

Oversight/NHS	
FHWA FULL OVERSIGHT	☐ NO ☒ YES
NATIONAL HIGHWAY SYSTEM	☐ NO ☒ YES

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
COLORADO PROJECT NO. BR 0251-151
INTERSTATE - 25 (SB) BRIDGE REPLACEMENT OVER SCROGGS ARROYO
PUEBLO COUNTY

Related Projects:	
P.E. UNDER PROJECT:	
Project Number	BR 0251-151
Project Code	12394
R.O.W. Projects:	
R.O.W. Project Description	
BR 0251-151	

TABULATION OF LENGTH & DESIGN DATA

STATION	FEET	
	ROADWAY	MAJOR STRUCTURE
I-25 STA. 3+66.83 BEGIN BR 0251-151	786.35	128.56
STA. 11+53.18 BEGIN MAJOR STRUCTURE NO. M-17-BE		
STA. 12+81.74 END MAJOR STRUCTURE NO. M-17-BE		
STA. 27+20.23 END BR 0251-151	1438.49	
RAMP STA. 217+92.95 BEGIN RAMP	723.65	(R-2)
STA. 225+16.60 END RAMP		
TOTAL	2224.84	128.56
SUMMARY OF PROJECT LENGTH	2224.84 FEET	0.558 MILES
ROADWAY (NET LENGTH)	2224.84	
MAJOR STRUCTURE		128.56
PROJECT GROSS LENGTH		2353.40

DESIGN DATA

MINIMUM RADIUS OF CURVE
(e=4.00%)

MAXIMUM GRADE

MINIMUM S.S.D. (HORIZONTAL)

MINIMUM S.S.D. (VERTICAL)

MAXIMUM DESIGN SPEED

2020 DESIGN TRAFFIC

DHV TRUCKS %

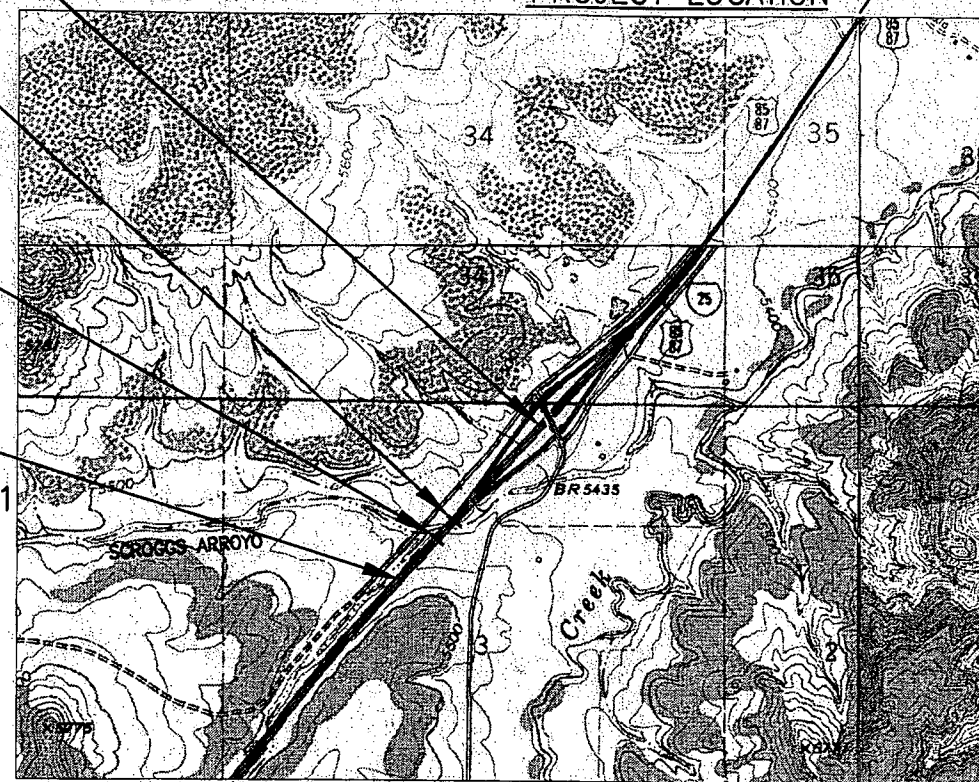
STA. 27+20.23
M.P. 77.153
END BR 0251-151

STA. 12+81.74
M.P. 76.880
END STRUCTURE
NO. M-17-BE

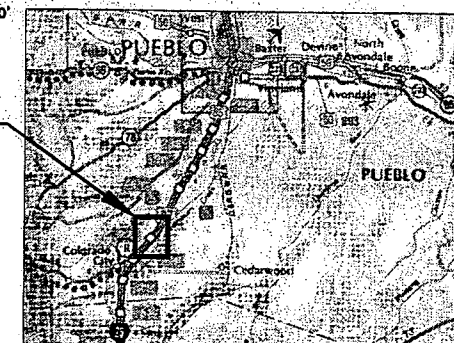
STA. 11+53.18
M.P. 76.856
BEGIN STRUCTURE
NO. M-17-BE

STA. 3+66.83
M.P. 76.707
BEGIN BR 0251-151

CONSTRUCTION PROJECT CODE NO. 12394
PROJECT LOCATION



AREA OF DETAIL



VICINITY MAP SCALE 1" = 10 miles

SHEET NO. INDEX OF SHEETS

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	2	STANDARD PLANS LIST
	3	SURVEY TABULATION SHEET
	4	TYPICAL SECTION (INTERSTATE - 25)
	5	TYPICAL SECTIONS
Rev. 1	7	GENERAL NOTES
Rev. 1	8 - 10	SUMMARY OF APPROXIMATE QUANTITIES
	11 - 13	TABULATION OF QUANTITIES
	14 - 15	TABULATION OF QUANTITIES
	16 - 17	GEOMETRIC CONTROL LAYOUT
	18 - 19	GEOMETRIC CONTROL LAYOUT
	20	PLAN / PROFILE SHEETS (DETOUR CONDITION)
	21	I-25 RAMP PROFILE (DETOUR CONDITION)
	22	ACCESS ROAD PLAN/PROFILE SHEET
	23 - 25	PLAN / PROFILE SHEETS (I-25 ULTIMATE CONDITION)
	26 - 28	PLAN / PROFILE SHEETS (I-25 ULTIMATE CONDITION)
	29 - 31	BRIDGE PLANS
	32X	BRIDGE PLAN (CONSTRUCTION PHASING)
	45	BRIDGE EXPANSION DEVICE (0-4 INCH)
	45X	BRIDGE EXPANSION DEVICE (0-4 INCH)
	46	BRIDGE EXPANSION DEVICE
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	61 - 62	EROSION CONTROL PLAN
	63	STORMWATER MANAGEMENT PLAN
	64	TABULATION OF SIGNS
	65	TABULATION OF DELINEATORS
	66 - 67	TABULATION OF DELINEATORS
	68	TABULATION OF PAVEMENT MARKING
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	69	TABULATION OF PAVEMENT MARKING
	70 - 71	SIGNING AND STRIPING PLANS (DETOUR CONDITION)
	72 - 73	SIGNING AND STRIPING PLANS (I-25 ULTIMATE CONDITION)
	72X - 73X	SIGNING AND STRIPING PLANS (I-25 ULTIMATE CONDITION)
	74	TABULATION OF CONSTRUCTION TRAFFIC CONTROL DEVICES
	75	CONSTRUCTION PHASING PLAN NOTES
	75AX - 75BX	BRIDGE TYPICAL SECTIONS (PHASING)
	76 - 84	CONSTRUCTION PHASING PLANS
	76X	CONSTRUCTION PHASING & TRAFFIC CONTROL (PHASE 1)
	79X	CONSTRUCTION PHASING & TRAFFIC CONTROL (PHASE 2)
	85 - 100	(SHEET NUMBERS NOT USED)
	101 - 121	CROSS SECTIONS
	122 - 200	(SHEET NUMBERS NOT USED)
	201 - 202	ACCESS ROAD CROSS SECTIONS

Computer File Information	
Creation Date:	02/01/00 Initials: SEM
Last Modification Date:	08/02/02 Initials: RJG
Full Path:	Q:\X2310007\ACAD\Sheets\
Drawing File Name:	Sht. 1_title(rev1).dwg
Acad Ver. R14	Scale: NO SCALE Units: ENGLISH

Index of Revisions	
(R-1)	Revised Shts. 1, 7, 8 & 54
(R-2)	07/22/02 Value Eng. Proposal

Colorado Department of Transportation	
905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-548-5734 Fax: 719-548-1230	1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8878
Region 2	BI

As Constructed		Contract Information		Project No./Code
No Revisions:		Contractor		BR 0251-151
Revised:	09/15/03	Resident Engineer: Andrew Garton, P.E.		
Void:		Project Engineer: Bassam Issa, P.E.		12394
		PROJECT STARTED	ACCEPTED	
		Comments		Sheet Number 1

PLAN NUMBER	M STANDARD TITLE	PAGE NUMBER
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☒ M-203-2	DITCH TYPES	3
☐ M-203-10	SUPERELEVATION CROWNED HIGHWAYS	4
☒ M-203-11	SUPERELEVATION DIVIDED HIGHWAYS SHOULDER PIVOT	5
☐ M-203-12	SUPERELEVATION STREETS	6
☐ M-203-13	SUPERELEVATION DIVIDED HIGHWAYS CENTER PIVOT	7
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☒ M-208-1	TEMPORARY EROSION CONTROL (7 SHEETS)	12-18
☐ M-210-1	MAILBOX SUPPORTS (2 SHEETS)	19-20
☐ M-214-1	PLANTING DETAILS	21
☐ M-412-1	CONCRETE PAVEMENT JOINTS (3 SHEETS)	22-24
☒ M-506-1	GABIONS AND SLOPE MATTRESS	25
☐ M-510-1	STRUCTURAL PLATE CULVERT PIPE H-20 LOADING	26
☐ M-601-1	SINGLE CONCRETE BOX CULVERT (2 SHEETS)	27-28
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☐ M-601-3	TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	31-32
☐ M-601-10	HEADWALL FOR PIPE CULVERTS	33
☐ M-601-11	TYPE "S" SADDLE HEADWALL FOR PIPE CULVERTS	34
☐ M-601-12	HEADWALLS AND CULVERT OUTLET PAVING	35
☐ M-601-20	WINGWALLS FOR PIPE OR BOX CULVERTS	36
☒ M-603-1	METAL AND PLASTIC CULVERT PIPE (2 SHEETS)	37-38
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☐ M-603-10	CONCRETE AND METAL END SECTIONS (2 SHEETS)	41-42
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☐ M-604-11	INLET, TYPE D	44
☐ M-604-12	CURB INLET, TYPE R (2 SHEETS)	45-46
☐ M-604-13	CONCRETE INLET, TYPE 13	47
☐ M-604-20	MANHOLES (3 SHEETS)	48-50
☐ M-604-25	VANE GRATE INLET WITH FRAME AND CONCRETE APRON (5 SHEETS)	51-55
☐ M-605-1	SUBSURFACE DRAINS	56
☒ M-606-1	GUARDRAIL, TYPE 3, W-BEAM (15 SHEETS)	57-71
☒ M-606-12	GUARDRAIL, TYPE 4, CONCRETE BARRIER (2 SHEETS)	72-73
☐ M-606-13	GUARDRAIL, TYPE 7, F-SHAPE BARRIER (4 SHEETS)	74-77

PLAN NUMBER	M STANDARD TITLE	PAGE NUMBER
☒ M-607-1	WIRE FENCES AND GATES (3 SHEETS)	78-80
☐ M-607-2	CHAIN LINK FENCE (3 SHEETS)	81-83
☐ M-607-3	BARRIER FENCE	84
☐ M-607-4	DEER FENCE AND GATES (2 SHEETS)	85-86
☐ M-607-10	PICKET SNOW FENCE	87
☐ M-608-1	CURB RAMPS	88
☐ M-609-1	CURBS, GUTTERS, AND SIDEWALKS (2 SHEETS)	89-90
☐ M-611-1	CATTLE GUARD (2 SHEETS)	91-92
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☐ M-613-2	HIGH MAST LIGHTING (2 SHEETS)	96-97
☒ M-614-1	RUMBLE STRIPS (2 SHEETS)	98-99
☐ M-615-1	EMBANKMENT PROTECTOR, TYPE 3	100
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☒ M-620-12	FIELD OFFICE, CLASS 2	106
☒ M-629-1	SURVEY MONUMENTS (2 SHEETS)	107-108

PLAN NUMBER	S STANDARD TITLE	PAGE NUMBER
☒ S-612-1	TYPICAL DELINEATOR INSTALLATIONS (5 SHEETS)	109-11
☒ S-614-1	TYPICAL GROUND SIGN PLACEMENT	11
☒ S-614-2	CLASS I GROUND SIGN INSTALLATIONS	11
☐ S-614-3	CLASS II GROUND SIGN INSTALLATIONS	11
☐ S-614-4	CLASS III SIGNS, SHEET ALUMINUM PANELS (3 SHEETS)	117-11
☒ S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	120-12
☐ S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	122-12
☒ S-614-10	TYPICAL MARKER ASSEMBLY INSTALLATIONS	12
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☐ S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATION	12
☐ S-614-21	CONCRETE BARRIER SIGN POST INSTALLATIONS	13
☐ S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS	13
☐ S-614-40	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	132-13
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☒ S-627-1	TYPICAL PAVEMENT MARKINGS (5 SHEETS)	149-15
☒ S-630-1	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (10 SHEETS)	154-16
☒ S-630-2	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) & VERTICAL PANELS	16
☒ S-630-3	FLASHING BEACON (PORTABLE) DETAILS	16

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

COLORADO
DEPARTMENT OF TRANSPORTATION

STANDARD PLANS LIST
M & S STANDARDS
OCTOBER 1, 2000

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		STANDARD PLANS LIST		Project No./Code			
Creation Date:	01/17/00 Initials: BHN			 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2		 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678		No Revisions: 9/15/03 Revised: Void:		Designer: BHN Detailer: DCS Sheet Subset: ROADWAY Subst Sheets: R 1 of 24		BR 0251-151	
Last Modification Date:	12/16/01 Initials: BHN											12394	
Full Path:	G:\-tpto\67754005\dwg\											Sheet Number 2	
Drawing File Name:	stanplan.dwg												
Acad Ver.	R14	Scale:	NO SCALE	Units:	ENGLISH								

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

☐ Horizontal Control	Format*
☐ Vertical Control	Plan Sheets
☐ Roadway Alignment	Plan Sheets
☐ Original Terrain Data	Plan Sheets
☐ Other:	

*Specify the information format, ie., 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
☐ Signalization
☐ Safety Improvement
☐ Asphalt Overlay
☐ Concrete Overlay
☐ Minor Widening
☐ Major Reconstruction
☐ New Roadway Construction
☐ Bridge Replacement
☐ Bridge Widening
☐ New Bridge
☐ Other:

SURVEY WORK TO BE PERFORMED BY OTHERS:

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER ITEM 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
☐ Clearing and Grubbing Limits
☐ Removal Limits
☐ Excavation and Embankment
☐ Excavation
☐ Unclassified
☐ Stripping
☐ Muck
☐ Rock
☐ Borrow
☐ Other:
☐ Embankment
☐ Site Grading
☐ Erosion Control (Perm)
☐ Other:
☐ As Staked Earthwork Quantities

SLOPE STAKING	GRID	GRADE STAKES	SPECIAL INTERVAL
YES	-	-	50 FT.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
YES	-	-	50 FT.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

- ☐ Landscaping
☐ Top Soil
☐ Seeding
☐ Mulching
☐ Planting
☐ Other:
☐ Erosion Control
☐ Seeding (Temp)
☐ Silt Fences
☐ Straw Bales
☐ Temporary Berm
☐ Riprap (Temp)
☐ Other (Temp Diversion, Temp Slope Drain, Bush Barrier, Check Dam, Other:)

- ☐ Roadway Bases
☐ Untreated Subgrade
☐ Treated Subgrade
☐ Aggregate Base Course
☐ Other:
☐ Pavements
☐ PMBB - Plant Mix Bituminous Base
☐ HBP - Hot Bituminous Pavement
☐ Concrete
☐ Other:
☐ Roadway Elements
☐ Curb and Gutter
☐ Drop inlets - alignment and grades
☐ Retaining Walls
☐ Guard Rail
☐ Sidewalk
☐ Other:
☐ Riprap (Perm)
☐ Slope and Ditch Paving
☐ Minor Structures
☐ Structure Excavation limits
☐ Culverts
☐ Culverts w/ Headwalls and Wingwalls
☐ Concrete Box Culverts w/ Headwalls and Wingwalls
☐ Pipes
☐ Sanitary Sewer
☐ Storm Sewer
☐ Water
☐ Irrigation
☐ Miscellaneous

- ☐ Manholes
☐ Inlets
☐ Other: Special Drainage Structure

- ☐ Major Structures - Overhead Signs, Concrete Box Culverts, Bridges - and all other structures assigned a structure number
☐ Structure Excavation limits
☐ Concrete Box Culverts w/ Headwalls and Wingwalls
☐ Piling locations and cut off elevations
☐ Caisson locations and elevations
☐ Footing locations, alignment, and elevations
☐ Abutment/Pier locations, alignment, and elevations
☐ Wingwall skew angles/offsets
☐ Structural concrete form locations
☐ Substructure survey (See Revision of Subsection 601.12(m))
☐ 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
☐ Other:

- ☐ Fencing
☐ Temporary
☐ Permanent
☐ Sound Barriers
☐ Other:

- ☐ Delineators
☐ Temporary
☐ Permanent

- ☐ Lighting and Traffic Control Devices (Perm)
☐ Signal pole locations and elevations
☐ Light pole locations and elevations
☐ Signs
☐ Field verify sign post locations, elevations, and lengths before fabrication.
☐ Other:

- ☐ Pavement Marking
☐ Striping (Temp)
☐ Striping (Perm)
☐ Symbols
☐ Other:

GRADE STAKES	GRID	SPECIAL INTERVAL	SPECIAL OFFSET
YES	-	-	50 FT.
-	-	-	-
-	-	-	-
-	-	-	-
YES	-	-	50 FT.
-	-	-	-
-	-	-	-
-	-	-	-

- ☐ Temporary Lighting and Construction Traffic Control Devices
☐ Signal pole locations and elevations (Temp)
☐ Light pole locations and elevations (Temp)
☐ Signs (Temp)
☐ Other:
☐ Easement (Temp)(Staking)

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

- ☐ Monumentation
☐ Control
☐ Right of Way (Temp) (Staking)
☐ Right of Way
☐ Land corners, Aliquot corners
☐ Easement (Temp)(Staking)
☐ Easement (Perm)
☐ Reference the specified existing monuments: **
☐ Relocate the specified existing monuments: **
☐ Locate monuments. It is estimated hours are required.

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

GENERAL NOTES:

All work shall be done in accordance with the latest edition of the entire CDOT Survey Manual including all revisions to date:
- Chapter 5 - Construction Surveying, revised 02/07/96.

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.

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 3 days prior to the Presurvey Conference.

The following surveying notebooks are required:

- ☐ Alignment Notebook
☐ Benchmark Notebook
☐ Control Survey/Monumentation Notebook
☐ Minor Structure Notebook
☐ Major Structure Notebook
☐ Slope Staking Notebook
☐ Grade Notebook
☐ Other Notebook(s):

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.

The Contractor shall furnish an As Staked earthwork quantity to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDOT Survey Manual.

A printed copy of the As Staked earthwork data and a computer disk in the specified format shall be submitted to the Engineer.
The Contractor shall field verify original ground cross sections at maximum 160 m (500 ft) intervals.

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 the specified tolerance.

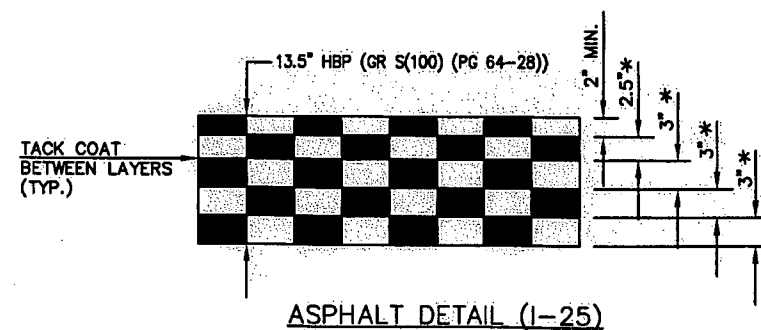
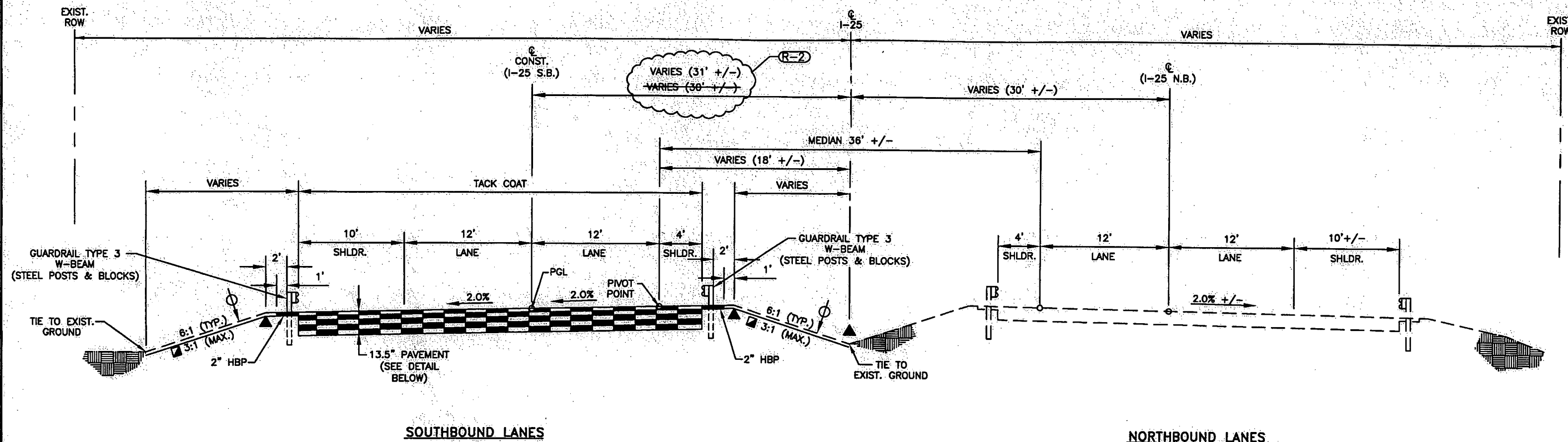
The Contractor shall perform all field surveying and calculations necessary to tie plan grades into field grades.

The Contractor shall coordinate construction staking on the project with any utility work.

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		Project No./Code	
Creation Date:	01/17/00 Initials: BHN			 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI		No Revisions: 9/15/03		BR 0251-151	
Last Modification Date:	09/14/00 Initials: DCS					Revised:		12394	
Full Path:	G:\-tpto\67754005\dwg\					Void:		Sheet Number 3	
Drawing File Name:	survtab.dwg					Designer: BHN		Structure Numbers	
Acad Ver. R14	Scale: NO SCALE Units: ENGLISH			Detailer: DCS		M-17-BE			
				Sheet Subset: ROADWAY		Subset Sheets: R 2 of 24			

TYPICAL SECTION NOTES:

- THE CONTRACTOR WILL BE REQUIRED TO PLACE 4 INCHES OF TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION.
- BREAK POINTS IN SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
- SIDE SLOPES MAY VARY FROM TYPICAL SECTIONS AT CERTAIN LOCATIONS. SEE CROSS SECTIONS FOR SIDE SLOPES IN ALL AREAS.
- * APPROXIMATE THICKNESS.

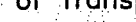


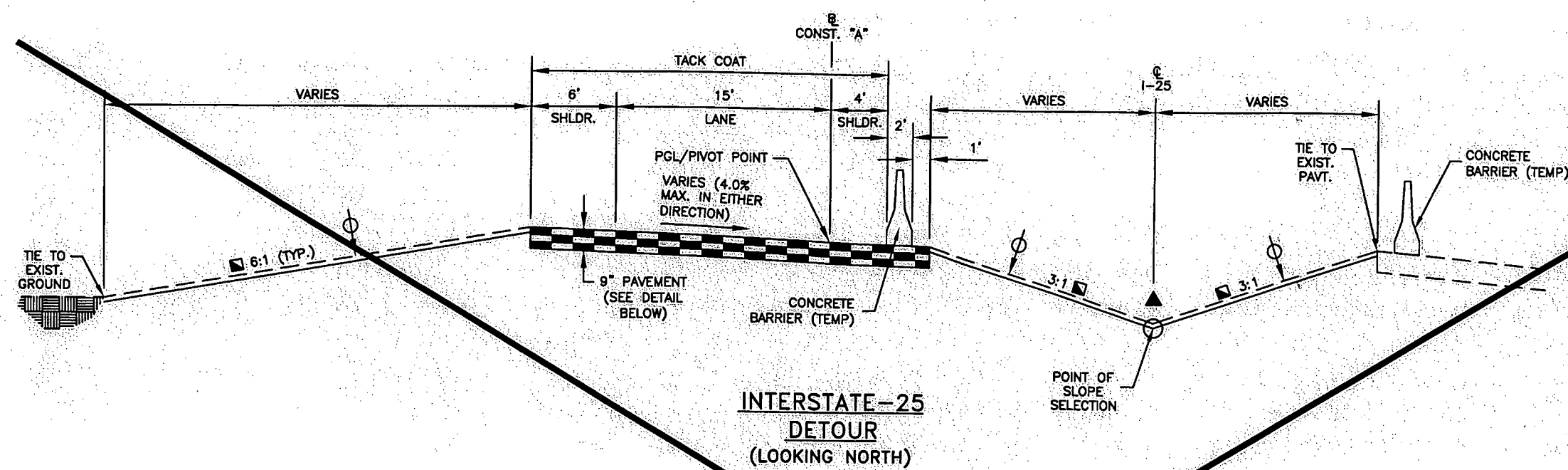
FLEXIBLE PAVEMENT DESIGN PARAMETERS

STABILIZATION DATA	I-25
20-YEAR 18-KIP ESALS	8,362,947
RELIABILITY	95%
SERVICEABILITY	2.00
OVERALL STANDARD DEVIATION	0.44
STRUCTURAL NUMBER	5.87
PAVEMENT SMOOTHNESS CATEGORY	1
SMOOTHNESS DETERMINED BY	(INCHES/MILE)

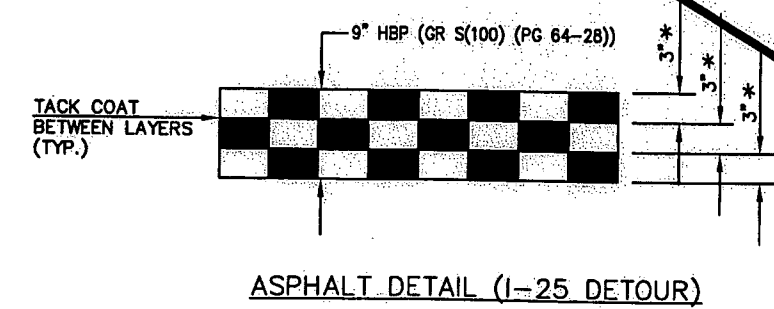
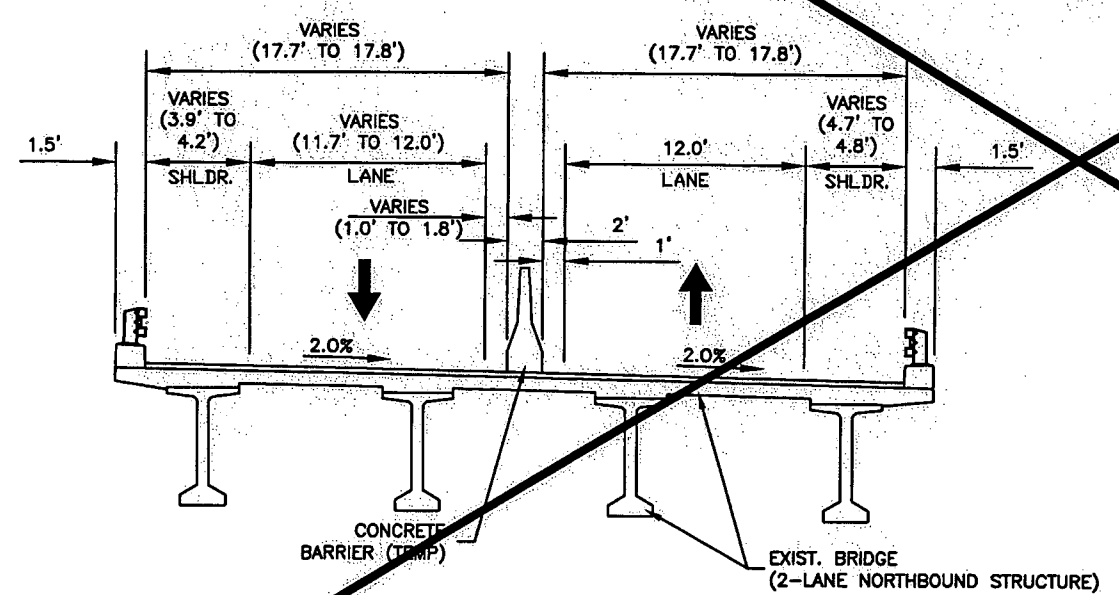
NOTE:

- EMBANKMENT MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 10.

Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed		TYPICAL SECTIONS INTERSTATE-25			Project No./Code	
Creation Date:	01/19/00	Initials: BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions: 9/15/03		Designer: BHN Detailer: DCS Sheet Subset: ROADWAY Structure Numbers Subset Sheets: R 3 of 24			BR 0251-151	
Last Modification Date:	07/20/02	Initials: RJG				Revised:			12394						
Full Path:	Q:\X2310007\ACAD\Sheets\					Void:			Sheet Number 4						
Drawing File Name:	typsect.dwg														
Acad Ver. R14	Scale: H:1"=5', V:1"=2.5' Units: ENGLISH														
						Region 2 BI									



- TYPICAL SECTION NOTES:**
- THE CONTRACTOR WILL BE REQUIRED TO PLACE 4 INCHES OF TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION.
 - BREAK POINTS IN SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
 - SIDE SLOPES MAY VARY FROM TYPICAL SECTIONS AT CERTAIN LOCATIONS. SEE CROSS SECTIONS FOR SIDE SLOPES IN ALL AREAS.
 - * APPROXIMATE THICKNESS.



FLEXIBLE PAVEMENT DESIGN PARAMETERS

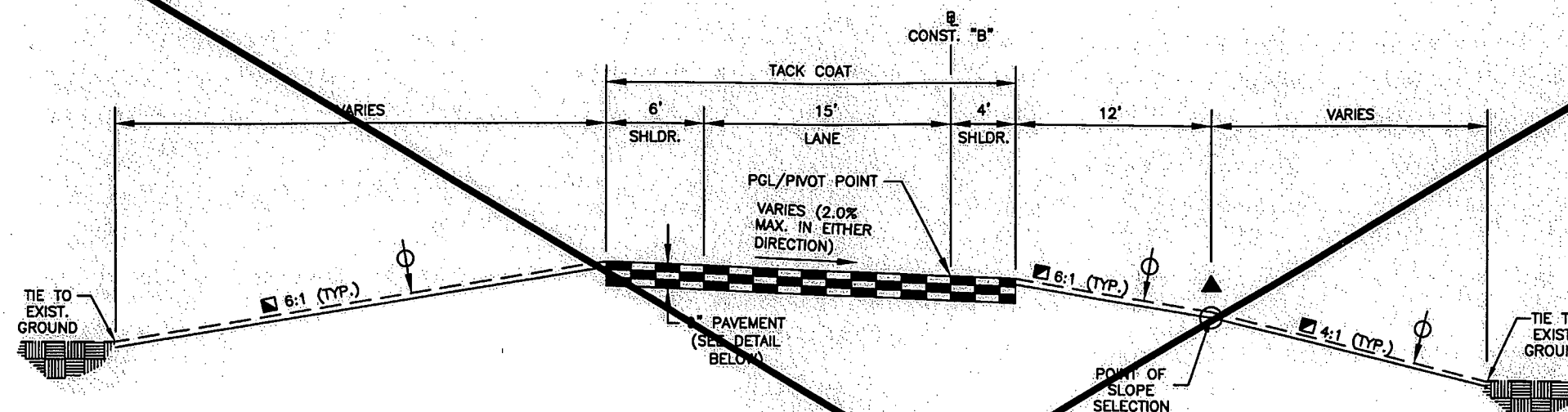
STABILIZATION DATA	I-25
1-YEAR 18-KIP ESALS	418,147
RELIABILITY	80%
SERVICEABILITY	2.00
OVERALL STANDARD DEVIATION	0.44
STRUCTURAL NUMBER	3.41
PAVEMENT SMOOTHNESS CATEGORY	1
SMOOTHNESS DETERMINED BY	(INCHES/MILE)

NOTE:
1. EMBANKMENT MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 10.

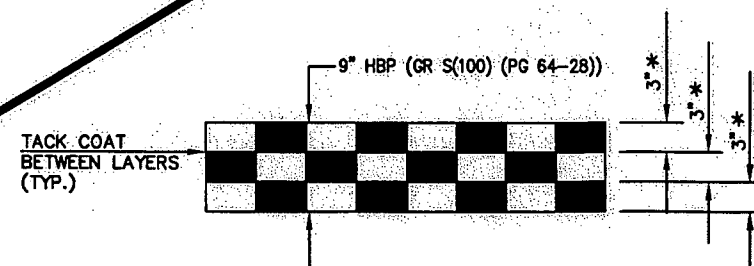
Computer File Information			Sheet Revisions		Colorado Department of Transportation		As Constructed		TYPICAL SECTIONS		Project No./Code	
Creation Date:	01/19/00	Initials: BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS		No Revisions:	I-25 DETOUR		BR 0251-151	
Last Modification Date:	09/14/00	Initials: DCS			(Deleted Sheet)			Revised:			12394	
Full Path:	G:\-tpto\67754005\dwg\							Void:	9/15/03		12394	
Drawing File Name:	typsect.dwg										Sheet Number 5	
Acad Ver:	R14	Scale: H:1"=5', V:1"=2.5' Units: ENGLISH							Sheet Subset: ROADWAY	Subset Sheets: R 4 of 24		

TYPICAL SECTION NOTES:

- THE CONTRACTOR WILL BE REQUIRED TO PLACE 4 INCHES OF TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION.
- BREAK POINTS IN SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
- SIDE SLOPES MAY VARY FROM TYPICAL SECTIONS AT CERTAIN LOCATIONS. SEE CROSS SECTIONS FOR SIDE SLOPES IN ALL AREAS.
- * APPROXIMATE THICKNESS.



INTERSTATE-25 SB ENTRANCE RAMP (LOOKING NORTH)



ASPHALT DETAIL (I-25 SB ENTRANCE RAMP)

FLEXIBLE PAVEMENT DESIGN PARAMETERS

STABILIZATION DATA	I-25
1-YEAR 18-KIP ESALS	418,147
RELIABILITY	80%
SERVICEABILITY	2.00
OVERALL STANDARD DEVIATION	0.44
STRUCTURAL NUMBER	3.41
PAVEMENT SMOOTHNESS CATEGORY	1
SMOOTHNESS DETERMINED BY	(INCHES/MILE)

NOTE:

- EMBANKMENT MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 10.

Computer File Information

Creation Date:	01/19/00	Initials:	BHN
Last Modification Date:	09/14/00	Initials:	DCS
Full Path:	G:\-tpto\67754005\dwg\		
Drawing File Name:	typsect.dwg		
Acad Ver.	R14	Scale:	H:1"=5', V:1"=2.5' Units: ENGLISH

Sheet Revisions

Revision	Date	Description	By
(R-2)	07/22/02	Value Eng. Proposal (Deleted Sheet)	MMS

Colorado Department of Transportation



Region 2 BI



As Constructed

No Revisions:

Revised:

Void: 9/15/03

TYPICAL SECTIONS I-25 SB ENTRANCE RAMP

Designer:	BHN	Structure Numbers	
Detailer:	RRL		
Sheet Subset:	ROADWAY	Subset Sheets:	R 5 of 24

Project No./Code

BR 0251-151

12394

Sheet Number 6

GENERAL NOTES

1. ALL ROADWAY CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO:
- THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD PLANS (M&S STANDARDS) (OCTOBER 2000, ENGLISH VERSION) AND ALL REVISIONS THERETO
- THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1999).
2. ALL TREES WITHIN THE LIMITS OF CUT OR FILL SHOWN ON THE PLANS SHALL BE REMOVED. ALL OTHER TREES SHALL BE PROTECTED PER SPECIAL PROVISION 107 "PROTECTION OF EXISTING VEGETATION" UNLESS OTHERWISE NOTED. TREE REMOVALS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 201 - CLEARING AND GRUBBING.
3. CLEARING AND GRUBBING SHALL INCLUDE REMOVAL OF ALL TREES, LOGS, LIMBS, STUMPS, BRUSH, AND TRASH AND ETC. TO AN OFFSITE LOCATION.
4. FOR PLAN QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:
HOT BITUMINOUS PAVEMENT @ 110 LBS. PER SQ. YD./INCH
TACK COAT DILUTED EMULSIFIED ASPHALT @ 0.1 GALS. PER SQ. YD. (SLOW SETTING)
5. A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED TO IMPROVE BOND AT THE FOLLOWING LOCATIONS:
- BEFORE PLACING NEW PAVEMENT OVER EXISTING PAVEMENT
- ALONG THE FACE OF ALL ADJACENT PAVEMENT, AND OTHER SURFACES AGAINST WHICH ASPHALT WILL BE PLACED
- BETWEEN PAVEMENT COURSES WHEN ORDERED BY THE ENGINEER.
THE TACK COAT (DILUTED) FOR THIS PROJECT SHALL BE ONE PART EMULSIFIED ASPHALT (SLOW SETTING) AND ONE PART WATER. RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.
6. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
1. A SKI-TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
2. 1500 FEET OF CONTROL LINE AND STAKES.
7. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED AND SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
8. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
9. DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
1. FULL DEPTH OF ALL EMBANKMENTS.
2. BASES OF CUTS AND FILLS 6 INCHES.
3. FULL DEPTH OF EMBANKMENT SECTIONS USED FOR DITCHES AND CHANNEL CHANGES.
10. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T99. WATER FOR COMPACTION SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
11. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS SHALL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND SHALL NOT BE PAID FOR SEPARATELY.

GENERAL NOTES (CONTINUED)

12. WHERE IT IS REQUIRED TO CUT EXISTING PAVING OR CONCRETE, THE CUTTING SHALL BE DONE TO A NEAT WORK LINE WITH A SAW OR OTHER METHOD AS APPROVED BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO REMOVAL OF ASPHALT MAT OR APPLICABLE REMOVAL ITEM.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF ALL SURFACE AND SUBSURFACE DRAINAGE AND GROUND WATER ENTERING THE AREA. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DEWATERING IF NEEDED AT NO ADDITIONAL COST TO THE PROJECT. DEWATERING METHODS SHALL BE APPROVED BY THE ENGINEER. SEE SPECIFICATIONS FOR PROPER HANDLING OF DISCHARGE FROM TRENCH DEWATERING OPERATIONS.
14. THE COST FOR ALL JOINT GASKETS, CRADLES, COLLARS AND CONNECTIONS FOR CULVERTS AND CULVERT EXTENSIONS SHALL BE INCLUDED IN THE COST OF THE WORK.
15. THE MINIMUM THICKNESS OF TOPSOIL SHALL BE 4 INCHES. ~~IT IS ESTIMATED 490 THAT 560 CU. YARDS WILL BE REQUIRED BASED ON AVERAGE THICKNESS, AND WAS WILL BE OBTAINED FROM CONTRACTOR'S SOURCE. TOPSOIL AREA SHALL BE MEASURED IN PLACE ALONG THE SLOPE.~~
16. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPES AS SHOWN ON THE PLANS AND CROSS SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURE SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.
17. ALL FILL SLOPES GREATER THAN 6:1 SHALL BE BENCHED.
18. ALL EXISTING GUARDRAIL TYPE 3 AND BRIDGE RAIL DELINEATED TO BE REMOVED SHALL BE SALVAGED BY THE CONTRACTOR. CDOT SHALL HAUL OFF THE MATERIALS THAT THEY DEEM AS SALVAGEABLE. ALL MATERIAL THAT CDOT DOESN'T SALVAGE MUST BE DISPOSED OF BY THE CONTRACTOR. EXISTING BRIDGE RAIL MAY CONTAIN HEAVY METAL - BASED PAINT.
19. TEMPORARY EROSION CONTROL FEATURES MAY BE ADJUSTED BY THE ENGINEER TO REDUCE THE ENVIRONMENTAL IMPACT.
20. ~~IT IS ESTIMATED THAT 741 LF OF FENCE BARBED WIRE WITH METAL POSTS AND 2 EACH 20-FOOT GATES WILL BE REQUIRED IN VARIOUS AREAS ON THE PROJECT. THEY WILL BE PLACED AS DIRECTED BY THE ENGINEER.~~
21. ~~IT IS ESTIMATED THAT 500 LF OF FENCE (PLASTIC) WILL BE REQUIRED IN VARIOUS AREAS ON THE PROJECT. IT WILL BE PLACED AS DIRECTED BY THE ENGINEER.~~
22. ~~IT IS ESTIMATED THAT 10 HOURS OF CONSTRUCTION SURVEYING (HOURLY) WILL BE REQUIRED FOR THIS PROJECT.~~
23. FLAGGING WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF ITEM 630, TRAFFIC CONTROL MANAGEMENT. FOR INFORMATION ONLY IT IS APPROXIMATELY ESTIMATED THAT 150 FLAGGING HOURS WILL BE REQUIRED ON THE PROJECT.
- REV 1 24. PILE DRIVING ANALYZER (PDA) WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF ITEM 502, STEEL PILING. IT IS ESTIMATED THAT (ONE PDA FOR EACH ABUTMENT AND ONE PDA FOR EACH DROP STRUCTURE) WILL BE REQUIRED FOR THE PROJECT. FOUR TOTAL PDA'S AS DIRECTED BY THE ENGINEER.

UTILITY INFORMATION NOTES

25. NO UNDERGROUND UTILITIES ARE ANTICIPATED IN THE PROJECT AREA BUT, THE CONTRACTOR SHALL CALL THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987 FOR UTILITY LOCATIONS AT LEAST 2 BUSINESS DAYS, NOT INCLUDING THE DAY OF ACTUAL NOTIFICATION, PRIOR TO EXCAVATION.
26. THE INFORMATION SHOWN ON THESE PLANS CONCERNING TYPE AND LOCATION OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.
27. FILTER FABRIC MATERIAL IN THE PLAN SHEETS IS PAID FOR AS GEOTEXTILE (EROSION CONTROL)(CLASS A).

Computer File Information				Sheet Revisions			Colorado Department of Transportation		As Constructed		GENERAL NOTES			Project No./Code		
Creation Date:	01/17/00	Initials:	BHN	(R-1)	2/21/02	ADDED NOTE 24	BAI	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-448-8552 Fax: 303-448-8678	No Revisions:		Designer: BHN Structure M-17-BE Detailer: DCS Numbers Sheet Subset: ROADWAY Subset Sheets: R 6 of 24			BR 0251-151	
Last Modification Date:	12/16/01	Initials:	BHN				Revised: 9/15/03			12394						
Full Path:	G:\-tpto\67754005\dwg\						Void:			Sheet Number 7						
Drawing File Name:	gennotes.dwg															
Acad Ver.	R14	Scale:	NO SCALE	Units:	ENGLISH											

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY												STRUCTURE STR. NO. M-17-B												PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.											PLAN	AS CONST.											PLAN	AS CONST.
			201-00000	Clearing and Grubbing	L S	1	1																						1	1	
			202-00090	Removal of Delineator	EACH	32 ¹⁴	15																					32 ¹⁴	15		
			202-00220	Removal of Asphalt Mat	SY	10,513 ⁸¹⁹	862																					10,513 ⁸¹⁹	862		
			202-00245	Removal of Asphalt Mat (Planing)	TON	411 ⁰	32																					411 ⁰	32		
			202-00250	Removal of Pavement Marking	SF	2,208	1,811																					2,208	1,811		
			202-00400	Removal of Bridge	EACH													1	1									1	1		
			202-00502	Removal of Portions of Present Structure	CY													12	71									12	71		
			202-00810	Removal of Ground Sign	EACH	2	2																					2	2		
			202-01000	Removal of Fence	LF	146 ¹⁴⁶	146																					146 ¹⁴⁶	146		
			202-01130	Removal of Guardrail Type 3	LF	1,914 ⁶⁵⁹	550																					1,914 ⁶⁵⁹	550		
			202-01300	Removal of End Anchorage	EACH	13 ⁷	7																					13 ⁷	7		
			203-00010	Unclassified Excavation (Complete In Place)	CY	1,550	1,550																					1,550			
			203-00010	Unclassified Excavation (Complete In Place)	CY	1,029	1,162																					1,029	1,162		
			203-00060	Embankment Material (Complete In Place)	CY	1,658	1,658																					1,658			
			206-00000	Structure Excavation	CY													2,015	2,270									2,015	2,270		
			206-00100	Structure Backfill (Class 1)	CY													684	860									684	860		
			206-00200	Structure Backfill (Class 2)	CY													397	457									397	457		
			206-00360	Mechanical Reinforcement of Soil	CY													684	860									684	860		
			207-00205	Topsoil	CY	560	490																					560	490		
			208-00011	Erosion Bales (Weed Free)	EACH	72 ³⁰	0																					72 ³⁰	0		
			208-00020	Silt Fence	LF	770 ⁵⁵⁰	550																					770 ⁵⁵⁰	550		
			210-00810	Reset Ground Sign	EACH	4 ²	18																					4 ²	18		
			212-00006	Seeding (Native)	ACRE	2	1.75																					2	1.75		
			213-00000	Mulching	ACRE	2	1.75																					2	1.75		
			213-00061	Mulch Tackifier	LB	0 ⁴⁰⁰	350																					0 ⁴⁰⁰	350		
			216-00030	Soil Retention Blanket (Special)	SY	1,050 ⁰	1,050																					1,050 ⁰	1,050		
			250-00100	Environmental Health and Safety	L S													1	1									1	1		
			304-06007	Aggregate Base Course (Class 6)	CY	64	64																					64	64		
			403-00720	Hot Bituminous Pavement (Patching) (Asphalt)	TON	250 ⁷⁵	43.07																					250 ⁷⁵	43.07		
			403-33851	Hot Bituminous Pavement (Grading S) (100) (PG 64-28)	TON	6,623 ⁴⁹⁵	519.11																					6,623 ⁶¹⁰	634.11		
			411-10255	Emulsified Asphalt (Slow-Setting)	GAL	2,804 ²⁶⁵	58											115	115									2,804 ⁶¹⁰	58		
			420-00100	Geotextile (Erosion Control) (Class A)	SY													2,150	2,150									2,150	3,391		
			502-11057	Steel Piling (HP 10x57)	LF													422	530									422	530		

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		SUMMARY OF APPROXIMATE QUANTITIES		Project No./Code	
Creation Date: 30-Jan-2002	Initials:	Rev1 02/21/02	Changed quantity of item 502	BAI	 Room 4201 E. Arkansas Ave. Denver, CO 80222 Phone: Fax:	No Revisions:		Designer: Structure Numbers M-17-BE Detailer: Sheet Subset: Subset Sheets: R7 of 24		BR 0251-151	
Last Modification Date: 07/23/02	Initials: RJG	Rev2 07/22/02	Value Eng. Proposal	MMS		Revised: 9/15/03				12394	
Full Path: Q:\X2310007\ACAD\Sheets\						Void:				Sheet Number: 8	
Drawing File Name: 12394_Sheet8											
AutoCAD by Autodesk				Region 2 Design							

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY												STRUCTURE STR. NO. M-17-B												PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.												
			625-00001	Construction Surveying (Hourly)	HOUR	10	0																				10	0			
			626-00000	Mobilization	L S	1	1																				1				
			627-00005	Epoxy Pavement Marking	GAL	23	18																			23	18				
			627-00025	4 Inch Pavement Marking Tape (Removable)	LF	11,236	4,873																			11,236	4,873				
			627-00026	8 In Pavement Marking Tape (Removable)	LF	248																				248					
			630-00007	Traffic Control Inspection	DAY	240	345																				240	345			
			630-00012	Traffic Control Management	DAY	60	28																				60	28			
			630-80338	Barricade (Type 3 M-D) (Temporary)	EACH	2	1																				2	1			
			630-80341	Construction Traffic Sign (Panel Size A)	EACH	31	16																			31	16				
			630-80342	Construction Traffic Sign (Panel Size B)	EACH	15	31																			15	31				
			630-80343	Construction Traffic Sign (Panel Size C)	EACH	8	24																			8	24				
			630-80358	Advance Warning Flashing or Sequencing Arrow Panel (C Type)	EACH	2	1																				2	1			
			630-80360	Drum Channelizing Device	EACH	110	49																			110	49				
			630-80370	Concrete Barrier (Temporary)	LF	2,984	720																			2,984	720				
			630-80380	Traffic Cone	EACH	300	75																			300	75				
R-2			630-80401	Delineator (Type I) (Temporary)	EACH	21																				21					
			630-80402	Delineator (Type II) (Temporary)	EACH	30																				30					
			630-80403	Delineator (Type III) (Temporary)	EACH	1																				1					
			630-85006	Impact Attenuator (Sand Filled Plastic Barrel) (Temporary)	EACH	2	1																			2	1				
				FORCE ACCOUNT =====																											
			700-70010	F/A Minor Contract Revisions	F A	1																					1				
			700-70012	F/A Asphalt Pavement Incentive	F A	1																					1				
			700-70020	F/A On-The-Job Trainee	EACH	1																					1				
			700-70022	F/A OJT Pilot	F A	1																					1				
			700-70025	F/A Quality Incentive Payment	F A	1																					1				
			700-70028	F/A ESB Program	F A	1																					1				

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		SUMMARY OF APPROXIMATE QUANTITIES		Project No./Code	
Creation Date: 30-Jan-2002	Initials: (R-2)	07/22/02	Value Eng. Proposal	MMS	Room 4201 E. Arkansas Ave. Denver, CO 80222		No Revisions:	Designer:		BR 0251-151	
Last Modification Date: 02-Aug-2002	Initials: RJG				Phone:		Revised: 9/15/03	Detailer:		12394	
Full Path: Q:\X2310007\ACAD\Sheets\					Fax:			Sheet Subset:		Sheet Number: 10	
Drawing File Name: 12394_Sheet10.dwg					Region 2 Design			Subset Sheets:			
AutoCAD by Autodesk											

TABULATION OF REMOVAL, AND RESET ITEMS

[illegible]

Computer File Information		(R-2)	Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF QUANTITIES		Project No./Code	
Creation Date:	01/17/00 Initials: BHN		07/22/02	Value Eng. Proposal	MMS	905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Kinley-Horn and Associates, Inc. 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678	No Revisions:		Designer: BHN Detailer: DCS Sheet Subset: ROADWAY Subset Sheets: R 10 of 24		BR 0251-151	
Last Modification Date:	07/21/02 Initials: RJG						12394					
Full Path:	Q:\X2310007\ACAD\Sheets\tabquant.dwg						Sheet Number //					
Drawing File Name:	tabquant.dwg											
Acad Ver.	R14 Scale: NO SCALE Units: ENGLISH				Region 2 BI	Void:						

TABULATION OF SURFACING QUANTITIES

STATION TO STATION	REMOVAL OF ASPHALT MAT	REMOVAL OF ASPHALT MAT (PLANING)	HOT BITUMINOUS PAVEMENT (GRADING S) (ASPHALT) (100) (PG 64-28) TONS								EMULSIFIED ASPHALT (SLOW-SETTING)	REMARKS
	SQ. YD.	TONS	BOTT. LAYER	MID. LAYER	MID. LAYER	MID. LAYER	FINAL TOP LAYER	FINAL TOP LAYER	GUARDRAIL LAYER	OVERBUILD ASPHALT	GALLON ROADWAY PLAN	
STA. 3+66.83 TO STA. 7+75.00	696	-	5	5	5	25	2	5	3	-	-	DETOUR COND. (1-25 SB)
STA. 8+10.00 TO STA. 11+46.97	883	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 NB)
STA. 13+32.45 TO STA. 14+32.85	24	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 NB)
STA. 13+75.80 TO STA. 18+50.01	103	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 NB)
STA. 14+02.90 TO STA. 23+31.04	1431	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 NB)
STA. 18+00.00 TO STA. 19+50.00	183	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 NB)
STA. 21+95.91 TO STA. 24+00.00	146	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 22+30.83 TO STA. 24+55.00	333	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 3+66.83 TO STA. 11+46.97	2002	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 10+05.17 TO STA. 11+40.46	201	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 13+03.33 TO STA. 16+94.88	518	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 14+02.90 TO STA. 24+04.91	3087	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 20+20.84 TO STA. 24+00.00	782	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 23+35.28 TO STA. 24+35.39	41	-	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 18+50.00 TO STA. 21+50.00	-	237	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 21+95.91 TO STA. 24+97.80	-	39	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 24+70.00 TO STA. 27+20.23	-	115	-	-	-	-	-	-	-	-	-	DETOUR COND. (1-25 SB)
STA. 3+66.83 TO STA. 11+46.97	-	-	323	323	-	-	-	323	-	-	381	DETOUR CONDITION
STA. 14+02.90 TO STA. 24+76.75	-	-	370	370	-	-	-	370	-	-	448	DETOUR CONDITION
STA. 14+02.90 TO STA. 19+62.05	-	-	126	126	-	-	-	126	-	-	152	DETOUR CONDITION
STA. 20+20.81 TO STA. 24+00.00	-	-	126	126	-	-	-	126	-	-	152	DETOUR CONDITION
STA. 23+35.28 TO STA. 24+35.39	-	-	7	7	-	-	-	7	-	-	9	DETOUR CONDITION
STA. 9+33.97 TO STA. 11+92.77	-	-	-	-	-	-	-	-	8	-	-	DETOUR CONDITION
STA. 13+32.14 TO STA. 17+18.11	-	-	-	-	-	-	-	-	14	-	-	DETOUR CONDITION
STA. 13+75.80 TO STA. 15+72.84	-	-	-	-	-	-	-	-	7	-	-	DETOUR CONDITION
STA. 3+66.83 TO STA. 7+75.00	-	-	115	115	115	96	77	-	-	-	279	DETOUR CONDITION
STA. 8+32.98 TO STA. 11+46.97	-	-	20	20	20	100	80	-	-	-	290	DETOUR CONDITION
STA. 10+05.17 TO STA. 11+49.19	-	-	33	33	33	28	22	-	-	-	80	DETOUR CONDITION
STA. 12+79.63 TO STA. 18+94.88	-	-	74	74	74	64	51	-	-	-	185	DETOUR CONDITION
STA. 14+02.90 TO STA. 23+31.04	-	-	240	240	240	200	160	-	-	-	581	DETOUR CONDITION
STA. 18+00.00 TO STA. 19+50.00	-	-	31	31	31	26	21	-	-	-	73	DETOUR CONDITION
STA. 22+30.83 TO STA. 24+55.00	-	-	55	55	55	46	37	-	-	-	153	DETOUR CONDITION
STA. 21+95.91 TO STA. 24+00.00	-	-	25	25	-	-	25	-	-	-	30	DETOUR CONDITION
STA. 9+37.04 TO STA. 11+74.02	-	-	-	-	-	-	-	-	18	-	-	DETOUR CONDITION
STA. 10+05.17 TO STA. 11+11.17	-	-	-	-	-	-	-	-	4	-	-	DETOUR CONDITION
STA. 10+41.69 TO STA. 11+49.19	-	-	-	-	-	-	-	-	4	-	-	DETOUR CONDITION
STA. 12+79.63 TO STA. 16+24.69	-	-	-	-	-	-	-	-	13	-	-	DETOUR CONDITION
STA. 13+17.00 TO STA. 16+94.88	-	-	-	-	-	-	-	-	14	-	-	DETOUR CONDITION
STA. 14+02.90 TO STA. 16+04.19	-	-	-	-	-	-	-	-	7	-	-	DETOUR CONDITION
STA. 18+50.00 TO STA. 21+50.00	-	-	-	-	-	-	-	-	-	237	-	DETOUR CONDITION
STA. 21+95.91 TO STA. 24+97.80	-	-	-	-	-	-	-	-	-	39	-	DETOUR CONDITION
STA. 24+70.00 TO STA. 27+20.23	-	-	-	-	-	-	-	-	-	115	-	DETOUR CONDITION
10% FOR IRREGULARITIES	-	-	3	-	-	-	-	-	-	-	-	-
SUB-TOTALS	10,513.819	411.0	1812.112	1047.109	670.109	566.92	440.73	977.0	90.0	411.0	2804.265	-
PROJECT TOTALS	10,513.819	411.0	-	-	-	495.8823 TONS	-	-	-	-	2804.265 GAL	-

A total of 519.11 Tons of HBP was placed on the roadway.

IT IS ESTIMATED THAT 250 TONS OF HBP (PATCHING) (ASPHALT) WILL BE REQUIRED FOR THIS PROJECT AS DIRECTED.

SUMMARY OF EARTHWORK FOR DETOUR

UNCLASSIFIED EXCAVATION (CIP)	CY
STA. 3+66.83 TO 12+50.00 (FROM CROSS SECTIONS)	582
STA. 12+50.00 TO 27+20.23 (FROM CROSS SECTIONS)	968
TOTAL (PAY QUANTITY)	1550
FOR INFORMATION ONLY	
COMPACTION (AASHTO T-99) (FOR INFORMATION ONLY)	CY
EMBANKMENT (NET)	1480
BASE OF CUTS AND FILLS	1793
TOTAL	3223
WETTING FOR COMPACTION	M GAL
40 GAL/CY (FOR INFORMATION ONLY)	129
EARTHWORK BALANCE (FOR INFORMATION ONLY)	
EXCAVATION	CY
UNCLASSIFIED EXCAVATION (ROADWAY) (FROM CROSS SECTIONS)	1550
EMBANKMENT MATERIAL	1303
x 1.12	1480
EXCESS MATERIAL (WASTE)	90
TOTAL	1550

SUMMARY OF EARTHWORK FOR I-25 ULTIMATE

UNCLASSIFIED EXCAVATION (CIP)	CY
STA. 10+00.00 TO 17+00.00 (BRIDGE APPROACHES)	144
STA. 3+66.83 TO 12+50.00	627
STA. 314+00.00 TO 317+00.00 (ACCESS ROAD)	440
STA. 2+50.00 TO 27+20.23	1031
SCROGGS-ARROYO CHANNEL IMPROVEMENTS	445
TOTAL (PAY QUANTITY)	1657
x 1.12	1857
FOR INFORMATION ONLY	
COMPACTION (AASHTO T-99) (FOR INFORMATION ONLY)	CY
EMBANKMENT (NET)	1658.251
BASE OF CUTS AND FILLS	2241.257
TOTAL	3899.508
WETTING FOR COMPACTION	M GAL
40 GAL/CY (FOR INFORMATION ONLY)	156.20
EARTHWORK BALANCE (FOR INFORMATION ONLY)	
EXCAVATION	CY
UNCLASSIFIED EXCAVATION (ROADWAY) (FROM CROSS SECTIONS)	1375.584
UNCLASSIFIED EXCAVATION (SCROGGS ARROYO CHANNEL IMPROVEMENTS)	445
EMBANKMENT MATERIAL	1658.251
x 1.12	1857.281
BORROW FROM CONTRACTOR SOURCE- EXCESS MATERIAL	37.748
TOTAL	1857.1864

NOTE:
1. EMBANKMENT MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 10.

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Sheet Revisions

07/22/02	Value Eng. Proposal	MMS

Colorado Department of Transportation



905 Erie Avenue
P.O. Box 535
Pueblo, CO 81002
Phone: 719-546-5734
Fax: 719-546-1230



1515 Arapahoe St.
Tower 1, Suite 500
Denver, CO 80202
Phone: 303-446-8552
Fax: 303-446-8678

Region 2 BI

As Constructed

No Revisions:	
Revised:	9/15/03
Void:	

TABULATION OF QUANTITIES

Designer:	BHN	Structure	
Detailer:	DCS	Numbers	
Sheet Subset:	ROADWAY	Subset Sheets:	R 11 of 24

Project No./Code

BR 0251-151
12394
Sheet Number 12

TABULATION OF LANDSCAPING ITEMS

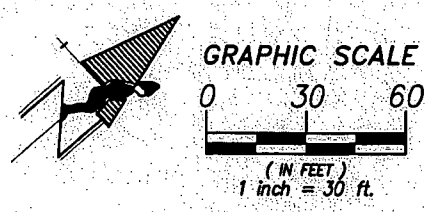
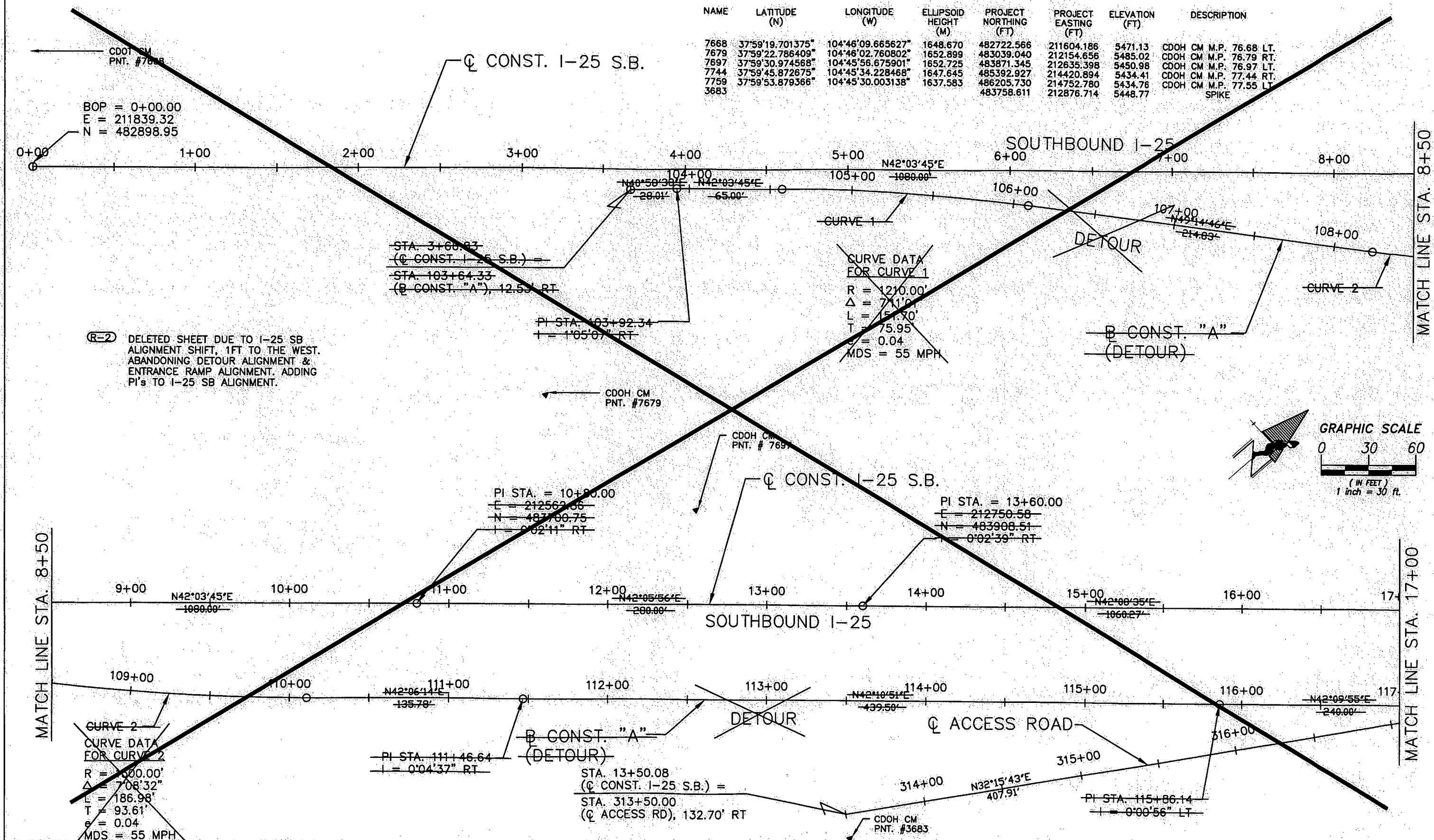
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BOOK	PAGE	SHEET			CU. YD.	ACRES	ACRES	LBS				
			STA. 3+50.00 TO STA. 12+00.00	-	560	2	2	200				
				-	-	-	-	-				
				-	-	-	-	-				
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				-	-	-	-	-				
				-	-	-	-	-				
			PROJECT TOTALS		490 560	1.75 2	1.75 2	350 200				

TABULATION OF GUARDRAIL ITEMS

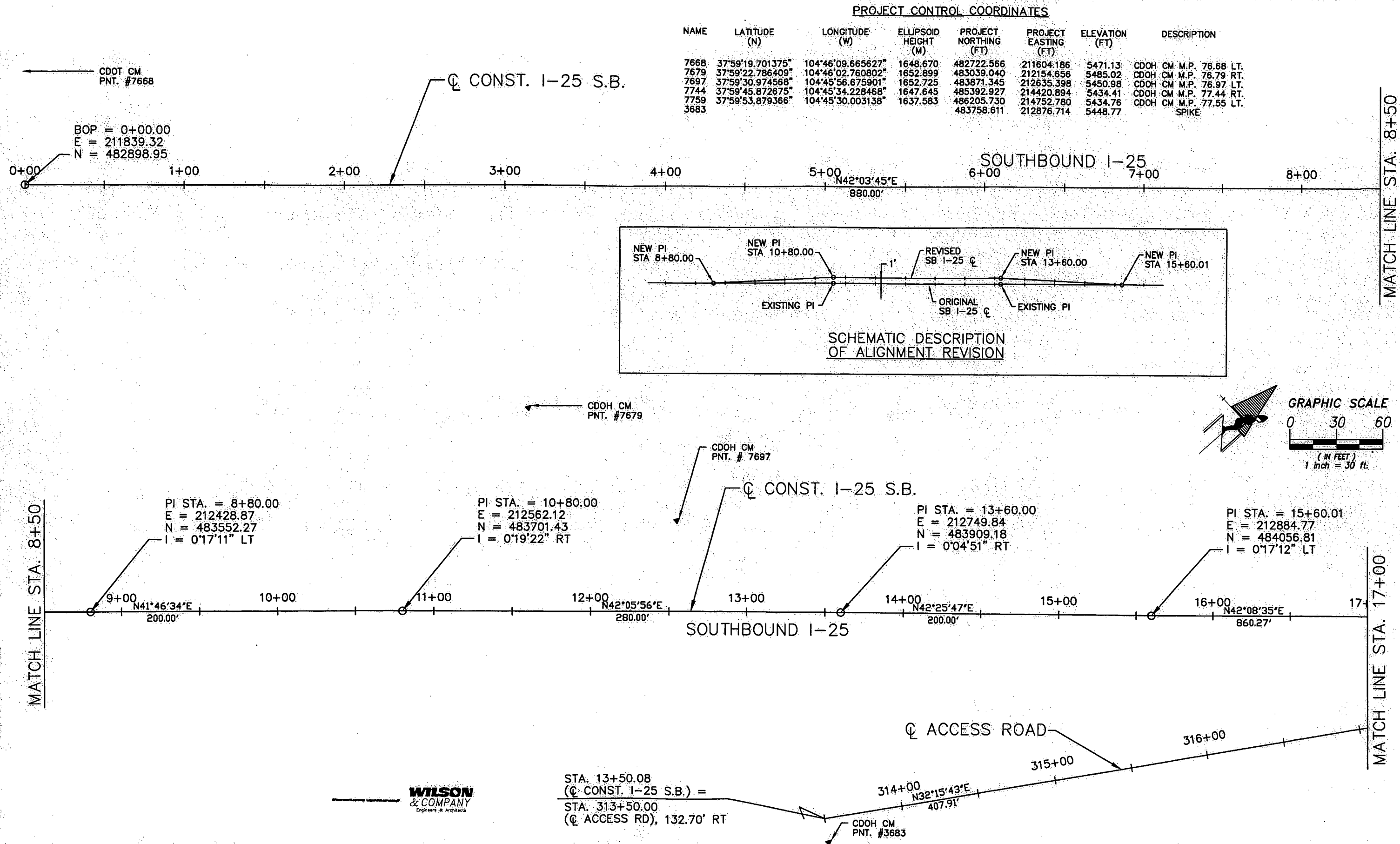
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				SRT	TYPE 3D	TYPE 3G	TYPE 3H		
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	STA. 11+53.04 TO STA. 18+76.68		125						DETOUR CONDITIONS
	STA. 11+82.71 TO STA. 15+60.67		188						DETOUR CONDITIONS
	STA. 15+87.76 TO STA. 18+78.42		82						DETOUR CONDITIONS
	STA. 18+07.84 TO STA. 11+74.02		572						DETOUR CONDITIONS
	STA. 10+05.17 TO STA. 10+92.14		87						DETOUR CONDITIONS
	STA. 10+47.00 TO STA. 11+30.44		84						DETOUR CONDITIONS
	STA. 12+98.38 TO STA. 14+83.12		185						DETOUR CONDITIONS
	STA. 14+36.40 TO STA. 15+52.16		216						DETOUR CONDITIONS
	STA. 15+87.76								DETOUR CONDITIONS
	STA. 15+76.68								DETOUR CONDITIONS
	STA. 11+82.05								DETOUR CONDITIONS
	STA. 14+83.12								DETOUR CONDITIONS
	STA. 15+52.16								DETOUR CONDITIONS
	STA. 9+58.90								DETOUR CONDITIONS
	STA. 15+60.67								DETOUR CONDITIONS
	STA. 10+47.00								DETOUR CONDITIONS
	STA. 11+74.02								DETOUR CONDITIONS
	STA. 11+53.04								DETOUR CONDITIONS
	STA. 12+98.38								DETOUR CONDITIONS
	STA. 13+36.40								DETOUR CONDITIONS
	STA. 13+92.71								DETOUR CONDITIONS
	STA. 10+92.14								DETOUR CONDITIONS
	STA. 11+30.44								DETOUR CONDITIONS
	STA. 315+66 TO 316+80		114						TO CLOSE ACCESS ROAD OPENING
	PROJECT TOTALS		686 625	5 2	2 1	4 2	3 2		
			1940						

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF QUANTITIES		Project No./Code		
Creation Date:	01/17/00 Initials: BHN	(R-2)	07/22/02 Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678	No Revisions:		TABULATION OF QUANTITIES		Project No./Code	
Last Modification Date:	07/21/02 Initials: RJG						Revised: 9/15/03				BR 0251-151	
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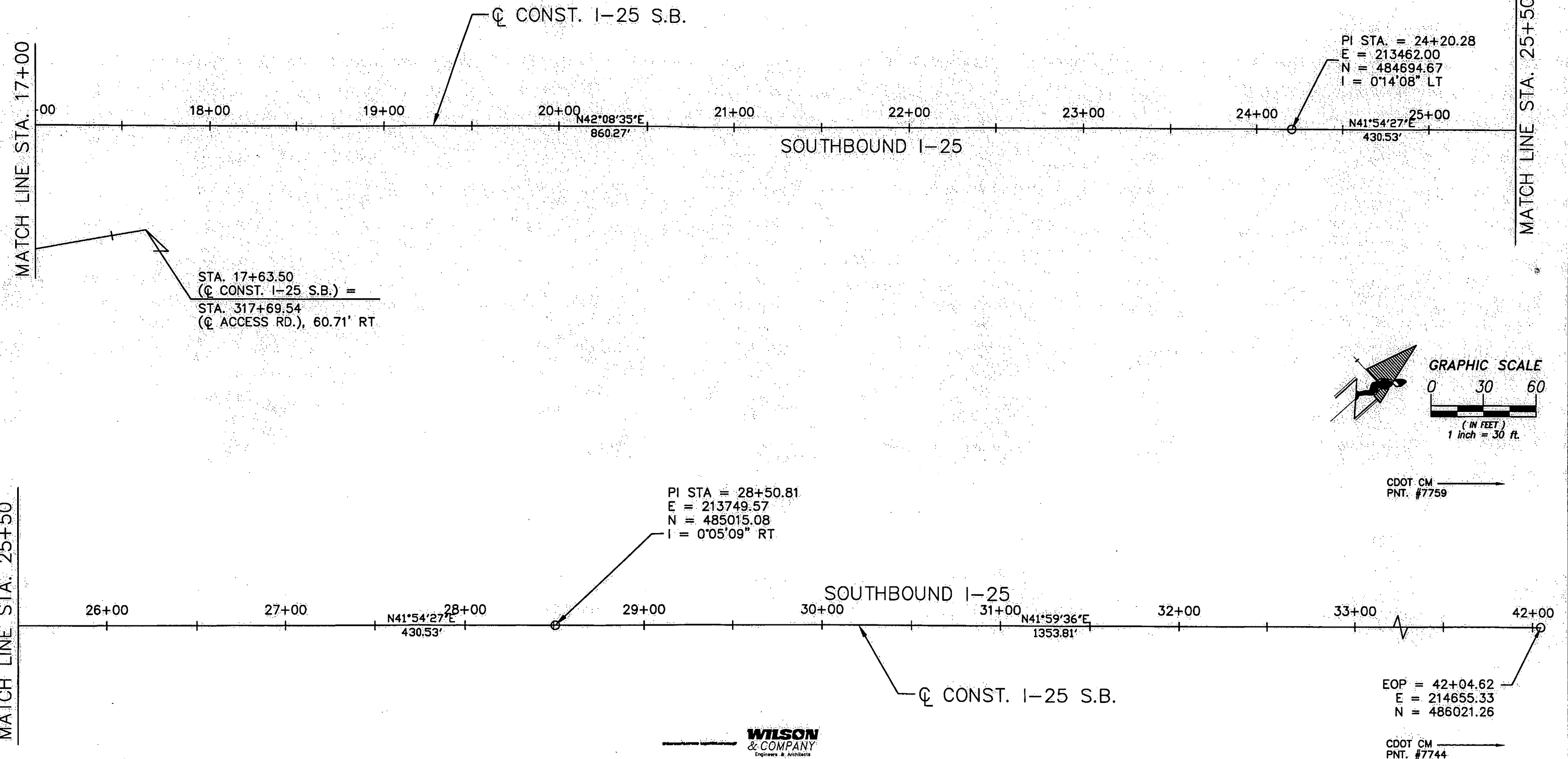
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NAME	LATITUDE (N)	LONGITUDE (W)	ELLIPSOID HEIGHT (M)	PROJECT NORTHING (FT)	PROJECT EASTING (FT)	ELEVATION (FT)	DESCRIPTION
7668	37°59'19.701375"	104°46'09.665627"	1648.670	482722.566	211604.186	5471.13	CDOH CM M.P. 76.68 LT.
7679	37°59'22.786409"	104°46'02.760802"	1652.899	483039.040	212154.656	5485.02	CDOH CM M.P. 76.79 RT.
7697	37°59'30.974588"	104°45'56.675901"	1652.725	483871.345	212635.398	5450.98	CDOH CM M.P. 76.97 LT.
7744	37°59'45.872675"	104°45'34.228468"	1647.645	485392.927	214420.894	5434.41	CDOH CM M.P. 77.44 RT.
7759	37°59'53.879366"	104°45'30.003138"	1637.583	486205.730	214752.780	5434.76	CDOH CM M.P. 77.55 LT.
3683				483758.611	212876.714	5448.77	SPIKE



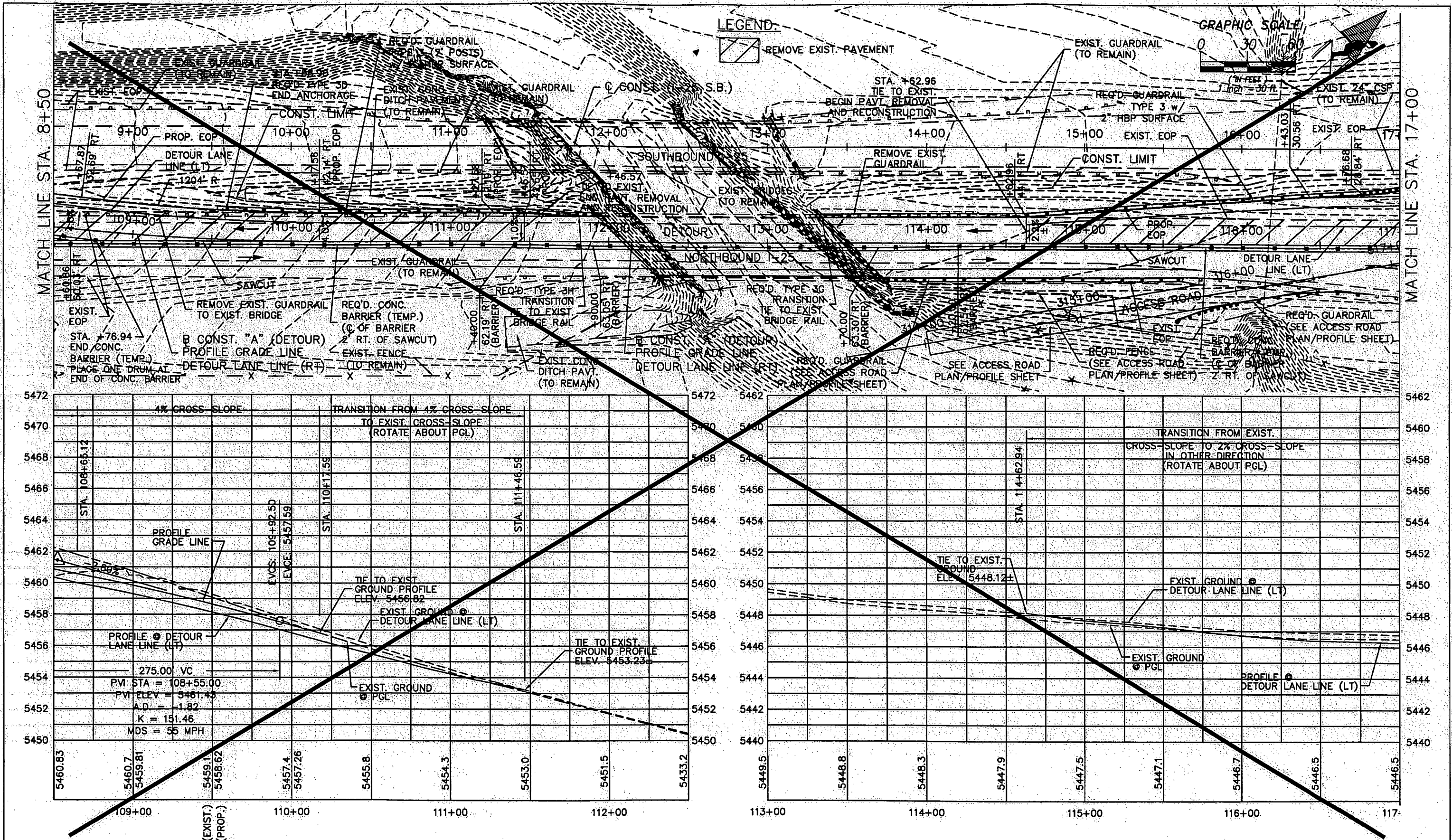
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Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed	GEOMETRIC CONTROL LAYOUT		Project No./Code
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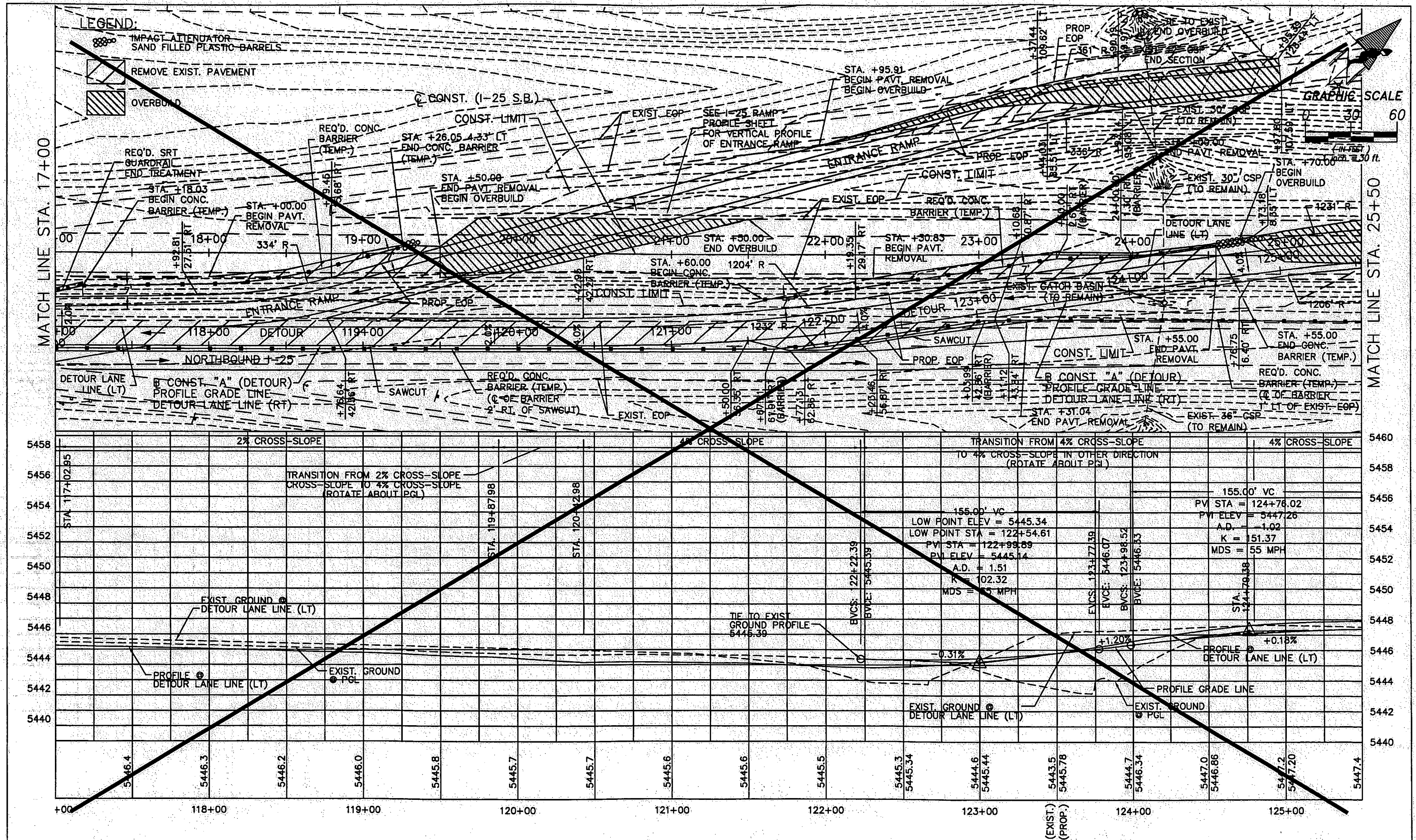
Colorado Department of Transportation

905 Erie Avenue
P.O. Box 535
Pueblo, CO 81002
Phone: 719-546-5734
Fax: 719-546-1230

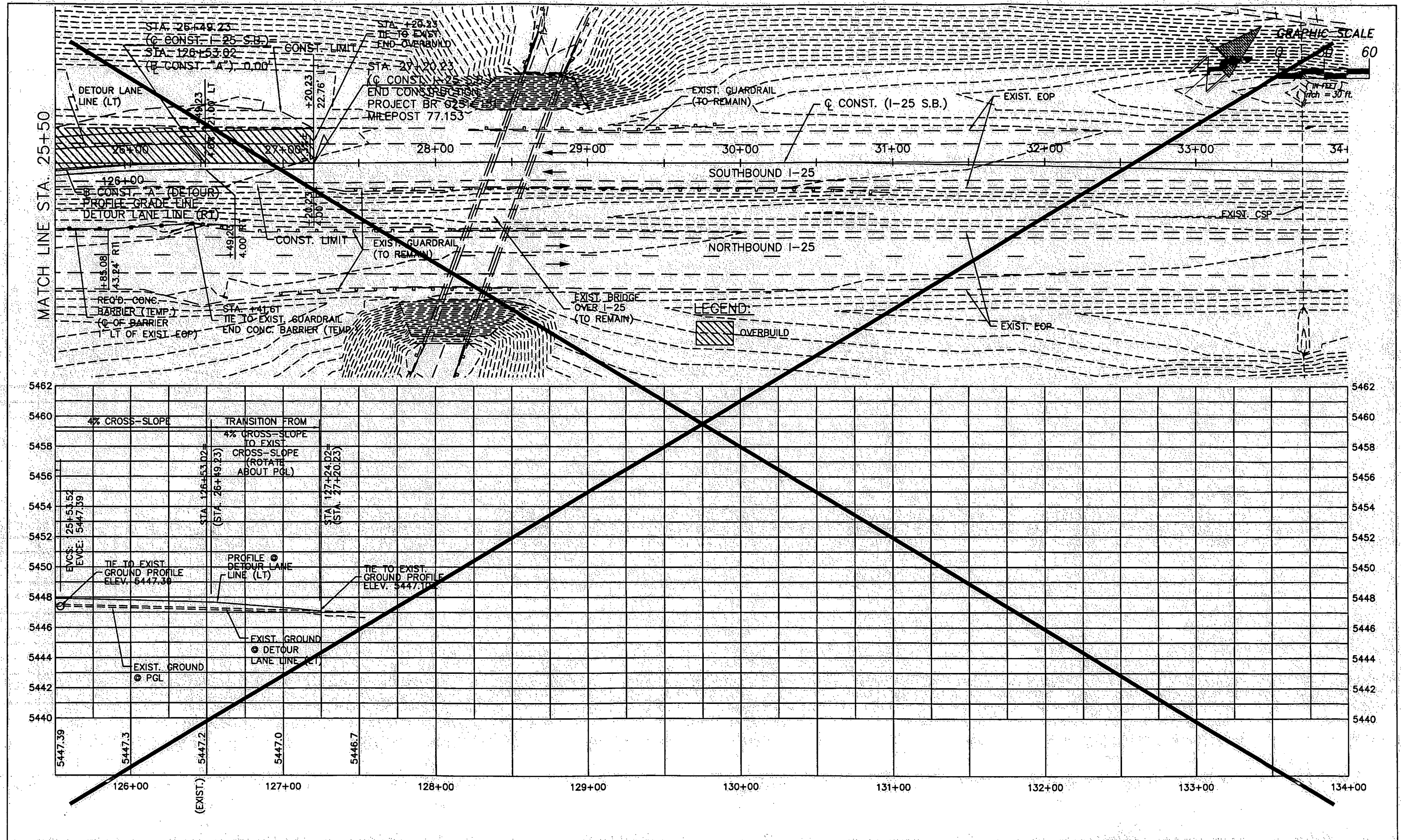
Region 2 BI

1515 Arapahoe St.
Tower 1, Suite 500
Denver, CO 80202
Phone: 303-446-8552
Fax: 303-446-8878

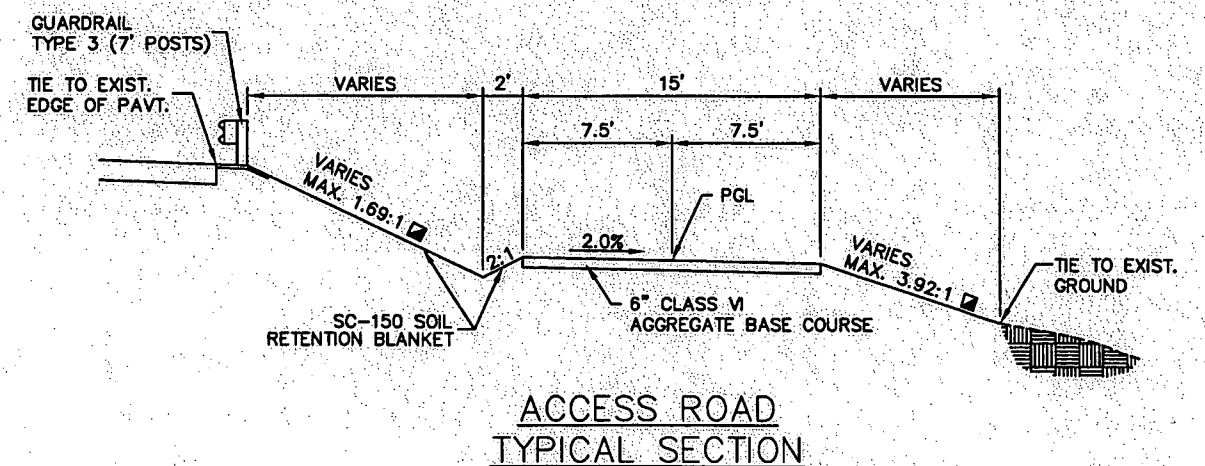
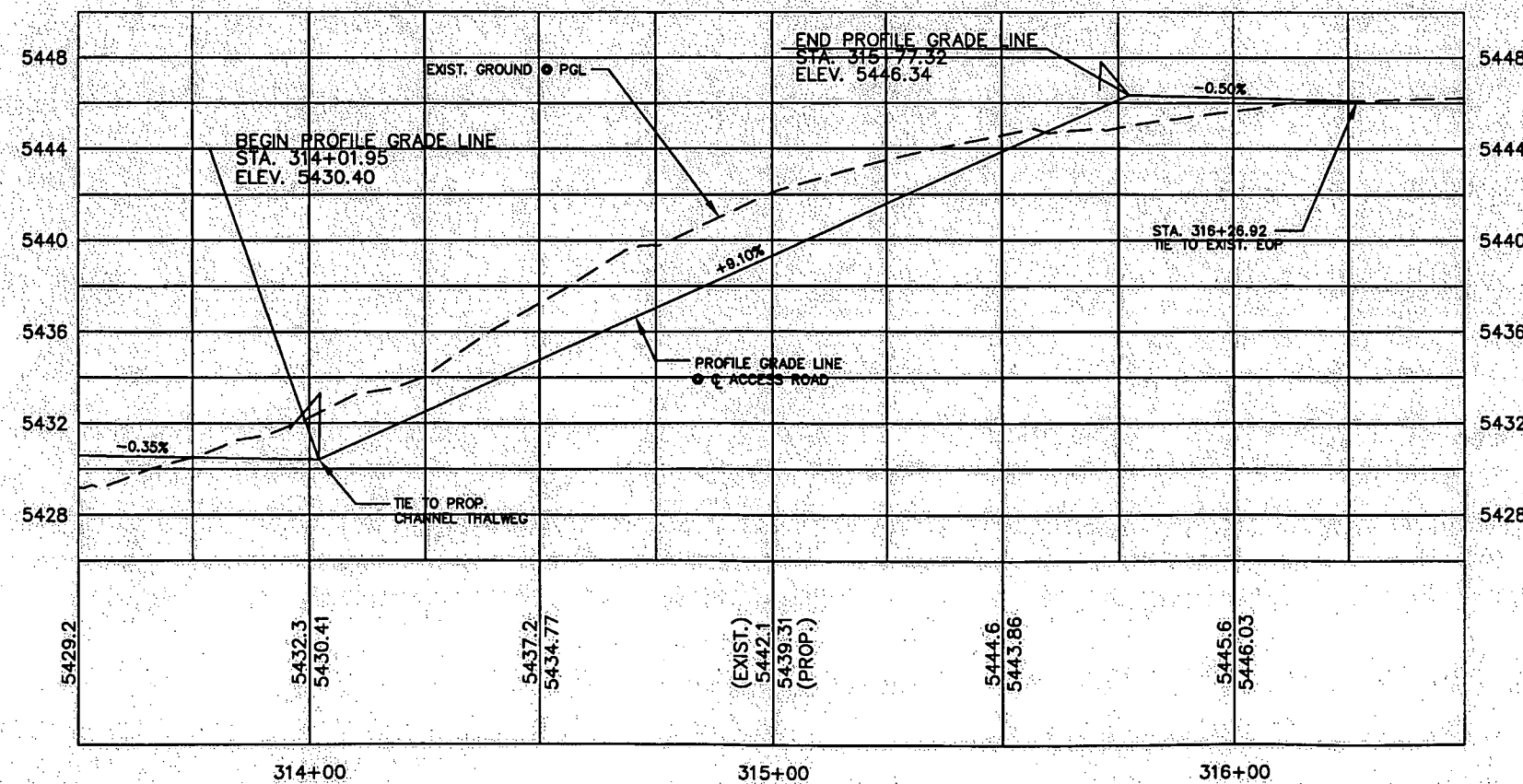
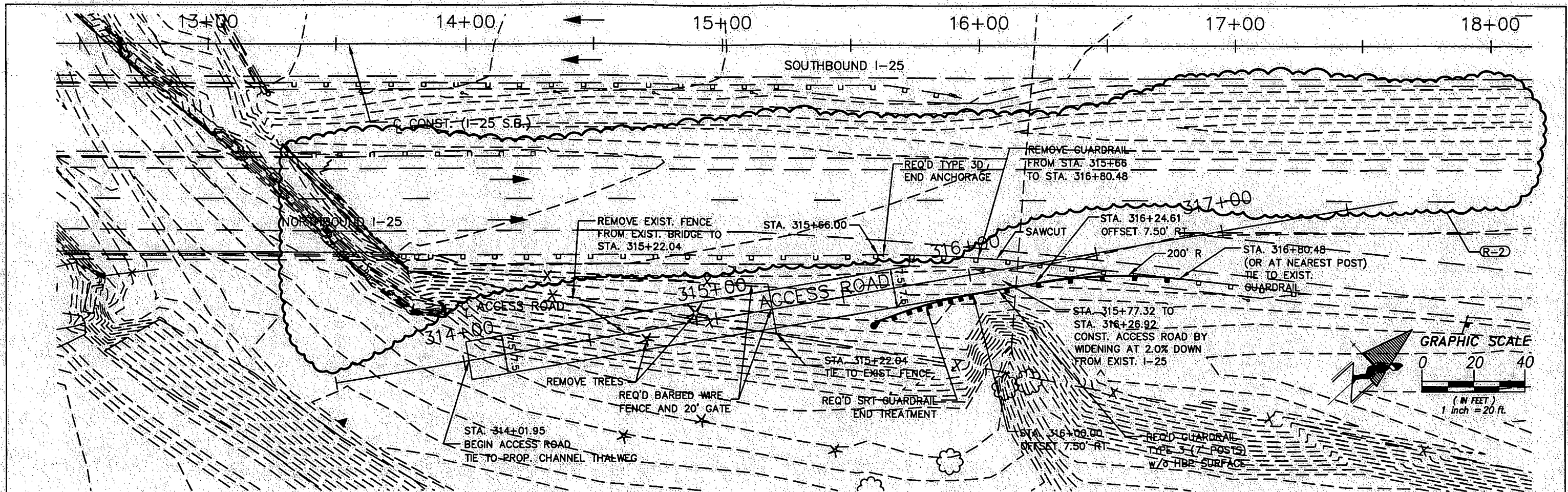
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Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		PLAN / PROFILE SHEET (DETOUR CONDITION) STA. 17+00 TO STA. 25+50		Project No./Code	
Creation Date:	01/20/00 Initials: BHN	(R-2)	07/22/02 Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230  1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:				BR 0251-151	
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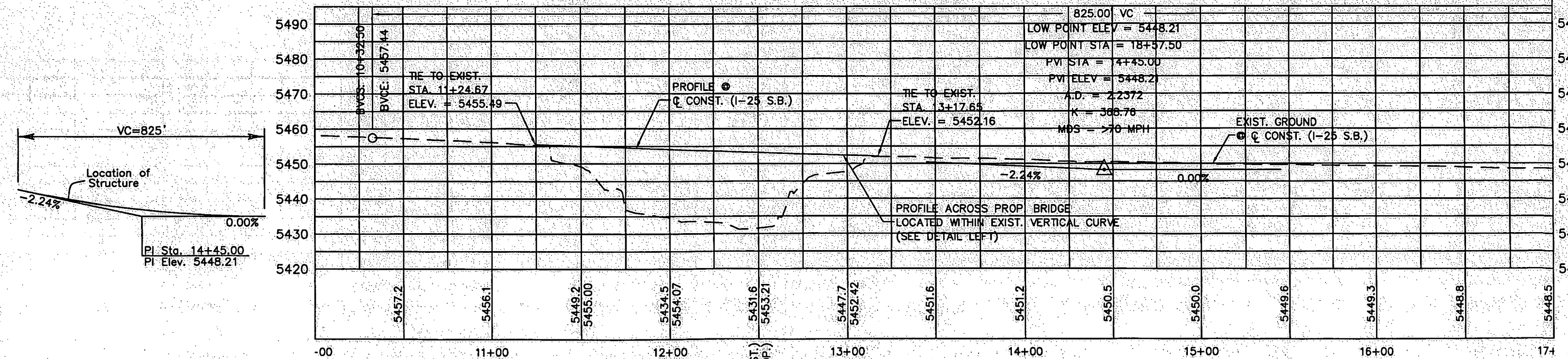
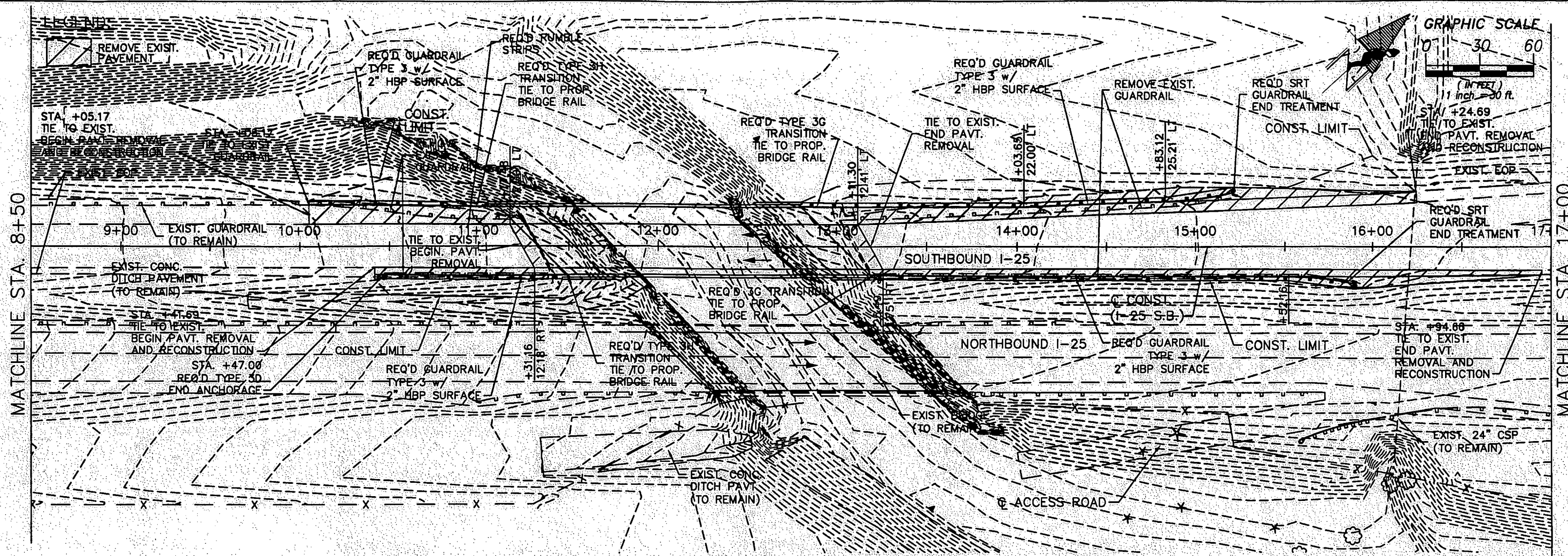


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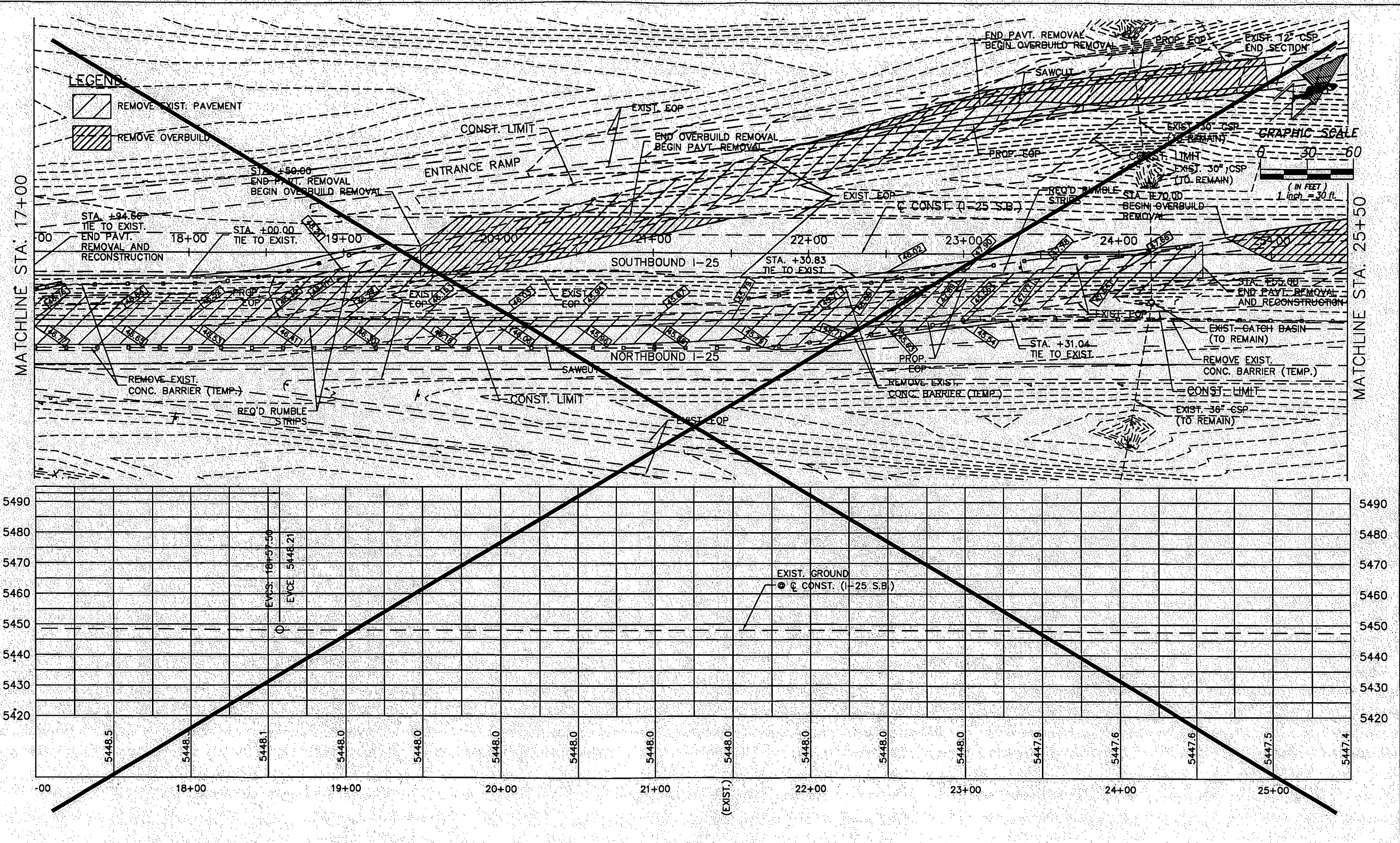


■ SIDE SLOPES MAY VARY FROM TYPICAL SECTIONS AT CERTAIN LOCATIONS. SEE CROSS SECTIONS FOR SIDE SLOPES IN ALL AREAS.

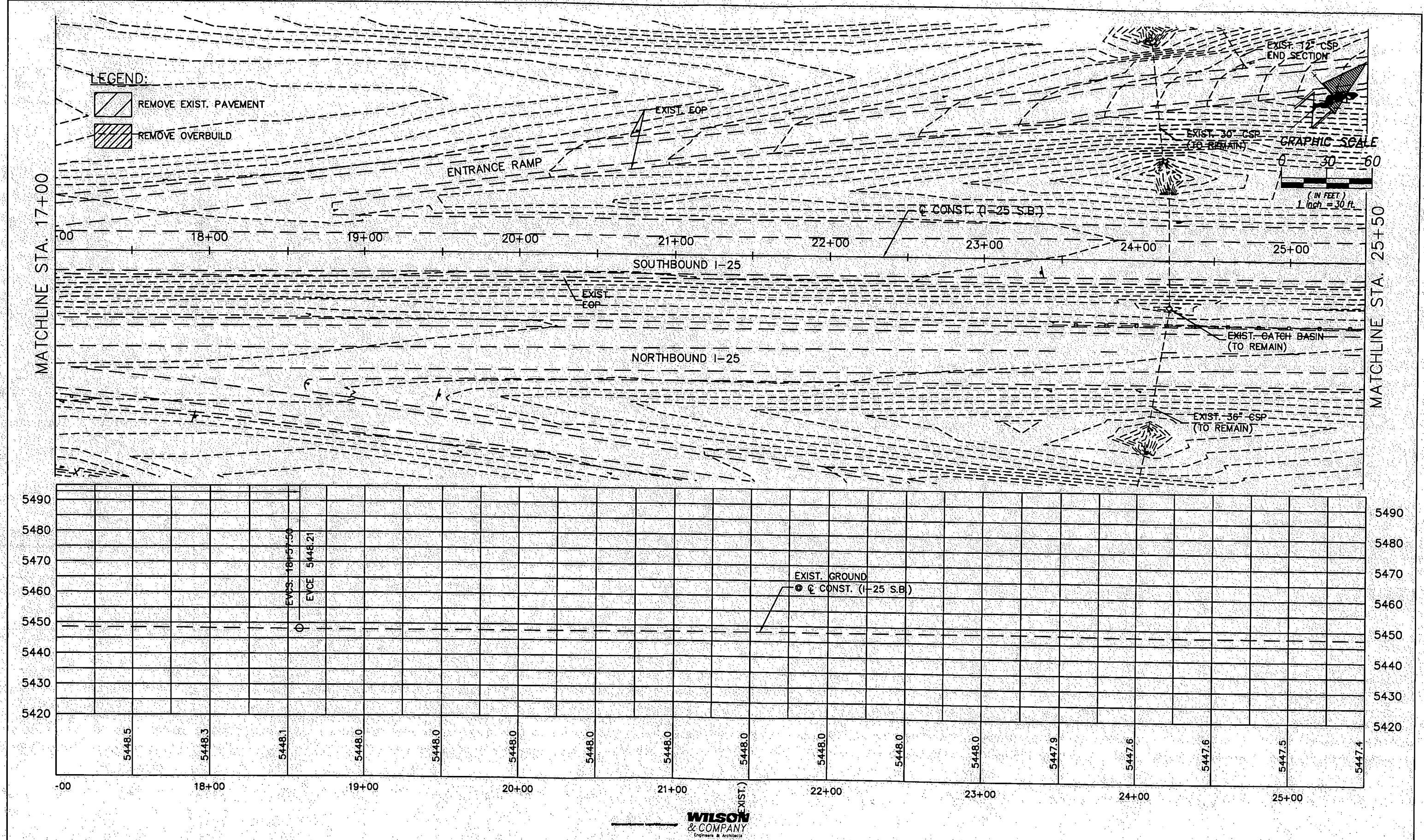
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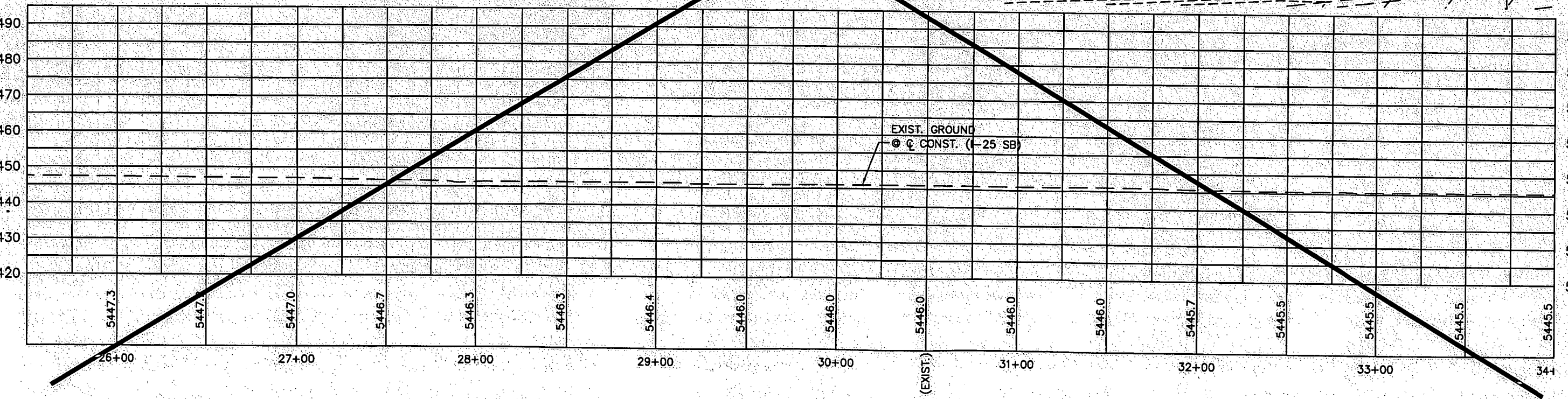
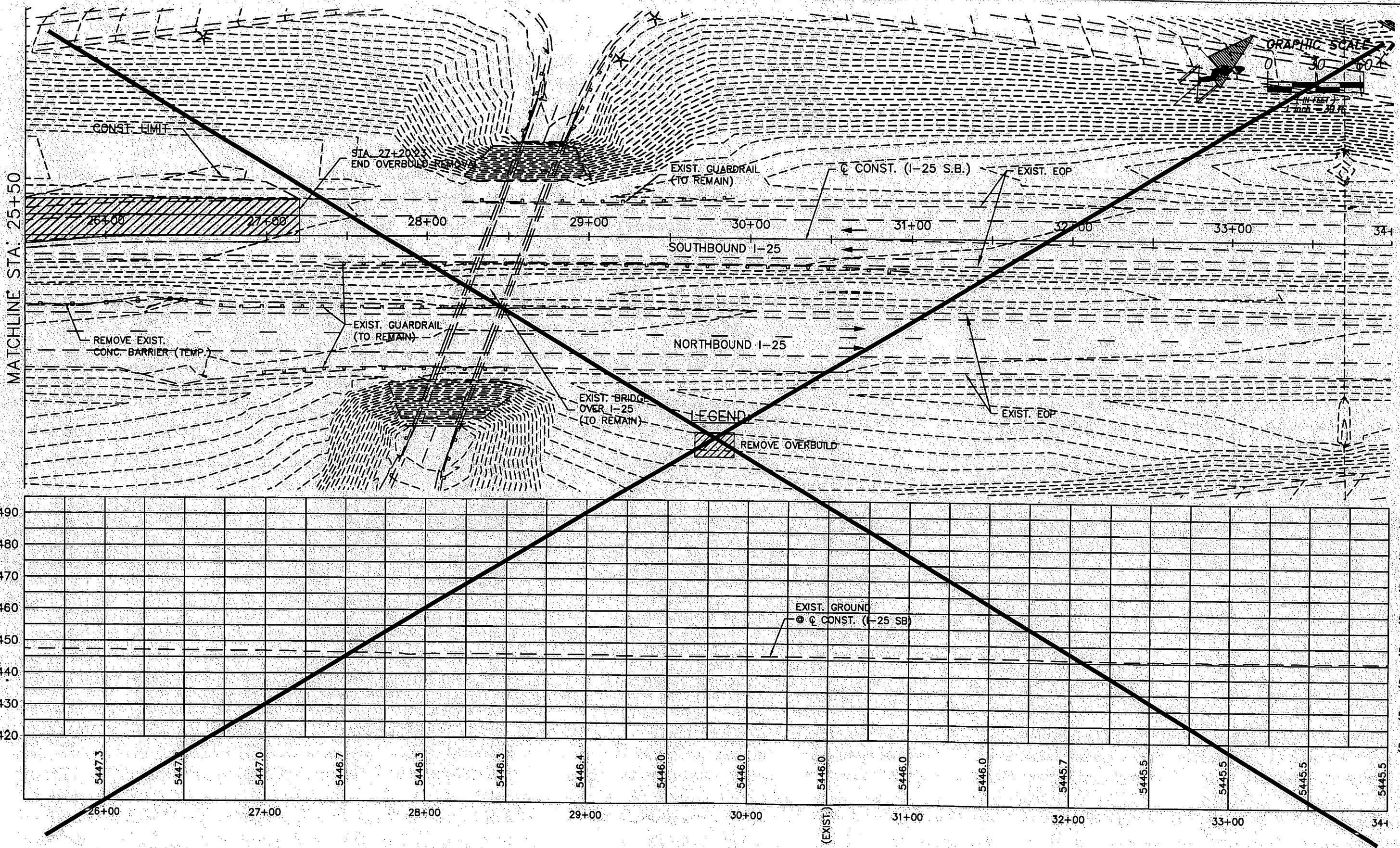
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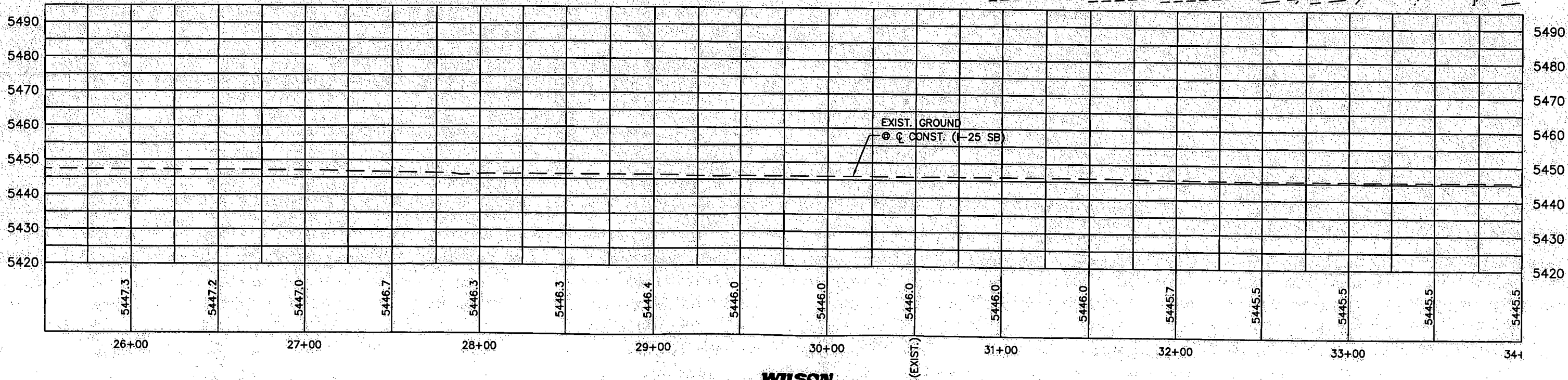
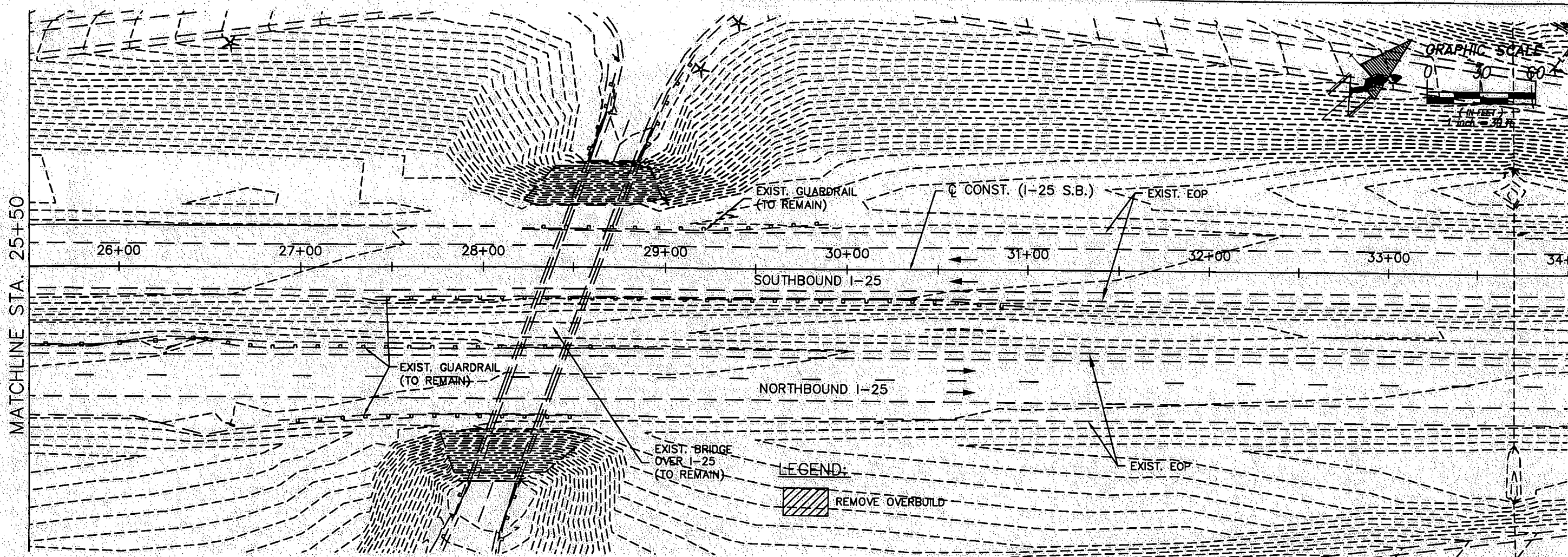
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Computer File Information				Sheet Revisions			Colorado Department of Transportation		As Constructed		PLAN / PROFILE SHEET (I-25 ULTIMATE CONDITION) STA. 17+00 TO STA. 25+50			Project No./Code	
Creation Date:	01/20/00	Initials:	BHN	07/22/02 Value Eng. Proposal MMS (Created New Sheet)	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8878	No. Revisions: 9/15/03		Designer: BHN	Structure Numbers	BR 0251-151				
Last Modification Date:	07/16/02	Initials:	RJG				Revised:					Detailer: ALY			
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Computer File Information				Sheet Revisions			Colorado Department of Transportation		As Constructed		PLAN / PROFILE SHEET (I-25 ULTIMATE CONDITION) STA. 25+50 TO END			Project No./Code			
Creation Date:	01/20/00	Initials:	BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:		Designer: BHN		Structure Numbers	BR 0251-151		
Last Modification Date:	12/16/01	Initials:	BHN				Revised:			Detailer: ALY		12394					
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Drawing File Name:	plan_i25.dwg									Region 2 BI							
Acad Ver.	R14	Scale:	1" = 30'	Units:	ENGLISH												



WILSON & COMPANY
Engineers & Architects

Computer File Information				Sheet Revisions		Colorado Department of Transportation				As Constructed		PLAN / PROFILE SHEET (I-25 ULTIMATE CONDITION) STA. 25+50 TO END				Project No./Code			
Creation Date:	01/20/00	Initials:	BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:		9/15/03		Designer: BHN Detailer: ALY		Structure Numbers		BR 0251-151	
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GENERAL NOTES

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

THE FINAL FINISH FOR THE SURFACES OF THE CURBS SHALL BE CLASS 2. ALL OTHER EXPOSED CONCRETE SURFACES SHALL RECEIVE A CLASS 1 FINAL FINISH TO ONE FOOT BELOW THE GROUND LINE.

LEVELING PADS ARE UNLAMINATED BEARINGS. THEY SHALL BE CUT OR MOLDED FROM AASHTO ELASTOMER GRADE 3, 4, OR 5 AS DESCRIBED IN TABLES 705-1 AND 705-2 WITH A DUROMETER (SHORE "A") HARDNESS OF 60.

GRADE 60 REINFORCING STEEL IS REQUIRED.

① DENOTES NON COATED REINFORCING STEEL.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE #4 #5 #6 #7 #8 #9 #10 #11

SPICE LENGTH FOR CLASS D CONCRETE 1'-3" 1'-6" 1'-10" 2'-2" 3'-8" 4'-8" 5'-11" 7'-3"

THE ABOVE SPICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS, THE MINIMUM LAP SPICE SHALL BE AS DESCRIBED ABOVE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPICE LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE #4 #5 #6 #7 #8 #9 #10 #11

SPICE LENGTH FOR CLASS D CONCRETE 1'-0" 1'-4" 1'-7" 1'-10" 2'-5" 3'-1" 3'-11" 4'-10"

THE ABOVE SPICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE

PERMANENT DECK FORMS ARE OPTIONAL.

FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12.

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 THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

DESIGN DATA

AASHTO, SECOND EDITION LRFD WITH 1999 INTERIMS

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN.

LIVE LOAD: AASHTO HL-93 AND ALTERNATE MILITARY LOADING
DEAD LOAD: ASSUMES 36 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT
ASSUMES 5 LBS. PER SQ. FT. FOR PERMANENT STEEL DECK FORMS

REINFORCED CONCRETE:

CLASS D CONCRETE: $f'_c = 4,500$ psi
REINFORCING STEEL: $f_y = 60,000$ psi

PRESTRESSED CONCRETE: CLASS S CONCRETE $f'_c =$ (SEE DETAILS)
 $f'_s = 270,000$ psi

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER-STRUCTURE	ABUT. 1	ABUT. 2	APPR. SLABS	TOTAL
202	REMOVAL OF BRIDGE	EACH					1
206	STRUCTURE EXCAVATION	CU YD	498	299	343	398	641
206	STRUCTURE BACKFILL (CLASS 1)	CU YD	436	311	373	424	684
206	*STRUCTURE BACKFILL (CLASS 2)	CU YD		101	101		202
206	*Final quantity includes 60 CY for Gabion Basket at Drop Struc. 1.	CU YD					
206	MECHANICAL REINFORCEMENT OF SOIL	CU YD		311	373		684
403	HOT BITUMINOUS PAVEMENT (GRADING S)	TON	88			27	115
502	*STEEL PILING HP 12X74	LIN FT		299	438		737
513	BRIDGE DRAIN (SPECIAL)	EACH					1
515	WATERPROOFING (MEMBRANE)	SQ YD	536			163	699
518	BRIDGE EXPANSION DEVICE (0-4 INCH)	LIN FT				107	107
601	CONCRETE CLASS D (BRIDGE)	CU YD	154.7	77.7	77.7	88.6	398.7
602	REINFORCING STEEL	LB				14,576	14,576
602	REINFORCING STEEL (EPOXY COATED)	LB	24,003	9,791	9,777		43,571
606	BRIDGE RAIL TYPE 10M	LIN FT	334				334
613	2 INCH ELECTRICAL CONDUIT	LIN FT	342				342
618	PRESTRESSED CONCRETE I (BT72)	LIN FT	503				503

① INCLUDES BOTH APPROACH SLABS.

② A PILE DRIVING ANALYZER (PDA) WILL BE REQUIRED. FINAL TIP ELEVATION AND FINAL QUANTITIES WILL BE DETERMINED USING THE PDA.

③ MECHANICAL SPLICES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE BID PRICE OF THE REINFORCING STEEL.

INDEX OF DRAWINGS

- DWG. NO. B 1 GENERAL INFORMATION - SUMMARY OF QUANTITIES
DWG. NO. B 2 GENERAL LAYOUT
DWG. NO. B 3 ENGINEERING GEOLOGY
DWG. NO. B 4 BRIDGE HYDRAULIC INFORMATION
DWG. NO. B 5 BRIDGE HYDRAULIC INFORMATION
DWG. NO. B 6 RIPRAP TABULATION
DWG. NO. B 7 CONSTRUCTION LAYOUT - PILING LAYOUT
R-2 DWG. NO. B 7A TEMPORARY SUPPORT DETAILS
DWG. NO. B 8 ABUTMENT 1 DETAILS
DWG. NO. B 9 ABUTMENT 2 DETAILS
DWG. NO. B 10 WINGWALL DETAILS
DWG. NO. B 11 SUPERSTRUCTURE DETAILS
DWG. NO. B 12 PRESTRESSED CONCRETE I (BT72)
DWG. NO. B 13 PRESTRESSED CONCRETE I (BT72)
DWG. NO. B 14 PRECAST PANEL DECK FORM
DWG. NO. B 15 PRECAST PANEL DECK FORM
DWG. NO. B 16 BRIDGE RAIL TYPE 10M
DWG. NO. B 17 BRIDGE RAIL TYPE 10M
DWG. NO. B 18 BRIDGE RAIL TYPE 10M
DWG. NO. B 19 APPROACH SLAB DETAILS
DWG. NO. B 20 BRIDGE EXPANSION DEVICE (0-4 INCH)
DWG. NO. B 21 BRIDGE EXPANSION DEVICE
DWG. NO. B 22 EXCAVATION AND BACKFILL FOR BRIDGES IN CUT
DWG. NO. B 23 MECHANICALLY STABILIZED BACKFILL (MSB)
DWG. NO. B 24 BRIDGE DECK ELEVATIONS
DWG. NO. B 25 BRIDGE DECK ELEVATIONS
DWG. NO. B 26 BRIDGE DECK ELEVATIONS
DWG. NO. B 27 BRIDGE DECK ELEVATIONS
DWG. NO. B 28 ROADWAY APPROACHES

BRIDGE DESCRIPTION

1 SPAN (125'-0") BRIDGE
CONCRETE PRESTRESSED GIRDER, CONTINUOUS
OVER SCROGGS ARROYO
38'-0" ROADWAY CURB TO CURB. 45° 00' 00" SKEW
BRIDGE RAIL TYPE 10M

Computer File Information

Creation Date: 7/92 Initials: KDH
Last Modification Date: 07/21/02 Initials: RJG
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Sheet Revisions

R-2 07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP

Colorado Department of Transportation



4201 East Arkansas Avenue, Room 330
Denver, Colorado 80222-3400
Phone: 303-757-9352 FAX: 303-757-9197

Staff Bridge Branch

As Constructed

No Revisions:
Revised: 9/15/03
Void:

GENERAL INFORMATION - SUMMARY OF QUANTITIES

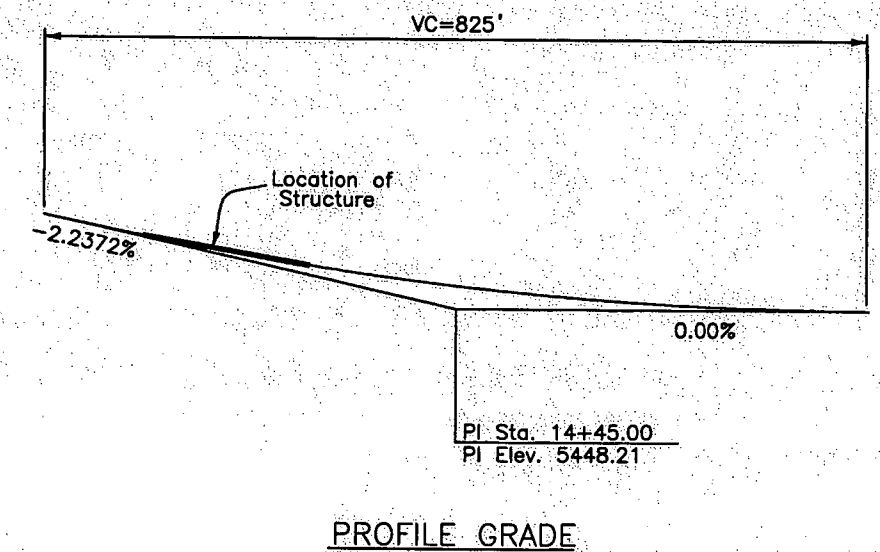
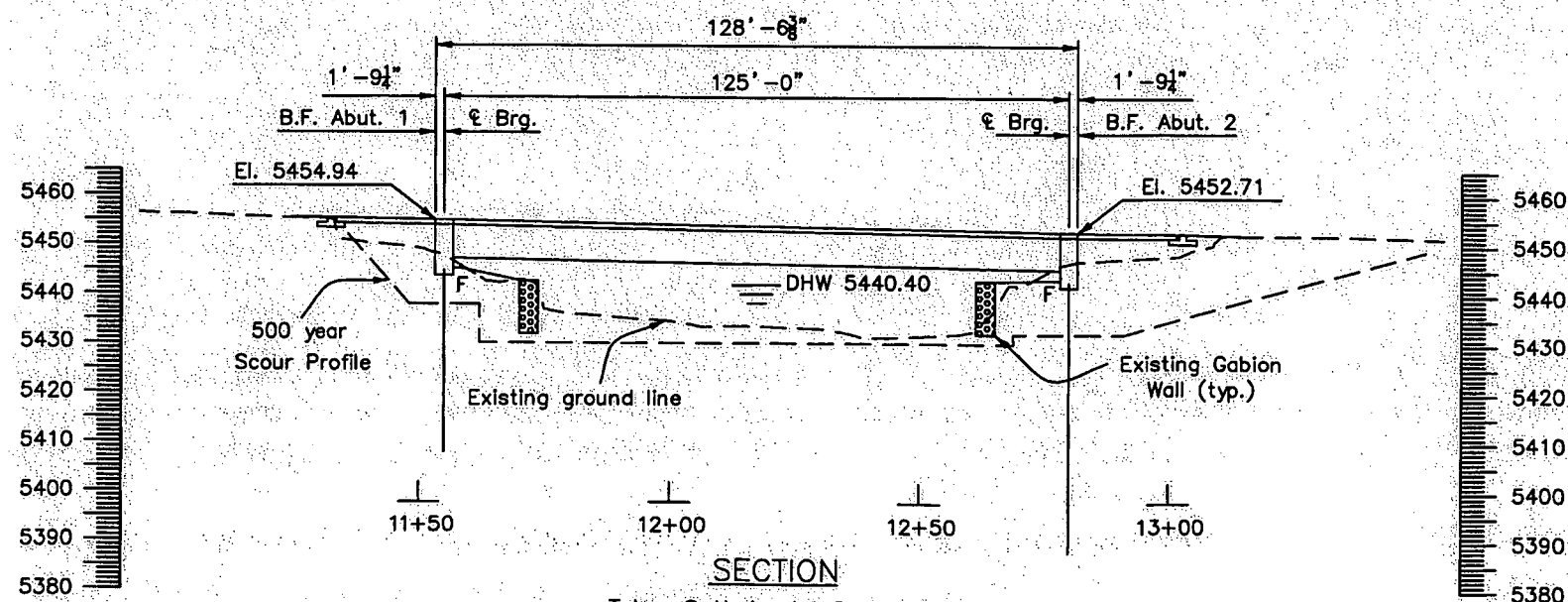
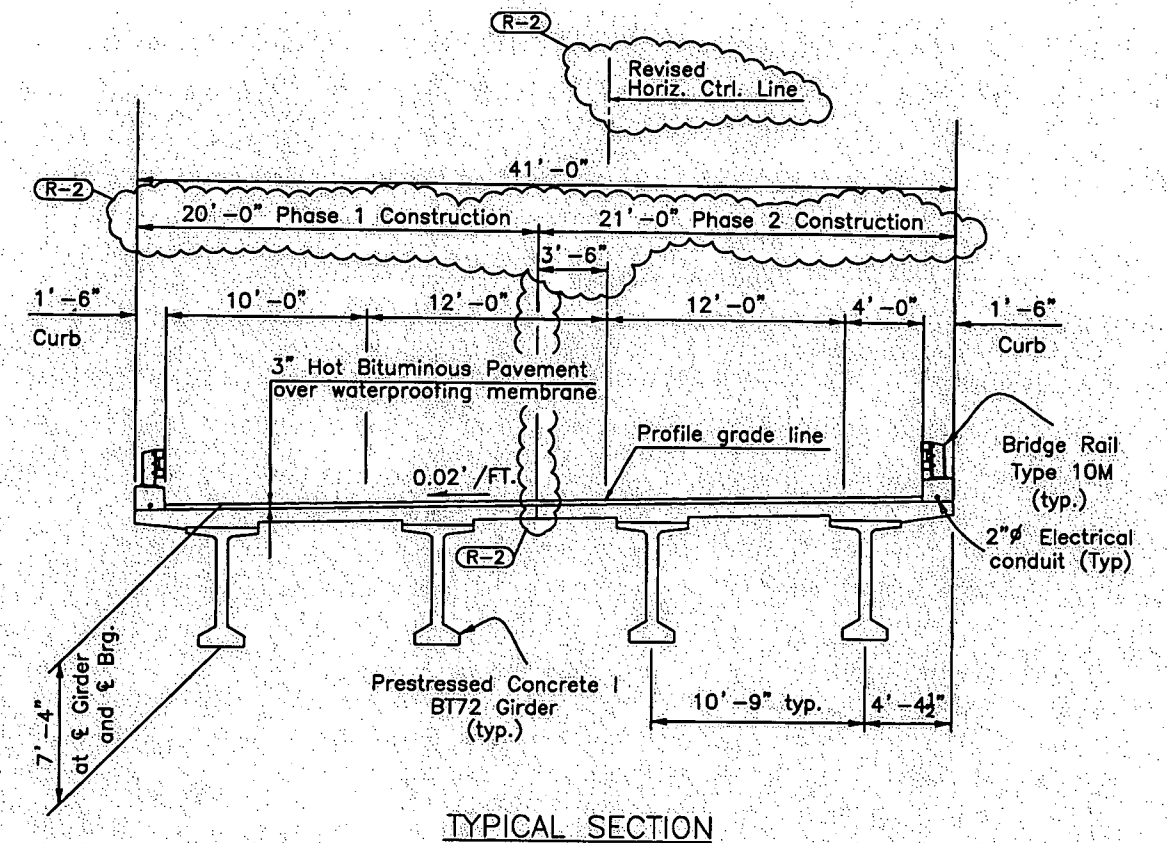
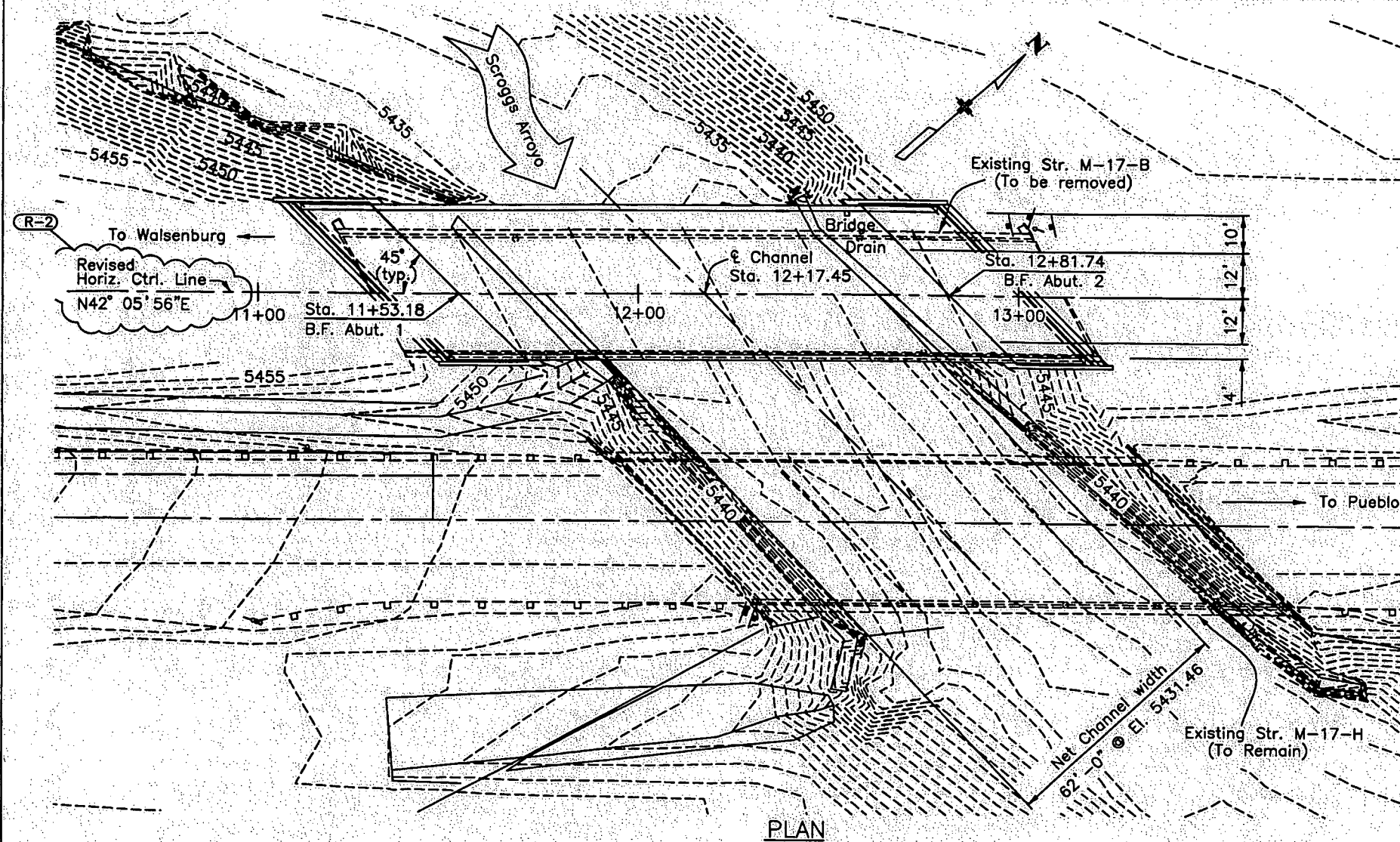
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Detailer: K. Sharpley
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Project No./Code

BR 0251-151

12394

Sheet Number 26

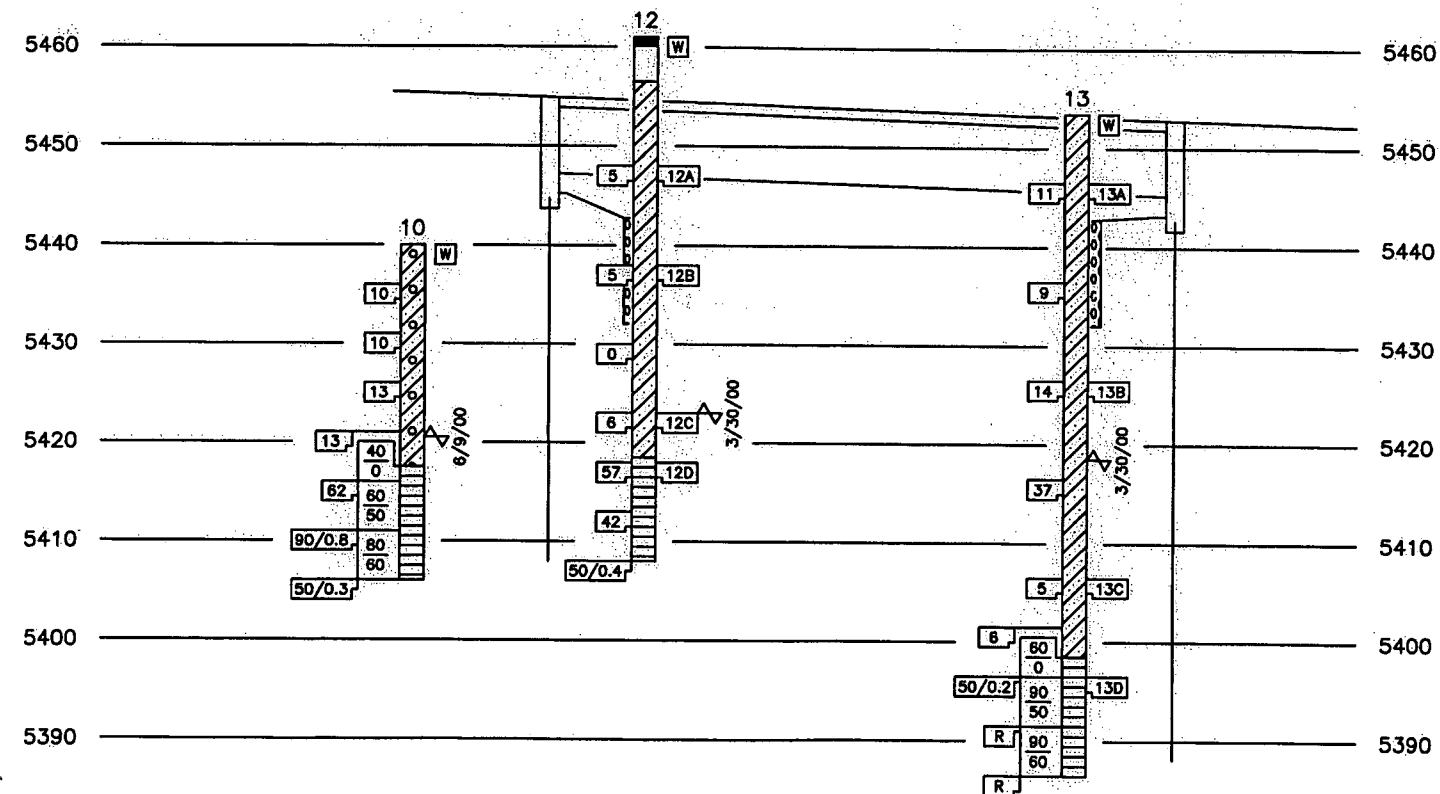
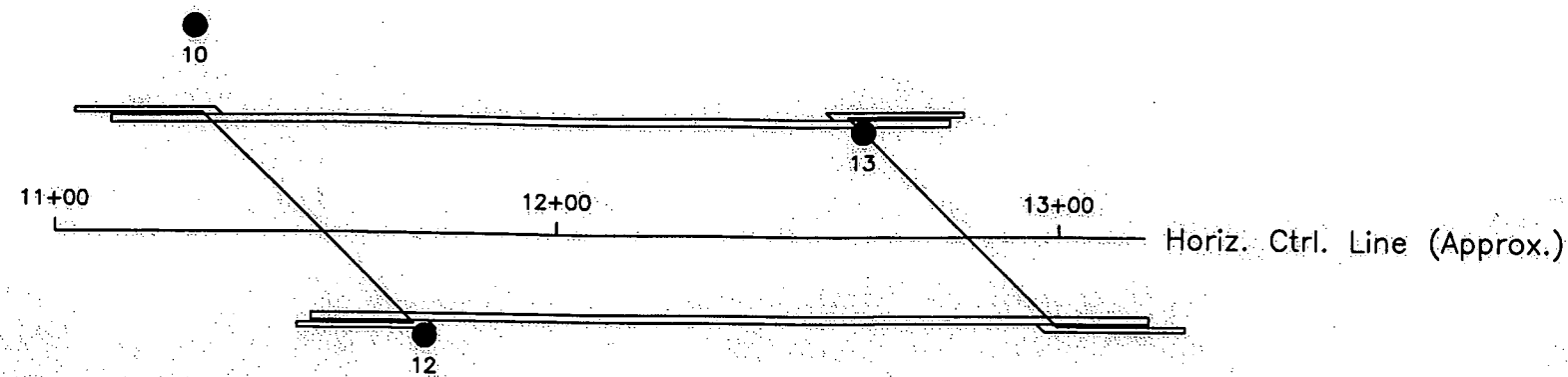
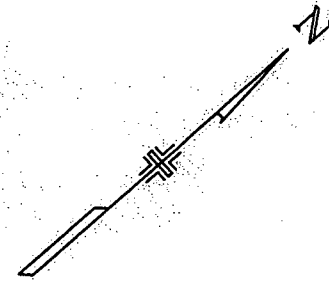


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Colorado Department of Transportation

4201 East Arkansas Avenue, Room 330
Denver, Colorado 80222-3400
Phone: 303-757-9352 FAX: 303-757-9197

Staff Bridge Branch



The boring logs of the above test holes are on file in the Geotechnical Section Office, Staff Materials Branch, (303)757-9274

SUMMARY OF TEST RESULTS												TYPE OF MATERIAL												LEGEND											
Sample Number	Depth (feet)	Classification		Grading Analysis (AASHTO)				Atterberg Limits				Water Content %	Blows per foot* (30)	R = Refusal on SPT	50' Blows in 0.1 ft	Core Recovery R.Q.D.	TEST BORING	CONTINUOUS PENETRATION TEST		Location of Test Boring	Location of Continuous Penetration Test	3 Inch Wireline Boring	Rotary Boring	Auger Boring											
		Corpe of Engrs. or Visual	AASHTO	Gravel	Coarse Sand	Fine Sand	Silt and Clay	Liquid Limit L _w	Plastic Limit P _w	Plastic Index I _w	2 Inch Diameter Drive Point							30 Inch Free Fall	140 Pound Hammer																
12A	13.0-14.5	Sandy Clay	A-6(10)	1	1	20	78	33	19	14	19.8																								
12B	23.0-24.5	Sandy Clay	A-4(4)	0	2	37	61	28	18	10	20.8																								
12C	38.0-39.5	Gravelly Sandy Clay	A-7-6(13)	17	3	17	63	42	18	24	22.4																								
12D	43.0-44.5	Shale Bedrock	A-7-8(15)	0	1	22	77	48	27	19	16.9																								
13A	7.0-8.5	Sandy Clay	A-6(8)	0	1	31	68	31	20	11	13.7																								
13B	27.0-28.5	Clayey Sandy Gravel	A-2-4(0)	44	8	20	28	25	17	8	10.2																								
13C	47.0-48.5	Sandy Clay	A-7-6(13)	3	3	22	72	41	21	20	26.1																								
13D	57.0-57.7	Shale Bedrock	A-4(1)	5	13	27	55	33	28	5	13.3																								

Note: Boulders may be encountered at any depth

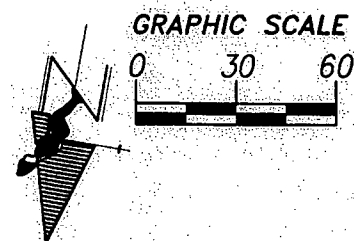
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Colorado Department of Transportation
4340 East Louisiana Avenue
Denver, Colorado 80222
Phone: 303-757-9274 FAX: 303-757-9242
Staff Geotechnical Section

As Constructed
No Revisions: 9/15/03
Revised:
Void:

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Designer: R. Florez
Detailer: T. McNulty
Sheet Subset: Geology
Subset Sheets: B 3 of 28

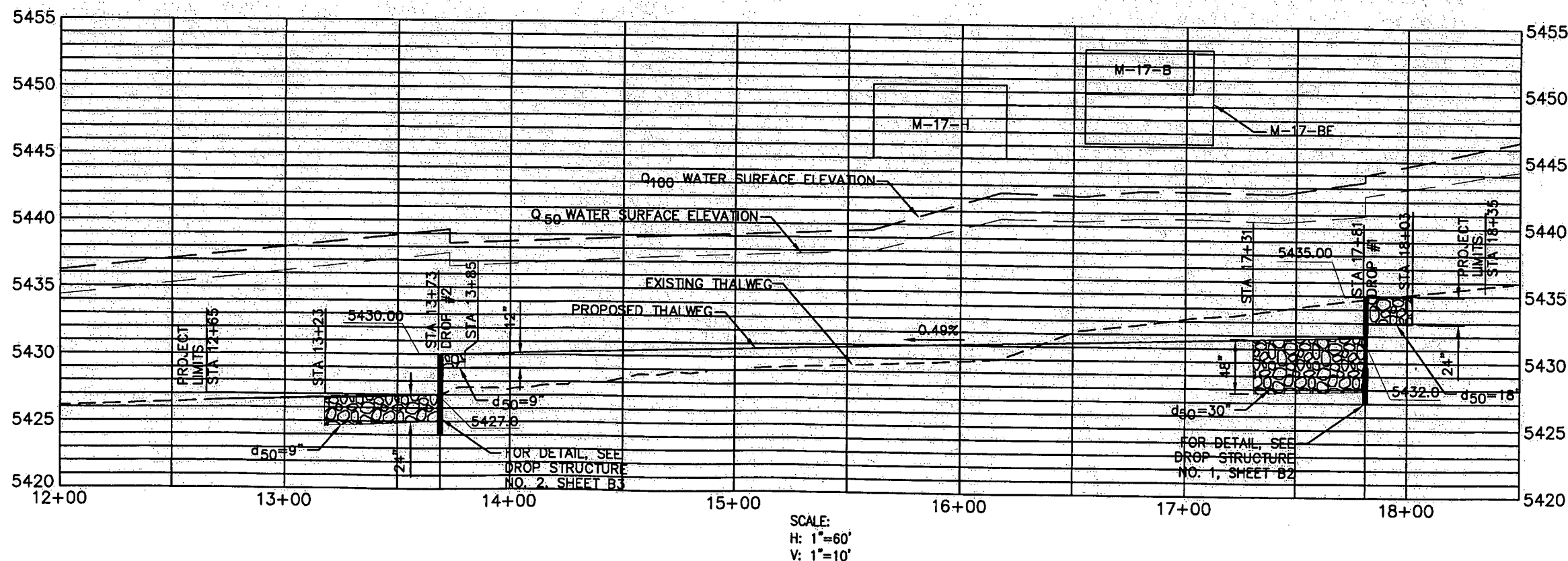
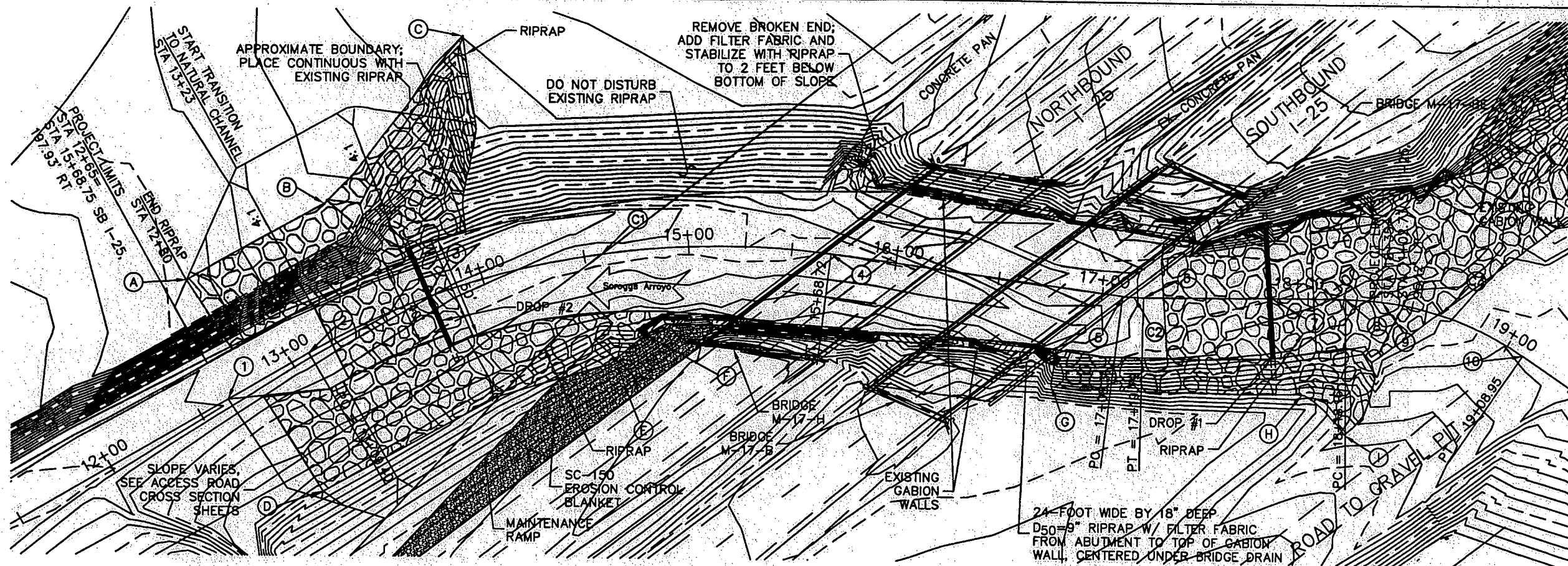
Project No./Code
BR 0251-151
12394
Sheet Number 28



RIPRAP COORDINATES		
NO.	NORTHING	EASTING
(A)	483877.59	213087.45
(B)	483829.81	213009.65
(C)	483737.71	212959.80
(D)	483968.02	212985.13
(E)	483879.64	212861.23
(F)	483862.72	212847.20
(G)	483851.22	212651.66
(H)	483832.47	212531.36
(I)	483847.39	212507.89

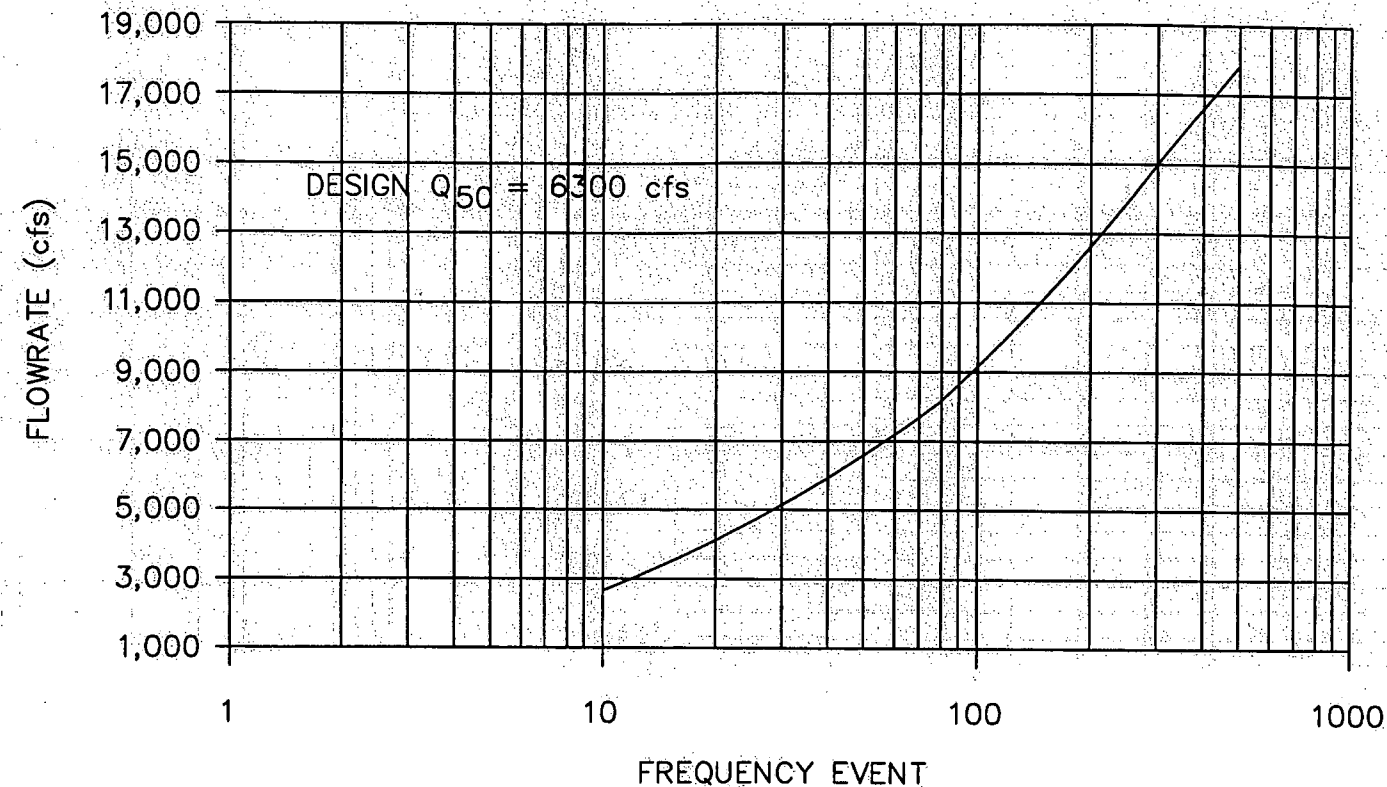
CHANNEL COORDINATES		
NO.	NORTHING	EASTING
(1)	483930.49	213037.41
(2)	483901.63	213003.67
(3)	483864.97	212953.11
(4)	483808.36	212766.81
(5)	483802.34	212625.93
(6)	483801.10	212615.94
(7)	483790.04	212556.54
(8)	483783.09	212519.23
(9)	483781.39	212507.52
(10)	483793.66	212430.45

CHANNEL CURVE CHART				
CURVE	POINT	NORTHING	EASTING	RADIUS
(C1)	PC	483901.63	213003.67	390.00'
	CC	483835.12	212893.06	
	PT	483808.36	212766.80	
(C2)	PC	483802.34	212625.93	80.00'
	CC	483801.96	212621.61	
	PT	483801.10	212615.94	
(C3)	PC	483783.09	212519.23	150.00'
	CC	483781.15	212478.48	
	PT	483793.66	212430.45	

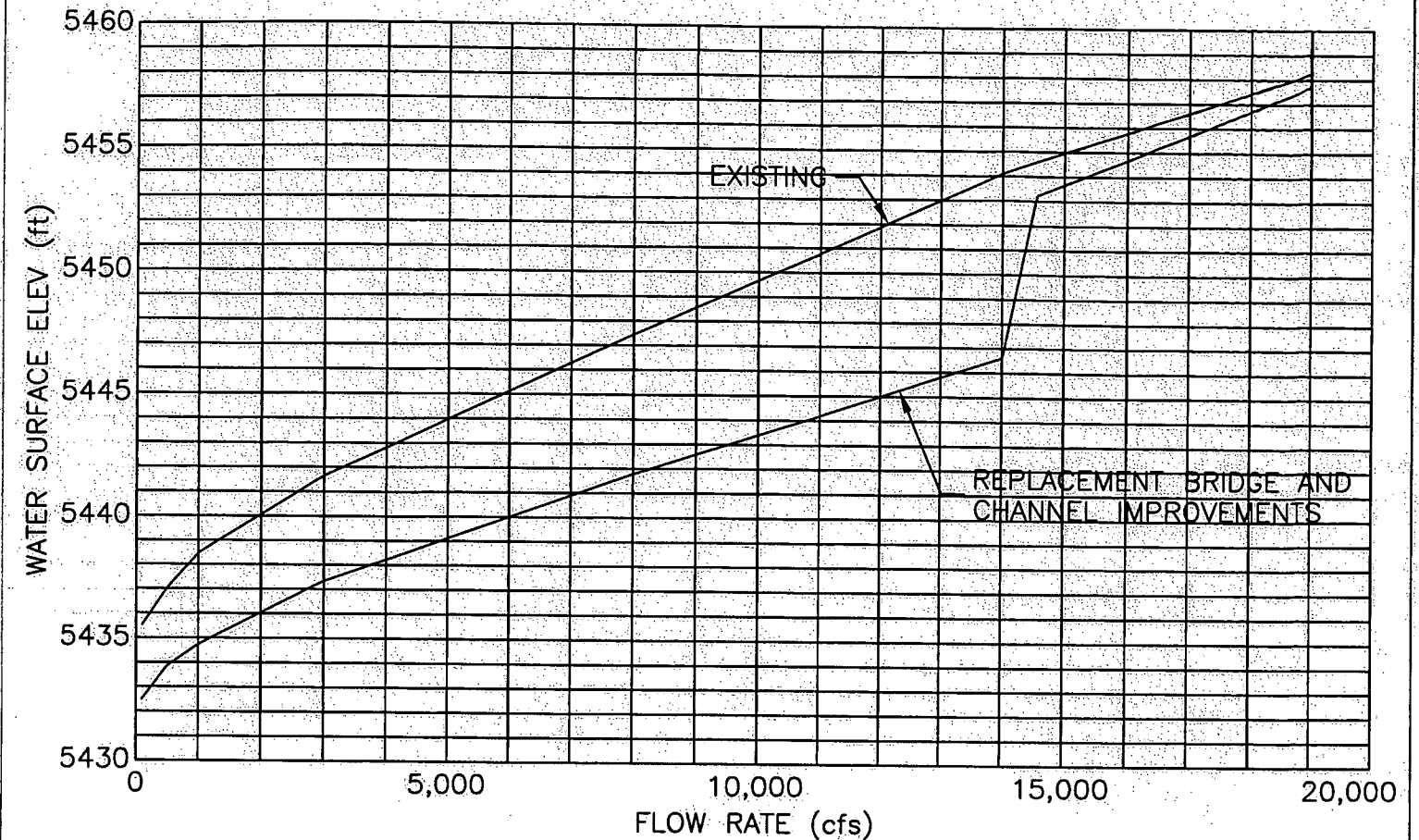


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Last Modification Date:		9/14/00 Initials: MR			Revised:														
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Acad Ver. R14		Scale: 1" = 30' Units: ENGLISH								Region 2 BI									

DISCHARGE-FREQUENCY GRAPH



STAGE DISCHARGE (UPSTREAM FACE OF M-17-BE)



SCROGGS ARROYO DRAINAGE AREA = 13.61 SQUARE MILES

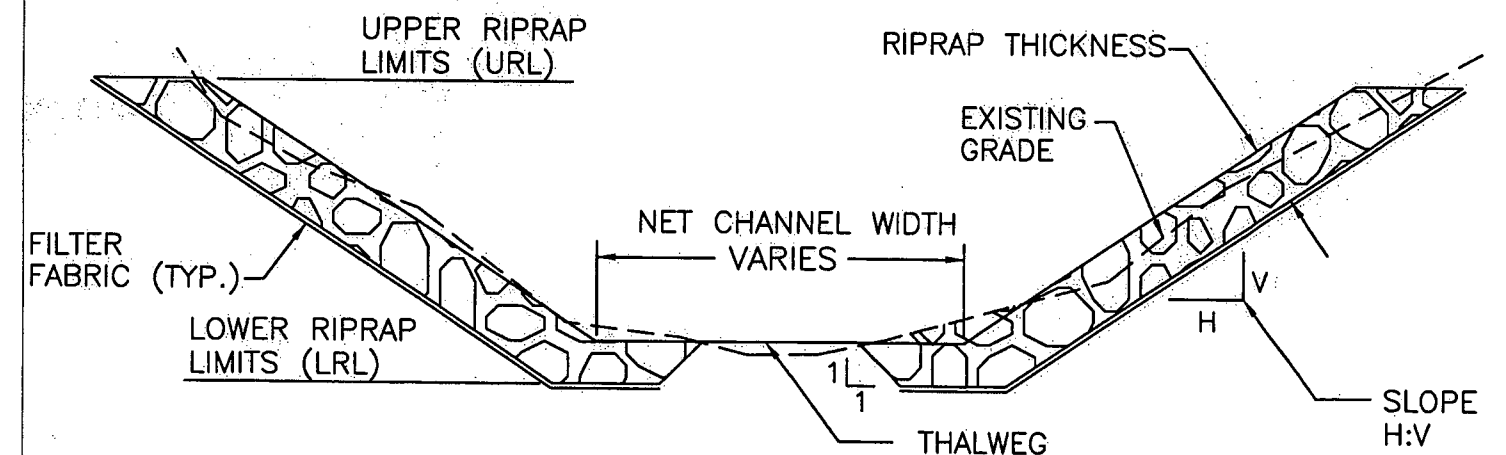
CHANNEL DESCRIPTION

BOTTOM MATERIAL: COHESIVE ☒ NON-COHESIVE ☐
 BOTTOM MATERIAL SIZE: CLAY ☒ SILT ☐ SAND ☒ GRAVEL ☐ COBBLES ☐ OTHERS ☐
 STREAM FORM: STRAIGHT ☐ MEANDERING ☒ BRAIDED ☐ CONSTRICTING ☒
 MANNINGS "n" FOR DESIGN: CHANNEL = 0.035 OVERBANK = 0.045
 DEBRIS: BRUSH ☒ TREES/LOGS ☒ ICE ☐ OTHER ☐

COMPARISON OF HYDRAULICS*

	VELOCITY		FREEBOARD		MAX. BACKWATER	
NATURAL CHANNEL	13.7	fps	N/A	ft	0	ft
EXISTING CHANNEL	12.6	fps	3.74	ft	0	ft
PROPOSED CHANNEL	11.1	fps	4.67	ft	0	ft

* AT PROPOSED BRIDGE LOCATION DURING DESIGN DISCHARGE. HYDRAULICS REFLECT SUBCRITICAL FLOW REGIME.



TYPICAL CHANNEL RIPRAP DETAIL

SCALE: NOT TO SCALE

SEE SHEET BH 1 AND BH 3 FOR DIMENSIONS ALONG CHANNEL

Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		BRIDGE HYDRAULIC INFORMATION				Project No.	
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Acad Ver.	R14	Scale:	NO SCALE	Units:	ENGLISH	☐													

SLOPE RIPRAP CONSTRUCTION TABLE

LEFT CHANNEL BANK*

STATION	CHANNEL INVERT	URL	SLOPE H: V	D ₅₀ (in.)	LRL	THICKNESS (in.)
12+80	5426.6	5436.6	NOTE 1	9	5423.6	36
13+00	5426.7	5436.7	NOTE 1	9	5423.7	36
13+23	5426.8	5436.8	NOTE 1	9	5424.6	27
13+50	5426.9	5436.9	NOTE 1	9	5424.7	27
13+73	5427.0/5430.00	5440.0	NOTE 1	18	5424.8	27
14+00	5430.1	5440.1	NOTE 1	18	5427.9	27
14+50	5430.4	5440.4	NOTE 1	18	5428.2	27
15+00	5430.6	GABION WALL				
15+50	5430.9	GABION WALL				
16+00	5431.1	GABION WALL				
16+50	5431.4	GABION WALL				
17+00	5431.6	5443.6	NATURAL	18	5429.4	27
17+50	5431.9	5443.9	NATURAL	30	5427.9	48
17+81	5432.0/5435.0	5445.0	NATURAL	30	5428.0	48
18+00	5435.0	5445.0	NATURAL	30	5431.0	48

*ORIENTATION LOOKING DOWNSTREAM

NOTES:

1. REFER TO ACCESS ROAD CROSS SECTION SHEETS.
2. SEE SHEET B 5 FOR TYPICAL RIPRAP SECTION.

TABLE OF QUANTITIES

RIPRAP D ₅₀	QUANTITY	UNITS
9"	480	CY
18"	480	CY
30"	830	CY
FILTER FABRIC	2150	SY

RIGHT CHANNEL BANK*

STATION	CHANNEL INVERT	URL	SLOPE H: V	D ₅₀ (in.)	LRL	THICKNESS (in.)
12+80	5426.6	5437.6	TRANSITION	9	5423.6	36
13+00	5426.7	5437.7	TRANSITION	9	5423.7	36
13+23	5426.8	5437.8	4:1	9	5424.6	27
13+50	5426.9	5437.9	4:1	9	5424.7	27
13+73	5427.0/5430.00	5440.0	4:1	18	5424.8	27
14+00	5430.1	5441.1	4:1	18	5427.9	27
14+50	5430.4	EXISTING RIPRAP				
15+00	5430.6	EXISTING RIPRAP				
15+50	5430.9	EXISTING RIPRAP				
16+00	5431.1	GABION WALL				
16+50	5431.4	GABION WALL				
17+00	5431.6	GABION WALL				
17+50	5431.9	GABION WALL				
18+00	5435.0	GABION WALL				

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		RIPRAP TABULATION		Project No.	
Creation Date:	04/20/00	Initials:	MR				No Revisions:	9/15/03			BR 0251-151
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Drawing File Name:	B-6.dwg										M-17-BE
Acad Ver:	R14	Scale:	NO SCALE	Units:	ENGLISH				Sheet Subset:	RIPRAP	Subset Sheets:
										B 6 OF 28	Sheet Number
											31

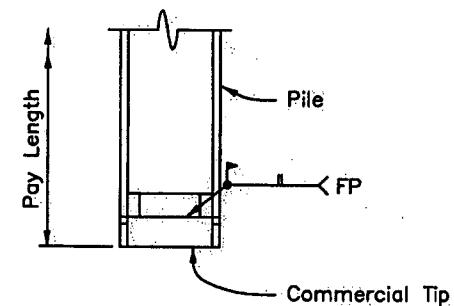
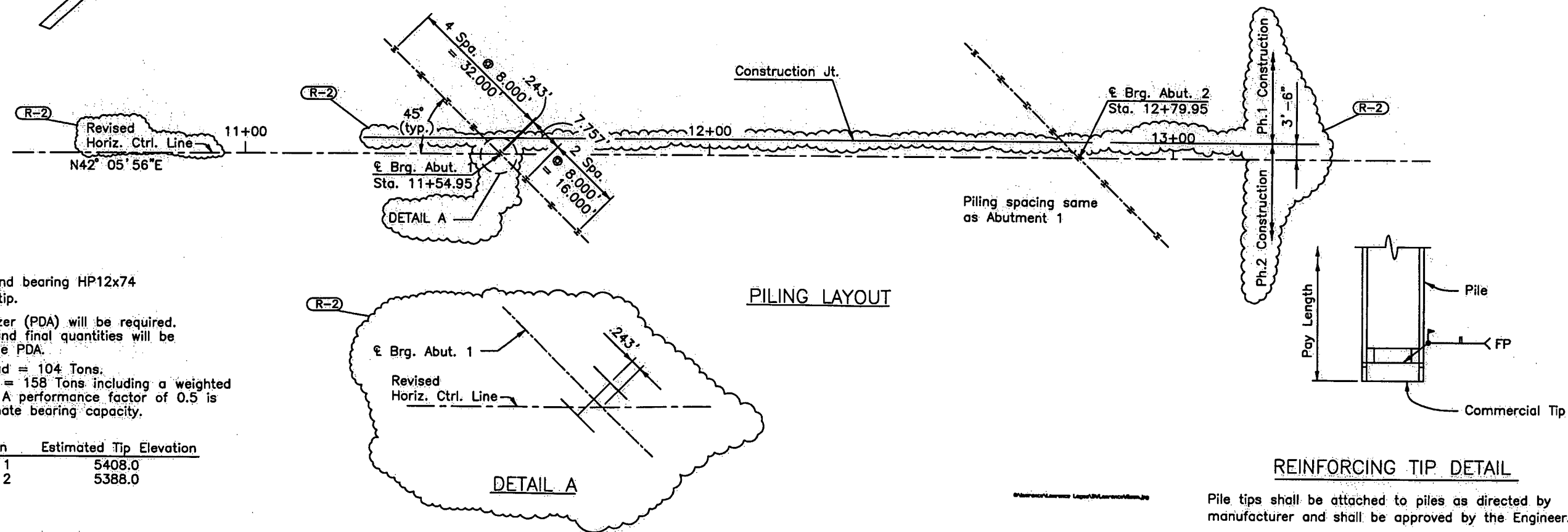
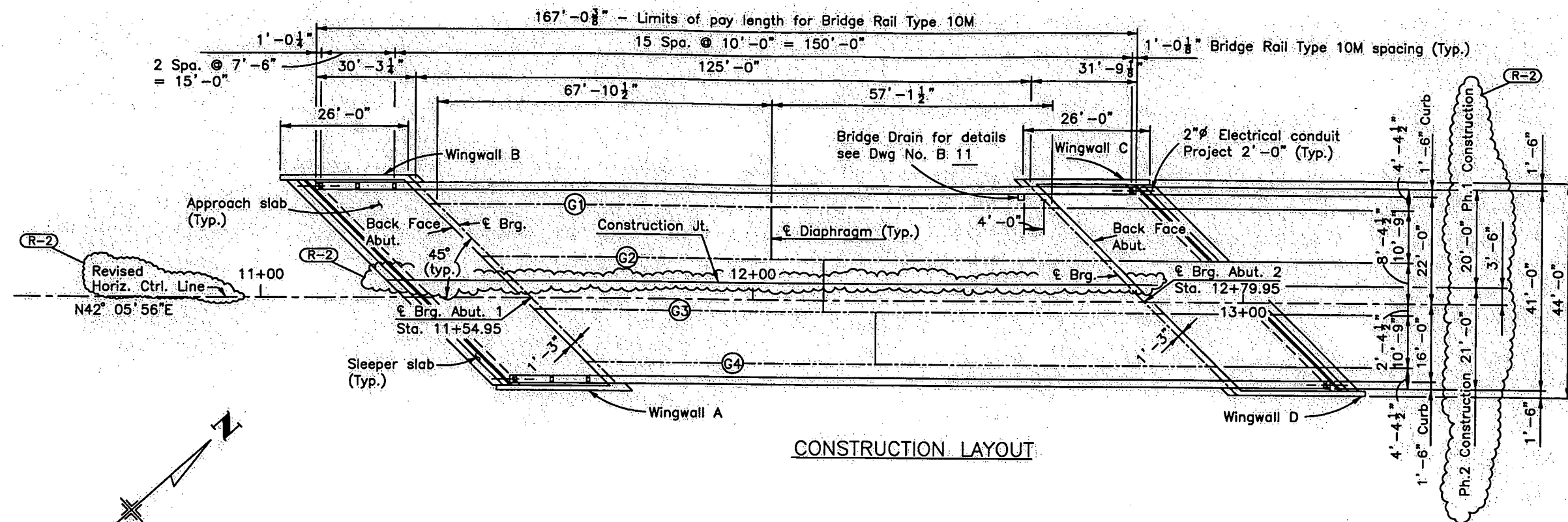


905 Erie Avenue
P.O. Box 535
Pueblo, CO 81002
Phone: 719-546-5734
FAX: 719-546-1230



165 S. Union Blvd.
Suite 200
Lakewood, CO 80228
Phone: 303-987-3443
Fax: 303-987-3908

Region 2 BI



Notes:

All piling shall be end bearing HP12x74 with a commercial tip.

A pile driving analyzer (PDA) will be required. Final tip elevation and final quantities will be determined using the PDA.

Unfactored axial load = 104 Tons.
Factored axial load = 158 Tons including a weighted load factor of 1.5. A performance factor of 0.5 is applied to the ultimate bearing capacity.

Size	Location	Estimated Tip Elevation
HP 12X74	Abut. 1	5408.0
HP 12X74	Abut. 2	5388.0

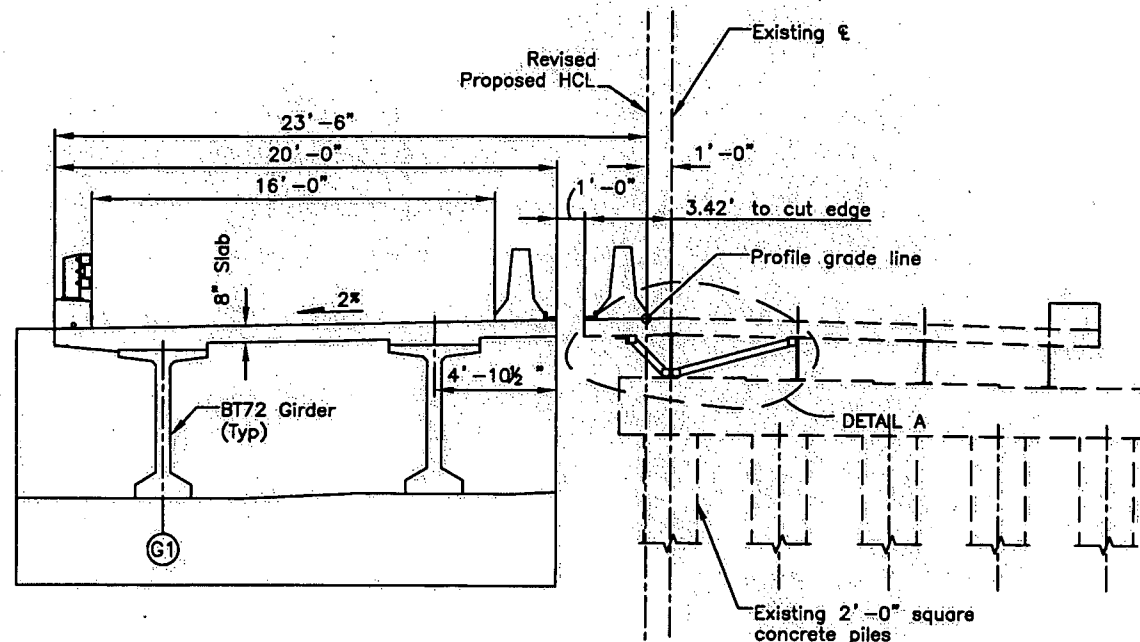
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Last Modification Date:	07/21/02	Initials:	RJG						Revised:						Designer: B. Far	Structure
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Drawing File Name:	M17BEConst.DWG										Sheet Subset: Bridge	Subset Sheets: B	7 of 28			
Acad Ver. R2002	Scale:	Units:	English						Staff Bridge Branch							

Place barrier and shift traffic onto East half of existing bridge according to roadway plans. Brace deck as shown. Remove West half of existing bridge, including piling, pile cap, girders, deck, and approach slabs.

Install temporary excavation support as necessary to prevent caving of soil under existing bridge.

Construct West Half of Proposed Bridge

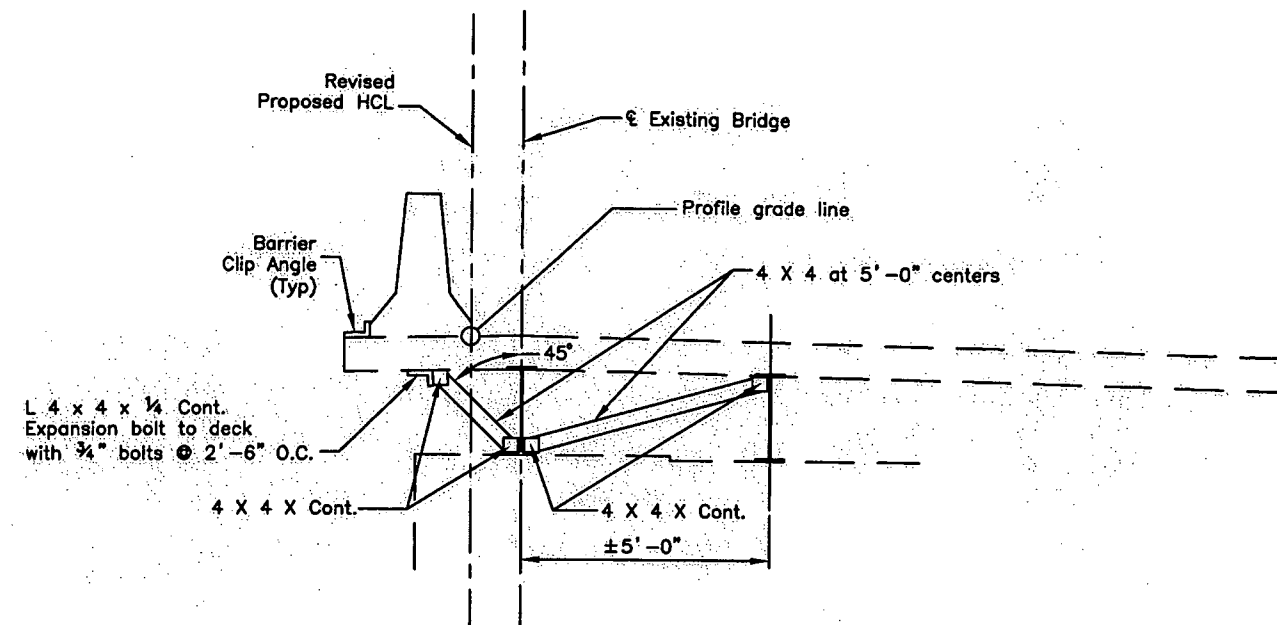
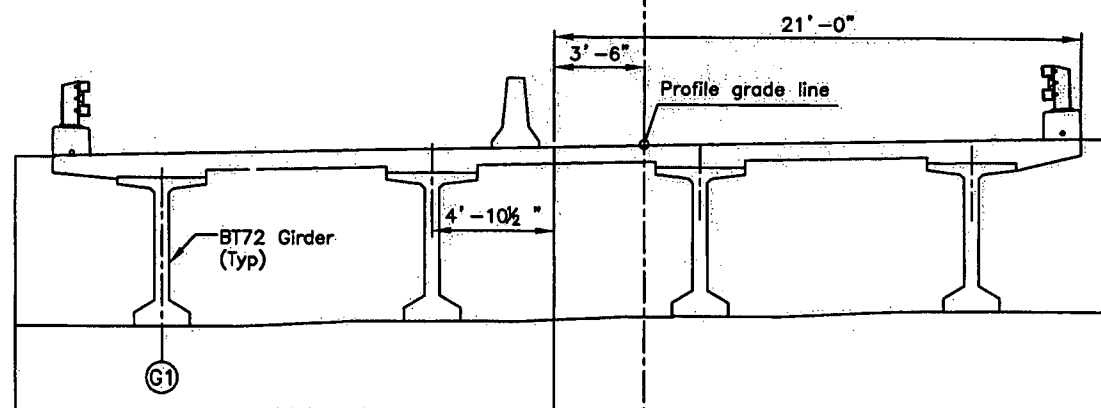
Place transverse abutment and deck steel with mechanical splices at construction joint.



Shift traffic onto West half of proposed bridge according to roadway plans. Remove East half of existing bridge, including piling, pile cap, girders, deck, and approach slabs.

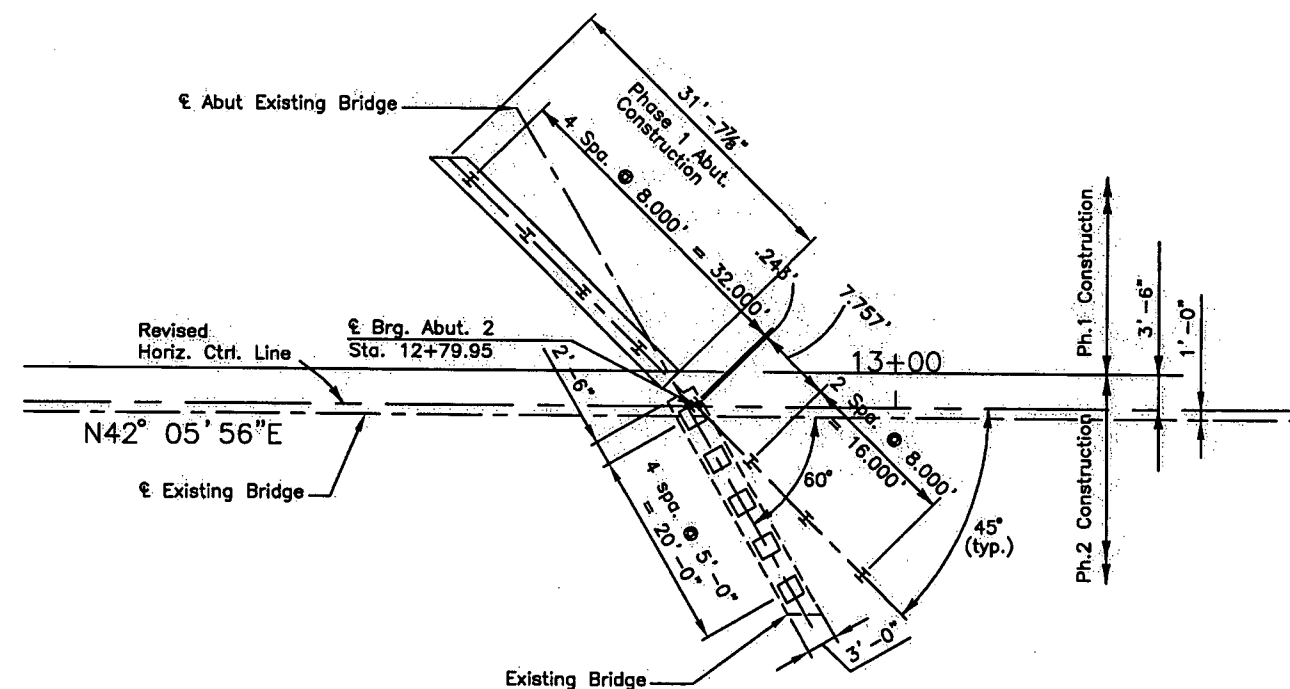
Install temporary excavation support as necessary to prevent caving of soil under proposed bridge.

Construct East portion of new structure
as shown.



DETAIL A

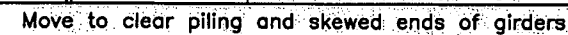
Temporary bracing



ABUTMENT PHASING DETAIL

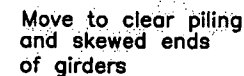
Abutment 2 shown as critical.
(Phase 1 Shown)

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		CONSTRUCTION PHASING				Project No./Code		
Creation Date:	06/25/02	Initials:	RJG	☒ R-2	07/22/02	Value Eng. Proposal	AAP	 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:	9/15/03		Designer: D. WEIR		Structure	BR 0251-151	
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Acad Ver.	2002	Scale:	3/16	Units:	English											



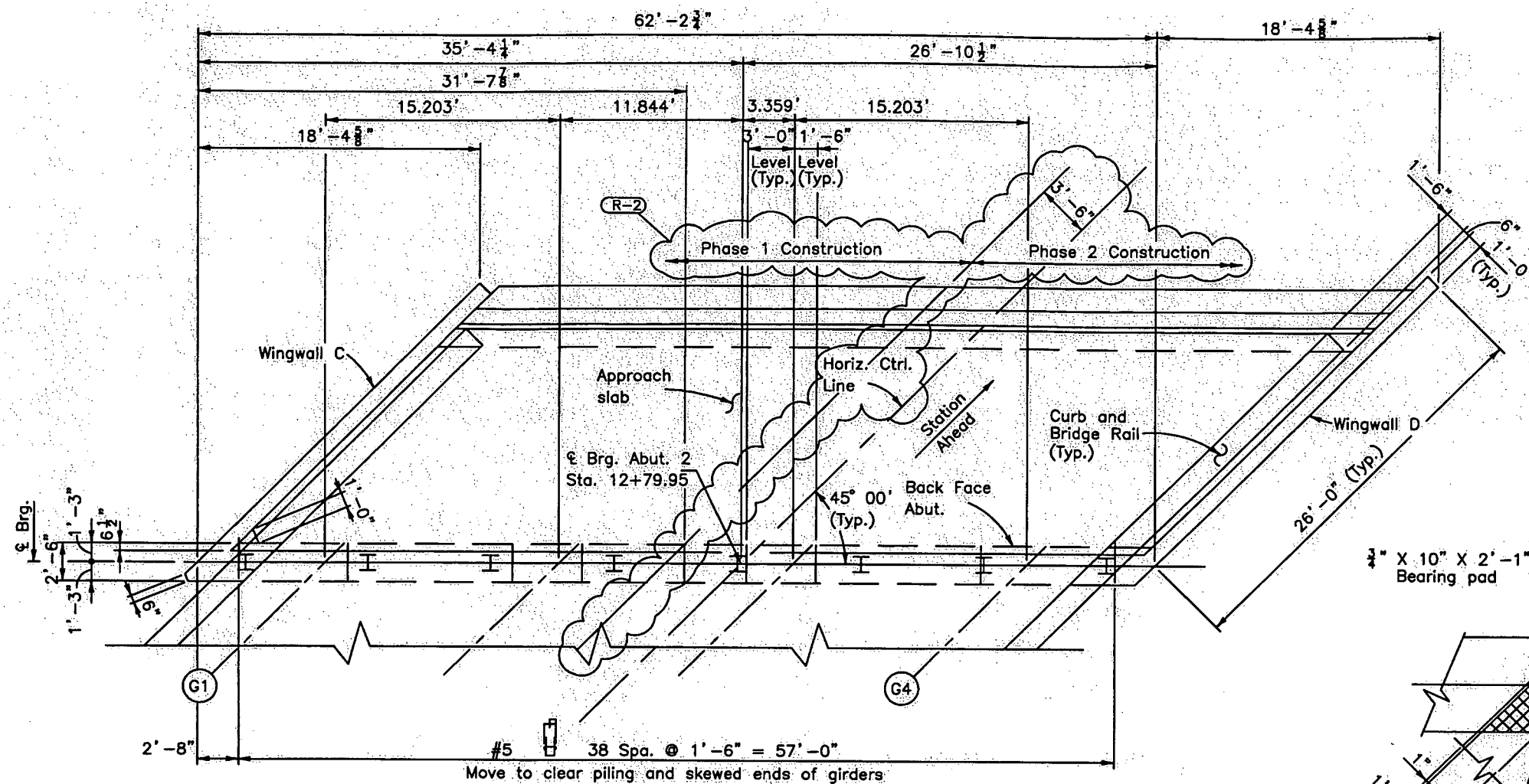
A cross-section diagram of the bridge deck. The deck is divided into two construction phases by a central vertical line. The left side is labeled 'Phase 2 Construction' and the right side is labeled 'Phase 1 Construction'. The deck is supported by a series of vertical piers. The elevations of the deck surface are indicated as follows: Elev. 47.52 on the far left, Elev. 47.51 on the left side of the central pier, Elev. 47.50 at the central pier, and Elev. 47.49 on the right side of the central pier. The base of the piers is labeled 'Elev. 5444.0 (Level)'. A label 'R-2' is located at the top left of the diagram.

For Bearing Details, see Dwg. No. B 9
For Wingwall Details, see Dwg. No. B 10

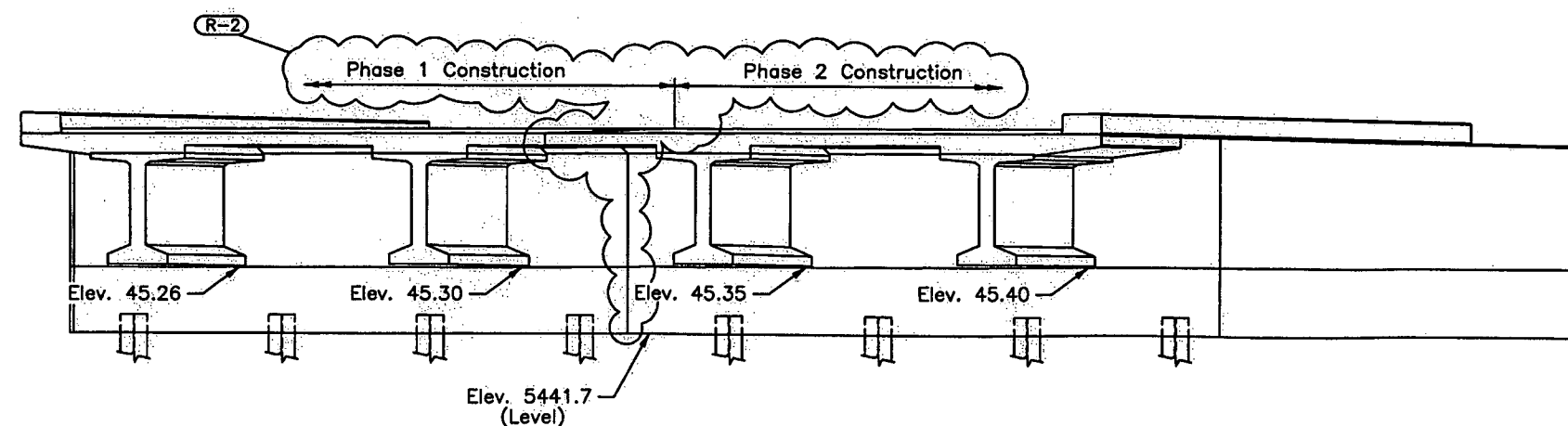


Slab and portion of abutment above bearing seat to be poured monolithically.

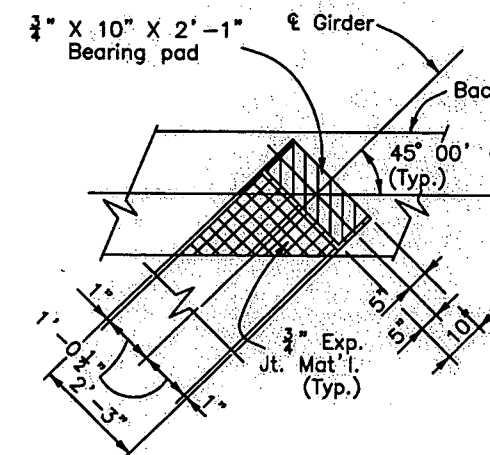
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Acad Ver.	R2002	Scale:	Units: English					Staff Bridge Branch											



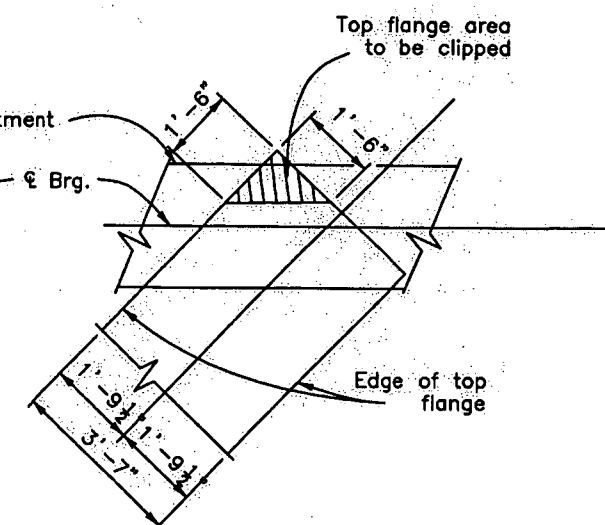
PLAN



ELEVATION



BEARING DETAIL

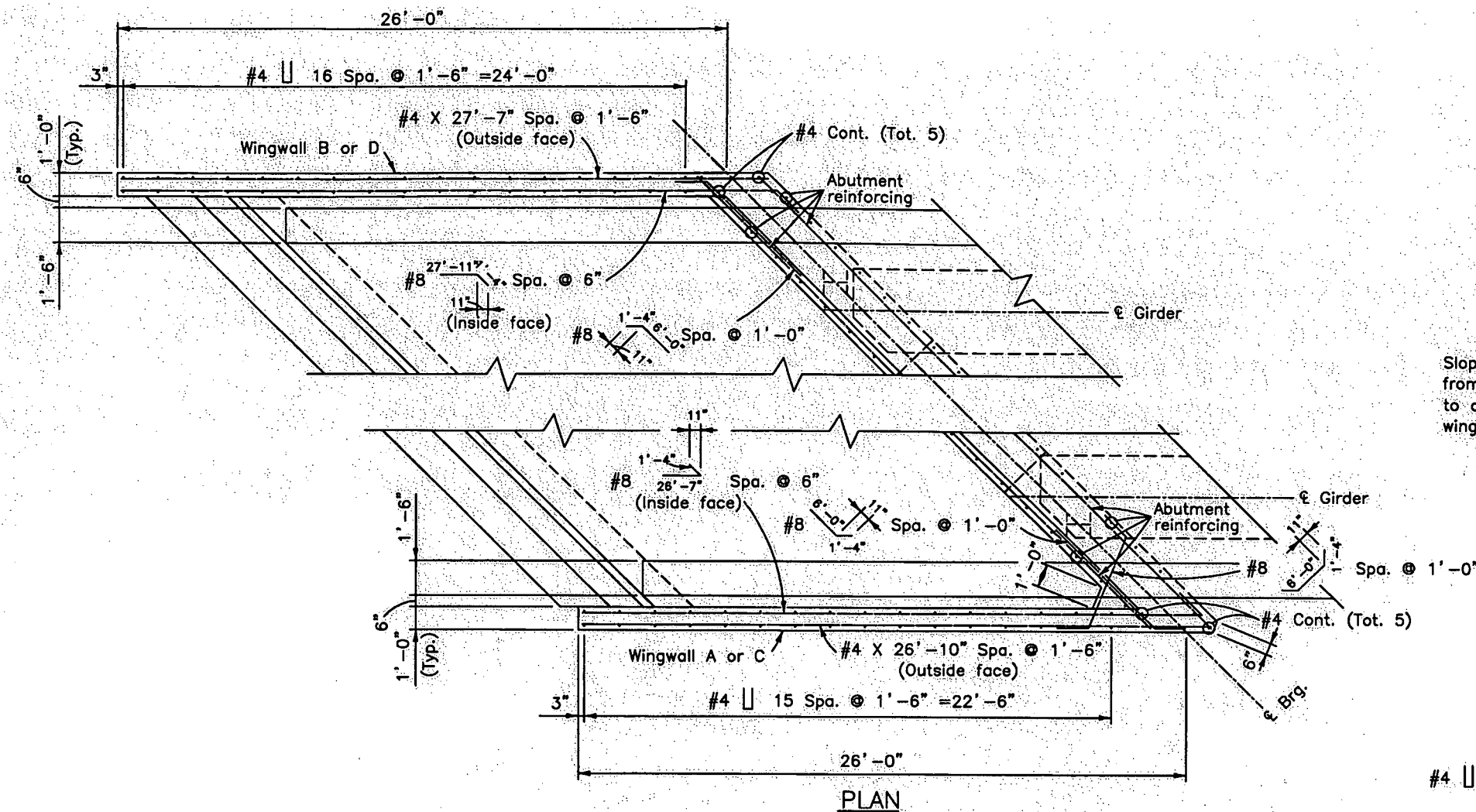


GIRDER CLIPPING DETAIL

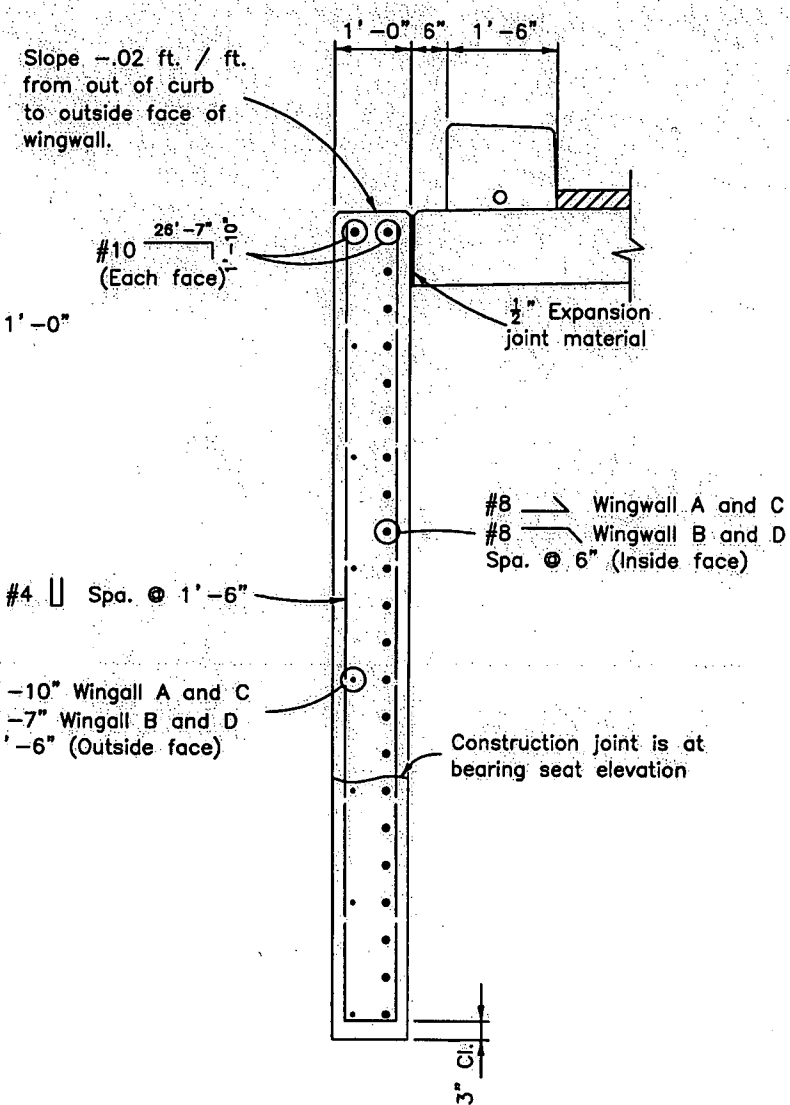
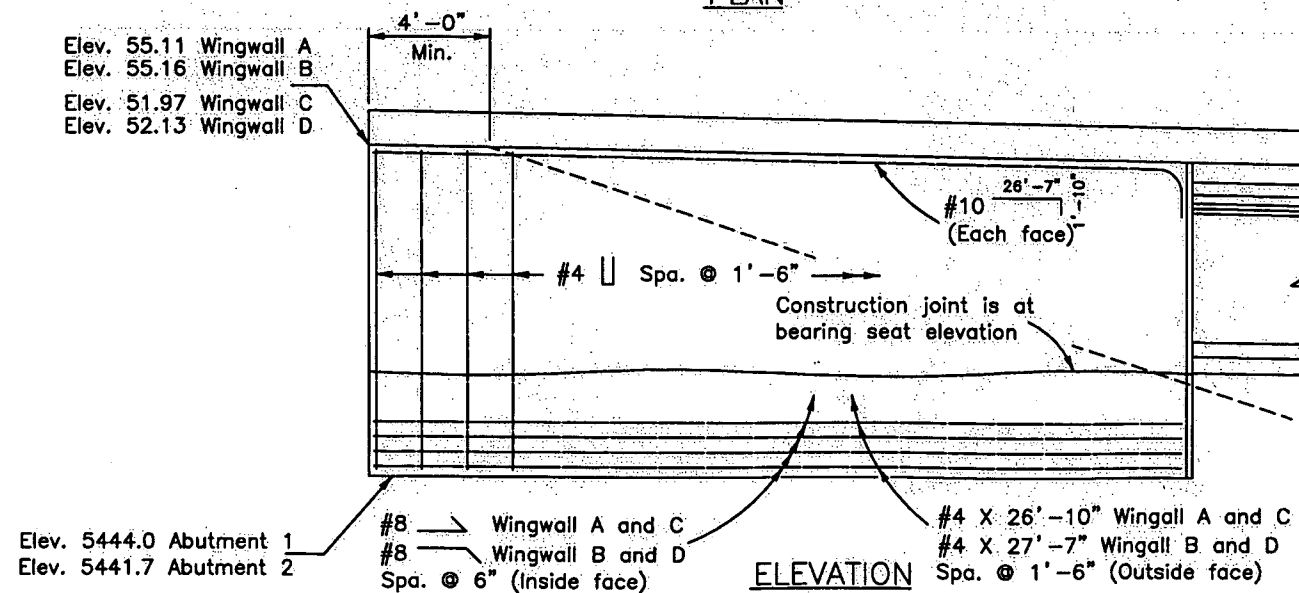
For Typical Section, see Dwg. No. B_8
For Wingwall Details, see Dwg. No. B_10

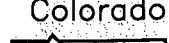
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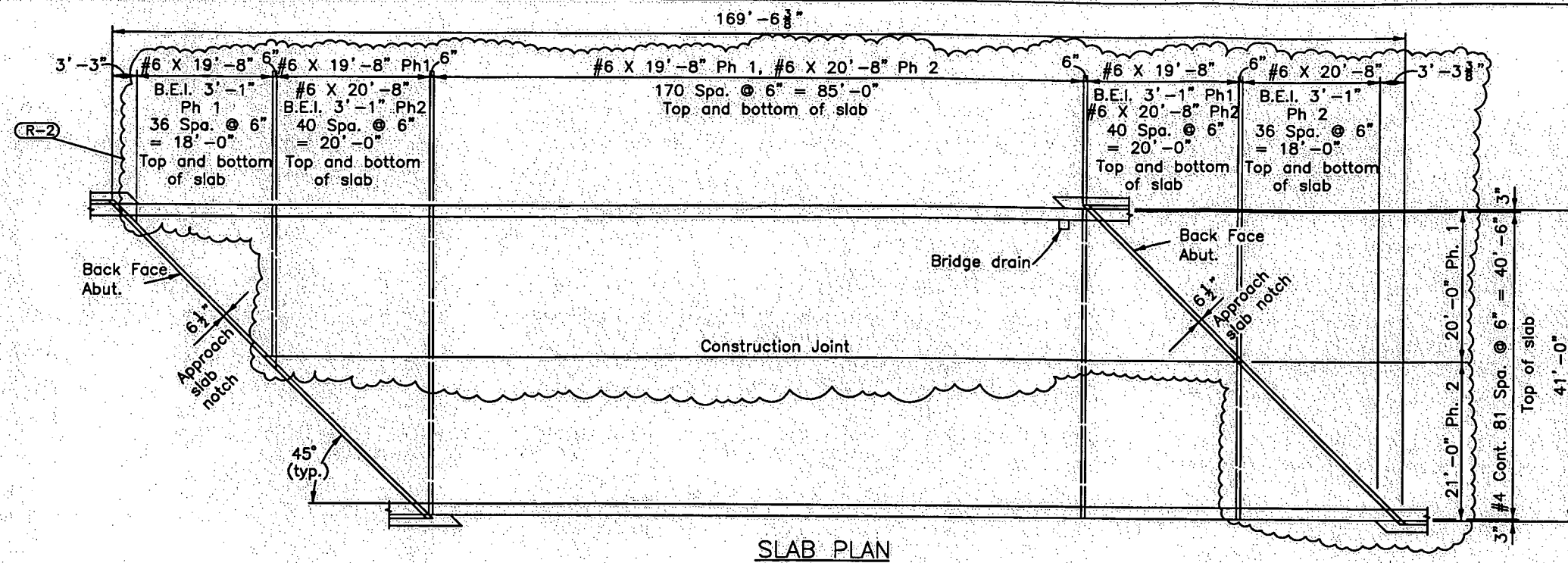
Colorado Department of Transportation
 4201 East Arkansas Avenue, Room 330
 Denver, Colorado 80222-3400
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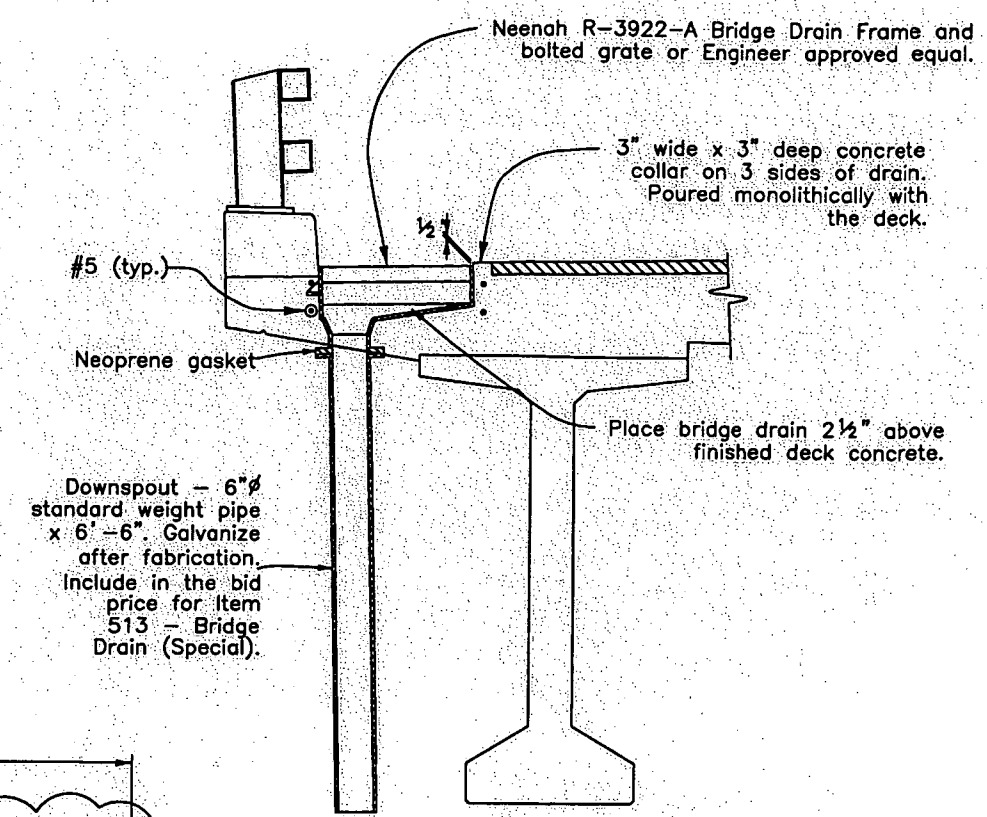
Elev. 55.11 Wingwall A
 Elev. 55.16 Wingwall B
 Elev. 51.97 Wingwall C
 Elev. 52.13 Wingwall D



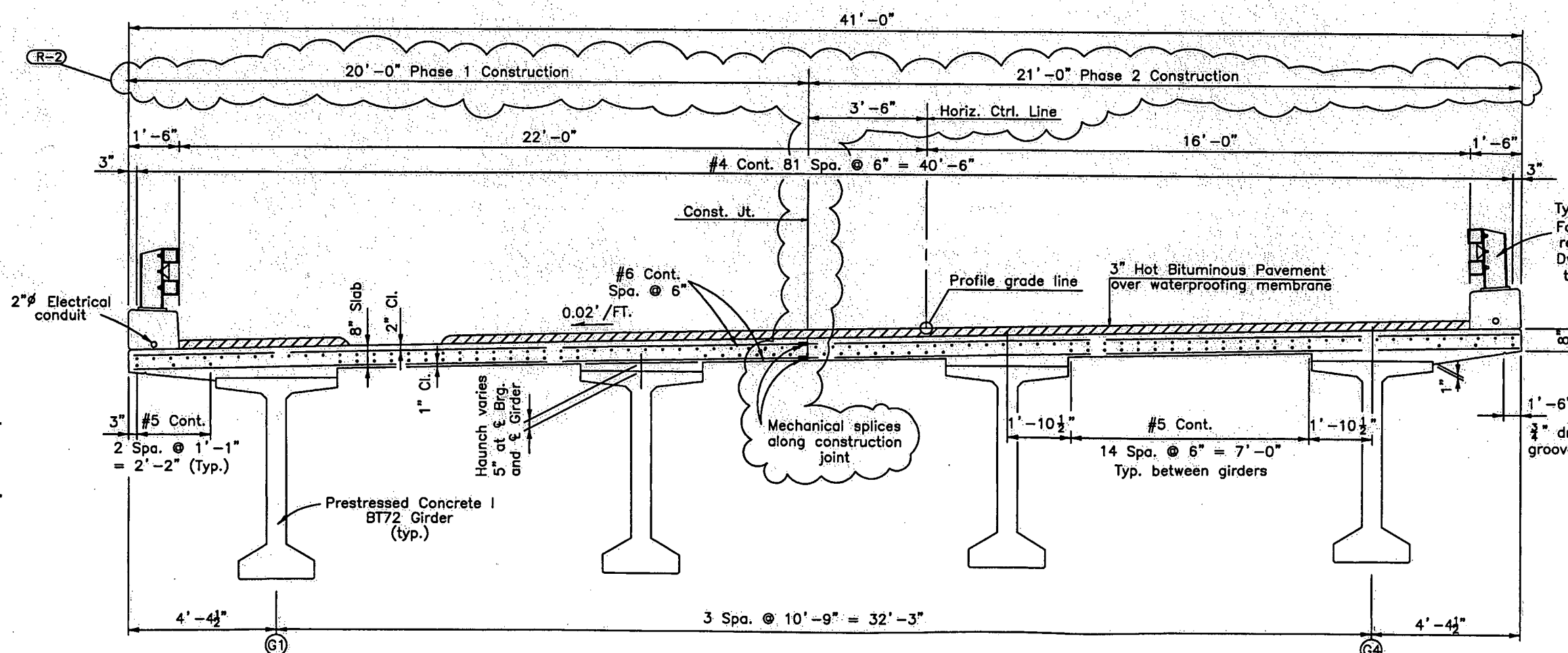
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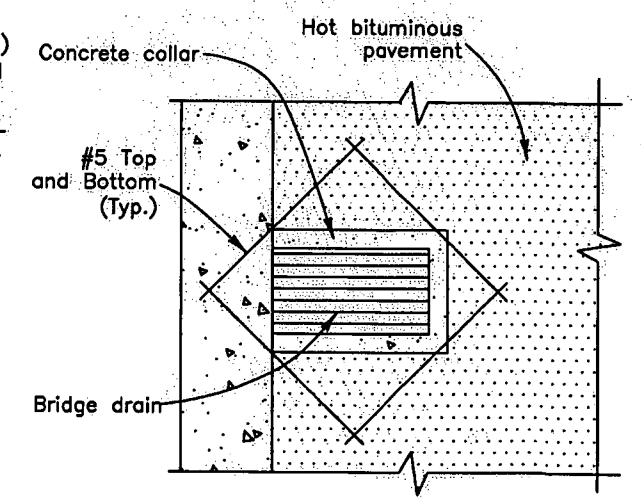
SLAB PLAN



BRIDGE DRAIN DETAIL



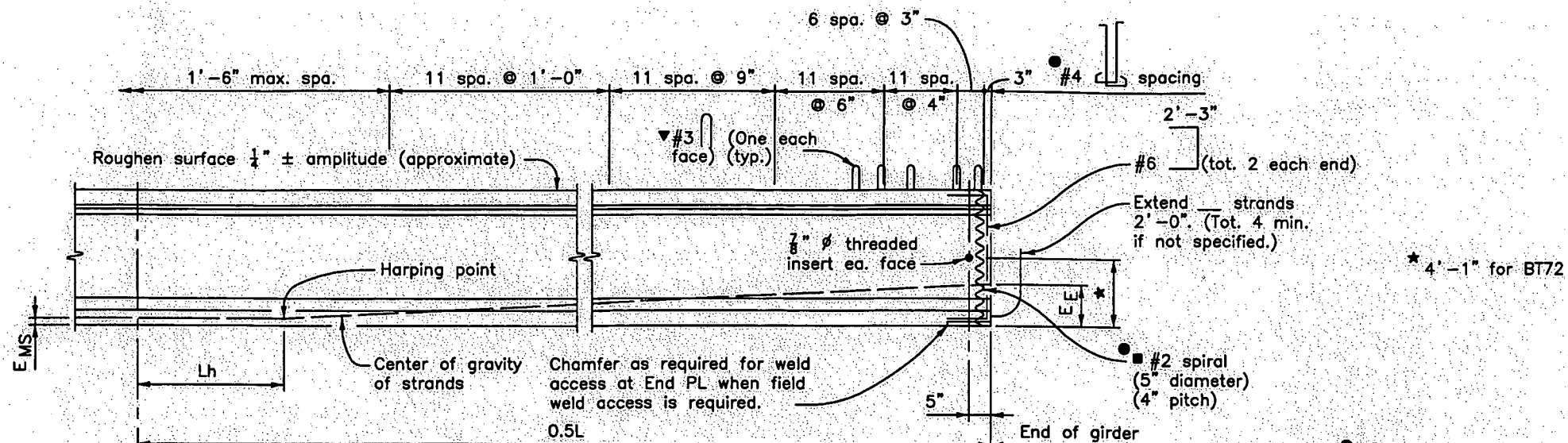
TYPICAL SECTION



BRIDGE DRAIN PLAN VIEW

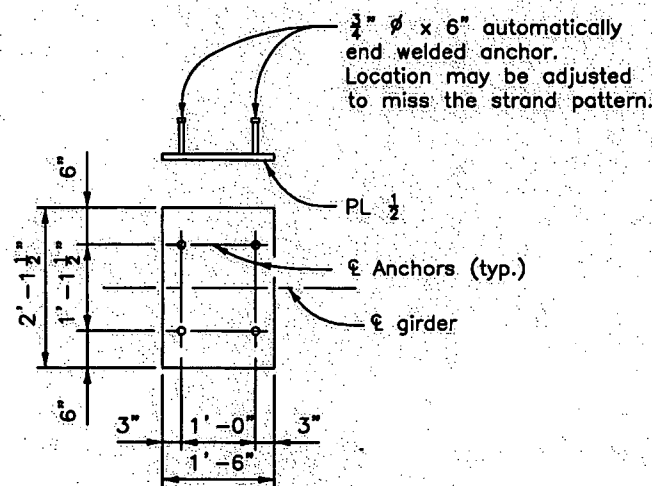
Note: Cut the bridge deck rebar where it interferes with the bridge drains.

Computer File Information			Sheet Revisions			As Constructed			Project No./Code		
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Acad Ver.	R2002	Scale:	Units:	English							Sheet Number
Colorado Department of Transportation						Staff Bridge Branch			BR 0251-151		
4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197									12394		
									36		



GIRDER ELEVATION

The Contractor may submit an alternate cross tie arrangement, at the end of the web, for approval by the Engineer.

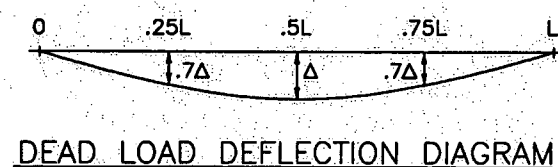


END PLATE DETAIL

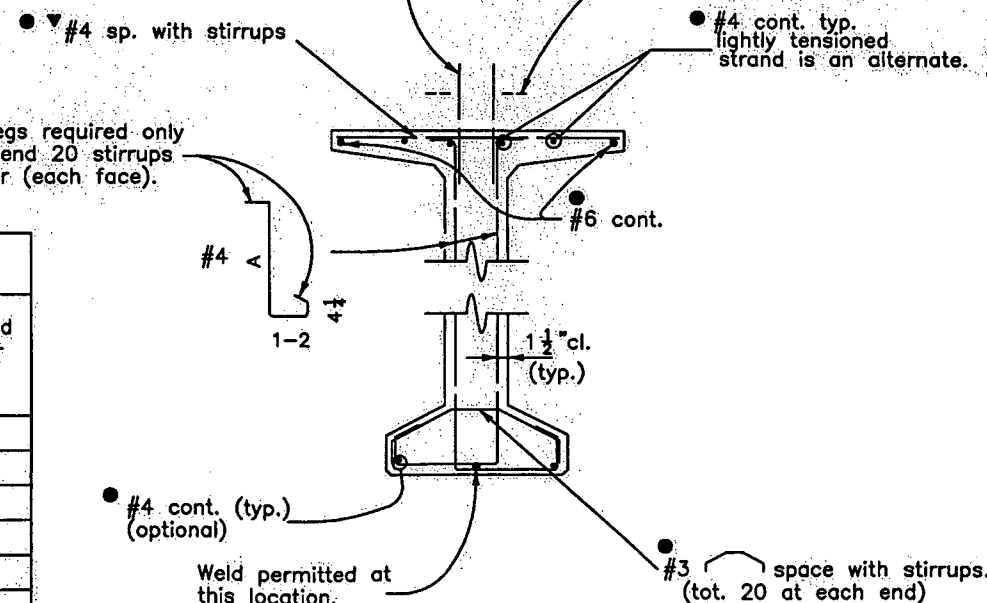
Galvanize after fabrication.

GIRDER SCHEDULE

Girder Type	Span No.	Girder No.	L (Feet)	Lh (Feet)	A _s * (Square Inch)	E _{MS} (Inch)	E _E (Inch)	F _j (KIPS)	F _f (KIPS)	Concrete Strength		Δ (Inch)	Predicted Camber (Inch)
										f'ci (PSI)	f'c (PSI)		
BT72	1	1 - 4	125.83	3.5	9.18	4.6	15.8	1859	1252	6800	7300	2.8	5.9



DEAD LOAD DEFLECTION DIAGRAM



TYPICAL GIRDER SECTION

A = girder depth - 3"

NOTES:

All work necessary to fabricate and install the integral parts of the girder (including the intermediate diaphragms, 1/2" threaded rods, and leveling pads), as shown on the plans, shall be included in the bid price for Item No. 618, Prestressed Concrete I (BT72), with a pay unit of Feet which shall be measured by dimension L.

When approved by the Engineer, a minimum of tack welding will be permitted on ASTM A706 uncoated reinforcing steel.

Reinforcing projecting from the top of the girder and reinforcing within eight feet of an expansion device in the bridge deck shall be epoxy coated. Damaged coating on girder reinforcing need not be repaired. The minimum cover for reinforcing steel is 1".

At girder ends not embedded in concrete diaphragms, cut strands off 1" below the surface of the concrete and finish with an approved epoxy grout. At girder ends embedded in concrete diaphragms, cut strands to project 3", except as shown. Do not make cosmetic repairs (damage less than 1 1/2" deep) to the parts of the girders embedded in concrete.

Use low relaxation strands meeting the requirements of ASTM A-416 Grade 270. The minimum clear distance between groups or individual strands shall be 2.3(d_s) but not less than 1 1/2". The minimum cover for prestressing steel is 1 1/2".

A minimum of two harping points shall be used per girder. Harped strands shall be well distributed at the girder ends, starting within 4" of the top of the girder and distributed such that there is no space between strands greater than 1'-0" at the end of the girder. As an alternate the Contractor may place #4 x 10'-0" in the sides of the end of the web parallel to the harped strands such that there is no space greater than 1'-0".

A_s* = minimum area of the prestressing steel.
d_s = nominal strand diameter.
f'_s = ultimate strength of prestressing steel.
F_j = jacking force per girder.
F_f = final force per girder after all losses.
f'_{ci} = required concrete strength at release of prestress force.
f'_c = required concrete strength at 28 days of age.
L = length of girder along the grade of the girder.
Δ = deflection at centerline of span due to cast-in-place slab, diaphragms, asphalt, curbs, rails, and walks.

Concrete shall be Class PS.

Entrained air is not required for girder concrete.

Use 1/2" chamfer on all corners, except as noted.

Predicted camber is the camber for the girder alone at 90 days. The Contractor shall limit the camber growth to a value not to exceed the predicted camber plus 1" prior to the deck pour by weighting, scheduling fabrication, post tensioning, or other means and must report to the Engineer values of camber which exceed the predicted camber plus 1". Remedial measures, as approved by the Engineer, shall be taken if the predicted camber plus 1" is exceeded. The approved remedial measures shall be free of any adverse impact. The costs associated with all remedial measures shall be borne by the Contractor.

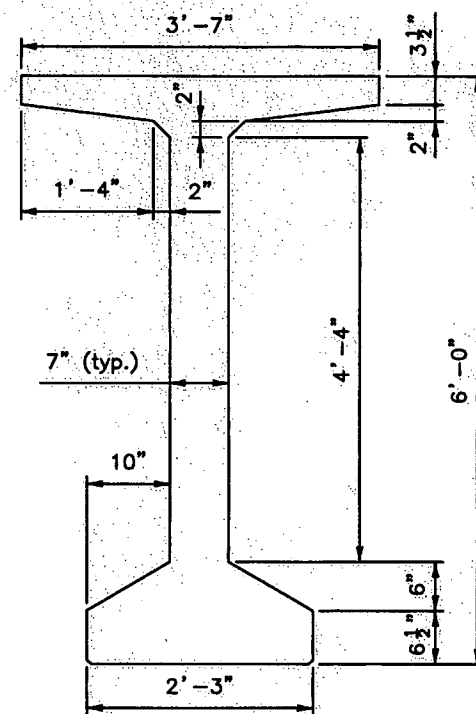
Product dimensional tolerances specified in MNL-116, Section 6.4 shall apply as specification tolerance.

Computer File Information				Sheet Revisions				As Constructed				PRESTRESSED CONCRETE I (BT72)				Project No./Code	
Creation Date:	9/93	Initials:	KDH					No Revisions:	9/15/03			Designer:	B. Far	Structure	M-17-BE	BR 0251-151	
Last Modification Date:	07/10/00	Initials:	KGS					Revised:				Detailer:	K. Sharpley	Numbers		12394	
Full Path:	S:\							Void:				Sheet Subset:	Bridge	Subset Sheets:	B 12 of 28	Sheet Number 37	
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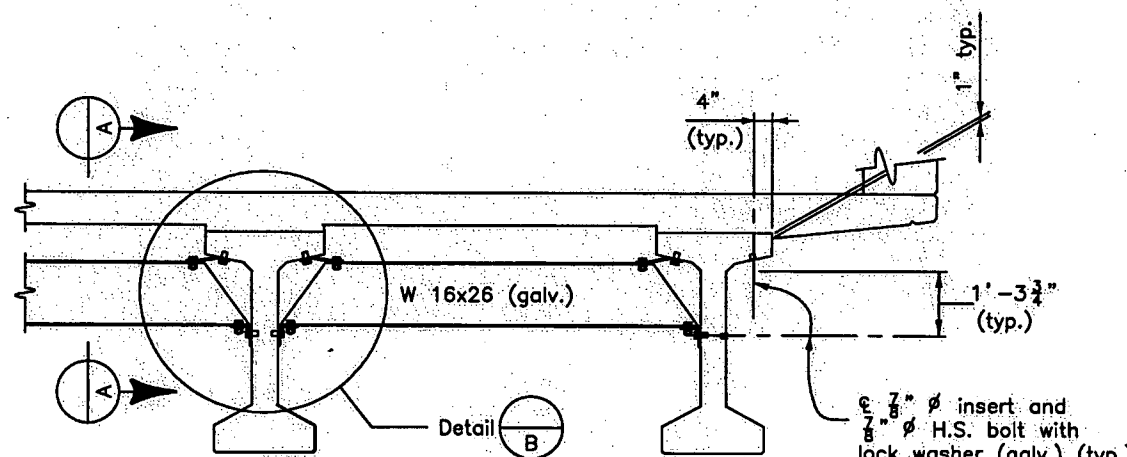
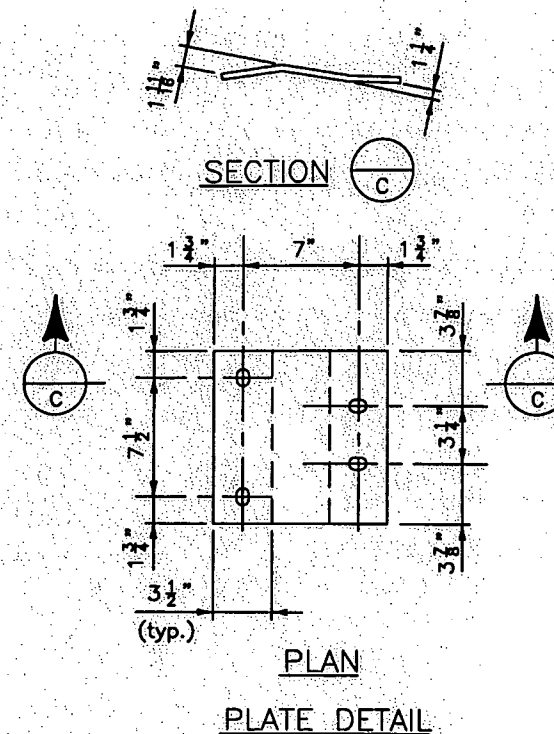
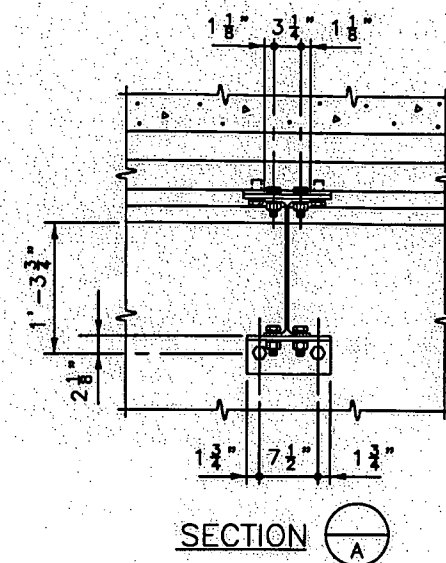
Colorado Department of Transportation

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Denver, Colorado 80222-3400
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Staff Bridge Branch

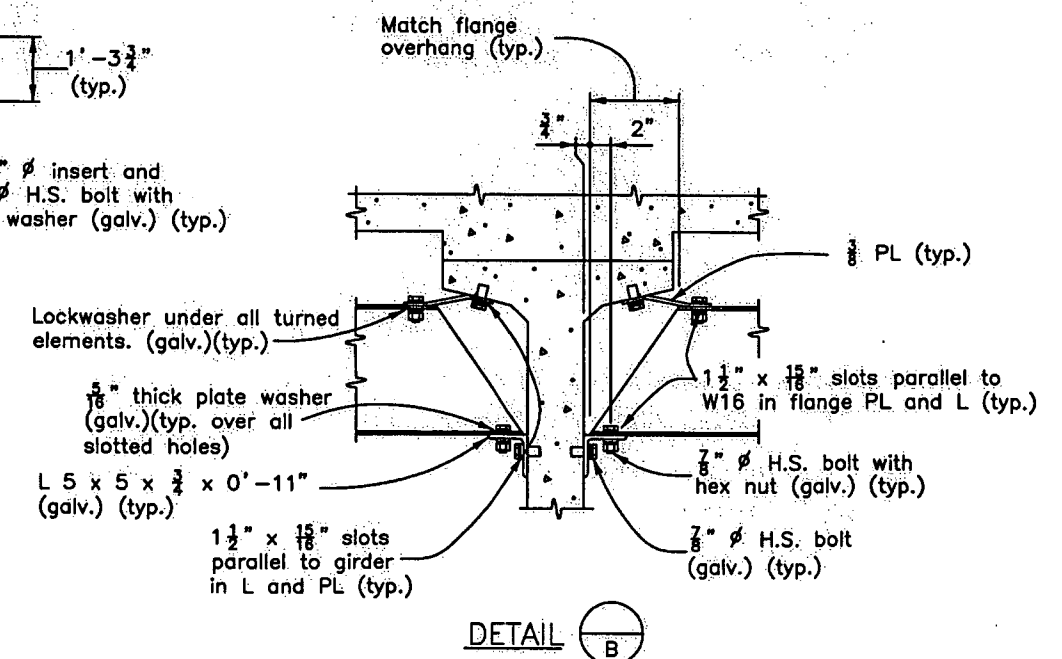


BT 72 DETAIL



INTERMEDIATE DIAPHRAGM DETAILS

* For location of diaphragms, see Construction Layout.



DETAIL B

NOTES

All diaphragm materials, including bolts, nuts, and washers shall be galvanized. Galvanizing may be before fabrication. Zinc or aluminum metalizing is an alternate to galvanizing.

* BT sections deeper than 54", and BT54 spans over 134', shall have at least one diaphragm near the $\frac{1}{4}$ of the span.

Two copies of shop drawings of the diaphragm details shall be submitted to the Engineer for information only.

The bend dimensions shown for the connection PL may need to be adjusted for superelevations over .04'/'.

The diaphragms may be placed on a skew such that they are between 80° and 100° to the girders.

The Contractor is responsible for determining necessary bracing requirements and for providing adequate bracing for the specific wind and weather conditions to be encountered for each specific project.

No girders shall be erected and left unbraced. The intermediate diaphragm (when used) shall be connected to the adjacent girders simultaneously with the erection of the girders.

Use and installation of the intermediate diaphragms shall not relieve the Contractor of full responsibility to construct the Work in a manner which provides all necessary rigidity, supports all loads imposed, and provides in the finished structure the lines and grades indicated on the plans.

Computer File Information

Creation Date:	12/88	Initials:	KDH
Last Modification Date:	7/25/00	Initials:	KGS
Full Path:	S:\		
Drawing File Name:	M17BEDia.DWG		
Acad Ver.	R14.01	Scale:	Units: English

Sheet Revisions

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Staff Bridge Branch

As Constructed

No Revisions: 9/15/03

Revised:

Void:

PRESTRESSED CONCRETE I (BT72)

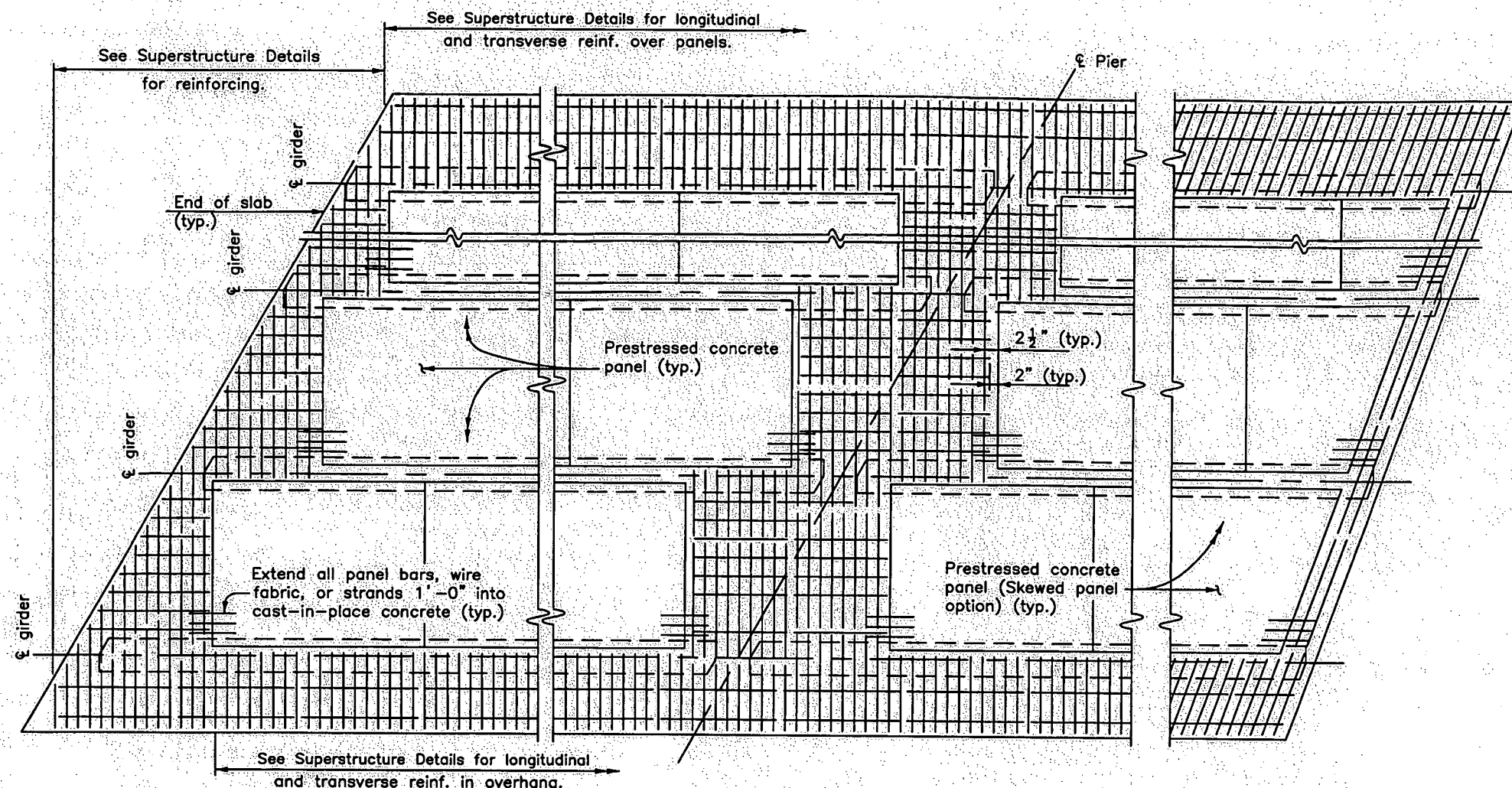
Designer:	B. Far	Structure	M-17-BE
Detailer:	K. Sharpley	Numbers	
Sheet Subset:	Bridge	Subset Sheets:	B 13 of 28

Project No./Code

BR 0251-151

12394

Sheet Number 38



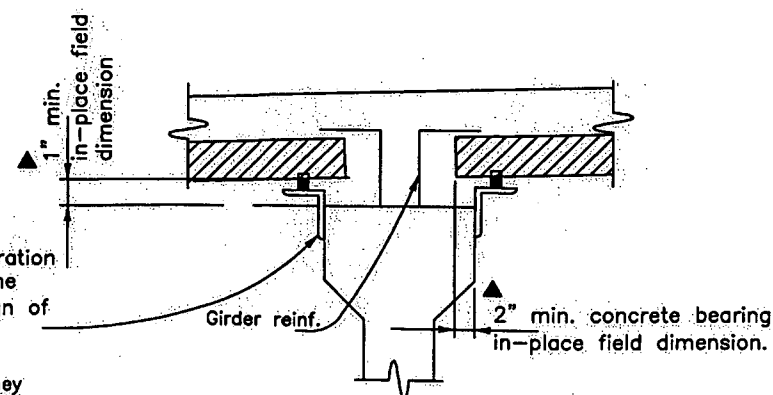
END OF SLAB
RECTANGULAR PANEL OPTION AND
SKEWS LESS THAN 70°

CONTINUOUS SLAB
OVER PIER

END OF SLAB
SKEWED PANEL OPTION FOR
SKEWS 70° to 90°

PART PLAN

Rectangular panel option shall be used for skews less than 70°.



SUPPORT DETAIL

(R-2)

NOTES:

At contractor's option, precast panels may be used between girder lines 1 and 2, and 3 and 4.

Composite total slab designed for HS 25-44 and Alternate Military Loading.

All concrete shall be Class S with release strength $f'_{ci} = 4500$ psi and minimum 28 day strength $f'_c = 6000$ psi. The strength shall be at least 5000 psi at the time of the deck pour.

Use $\frac{3}{8}$ " low relaxation strands meeting the requirements of ASTM A416 grade 270. Jacking force per strand (F_j) shall be at least 17.2 kips. Final force per strand (F_f) is estimated to be 14.2 kips.

Installation of Bar U (#3) is mandatory. All four Bar U (#3) loops shall be used simultaneously for lifting the panels. Alternate methods may be used, for lifting, provided they are shown on the shop plans and approved by the Engineer.

Care must be taken to ensure proper cleaning of construction debris and consolidation of concrete mortar under the edges of the panels. It is also important that adequate space (Δ min. 1" x 2") is provided for the concrete to fill the space under the panel as the slab concrete is placed. Panel lengths and width shall be determined by the Contractor and shown on the shop plans.

The Contractor is responsible for the stability of the panels on the girders. Erected panels shall be uniformly supported along the length of the panel. The Contractor is responsible for meeting the total slab thickness shown on the Superstructure Details.

All planes of reinforcing steel shown in the superstructure details are required for areas not formed with precast panels.

Computer File Information

Creation Date: 10/91 Initials: KDH
Last Modification Date: 07/21/02 Initials: RJC
Full Path: Q:\X2310007\ACAD\Sheets\Structural\
Drawing File Name: M17BEPan1.DWG
Acad Ver: R2002 Scale: Units: English

Sheet Revisions

(R-2) 07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP
07/22/02 Value Eng. Proposal AAP

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Staff Bridge Branch

As Constructed

No Revisions:
Revised:
Void: 6/26/02

PRECAST PANEL DECK FORM

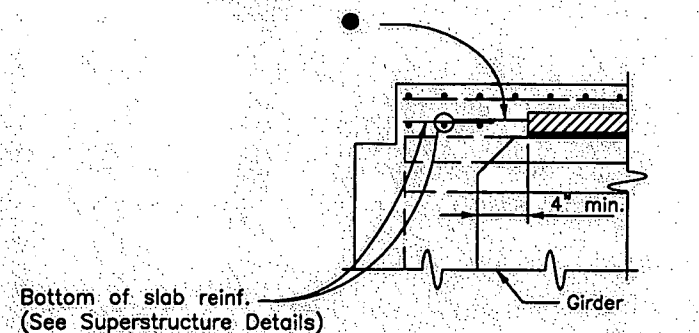
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Detailer: K. Sharpley
Sheet Subset: Bridge
Structure Numbers: M-17-BE
Subset Sheets: B14 of 28

Project No./Code

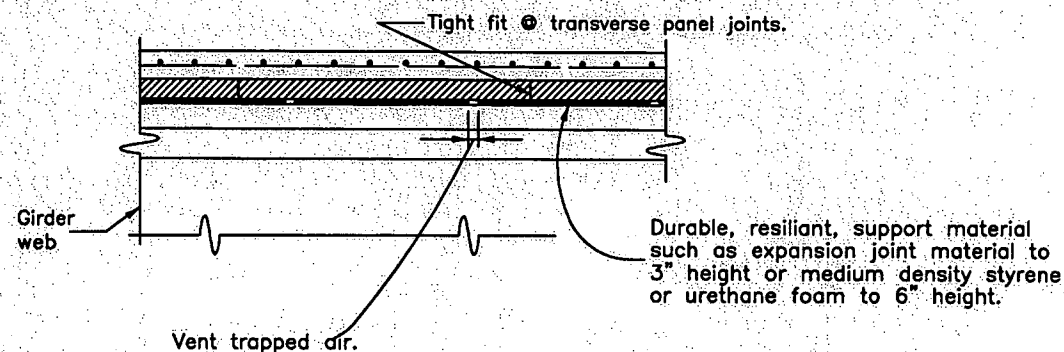
BR 0251-151

12394

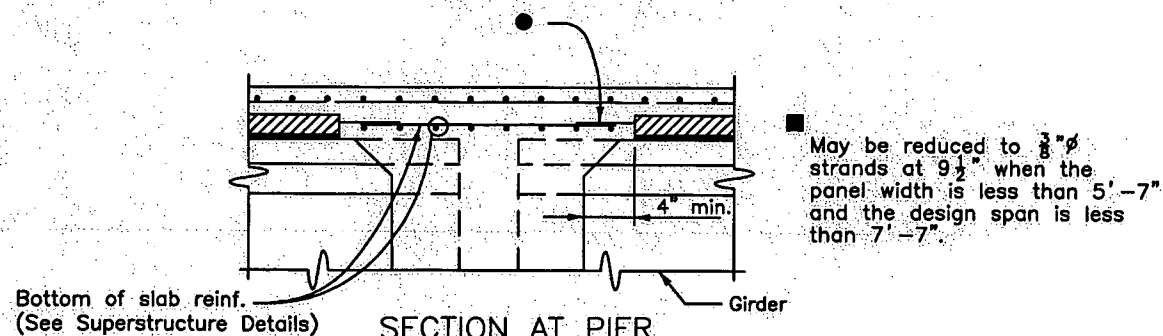
Sheet Number 39



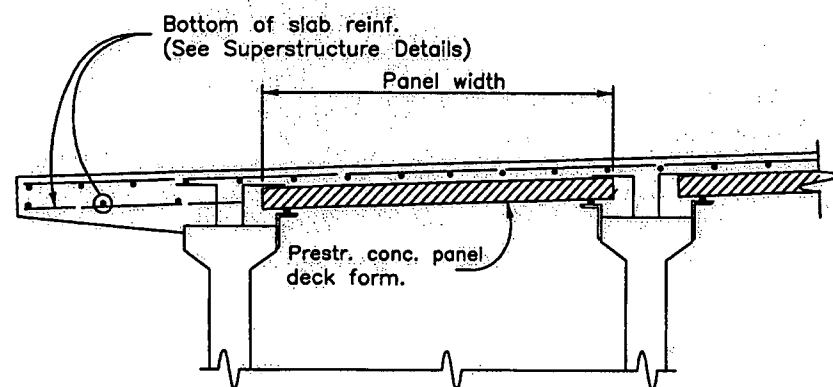
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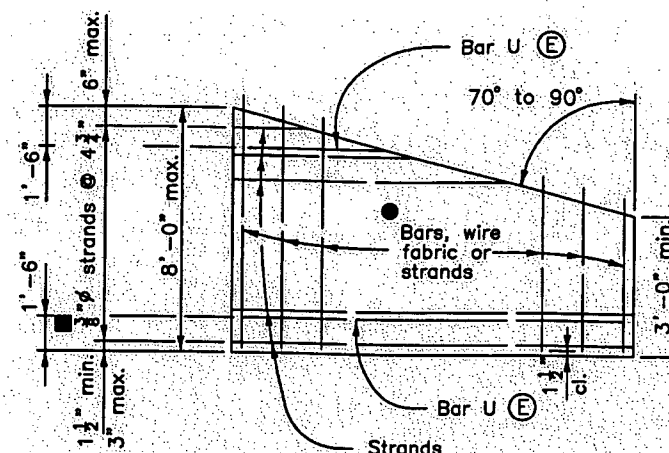
SECTION THRU TRANSVERSE PANEL JOINTS



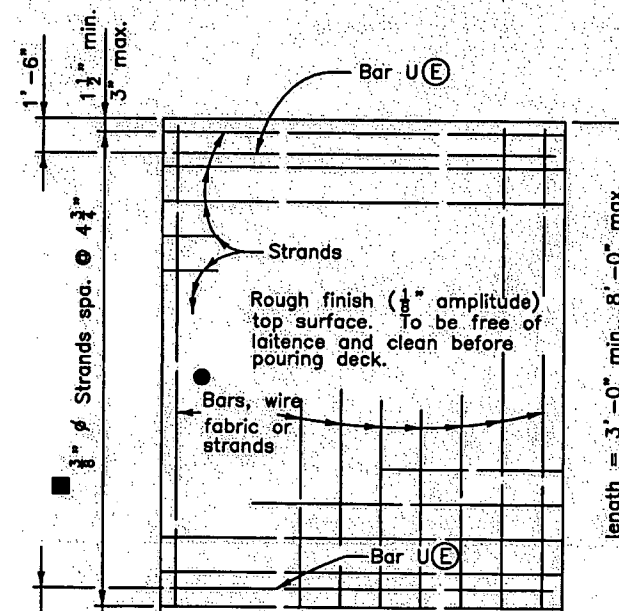
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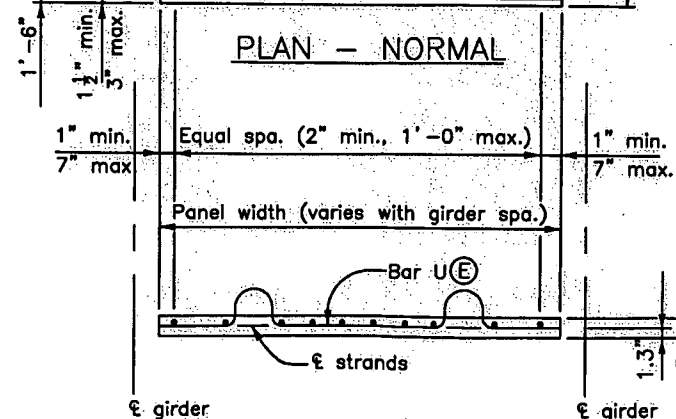
SECTION



PLAN - SKEWS 70° TO 90°
OPTIONAL END PANEL



PLAN - NORMAL



PRESTRESSED PANEL DETAILS

Notes:

Sawing of panels is acceptable in areas where projecting reinforcement is not required. It is desirable to have the prestressing strands project from the panels as long as the projecting strands do not interfere with other bridge components.

- Reinforcing perpendicular to strands may be deformed reinf. bars, welded wire fabric, or welded deformed bar mats, and shall be placed directly above the strands. Minimum area of reinforcing perpendicular to strands shall be 0.11 sq. in. per ft. Tensioned or untensioned strands may also be used. These individual bars or wires shall be no larger than .375" diameter. For location of longitudinal bar extensions, see sheet 2 of 2.

The longitudinal reinforcing steel in the cast-in-place portion of the deck may rest directly on the panels as necessary to obtain clearances at the top of deck, unless otherwise noted.

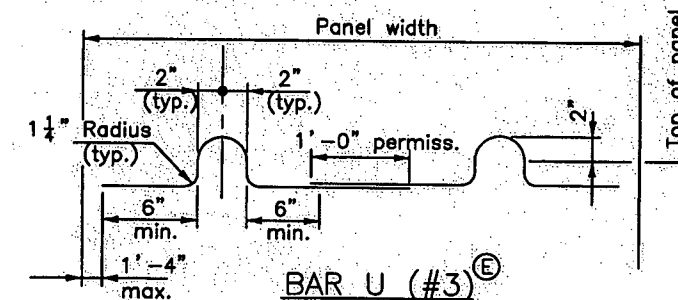
(E) denotes epoxy coated reinforcing.

The tolerance on strand placement shall not exceed $\pm \frac{1}{4}$ ".

The tolerance on panel thickness shall not exceed $\pm \frac{1}{4}$ ".

Concentrated construction loads shall not exceed 500 lb for 3" panels, 700 lb for 3.5" panels, nor 1100 lb for 4" panels unless the load is distributed to less than 117 psf. Total loads applied to any panel during construction shall not exceed 117 psf.

Bottom flexural cracks, sags greater than .5", or cambers greater than .5" will be considered evidence of mishandling, overloading, or exceeding allowable tolerances, and may be cause for rejecting panels at the Engineer's discretion.



PRESTRESSED PANEL DETAILS

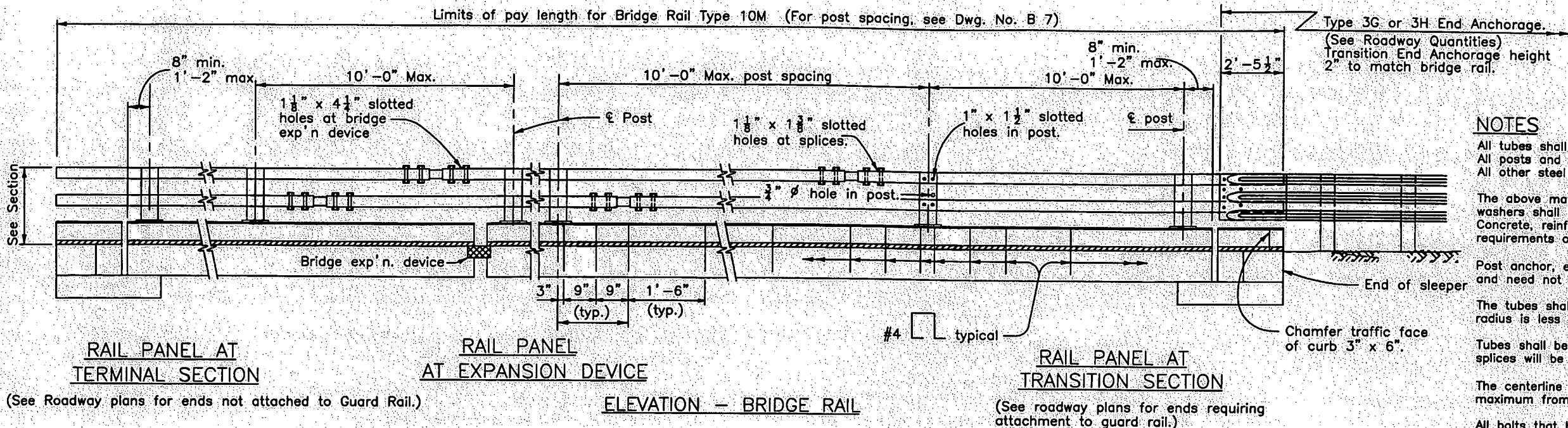
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Last Modification Date:	06/26/02	Initials:	RJG			Revised:		Designer: B. Far	Structure M-17-BE
Full Path:	Q:\X2310007\ACAD\Structural\					Void: 6/26/02		Detailer: K. Sharpley	Numbers
Drawing File Name:	M17BEPANEL2.DWG							Sheet Subset: Bridge	Subset Sheets: B 15 of 28
Acad Ver. R2002	Scale:	Units:	English					Sheet Number 40	

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Staff Bridge Branch



NOTES

All tubes shall be ASTM A-500 Grade B.
All posts and base plates shall be ASTM A-572 Grade 50.
All other steel shall be ASTM A-36 unless otherwise noted.

The above material and all anchor bolts and miscellaneous bolts, nuts, and washers shall be galvanized after fabrication in accordance with Section 509. Concrete, reinforcing steel, and structural steel elements shall conform to the requirements of Sections 601, 602 and 509, respectively.

Post anchor, encased in concrete, shall be ASTM A-36 (AASHTO M-183) steel and need not be galvanized.

The tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 1,500 feet.

Tubes shall be continuous over not less than two posts. No welded butt splices will be allowed in the tube sections.

The centerline of the tube splice shall be 1'-8" minimum and 2'-6" maximum from the centerline of the posts.

All bolts that have lock washers shall be tightened to snug only.

Posts shall be perpendicular to the longitudinal roadway grade.

One or more 10'-0" post spacings may be reduced (6'-8" min.) in order to maintain dimensions from the end of the rail and expansion joints.

Payment will be made under Item 606, Bridge Rail Type 10M for all posts, post anchors, base plates, backing plates, anchor bolts, miscellaneous bolts, nuts, washers, tubes, tube expansion devices, tube splices, end plates, curb concrete (Class D), curb reinforcing steel, and reflector tabs.

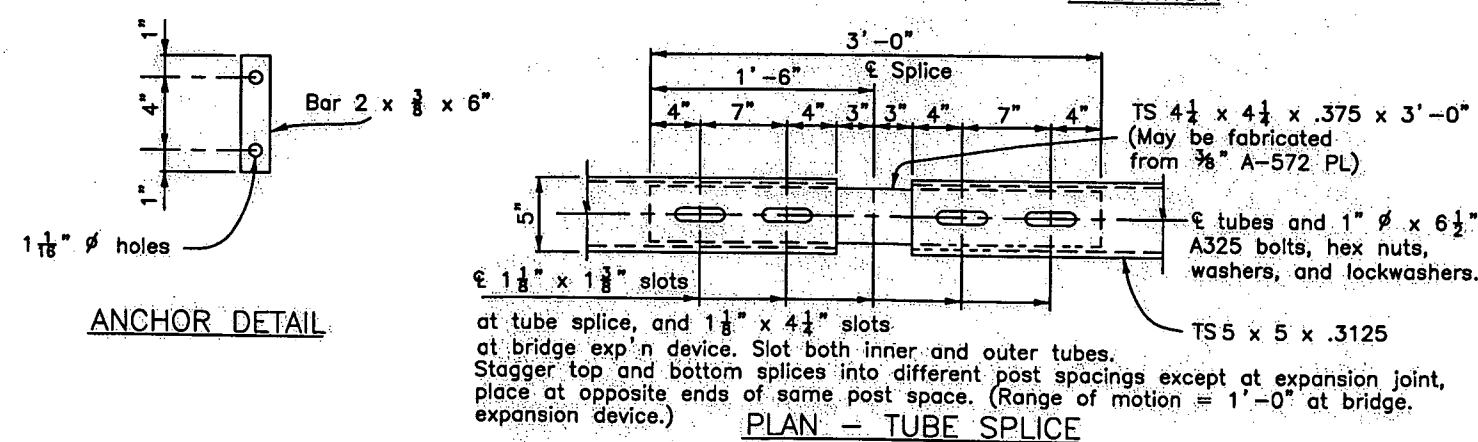
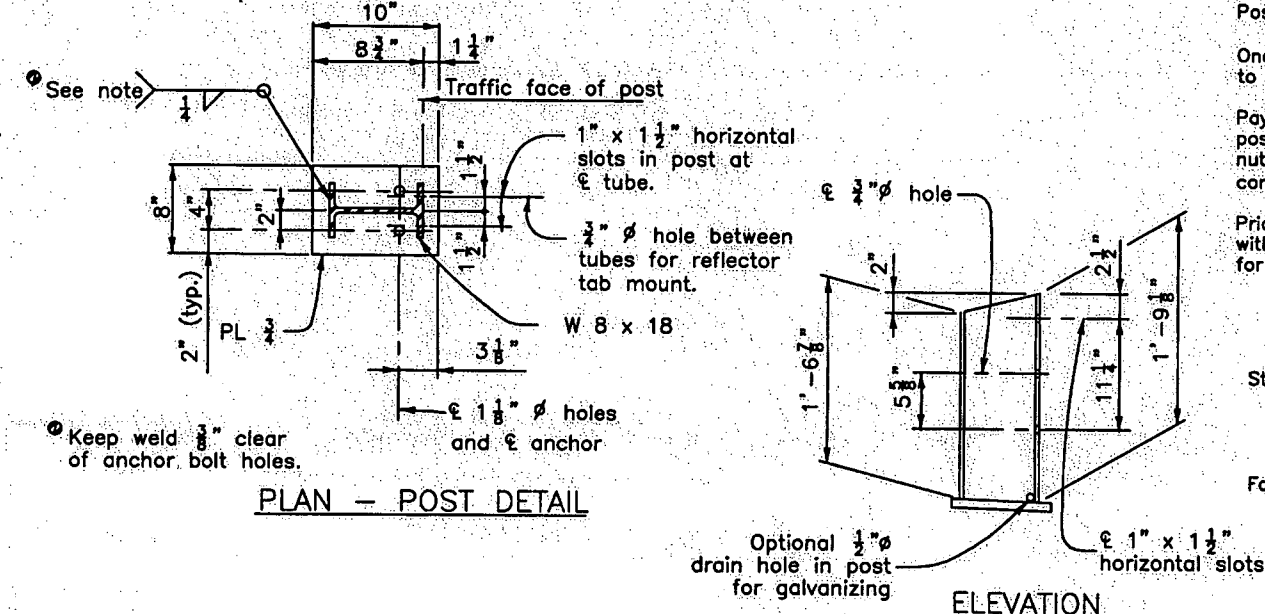
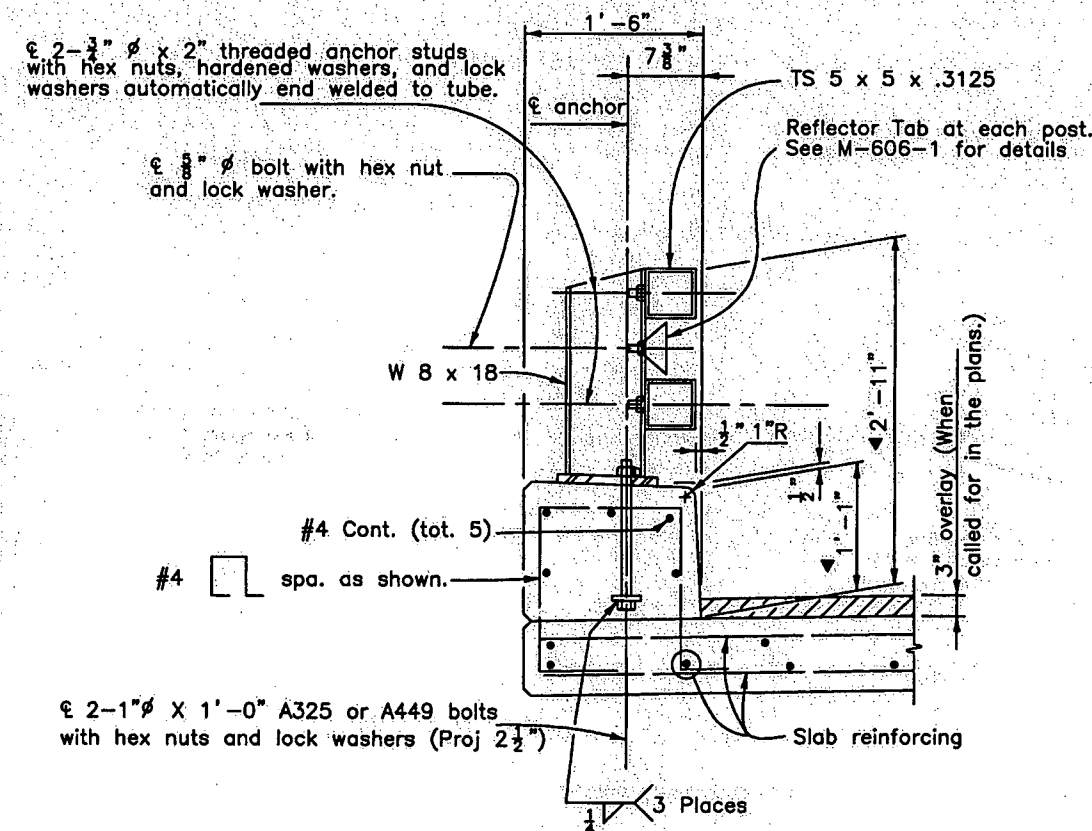
Prior to fabrication of this item, three sets of working drawings which comply with the requirements of Section 105, shall be submitted to the Engineer for information only.

Structural Steel:
AASHTO M-183 (ASTM A-36) $f_y = 36,000$ psi
AASHTO M-223 (ASTM A-572) $f_y = 50,000$ psi
Cold formed ASTM A-500 Grade B $f_y = 46,000$ psi

For additional details see next rail sheets.

INFORMATION ONLY

Description	Unit	Per Lin. Ft.
Structural Steel (Galvanized)	Lb.	45.1
Concrete Class D (Bridge)	Cu.Yd.	.06
Reinforcing Steel (Epoxy Coated)	Lb.	6.6



Computer File Information

Creation Date:	11/91	Initials:	KDH
Last Modification Date:	07/25/00	Initials:	KGS
Full Path:	S:\		
Drawing File Name:	M17BERail1.DWG		
Acad Ver.	R14.01	Scale:	Units: English

Sheet Revisions

Colorado Department of Transportation



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Staff Bridge Branch

As Constructed

No Revisions: 9/15/03

Revised:

Void:

BRIDGE RAIL TYPE 10M

Designer: B. Far

Detailer: K. Sharpley

Sheet Subset: Bridge

Structure M-17-BE

Numbers

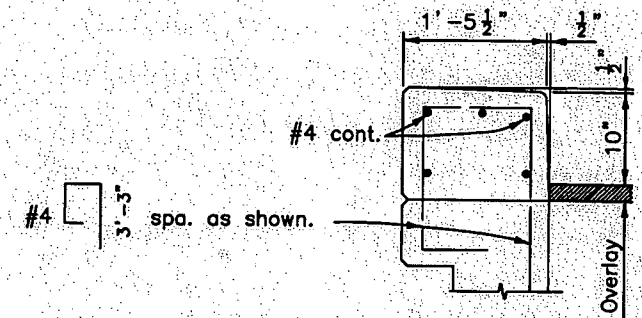
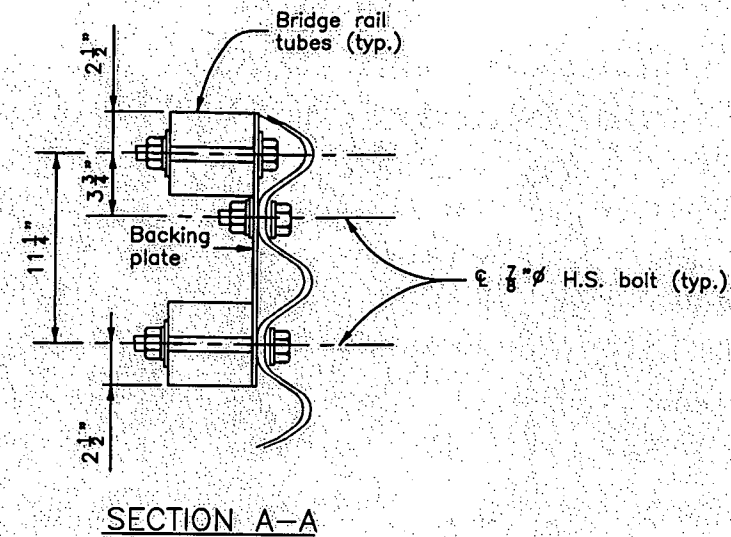
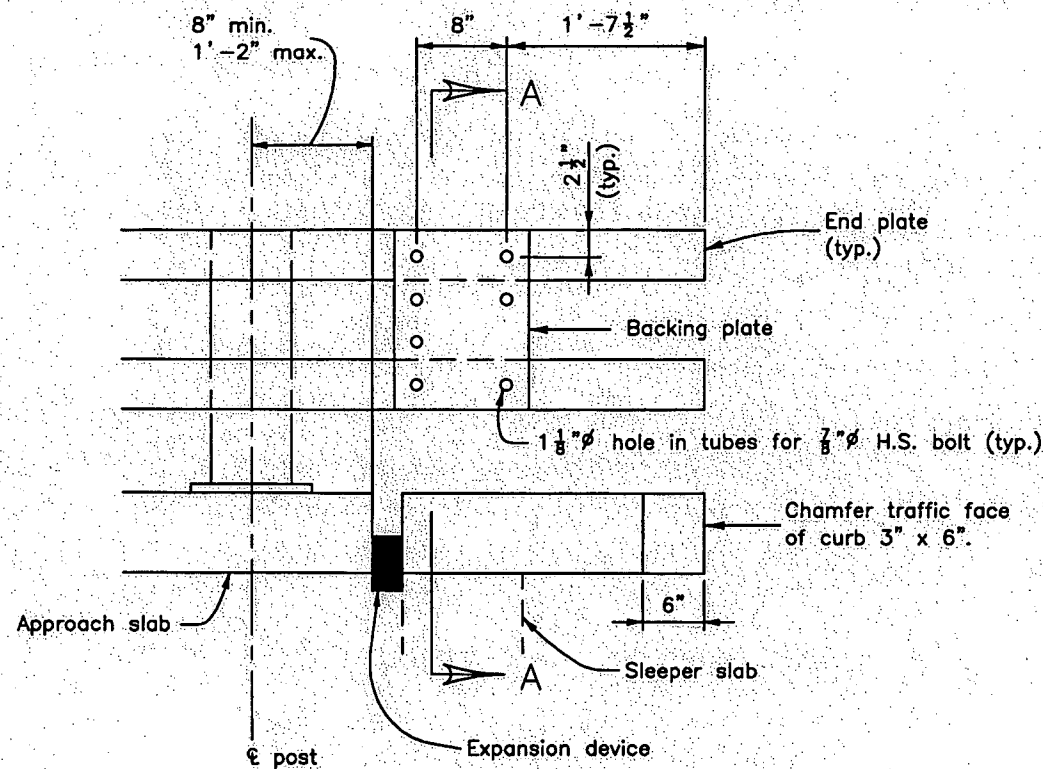
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Project No./Code

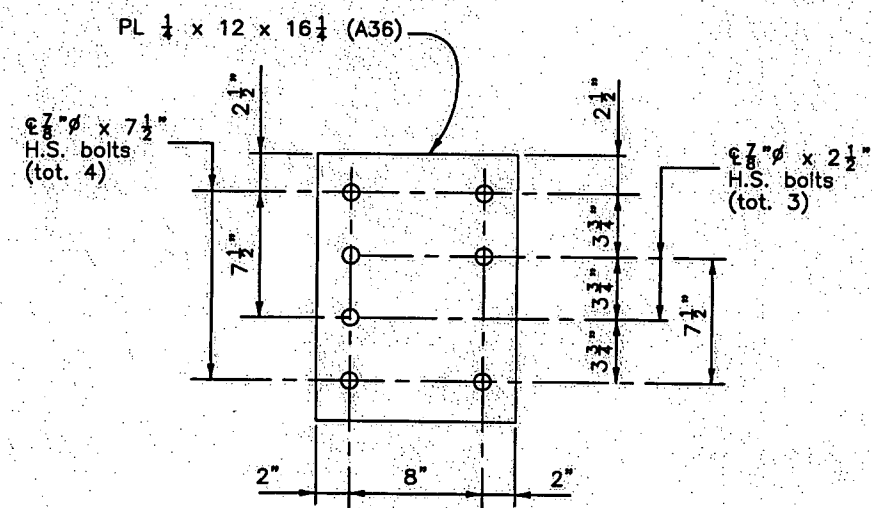
BR 0251-151

12394

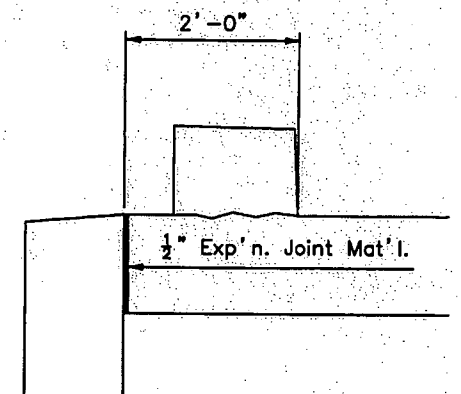
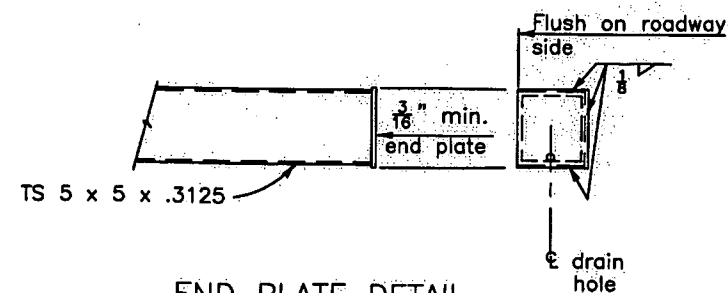
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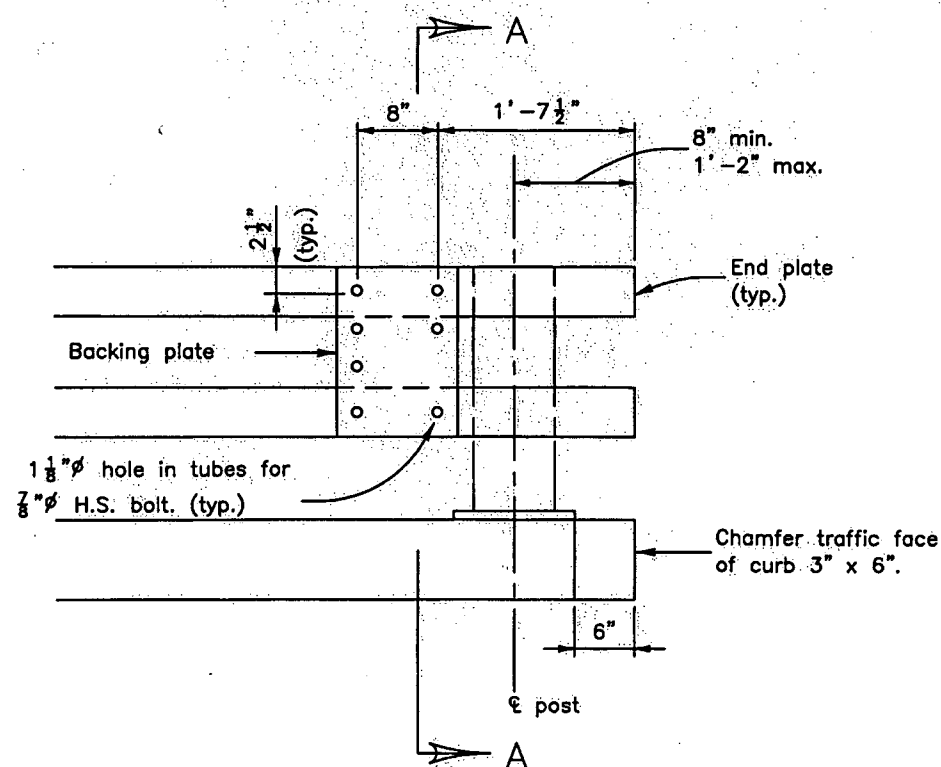
Use when curb is placed on top of a wall.



Holes are 1 1/8" for 7/8" H.S. bolts with hex nuts, 2 PL washers, and 1 lock washer.

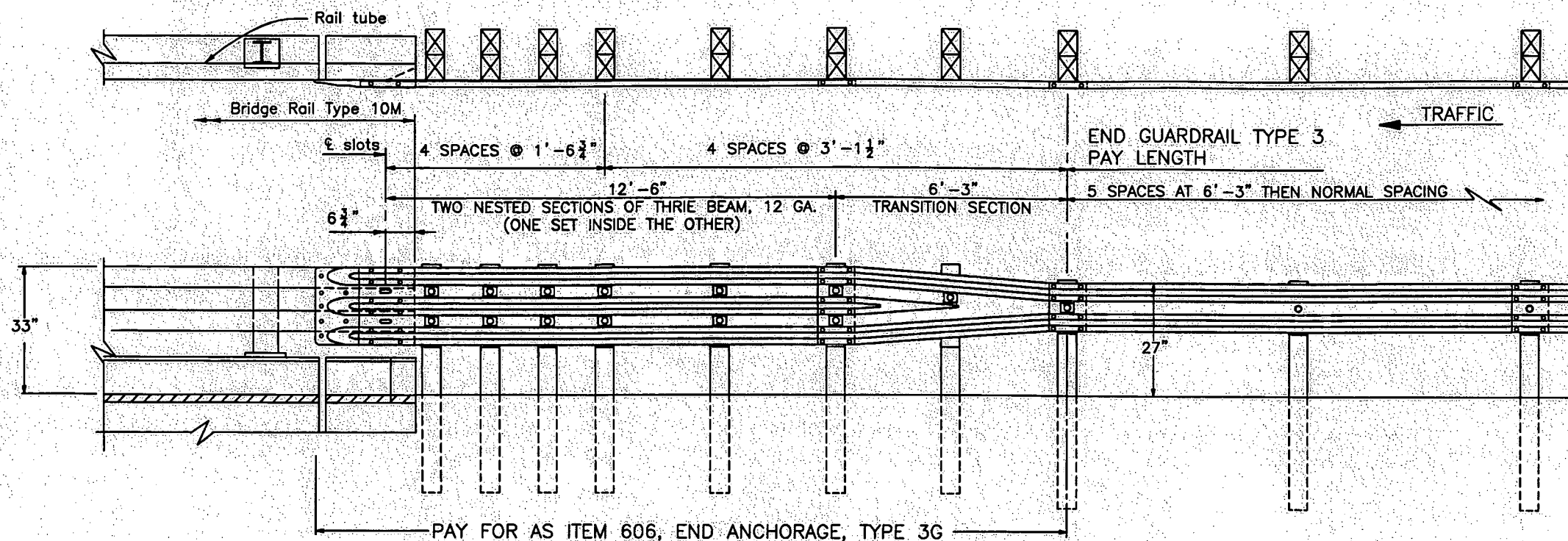


(Use when curb is to be placed on approach slab.)

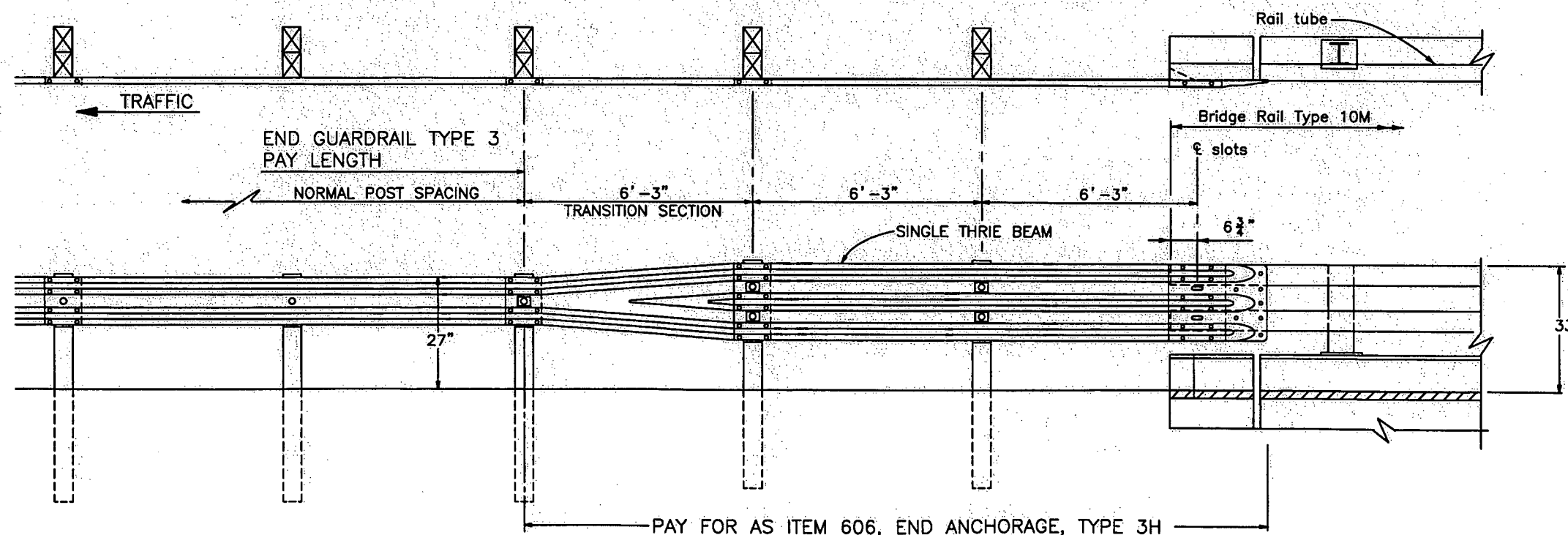


RAIL TUBE DETAILS
(Use with Bridge Rail Type 10H or 10R)
Thrie beam not shown.

Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		BRIDGE RAIL TYPE 10M				Project No./Code		
Creation Date:	8/90	Initials:	EHH					 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions: 9/15/03		Revised:		Designer: B. Far		Structure Numbers		M-17-BE		BR 0251-151	
Last Modification Date:	07/25/00	Initials:	KGS		12394															
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Drawing File Name:	M17BERail2.DWG																			
Acad Ver.	R14.01	Scale:	Units: English				Sheet Subset: Bridge												Subset Sheets: B17 of 28	
Staff Bridge Branch																				



TYPE 3G END ANCHORAGE



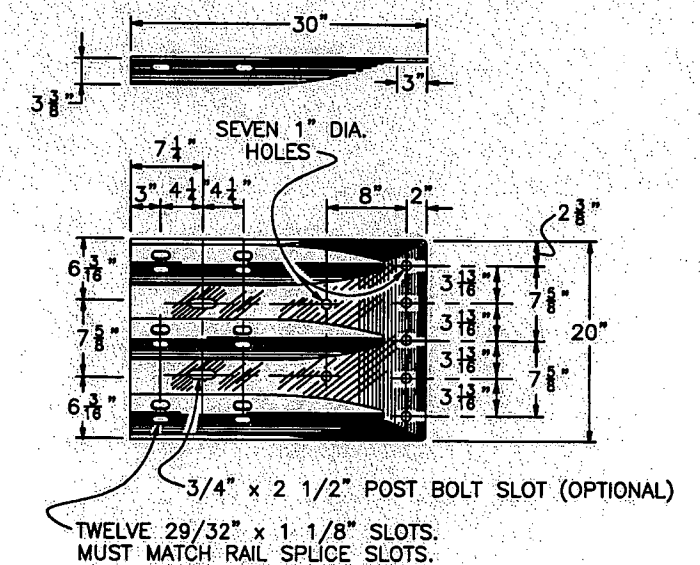
TYPE 3H END ANCHORAGE

NOTES

TYPE 3G END ANCHORAGE IS FOR USE AT BOTH ENDS OF BRIDGES ON TWO-WAY ROADS AND AT THE APPROACH END OF BRIDGES ON ONE-WAY ROADS.

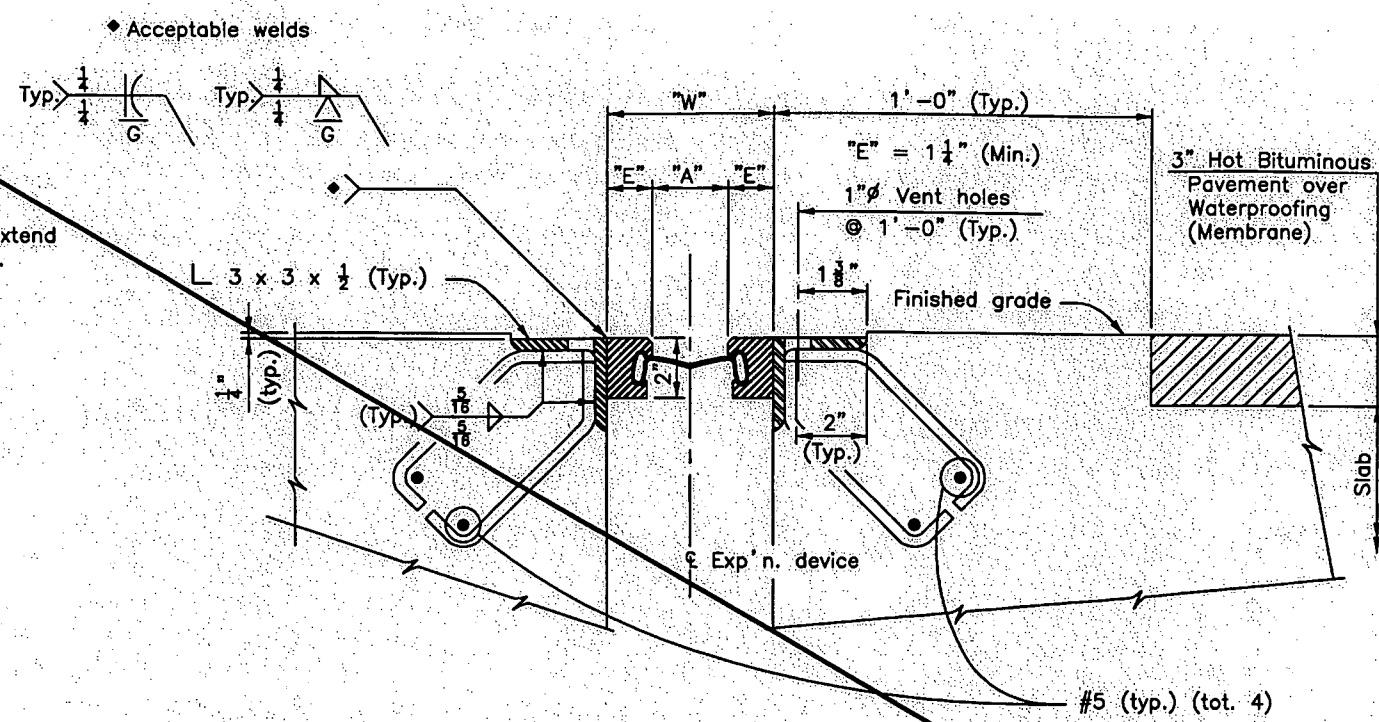
TYPE 3H END ANCHORAGE IS FOR USE AT THE TRAILING END OF BRIDGES ON ONE-WAY ROADS.

SEE M-606-1 FOR ADDITIONAL DETAILS.



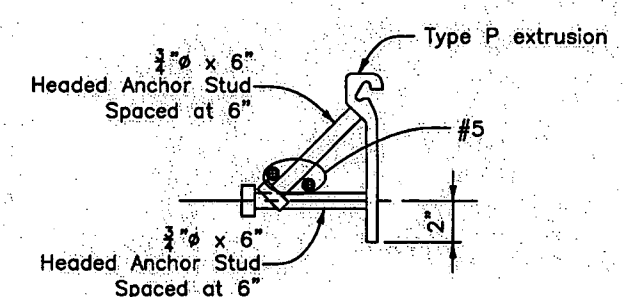
THRIE BEAM
TERMINAL SECTION (CONNECTOR)

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		BRIDGE RAIL TYPE 10M			Project No./Code		
Creation Date:	3/92	Initials:	KDH				4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:					BR 0251-151		
Last Modification Date:	07/25/00	Initials:	KGS					Revised: 9/15/03	Designer: B. Far		Structure Numbers	M-17-BE		12394	
Full Path:	S:\				Detailer: K. Sharpley										
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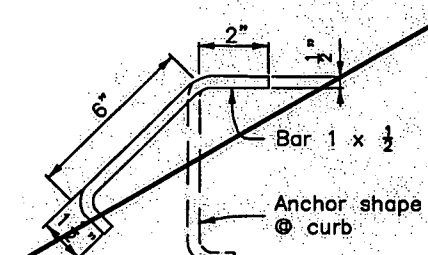


SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE

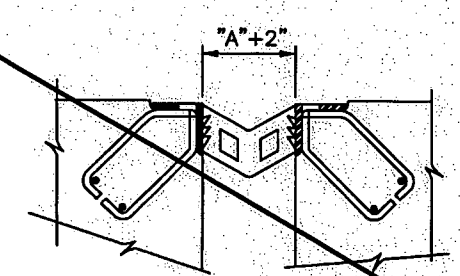
Section taken perpendicular to & exp'n device.
For reinforcing details see Dwg. No. B.



TYPE P DETAIL

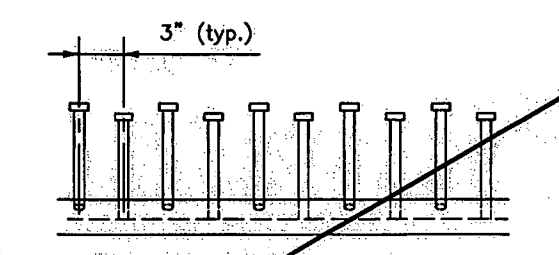


TYPICAL ANCHOR DETAIL



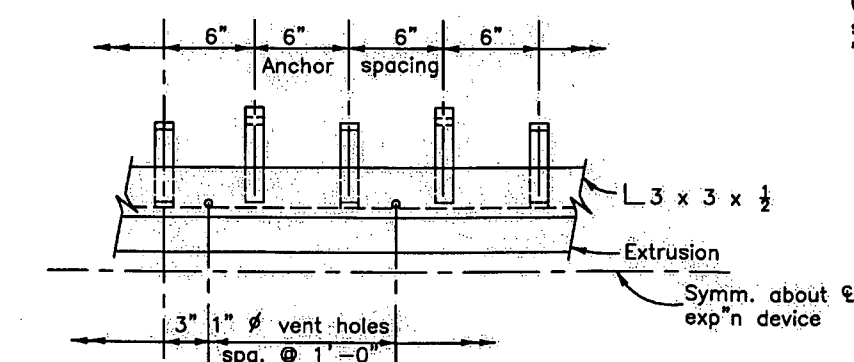
SECTION THRU HYDROZO EXPANSION DEVICE

(Similar to Strip Seal except as shown.)
"A" + 2" = 4" @ 40°F



PLAN

ALTERNATE STEEL EDGE BEAM



ANCHOR AND VENT HOLE SPACING

NOTES:

- The expansion device shall be installed on grade, parallel to the slope and grade of the deck.
- After the concrete has attained initial set, the attachments used to hold the expansion device assembly in it's proper position shall be removed.
- Do not paint steel surfaces in contact with either concrete or seal.
- "W" and "E" dimensions are dependent upon the particular expansion device supplied, and shall be shown on the working drawings.
- The working drawings shall indicate the "W" and "A" dimensions at a range of temperatures from 30° F to 100° F assuming a midpoint temperature of 40° F.
- For joints at the ends of approach slabs:
For new prestressed and post-tensioned bridges without a joint at the abutments "A"=1". For all other bridges "A"=2".
- Opening in the curb to be constructed to the exact width of the existing deck opening.
- The neoprene extrusion shall be one piece.
- Vent holes shall not be used for support bolts.
See Special Provisions for epoxy grouting of ventholes.

ACCEPTABLE EXPANSION DEVICE ALTERNATES

- D.S. BROWN A2400-SSA2
- EPOXY IND. S400-A
- HYDROZO/JEENE 4" W
- ONFLEX 40SEQ-AM2
- WABO SE400 Type A
- WABO SE400 Type P

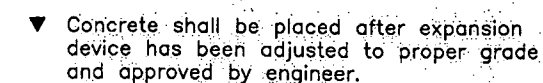
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Creation Date:	11/90	Initials:	KDH	(R-2)	07/22/02	Value Eng. Proposal	DBW	 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:				BR 0251-151	
Last Modification Date:	07/25/00	Initials:	KGS		(Deleted Sheet)		Revised:		Designer: B Far					
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Acad Ver.	R14.01	Scale:	Units:	English										
								Staff Bridge Branch						



D.S. Brown A2R400-SSA2
WABO SE400 Type A
Epoxy Industries S400-A

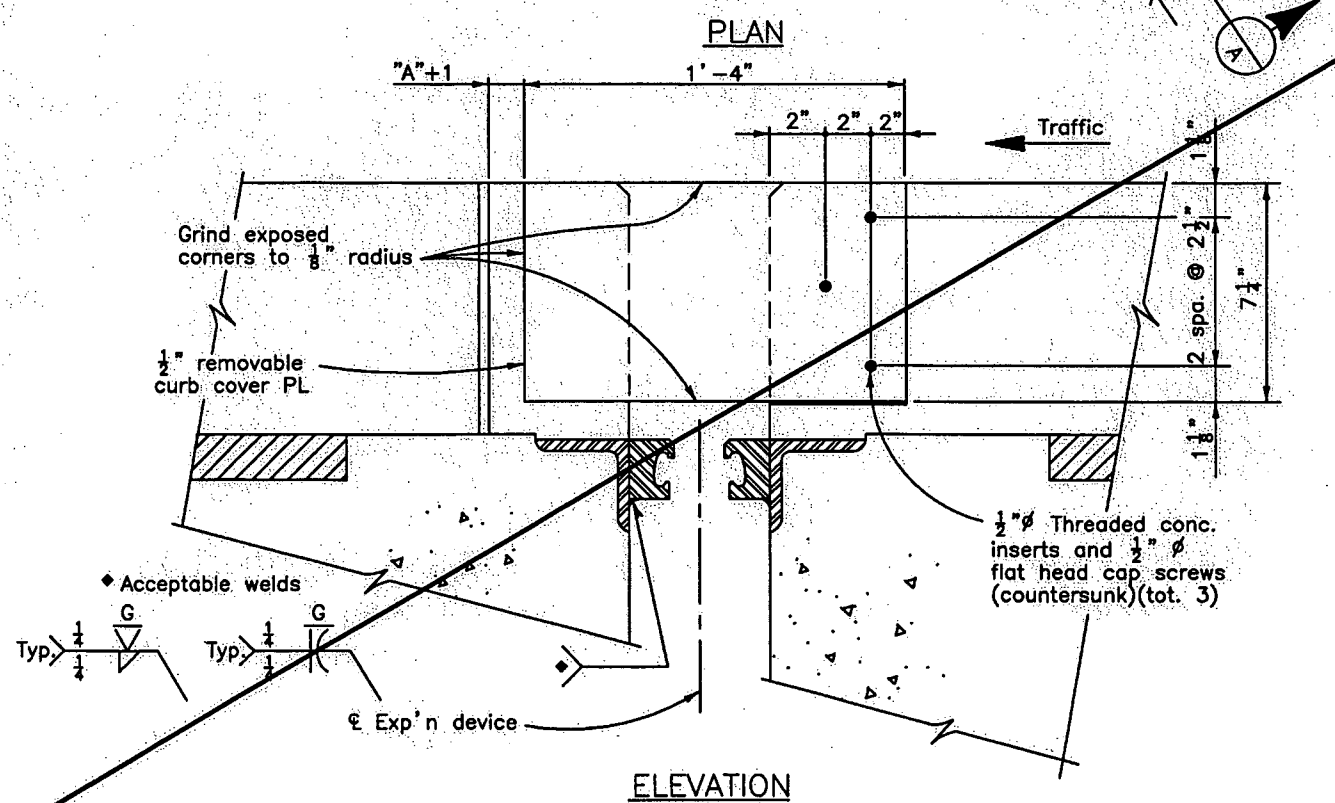
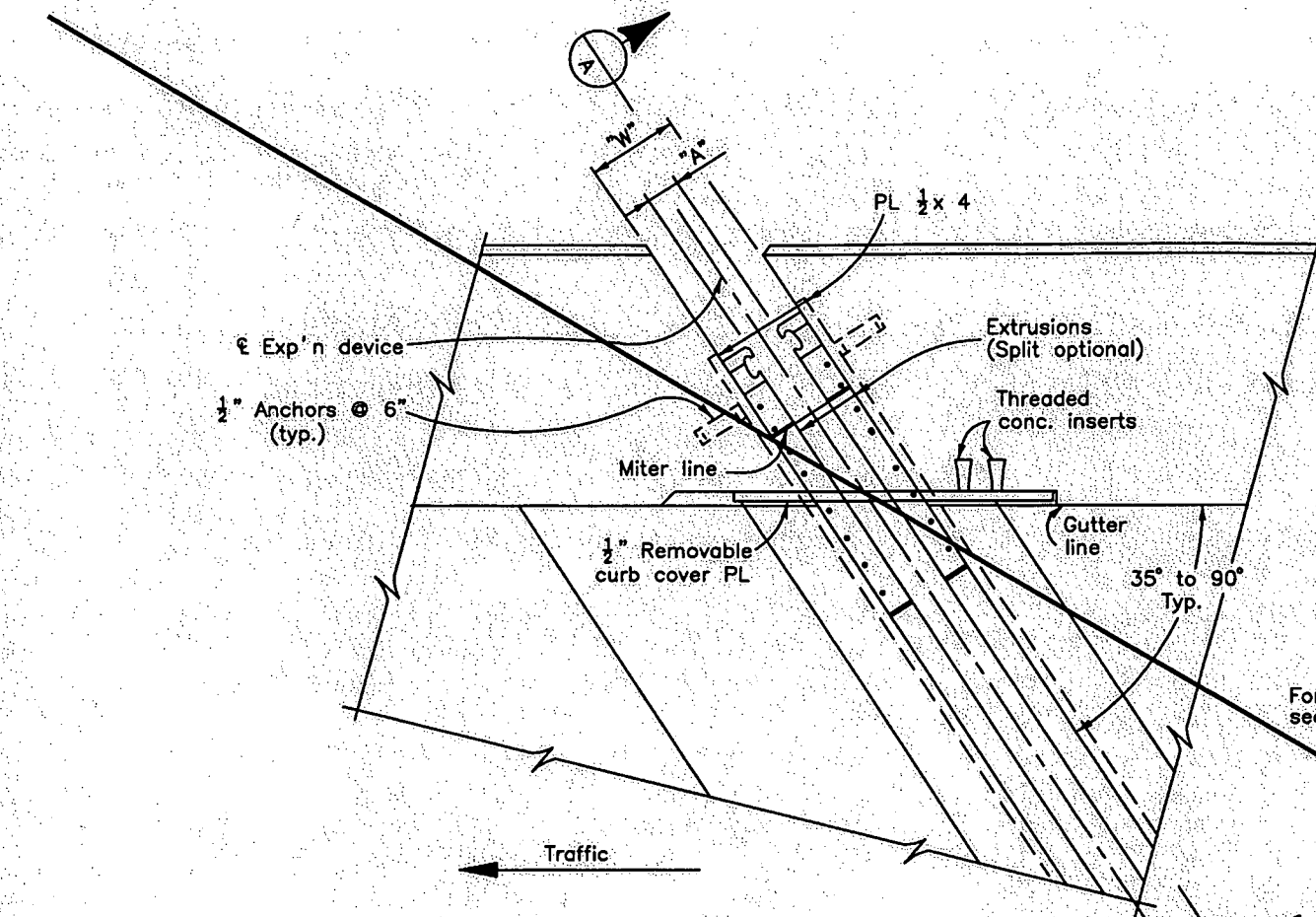


* For $E = 1\frac{1}{2}$ " (min.)



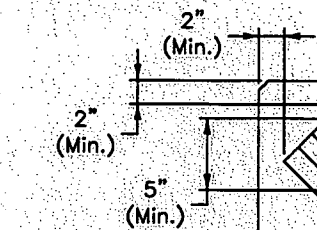
MINIMUM SUPPORT BRACKET REQUIREMENTS

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		BRIDGE EXPANSION DEVICE (0-4 INCH)				Project No./Code		
Creation Date:	06/25/02	Initials:	RJG	(R-2)	07/22/02	Value Eng. Proposal	DBW	 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:	9/15/03					BR 0251-151	
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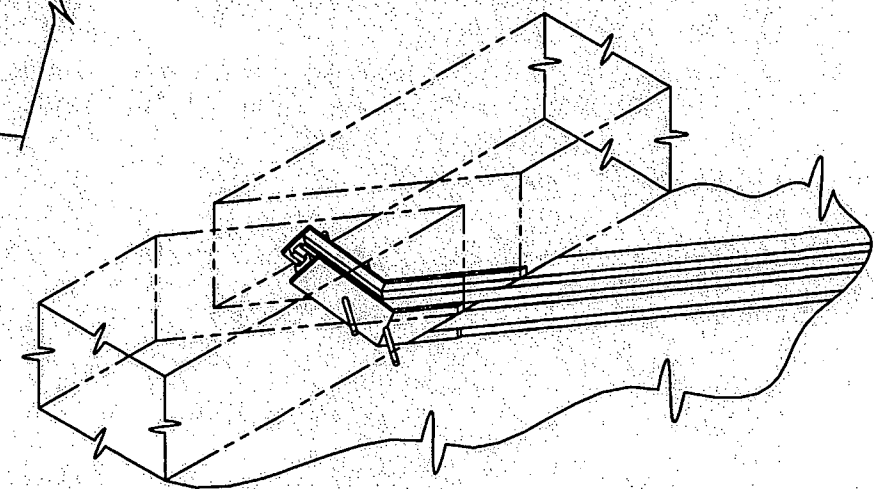


Provide 2" minimum cover between anchors and all concrete surfaces.

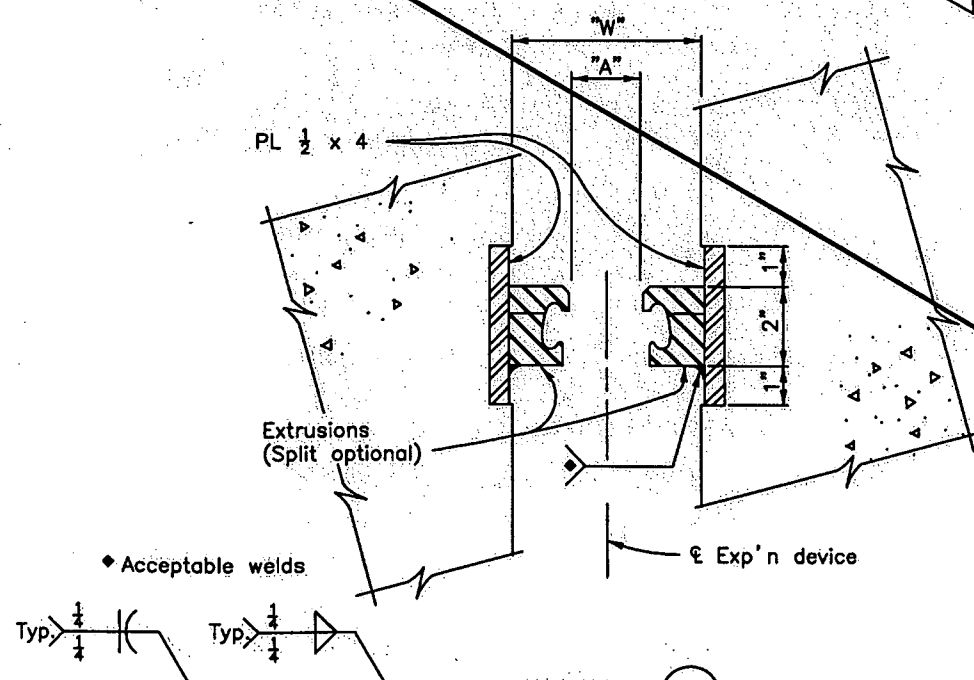
PL 1/2 x 4 butt weld to vertical leg of L 3x3x1/2



SECTION A



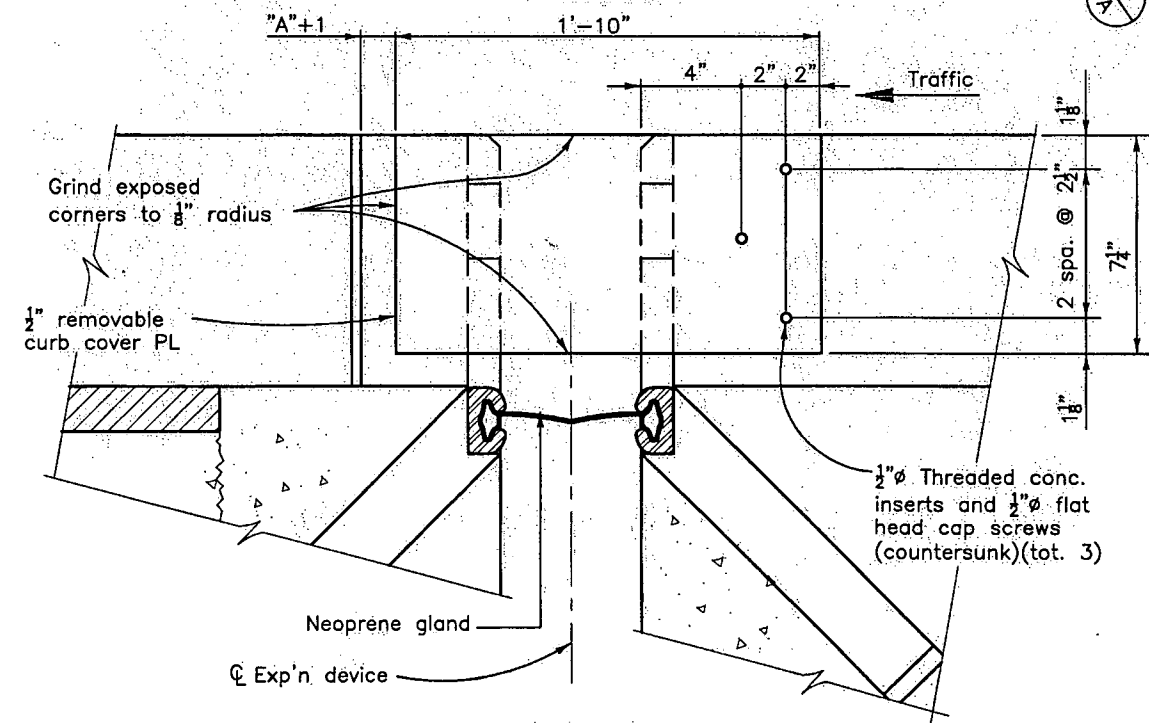
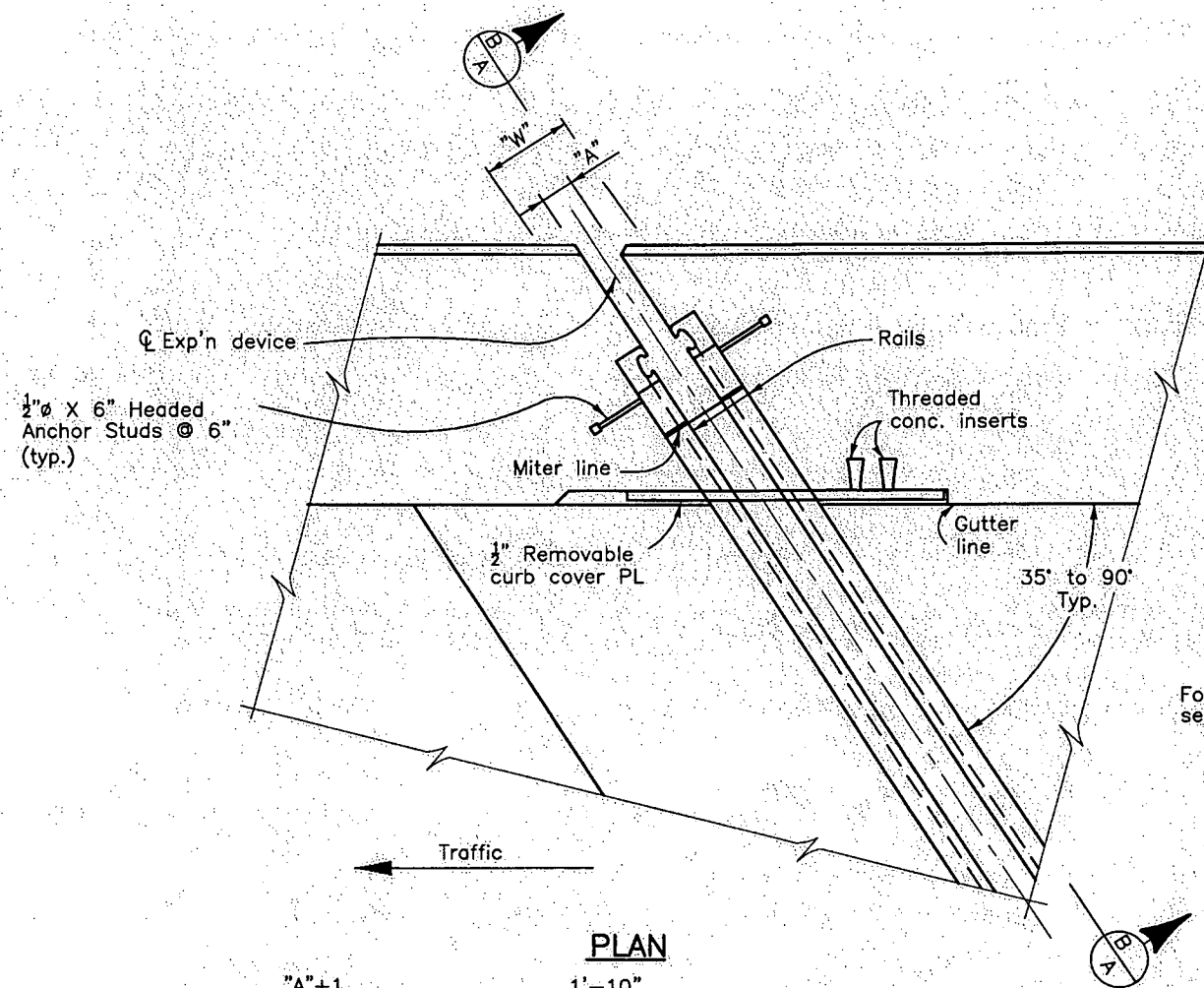
ISOMETRIC VIEW



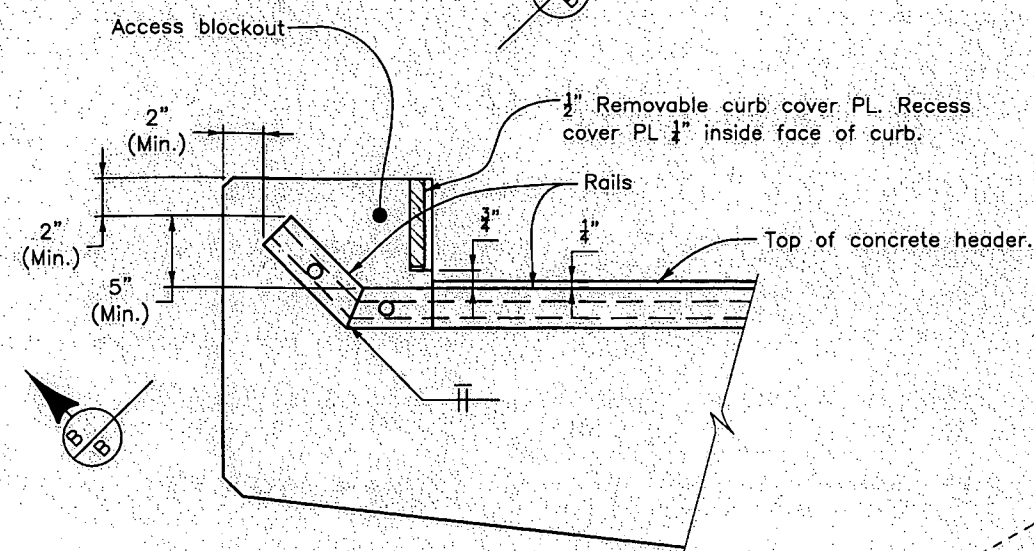
SECTION B

Computer File Information			Sheet Revisions			As Constructed			BRIDGE EXPANSION DEVICE			Project No./Code
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Last Modification Date:	07/25/00	Initials: KGS			(Deleted Sheet)		Revised:		Detailer: K. Sharpley	Numbers		12394
Full Path:	S:\						Void:	9/15/03	Sheet Subset:	Subset Sheets: B 21 of 28		Sheet Number 46
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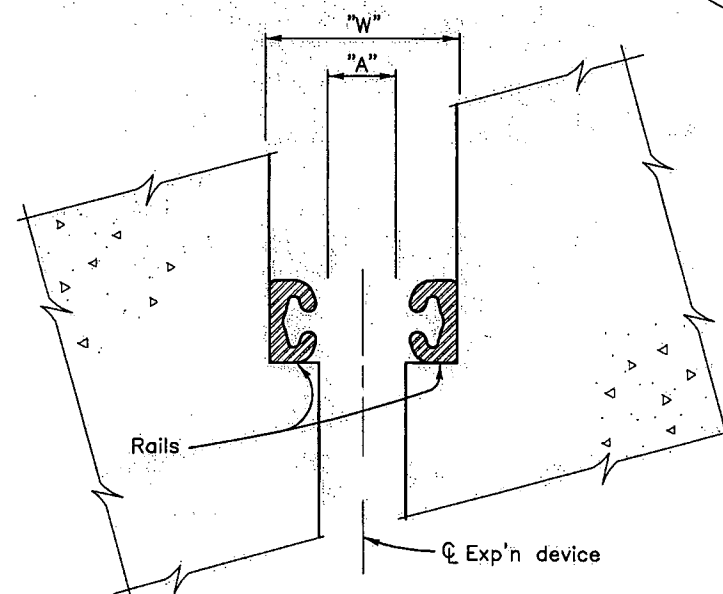
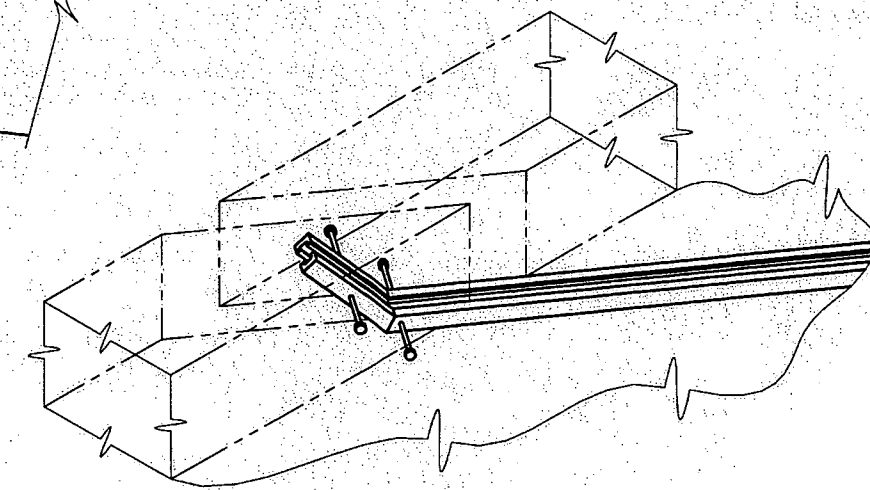
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 Staff Bridge Branch



Provide 2" minimum cover between anchors and all concrete surfaces.

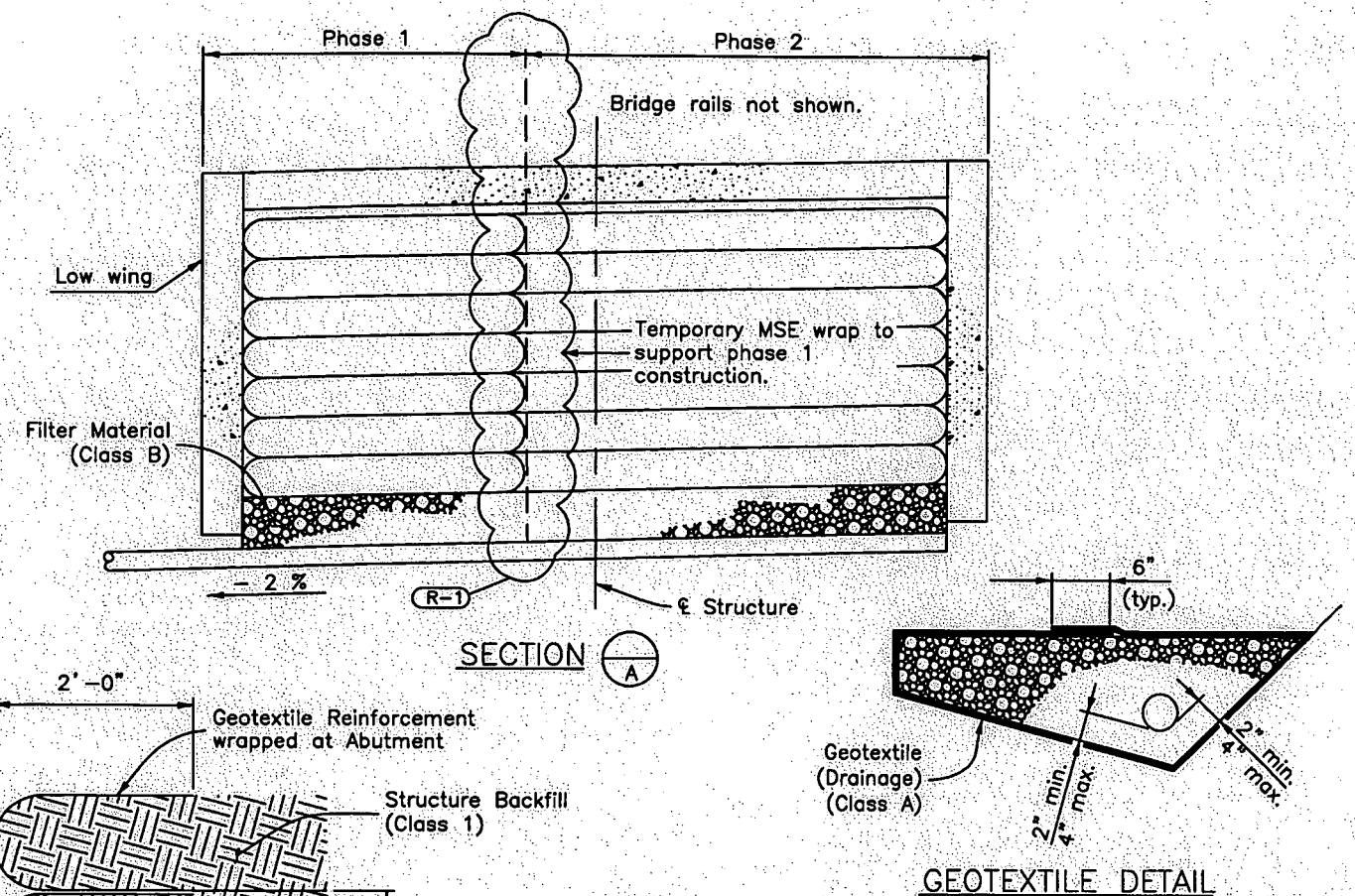


For actual skew direction, see bridge plans.



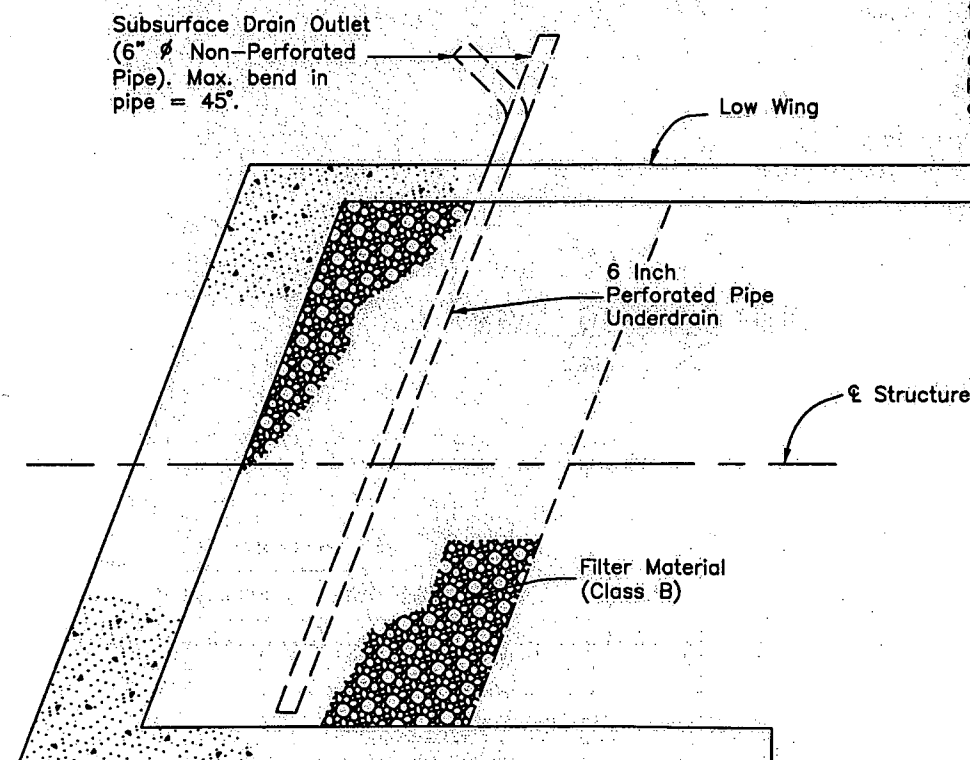
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Staff Bridge Branch



SECTION PERPENDICULAR TO ABUTMENT

For steel structures longer than 300' without expansion devices and for abutments greater than 12' high, provide gap of 0.5% of abutment height, 1" min. —



SECTION 

Installation of Pipe Underdrain and Subsurface Drain Outlet will conform to the Construction requirements of section 605.03 and 605.06, respectively.

WRAP DETAIL BEHIND ABUTMENT

For Information Only		Location	
Description	Units	Abut. 1	Abut.
6 Inch Perforated Pipe Underdrain	Lin. Ft.	60' - 0"	60' - 0"
Subsurface Drain Outlet	Lin. Ft.	40' - 0"	40' - 0"
Mechanical Reinforcement of Soil	Cu. Yd.	311	373
Structure Backfill (Class 1)	Cu. Yd.	311	373

6 Inch Perforated Pipe Underdrain and Subsurface Drain Outlet (6" ϕ Non-Perforated Pipe) will not be measured or paid for separately but shall be included in the Work.

Notes:

Geotextile Reinforcement shall be woven fabric with a Minimum Average Roll Value of 4800 lb/ft based on ASTM D4595. For abutments higher than 12', increase MARV proportionally.

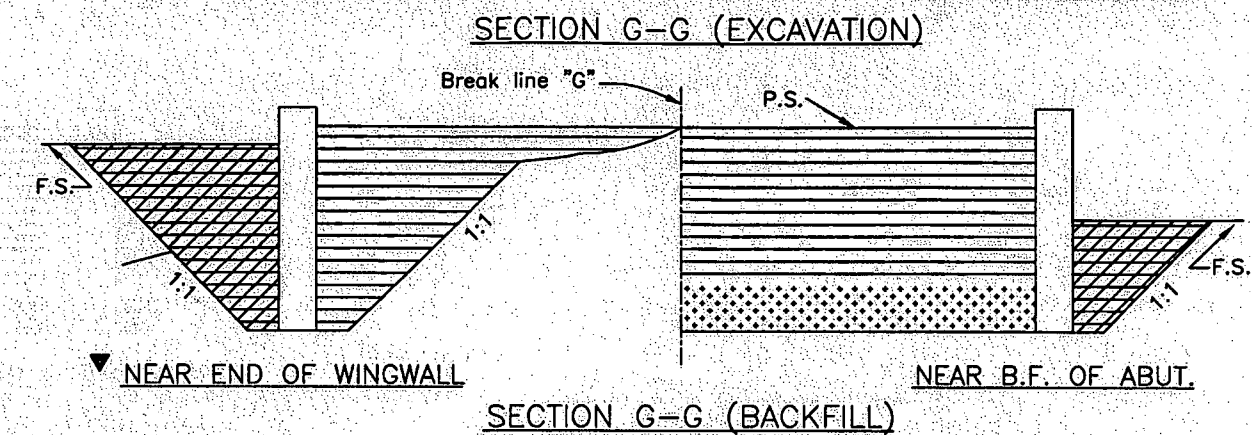
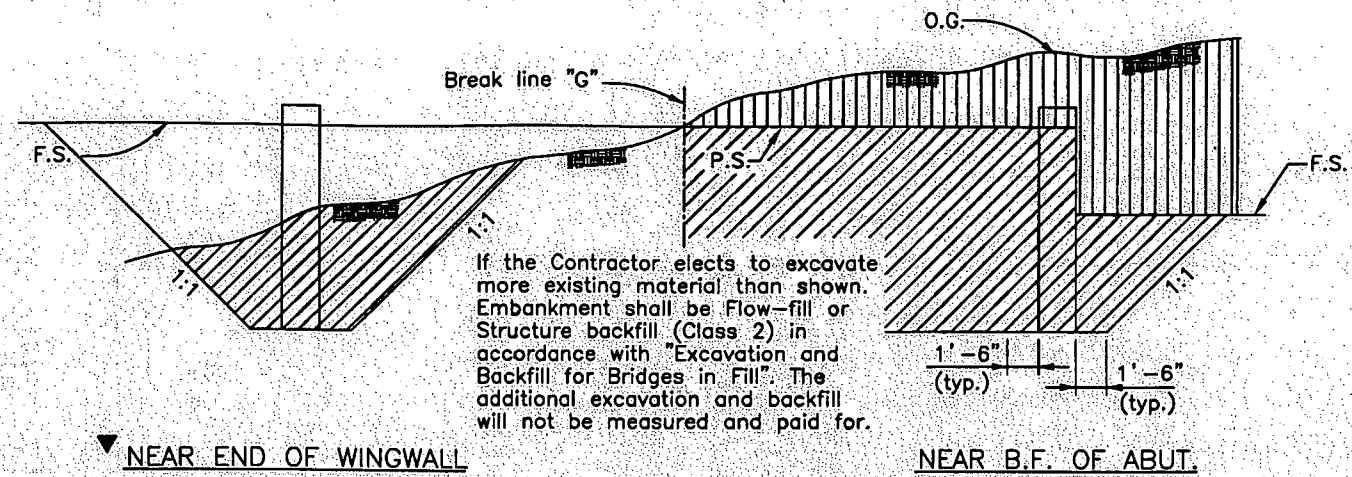
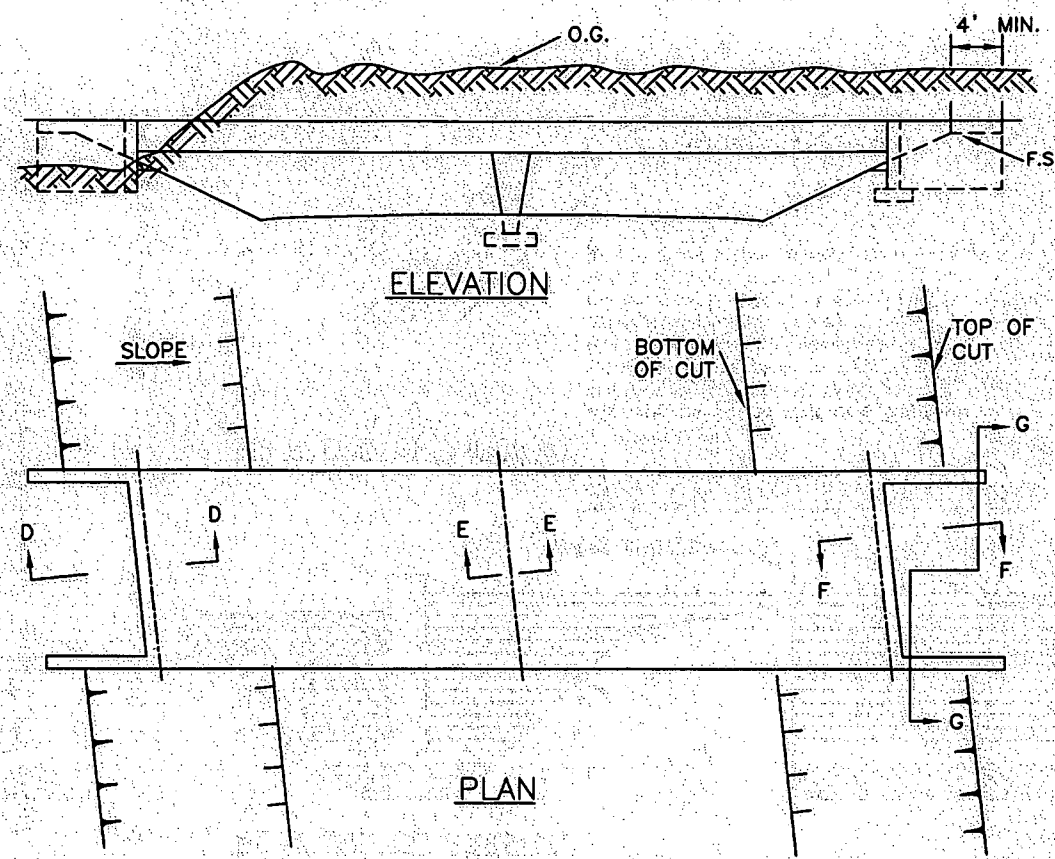
Geotextile Reinforcement shall be placed by alternating Machine Direction (MD) with Cross Machine Direction (XD) from layer to layer.

The Geotextile Reinforcement wrap at Back Face of Abutment shall be pulled back slack free with its end anchored to soil underneath with staples or pins.

Minimum splice of all Geofabric shall consist of 6" of overlap.

6 Inch Perforated Pipe Underdrain includes all Filter Material (Class B) and Geotextile (Drainage) (Class A) surrounding the Filter Material (Class B). Quantity shown is measured along the Perforated Pipe from inside face to inside face of wingwalls.

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		MECHANICALLY STABILIZED BACKFILL (MSB)				Project No./Code	
Creation Date:	11/30/99	Initials:	KLL	(R-1)	07/01/02	PHASED CONSTRUCTION	 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:	9/15/03				BR 0251-151		
Last Modification Date:	07/02/02	Initials:	DAK			Revised:				Designer:	B. Far	Structure	12394		
Full Path:	Q:\X2310007\ACAD\Sheets\Structural\									Detailer:	K. Sharpley	Numbers			
Drawing File Name:	M17BEBackfill.DWG									Sheet Subset:	Bridge	Subset Sheets:	B 22 of 28	Sheet Number 47	
Acad Ver.	2002	Scale:	Units:	English			Staff Bridge Branch	Void:							



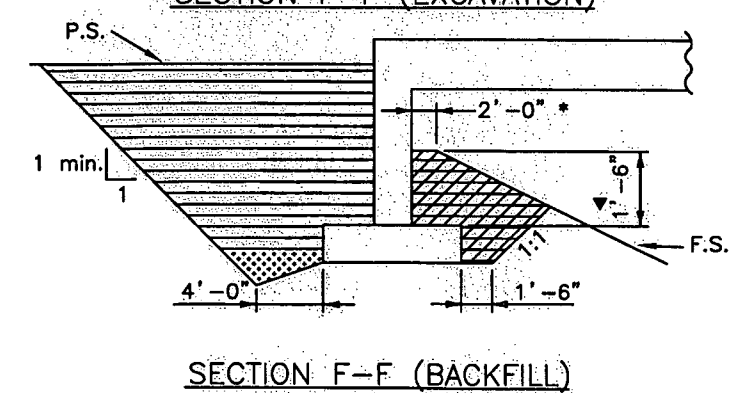
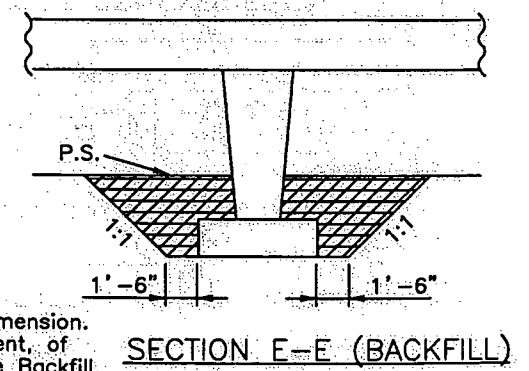
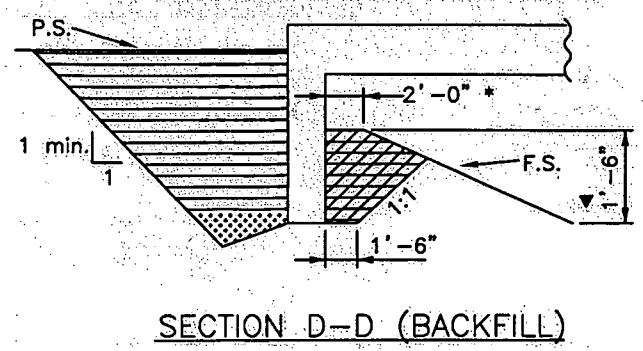
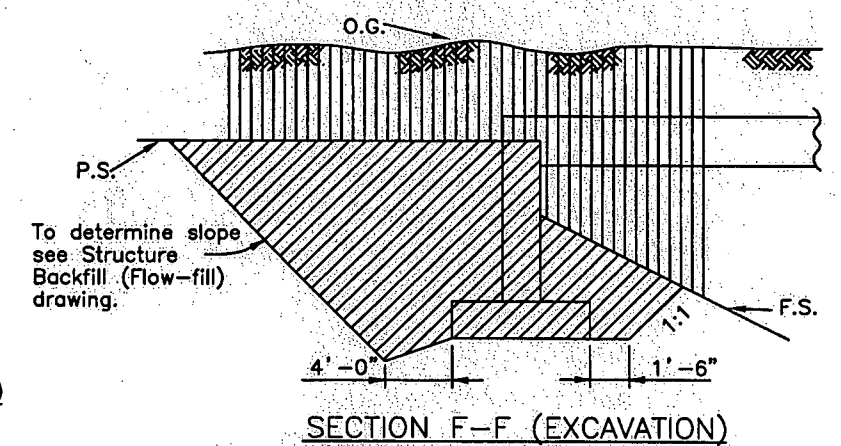
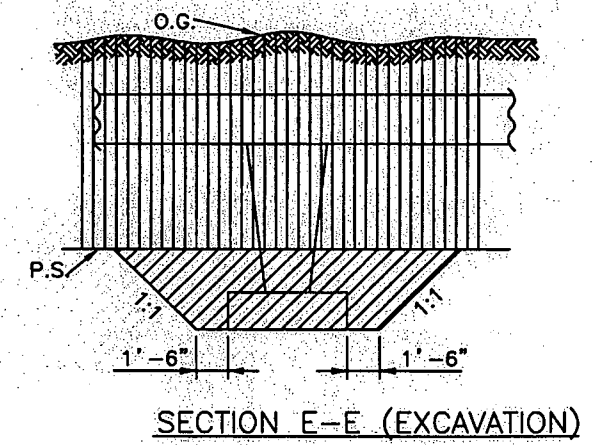
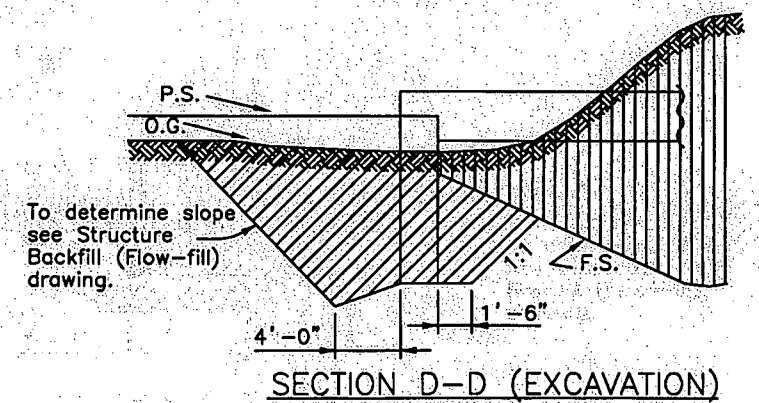
GENERAL NOTES

EXCAVATION & BACKFILL PATTERNS DIFFERENT FROM THOSE INDICATED ON THIS SHEET WILL BE SHOWN ELSEWHERE ON THE PLANS.

STRUCTURE FOOTINGS WHICH ARE LOCATED IN ROCK SHALL BE POURED OUT TO UNDISTURBED ROCK, WITHOUT FORMING, IN CONFORMANCE WITH 601.09.

STRUCTURE EXCAVATION FOR SLOPE PAVING NOT SHOWN.

For purposes of quantity calculations this template applies out to end of wingwall.



LEGEND

- ROADWAY EXCAVATION
- STRUCTURE EXCAVATION
- FLOW-FILL (Place in 3', max., lifts.)
- STRUCTURE BACKFILL (CLASS 2)
- FILTER MATERIAL

ABBREVIATIONS

- O.G. ORIGINAL GROUND
- P.S. PLANNED SUBGRADE
- F.S. PLANNED FINISHED SURFACE

* = Minimum berm dimension.
 ▼ = Minimum embedment, of abut., in Structure Backfill.

Computer File Information				Sheet Revisions				As Constructed				EXCAVATION AND BACKFILL FOR BRIDGES IN CUT				Project No./Code	
Creation Date:	8/95	Initials:	KDH					No. Revisions:	9/15/03			Designer:	B. Far	Structure	M-17-BE	BR 0251-151	
Last Modification Date:	07/25/00	Initials:	KGS					Revised:				Detailer:	K. Sharpley	Numbers		12394	
Full Path:	S:\							Void:				Sheet Subset:	Bridge	Subset Sheets:	B 23 of 28	Sheet Number 48	
Drawing File Name:	M17BEEc.DWG																
Acad Ver.	R14.01	Scale:	Units: English														

Colorado Department of Transportation

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Staff Bridge Branch

State of Colorado
Department of Transportation
Staff Bridge Design
Bridge Geometry Project Coordinate Converter
Version 1.00

Run date & time = Wed Jul 12 09:08:23 2000

Input Northing Offset = 483756.368902
Input Easting Offset = 212813.109304
Input Bearing = N 42 5 55.7000 E

STRUCTURE ID: M-17-BE BRIDGE GEOMETRY (WIN 1.00e) 00/07/12 09:03

DESCRIPTION

Units: feet
Project: BR -0251-151; Subaccount: 12394;
Designer: B. FAR; Detailer: K. SHARPLEY;
Location: SH 25 OVER SCROGGS ARROYO;

HORIZONTAL ALIGNMENT DATA

HORIZONTAL TANGENT

VERTICAL ALIGNMENT DATA

ELEVATION AT PI	ELEVATION AT GRADE	STATION	ELEVATION AT GRADE	ELEVATION AT PI	PERCENT GRADE
					-2.237200
5448.2100	5457.4384 PC	10+32.5000			
	5450.5171 PI	14+43.0000			
	5448.2100 PT	18+57.5000			
					0.000000

TABLE OF ROADWAY CROSS-SLOPES (SUPERELEVATION: E= -NC-)

STATION	SLOPE LEFT	SLOPE RIGHT	VC LENGTH
(ON TANGENT)	-0.0200	0.0200	50.00 (MAX)

OFFSET PROFILE CONTROL TO PIVOT POINT = 0.0000 FEET

LIMITS OF VALID ELEVATION AND CROSS-SLOPE DATA
BEGIN * UNLIMITED *
END * UNLIMITED *

LAYOUT LINE DATA

LAYOUT LINE DEFINED TO BE COINCIDENT WITH HORIZONTAL CONTROL

LAYOUT LINE INTERSECTS REF LINE AT	HCL STA	OFFSET	X	Y
	11+54.9500	0.00000000	0.0000	0.0000

DEAD LOAD DEFLECTION DATA

DEFLECTIONS AT TENTH POINTS FROM FITTED CURVE

0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

FOR BENT LINE: CL BRG A1 07 CARD(S): 1 GIRDER LINES REFERENCED BY: (BLANK)

WARNING: NOT ENOUGH DEFLECTION VALUES GIVEN FOR ORDINARY CURVE FIT

INCH												A4= 0.00000
0.0000	1.0080	1.7920	2.3520	2.6880	2.8000	2.6880	2.3520	1.7920	1.0080	0.0000	INCH	A3= 0.00000
FOOT	0.0000	0.0840	0.1493	0.1960	0.2333	0.2240	0.1960	0.1493	0.0840	0.0000	FOOT	A2= 0.00000
SLOPE 0.933333											A1= 0.00000	
											A0=-11.2000	
-0.933333 SLOPE												

BENT LINE :	INTERSECTION POINT :	FROM LAYOUT LINE :	PROJECT COORDINATES :	BENT LINE :	GIRDER LINE :	ROADWAY :
DESCRIPTION :	STATION :	OFFSET :	ORDINATE :	NORTHING :	EASTING :	LENGTH FROM :
		X	Y			Y-AXIS
* HORIZONTAL CONTROL LINE * AT FINISHED GRADE						
END WING B	11+03.9500	0.0000	5455.9092	()	0.0000	-51.0000 +/- 0.020000
END APP A1	11+33.1822	0.0000	5455.3234	()	0.0000	-21.7678 +/- 0.020000
END WING A	11+47.9500	0.0000	5455.0363	()	0.0000	-7.0000 +/- 0.020000
BF ABUT 1	11+53.1822	0.0000	5454.9360	()	0.0000	-1.7678 +/- 0.020000
CL BRG A1	11+54.9500	0.0000	5454.9023	20	0.0000	0.0000 +/- 0.020000
CL BRG A2	12+79.9500	0.0000	5452.7327	1	0.0000	125.0000 +/- 0.020000
END WING C	12+80.9500	0.0000	5452.7171	()	0.0000	128.0000 +/- 0.020000
BF ABUT 2	12+81.7178	0.0000	5452.7051	()	0.0000	126.7678 +/- 0.020000
END APP A2	13+01.7178	0.0000	5452.3982	()	0.0000	146.7678 +/- 0.020000
END WING D	13+24.9500	0.0000	5452.0554	(0.0)	0.0000	170.0000 +/- 0.020000

R-2

LEFT OUT WING B & C				PARALLEL TO HORIZONTAL CONTROL				0.250000 FEET BELOW FINISHED GRADE			
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH
END WING B	11+03.9500	-25.0000	5455.1592		-25.0000	-51.0000	483735.2657	212560.3688	-25.0000	0 00 00.00	-26.0000
BF ABUT 1	11+28.1822	-25.0000	5454.6720		-25.0000	-26.7678	483753.2657	212578.8141	-33.3553	-45 00 00.00	-1.7678
CL BRG A1	11+28.9500	-25.0000	5454.6371	454.6371	-25.0000	-25.0000	483754.5774	212577.7993	-33.3553	45 00 00.00	0.0000
CL BRG A2	12+54.9500	-25.0000	5452.3827	452.3827	-25.0000	100.0000	483847.3262	212681.8007	-33.3553	45 00 00.00	125.0000
BF ABUT 2	12+56.7178	-25.0000	5452.3539		-25.0000	101.7678	483848.6379	212682.7858	-33.3553	45 00 00.00	126.7678
END WING C	12+80.9500	-25.0000	5451.9871		-25.0000	128.0000	483866.6174	212679.0314	-25.0000	0 00 00.00	151.0000
LEFT IN WING B & C				PARALLEL TO HORIZONTAL CONTROL				0.250000 FEET BELOW FINISHED GRADE			
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH
END WING B	11+03.9500	-24.0000	5455.1792		-24.0000	-51.0000	483734.8153	212561.1106	-24.0000	0 00 00.00	-27.0000
END APP A1	11+09.1822	-24.0000	5455.0728		-24.0000	-45.7678	483738.4975	212564.6183	-33.9411	-45 00 00.00	-21.7678
BF ABUT 1	11+29.1822	-24.0000	5454.6722		-24.0000	-25.7678	483753.3373	212578.0269	-33.9411	-45 00 00.00	-1.7678
CL BRG A1	11+30.9500	-24.0000	5454.6373	454.6373	-24.0000	-24.0000	483754.8490	212579.2117	-33.9411	45 00 00.00	0.0000
CL BRG A2	12+55.9500	-24.0000	5452.3864	452.3864	-24.0000	101.0000	483847.3977	212683.0131	-33.9411	45 00 00.00	125.0000
BF ABUT 2	12+57.7178	-24.0000	5452.3578		-24.0000	102.7678	483848.7094	212684.1982	-33.9411	45 00 00.00	126.7678
END APP A2	12+77.7178	-24.0000	5452.0378		-24.0000	122.7678	483863.5492	212677.8065	-33.9411	45 00 00.00	146.7678
END WING C	12+80.9500	-24.0000	5451.9871		-24.0000	128.0000	483865.8475	212679.7734	-24.0000	0 00 00.00	150.0000
LEFT OUT DECK				PARALLEL TO HORIZONTAL CONTROL				0.250000 FEET BELOW FINISHED GRADE			
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH
END APP A1	11+09.6822	-23.5000	5455.0725		-23.5000	-45.2678	483738.5338	212585.3245	-33.2340	-45 00 00.00	-21.7678
BF ABUT 1	11+29.6822	-23.5000	5454.6723		-23.5000	-25.2678	483753.5731	212578.7327	-33.2340	-45 00 00.00	-1.7678
CL BRG A1	11+31.4500	-23.5000	5454.6375	454.6375	-23.5000	-23.5000	483754.6848	212579.9179	-33.2340	45 00 00.00	0.0000
F-1	11+37.7000	-23.5000	5454.5150	454.5593	-23.5000	-17.2500	483756.9222	212584.1080			6.2500
F-2	11+43.9500	-23.5000	5454.3935	454.4775	-23.5000	-11.0000	483763.9597	212588.2880			12.5000
F-3	11+50.2000	-23.5000	5454.2731	454.3921	-23.5000	-4.7500	483769.5971	212592.4881			18.7500
F-4	11+56.4500	-23.5000	5454.1538	454.3031	-23.5000	1.5000	483773.2345	212596.6782			25.0000
F-5	11+62.7000	-23.5000	5454.0355	454.2105	-23.5000	7.7500	483777.8720	212600.8682			31.2500
F-6	11+68.9500	-23.5000	5453.9182	454.1142	-23.5000	14.0000	483782.6094	212605.0583			37.5000
F-7	11+75.2000	-23.5000	5453.8021	454.0144	-23.5000	20.2500	483787.1469	212609.2484			43.7500
F-8	11+81.4500	-23.5000	5453.6870	453.9110	-23.5000	26.5000	483791.7843	212613.4384			50.0000
F-9	11+87.7000	-23.5000	5453.5729	453.8039	-23.5000	32.7500	483796.4217	212617.6285			56.2500
F-10	11+93.9500	-23.5000	5453.4599	453.6932	-23.5000	39.0000	483801.0592	212621.8186			62.5000
F-11	12+00.2000	-23.5000	5453.3480	453.5790	-23.5000	45.2500	483805.6968	212626.0086			68.7500
F-12	12+06.4500	-23.5000	5453.2371	453.4611	-23.5000	51.5000	483810.3340	212630.1987			75.0000
F-13	12+12.7000	-23.5000	5453.1273	453.3396	-23.5000	57.7500	483814.9715	212634.3888			81.2500
F-14	12+18.9500	-23.5000	5453.0185	453.2145	-23.5000	64.0000	483819.6089	212638.5789			87.5000
F-15	12+25.2000	-23.5000	5452.9108	453.0858	-23.5000	70.2500	483824.2463	212642.7689			93.7500
F-16	12+31.4500	-23.5000	5452.8042	452.9535	-23.5000	76.5000	483828.8838	212646.9590			100.0000
F-17	12+37.7000	-23.5000	5452.6988	452.8176	-23.5000	82.7500	483833.5212	212651.1491			106.2500
F-18	12+43.9500	-23.5000	5452.5941	452.6781	-23.5000	89.0000	483838.1587	212655.3391			112.5000
F-19	12+50.2000	-23.5000	5452.4907	452.5350	-23.5000	95.2500	483842.7961	212659.5292			118.7500
CL BRG A2	12+56.4500	-23.5000	5452.3883	452.3883	-23.5000	101.5000	483847.4335	212663.7193	-33.2340	45 00 00.00	125.0000
BF ABUT 2	12+58.2178	-23.5000	5452.3595		-23.5000	103.2678	483848.7457	212664.9044	-33.2340	45 00 00.00	126.7678
END APP A2	12+78.2178	-23.5000	5452.0399		-23.5000	123.2678	483863.5850	212678.3127	-33.2340	45 00 00.00	146.7678

R-2

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3" BELOW FINISHED GRADE. POSITIVE ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE. THESE STATIONS, COORDINATES, OFFSETS, AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF STRUCTURAL COMPONENTS THRU THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

Computer File Information				Sheet Revisions				As Constructed				BRIDGE DECK ELEVATIONS				Project No./Code	
Creation Date:	12/87	Initials:	KDH	(R-2)	07/22/02	Value Eng. Proposal	AAP	No Revisions:	9/15/03			Designer:	B. Far	Structure	M-17-BE	BR 0251-151	
Last Modification Date:	07/21/02	Initials:	RJG					Revised:				Detailer:	K. Sharpley	Numbers		12394	
Full Path:	Q:\X2310007\ACAD\Sheets\Structural\							Void:				Sheet Subset:	Bridge	Subset Sheets:	B 24 of 28	Sheet Number 49	
Drawing File Name:	M17BEGeom1.DWG																
Acad Ver.	R2002	Scale:	Units:	English													



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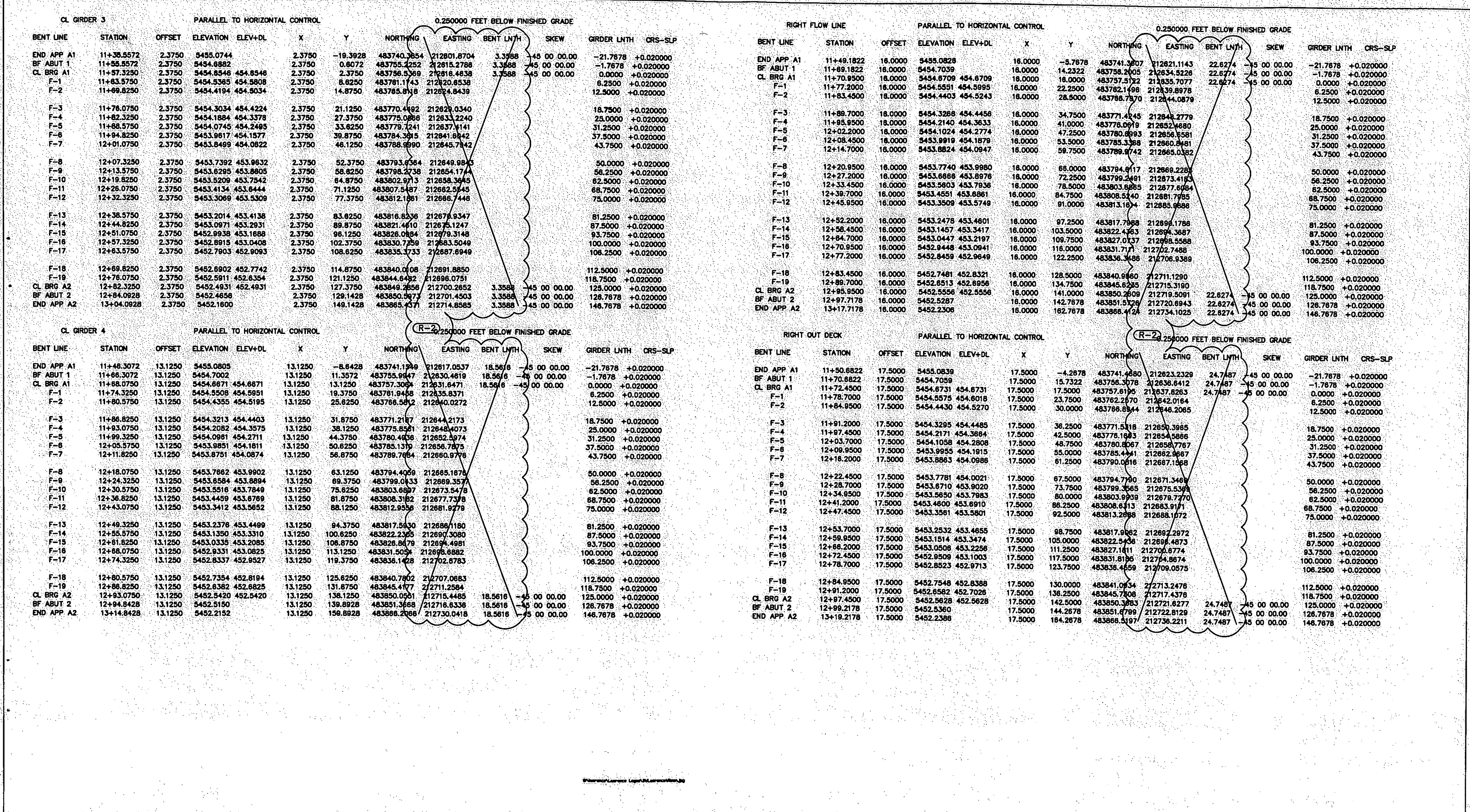
Staff Bridge Branch

LEFT FLOW LINE													CL GIRDER 2												
PARALLEL TO HORIZONTAL CONTROL													PARALLEL TO HORIZONTAL CONTROL												
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP
END APP A1	11+11.1822	-22.0000	5455.0721		-22.0000	-43.7678	483738.9407	212587.4431	-31.1127	-45 00 00.00	-21.7678	-0.020000	END APP A1	11+24.8072	-8.3750	5455.0714		-8.3750	-30.1428	483739.8159	212588.6871	-11.8440	-45 00 00.00	-21.7678	-0.020000
BF ABUT 1	11+31.1822	-22.0000	5454.6728		-22.0000	-23.7678	483753.4803	212580.8513	-31.1127	-45 00 00.00	-1.7678	-0.020000	BF ABUT 1	11+44.8072	-8.3750	5454.8794		-8.3750	-10.1428	483754.4557	212600.0953	-11.8440	-45 00 00.00	-1.7678	-0.020000
CL BRG A1	11+32.9500	-22.0000	5454.6380	454.6380	-22.0000	-22.0000	483754.7922	212582.0385	-31.1127	-45 00 00.00	0.0000	-0.020000	CL BRG A1	11+46.5750	-8.3750	5454.8453	454.8453	-8.3750	-8.3750	483755.7674	212601.2804	-11.8440	-45 00 00.00	0.0000	-0.020000
F-1	11+39.2000	-22.0000	5454.5157	454.5601	-22.0000	-15.7500	483756.4298	212586.2266			6.2500	-0.020000	F-1	11+52.8250	-8.3750	5454.5253	454.5897	-8.3750	-2.1250	483760.4049	212605.4705			6.2500	-0.020000
F-2	11+45.4500	-22.0000	5454.3945	454.4785	-22.0000	-6.5000	483764.0870	212590.4186			12.5000	-0.020000	F-2	11+59.0750	-8.3750	5454.4064	454.4904	-8.3750	4.1250	483765.0423	212609.6806			12.5000	-0.020000
F-3	11+51.7000	-22.0000	5454.2744	454.3934	-22.0000	-3.2500	483768.7045	212594.6067			18.7500	-0.020000	F-3	11+65.3250	-8.3750	5454.2888	454.4076	-8.3750	10.3750	483769.8797	212613.8507			18.7500	-0.020000
F-4	11+57.9500	-22.0000	5454.1553	454.3046	-22.0000	3.0000	483773.2419	212598.7968			25.0000	-0.020000	F-4	11+71.5750	-8.3750	5454.1718	454.3211	-8.3750	16.6250	483774.3722	212618.0407			25.0000	-0.020000
F-5	11+64.2000	-22.0000	5454.0372	454.2122	-22.0000	9.2500	483777.6794	212602.9868			31.2500	-0.020000	F-5	11+77.8250	-8.3750	5454.0561	454.2311	-8.3750	22.8750	483778.4548	212622.2308			31.2500	-0.020000
F-6	11+70.4500	-22.0000	5453.9203	454.1163	-22.0000	15.5000	483782.6768	212607.1769			37.5000	-0.020000	F-6	11+84.0750	-8.3750	5453.9414	454.1374	-8.3750	29.1250	483783.5920	212626.4209			37.5000	-0.020000
F-7	11+76.7000	-22.0000	5453.8043	454.0167	-22.0000	21.7500	483787.6542	212611.3670			43.7500	-0.020000	F-7	11+90.3250	-8.3750	5453.8278	454.0402	-8.3750	35.3750	483788.2295	212630.6109			43.7500	-0.020000
F-8	11+82.9500	-22.0000	5453.6895	453.9135	-22.0000	28.0000	483791.6917	212615.5570			50.0000	-0.020000	F-8	11+96.5750	-8.3750	5453.7153	453.9393	-8.3750	41.6250	483792.6669	212634.8010			50.0000	-0.020000
F-9	11+89.2000	-22.0000	5453.5757	453.8067	-22.0000	34.2500	483796.6291	212619.7471			56.2500	-0.020000	F-9	12+02.8250	-8.3750	5453.6038	453.8348	-8.3750	47.8750	483797.5044	212638.9911			56.2500	-0.020000
F-10	11+95.4500	-22.0000	5453.4630	453.6963	-22.0000	40.5000	483801.5665	212623.9372			62.5000	-0.020000	F-10	12+09.0750	-8.3750	5453.4934	453.7267	-8.3750	54.1250	483802.3418	212643.1811			62.5000	-0.020000
F-11	12+01.7000	-22.0000	5453.3513	453.5823	-22.0000	46.7500	483805.6040	212628.1272			68.7500	-0.020000	F-11	12+15.3250	-8.3750	5453.3840	453.6150	-8.3750	60.3750	483806.7792	212647.3712			68.7500	-0.020000
F-12	12+07.9500	-22.0000	5453.2407	453.4647	-22.0000	53.0000	483810.5414	212632.3173			75.0000	-0.020000	F-12	12+21.5750	-8.3750	5453.2757	453.4997	-8.3750	66.6250	483811.4367	212651.5613			75.0000	-0.020000
F-13	12+14.2000	-22.0000	5453.1311	453.3434	-22.0000	59.2500	483815.0788	212636.5074			81.2500	-0.020000	F-13	12+27.8250	-8.3750	5453.1884	453.3808	-8.3750	72.8750	483816.0541	212655.7514			81.2500	-0.020000
F-14	12+20.4500	-22.0000	5453.0226	453.2186	-22.0000	65.5000	483819.1163	212640.6975			87.5000	-0.020000	F-14	12+34.0750	-8.3750	5453.0622	453.2582	-8.3750	79.1250	483820.6915	212659.9414			87.5000	-0.020000
F-15	12+26.7000	-22.0000	5452.9152	453.0902	-22.0000	71.7500	483824.1537	212644.8875			93.7500	-0.020000	F-15	12+40.3250	-8.3750	5452.9571	453.1321	-8.3750	85.3750	483825.3290	212664.1315			93.7500	-0.020000
F-16	12+32.9500	-22.0000	5452.8088	452.9581	-22.0000	78.0000	483828.9912	212649.0776			100.0000	-0.020000	F-16	12+46.5750	-8.3750	5452.8530	453.0024	-8.3750	91.6250	483829.9864	212668.3216			100.0000	-0.020000
F-17	12+39.2000	-22.0000	5452.7035	452.8225	-22.0000	84.2500	483833.6286	212653.2677			106.2500	-0.020000	F-17	12+52.8250	-8.3750	5452.7500	452.8690	-8.3750	97.8750	483834.8038	212672.5116			106.2500	-0.020000
F-18	12+45.4500	-22.0000	5452.5992	452.6832	-22.0000	90.5000	483838.2660	212657.4577			112.5000	-0.020000	F-18	12+59.0750	-8.3750	5452.6481	452.7321	-8.3750	104.1250	483839.2413	212676.7017			112.5000	-0.020000
F-19	12+51.7000	-22.0000	5452.4980	452.5403	-22.0000	96.7500	483842.9035	212661.6478			118.7500	-0.020000	F-19	12+65.3250	-8.3750	5452.5472	452.5915	-8.3750	110.3750	483843.8787	212680.8918			118.7500	-0.020000
CL BRG A2	12+57.9500	-22.0000	5452.3938	452.3938	-22.0000	103.0000	483847.5409	212665.8379	-31.1127	-45 00 00.00	125.0000	-0.020000	CL BRG A2	12+71.5750	-8.3750	5452.4473	452.4473	-8.3750	116.6250	483848.6162	212685.0818	-11.8440	-45 00 00.00	125.0000	-0.020000
BF ABUT 2	12+59.7178	-22.0000	5452.3651		-22.0000	104.7678	483848.8526	212667.0230	-31.1127	-45 00 00.00	126.7678	-0.020000	BF ABUT 2	12+73.3428	-8.3750	5452.4193		-8.3750	118.3928	483849.8278	212686.2670	-11.8440	-45 00 00.00	126.7678	-0.020000
END APP A2	12+78.7178	-22.0000	5452.0464		-22.0000	124.7678	483863.6924	212680.4313	-31.1127	-45 00 00.00	146.7678	-0.020000	END APP A2	12+93.3428	-8.3750	5452.1079		-8.3750	138.3928	483864.6076	212699.6752	-11.8440	-45 00 00.00	146.7678	-0.020000

R-2

0.250000 FEET BELOW FINISHED GRADE

CL GIRDER 1													HCL & PGL												
PARALLEL TO HORIZONTAL CONTROL													PARALLEL TO HORIZONTAL CONTROL												
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP	BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP
END APP A1	11+14.0572	-19.1250	5455.0715		-19.1250	-40.8928	483738.9465	212571.5038	-27.0468	-45 00 00.00	-21.7678	-0.020000	END APP A1	11+33.1822	0.0000	5455.0734		0.0000	-21.7678	483740.2754	212598.5159	0.0000	-45 00 00.00	-21.7678	+/- .020000
BF ABUT 1	11+34.0572	-19.1250	5454.6738		-19.1250	-20.8928	483753.4863	212584.9120	-27.0468	-45 00 00.00	-1.7678	-0.020000	BF ABUT 1	11+53.1822	0.0000	5454.6860		0.0000	-1.7678	483755.4552	212611.9242	0.0000	-45 00 00.00	-1.7678	+/- .020000
CL BRG A1	11+35.8250	-19.1250	5454.6391	454.6391	-19.1250	-19.1250	483754.9980	212586.0971	-27.0468	-45 00 00.00	0.0000	-0.020000	CL BRG A1	11+54.9500	0.0000	5454.6523	454.6523	0.0000	0.0000	483756.3969	212613.1093	0.0000	-45 00 00.00	0.00	



NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3" BELOW FINISHED GRADE.		POSITIVE ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE.		THESE STATIONS, COORDINATES, OFFSETS, AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF STRUCTURAL COMPONENTS THRU THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.	
Computer File Information		Sheet Revisions		As Constructed	
Creation Date:	12/87	Initials:	KDH	BRIDGE DECK ELEVATIONS	
Last Modification Date:	07/21/02	Initials:	RJG	Project No./Code	
Full Path:	Q:\X2310007\ACAD\Sheets\Structural\			BR 0251-151	
Drawing File Name:	M17BEGeom3.DWG			12394	
Acad Ver.	R14.01	Scale:	Units:	English	Sheet Number
				51	

RIGHT IN WING A & D			PARALLEL TO HORIZONTAL CONTROL				0.280000 FEET BELOW FINISHED GRADE						
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP	
END WING A	11+47.9500	18.0000	5455.1283		18.0000	-7.0000	483739.1056	212621.7722	18.0000	0 00 00.00	-25.0000	+0.020000	
END APP A1	11+51.1822	18.0000	5455.0843		18.0000	-3.7878	483741.5038	212623.9391	25.4558	-45 00 00.00	-21.7878	+0.020000	
BF ABUT 1	11+71.1822	18.0000	5454.6886		18.0000	18.2322	483758.3436	212637.3474	25.4558	-45 00 00.00	-1.7878	+0.020000	
CL BRG A1	11+72.9500	18.0000	5454.6538		18.0000	18.0000	483757.6553	212638.6325	25.4558	-45 00 00.00	0.0000	+0.020000	
CL BRG A2	12+97.9500	18.0000	5452.5452		18.0000	143.0000	483850.4040	212722.3339	25.4558	-45 00 00.00	125.0000	+0.020000	
BF ABUT 2	12+99.7178	18.0000	5452.5184		18.0000	144.7878	483851.7157	212723.5191	25.4558	-45 00 00.00	126.7878	+0.020000	
END APP A2	13+19.7178	18.0000	5452.2213		18.0000	164.7878	483866.5595	212736.9273	25.4558	-45 00 00.00	146.7878	+0.020000	
END WING D	13+24.9500	18.0000	5452.1454		18.0000	170.0000	483870.4578	212740.4350	18.0000	0 00 00.00	152.0000	+0.020000	

RIGHT OUT WING A & D			PARALLEL TO HORIZONTAL CONTROL				0.280000 FEET BELOW FINISHED GRADE						
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	NORTHING	EASTING	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP	
END WING A	11+47.9500	19.0000	5455.1083		19.0000	-7.0000	483738.4352	212622.5142	19.0000	0 00 00.00	-26.0000	+0.020000	
BF ABUT 1	11+72.1822	19.0000	5454.6480		19.0000	17.2322	483758.4152	212638.7598	26.8701	-45 00 00.00	-1.7878	+0.020000	
CL BRG A1	11+73.9500	19.0000	5454.6152		19.0000	19.0000	483757.7269	212639.5449	26.8701	-45 00 00.00	0.0000	+0.020000	
CL BRG A2	12+98.9500	19.0000	5452.5100		19.0000	144.0000	483850.4758	212723.7483	26.8701	-45 00 00.00	125.0000	+0.020000	
BF ABUT 2	13+00.7178	19.0000	5452.4833		19.0000	145.7878	483851.7875	212724.9315	26.8701	-45 00 00.00	126.7878	+0.020000	
END WING D	13+24.9500	19.0000	5452.1254		19.0000	170.0000	483859.7674	212741.1770	19.0000	0 00 00.00	151.0000	+0.020000	

CUT LINE			PARALLEL TO HORIZONTAL CONTROL					0.250000 FEET BELOW FINISHED GRADE				
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	BE	INT LNTH	SKEW	GIRDER LNTH	CRS-SLP	
END APP A1	11+29.6822	-3.5000	5455.0723		-3.5000	-25.2878		-4.9497	-45 00 00.00	-21.7678	-0.020000	
BF ABUT	11+49.6822	-3.5000	5454.6830		-3.5000	-5.2878		-4.9497	-45 00 00.00	-1.7678	-0.020000	
CL BRG A1	11+51.4500	-3.5000	5454.6491	454.6491	-3.5000	-3.5000	-	-4.9497	-45 00 00.00	0.0000	-0.020000	
F-1	11+57.7000	-3.5000	5454.5300	454.5743	-3.5000	2.7500				6.2500	-0.020000	
F-2	11+63.9500	-3.5000	5454.4119	454.4959	-3.5000	9.0000				12.5000	-0.020000	
F-3	11+70.2000	-3.5000	5454.2949	454.4139	-3.5000	15.2500				18.7500	-0.020000	
F-4	11+76.4500	-3.5000	5454.1790	454.3283	-3.5000	21.5000				25.0000	-0.020000	
F-5	11+82.7000	-3.5000	5454.0641	454.2391	-3.5000	27.7500				31.2500	-0.020000	
F-6	11+88.9500	-3.5000	5453.9502	454.1482	-3.5000	34.0000				37.5000	-0.020000	
F-7	11+95.2000	-3.5000	5453.8374	454.0498	-3.5000	40.2500				43.7500	-0.020000	
F-8	12+01.4500	-3.5000	5453.7257	453.9497	-3.5000	46.5000				50.0000	-0.020000	
F-9	12+07.7000	-3.5000	5453.6151	453.8481	-3.5000	52.7500				56.2500	-0.020000	
F-10	12+13.9500	-3.5000	5453.5055	453.7388	-3.5000	59.0000				62.5000	-0.020000	
F-11	12+20.2000	-3.5000	5453.3969	453.6279	-3.5000	65.2500				68.7500	-0.020000	
F-12	12+26.4500	-3.5000	5453.2894	453.5134	-3.5000	71.5000				75.0000	-0.020000	
F-13	12+32.7000	-3.5000	5453.1830	453.3953	-3.5000	77.7500				81.2500	-0.020000	
F-14	12+38.9500	-3.5000	5453.0779	453.2738	-3.5000	84.0000				87.5000	-0.020000	
F-15	12+45.2000	-3.5000	5452.9733	453.1483	-3.5000	90.2500				93.7500	-0.020000	
F-16	12+51.4500	-3.5000	5452.8701	453.0194	-3.5000	96.5000				100.0000	-0.020000	
F-17	12+57.7000	-3.5000	5452.7679	452.8869	-3.5000	102.7500				106.2500	-0.020000	
F-18	12+63.9500	-3.5000	5452.6688	452.7508	-3.5000	109.0000				112.5000	-0.020000	
F-19	12+70.2000	-3.5000	5452.5687	452.6110	-3.5000	115.2500				118.7500	-0.020000	
CL BRG A2	12+76.4500	-3.5000	5452.4677	452.4677	-3.5000	121.5000	-	-4.9497	-45 00 00.00	125.0000	-0.020000	
BF ABUT 2	12+78.2178	-3.5000	5452.4399		-3.5000	123.2878	-	-4.9497	-45 00 00.00	126.7878	-0.020000	
END APP A2	12+98.2178	-3.5000	5452.1311		-3.5000	143.2878	-	-4.9497	-45 00 00.00	146.7878	-0.020000	

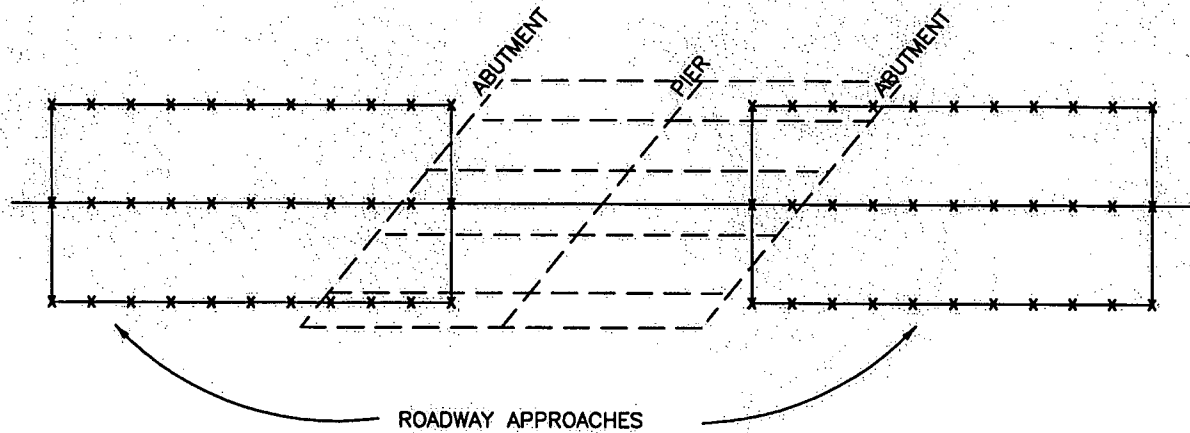
R-2

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3" BELOW FINISHED GRADE. POSITIVE ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE. THESE STATIONS, COORDINATES, OFFSETS, AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF STRUCTURAL COMPONENTS THRU THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

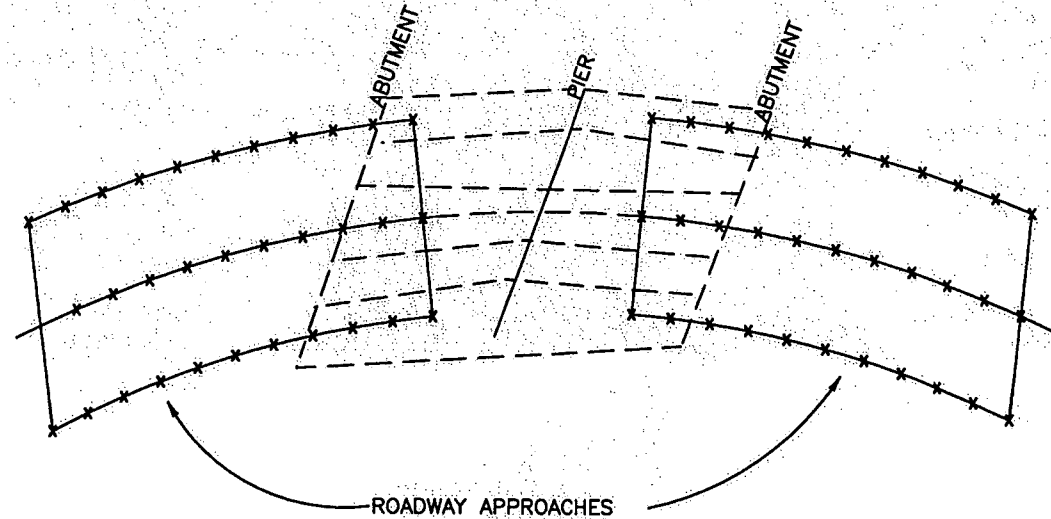
Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		BRIDGE DECK ELEVATIONS				Project No./Code			
Creation Date:	12/87	Initials:	KDH	R-2	07/22/02	Value Eng. Proposal	AAP	 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions: 9/15/03	Revised:	Designer: B. Far	Structure Numbers	M-17-BE	12394	BR 0251-151						
Last Modification Date:	07/21/02	Initials:	DAK																		
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Acad Ver.	R14.01	Scale:	Units:	English					Void:		Sheet Subset:	Bridge	Subset Sheets:	B 27 of 28	Sheet Number	52					
								Staff Bridge Branch													

ROADWAY APPROACHES

STATION	OFFSET					STATION	OFFSET				
	-22.0000	-12.0000	0.0000	12.0000	18.0000		-22.0000	-12.0000	0.0000	12.0000	18.0000
10+00	5457.7255	5457.9255	5458.1855	5458.4055	5458.4855	12+80	5452.2919	5452.4919	5452.7319	5452.9719	5453.0519
10+10	5457.5018	5457.7018	5457.9418	5458.1818	5458.2618	12+90	5452.1367	5452.3367	5452.5767	5452.8167	5452.8967
10+20	5457.2781	5457.4781	5457.7181	5457.9581	5458.0381	13+00	5451.9842	5452.1842	5452.4242	5452.6642	5452.7442
10+30	5457.0544	5457.2544	5457.4944	5457.7344	5457.8144	13+10	5451.8343	5452.0343	5452.2743	5452.5143	5452.5943
10+40	5456.8314	5457.0314	5457.2714	5457.5114	5457.5914	13+20	5451.6872	5451.8872	5452.1272	5452.3672	5452.4472
10+50	5456.6111	5456.8111	5457.0511	5457.2911	5457.3711	13+30	5451.5428	5451.7428	5451.9828	5452.2228	5452.3028
10+60	5456.3935	5456.5935	5456.8335	5457.0735	5457.1535	13+40	5451.4011	5451.6011	5451.8411	5452.0811	5452.1611
10+70	5456.1788	5456.3788	5456.6188	5456.8588	5456.9388	13+50	5451.2622	5451.4622	5451.7022	5451.9422	5452.0222
10+80	5455.9684	5456.1684	5456.4084	5456.6484	5456.7284	13+60	5451.1258	5451.3258	5451.5658	5451.8058	5451.8858
10+90	5455.7569	5455.9569	5456.1969	5456.4369	5456.5169	13+70	5450.9923	5451.1923	5451.4323	5451.6723	5451.7523
11+00	5455.5501	5455.7501	5455.9901	5456.2301	5456.3101	13+80	5450.8615	5451.0615	5451.3015	5451.5415	5451.6215
11+10	5455.3481	5455.5481	5455.7881	5456.0281	5456.1081	13+90	5450.7334	5450.9334	5451.1734	5451.4134	5451.4934
11+20	5455.1447	5455.3447	5455.5847	5455.8247	5455.9047	14+00	5450.6079	5450.8079	5451.0479	5451.2879	5451.3679
11+30	5454.9481	5455.1481	5455.3881	5455.6281	5455.7081	14+10	5450.4852	5450.6852	5450.9252	5451.1652	5451.2452
11+40	5454.7501	5454.9501	5455.1901	5455.4301	5455.5101	14+20	5450.3652	5450.5652	5450.8052	5451.0452	5451.1252
11+50	5454.5589	5454.7589	5454.9989	5455.2389	5455.3189	14+30	5450.2480	5450.4480	5450.6880	5450.9280	5451.0080



* TANGENT ALIGNMENT



* HORIZONTAL CURVE ALIGNMENT

* THESE DRAWINGS ARE SCHEMATICS ONLY AND DO NOT NECESSARILY REFLECT THE ACTUAL BRIDGE LAYOUT.

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		BRIDGE DECK ELEVATIONS				Project No./Code	
Creation Date:	12/87	Initials:	KDH			 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions: 9/15/03						BR 0251-151		
Last Modification Date:	07/25/00	Initials:	KGS				Revised:								
Full Path:							Designer: B. Far		Structure	M-17-BE		12394			
Drawing File Name:	M-17-BEGeomR.DWG						Detailer: K. Sharpley		Numbers						
Acad Ver:	R14.01	Scale:	Units:	English		Staff Bridge Branch	Void:		Sheet Subset:	Bridge	Subset Sheets:	B 28 of 28	Sheet Number 53		

GENERAL NOTES

EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH M-206-1 FOR CAST-IN-PLACE RETAINING WALLS.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

THE FOLLOWING STRUCTURAL STEEL SHALL BE AASHTO M-183 (ASTM A-36): GIRDERS, DIAPHRAGMS, LATERAL BRACING, SPLICE PLATES, EXPANSION DEVICES, BEARING PLATES, BEARING DEVICES, BRIDGE RAILING, STIFFENERS AND PILING.

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL BE NON-EPOXY COATED UNLESS OTHERWISE NOTED.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS B CONCRETE	1'-3"	1'-6"	2'-0"	2'-8"	4'-6"	5'-8"	7'-3"	8'-11"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS, THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS B CONCRETE	1'-0"	1'-4"	1'-8"	2'-3"	3'-0"	3'-10"	4'-10"	5'-11"

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE

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 THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

DESIGN DATA

AASHTO, SECOND EDITION LRFD WITH 1999 INTERIMS

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN.

LIVE LOAD: NONE

REINFORCED CONCRETE:

CLASS B CONCRETE: f'c = 3,000 psi
REINFORCING STEEL: fy = 60,000 psi

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	DROP STR. 1	DROP STR. 2	TOTAL
202	REMOVAL OF PORTION OF PRESENT STRUCTURE	CU YD	42 71		42 71
206	STRUCTURE EXCAVATION	CU YD	907	467	1374
206	STRUCTURE BACKFILL (CLASS 2)	CU YD	99	98	195
502	STEEL PILING HP 10X57	LIN FT	221 262	201 Rev. 268	422 Rev. 1
506	RIPRAP (GABIONS)	CU YD	42 73		42 73
601	CONCRETE CLASS B (WALL)	CU YD	50.5	41.3	91.8 97.3
602	REINFORCING STEEL	LB	4552 4130.01	2776 2789.16	7328 6919.20
206	*STRUCTURE BACKFILL (CLASS 2) GABION BASKETS	CU YD	60		60

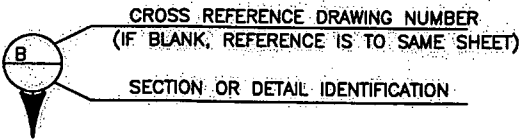
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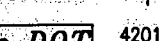
INDEX OF DRAWINGS

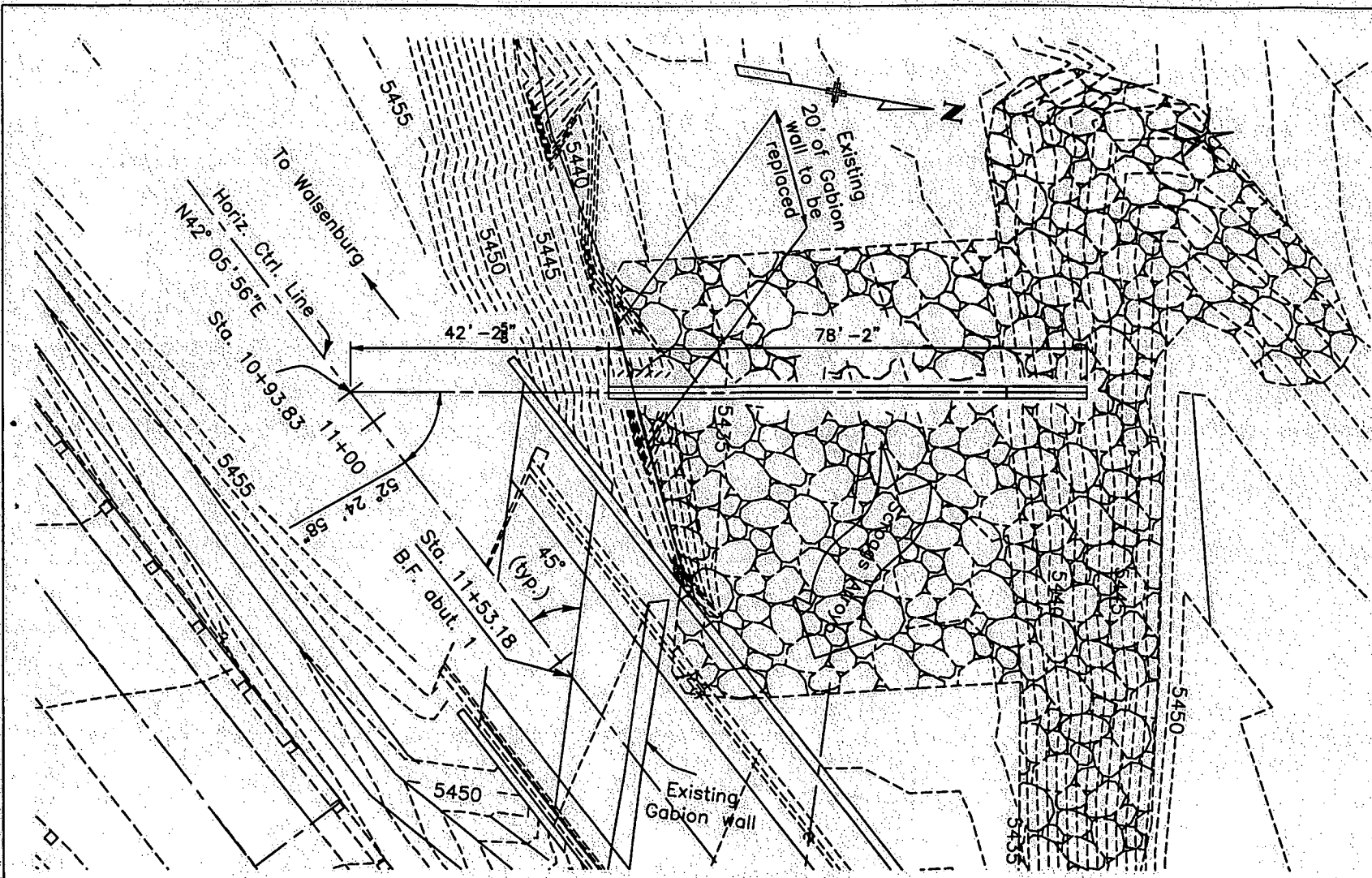
- DWG. NO. B 1 GENERAL INFORMATION - SUMMARY OF QUANTITIES
- DWG. NO. B 2 GENERAL LAYOUT DROP STRUCTURE #1
- DWG. NO. B 3 GENERAL LAYOUT DROP STRUCTURE #2
- DWG. NO. B 4 ENGINEERING GEOLOGY
- DWG. NO. B 5 DROP STRUCTURE #1 DETAILS
- DWG. NO. B 6 DROP STRUCTURE #2 DETAILS
- DWG. NO. B 7 WALL REINFORCEMENT DETAILS

WALL DESCRIPTION

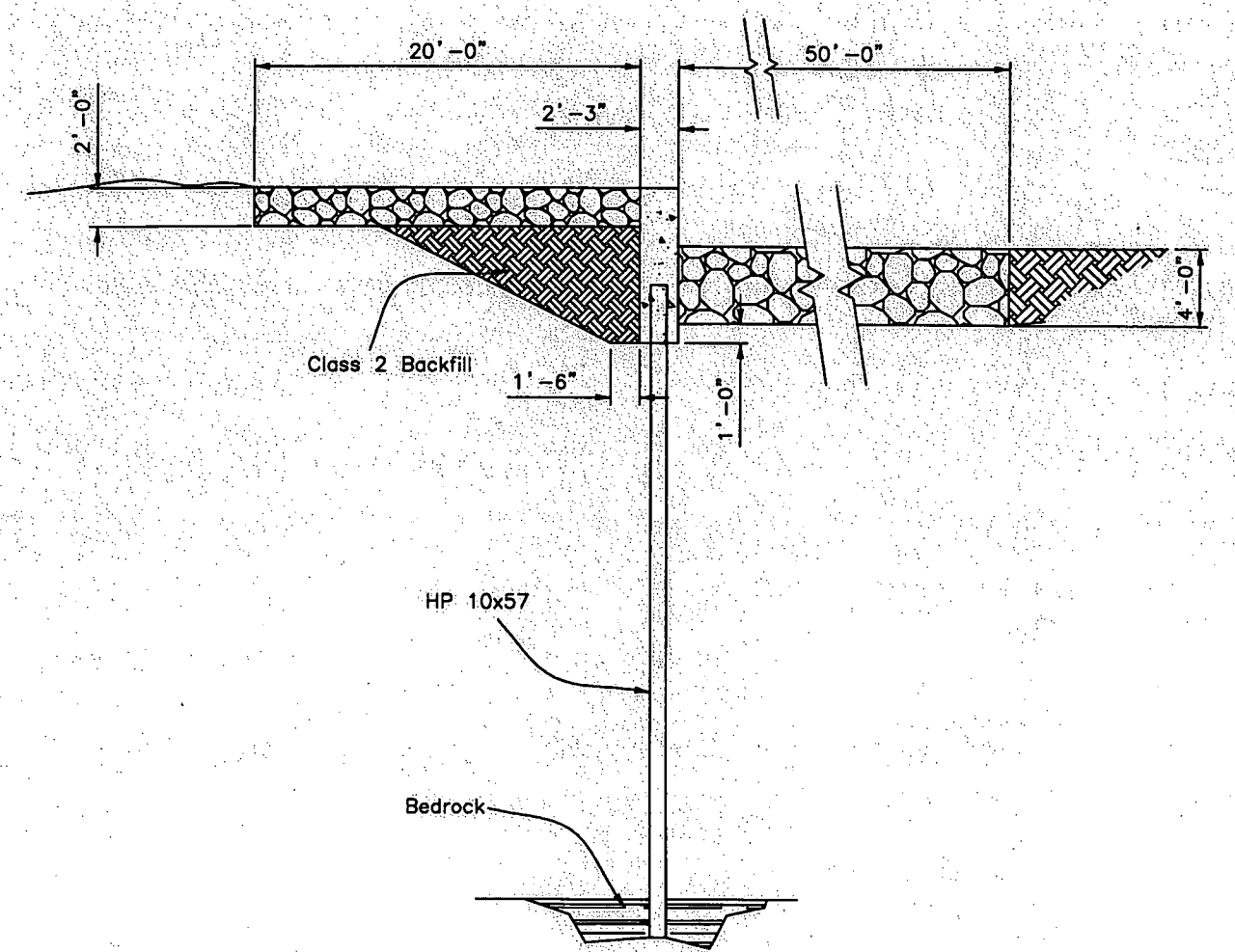
78'-2" DROP STRUCTURE #1
82'-6" DROP STRUCTURE #2



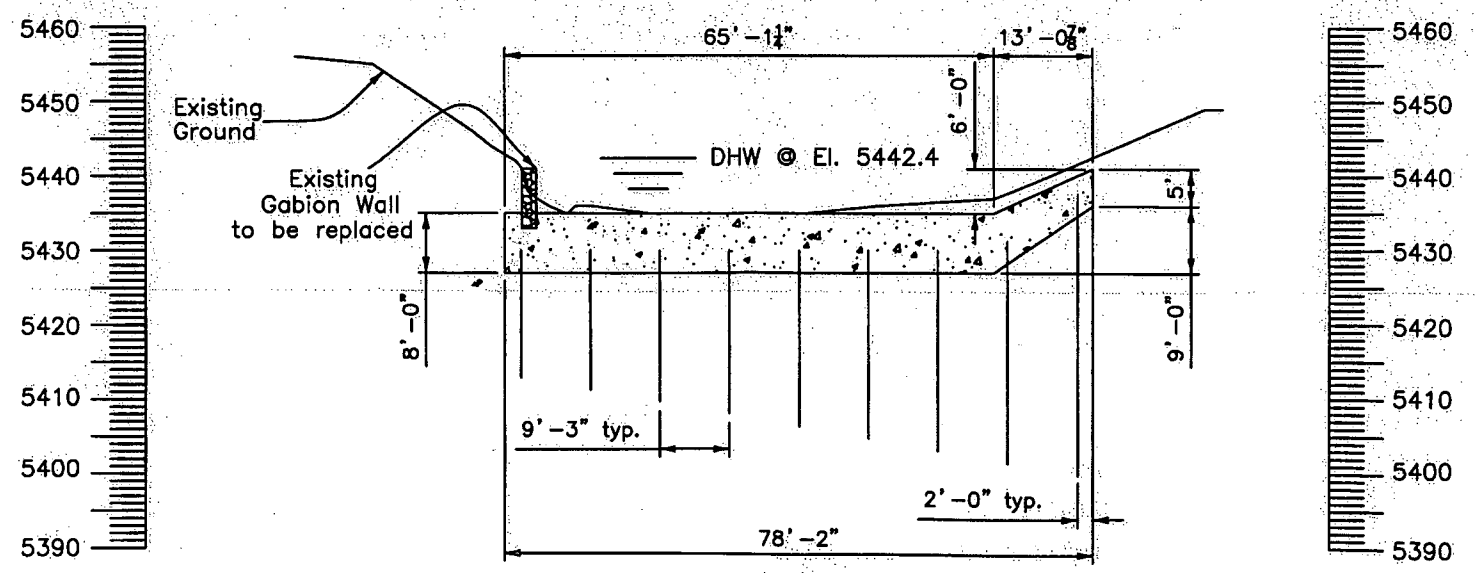
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Creation Date:	9/16/97	Initials:	BMF	(R-1)	changed quantity of HP 10x57 BAI		4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197	No Revisions:	Revised: 9/15/03	Designer:	B. Far	Structure Numbers		12394	BR 0251-151	
Last Modification Date:	8/31/00 15:30	Initials:									Detailer:	B. Far				
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PLAN



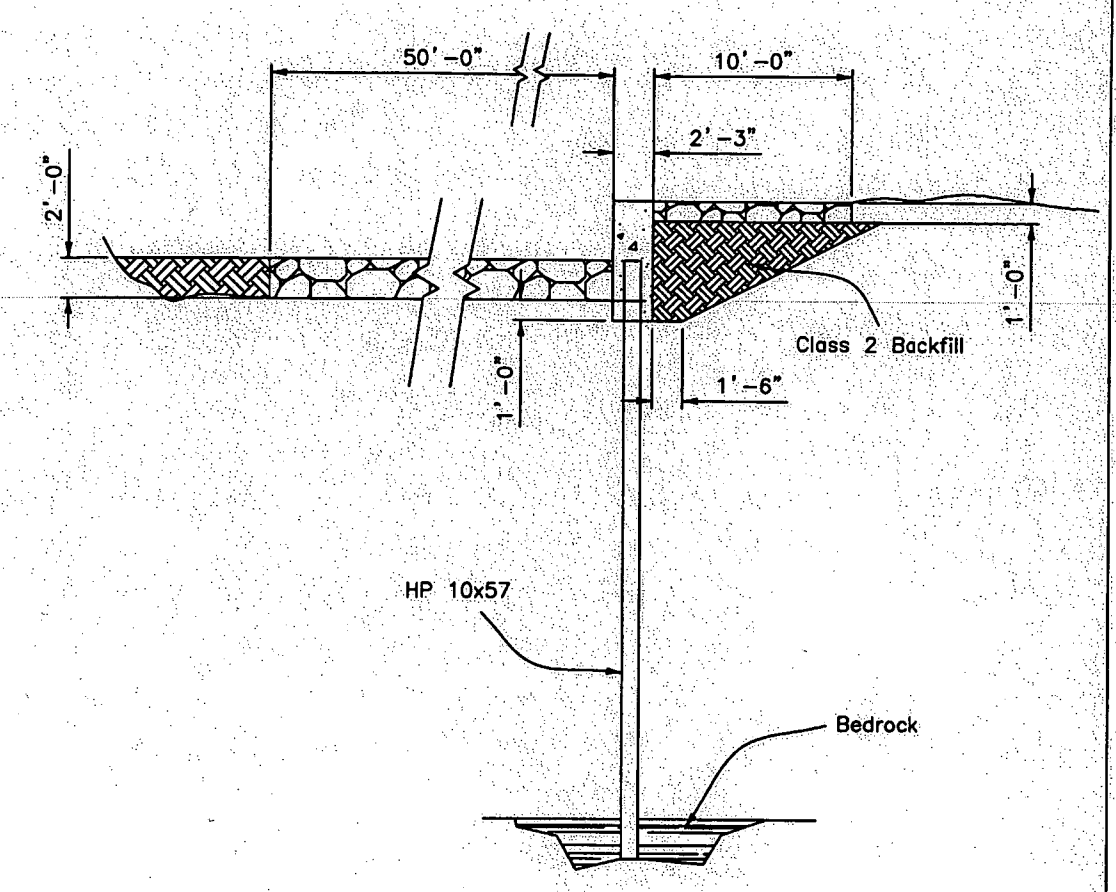
TYPICAL SECTION



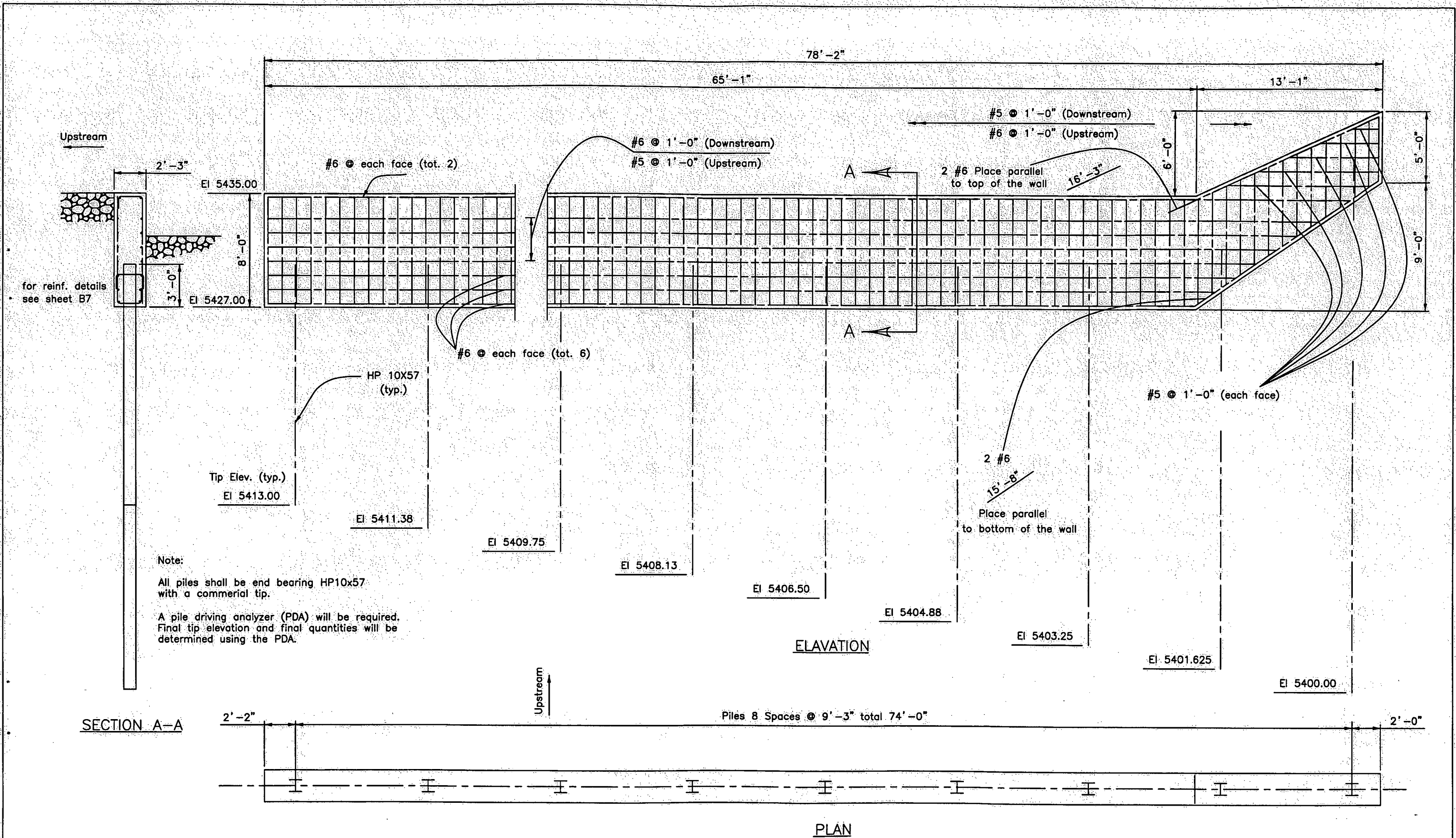
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Taken @ C of Drop Structure

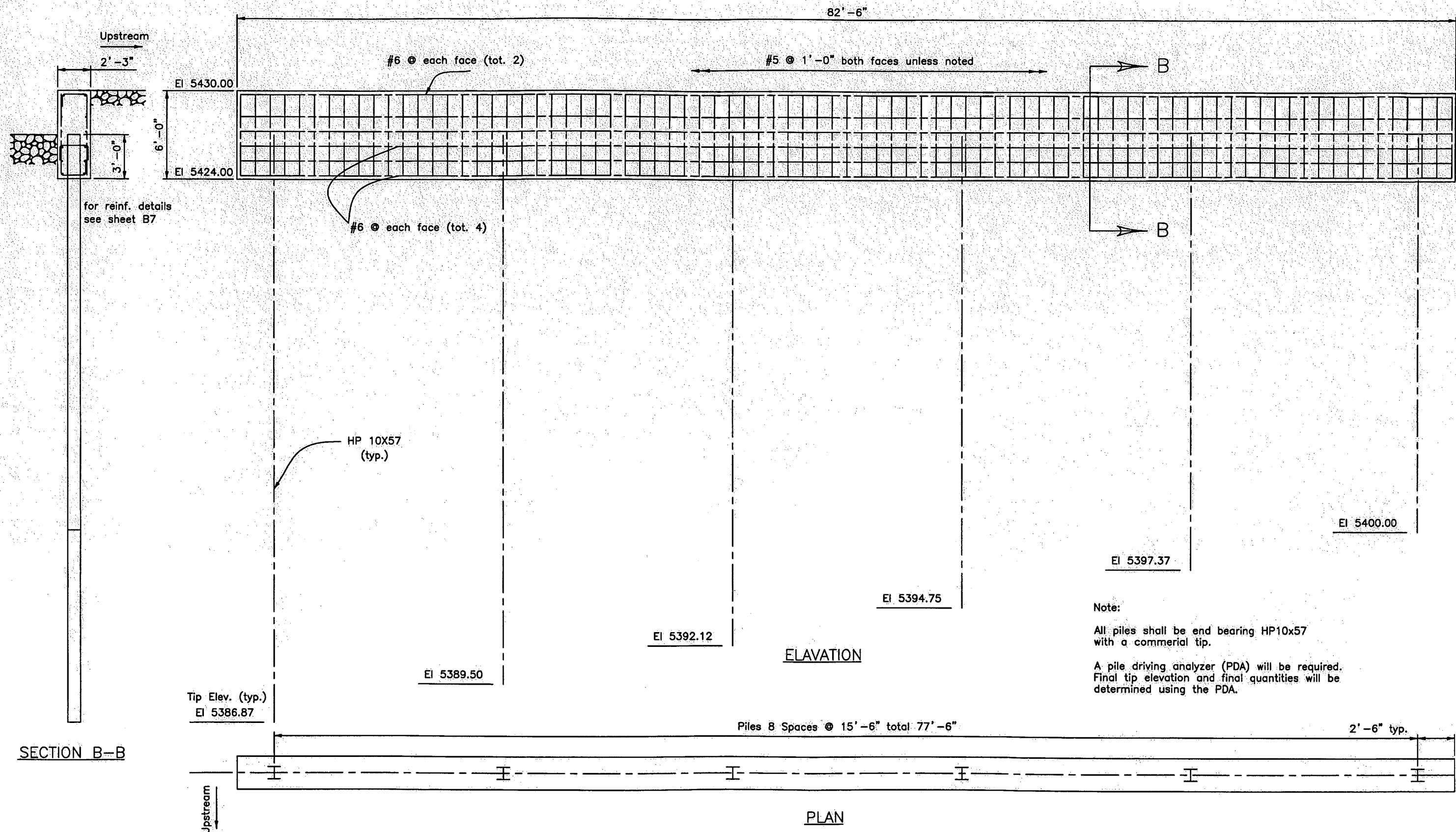
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Creation Date: 9/16/97 Initials: BMF								 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197 Staff Bridge Branch				No Revisions: 9/15/03						BR 0251-151	
Last Modification Date: 9/04/00 10:26 Initials:												Revised:							
Full Path: D:\Sharon Projects\Scroggs Arroyo\Final Design\												Void:		Detailer: B. Far				12394	
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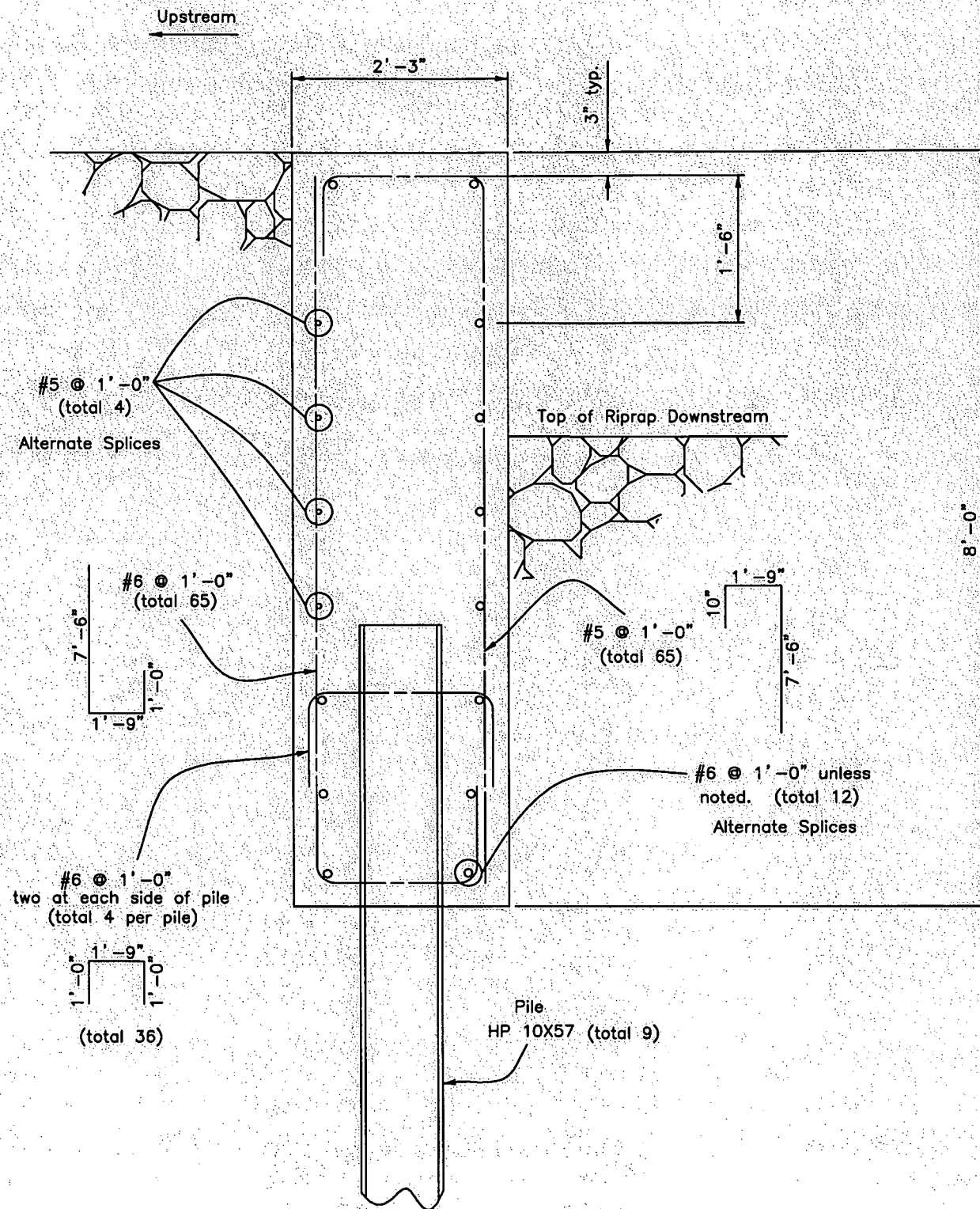
Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		DROP STRUCTURE #2 GENERAL LAYOUT				Project No./Code	
Creation Date: 9/16/97		Initials: BMF						 4201 East Arkansas Avenue, Room 330 Denver, Colorado 80222-3400 Phone: 303-757-9352 FAX: 303-757-9197 Staff Bridge Branch	No Revisions: 9/15/03						BR 0251-151				
Last Modification Date: 9/04/00 10:50		Initials:							Revised:		Designer: B. Far		Structure Numbers		12394				
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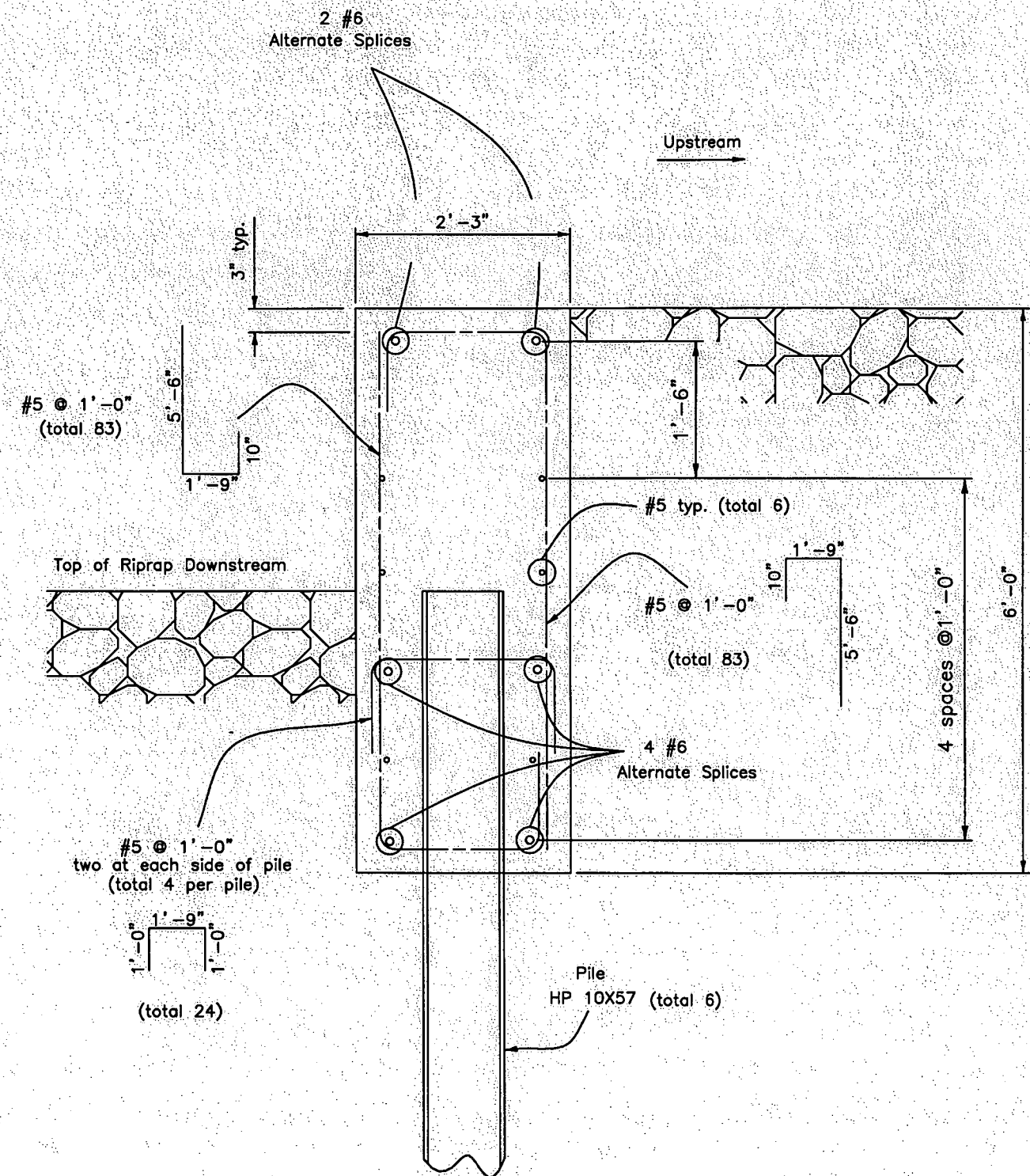
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Last Modification Date:	9/04/00 14:21	Initials:				Revised:			Detailer:	B. Far		12394	
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Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		DROP STRUCTURE 2 DETAILS				Project No./Code			
Creation Date:		9/16/97		Initials:		BMF						No Revisions:		9/15/03				BR 0251-151			
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Acad Ver.:		14.01		Scale:		Scale varies		Units:		Feet						Sheet Subset:		Bridge			
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SECTION A-A



SECTION B-B

Computer File Information

Creation Date: 9/16/97 Initials: BMF
 Last Modification Date: 9/04/00 14:58 Initials:
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Sheet Revisions

Colorado Department of Transportation



4201 East Arkansas Avenue, Room 330
 Denver, Colorado 80222-3400
 Phone: 303-757-9352 FAX: 303-757-9197

Staff Bridge Branch

As Constructed

No Revisions: 9/15/03

Revised:

Void:

DROP STRUCTURE 1 DETAILS

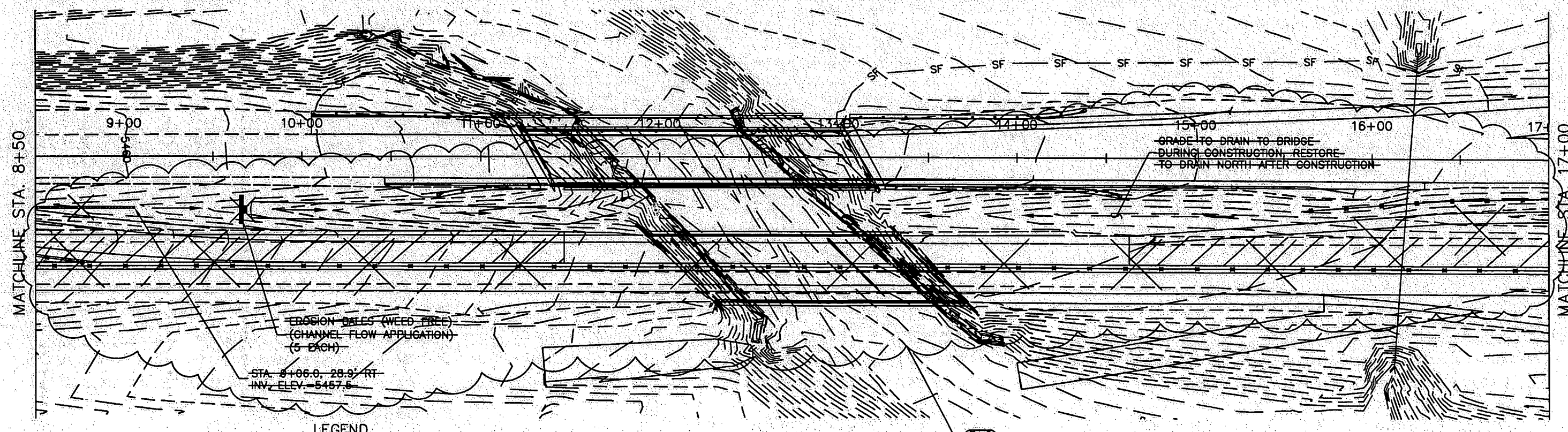
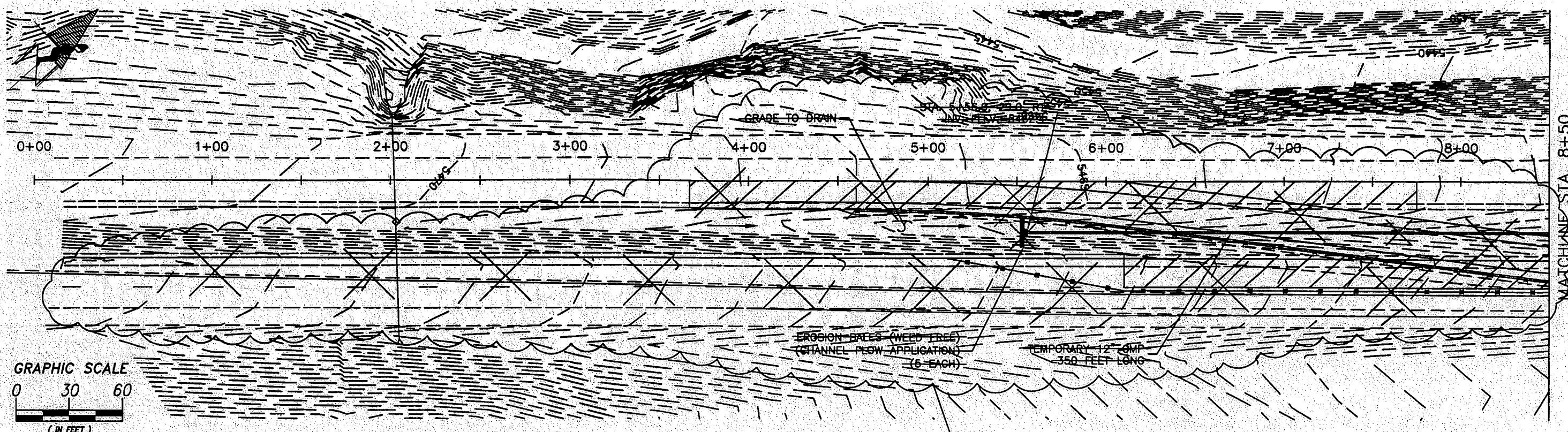
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 Detailer: B. Far Numbers
 Sheet Subset: Bridge Subset Sheets: DS7 of 7

Project No./Code

BR 0251-151

12394

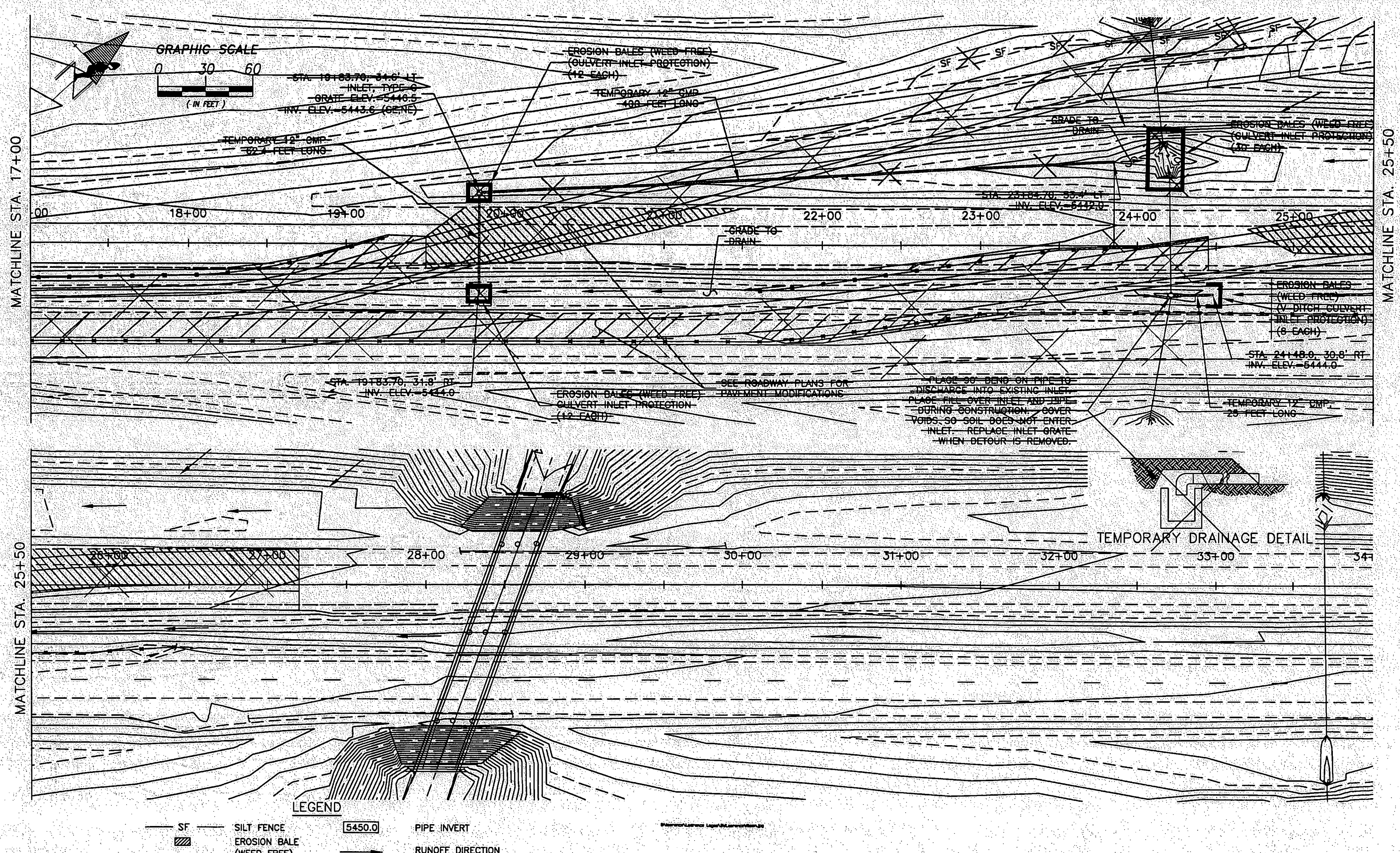
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LEGEND

— SF —	SILT FENCE	5450.0	PIPE INVERT
▨	EROSION BALE (WEED FREE)	→	RUNOFF DIRECTION

Computer File Information				Sheet Revisions			Colorado Department of Transportation		As Constructed	EROSION CONTROL PLAN				Project No.				
Creation Date:		04/20/00		Initials:		MR		DOT Division of Transportation 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 FAX: 719-546-1230 165 S. Union Blvd. Suite 200 Lakewood, CO 80228 Phone: 303-987-3443 Fax: 303-987-3908	No Revisions:		9/15/03		Designer: ABW		Structure Numbers		BR 0251-151	
Last Modification Date:		07/17/02		Initials:		RJG			12394									
Full Path:		Q:\X2310007\ACAD\Sheets\							Revised:				Sheet Number					
Drawing File Name:		EC-1.DWG							Void:				EC 1 OF 3		61			
Acad Ver.		R14		Scale:		1" = 30'		Units:		ENGLISH								



MATCHLINE STA. 17+00

MATCHLINE STA. 25+50

MATCHLINE STA. 25+50

- LEGEND**
- SF SILT FENCE
 - EROSION BALES (WEED FREE)
 - 5450.0 PIPE INVERT
 - RUNOFF DIRECTION

Computer File Information				Sheet Revisions			Colorado Department of Transportation				As Constructed		EROSION CONTROL PLAN				Project No.	
Creation Date:	04/20/00	Initials:	MR	(R=2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 165 S. Union Blvd. Suite 200 Lakewood, CO 80228 Phone: 303-987-3443 Fax: 303-987-3908	No Revisions: 9/15/03				BR 0251-151				
Last Modification Date:	07/17/02	Initials:	RJG				Revised:				Designer:	ABW	Structure Numbers		12394			
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Drawing File Name:	EC-2.DWG									Sheet Subset:	EROSION	Subset Sheets:	EC 2 OF 3	Sheet Number 62				
Acad Ver.	R14	Scale:	1" = 30'	Units:	ENGLISH													

STORMWATER MANAGEMENT PLAN – ADDITIONAL INFORMATION

THE PRE-CONSTRUCTION AND POST-CONSTRUCTION RUNOFF COEFFICIENT WILL NOT CHANGE

EXISTING DATA DESCRIBING SOIL OR QUALITY OF DISCHARGE:
SOILS ARE PREDOMINANTLY SANDY CLAYS

EXISTING VEGETATION: NATIVE GRASSES AND WEEDS.

PROPOSED SEQUENCES FOR MAJOR ACTIVITIES, LOCATION OF ANY OTHER POTENTIAL POLLUTION SOURCE, AREAS USED FOR STORAGE OF BUILDING MATERIALS, SOILS OR WASTES, AND LOCATION OF ANY DEDICATED ASPHALT OR CONCRETE BATCH PLANTS: SEE WATER QUALITY AND EROSION CONTROL SPECIFICATIONS, AND DOCUMENTS SUBMITTED BY THE CONTRACTOR AT THE PRECONSTRUCTION CONFERENCE.

DESCRIPTION OF THE CONSTRUCTION ACTIVITY, ESTIMATE OF THE TOTAL SITE AREA AND OF THE AREA EXPECTED TO UNDERGO EXCAVATION, AND NAME OF THE RECEIVING WATER; SEE DCPS STORMWATER PERMIT APPLICATION.

SITE MAP AND CONSTRUCTION SITE BOUNDARIES: SEE TITLE SHEET.

AREAS OF CUTS AND FILLS AND AREAS OF SOIL DISTURBANCE: SEE PLAN AND PROFILE SHEETS AND ROADWAY CROSS SECTIONS.

SURFACE WATERS: SEE TITLE SHEET AND BRIDGE HYDRAULIC INFORMATION SHEET OR ROADWAY PLANS (IF EXISTENT).

MATERIALS HANDLING AND SPILL PREVENTION: SEE WATER QUALITY SPECIFICATION (107.25).

INSPECTION AND MAINTENANCE: SEE EROSION CONTROL SPECIFICATIONS (107.25 OR 208).

NOTES:

1. SEE SHEET B 6 OF 28 FOR RIPRAP QUANTITIES.
2. FOR DETAILS, SEE M-107-1, TEMPORARY EROSION CONTROL, MARCH 24, 1997 (4 SHEETS.)
3. EROSION CONTROL SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. FINAL SEEDING WILL BE REQUIRED FOR ALL DISTURBED AREAS AFTER DETOURS HAVE BEEN REMOVED.
4. EROSION CONTROL BLANKET SHALL BE SC-150 NORTH AMERICAN GREEN WITH STRAW AND COCONUT FIBER, OR EQUAL.

SEEDING:

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING (CERTIFIED WEED FREE HAY) AND MULCH TACKIFIER WILL BE REQUIRED FOR AN ESTIMATED 2 ACRES OF DISTURBED AREA WITHIN THE PROJECT LIMITS WHICH ARE NOT SURFACED. THE FOLLOWING TYPES AND RATES SHALL BE USED:

COMMON NAME	BOTANICAL NAME	LBS. PLS/ACRE
BLUE GRAMA v. HACHITA	BOUTELOUA GRACILIS	1.0
WESTERN WHEATGRASS v. ARRIBA	PASCOPYRUM SMITHII	7.0
SIDEOATS GRAMA v. VAUGHN	BOUTELOUA CURTIPENDULA	4.0
GALLETA v. VIVA (CARYOPSIS)	HILARIA JAMESII	1.0
ALKALI SACATON	SPOROBOLUS AIROIDES	1.0
SWITCHGRASS v. NEBR 28	PANICUM VIRGATUM	1.0
BLANKETFLOWER	GAILLAARDIA ARISTATA	1.0
PRAIRIE CONEFLOWER	RATIBIDA COLUMINIFERA	1.0
OARTS	AVENA SATIVA	3.0
WINTER WHEAT	TRITICUM AESTIVUM	3.0
TOTAL LB PLS/ACRE SEEDING		22.1
SEEDING APPLICATION: DRILL SEED 0.25" – 0.5" INTO TOPSOIL AREAS NOT ACCESSIBLE TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AT DOUBLE THE ABOVE SEED RATE AND RAKED 1/4" TO 1/2" INTO THE TOPSOIL.		
MULCH APPLICATION: 1 1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMPED INTO TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER PER SECTION 213.		
MULCH TACKIFIER APPLICATION: 200 LBS./ACRE		
COMMERCIAL FERTILIZER	ANALYSIS %	RATE LBS/ACRE AVAILABLE
NITROGEN	18	27
PHOSPHORUS (P205)	46	69

SEEDING NOTES:

MULCHING (WEED FREE) AND MULCH TACKIFIER USED FOR TEMPORARY MULCHING FOR OUT-OF-SEASON SEEDING AND WINTERIZATION, SHALL BE WEED FREE HAY IN ACCORDANCE WITH STANDARD SPECIAL PROVISION 213, AND SHALL BE APPLIED AT THE RATE OF 1.5 TONS PER ACRE IN COMBINATION WITH MULCH TACKIFIER.

DISTURBED SURFACE SHALL BE LEFT IN A ROUGHENED CONDITION AT ALL TIMES DURING CONSTRUCTION.

WHEN DISTURBED AREA EXCEEDS LIMITS REFERENCED IN THE STANDARD SPECIAL PROVISION 208. DURING TIMES OF THE YEAR WHEN SEEDING IS NOT ALLOWED, APPLY 1.5 TONS PER ACRE OF CERTIFIED WEED FREE HAY MECHANICALLY CRIMPED INTO THE SOIL IN COMBINATION WITH MULCH TACKIFIER.

TABLE OF QUANTITIES

	SILT FENCE (FT.)	EROSION BALES (EACH)	12" CMP (FT.)	TYPE "C" INLET	SOIL RETENTION BLANKET (SY) (PLACED AREA)
PLAN	770	30 72	837	1	1050
FINAL	550	0	0	0	1050

▲ EROSION BALES ARE ESTIMATED FOR MISCELLANEOUS USE AS DIRECTED BY THE ENGINEER.

Computer File Information

Creation Date: 04/20/00 Initials: MR
Last Modification Date: 07/17/02 Initials: RPS
Full Path: Q:\X2310007\ACAD\Sheets\EC-3.dwg
Drawing File Name: EC-3.DWG
Acad Ver. R14 Scale: NO SCALE Units: ENGLISH

Sheet Revisions

07/22/02	Value Eng. Proposal	MMS

Colorado Department of Transportation



Region 2

905 Erie Avenue
P.O. Box 535
Pueblo, CO 81002
Phone: 719-546-5734
Fax: 719-546-1230

Bl



165 S. Union Blvd.
Suite 200
Lakewood, CO 80228
Phone: 303-987-3443
Fax: 303-987-3908

As Constructed

No Revisions:

Revised: 9/15/03

Void:

STORMWATER
MANAGEMENT PLAN

Designer: BW
Detailer: MR

Sheet Subset: EROSION Subset Sheets: EC 3 OF 3

Project No.

BR 0251-151

12394

Sheet Number 63

TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE GROUND SIGN (EACH)	RESET GROUND SIGN (EACH)	NO. OF POSTS	LENGTH OF POSTS (FEET)	POST TYPE (FEET)										CONC. FOOTING TYPE (EACH)								SIGN PANEL (FT^2)			REMARKS	
									2 IN. ROUND	2.5 IN. ROUND		W8X15 BEAM	W8X18 BEAM	W8X21 BEAM	W10X22 BEAM	W10X26 BEAM	W12X28 BEAM	U-2	U-3	1	2	3	4	5	6	7	8	CLASS I	CLASS II		CLASS III
										P1	P2																				
1	E1-5	6+62	60" x 18"	GREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
-	E1-3	-	96" x 36"	GREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2	M1-1	7+50	24" x 24"	BLUE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
-	M3-3	-	24" x 12"	WHITE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3	D10-2	10+33	10" x 27"	GREEN	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RELOCATE IN I-25 ULTIMATE PHASE		
4	STR. NO. SIGN	12+28	12" x 18"	WHITE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
5	D10-2	12+31	10" x 27"	GREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
6	D10-2	12+97	10" x 27"	GREEN	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RELOCATE IN I-25 ULTIMATE PHASE		
7	STR. NO. SIGN	13+03	12" x 18"	WHITE	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	REMOVE IN I-25 ULTIMATE PHASE		
8	OM-3	13+09	12" x 36"	YELLOW	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	REMOVE IN I-25 ULTIMATE PHASE		
9	W13-2	17+91	48" x 60"	YELLOW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
10	E5-1g	19+48	48" x 24"	GREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TO REMAIN		
11	W4-1	20+75	30" x 30"	YELLOW	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RELOCATE TO STA. 123+42 IN DETOUR PHASE		
-	W4-1	123+42	30" x 30"	YELLOW	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RELOCATE TO STA. 20+75 IN I-25 ULTIMATE PHASE		
12	STR. NO. SIGN	12+89	12" x 18"	WHITE	-	-	1	9	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	2	-	-	REQ'D IN I-25 ULTIMATE PHASE		
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PROJECT TOTALS					2	19	1	9	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	2	-	-	-	-	

NOTES:
1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE CONTRACTOR.

9/15/03

Computer File Information		Sheet Revisions	Colorado Department of Transportation		As Constructed		TABULATION OF SIGNS		Project No./Code	
Creation Date: 01/17/00 Initials: BHN			905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230		No Revisions:				BR 0251-151	
Last Modification Date: 07/21/02 Initials: RJG			Region 2 BI		Revised: 9/15/03		12394			
Full Path: Q:\X2310007\ACAD\Sheets\					Void:		Sheet Number 64			
Drawing File Name: tabsign.dwg										
Acad Ver: R14 Scale: NO SCALE Units: ENGLISH										

TABULATION OF DELINEATORS (DETOUR PHASE)

STATION	OFFSET	COLOR	REMOVE DELINEATOR	RESET DELINEATOR	DELINEATOR			DELINEATOR (TEMP.)			REMARKS
					TYPE I	TYPE II	TYPE III	TYPE I	TYPE II	TYPE III	
3+26	20.3' RT	YELLOW			1						
4+80	17.2' RT	YELLOW						1			BARRIER, BACK-TO-BACK
4+83	18.5' RT		1								
5+78	22.8' RT	YELLOW						1			BARRIER, BACK-TO-BACK
6+77	34.8' RT	YELLOW						1			BARRIER, BACK-TO-BACK
6+90	61.9' RT	YELLOW						1			BARRIER, BACK-TO-BACK
7+72	19.4' RT		1								
7+75	47.2' RT	YELLOW						1			BARRIER, BACK-TO-BACK
7+86	40.4' RT		1								
8+90	62.1' RT	YELLOW						1			BARRIER, BACK-TO-BACK
9+63	37.9' RT	CRYSTAL						1			
9+88	38.8' RT	CRYSTAL						1			
10+13	39.2' RT	CRYSTAL						1			
10+38	39.2' RT	CRYSTAL						1			
10+63	39.2' RT	CRYSTAL						1			
10+88	39.3' RT	CRYSTAL						1			
10+90	62.2' RT	YELLOW						1			BARRIER, BACK-TO-BACK
11+13	39.3' RT	CRYSTAL						1			
11+13	40.9' RT		1								
11+38	39.4' RT	CRYSTAL						1			
11+63	40.7' RT	CRYSTAL						1			
11+88	41.5' RT	CRYSTAL						1			
11+90	42.3' RT		1								
12+90	63.2' RT	YELLOW						1			BARRIER, BACK-TO-BACK
13+34	41.6' RT	YELLOW							1		
13+52	41.6' RT	CRYSTAL						1			
13+76	85.1' RT	CRYSTAL			1						
13+77	41.3' RT	CRYSTAL						1			
14+01	85.3' RT	CRYSTAL			1						
14+02	41.3' RT	CRYSTAL						1			
14+26	85.3' RT	CRYSTAL			1						
14+27	41.2' RT	CRYSTAL						1			
14+51	85.2' RT	CRYSTAL			1						
14+52	41.2' RT	CRYSTAL						1			
14+76	85.2' RT	CRYSTAL			1						
14+77	40.1' RT	CRYSTAL						1			
14+90	62.6' RT	YELLOW						1			BARRIER, BACK-TO-BACK
15+01	85.2' RT	CRYSTAL			1						
15+02	38.3' RT	CRYSTAL						1			
15+05	87.1' RT		1								

STATION	OFFSET	COLOR	REMOVE DELINEATOR	RESET DELINEATOR	DELINEATOR			DELINEATOR (TEMP.)			REMARKS
					TYPE I	TYPE II	TYPE III	TYPE I	TYPE II	TYPE III	
15+26	85.2' RT	CRYSTAL			1						
15+27	38.4' RT	CRYSTAL							1		
15+51	84.9' RT	CRYSTAL			1						
15+52	34.5' RT	CRYSTAL							1		
15+77	32.6' RT	CRYSTAL							1		
16+02	30.7' RT	CRYSTAL							1		
16+02	88.6' RT		1								
16+27	28.8' RT	CRYSTAL							1		
16+34	35.1' LT		1								
16+40	91.6' RT	CRYSTAL						1			
16+52	27.2' RT	CRYSTAL							1		
16+77	25.9' RT	CRYSTAL							1		
16+90	82.7' RT	YELLOW							1		BARRIER, BACK-TO-BACK
17+02	22.8' RT	CRYSTAL							1		
17+43	21.5' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
17+70	45.6' LT		1								
18+10	20.0' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
18+64	41.5' RT		1								
18+78	8.8' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
18+80	26.4' LT		1								
18+90	62.6' RT	YELLOW							1		BARRIER, BACK-TO-BACK
18+92	40.3' RT	CRYSTAL							1		
19+72	18.4' RT	YELLOW							1		
19+75	68.5' LT		1								
20+74	80.3' LT		1								
20+90	62.1' RT	YELLOW							1		BARRIER, BACK-TO-BACK
21+39	27.3' LT	YELLOW							1		
21+73	92.8' LT		1								
21+95	25.5' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
22+51	58.0' LT	YELLOW							1		
22+72	104.5' LT		1								
22+88	11.9' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
22+90	45.0' RT	YELLOW							1		BARRIER, BACK-TO-BACK
23+49	84.7' LT	YELLOW									
23+67	116.7' LT		1								
23+81	1.8' RT	CRYSTAL							1		BARRIER, BACK-TO-BACK
23+95	93.3' LT	YELLOW							1		
24+90	42.8' RT	YELLOW							1		BARRIER, BACK-TO-BACK
TOTALS			16		10			21	30	1	

Computer File Information				Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF DELINEATORS (DETOUR PHASE)		Project No./Code	
Creation Date:	09/11/00	Initials:	DCS	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:	Designer:	BHN Structure	BR 0251-151	
Last Modification Date:	09/15/00	Initials:	DCS	(Deleted Sheet)	Revised:	Detailer:			DCS Numbers				
Full Path:	G:\-tpto\67754005\dwg\				Void:	9/15/03			Sheet Subset:	TRAFFIC	Subset Sheets:		
Drawing File Name:	tabdelin.dwg												Sheet Number
Acad Ver.	R14	Scale:	NO SCALE	Units:	ENGLISH								

TABULATION OF DELINEATORS (I-25 ULTIMATE PHASE)

STATION	OFFSET	COLOR	REMOVE DELINEATOR	RESET DELINEATOR	DELINEATOR			DELINEATOR (TEMP.)			REMARKS
					TYPE I	TYPE II	TYPE III	TYPE I	TYPE II	TYPE III	
4+83	18.4' RT	YELLOW			1						
6+13	40.7' RT	YELLOW			1						
6+38	40.8' RT	YELLOW			1						
6+83	40.8' RT	YELLOW			1						
6+88	40.9' RT	YELLOW			1						
7+13	41.0' RT	YELLOW			1						
7+38	41.1' RT	YELLOW			1						
7+83	41.2' RT	YELLOW			1						
7+72	18.5' RT	YELLOW			1						
7+88	41.2' RT	YELLOW			1						
8+13	41.3' RT	YELLOW			1						
8+38	41.4' RT	YELLOW			1						
8+83	41.5' RT	YELLOW			1						
8+88	41.5' RT	YELLOW			1						
8+13	41.6' RT	YELLOW			1						
9+38	41.8' RT	YELLOW			1						
9+83	41.5' RT	YELLOW			1						
9+88	41.5' RT	YELLOW			1						
10+03	26.3' LT	CRYSTAL			1						
10+13	41.5' RT	YELLOW			1						
10+28	26.0' LT	CRYSTAL			1						
10+38	41.5' RT	YELLOW			1						
10+44	18.8' RT	YELLOW			1						
10+53	25.7' LT	CRYSTAL			1						
10+63	41.5' RT	YELLOW			1						
10+69	19.0' RT	YELLOW			1						
10+78	25.4' LT	CRYSTAL			1						
10+88	41.5' RT	YELLOW			1						
10+94	19.1' RT	YELLOW			1						
11+03	25.0' LT	CRYSTAL			1						
11+13	41.5' RT	YELLOW			1						
11+19	19.1' RT	YELLOW			1						
11+38	41.5' RT	YELLOW			1						
11+44	18.9' RT	YELLOW			1						
11+63	41.5' RT	YELLOW			1						
11+88	41.5' RT	YELLOW					1				
12+82	25.0' LT	YELLOW					1				
13+04	18.1' LT		1								
13+07	24.9' LT	CRYSTAL			1						
13+23	18.4' RT		1								
13+23	18.9' RT	YELLOW					1				
13+32	24.9' LT	CRYSTAL			1						
13+34	41.8' RT		1								
13+34	41.8' RT	YELLOW			1						

STATION	OFFSET	COLOR	REMOVE DELINEATOR	RESET DELINEATOR	DELINEATOR			DELINEATOR (TEMP.)			REMARKS
					TYPE I	TYPE II	TYPE III	TYPE I	TYPE II	TYPE III	
13+40	23.2' LT		1								
13+48	19.2' RT	YELLOW			1						
13+57	24.9' LT	CRYSTAL			1						
13+59	18.7' RT		1								
13+59	41.5' RT	YELLOW			1						
13+73	19.5' RT	YELLOW			1						
13+79	27.1' LT		1								
13+82	24.9' LT	CRYSTAL			1						
13+84	41.3' RT	YELLOW			1						
13+98	19.5' RT	YELLOW			1						
13+99	19.3' RT		1								
14+07	25.1' LT	CRYSTAL			1						
14+09	41.3' RT	YELLOW			1						
14+15	29.4' LT		1								
14+23	19.4' RT	YELLOW			1						
14+32	26.2' LT	CRYSTAL			1						
14+34	41.2' RT	YELLOW			1						
14+35	19.0' RT		1								
14+48	19.4' RT	YELLOW			1						
14+49	31.4' LT		1								
14+57	27.3' LT	CRYSTAL			1						
14+59	41.2' RT	YELLOW			1						
14+73	19.1' RT		1								
14+73	19.4' RT	YELLOW			1						
14+82	28.1' LT	CRYSTAL			1						
14+84	38.6' RT	YELLOW			1						
14+90	34.1' LT		1								
14+98	19.5' RT	YELLOW			1						
15+07	31.8' LT	CRYSTAL			1						
15+12	18.7' RT		1								
15+22	29.0' LT		1								
15+23	19.6' RT	YELLOW			1						
15+48	19.7' RT	YELLOW			1						
15+70	32.7' LT	CRYSTAL			1						
15+70	34.3' LT		1								
15+73	22.3' RT	YELLOW			1						
15+90	19.7' RT		1								
16+34	35.1' LT	CRYSTAL			1						
17+70	45.8' LT	CRYSTAL			1						
18+73	57.1' LT	CRYSTAL			1						
18+81	27.5' LT	CRYSTAL			1						
19+14	41.2' RT	YELLOW			1						
19+75	68.5' LT	CRYSTAL			1						
20+74	80.3' LT	CRYSTAL			1						

Computer File Information Creation Date: 09/11/00 Initials: DCS Last Modification Date: 07/18/02 Initials: RPS Full Path: Q:\X2310007\ACAD\Sheets\ Drawing File Name: tabdelin.dwg Acad Ver. R14 Scale: NO SCALE Units: ENGLISH		Sheet Revisions 07/22/02 Value Eng. Proposal MMS		Colorado Department of Transportation  905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI		As Constructed No Revisions: 9/15/03 Revised: Void:		TABULATION OF DELINEATORS (I-25 ULTIMATE PHASE) Designer: BHN Structure Detailer: DCS Numbers Sheet Subset: TRAFFIC Subset Sheets: T 3 of 21		Project No./Code BR 0251-151 12394 Sheet Number 6866	
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STATION	OFFSET	COLOR	REMOVE DELINEATOR	RESET DELINEATOR	DELINEATOR			DELINEATOR (TEMP.)			REMARKS
					TYPE I	TYPE II	TYPE III	TYPE I	TYPE II	TYPE III	
21+75	92.8' LT	CRYSTAL			I						
22+72	104.5' LT	CRYSTAL			I						
23+57	16.3' RT	YELLOW			I						
23+57	110.7' LT	CRYSTAL			I						
								(R-2)			
TOTALS			-10- 14 15		-73- 31 24		-3- 2 3				
								(R-2)			

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF DELINEATORS (I-25 ULTIMATE PHASE)		Project No./Code	
Creation Date:	09/11/00 Initials: DCS	(R-2)	07/22/02	Value Eng. Proposal	MMS	No Revisions:				BR 0251-151	
Last Modification Date:	07/18/02 Initials: RPS					Revised: 9/15/03		Designer: BHN	Structure Numbers	12394	
Full Path:	Q:\X2310007\ACAD\Sheets\					Void:		Detailer: DCS			
Drawing File Name:	tabdelin.dwg							Sheet Subset: TRAFFIC	Subset Sheets: T 4 of 21	Sheet Number 67	
Acad Ver. R14	Scale: NO SCALE Units: ENGLISH										

[illegible]

1. FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT, SEE STRIPING PLANS AND STANDARD S-627-1.

2. IT IS ESTIMATED THAT 642 SF OF PAVEMENT MARKING REMOVAL WILL BE REQUIRED FOR THIS PHASE.

Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed		TABULATION OF PAVT. MARKING			Project No./Code	
Creation Date:	01/21/00	Initials: BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:		Designer: BHN Structure Numbers Detailer: DCS			BR 0251-151	
Last Modification Date:	09/15/00	Initials: DCS		(Deleted Sheet)		Revised:			12394						
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Drawing File Name:	tabpvtkm.dwg														
Acad Ver. R14	Scale: NO SCALE	Units: ENGLISH													

TABULATION OF PAVEMENT MARKINGS (CONSTRUCTION PHASING CONDITIONS)

[illegible]

NOTES:

1. FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT, SEE STRIPING PLANS AND STANDARD S-627-1.
2. IT IS ESTIMATED THAT 770 SF OF EXISTING PAVEMENT MARKING REMOVAL WILL BE REQUIRED PRIOR TO PHASE 1.

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9/15/03

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF PAVT. MARKING		Project No./Code	
Creation Date:	01/21/00 Initials: BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	No Revisions:		Designers: BHN Detailers: DCS Sheet Subset: TRAFFIC Structure Numbers Subst Sheets: T 5a of 21		BR 0251-151	
Last Modification Date:	07/21/02 Initials: RJG			(Created New Sheet)		Revised:				12394	
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Drawing File Name:	tabpvtmka.dwg										
Acad Ver. R14	Scale: NO SCALE Units: ENGLISH										

TABULATION OF PAVEMENT MARKINGS (ULTIMATE CONDITION)

STATION	LOCATION	PAVEMENT MARKING LINES (LF)																(SQUARE FEET)		
		EDGE - TEMP. TAPE		LANE - TEMP. TAPE		CHANNELIZING - TEMP. TAPE		CENTER - PAINT		EDGE - EPOXY		CENTER - EPOXY		CHANNELIZING - EPOXY		CENTER - EPOXY		XWALK TYPE B WHITE SOLID 24"	STOP TYPE B WHITE SOLID 24"	ARROW TYPE B WHITE SOLID
		WHITE SOLID 4"	YELLOW SOLID 4"	WHITE SOLID 4"	YELLOW SOLID 4"	WHITE SOLID 8"	DOTTED 8"	WHITE SOLID 4"	WHITE BROKEN 4"	WHITE SOLID 4"	YELLOW SOLID 4"	YELLOW SOLID 4"	YELLOW BROKEN 4"	WHITE SOLID 8"	DOTTED 8"	WHITE SOLID 4"	WHITE BROKEN 4"			
STA. 16+77.04 TO STA. 17+10.22	ENT RAMP INSIDE													33						
STA. 17+51.54 TO STA. 18+08.62	1-25 NB OUTSIDE									1118										
STA. 18+77.04 TO STA. 18+63.70	1-25 NB OUTSIDE									590				188						
STA. 18+63.70 TO STA. 24+52.06	1-25 NB OUTSIDE																			
STA. 8+32.99 TO STA. 22+15.95	1-25 NB LANE																340			
STA. 6+84.81 TO STA. 11+48.57	1-25 NB INSIDE										162									
STA. 14+62.05 TO STA. 23+01.00	1-25 NB INSIDE										830									
STA. 3+66.83 TO STA. 7+75.00	1-25 SB INSIDE										400									
STA. 10+41.69 TO STA. 16+94.66	1-25 SB INSIDE	-	-	-	-	-	-	-	-	-	653	-	-	-	-	-	-	-	-	-
STA. 18+29.73 TO STA. 19+05.64	1-25 SB INSIDE										186									
STA. 22+50.02 TO STA. 25+18.00	1-25 SB INSIDE										263									
STA. 3+66.83 TO STA. 7+75.00	1-25 SB LANE																108			
STA. 11+24.27 TO STA. 13+18.30	1-25 SB LANE																50			
STA. 18+97.18 TO STA. 20+55.89	1-25 SB LANE																40			
STA. 23+37.29 TO STA. 30+50.00	1-25 SB LANE																180			
STA. 10+05.16 TO STA. 16+24.69	1-25 SB OUTSIDE	-	-	-	-	-	-	-	-	620	-	-	-	-	-	-	-	-	-	-
STA. 19+60.30 TO STA. 21+05.72	1-25 SB OUTSIDE									146										
STA. 24+82.41 TO STA. 27+20.23	1-25 SB OUTSIDE									238										
STA. 22+18.25 TO STA. 24+97.38	ENTRANCE RAMP INSIDE										281									
STA. 22+92.70 TO STA. 24+96.96	ENTRANCE RAMP OUTSIDE									205										
STA. 10+00.00 TO STA. 25+00.00	1-25 SB LANE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	375	-	-	-
STA. 16+50.00 TO STA. 19+05.00	ENTRANCE RAMP OUTSIDE	-	-	-	-	-	-	-	-	255	-	-	-	-	-	-	-	-	-	-
STA. 16+80.00 TO STA. 19+05.00	ENTRANCE RAMP INSIDE	-	-	-	-	-	-	-	-	-	225	-	-	-	-	-	-	-	-	-
STA. 16+80.00 TO STA. 18+50.00	1-25 SB OUTSIDE	-	-	-	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-
TOTAL (LIN. FEET)		-	-	-	-	-	-	-	-	2915 ¹⁰⁴⁵	3073 ⁸⁷⁸	-	-	219	-	-	710 ³⁷⁵	-	-	-
TOTAL (SQ. FEET)		-	-	-	-	-	-	-	-	972 ³⁵⁰	1025 ²⁹²	-	-	140	-	-	237 ¹²⁵	-	-	-
TOTAL (GAL)		-	-	-	-	-	-	-	-	9.3 ^{3.3}	9.8 ^{2.8}	-	-	1.4	-	-	2.3 ^{1.2}	-	-	-
SHEET TOTALS		4476 ⁵⁰⁵	631 ¹³⁵	150	5979	248	-	-	-	9.3 ^{3.3}	9.8 ^{2.8}	-	-	1.4	-	-	2.3 ^{1.2}	-	-	-

R-2

SUMMARY OF
PAVEMENT MARKING QUANTITIES

COLOR	PAVEMENT MARKING (SF) EPOXY	PAVEMENT MARKING EPOXY (GAL)	TEMPORARY TAPE (LF)		PREFORMED PLASTIC (TYPE B) (SF)	
			4"	8"	(WORD-SYMBOL)	(XWALK-STOPLINE)
YELLOW	1025 292	10 4	6610 135	-	-	-
WHITE	1355 475	13 6	4626 505	248	-	-
TOTAL	2380 767	23 10 18	11236 648 4873	248	-	-

NOTES:

1. FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT, SEE STRIPING PLANS AND STANDARD S-627-1.

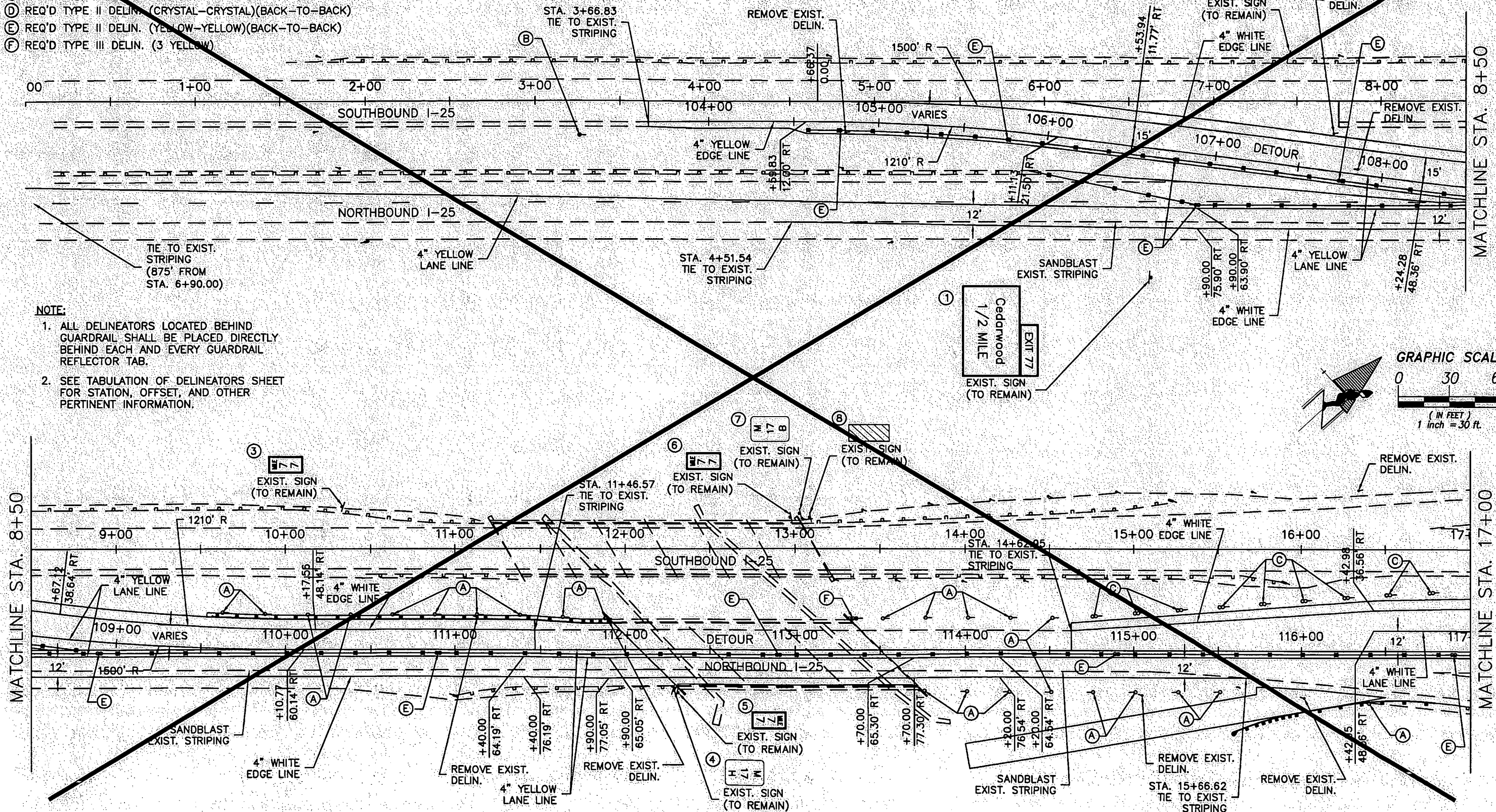
2. IT IS ESTIMATED THAT ⁶⁴⁰1566 SF OF PAVEMENT MARKING REMOVAL WILL BE REQUIRED FOR THIS PHASE.

9/15/03

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		TABULATION OF PAVT. MARKING		Project No./Code		
Creation Date:	01/21/00 Initials: BHN	(R-2) 07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fac: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8878	No Revisions:	Designer: BHN		Structure Numbers		BR 0251-151
Last Modification Date:	07/21/02 Initials: RJG						Revised: 9/15/03	Detailer: DCS		Numbers		12394
Full Path:	Q:\X2310007\ACAD\Sheets\						Void:	Sheet Subset: TRAFFIC		Subset Sheets: T 6 of 21		Sheet Number 69
Drawing File Name:	tabpvtmk.dwg											
Acad Ver. R14	Scale: NO SCALE Units: ENGLISH				Region 2 BI							

LEGEND:

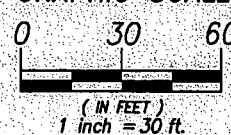
- (A) REQ'D TYPE I DELIN. (CRYSTAL)
- (B) REQ'D TYPE I DELIN. (YELLOW)
- (C) REQ'D TYPE II DELIN. (2 CRYSTAL)
- (D) REQ'D TYPE II DELIN. (CRYSTAL-CRYSTAL)(BACK-TO-BACK)
- (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
- (F) REQ'D TYPE III DELIN. (3 YELLOW)



NOTE:

1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

GRAPHIC SCALE



Computer File Information

Creation Date:	01/21/00	Initials:	BHN
Last Modification Date:	09/15/00	Initials:	DCS
Full Path:	G:\-tpto\67754005\dwg\		
Drawing File Name:	sasp_det.dwg		
Acad Ver:	R14	Scale:	1" = 30'
		Units:	ENGLISH

Sheet Revisions

07/22/02	Value Eng. Proposal	MMS
	(Deleted Sheet)	

Colorado Department of Transportation

905 Erie Avenue
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1515 Arapahoe St.
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Denver, CO 80202
Phone: 303-446-8552
Fax: 303-446-8878

Region 2 BI

As Constructed

No Revisions:
Revised:
Void: 9/15/03

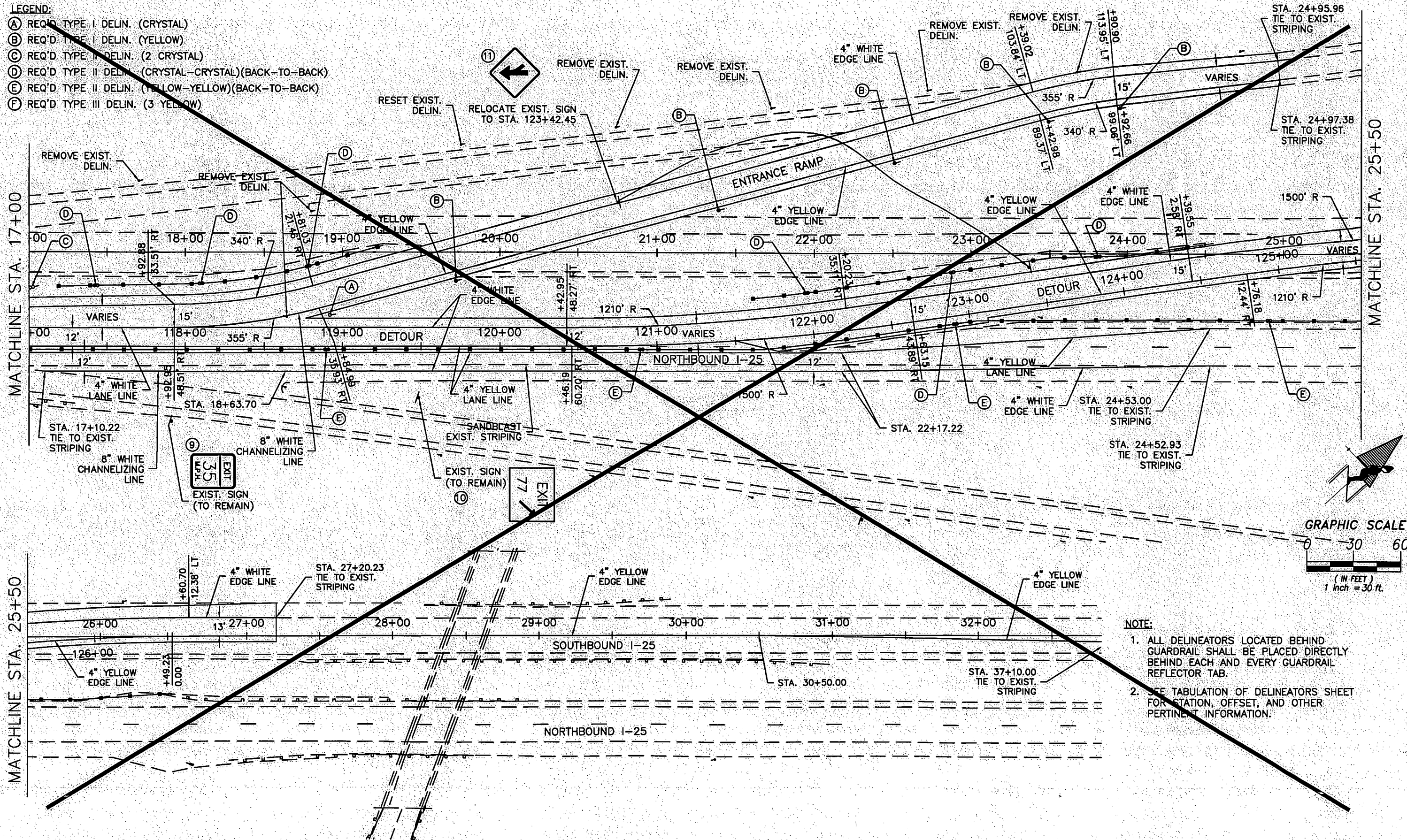
**SIGNING AND STRIPING PLAN
(DETOUR CONDITION)**

Designer:	BHN	Structure	
Detailer:	ALY	Numbers	
Sheet Subset:	TRAFFIC	Subset Sheets:	T 7 of 21

Project No./Code

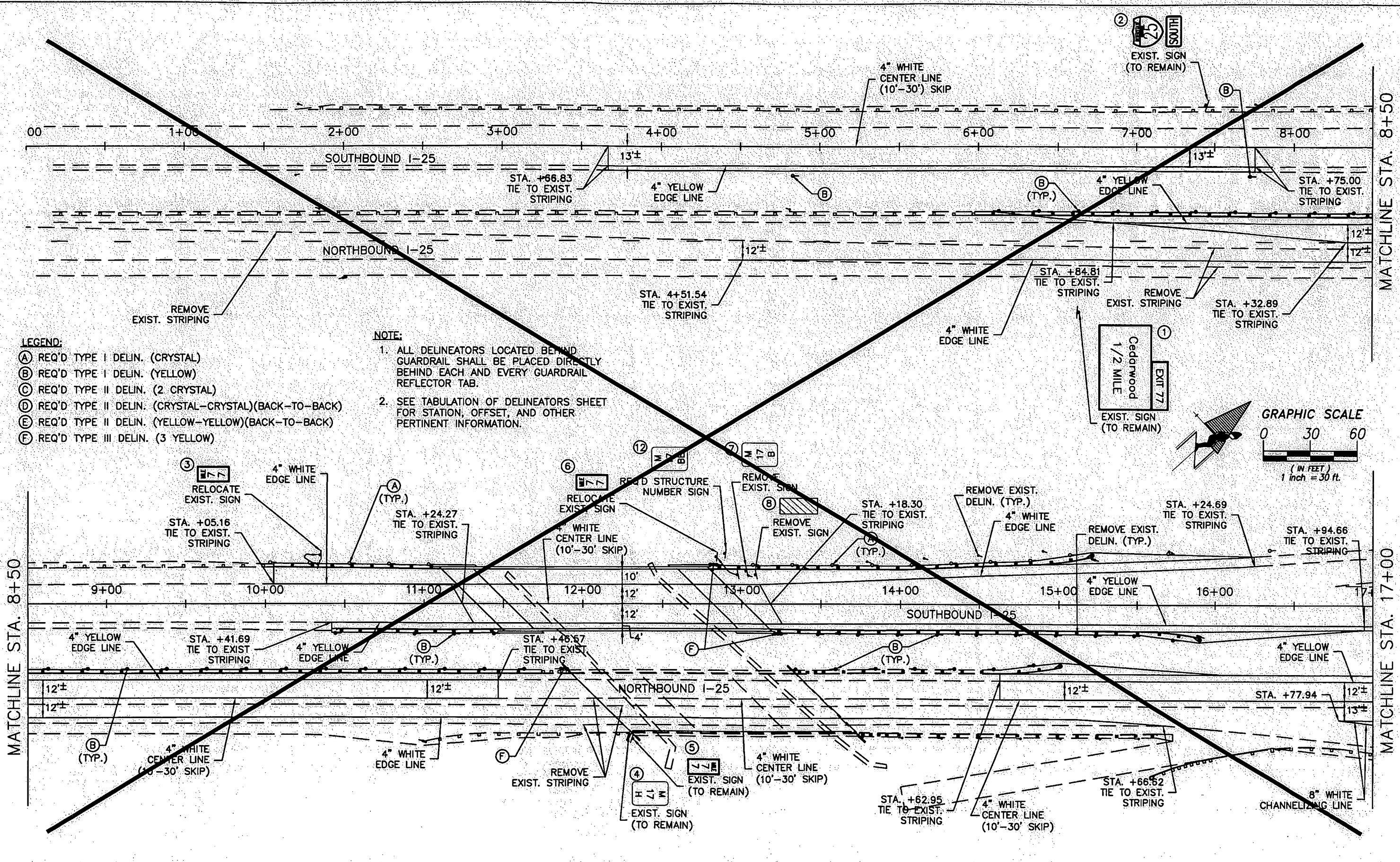
BR 0251-151
12394
Sheet Number 70

- LEGEND:
- (A) REQ'D TYPE I DELIN. (CRYSTAL)
 - (B) REQ'D TYPE I DELIN. (YELLOW)
 - (C) REQ'D TYPE II DELIN. (2 CRYSTAL)
 - (D) REQ'D TYPE II DELIN. (CRYSTAL-CRYSTAL)(BACK-TO-BACK)
 - (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
 - (F) REQ'D TYPE III DELIN. (3 YELLOW)



- NOTE:
1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
 2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

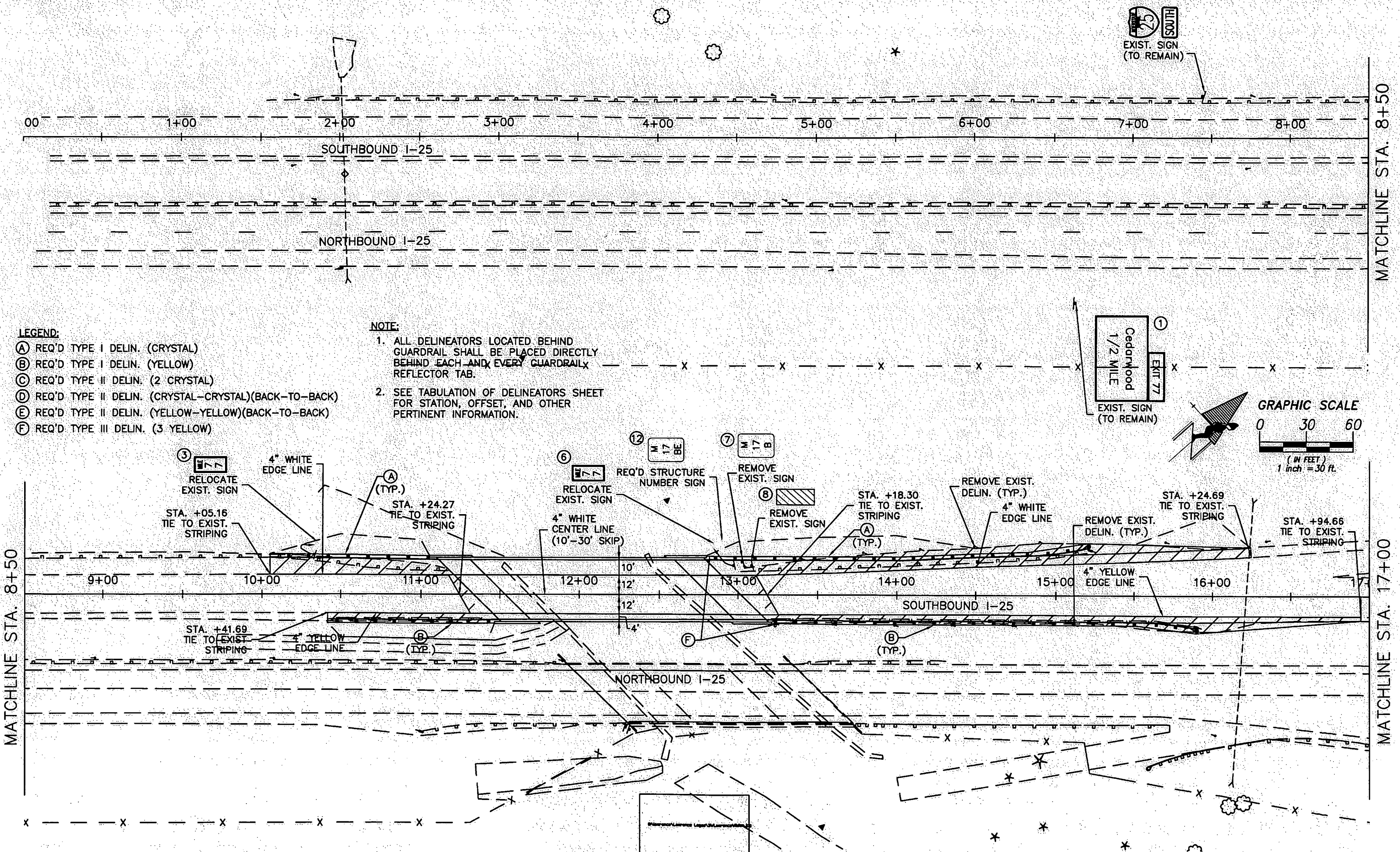
Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		SIGNING AND STRIPING PLAN (DETOUR CONDITION)				Project No./Code			
Creation Date:		01/21/00 Initials: BHN		(R-2)		07/22/02 Value Eng. Proposal		MMS		 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI		 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678		No Revisions:		Designer: BHN		Structure		BR 0251-151	
Last Modification Date:		09/15/00 Initials: DCS				(Deleted Sheet)								Revised:		Detailer: ALY		Numbers		12394	
Full Path:		G:\-tpto\67754005\dwg\												Void: 9/15/03		Sheet Subset: TRAFFIC		Subset Sheets: T 8 of 21		Sheet Number 71	
Drawing File Name:		sasp_det.dwg																			
Acad Ver. R14		Scale: 1" = 30' Units: ENGLISH																			



- LEGEND:**
- (A) REQ'D TYPE I DELIN. (CRYSTAL)
 - (B) REQ'D TYPE I DELIN. (YELLOW)
 - (C) REQ'D TYPE II DELIN. (2 CRYSTAL)
 - (D) REQ'D TYPE II DELIN. (CRYSTAL-CRYSTAL)(BACK-TO-BACK)
 - (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
 - (F) REQ'D TYPE III DELIN. (3 YELLOW)

- NOTE:**
1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
 2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

Computer File Information				Sheet Revisions			Colorado Department of Transportation			As Constructed		SIGNING AND STRIPING PLAN (I-25 ULTIMATE CONDITION)			Project No./Code			
Creation Date:		01/21/00 Initials: BHN		R=2	07/22/02	Value Eng. Proposal		MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-6552 FAX: 303-446-9678	No Revisions:		SIGNING AND STRIPING PLAN (I-25 ULTIMATE CONDITION)			Project No./Code BR 0251-151		
Last Modification Date:		09/15/00 Initials: DCS																
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									Void:		9/15/03		Designer: BHN		Structure Numbers		12394	
													Detailer: ALY		Numbers			
													Sheet Subset: TRAFFIC		Subset Sheets: T 9 of 21		Sheet Number 72	



- LEGEND:**
- (A) REQ'D TYPE I DELIN. (CRYSTAL)
 - (B) REQ'D TYPE I DELIN. (YELLOW)
 - (C) REQ'D TYPE II DELIN. (2 CRYSTAL)
 - (D) REQ'D TYPE II DELIN. (CRYSTAL-CRYSTAL)(BACK-TO-BACK)
 - (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
 - (F) REQ'D TYPE III DELIN. (3 YELLOW)

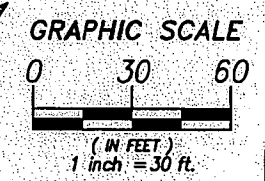
- NOTE:**
1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
 2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

EXIST. SIGN (TO REMAIN)

1/2 MILE

EXIT 77

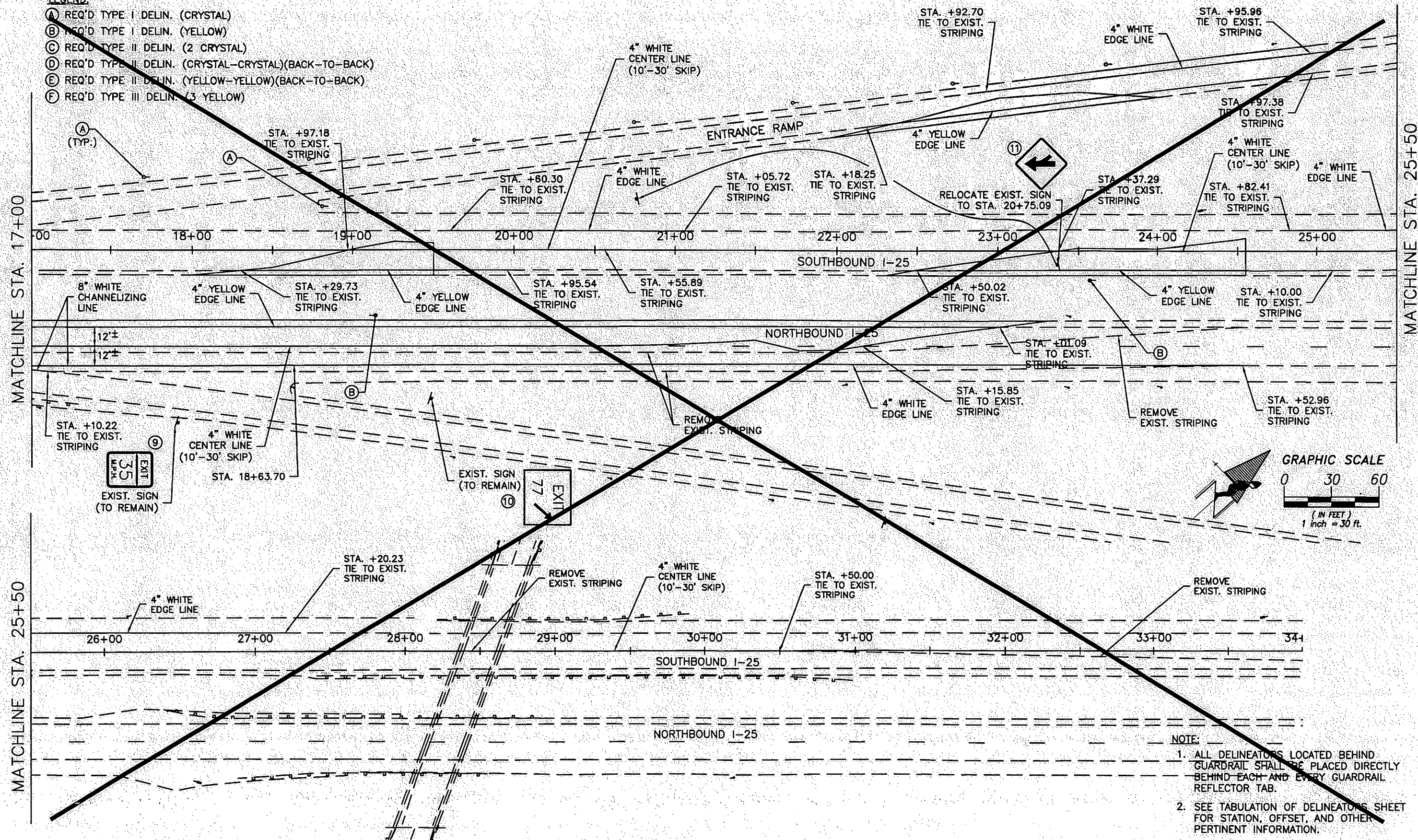
EXIST. SIGN (TO REMAIN)



Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		SIGNING AND STRIPING PLAN				Project No./Code	
Creation Date:		07/15/02 Initials: RJG		(R-2)	07/22/02		Value Eng. Proposal		MMS		 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230  1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions: 9/15/03		(I-25 ULTIMATE CONDITION)				BR 0251-151	
Last Modification Date:		07/16/02 Initials: RJG			(Created New Sheet)							Revised: 9/16/03		Designer: BHN		Structure		12394	
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Drawing File Name:		sasp_i25A.dwg																	
Acad Ver. R14		Scale: 1" = 30' Units: ENGLISH												Void:		Sheet Subset: TRAFFIC		Subset Sheets: T 9a of 21	

LEGEND:

- (A) REQ'D TYPE I DELIN. (CRYSTAL)
- (B) REQ'D TYPE I DELIN. (YELLOW)
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- (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
- (F) REQ'D TYPE III DELIN. (3 YELLOW)



NOTE:

1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed	SIGNING AND STRIPING PLAN (I-25 ULTIMATE CONDITION)			Project No./Code
Creation Date:	01/21/00	Initials: BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS			No. Revisions:	Designer: BHN		Structure	BR 0251-151
Last Modification Date:	09/15/00	Initials: DCS			(Deleted Sheet)				Revised:	Detailer: ALY		Numbers	
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Drawing File Name:	sasp_i25.dwg												Sheet Number 73
Acad Ver. R14	Scale: 1" = 30'	Units: ENGLISH					Region 2	BI					

- LEGEND:**
- (A) REQ'D TYPE I DELIN. (CRYSTAL)
 - (B) REQ'D TYPE I DELIN. (YELLOW)
 - (C) REQ'D TYPE II DELIN. (2 CRYSTAL)
 - (D) REQ'D TYPE II DELIN. (CRYSTAL-CRYSTAL)(BACK-TO-BACK)
 - (E) REQ'D TYPE II DELIN. (YELLOW-YELLOW)(BACK-TO-BACK)
 - (F) REQ'D TYPE III DELIN. (3 YELLOW)

ENTRANCE RAMP

SOUTHBOUND I-25

NORTHBOUND I-25

SOUTHBOUND I-25

NORTHBOUND I-25

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

NOTE:

1. ALL DELINEATORS LOCATED BEHIND GUARDRAIL SHALL BE PLACED DIRECTLY BEHIND EACH AND EVERY GUARDRAIL REFLECTOR TAB.
2. SEE TABULATION OF DELINEATORS SHEET FOR STATION, OFFSET, AND OTHER PERTINENT INFORMATION.

9/15/03

Computer File Information				Sheet Revisions			Colorado Department of Transportation			As Constructed		SIGNING AND STRIPING PLAN (1-25 ULTIMATE CONDITION)			Project No./Code	
Creation Date:	01/21/00	Initials:	BHN	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678	No Revisions:	9/15/03		Designer: BHN Detailer: ALY Sheet Subset: TRAFFIC Subset Sheets: T 10a of 21	BR 0251-151		
Last Modification Date:	07/16/02	Initials:	RJG		(Created New Sheet)		Revised:			9/15/03		12394				
Full Path:	Q:\X2310007\ACAD\Sheets\						Void:					Sheet Number 73X				
Drawing File Name:	sasp_i25A.dwg															
Acad Ver.	R14	Scale:	1" = 30'	Units:	ENGLISH											

TABULATION OF CONSTRUCTION TRAFFIC CONTROL DEVICES

SIGNS			PANEL SIZE			PHASE	OTHER DEVICES	UNIT	QUANTITY
SIGN CODE	LEGEND	DIMENSIONS	A	B	C		ITEM		
			EACH						
W1-4(R)	REVERSE CURVE SIGN	30"x30"	1	—	—				
W1-4(L)	REVERSE CURVE SIGN	30"x30"	2	—	—		TRAFFIC CONTROL MANAGEMENT	DAY	60
W3-2	YIELD\AHEAD	36"x36"	1	—	—		TRAFFIC CONTROL INSPECTION	DAY	240
W3-1A	STOP\AHEAD	36"x36"	1	—	—	1 & 2	BARRICADE (TYPE 3-MD) (TEMP.)	EA	2
W4-2(L)	LANE REDUCTION TRANSITION SIGN	36"x36"	4 2	—	—	1	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	31 16
W4-2(R)	LANE REDUCTION TRANSITION SIGN	36"x36"	2	—	—	2	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EA	15 31
W20-1	ROAD\CONSTRUCTION\1/2 MILE	48"x48"	—	4 2	—	1 & 2	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EA	8 24
W20-1	ROAD\CONSTRUCTION\1 MILE	48"x48"	—	4 2	—	1 & 2	ADVANCE WARNING FLASHING OR SEQUENCING		
W20-5(L)	LEFT\LANE\CLOSED\1500 FT	48"x48"	—	4 2	—	1	ARROW PANEL (C TYPE)	EA	2
W20-5(R)	RIGHT\LANE\CLOSED\1500 FT	48"x48"	—	2	—	2	DRUM CHANNELIZING DEVICE	EA	110 49
W21-4	ROAD\WORK\AHEAD	36"x36"	1	—	—	1 & 2	CONCRETE BARRIER (TYPE 4)(TEMP.)	LF	2984/20
R1-2	YIELD	36"x36"	1	—	—		TRAFFIC CONE	EA	300 75
R1-1	STOP	36"x36"	1	—	—	1 & 2	DELINEATOR (TYPE I)(TEMPORARY)	EA	21
R2-1	SPEED\LIMIT\50 45	24"x30"	4 2	—	—	1 & 2	DELINEATOR (TYPE II)(TEMPORARY)	EA	30
R2-1	SPEED\LIMIT\60	24"x30"	4 2	—	—	1 & 2	DELINEATOR (TYPE III)(TEMPORARY)	EA	1
R2-1	SPEED\LIMIT\75	24"x30"	2 1	—	—	1 & 2	IMPACT ATTENUATOR (SAND FILLED PLASTIC BARREL)(TEMPORARY)	EA	2 1
R2-5A	REDUCED\SPEED\AHEAD	24"x30"	4 2	—	—	1 & 2			
R4-1	DO\NOT\PASS	24"x30"	4 2	—	—	1 & 2			
R4-2	PASS\WITH\CARE	24"x30"	2	—	—	1 & 2			
R11-2	ROAD\CLOSED	48"x36"	—	1	—				
R52-4	BEGIN FINES DOUBLED ...	48"x60"	—	—	4 2	1 & 2			
R52-5	END FINES DOUBLED ...	48"x60"	—	—	2 1	1 & 2			
G20-10	THANK YOU ...	48"x48"	—	2 1	—	1 & 2			
M4-10(L)	DETOUR	48"x18"	1	—	—				
—	PUBLIC INFO. SERVICES SIGN	96"x48"	—	—	2	1 & 2			
TOTALS			31 16	15 31	8 24				

5

9/15/03

Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		Project No./Code	
Creation Date:	Initials:			 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230		 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678		BR 0251-151	
Last Modification Date:	Initials:			Region 2 Bl		No Revisions:		12394	
Full Path:						Revised:		Designer:	Structure Numbers
Drawing File Name:						Void:		Detailer:	
Acad Ver. R14	Scale:	Units: ENGLISH						Sheet Subset:	Subset Sheets:
								Sheet Number 74	

PHASE 1 NOTES

1. ADVANCE SIGNING AND END SIGNING SEQUENCE IS THE SAME FOR THE OPPOSITE DIRECTION.
2. FOR BASIC PLACEMENT OF THE TRAFFIC CONTROL DEVICES REFER TO STANDARD PLAN NO. S-630-1 CASE X OF THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARDS.
3. ~~CONSTRUCT TEMPORARY GUARDRAIL TYPE 4 CONCRETE BARRIER ALONG EXISTING NORTHBOUND CENTER LINE FROM STA. 6+50 TO STA. 21+58.~~
 - A. SEE PLANS FOR LOCATIONS OF TEMPORARY GUARDRAIL TYPE 4.
4. ~~CONSTRUCT TEMPORARY GUARDRAIL TYPE 4 CONCRETE BARRIER ALONG TRANSITION ZONE FROM STA. 4+45 TO STA. 6+50 AND STA. 21+58 TO STA. 26+39.~~
5. FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACONS (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.
6. PLACE CHANNELIZING DEVICES AT LOCATIONS AS SHOWN ON THE PLANS. SPACING FOR CHANNELIZING DEVICES, IN FEET, SHALL BE AS FOLLOWS:
 - A. FOR TAPERS AND TRANSITIONS, SPACING EQUALS THE NUMERICAL VALUE OF THE SPEED LIMIT (e.g. 45 MPH = 45 FEET)
 - B. FOR TANGENTS ALONG THE BUFFER SPACE OR WORK AREA, SPACING MAY EQUAL TWO TIMES THE SPEED LIMIT (e.g. 50 MPH = 50 FEET TO 100 FEET MAXIMUM).
7. L IS THE TRANSITION TAPER LENGTH WHERE:
 $L = \text{MINIMUM LENGTH OF TAPER}$
 $\text{SPEED} > 45 \text{ MPH, } L = S \times W$
 $\text{SPEED} < 45 \text{ MPH, } L = W S^2 / 60$
 $S = \text{NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED}$
 $W = \text{WIDTH OF OFFSET}$
8. WORK ON THE PROJECT SHALL NOT START UNTIL ALL REQUIRED TRAFFIC CONTROL DEVICES ARE IN PLACE, AND APPROVED BY THE ENGINEER.
9. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF THE ROADWAY ON DIVIDED HIGHWAYS, MULTI-LANE RAMPs, ONE-WAY STREETS, AND AS DIRECTED BY THE ENGINEER.
10. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF THE SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.

11. ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.
12. SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.

R-2

PHASE 2 NOTES

1. ADVANCE SIGNING AND END SIGNING SEQUENCE IS THE SAME FOR THE OPPOSITE DIRECTION.
2. FOR BASIC PLACEMENT OF THE TRAFFIC CONTROL DEVICES REFER TO STANDARD PLAN NO. S-630-1 CASE I OF THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARDS.
3. FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACONS (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.
4. PLACE CHANNELIZING DEVICES AT LOCATIONS AS SHOWN ON THE PLANS. SPACING FOR CHANNELIZING DEVICES, IN FEET, SHALL BE AS FOLLOWS:
 - A. FOR TAPERS AND TRANSITIONS, SPACING EQUALS THE NUMERICAL VALUE OF THE SPEED LIMIT (e.g. 45 MPH = 45 FEET)
 - B. FOR TANGENTS ALONG THE BUFFER SPACE OR WORK AREA, SPACING MAY EQUAL TWO TIMES THE SPEED LIMIT (e.g. 50 MPH = 50 FEET TO 100 FEET MAXIMUM).
5. L IS THE TRANSITION TAPER LENGTH WHERE:
 $L = \text{MINIMUM LENGTH OF TAPER}$
 $\text{SPEED} > 45 \text{ MPH, } L = S \times W$
 $\text{SPEED} < 45 \text{ MPH, } L = W S^2 / 60$
 $S = \text{NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED}$
 $W = \text{WIDTH OF OFFSET}$
6. WORK ON THE PROJECT SHALL NOT START UNTIL ALL REQUIRED TRAFFIC CONTROL DEVICES ARE IN PLACE, AND APPROVED BY THE ENGINEER.
7. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF THE ROADWAY ON DIVIDED HIGHWAYS, MULTI-LANE RAMPs, ONE-WAY STREETS, AND AS DIRECTED BY THE ENGINEER.
8. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF THE SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
9. ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.
10. SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.
11. SEE PLANS FOR LOCATIONS OF TEMPORARY GUARDRAIL TYPE 4.

R-2

PHASE 3 NOTES

1. ADVANCE SIGNING AND END SIGNING SEQUENCE IS THE SAME FOR THE OPPOSITE DIRECTION.
2. FOR BASIC PLACEMENT OF THE TRAFFIC CONTROL DEVICES REFER TO STANDARD PLAN NO. S-630-1 CASE X OF THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARDS.
3. FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACONS (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.
4. FINAL SIGNING AND PAVEMENT MARKING SHALL BE AS DRAWN ON THE FINAL SIGNING AND PAVEMENT MARKING PLANS.
5. PLACE CHANNELIZING DEVICES AT LOCATIONS AS SHOWN ON THE PLANS. SPACING FOR CHANNELIZING DEVICES, IN FEET, SHALL BE AS FOLLOWS:
 - A. FOR TAPERS AND TRANSITIONS, SPACING EQUALS THE NUMERICAL VALUE OF THE SPEED LIMIT (e.g. 45 MPH = 45 FEET)
 - B. FOR TANGENTS ALONG THE BUFFER SPACE OR WORK AREA, SPACING MAY EQUAL TWO TIMES THE SPEED LIMIT (e.g. 50 MPH = 50 FEET TO 100 FEET MAXIMUM).
6. L IS THE TRANSITION TAPER LENGTH WHERE:
 $L = \text{MINIMUM LENGTH OF TAPER}$
 $\text{SPEED} > 45 \text{ MPH, } L = S \times W$
 $\text{SPEED} < 45 \text{ MPH, } L = W S^2 / 60$
 $S = \text{NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED}$
 $W = \text{WIDTH OF OFFSET}$
7. WORK ON THE PROJECT SHALL NOT START UNTIL ALL REQUIRED TRAFFIC CONTROL DEVICES ARE IN PLACE, AND APPROVED BY THE ENGINEER.
8. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF THE ROADWAY ON DIVIDED HIGHWAYS, MULTI-LANE RAMPs, ONE-WAY STREETS, AND AS DIRECTED BY THE ENGINEER.
9. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF THE SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
10. ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.
11. SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.



Computer File Information			Sheet Revisions		Colorado Department of Transportation		As Constructed	CONST. PHASING PLAN NOTES		09/15/03 / Code
Creation Date:	01/21/00	Initials: BHN	R-2	07/22/02	Value Eng. Proposal	MMS	No Revisions: 9/15/03			BR 0251-151
Last Modification Date:	09/15/00	Initials: DCS					Revised:	Designer: BHN	Structure Numbers	12394
Full Path:	G:\-tpto\67754005\dwg\						Void:	Detailer: ALY	Subset Sheets: T 12 of 21	Sheet Number 75
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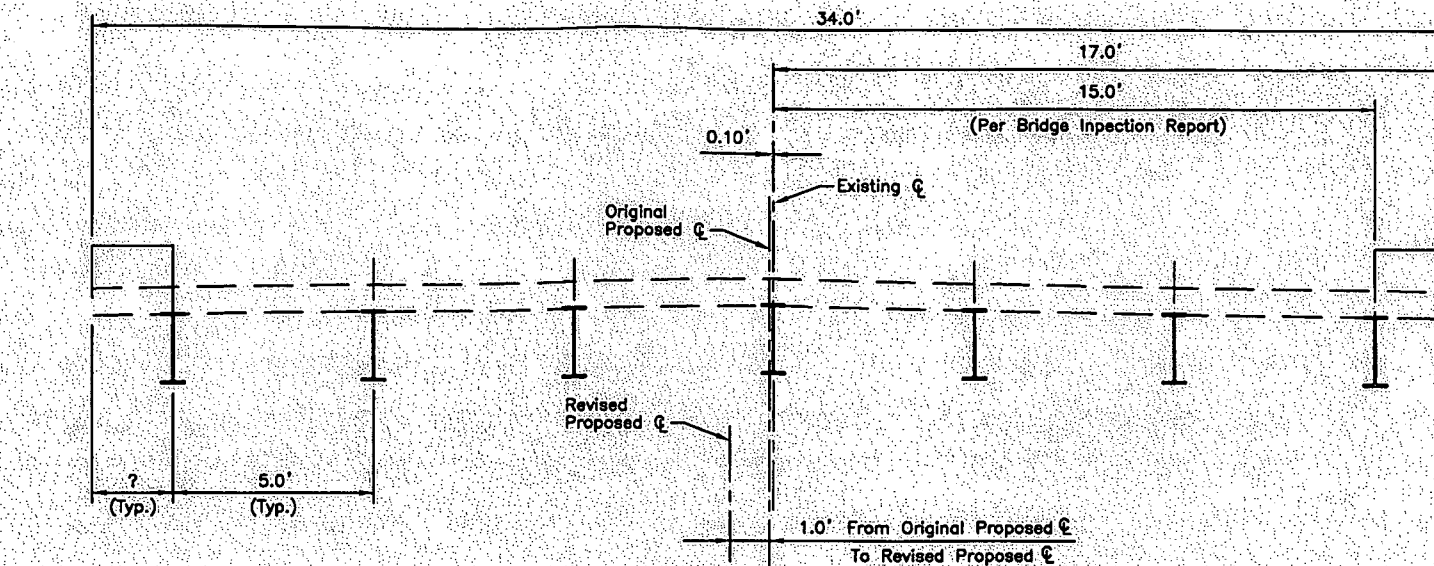
905 Erie Avenue
P.O. Box 535
Pueblo, CO 81002
Phone: 719-546-5734
Fax: 719-546-1230



1515 Arapahoe St.
Tower 1, Suite 500
Denver, CO 80202
Phone: 303-448-8552
Fax: 303-448-8878

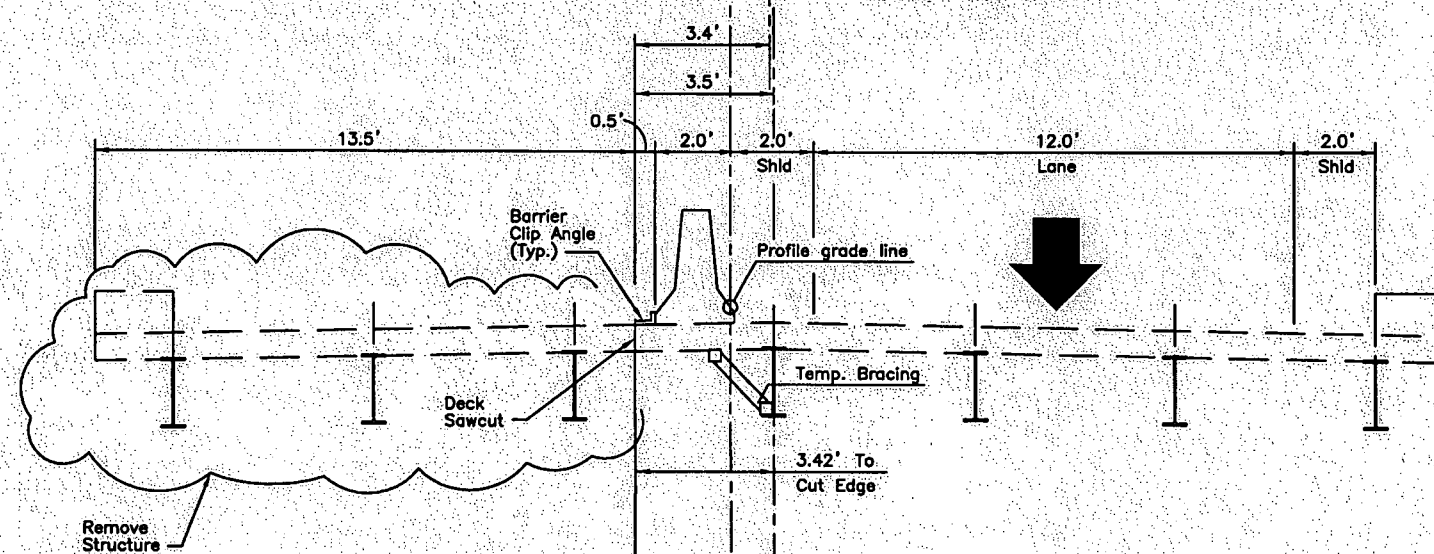
Region 2 BI

TYPICAL SECTION EXISTING CONDITION



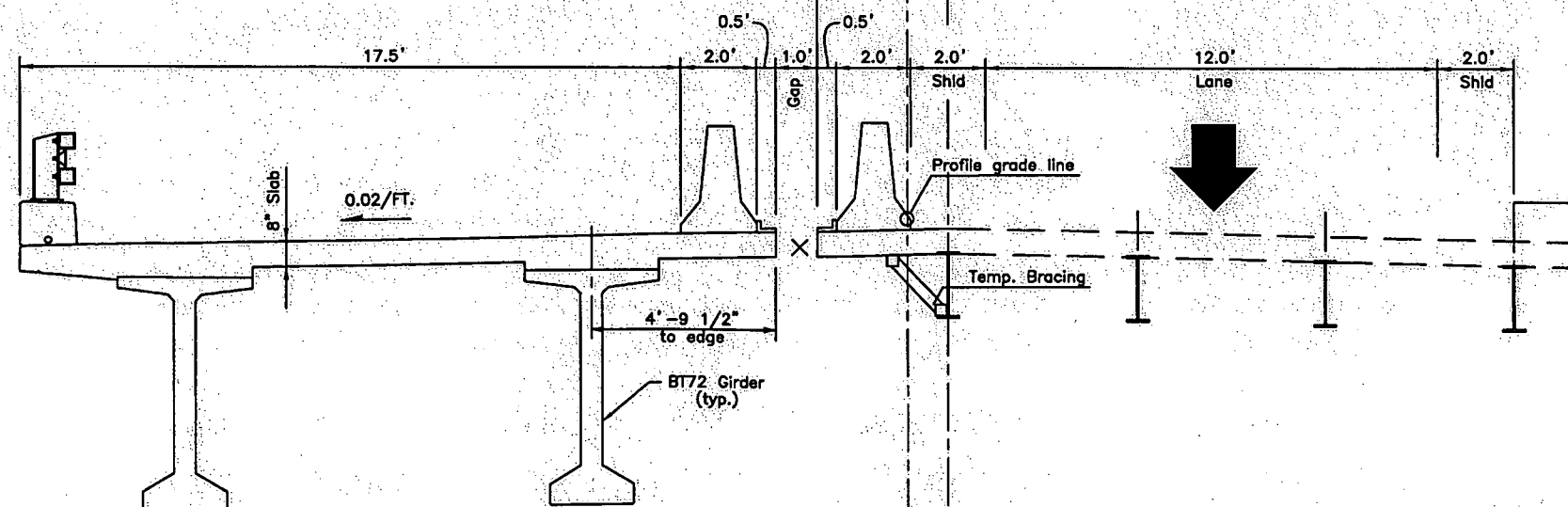
PHASE 1A

Shift Traffic to East Half of Existing Bridge
Remove West Half of Existing Bridge



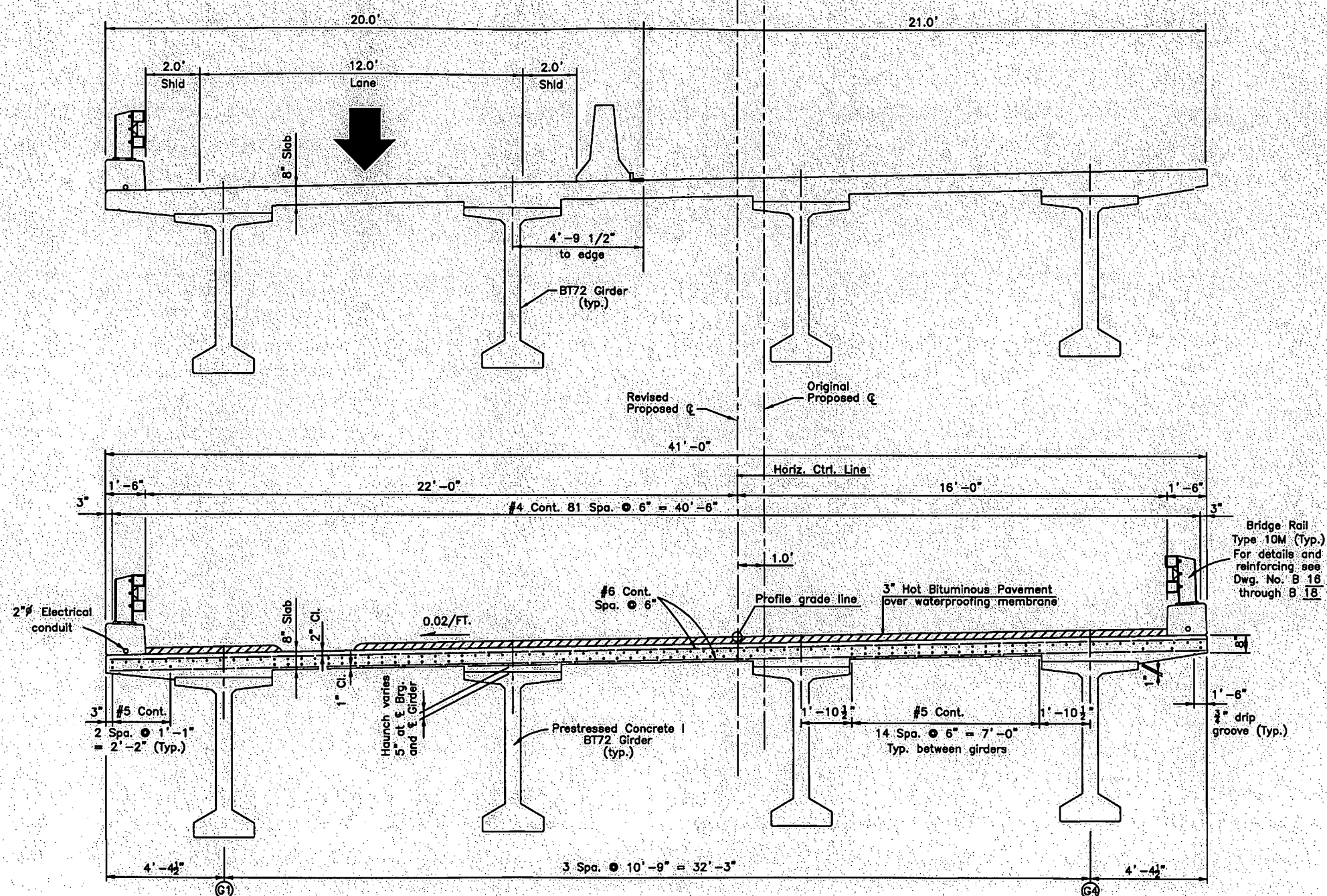
PHASE 1B

Construct West Half of Proposed Bridge



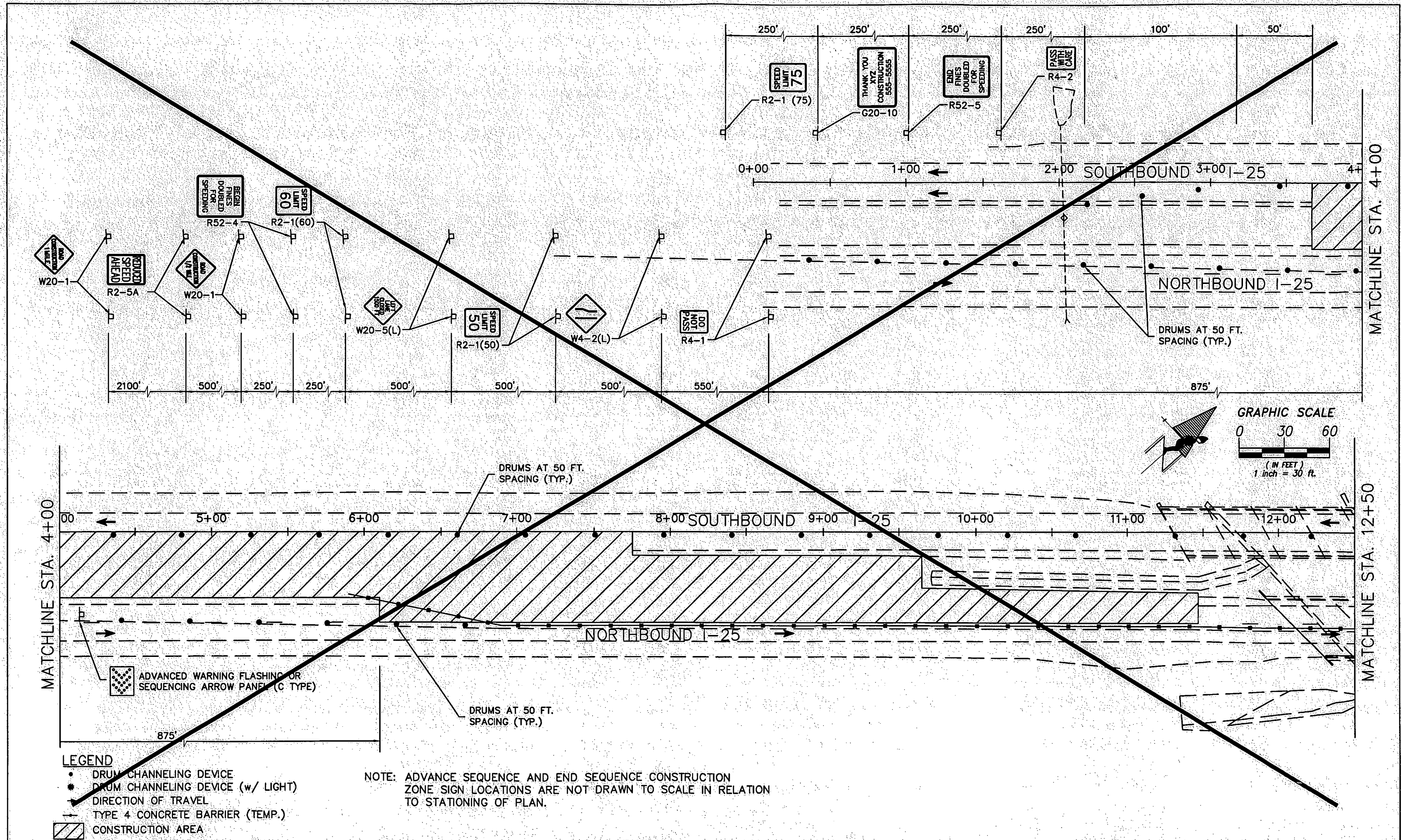
Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed		BRIDGE TYPICAL SECTIONS (PHASING)			Project No./Code			
Creation Date: 05/16/02		Initials: RJG	(R-2)	07/22/02	Value Eng. Proposal	MMS	 805 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 Region 2 BI	 WILSON & COMPANY Engineers & Architects 455 E. Pike Peak Avenue, Suite 200 Colorado Springs, CO 80903-3675 Phone: 719-520-6800 FAX: 719-520-0108	No Revisions: 9/15/03		Designer: D. WEIR		Structure Numbers	BR 0251-151			
Last Modification Date: 07/12/02		Initials: RJG			(Created New Sheet)				Revised:					Detailer: RJG		12394	
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Drawing File Name: Tsec2sht1.dwg																	
Acad. Ver. R14		Scale:															
Units: ENGLISH																	

Shift Traffic to West Half of Proposed Bridge
Remove East Half of Existing Bridge
& Construct East Half of Proposed Bridge.

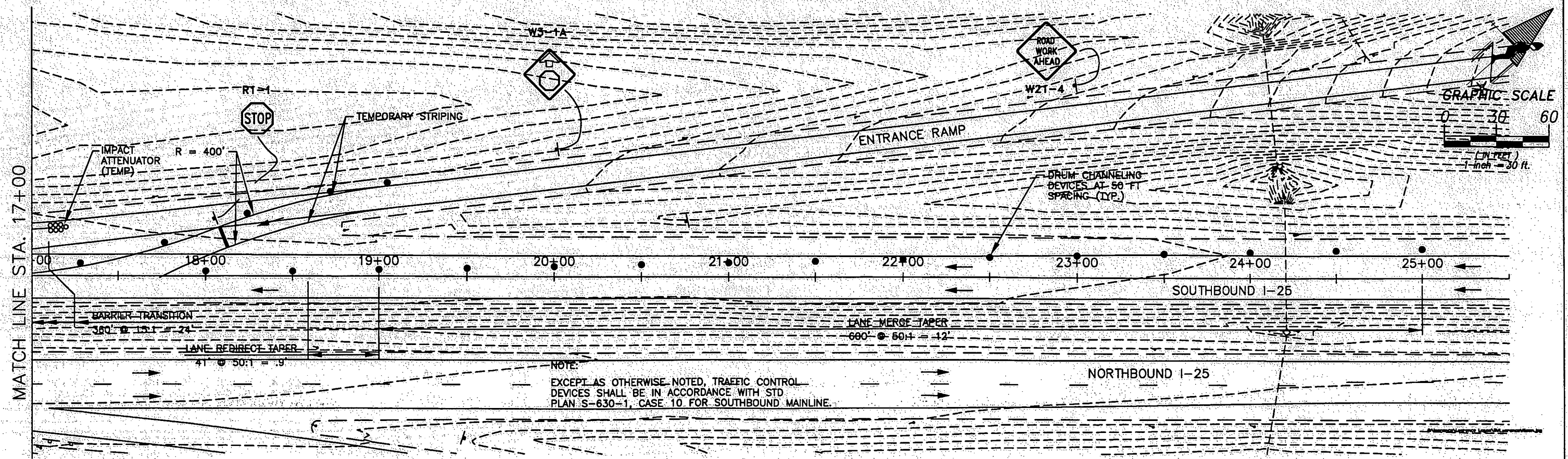
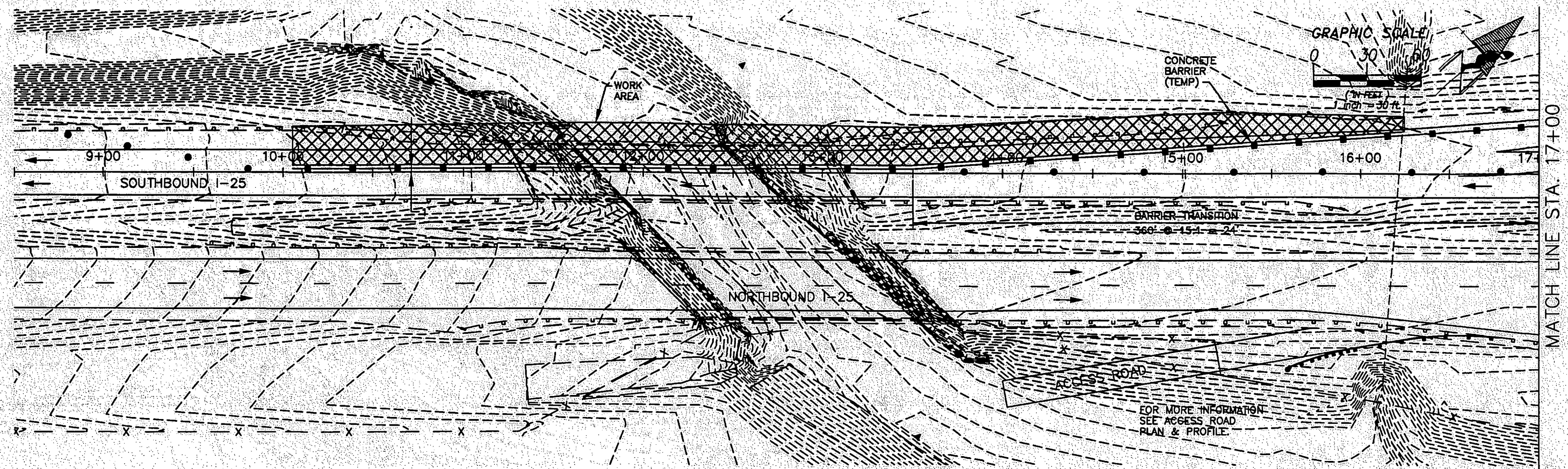


Champion League Live! Live! Live!

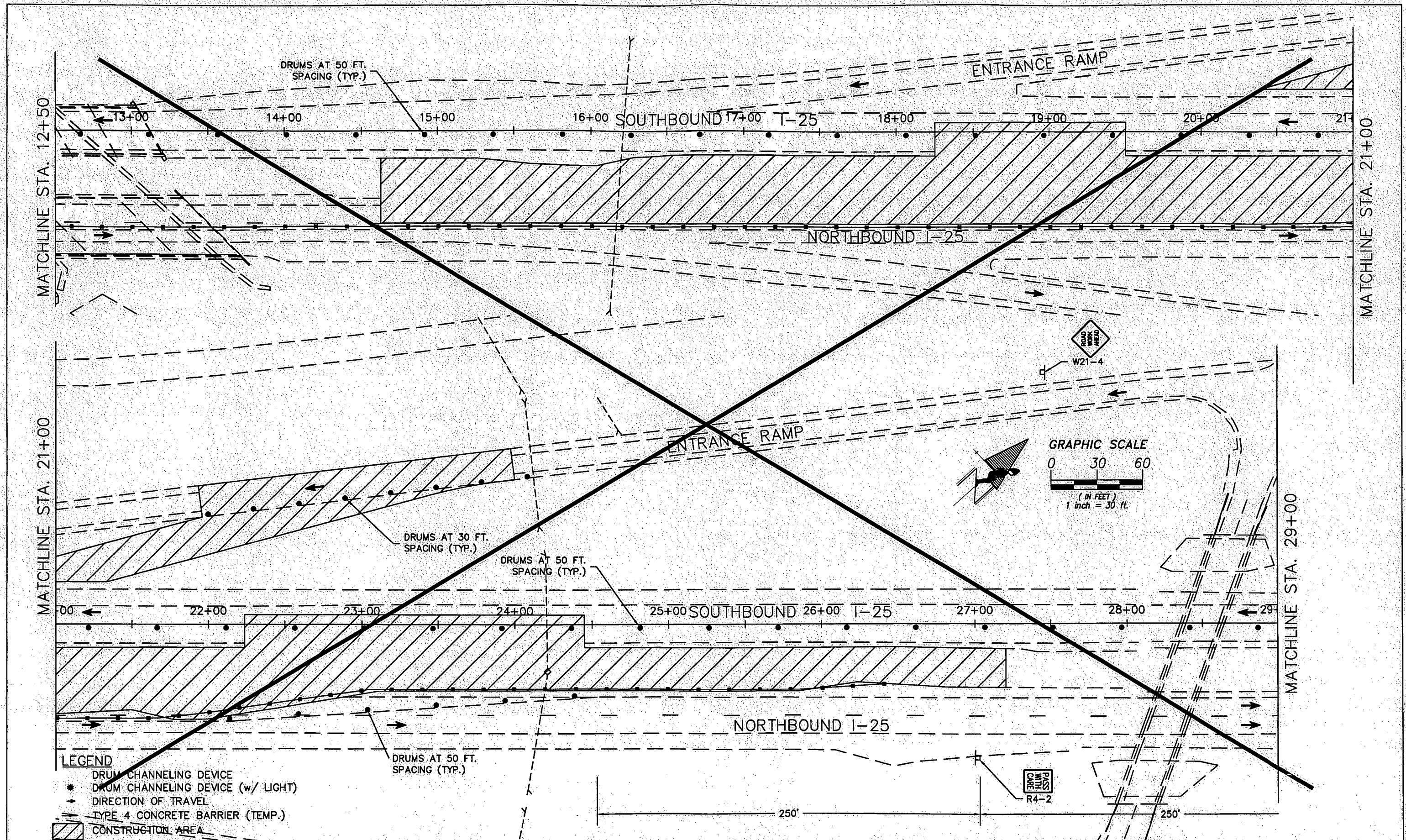
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Creation Date: 05/16/02	Initials: RJG	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230 WILSON & COMPANY Engineers & Architects 405 E. Pike Peak Avenue, Suite 200 Colorado Springs, CO 80903-3675 Phone: 719-520-6900 Fax: 719-520-0108	No Revisions: 9/15/03		Designer: D. WEIR Detailer: RJG		BR 0251-151	
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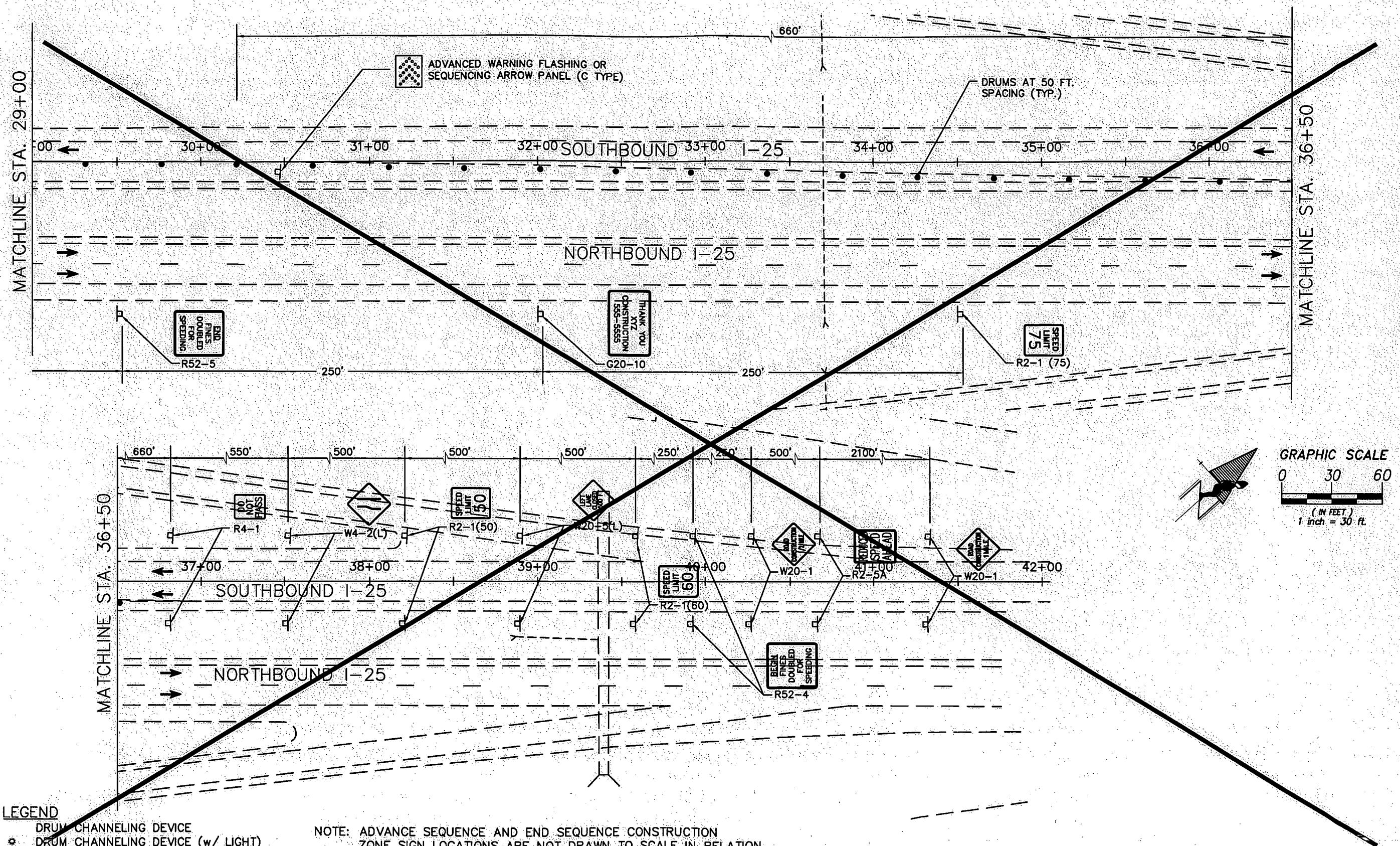
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Creation Date:	01/21/00 Initials: BHN	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-448-8552 Fax: 303-448-8878	PHASE 1		BR 0251-151
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Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		CONSTRUCTION PHASING & TRAFFIC CONTROL (PHASE 1)				Project No./Code	
Creation Date:		07/03/02 Initials: RJG		(R=2)	07/22/02 Value Eng. Proposal		MMS		 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 FAX: 303-446-8678	No Revisions: 9/15/03		Designer: MMS				BR 0251-151		
Last Modification Date:		07/21/02 Initials: RJG			(Created New Sheet)						Revised:		Detailer: RJG				12394		
Full Path:		Q:\X2310007\ACAD\Sheets\									Void:		Structure Numbers				Sheet Number		
Drawing File Name:		Phase1.dwg											Sheet Subset: ROADWAY				Subset Sheets: T 13a of 21		
Acad Ver. R14		Scale: 1" = 30' Units: ENGLISH									Region 2 BI						76 X		



Computer File Information			Sheet Revisions		Colorado Department of Transportation		As Constructed	CONST. PHASING PLAN		Project No./Code
Creation Date:	01/21/00	Initials: BHN	(R=2)	07/22/02	Value Eng. Proposal	MMS	No Revisions:	PHASE 1		BR 0251-151
Last Modification Date:	12/16/01	Initials: BHN			(Deleted Sheet)		Revised:	Designer: BHN	Structure Numbers	12394
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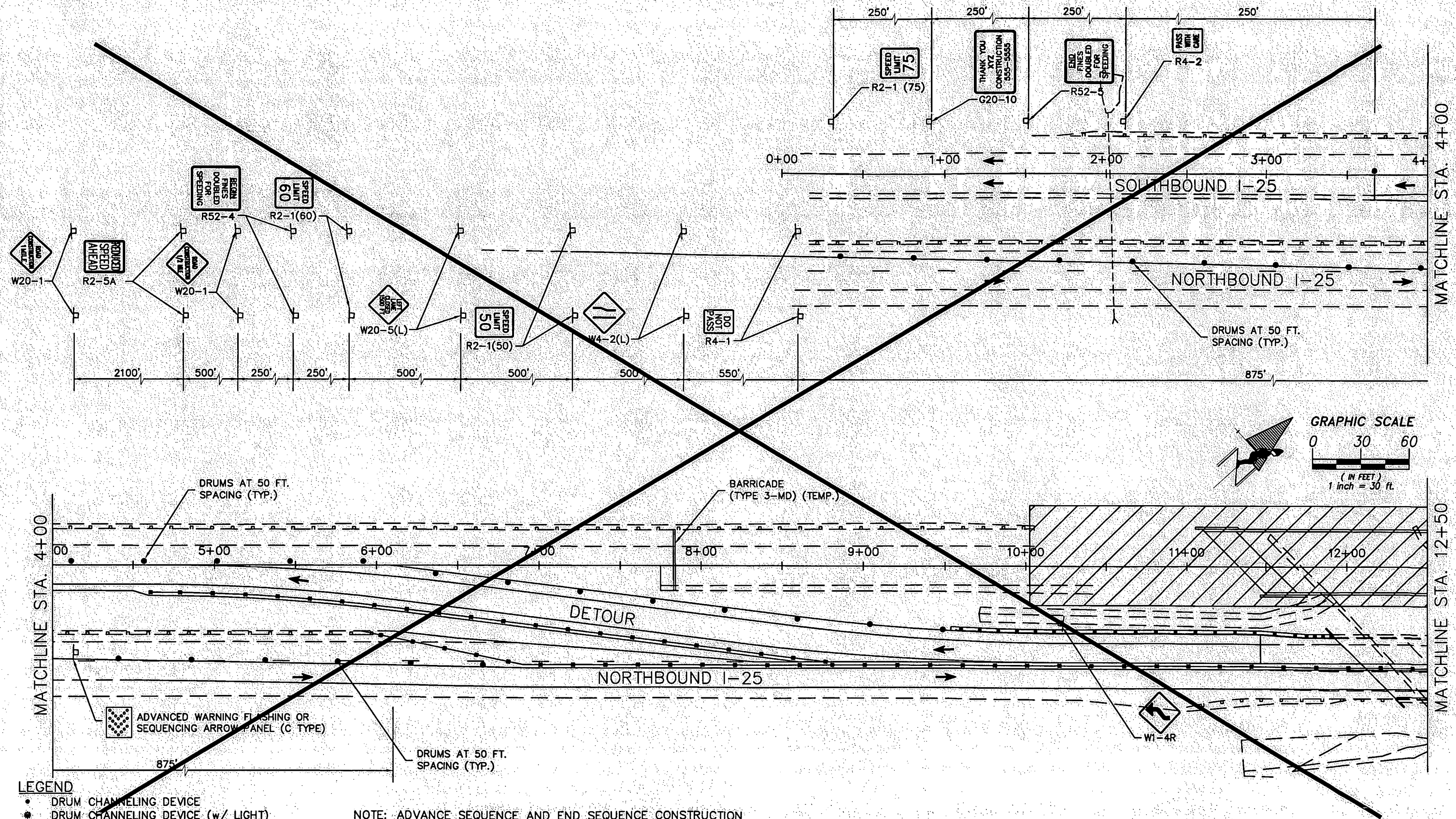


LEGEND

- DRUM CHANNELING DEVICE
- DRUM CHANNELING DEVICE (w/ LIGHT)
- DIRECTION OF TRAVEL
- TYPE 4 CONCRETE BARRIER (TEMP.)
- CONSTRUCTION AREA

NOTE: ADVANCE SEQUENCE AND END SEQUENCE CONSTRUCTION ZONE SIGN LOCATIONS ARE NOT DRAWN TO SCALE IN RELATION TO STATIONING OF PLAN.

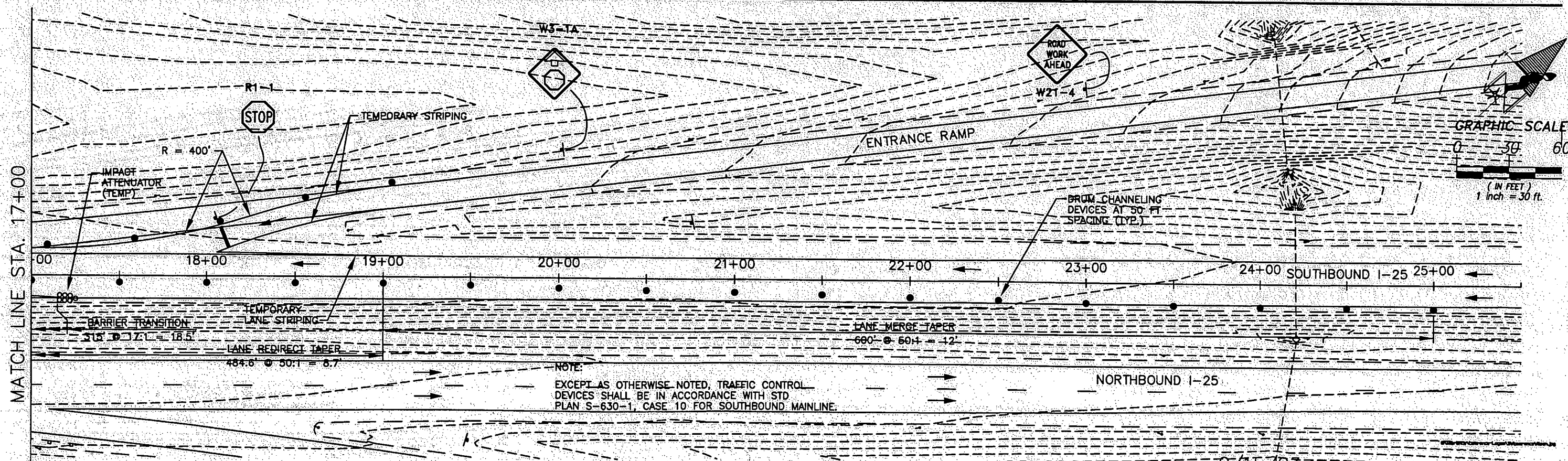
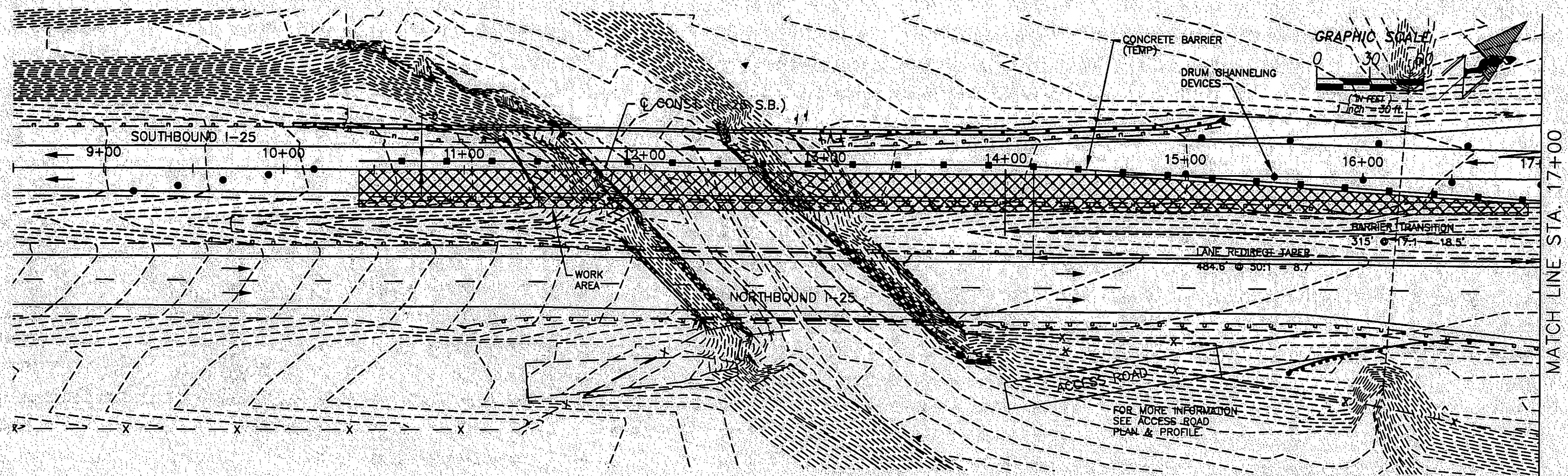
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Creation Date:	01/21/00	Initials: BHN	07/22/02	Value Eng. Proposal	MMS	905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	No Revisions:	PHASE 1		BR 0251-151
Last Modification Date:	12/16/01	Initials: BHN		(Deleted Sheet)		1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	Revised:	Designer: BHN	Structure Numbers	12394
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- LEGEND**
- DRUM CHANNELING DEVICE
 - DRUM CHANNELING DEVICE (w/ LIGHT)
 - DIRECTION OF TRAVEL
 - TYPE 4 CONCRETE BARRIER (TEMP.)
 - ▨ CONSTRUCTION AREA

NOTE: ADVANCE SEQUENCE AND END SEQUENCE CONSTRUCTION ZONE SIGN LOCATIONS ARE NOT DRAWN TO SCALE IN RELATION TO STATIONING OF PLAN.

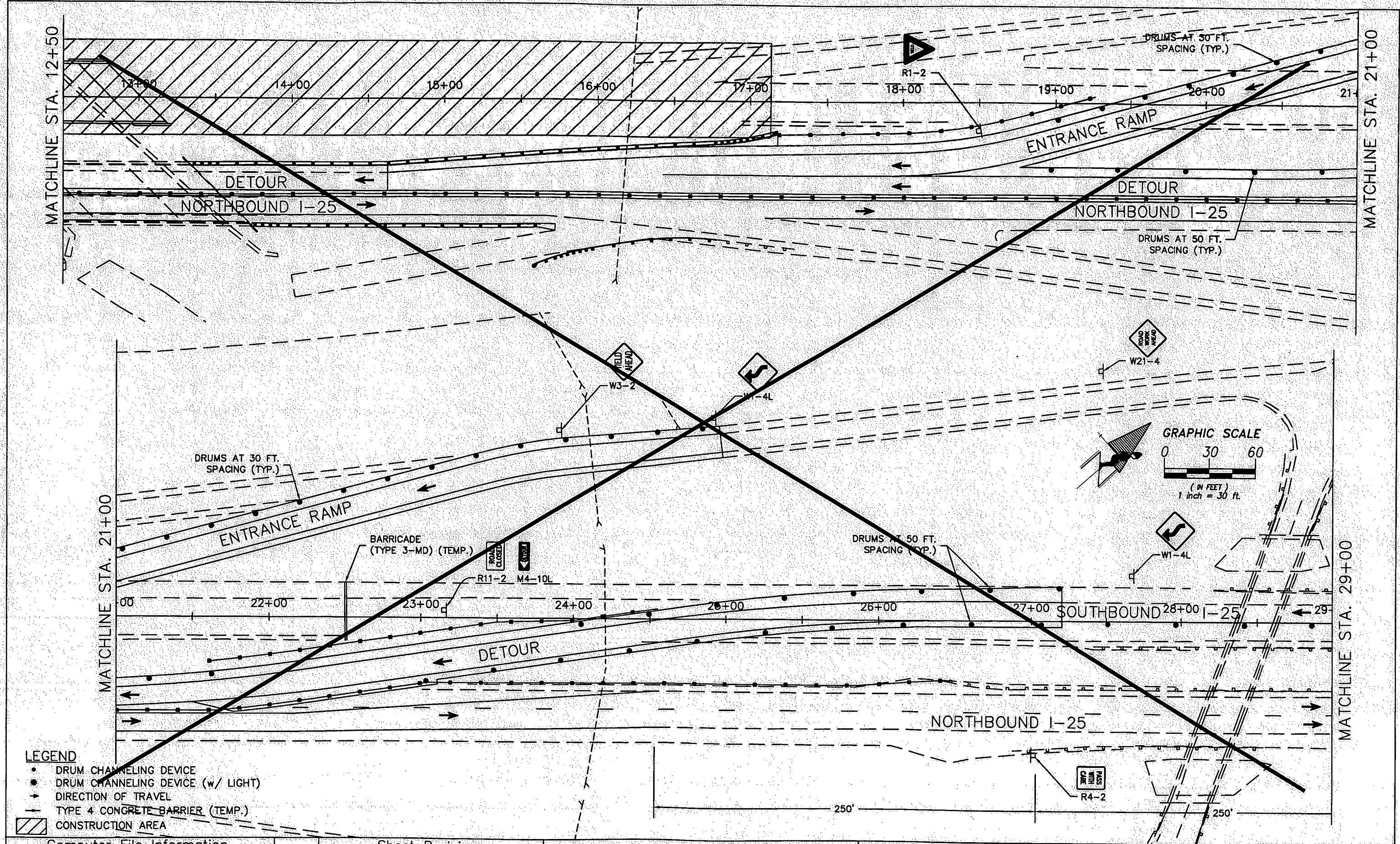
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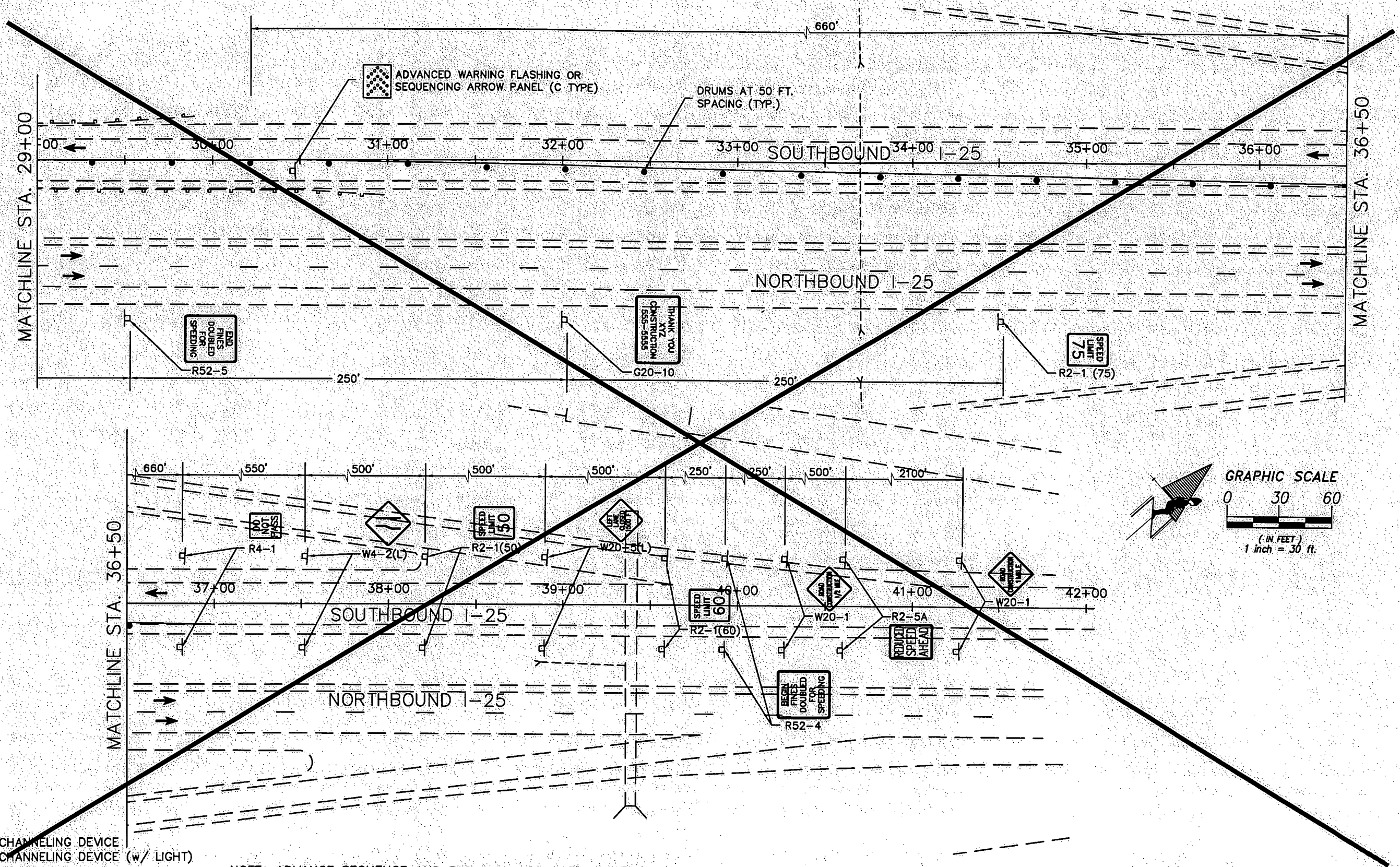


NOTE:
EXCEPT AS OTHERWISE NOTED, TRAFFIC CONTROL
DEVICES SHALL BE IN ACCORDANCE WITH STD
PLAN S-630-1, CASE 10 FOR SOUTHBOUND MAINLINE.

9/15/03

Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed		CONSTRUCTION PHASING & TRAFFIC CONTROL (PHASE 2)		Project No./Code	
Creation Date:	07/03/02	Initials: RJG	(R-2)	07/22/02	Value Eng. Proposal	MMS	 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions: 9/15/03		Designer: MMS Detailer: RJG Sheet Subset: ROADWAY Subset Sheets: 16a of 21	BR 0251-151		
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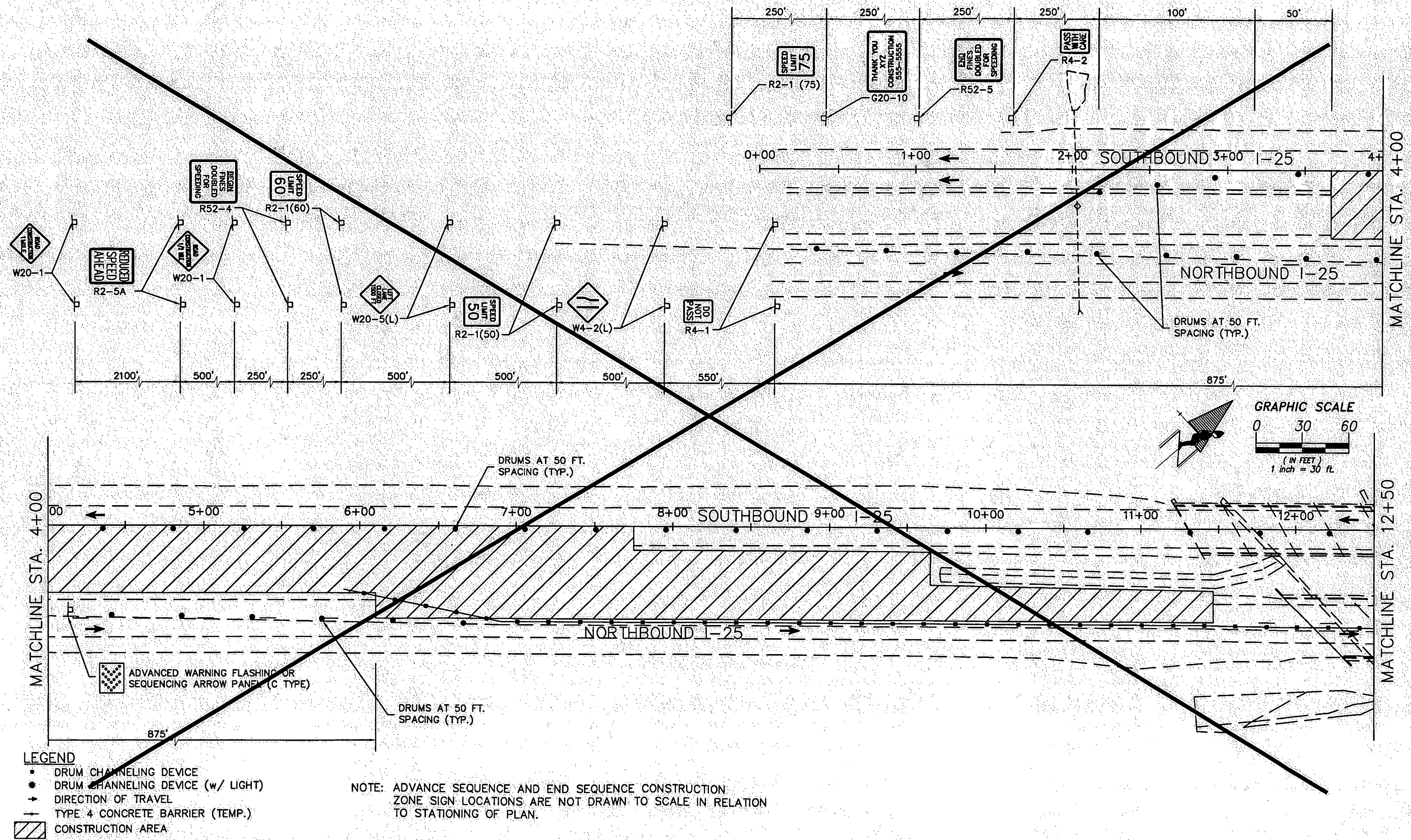


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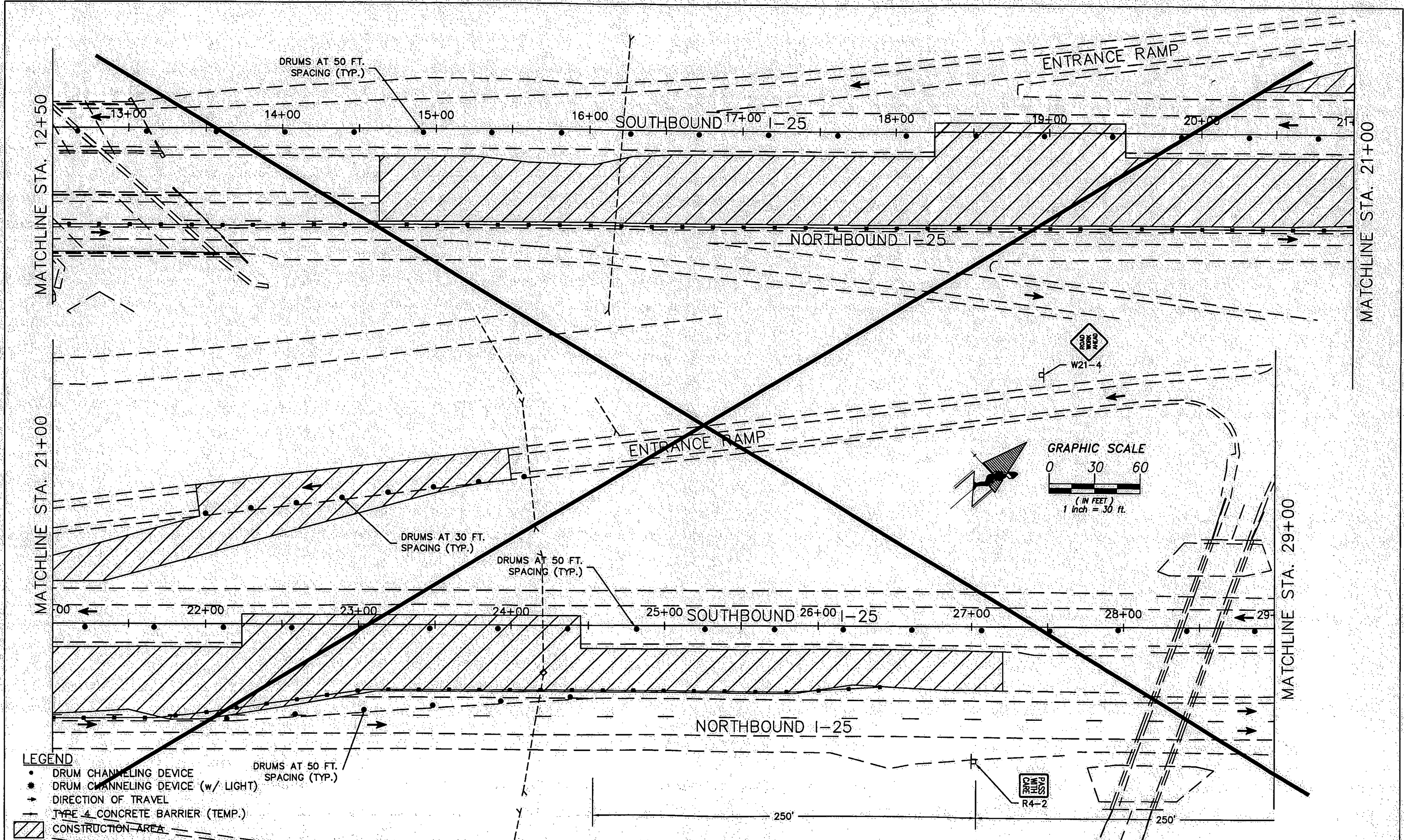
- DRUM CHANNELING DEVICE
- * DRUM CHANNELING DEVICE (w/ LIGHT)
- DIRECTION OF TRAVEL
- TYPE 4 CONCRETE BARRIER (TEMP.)
- ▨ CONSTRUCTION AREA

NOTE: ADVANCE SEQUENCE AND END SEQUENCE CONSTRUCTION ZONE SIGN LOCATIONS ARE NOT DRAWN TO SCALE IN RELATION TO STATIONING OF PLAN.

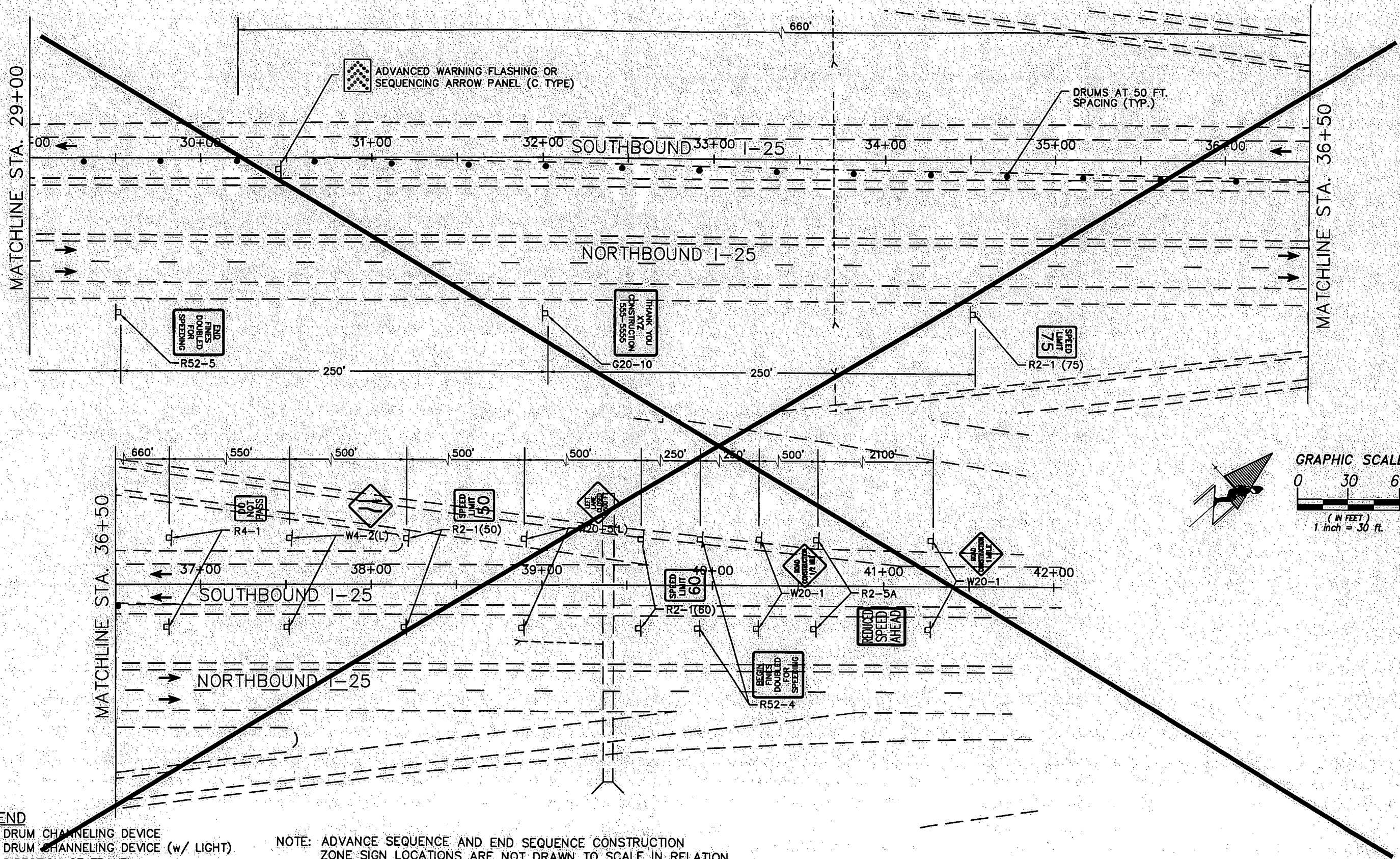
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Last Modification Date:	12/16/01	Initials: BHN			(Deleted Sheet)		Revised:		Designer:	BHN	Structure Numbers
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Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		CONST. PHASING PLAN				Project No./Code		
Creation Date:		01/21/00 Initials: BHN		(R-2)	07-22-02		Value Eng. Proposal		MMS		 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-546-5734 Fax: 719-546-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-446-8552 Fax: 303-446-8678	No Revisions:		PHASE 3				BR 0251-151	
Last Modification Date:		12/16/01 Initials: BHN					(Deleted Sheet)						Revised:		Designer: BHN		Structure Numbers		12394	
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Acad Ver. R14		Scale: 1" = 30'		Units: ENGLISH						Region 2		BI								



Computer File Information		Sheet Revisions		Colorado Department of Transportation		As Constructed		CONST. PHASING PLAN		Project No./Code	
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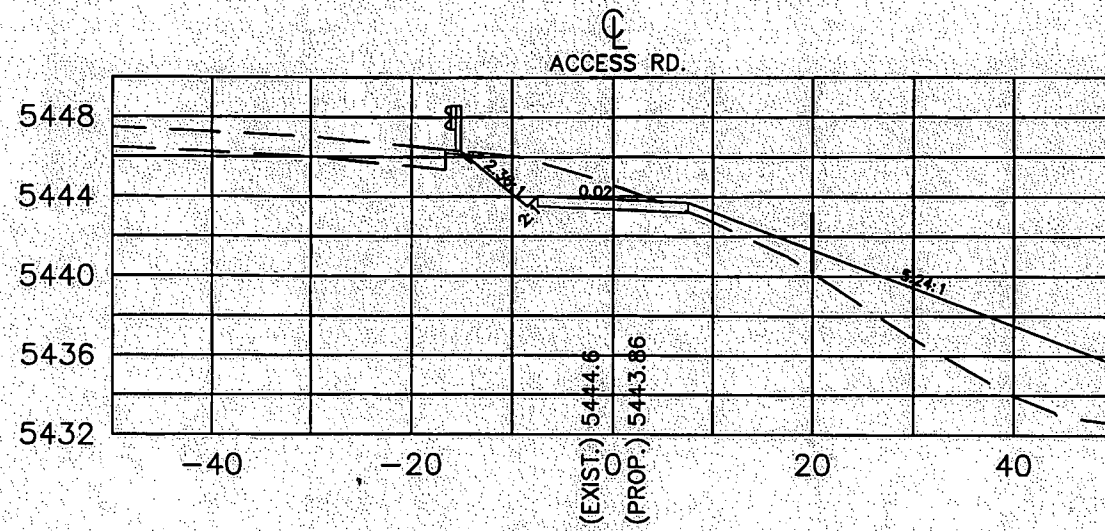


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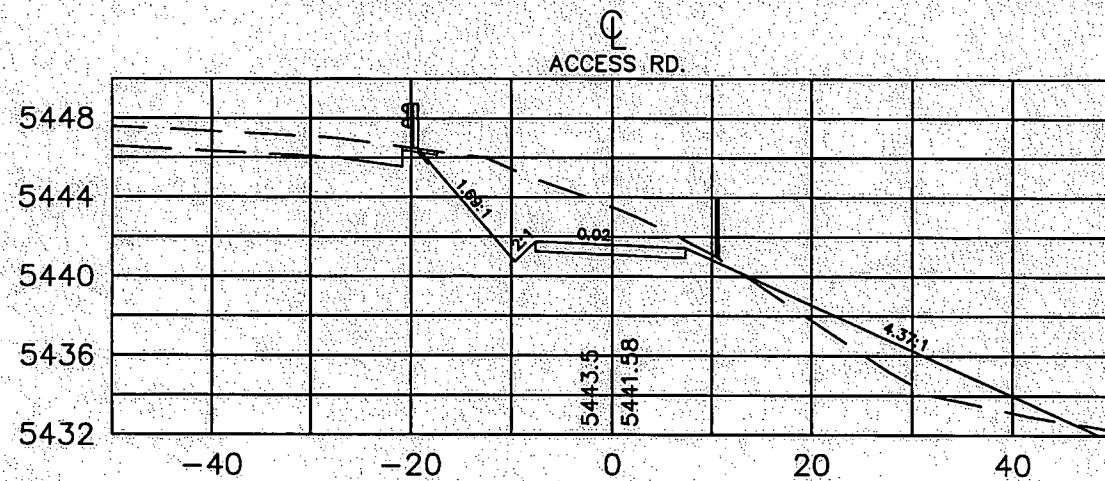
- DRUM CHANNELING DEVICE
- * DRUM CHANNELING DEVICE (w/ LIGHT)
- DIRECTION OF TRAVEL
- TYPE 4 CONCRETE BARRIER (TEMP.)
- ▨ CONSTRUCTION AREA

NOTE: ADVANCE SEQUENCE AND END SEQUENCE CONSTRUCTION ZONE SIGN LOCATIONS ARE NOT DRAWN TO SCALE IN RELATION TO STATIONING OF PLAN.

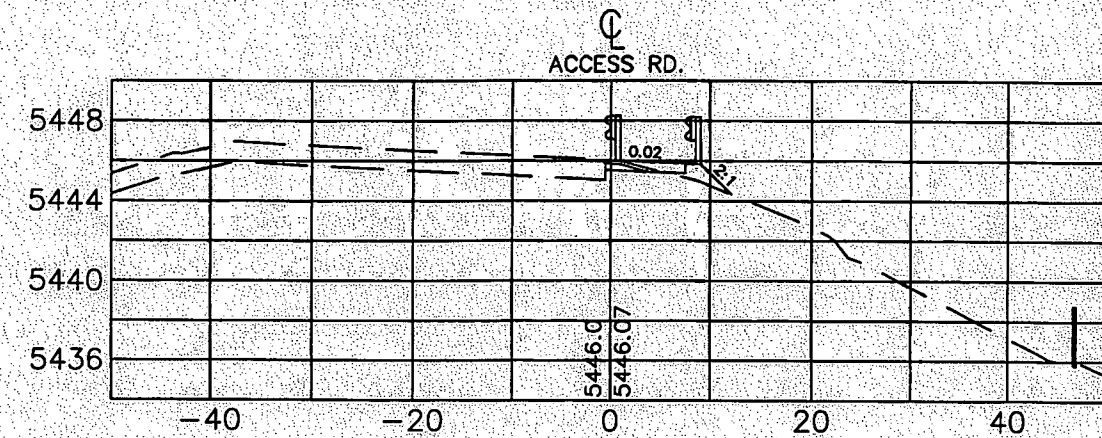
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Last Modification Date:	12/16/01	Initials: BHN					Revised:	Designer: BHN	Structure Numbers	12394
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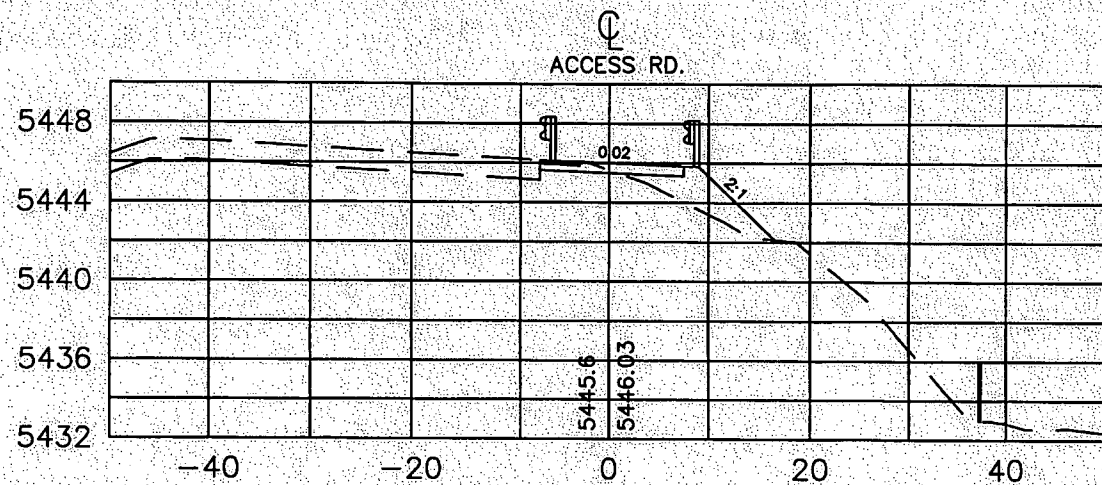
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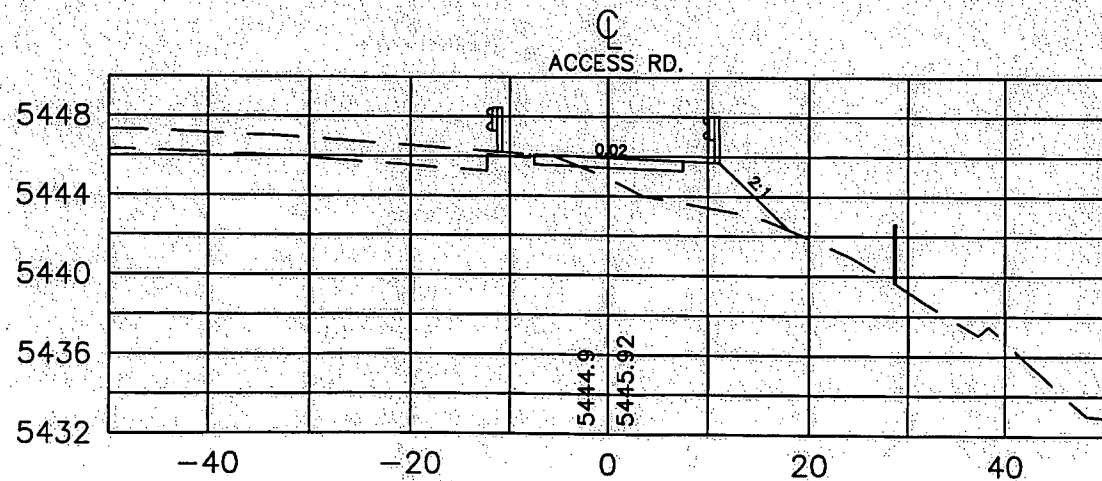
315+25



316+25



316+00



315+75

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Creation Date:	06/26/00	Initials: ALY	☐			 905 Erie Avenue P.O. Box 535 Pueblo, CO 81002 Phone: 719-548-5734 Fax: 719-548-1230	 1515 Arapahoe St. Tower 1, Suite 500 Denver, CO 80202 Phone: 303-448-8552 FAX: 303-448-8678	No Revisions: 9/15/03		Designer: BHN	Structure Numbers	BR 0251-151			
Last Modification Date:	09/14/00	Initials: DCS	☐					Revised:				12394			
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Drawing File Name:	prof-access-rd.dwg		☐												
Acad Ver. R14	Scale: 1"=10' V: 1"= 5'	Units: ENGLISH	☐			Region 2 BI									

COLORADO DEPARTMENT OF TRANSPORTATION



Region 2
905 Erie Ave.
Pueblo, CO 81001
Phone: (719) 546-5454 FAX: (719) 546-5414

RIGHT OF WAY PLANS UNIT: 2153

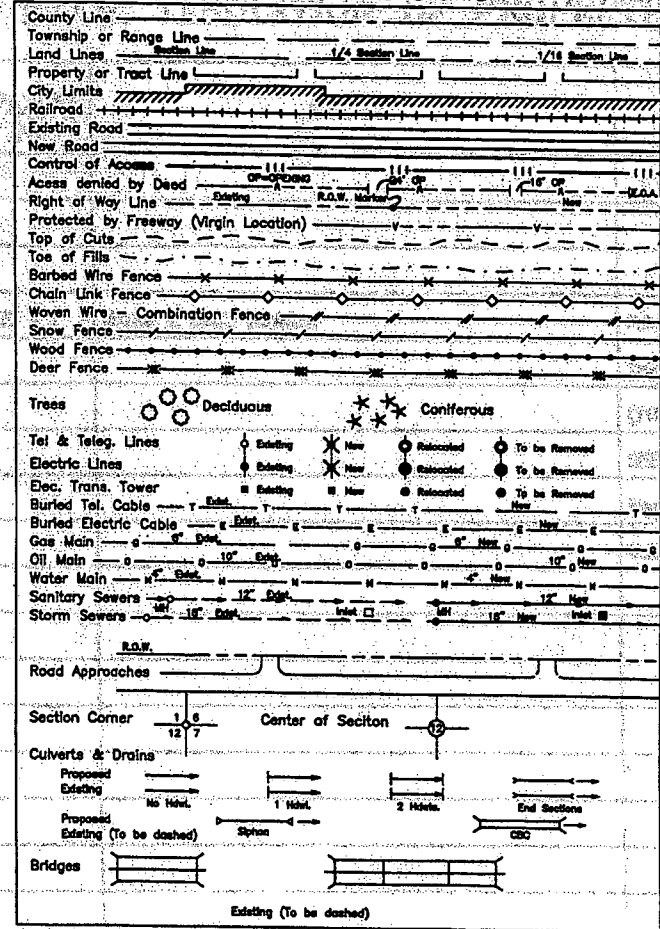
Sheet Revisions		
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Sheet Revisions		
mm/yy	XXXXX	XXX

Sheet Revisions		
mm/yy	XXXXX	XXX

RIGHT OF WAY PLANS				
TITLE SHEET				
PROJECT NUMBER:				
BR 0251-151				
2.5 MI. N OF SH 165 (SCROGGS ARROYA)				
Project Code	Last Mod. Date	Subst. Sheets	Sheet No.	Total No. of Sheets
12394	00-00-00	XXX of XXX	1	4

CONVENTIONAL SIGNS



DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

RIGHT OF WAY PLAN OF PROPOSED FEDERAL AID PROJECT NO. BR 0251-151 STATE HIGHWAY NO. Interstate 25 PUEBLO COUNTY RIGHT OF WAY

INDEX OF SHEETS

- 1 Title Sheet
- 2 - Tabulation of Properties
- 3 - Survey Control Diagram
- 4 - Monumentation Sheets
- 5 - Plan Sheets

SCALES OF ORIGINAL DRAWINGS

PLAN SHEETS
OWNERSHIP MAP

R.O.W. LENGTH OF PROJECT



END PROJECT BR 0251-151
STA. 6+00

BEGIN PROJECT BR 0251-151
STA. 20+00

BASIS OF BEARINGS

All bearings are based on a line from
CDOT Control Monuments 7679 and 7697,
assumed to bear N 30° 00' 39" E a
distance of 961.17 feet, monumented
as shown.

CDOT Control Monument
7679

CDOT Control Monument
7679

N 30°00'39" E

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

AUTHORIZED:

DATE

DIVISION ADMINISTRATOR

FILED CERTIFICATION
DEPOSITED THIS DAY OF AT FOR INFORMATION
ONLY IN BOOK COUNTY LAND SURVEYS/RIGHT OF WAY
SURVEYS AT PAGE RECEPTION NUMBER

SIGNED
DEPT.

FILED CERTIFICATION 19... AT... M. FOR INFORMATION
DEPOSITED THIS... DAY OF THE COUNTY AND SURVEYS / RIGHT OF WAY
ONLY. IN BOOK... RECEPTION NUMBER... DEPT.
SIGNED

CONTROL DIAGRAM

2.5 miles north of SH 165/ I-25
(Scroggs Arroyo)



GENERAL NOTES

- 1.) This Control Survey is for the use of the Colorado Department of Transportation. This survey is NOT a complete Land or Right of Way survey, nor is this Control Diagram Sheet a Land or Right of Way Survey Plat.
- 2.) 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.
- 3.) No guarantee as to the accuracy of the information contained hereon is implied or expressed unless this copy bears an original signature and seal of Registered Land Surveyor named.
- 4.) All coordinates listed are based on G.P.S. observations taken in October and November of 1991.
- 5.) Field survey control precision computed to meet or exceed Colorado Department of Transportation Survey Manual Minimum Horizontal Control Tolerance for a type "B" survey requirements (+/- 0.25 Ft. at 95% certainty).

BASIS OF BEARING

BASIS OF BEARINGS: The bearings referenced on this survey can be determined from any monuments set or found as shown on the Control Diagram Sheet. The basis of bearings for project reference is a line from Control Monument 7679 to Control Monument 7697 having a modified grid bearing of N 30° 00' 39" E at a distance of 981.17 feet.

SURVEY SYMBOL TABLE

- ▲ Control Monument / Project
△ Control Monument / secondary

SURVEYOR CERTIFICATE

I hereby state that this survey was performed under my supervision and checking, for and on the behalf of the Colorado Department of Transportation, State of Colorado, and is not a Land Survey Plat or a Right of Way Survey Plat, and is to the best of my knowledge and belief, the information presented here is true and correct.

DATE

Control for Project BRO 0251-151

Name	Latitude (N)	Longitude (W)	Ellipsoid Height (m)
7668	37-59-19.701375	104-46-09.665627	1648.670
7679	37-59-22.786409	104-46-02.760802	1652.899
7697	37-59-30.974568	104-45-56.675901	1652.725
7744	37-59-45.872675	104-45-34.228468	1647.645
7759	37-59-53.879366	104-45-30.003138	1637.583

Project Coordinates for BRO 0251-151

Name	Project Northing (ft)	Project Easting (ft)	Elevation (ft)	Description
7668	482722.566	211604.186	5471.13	CDOH CM M.P. 76.68 Lt
7679	483039.040	212154.656	5485.02	CDOH CM M.P. 76.79 Rt
7697	483871.345	212635.398	5450.98	CDOH CM M.P. 76.97 Lt
7744	485392.927	214420.894	5434.41	CDOH CM M.P. 77.44 Rt
7759	486205.730	214752.780	5434.76	CDOH CM M.P. 77.55 Lt
3683	483758.611	212876.714	5448.77	Spike

Computer File Information

Creation Date:	06/17/99	Initials:	law
Last Modification Date:	06/17/99	Initials:	law
Full Path:	\\WARDL\		
Drawing File Name:	SCROGGST3.DWG		
Acad Ver.: R14.01	Scale:	1:200	Units: ENGLISH

Sheet Revisions

mm/yr	xxxx	xxx

Colorado Department of Transportation



Region 2
905 Erie Avenue
Pueblo, CO 81002
Phone: (719) 546-5454 FAX: (719) 546-5414

Right of Way/Survey Unit Michael L. Bouchard

As Constructed

No Revisions:

Revised:

Void:

SURVEY CONTROL DIAGRAM

Surveyor: I-25 at Scroggs Arroyo at M.P. 77
Draft Person: LAW Pueblo County
Section (s): S 3 & 34, T 24 S & 23 S, R 66 W of the 6th PM

BRO 0251-151

2.5 M. N. SH 165/125

12394

Sheet Number 3

COLORADO DEPARTMENT OF TRANSPORTATION



Region 2
905 Erie Avenue
Pueblo, CO 81001
Phone: (719) 546-5454 FAX: (719) 546-5414

RIGHT OF WAY PLANS UNIT: Micheal Bouchard

Sheet Revisions

Rev	Description	Date
1	10000	2001

RIGHT OF WAY

PLAN SHEET

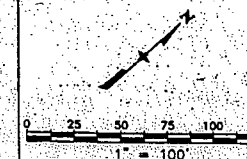
BR 0251-151

2.5 MI. N OF SH 165 (SCROGGS ARROYA)

PROJECT CODE: 12394

SHEET NUMBER:

4

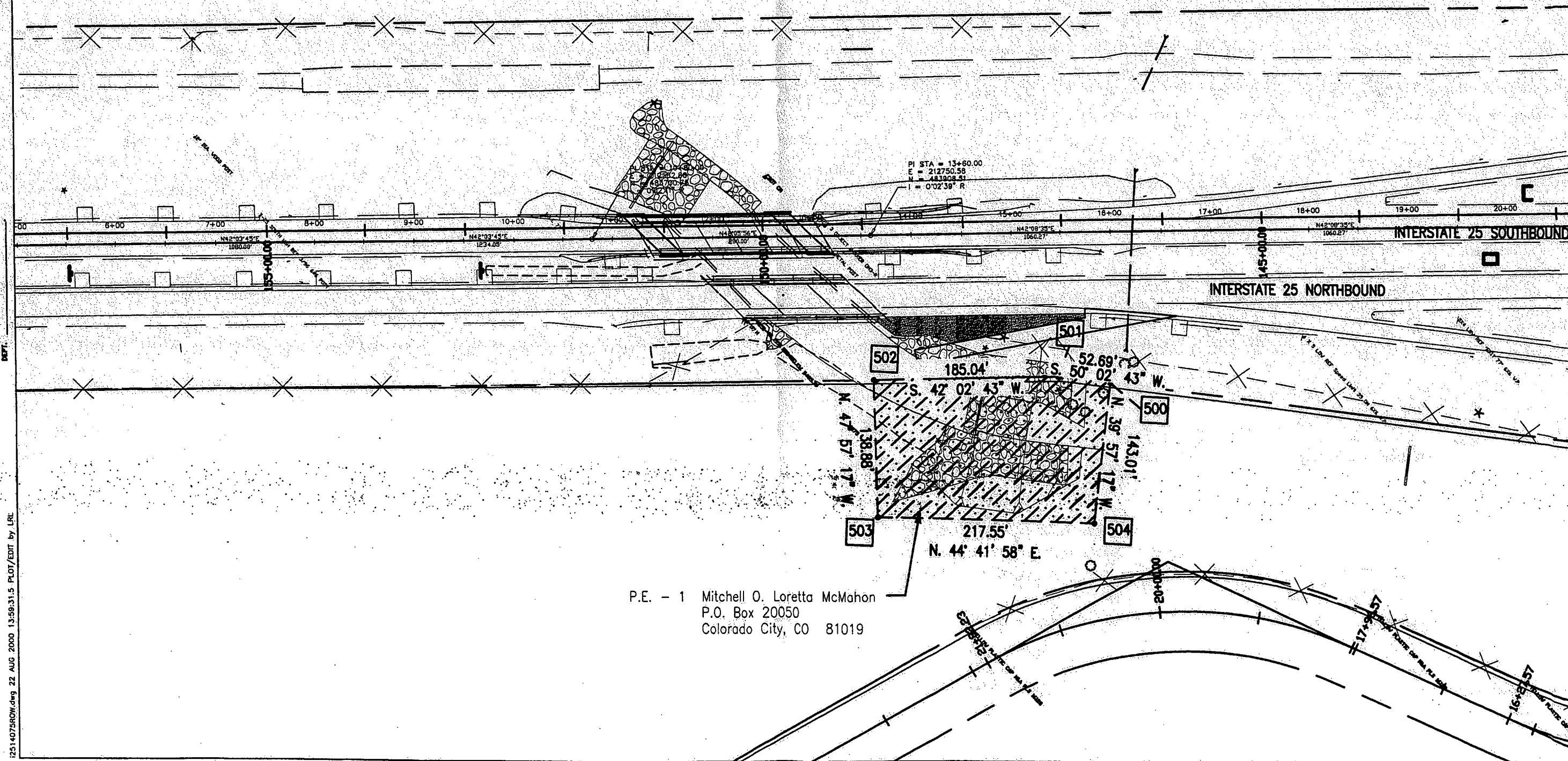


T. 24 S., R. 66 W., 6th P.M.

NW 1/4
SEC. 3

FILED CERTIFICATION
DEPOSITED THIS DAY OF 18 AT 11:00 AM FOR INFORMATION
ONLY IN BOOK OF THE COUNTY LAND SURVEYS/RIGHT OF WAY
SURVEYS AT PAGE RECEPTION NUMBER

SOCKET
DEPT.



P.E. - 1 Mitchell O. Loretta McMahon
P.O. Box 20050
Colorado City, CO 81019