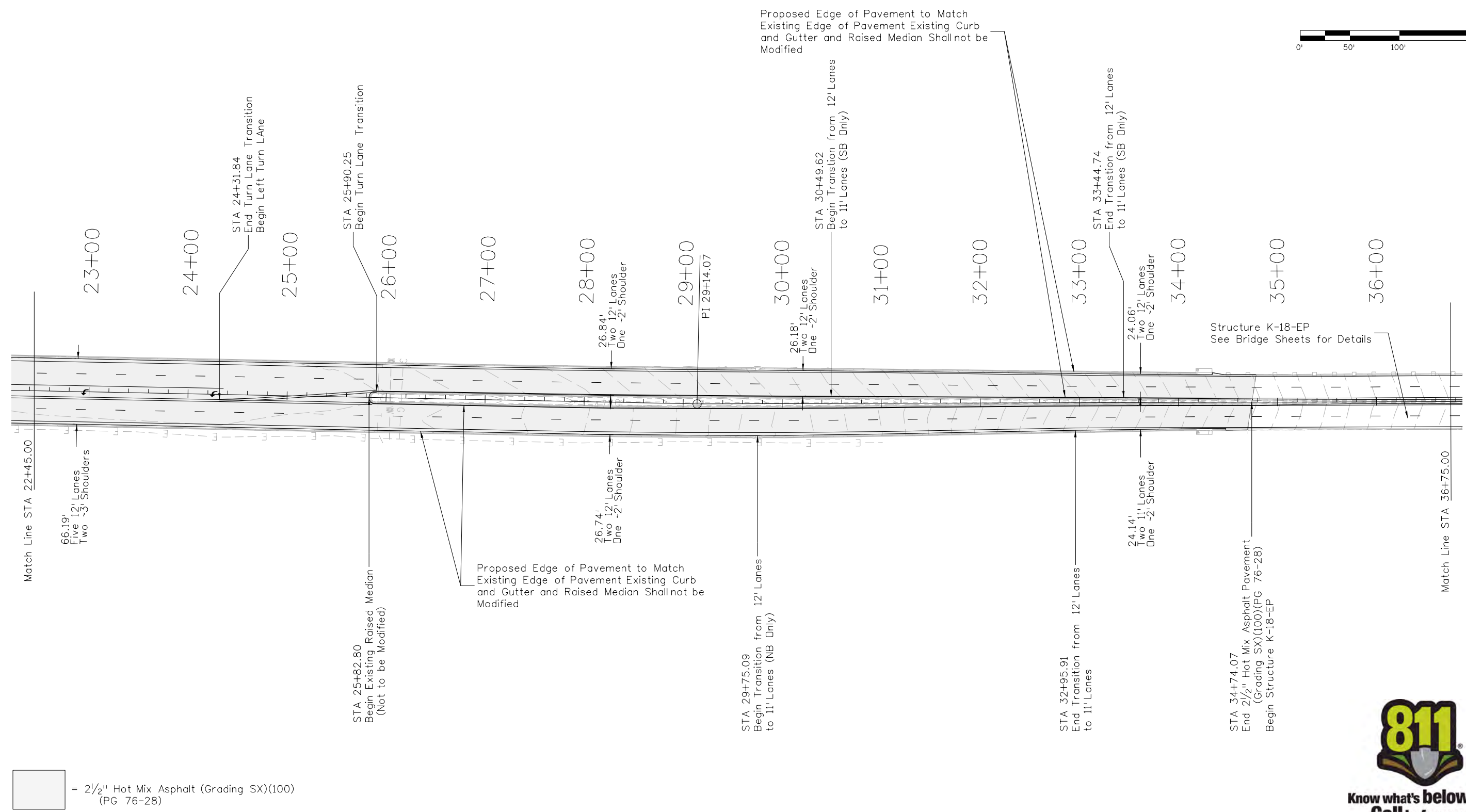
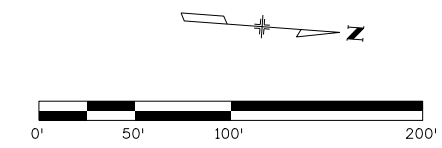
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= 2 1/2" Hot Mix Asphalt (Grading SX)(100)
 (PG 76-28)

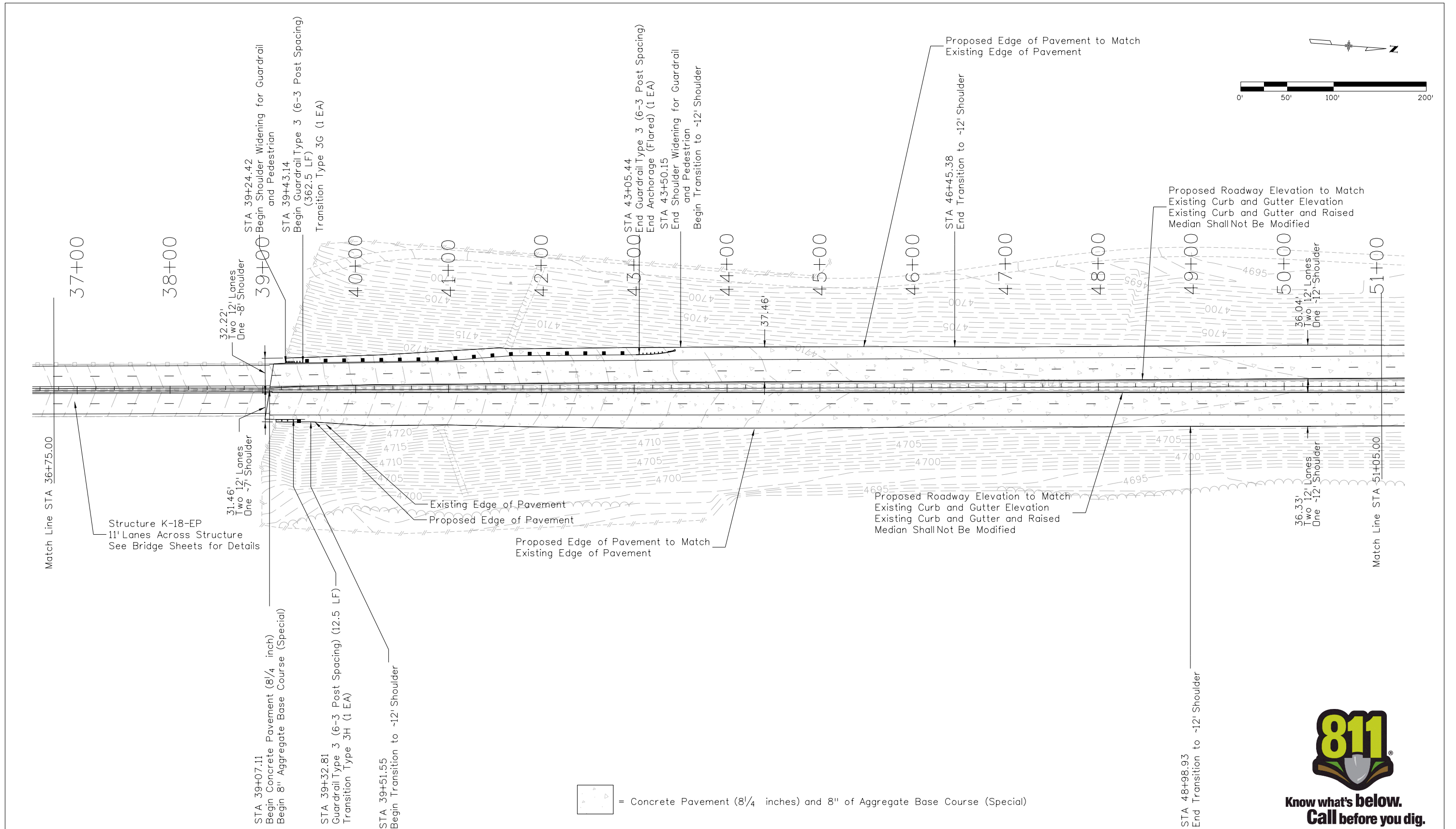


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Unit Information Unit Leader DTD							DTD		Revised:		Detailer: LEP		Subset Sheets: 02 of 07		Sheet Number 44	

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= Concrete Pavement (8 1/4 inches) and 8" of Aggregate Base Course (Special)



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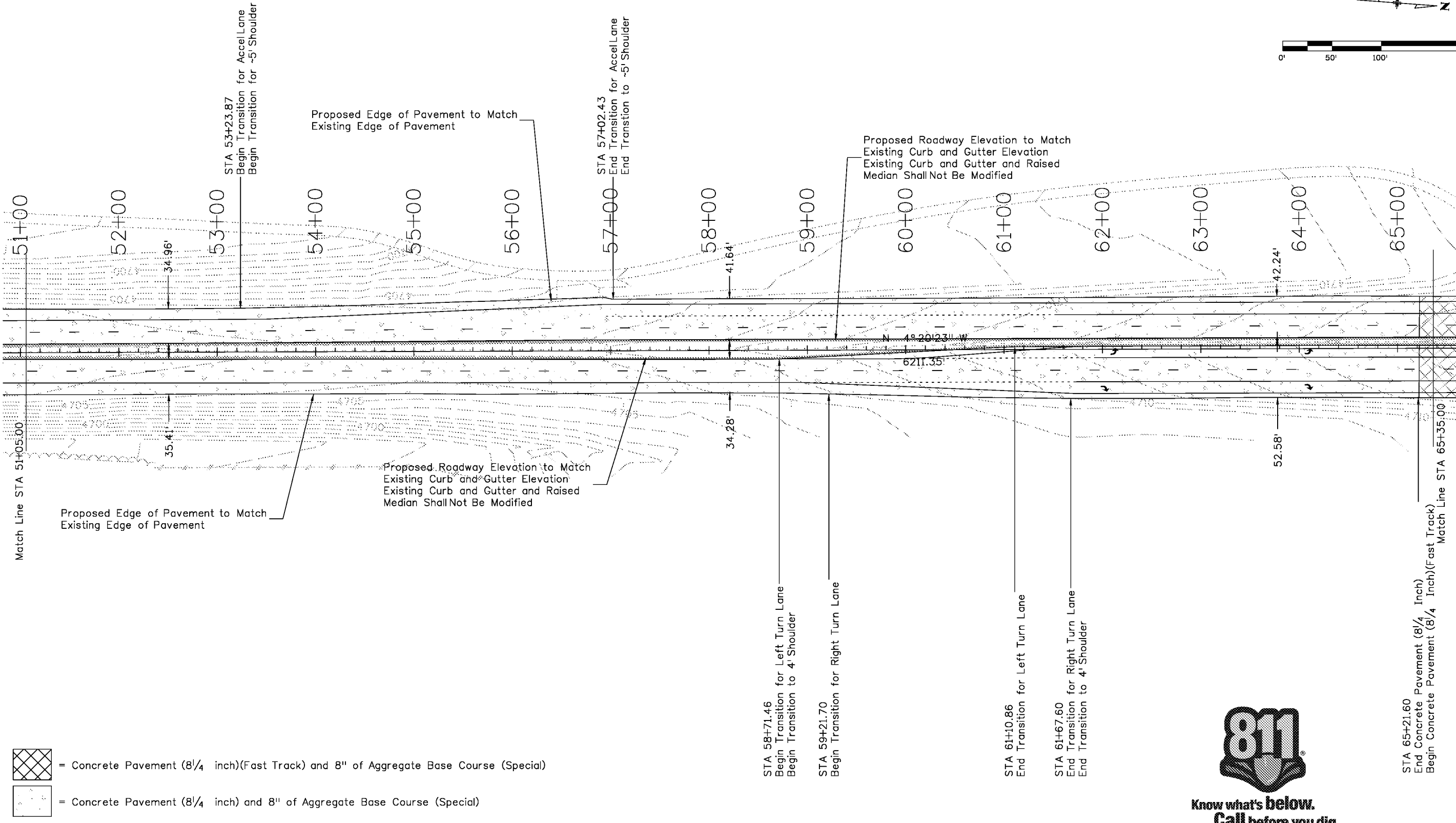
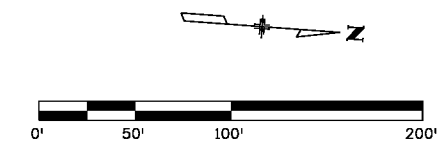
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ROADWAY PLAN SHEET			
SH 45			
Designer:	LEP	Structure	K-18-EP
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	20755
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- = Concrete Pavement (8 1/4 inch)(Fast Track) and 8" of Aggregate Base Course (Special)
- = Concrete Pavement (8 1/4 inch) and 8" of Aggregate Base Course (Special)

STA 58+71.46
Begin Transition for Left Turn Lane
Begin Transition to 4' Shoulder

STA 59+21.70
Begin Transition for Right Turn Lane

STA 61+10.86
End Transition for Left Turn Lane

STA 61+67.60
End Transition for Right Turn Lane
End Transition to 4' Shoulder

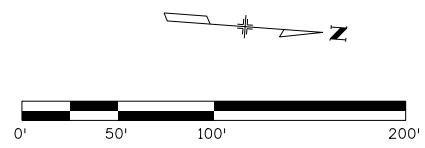
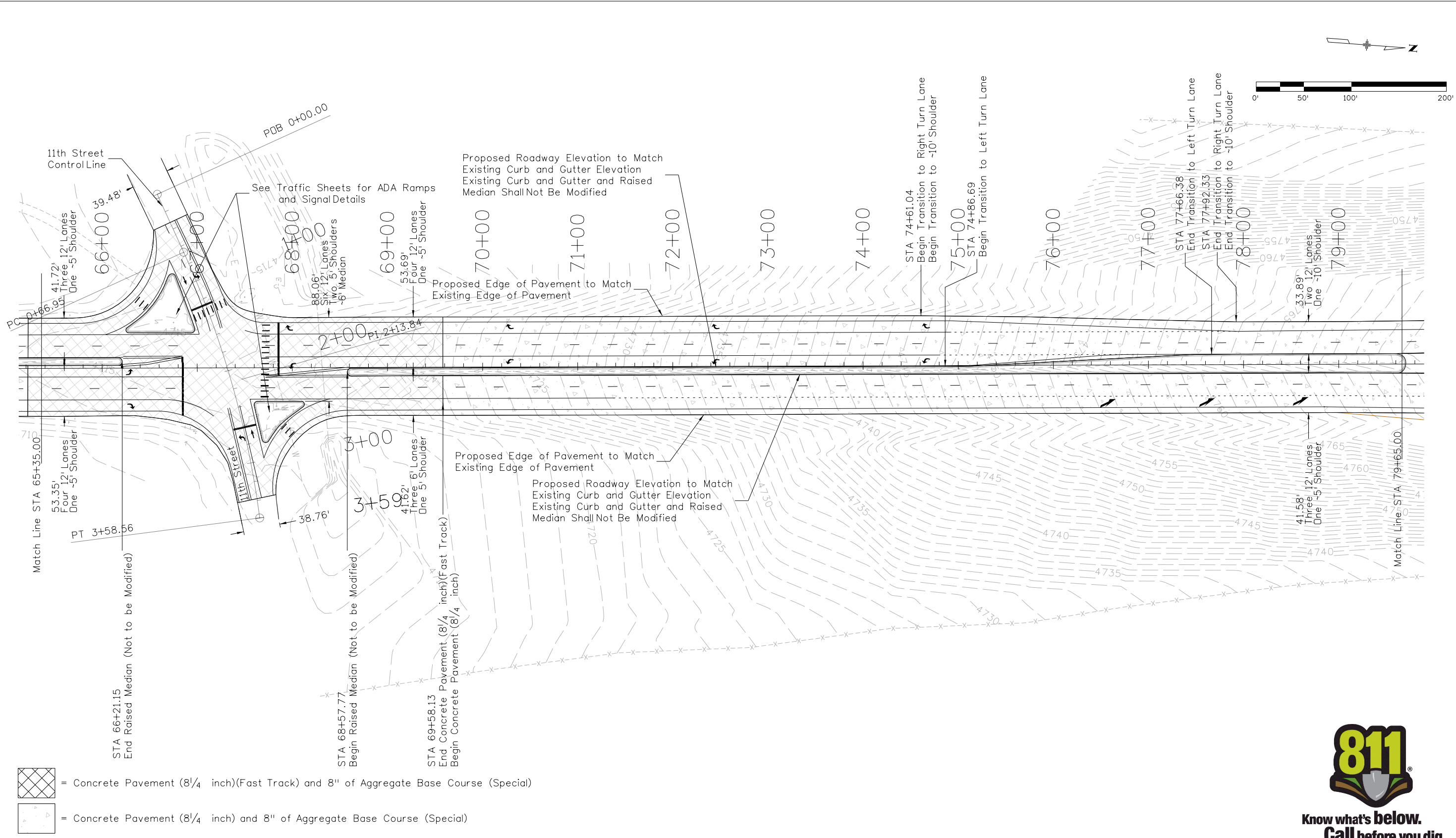
STA 65+21.60
End Concrete Pavement (8 1/4 Inch)
Begin Concrete Pavement (8 1/4 Inch)(Fast Track)
Match Line STA 65+35.00



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File Name: 20755DES_Plan04.dgn					902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702				No Revisions:		SH 45			STM SH45-001		
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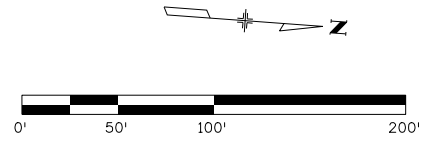
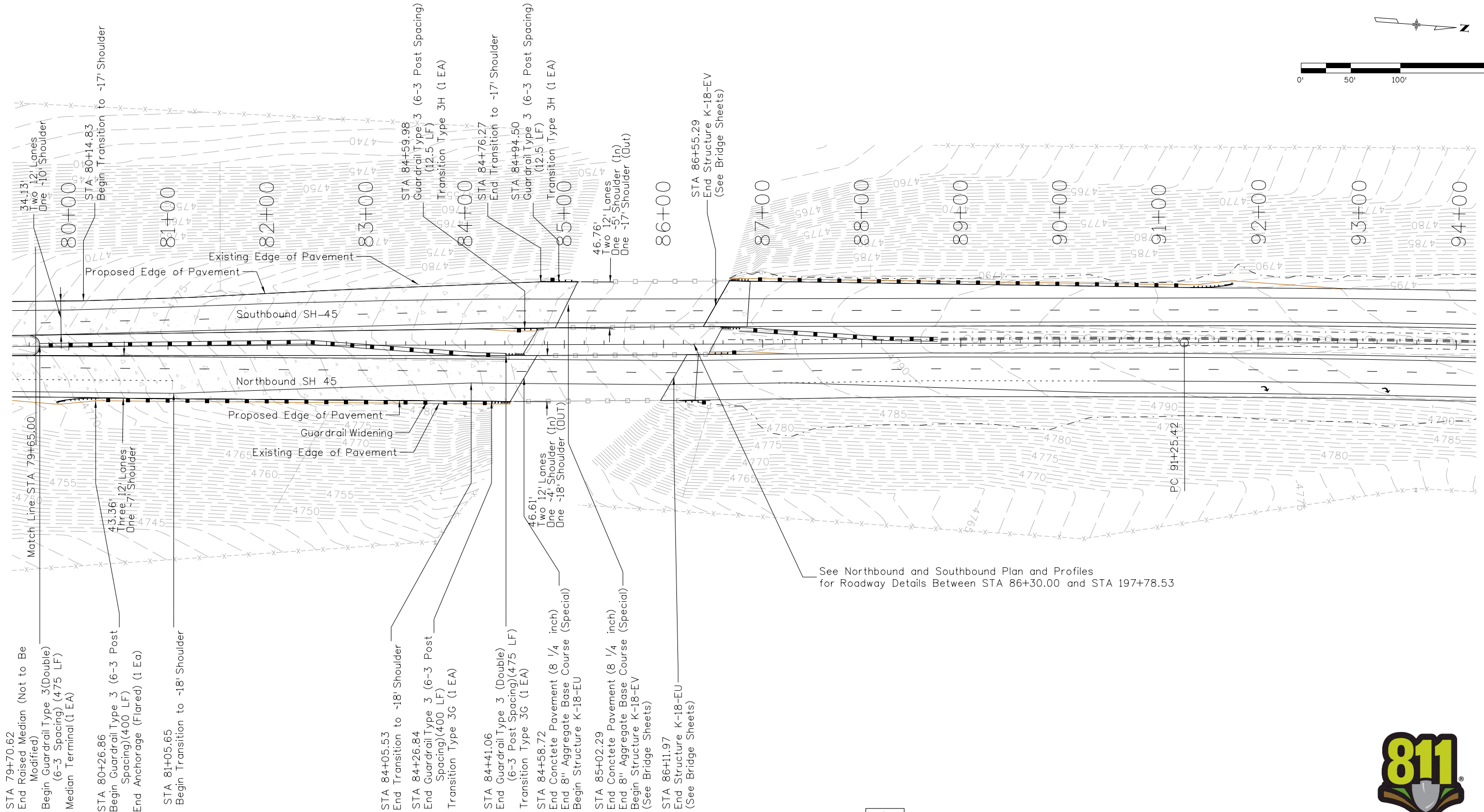
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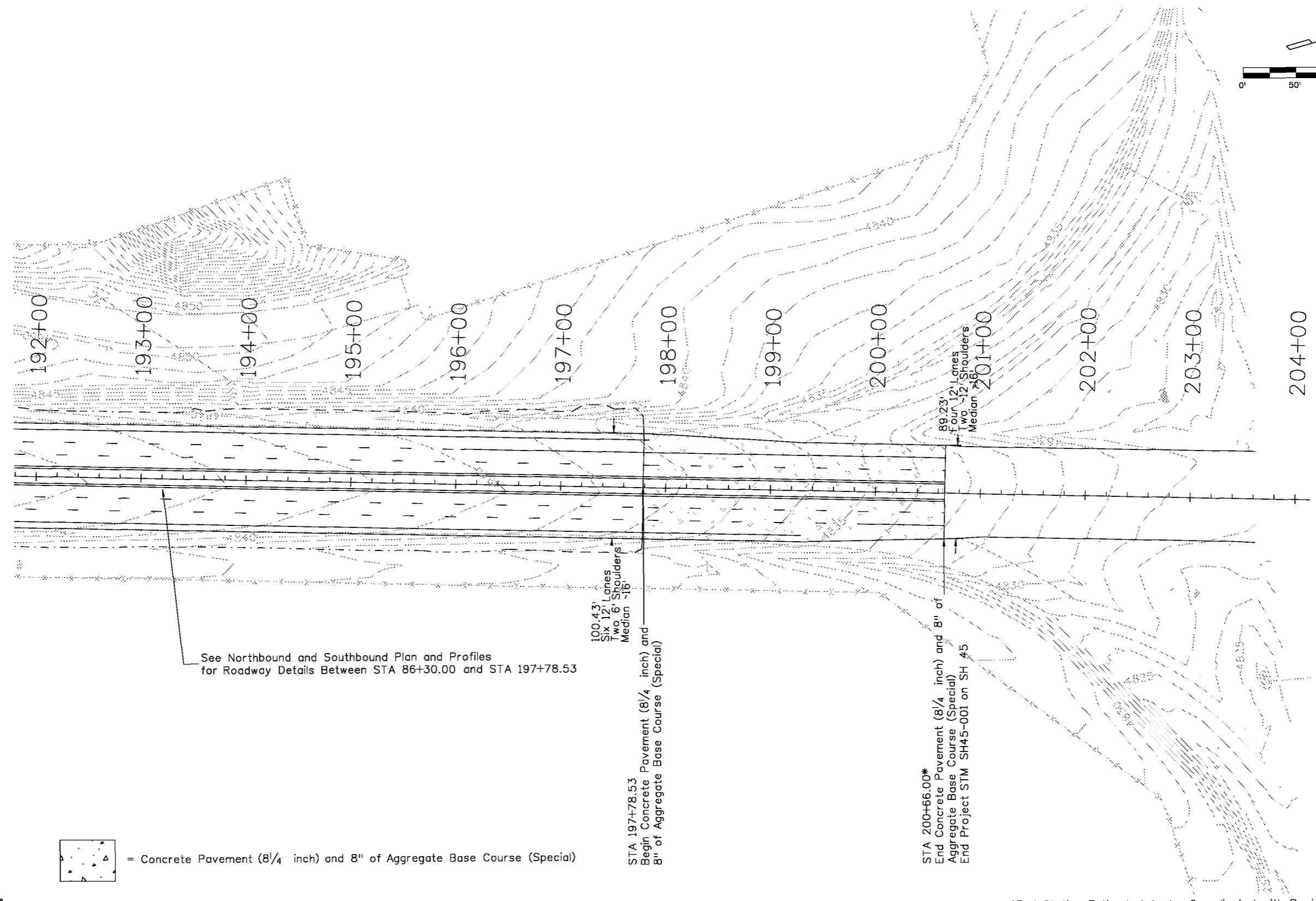
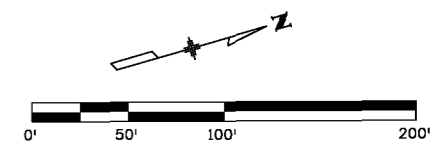
See Northbound and Southbound Plan and Profiles for Roadway Details Between STA 86+30.00 and STA 197+78.53

 = Concrete Pavement (8 1/4" inch) and 8" of Aggregate Base Course (Special)



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File Name: 20755DES_Plan06.dgn		Date: Comments Init.			Region 2				No Revisions:		SH 45				STM SH45-001			
Horiz. Scale: 1:100 Vert. Scale: As Noted					 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702				Revised:		Designer: LEP		Structure		K-18-EV		20755	
Unit Information Unit Leader DTD					 Region 2 DTD				Void:		Detailer: LEP		Numbers		K-18-EU		Sheet Number 48	
											Sheet Subset: PLAN		Subset Sheets: 06 of 07					



See Northbound and Southbound Plan and Profiles for Roadway Details Between STA 86+30.00 and STA 197+78.53

100.43'
Six 12' Lanes
Two 6' Shoulders
Median 16'

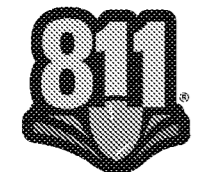
STA 197+78.53
Begin Concrete Pavement (8 1/4 inch) and
8 inch of Aggregate Base Course (Special)

STA 200+66.00*
End Concrete Pavement (8 1/4 inch) and 8 inch of
Aggregate Base Course (Special)
End Project STM SH45-001 on SH 45

89.23'
Four 12' Lanes
Two 12' Shoulders
Median 16'

= Concrete Pavement (8 1/4 inch) and 8 inch of Aggregate Base Course (Special)

*End Station Estimated, to be Coordinated with Project STA 0503-088



Know what's below.
Call before you dig.

Print Date: 3/7/2017	
File Name: 20755DES_Plan07.dgn	
Horiz. Scale: 1:100 Vert. Scale: As Noted	
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902 Erie Avenue
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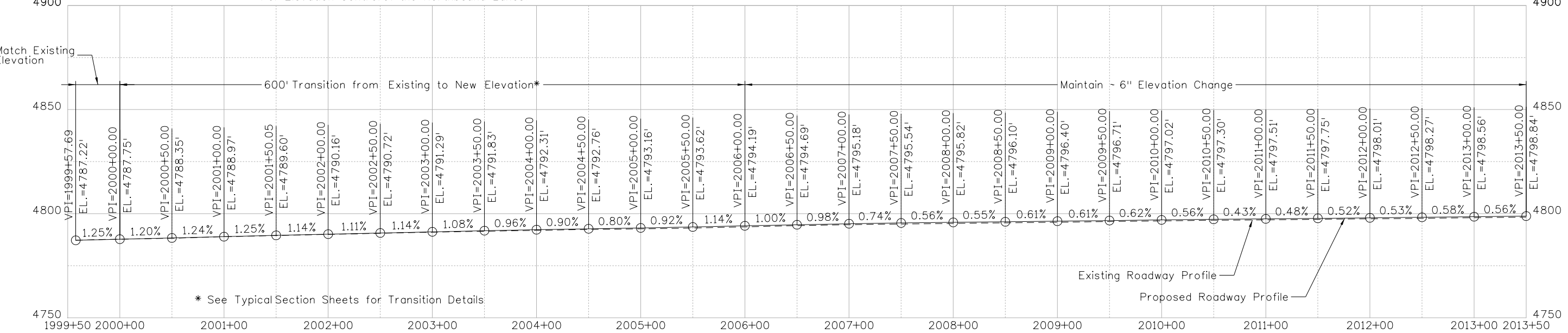
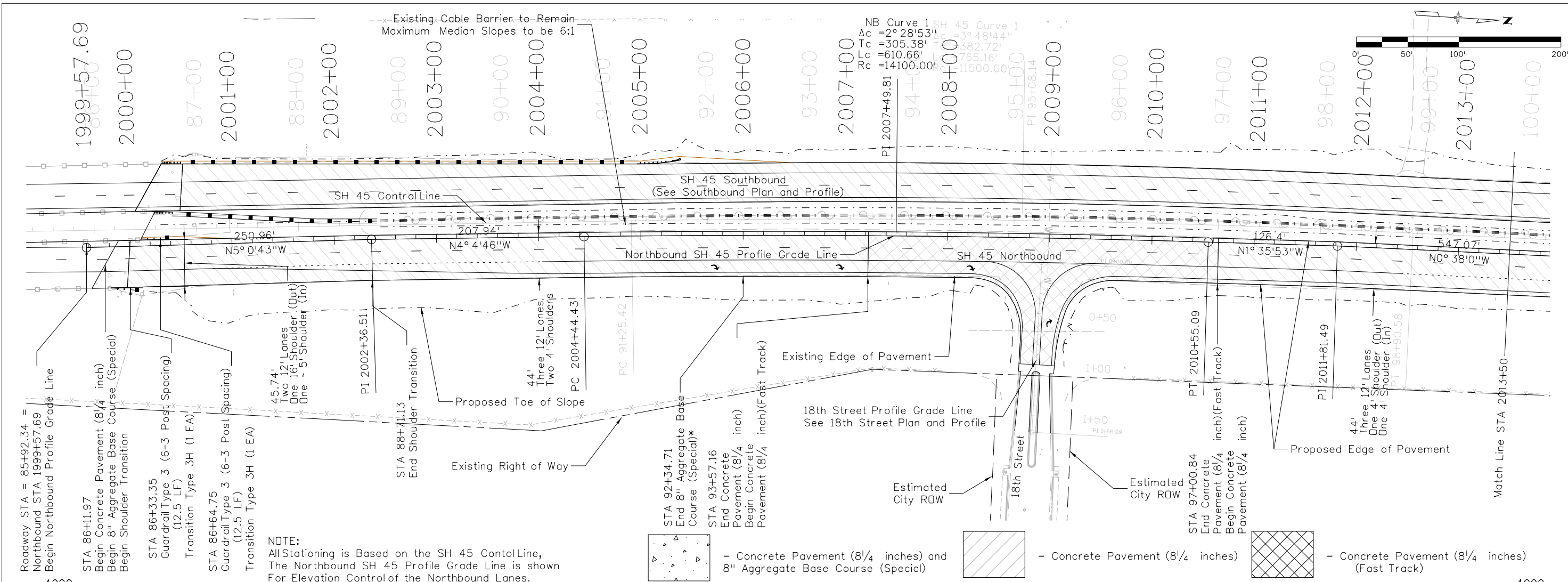
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As Constructed
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ROADWAY PLAN SH 45			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	PLAN	Subset Sheets:	07 of 07

Project No./Code	STM SH45-001
	20755
Sheet Number	49

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= Concrete Pavement (8 1/4 inches) and 8 inch Aggregate Base Course (Special)
 = Concrete Pavement (8 1/4 inches)
 = Concrete Pavement (8 1/4 inches) (Fast Track)

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Print Date: 3/7/2017
File Name: 20755DES_PnPNB01.dgn
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Date:	Comments	Init.

Colorado Department of Transportation

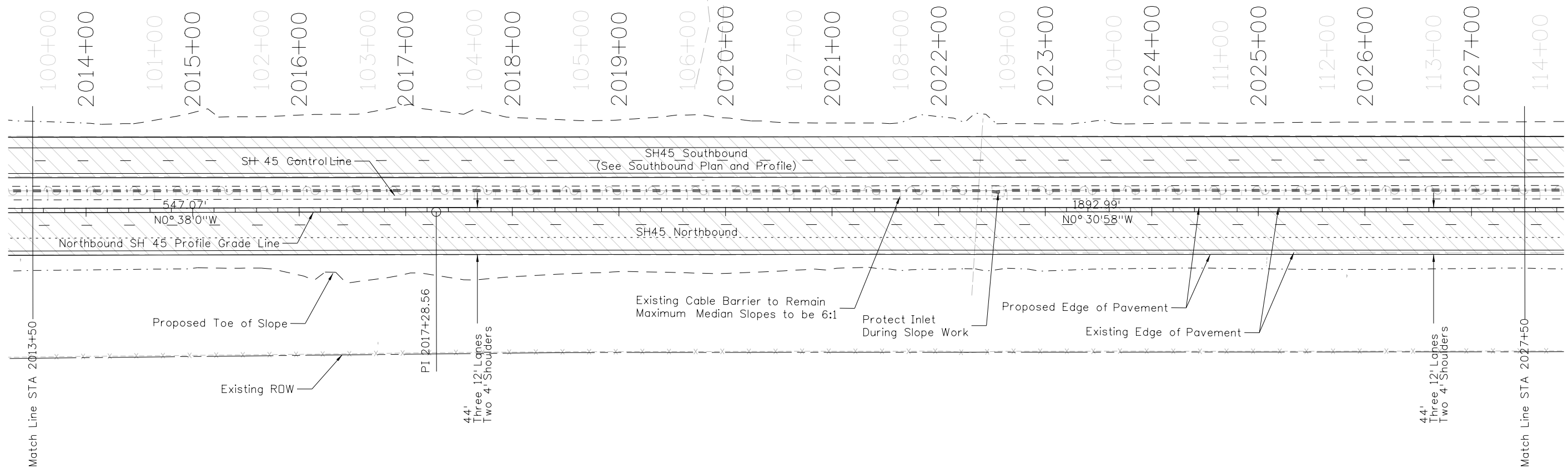
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Region 2 DTD

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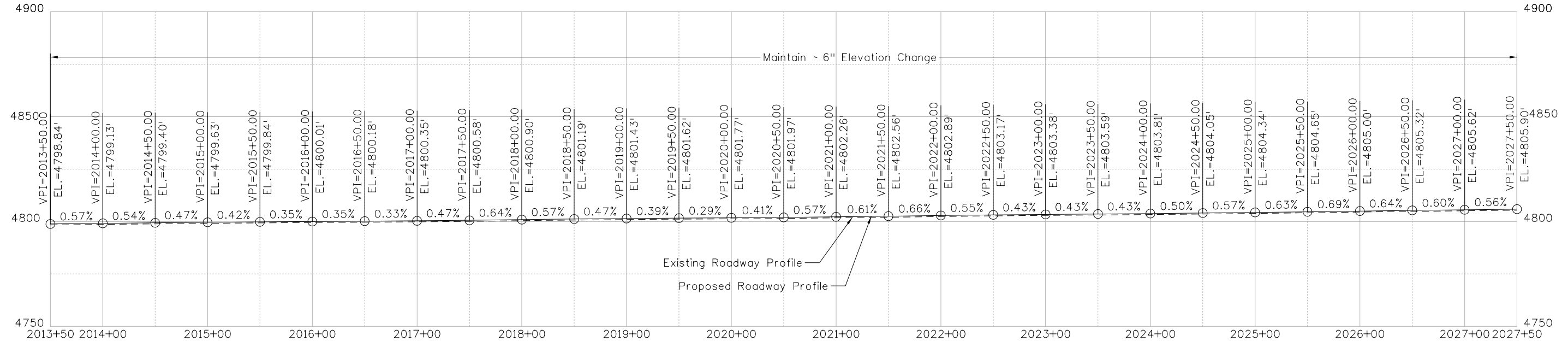
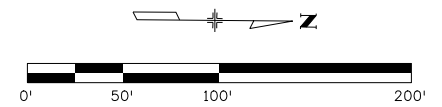
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Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
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Project No./Code	
STM SH45-001	
20755	
Sheet Number	50



NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.

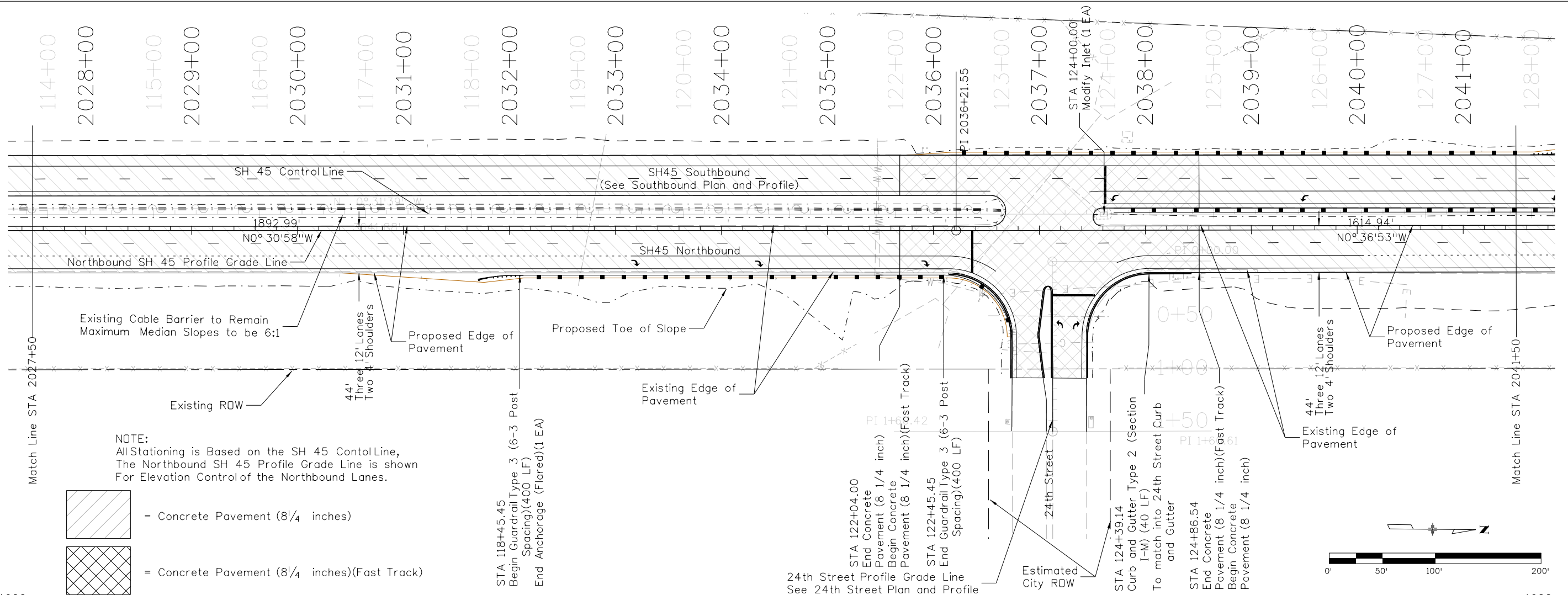
 = Concrete Pavement (8 1/4 inches)



Print Date: 2/21/2017	 Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	As Constructed	NORTHBOUND PLAN AND PROFILE		Project No./Code
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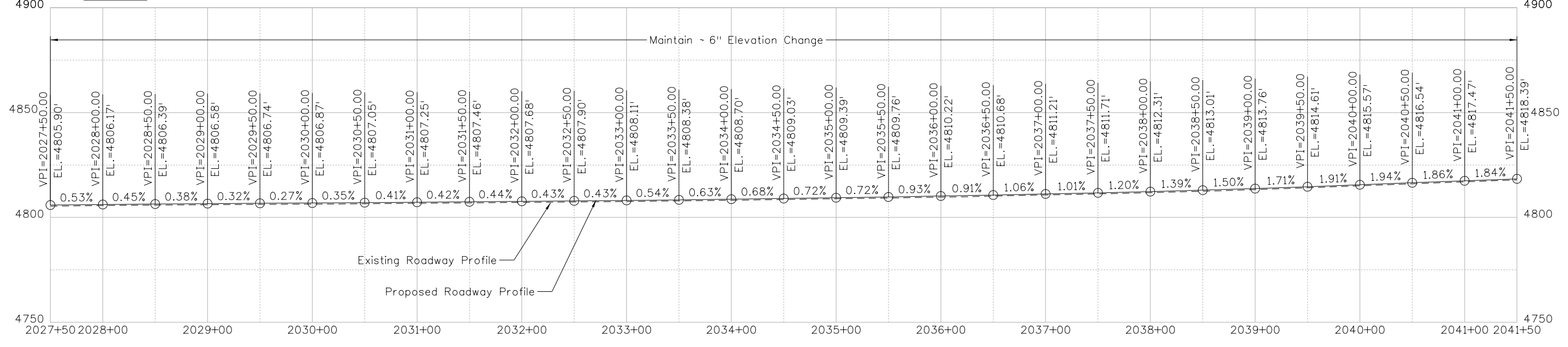
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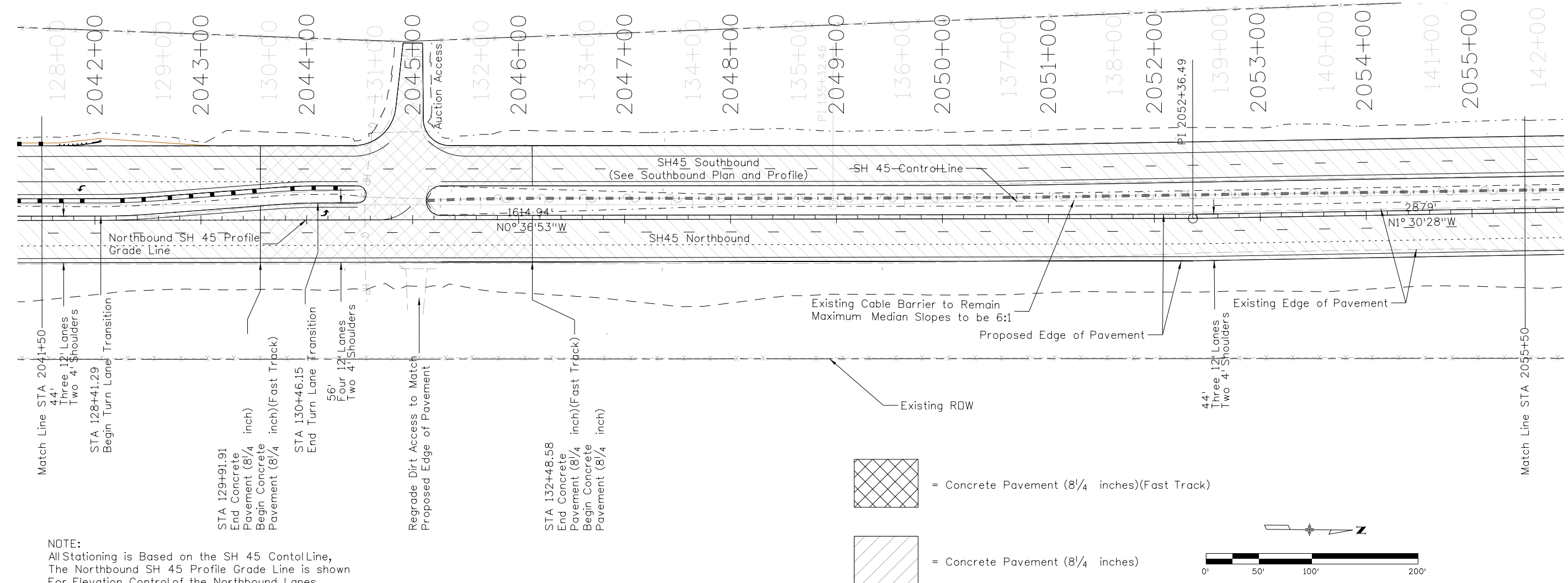
NOTE:
All Stationing is Based on the SH 45 Control Line,
The Northbound SH 45 Profile Grade Line is shown
For Elevation Control of the Northbound Lanes.

- = Concrete Pavement (8 1/4 inches)
- = Concrete Pavement (8 1/4 inches)(Fast Track)

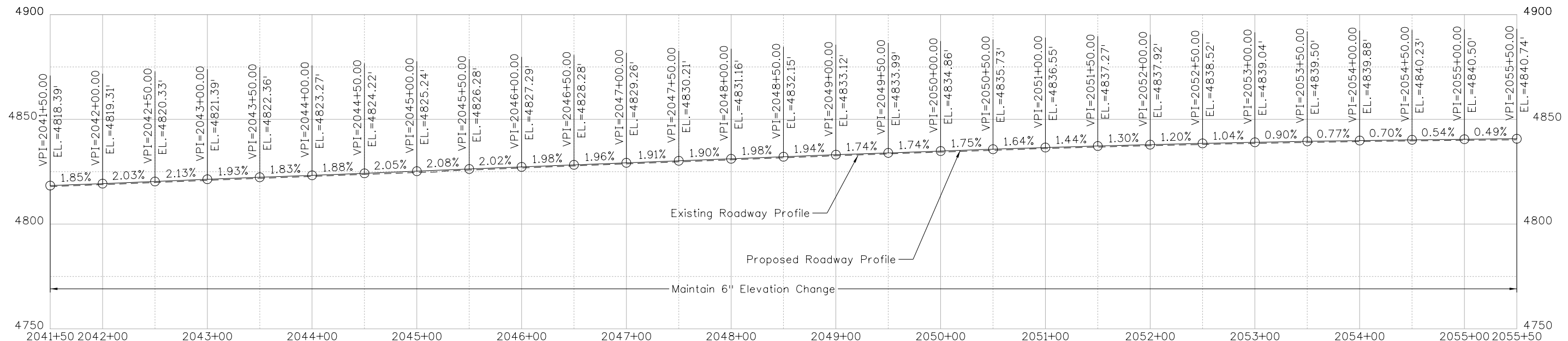
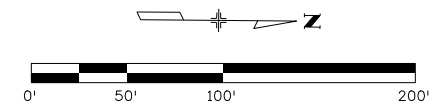


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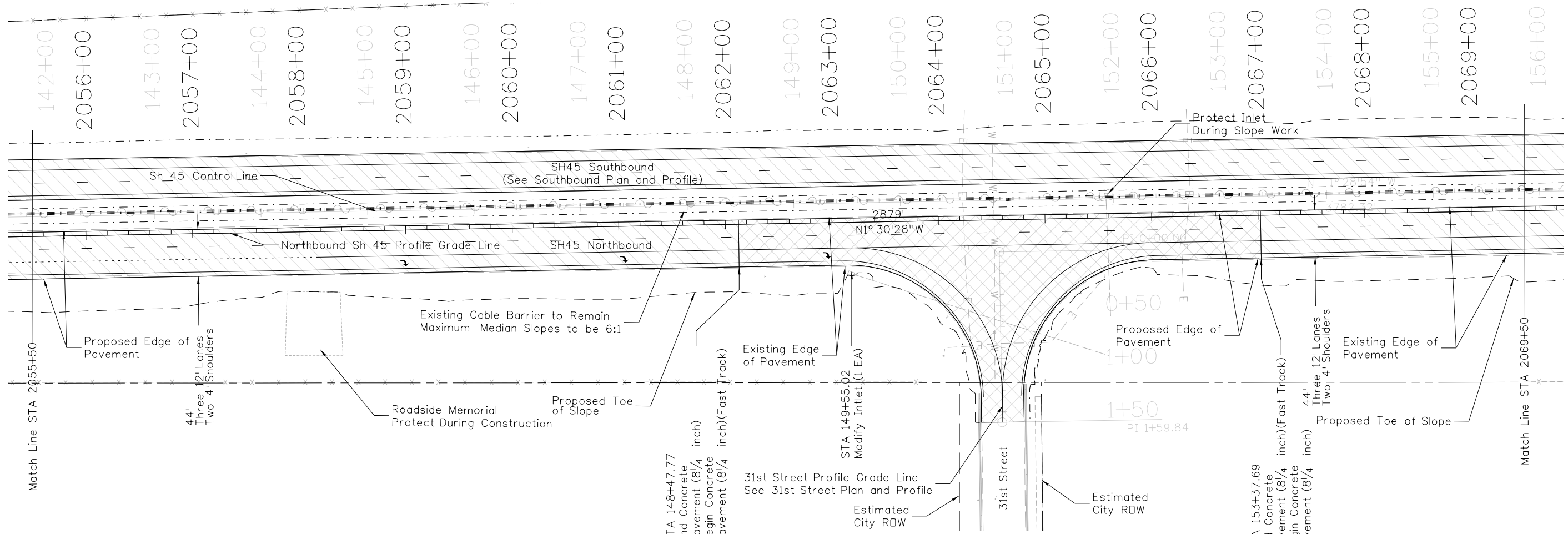
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NOTE:
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 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.



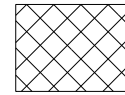
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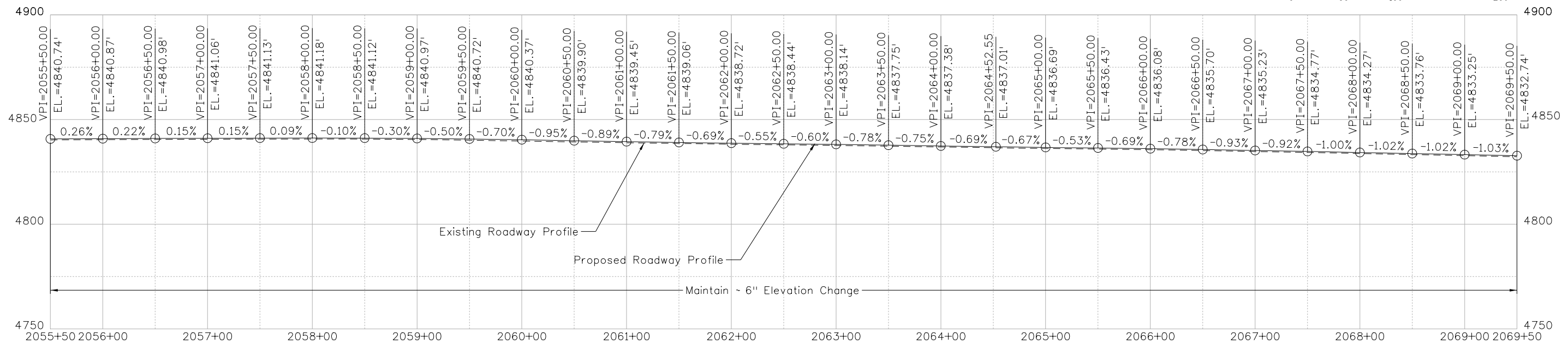
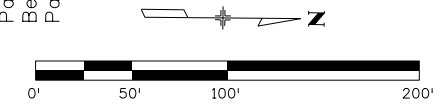
NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.



= Concrete Pavement (8 1/4 inches)



= Concrete Pavement (8 1/4 inches)(Fast Track)



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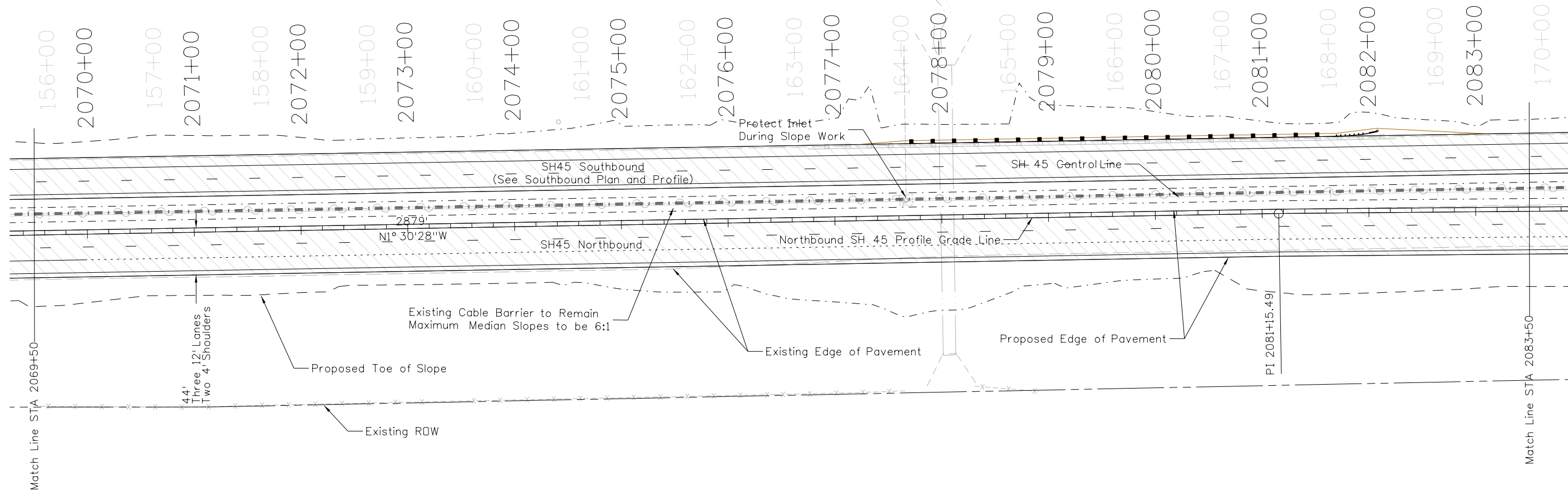
Colorado Department of Transportation
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No Revisions:
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Void:

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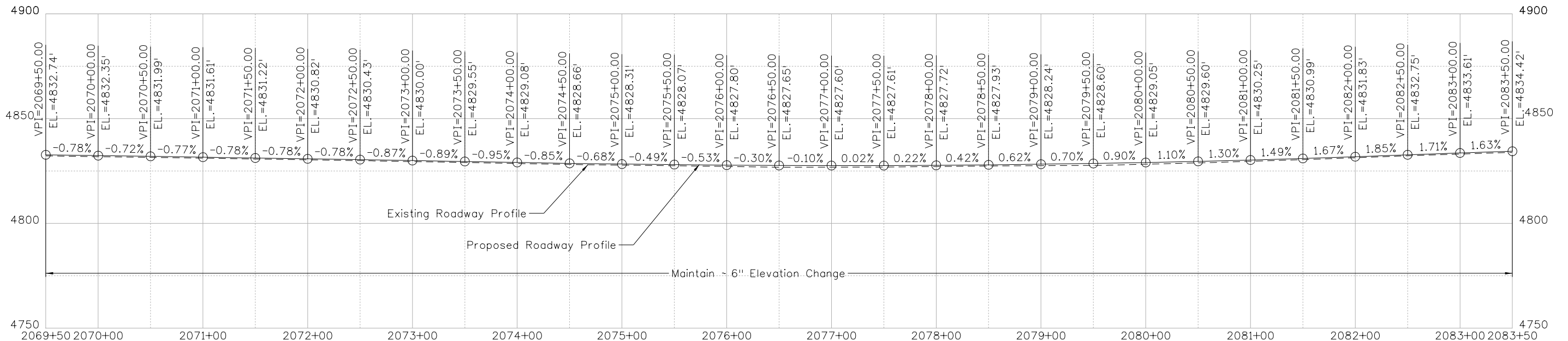
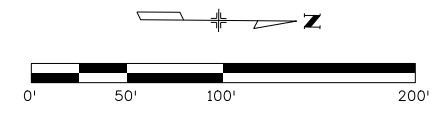
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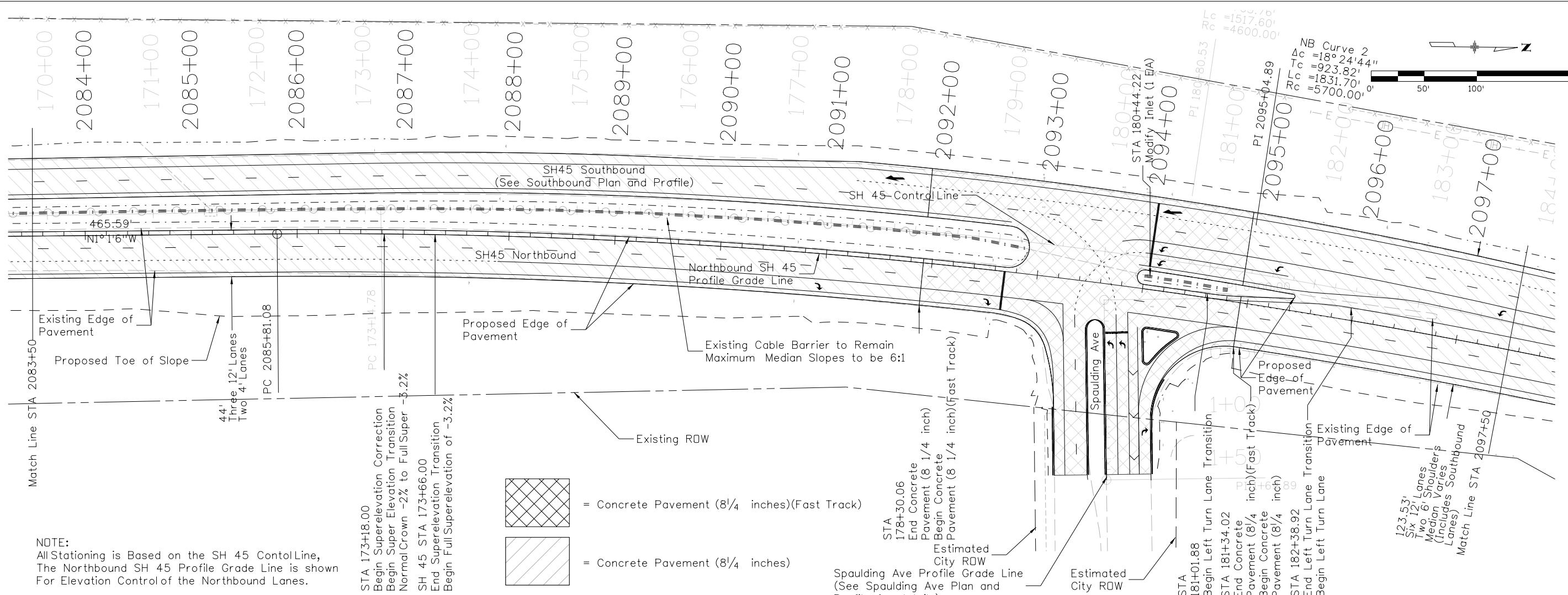
NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.

 = Concrete Pavement (8 1/4 inches)





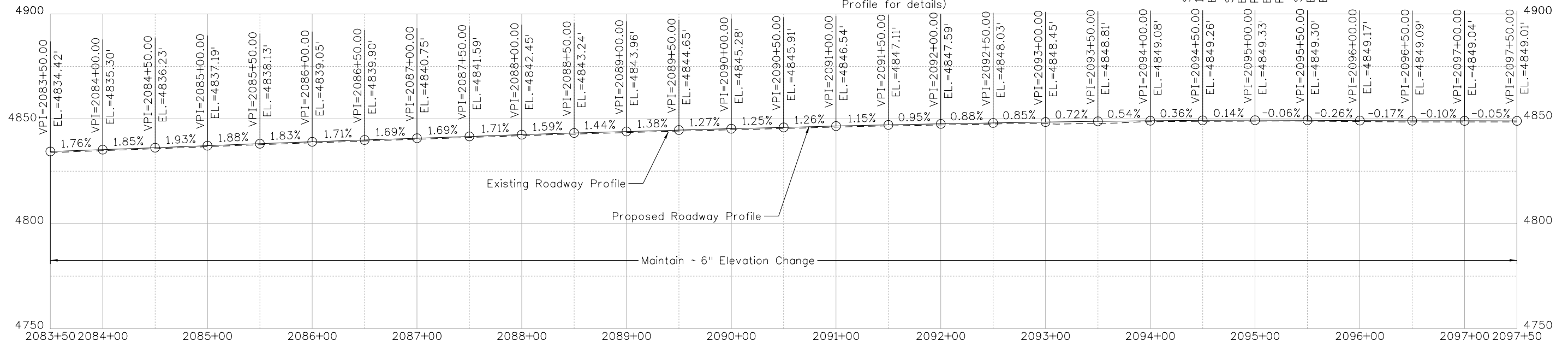
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NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.

 = Concrete Pavement (8 1/4 inches)(Fast Track)
 = Concrete Pavement (8 1/4 inches)



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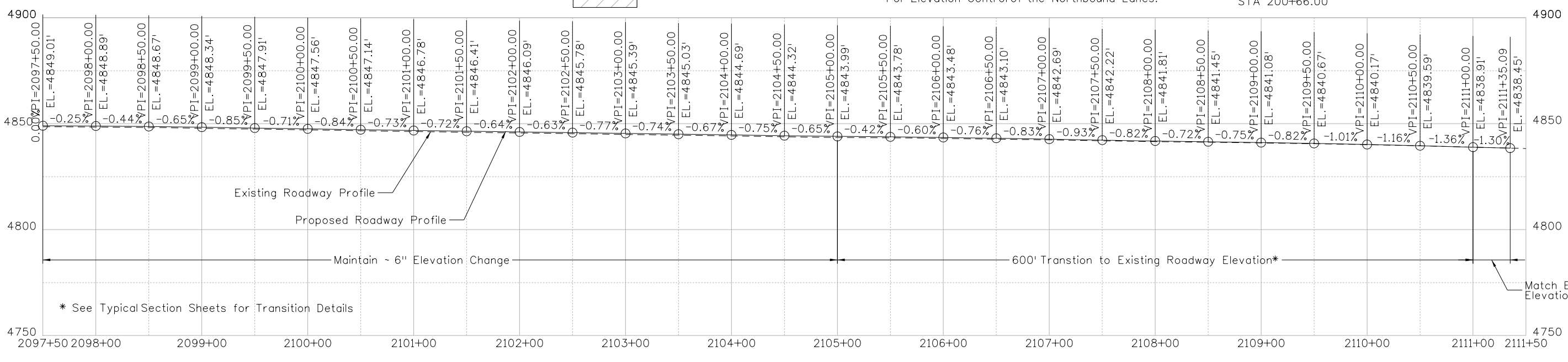
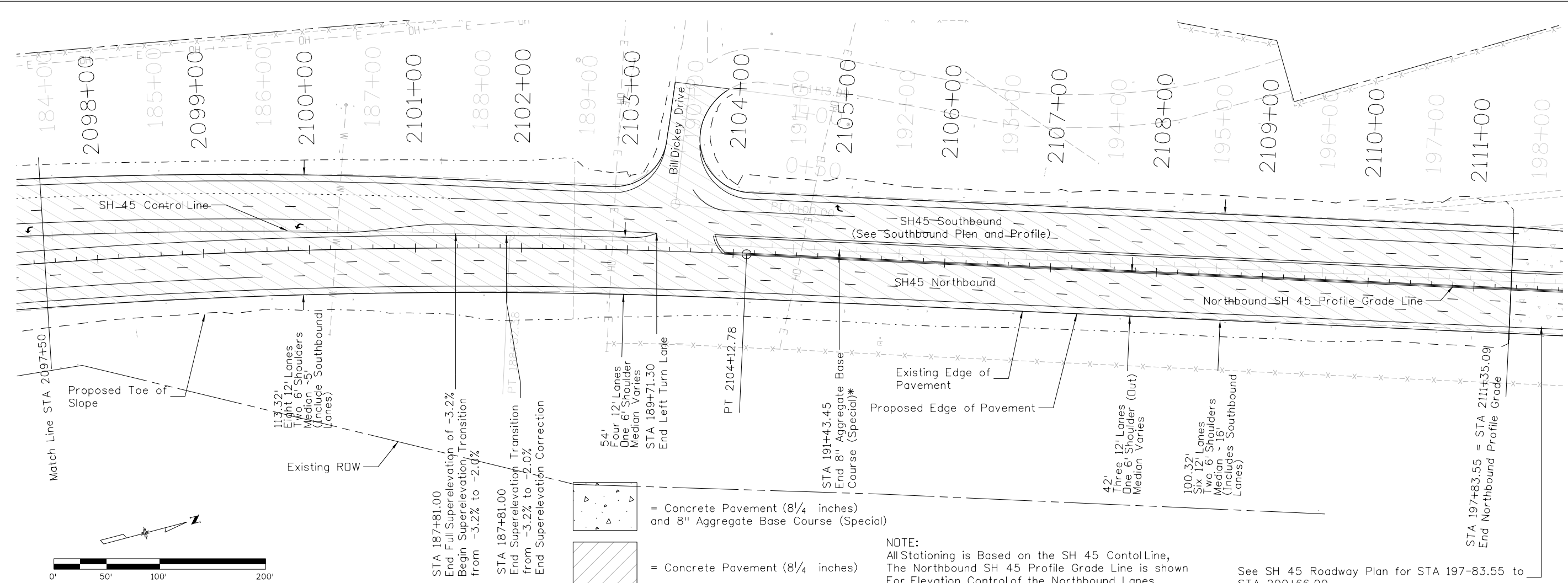
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Project No./Code
STM SH45-001
20755
Sheet Number 56

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NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Northbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Northbound Lanes.
 See SH 45 Roadway Plan for STA 197-83.55 to
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Print Date: 3/7/2017
File Name: 20755DES_PnPNB08.dgn
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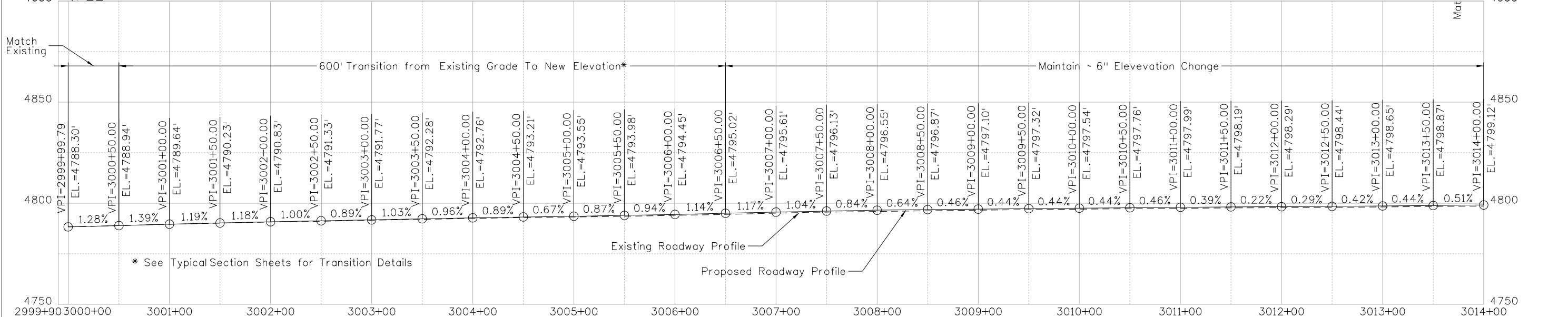
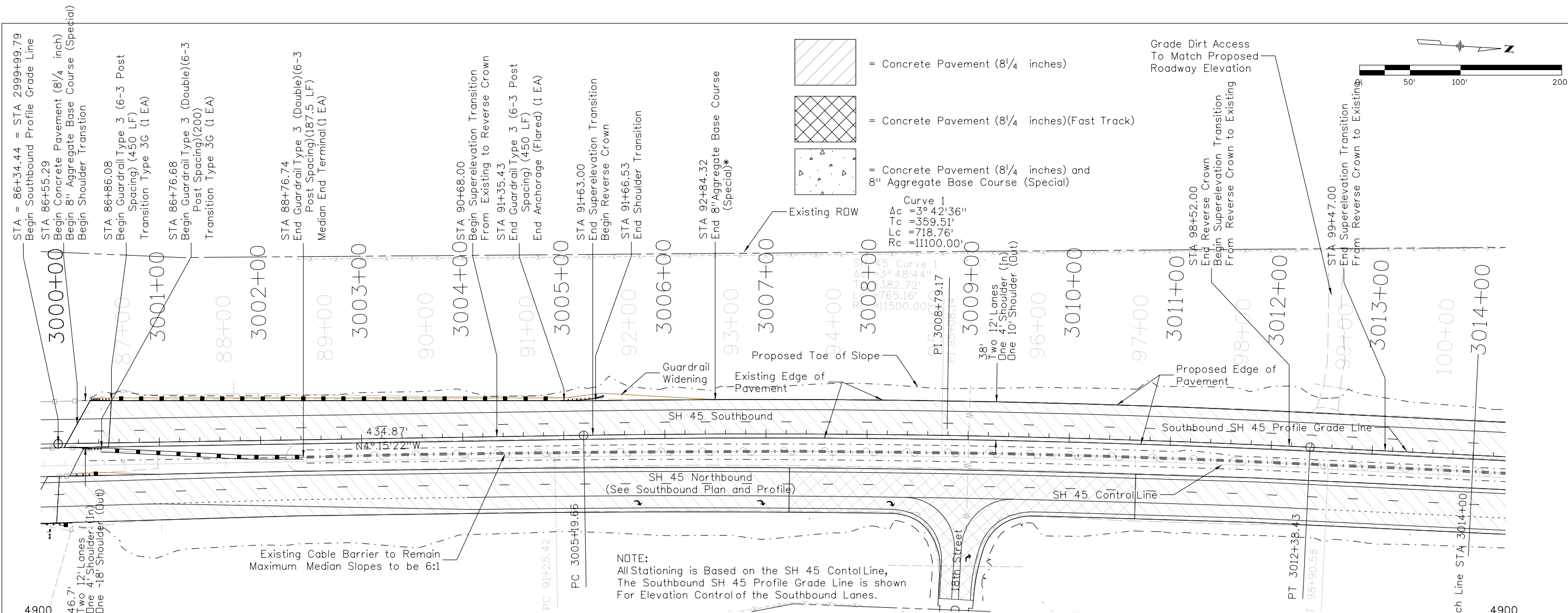
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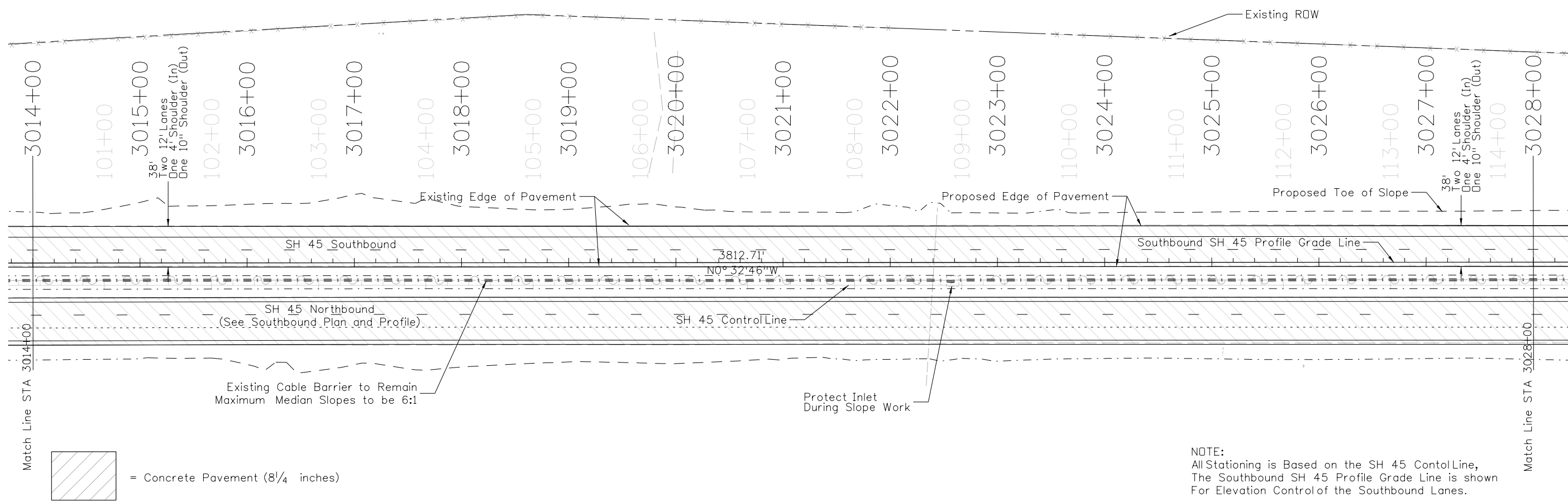
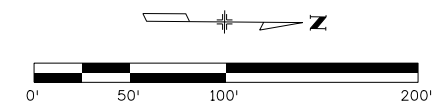
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Project No./Code
STM SH45-001
20755
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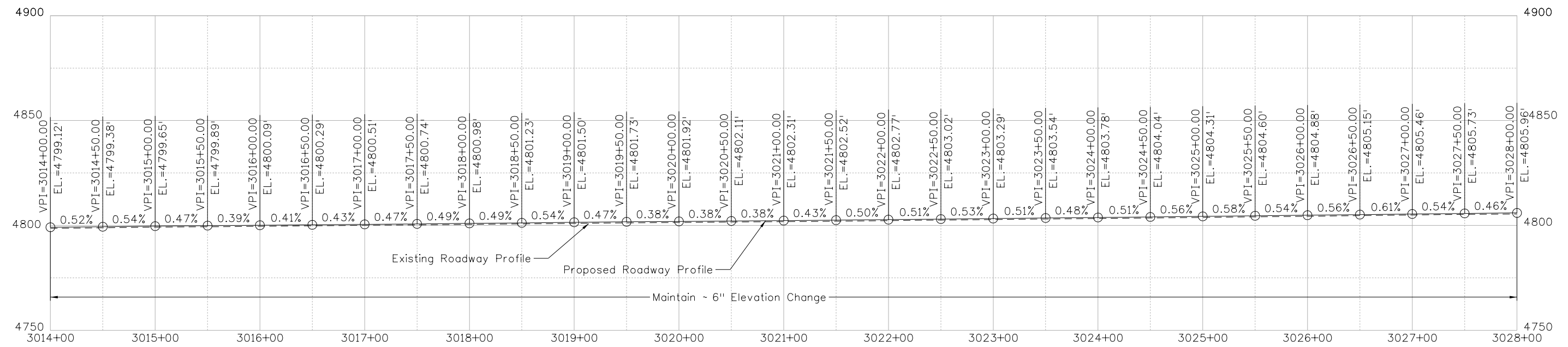


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NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Southbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Southbound Lanes.

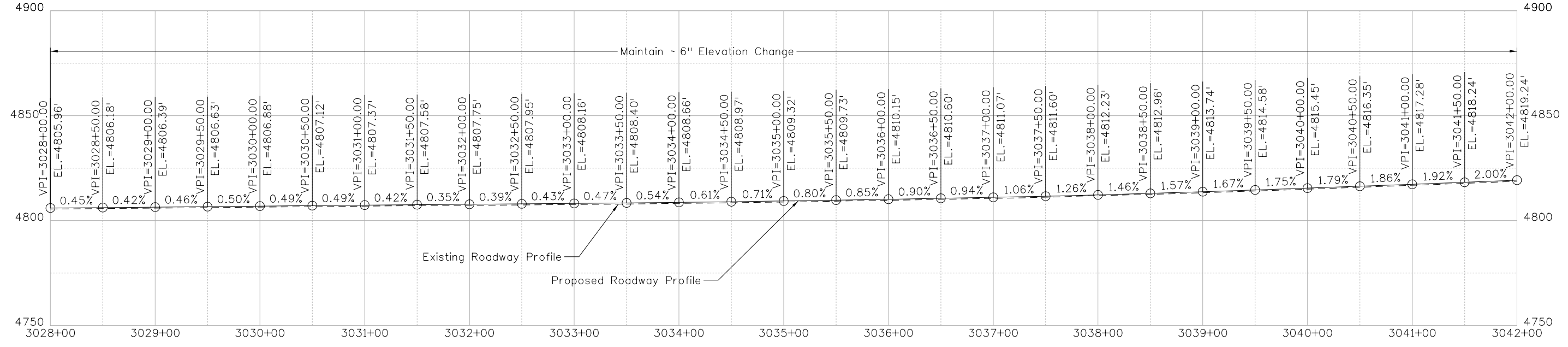
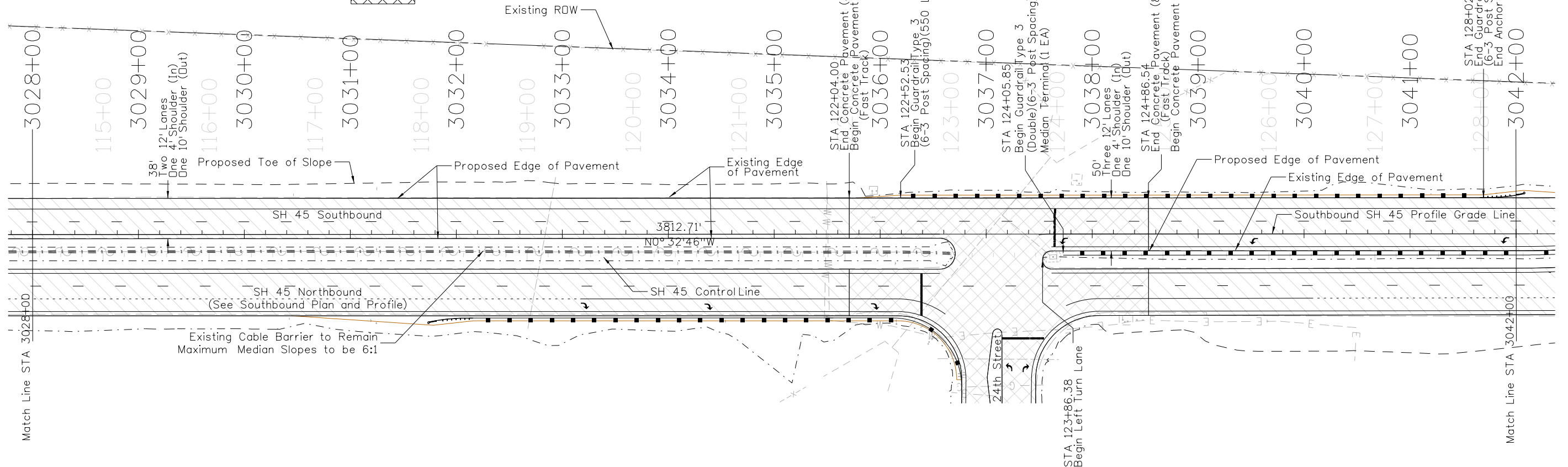
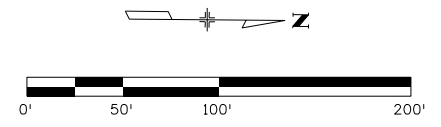
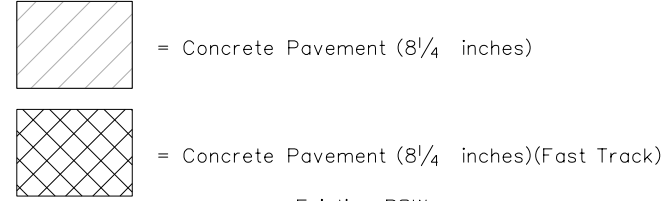


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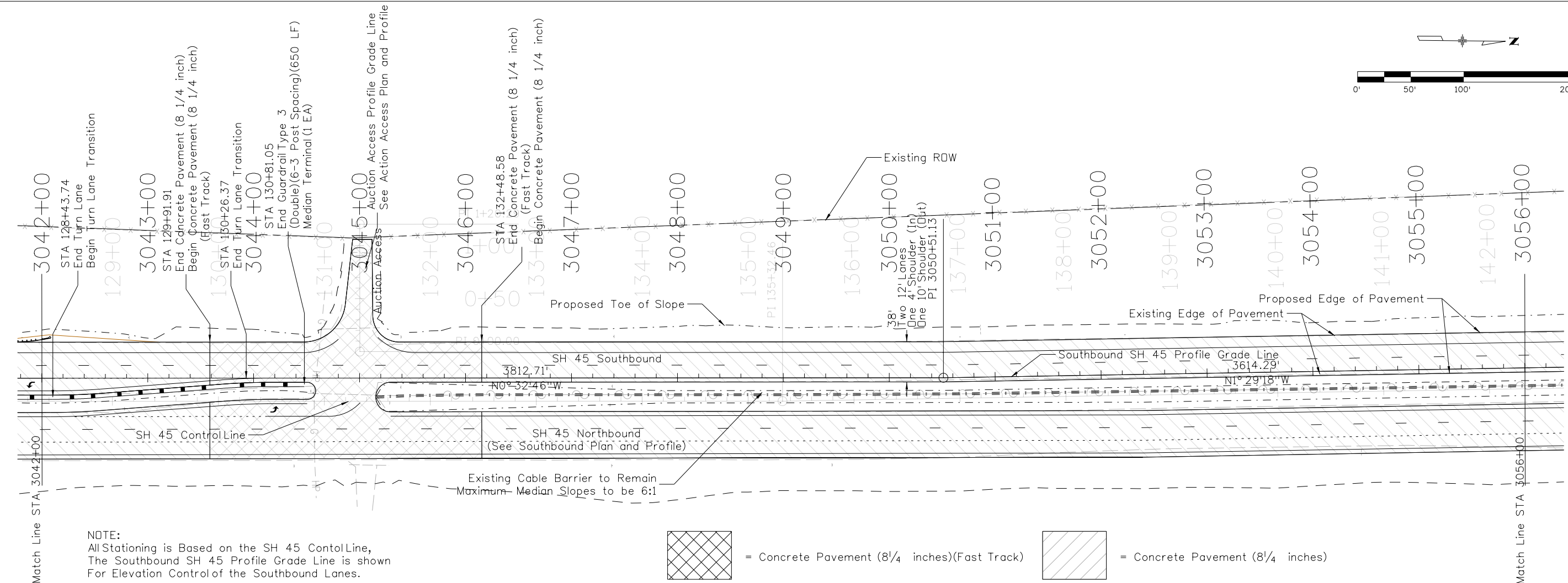
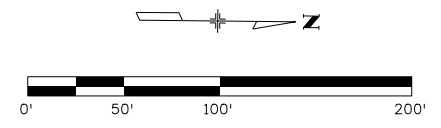
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NOTE:
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The Southbound SH 45 Profile Grade Line is shown
For Elevation Control of the Southbound Lanes.



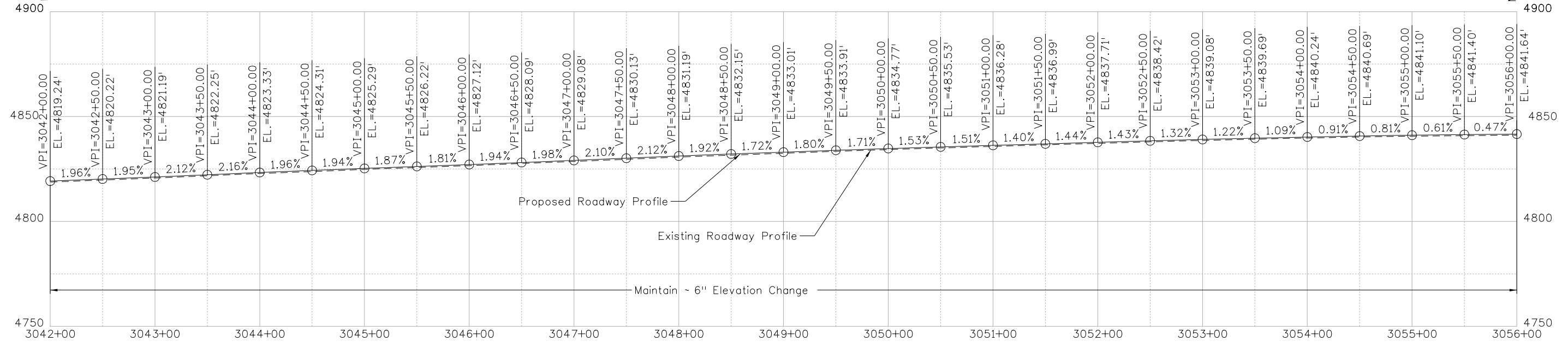
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NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Southbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Southbound Lanes.

= Concrete Pavement (8 1/4 inches)(Fast Track) = Concrete Pavement (8 1/4 inches)



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Print Date: 2/21/2017
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Unit Information Unit Leader DTD

Sheet Revisions		
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Colorado Department of Transportation

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Region 2 DTD

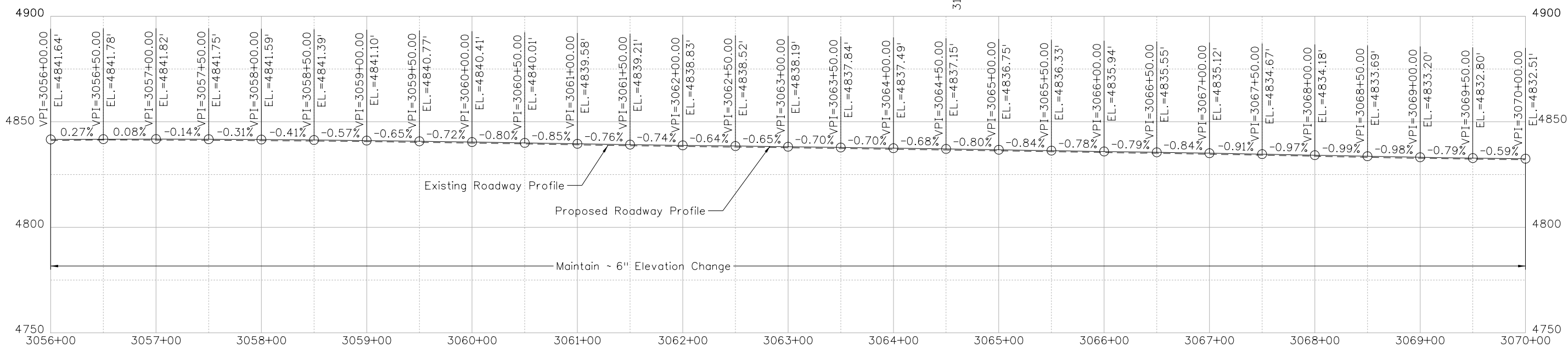
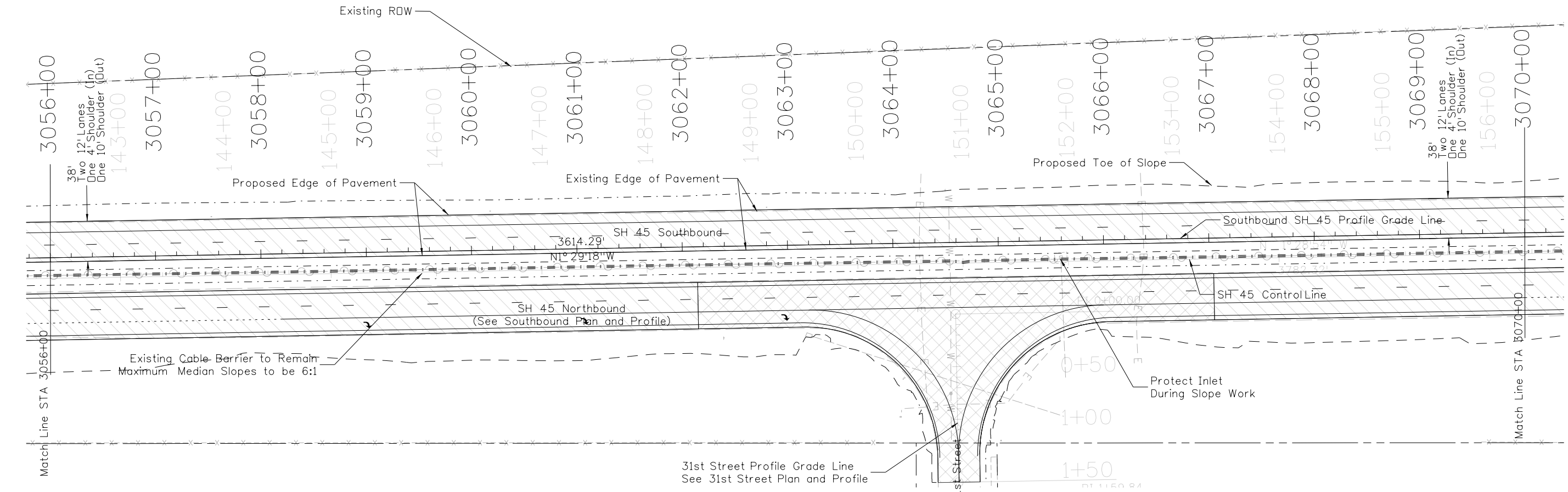
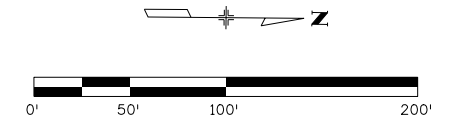
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Project No./Code
STM SH45-001
20755
Sheet Number 61

NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Southbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Southbound Lanes.

 = Concrete Pavement (8 1/4 inches)



Print Date: 2/21/2017
File Name: 20755DES_PnPSB05.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
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 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
 Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

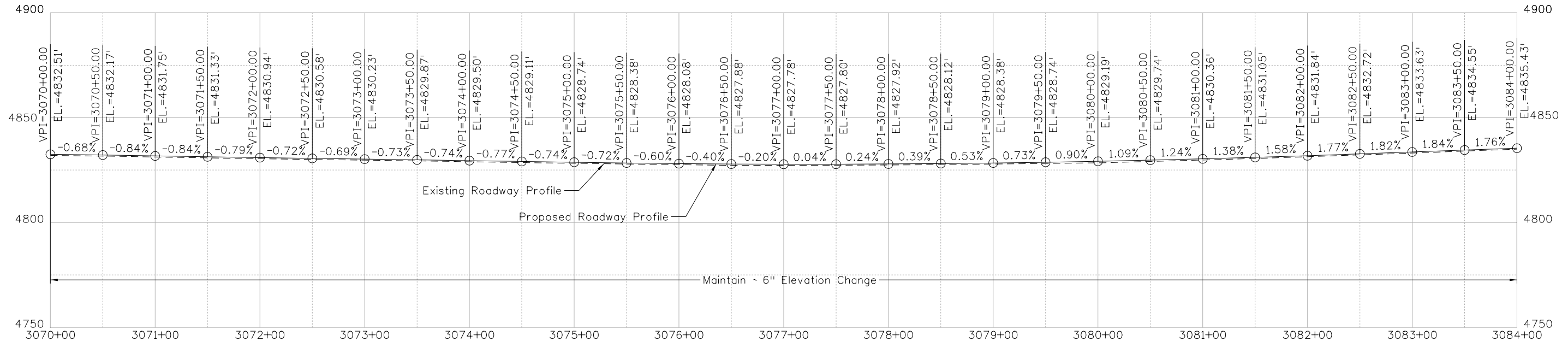
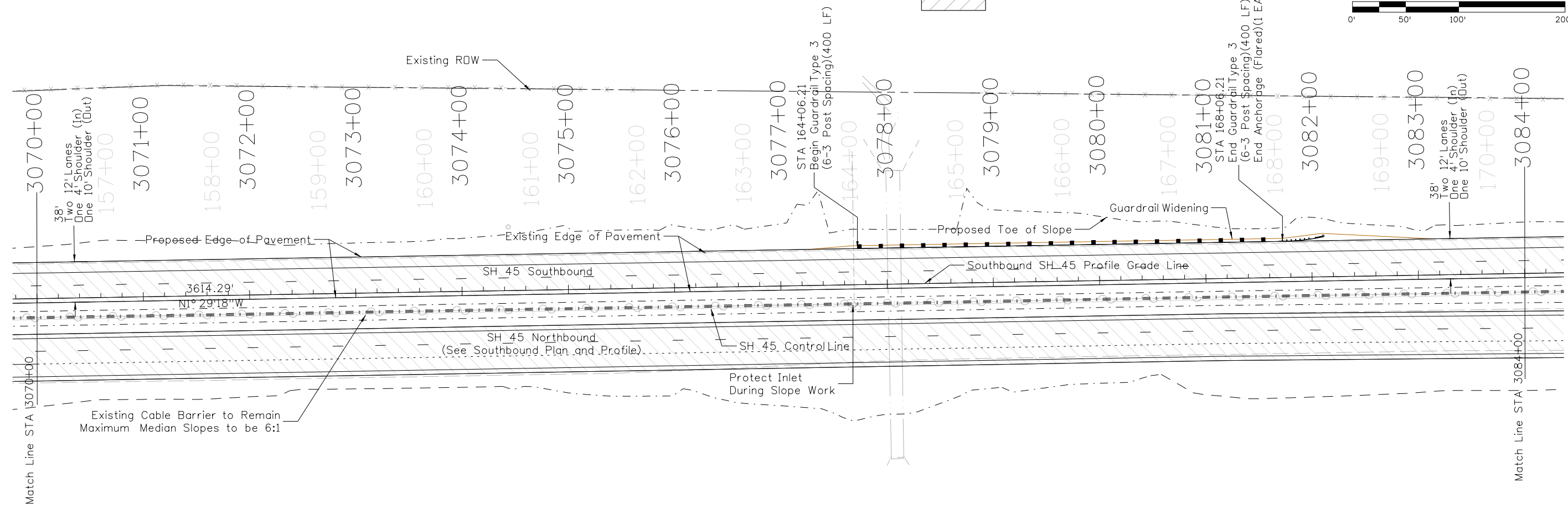
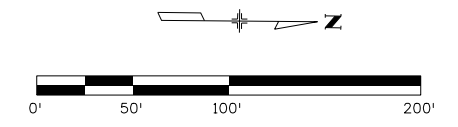
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20755	
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NOTE:
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 For Elevation Control of the Southbound Lanes.

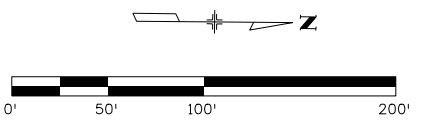
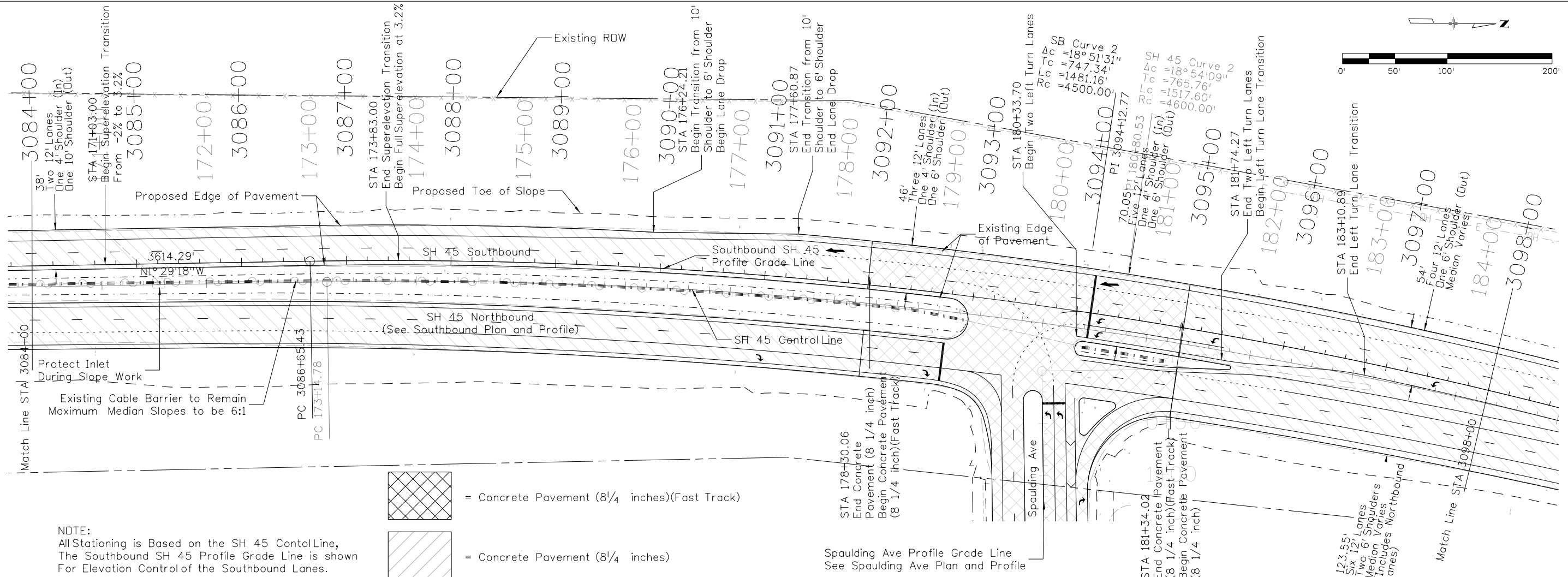
 = Concrete Pavement (8 1/4 inches)



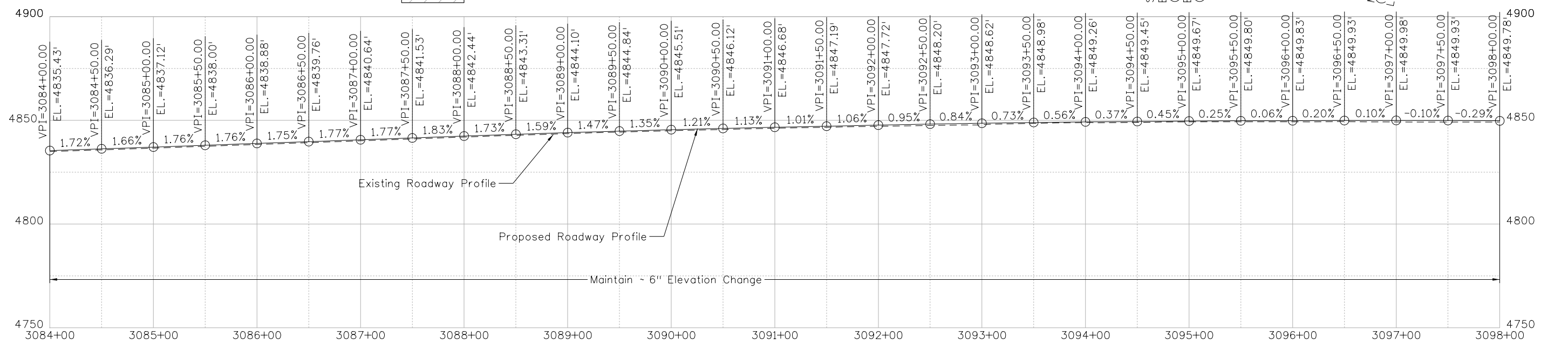
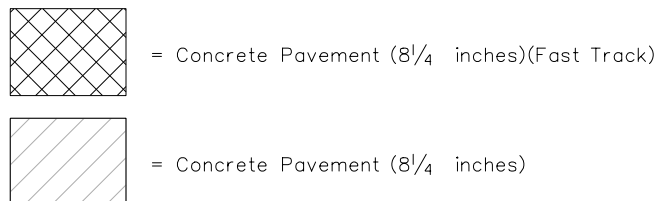
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File Name: 20755DES_PnPSB06.dgn	Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD		No Revisions:		SH 45		STM SH45-001			
Horiz. Scale: 1:100 Vert. Scale: As Noted						Revised:		Designer: LEP		Structure Numbers		20755	
Unit Information Unit Leader DTD						Void:		Detailer: LEP		Sheet Subset: SB P&P		Subset Sheets: 06 of 08	
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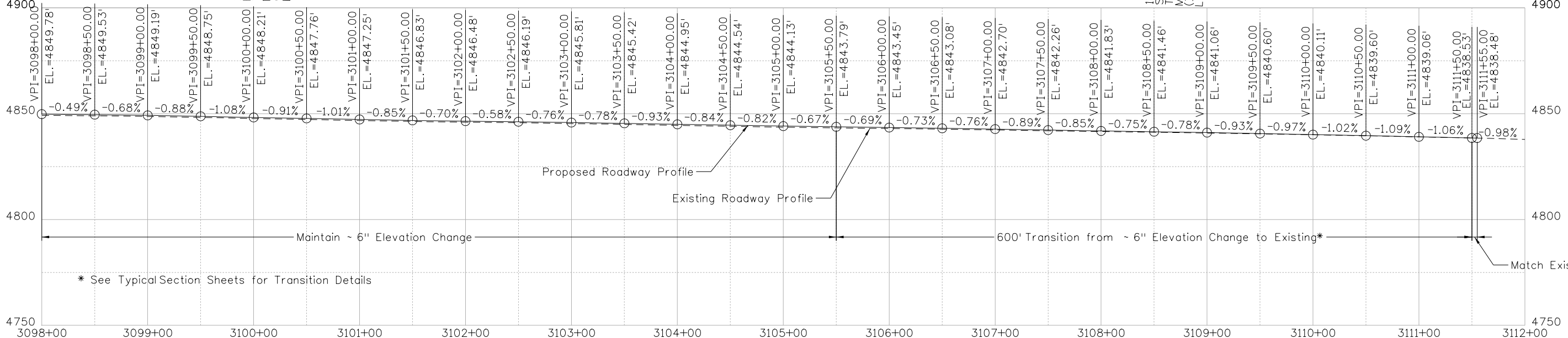
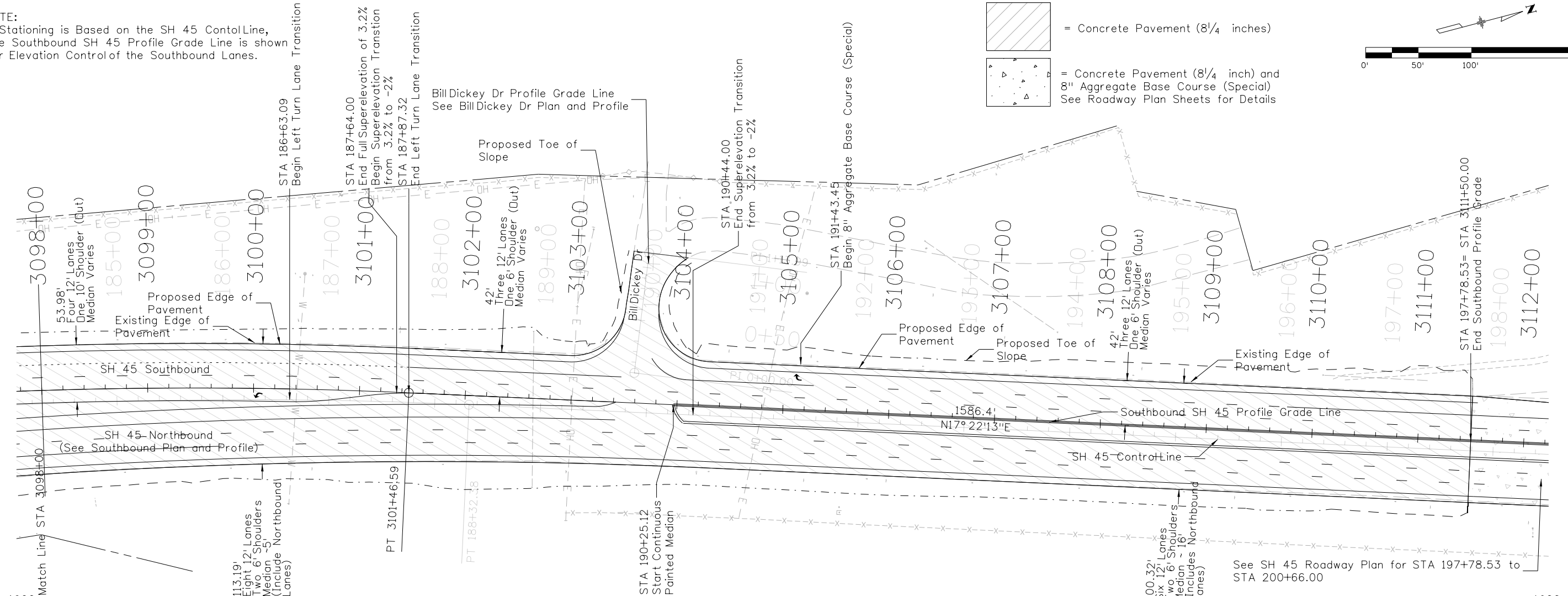
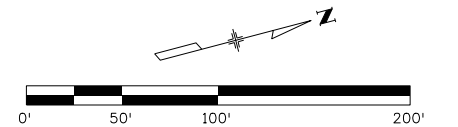
NOTE:
 All Stationing is Based on the SH 45 Control Line,
 The Southbound SH 45 Profile Grade Line is shown
 For Elevation Control of the Southbound Lanes.



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File Name: 20755DES_PnPSB07.dgn		Date:	Comments	Init.	902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702		No Revisions:		SH 45		STM SH45-001	
Horiz. Scale: 1:100 Vert. Scale: As Noted					Region 2 DTD		Revised:		Designer: LEP		20755	
Unit Information Unit Leader DTD							Void:		Detailer: LEP		Structure Numbers	
									Sheet Subset: SB P&P		Subset Sheets: 07 of 08	

NOTE:
All Stationing is Based on the SH 45 Control Line,
The Southbound SH 45 Profile Grade Line is shown
For Elevation Control of the Southbound Lanes.

 = Concrete Pavement (8 1/4 inches)
 = Concrete Pavement (8 1/4 inch) and
8" Aggregate Base Course (Special)
See Roadway Plan Sheets for Details

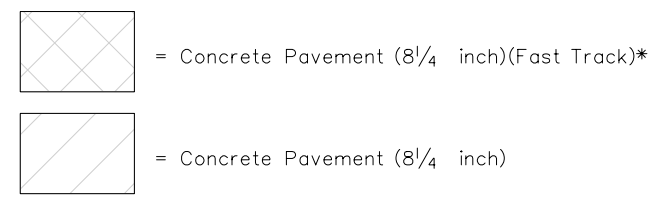
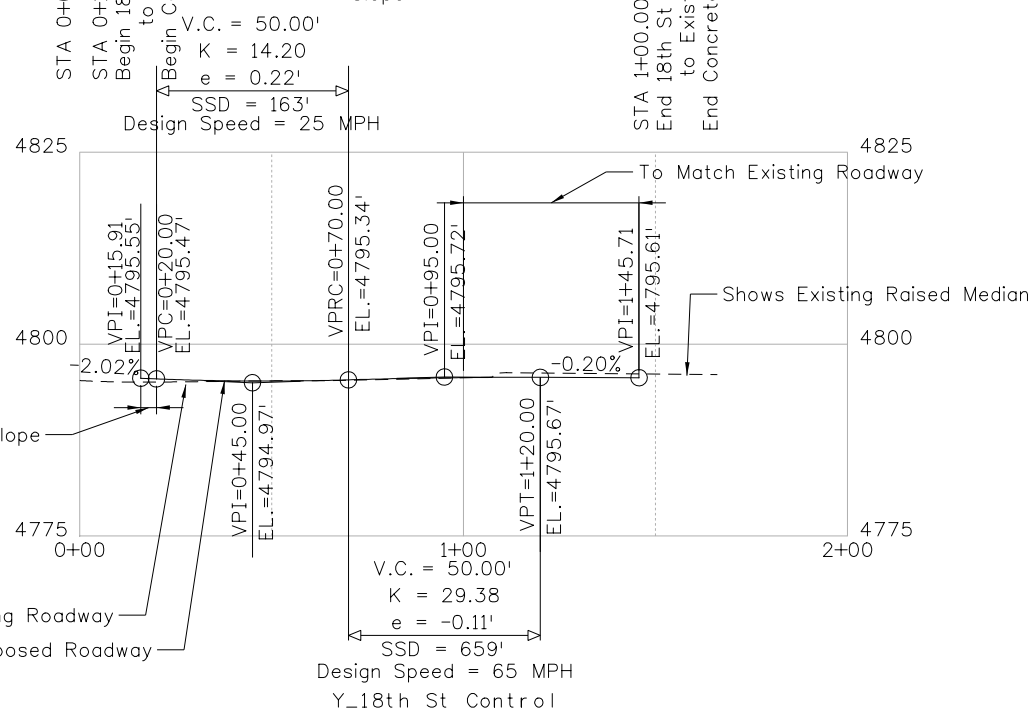
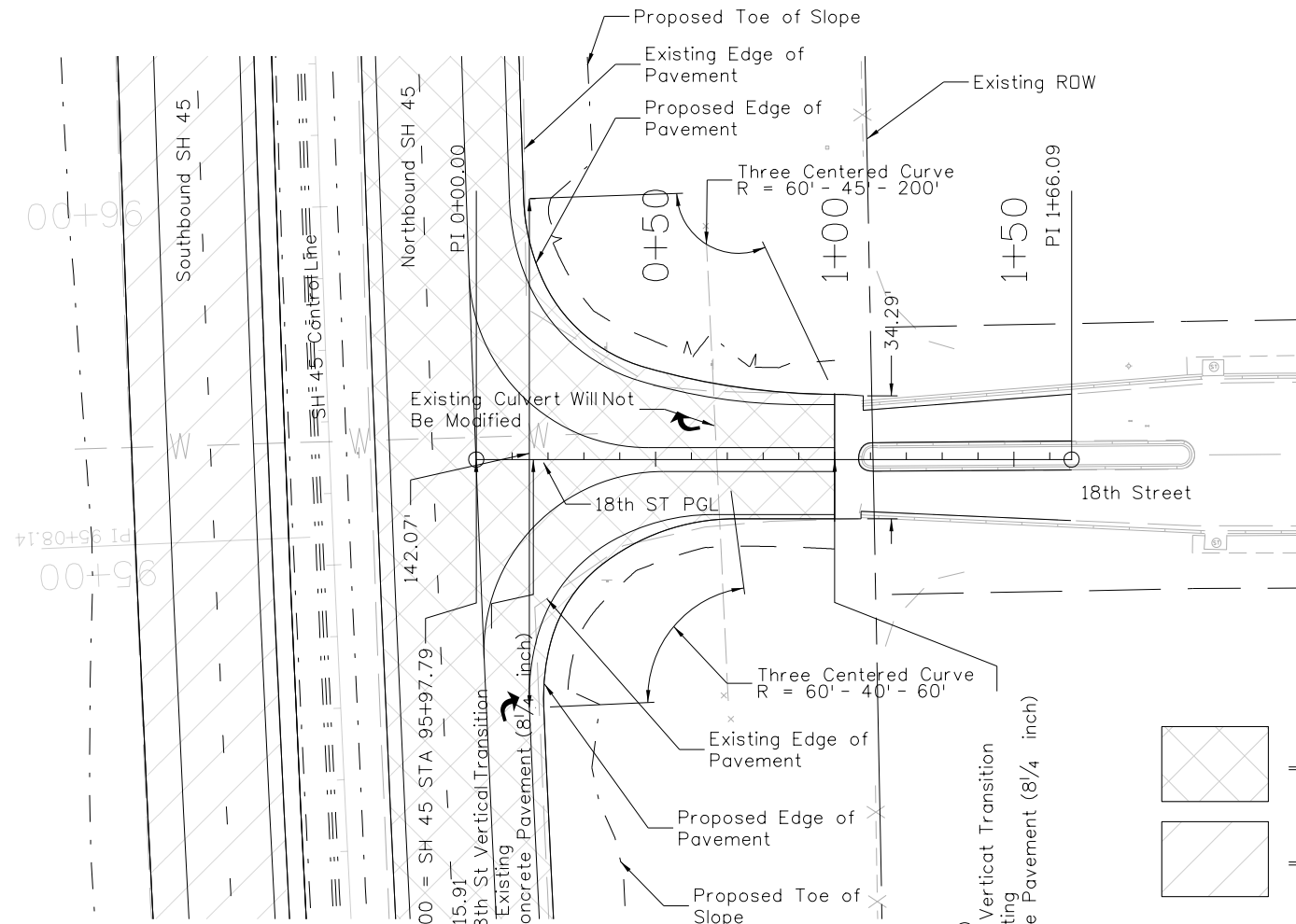
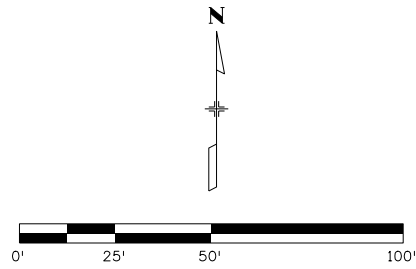


* See Typical Section Sheets for Transition Details

See SH 45 Roadway Plan for STA 197+78.53 to STA 200+66.00

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Unit Information				DTD		Void:		Detailer: LEP		Sheet Number	
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* See Typical Section Sheets for Transition Detail

Print Date: 2/21/2017	
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Horiz. Scale: 1:50 Vert. Scale: As Noted	
Unit Information Unit Leader DTD	

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Date:	Comments	Init.

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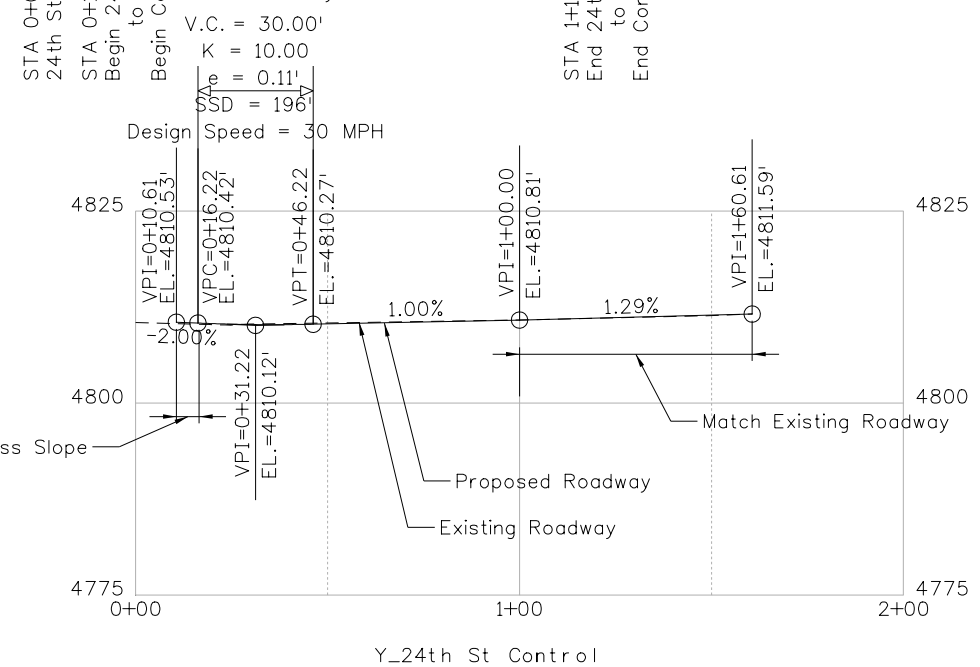
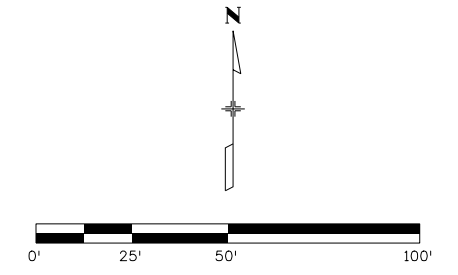
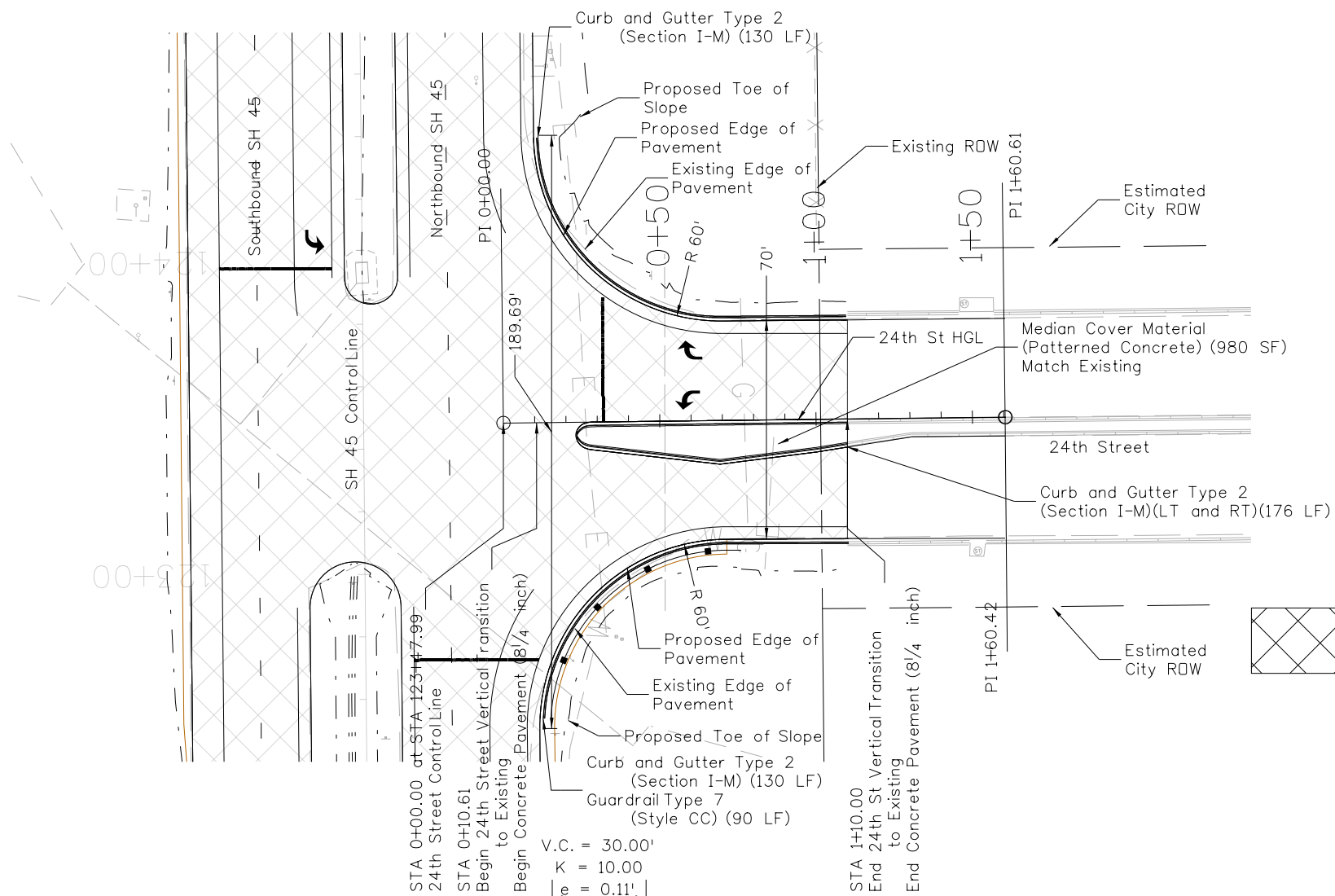
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Revised:
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SECONDARY PLAN AND PROFILE			
18th ST on SH 45			
Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	SEC P&P	Subset Sheets:	01 of 06

Project No./Code	STM SH45-001
	20755
Sheet Number	66

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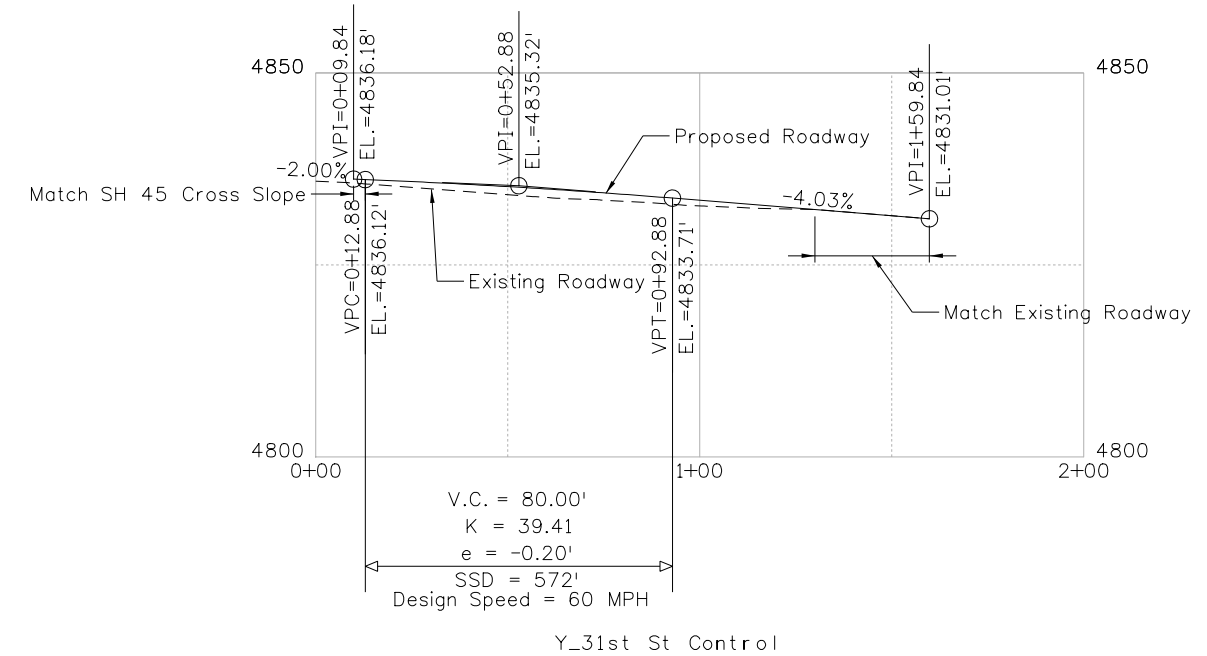
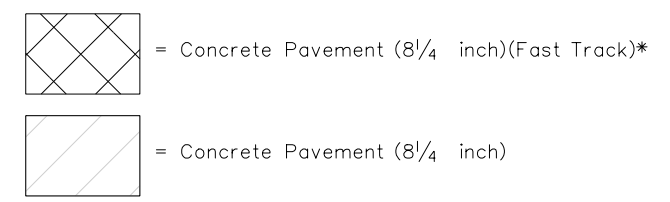
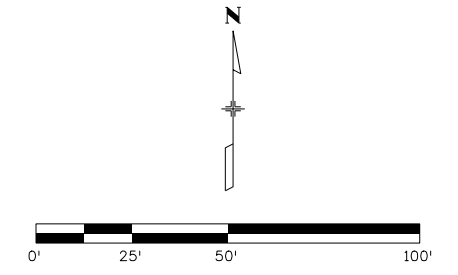
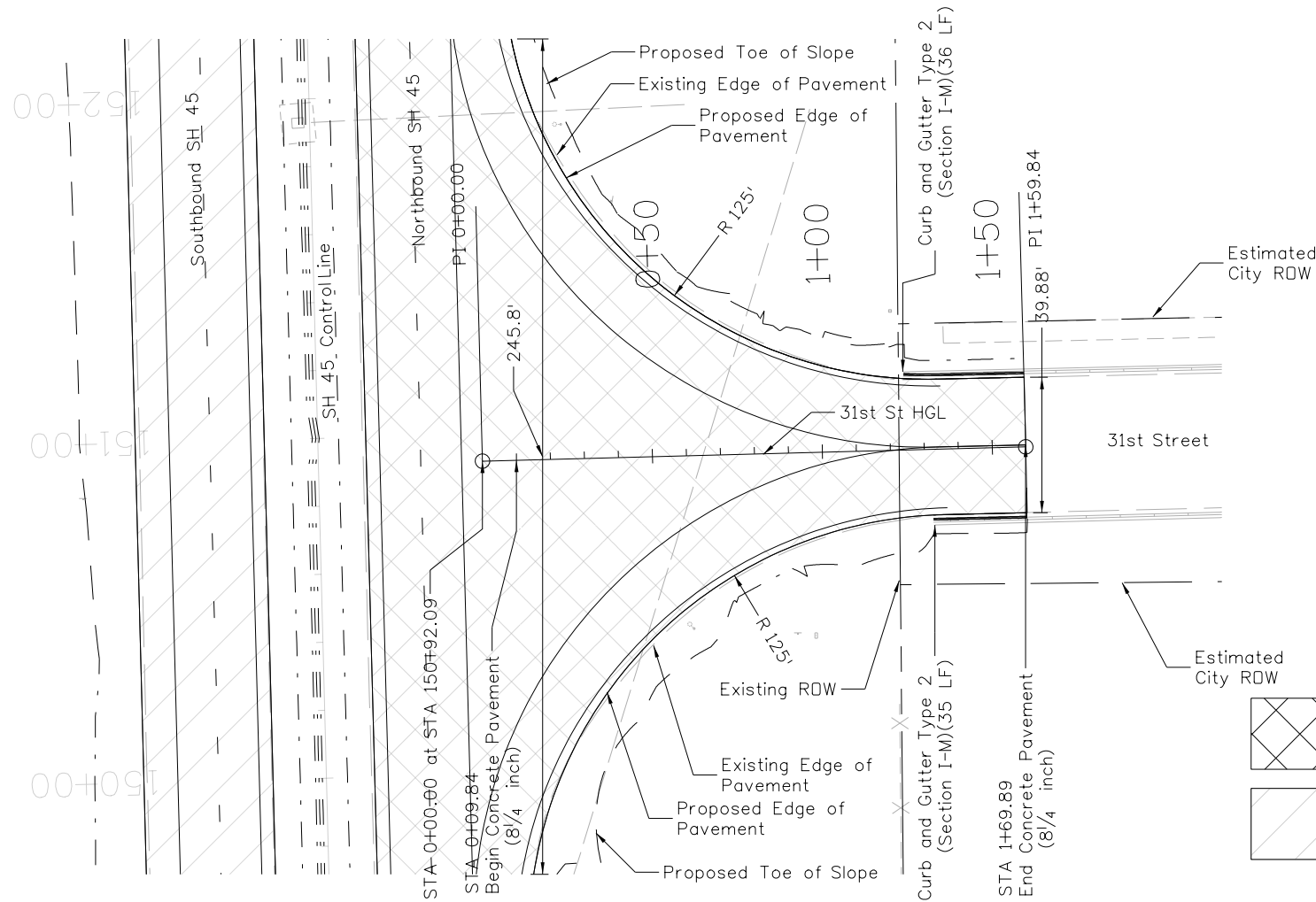


= Concrete Pavement (8 1/4 inch)(Fast Track) *

* See Typical Section Sheets for Transition Detail



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Horiz. Scale: 1:50 Vert. Scale: As Noted				Region 2 DTD		Revised:		Designer: LEP	Structure Numbers	20755	
Unit Information Unit Leader DTD						Void:		Detailer: LEP	Subset Sheets: 02 of 06	Sheet Number 67	
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* See Typical Section Sheets for Transition Detail



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File Name: 20755DES_PnP31thST.dgn
Horiz. Scale: 1:50 Vert. Scale: As Noted
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Region 2 DTD

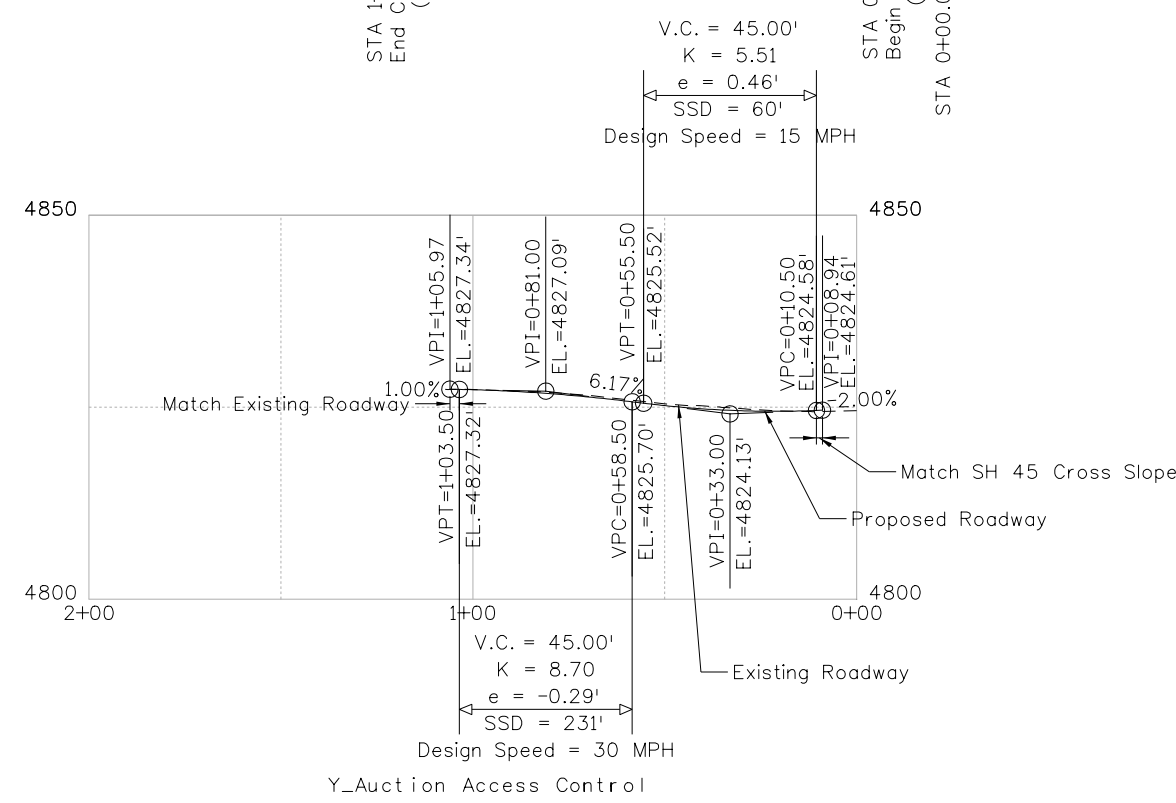
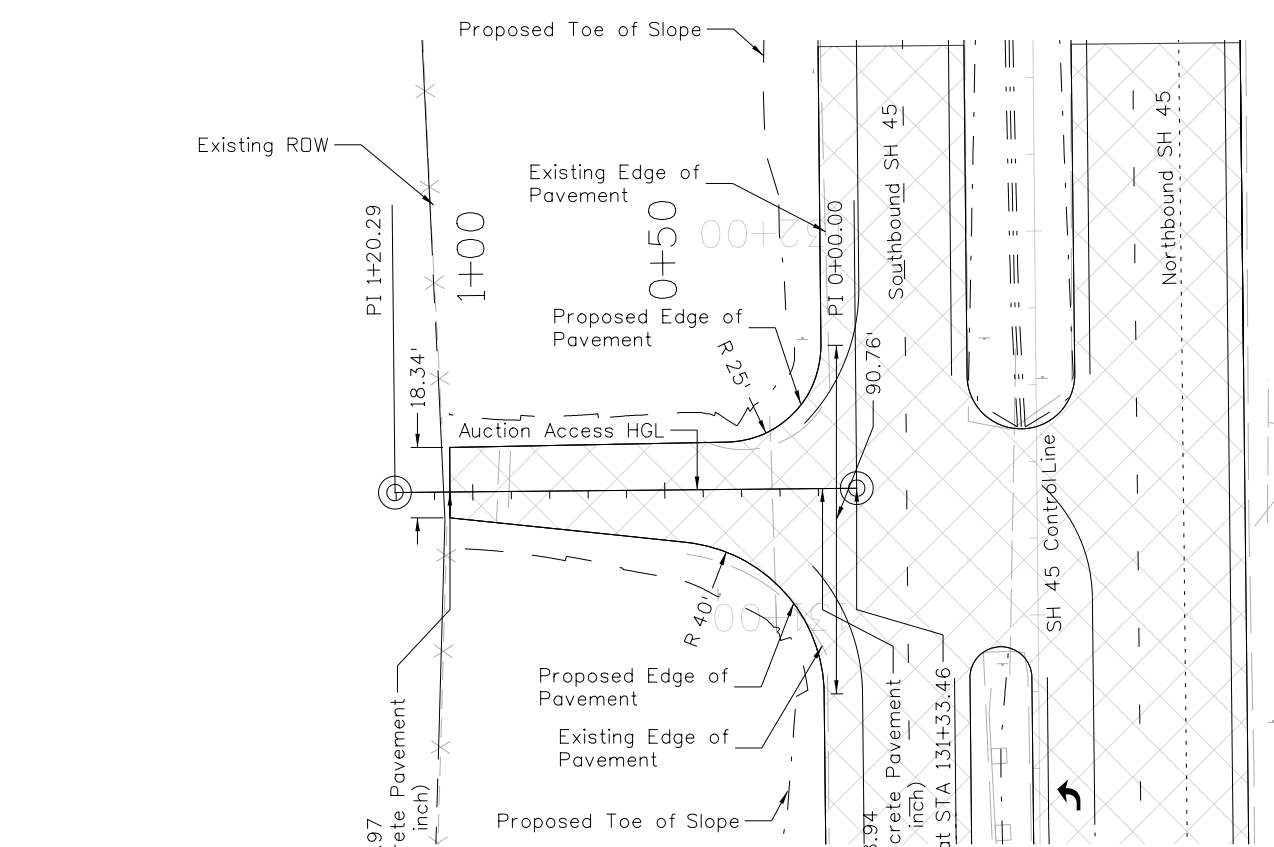
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Revised:
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Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SEC P&P	Subset Sheets:	03 of 06

Project No./Code	STM SH45-001
	20755
Sheet Number	68

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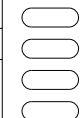
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 = Concrete Pavement (8 1/4 inch)(Fast Track)*

* See Typical Section Sheets for Transition Detail



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Unit Information Unit Leader DTD	

Sheet Revisions		
Date:	Comments	Init.

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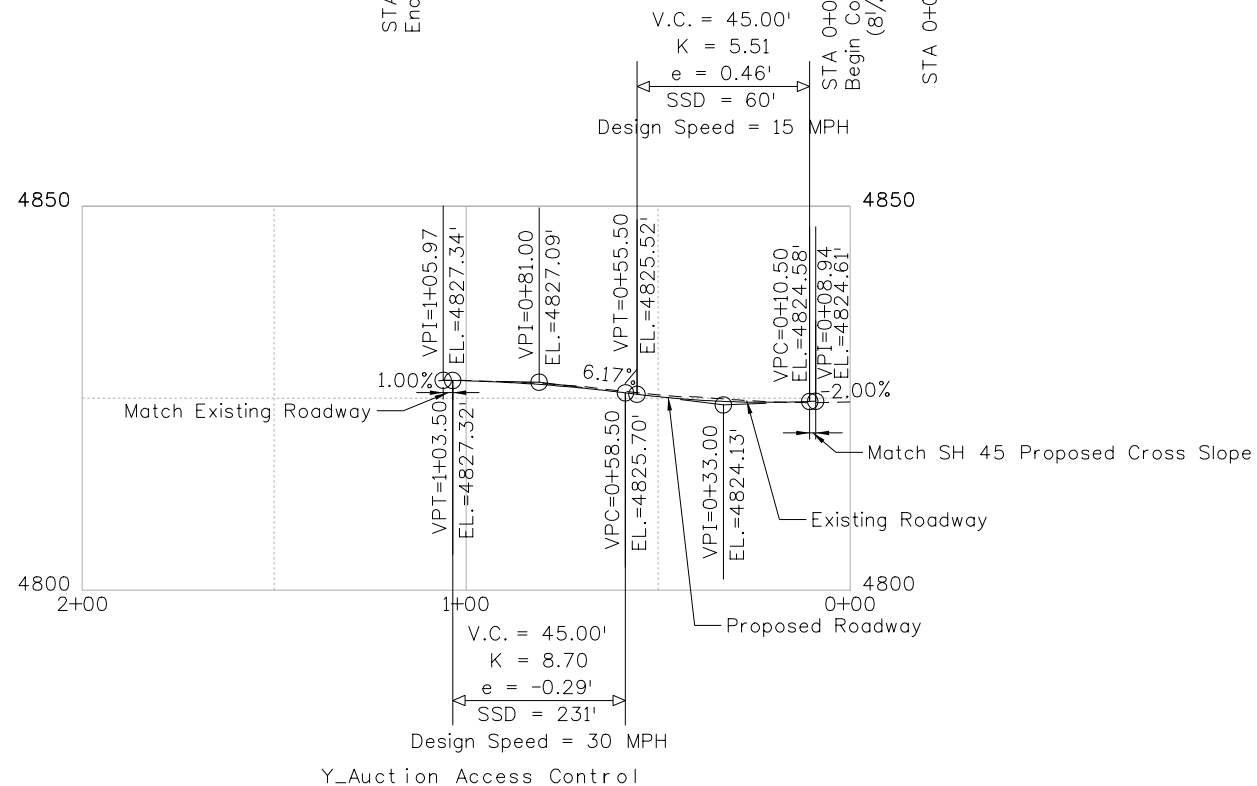
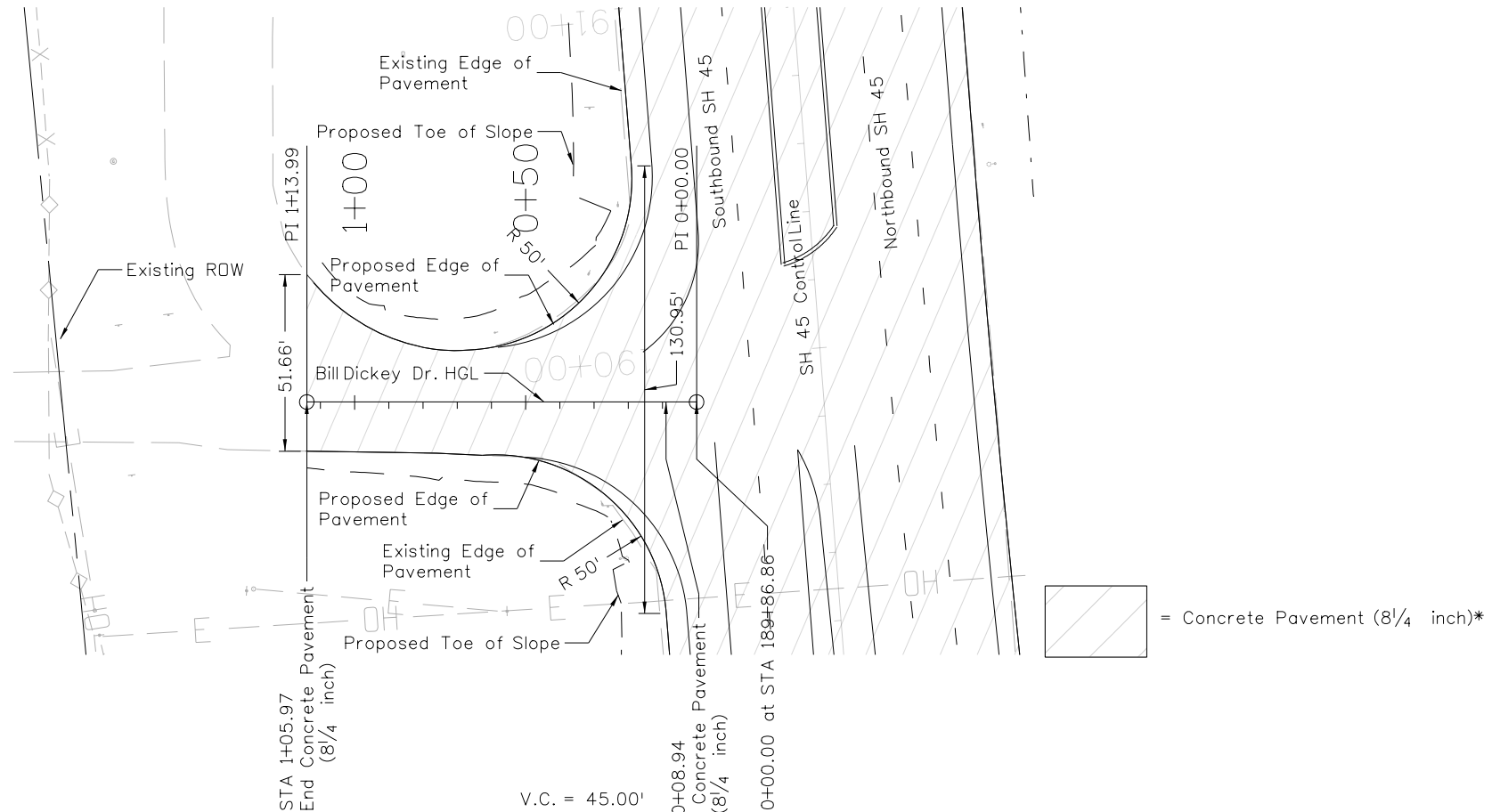
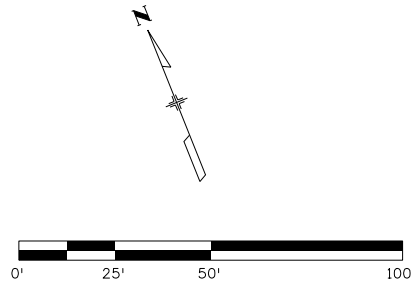
902 Erie Avenue
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Region 2 DTD

As Constructed
No Revisions:
Revised:
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SECONDARY PLAN AND PROFILE			
Auction Access on SH 45			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SEC P&P	Subset Sheets:	04 of 06

Project No./Code	STM SH45-001
	20755
Sheet Number	69



* See Typical Section Sheets for Transition Detail



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 Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

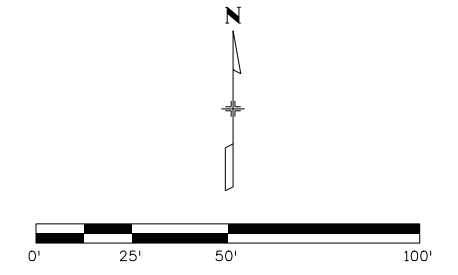
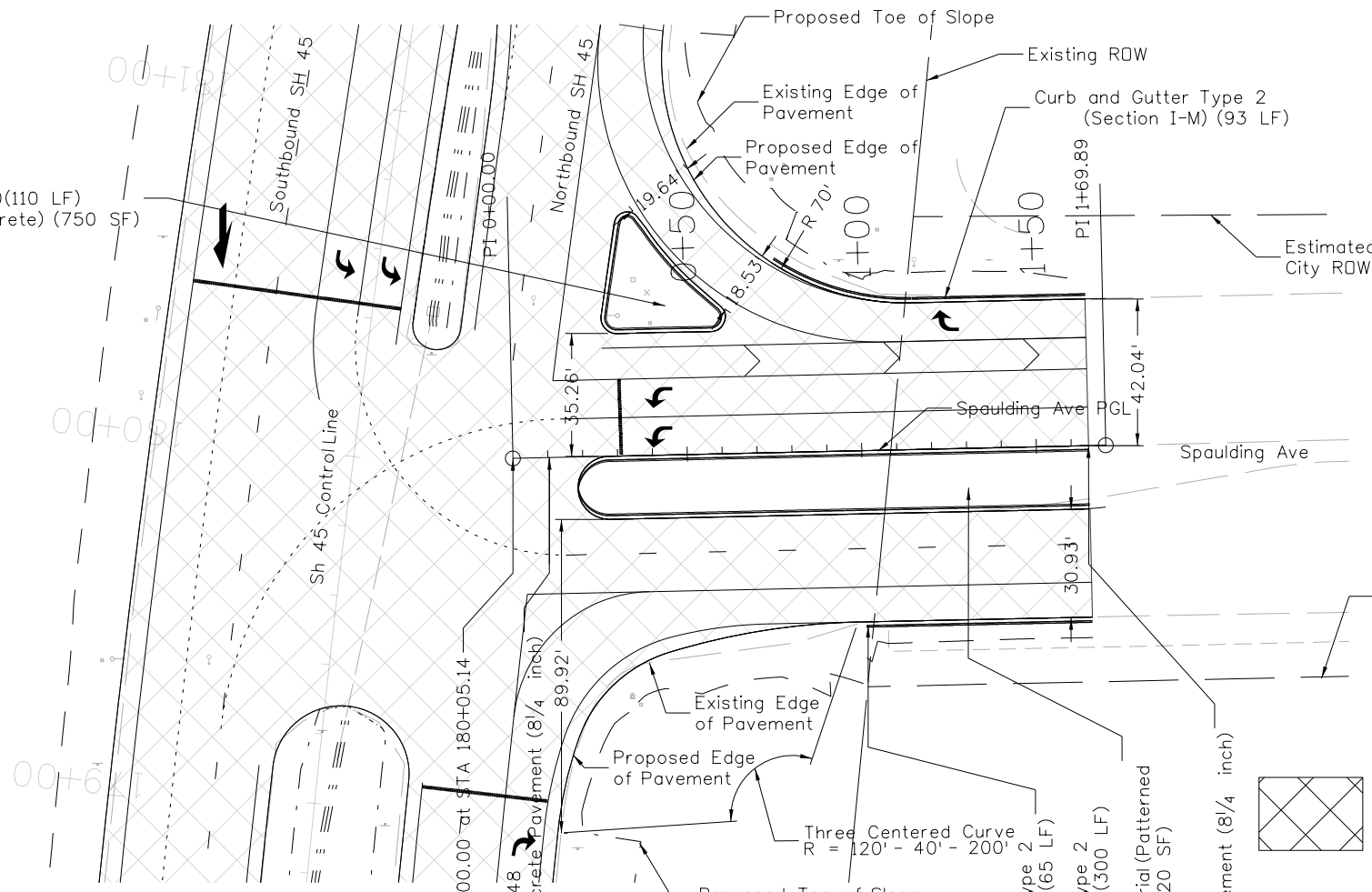
Colorado Department of Transportation
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 Region 2 DTD

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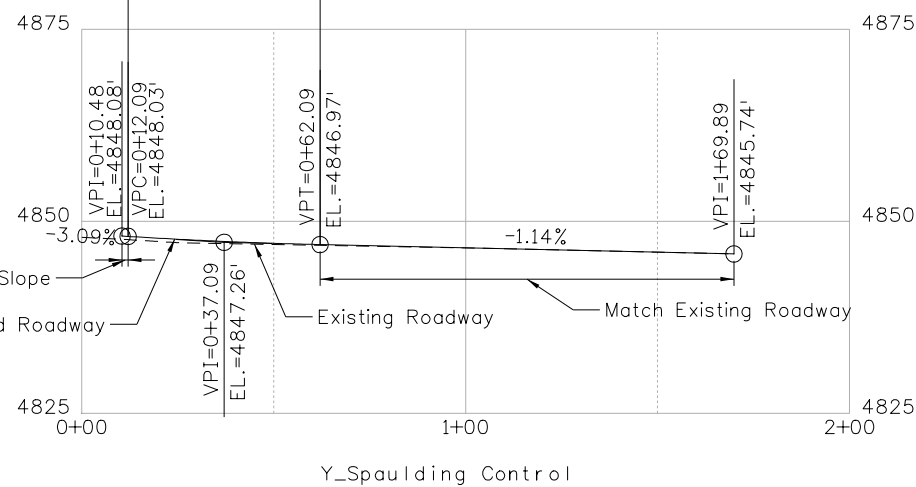
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 Bill Dickey Dr on SH 45
 Designer: LEP
 Detailer: LEP
 Sheet Subset: SEC P&P
 Structure Numbers
 Subset Sheets: 05 of 06

Project No./Code
 STM SH45-001
 20755
 Sheet Number 70

Island*
 Curb and Gutter Type 2 (Section I-M)(110 LF)
 Median Cover Material (Patterned Concrete) (750 SF)



V.C. = 50.00'
 K = 25.64
 e = 0.12'
 SSD = 1244'
 Design Speed = 65 MPH+



Note:
 See Typical Section Sheets for Concrete Transition Detail

= Concrete Pavement (8 1/4 inch)(Fast Track)

* Replace Island to Match Existing Layout
 Adjust Elevations to Match Proposed Roadway Design
 See Traffic Sheets for Signal Details



Print Date: 2/21/2017	
File Name: 20755DES_PnPSpaulding.dgn	
Horiz. Scale: 1:50 Vert. Scale: As Noted	
Unit Information Unit Leader DTD	

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Date:	Comments	Init.

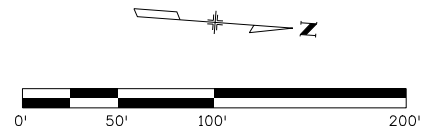
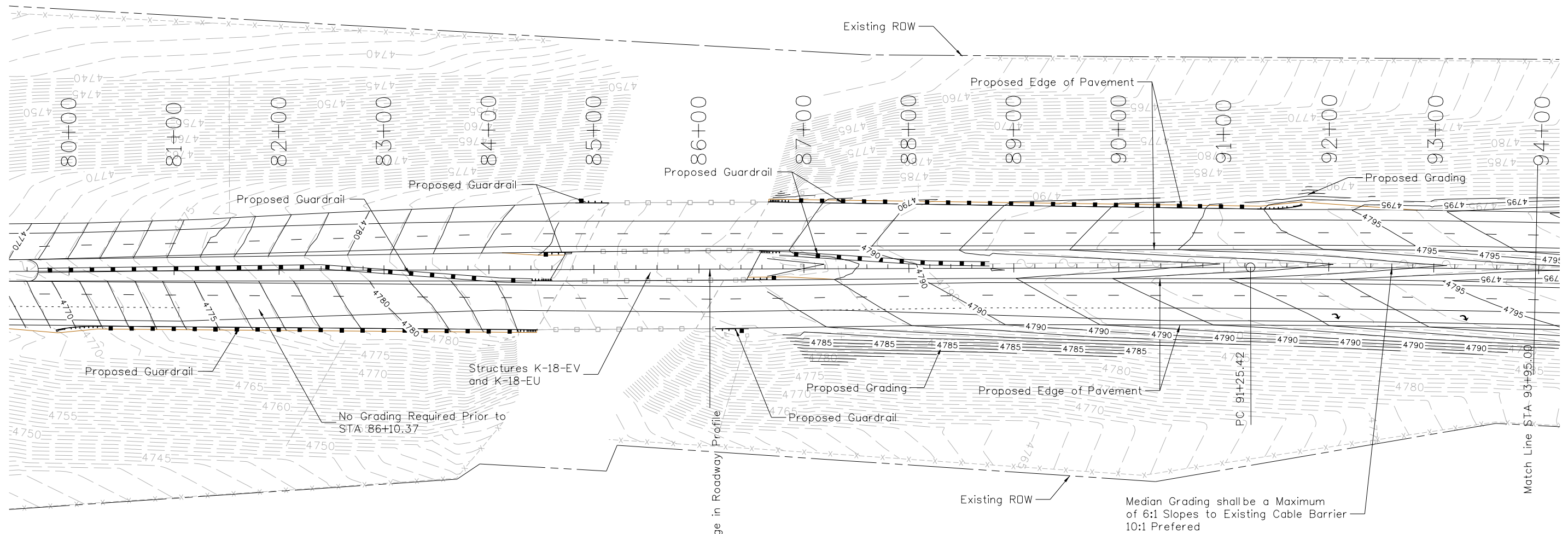
Colorado Department of Transportation
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 Region 2 DTD

As Constructed
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Revised:
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SECONDARY PLAN AND PROFILE Spaulding Ave on SH 45			
Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	SEC P&P	Subset Sheets:	06 of 06

Project No./Code	STM SH45-001
	20755
Sheet Number	71

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Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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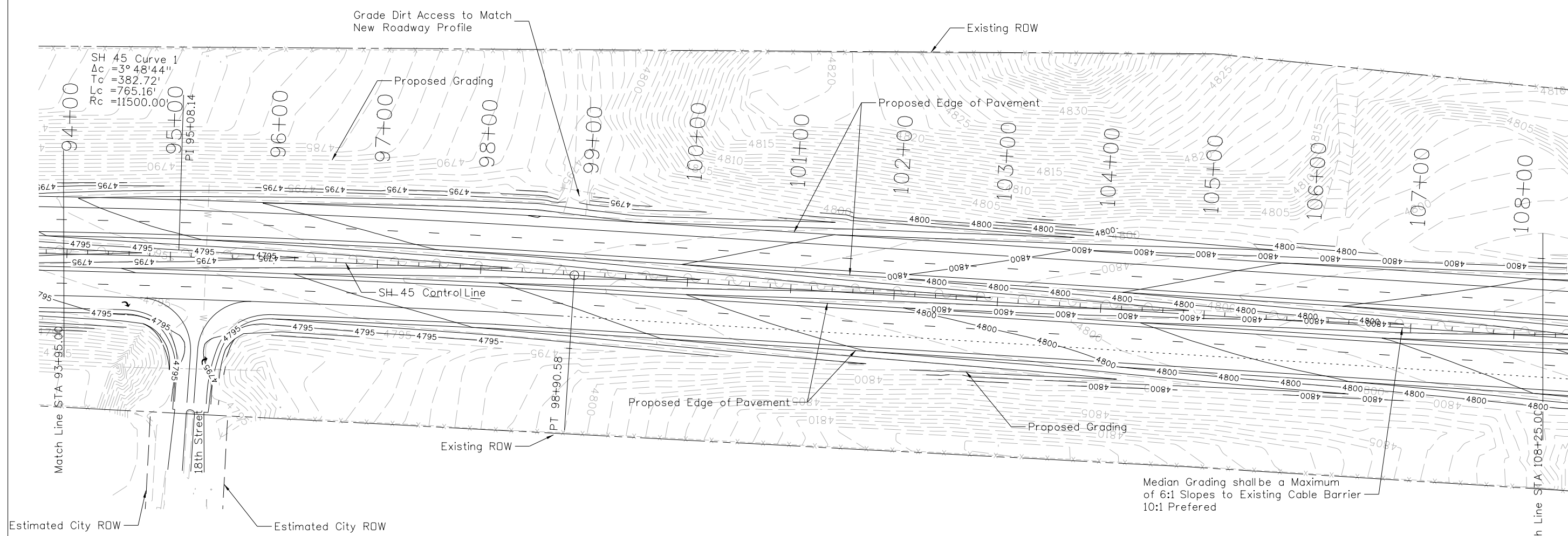
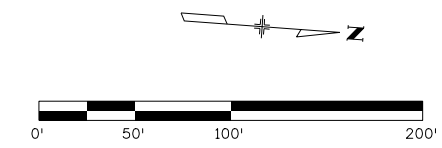
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Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	GRADE	Subset Sheets:	01 of 09

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STM SH45-001
20755
Sheet Number 72

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SH 45 Curve 1
 $\Delta c = 3^\circ 48' 44''$
 $Tc = 382.72'$
 $Lc = 765.16'$
 $Rc = 11500.00'$

PI 95+08.14

PT 98+90.58

Median Grading shall be a Maximum of 6:1 Slopes to Existing Cable Barrier 10:1 Preferred



**Know what's below.
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Horiz. Scale: 1:100 Vert. Scale: As Noted	
Unit Information Unit Leader DTD	

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Date:	Comments	Init.

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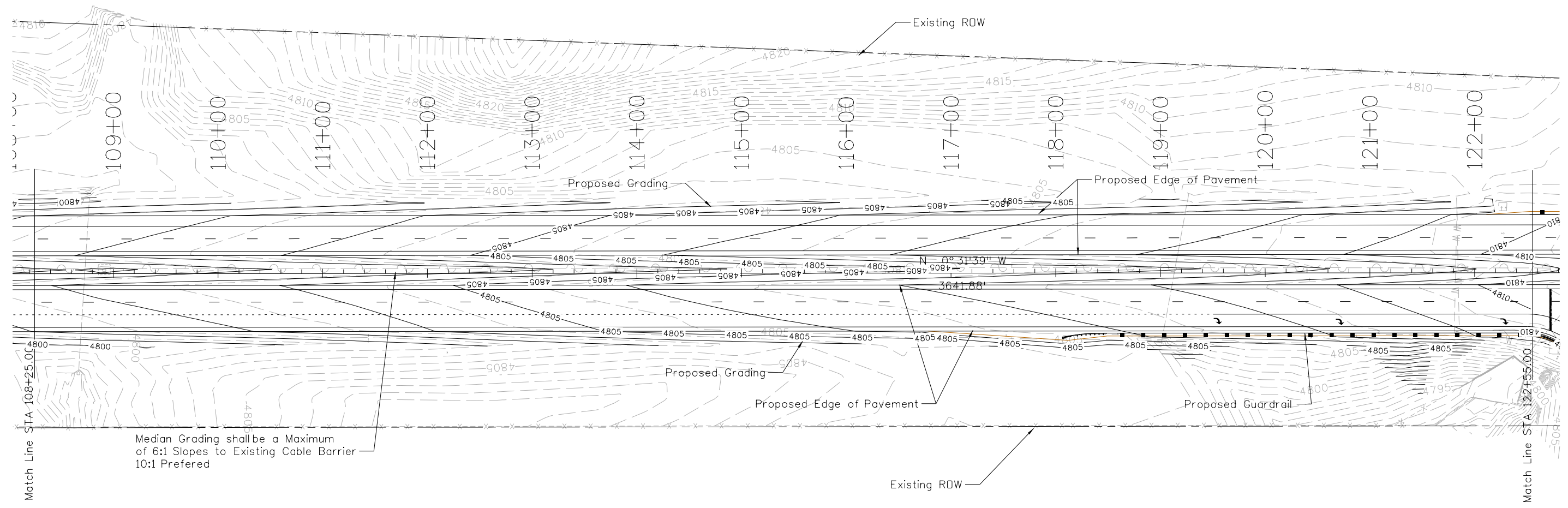
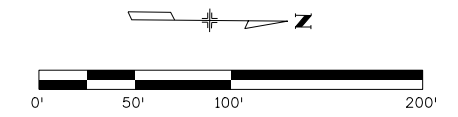
Region 2 DTD

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Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	GRADING	Subset Sheets:	02 of 09

Project No./Code
STM SH45-001
20755
Sheet Number 73

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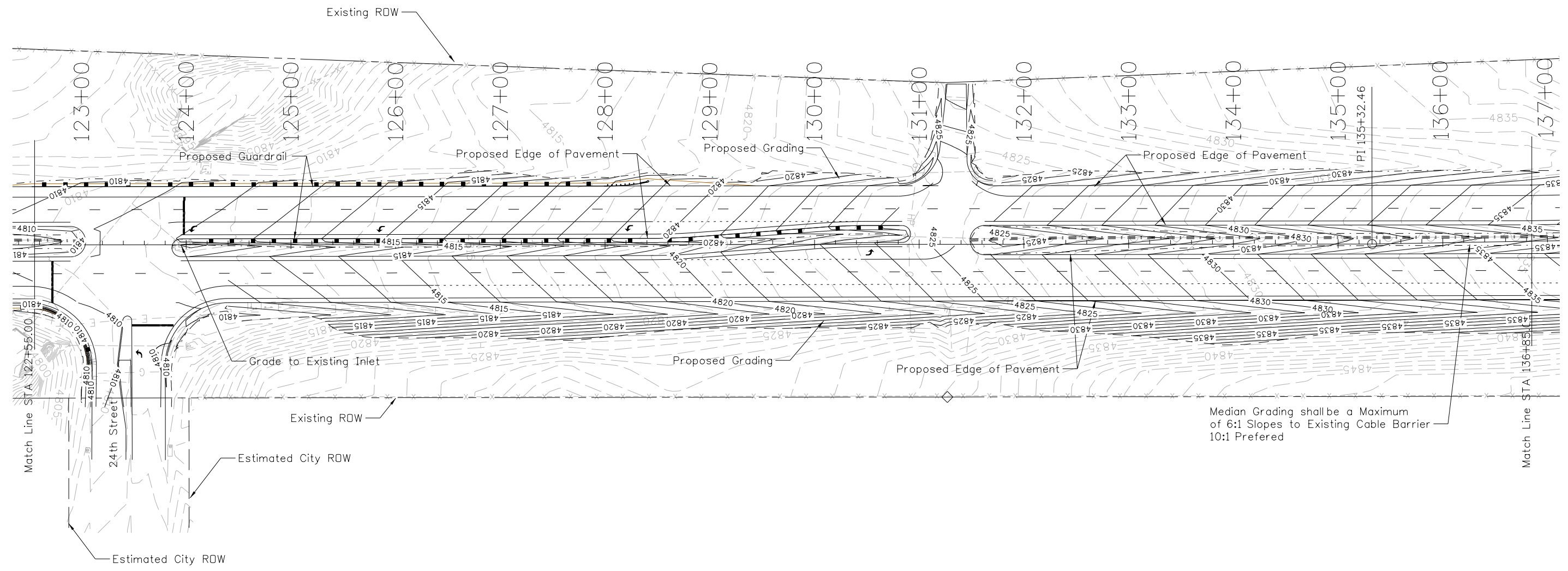
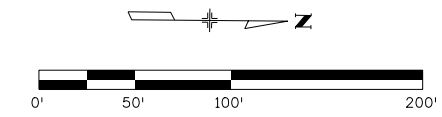


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Horiz. Scale: 1:100 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure Numbers	20755		
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Subset Sheets: 03 of 09	Sheet Number 74		



Median Grading shall be a Maximum of 6:1 Slopes to Existing Cable Barrier
10:1 Preferred



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Unit Information Unit Leader DTD

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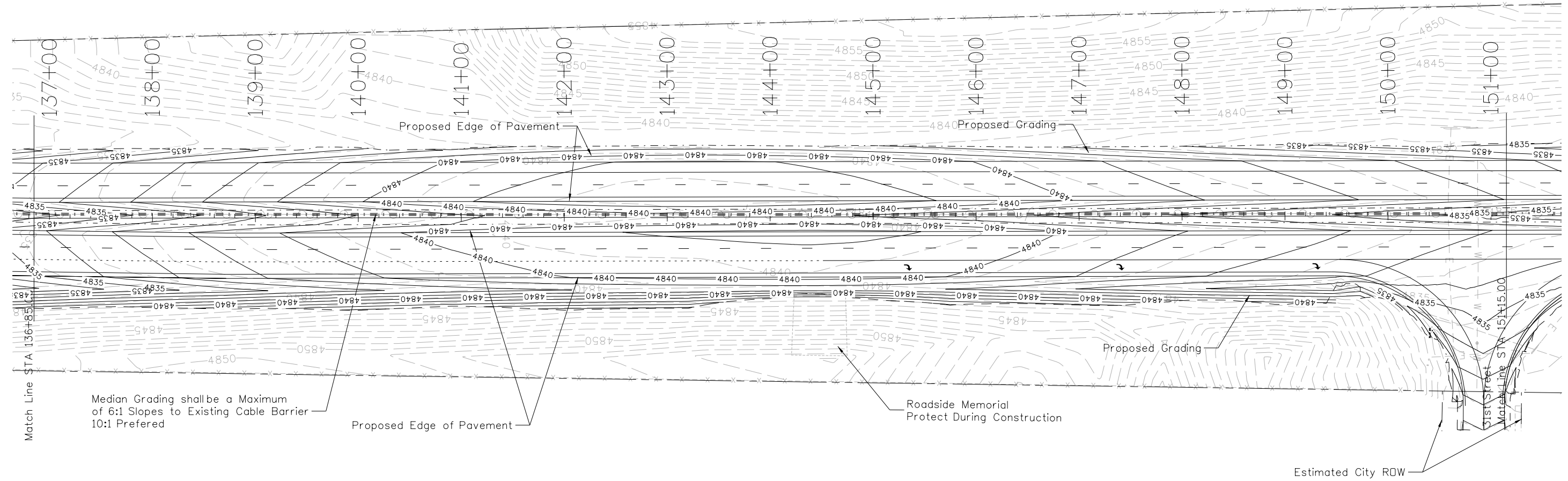
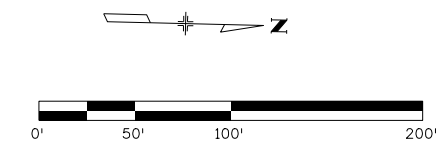
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Detailer:	LEP	Numbers	
Sheet Subset:	GRADE	Subset Sheets:	04 of 09

Project No./Code
STM SH45-001
20755
Sheet Number 75

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Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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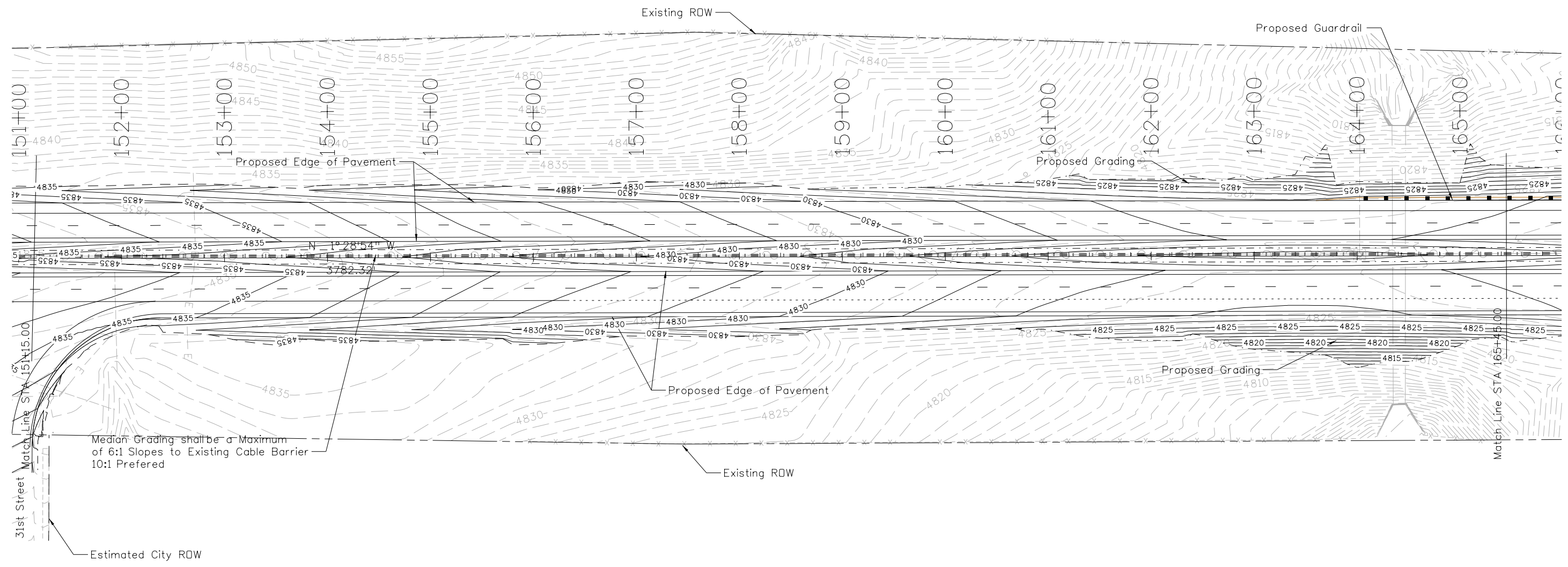
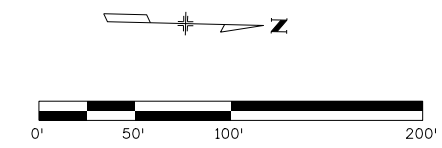
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Designer:	LEP	Structure	Numbers
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STM SH45-001
20755
Sheet Number 76

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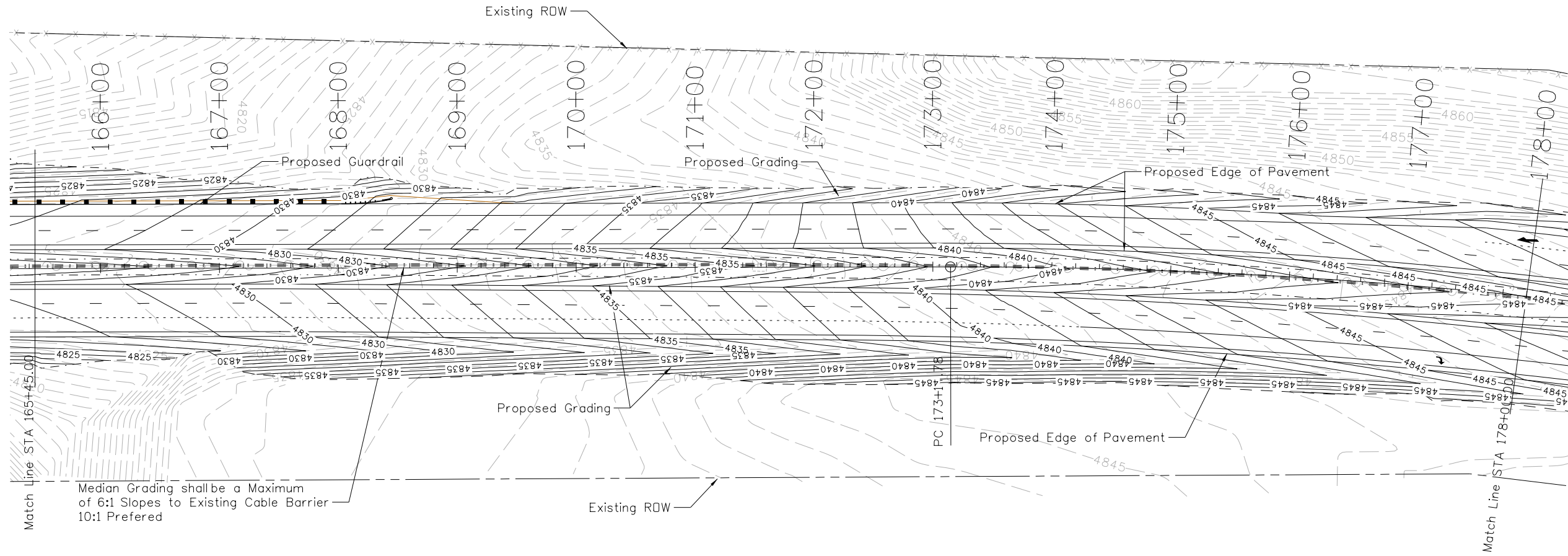
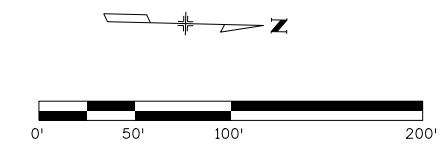


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Horiz. Scale: 1:100 Vert. Scale: As Noted						Revised:	Designer:	LEP	Structure		20755
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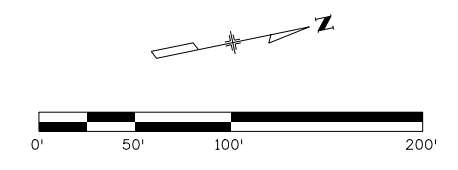
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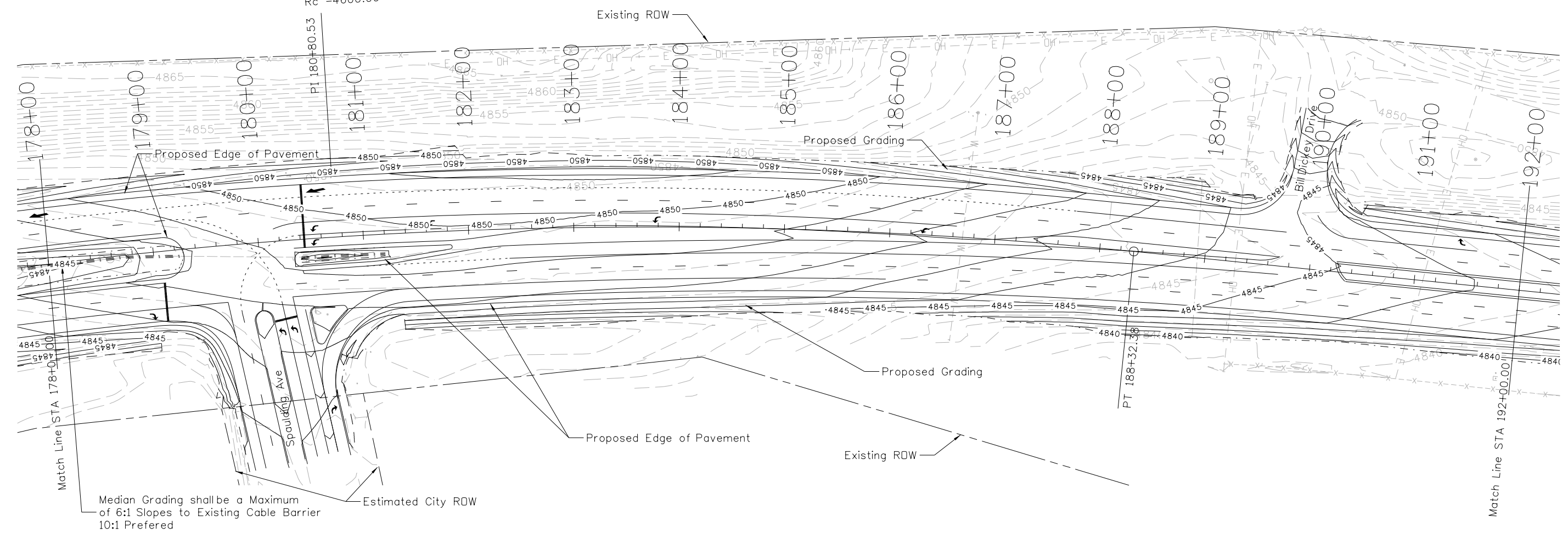
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Detailer:	LEP	Numbers	
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Project No./Code
STM SH45-001
20755
Sheet Number 78

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SH 45 Curve 2
 $\Delta c = 18^\circ 54' 09''$
 $Tc = 765.76'$
 $Lc = 1517.60'$
 $Rc = 4600.00'$



Median Grading shall be a Maximum of 6:1 Slopes to Existing Cable Barrier
 10:1 Preferred



**Know what's below.
 Call before you dig.**

Print Date: 2/21/2017
File Name: 20755DES_Grading08.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Unit Information Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

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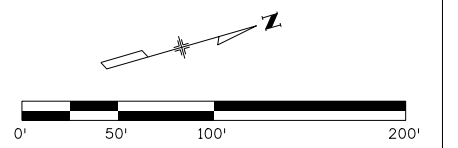
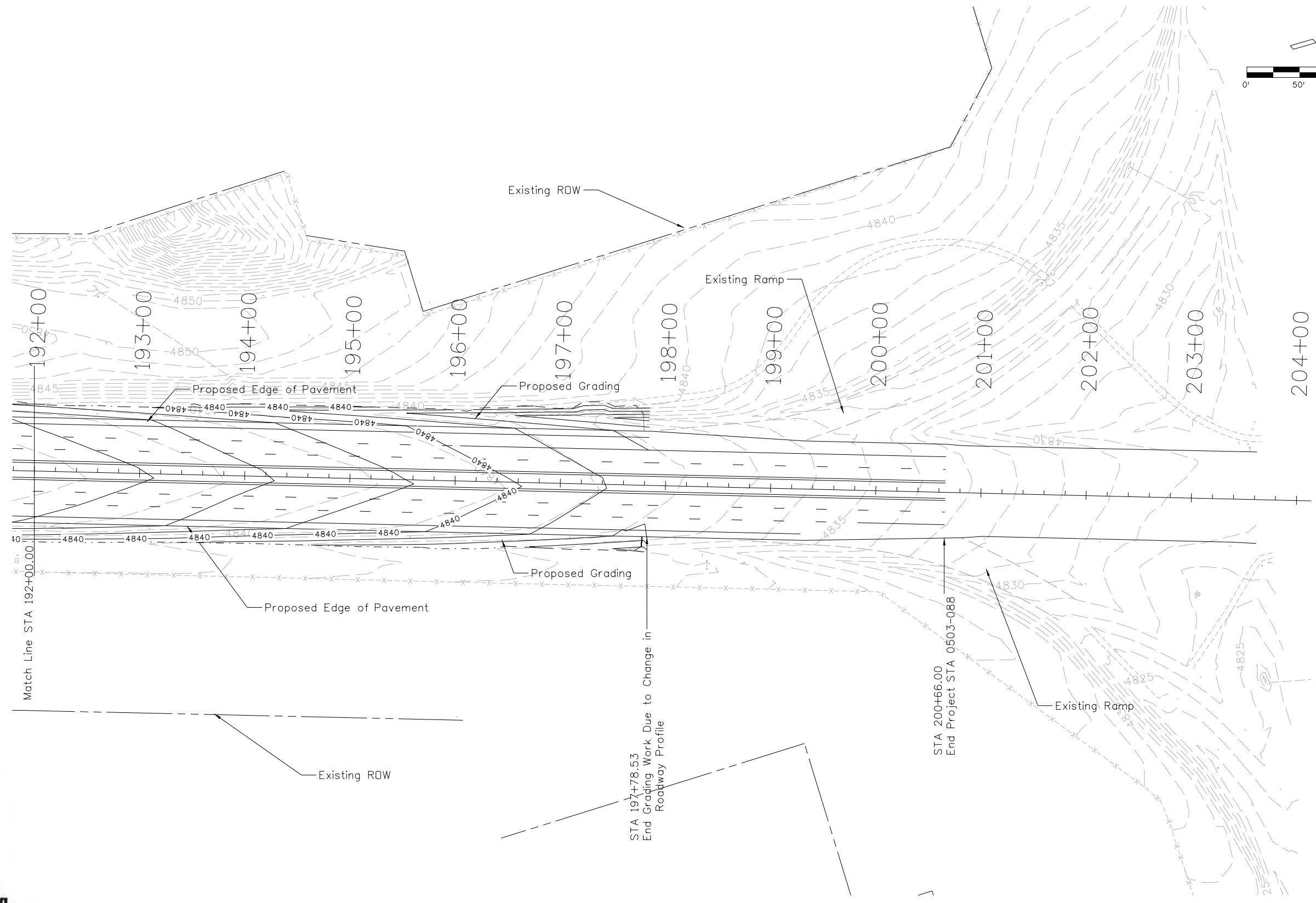
Region 2 DTD

As Constructed
No Revisions:
Revised:
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GRADING PLAN SH 45			
Designer:	LEP	Structure	
Detailer:	LEP	Numbers	
Sheet Subset:	GRADE	Subset Sheets:	08 of 09

Project No./Code
STM SH45-001
20755
Sheet Number 79

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**Know what's below.
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Unit Information Unit Leader DTD	

Sheet Revisions		
Date:	Comments	Init.

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No Revisions:
Revised:
Void:

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Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	GRADE	Subset Sheets:	09 of 09

Project No./Code
STM SH45-001
20755
Sheet Number 80

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GENERAL NOTES

Expansion Joint Material Shall Meet Specification M213.

The Following Structural Steel Shall Be AASHTO M270 Grade 36 (ASTM A-36): Expansion Devices.

The Contractor Shall Be Responsible For The Stability Of The Structures During Construction.

Dimensions Contained In These Plans Are Calculated From The "As Constructed Plans". Dimensions May Be Adjusted To Meet The Existing Structure.

The Contractor Shall Verify All Dependent Dimensions In The Field Before Ordering Or Fabricating Any Material.

The Existing Pavement Surface Shall Be Removed From The Existing Structures As Indicated In The Plans And Replaced With Hot Mix Asphalt To The Grade And Cross Slope On The Existing Concrete Deck.

The Information Shown On These Plans Concerning The Type And Location Of Underground Utilities Is Not Guaranteed To Be Accurate Or All Inclusive. The Contractor Is Responsible For Making His Own Determination As To The Type And Location Of Underground Utilities As May Be Necessary To Avoid Damage Thereeto. The Contractor Shall Contact The Utilities Notification Center Of Colorado At 1-800-922-1987 At Least 3 Days (Not Including The Day Of Notification) Prior To Any Excavation Or Other Earthwork.

DESIGN DATA

AASHTO, Seventh Edition LRFD With Current Interims

Live Load: HI-93 Design Truck Or Tandem, And Design Lane Load.

Dead Load: Assumes 36 Lbs. Per SF For Bridge Deck Overlay

Design Method: Load And Resistance Factor Design

Concrete Patching Material:
Concrete (Class D): F'c = 4,500 Psi
Reinforcing Steel: Fy = 60,000 Psi

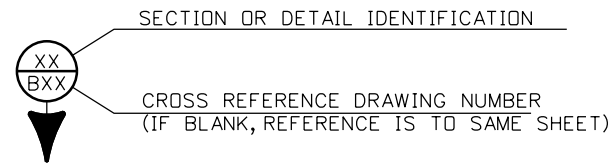
Structural Steel:
AASHTO M270 (ASTM A709) Grade 36 Fy = 36,000
AASHTO M270 (ASTM A709) Grade 50 Fy = 50,000

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	Unit	K-18-EP	K-18-EU	K-18-EV	Minor 045A007100BL	TOTAL
202-00240	REMOVAL OF ASPHALT MAT (PLANING) (SPECIAL)	SY	2532	791	816		4139
202-00504	REMOVAL OF EXPANSION DEVICE	LF	59				59
206-00065	STRUCTURAL BACKFILL (FLOW-FILL)	CY				15	15
403-34841	HOT MIX ASPHALT (GRADING SX) (100) (PG 76-28)	TON	275	86	89		450
509-00001	STRUCTURAL STEEL (GALVANIZED)	LB	230				230
518-01001	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	LF	53	107			160
518-01004	BRIDGE EXPANSION DEVICE (0-4 INCH)	LF	59				59
518-03000	SAWING AND SEALING BRIDGE JOINT	LF			111		111
601-03041	CONCRETE CLASS D (BRIDGE) (SPECIAL)	CY	6				6

INDEX OF DRAWINGS

- DWG. NO. B01 GENERAL INFORMATION - SUMMARY OF QUANTITIES
- DWG. NO. B02 PLAN STR K-18-EP
- DWG. NO. B03 PLAN STR K-18-EU
- DWG. NO. B04 PLAN STR K-18-EV
- DWG. NO. B05 PLAN STR 045A007100BL
- DWG. NO. B06 BRIDGE EXPANSION DEVICE PLUG JOINT AND SAW AND SEAL DETAIL
- DWG. NO. B07 EXPANSION DEVICE REMOVAL AND REPLACEMENT K-18-EP
- DWG. NO. B08 BRIDGE EXPANSION DEVICE (0-4 INCH) (1 OF 3)
- DWG. NO. B09 BRIDGE EXPANSION DEVICE WEST RAIL (0-4 INCH) (2 OF 3)
- DWG. NO. B10 BRIDGE EXPANSION DEVICE EAST CURB (0-4 INCH) (3 OF 3)

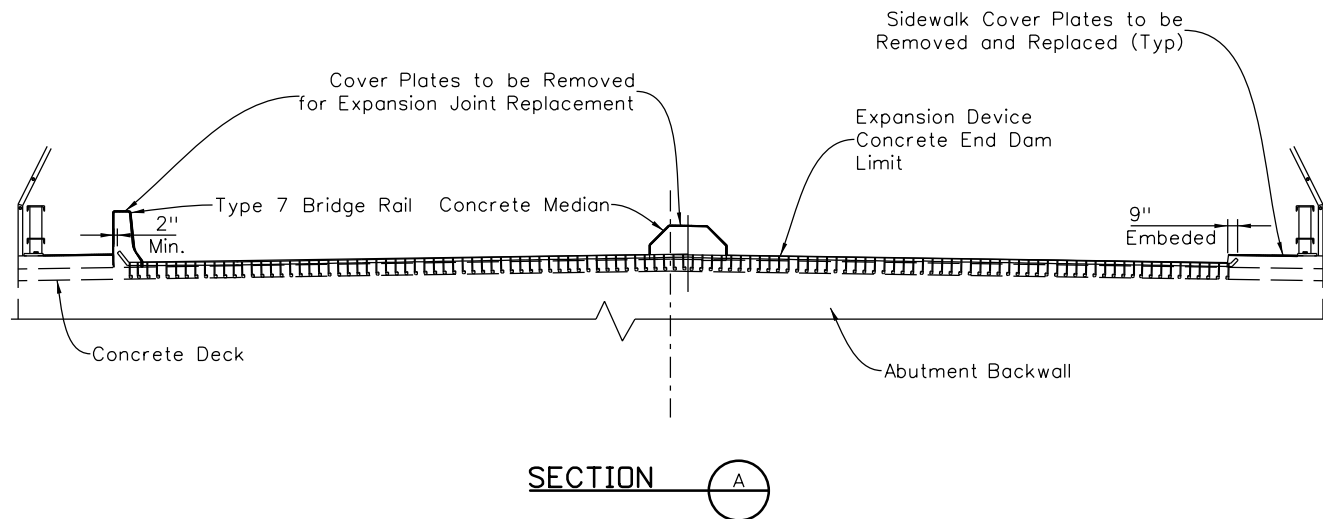
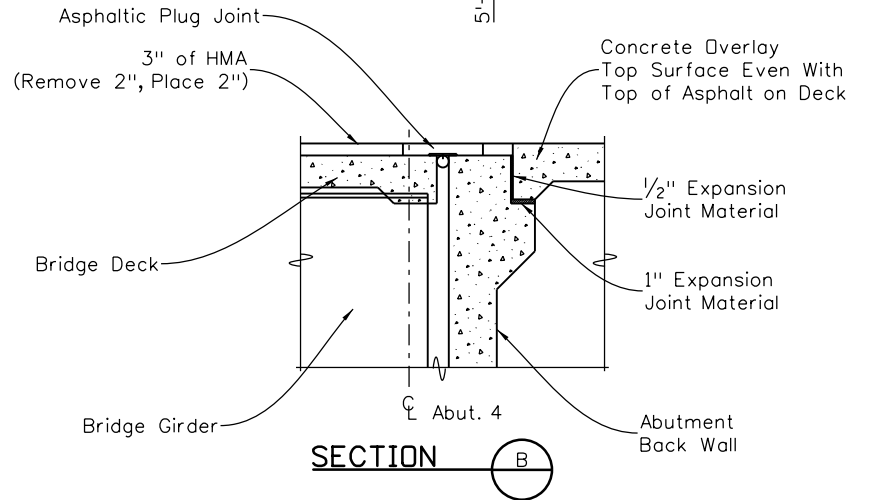
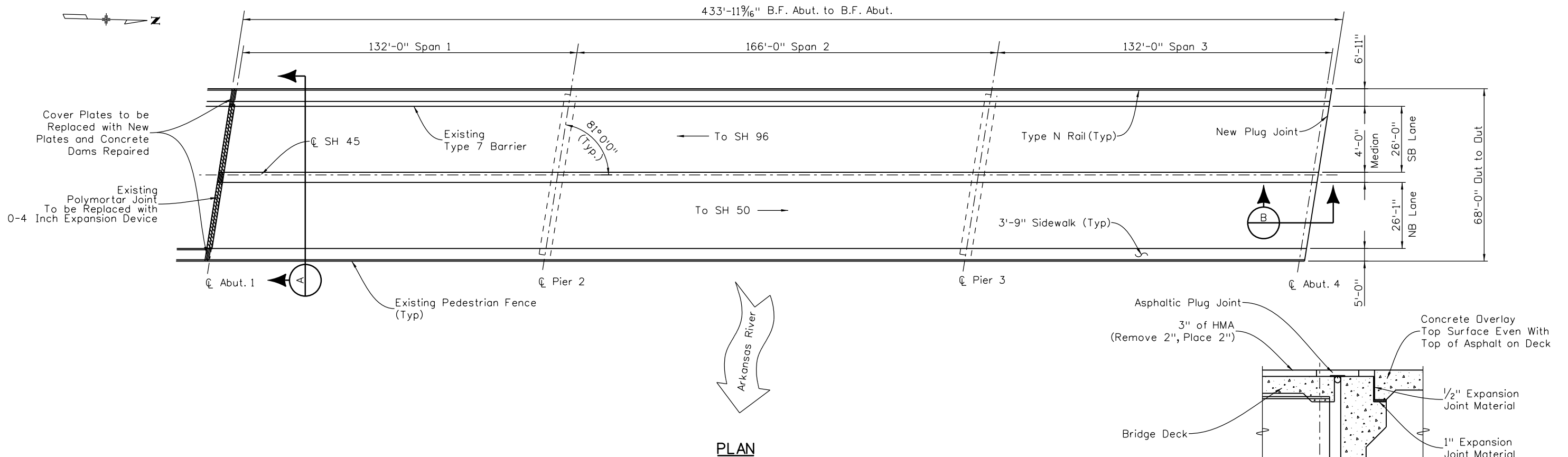


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INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
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DDG	12-16	DDG	12-16	DDG	12-16
Designed By	Checked By	Detailed By	Checked By	Quantities By	Checked By

Print Date: 2/15/2017		Sheet Revisions			Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2	As Constructed		GENERAL INFORMATION			Project No./Code
Drawing File Name: 20755 01 General Information.dgn		Date:	Comments	Init.		No Revisions:	SUMMARY OF QUANTITIES			STM SH45-001	
Horiz. Scale: None Vert. Scale: None						Revised:	Designer: J. Bjorkquist	Structure Numbers	K-18-EP	20755	
Staff Bridge Branch - Unit 0226 Unit Leader DDG						Void:	Detailer: J. Bjorkquist	Subset Sheets:	K-18-EU, EV	Sheet Number 81	

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Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
08/15	JEB	12-16	JEB	12-16	JEB
12-16	DDG	12-16	DDG	12-16	DDG
Checked By		Checked By		Checked By	



WORK DESCRIPTION

1. Mill off 2" of the asphalt wearing surface.
2. Remove Sidewalk, Median & Type 7 Bridge Rail Cover Plates at Abut. 1.
3. Remove Preformed Expansion Device at Abut. 1.
4. Repair Cover Plate Concrete End Dams at Abut. 1
5. Install New 0-4 Inch Expansion Device at Abut. 1.
6. Install New Cover Plates at Sidewalks and Reinstall Cover Plates at Median and Type 7 Rail.
7. Install 2" HMA overlay.
8. Replace Plug Joint at Abut. 4.

NOTES:


* For Informational Use Only. Contractor Shall Independently Verify the Asphalt Thickness Across the Bridge

BRIDGE DESCRIPTIONS

Structure Number:	K-18-EP
Facility Carried:	SH 45
Feature Intersected:	Arkansas River and RR
Mile Post:	5.384
Year Built:	1973
Structure Type:	WGCK
Structural Length:	3 Span = 433-feet
Out to Out Width:	68'-0"
Roadway Width:	52'-1"
Deck Thickness:	7.5 Inches
Asphalt Thickness:	3.0 Inches *
Deck Protection:	Waterproofing Membrane
Bridge Rail Type:	Types N, R & Type 7
Expansion Joint Type:	Polymortar Joint Abut. 1. Plug Joint Abut. 4.
Sufficiency Rating:	55.0

Print Date: 2/15/2017
File Name: 20755 02 Plan Str. K-18-EP.dgn
Horiz. Scale: Vert. Scale: NTS
Staff Bridge Branch Unit 0226 Unit Leader DDG

Sheet Revisions			
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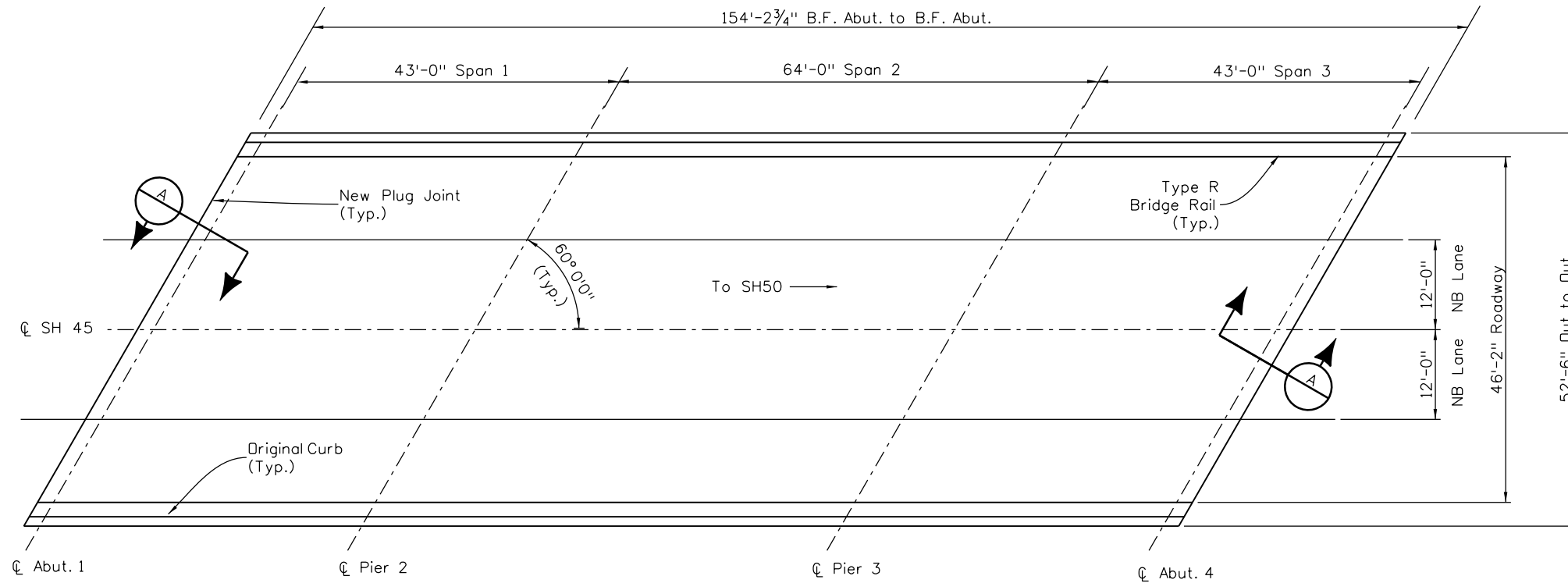
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Region 2

As Constructed
No Revisions:
Revised:
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PLAN STR. K-18-EP			
Designer:	J. Bjorkquist	Structure Numbers:	K-18-EP
Detailer:	J. Bjorkquist	Subset Sheets:	B02 of 10
Sheet Subset:	Bridge		

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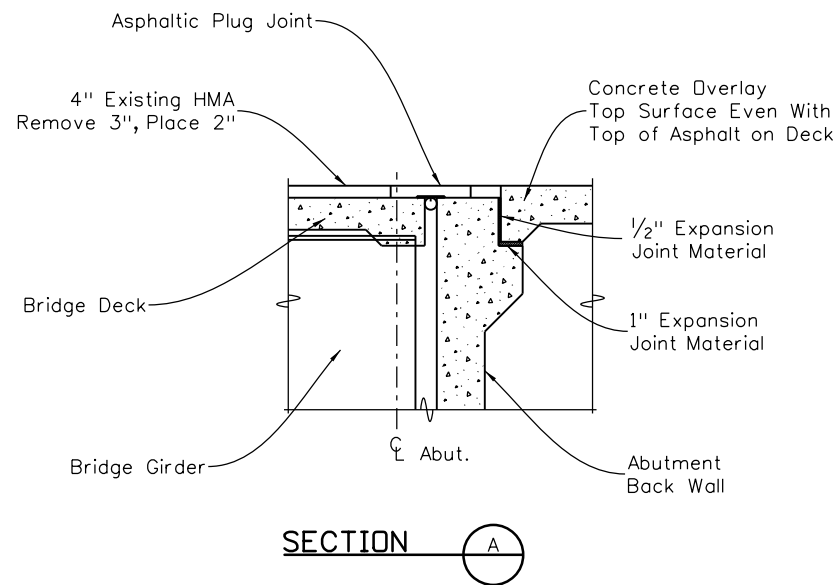
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PLAN

WORK DESCRIPTION

1. Mill off 3" of the asphalt wearing surface.
2. Remove any loose asphalt material on the deck.
3. Install 2" asphalt overlay.
4. Install plug joints at abutments 1 and 4.



SECTION A-A

BRIDGE DESCRIPTIONS

Structure Number:	K-18-EU
Facility Carried:	SH 45 (NB)
Feature Intersected:	UP RR
Mile Post:	6.349
Year Built:	1974
Structure Type:	CICK
Structural Length:	3 Span = 154'-2 3/4"
Out to Out Width:	52'-6"
Roadway Width:	46'-2"
Deck Thickness:	7.5 Inches
Asphalt Thickness:	4.0 Inches *
Deck Protection:	Waterproofing Membrane
Bridge Rail Type:	Type R
Expansion Joint Type:	Asphalt Plug at Abut.
Sufficiency Rating:	98.0


NOTES:

* For Informational Use Only. Contractor Shall Independently Verify the Asphalt Thickness Across the Bridge

Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
09/15	JBE	09/15	JBE	09/15	JBE
09/15	DDG	09/15	DDG	09/15	DDG

Print Date: 2/15/2017	
File Name: 20755 03 Plan Str. K-18-EU.dgn	
Horiz. Scale:	Vert. Scale: NTS
Staff Bridge Branch Unit 0226	Unit Leader DDG

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Date:	Comments	Init.

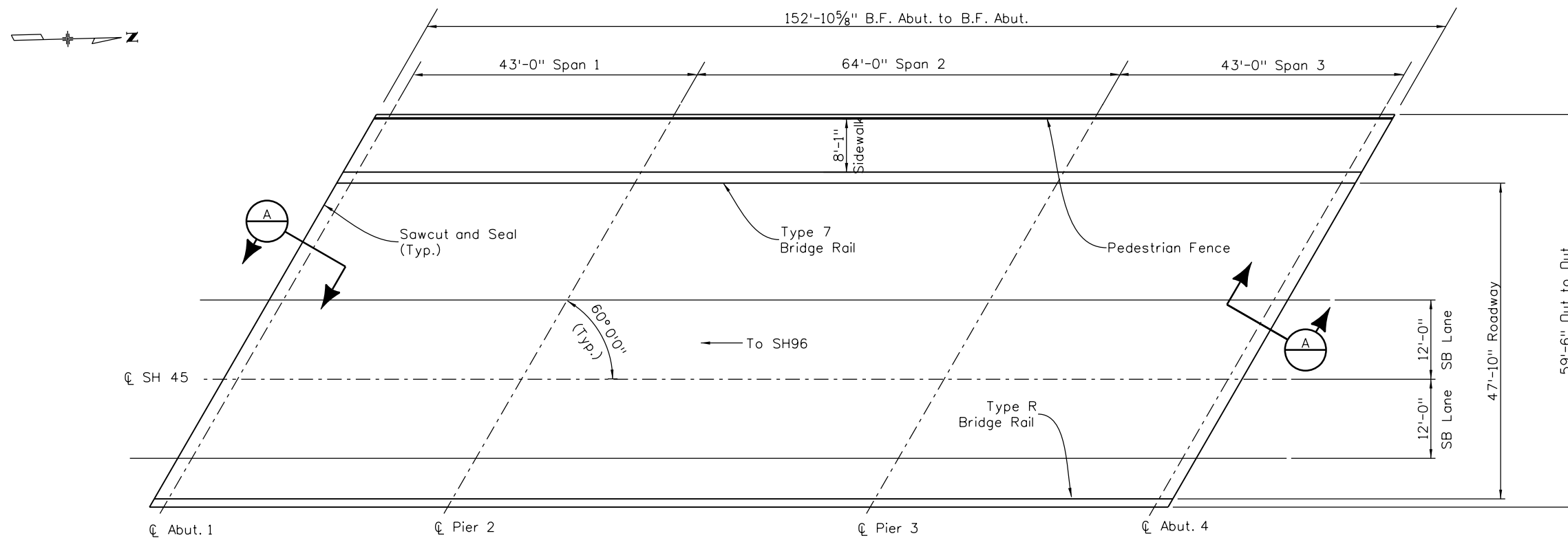
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Region 2 **DTD**

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No Revisions:
Revised:
Void:

PLAN STR. K-18-EU			
Designer:	J.Estes	Structure Numbers:	K-18-EU
Detailer:	J. Estes	Subset Sheets:	B03 of 10

Project No./Code
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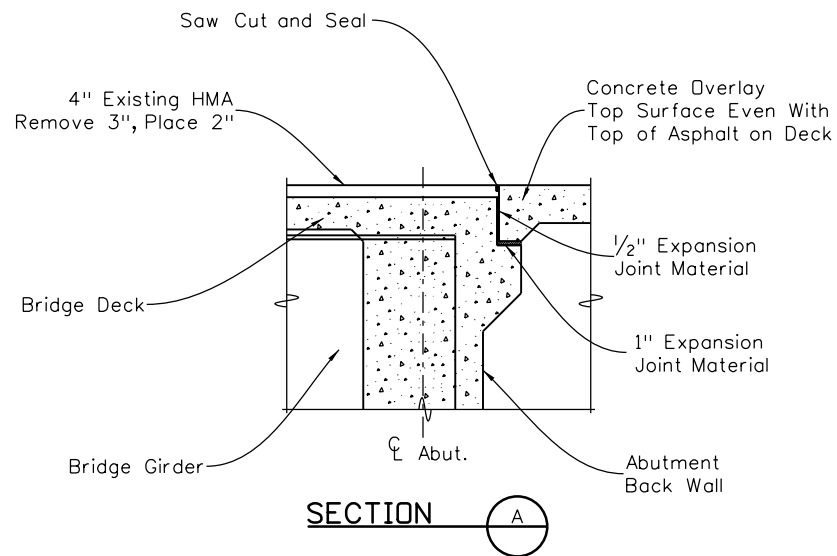
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PLAN

WORK DESCRIPTION

1. Mill off 3" of the asphalt wearing surface.
2. Remove any loose asphalt material on the deck.
3. Install 2" asphalt overlay.
4. Install plug joints at abutments 1 and 4.



SECTION

BRIDGE DESCRIPTIONS

Structure Number:	K-18-EV
Facility Carried:	SH 45 (SB)
Feature Intersected:	UP RR
Mile Post:	6.350
Year Built:	1982
Structure Type:	CICK
Structural Length:	3 Span = 152'-10 5/8"
Out to Out Width:	59'-6"
Roadway Width:	47'-10"
Deck Thickness:	8.0 Inches
Asphalt Thickness:	4.0 Inches *
Deck Protection:	Waterproofing Membrane
Bridge Rail Type:	Type R & Type 7
Expansion Joint Type:	Pourable Seals at Abut.
Sufficiency Rating:	99.3

NOTES:

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Design		Detail		Quantities	
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL
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09/15	DDG	09/15	DDG	09/15	DDG

Print Date: 2/15/2017
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Horiz. Scale: 1:20 Vert. Scale: 1:20
Staff Bridge Branch Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

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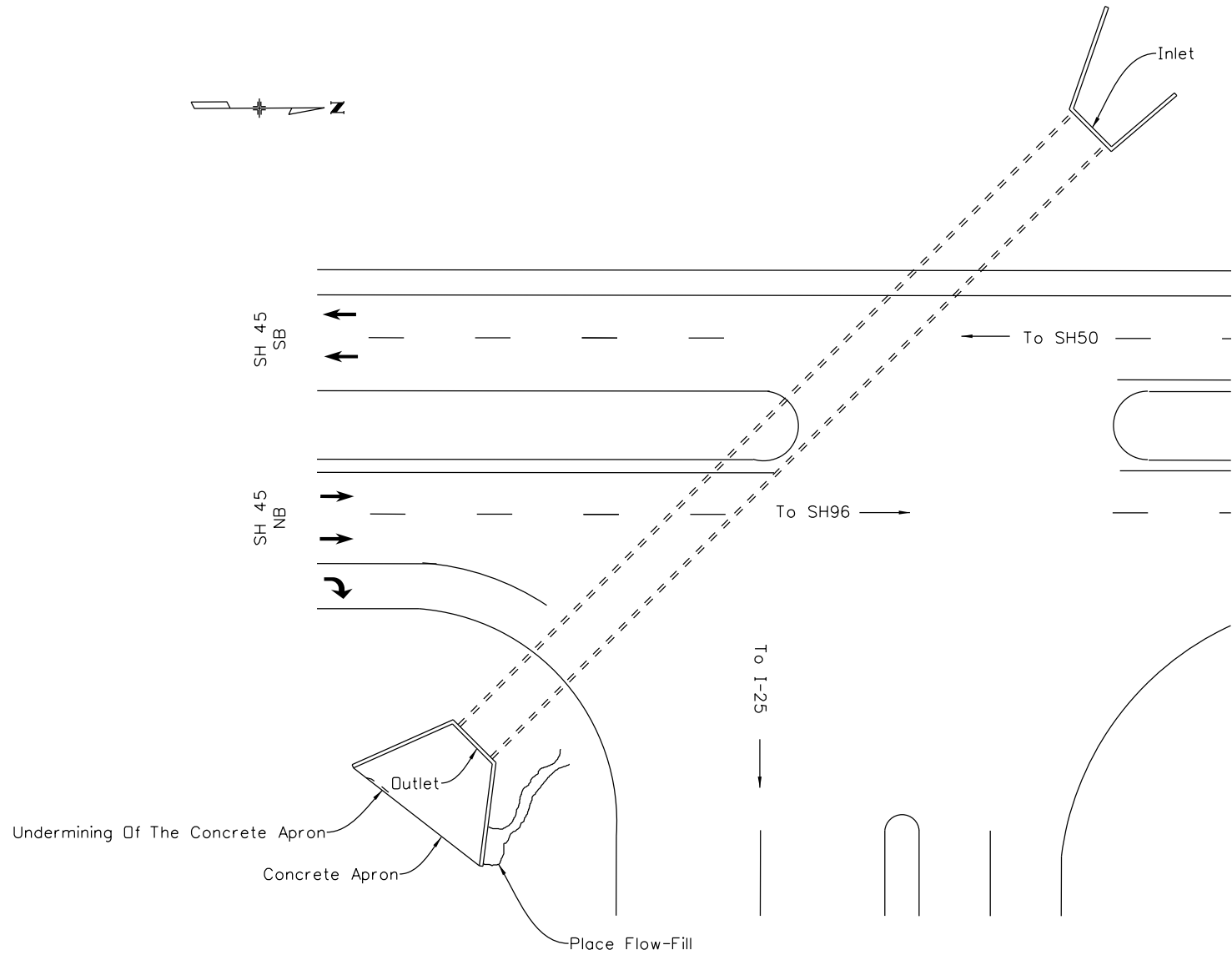
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Designer:	J. Estes	Structure Numbers:	K-18-EV
Detailer:	J. Estes	Subset Sheets:	B04 of 10

Project No./Code
STM SH45-001
20755
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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
JBE	09/15	JBE	09/15	JBE	09/15
Checked By	DDG	Checked By	DDG	Checked By	DDG

WORK DESCRIPTION

1. PLACE FLOW-FILL BEHIND SOUTH EAST WINGWALL



PLAN



EROSION AT SOUTHEAST WINGWALL

BRIDGE DESCRIPTIONS

Structure Number:	045A007100BL
Facility Carried:	SH 45
Feature Intersected:	UNNAMED DRAINAGE
Mile Post:	7.1
Year Built:	1973
Structure Type:	CMP
Structural Length:	235 Feet
Fill Height:	8 Feet
Sufficiency Rating:	70.0

Print Date: 2/15/2017	
File Name: 20755 05 Plan Str. 045A007100BL.dgn	
Horiz. Scale:	Vert. Scale: NTS
Staff Bridge Branch Unit 0226	Unit Leader DDG



Sheet Revisions		
Date:	Comments	Init.

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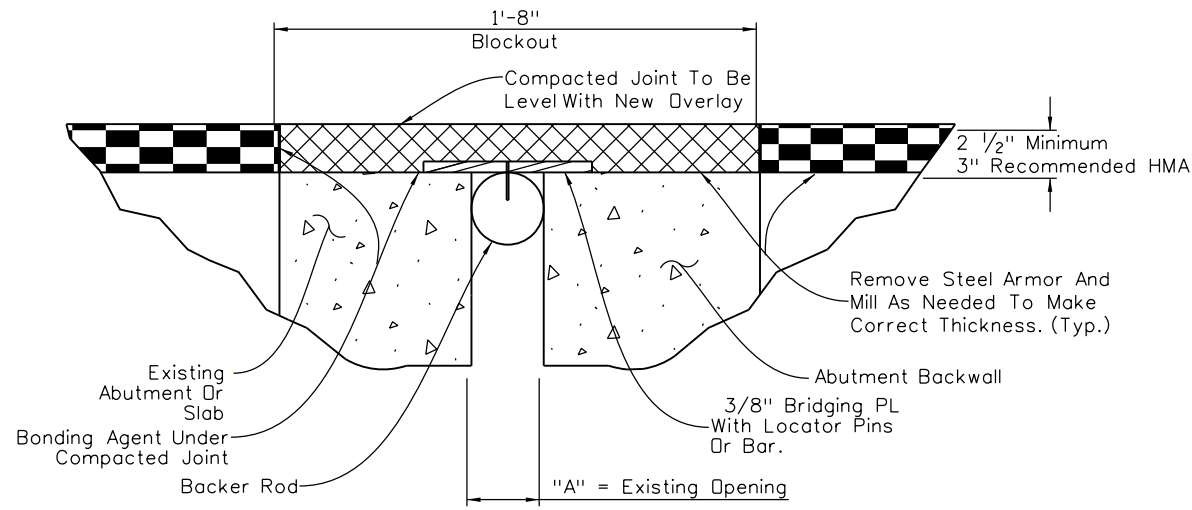
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Designer:	J.Estes	Structure Numbers	045A007100BL
Detailer:	J. Estes	Subset Sheets:	B05 of 10
Sheet Subset:	Bridge		

Project No./Code
STM SH45-001
20755
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Checked By	DDG	Checked By	DDG	Checked By	DDG

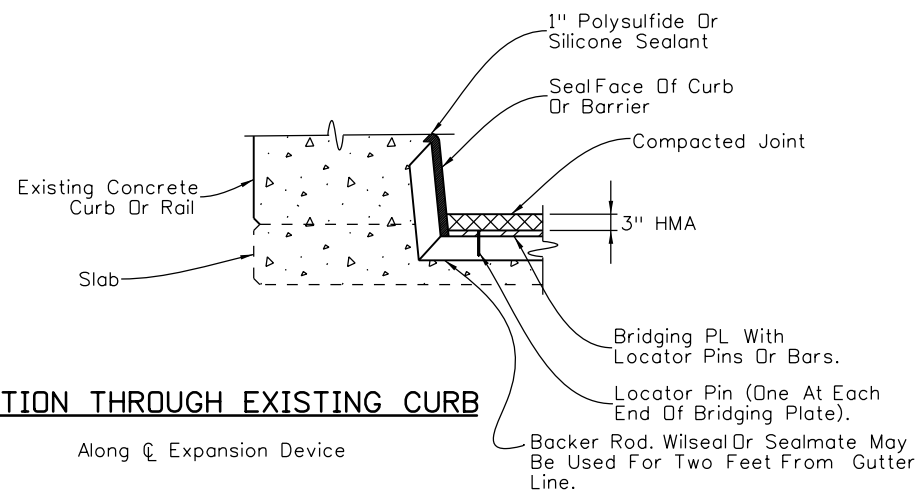


JOINT REHABILITATION DETAIL WITHOUT EXISTING END DAMS

Typical detail shown.

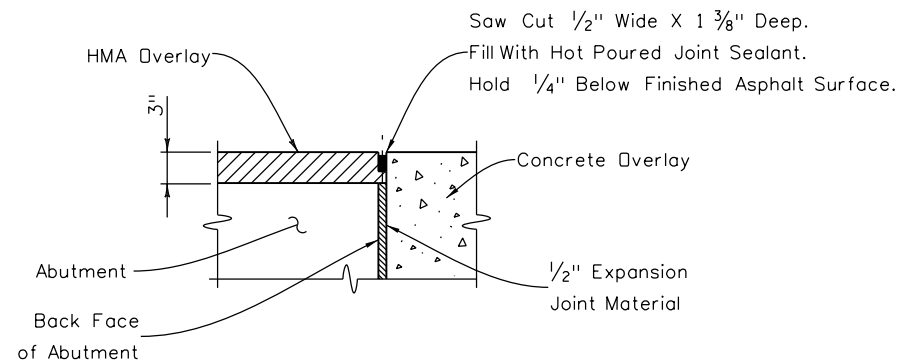
BRIDGING PLATE SIZE:

"A"	THICKNESS	WIDTH	MINIMUM LENGTH
3"	3/8"	7"	4'-0"



SECTION THROUGH EXISTING CURB

Along C Expansion Device



SAWCUT AND SEAL DETAIL

Paid For Under Item 518 Sawing And Sealing Bridge Joint

NOTES:

The Plug Joint System Shall Include All Labor And Materials To Install The Expansion Joint According To The Manufacturer's Directions And According To These Plans.

The Blockout Shall Be Formed Or Cut To Full Depth And Ground To Provide A Uniform Bearing Surface For The Bridging Plate.

Bridging Plates Shall Not Rock On Their Supports Prior To Placing Plug Joint Material.

The Bridging Plates Shall Be A36 Steel As Shown On The Table A Or Equivalent Approved By The Engineer. It Shall Be Installed In Accordance With The Manufacturer's Directions. All Bridging Plates Shall Have Locator Pins Or Bars For Centralizers.

The Backer Rod Shall Be Secured And Sealed According To The Manufacturer's Directions.

The Joint Bonding Agent Shall Be The Type Recommended By The Manufacturer For The Joint System Being Installed. It Shall Be Applied According To The Manufacturer's Recommendations.

All Surfaces In Joint Opening Shall Be Cleaned According To The Manufacturer's Directions.

The Joints Shall Be Installed And Compacted According To The Manufacturer's Procedures. The Finished Joint, After Compacting And Sealing, Shall Be Flush With The Top Of The Adjacent Wearing Surface.

A Representative Of The Manufacturer Shall Be On Site Prior To And During Installation Of The Plug Joints And Shall Approve The Methods And Materials Before Work Commences.

The Asphaltic Binder Shall Not Be Overheated, Either By Absolute Temperature Limits Of The Material, Or By Extended Time At A Lower High Temperature. Material That Is Overheated Shall Be Discarded.

For Construction Requirements See Section 518.08 Of Standard Specifications.

Seal Top Of Curb As Directed By The Engineer.

Sealing The Face Of The Curb Or Barrier Will Not Be Paid For Separately, But Will Be Included In The Work.

The Contractor Shall Be Prepared To Provide Temporary Cover Plates In Case The Work Must Be Suspended Prior To Opening The Structure To Traffic.

ACCEPTABLE EXPANSION DEVICE ALTERNATES


All Asphaltic Plug Joint Materials Need A Certified Test Report (CTR) From An Independent Laboratory Showing Passing Test Results On All Referenced Tests Within The Most Recent ASTM D 6297 Using Granite Blocks For Each Lot Of Material To Be Included On The APL.

A List Of Current Pre-Approved Lot Numbers, Suppliers, And The Procedure To Register New Suppliers Can Be Found On CDDT Approved Products List Web Site At:
<http://Apps.Coloradodot.Info/Apl/Aplsearch.Cfm>

Print Date: 2/15/2017
File Name: 20755 06 Plug Joint.dgn
Horiz. Scale: None Vert. Scale: None
Staff Bridge Branch Unit 0226 Unit Leader DDG

Sheet Revisions		
Date:	Comments	Init.

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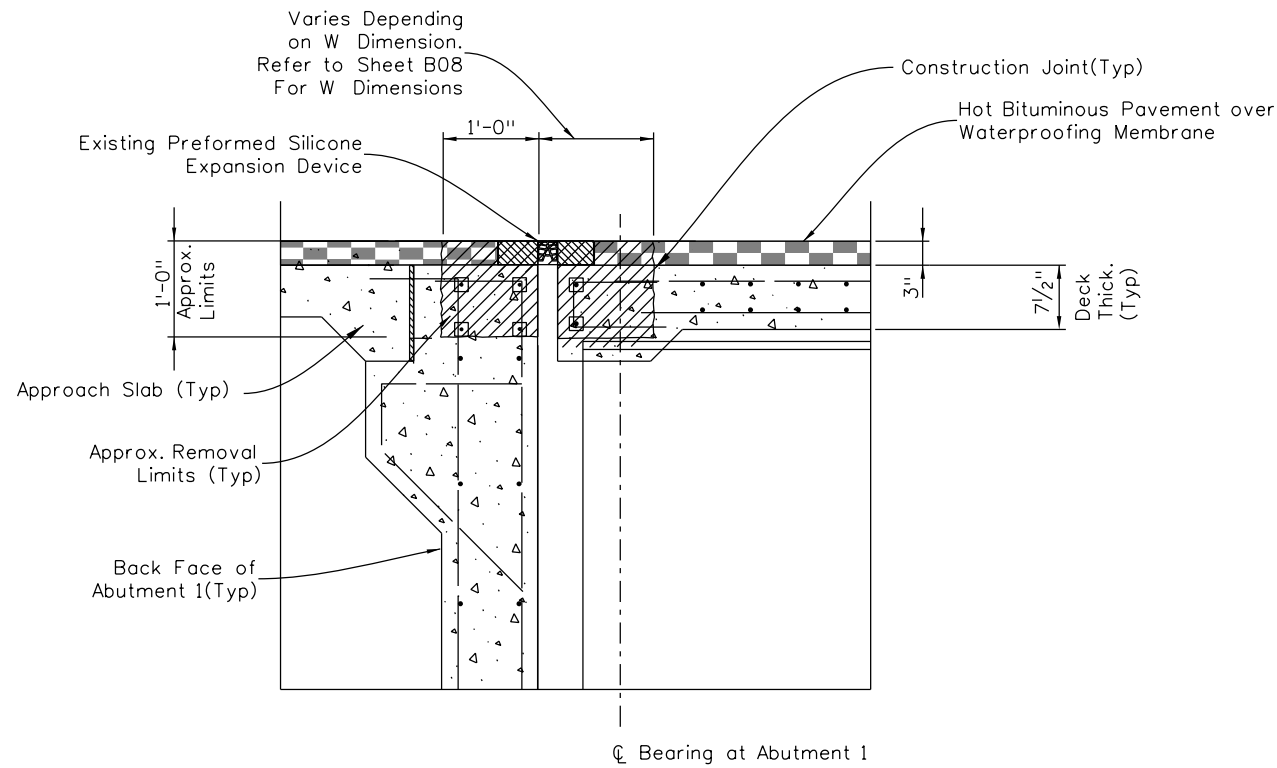
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 Phone: 719-562-5509 FAX: 719-546-5702

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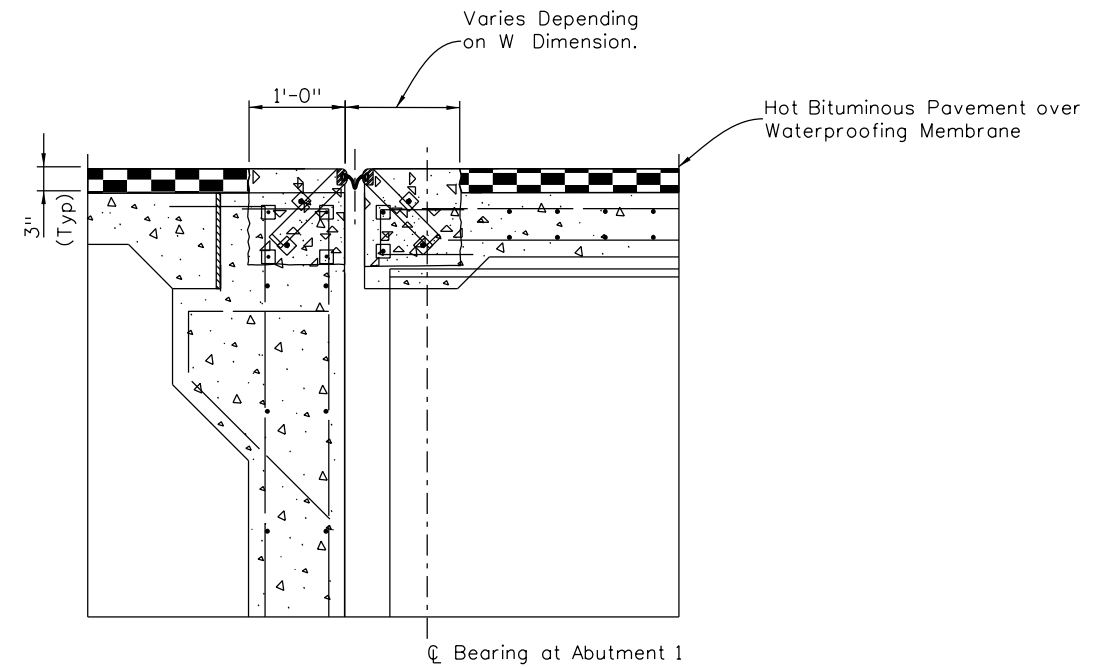
As Constructed
No Revisions:
Revised:
Void:

BRIDGE EXPANSION DEVICE PLUG JOINT AND SAW AND SEAL DETAIL			
Designer:	J.Estes	Structure	K-18-EP
Detailer:	J. Estes	Numbers	K-18-EU, K-18-EV
Sheet Subset:	Bridge	Subset Sheets:	B06 of 10

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EXISTING EXPANSION JOINT REMOVALS



NEW EXPANSION DEVICE INSTALLATION

TYPICAL SECTIONS STRUCTURES K-18-EP
At Abutment 1 Back Faces



Portions of structure to be removed. Reinforcing protruding from cut line to remain. (Clean and straighten). Paid For Under Item 202 Removal of Expansion Device.



Concrete Class D (Bridge) (Special).

Reinforcing to be removed and replaced with new #5 (E) reinforcing

New #5 (E) reinforcing

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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By JEB	12-16	Detailed By JEB	12-16	Quantities By JEB	12-16
Checked By DDG	12-16	Checked By DDG	12-16	Checked By DDG	12-16

Print Date: 2/15/2017	0000
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Staff Bridge Branch - Unit 0226 Unit Leader DDG	

Sheet Revisions		
Date:	Comments	Init.

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Region 2 **DTD**

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No Revisions:
Revised:
Void:

EXPANSION DEVICE REMOVAL AND REPLACEMENT K-18-FO			
Designer:	J. Bjorkquist	Structure Numbers	K-18-EP
Detailer:	J. Bjorkquist	Subset Sheets:	B07 of 10
Sheet Subset:	Bridge		

Project No./Code
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20755
Sheet Number 87

NOTES:

The expansion device shall be installed on grade, parallel to the slope and grade of the deck.

The expansion device shall not be set before the deck elevations have been approved by the Engineer. The Contractor shall take shots of the expansion device to achieve the required elevations for smoother rideability on bridge approaches.

After the concrete has attained initial set, the attachments used to hold the expansion device assembly in its proper position shall be removed.

"W" and "E" dimensions are dependent upon the particular expansion device supplied, and shall be shown on the working drawings.

See table for dimensions "A" and "W"; interpolate as needed. Do not install the gland until dimension "A" has opened up to at least 1 1/2" (2 1/2" for Silicoflex).

The neoprene gland shall be installed in one piece in accordance with Section 518 of the Standard Specifications.

See Section 518.09 in the Standard Specifications for water tight integrity testing requirements.

Set elevations at top of header and sleeper stem with the grade projection scheme.

All steel elements (whether grade A36 or A588) of the bridge expansion device, including cover plates, shall be hot dip galvanized after fabrication as per Section 509.11 of the Standard Specifications.

Use a run of 1 or more to accommodate existing conditions and a run of 1 for new construction.

**ACCEPTABLE EXPANSION
DEVICE ALTERNATES**

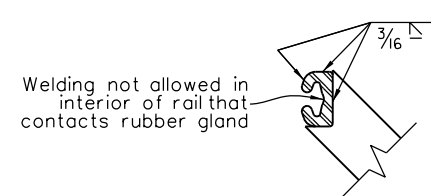
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WABO SE400 Type A
Epoxy Industries S400-A
R. J. Watson Silicoflex SF 400

NOTES:

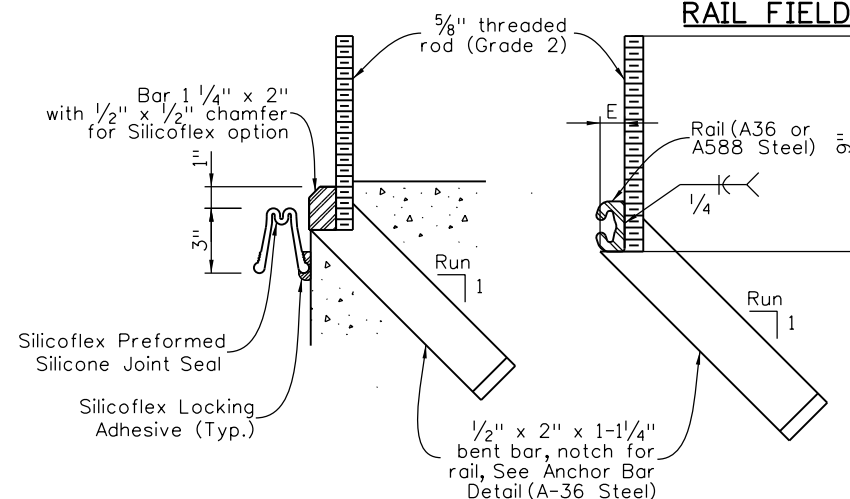
1. Provide expansion device support as shown at 6'-0" intervals.
2. For reinforcing not shown hereon, see Approach Slab Details.
3. Cut threaded rod flush to concrete for finished joint.
4. Concrete shall be placed after expansion device has been adjusted to proper grade and approved by the Engineer.

Air Temp	"A"	"W"*
0° F	3 3/8"	4 7/8"
20° F	3"	4 1/2"
40° F	2 1/2"	4"
60° F	2"	3 1/2"
80° F	1 5/8"	3 1/8"
100° F	1 1/4"	2 3/4"

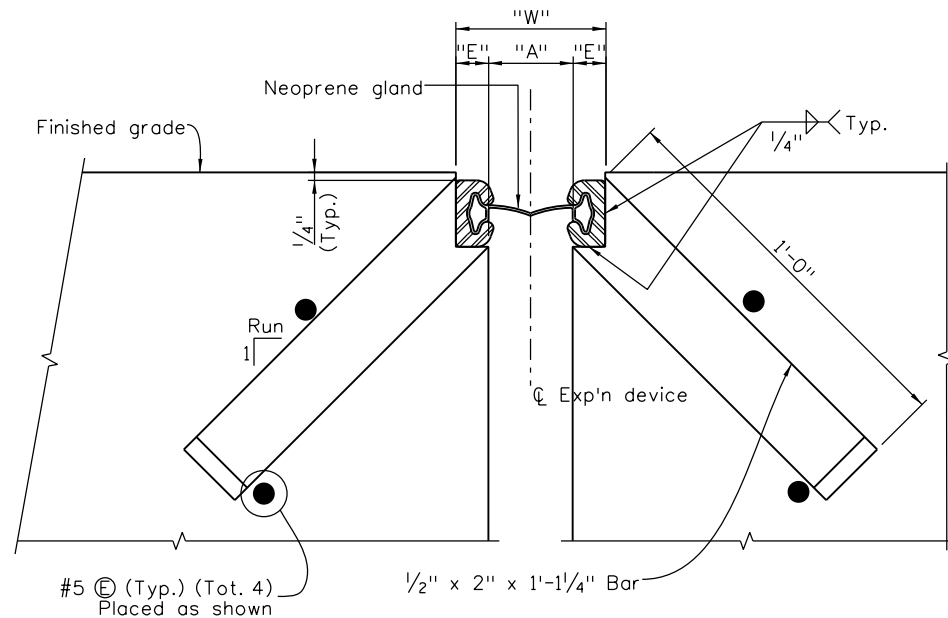
* For E = 1 1/4" (min.)



RAIL FIELD SPLICE DETAIL

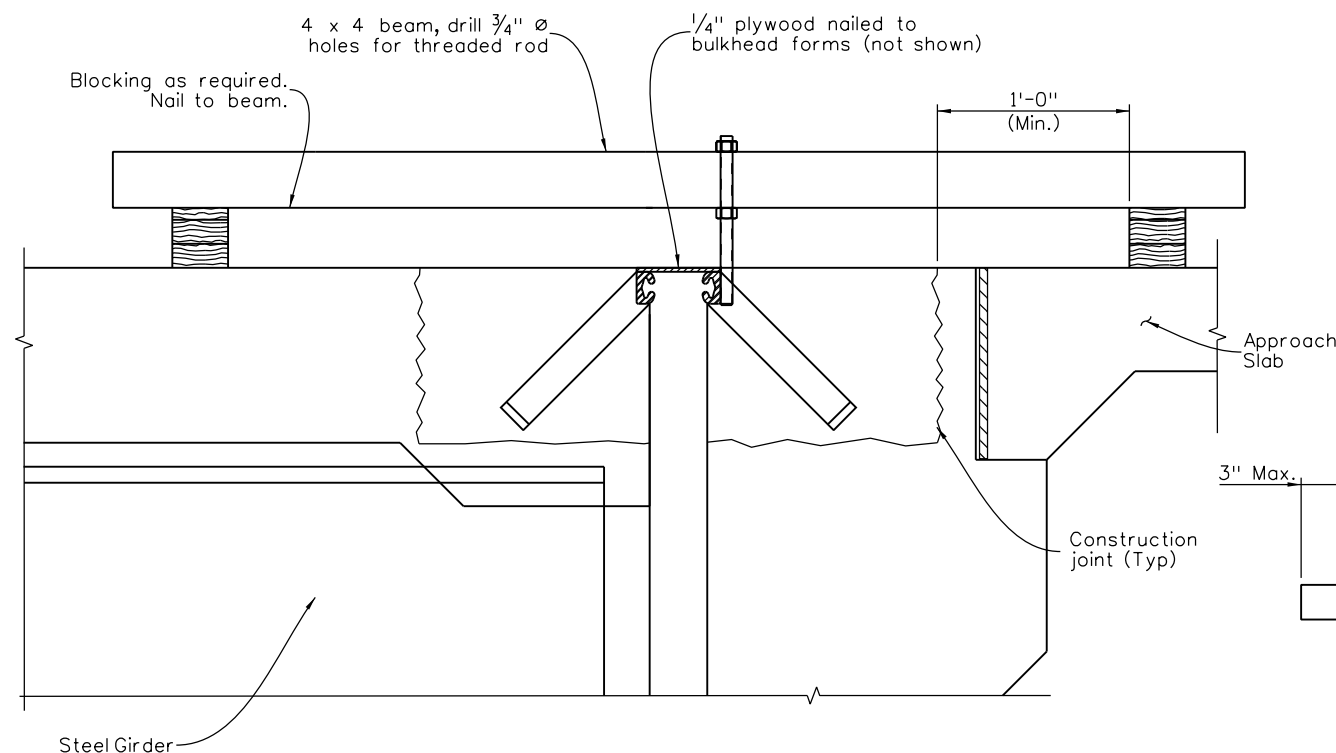


ANCHORAGE DETAIL

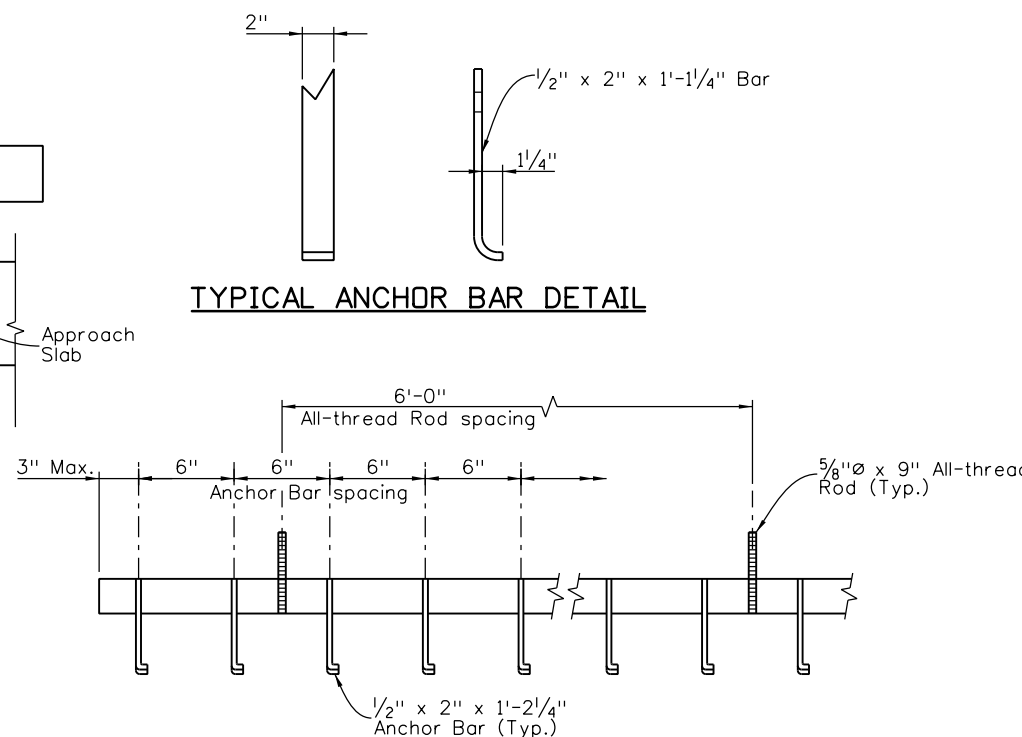


SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE

Section taken perpendicular to centerline of expansion device



MINIMUM SUPPORT BRACKET REQUIREMENTS



ANCHOR BAR SPACING

groenland 3:49:03 PM \\PUBLIC\Bridges\Common\0226\Overlay Projects FY 2017\20755 SH 45 MP 4.9 to 8.7\Drawings\20755 08 Bridge Exp Device (0-4 Inch) (1 of 3).dgn

Revision Dates (Preliminary Stage Only)	
6/04	3/07
5/13	

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
JEB	12-16	JEB	12-16	JEB	12-16
DDG	12-16	DDG	12-16	DDG	12-16

Print Date: 2/15/2017	0000
File Name: 20755 08 Bridge Exp Device (0-4 Inch) (1 of 3).dgn	
Horiz. Scale: NTS Vert. Scale: As Noted	
Staff Bridge Branch - Unit 0226 Unit Leader DDG	

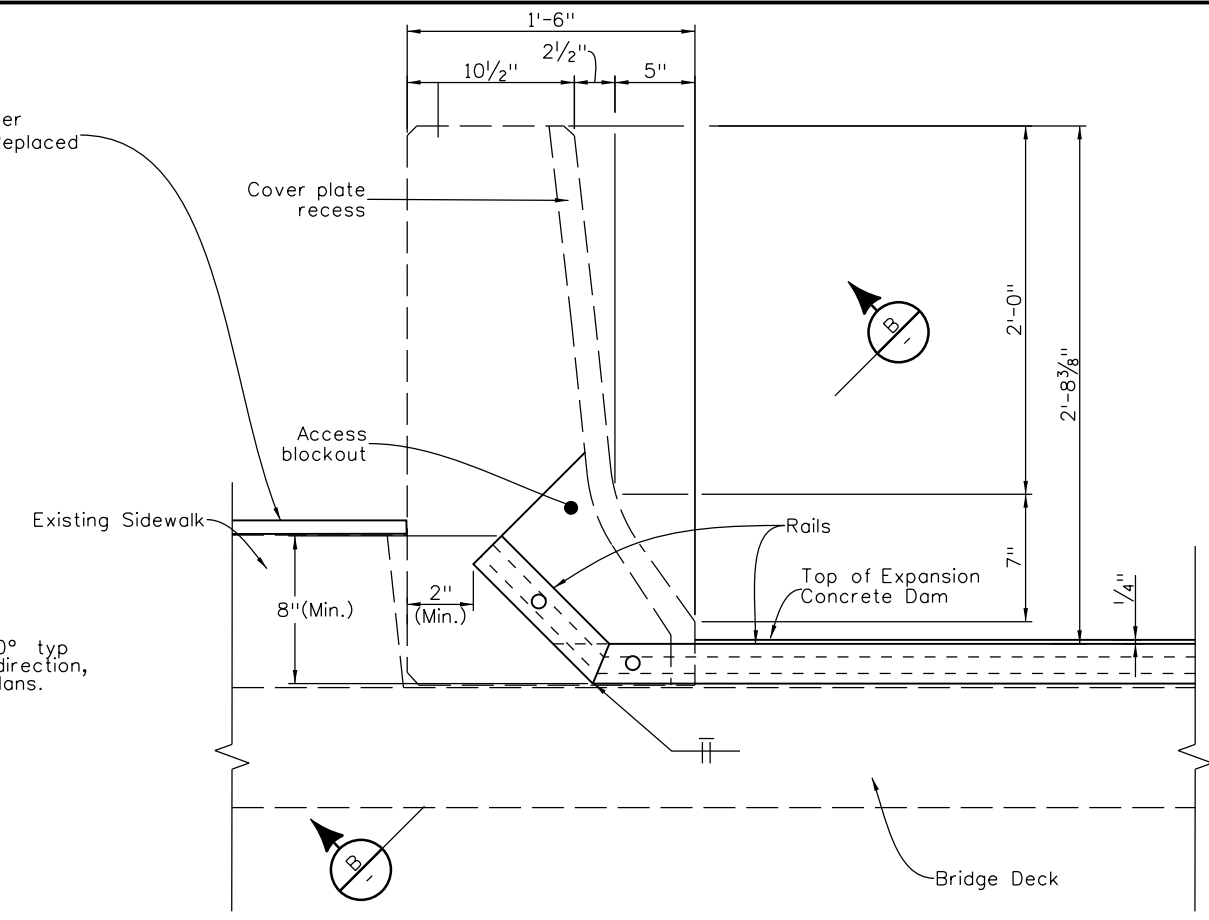
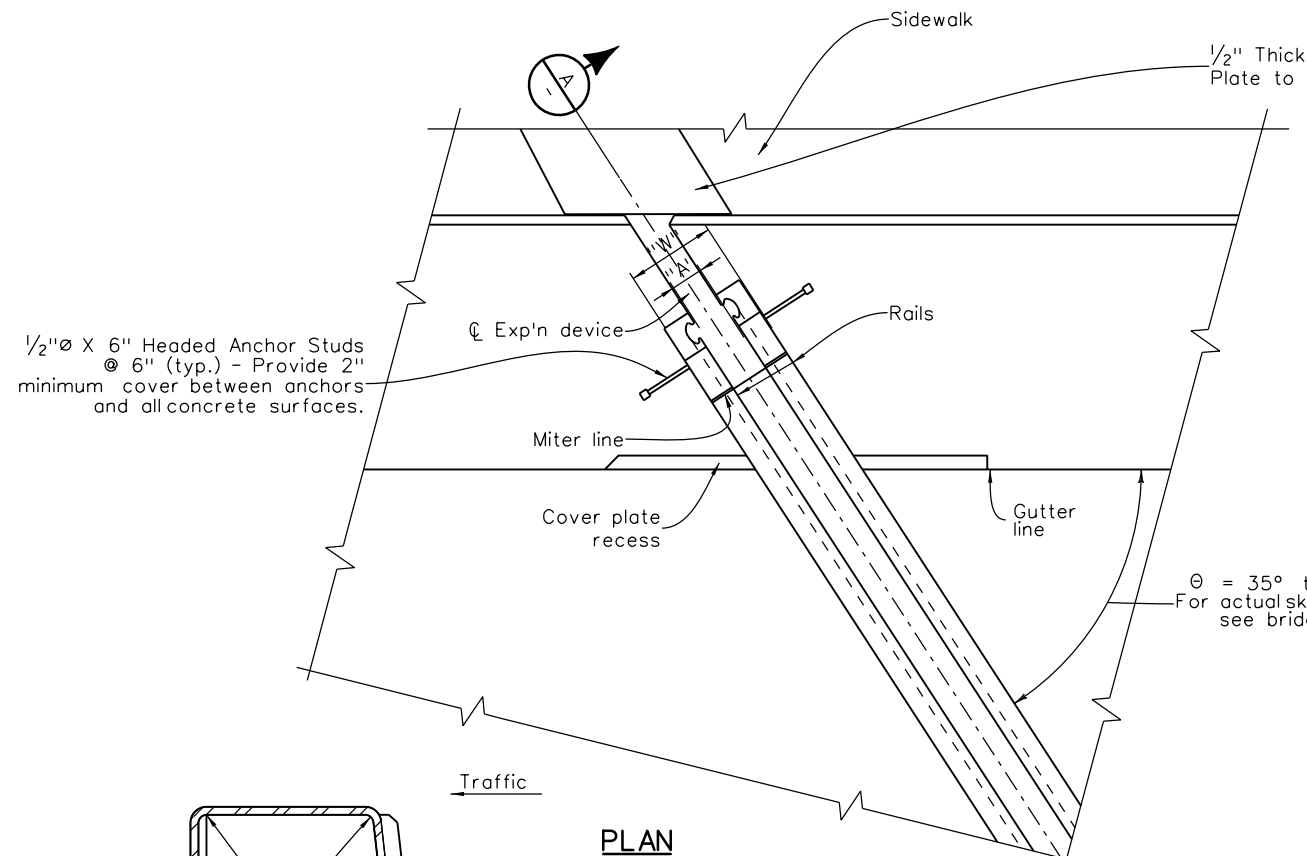
Sheet Revisions		
Date:	Comments	Init.

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Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

BRIDGE EXPANSION DEVICE (0-4 INCH) (1 of 3)			
Designer:	J. Bjorkquist	Structure Numbers	K-18-EP
Detailer:	J. Bjorkquist	Sheet Subset:	Bridge
Subset Sheets:	B08 of 10		

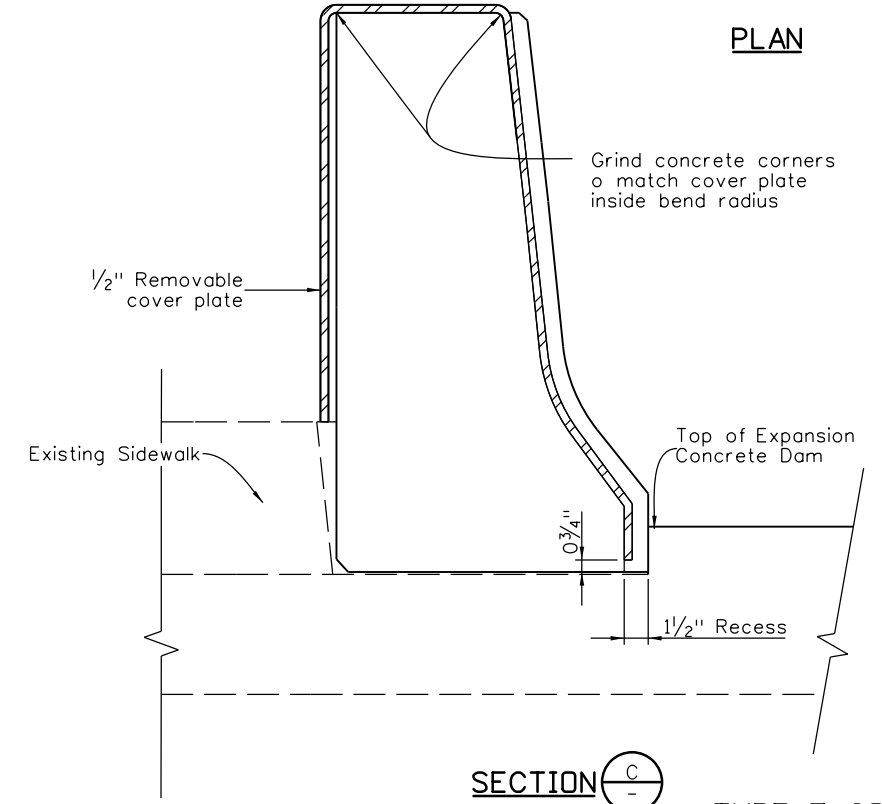
Project No./Code	STM SH45-001
20755	
Sheet Number	88



PLAN

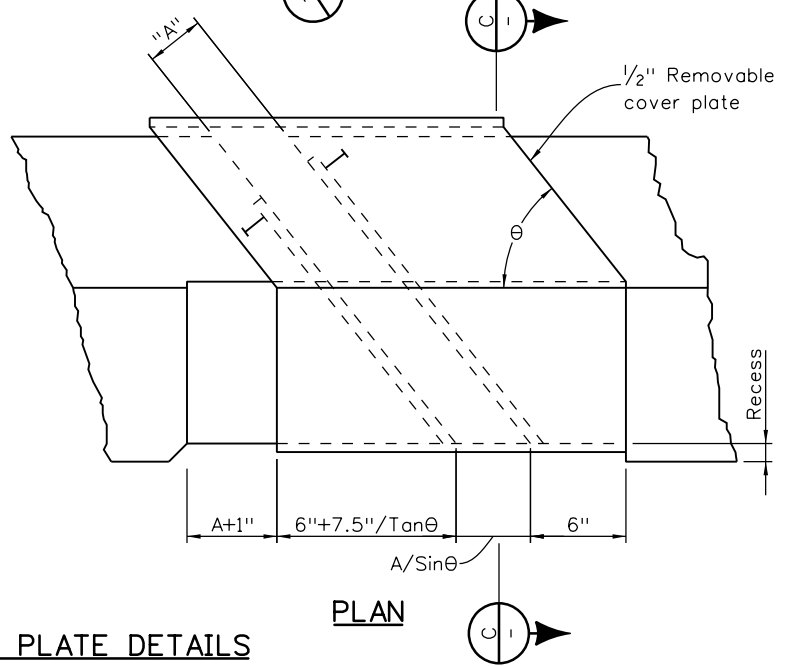
TYPE 7 RAIL DETAILS
(Cover plate not shown for clarity)

SECTION A-A

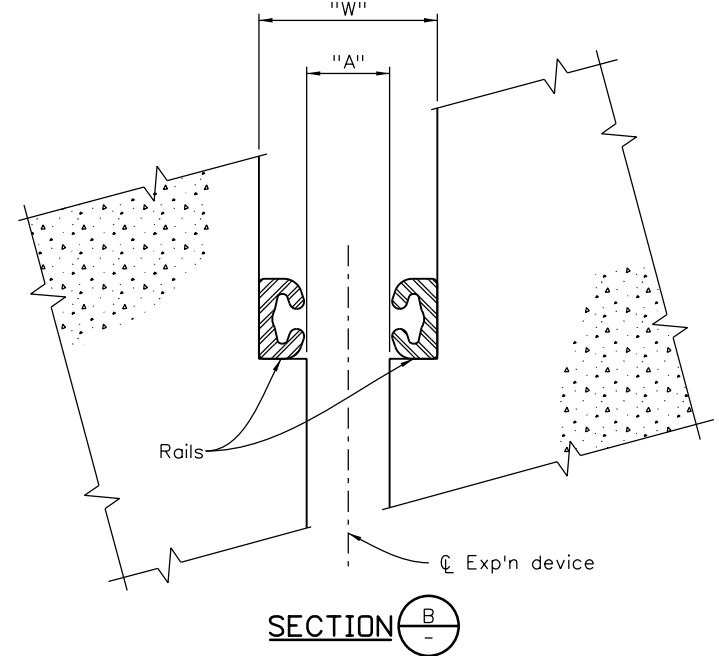


SECTION C-C

TYPE 7 COVER PLATE DETAILS
(Galvanize after fabrication)



PLAN



SECTION B-B

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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
JEB	12-16	JEB	12-16	JEB	12-16
DDG	12-16	DDG	12-16	DDG	12-16
Designed By		Detailed By		Checked By	
Checked By		Checked By		Checked By	

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
JEB	12-16	JEB	12-16	JEB	12-16
DDG	12-16	DDG	12-16	DDG	12-16
Designed By		Detailed By		Checked By	
Checked By		Checked By		Checked By	

Print Date: 2/15/2017	0000
File Name: 20755 09 Bridge Exp Device (0-4 Inch) (2 of 3).dgn	
Horiz. Scale: NTS Vert. Scale: As Noted	
Staff Bridge Branch - Unit 0226 Unit Leader DDG	

Sheet Revisions		
Date:	Comments	Init.

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Revised:
Void:

BRIDGE EXPANSION DEVICE WEST RAIL (0-4 INCH) (2 of 3)			
Designer:	J. Bjorkquist	Structure Numbers	K-18-EP
Detailer:	J. Bjorkquist	Subset Sheets:	B09 of 10
Sheet Subset:	Bridge		

Project No./Code	STM SH45-001
	20755
Sheet Number	89

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator shall update to reflect current project site conditions.

- A. **PROJECT SITE LOCATION:** The project is located between Mile Post 4.9 and 8.7 on SH 45 (Pueblo Blvd) in Pueblo, Colorado.
- B. **PROJECT SITE DESCRIPTION:** Work to include removal of asphalt mat (planning), concrete pavement (8 1/4 inch), full depth reclamation of hot mix asphalt (0-8"), shouldering, unclassified excavation (CIP), and expansion joints on structures
- C. **PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:** Project activities to include but not limited to, removal of asphalt mat (planning), concrete overlay, asphalt overlay, slope corrections, guardrail replacement, minor structure work, seeding, erosion control, and intersection signal work.
- D. **ACRES OF DISTURBANCE:**
 - 1. Total area of construction site (LOC (PERMITTED AREA)): 61 acres
 - 2. Total area of proposed disturbance (LDA): 22 acres
 - 3. Total area of seeding: 15 acres
 - 4. Total area of impervious surface: 37 acres
 - 5. Total area of NEW impervious surface: 0.12 acres
- E. **EXISTING SOIL DATA:** Soil Report is available at RE's Office
- F. **EXISTING VEGETATION, INCLUDING PERCENT COVER:**
During design the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the Erosion Control and Stormwater Quality Guide.

Pre-Construction Date of survey: _____ %Density: _____
Description of existing vegetation:
Map or table showing transect locations in SWMP notebook tab 17:

Post-Construction Date of survey: _____ %Density: _____
Description of existing vegetation: _____ **Date of CDPS-SCP Closure:** _____
Map or table showing transect locations in SWMP notebook tab 17:

G. **POTENTIAL POLLUTANTS SOURCES:** See First Construction Activities under Potential Pollutant Sources. The SWMP Administrator shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

- H. **RECEIVING WATER:**
 - 1. Outfall locations: Unnamed Tributaries (Arroyos)
 - 2. Names of receiving water(s) on site: Wildhorse Creek
 - 3. Ultimate receiving water: Arkansas River
 - 4. Horizontal distance nearest water of the state is from project: 0.50

- I. **NON-STORMWATER DISCHARGES ALLOWABLE:**
 - 1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:
 - a. the source is groundwater and/or groundwater combined with stormwater that does not contain pollutants
 - b. the source and BMPs/Control Measures are identified in the SWMP
 - c. discharges do not leave the site as surface runoff or to surface waters
 - d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost

to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25

CONTAMINATED:

- 2. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE. See standard special provision 250 Hazardous Waste and Contaminated Water.

2. SITE MAP COMPONENTS:

Pre-construction

- A. **PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES** [See SWMP Site Maps]
- B. **ALL AREAS OF GROUND SURFACE DISTURBANCE** [reference SWMP/Plan sheets where shown]
- C. **AREAS OF CUT AND FILL** [reference SWMP/Plan sheets where shown]
- D. **LOCATION OF NON-STRUCTURAL BMPs/CONTROL MEASURES AS APPLICABLE IN THE SWMP** [reference SWMP/Plan sheets where shown]
- E. **SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER** [reference SWMP/Plan sheets where shown]
- F. **AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS** [reference the SWMP/Plan sheets where shown, if known at time of design]

3. SWMP ADMINISTRATOR:

A. **SWMP ADMINISTRATOR FOR DESIGN:**

Name/Title	Contact Information

B. **SWMP ADMINISTRATOR FOR CONSTRUCTION:** (As defined in Subsection 208) The Contractor shall designate a SWMP Administrator for Construction upon ownership of the SWMP. The SWMP Administrator shall become the owner/operator and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03. The SWMP Administrator shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP administrator shall address all aspects of the projects SWMP. (Update the information below for each new SWMP Administrator) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

C. **EROSION CONTROL INSPECTOR:** (As defined in Subsection 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

Print Date: 3/7/2017	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Sheet Revisions			 Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD	As Constructed		SWMP CONSTRUCTION PLAN SHEET		Project No./Code	
File Name: 20755DES_SWMP.dgn		Date:	Comments	Init.		No Revisions:				STM SH45-001	
Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure Numbers	20755		
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Sheet Subset: SWMP	Subset Sheets: 1 of 5	Sheet Number 91	

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4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES

Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP notebook. All BMPs/Control Measures related to potential pollutants shall be shown on the SWMP site map by the Contractor's SWMP Administrator.

B. OFFSITE DRAINAGE (RUN ON WATER)

1. Describe and record BMPs/Control Measures on the SWMP site map that have been implemented to address off site run-on water in accordance with subsection 208.03.

C. VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL

1. BMPs/Control Measures shall be implemented in accordance with subsection 208.04.

D. PERIMETER CONTROL

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs/Control Measures as approved.
3. Perimeter control shall be in accordance with subsection 208.04

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator in accordance with subsection 208.

During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what section the discussion takes place.

A. **STOCKPILE MANAGEMENT:** Shall be done in accordance with subsection 107.25 and 208.07

B. **CONCRETE WASHOUT:** Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

C. **SAW CUTTING:** Shall be done in accordance with subsection 107.25, 208.04, 208.05

D. **STREET SWEEPING:** Shall be done in accordance with subsection 208.04

6. INSPECTIONS

A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP/CONTROL MEASURE MAINTENANCE

A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

A. Records shall be kept in accordance with subsection 208.03 (d).

9. INTERIM AND PERMANENT STABILIZATION

A. SEEDING PLAN

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free) and mulch tackifier will be required for an estimated 15 acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Black grama #	<i>Boutelous eriopoda</i>	2
Blue grama #	<i>Boutelous gracillis v. Hachita</i>	2
Galleta #	<i>Pleuraphis jamesii v. Viv</i>	5
Sideoats grama #	<i>Boutelous curtipendula</i>	4
Sand dropseed #	<i>Sporobulus cryptandrus</i>	0.5
Little bluestem	<i>Schizachyrium scoparium</i>	2
New Mexico feathergrass	<i>Hesperostipa neomexicana</i>	2
American vetch	<i>Vicia americana</i>	2
Scarlet gilia	<i>Ipomopsis aggregata</i>	2
Winterfat	<i>Krascheninnikovia lanata</i>	2
Fourwing saltbush #	<i>Atriplex canescens</i>	2.5
*Cover/Nurse Crop Oats or	<i>Avena sativa (Spring)</i>	3
*Cover/Nurse Crop Regreen	<i>Triticum aestivum (Spring or Fall)</i>	2
TOTAL		28-29

*Use either one depending on seeding period. # mgcl and salt tolerant from road surface.

B. **SEEDING APPLICATION:** Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil.

C. **MULCHING APPLICATION:** Apply a minimum of 1½ tons of certified weed free native hay per acre and in accordance with Section 212, and mechanically crimp it into the soil in combination with organic mulch tackifier.

1. Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier per subsections 208 and 213.

D. SPECIAL REQUIREMENTS:

1. Due to high failure rates, hydroseeding will not be allowed for permanent stabilization.

E. **SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:** Minimum requirements for all disturbances to receive seeding (native).

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cys/acre) (1/2 inch depth)
600	200	65


*Biological nutrient shall not exceed 8-8-8 (N-P-K). Humate based material shall be in accordance to Standard Special Provision 212 and compost shall be in accordance to Standard Special Provision 212. Refer to Project Special -Topsoil for additional topsoil amendments. [Include Topsoil Project Special] Placing compost when required to amend embankment and as soil conditioner may be combined as a single application.

F. **SOIL RETENTION COVERING:** On slopes and ditches requiring a blanket or turf reinforcement mat (trm), the blanket/trm shall be placed in lieu of mulch and mulch tackifier and placed after seeding (native). See SWMP site map for blanket/trm locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION

Prior to partial acceptance.

All seeded areas shall be reviewed during the 14 day inspections by the SWMP Administrator and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully

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Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure LEP		Numbers
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Sheet Subset: SWMP		Subset Sheets: 2 of 5

- erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
- The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas until Partial Acceptance of the stormwater construction work.

C. All storm drains shall be cleaned prior to the Final Acceptance of the project. Work shall be included in 202 Clean Culvert.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

- Partial Acceptance shall be in accordance with subsection 107.25 (d), 208.10 and 214.04 at the Partial Acceptance of the project, it shall be determined by the SWMP Administrator and the Engineer which temporary BMPs/Control Measures shall remain until 70% revegetation is established or which shall be removed.
- At the end of the project, all ditch checks shall either consist of temporary erosion logs (or equivalent) or permanent rip-rap.

BMP Matrix:

- M-Standards have been included along with standard BMP narratives. If a Non-Standard BMP will be used or the standard narrative does not apply, the SWMP Administrator shall write a Non-Standard BMP narrative, place an "X" in the column and complete a Non-Standard BMP Specification and Narrative for the SWMP notebook.
- The SWMP Administrator shall place an "X" in the column In Use on Site when the BMP/Control Measure has been installed.
- Place an "X" in the column BMP/Control Measure to be located by SWMP Administrator if the SWMP Administrator shall locate the BMP/Control Measure during construction. These BMP/Control Measures are not currently located on SWMP Plans but are anticipated to be used during construction (i.e. Vehicle Tracking Pad, Batch Plants, etc.). The SWMP Administrator shall locate these prior to or during construction and reflect on SWMP Map.
- Place an "X" in the column Installation BMP/Control Measure Pre-Construction if the BMP/Control Measure is to be installed prior to construction activity.


STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

11. NARRATIVES:

A. ADDITIONAL BMPS/CONTROL MEASURES AND NARRATIVES:


BMP/Control Measure details and narratives not covered by the SWMP or Standard Plan M-208, M-216 shall be added to the SWMP notebook by the SWMP Administrator.

APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD/NON-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						PRE-INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING TREES/LANDSCAPING <i>Fence (plastic)</i>	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of mature trees and/or existing landscaping prior to start of construction disturbances.					X	X	
CHECK DAM/DITCH CHECK <i>Erosion log, silt berm, silt dike, rock check dam</i>	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208						
CULVERT INLET/OUTLET PROTECTION <i>Erosion logs, aggregate bags</i>	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.	M-208				X	X	
STOCKPILE PROTECTION <i>Temporary berm, erosion logs, aggregate bags*</i>	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.	M-208					X	
PERIMETER CONTROL <i>Erosion logs, silt fence, temporary berm, topsoil windrow*</i>	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208				X	X	
EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208						
CONCRETE WASHOUT <i>In-ground or fabricated</i>	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	M-208				X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	M-208				X	X	
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.					X	X	
OTHER								

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NON-STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
 Erosion control devices are used to limit the amount of soil loss on site
 Sediment control devices are designed to capture sediment on the project site.
 Construction controls are BMPs/Control Measures related to construction access and staging.
 BMP/Control Measure locations are indicated on the SWMP site map.

APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
<i>TOPSOIL MANAGEMENT STOCKPILE/SALVAGE</i> <i>Windrow or stockpile</i>	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.							
<i>SURFACE ROUGHENING / GRADING TECHNIQUES</i> <i>Blading, Backhoe, Dozing, Combination Loader</i>	Temporary stabilization of disturbance and to minimize wind and erosion.						X	
<i>SEEDING (TEMPORARY)</i>	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.						X	
<i>BONDED FIBER MATRIX/HYDRAULIC MULCH</i>	Not to be used in areas of concentrated flows, i.e. ditch lines. To be used in combination with surface roughening for temporary stabilization of disturbed soils, when work is temporarily halted and as approved by the Engineer. May be used as surface cover for temporary topsoil stockpiles							
<i>MULCH/MULCH TACKIFIER</i>	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer						X	X
<i>SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)</i>	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer						X	X
<i>SEEDING PERMANENT (NATIVE)</i>	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.							X
<i>SOIL RETENTION BLANKET (SRB)</i>	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216						
<i>OTHER</i>								

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Horiz. Scale: 1:1 Vert. Scale: As Noted						Revised:	Designer: LEP	Structure Numbers	20755		
Unit Information Unit Leader DTD						Void:	Detailer: LEP	Sheet Subset: SWMP	Subset Sheets: 4 of 5	Sheet Number	94

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12. TABULATION OF STORMWATER QUANTITIES

- A. BMP/Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP/Control Measure maintenance shall be included in the cost of the BMP/Control Measure.
- B. It is estimated that 160 hours of labor, blading, dozing, combination loader, and/or backhoe may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Blading, 203 Dozing, 203 Combination Loader.
- C. Establishment of seeded areas shall be paid included in the price of the work. This shall include mowing, weed control, reseeding/mulch/tackifier.

SSP	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
SSP	203-01500	Blading	Hour	160			160
SSP	203-01510	Backhoe	Hour	160			160
SSP	203-01550	Dozing	Hour	160			160
PSP	203-01594	Combination Loader	Hour	160			160
SSP	203-02330	Laborer	Hour	80			80
SSP	208-00002	Erosion Log Type 2 (12 inch)	LF	5000			5000
SSP	208-00020	Silt Fence	LF	5000			5000
SSP	208-00035	Aggregate Bag	LF	150			150
SSP	208-00041	Rock Check Dam	Each	10			10
SSP	208-00045	Concrete Washout Structure	Each	4			4
SSP	208-00070	Vehicle Tracking Pad	Each	4			4

13. BIOLOGIC IMPACTS

A. ENVIRONMENTAL IMPACTS:

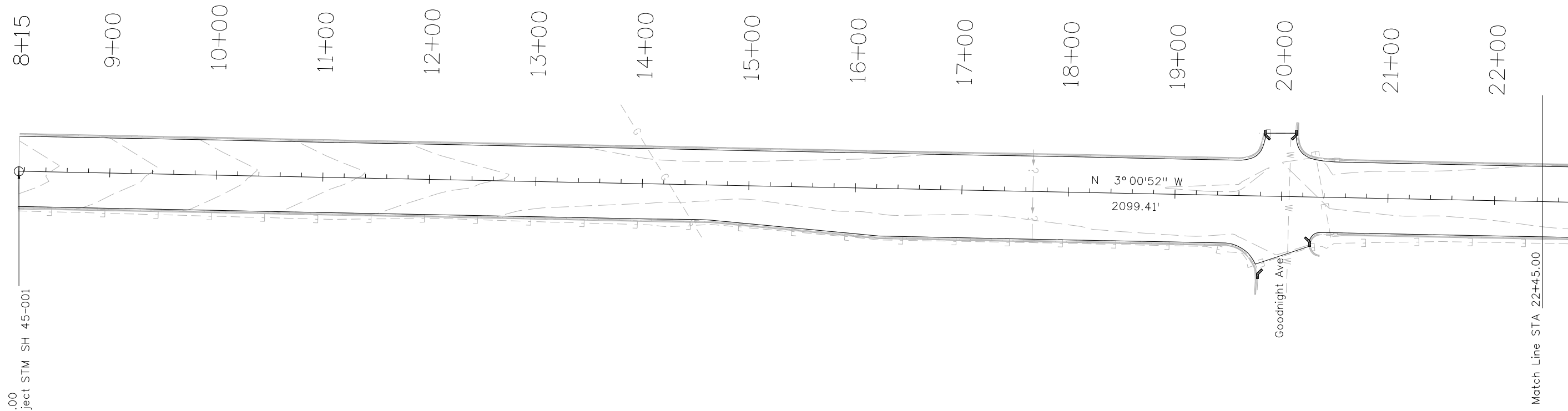
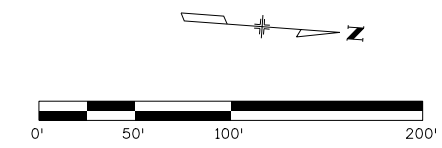
- 1. Wetland Impacts: NO
- 2. Stream Impacts: NO
- 3. Threatened and Endangered Species: TBD
- 4. If YES to any of the above items, are any permits required or additional actions needed (404, etc.) NO

14. NOTES

SSP	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
SSP	208-00103	Removal and Disposal of Sediment (Labor)	Hour	80			80
SSP	208-00105	Removal and Disposal of Sediment (Equipment)	Hour	80			80
SSP	208-00106	Sweeping (Sediment Removal)	Hour	80			80
SSP	208-00107	Removal of Trash	Hour	80			80
SSP	208-00207	Erosion Control Management (ECM)	Day	218			218
SSP	212-00006	Seeding (Native)	Acre	15			15
SSP	212-00032	Soil Conditioning	Acre	15			15
SSP	213-00002	Mulching (Weed Free Hay)	Acre	15			15
SSP	213-00012	Spray-on Mulch Blanket	Acre	30			30
SSP	213-00061	Mulch Tackifier	LB	3000			3000
SSP	607-11525	Fence (Plastic)	LF	300			300
PSP	700-70380	Erosion Control	FA	1			1

*It is anticipated that additional BMPs/Control Measures and BMP/Control Measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04. **Quantities for all BMPs/Control Measures shown above are estimated, and have been increased for unforeseen conditions and normal BMP/Control Measure life expectancy.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

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File Name: 20755DES_SWMP.dgn	Date:	Comments	Init.	 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2 DTD				No Revisions:		Designer: LEP		Structure Numbers		STM SH45-001	
Horiz. Scale: 1:1 Vert. Scale: As Noted			Revised:					Detailer: LEP						20755	
Unit Information Unit Leader DTD			Void:					Sheet Subset: SWMP		Subset Sheets: 5 of 5		Sheet Number 95			



STA 8+15.00
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Match Line STA 22+45.00

= Aggregate Bag (NTS)



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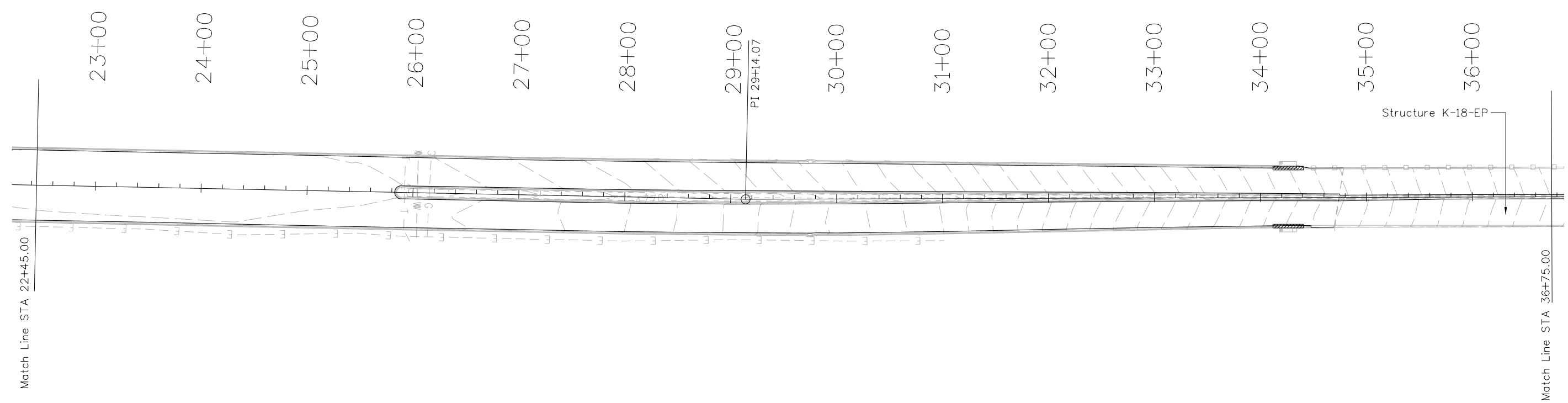
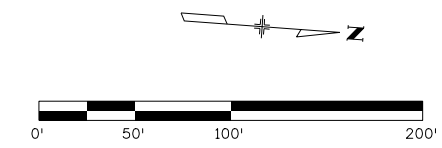
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	20755
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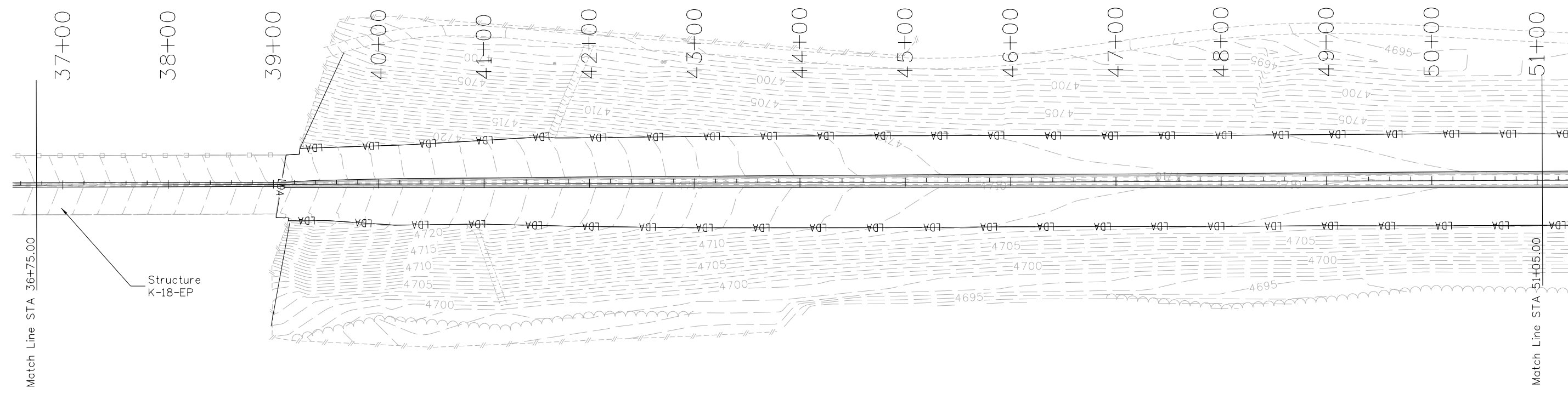
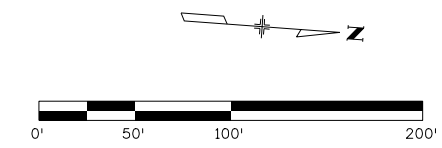


= Aggregate Bag (NTS)



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—LDA— = Limits of Disturbed Area

———— = Erosion Log Type 2 (12 inch)



**Know what's below.
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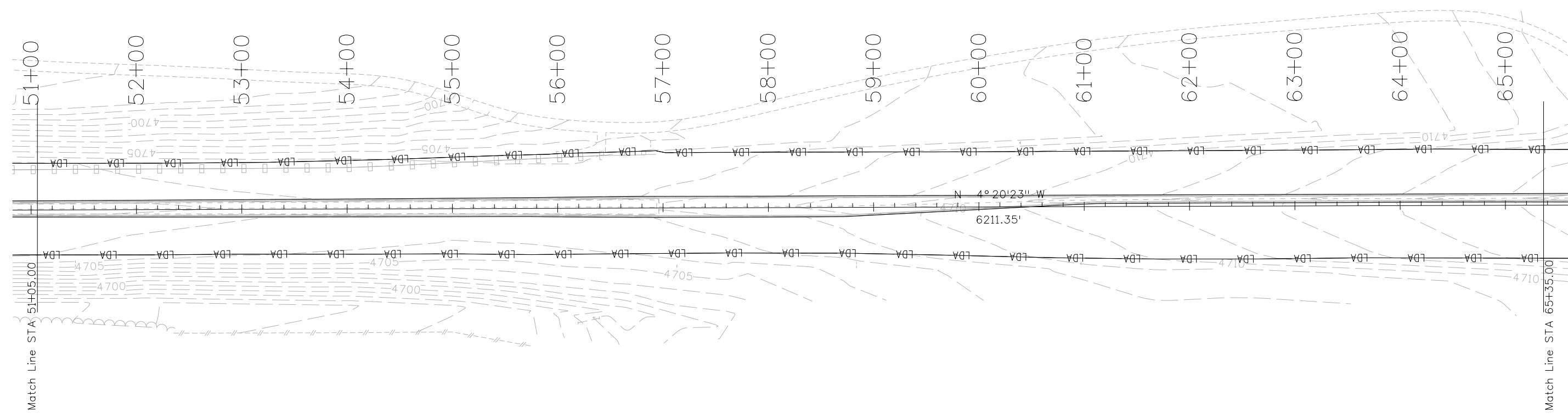
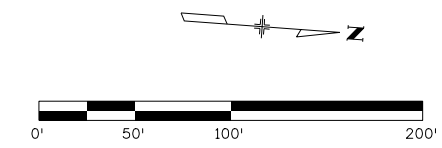
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Sheet Subset:	SWMP		

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—LDA— = Limits of Disturbed Area



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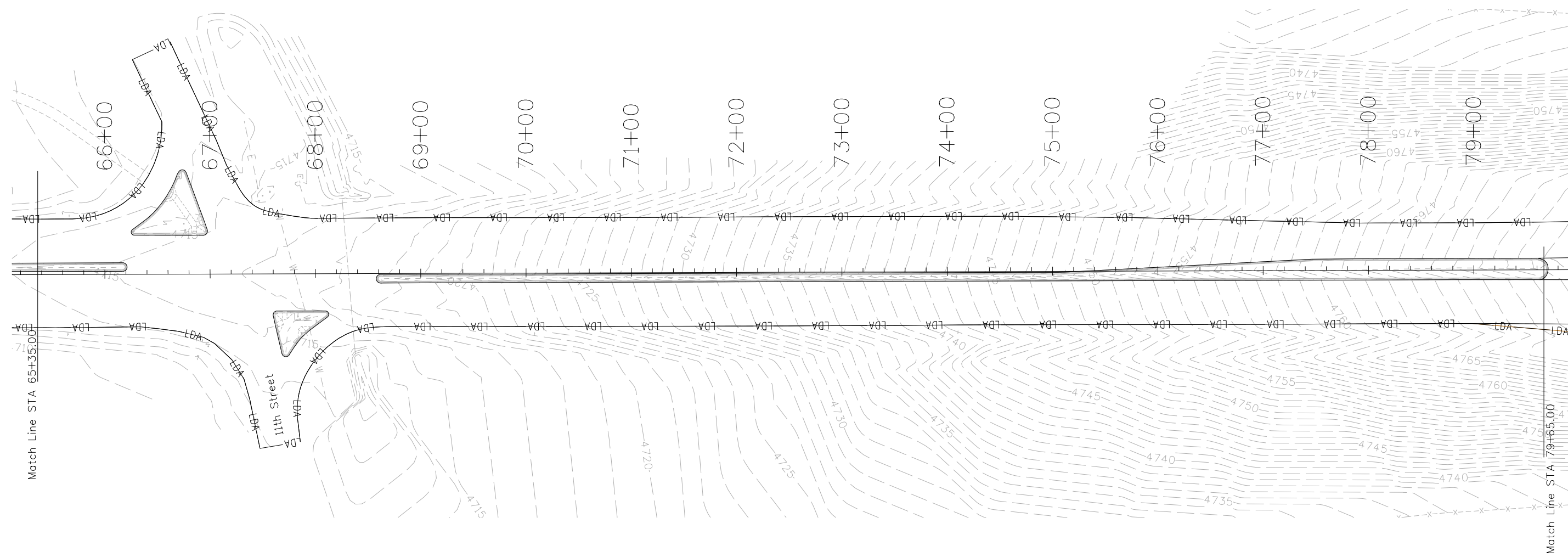
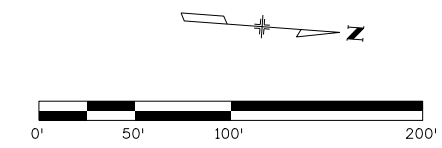
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—LDA— = Limits of Disturbed Area



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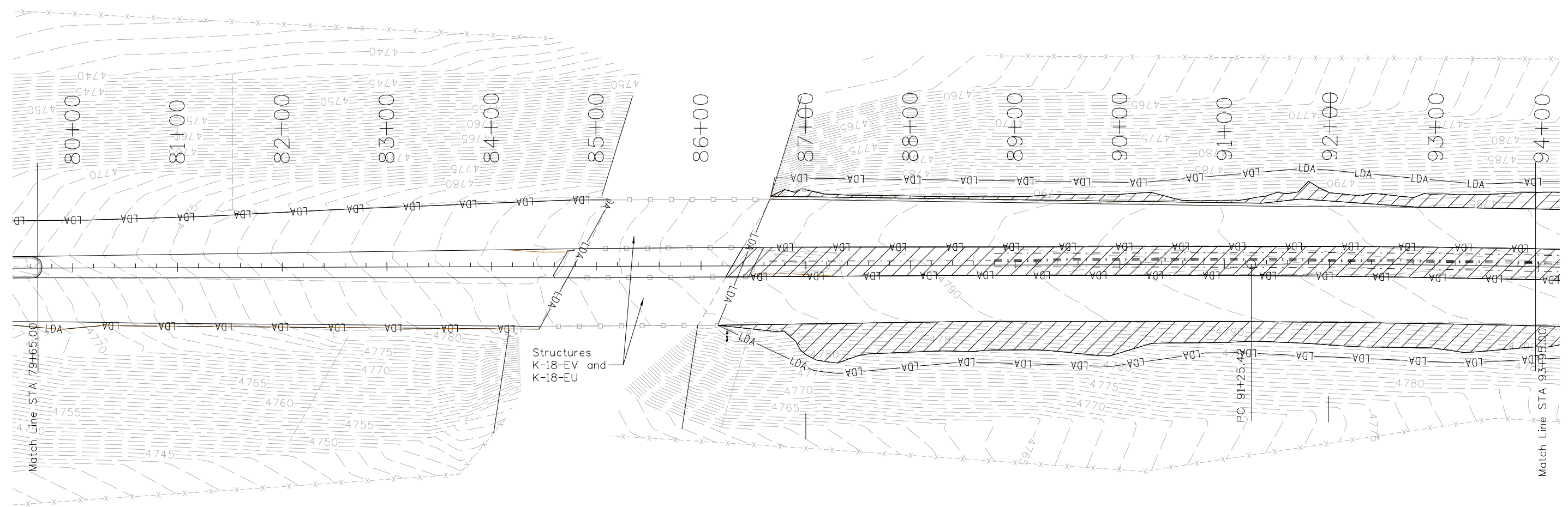
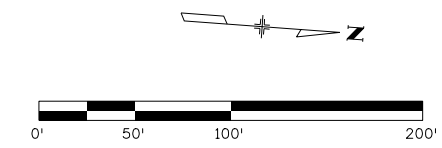
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- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
(for ditches, 25' at 500' spacing)
- = Seeding (Native)



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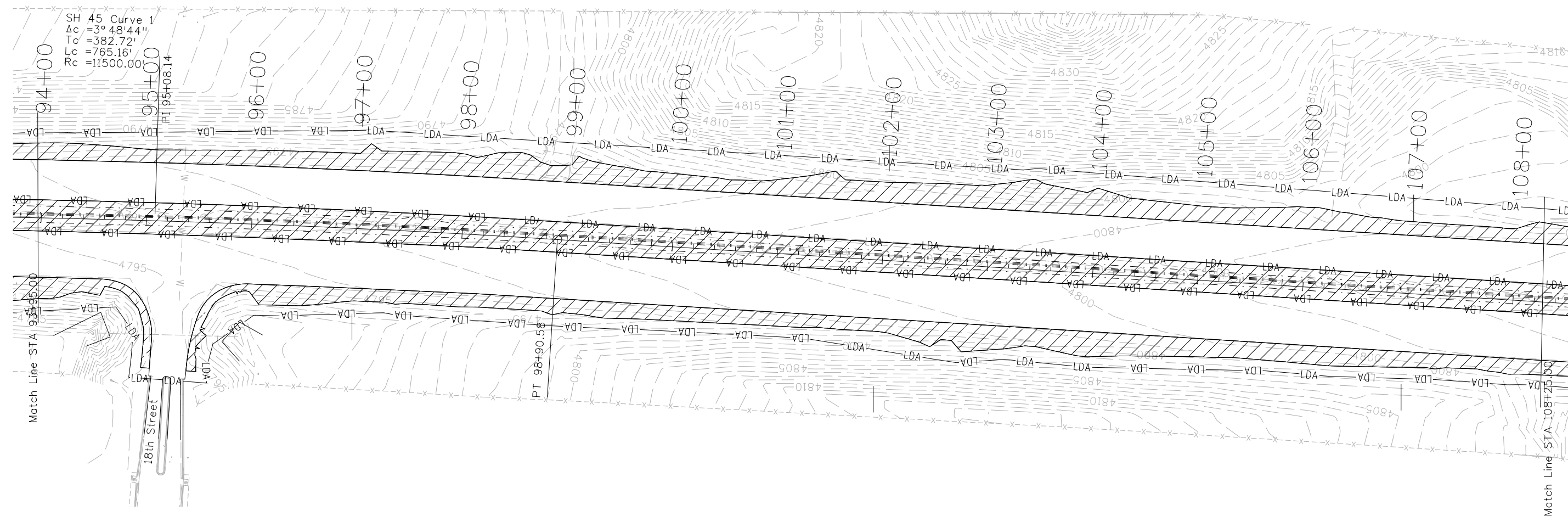
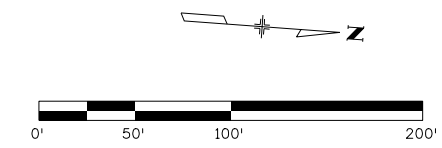
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- LDA = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
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- = Seeding (Native)



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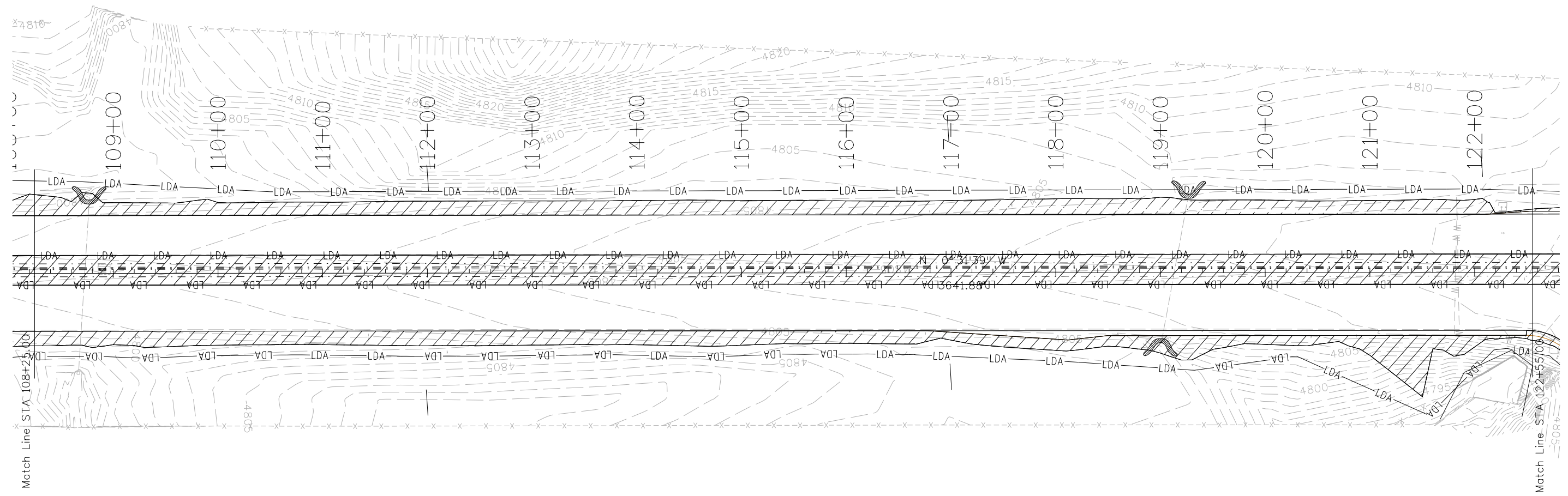
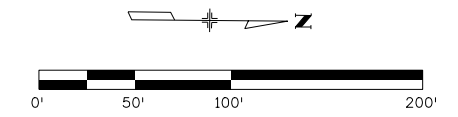
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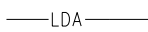

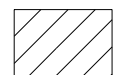
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20755
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-  = Erosion Log Type 2 (12 inch) for culvet protection
-  = Limits of Disturbed Area
-  = Erosion Log Type 2 (12 inch) (for ditches, 25' at 500' spacing)
-  = Seeding (Native)



Print Date: 2/22/2017
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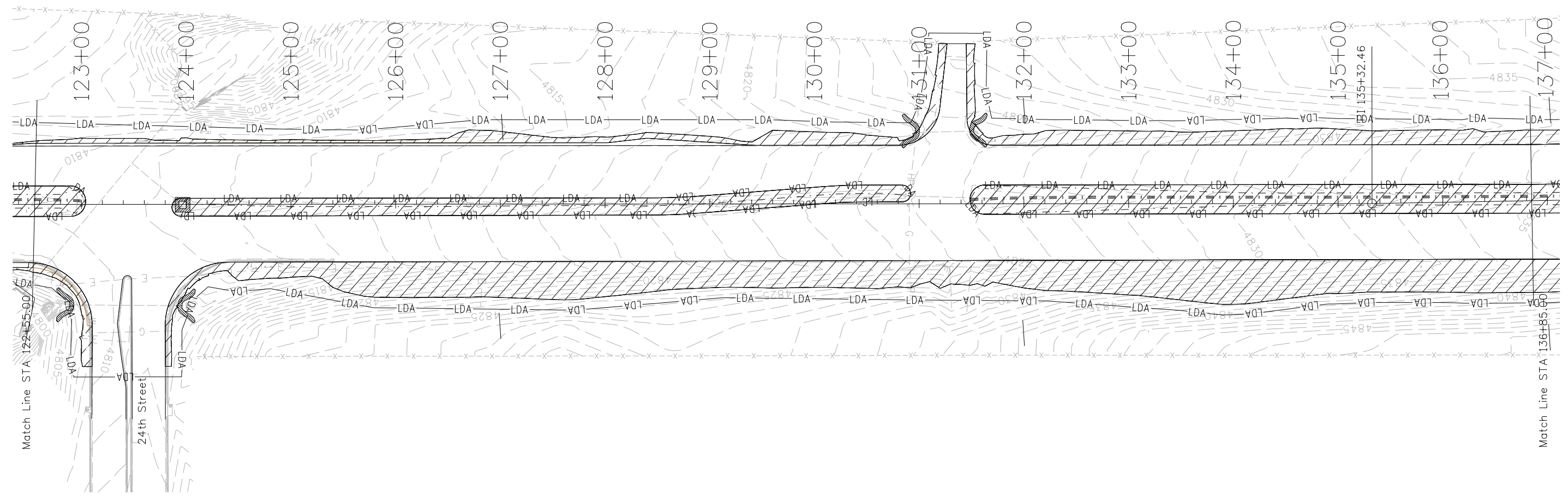
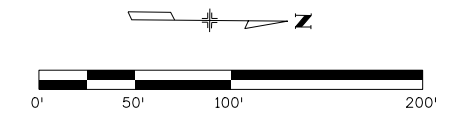
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Sheet Number 103

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- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
(for ditches, 25' at 500' spacing)
- = Seeding (Native)
- = Erosion Log (12 inch) for Inlet Protection
- = Erosion Log (12 inch) for Culvert Protection



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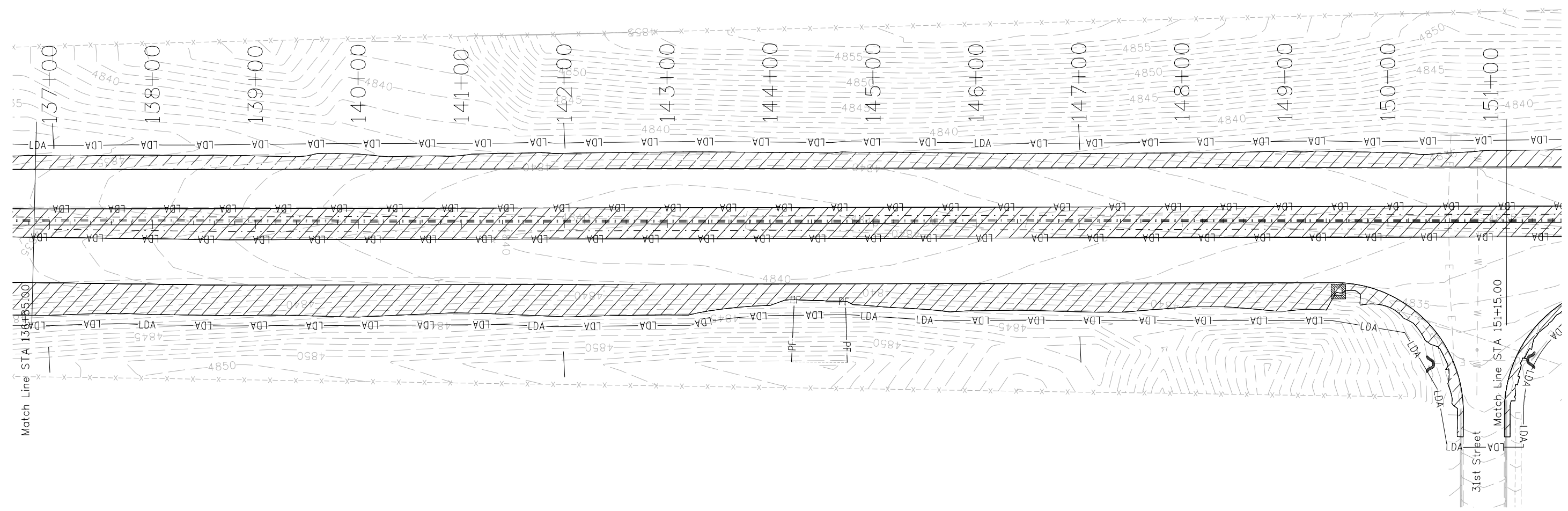
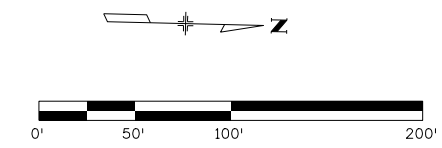
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

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- PF — PF — = Fence (Plastic)
- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
(for ditches, 25' at 500' spacing)
-  = Seeding (Native)
-  = Erosion Log (12 inch) for Inlet Protection
-  = Erosion Log (12 inch) for Culvert Protection



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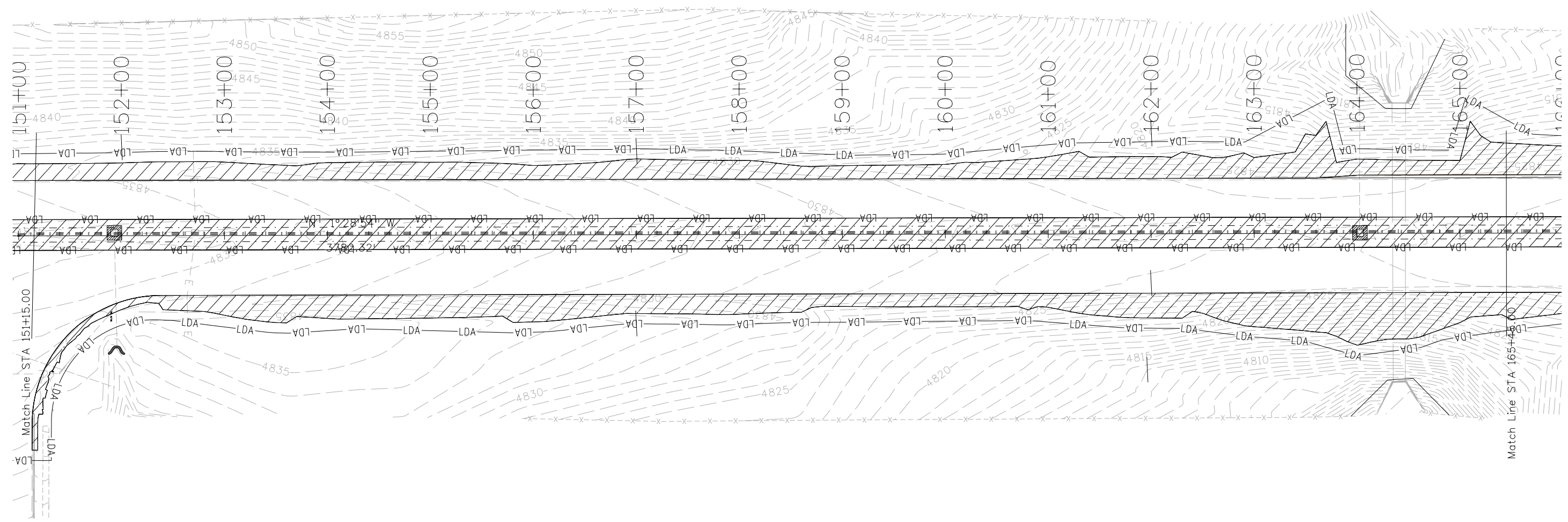
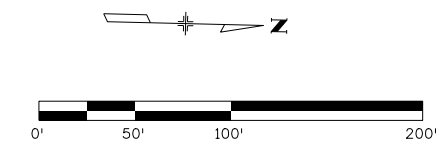
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- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
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- = Seeding (Native)
- = Erosion Log (12 inch) for Inlet Protection
- = Erosion Log (12 inch) for Culvert Protection



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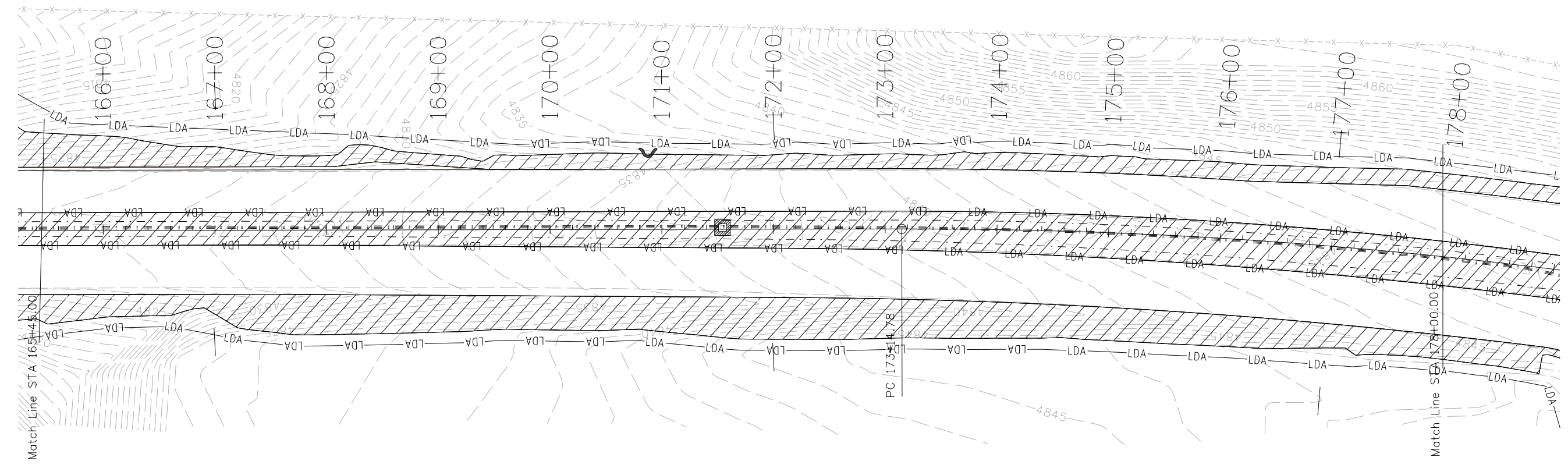
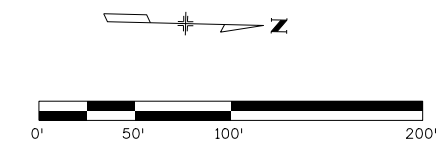
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- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
(for ditches, 25' at 500' spacing)
- = Seeding (Native)
- = Erosion Log (12 inch) for Inlet Protection
- = Erosion Log (12 inch) for Culvert Protection



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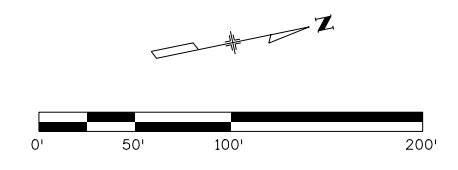
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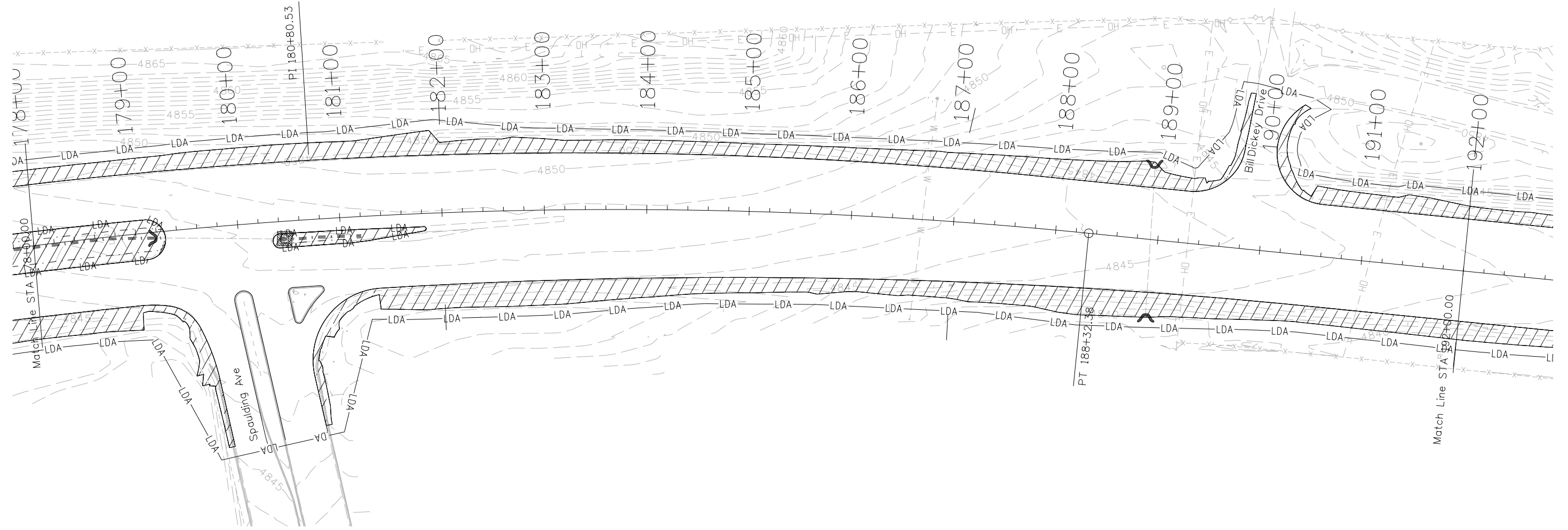
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SH 45 Curve 2
 $\Delta c = 18^\circ 54' 09''$
 $Tc = 765.76'$
 $Lc = 1517.60'$
 $Rc = 4600.00'$



- LDA = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch) (for ditches, 25' at 500' spacing)
- = Seeding (Native)
- = Erosion Log (12 inch) for Inlet Protection
- = Erosion Log (12 inch) for Culvert Protection



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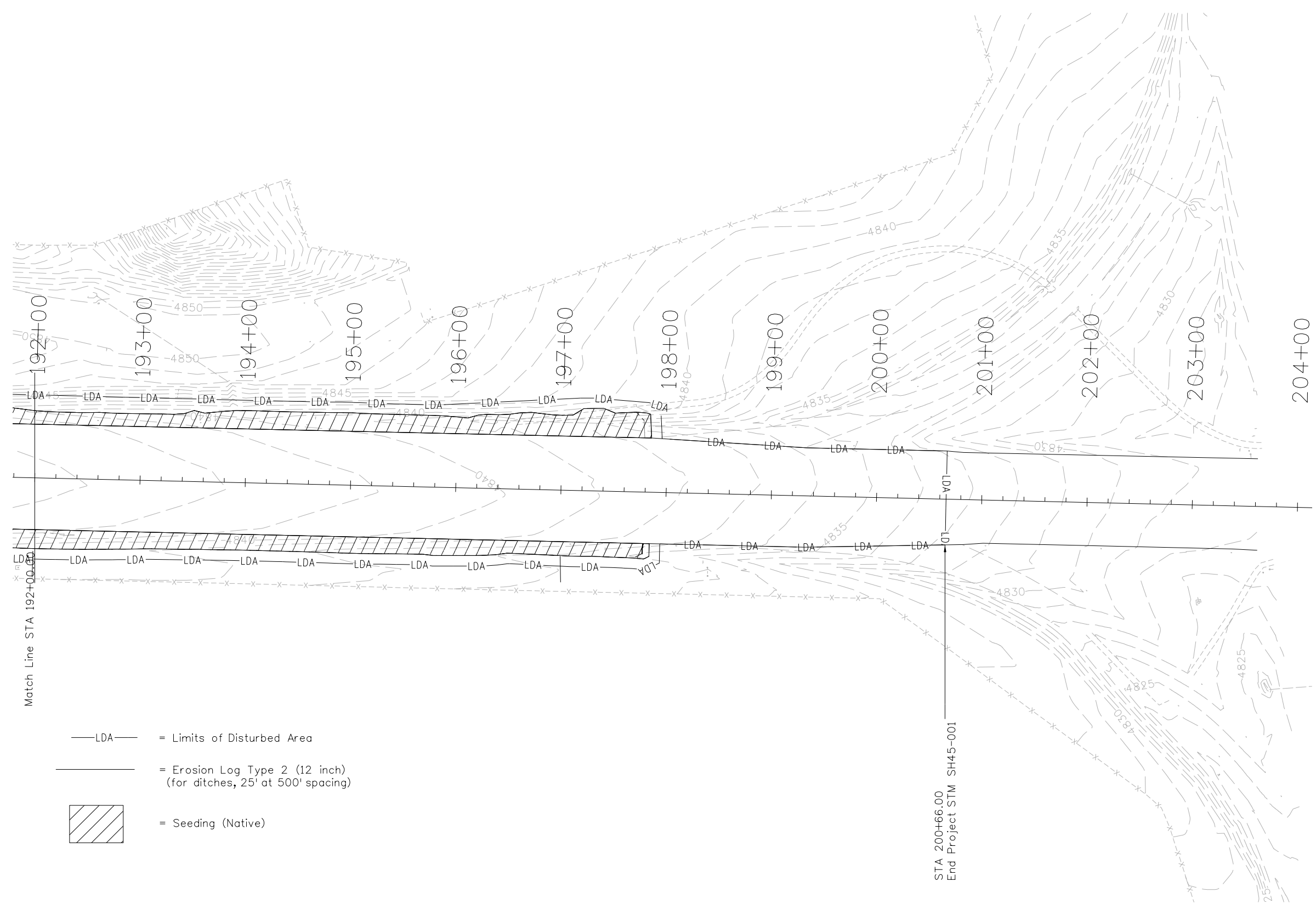
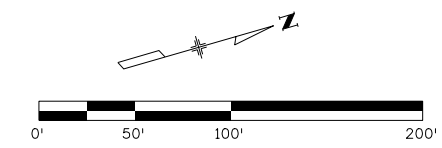
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- LDA — = Limits of Disturbed Area
- = Erosion Log Type 2 (12 inch)
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- = Seeding (Native)

STA 200+66.00
End Project STM SH45-001



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20755
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TABULATION OF TRAFFIC ENGINEERING ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
630-00000	Flagging	Hour	1600
630-00007	Traffic Control Inspection	Day	140
630-00012	Traffic Control Management	Day	80
630-80002	Flashing Beacon (Solar)	Each	40
630-80338	Barricade (Type 3 M-D)(Temporary)	Each	40
630-80341	Construction Traffic Sign (Panel Size A)	Each	108
630-80342	Construction Traffic Sign (Panel Size B)	Each	162
630-80343	Construction Traffic Sign (Panel Size C)	Each	8
630-80344	Construction Traffic Sign (Special)	SF	300
630-80355	Portable Message Sign Panel	Each	2
630-80358	Advance Warning Flashing or Sequencing Arrow Panel (C Type)	Each	4
630-80360	Drum Channelizing Device	Each	200
630-80363	Drum Channelizing Device (with light)(Flashing)	Each	30
630-80370	Concrete Barrier (Temp)	LF	2000
630-80380	Traffic Cone	Each	200
630-80384	Tubular Marker	Each	250
630-80391	Channelizing Device (Fixed)	Each	100
630-85010	Impact Attenuator (Temporary)	Each	4
630-85040	Impact Attenuator (Truck Mounted Attenuator)(Temporary)	Each	2
630-86800	Traffic Signal (Temporary)*	LS	1

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

SIGNS					
SIGN CODE	LEGEND	PANEL SIZE			
		A	B	C	Special
		EA	EA	EA	SF
	SPECIAL SIGNS (AS DETERMINED BY ENGINEER OR M&S STANDARDS)				300
W 20-1	ROAD/WORK/(DIST)		16		
W 20-3	ROAD/CLOSED/___ FT		8		
W 20-4	ONE LANE/ROAD/___ FT		8		
W 20-5(L)	() LANE/CLOSED/___ FT		8		
W 4-10	DETOUR ARROW (SYMBOL)	8			
W 20-7	FLAGGER (SYMBOL)		8		
W 4-2	LANE MERGE (SYMBOL)	4			
W 1-4b (L)	LANE SHIFT (SYMBOL)		4		
W 13-1p (XX)	XX/M.P.H.	4			
R 3-7b	ALL/TRAFFIC/MUST/EXIT		2		
E 5-2a	ROAD CLOSED	40			
W 1-8 (L) & (R)	ARROW (SYMBOL)		14		
G 20-1	ROAD/WORK/AHEAD		2		
W 6-3	TWO WAY TRAFFIC (SYMBOL)		10		
R 4-1	DO/NOT/PASS		10		
R 4-2	PASS/WITH/CARE		4		
R 4-7	KEEP RIGHT (SYMBOL)		6		
R 5-1	DO NOT/ENTER		40		
R 5-1a	WRONG/WAY	10			
R 11-2	ROAD/CLOSED		8		
R 11-3	ROAD CLOSED/XX MILES AHEAD/LOCAL TRAFFIC ONLY	2			
G 20-11	ROAD WORK/MMM YY-MMM-YY/FOR INFORMATION/555-5555-5555		2		
G 20-10	XYZ/CONSTRUCTION/THANKS YOU/555-555-5555		2		
R 52-6a	BEGIN/FINES/DOUBLE/IN WORK/ZONE			4	
G 20-5P	WORK ZONE	8			
R 2-1(XX)	SPEED/LIMIT/XX		18		
R 2-6P	FINES/DOUBLE	24			
R 52-6b	END/FINES/DOUBLE/IN WORK/ZONE			4	
TOTALS (For Information Only)		108	162	8	300

TABULATION OF PAVEMENT MARKINGS (For Information Only)

LOCATION	STATION/MP	DESCRIPTION	MODIFIED EPOXY PAVEMENT MARKING (LF)					PREFORMED THERMO- PLASTIC PAVEMENT								
			DOUBLE YELLOW SOLID	WHITE BROKEN	WHITE SOLID	YELLOW SOLID	WHITE BROKEN	WHITE SOLID	WHITE SOLID	WORD - SYMBOL	XWALK - STOPLINE					
												LANE	EDGE	DOTTED	CHANNEL IZING	CROSS HATCH
												4 INCH	4 INCH	4 INCH	4 INCH	4 INCH
SH 45	8+15 to 34+74.07	Overlay	2618	5144	5144	1772		1095		124	512					
SH 45	34+74.07 to 39+07.11	Structure K-18-EP		867	867	867										
SH 45	39+07.11 to 84+82.40	Rebuild	526	9035	9327	8675	2422	3915		447						
SH 45	84+82.40 to 86+30.00	Structure K-18-EV & Structure K-18-EU		295	295	295										
SH 45	86+30.00 to 197+83.55	FDR	1526	23990	22610	20060	7790	7870	39	472.5						
SH 45	197+83.55 to 200+66.00	Overlay	565	765	490			21								
	Other	See Traffic Plans								176	1006					
TOTAL (LF)			5235	40096	38733	31669	10212	12901	39							
TOTAL (SF)			3490	13365	12911	10556	3404	8601	26	1220	1518					
TOTAL (GAL)			78	38	144	118	13	96	1							

SUMMARY OF PAVEMENT MARKING QUANTITIES

PROJECT TOTALS	MODIFIED EPOXY PAVEMENT MARKING (INLAID) (GAL)		PREFORMED THERMOPLASTIC PAVEMENT MARKING (TYPE III) (SF)		PAVEMENT MARKING PAINT (WATERBORNE) (GAL)	
	YELLOW	WHITE	WORD - SYMBOL	XWALK - STOPLINE	YELLOW	WHITE
	8	196	292	1219.50	1518.00	1568

Approximate Number of Temporary Applications

* Span wire may be used with the Traffic Signals (Temporary) at the discretion of the Engineer. This shall not be paid for seperately, but shall be included in the cost of the item.

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File Name: 20755DES_TabTraffic Control.dgn

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Vert. Scale: As Noted

Unit Information

Unit Leader DTD

Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



902 Erie Avenue
Pueblo, CO 81001
Phone: 719-562-5509 FAX: 719-546-5702

Region 2

DTD

As Constructed

No Revisions:

Revised:

Void:

TABULATION OF TRAFFIC CONTROL DEVICES AND STRIPING

Designer:	LEP	Structure Numbers	
Detailer:	LEP		
Sheet Subset:	TRAF	Subset Sheets:	01 of 01

Project No./Code

STM SH45-001

20755

Sheet Number 110

Tabulation of Signing

Sign Number	Highway	Milepost	Direction	Location	Sign	Panel Size (in.)			Background Color	Legend	202-00810 remove sign	210-00815 reset panel	614-00011 class 1 sf	614-00012 class 2 sf	614-01573	
						W	x	H							P1	*
1	45	95+60	NB	RT	R6-1L	54	x	18	White	ONE WAY				6.75	1	z
			NB	RT	R1-2	48	x	48	Red	YIELD				16	1	z
	45		NB	RT	REMOVE				STOP (18TH STREET ONTO 45)	1						
2	45	120+86	NB	RT	REMOVE				SH 45 NORTH SIGN AT 24TH ST	1						
3	45	120+86	SB	RT	M3-3	36	x	18	White	SOUTH (DETAIL #1 SIGN A)				4.5	1	z
			SB	RT	M1-5A	36	x	36	White	SH 45 (DETAIL #1 SIGN B)				9	1	z
4	45	180+48	NB	RT	R5-1	36	x	36	RED	DO NOT ENTER SPAULDING NE LIGHT		1			1	
5	45	180+51	NB	RT	OM3-R	12	x	36	YELLOW	OBJECT MARKER AT SPAULDING NE LIGHT		1			1	
6	45	SWC	SB	RT	OM3-R	12	x	36	YELLOW	OBJECT MARKER AT 11TH STREET SW LIGHT			3		1	
7	45	NEC	SB	RT	OM3-R	12	x	36	YELLOW	OBJECT MARKER AT 11TH STREET NW LIGHT			3		1	
8	45	189+26	NB	RT	REMOVE				FRONTAGE ROAD	1						
9	45	189+41	NB	RT	REMOVE				JCT 50/45 CANON CITY	1						
10	45	190+75	SB	RT	REMOVE				FRONTAGE ROAD	1						
11	45	187+65	SB	RT	REMOVE				SOCIAL SECURITY ADMINISTRATION	1						
TOTALS											6	2	6	36	8	

Direction NB: Northbound
 Direction SB: Southbound
 Direction EB: Eastbound
 Direction WB: Westbound
 Location RHT: Right side of road
 Location LFT: Left side of road
 Location Med: Median
 Location T: Far side of T-intersection
 Color FYG: Fluorescent yellow-green

(1) The listed linear feet of steel sign posts are rough estimates of what will be required. Contractor must verify post lengths to meet CDOT M&S Standards for sign installation.

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Unit Information

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Sheet Revisions

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Colorado Department of Transportation



902 Erie Avenue
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Region 2

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As Constructed

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TABULATION OF SIGNING

Designer:	LEP	Structure Numbers	
Detailer:	LEP	Subset Sheets:	01 of 01
Sheet Subset:	TRAF		

Project No./Code

STM SH45-001

20755

Sheet Number 111


Tabulation of Traffic Items

Station		Side	Reset TV Cameras	Reset Microwave Vehicle Radar Detector (MVRD)	Drilled Caisson (18 Inch)	Drilled Caisson (36 Inch)	Drilled Caisson (48 Inch)	Drilled Caisson (54 Inch)	2 Inch Electrical Conduit (Bored)	3 Inch Electrical Conduit (Bored)	2 Inch Electrical Conduit (Plastic)	3 Inch Electrical Conduit (Plastic)	Type One Pull Box	Type Three Pull Box	Notes
From	To		EACH	EACH	LF	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	
66+85		LT			6									1	
66+89	67+59	LT							230	460					
66+89		LT		1			21								
67+04		RT		1		19								1	
67+04	67+66	RT							90	180					
67+41		LT	1			19					9	6		1	
67+45		LT			6										
67+59		LT			6										
67+66		RT	1	1			21								
174+39		RT											1		
174+39	180+60	RT							830	680					
178+92		LT		1				21						1	
178+02	180+45	LT							175	350					
179+34		RT												1	
180+45		RT	1					21						1	
180+60		LT	1					21			12			1	
Project Totals			4	4	18	38	42	63	1325	1670	21	6	1	7	

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 Region 2 DTD

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 Revised:
 Void:

TABULATION OF TRAFFIC DEVICES

Designer: LEP Structure Numbers
 Detailer: LEP
 Sheet Subset: TRAF Subset Sheets: 01 OF 02

Project No./Code
 STM SH45-001
 20755
 Sheet Number 112

Tabulation of Traffic Items															
Station		Side	Type Four Pull Box	Luminaire (LED)	Pedestrian Signal Face (16) (Countdown)	Traffic Signal Face (12-12-12) (Install Only)	Traffic Signal Face (12-12-12) (Install Only)	Pedestrian Push Button	Traffic Signal-Light Pole Steel (1-35 Foot Mast Arm)	Traffic Signal-Light Pole Steel (1-40 Foot Mast Arm)	Traffic Signal-Light Pole Steel (1-60 Foot Mast Arm)	Traffic Signal-Light Pole Steel (1-70 Foot Mast Arm)	Traffic Signal-Light Pole Steel (1-75 Foot Mast Arm)	Traffic Signal Pedestal Pole Aluminum	Notes
From	To		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
66+85		LT			1			1						1	
66+89	67+59	LT													
66+89		LT		1		3	1			1					
67+04		RT		1		2	1			1					
67+04	67+66	RT													
67+41		LT	1	1		2	1		1						
67+45		LT			1			1						1	
67+59		LT			1			1						1	
67+66		RT		1	1	3	1	1			1				
174+39		RT													
174+39	180+60	RT													
178+92		LT		1		3	2						1		
178+92	180+45	LT													
179+34		RT													
180+45		RT		1			3					1			
180+60		LT		1		3							1		
Project Totals			1	7	4	16	9	4	1	1	2	1	2	3	

Tabulation of ADA Items (For Info Only)										
Station		Side	Removal of Concrete Median Cover Material	Removal of Sidewalk	Removal of Curb and Gutter	Concrete Sidewalk	Concrete Curb Ramp	Curb Type 2 (Section B)	Median Cover Material (Concrete)	Notes
From	To		SY	SY	LF	SY	SY	LF	SF	
SWC		LT		3		3	8			Ramp 1
SW Island		LT	180	8	12	8	8	58	1620	Ramp 2 and Ramp 3
NWC		RT					23			Ramp 4 and Ramp 5
NE Island		RT	90	8	12	8	7	29	810	Ramp 6 and Ramp 7
122+30		LT						25		
124+20		LT						33		
Project Totals			270	19	24	19	46	145	2430	

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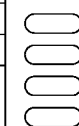
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Unit Information

Unit Leader DTD



Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



902 Erie Avenue
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Region 2

DTD

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TABULATION OF TRAFFIC DEVICES

Designer:	LEP	Structure Numbers	
Detailer:	LEP	Subset Sheets:	02 OF 02
Sheet Subset:	TRAF		

Project No./Code

STM SH45-001

20755

Sheet Number 113

Traffic Signal Notes

1. Traffic signal materials and installation shall comply with "State of Colorado -- 2011 Standard Specifications for Road and Bridge Construction", "State of Colorado -- M&S Standard Plans", the "Manual on Uniform Traffic Control Devices -- 2009 Edition", the "National Electric Code", and all local ordinances and regulations that apply, except as noted on these plans or special provisions.
2. Traffic signal pole locations shall be staked and potholed in the field by the contractor before drilling.
3. The top of the pole foundation shall be level with the finished grade. If the slope or shoulder drops off from finished grade, the contractor shall grade around pole foundation. The top of the foundation shall extend no more than 4 inches above surrounding grade.
4. Traffic signal pullboxes shall not be located in handicap ramps or asphalt pavement areas, or in locations where these features could possibly be constructed in the future.
5. All vehicle and pedestrian indications shall be approved solid state led countdown type. All vehicle indication shall be 12 inches. All pedestrian indications shall be 16 inches, clamshell mount type.
6. No excavation shall be permitted until underground utilities have been located to the satisfaction of all parties. The contractor shall be responsible for protecting all aerial and underground utilities. Contact the Utility Notification Center of Colorado (UNCC) to have locations of UNCC registered lines marked by member companies. Calls originating outside the Denver area use 1-800-922-1987. All other utilities shall be located by contacting the respective company. For locating CDOT utilities contact Tony Kerr (719) 251-4201.
7. All items not shown in the summary of quantities shall be considered incidental to the installation of traffic signals and will not be paid for separately. Payment will be made only for items on the pay item list upon completion of the work shown on these plans, the contractor shall supply as-built drawings, corrected plans, and other data required by the engineer. The production of these documents will not be paid for separately, but shall be included in the cost of the work.
8. All signal head housing shall be black in color.
9. All signal lenses shall be LED type.
10. All mast-arm mounted heads will have black louvered aluminum back plates with 1" yellow retroreflective borders and astro type mounting brackets.
11. A pre-construction meeting shall be held prior to any work. All submittals shall be due prior to the pre-construction meeting to allow time for review and revisions. CDOT personnel shall be included in the preconstruction meeting, and shall be notified 5 working days in advance of the meeting.
12. Caissons shall be built so that the bolt pattern shall be in the correct position for mounting the poles.
13. A licensed journeyman electrician shall be present at each construction site for all electrical work including the installation of all conduit.
14. All electrical conduit shall be buried a minimum of 30 inches deep. All fiber conduit shall be buried a minimum of 36 inch deep.
15. Utility lines as shown on the plans sheets are approximate only. The contractor shall field verify the exact location of all existing utilities prior to commencing work and agrees to be responsible for any and all damages which occur by the contractor's failure to exactly locate and preserve any underground utilities.
16. Prior to ordering the signal poles and mast arms the contractor shall pothole the existing utilities by the use of non-invasive vacuum extraction methods to verify the exact location and depth of these facilities and that the signal pole foundations can be installed without damage to the existing utilities or relocation of these facilities. It is estimated that 20 hours of potholing will be required.
17. Any facilities damaged during the course of signal conduit construction shall be restored to original or better condition at the contractor's expense. All costs incidental to the foregoing requirements will not be paid separately, but shall be incidental to the work.
18. Excavated materials, including boulders, shall be removed off site from the work site and disposed of at no cost to the project. Any hazardous material shall follow Section 250 of CDOT Standard Specifications for Road and Bridge Construction.

19. Contractor shall complete all work necessary for operation of the system and shall contact CDOT Region 2 Traffic Operations to schedule a compliance inspection. Upon completion of the inspection, field operational testing shall begin. The complete traffic system shall be fully operational, and fully tested, and appropriate markings shall be in place, prior to the signal being turned on. This time shall typically be Tuesday, Wednesday or Thursday during an off-peak traffic period.
20. Contractor shall notify CDOT at least two weeks prior to signal being placed in flash mode to coordinate signal activation.
21. CDOT must be notified 48 hours prior to signal being turned on for full operation.
22. Traffic sign panels on the signal mast arms shall be installed with astro type mounting brackets.
23. All splicing of conductors shall be done in the hand holes of signal poles. No electrical splices will be allowed under ground or in pull boxes.
24. Traffic signal heads mounted on the side of poles shall be drilled and taped.
25. Signal heads not in operation shall be bagged until operation. Bagging shall cover any backplate border and shall not be black, red, or green. Bagging will not be measured and paid for separately but shall be included in the work.
26. Upon completion of the work, the Contractor shall supply CDOT with 2 sets of record drawings, corrected plans, and any other additional data required by the Engineer.
27. Prior to flash operations, the Contractor will be required to have final stop bars installed.
28. Underground Feeder, UF, cable will not be allowed for luminaire installation. Only THHN will be acceptable for underground luminaire wiring. The Contractor shall follow M-613-1 standard, Typical Concrete Light Standard Foundation for luminaire wiring up the pole.
29. Traffic signal poles, pedestal poles, and luminaire arms shall be color powder coated and incidental to the work.

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Print Date: 2/10/2017	0000	Sheet Revisions			 Colorado Department of Transportation 905 Erie Avenue Pueblo, CO 81002 Phone: 719-546-5751 FAX: 719-546-5414 Region 2 MJ	As Constructed	TRAFFIC GENERAL NOTES			Project No./Code
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Horiz. Scale: 1:50 Vert. Scale: As Noted						Revised:	Designer: MONDRAGON	Structure		20755
Unit Information Unit Leader Initials						Void:	Detailer: MONDRAGON	Numbers		Sheet Number 114
					Sheet Subset: TRAFFIC	Subset Sheets:				

CONSTRUCTION TRAFFIC CONTROL NOTES

1. It is the intent of the Traffic Control Notes to convey to the Contractor the general, but essential, design elements required to construct the project. Other mini-phases (not indicated in the notes) using daytime temporary lane closures may be necessary to construct the proposed improvements. The Contractor shall submit to CDOT for review and approval, a Method of Handling Traffic (MHT) conforming to the CDOT's Standard Specifications for Road and Bridge Construction and M&S Standards two weeks prior to related construction activity.
2. All construction traffic control shall conform to the Manual on Uniform Traffic Control Devices, 2009 Edition (MUTCD), and applicable standards in the 2011 Colorado Department of Transportation Standards and Specifications for Road and Bridge Construction and the July 2012 Colorado Department of Transportation Standard Plans M&S Standards.
3. Refer to CDOT M&S Standard Plan S-630-1, revised December 8, 2014, for Standard Traffic Control Cases that will be required to implement phases and other traffic control conditions. All traffic control devices shall be placed in accordance with the construction traffic control plans, the MUTCD, and CDOT M&S Standard Plan S-630-1.
4. The Contractor shall bear responsibility and expense for maintaining adequate drainage and safe driving conditions at all times. This work shall not be paid for separately but shall be included in the cost of related work.
5. Appropriate advance warning signs shall be placed as needed. These shall be shown in the MHT to be approved by the Engineer.
6. 11' minimum width for thru lanes and 10' minimum width for turn lanes shall be maintained unless approved by the Engineer.
7. A minimum shoulder width of 2 feet shall be provided between the channelizing device and edge of travel lane at all times.
8. Open excavations within the clear zone shall not be allowed unprotected when construction work is not in progress (including overnight, weekends, and holidays). Method(s) of protecting excavations (i.e. metal plates or concrete barrier) from vehicles and pedestrians shall be approved by the Engineer. The cost of protecting excavations will not be measured and paid for separately but shall be included in the work.
9. Contractor shall maintain safe and reasonable access to private properties at all times, unless otherwise approved by the Engineer and the property owner in writing.
10. Removal of temporary pavement markings for temporary lanes will not be paid for separately but shall be included in the cost of pavement marking paint. Paint removals must be disposed of properly off-site.
11. All pavement markings shall be in full compliance at the end of each work day.
12. Existing signs in conflict with the temporary lanes shall be covered or reset as conditions require for each construction phase and as directed by the engineer. Masking of existing signs, including the covering materials and fastening devices, will not be measured and paid for separately but shall be included in the cost of the work.
13. The Contractor shall refer to Traffic Control Plan – General for work hour and lane closure restrictions.



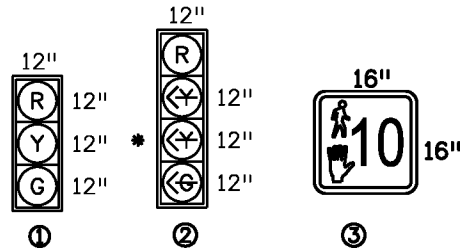
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Call before you dig.**

Print Date: 2/10/2017 File Name: 20755TRAF_Traffic_Notes.dgn Horiz. Scale: 1:50 Vert. Scale: As Noted Unit Information Unit Leader Initials		Sheet Revisions <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Date:</th> <th style="width: 55%;">Comments</th> <th style="width: 30%;">Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date:	Comments	Init.													Colorado Department of Transportation 905 Erie Avenue Pueblo, CO 81002 Phone: 719-546-5751 FAX: 719-546-5414 Region 2 MJ	As Constructed No Revisions: Revised: Void:	CONSTRUCTION TRAFFIC CONTROL NOTES Designer: MONDRAGON Structure Numbers: . Detailer: MONDRAGON Subsets: . Sheet Subset: TRAFFIC Subset Sheets:	Project No./Code STM SH45-001 20755 Sheet Number 115
Date:	Comments	Init.																			

LEGEND

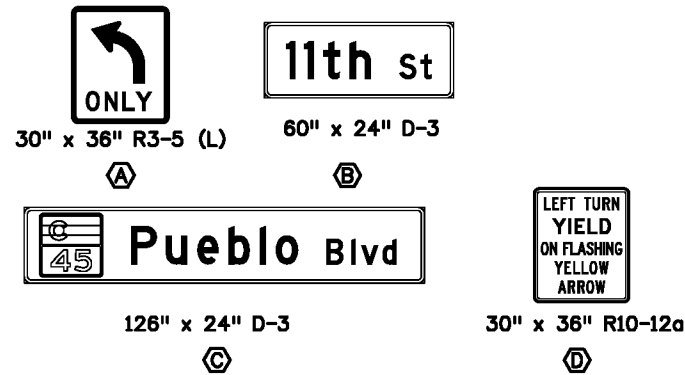
- SIGNAL POLE WITH MAST ARM
- SIGNAL HEAD INSTALL ONLY
- SIGNAL HEAD WITH BACKPLATE INSTALL ONLY
- PEDESTRIAN SIGNAL FACE
- PEDESTRIAN PUSH BUTTON
- TRAFFIC SIGNAL CONTROLLER
- TRAFFIC SIGNAL PEDESTAL POLE
- PULL BOX
- LUMINAIRE
- MAST ARM MOUNTED SIGN
- CAISSON
- VEHICLE DETECTOR CAMERA TO BE RESET
- MICROWAVE VEHICLE RADAR
- DETECTOR TO BE RESET
- PED. PUSH BUTTON POST ASSEMBLY

SIGNAL FACES



* INDICATES FLASHING LIGHT

SIGNS



NOTE:
 1. REMOVAL OF ALL EXISTING TRAFFIC SIGNALIZATION AND THEIR APPURTENANCES, INCLUDING BUT NOT LIMITED TO SIGNAL POLES, MAST ARMS, PULL BOXES, CAISSONS UP TO 1' BELOW GRADE, WIRING, ETC. SHALL BE INCIDENTAL TO INSTALLATION AND WILL NOT BE PAID FOR SEPARATELY.
 2. ALL RESET UNITS SHALL BE PROTECTED AND BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF PROJECT.

EXISTING CABINET TO REMAIN
 INSTALL TYPE 4 PULL BOX (1 EA)
 CONTRACTOR SHALL RE-TERMINATE FIBER LATERAL INTO EXISTING SIGNAL CABINET

INSTALL TYPE 3 PULL BOX (1 EA)

INSTALL TYPE 3 PULL BOX (1 EA)

1-2" & 2-3" TRAFFIC CONDUIT (90 LF)

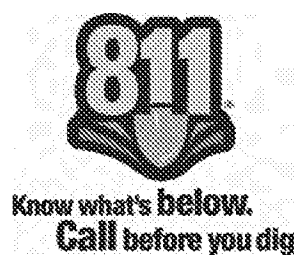
INSTALL TYPE 3 PULL BOX (1 EA)

1-2" & 2-3" TRAFFIC CONDUIT (90 LF)

INSTALL TYPE 3 PULL BOX (1 EA)

SIGNAL POLE SCHEDULE						
NO.	BASE LOCATION	COORDINATES	MAST ARM	LUMIN SPECIAL LED	SIGNAL/ PED HEAD [S]	CAISSON WIDTH DEPTH
1	NWC	(587785.05, 241083.03)	35'	105W	1,2,1	36" 19'-0"
2	NWC	(587788.58, 241087.98)	N/A		3	18" 6'-0"
3	NWC	(587803.53, 241094.17)	N/A		3	18" 6'-0"
4	NEC	(587819.32, 241202.88)	60'	105W	2,1,1,1,3	48" 21'-0"
5	SEC	(587758.20, 241238.37)	40'	105W	1,2,1	36" 19'-0"
6	SWC	(587737.30, 241125.96)	60'	105W	1,1,1,2	48" 21'-0"
7	SWC	(587731.05, 241122.86)	N/A		3	18" 6'-0"

FOR INFORMATION ONLY



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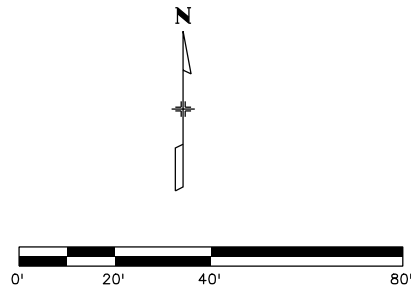
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 905 Erie Avenue
 Pueblo, CO 81002
 Phone: 719-546-5751 FAX: 719-546-5414
 Region 2 MJ

As Constructed
No Revisions:
Revised:
Void:

SIGNAL PLAN W. 11TH ST.			
Designer:	MONDRAGON	Structure	
Detailer:	MONDRAGON	Numbers	
Sheet Subset:	TRAFFIC	Subset Sheets:	

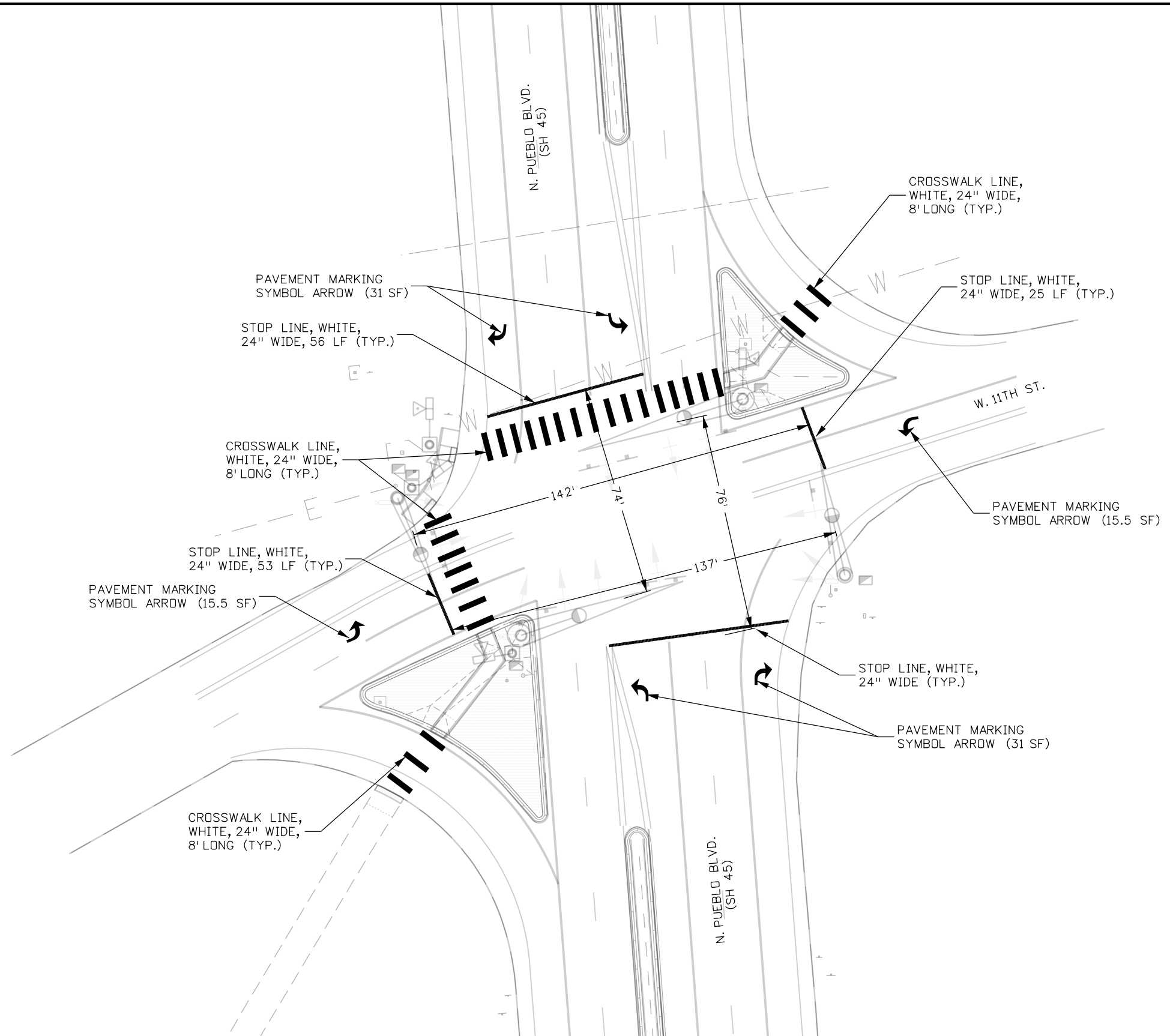
Project No./Code
STM SH45-001
20755
Sheet Number 116

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TABULATION OF PAVEMENT MARKINGS

PREFORMED THERMOPLASTIC (SF)	
WORD - SYMBOL	XWALK - STOPLINE (INLAID)
93	732



**Know what's below.
Call before you dig.**

Print Date: 2/9/2017	0000
File Name: 20755TRAF_STRIPING11th.dgn	
Horiz. Scale: 1:40 Vert. Scale: As Noted	
Unit Information Unit Leader Initials	

Sheet Revisions		
Date:	Comments	Init.

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Region 2 **MJ**

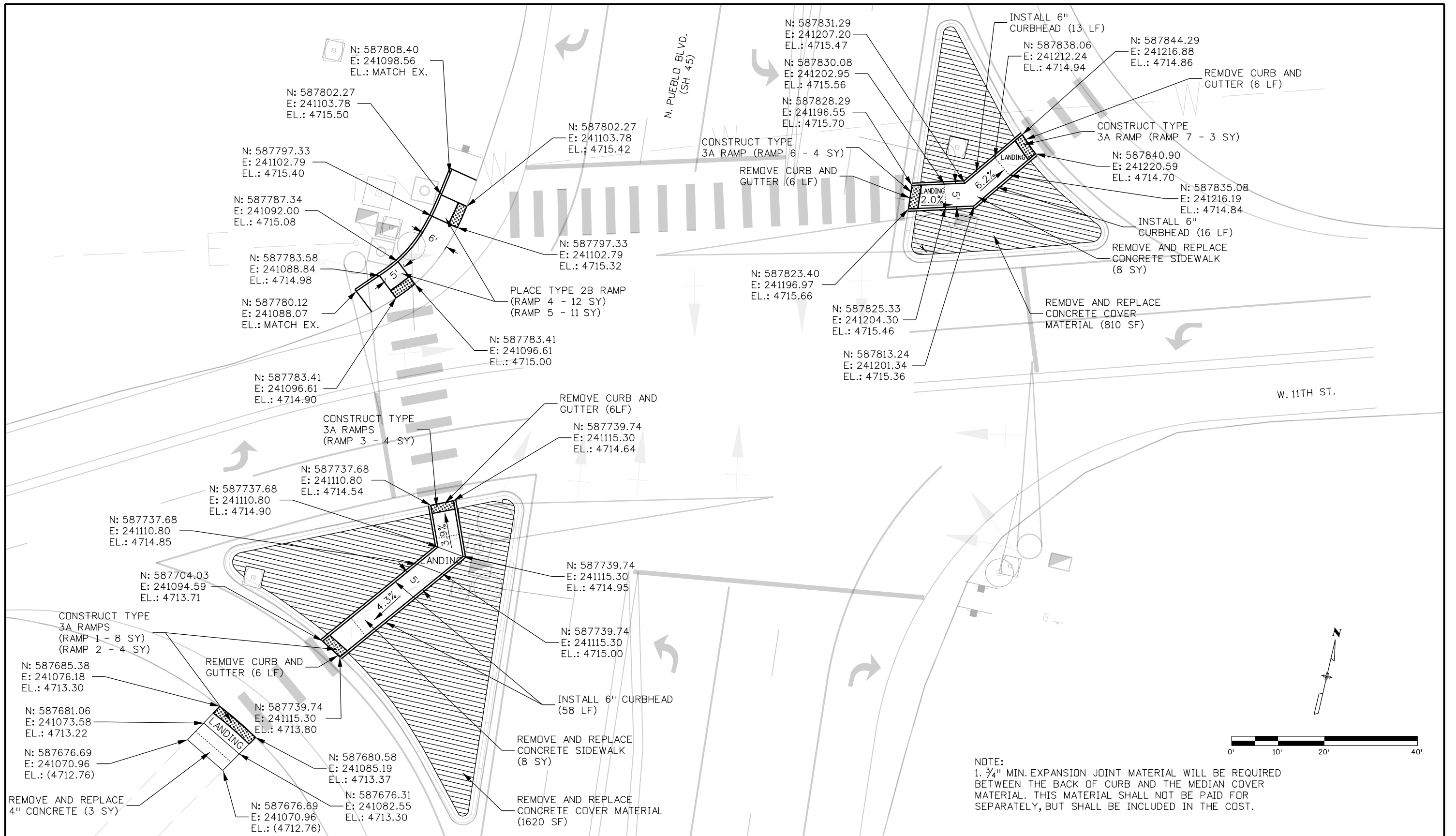
As Constructed
No Revisions:
Revised:
Void:

PAVEMENT MARKING PLAN W. 11TH ST.			
Designer:	MONDRAGON	Structure Numbers:	.
Detailer:	MONDRAGON	Subset Sheets:	.
Sheet Subset:	TRAFFIC		

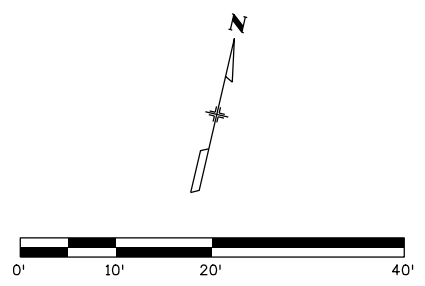
Project No./Code
STM SH45-001
20755
Sheet Number 117

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mondragons 9412:11 AM c:\projectwise\pwz_working\dl328969\20755TRAF_Ramps_11th.dgn




NOTE:
 1. 3/4" MIN. EXPANSION JOINT MATERIAL WILL BE REQUIRED BETWEEN THE BACK OF CURB AND THE MEDIAN COVER MATERIAL. THIS MATERIAL SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST.



Print Date: 2/10/2017	
File Name: 20755TRAF_Ramps_11th.dgn	
Horiz. Scale: 1:20	Vert. Scale: As Noted
Unit Information	Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



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Region 2 MJ

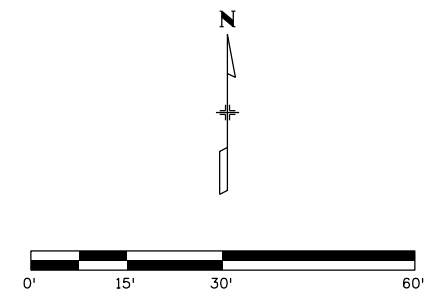
As Constructed
No Revisions:
Revised:
Void:

ADA CURB RAMPS AT W. 11TH ST.		
Designer:	MONDRAGON	Structure Numbers
Detailer:	MONDRAGON	
Sheet Subset:	TRAFFIC	Subset Sheets:

Project No./Code
STM SH45-001
20755
Sheet Number 118



Know what's below.
Call before you dig.



N: 593464.62
E: 240859.92
TOC EL.: 4811.38

N: 593465.23
E: 240849.41
TOC EL.: 4811.34

N: 593455.59
E: 240849.13
TOC EL.: 4811.27

N: 593454.89
E: 240859.45
TOC EL.: 4811.45

CONSTRUCT CURB TYPE 2
(SECTION B) (33 LF)

N: 593271.98
E: 240870.15
TOC EL.: 4809.81

N: 593272.28
E: 240862.50
TOC EL.: 4809.73

N: 593264.53
E: 240862.58
TOC EL.: 4809.82

N: 593264.10
E: 240870.20
TOC EL.: 4809.82

CONSTRUCT CURB TYPE 2
(SECTION B) (25 LF)

N. PUEBLO BLVD.
(SH 45)

124+00

123+00

122+00

W. 24TH ST.

NOTE:
1. CONTRACTOR TO RAISE EXISTING SIGNAL HEADS ON ALL MAST ARMS TO MEET M&S STANDARDS HEIGHT STANDARDS PER S-614.
2. ELEVATION SHOWN IS TO TOP OF CURBHEAD.
3. CURB TYPE II INSTALLATION WILL BE USED TO PROTECT CAISSON AND BOLTS FROM RUST DUE TO OVERLAY ELEVATION ADJUSTMENT.
4. SIDE POLE MOUNTED SIGNAL HEADS SHALL BE FIELD VERIFIED BY FIELD ENGINEER TO CONFIRM LINE OF SITE.

Print Date: 2/10/2017
File Name: 20755TRAF_Signals24th.dgn
Horiz. Scale: 1:30 Vert. Scale: As Noted
Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

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Region 2 MJ

As Constructed
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Revised:
Void:

CURBHEAD AT W. 24TH ST. FOR MAST ARM HARDWARE PROTECTION	
Designer: MONDRAGON	Structure Numbers
Detailer: MONDRAGON	
Sheet Subset: TRAFFIC	Subset Sheets:

Project No./Code	STM SH45-001
	20755
Sheet Number	119

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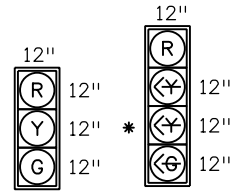


Know what's below.
Call before you dig.

SIGNAL POLE SCHEDULE							
NO.	BASE LOCATION	COORDINATES	MAST ARM	LUMIN SPECIAL LED	SIGNAL/ PED HEAD (S)	CAISSON WIDTH	CAISSON DEPTH
8	NWC	(599091.32, 240771.64)	70'	105W	2,2,2	54"	21'-0"
9	NEC	(599098.26, 240932.82)	75'	105W	1,1,1	54"	21'-0"
10	SWC	(598935.48, 240775.55)	75'	105W	1,1,1,2,2	54"	21'-0"

FOR INFORMATION ONLY

SIGNAL FACES



* INDICATES FLASHING LIGHT

SIGNS



R3-5 (L)
30"x36"

A



R5-1
36"x36"

B

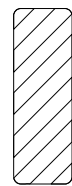
Spaulding Ave
120"x24" D-3

C



126"x24" D-3

D



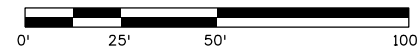
12"x36" DM3-R

E



30"x36" R10-12a

F



1-2" & 2-3" TRAFFIC CONDUIT (200 LF)

INSTALL TYPE 3 PULL BOX (1 EA)

1-2" & 2-3" TRAFFIC CONDUIT (175 LF)

INSTALL TYPE 3 PULL BOX (1 EA)

EXISTING CABINET TO REMAIN

INSTALL TYPE 3 PULL BOX (1 EA)

1-2" & 2-3" TRAFFIC CONDUIT (140 LF)

INSTALL TYPE 3 PULL BOX FOR FUTURE USE (1 EA)

1-2" CONDUIT (490 LF)

NOTE:

1. REMOVAL OF ALL EXISTING TRAFFIC SIGNALIZATION AND THEIR APPURTENANCES, INCLUDING BUT NOT LIMITED TO SIGNAL POLES, MAST ARMS, PULL BOXES, CAISSONS UP TO 1' BELOW GRADE, WIRING, ETC. SHALL BE INCIDENTAL TO INSTALLATION AND WILL NOT BE PAID FOR SEPARATELY.

2. ALL RESET UNITS SHALL BE PROTECTED AND BE THE SOLE RESPONSIBILITY OF CONTRACTOR UNTIL ACCEPTANCE OF PROJECT.

LEGEND

- SIGNAL POLE WITH MAST ARM
- SIGNAL HEAD INSTALL ONLY
- SIGNAL HEAD WITH BACKPLATE INSTALL
- ONLY
- MICROWAVE VEHICLE RADAR DETECTOR TO BE RESET
- PULL BOX
- LUMINAIRE
- MAST ARM MOUNTED SIGN
- CAISSON
- VEHICLE DETECTOR CAMERA TO BE RESET
- MICROWAVE VEHICLE RADAR DETECTOR

Print Date: 2/10/2017

File Name: 20755TRAF_SignalsSpaulding.dgn

Horiz. Scale: 1:50

Vert. Scale: As Noted

Unit Information

Unit Leader Initials



Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



Region 2

905 Erie Avenue
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Phone: 719-546-5751 FAX: 719-546-5414

MJ

As Constructed

No Revisions:

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Void:

SIGNAL PLAN EAST SPAULDING AVE.

Designer:	MONDRAGON	Structure Numbers:	.
Detailer:	MONDRAGON	Subset Sheets:	.
Sheet Subset:	TRAFFIC		

Project No./Code

STM SH45-001

20755

Sheet Number 120



Know what's below.
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NOTE:
THE COST OF THE STEEL POLE AND ALL APPURTENANCES
FOR THE FLASHING BEACON SHALL BE INCIDENTAL TO THE
COST OF THE FLASHING BEACON.

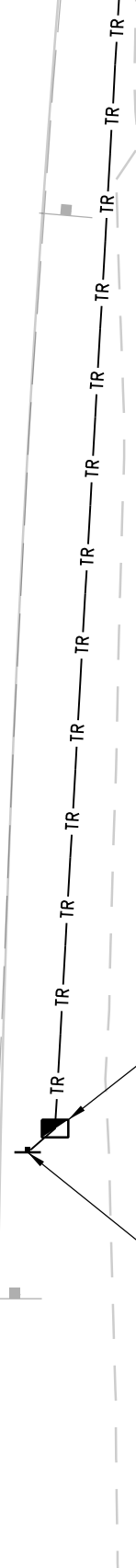
N 598681.07
E 240864.43
EL. 4862.69

177+00

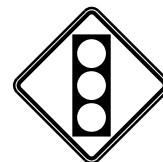
176+00

175+00

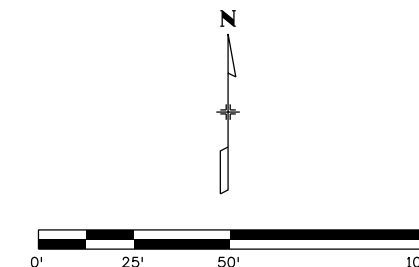
174+00



INSTALL PULL
BOX TYPE 1
(1 EA)



INSTALL 48W3-3
WITH FLASHING
BEACON
(1 EA)
STA 174+39



Print Date: 2/6/2017

File Name: 20755TRAF_SignalsSpaulding2.dgn

Horiz. Scale: 1:50

Vert. Scale: As Noted

Unit Information

Unit Leader Initials



Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation



Region 2

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MJ

As Constructed

No Revisions:

Revised:

Void:

SIGNAL PLAN
EAST SPAULDING AVE.

Designer: MONDRAGON

Detailer: MONDRAGON

Sheet Subset: TRAFFIC

Structure

Numbers

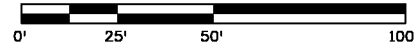
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Project No./Code

STM SH45-001

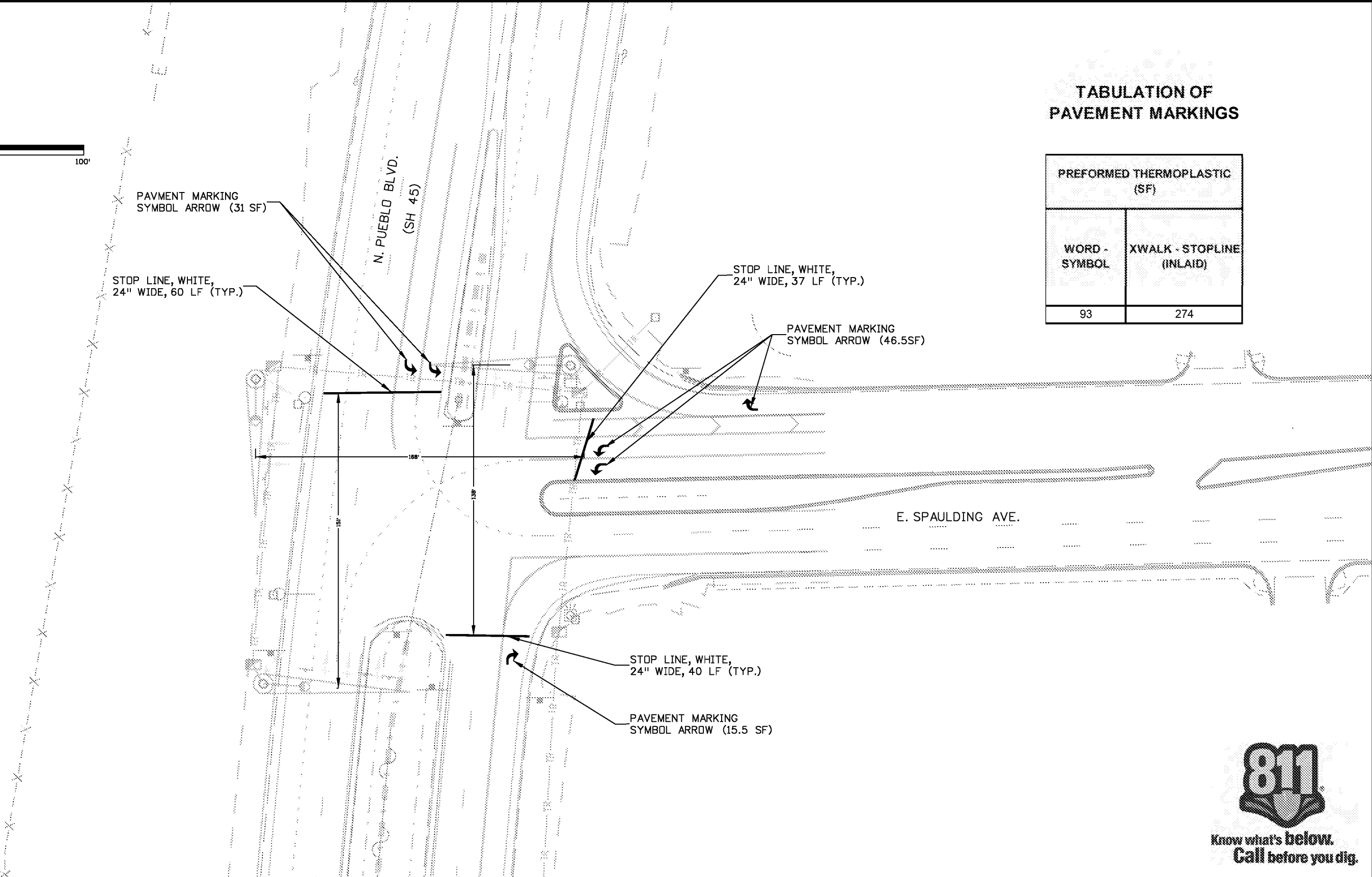
20755

Sheet Number 121



TABULATION OF PAVEMENT MARKINGS

PREFORMED THERMOPLASTIC (SF)	
WORD - SYMBOL	XWALK - STOPLINE (INLAID)
93	274



Print Date: 2/10/2017
File Name: 20755TRAF_StripingSpaulding.dgn
Horiz. Scale: 1:50 Vert. Scale: As Noted
Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

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Phone: 719-546-5751 FAX: 719-546-5414

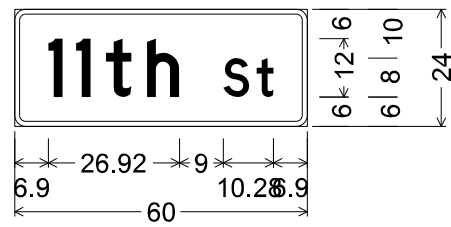
Region 2 **MJ**

As Constructed
No Revisions:
Revised:
Void:

PAVEMENT MARKING PLAN			
E. SPAULDING AVE.			
Designer:	MONDRAGON	Structure Numbers:	
Detailer:	MONDRAGON	Subset Sheets:	
Sheet Subset:	TRAFFIC		

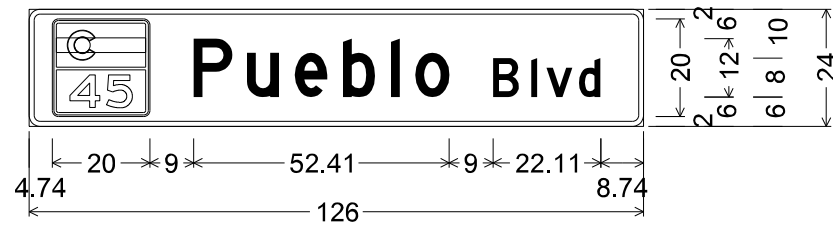
Project No./Code
STM SH45-001
20755
Sheet Number 122

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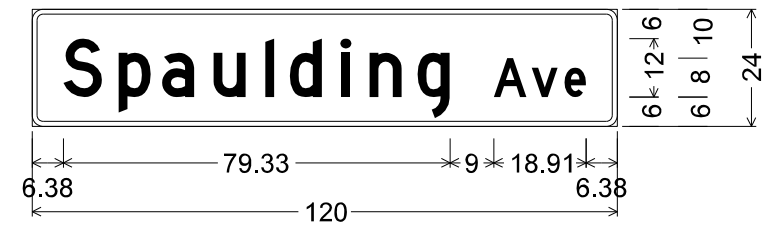
24D3-1;
2.25" Radius, 1.00" Border, White on Green;
[11th St] D;
Table of letter and object lefts.

l	l	t	h
6.90	12.62	18.71	27.13
s	t		
42.82	49.62		



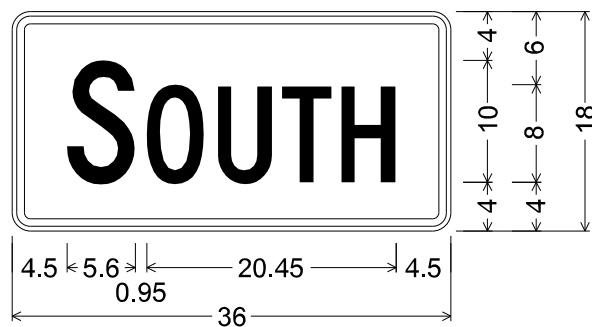
24D3-1a;
2.25" Radius, 1.00" Border, White on Green;
20m1-5a (45); [Pueblo Blvd] D;
Table of letter and object lefts.

P	u	e	b	l	o
33.74	44.67	54.48	64.37	74.19	79.19
B	l	v	d		
95.15	102.96	106.11	112.80		



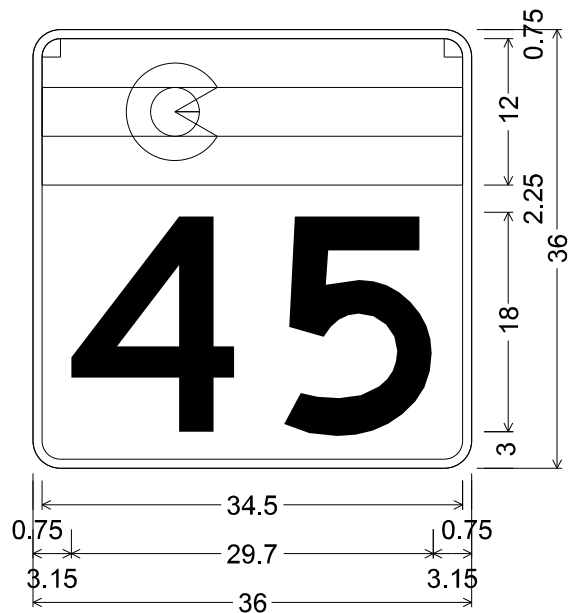
24D3-1;
2.25" Radius, 1.00" Border, White on Green;
[Spaulding Ave] D;
Table of letter and object lefts.

S	p	a	u	l	d	i	n	g
6.38	17.71	26.62	37.22	47.82	52.82	63.42	69.21	79.02
A	v	e						
94.71	102.48	109.16						



36M3-3;
1.50" Radius, 0.63" Border, 0.38" Indent, Black on White;
[SOUTH] C 2K 70% spacing;
Table of letter and object lefts.

S	O	U	T	H
4.50	11.05	16.89	22.15	27.02



36M1-5a(XX);
2.25" Radius, 0.75" Border, White on White;
Colorado Flag; [45] Black D 2K;

Print Date: 2/10/2017

File Name: 20755TRAF_Sign_Layout.dgn

Horiz. Scale: 1:50

Vert. Scale: As Noted

Unit Information

Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

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Region 2

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No Revisions:

Revised:

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SIGN LAYOUT

Designer: MONDRAGON

Detailer: MONDRAGON

Sheet Subset: TRAFFIC

Structure Numbers

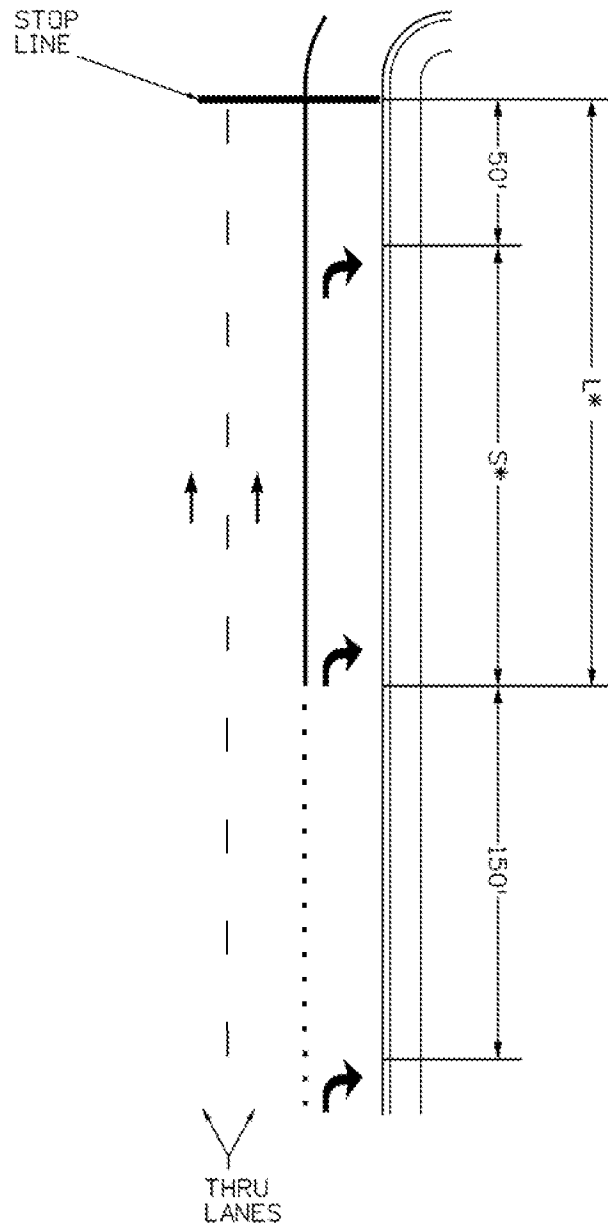
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Project No./Code

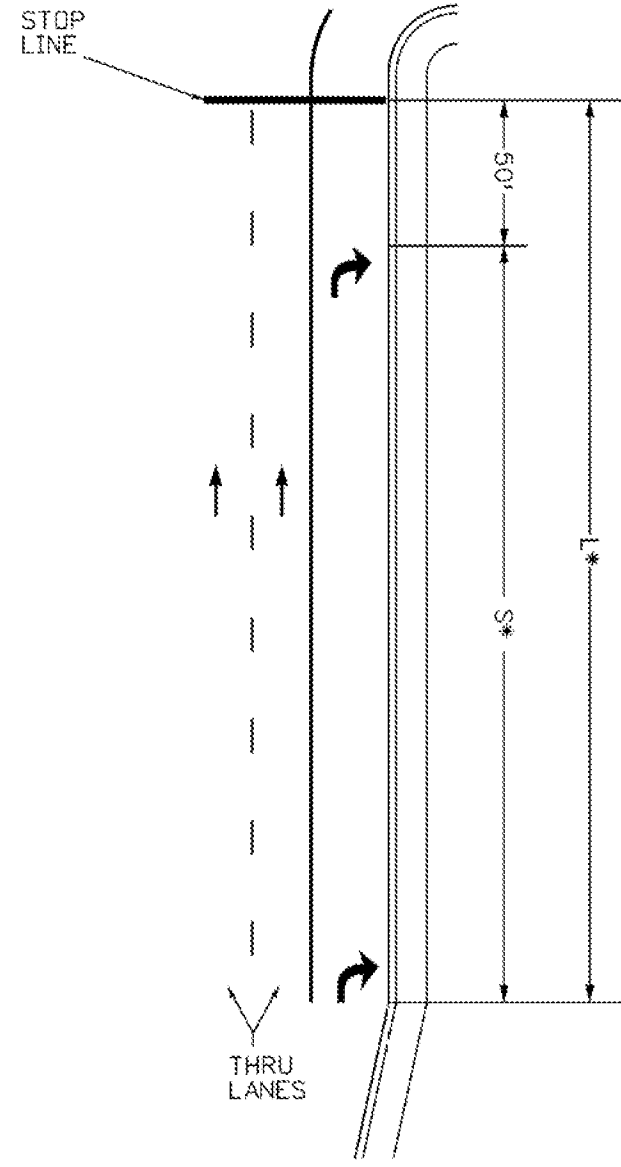
STM SH45-001

20755

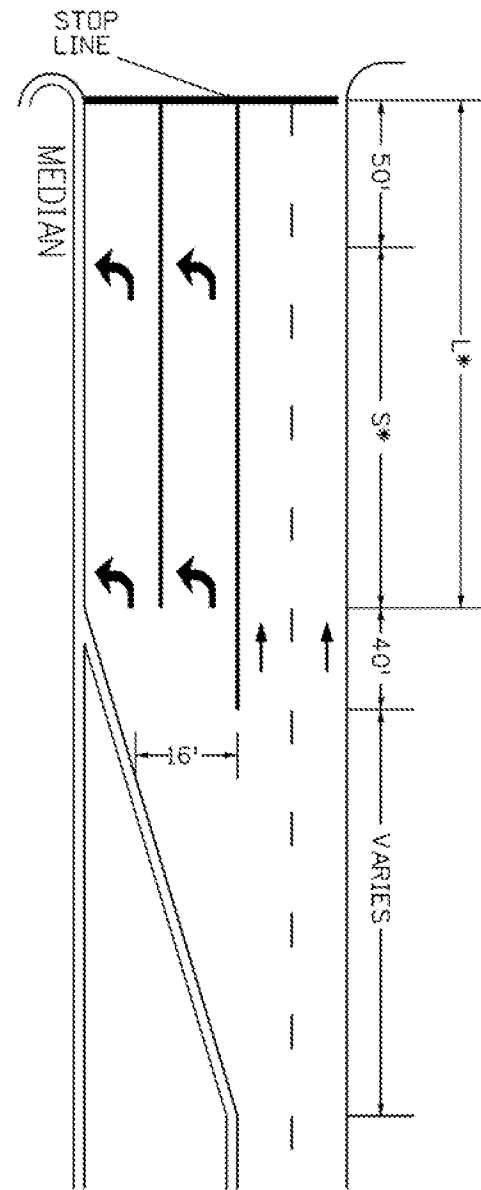
Sheet Number 123



LANE DROP



POCKET LANE



DOUBLE TURNING

GENERAL NOTES

1. THE SPACING, IN THE TABLE APPLIES TO LEFT & RIGHT TURN LANES.
2. WHEN ONE (1) ARROW IS USED, IT SHALL BE PLACED AT THE BEGINNING OF THE FULL WIDTH TURN LANE, OTHERWISE USE THE TABLE BELOW FOR ARROW PLACEMENT.

LENGTH (L)	NO. OF ARROWS PER LANE	SPACING (S)
L < 200'	1	NA
200' - 350'	2	EVENLY SPACED BETWEEN 150' - 300'
350' - 650'	3	
650' - 950'	4	
950' ≤	≥ 5	

*L (LENGTH) AND *S (SPACING) PROVIDED IN THE TABLE ABOVE WILL HELP DETERMINE THE NUMBER OF ARROWS NEEDED PER LANE.

LEGEND


→ Direction of Travel

ARROW PLACEMENTS AT INTERSECTIONS

Print Date: 2/10/2017
 File Name: 20755TRAF_PAVEMENTMARKINGdetail.dgn
 Horiz. Scale: 1:40 Vert. Scale: As Noted
 Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

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 Revised:
 Void:

PAVEMENT MARKING DETAILS
 AT INTERSECTIONS
 Designer: MONDRAGON
 Detailer: MONDRAGON
 Sheet Subset: TRAFFIC
 Structure Numbers:
 Subset Sheets:

Project No./Code
 STM SH45-001
 20755
 Sheet Number 124



Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX



Project Number:			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date:	Subset:	Sheet No.:
20755	09-10-15		

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

SHEET NO.

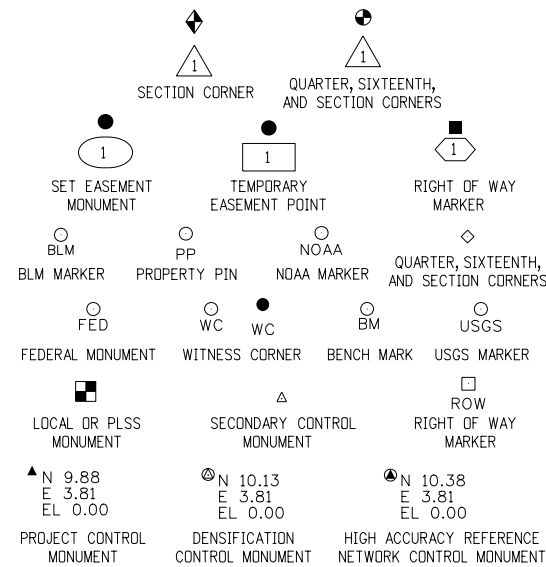
3.01-3.01
3.02-3.02
3.03-3.10

INDEX OF SHEETS

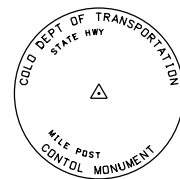
(1) Title Sheet
(1) Coordinate Tables
(7) Plan Sheet
(9) Total Sheets

PROJECT CONTROL DIAGRAM

State Highway 45 MP 5 to 8.5
Sections 15,16,21,22,27,28,33,34
Township 20 South, Range 65 West
of the 6th Principal Meridian
County of Pueblo



Note: For a complete listing of symbolology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.

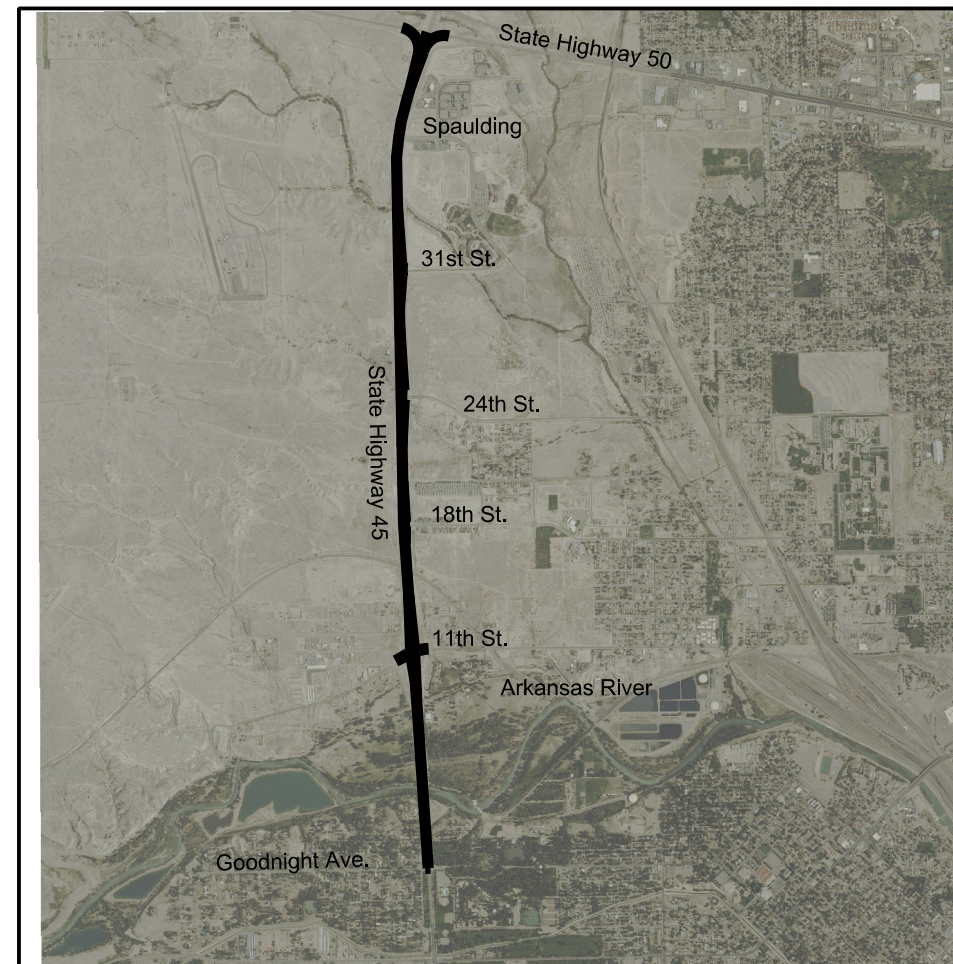


Typical Control Monument Cap
Not to Scale

▲ CM-MP - Control Point Monuments set by CDOT. They are CDOT Type 2 monuments, a 3 1/4" dia. aluminum control monument cap (as shown) on a 3' x 3/4" dia. aluminum security rod on a 3' x 3/4" dia. smooth aluminum rod.

General Notes:

1. This Project Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
3. Refer to the M-629-1 Survey Monuments of the Standard Plans found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.



PROJECT LOCATION MAP



Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of N01°55'02"W from CM 522-MP 5.22 to CM 840-MP 8.40. Both monuments are CDOT Type II, marked appropriately for their milepost location and control position. The survey data was obtained from a Global Positioning System (GPS) survey base on the Colorado High Accuracy Reference Network (CHARN).

Basis of Elevations: Project elevations are based on Bench Mark U 430 1994, PID: JK0980, a standard bench mark stainless steelrod, with a NAVD 88 elevation of 4714.26 ft. U 430 is a first order benchmark.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane South Zone NAD '83 coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 1.0002553859. The resulting project coordinates are truncated by 1,000,000 ft. in the Northing and 3,000,000 ft. in the Easting after converting from state plane coordinates to project coordinates. The CHARN is based on the NAD '83 datum.

Project Coordinates Northing US Survey Feet = (State Plane Coordinate Northing * 1.0002553859 - 1,000,000) .

Project Coordinates Easting US Survey Feet = (State Plane Coordinate Easting * 1.0002553859 - 3,000,000) .

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)

I, _____, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Project Control Diagram was prepared and the field survey it represents was performed under my responsible charge and, based upon my knowledge, information and belief is in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.

PLS No.



Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX



Project Number:			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date:	Subset	Sheet No.
20755	09-10-15		

GEODETTIC COORDINATE TABLE

Point No.	Geodetic Coordinates NAD-83 (XX) (CHARN)		Elip Height (NAVD88) (m)	Ortho Height (m)	Combined Scale Factor	NAD 83 Zone South		Description
	Latitude (N)	Longitude (W)				SP Northing (m)	SP Easting (m)	
	522	38°15'55.98315"				104°39'42.19571"	1435.478	
545	38°16'08.94876"	104°39'43.21537"	1421.444	1440.450	1.002553859	482983.395	987732.353	CDOT Type II Monument
575	38°16'24.94678"	104°39'46.77674"	1414.196	1433.200	1.002553859	483475.866	987641.368	CDOT Type II Monument
U430	38°16'38.18552"	104°39'41.91371"	1417.893	1436.909	1.002553859	483885.100	987755.802	Deep Rod
625	38°16'46.70975"	104°39'45.33743"	1431.508	1450.510	1.002553859	484147.171	987670.335	CDOT Type II Monument
V430	38°17'14.11445"	104°39'46.52362"	1447.081	1466.090	1.002553859	484991.851	987633.535	Deep Rod
675	38°17'12.35787"	104°39'51.39739"	1458.086	1477.080	1.002553859	484936.632	987515.982	CDOT Type II Monument
690	38°17'20.21954"	104°39'46.60376"	1446.050	1465.050	1.002553859	485100.065	987630.300	CDOT Type II Monument
705	38°17'28.06097"	104°39'50.74618"	1447.711	1466.710	1.002553859	485420.930	987527.475	CDOT Type II Monument
760	38°17'56.97358"	104°39'46.94728"	1459.917	1478.920	1.002553859	486313.190	987611.799	CDOT Type II Monument
840	38°18'41.12516"	104°39'47.32926"	1465.915	1484.920	1.002553859	487674.392	987590.322	CDOT Type II Monument
3120	38°18'49.69730"	104°39'42.04485"	1452.921	1471.930	1.002553859	487939.840	987716.324	CDOT Type II Monument
W430	38°18'06.19443"	104°39'46.57534"	1451.587	1470.585	1.002553859	486597.568	987618.288	Deep Rod

PROJECT COORDINATE TABLE

Point No.	Project Coordinates		Elev (ft) (NAVD88)	Description
	Northing (ft)	Easting (ft)		
522	583681.58	241565.94	4771.91	CDOT Type II Monument
545	584992.70	241412.83	4725.88	CDOT Type II Monument
575	586608.83	241114.24	4702.09	CDOT Type II Monument
625	588811.84	241269.31	4758.88	CDOT Type II Monument
675	591402.59	240762.77	4846.18	CDOT Type II Monument
690	592198.64	241071.72	4809.17	CDOT Type II Monument
765	592991.89	240740.49	4812.03	CDOT Type II Monument
760	595920.00	241017.21	4852.09	CDOT Type II Monument
840	600387.01	240946.73	4871.78	CDOT Type II Monument
3120	601258.13	241360.23	4829.16	CDOT Type II Monument
U430	587951.80	241460.11	4714.26	Deep Rod
V430	591583.80	241069.85	4810.00	Deep Rod
W430	596853.23	241058.51	4824.74	Deep Rod



Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX



Project Number:			
Project Location: State Highway 45			
from Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-03-15	3.03 of 3.10	3.03

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

PROJECT CONTROL DIAGRAM





Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX



Project Number:			
Project Location: State Highway 45			
from Goodnight Ave to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-04-15	3.05 of 3.10	3.05

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM





Sheet Revisions		
Date	Description	Initials
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Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

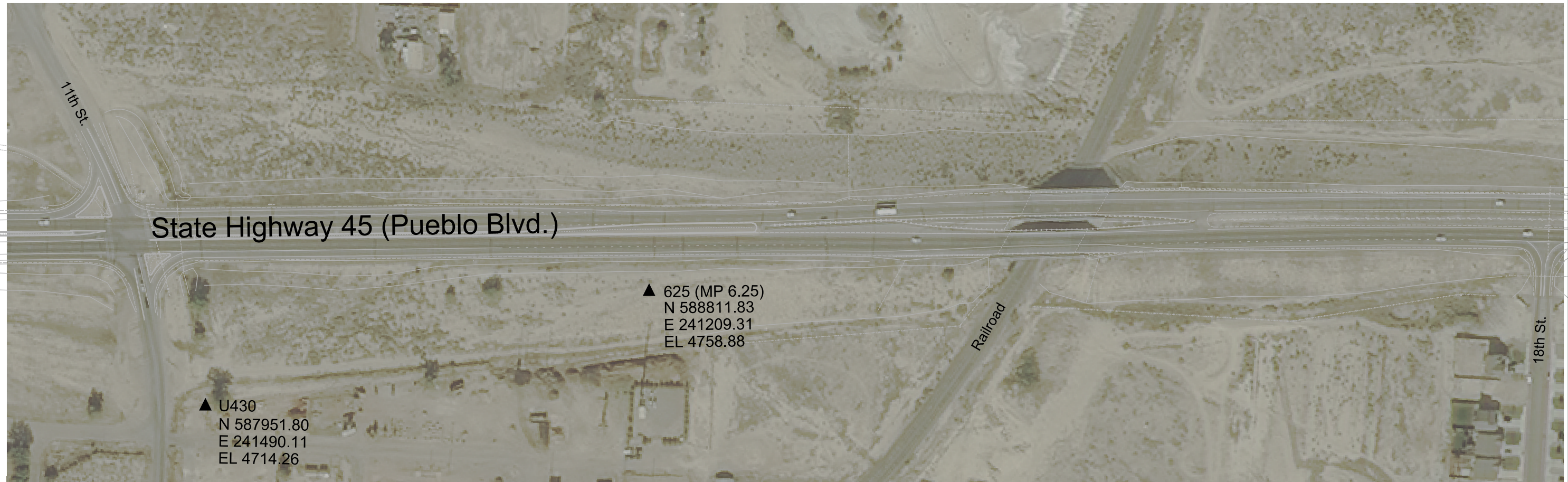


Project Number:			
Project Location: State Highway 45 (Pueblo Blvd)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-04-15	3.06 of 3.10	3.06

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM





Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Sheet Revisions		
Date	Description	Initials
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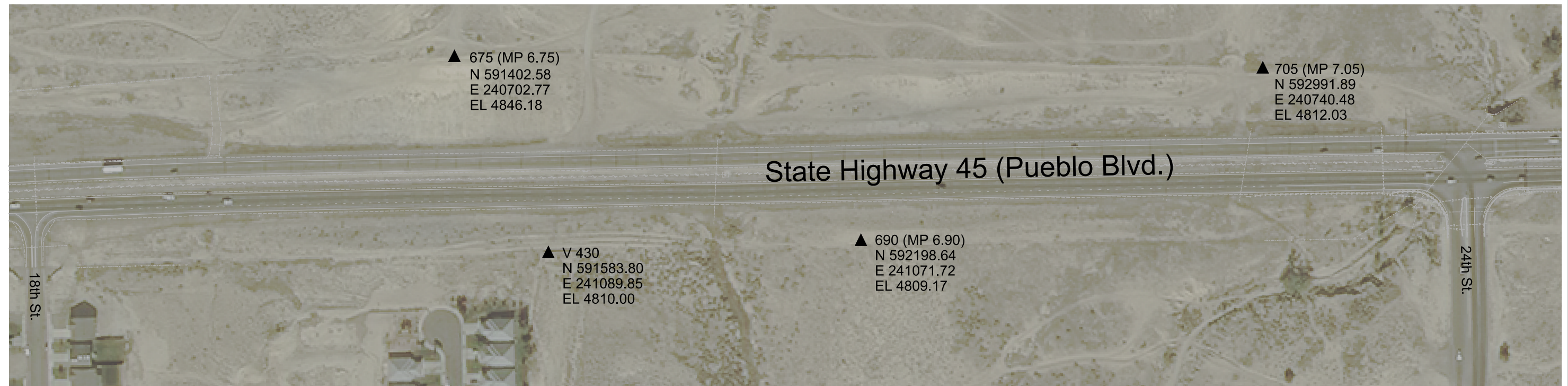


Project Number: XXXXX			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-10-15	3.07 of 3.10	3.07

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM





Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
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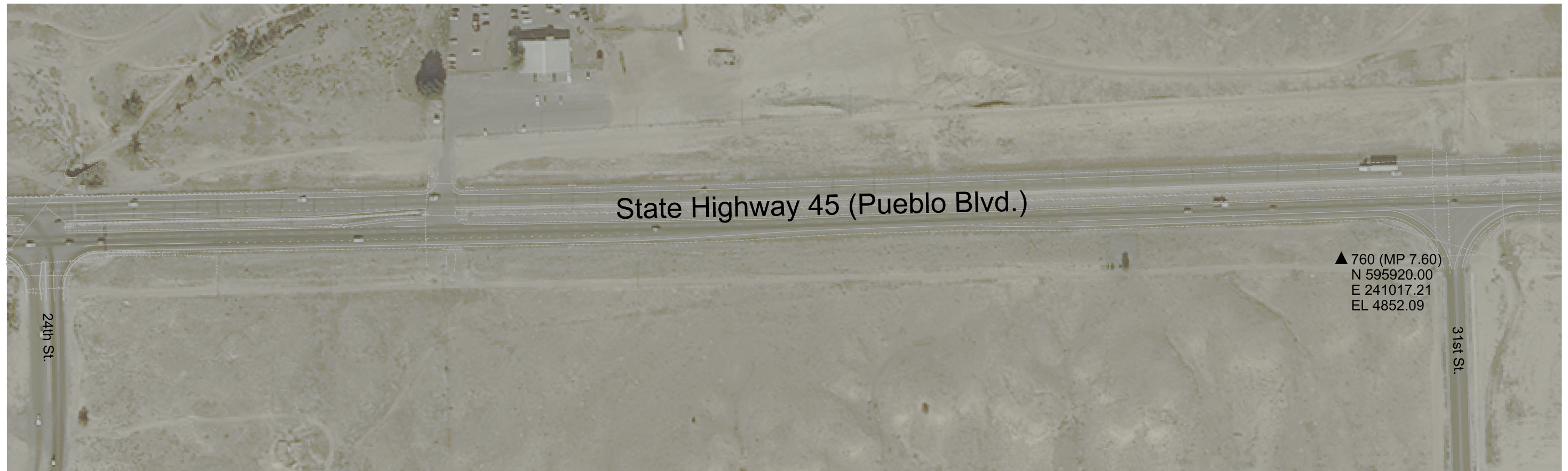


Project Number:			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-10-15	3.08 of 3.10	3.08

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM



State Highway 45 (Pueblo Blvd.)

▲ 760 (MP 7.60)
N 595920.00
E 241017.21
EL 4852.09

24th St.

31st St.





Sheet Revisions		
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Sheet Revisions		
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Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX



Project Number:			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-10-15	3.09 of 3.10	3.09

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM





Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
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Sheet Revisions		
Date	Description	Initials
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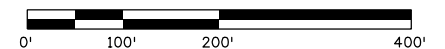
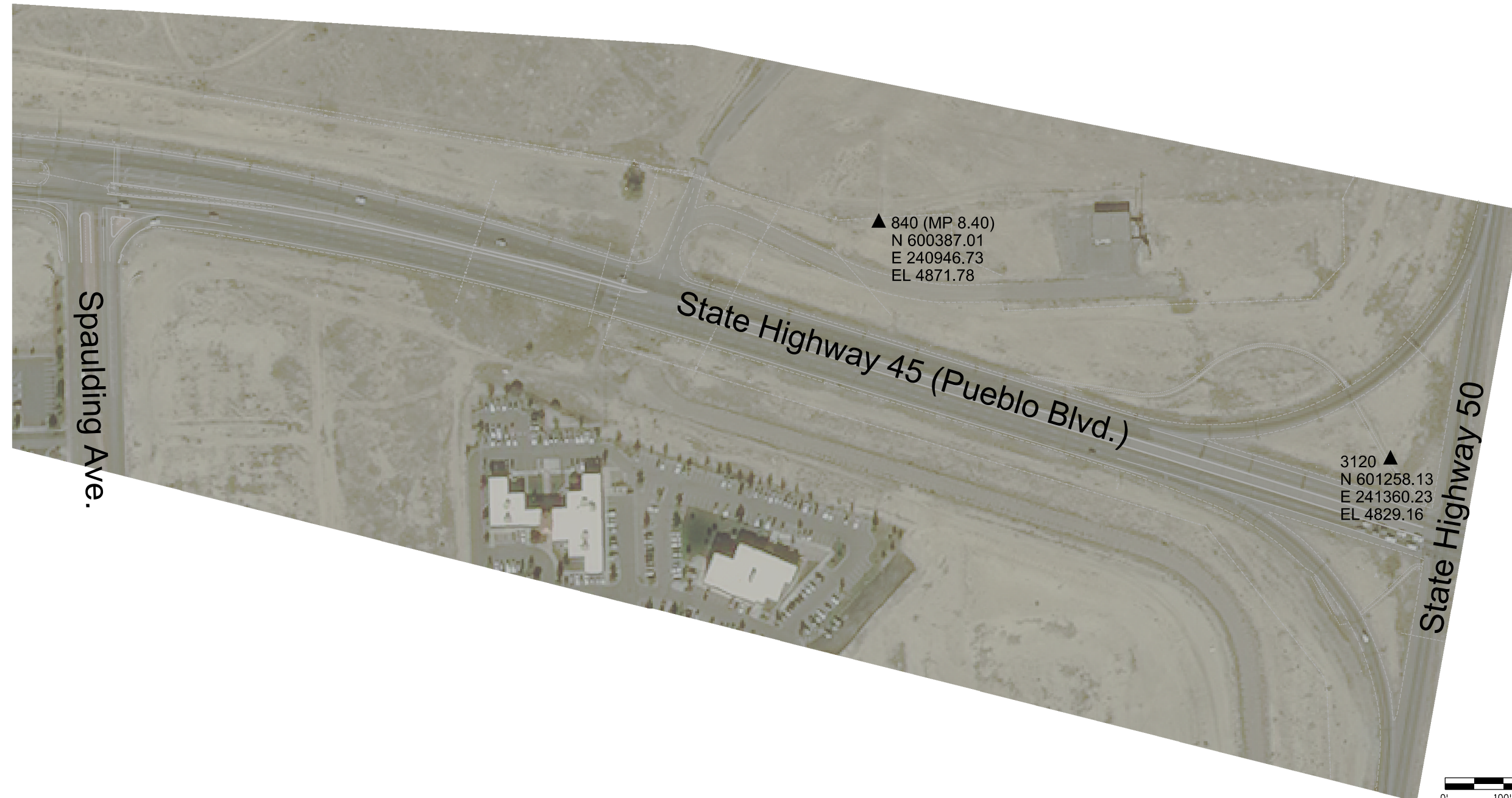


Project Number:			
Project Location: State Highway 45 (Pueblo Blvd.)			
Goodnight Ave. to SH 50			
Project Code:	Last Mod. Date	Subset	Sheet No.
20755	09-10-15	3.10 of 3.10	3.10

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

PROJECT CONTROL DIAGRAM



TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

Format *

Horizontal Control _____

Vertical Control _____

Roadway Alignment _____

Original Terrain Data _____

Other: _____

* Specify the information format, i.e., plan sheet, computer disk, computer printout, or other. The information marked is either contained on the plans or is available from the Engineer.

TYPE OF PROJECT

Landscaping Major Reconstruction

Signalization New Roadway Construction

Safety Improvement Bridge Replacement

Asphalt Overlay Bridge Widening

Concrete Overlay New Bridge

Minor Widening Other: _____

SURVEY WORK TO BE PERFORMED BY OTHERS: _____

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
- Verification and Maintenance of Horizontal and Vertical Control
- Verify or Determine existing grades and alignments
- Verify or Determine existing topography
- GPS/RTS (Global Positioning System/Robotic Total Station) Construction Machine Control
- Clearing and Grubbing Limits (Section 201)
- Removal Limits (Section 202)
- Reset Items (Section 210)
- Excavation and Embankment (Section 203)

- Excavation
- Unclassified
 - Stripping
 - Muck
 - Rock
 - Borrow
 - Other: _____
 - Potholing

- Embankment
- Site Grading
 - Erosion Control (Perm)
 - Other: _____
 - As Staked Earthwork Quantities (See General Notes)

- Landscaping
- Top Soil (Section 207)
 - Seeding (Section 212)
 - Mulching (Section 213)
 - Planting (Section 214)
 - Herbicide (Section 217)
 - Other: _____

- Erosion Control (Section 208)
- Seeding (Temp)
 - Silt Fence
 - Erosion Bales
 - Erosion Logs
 - Riprap (Temp)
 - Other: _____

- Roadway Bases
- Untreated Subgrade
 - Treated Subgrade
 - Aggregate Base Course (Section 304)
 - Reconditioning
 - PMBB - Plant Mix Bituminous Base
 - Other: _____

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Excavation	Y	Y	Y	50
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Embankment	Y	Y	Y	50
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

	Grid (Y/N)	Grade (Y/N)	Special Interval	Special Offset
Roadway Bases	-	-	-	-
	Y	Y	50	-
	Y	Y	50	-
	-	-	-	-
	-	-	-	-

- Pavements
- HMA - Hot Mix Asphalt (Section 403)
 - Concrete (Section 412)
 - Heating & Scarifying Treatment
 - Prime Coat, Tack Coat & Rejuvenating Agent (Section 407)
 - Seal Coat or Chip Seal (Section 409)
 - Other: _____

	Grid (Y/N)	Special Interval	Special Offset
Pavements	-	-	-
	Y	50'	-
	-	-	-
	-	-	-
	-	-	-

- Roadway Elements
- Curb and Gutter (Section 609)
 - Drop inlets - alignment and grades (Section 604)
 - Retaining Walls
 - Guard Rail (Section 606)
 - Sidewalk (Section 608)
 - Overlay Stationing
 - Other: _____

	Tangent Interval	Curve Interval	Special Offset
Curb & Gutter	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

- Riprap (Perm) (Section 506)
- Slope and Ditch Paving (Section 507)

- Minor Structures
- Structure Excavation limits (Section 206)
 - Culverts (Section 603)
 - Culverts w/ Headwalls and Wingwalls (Section 601)
 - Concrete Box Culverts w/ Headwalls and Wingwalls
 - Pipes (Section 603)
 - Sanitary Sewer
 - Storm Sewer
 - Water
 - Irrigation
 - Miscellaneous
 - Manholes (Section 604)
 - Inlets (Section 604)
 - Permanent Water Quality BMP (Section 208)
 - Other: _____

	Left Interval	Center Interval	Right Interval
Stationing	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

- Major Structures - Overhead Signs (Section 614), Concrete Box Culverts, Bridges - and all other structures assigned a structure number
- Structure Excavation limits (Section 206)
 - Concrete Box Culverts (Section 603) w/ Headwalls and Wingwalls (Section 601)
 - Piling locations and cut off elevations (Section 502)
 - Caisson locations and elevations (Section 503)
 - Footing locations, alignment, and elevations
 - Abutment/Pier locations, alignment, and elevations
 - Wingwall skew angles/offsets
 - Structural concrete form locations
 - Substructure As-constructed survey required for Bridges (Subsection 601 .12) and Overhead signs (S-614-50)
 - Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
 - Deck grades at Girder 10th or "n" th point locations and elevations
 - Slope and Ditch Paving (Section 507)
 - Other: _____

- Fencing (Section 607)
- Temporary
 - Permanent
 - Sound Barrier
 - Other: _____

- Delineators (Section 612)
- Temporary
 - Permanent

- Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
- Signal pole locations and elevations
 - Light pole locations and elevations
 - Sign locations
 - Field verify sign post locations, elevations, and lengths before fabrication.
 - Other: _____

- Pavement Marking (Section 627)
 - Stripping (Temp)
 - Stripping (Perm)
 - Symbols
 - Other: Existing Stripping
- Temporary Lighting and Construction Traffic Control Devices (Section 630)
 - Signal pole locations and elevations (Temp)
 - Light pole locations and elevations (Temp)
 - Sign Locations (Temp)
 - Other: _____
- All Easements (Temp Staking by P.L.S. Only)
- Right of Way (Temp Staking by P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- Monumentation (Section 629)
 - Control
 - Right of Way
 - Land corners, Aliquot corners
 - Easements
 - Reference the specified existing monuments: ** _____
 - Replace the specified existing monuments: ** _____
 - Locate monuments. It is estimated 10 hours are required.

NOTE: All 629 items shall include adequate research, calculations, and evaluations of evidence for monuments to be set.

** A Tabulation of Survey Monuments may be provided on the plans.


GENERAL NOTES:

1. Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the CDDT Survey Manual.
2. Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
3. The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer 10 days prior to the Presurvey Conference - Construction Survey.
4. Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
5. The Contractor shall furnish an As Staked (or GPS/RTS Construction Machine Control) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDDT Survey Manual. A printed copy of the As Staked (or GPS/RTS Construction Machine Control) Earthwork data report and a computer disk with that information on it, in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
6. Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
7. The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
8. The Contractor shall coordinate construction staking on the project with any utility work.
9. Fieldbooks shall contain daily records of points set and or measurements observed. The information recorded shall contain: date, crew members' names, point no., description, staking information, and sketches. If the survey information is collected electronically, information recorded shall be provided to the Project Engineer in a hard copy format that is intuitive, clear and related to the supplemental information recorded in the field books. All linear surveys, such as slope stakes and blue tops, shall have the station and offset information related to the measured information. Non-linear surveys such as structures staking shall have sketches relating electronic information, such as point numbers, to the sketch.
10. The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
 - Horizontal Control (Primary & Secondary)
 - Vertical Control (i.e. Benchmarks)
 - Property Pin Ties
 - Horizontal Alignment
 - Grading
 - Slope Staking
 - Minor Structures
 - Major Structures
 - One fieldbook for each work category shown on this sheet
 - Other Fieldbook(s): _____

Print Date: 2/22/2017	
File Name: 20755SURV_Tab.dgn	
Horiz. Scale: 1:1	Vert. Scale: As Noted
Unit Information	Unit Leader DTD

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



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Pueblo, CO 81001
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Region 2 DTD

As Constructed	SURVEY TABULATION SHEET			Project No./Code
No Revisions:				STM SH45-001
Revised:	Designer: LEP	Structure Numbers		20755
Void:	Detailer: LEP	Sheet Subset: SURV	Subset Sheets: 01 of 01	Sheet Number 134