Oversight / NHS	
FHWA OVERSIGHT	☐NO ■YES
NATIONAL HIGHWAY SYSTEM	☐NO ■YES

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED

FEDERAL–AID PROJECT IM 252–341

INTERSTATE 25 AT BAPTIST ROAD INTERCHANGE
EL PASO COUNTY

CONSTRUCTION PROJECT CODE NO. 13388

Related Projects:
P. E. UNDER PROJECT:
Project Number – IM 252–341
Project Code – 13388

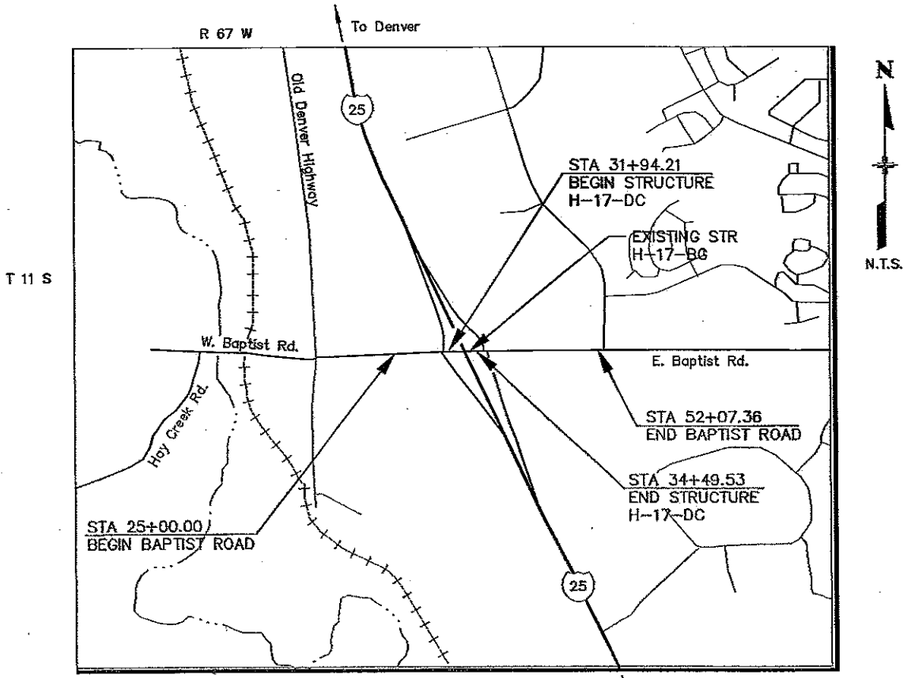
R.O.W. Projects
R.O.W. Project Description
Project Number – IM 252–341
Project Code – 13388

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY Lin. Ft.	ROADWAY Miles	MAJOR STRUCTURE Lin. Ft.	MAJOR STRUCTURE Miles
BAPTIST ROAD				
STA 25+00.00 BEGIN	672.26	0.13		
STA 31+72.26 BEGIN STRUCTURE H–17–DC			301.21	0.06
STA 34+73.97 END STRUCTURE H–17–DC				
STA 52+07.36 END	1733.89	0.33		
RAMP A				
STA 100+00.00				
STA 125+64.49	2564.49	0.49		
RAMP B				
STA 200+00.00				
STA 222+32.72	2232.72	0.42		
RAMP C				
STA 300+00.00				
STA 319+11.66	1911.66	0.36		
RAMP D				
STA 400+00.00				
STA 422+61.64	2261.64	0.43		
TOTALS	11,376.66	2.16	301.21	0.06

SUMMARY	Lin. Ft.	Miles
Roadway	11,376.66	2.16
Major Structure	301.21	0.06

DESIGN DATA	BAPTIST ROAD	RAMP A	RAMP B	RAMP C	RAMP D
MINIMUM RADIUS OF CURVE	7,048'	3000'	1660'	835'	415'
MAXIMUM GRADE	5.00%	6.00%	6.00%	3.54%	2.22%
MINIMUM S.S.D. HORIZONTAL	363'	430'	199'	267'	772'
MINIMUM S.S.D. VERTICAL	363'	430'	199'	267'	772'
MAXIMUM DESIGN SPEED (MPH)	45 MPH	60 MPH	55 MPH	50 MPH	55 MPH
2025 DESIGN TRAFFIC		SEE TRAFFIC DATA SHEET			
DHV TRUCKS %	5%	5%	5%	5%	5%
CLEAR ZONE DISTANCE (TANGENT)		SEE TYPICAL SECTION SHEETS			



AS CONSTRUCTED SET
July 24, 2010

BID SET
August 21, 2008

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLANS LIST
3	GENERAL NOTES
4	SUMMARY OF EARTHWORK QUANTITIES
5 – 13	TYPICAL SECTIONS
14 – 18a	SUMMARY OF APPROXIMATE QUANTITIES
19	TABULATION OF REMOVALS
20	TABULATION OF CONCRETE PAVEMENT
21	TABULATION OF BITUMINOUS SURFACING
22	TABULATION OF CURB AND GUTTER, AND SIDEWALK
23	TABULATION OF GUARDRAIL
24	TABULATION OF FENCING
25	TABULATION OF DELINEATORS
26 – 32	UTILITY PLANS
33 – 39	REMOVAL PLANS
40	GEOMETRIC LAYOUT AND CURVE DATA
41 – 42	TRAFFIC DATA
43 – 44	SURVEY CONTROL DIAGRAM
45	SURVEY TABULATION
46	ENGINEERING GEOLOGY PLAN
47 – 86	BRIDGE PLANS
87 – 90	RETAINING WALL PLAN & PROFILE
91 – 92	BOX CULVERT PLANS
93 – 95	BAPTIST ROAD KEYMAP & PROFILE PLANS
96 – 102	BAPTIST ROAD ROADWAY PLANS
103	ACCESS ROAD ROADWAY PLAN
104	ACCESS ROAD ROADWAY PROFILES
105	TIMBERS BOULEVARD ROADWAY PROFILE
106 – 110	I–25 RAMP ROADWAY PLANS
111 – 118	I–25 RAMP ROADWAY PROFILES
119 – 129	CONCRETE JOINT PLANS
130 – 132	RAMP GORE DETAILS
133 – 142	CURB & GUTTER PLAN & PROFILES
143 – 144	TABULATION OF STORM DRAIN SYSTEM
145	STRUCTURE QUANTITIES
146 – 160	GRADING & DRAINAGE PLANS
161 – 165	DRAINAGE DETAILS
166 – 178	STRUCTURE CROSS SECTIONS
179 – 183	FENCING PLANS
184 – 187	STORM WATER MANAGEMENT PLAN
188	TABULATION OF EROSION CONTROL QUANTITIES
189 – 195	EROSION CONTROL PLANS
196 – 198	TRAFFIC SIGNAL PLANS
199 – 202	TABULATION OF SIGNS
203	SIGN CROSS SECTION AND LAYOUT
204 – 210	SIGNING PLANS
211 – 213	TABULATION OF PAVEMENT MARKINGS
214 – 220	PAVEMENT MARKING PLANS
221 – 263	CONSTRUCTION PHASING
264 – 269	LIGHTING PLANS AND DETAILS
270 – 285	WETLAND MITIGATION PLANS
286 – 318	CROSS SECTIONS
400 – 403	SANITARY SEWER EXTENSION
410	SANITARY SEWER RELOCATION
420 – 424	WATERLINE EXTENSION

Computer File Information	
Creation Date:	07/08/02 Initials: JEM
Last Modification Date:	08/14/08 Initials: CJN
Full Path:	S:\Tranproj\ 246091–00\HwyDes\Plans\
Drawing File Name:	getS01.dgn
Scale: NTS	Units: ENGLISH

Sheet Revisions		
R-1	12-01-09	Add Sht. 7A - Index Add. GH

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No Revisions:	
Revised:	GMH 12-1-09
Void:	

Contract Information	
Contractor:	Lawrence Construction
Resident Engineer:	Robert D. Torres, P.E.
Project Engineer:	Gary M. Heckman P.E.
PROJECT STARTED:	Oct. 28, 2008 ACCEPTED: July 2010
Comments:	

Project No./Code	
IM 252–341	
13388	
Sheet Number:	1

Oversight / NHS	
FHWA OVERSIGHT	☐NO ■YES
NATIONAL HIGHWAY SYSTEM	☐NO ■YES

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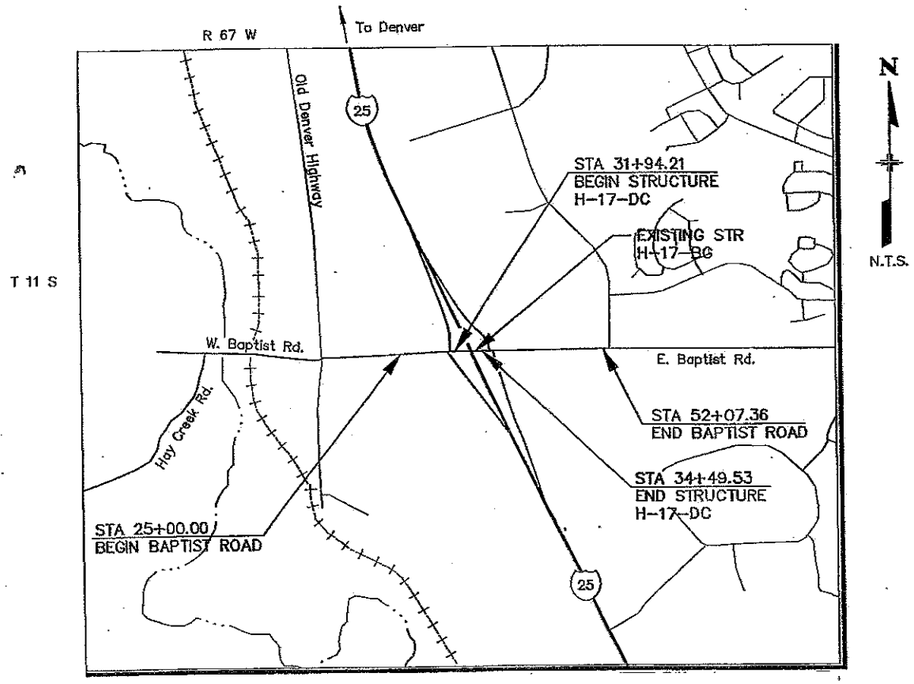

INDEX OF ADDITIONAL SHEETS

SHEET NO.	DESCRIPTION
1A	ADDED INDEX
1BA-1BC	SUMMARY OF APPROX. QUANTS.
23R-1	TABULATION OF GUARDRAIL
35R1 - 38R1	RAMP A & B REMOVAL PLAN
39R1	
40A	CMD #1 PLAN SHEET INDEX
40B	CMD #2 QUANTITY SUMMARY
47 - 86B	VALUE ENGINEERING ITEM 2
87A - 87B	VALUE ENGINEERING ITEM 1
100A	BAPTIST ROAD - SPECIAL DITCH
107R1 - 108R1	RAMP A, B, C & D (FIBER LOWER D)
113R1	RAMP B PROFILE CHANGE
117R1	RAMP D PROFILE CHANGE
119 - 129	CONCRETE JOINT PLAN - POURS
134R2	CMD#3 - VALERO PLAN & PROFILE
146R1	GRADING & DRAINAGE PLAN
147, 147R1, 147R2	ACCESS, CONDUIT & MH REVISE
148R1	TEMP. VALERO CURB & GUTTER
155R1	RAMP B DRAINAGE PLAN
157R1	RAMP D - "V" DITCH REGRADE
170R1	INLET 47.11R REROUTE
179R1	SCHUCK PROPERTY GATE
181R1 - 182R1	FENCING PLAN - REVISIONS
196R1 - 198R1	TRAFFIC SIGNAL PULLBOXES
204R1 & 208R1 - 210R1	SIGNING PLAN - REVISIONS
216R1	PAVEMENT MARKING PLAN - J.C.P.
216R2	JACKSON CREEK STRIPING PLAN
226R1	RAMP C DETOUR REV. ALIGNMENT
249A - 249C	PHASE 3 MODIFICATION
264 - 269	REVISED LIGHT CIRCUITRY
401R1	SANITARY SEWER EXTENSION - REVISIONS
401A	SANITARY SEWER RE-ALIGNMENT
410R1	SANITARY SEWER DEPRESSION
822P1 - P10	PLUM CREEK - DECK PANELS
822 E1 - E26	PLUM CREEK - GIRDER PLAN
26 - 28	BAPTIST ROAD - UTILITY PLANS

Computer File Information			
Creation Date:	07/08/02	Initials:	JEM
Last Modification Date:	08/14/08	Initials:	CJN
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\		
Drawing File Name:			getsO1.dgn
Scale: NTS		Units: ENGLISH	

Sheet Revisions		
(R-1)	12-01-09	Add Sht. 1A - Index Add. GH

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As Constructed	
No Revisions:	
Revised: GMH 12-1-09	
Void:	

Contract Information	
Contractor:	Lawrence Construction
Resident Engineer:	Robert D. Torres, P.E.
Project Engineer:	Gary M. Hackman P.E.
PROJECT STARTED:	Oct. 28, 2008 ACCEPTED: July 2010
Comments:	

Project No./Code	
	IM 252-341
	13388
Sheet Number:	1A

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
■ M-100-1	☐	STANDARD SYMBOLS (3 SHEETS)	1-3
☐ M-203-1	☐	APPROACH ROADS	4
☐ M-203-2	☐	DITCH TYPES	5
■ M-203-11	☐	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	6-8
■ M-203-12	☐	SUPERELEVATION STREETS (2 SHEETS)	9-10
■ M-206-1	☐	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	11-12
■ M-206-2	☐	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	13-14
■ M-208-1	☐	TEMPORARY EROSION CONTROL (7 SHEETS)	15-21
☐ M-210-1	☐	MAILBOX SUPPORTS (2 SHEETS)	22-23
☐ M-214-1	☐	PLANTING DETAILS	24
■ M-412-1	☐	CONCRETE PAVEMENT JOINTS (5 SHEETS)	25-29
☐ M-510-1	☐	STRUCTURAL PLATE PIPE H-20 LOADING	30
☐ M-601-1	☐	SINGLE CONCRETE BOX CULVERT (2 SHEETS)	31-32
☐ M-601-2	☐	DOUBLE CONCRETE BOX CULVERT (2 SHEETS)	33-34
■ M-601-3	☐	TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	35-36
☐ M-601-10	☐	HEADWALL FOR PIPES	37
☐ M-601-11	☐	TYPE "S" SADDLE HEADWALLS FOR PIPE	38
☐ M-601-12	☐	HEADWALLS AND PIPE OUTLET PAVING	39
☐ M-601-20	☐	WINGWALLS FOR PIPE OR BOX CULVERTS	40
☐ M-603-1	☐	METAL AND PLASTIC PIPE (2 SHEETS)	41-42
■ M-603-2	☐	REINFORCED CONCRETE PIPE	43
■ M-603-3	☐	PRECAST CONCRETE BOX CULVERT	44
■ M-603-10	☐	CONCRETE AND METAL END SECTIONS (2 SHEETS)	45-46
☐ M-604-10	☐	INLET, TYPE C	47
■ M-604-11	☐	INLET, TYPE D	48
■ M-604-12	☐	CURB INLET TYPE R (2 SHEETS)	49-50
☐ M-604-13	☐	CONCRETE INLET TYPE 13	51
■ M-604-20	☐	MANHOLES (3 SHEETS)	52-54
☐ M-604-25	☐	VANE GRATE INLET (5 SHEETS)	55-59
■ M-605-1	☐	SUBSURFACE DRAINS	60
■ M-606-1	☐	GUARDRAIL TYPE 3 W-BEAM (16 SHEETS)	61-76
☐ M-606-13	☐	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS)	77-80
■ M-606-14	☐	PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	81-83
■ M-607-1	☐	WIRE FENCES AND GATES (3 SHEETS)	84-86
☐ M-607-2	☐	CHAIN LINK FENCE (3 SHEETS)	87-89
☐ M-607-3	☐	BARRIER FENCE	90
☐ M-607-4	☐	DEER FENCE AND GATES (2 SHEETS)	91-92
☐ M-607-10	☐	PICKET SNOW FENCE	93
☐ M-607-15	☐	ROAD CLOSURE GATE (9 SHEETS)	94-102
■ M-608-1	☐	CURB RAMPS (4 SHEETS)	103-106
■ M-609-1	☐	CURBS, GUTTERS, AND SIDEWALKS (3 SHEETS)	107-109
☐ M-611-1	☐	CATTLE GUARD (2 SHEETS)	110-111
■ M-613-1	☐	ROADWAY LIGHTING (4 SHEETS)	112-115
☐ M-614-1	☐	RUMBLE STRIPS (3 SHEETS)	116-118
■ M-614-2	☐	SAND BARREL ARRAYS (2 SHEETS)	119-120
■ M-615-1	☐	EMBANKMENT PROTECTOR TYPE 3	121
☐ M-615-2	☐	EMBANKMENT PROTECTOR TYPE 5	122
☐ M-616-1	☐	INVERTED SIPHON	123
☐ M-620-1	☐	FIELD LABORATORY CLASS 1	124
■ M-620-2	☐	FIELD LABORATORY CLASS 2	125
☐ M-620-11	☐	FIELD OFFICE CLASS 1	126
■ M-620-12	☐	FIELD OFFICE CLASS 2	127
■ M-629-1	☐	SURVEY MONUMENTS (2 SHEETS)	128-129

PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
■ S-612-1	☐	DELINEATOR INSTALLATIONS (5 SHEETS)	131-135
■ S-614-1	☐	GROUND SIGN PLACEMENT (2 SHEETS)	136-137
■ S-614-2	☐	CLASS I SIGNS	138
■ S-614-3	☐	CLASS II SIGNS	139
■ S-614-4	☐	CLASS III SIGNS (3 SHEETS)	140-142
■ S-614-5	☐	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	143-144
■ S-614-6	☐	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	145-146
■ S-614-8	☐	TUBULAR STEEL SIGN SUPPORT DETAILS (5 SHEETS)	147-151
■ S-614-10	☐	MARKER ASSEMBLY INSTALLATIONS	152
■ S-614-12	☐	STRUCTURE NUMBER INSTALLATION	153
☐ S-614-14	☐	FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	154-156
☐ S-614-20	☐	TYPICAL POLE MOUNT SIGN INSTALLATIONS	157
☐ S-614-21	☐	CONCRETE BARRIER SIGN POST INSTALLATIONS	158
☐ S-614-22	☐	TYPICAL MULTI-SIGN INSTALLATIONS	159
■ S-614-40	☐	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (7 SHEETS)	160-166
☐ S-614-40A	☐	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	167-171
■ S-614-50	☐	MONOTUBE OVERHEAD SIGNS (14 SHEETS)	172-185
■ S-627-1	☐	PAVEMENT MARKINGS (5 SHEETS)	186-190
■ S-630-1	☐	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (12 SHEETS)	191-202
■ S-630-2	☐	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	203
☐ S-630-3	☐	FLASHING BEACON (PORTABLE) DETAILS	204

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

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

COLORADO
DEPARTMENT OF TRANSPORTATION

STANDARD PLANS LIST
M&S STANDARDS
July 04, 2006

Computer File Information			
Creation Date:	07/08/02	Initials:	JEM
Last Modification Date:	07/28/06	Initials:	NMA
Full Path:	S:\Tranproj\246091-00\HwyDes\Plans\		
Drawing File Name:	gesp01.dgn		
	Scale: Graphic	Units:	ENGLISH

Sheet Revisions			

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As Constructed
No Revisions: GMH 8-26-10
Revised:
Void:

STANDARD PLANS LIST

Designer: NMA
Detailer: JAG
Sheet Subset: Standards
Structure Numbers:
SP1 of 1

Project No./Code
IM 252-341
13388
Sheet Number 2

GENERAL NOTES

ANY LAYER OF HOT MIX ASPHALT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE THE SUCCEEDING LAYER IS PLACED.

FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED.

EMULSIFIED ASPHALT TACK COAT (SLOW-SETTING)	AT	0.10 GAL PER SQ. YD. (DILUTED)
EMULSIFIED ASPHALT (PRIME COAT)	AT	0.30 GAL PER SQ. YD. (DILUTED)
HOT MIX ASPHALT	AT	110 LBS. PER SQ. YD. PER INCH OF THICKNESS
AGGREGATE BASE COURSE	AT	133 LBS PER CU. FT.

DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER. RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

A TACK COAT IS REQUIRED PRIOR TO THE PLACEMENT OF SUBSEQUENT LIFTS OF HMA.

BEFORE PLACEMENT OF THE TACK COAT, THE CONTRACTOR SHALL CLEAN THE ROADWAY AS DIRECTED BY THE ENGINEER. CLEANING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE HBP.

EXISTING ASPHALT AND CONCRETE PAVEMENT SHALL BE REMOVED IN THOSE AREAS DESIGNATED IN THE PLANS OR DESIGNATED BY THE ENGINEER. EXISTING PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE SAWCUT TO A NEAT VERTICAL LINE WITH A CONCRETE PAVEMENT SAW OR OTHER METHOD AS APPROVED BY THE ENGINEER. VERTICAL EDGES ARE NOT TO REMAIN OVERNIGHT. THE CONTRACTOR IS DIRECTED TO SUBSECTION 203.06 OF THE STANDARD SPECIFICATION REGARDING THE USE OF REMOVED PAVEMENT IN EMBANKMENT AREAS. REMOVED PAVEMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE. ANY AND ALL WORK ASSOCIATED WITH ASPHALT AND CONCRETE PAVEMENT SAWING, PULVERIZING AND/ OR DISPOSAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE WORK. WHERE EXISTING BITUMINOUS PAVEMENT IS SAWCUT TO ABUT NEW BITUMINOUS PAVEMENT, THE SAWCUT VERTICAL EDGE SHALL BE PAINTED WITH EMULSIFIED ASPHALT (SLOW-SETTING). THE RATE OF APPLICATIONS SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. COST FOR DUST PALLIATIVE SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK.

THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS AND CROSS SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS BY THE CONTRACTOR AT HIS/HER OWN EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES SHALL INCLUDE THE PARKING OF VEHICLE OR EQUIPMENT, DISPOSAL OF LITTER AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.

DEPTH OF MOISTURE AND DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

FULL DEPTH OF EMBANKMENTS FOR ROADWAYS, RAMPS, DETOURS, ACCEL/DECEL LANES AND ANY WIDENED AREAS.

BASES OF CUTS AND FILLS ~ 0.5 FT DEPTH

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS SHALL BE CONSIDERED AS INCIDENTAL TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

PRIOR TO COMMENCING CONSTRUCTION, EXISTING WETLANDS, MOUSE HABITAT, TREES AND BUSHES ON THE PROJECT SHALL BE PROTECTED BY FENCE (PLASTIC). FENCE LOCATIONS SHALL BE STAKED BY THE STAFF LANDSCAPE ARCHITECT, ENGINEER, AND CONTRACTOR. FENCE (PLASTIC) SHALL ALSO BE PLACED AROUND THE ENTIRE EXCAVATION WHENEVER EXCAVATED AREAS ARE MORE THAN 3FT LOWER IN ELEVATION THAN THE ADJACENT GROUND. IT IS ESTIMATED THAT 1855 FT OF FENCE WILL BE REQUIRED ON THE PROJECT. FENCE (PLASTIC) SHALL BE PAID FOR IN FT. NO STOCKPILING OF MATERIAL WILL BE ALLOWED INSIDE THE TEMPORARY FENCE.

TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-99.

ROADWAY SUBGRADE SHALL HAVE A MINIMUM R VALUE AND K VALUE AS NOTED ON THE PLANS.

(A-3) PROFILOGRAPH SMOOTHNESS TESTING WILL BE REQUIRED FOR THE NEW ASPHALT AND CONCRETE PAVEMENTS.

CONCRETE PIPE JOINT FASTENERS AS SHOWN ON M STANDARD, M-603-10, ARE REQUIRED ON ALL CONCRETE CULVERT INSTALLATIONS AND SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO REINFORCED PIPE.

EROSION BALES SHALL BE STOCKPILED SO THAT THEY MAY BE DEPLOYED FOR EROSION PROTECTION WITH TWO HOURS OF NOTICE BY THE ENGINEER.

THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL WITHIN 35 FEET OF THE EDGE OF TRAVELED WAY.

IT IS ESTIMATED THAT 100 HOURS OF POTHOLING (ITEM 203) WILL BE REQUIRED FOR THE PROJECT. THE LOCATIONS FOR POTHOLING SHALL BE AS DIRECTED BY THE ENGINEER.

IT IS ESTIMATED THAT 4 MANHOLE ADJUSTMENTS (ITEM 210) WILL BE REQUIRED FOR THE PROJECT. THE LOCATIONS FOR MANHOLE ADJUSTMENTS SHALL BE DIRECTED BY THE ENGINEER.

IT IS ESTIMATED THAT 3 MANHOLE MODIFICATIONS (ITEM 210) WILL BE REQUIRED FOR THE PROJECT. THE LOCATIONS FOR MANHOLE MODIFICATIONS SHALL BE DIRECTED BY THE ENGINEER.

IT IS ESTIMATED THAT 8 VALVE BOX ADJUSTMENTS (ITEM 210) WILL BE REQUIRED FOR THE PROJECT. THE LOCATIONS FOR VALVE BOX ADJUSTMENTS SHALL BE DIRECTED BY THE ENGINEER.

☆ IT IS ESTIMATED THAT 1,475 LF OF 3 INCH ELECTRICAL CONDUIT (ITEM 613) WILL BE REQUIRED FOR THE PROJECT FOR A FUTURE INTERCONNECT BETWEEN THE RAMP A AND RAMP D SIGNAL, THE FUTURE SIGNAL AT TIMBERS BLVD., AND THE SIGNAL AT JACKSON CREEK PKWY. INSTALL PULL BOXES AT 300 FT INTERVALS. THE LOCATION FOR THE ELECTRICAL CONDUIT SHALL BE COORDINATED WITH UTILITY RELOCATIONS AND AS DIRECTED BY THE ENGINEER.

IT IS ESTIMATED THAT 150 LF OF 3 INCH ELECTRICAL CONDUIT (JACKED) (ITEM 613) WILL BE REQUIRED FOR THE PROJECT FOR A FUTURE INTERCONNECT BETWEEN THE TIMBERS BLVD. AND THE SIGNAL AT JACKSON CREEK PKWY UNDER JACKSON CREEK PKWY. PROVIDE A PULL BOX NEAR THE EXISTING TRAFFIC CONTROLLER AT THE NORTHEAST CORNER OF JACKSON CREEK PKWY AND BAPTIST RD. THE LOCATION FOR THE ELECTRICAL CONDUIT SHALL BE COORDINATED WITH UTILITY RELOCATIONS AND AS DIRECTED BY THE ENGINEER.

THE PAVEMENT SURFACE SMOOTHNESS AND TEXTURE FOR ALL ROADWAYS SHALL MEET THE REQUIREMENTS FOR CATEGORY 3. PAVEMENT SMOOTHNESS SHALL BE CHECKED AND CORRECTED PRIOR TO STRIPING.

ALL CONCRETE FOR PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE CLASS P.

THE CONTRACTOR SHALL ADDRESS LOCAL DRAINAGE DURING EACH PHASE OF CONSTRUCTION. THIS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK.

THE CONTRACTOR SHALL HAVE ONE COPY OF THE PLANS APPROVED BY THE COLORADO DEPARTMENT OF TRANSPORTATION, ONE COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND ONE COPY OF ALL NECESSARY PERMITS AT THE JOB SITE AND AVAILABLE AT ALL TIMES. THE CONTRACTOR SHALL OBTAIN COPIES OF THE APPROVED DRAINAGE REPORT, SOILS REPORT AND PAVEMENT DESIGN REPORT AND HAVE THEM AT THE JOBSITE AND AVAILABLE AT ALL TIMES.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO AFFECTED PROPERTY OWNERS AT ALL TIMES DURING CONSTRUCTION.

ALL SWEEPING OPERATIONS DIRECTED BY THE ENGINEER SHALL BE DONE BY A PICK-UP TYPE BROOM WITH WATER AND SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK.

ALL PAVEMENT MARKING REMOVALS ON PERMANENT CONCRETE PAVEMENT SHALL BE REMOVED BY HYDROBLASTING OR SANDBLASTING.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING EXISTING CONDUIT AT INTERSECTIONS THAT ARE TO REMAIN IN SERVICE. ANY CONDUIT DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE PROJECT.

ALL EXCAVATION, BEDDING, BACKFILL, AND COMPACTION ASSOCIATED WITH TRENCHING FOR THE SANITARY SEWER WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE PIPE AND MANHOLES.

(A-3) THE CONTRACTOR SHALL SUBMIT A COLOR PALLET OF THE AVAILABLE COLORS FOR THE ITEM NO. 610-00024 MEDIAN COVER MATERIAL (4 INCH PATTERNED CONCRETE) FOR SECTION BY THE ENGINEER.

(A-2) ALL REMOVED GUARDRAIL, LIGHTING, AND TRAFFIC COMPONENTS SHALL BE SALVAGED AND WILL BECOME THE PROPERTY OF CDOT. SALVAGED GUARDRAIL SHALL BE DELIVERED TO CDOT'S MAINTENANCE FACILITY LOCATED NEAR THE INTERSECTION OF STATE HIGHWAY 83 AND POWERS BLVD. (SH 21).

RESULTS OF WATER SOLUBLE SULFATE LABORATORY TESTING ON SELECTED SOIL SAMPLES INDICATE CONCENTRATIONS IN THE RANGE OF BELOW DETECTABLE LEVELS TO APPROXIMATELY 0.005 PERCENT. TO PROVIDE FOR ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 0 FOR THIS PROJECT. ALL IMPORTED MATERIAL SHALL BE TESTED FOR SULFATES AND THE SEVERITY OF POTENTIAL EXPOSURE CLASS SHALL BE ADJUSTED IF MATERIAL WILL BE IN CONTACT WITH CONCRETE. ANY ADDITIONAL COST TO ACCOMMODATE A HIGHER CLASS SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND NOT BE MEASURED AND PAID FOR SEPARATELY.

UTILITY NOTES

THE FOLLOWING IS A LIST OF UTILITIES AND CONTACTS WITHIN THIS PROJECT:

COMCAST COMMUNICATIONS
CONTACT: DALE CASADY
213 N. UNION BOULEVARD
COLORADO SPRINGS, CO 80909
719-457-4625

AQUILA GAS/AQUILA ENERGY
CONTACT: GEORGE PETERSON
7060 ALEGRE STREET
FOUNTAIN, CO 80817
719-393-6625

TRIVIEW METROPOLITIAN DISTRICT
CONTACT: RON SIMPSON
174 NORTH WASHINGTON STREET
MONUMENT, CO 80132
719-488-6868

CDOT UTILITIES
CONTACT: SAM PISCIOTTA
905 ERIE AVENUE
PUEBLO, CO 81002
719-546-5743

MOUNTAIN VIEW ELECTRIC
CONTACT: WAYNE BAAB
13710 STRUTHERS ROAD, SUITE 100
COLORADO SPRINGS, CO 80921
719-487-9292

QWEST COMMUNICATIONS
CONTACT: MELISSA STRATTON
5555 TECH CENTER DRIVE, SUITE 110
COLORADO SPRINGS, CO 80919
719-278-4679

FALCON BROADBAND
CONTACT: DAVE BRYAN
2790 NORTH ACADEMY BLVD, SUITE 150
COLORADO SPRINGS, CO 80917
719-559-8440

CDOT FIBEROPTIC PROJECT
CONTACT: DAVE JUDY
425 C CORPORATE CIRCLE, ROOM 107
GOLDEN, CO 80401
303-512-5833

LOCATIONS OF UTILITIES REPRESENT THE BEST KNOWN LOCATIONS AT THE TIME OF PREPARATION OF DRAWINGS. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES IN ADVANCE OF EXCAVATION. RELOCATION OF UTILITIES MAY OR MAY NOT BE NEEDED AFTER THEY ARE EXPOSED. RESPONSIBILITY FOR RELOCATION OF UTILITY LINES IS AS NOTED IN THE PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL COOPERATE WITH COMPANIES TRYING TO COORDINATE THE RELOCATION EFFORT. LINES NOT RELOCATED SHALL BE PROTECTED BY THE CONTRACTOR IN PLACE, NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR THE MINOR ADJUSTMENT OF STRUCTURES IN ORDER TO CLEAR A CONFLICTING UTILITY. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 105.06 OF THE STANDARD SPECIFICATION CONCERNING UTILITIES. THE CONTRACTOR WILL CALL 1-800-922-1987 FOR UTILITY LOCATIONS, AT LEAST (2) TWO WORKING DAYS PRIOR TO ANY EXCAVATION.

THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIAL PROVISIONS, "UTILITIES" FOR A COMPLETE LIST OF EXISTING UTILITIES TO BE RELOCATED BY OTHERS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE ADJUSTMENT OF ALL WATER VALVES, VALVE BOXES AND SEWER MANHOLES WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL NOTIFY THE IMPACTED UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY WORK BEING ACCOMPLISHED ON WATER OR SEWER UTILITIES.

STAKING INFORMATION

ALL STATION AND OFFSET ELEVATIONS FOR CURB & GUTTER ARE TO THE LIP OF PAN AT EDGE OF PAVEMENT.

Computer File Information				
Creation Date:	07/08/02	Initials:	JEM	(A-2)
Last Modification Date:	07/18/06	Initials:	NMA	(A-3)
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\			
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Scale:		Units:	ENGLISH	

Sheet Revisions		
10-24-08	ADDENDUM NO. 2	SOS
10-24-08	ADDENDUM NO. 3	SOS

Colorado Department of Transportation
REGION 2 JFF

1480 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276
PBSJ

As Constructed
No Revisions:
Revised: BMH 12-01-09
Void:

GENERAL NOTES

Designer: NMA
Detailer: NMA
Sheet Subset: Notes
Structure Numbers:
GN1 of 1

Project No./Code
IM 252-341
13388
Sheet Number 3

SUMMARY OF EARTHWORK

PAY QUANTITY	PROJECT TOTALS PLAN	AS CONST.
EMBANKMENT MATERIAL C.I.P. (CU. YD.)		
(A-2) FROM ROADWAY CROSS SECTIONS (COMPUTER GENERATED)	117,215	
FROM TABULATION OF STORM DRAIN AS EMBANKMENT	1,227	
FOR UNSUITABLE MATERIAL REPLACEMENT (ESTIMATED)	500	
TOTAL FOR PAY QUANTITY	118,942	

(A-2) PAY QUANTITY	PROJECT TOTALS PLAN	AS CONST.
EMBANKMENT MATERIAL C.I.P. (SPECIAL) (R53-60, K 380 PSI) (CU. YD.)		
FROM ROADWAY CROSS SECTIONS (COMPUTER GENERATED)	50,700	
TOTAL FOR PAY QUANTITY	50,700	

FOR INFORMATION ONLY	PROJECT TOTALS PLAN	AS CONST.
EARTHWORK BALANCE		
EXCAVATION (CY)		
FROM ROADWAY CROSS SECTIONS (COMPUTER GENERATED)	62,904	
FROM STRUCTURE QUANTITIES AS STRUCTURE EXCAVATION	1,560	
FROM TABULATION OF STORM DRAIN AS STRUCTURE EXCAVATION	1,227	
REMOVAL OF UNSUITABLE MATERIAL (ESTIMATED)	500	
SUBTOTAL	66,191	
(A-2) REQUIRED FROM UNDESIGNATED SOURCE (MIN. R VALUE OF 20)	103,451	
TOTAL	169,642	
EMBANKMENT MATERIAL C.I.P. (CY)	169,642	
EMBANKMENT X FACTOR (1.20)	203,570	
TOTAL	203,570	
COMPACTION (AASHTO T-99) (CY)		
EMBANKMENT MATERIAL (NET)	203,570	
BASES OF CUTS AND FILLS	14,913	
TOTAL	218,483	
WETTING (MGAL) (SEE NOTE 1)		
FOR COMPACTION (0.04 MGAL/CY)	8,739	

NOTE 1: WETTING WILL NOT BE MEASURED OR PAID SEPARATELY FOR COMPACTION BUT SHALL BE INCLUDED IN THE COST OF BID ITEM EMBANKMENT MATERIAL (C.I.P.) ITEM NO. 203-00060.

PAVEMENT DESIGN PARAMETERS

PARAMETER	RAMPS	BAPTIST ROAD/ ACCESS ROADS-1 & 2
FLEXIBLE PAVEMENT - FULL DEPTH		
18K ESAL - 20 YEAR	3,763,436	4,238,276
INITIAL SERVICEABILITY	4.5	4.5
TERMINAL SERVICEABILITY	2.5	2.5
RELIABILITY LEVEL	95%	95%
OVERALL STANDARD DEVIATION	0.44	0.44
RESILIENT MODULUS	24,200	14,400
MINIMUM "R" VALUE	60	53
STRUCTURAL NUMBER	2.86	4
RECOMMENDED HMA THICKNESS (INCHES)	6.5	8.0
RIGID PAVEMENT		
18K ESAL - 20 YEAR	5,656,717	6,370,436
RELIABILITY LEVEL	95%	95%
OVERALL STANDARD DEVIATION	0.34	0.34
MINIMUM "K" VALUE	380	420
RECOMMENDED PCC THICKNESS (INCHES)	8.0	8.0
RECOMMENDED ABC (SPECIAL) THICKNESS (INCHES)	6.0	6.0

Computer File Information			
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Last Modification Date:	05/12/06	Initials:	NMA
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(A-2)

Sheet Revisions		
10-24-08	ADDENDUM NO. 2	SOS

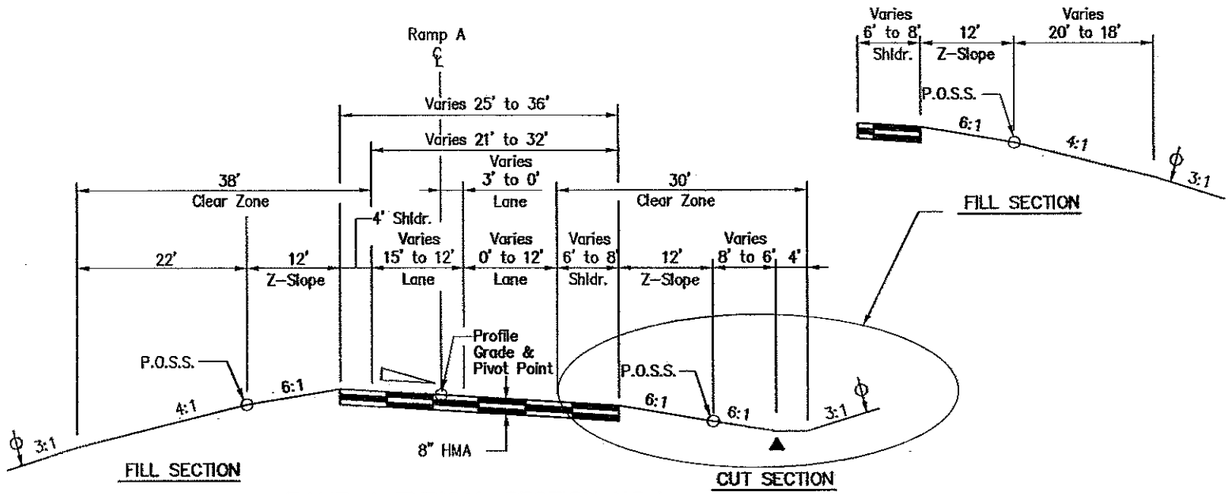
Colorado Department of Transportation
REGION 2
1480 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2373 Fax: (719) 227-3298
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7225 Fax: (303) 221-7276
PBSJ
JFF

As Constructed
No Revisions:
Revised: GMH 12-1-09
Void:

SUMMARY OF EARTHWORK QUANTITIES

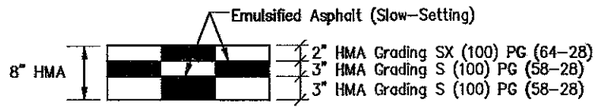
Designer: NMA
Detailer: NMA
Sheet Subset: Earthwork
Structure Numbers:
EW1 of 1

Project No./Code
IM 252-341
13388
Sheet Number 4



RAMP A TYPICAL SECTION NO.1

Sta 107+34.06 to Sta 112+00.85



ASPHALT PAVEMENT DETAIL

Ramp A Sta 107+34.06 to Sta 112+00.85
Ramp B Sta 211+32.36 to Sta 212+73.19
Ramp C Sta 305+75.93 to Sta 311+32.66
Ramp D Sta 408+55.87 to Sta 410+05.36

DRAWING NOT TO SCALE

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 bottom of ditches shall be rounded during construction for a pleasing appearance.
- 2% roadway slope (Typical). For specific cross slopes, see profile sheets.
- O Vertical alignment points.
- P.O.S.S. Point of Slope Selection.

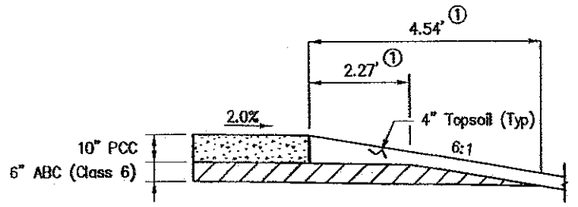
The gradient and width of roadway ditches, and excavation and embankment slope rates may be adjusted by the engineer to assure adequate drainage and slope stability. All adjustments shall be coordinated with the Engineer prior to implementation.

For variable widths, see the roadway and grading plans.

Ramp A Stabilization Plan

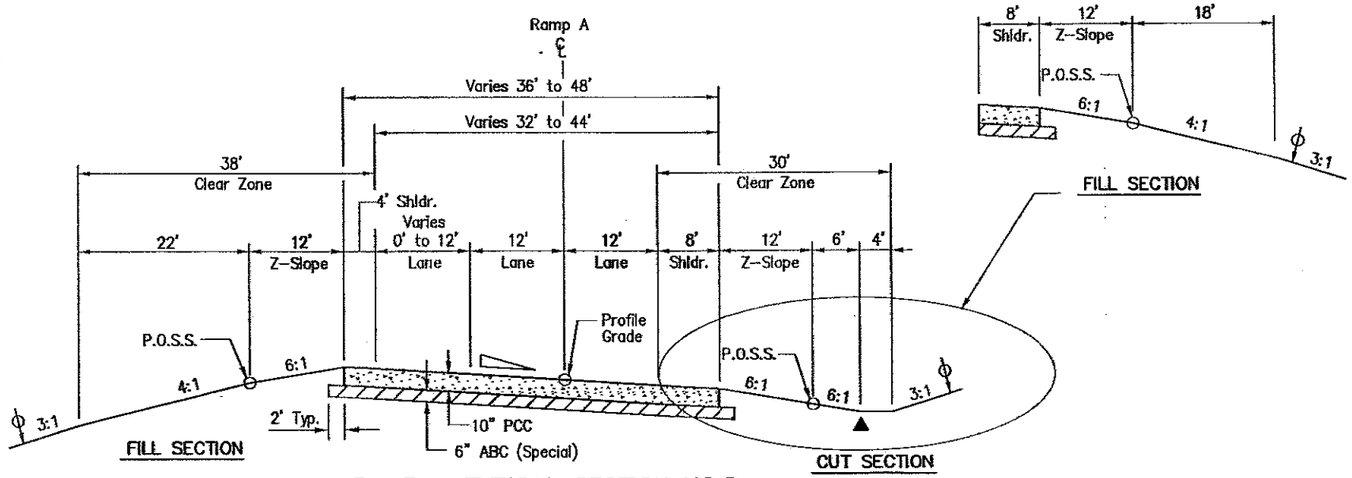
The top 24 inches of subgrade below the HMA shall have a minimum R-Value of 60.

The top 24 inches of subgrade below the ABC (Special) shall have a minimum K-Value of 380 psi/in.



① Length is based on 2.0% Cross Slope. Length will vary in superelevated sections.

DETAIL "A"



RAMP A TYPICAL SECTION NO.2

Sta 112+00.85 to Sta 123+47.72

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Sheet Revisions		

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No Revisions: GmH 9-9-10	
Revised:	
Void:	

RAMP A TYPICAL SECTIONS			
Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Typicals		TY6 of 9	

Project No./Code	
IM 252-341	
13388	
Sheet Number	10

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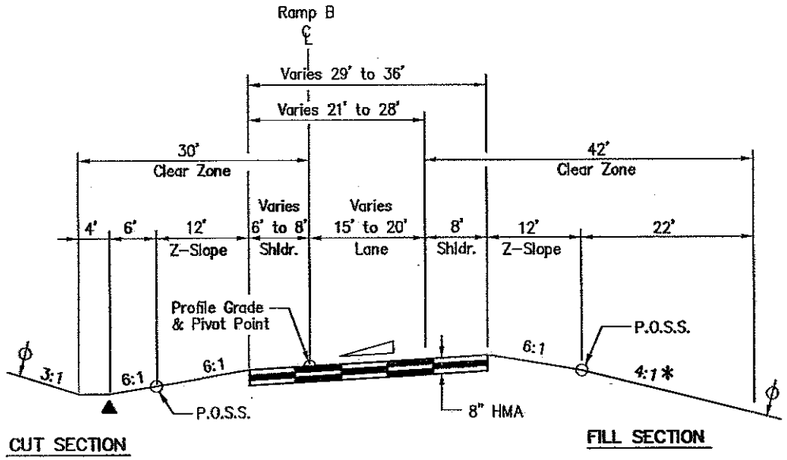
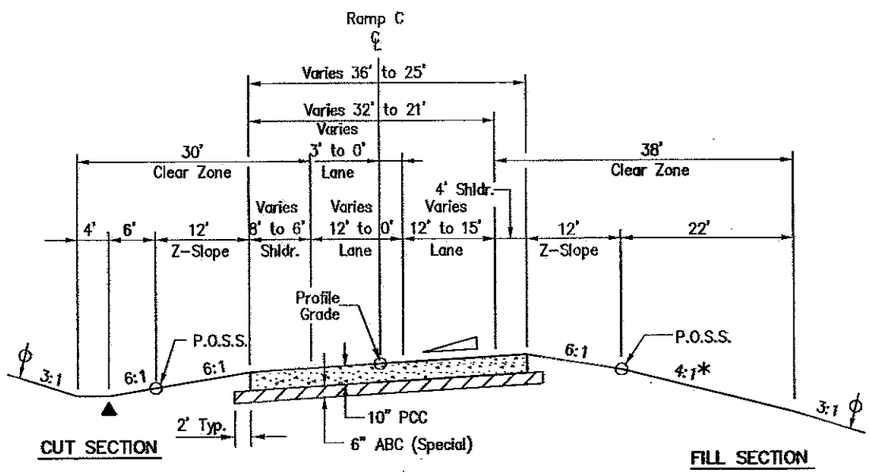


RAMP B TYPICAL SECTION NO.1

Sta 208+00.30 to Sta 212+73.19



RAMP C TYPICAL SECTION No. 1

Sta 301+39.80 to Sta 305+75.93

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 bottom of ditches shall be rounded during construction for a pleasing appearance.
- 2% roadway slope (Typical). For specific cross slopes, see profile sheets.
- O Vertical alignment points.
- P.O.S.S. Point of Slope Selection.
- * See grading plans for specific slope information.

The gradient and width of roadway ditches, and excavation and embankment slope rates may be adjusted by the engineer to assure adequate drainage and slope stability. All adjustments shall be coordinated with the Engineer prior to implementation.

For variable widths, see the roadway and grading plans.

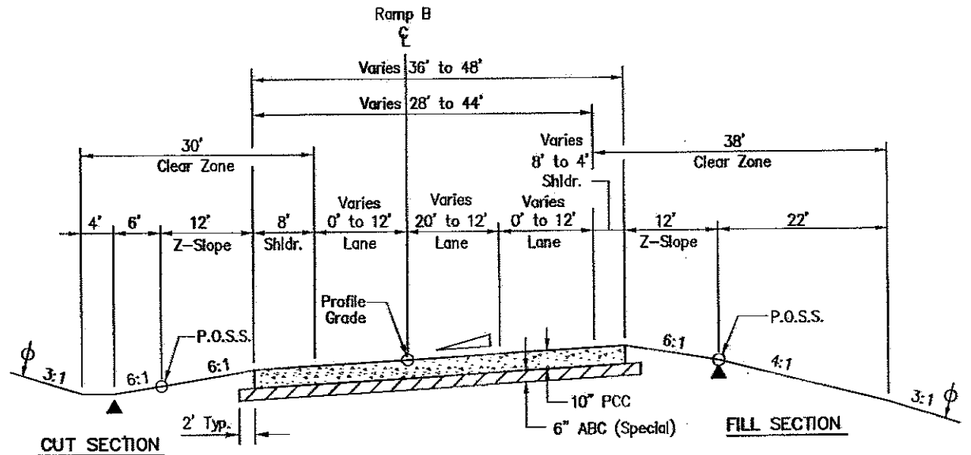
Ramp B Stabilization Plan

The top 24 inches of subgrade below the HMA shall have a minimum R-Value of 60.

The top 24 inches of subgrade below the ABC (Special) shall have a minimum K-Value of 380 psi/in.

Ramp C Stabilization Plan

The top 24 inches of subgrade below the ABC (Special) shall have a minimum K-Value of 380 psi/in.



RAMP B TYPICAL SECTION NO.2

Sta 212+73.19 to Sta 220+41.87

Computer File Information		Sheet Revisions	Colorado Department of Transportation	As Constructed	RAMP B & C TYPICAL SECTIONS	Project No./Code
Creation Date: 03/29/02 Initials: JEM			1480 Quail Lake Loop, Suite A, Colorado Springs, CO 80906, Phone: (719) 634-2323, Fax: (719) 227-3298	No Revisions: GmH 9-9-10	Designer: NMA	IM 252-341
Last Modification Date: 05/09/06 Initials: NMA			4601 DTC Blvd. Suite 700, Denver, CO 80237, Phone: (303) 221-7275, Fax: (303) 221-7278	Revised:	Detailer: JAG	13388
Full Path: S:\Tranproj\246091-00\HwyDes\Plans\			REGION 2 JFF	Void:	Structure Numbers:	
Drawing File Name: rdty07.dgn			PBSJ		Sheet Subset: Typicals	Sheet Number 11
Scale: NTS Units: ENGLISH					TY7 of 9	

DRAWING NOT TO SCALE

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 bottom of ditches shall be rounded during construction for a pleasing appearance.
- 2% roadway slope (Typical). For specific cross slopes, see profile sheets.
- ○ Vertical alignment points.
- P.O.S.S. Point of Slope Selection.
- * See grading plans for specific slope information.

The gradient and width of roadway ditches, and excavation and embankment slope rates may be adjusted by the engineer to assure adequate drainage and slope stability. All adjustments shall be coordinated with the Engineer prior to implementation.

For variable widths, see the roadway and grading plans.

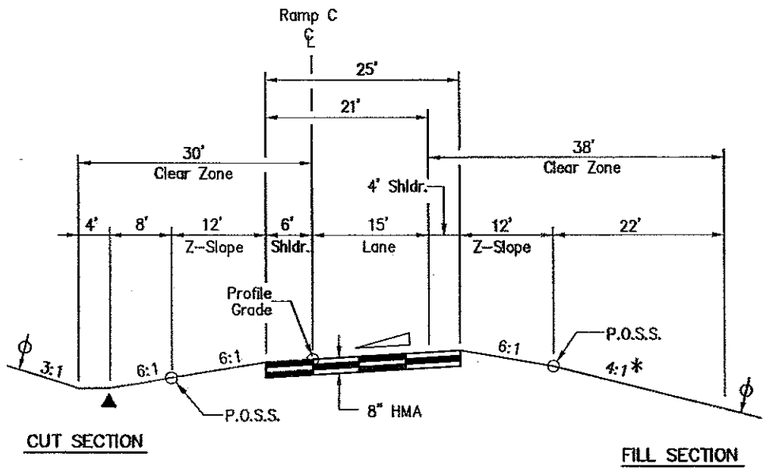
Ramp C Stabilization Plan

The top 24 inches of subgrade below the HMA shall have a minimum R-Value of 60.

Ramp D Stabilization Plan

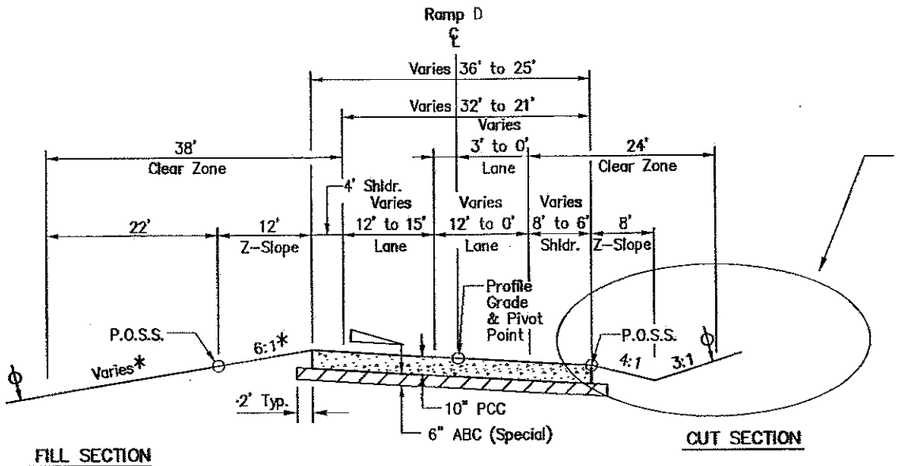
The top 24 inches of subgrade below the HMA shall have a minimum R-Value of 60.

The top 24 inches of subgrade below the ABC (Special) shall have a minimum K-Value of 380 psi/in.



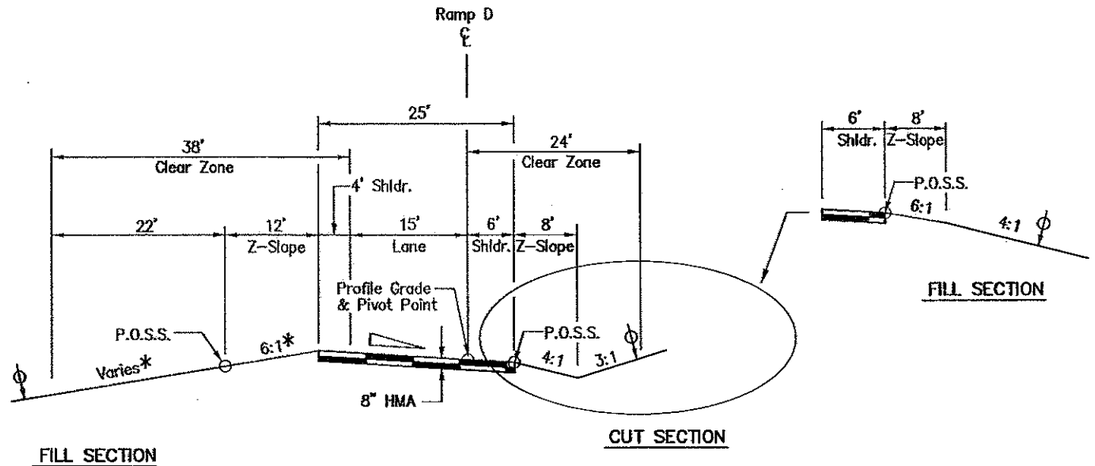
RAMP C TYPICAL SECTION No. 2

Sta 305+75.93 to Sta 311+32.56



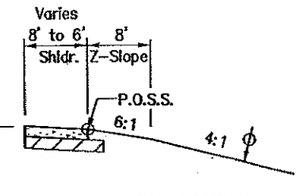
RAMP D TYPICAL SECTION No. 1

Sta 401+33.80 to Sta 408+55.87



RAMP D TYPICAL SECTION No. 2

Sta 408+55.87 to Sta 413+75.19



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Drawing File Name:	rdty08.dgn		
Scale: NTS		Units: ENGLISH	

Sheet Revisions		

Colorado Department of Transportation
DOT
1480 Quail Lake Loop
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Denver, CO 80237
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Fax: (303) 221-7276
PBSJ
REGION 2 JFF

As Constructed	
No Revisions: GMH 9-9-10	
Revised:	
Void:	

RAMP C & D TYPICAL SECTIONS

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Typicals		TY8 of 9	

Project No./Code	
IM 252-341	
13388	
Sheet Number	12

DRAWING NOT TO SCALE

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 bottom of ditches shall be rounded during construction for a pleasing appearance.
- 2% roadway slope (Typical). For specific cross slopes, see profile sheets and gore details.
- O Vertical control points.
- P.O.S.S. Point of Slope Selection

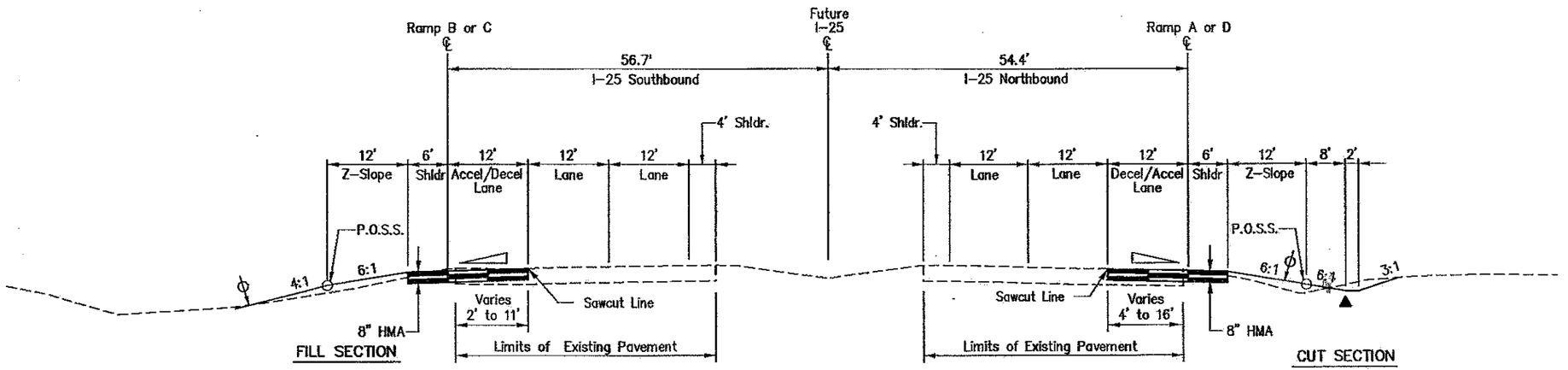
All proposed widening widths are based from survey data. Widths may need to be adjusted to meet field conditions. All adjustments shall be coordinated with the Engineer prior to implementation.

For variable widths, see the roadway and grading plans, and gore details.

I-25 Stabilization Plan

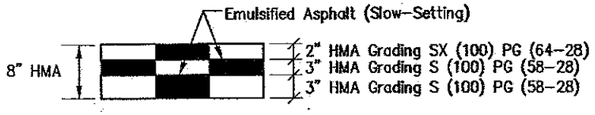
The top 24 inches of subgrade below the HMA shall have a minimum R-Value of 60.

The top 24 inches of subgrade below the ABC (Special) shall have a minimum K-Value of 380 psi/in.



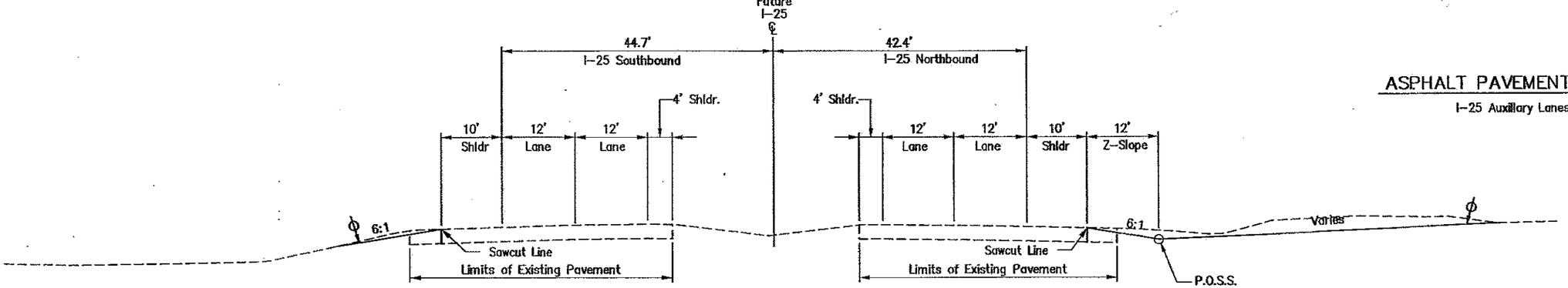
I-25 TYPICAL SECTION No. 1

Ramp A Sta 101+19.29 to Sta 107+34.06
Ramp B Sta 200+86.09 to Sta 208+00.30
Ramp C Sta 312+07.43 to Sta 318+38.36
Ramp D Sta 413+75.19 to Sta 421+61.04



ASPHALT PAVEMENT DETAIL

I-25 Auxiliary Lanes



I-25 TYPICAL SECTION No. 2

Ramp A Sta 109+62.96 to Sta 116+47.98
Ramp B Sta 210+98.04 to Sta 215+25.02
Ramp C Sta 304+32.52 to Sta 305+57.41
Ramp D Sta 404+39.69 to Sta 410+05.36

Computer File Information			
Creation Date:	07/08/02	Initials:	JEM
Last Modification Date:	06/23/06	Initials:	NMA
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Scale: NTS	Units: ENGLISH		

Sheet Revisions			

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PBS
REGION 2 JFF

As Constructed	
No Revisions: GmH 9-9-10	
Revised:	
Void:	

I-25 TYPICAL SECTIONS

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Typicals		TY9 of 9	

Project No./Code	
IM 252-341	
13388	
Sheet Number	13

MATCHLINE STA. 21+00

ACCESS ROAD-2

EXISTING R.O.W.

PROPOSED R.O.W.

MONITORING WELLS

PROPOSED R.O.W.

EXISTING R.O.W.

MATCHLINE STA. 25+00

BAPTIST ROAD

EXISTING R.O.W.

PROPOSED R.O.W.

RAMP C

30+00

MATCHLINE STA. 1425+00

1425

RAMP D

4095.00

35+00

UTILITY RELOCATION COORIDOR

MATCHLINE STA. 39+00

N

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)

4"ϕ

TRAFFIC CONTROL PANEL

85'

d=18'

d=18'

700 L.F. x 4"ϕ Pipe

DIRECTIONAL BORE - MVEA

Two bores spliced at this location. 11-10-2009.

SB I-25

NB I-25

d=25'

RAMP

d=27'

d=18'

MATCHLINE STA. 1417+00

RAMP B

MVEA Note:

(2) - C & J Construction (Dave & Beau) as subcontractors to MVEA bored ≈ 700 L.F. during the eve. shifts "d" - depths as recorded below Finished Grade. hole diameter reamed to 10"ϕ — 4" conduit pulled ∈ ws.

LEGEND

PROPOSED ELECTRICAL CONDUIT

OVERHEAD ELECTRIC

BURIED TELEVISION —TV—TV—

MOUSE HABITAT

Computer File Information			
Creation Date:	01/26/06	Initials:	JAG
Last Modification Date:	01/26/06	Initials:	JAG
Full Path:	S:\Transproj\246091-00\HwyDes\Plans\		
Drawing File Name:	utpl02.dgn		
	Scale: Graphic	Units: English	

	Sheet Revisions		
1	9-11-08	CMO#1 SHEETS 4.16.09	GMH
2	11-11-09	MVEA 4" CONDUIT ALIGN	GMH

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REGION 2

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JFF

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No Revisions:	
Revised: GMH 12-1-09	
Void:	

BAPTIST ROAD UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Utility		UT2 of 7	

Project No./Code	
IM 252-341	
13388	
Sheet Number	27

LEGEND

PROPOSED ELECTRICAL CONDUIT

OVERHEAD ELECTRIC

BURIED TELEVISION —TV—TV—

MOUSE HABITAT

Location of Break

TIMBERS BOULEVARD

JACKSON CREEK PARKWAY

R-3

WATER MAIN WAS NEVER CONSTRUCTED
LCCD RFI NO.007. DATED 12-3-08.

POTENTIAL UTILITY RELOCATION CORRIDOR. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES.

MULTIPLE PEDESTALS & COMMUNICATIONS VAULT IN CONFLICT

EXISTING R.O.W.

BAPTIST ROAD

MATCHLINE STA. 39+00

40+00

45+00

50+00

PROPOSED R.O.W.

EXISTING R.O.W.

R-1 MVEA Direction -at bore

R-2 BLACKHILLS GAS-12"ϕ STEEL. LAID 1.5'-5.0' BEHIND S. CURB LINE.

MVEA d=5'-6" sta. 3+88

MVEA d=11'-3" sta. 1+00

MVEA d=8'-7" sta. 2+88

MVEA conduit d=6'-9" sta. 3+00

WEST EDGE OF JACKSON CREEK

CROSS SECTION

BAPTIST RD

FIBER OPTIC

FIBER OPTIC

SECTION A–A

APPROXIMATE DEPTH OF UNDERGROUND LINES

SCALE 1"=10'

MVEA conduit d=11'-9" sta. 6+88.00

MVEA conduit d=8'-7" sta. 7+00.00

MVEA 6" conduit, depth = 4'-4" sta. 7+80.00 abandoned

STRUTHERS ROAD (BY EL PASO COUNTY)

GRAPHIC SCALE

0 25 50 100

(IN FEET)

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Creation Date:	01/26/06	Initials:	JAG
Last Modification Date:	05/09/06	Initials:	NMA
Full Path:	S:\Tranproj\246091-00\HwyDes\Plans\		
Drawing File Name:	utpl03.dgn		
	Scale: Graphic	Units: English	

Sheet Revisions			
R-1	4-08-09	ELECTRIC ALIGNMENT	GMH
R-2	7-01-09	BLACKHILLS ALIGN.	GMH
R-3	12-03-08	LCCD RFI NO. 007	GMH

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REGION 2 JFF

As Constructed

No Revisions:

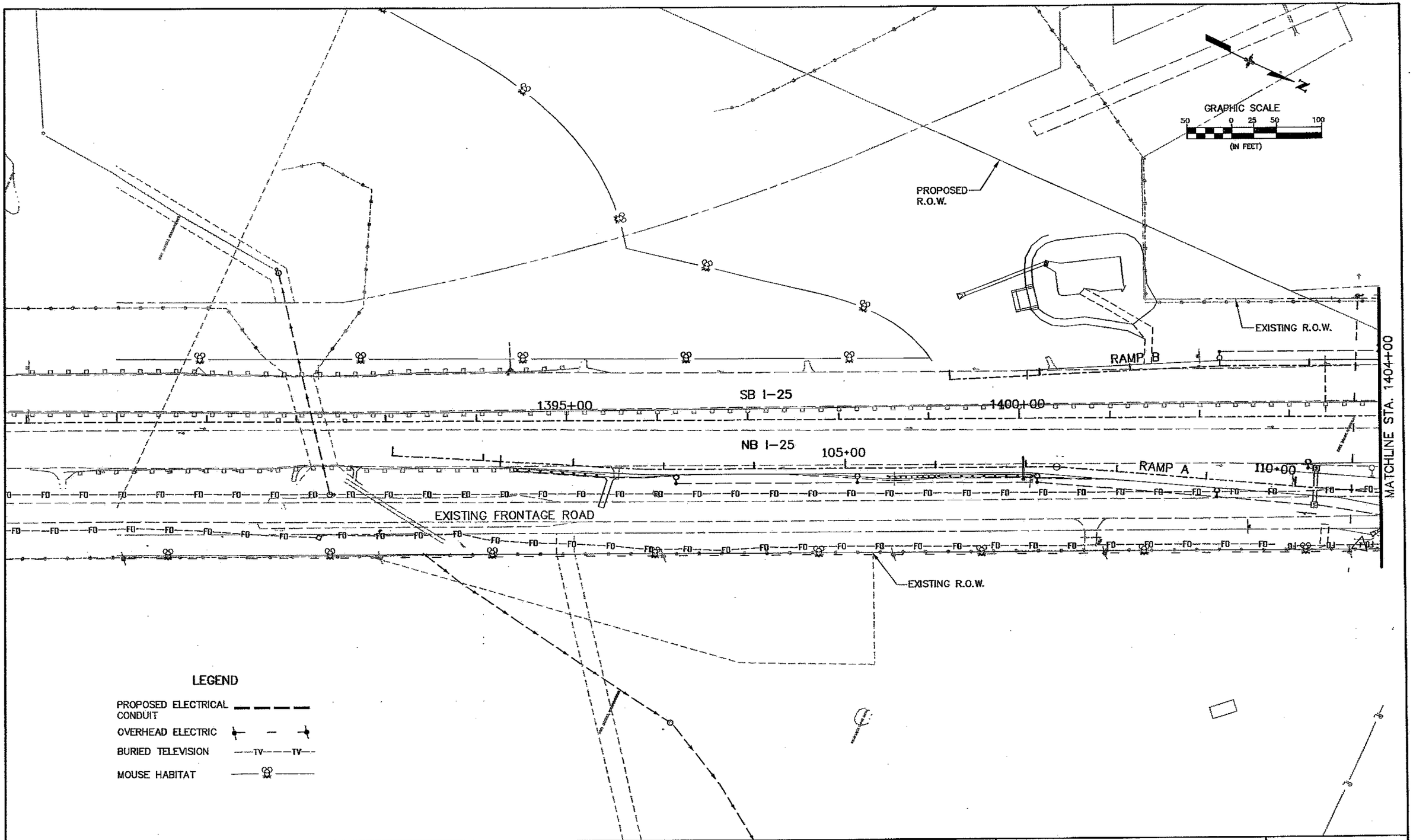
Revised: GMH 9-9-10

Void:

BAPTIST ROAD UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Utilitiy		UT3 of 7	

Project No./Code	
IM 252-341	
13388	
Sheet Number	28



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Last Modification Date:	05/09/06	Initials:	NMA
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Drawing File Name:	utpl04.dgn		
	Scale: Graphic	Units: English	

Sheet Revisions		

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PBSJ
REGION 2 JFF

As Constructed	
No Revisions: GMH 9-9-10	
Revised:	
Void:	

RAMP A & B UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset:	Utility		UT4 of 7

Project No./Code	
IM 252-341	
13388	
Sheet Number	29

LEGEND

PROPOSED ELECTRICAL CONDUIT

OVERHEAD ELECTRIC

BURIED TELEVISION —TV—TV—

MOUSE HABITAT

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)

PROPOSED R.O.W.

EXISTING R.O.W.

MATCHLINE STA. 1404+00

MATCHLINE STA. 1417+00

205+00

210+00

215+00

1405+00

1410+00

1415+00

SB I–25

NB I–25

RAMP B

RAMP A

115+00

120+00

PROPOSED R.O.W.

EXISTING R.O.W.

Computer File Information			
Creation Date:	01/26/06	Initials:	JAG
Last Modification Date:	04/06/06	Initials:	NMA
Full Path:	S:\Tranproj\ 246091–00\HwyDes\Plans\		
Drawing File Name:	utpl05.dgn		
Scale: Graphic	Units:English		

Sheet Revisions			

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PBSJ

REGION 2 JFF

As Constructed

No Revisions: GMH 9-9-10

Revised:

Void:

RAMP A & B
UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Utility		UT5 of 7	

Project No./Code	
IM 252–341	
13388	
Sheet Number	30

LEGEND

PROPOSED ELECTRICAL CONDUIT

OVERHEAD ELECTRIC

BURIED TELEVISION ----TV----TV----

MOUSE HABITAT

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)

EXISTING R.O.W.

305+00

RAMP C

310+00

315+00

SB I-25

1430+00

1435+00

NB I-25

415+00

410+00

RAMP D

MATCHLINE STA. 1425+00

MATCHLINE STA. 1437+00

EXISTING R.O.W.

Computer File Information			
Creation Date:	01/26/05	Initials:	JAG
Last Modification Date:	01/26/06	Initials:	JAG
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\		
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Scale: Graphic		Units: English	

Sheet Revisions		

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REGION 2 JFF

As Constructed

No Revisions: GMH 9-9-10

Revised:

Void:

RAMP C & D UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Utility		UT6 of 7	

Project No./Code	
IM 252-341	
13388	
Sheet Number	31

LEGEND

OVERHEAD ELECTRIC

BURIED TELEVISION —TV—TV—

MOUSE HABITAT

EXISTING R.O.W.

RAMP C

SB I–25

1440+00

NB I–25

420+00 RAMP D

MATCHLINE STA. 1437+00

EXISTING R.O.W.

Computer File Information			
Creation Date:	01/26/06	Initials:	JAG
Last Modification Date:	05/09/06	Initials:	NMA
Full Path:	S:\Tranproj\ 246091–00\HwyDes\Plans\		
Drawing File Name:	utpl07.dgn		
	Scale: Graphic	Units:	English

Sheet Revisions		

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REGION 2 JFF

As Constructed	
No Revisions: GMN 9.9.10	
Revised:	
Void:	

RAMP C & D UTILITY PLAN

Designer:	NMA	Structure Numbers	
Detailer:	JAG		
Sheet Subset: Utility		UT7 of 7	

Project No./Code	
IM 252–341	
13388	
Sheet Number	32

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)

BR1
Delta = 05° 54' 31"
Dc = 0° 48' 47"
R = 7048.00'
T = 363.74'
L = 726.83'
PI = STA 27+18.31
N = 46755.89
E = 84790.36

B1
Delta = 11° 27' 40"
Dc = 3° 27' 06"
R = 1660.00'
T = 166.59'
L = 332.06'
PI = STA 209+66.88
N = 45741.26
E = 85812.87

C1
Delta = 19° 18' 08"
Dc = 6° 51' 42"
R = 835.00'
T = 142.00'
L = 281.30'
PI = STA 303+39.88
N = 47096.06
E = 85106.74

D1
Delta = 15° 17' 17"
Dc = 13° 48' 22"
R = 415.00'
T = 55.70'
L = 110.73'
PI = STA 402+05.37
N = 46935.65
E = 85586.49

D2
Delta = 11° 9' 35"
Dc = 5° 22' 48"
R = 1065.00'
T = 108.74'
L = 216.73'
PI = STA 405+10.64
N = 47151.17
E = 85369.36

D3
Delta = 8° 09' 54"
Dc = 1° 54' 35"
R = 3000.00'
T = 214.12'
L = 427.52'
PI = STA 411+62.51
N = 47695.05
E = 85008.66

A1
Delta = 4° 29' 32"
Dc = 1° 54' 35 "
R = 3000.00'
T = 117.67'
L = 235.22'
PI = STA 117+49.76
N = 45973.98
E = 85923.41

BR2
Delta = 01° 42' 25"
Dc = 00° 34' 23"
R = 10000.00'
T = 148.98'
L = 297.93'
PI = STA 42+73.52
N = 46758.95
E = 86346.20

T1
Delta = 16° 49' 03"
Dc = 5° 35' 23"
R = 1025.00'
T = 151.52'
L = 300.86'
PI = STA 13+37.17
N = 47125.76
E = 86524.54

PI STA 14+75.94
BEGIN BAPTIST ROAD
N 46625.58
E 83554.84

N 83°58'44" E

PC STA 23+54.58

STA 222+33.45
END RAMP B=
STA 29+79.94
BAPTIST ROAD
N 46755.68
E 85052.84

See Historic Bridge Plan Sheet 40A. (R-1)

STA 300+00.00
BEGIN RAMP C=
STA 30+47.83
BAPTIST ROAD
N 46756.46
E 85120.52

STA 1390+00.00
N 44058.19
E 86674.36

STA 200+00.00
BEGIN RAMP B
N 44873.66
E 86239.72

PI STA 203+00.29

PC STA 208+00.30

PT STA 211+32.36

PC STA 301+97.89

PT STA 304+79.19

PT STA 30+81.41

PI STA 312+07.43
N 47905.04
E 84786.01

PI STA 316+11.37
N 48269.98
E 84612.82

STA 319+11.66
END RAMP C
N 48546.58
E 84495.94

STA 1443+00.00
N 48846.36
E 84402.05

N 25°23'15" W

STA 100+00.00
BEGIN RAMP A
N 44352.08
E 86576.79

PI STA 102+78.87
N 44610.68
E 86472.40

PI STA 107+34.06
N 45021.91
E 86277.25

PC STA 116+32.09

PT STA 118+67.31

STA 125+64.49
END RAMP A=
STA 36+27.55
BAPTIST ROAD
N 46757.68
E 85700.24

PC STA 41+24.54

N 89°53'15" E

PC STA 401+49.67

PT STA 402+60.41

PC STA 404+01.90

PT STA 406+18.63

PC STA 409+48.39

PT STA 413+75.91

PI STA 419+61.40
N 48417.44
E 84665.84

STA 422+61.64
END RAMP D
N 48683.25
E 84526.22

PT STA 44+22.47

STA 9+65.34
BEGIN TIMBERS
BOULEVARD
STA 44+53.79
BAPTIST ROAD
N 46753.93
E 86526.43

STA 400+00.00
BEGIN RAMP D=
STA 36+16.25
BAPTIST ROAD
N 46757.66
E 85688.94

S 88°24'19" E

PC STA 1+96.59

PCC STA 1+81.73

PT Sta 24+42.81

PC STA 25+65.78

PT STA 28+45.69

POE STA 29+15.90

STA 52+07.36
END BAPTIST ROAD
N 44271.16
E 85689.34

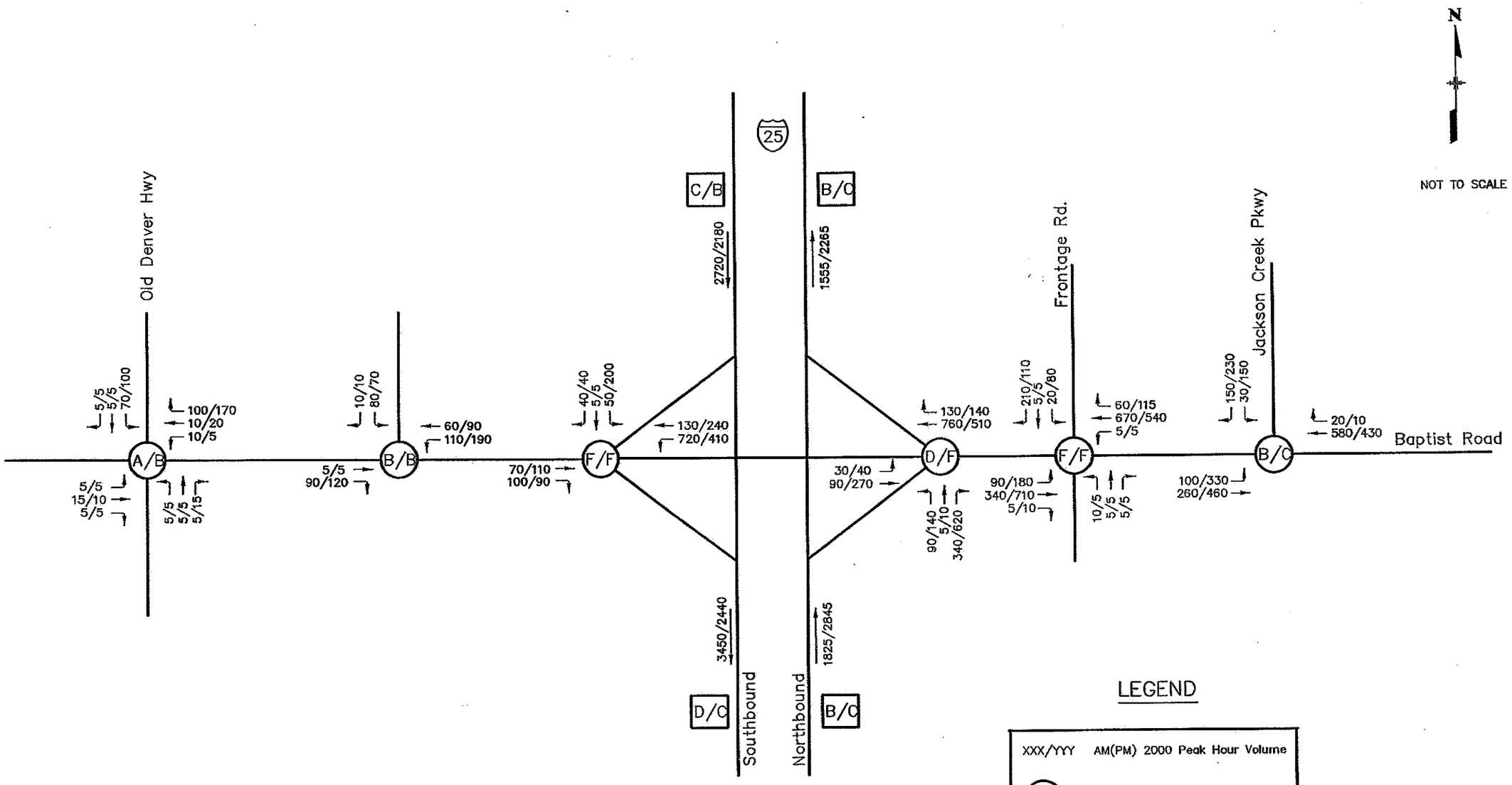
JACKSON CREEK PARKWAY

HIGBY ROAD

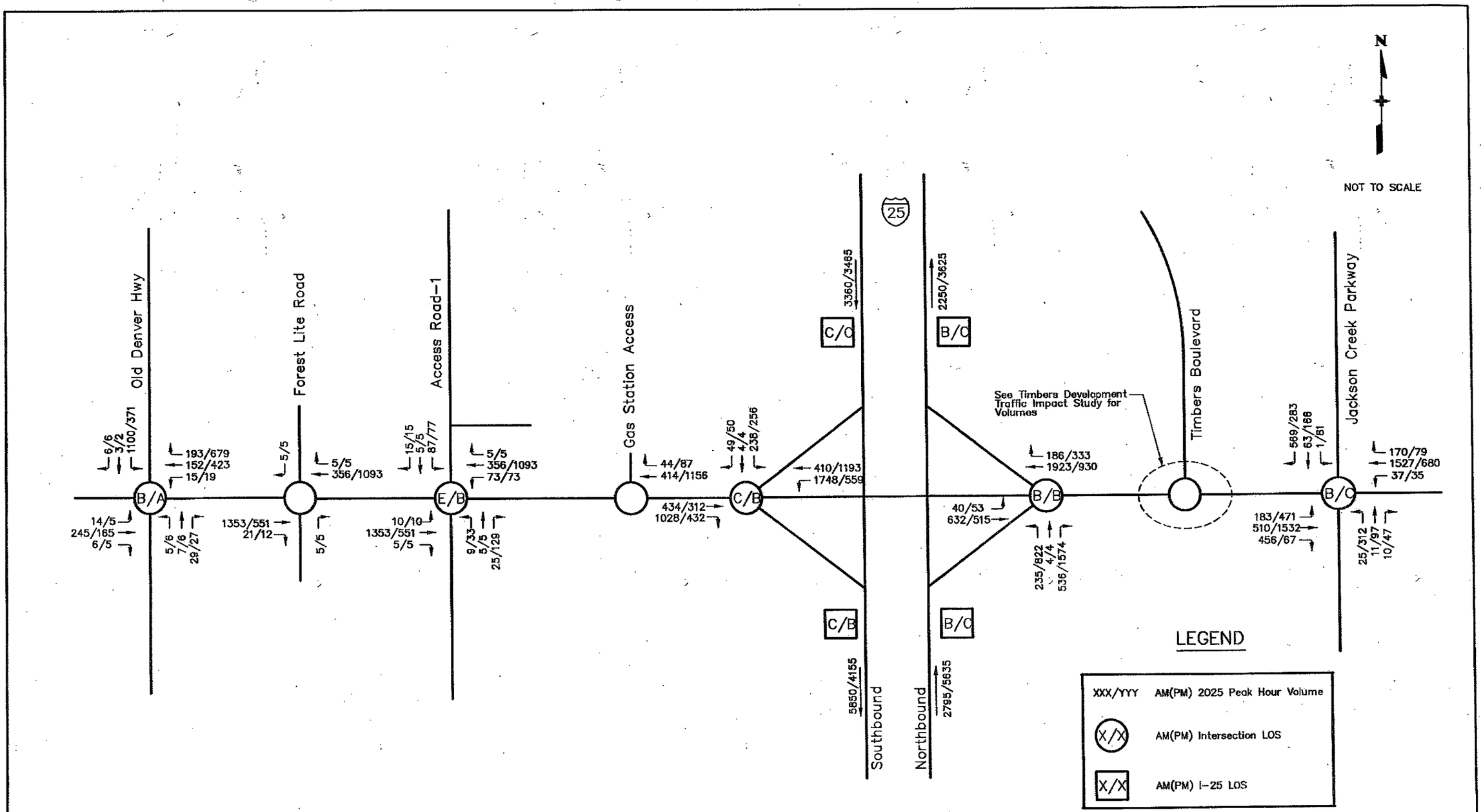
(R-2) JACKSON CREEK PKWY
LT. TURN LANE - SEE SHEET 40B

AS CONSTRUCTED

Computer File Information				Sheet Revisions			Colorado Department of Transportation	As Constructed	GEOMETRIC LAYOUT	Project No./Code
Creation Date:	07/15/02	Initials:	JEM	R-1	9-11-09	CMO #1 dated 4-16-09 GMH	1480 Quail Lake Loop, Suite A, Colorado Springs, CO 80906, Phone: (719) 634-2323, Fax: (719) 227-3288	No Revisions:	Designer: NMA	IM 252-341
Last Modification Date:	05/09/06	Initials:	NMA	R-2	12-21-09	CMO #2 dated 9-8-09 GMH	4601 DTC Blvd. Suite 700, Denver, CO 80237, Phone: (303) 221-7275, Fax: (303) 221-7276	Revised: GMH 12-21-09	Detailer: JAG	13388
Full Path:	S:\Tranpro\246091-00\HwyDes\Plans\						PBSJ	Void:	Sheet Subset: Geometry	Sheet Number 40
Drawing File Name:	rcpl01.dgn						REGION 2 JFF		Structure Numbers	GM1 of 1
Scale: Graphic		Units: English								



Computer File Information				Sheet Revisions					Colorado Department of Transportation	As Constructed	EXISTING TRAFFIC VOLUMES BAPTIST ROAD		Project No./Code
Creation Date:	07/08/02	Initials:	JEM						1480 Quail Lake Loop, Suite A, Colorado Springs, CO 80906, Phone: (719) 634-2323, Fax: (719) 227-3298	No Revisions: GMH 12-21-09	Designer: NMA	Structure Numbers	IM 252-341
Last Modification Date:	04/05/06	Initials:	NMA						4601 DTC Blvd., Suite 700, Denver, CO 80237, Phone: (303) 221-7275, Fax: (303) 221-7276	Revised:	Detailer: JEM		13388
Full Path:	S:\Tranproj\246091-00\HwyDes\Plans\								PBSJ	Void:	Sheet Subset: Traffic	TD1 of 2	Sheet Number 41
Drawing File Name:	msdt01.dgn												
Scale: NTS		Units: ENGLISH							REGION 2 JFF				



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Last Modification Date:	04/05/06	Initials:	NMA
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\		
Drawing File Name:	msdt02.dgn		
	Scale: NTS	Units: ENGLISH	

Sheet Revisions		
9-11-08	CMC #1 DATED 4-16-09	GMH

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REGION 2 JFF

As Constructed

No Revisions:

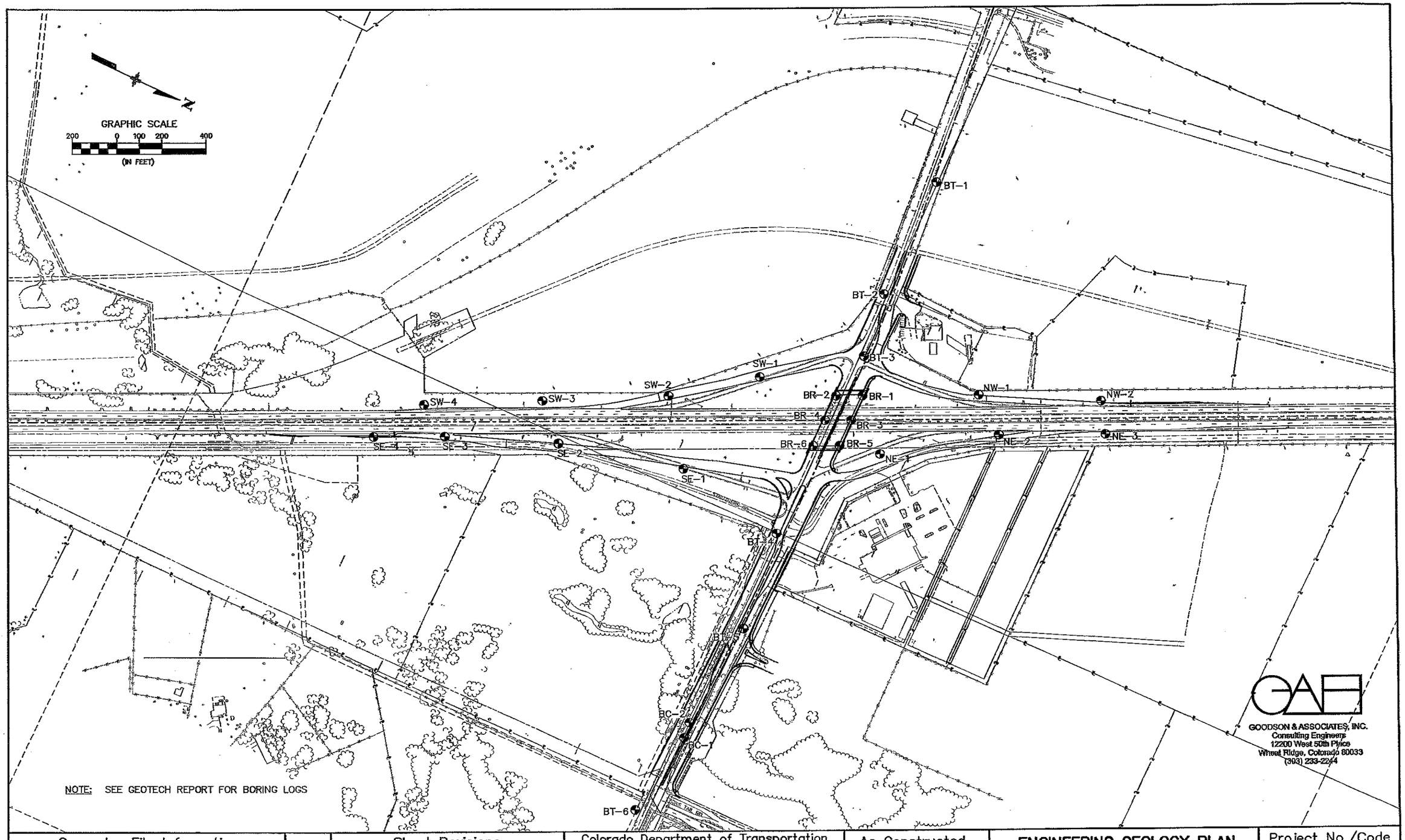
Revised: GMH 12-1-09

Void:

2025 TRAFFIC VOLUMES BAPTIST ROAD

Designer:	NMA	Structure Numbers	
Detailer:	JEM		
Sheet Subset: Traffic		TD2 of 2	

Project No./Code
IM 252-341
13388
Sheet Number 42



GOODSON & ASSOCIATES, INC.
Consulting Engineers
12200 West 50th Place
Wheat Ridge, Colorado 80033
(303) 233-2244

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Creation Date:	05/11/06	Initials:	NMA
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Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\		
Drawing File Name:	gop101.dgn		
Scale: Graphic	Units: English		

Sheet Revisions		

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REGION 2 JFF

As Constructed	
No Revisions: GMH 9-17-10	
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Void:	

ENGINEERING GEOLOGY PLAN BORING LOCATIONS

Designer:	NMA	Structure Numbers	
Detailer:	NMA		
Sheet Subset: Geology		GO1 of 1	

Project No./Code	
IM 252-341	
13388	
Sheet Number	46

GENERAL NOTES

STRUCTURE EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE PLANS, EXCEPT SHORING MAY BE REQUIRED FOR EXCAVATION ADJACENT TO THE EXISTING ROADWAY. TEMPORARY EXCAVATION SUPPORT SHALL BE PAID FOR BY ITEM 206 SHORING.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.

A COLORED STRUCTURAL CONCRETE COATING FINISH WILL BE REQUIRED, AS SHOWN ON THE PLANS, ON EXPOSED CONCRETE SURFACES TO 1 FOOT BELOW FINISHED GROUND. THE COLOR SHALL BE SELECTED FROM TEST PANELS PROVIDED BY THE CONTRACTOR.

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.

ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

(N) DENOTES NON COATED REINFORCING STEEL.

ALL THE PROVISIONS FOR BRIDGE DECK CONCRETE SHALL ALSO APPLY TO APPROACH SLAB CONCRETE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED 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'-3"	1'-7"	2'-0"	2'-9"	4'-6"	5'-8"	7'-2"	8'-10"
SPLICE LENGTH FOR CLASS D CONCRETE	1'-3"	1'-7"	1'-11"	2'-3"	3'-8"	4'-8"	5'-10"	7'-3"

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'-1"	1'-4"	1'-8"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPLICE LENGTH FOR CLASS D CONCRETE	1'-1"	1'-4"	1'-7"	1'-11"	2'-5"	3'-1"	3'-11"	4'-10"

(2) THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

(2) THE ABOVE SPLICE LENGTHS MAY BE REDUCED BY 20% WHEN 3" OF CLEAR COVER EXISTS AND BAR SPACING IS 6" OR GREATER ON CENTER.

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

AH. = AHEAD	E.F. = EACH FACES	NOM. = NOMINAL
ABUT. = ABUTMENT	ELEV. = ELEVATION	O.C. = ON CENTER
B.F. = BACK FACE	EMBED. = EMBEDMENT	PGL = PROFILE GRADE LINE
BK. = BACK	F.F. = FAR FACE	PROJ. = PROJECTION
BOT. = BOTTOM	GALV. = GALVANIZED	SHLD. = SHOULDER
BRG. = BEARING	JT. = JOINT	SPA. = SPACED
CONST. = CONSTRUCTION	MAX. = MAXIMUM	STA. = STATION
CLR. = CLEAR	MIN. = MINIMUM	STD. = STANDARD
CONT. = CONTINUOUS	N.F. = NEAR FACE	STR. = STRUCTURE
DWG. = DRAWING	NO. = NUMBER	TYP. = TYPICAL

PRECAST PANEL DECK FORMS WILL BE USED AS SHOWN IN THESE PLANS . (VE-2)

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

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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.

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER-STRUCTURE	ABUT. 1	PIER 2	ABUT. 3	WEST APPROACH SLAB	EAST APPROACH SLAB	TOTAL
202	REMOVAL OF BRIDGE	EACH							1
206	STRUCTURE EXCAVATION	CY		540	60	960			1,560
206	STRUCTURE BACKFILL (CLASS 1)	CY		2,200		2,300			4,500
206	STRUCTURE BACKFILL (CLASS 2)	CY		210	54	233			497
206	MECHANICAL REINFORCEMENT OF SOIL	CY		2,200		2,300			4,500
206	SHORING (AREA 1)	LS		1					1
206	SHORING (AREA 2)	LS				1			1
206	FILTER MATERIAL (CLASS B)	CY		54		54			108
503	DRILLED CAISSON (24 INCH)	LF		1,187		1,071			2,258
503	DRILLED CAISSON (48 INCH)	LF			325				325
507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	CY		99		108			207
513	BRIDGE DRAIN (SPECIAL)	EACH	4						4
515	CONCRETE SEALER	SY	2981				230	230	3441
518	WATERSTOP (6 INCH)	LF		23		22			45
518	BRIDGE EXPANSION DEVICE (0-4 INCH)	LF					138	138	276
(2) 601	CONCRETE CLASS B (BRIDGE)	CY	120				10	10	140
(2) 601	CONCRETE CLASS D (BRIDGE)	CY	843	318	123	322	134	136	1876
(2) 601	CONCRETE CLASS HT (DECK TOPPING)	CY	244				19	19	282
601	STRUCTURAL CONCRETE COATING	SY	3,957	316	353	317	22	23	4,988
(2) 602	REINFORCING STEEL	LB		1,731		1,906	31,385	32,050	67,072
(2) 602	REINFORCING STEEL (EPOXY COATED)	LB	352,882	40,752	28,872	41,534	373	373	464,786
606	BRIDGE RAIL TYPE 10M (SPECIAL)	LF	508				69	73	650
607	FENCE CHAIN LINK (SPECIAL) (92 INCH)	LF	254				32	34	320
(1) 610	MEDIAN COVER MATERIAL (4 INCH PATTERNED CONCRETE)	SF	1,266				108	108	1,482
613	¾ INCH ELECTRICAL CONDUIT	LF	16						16
613	1 INCH ELECTRICAL CONDUIT	LF	261						261
613	2 INCH ELECTRICAL CONDUIT	LF	208				39		247
613	3 INCH ELECTRICAL CONDUIT	LF	759				71	71	901
618	PRECAST CONCRETE U GIRDER (SPECIAL)	LF	1,764						1,764

(1) INCLUDES CLASS B CONCRETE INFILL (SEE DWG. NOS. B18 AND B30).

(2) THESE ITEMS TO BE PAID AT ORIGINAL PLAN QUANTITY AND WILL NOT BE MEASURED OR ADJUSTED. (VE-2)

B1/A — CROSS REFERENCE DRAWING NUMBER (IF BLANK, REFERENCE IS TO SAME SHEET) / SECTION OR DETAIL IDENTIFICATION

(1) — DENOTES KEY NOTE REFERENCE

(C1) — DENOTES CAISSON NUMBER

(G1) — DENOTES GIRDER NUMBER

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

INDEX OF DRAWINGS

B1 GENERAL INFORMATION
B2 GENERAL LAYOUT
B3 TYPICAL SECTION
B4 SUGGESTED PHASING
B5 ENGINEERING GEOLOGY (1 OF 2)
B6 ENGINEERING GEOLOGY (2 OF 2)
B7 CONSTRUCTION LAYOUT
B8 CAISSON LAYOUT
B9 CAISSON DETAILS
B10 ABUTMENT 1 DETAILS
B11 ABUTMENT 3 DETAILS
B12 ABUTMENT REINFORCING
B13 MISC. ABUTMENT DETAILS
B14 WINGWALL DETAILS
B15 RETAINING WALL DETAILS
B16 PIER 2 PLAN & ELEVATION
B17 PIER DETAILS
B18 SUPERSTRUCTURE DETAILS
B19 PRESTRESSED CONCRETE U (1 OF 2)
B20 PRESTRESSED CONCRETE U (2 OF 2)
B21 PIER DIAPHRAGM
B22 DECK REINFORCING PLAN
B23 SIDEWALK DETAILS
B24 UNDERDECK LUMINAIRE DETAILS
B25 DECK DRAIN DETAILS
B26 BRIDGE RAIL TYPE 10M (SPECIAL)
B27 BRIDGE RAIL DETAILS
B28 FENCE CHAIN LINK (SPECIAL)
B29 APPROACH SLAB DETAILS (1 OF 2)
B30 APPROACH SLAB DETAILS (2 OF 2)
B31 EXPANSION DEVICE (0-4 INCH) (1 OF 2)
B32 EXPANSION DEVICE (0-4 INCH) (2 OF 2)
B33 EXCAVATION AND BACKFILL
B34 MECHANICALLY STABILIZED BACKFILL
B35 SLOPE PAVING DETAILS
B36 DECK ELEVATION DIAGRAM
B37 BRIDGE DECK ELEVATIONS
B38 BRIDGE DECK ELEVATIONS
B39 BRIDGE DECK ELEVATIONS
B40 BRIDGE DECK ELEVATIONS
B41 BRIDGE DECK ELEVATIONS
B42 BRIDGE DECK ELEVATIONS

BRIDGE DESCRIPTION

2-SPAN (125'-0", 127'-0")
CONCRETE PRESTRESSED U GIRDER CONTINUOUS (PRECAST)

OVER INTERSTATE 25

106'-0" ROADWAY CURB TO CURB, 64° 43'30" SKEW
6'-0" MEDIAN, 10'-6" SIDEWALK (NORTH SIDE)
2'-0" BRIDGE RAIL TYPE 10M (SPECIAL) (EACH SIDE)
FENCE CHAIN LINK (SPECIAL) (NORTH SIDE)

DESIGN DATA

AASHTO, SECOND EDITION LRFD WITH CURRENT INTERIMS

(VE-2) DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN

LIVE LOAD: HL-93 (DESIGN TRUCK OR TANDEM, AND DESIGN LANE LOAD)
DEAD LOAD: ASSUMES 36 LBS. PER SQ. FT. FOR FUTURE BRIDGE DECK OVERLAY.

REINFORCED CONCRETE:

(VE-2) (A-2)
CLASS B CONCRETE: f'c = 4,500 psi
CLASS D CONCRETE: f'c = 4,500 psi
REINFORCING STEEL: fy = 60,000 psi
CLASS H CONCRETE: f'c = 4,500 psi (BRIDGE DECK)

CAISSON CONCRETE:

CLASS BZ CONCRETE: f'c = 4,000 psi
REINFORCING STEEL: fy = 60,000 psi

PRECAST PRESTRESSED CONCRETE:

CLASS PS CONCRETE f'c = (SEE DETAILS)
f'ci = 270,000 psi

STATION	31+94.21
STATION	34+49.52

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Last Modification Date:	02/05/09	Initials:	PMH
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CAD Ver. MicroStation V8	Scale: NONE	Units:	ENGLISH

Sheet Revisions		
(A-2) 10-24-08	ADDENDUM NO. 2	SOS
(VE-2) 02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

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PBS&J

As Constructed
No Revisions:
Revised: GMH 7-17-10
Void:

BAPTIST ROAD OVER I-25
GENERAL INFORMATION

NEAR	MONUMENT	SEC. 26/35 T11S R67W	
Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B1 of 42	

Project No./Code
IM 252-341
13388
Sheet Number 47

Design: Designed By AGW 03/08 INITIAL DAN DATE 03/08
Detail: Detailed By AGW 03/08 INITIAL ARP DATE 09/05
Quantities: Checked By AGW 03/08 INITIAL AGW DATE 03/06
Mos: Checked By KAL 03/06 INITIAL AGW DATE 03/06
Revision Dates (Preliminary Stage Only)

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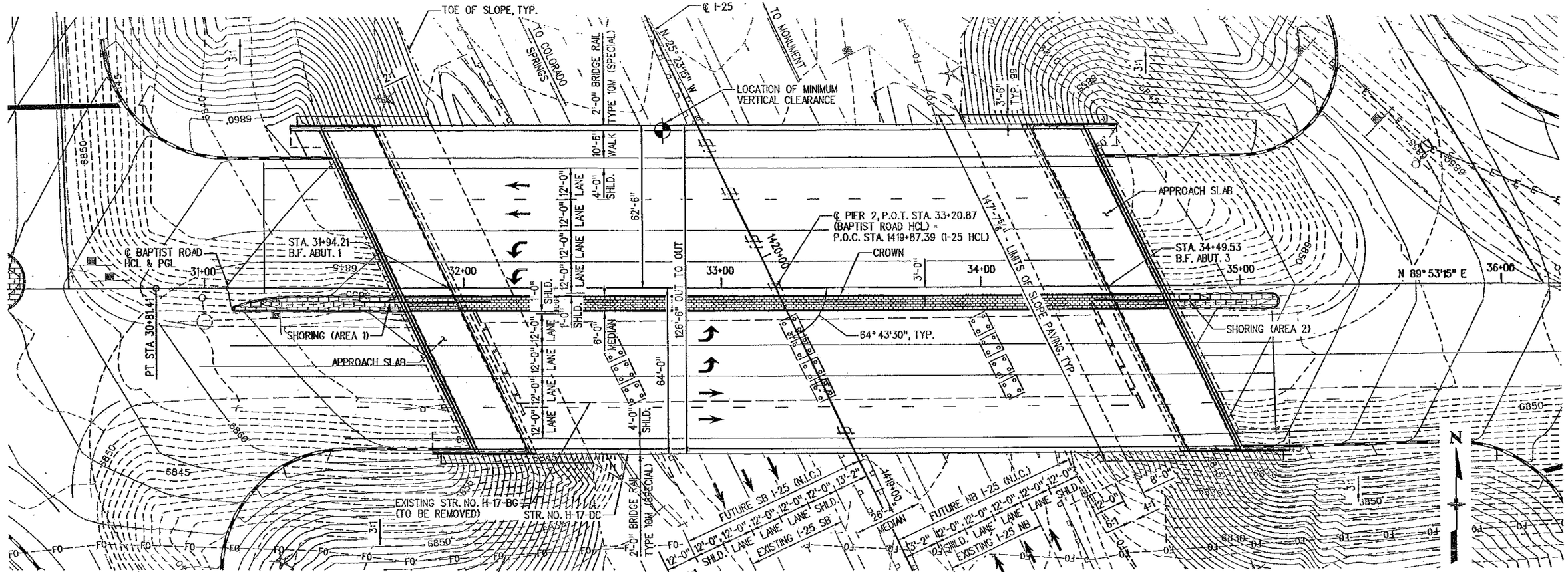

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Designed By	DAN	04/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ARP	04/05
Checked By	AGW	03/06

Quantities By	AGW	03/06
Checked By	KAL	03/06

Revision Dates (Preliminary Stage Only)

$$$$DGN 1:33:43 PM $$$$DATE$$$$

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CAD Ver. MicroStation V8	Scale: 1"=40'-0"	Units:	ENGLISH

Sheet Revisions

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PBS&J

As Constructed

No Revisions: GmH 7-17-10

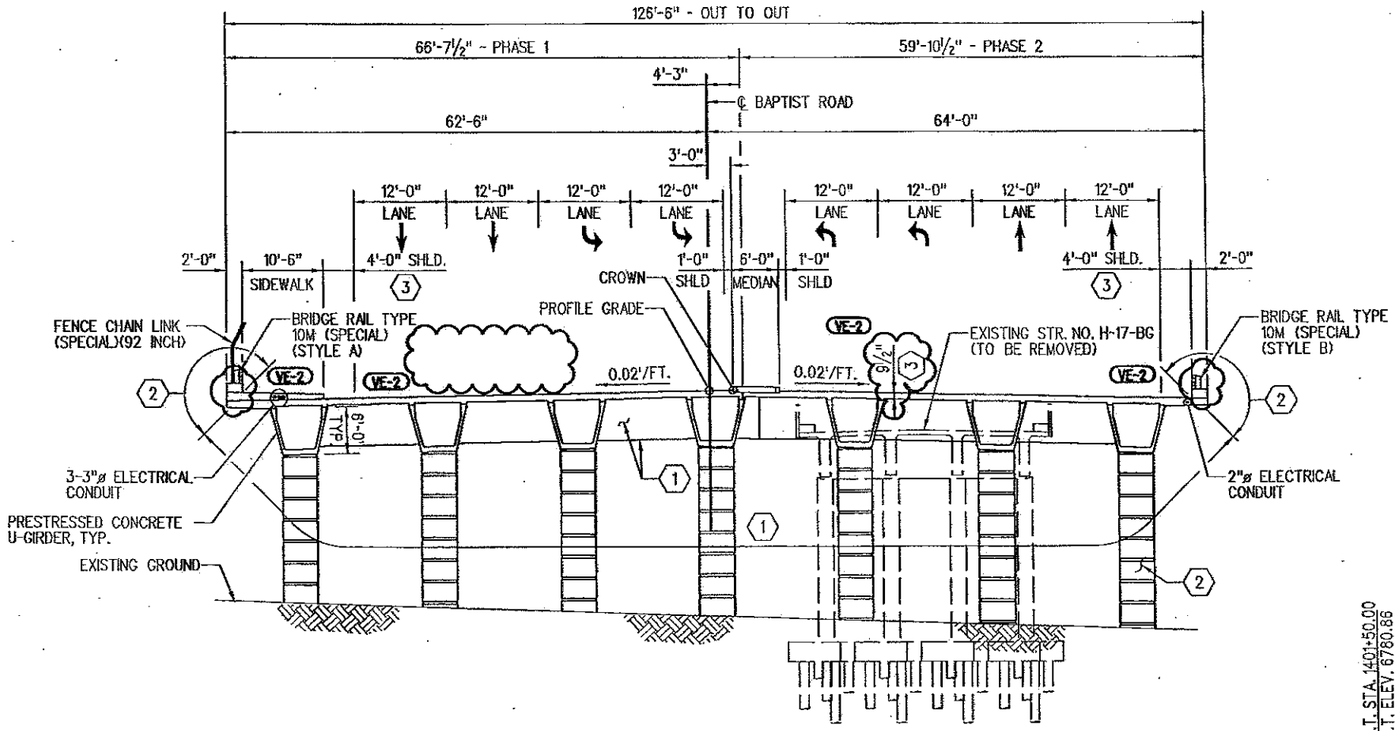
Revised:

Void:

BAPTIST ROAD OVER I-25 GENERAL LAYOUT

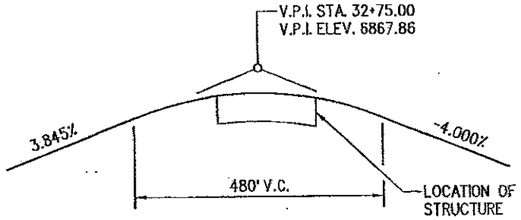
Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets:	B2 of 43

Project No./Code	
IM 252-341	
13388	
Sheet Number	48

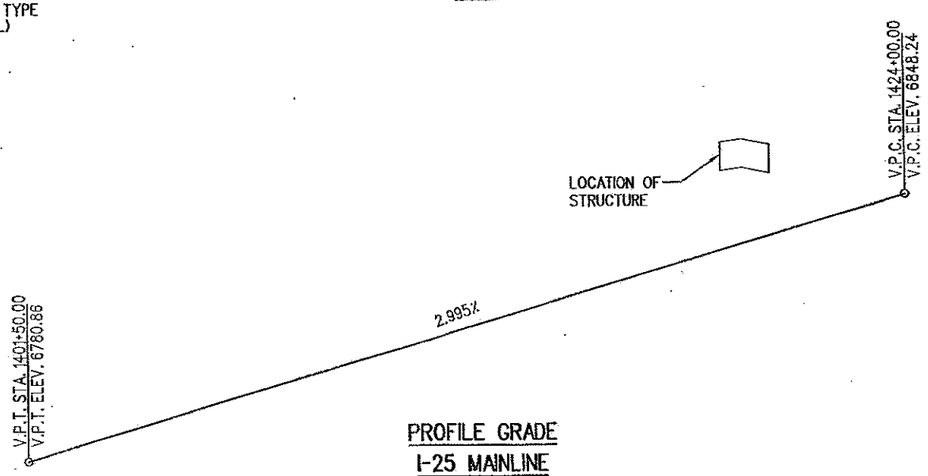


TYPICAL SECTION

(LOOKING AHEAD STATION)



PROFILE GRADE
BAPTIST ROAD



PROFILE GRADE
I-25 MAINLINE

NOTES

1. TRANSVERSE DIMENSIONS ARE HORIZONTAL AND ARE NORMAL TO ℄ BAPTIST ROAD UNLESS NOTED OTHERWISE.
2. CONCRETE COATING COLORS SHALL BE EQUIVALENT TO FEDERAL STANDARD 595B COLOR NUMBERS LISTED BELOW.

KEY NOTES

(1) LIMITS OF STRUCTURAL CONCRETE COATING COLOR NO. 30227 (LIGHT BROWN). ALL EXPOSED SURFACES OF GIRDERS AND UNDERSIDE OF DECK OVERHANGS. ALL EXPOSED FACES OF INTEGRAL PIER CAP.

(2) LIMITS OF STRUCTURAL CONCRETE COATING COLOR NO. 30313 (BEIGE). EXPOSED FACES OF BRIDGE RAIL CURB, ABUTMENTS, WINGWALLS, AND ALL FACES OF COLUMNS TO 1 FOOT BELOW FINISHED GROUND LINE.

VE-2 (3) CONCRETE DECK THICKNESS VARIES ACROSS WIDTH OF SHOULDER, FROM 9½" AT EDGE OF LANE TO 8" AT GUTTER LINE. APPLY SEALER TO CONCRETE DECK PER SECTION 515.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Revision Dates (Preliminary Stage Only)

Item	INITIAL	DATE
	DAN	04/05
	AGW	03/06
	K.AL	03/06

Detail	INITIAL	DATE
Detailed By	ARP	04/05
Checked By	AGW	03/06
Quantities By		
Checked By		

Design	INITIAL	DATE
Designed By	DAN	04/05
Checked By	AGW	03/06

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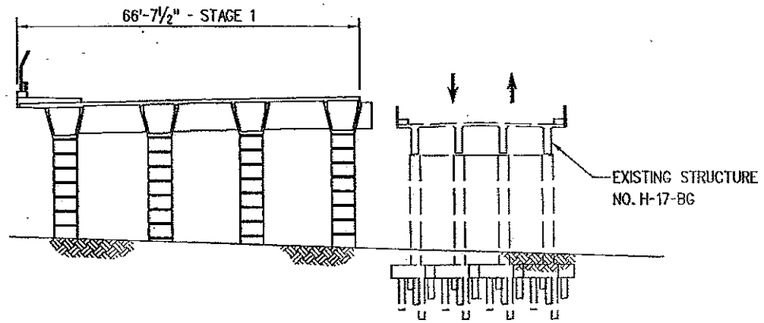

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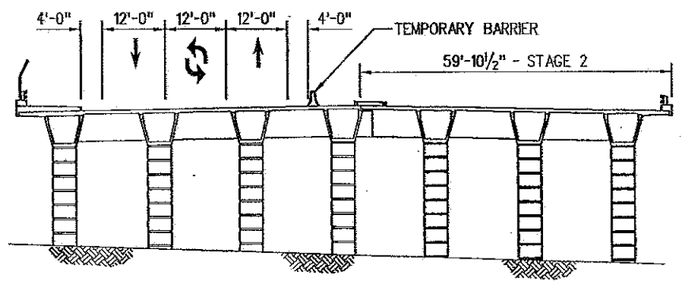

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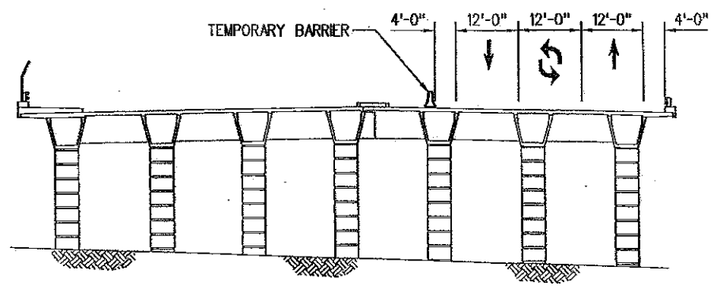

PHASE 3

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

(VE-2)

PHASE 1

MAINTAIN TRAFFIC ON EXISTING STRUCTURE.

CONSTRUCT STAGE 1 OF NEW STRUCTURE. PROVIDE TEMPORARY SHORING, AS NECESSARY.

(VE-2)

PHASE 2

SHIFT TRAFFIC TO STAGE 1 OF NEW STRUCTURE. PROVIDE TEMPORARY TRAFFIC CONTROL AS NECESSARY.

REMOVE EXISTING STRUCTURE.

CONSTRUCT STAGE 2 OF NEW STRUCTURE.

CONSTRUCT MEDIAN.

(VE-2)

PHASE 3

SHIFT TRAFFIC TO STAGE 2 OF NEW STRUCTURE. PROVIDE TEMPORARY TRAFFIC CONTROL, AS NECESSARY.

COMPLETE REMAINING PORTIONS OF NEW STRUCTURE.

SHIFT TRAFFIC TO FINAL CONFIGURATION (SEE "TYPICAL SECTION" ON DWG. NO. B3).

Revision Dates (Preliminary Stage Only)

	INITIAL	DATE
Quantities By	ACW	03/06
Checked By	KAL	03/06

Detail

	INITIAL	DATE
Detailed By	ARP	08/05
Checked By	AGW	03/06

Design

	INITIAL	DATE
Designed By	DAN	08/05
Checked By	AGW	03/06

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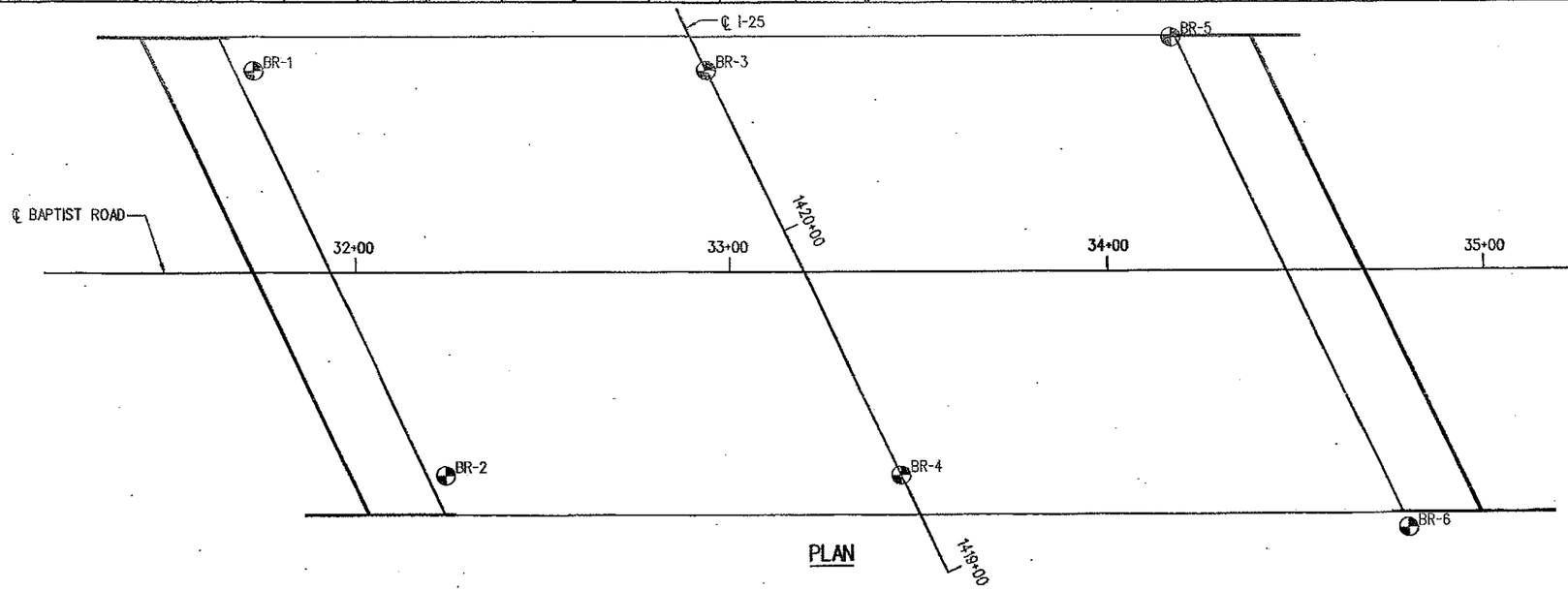
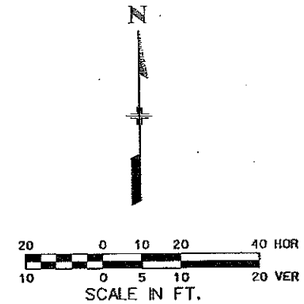
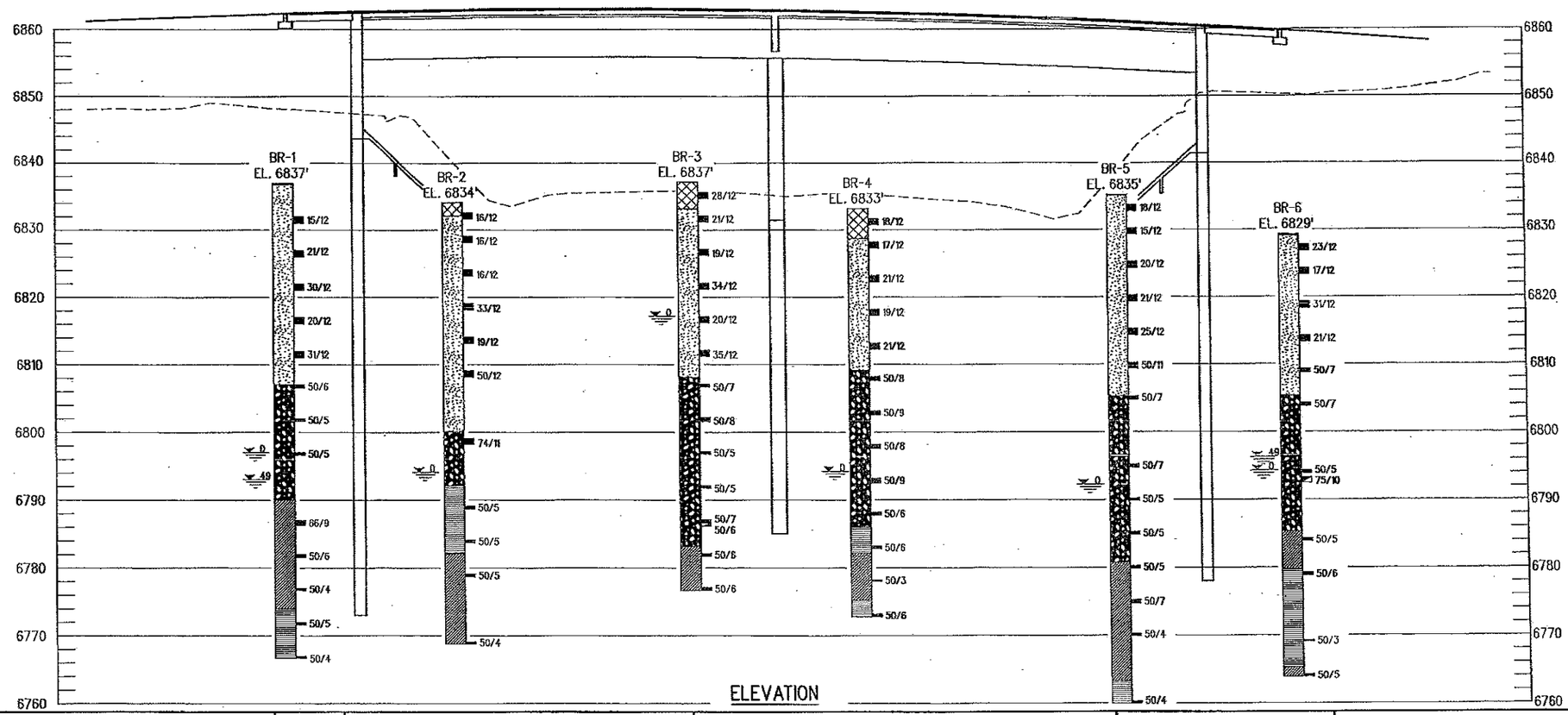


PLAN





ELEVATION

NOTES

1. FOR ADDITIONAL INFORMATION, SEE DWG. NO. B6.

Design	INITIAL	DATE
Designed By	DMN	9/05
Checked By		

Detail	INITIAL	DATE
Detailed By	ERS	12/05
Checked By	AGW	3/06

Quantities By	DATE
Checked By	03/06

Revision Dates (Preliminary Stage Only)	INITIAL	DATE
	AGW	03/06
	KAL	03/06

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Sheet Revisions					

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PBS&J

As Constructed	
No Revisions: GmH 7-17-10	
Revised:	
Void:	

BAPTIST ROAD OVER I-25 ENGINEERING GEOLOGY (1 OF 2)

Designer:	D. Nusiatka	Structure Numbers	H-17-DC
Detailer:	E. Schawo		
Sheet Subset:	BRIDGE	Subset Sheets:	B5 of 42

Project No./Code	
IM 252-341	
13388	
Sheet Number	51

SUMMARY OF TEST RESULTS

BORING NUMBER	DEPTH (FT)	NAT. MOIST. (%)	NATURAL DRY DENSITY (PCF)	GRAVEL (%)	SAND (%)	FINES (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	UNCONFINED COMPRESSIVE STRENGTH (PSF)	SWELL CONSOL. @ 500 PSF (%)	AASHTO GROUP INDEX	UNIFIED CLASS.	SOIL DESCRIPTION
BR-1	5.0	7.2	108.0	4.9	88.0	7.1	NV	NP			A-1-b	SP-SM	POORLY GRADED SAND WITH SILT
BR-1	10.0	7.0	110.4										
BR-1	30.0	3.6	104.2	0.7	91.3	8.0	NV	NP			A-1-b	SW-SM	WELL GRADED SAND WITH SILT
BR-2	15.0	8.4	115.4	1.6	91.4	7.0	NV	NP			A-1-b	SP-SM	POORLY GRADED SAND WITH SILT
BR-2	45.0	10.3	124.1	0.0	59.4	40.6	28	12	16133		A-6(1)	SC	CLAYEY SAND
BR-2	50.0	13.7	109.6										
BR-3	1.5	3.5	120.0	2.1	88.4	9.5	NV	NP			A-1-b	SW-SM	WELL GRADED SAND WITH SILT
BR-3	15.0	6.4	114.0	1.9	87.2	10.9	NV	NP			A-2-4(0)	SP-SM	POORLY GRADED SAND WITH SILT
BR-3	20.0	12.2	116.3	2.0	75.2	22.8	35	18		0.3	A-2-6(1)	SC	CLAYEY SAND
BR-3	30.0	8.6	111.7										
BR-4	5.0	5.0	106.9	15.7	78.4	5.9	NV	NP			A-1-b	SP-SM	POORLY GRADED SAND WITH SILT AND GRAVEL
BR-4	15.0	8.2	112.1										
BR-4	50.0	12.1	120.1	0.0	61.2	38.8	NV	NP	10101		A-4(0)	SM	SILTY SAND
BR-5	10.0	7.1	112.1	2.4	90.9	6.7	NV	NP			A-1-b	SW-SM	WELL GRADED SAND WITH SILT
BR-5	20.0	10.9	125.0	0.9	87.6	11.5	NV	NP			A-1-b	SP-SM	POORLY GRADED SAND WITH SILT
BR-5	30.0	5.9	116.2	1.7	89.1	9.2	NV	NP			A-1-b	SW-SM	WELL GRADED SAND WITH SILT
BR-6	15.0	8.3	114.7	3.8	83.3	12.9	NV	NP			A-1-b	SM	SILTY SAND
BR-6	20.0	4.2	114.5										
BR-6	25.0	6.8	109.3	3.5	84.4	12.1	NV	NP			A-1-b	SM	SILTY SAND

TYPE OF MATERIALS

- TOPSOIL, SAND, SILTY, SLIGHTLY MOIST, TAN TO BROWN.
- SAND FILL, SILTY, MEDIUM DENSE, SLIGHTLY MOIST TO MOIST, TAN TO BROWN
- CLAY, VERY SANDY, STIFF TO VERY STIFF, SLIGHTLY MOIST TO WET, TAN, GRAY.
- SAND, SILTY, FINE TO COARSE GRAINED, VERY LOOSE TO VERY DENSE, SLIGHTLY MOIST TO VERY MOIST, LIGHT GRAY TO GRAY, ORANGE BROWN, TAN, OCCASIONAL CLAY LENSES, OCCASIONAL GRAVEL.
- SANDSTONE, POORLY CEMENTED, HARD TO VERY HARD, MOIST TO WET, ORANGE-BROWN, GRAY, OCCASIONALLY CLAYEY.
- SANDSTONE, WELL CEMENTED, CLAYEY, SILTY, VERY HARD, MOIST TO VERY MOIST, GRAY, BROWN.
- CLAYSTONE, SILTY SANDY TO VERY SANDY, HARD TO VERY HARD, SLIGHTLY MOIST TO MOIST, LIGHT GRAY, GREENISH GRAY, BROWN.

LEGEND

- 13/12 - DRIVE SAMPLE. INDICATES THIRTEEN BLOWS OF A ONE HUNDRED FORTY POUND HAMMER FALLING THIRTY INCHES WERE REQUIRED TO DRIVE THE TWO INCH I.D. CALIFORNIA BARREL SAMPLER TWELVE INCHES.
- 13/12 - DRIVE SAMPLE. INDICATES THIRTEEN BLOWS OF A ONE HUNDRED FORTY POUND HAMMER FALLING THIRTY INCHES WERE REQUIRED TO DRIVE THE TWO INCH O.D. SPLIT SPOON SAMPLER TWELVE INCHES.
- 0 - INDICATES DEPTH TO GROUNDWATER LEVEL AND NUMBER OF DAYS AFTER DRILLING MEASUREMENT WAS MADE.
- LOCATION OF TEST BORING

NOTES

1. EXPLORATORY BORINGS FOR THE BRIDGE WERE DRILLED MAY 31, JUNE 1, AND JULY 19, 2005 WITH 3 1/4-INCH I.D. CONTINUOUS FLIGHT HOLLOW STEM POWER AUGER. EXPLORATORY BORINGS FOR THE PAVEMENT WERE DRILLED JUNE 2, AND JULY 20, 2005, WITH FOUR-INCH O.D. CONTINUOUS FLIGHT SOLID STEM POWER AUGER. EXPLORATORY BORINGS FOR THE BOX CULVERT WERE DRILLED JULY 18, 2005, WITH FOUR-INCH O.D. CONTINUOUS FLIGHT SOLID STEM POWER AUGER.
2. LOCATIONS OF THE EXPLORATORY BORINGS WERE MEASURED APPROXIMATELY BY PACING FROM FEATURES SHOWN ON THE SITE PLAN PROVIDED BY THE CLIENT.
3. ELEVATIONS OF THE EXPLORATORY BORINGS WERE INTERPOLATED BY THE CONTOUR MAPS PROVIDED BY THE CLIENT. LOGS OF EXPLORATORY BORINGS ARE DRAWN TO DEPTH.
4. THE EXPLORATORY BORING LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. THE BOUNDARY LINES BETWEEN MATERIALS SHOWN ON THE EXPLORATORY BORING LOGS ARE APPROXIMATE AND THE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.
6. GROUND WATER LEVELS SHOWN ON THE LOGS WERE MEASURED AT THE TIME AND UNDER CONDITIONS INDICATED. FLUCTUATIONS IN THE GROUNDWATER LEVELS MAY occur WITH TIME.
7. FOR BORING LOCATIONS, SEE DWG. NO. B5.
8. GOODSON & ASSOCIATES, INC. GEOTECHNICAL ENGINEERING STUDY, PROJ. NO. 65925.01, JANUARY 31, 2006.

GAE

Revision Dates (Preliminary Stage Only)

Detail	INITIAL	DATE
Detailed By	ERS	12/05
Checked By	AGW	3/06
Quantities By		
Checked By	KAL	10/3/06

Design	INITIAL	DATE
Designed By	DMR	9/05
Checked By		

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$$$$DATE$$$$

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Last Modification Date:	10/24/06	Initials:	ERS
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\Bridge\		
Drawing File Name:	breg02.dgn		
CAD Ver. MicroStation V8	Scale: NONE	Units:	ENGLISH

Sheet Revisions

Colorado Department of Transportation
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PBS&J

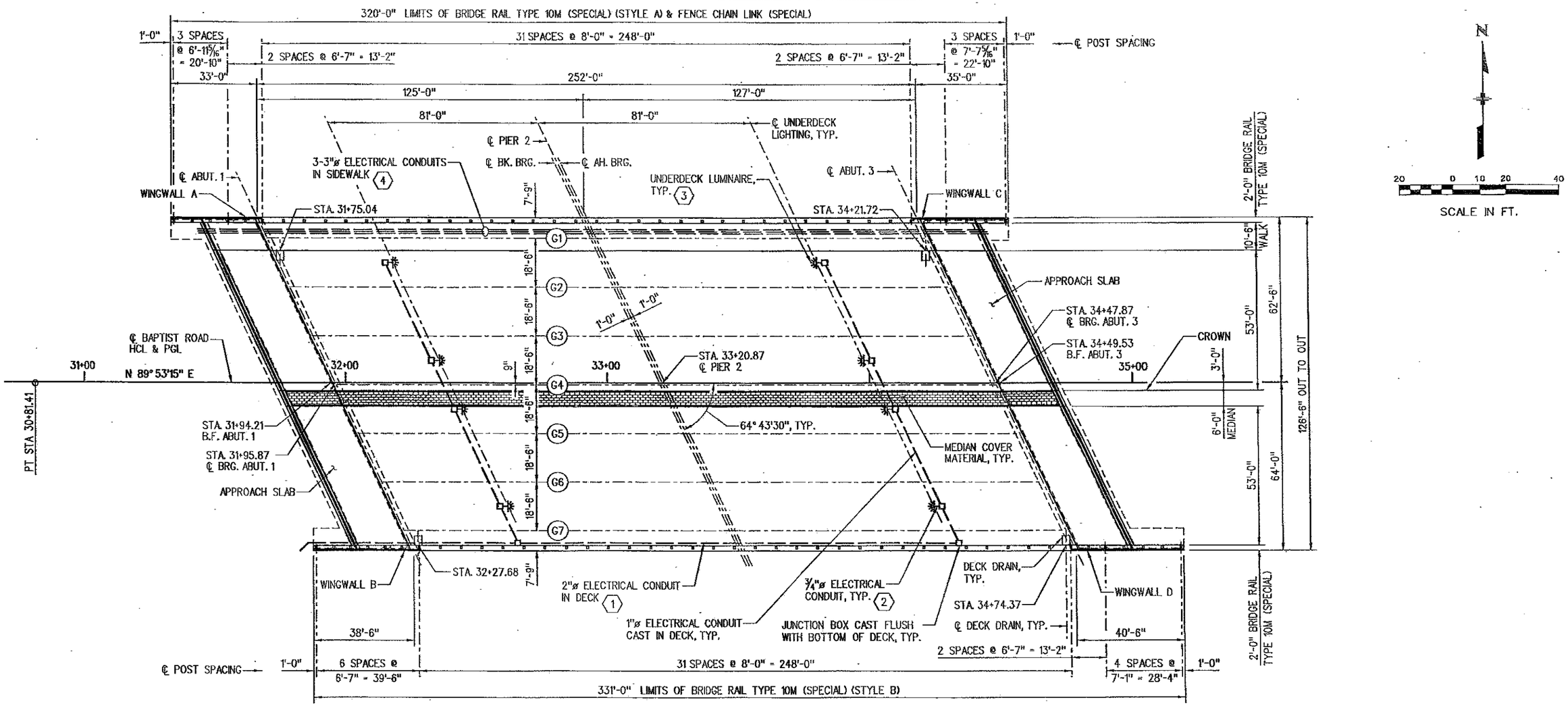
REGION 2

As Constructed
No Revisions: GMH 7-17-10
Revised:
Void:

BAPTIST ROAD OVER I-25
ENGINEERING GEOLOGY (2 OF 2)

Designer:	D. Nasiatka	Structure Numbers	H-17-DC
Detailer:	E. Schawo		
Sheet Subset:	BRIDGE	Subset Sheets:	B6 of 42

Project No./Code
IM 252-341
13388
Sheet Number 52



CONSTRUCTION LAYOUT

KEY NOTES

(1) EXTEND 2"ø CONDUIT 2'-0" PAST END OF RETAINING WALL B AND CONNECT TO DIRECT BURIED CABLE. SEE LIGHTING PLANS FOR DETAILS. PROVIDE EXPANSION/CONTRACTION COUPLER AT BRIDGE EXPANSION DEVICE.

(2) MECHANICALLY FASTEN ¾"ø CONDUIT TO BOTTOM OF DECK AND CONNECT TO UNDERDECK LUMINAIRE MOUNTING ASSEMBLY AS SHOWN ON DWG. NO. B24.

(3) FOR DETAILS OF UNDERDECK LUMINAIRE MOUNTING ASSEMBLY, SEE DWG. NO. B24. FOR LUMINAIRE DETAILS, SEE LIGHTING PLANS.

(4) EXTEND 3"ø CONDUIT 2'-0" PAST APPROACH SLAB SLEEPER AND CONNECT TO BURIED CONDUIT. SEE SIGNAL PLANS FOR DETAILS. PROVIDE EXPANSION/CONTRACTION COUPLERS AT BRIDGE EXPANSION DEVICES.

NOTES

1. DIMENSIONS ARE HORIZONTAL UNLESS NOTED OTHERWISE.

Design	INITIAL	DATE
Designed By	DAN	01/06
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06

Revision Dates (Preliminary Stage Only)

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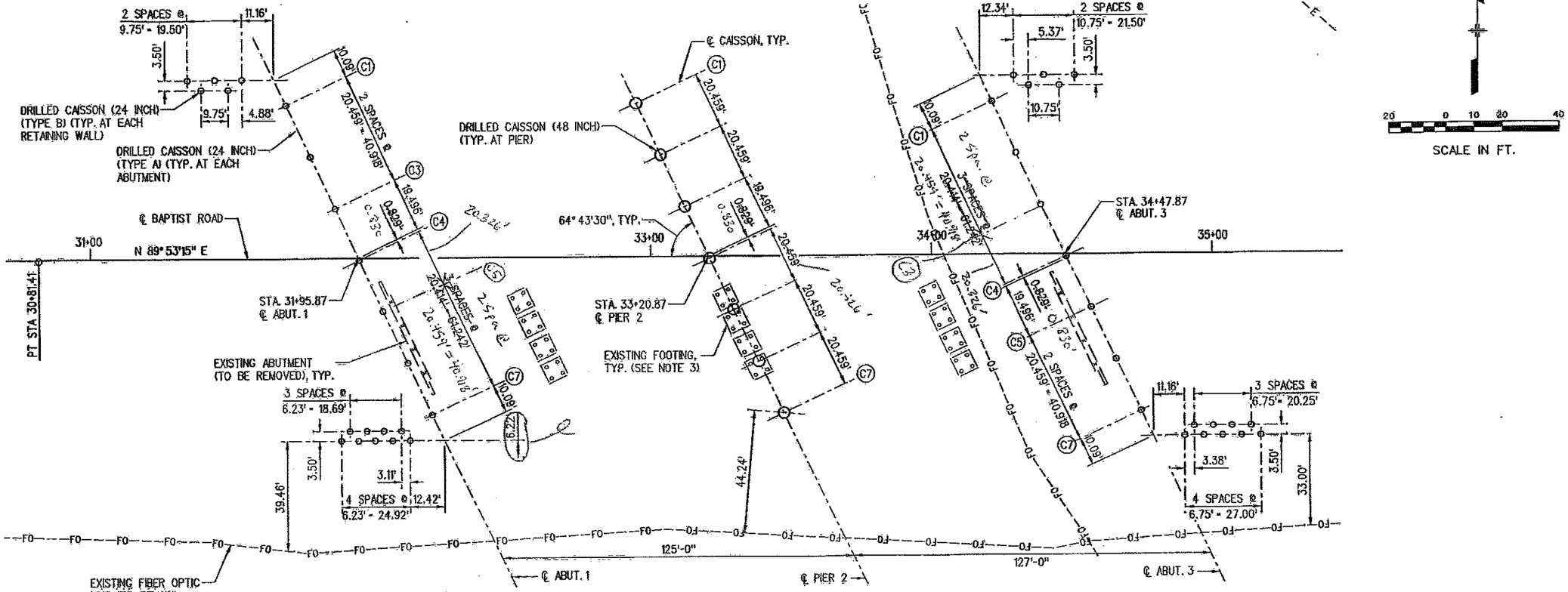

CAISSON LAYOUT

All revisions are text modifications only. Actual caisson layouts and cut-to-out dimensions are correct.

RFI - 005

NOTES

1. TEMPORARY STEEL CASINGS AND DEWATERING MAY BE REQUIRED. CASING AND DEWATERING SHALL BE INCLUDED IN ITEM 503.
2. REMOVE EXISTING BRIDGE TO 1'-0" MIN. BELOW FINISHED GROUND LINE, IN ACCORDANCE WITH SECTION 202.
3. PORTIONS OF EXISTING SUBSTRUCTURE THAT INTERFERE WITH CONSTRUCTION OF NEW CAISSONS SHALL BE REMOVED AS NECESSARY TO INSTALL NEW CAISSONS. METHOD OF REMOVAL AND SUBSURFACE STABILIZATION MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. COST OF REMOVAL AND SUBGRADE STABILIZATION SHALL BE INCLUDED IN ITEM 202, REMOVAL OF STRUCTURE.
4. DIMENSIONS ARE HORIZONTAL.
5. FOR CAISSON DETAILS, SEE DWG. NO. B9.

Revision Dates (Preliminary Stage Only)	

Quantities	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/06

Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/06
Checked By		

Design	INITIAL	DATE
Designed By	DAN	01/06
Checked By	AGW	03/06

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R-1

Sheet Revisions		
12-01-08	RFI - 005	GMH

Colorado Department of Transportation
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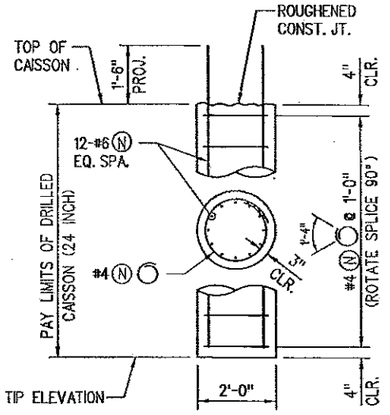
As Constructed
No Revisions:
Revised: GMH 12-23-09
Void:

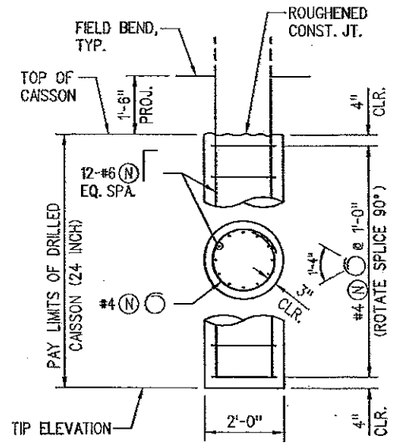
BAPTIST ROAD OVER I-25
CAISSON LAYOUT

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets:	B8 of 40

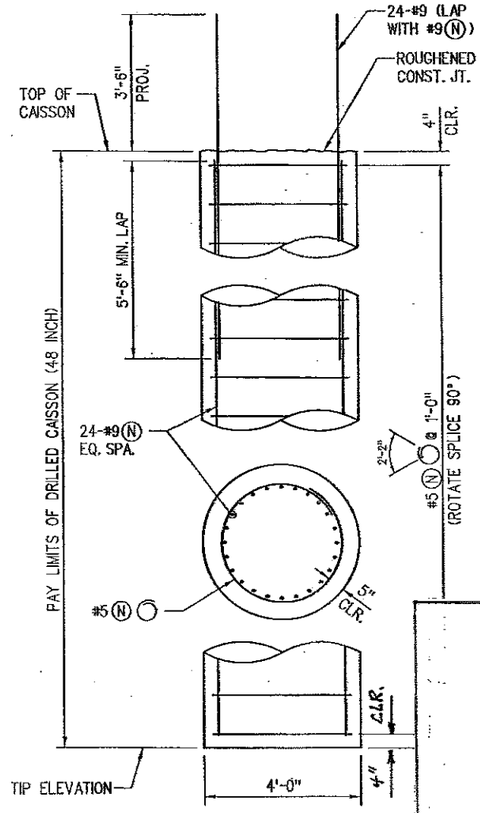
Project No./Code	
IM 252-341	
13388	
Sheet Number	54



24"ø CAISSON (TYPE A)

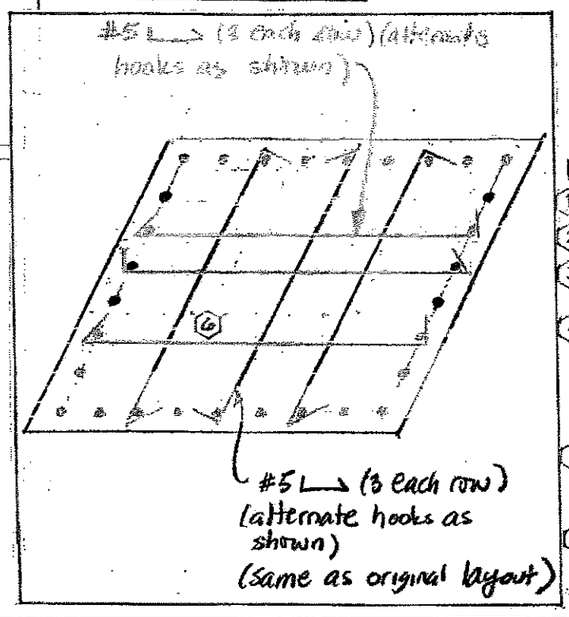


24"ø CAISSON (TYPE B)



48"ø CAISSON

ALTERNATE LAYOUT



CAISSON SUMMARY TABLE

LOCATION	CAISSON NUMBER	CAISSON SIZE	TOP OF CAISSON ELEV.	ESTIMATED BEDROCK ELEV.	MINIMUM PENETRATION INTO BEDROCK (FT.)	ESTIMATED TIP ELEV.	FACTORED MAXIMUM LOAD (TONS)	UNFACTORED MAXIMUM LOAD (TONS)
RET. WALL A	N/A	24"ø	6848.7	6800.0	6.0	6794.0	55.0	72.6
RET. WALL B	N/A	24"ø	6844.5	6800.0	6.0	6794.0	42.2	55.6
ABUT. 1	C1	24"ø	6845.4	6800.0	27.0	6773.0	379.8	283.6
ABUT. 1	C2	24"ø	6844.8	6800.0	27.0	6773.0	379.7	283.4
ABUT. 1	C3	24"ø	6844.2	6800.0	27.0	6773.0	379.5	283.3
ABUT. 1	C4	24"ø	6843.6	6800.0	27.0	6773.0	379.3	283.1
ABUT. 1	C5	24"ø	6843.0	6800.0	27.0	6773.0	379.1	283.0
ABUT. 1	C6	24"ø	6842.4	6800.0	27.0	6773.0	378.9	282.8
ABUT. 1	C7	24"ø	6841.8	6800.0	27.0	6773.0	378.8	282.7
PIER 2	C1	48"ø	6833.5	6808.0	23.0	6785.0	713.7	536.1
PIER 2	C2	48"ø	6832.7	6808.0	23.0	6785.0	778.5	551.6
PIER 2	C3	48"ø	6832.0	6808.0	23.0	6785.0	721.6	506.1
PIER 2	C4	48"ø	6831.5	6808.0	23.0	6785.0	768.9	543.9
PIER 2	C5	48"ø	6830.8	6808.0	23.0	6785.0	742.2	522.6
PIER 2	C6	48"ø	6830.2	6808.0	23.0	6785.0	731.9	514.3
PIER 2	C7	48"ø	6829.5	6808.0	23.0	6785.0	728.0	512.4
ABUT. 3	C1	24"ø	6843.2	6805.0	27.0	6778.0	377.2	281.4
ABUT. 3	C2	24"ø	6842.6	6805.0	27.0	6778.0	377.0	281.2
ABUT. 3	C3	24"ø	6842.0	6805.0	27.0	6778.0	376.9	281.1
ABUT. 3	C4	24"ø	6841.4	6805.0	27.0	6778.0	376.7	280.9
ABUT. 3	C5	24"ø	6840.8	6805.0	27.0	6778.0	376.5	280.8
ABUT. 3	C6	24"ø	6840.2	6805.0	27.0	6778.0	376.3	280.7
ABUT. 3	C7	24"ø	6839.6	6805.0	27.0	6778.0	376.1	280.5
RET. WALL C	N/A	24"ø	6846.5	6805.0	6.0	6799.0	55.0	72.6
RET. WALL D	N/A	24"ø	6842.3	6805.0	6.0	6799.0	42.2	55.6

NOTES

1. CAISSON CONCRETE SHALL BE CONCRETE CLASS BZ.
2. FOR LOCATION OF CAISSONS, SEE DWG. NO. B8.
3. TEMPORARY STEEL CASINGS AND DEWATERING MAY BE REQUIRED. CASING AND DEWATERING SHALL BE INCLUDED IN ITEM 503.
4. LAP SPLICES SHALL BE SECURELY TIED OR CLAMPED. ENGINEER APPROVED MECHANICAL COUPLERS, OR BUTT WELDS CONFORMING TO AWS, MAY BE SUBSTITUTED FOR LAP SPLICES. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLING AND SUPPORTING THE REINFORCING CAGE TO SAFELY RESIST ALL LOADS IMPOSED DURING HANDLING AND CONCRETE PLACEMENT. COST OF SPLICES IS INCLUDED IN ITEM 503.
5. BARS PROJECTING FROM TOP OF CAISSON SHALL BE PLACED TO FIT INSIDE THE REINFORCING CAGE OF THE PIER COLUMN, ABUTMENT, OR WALL FOOTING. PROJECTING BARS SHALL BE INCLUDED IN THE COST OF ITEM 503, DRILLED CAISSON.
6. FOR CLARITY #5 L BARS NOT SHOWN. DETAIL ADDED TO COLUMN TIES - PLAN SHEET 63.

Revision Dates (Preliminary Stage Only)

Revised By	Date	Detailed By	Date	Designed By	Date
		ARP 03/06		SA 01/06	
		AGW 03/06			
		Checked By		Checked By	
Initial	Date	Quantities By	Date		
KAL	03/06	Checked By			

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Sheet Revisions

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PBS

As Constructed

No Revisions:

Revised: 4MH 12-23-09

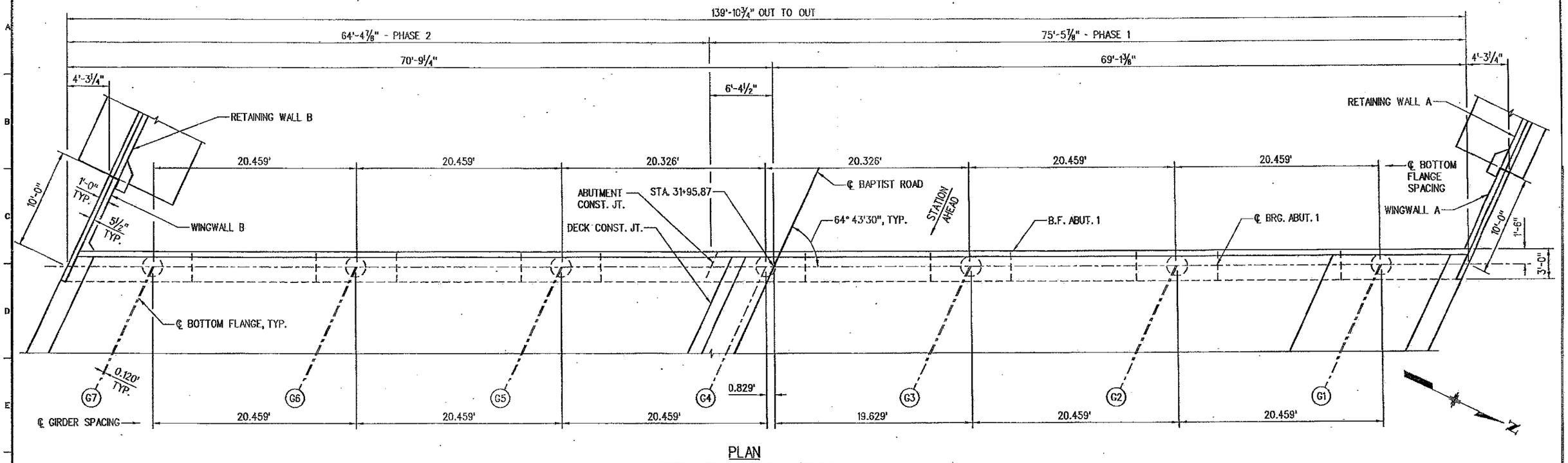
Void:

BAPTIST ROAD OVER I-25
CAISSON DETAILS

Designer:	S. Abraham	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets:	88 of 42

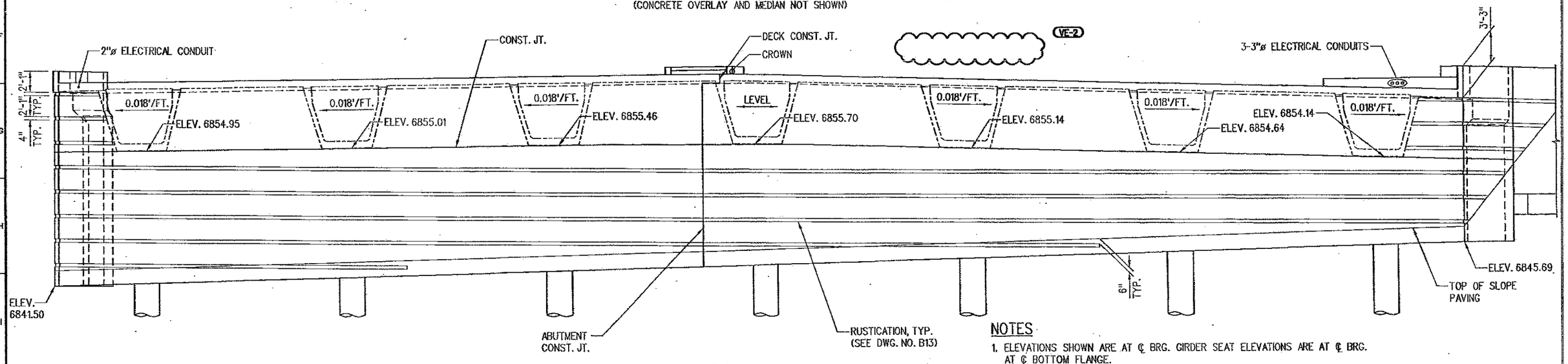
Project No./Code
IM 252-341
13388

Sheet Number 55



PLAN

(CONCRETE OVERLAY AND MEDIAN NOT SHOWN)



ELEVATION

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

NOTES

1. ELEVATIONS SHOWN ARE AT ℄ BRG. GIRDER SEAT ELEVATIONS ARE AT ℄ BRG. AT ℄ BOTTOM FLANGE.
2. FOR ADDITIONAL INFORMATION, SEE DWG. NOS. B12 & B13.
3. RUSTICATION ROWS SHALL BE STRAIGHT LINES FROM POINTS LOCATED AT FRONT FACE OF ABUTMENT AND OUTSIDE FACE OF WINGS, AS INDICATED IN "ELEVATION". ADJACENT ROWS SHALL BE PARALLEL. RUSTICATION SHALL BE CONTINUOUS THROUGH ABUTMENT CONSTRUCTION JOINT. OMIT BETWEEN GIRDERS.

Revision Dates (Preliminary Stage Only)	Design INITIAL	DATE	Detail INITIAL	DATE	Quantities INITIAL	DATE
	Designed By: SA	01/06	Detailed By: ARP	01/06	Quantities By: AGW	03/06
	Checked By: AGW	03/06	Checked By: AGW	03/06	Checked By: KAL	03/06

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CAD Ver. MicroStation V8	Scale: 1"=10'-0"	Units:	ENGLISH

Sheet Revisions		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

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PBS

As Constructed

No Revisions:

Revised: GMH 12-23-09

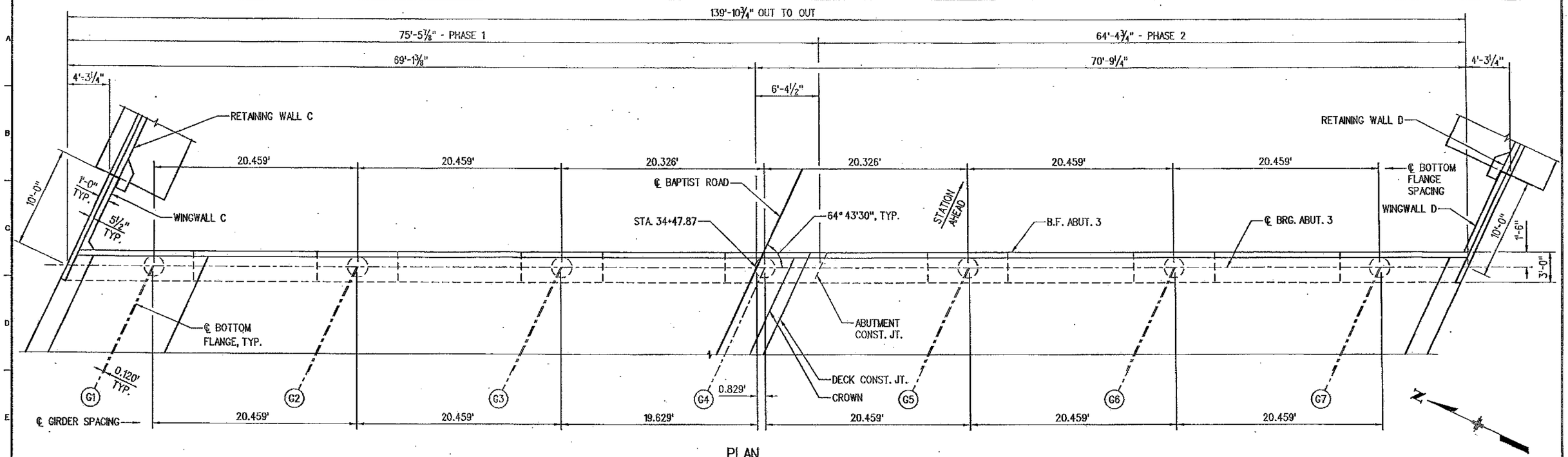
Void:

BAPTIST ROAD OVER I-25
ABUTMENT 1 PLAN & ELEVATION

Designer:	S. Abraham	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets:	B10 of 42

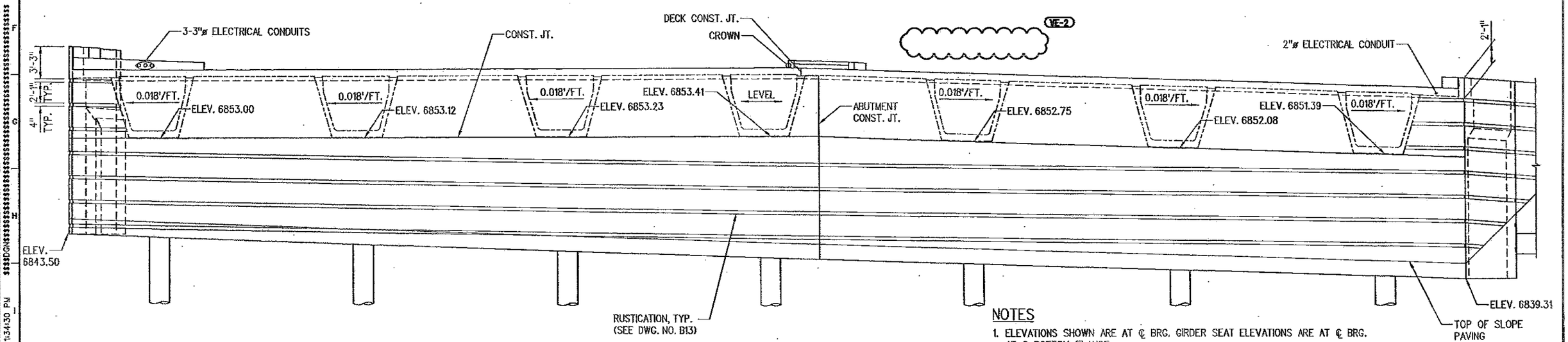
Project No./Code: IM 252-341 13388

Sheet Number: 56



PLAN

(CONCRETE OVERLAY AND MEDIAN NOT SHOWN)



ELEVATION

VE-2

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

NOTES

1. ELEVATIONS SHOWN ARE AT ℄ BRG. GIRDER SEAT ELEVATIONS ARE AT ℄ BRG. AT ℄ BOTTOM FLANGE.
2. FOR ADDITIONAL INFORMATION, SEE DWG. NOS. B12 & B13.
3. RUSTICATION ROWS SHALL BE STRAIGHT LINES FROM POINTS LOCATED AT FRONT FACE OF ABUTMENT AND OUTSIDE FACE OF WINGS, AS INDICATED IN "ELEVATION". ADJACENT ROWS SHALL BE PARALLEL. RUSTICATION SHALL BE CONTINUOUS THROUGH ABUTMENT CONSTRUCTION JOINT. OMIT BETWEEN GIRDERS.

Bidas (Preliminary Stage Only)

Revision Dates	INITIAL	DATE
	AGW	03/06
	KAL	03/06

Detail	INITIAL	DATE
Designed By	ARP	01/06
Detailed By	AGW	03/06
Checked By		

Design	INITIAL	DATE
Designed By	SA	01/06
Checked By	AGW	03/06

Quantities By / Checked By

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CAD Ver. MicroStation V8	Scale: 1"=10'	Units:	ENGLISH

Sheet Revisions

VE-2		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

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PBS&J

As Constructed

No Revisions:

Revised: GMH 12-23-09

Void:

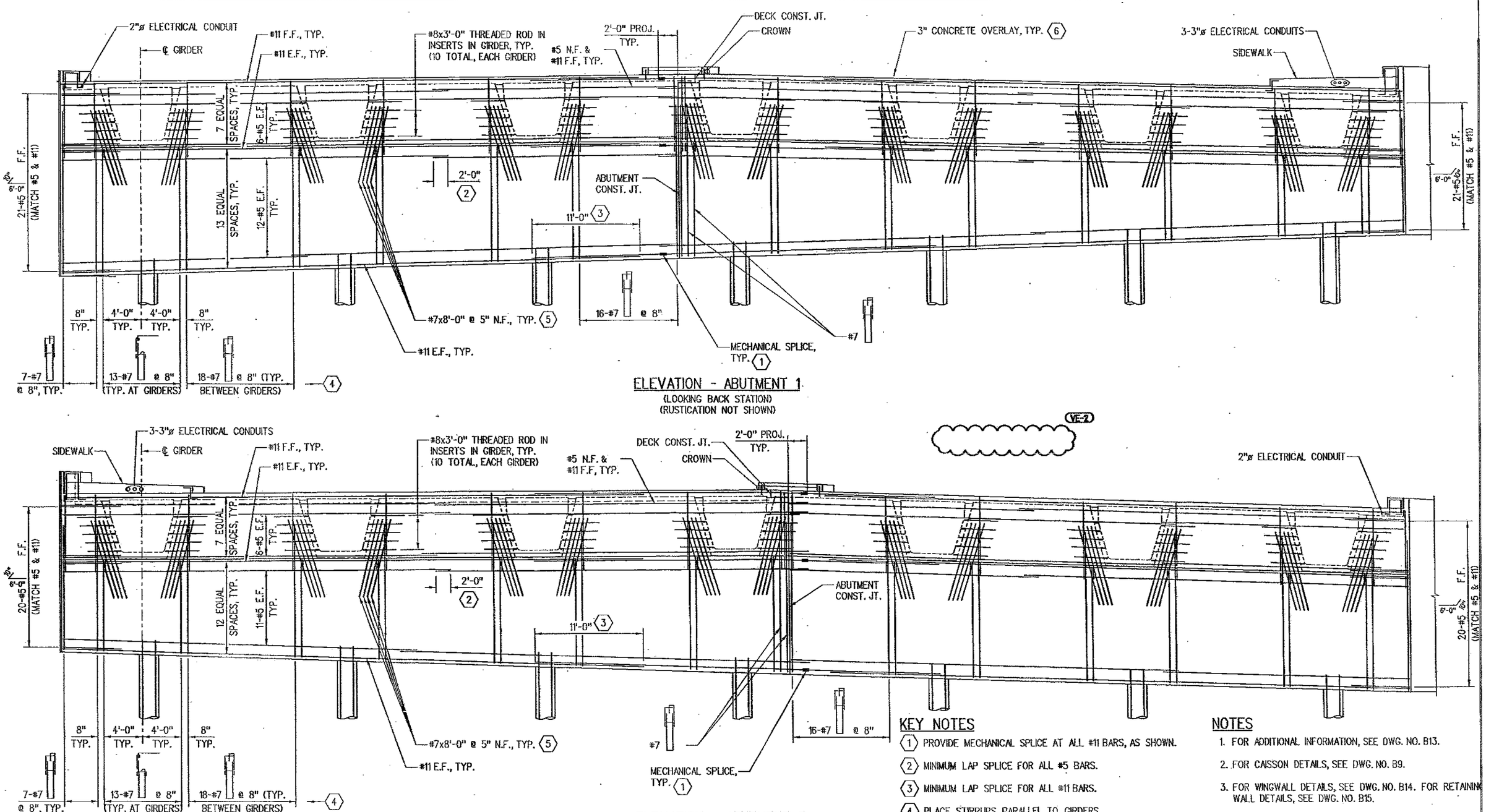
BAPTIST ROAD OVER I-25 ABUTMENT 3 PLAN & ELEVATION

Designer:	S. Abraham	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets:	B11 of 42

Project No./Code: IM 252-341

13388

Sheet Number: 57



ELEVATION - ABUTMENT 1

(LOOKING BACK STATION)
(RUSTICATION NOT SHOWN)

ELEVATION - ABUTMENT 3

(LOOKING AHEAD STATION)
(RUSTICATION NOT SHOWN)

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

KEY NOTES

1. PROVIDE MECHANICAL SPLICE AT ALL #11 BARS, AS SHOWN.
2. MINIMUM LAP SPLICE FOR ALL #5 BARS.
3. MINIMUM LAP SPLICE FOR ALL #11 BARS.
4. PLACE STIRRUPS PARALLEL TO GIRDERS.
5. PROVIDE 8 DOWELS PER GIRDER END, AS SHOWN. PROVIDE 4'-0" PROJ. ABOVE GIRDER SEAT.

VE-2

NOTES

1. FOR ADDITIONAL INFORMATION, SEE DWG. NO. B13.
2. FOR CAISSON DETAILS, SEE DWG. NO. B9.
3. FOR WINGWALL DETAILS, SEE DWG. NO. B14. FOR RETAINING WALL DETAILS, SEE DWG. NO. B15.
4. FOR SIDEWALK DETAILS, SEE DWG. NO. B23.
5. FOR BRIDGE RAIL DETAILS, SEE DWG. NO. B26.

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	SA	01/06
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/06

Jobs	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/06

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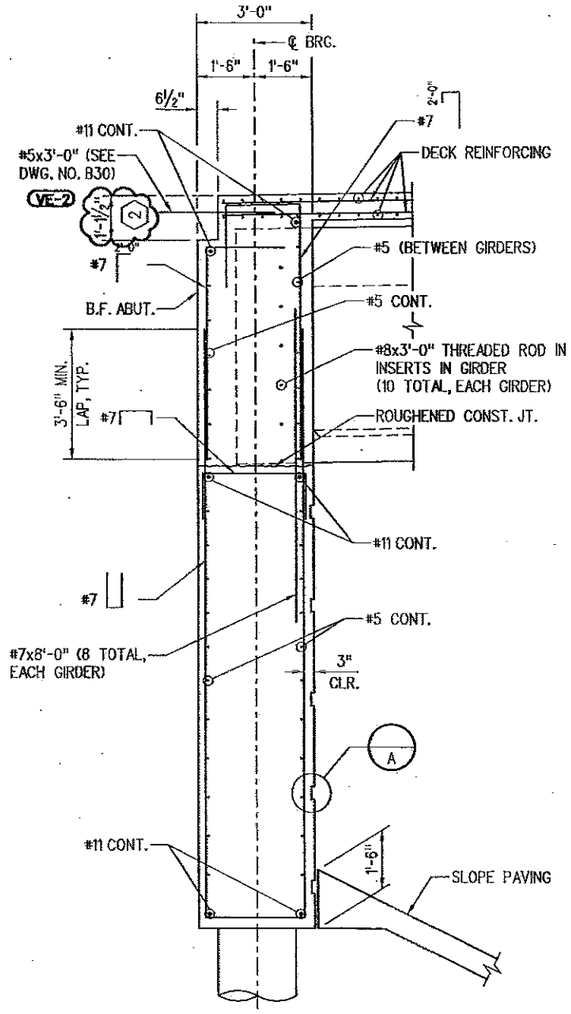
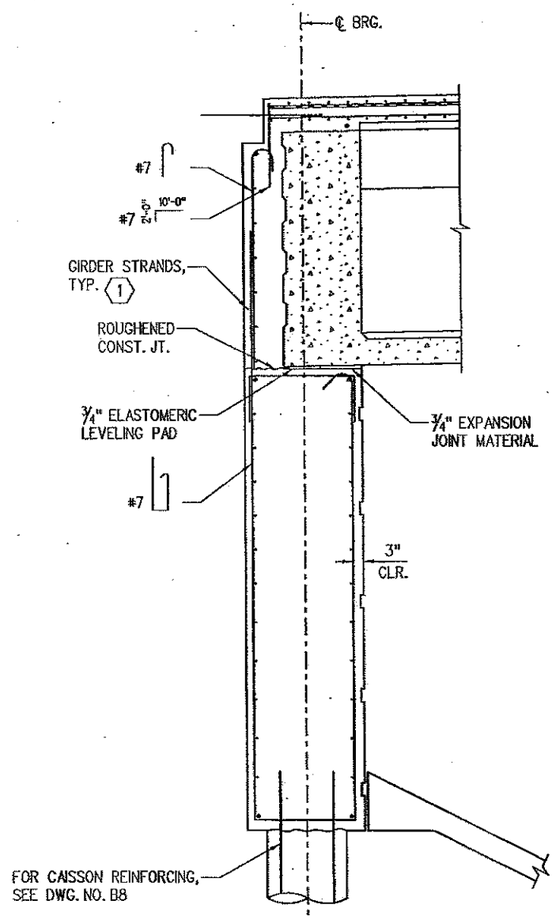


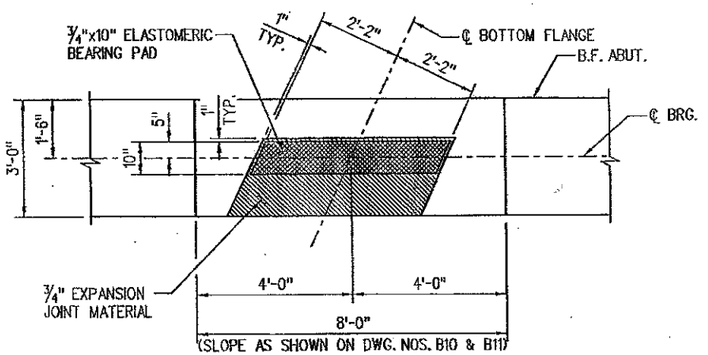
TYPICAL SECTION BETWEEN GIRDERS

(TAKEN NORMAL TO ℄ BRG.)

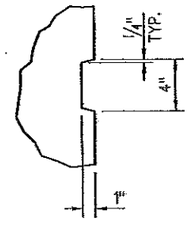


TYPICAL SECTION AT GIRDER

(DIMENSIONS SIMILAR TO "TYPICAL SECTION BETWEEN GIRDERS", EXCEPT AS SHOWN)



BEARING SEAT DETAIL



DETAIL — SCALE: 1"=1'-0" (A, B14/B, B15/B)

KEY NOTES

VE-2
1. FOR GIRDER DETAILS, SEE DWG. NO. B20.
2. APPROACH SLAB THICKNESS VARIES IN SHOULDER. SEE DWG. NO. B30.

NOTES

VE-2
1. CONCRETE SHALL BE CONCRETE CLASS D (BRIDGE). EXCEPT AS NOTED TO BE CLASS H (BRIDGE) FOR THE BRIDGE DECK.
2. ABUTMENTS SHALL NOT BE BACKFILLED UNTIL ABUTMENT DIAPHRAGMS ARE IN PLACE.
3. DECK AND AND ABUTMENT DIAPHRAGM SHALL BE PLACED MONOLITHICALLY.
4. FOR ADDITIONAL INFORMATION, SEE DWG. NO. B12.
5. FOR CAISSON DETAILS, SEE DWG. NO. B9.
6. FOR DECK REINFORCING, SEE DWG. NO. B22.
7. FOR SLOPE PAVING DETAILS, SEE DWG. NO. B35.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	SA	01/06
Checked By	AGW	03/06
Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06

$$$$DGN: 1:34:32 PM $$$$DATE: $$$$$$$$$$

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Last Modification Date:	02/05/09	Initials:	PMH
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Drawing File Name:	brab03.dgn		
CAD Ver. MicroStation V8	Scale: ¼"=1'-0"	Units:	ENGLISH

Sheet Revisions		
02-03-09	VE-2 VALUE ENGINEERING ITEM NO.2	JWS

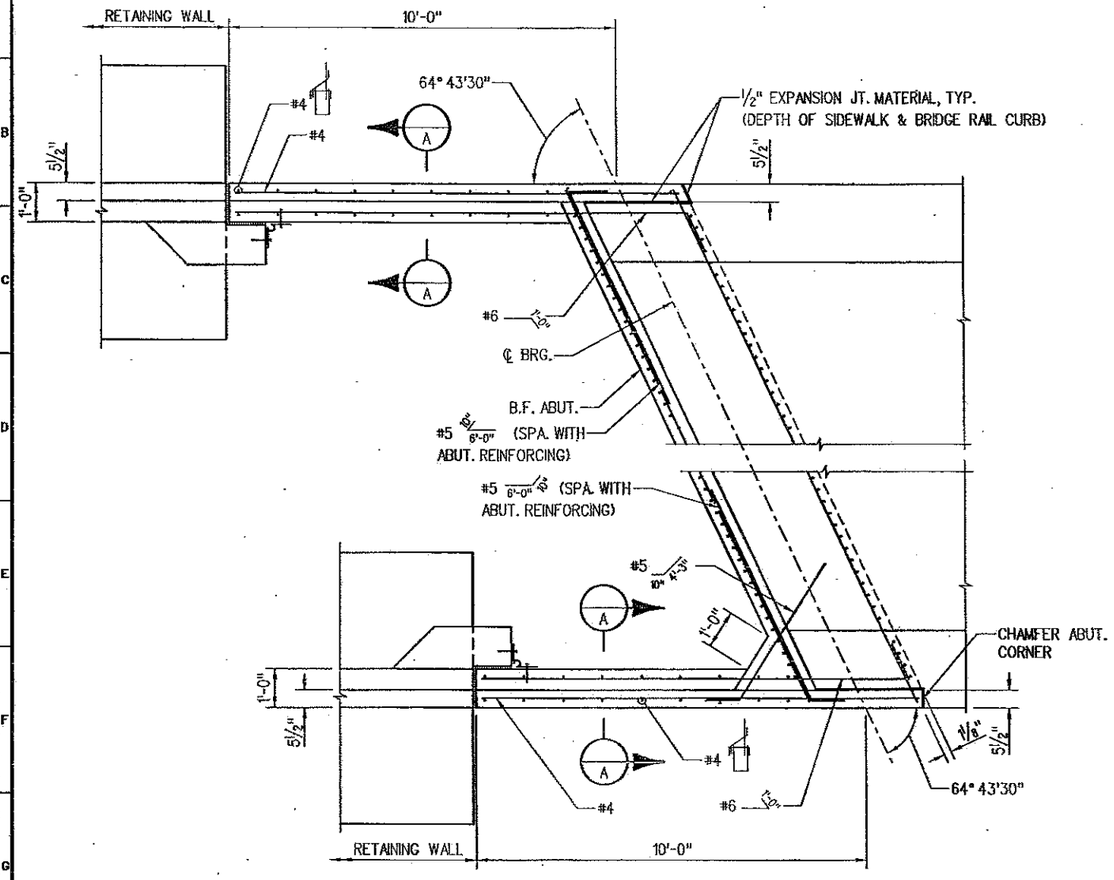
Colorado Department of Transportation
REGION 2
1480 Quail Lake Loop, Suite A, Colorado Springs, CO 80906, Phone: (719) 634-2323, Fax: (719) 227-3298
4601 DTC Blvd., Suite 700, Denver, CO 80237, Phone: (303) 221-7275, Fax: (303) 221-7276
PBSJ

As Constructed
No Revisions:
Revised: GMH 12-23-09
Void:

BAPTIST ROAD OVER I-25
ABUTMENT DETAILS

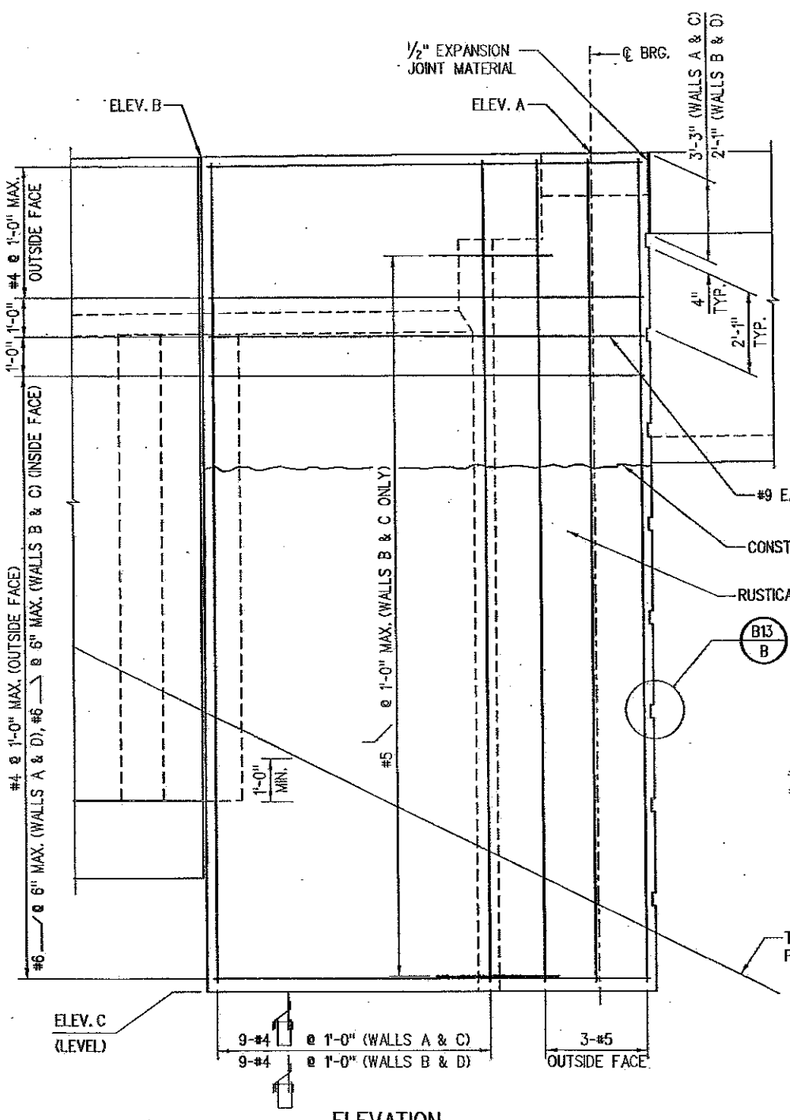
Designer:	S. Abraham	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B13 of 42	

Project No./Code
IM 252-341
13388
Sheet Number 59



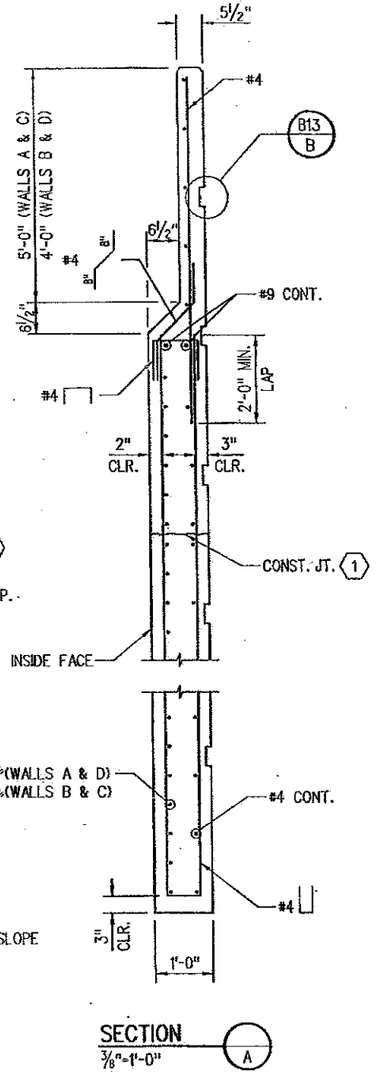
PLAN

(ABUT. 1 SHOWN, ABUT. 3 SIMILAR)



ELEVATION

(WINGWALLS B &C SHOWN, WINGWALLS A & D SIMILAR, BUT OPPOSITE HAND)



SECTION

⅜"=1'-0" (A)

(VE-2)

SUMMARY OF ELEVATIONS

LOCATION	ELEV. A	ELEV. B	ELEV. C
WINGWALL A	6863.11	6862.92	6845.69
WINGWALL B	6863.15	6863.07	6841.50
WINGWALL C	6862.19	6861.94	6843.50
WINGWALL D	6859.78	6859.43	6839.31

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

KEY NOTES

(1) CONSTRUCTION JOINT IS AT EXTERIOR BEARING SEAT ELEVATION.

NOTES

1. CONCRETE SHALL BE CONCRETE CLASS D (BRIDGE).
2. ELEVATIONS SHOWN ARE AT OUTSIDE FACE OF WALL.
3. FOR RETAINING WALL DETAILS, SEE DWG. NO. B15.
4. FOR ABUTMENT DETAILS, SEE DWG. NOS. B10 THRU B13.

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	DAN	01/08
Checked By	SA	01/08
Detail	INITIAL	DATE
Detailed By	ARP	01/08
Checked By	AGW	03/08
Quantities By	KAL	03/08
Checked By		

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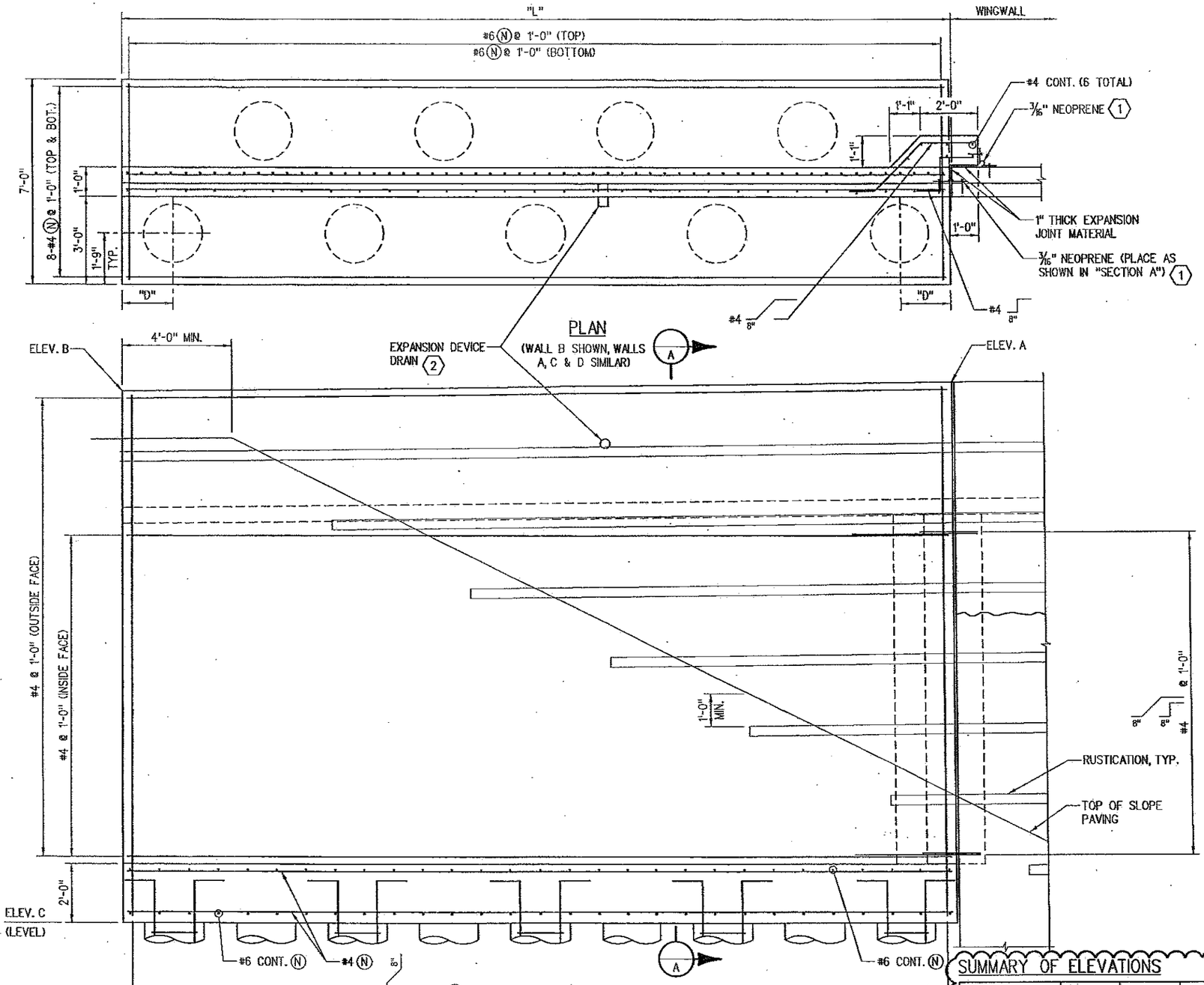
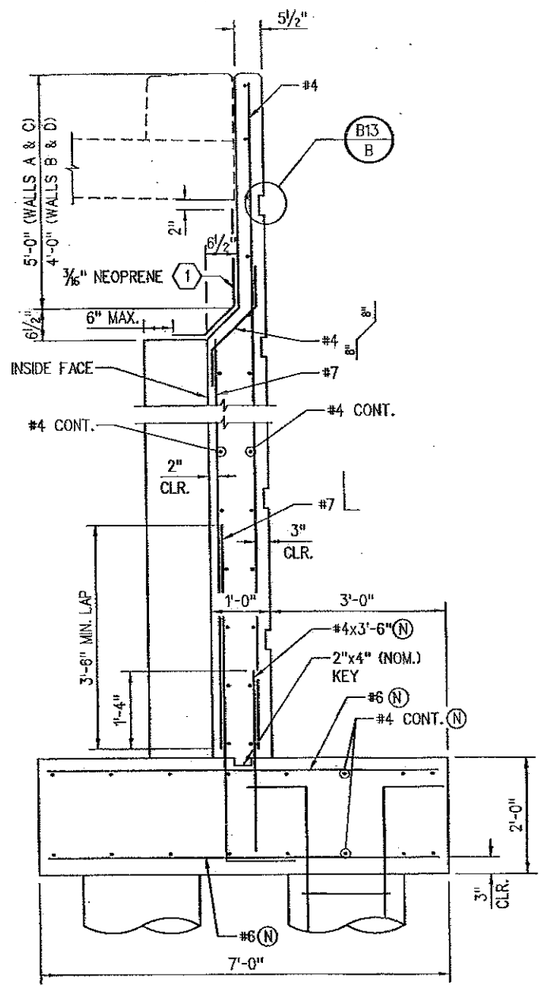


(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

ELEVATION



SECTION
3/8"=1'-0"

KEY NOTES

(1) ATTACH NEOPRENE TO CONCRETE WITH ADHESIVE APPROVED BY THE NEOPRENE MANUFACTURER. APPLY ADHESIVE TO ALL CONCRETE SURFACES IN CONTACT WITH THE NEOPRENE. NAIL IN PLACE, AS SHOWN, AT 1'-6" O.C. PROVIDE SUFFICIENT SLACK IN NEOPRENE TO ALLOW 2" TOTAL HORIZONTAL MOVEMENT AT WALL JOINT.

(2) EXPANSION DEVICE DRAIN CAST IN WINGWALLS. FOR DETAILS, SEE DWG. NO. B31.

(VE-2) SUMMARY OF ELEVATIONS

LOCATION	ELEV. A	ELEV. B	ELEV. C	"L"	"D"
RETAINING WALL A	6862.93	6862.46	6848.69	23'-0"	1'-9"
RETAINING WALL B	6863.05	6862.73	6844.50	28'-6"	1'-9½"
RETAINING WALL C	6861.92	6861.24	6846.50	25'-0"	1'-9"
RETAINING WALL D	6859.42	6858.26	6842.31	30'-6"	1'-9"

NOTES

1. CONCRETE SHALL BE CONCRETE CLASS D (BRIDGE).
2. ELEVATIONS SHOWN ARE AT OUTSIDE FACE OF WALL.
3. FOR WINGWALL DETAILS, SEE DWG. NO. B14.
4. FOR CAISSON LAYOUT, SEE DWG. NO. B8.

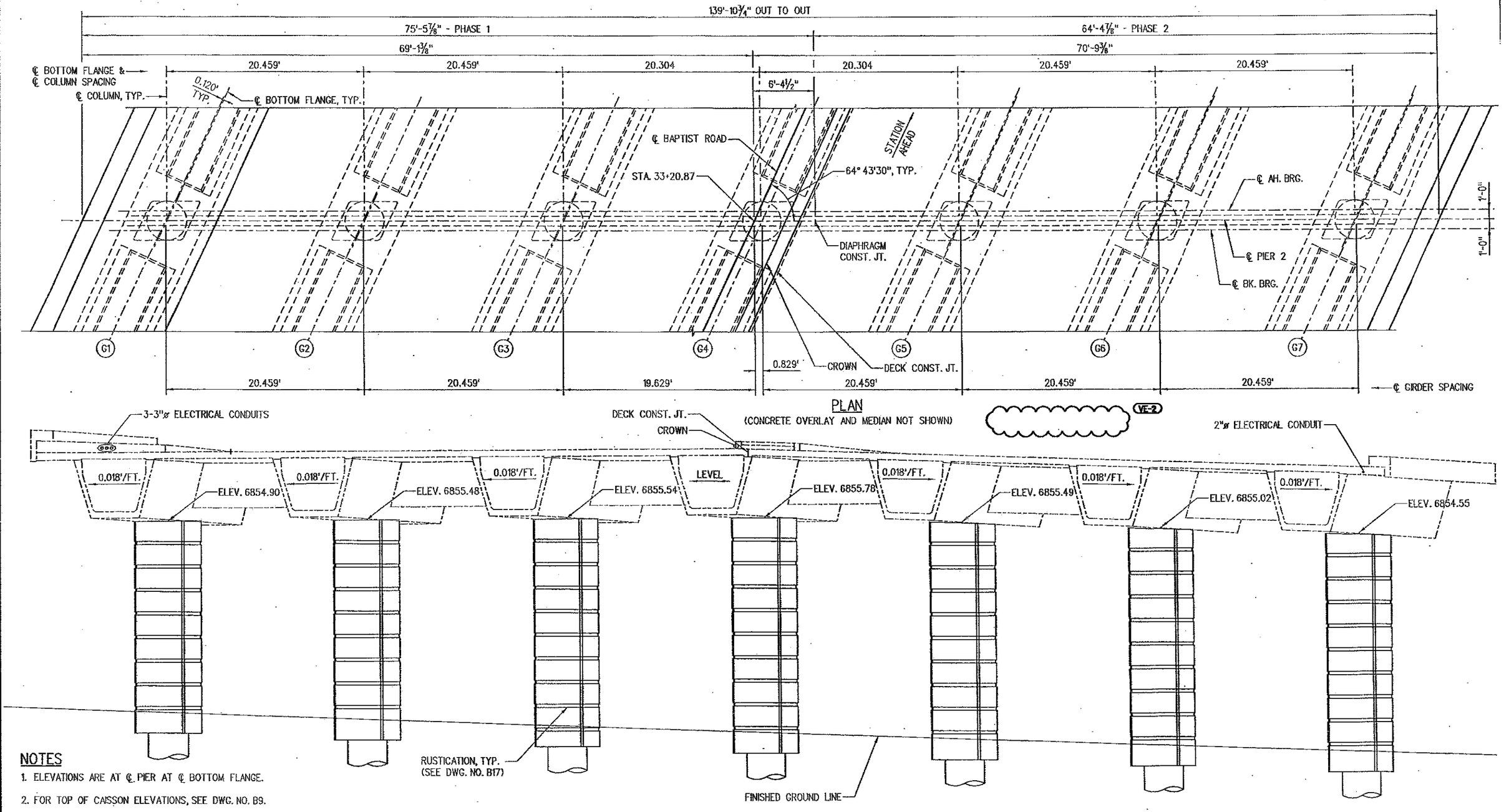
Design	INITIAL	DATE
Designed By	SA	01/06
Checked By	AGW	03/08

Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/08

Quantities	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/08

Revision Dates (Preliminary Stage Only)

$$$$DGN$$$$



PLAN
(CONCRETE OVERLAY AND MEDIAN NOT SHOWN)

ELEVATION

VE-2

NOTES

1. ELEVATIONS ARE AT ℄ PIER AT ℄ BOTTOM FLANGE.
2. FOR TOP OF CAISSON ELEVATIONS, SEE DWG. NO. B9.
3. FOR CAISSON LAYOUT, DWG. NO. B8.
4. FOR PIER DIAPHRAGM, SEE DWG. NO. B21.
5. FOR ADDITIONAL INFORMATION, SEE DWG. NO. B17.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	DAN	01/08
Checked By	SA	03/08

Detail	INITIAL	DATE
Detailed By	ARP	01/08
Checked By	AGW	03/08

Quantities	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/06

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Last Modification Date: 01/31/09	Initials: PMH
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Drawing File Name: brpd01.dgn	
CAD Ver. MicroStation V8 Scale: 1"=10'	Units: ENGLISH

VE-2

Sheet Revisions		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

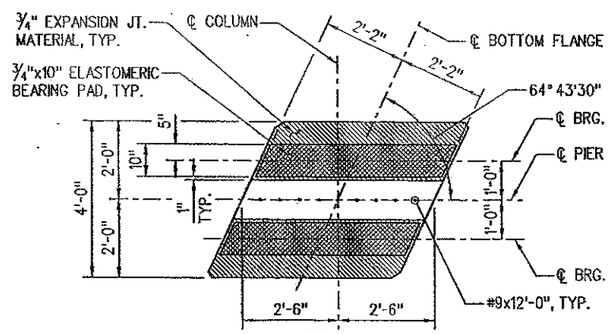
Colorado Department of Transportation
REGION 2
1480 QuailLake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276
PBSJ

As Constructed	
No Revisions:	
Revised: GMH 12-23-09	
Void:	

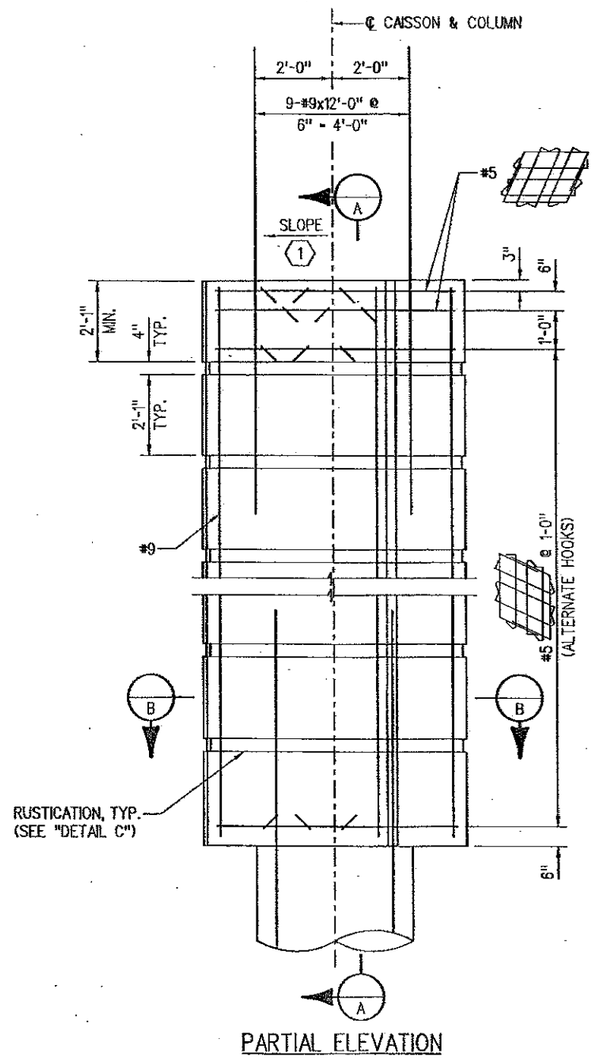
BAPTIST ROAD OVER I-25
PIER 2 PLAN & ELEVATION

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B16 of 42	

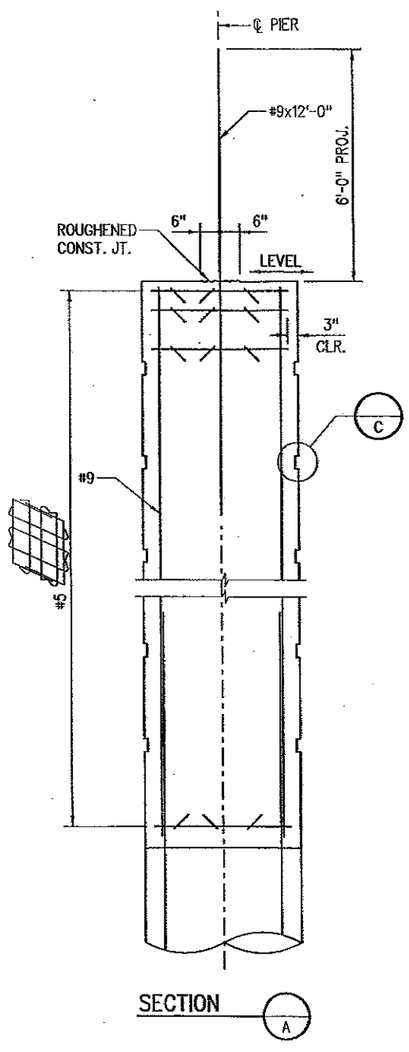
Project No./Code	
IM 252-341	
13388	
Sheet Number	62



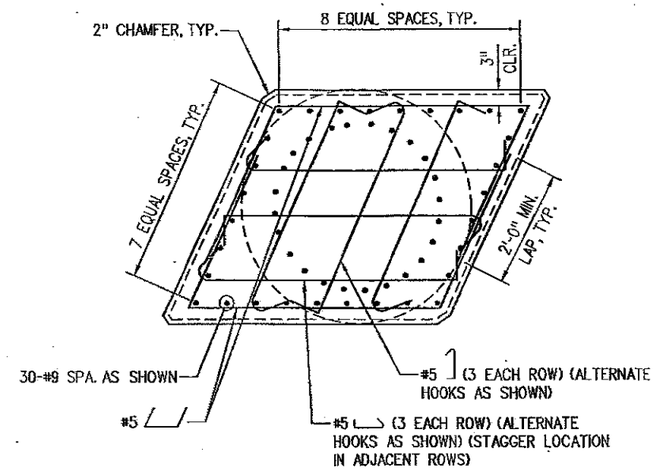
PLAN



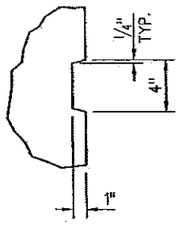
PARTIAL ELEVATION



SECTION A



SECTION B
SCALE: ⅜"=1'-0"



DETAIL C
SCALE: 1"=1'-0"

KEY NOTES

(1) TOP OF COLUMN SHALL BE SLOPED IN THE TRANSVERSE DIRECTION AT THE RATE, AND IN THE DIRECTION, SHOWN ON DWG. NO. B16.

NOTES

1. FOR CAISSON DETAILS, SEE DWG. NO. B9.
2. FOR TOP OF CAISSON ELEVATIONS, SEE DWG. NO. B9.
3. FOR PIER DIAPHRAGM, SEE DWG. NO. B21.
4. CONCRETE SHALL BE CLASS D (BRIDGE).

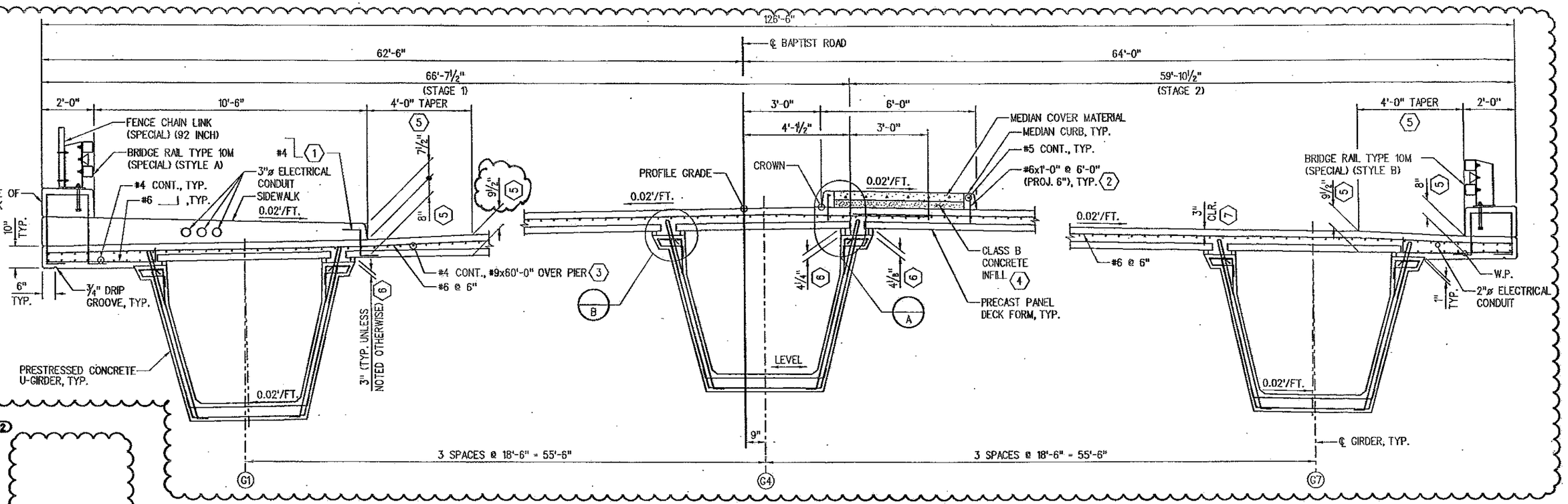
Design	INITIAL	DATE
Designed By	DAN	01/06
Checked By	SA	03/06

Detail	INITIAL	DATE
Detailed By	ARP	01/06
Checked By	AGW	03/06

Quantities	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/06

Revision Dates (Preliminary Stage Only)

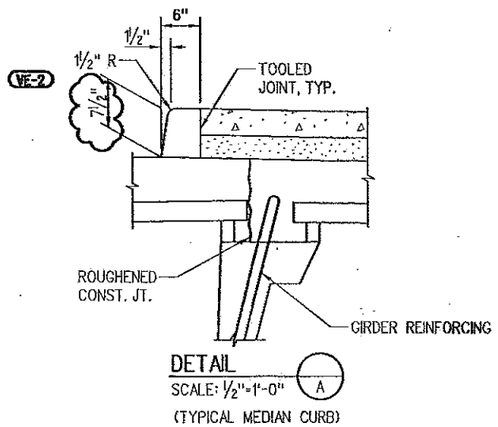
$$$$DGN$$$$



PARTIAL TYPICAL SECTION

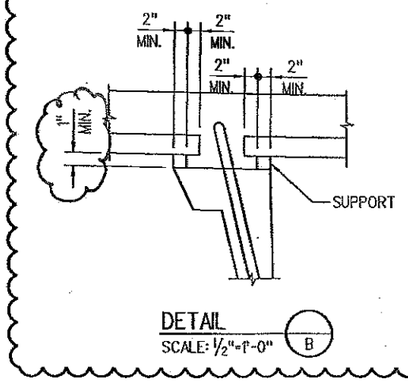
(LOOKING AHEAD STATION)
(TAKEN NORMAL TO ℄ BAPTIST ROAD)

VE-2



DETAIL (A)
SCALE: ½"=1'-0"
(TYPICAL MEDIAN CURB)

VE-2



DETAIL (B)
SCALE: ½"=1'-0"

KEY NOTES

(1) CONTRACTOR MAY SUBSTITUTE #4 ⌐ 1 ⌐ @ 1'-0" DRILLED AND GROUTED INTO DECK USING HILTI HIT HY-150 INJECTION ADHESIVE OR ENGINEER APPROVED EQUAL.

(2) CONTRACTOR MAY DRILL AND GROUT DOWELS INTO DECK USING HILTI HIT HY-150 INJECTION ADHESIVE OR ENGINEER APPROVED EQUAL.

VE-2

(3) PLACE #9x60'-0" AT 6 INCHES OVER PIER AS SHOWN ON DWG. NO. B22.

(4) MEDIAN COVER AND CLASS B CONCRETE INFILL MAY BE PLACED MONOLITHICALLY. COST OF CLASS B CONCRETE INFILL SHALL BE INCLUDED IN THE COST OF ITEM 610, MEDIAN COVER MATERIAL (4" PATTERNED CONCRETE).

(5) CONCRETE DECK THICKNESS VARIES ACROSS WIDTH OF SHOULDER, FROM 9½" AT EDGE OF LANE TO 8" AT GUTTER LINE. APPLY CONCRETE SEALER TO DECK.

(6) DIMENSION IS TAKEN AT ℄ BRG.

(7) PROVIDE 3" CLEAR COVER TO TOP MAT OF REINFORCING. PROVIDE 2" MIN. COVER AT FLOWLINE.

(8) BANNER SUBMITTALS: PRECAST PANEL & TOP MAT REINFORCING PLAN INCORPORATED AS REVISED PLAN SHEETS G4A, G4B & G4C.

NOTES

VE-2

1. CONCRETE SHALL BE CONCRETE CLASS H (BRIDGE).
2. FOR SIDEWALK DETAILS, SEE DWG. NO. B23.
3. FOR BRIDGE RAIL DETAILS, SEE DWG. NO. B26.
4. FOR GIRDER DETAILS, SEE DWG. NO. B19.
5. FOR DECK PLAN, SEE DWG. NO. B22.
6. MEDIAN COVER SHALL BE 4" PATTERNED CONCRETE. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION. CONCRETE FOR MEDIAN COVER AND CURBS SHALL BE CLASS B.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Design	INITIAL	DATE
Designed By	DAN	07/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ERS	12/05
Checked By	AGW	03/06

Quantities	INITIAL	DATE
Quantities By	AGW	03/06
Checked By	KAL	03/06

Revision Dates (Preliminary Stage Only)	INITIAL	DATE
	AGW	03/06

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$$$$DATE$$$$

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Last Modification Date:	02/05/09	Initials:	PMH
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Drawing File Name:	brsu01.dgn		
CAD Ver. MicroStation V8	Scale: 1/4"=1'-0"	Units:	ENGLISH

VE-2

Sheet Revisions

02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

Colorado Department of Transportation
REGION 2
1480 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298

4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

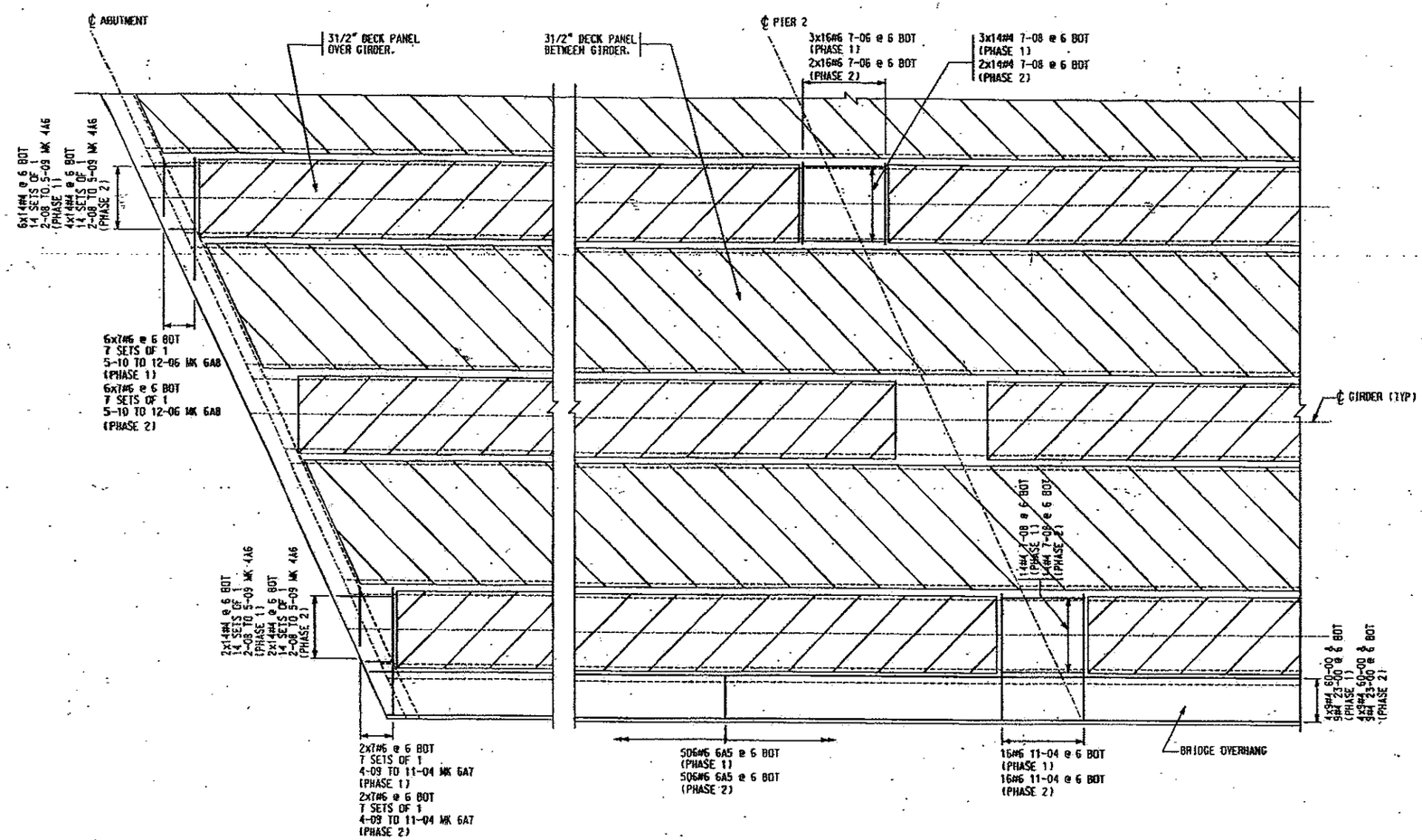
PBS&J

As Constructed
No Revisions:
Revised: GMH 12-23-09
Void:

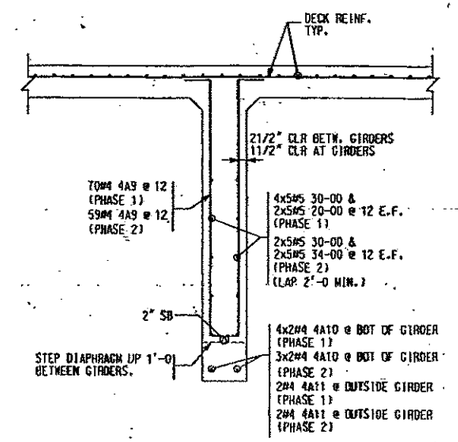
BAPTIST ROAD OVER I-25
SUPERSTRUCTURE DETAILS

Designer: D. Nemovitz
Detailer: E. Schawo
Structure Numbers: H-17-DC

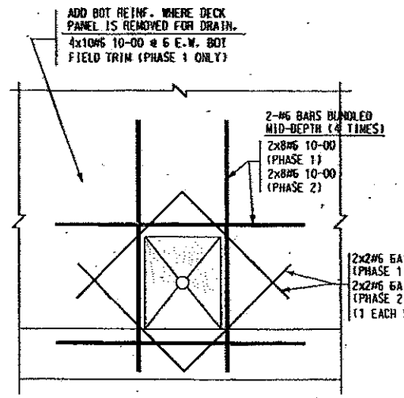
Project No./Code
IM 252-341
13388
Sheet Number 64



BRIDGE DECK BOTTOM REINF. PLAN (PARTIAL)



PIER 2 DIAPHRAGM SECTION



BRIDGE DRAIN DETAIL

12 @ EACH PHASE)

SIZE	EP	BAR MARK	V	BND TYP	CD	A	B	C	D	E	F/R	G	H	J	K	O
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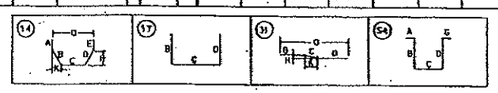
6		6A12		17			6-00	6-00								
4		4A9		54		0-08	5-08	0-09	5-08			0-08				
4		4A10		14			2-00	4-00	2-00				1-11		0-07	
4		4A11		39			2-00	6-10	2-00				6-08		1-06	



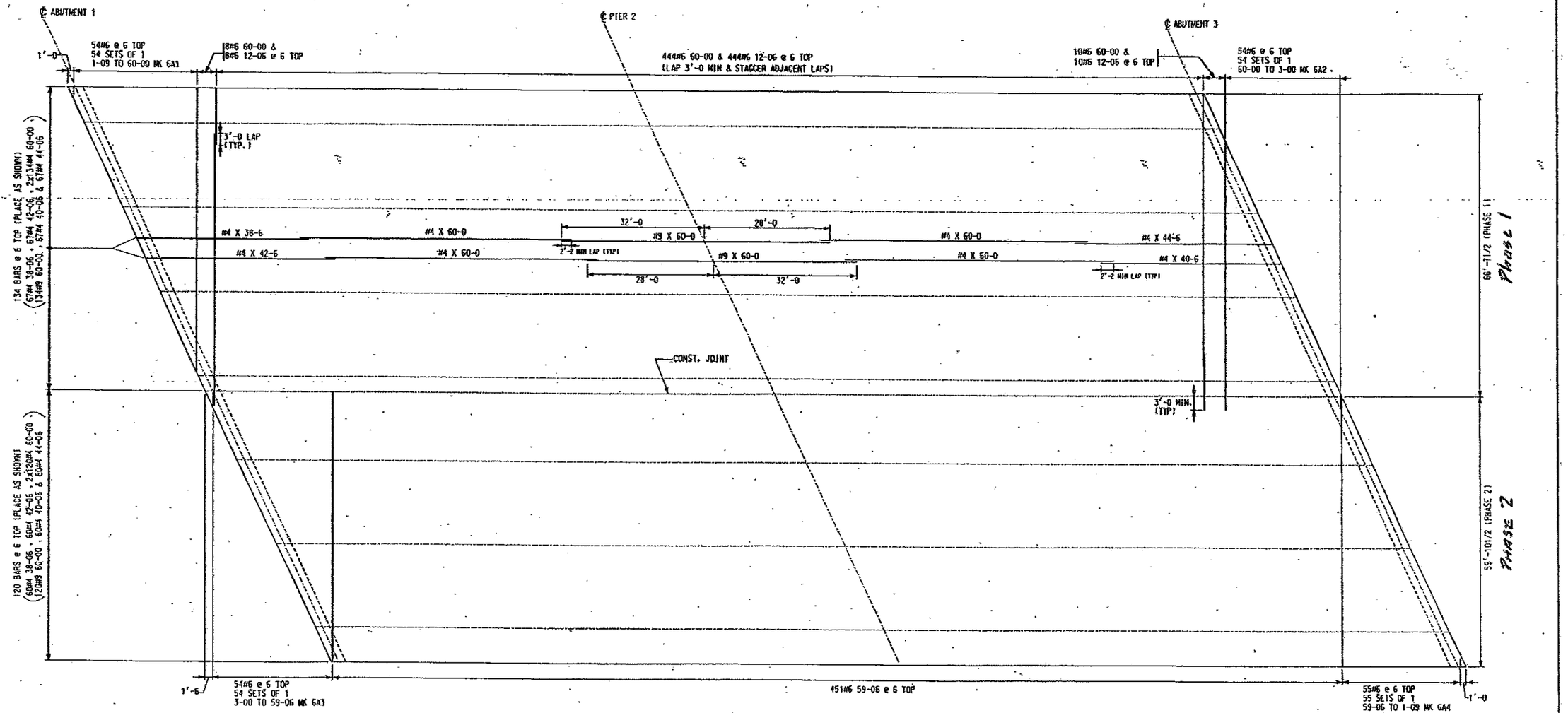
ALL REINFORCING IS TO BE EPOXY COATED.

AS CONSTRUCTED
GMH 12-22-09

Sheet Number : 64A

CMC BANNER REBAR

JOB:	BAPTIST ROAD INTERCHANGE
LOCATION:	EL PASO COUNTY, CO
DESCRIPTION:	BRIDGE DECK BOTTOM
CONTRACTOR:	LAWRENCE CONSTRUCTION
DRAWN BY: TDA	DATE: 3/6/09
JOB NO.	CU-8152
SHEET NO.	8152-10



BRIDGE DECK TOP REINFORCING PLAN

ALL REINFORCING IS TO BE EPOXY COATED.

AS CONSTRUCTED

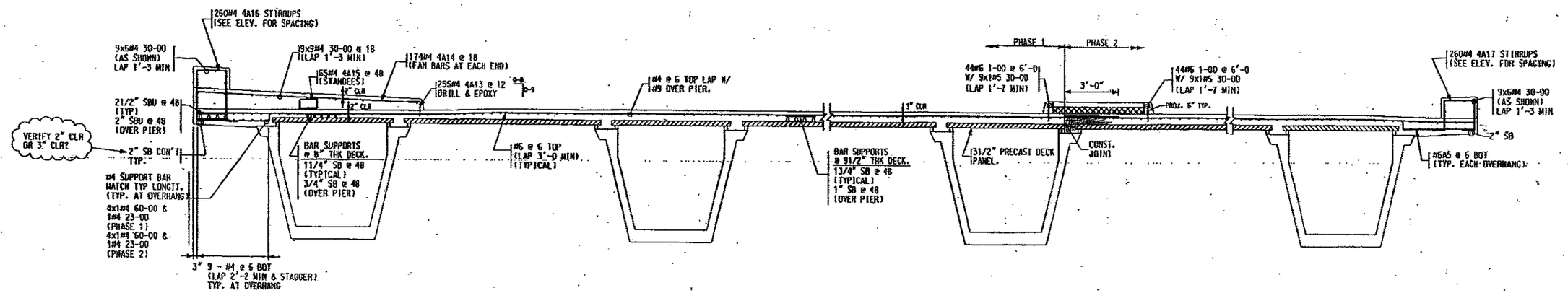
GMH 12-22-09

Sheet Number: 64B

CMDC BANNER REBAR

P.O.BOX 16493
3203 FRANKLIN ST.
DENVER CO. 80216
P 303-296-2626
F 303-294-0213

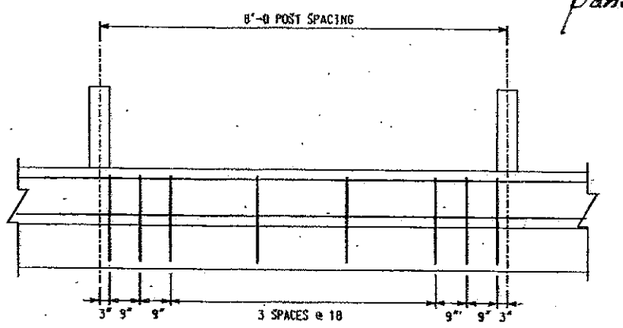
JOB: BAPTIST ROAD INTERCHANGE
LOCATION: EL PASO COUNTY, CO
DESCRIPTION: BRIDGE DECK TOP
CONTRACTOR: LAWRENCE CONSTRUCTION
DRAWN BY: TDA DATE: 3/6/09



TYPICAL BRIDGE DECK SECTION

(SECTION LOOKING EAST)

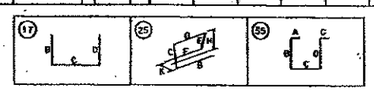
Plan Sheet Note: Lawrence Constructions Value Engineering Item No. 2. substituted the Bridge Metal Decking System for the Precast Concrete Panel Decking System shown above.
Tsiouvaras, Simmons Holderness (TSH Engineers) redesigned the Baptist Road superstructuture over I-25 to reflect a 3-½ inch precast/prestressed deck panels with a cast-in-place concrete topping that varies from 4-½ inches to 6 inches.



(8 STIRRUPS TOTAL AS SHOWN)

BRIDGE RAIL ELEVATION

SIZE	EP	BAR MARK	V	BND TYP	CD	A	B	C	D	BENDING DIMENSIONS E	F/R	G	H	J	K	O
4		4A13		17			0-09	0-08								
4		4A14		17			0-08	12-02								
4		4A15		25			1-06	0-073	1-06	0-073	1-06		0-072		0-033	
4		4A16		55		0-08	2-082	1-08	2-082			0-08				
4		4A17		55		0-08	1-07	1-08	1-07			0-08				



ALL REINFORCING IS TO BE EPOXY COATED.

CTDC BANNER REBAR

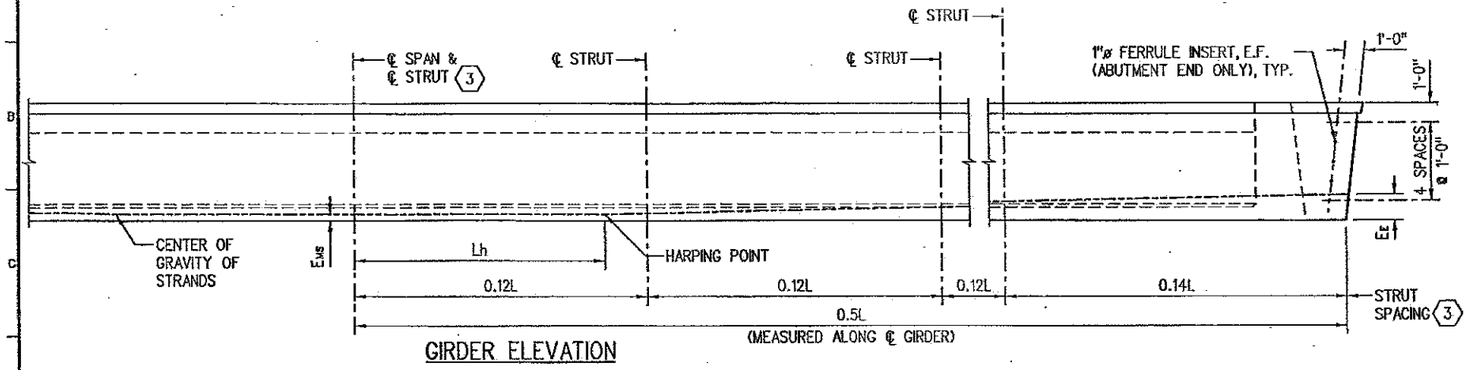
P.O. BOX 16429
3295 JASMINE ST.
DENVER, CO. 80216
P. 303-296-2828
F. 303-296-0279

NO.	DATE	DESCRIPTION

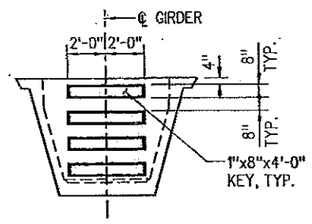
JOB: BAPTIST ROAD INTERCHANGE
LOCATION: EL PASO COUNTY, CO
DESCRIPTION: BRIDGE DECK DETAILS
CONTRACTOR: LAWRENCE CONSTRUCTION
DRAWN BY: TDA DATE: 3/6/09
JOB NO. CD-8152
SHT. NO. B152-12

AS CONSTRUCTED
GMH 12-22-09

Sheet Number: 64C



GIRDER ELEVATION



END VIEW

GIRDER SCHEDULE

(VE-2)

SPAN NO.	GIRDER NO.	L (FEET)	Lh (FEET)	A_s* (IN²)	DEBOND STRANDS (PERCENT)	E_E (IN)	E_{MS} (IN)	F_j (KIPS)	F_f (KIPS)	F'_{ci} (PSI)	F'_c (PSI)	D (IN)	PREDICTED CAMBER (IN)
1	G1-G7	125.00	12.50	15.624	16.67	12.061	4.282	3164	2519	6.8	8.5	2.969	5.147
2	G1-G7	127.02	12.70	16.058	16.22	11.861	4.325	3252	2579	6.8	8.5	2.896	5.465

KEY NOTES

(1) D20 WIRES MAY BE USED IN LIEU OF #4. 2-D20 WIRES MAY BE USED IN LIEU OF #6. D11 OR W10.9 WIRES MAY BE USED IN LIEU OF #3. W5 WIRES MAY BE USED IN LIEU OF #2. LIGHTLY TENSIONED STRAND IS AN ALTERNATE FOR #4 CONT.

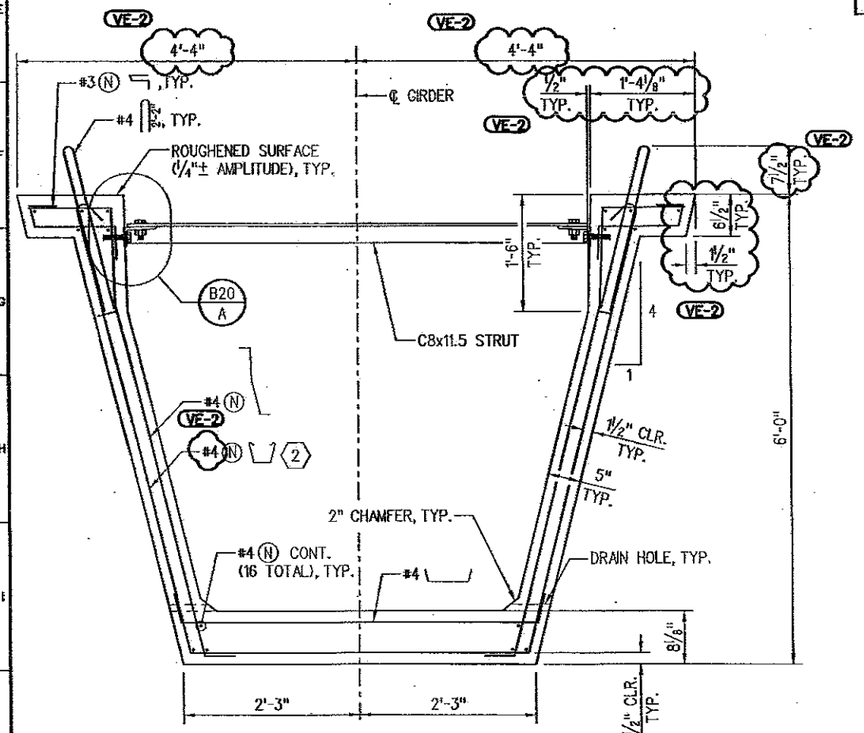
(2) USE #4 (N) ⌐ FOR THE END 10 STIRRUPS AT EACH END OF EACH GIRDER SEGMENT.

(3) SYMMETRICAL BY ROTATION ABOUT ℄ SPAN & ℄ GIRDER.

LEGEND

(VE-2)

- A_s* = MINIMUM AREA OF THE PRESTRESSING STEEL.
- d_s = NOMINAL STRAND DIAMETER.
- f'_s = ULTIMATE STRENGTH OF THE 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.
- D = DEFLECTION AT CENTERLINE OF SPAN DUE TO CAST-IN-PLACE SLAB, DIAPHRAGMS, ASPHALT, CURBS, RAILS, AND WALKS.
- Q = BRIDGE SKEW ANGLE



TYPICAL SECTION

(TAKEN NORMAL TO ℄ GIRDER)
(STRANDS NOT SHOWN)

NOTES

1. ALL WORK NECESSARY TO FABRICATE AND INSTALL THE INTEGRAL PARTS OF THE GIRDER (INCLUDING THE INTERNAL DIAPHRAGMS, IF ANY, AND LEVELING PADS), AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN THE BID PRICE FOR ITEM NO. 618, PRESTRESSED CONCRETE U WITH A PAY UNIT OF LINEAR FOOT MEASURED BY THE DIMENSION L.
2. WHEN APPROVED BY THE ENGINEER, A MINIMUM OF TACK WELDING WILL BE PERMITTED ON ASTM A706 UNCOATED REINFORCING STEEL.
3. 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".
4. CUT STRANDS TO PROJECT 10", EXCEPT AS SHOWN. DO NOT MAKE COSMETIC REPAIRS (DAMAGE LESS THAN 1½" DEEP) TO THE PARTS OF THE GIRDERS EMBEDDED IN CONCRETE.
5. 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 1¼". THE MINIMUM COVER FOR PRESTRESSING STEEL IS 1½".
6. 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".
7. CONCRETE SHALL BE CLASS PS.
8. ENTRAINED AIR IS NOT REQUIRED FOR GIRDER CONCRETE.
9. STRUTS SHALL BE GALVANIZED.
10. USE ½" CHAMFER ON ALL CORNERS, EXCEPT AS NOTED.
11. PREDICTED CAMBER IS THE CAMBER FOR THE GIRDER ALONE AT 90 DAYS. THE CONTRACTOR SHALL LIMIT THE CAMBER TO A VALUE NOT TO DEVIATE FROM THE PREDICTED CAMBER BY MORE THAN (0.0005 X L + 0.5") AT THE TIME OF THE DECK POUR BY WEIGHTING, SCHEDULING FABRICATION, POST TENSIONING, CHANGING STORAGE SUPPORT POINTS, OR OTHER MEANS AND MUST REPORT TO THE ENGINEER VALUES OF CAMBER WHICH EXCEED THE PREDICTED CAMBER PLUS THIS TOLERANCE. REMEDIAL MEASURES, AS APPROVED BY THE ENGINEER, SHALL BE TAKEN IF THE PREDICTED CAMBER PLUS THE ALLOWED TOLERANCE 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.
12. DIMENSIONAL TOLERANCES FOR PRECAST "U" GIRDERS SHALL BE THOSE TOLERANCES SPECIFIED IN MNL-116, SECTION 6.4 AS SHOWN FOR I GIRDERS WITH THE FOLLOWING EXCEPTIONS: FLANGE WIDTHS AND WIDTHS BETWEEN FLANGES ± 1/16"/FT WIDTH, ± ¼" MINIMUM. VARIATION FROM SPECIFIED PLAN END SQUARENESS OR SKEW, ± ⅛"/FT WIDTH OF EACH FLANGE OR OVERALL WIDTH.
13. WHEN A GIRDER IS SHOWN WITH BOTH A HARPED DESIGN AND A DEBONDED DESIGN FOR A GIRDER, THE CHOICE OF DESIGNS IS THE CONTRACTORS OPTION. IF ONLY A HARPED OR A DEBONDED DESIGN OR A COMBINATION DESIGN IS SHOWN, THAT DESIGN SHALL BE USED WITH NO CONTRACTOR OPTION OR REDESIGN. WHEN USED, DEBONDING SHALL EXTEND IN UNIFORMLY VARYING LENGTHS TO 3 FT. BEFORE THE HARPING POINT SHOWN, BUT NOT CLOSER THAN 17 FT. TO THE CENTER OF THE SPAN.
14. FOR ADDITIONAL INFORMATION, SEE DWG. NO. B20.

VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	SA	09/05
Checked By	AGW	03/06
Detail	INITIAL	DATE
Detailed By	ARP	09/05
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06

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Last Modification Date: 02/03/09	Initials: PMH
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CAD Ver. MicroStation V8 Scale: NONE	Units: ENGLISH

VE-2

Sheet Revisions		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

Colorado Department of Transportation
REGION 2
1480 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298

4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

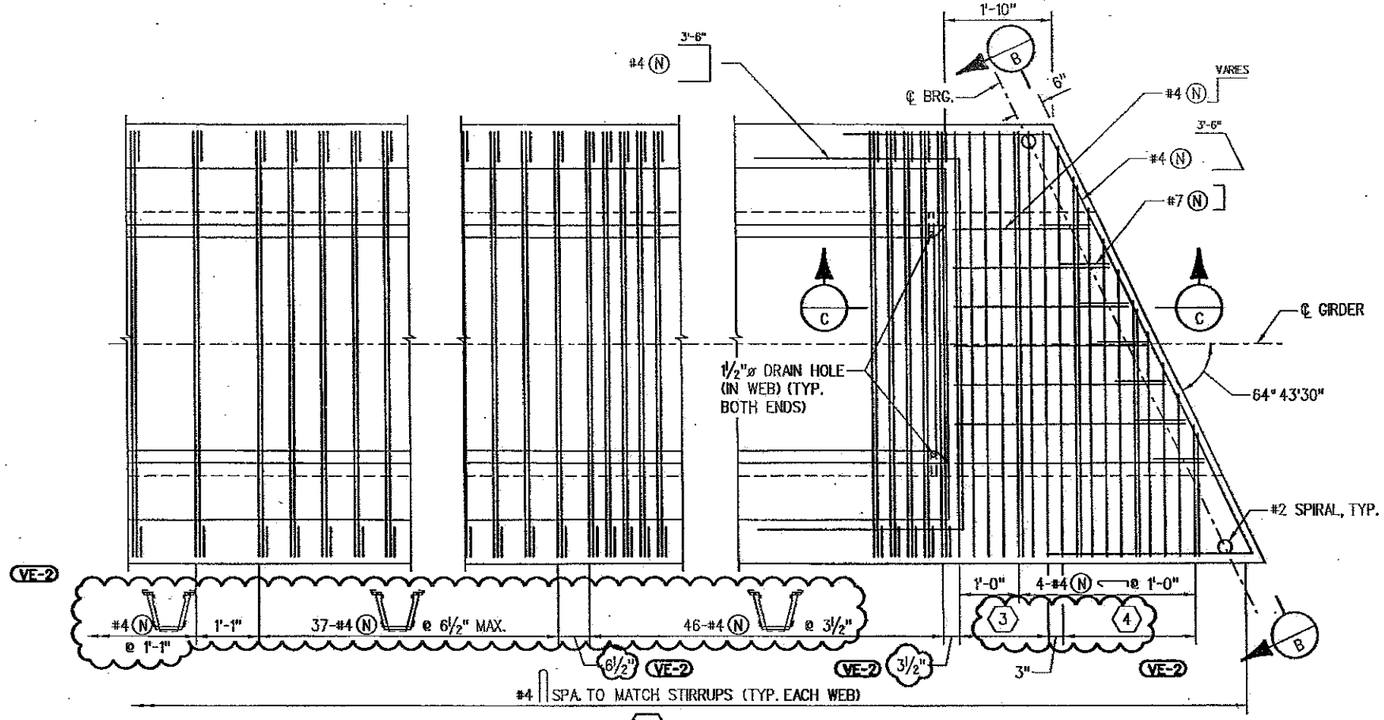
PBS&J

As Constructed
No Revisions:
Revised: GMH 12-23-09
Void:

BAPTIST ROAD OVER I-25
PRESTRESSED CONCRETE U
(1 OF 2)

Designer:	S. Abraham	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B19 of 42	

Project No./Code	
IM 252-341	
13388	
Sheet Number	65



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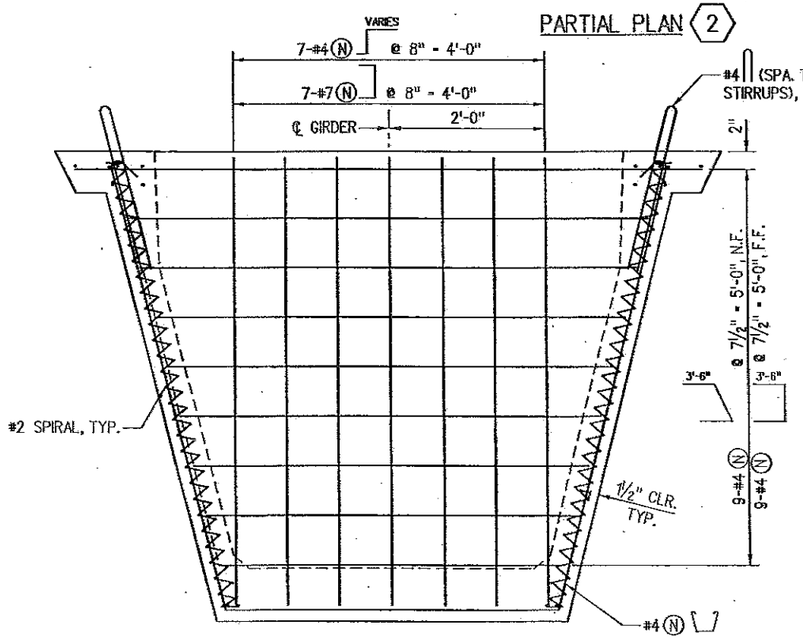
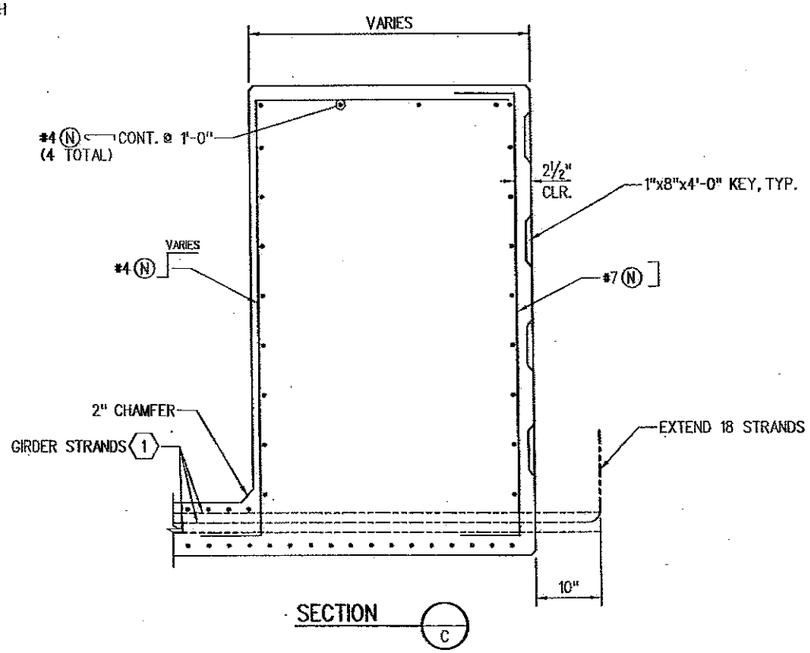


SECTION (B)

(FOR DIMENSIONS NOT SHOWN, SEE "TYPICAL SECTION", DWG. NO. B19)



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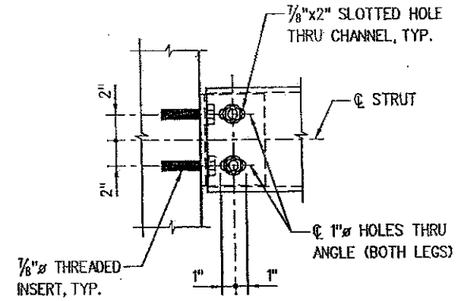

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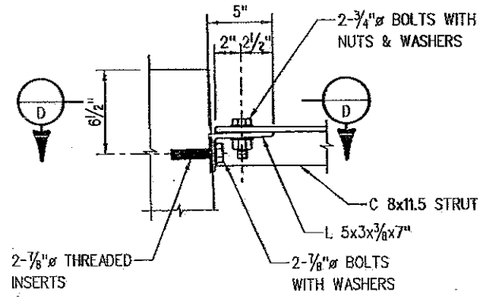


DETAIL (B19 A)

NOTES

1. CONTRACTOR MAY SUBMIT ALTERNATIVE END DIAPHRAGM DESIGNS TO BE APPROVED BY THE ENGINEER.

KEY NOTES

(1) SHOP BEND STRANDS AS SHOWN. CUT REMAINING STRANDS AS DIRECTED ON DWG. NO. B19.

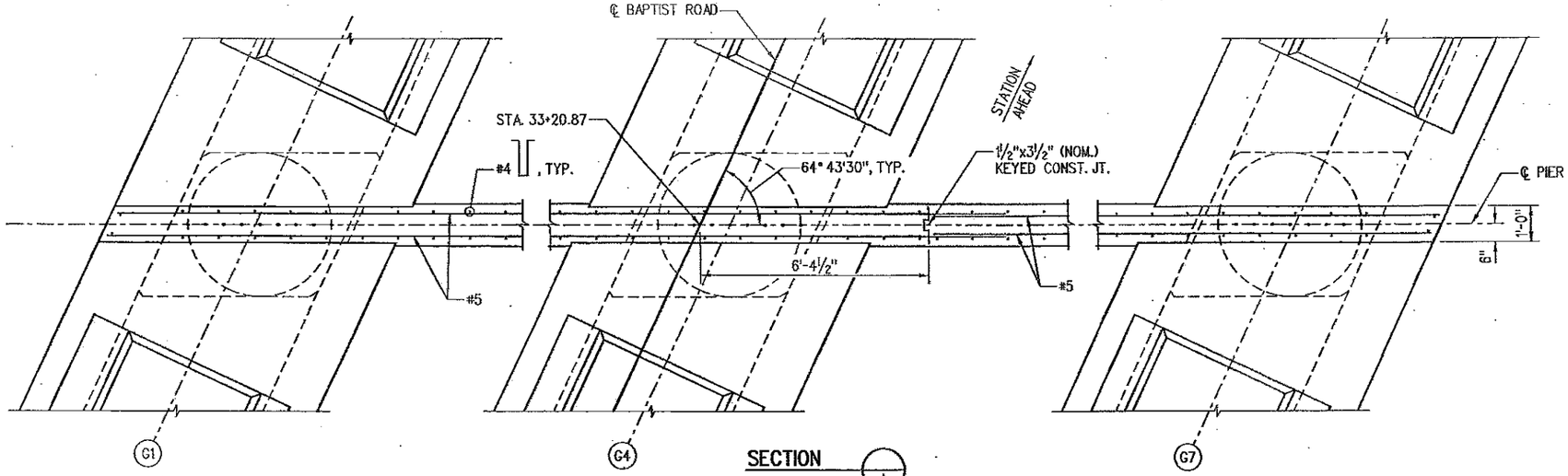
(2) GIRDER SYMMETRICAL BY ROTATION ABOUT ℄ GIRDER AND ℄ SPAN.

VE-2 (3) 7 SETS OF 2-#4 (N) @ 3" (BUNDLED).

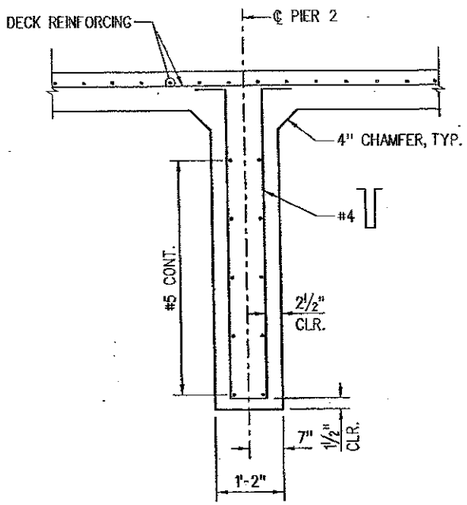
(4) 10 SETS OF 2-#4 (N) @ 3" (BUNDLED).

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Revision Dates (Preliminary Stage Only)	Init.	Date



SECTION A



SECTION
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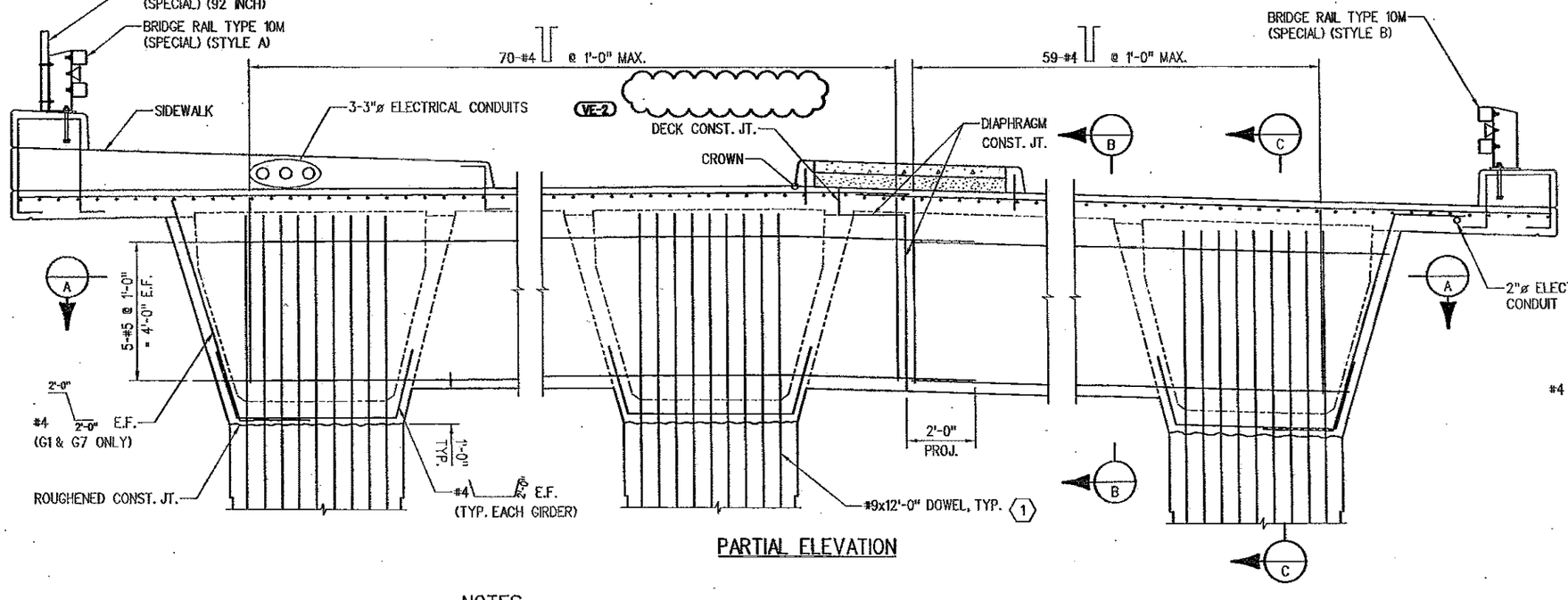

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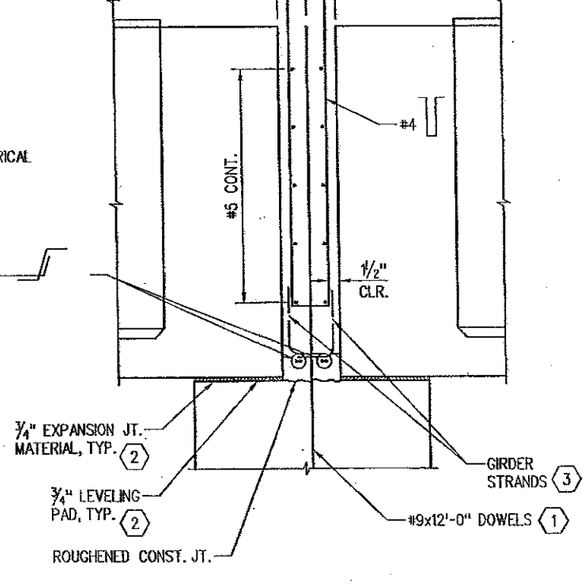

SECTION
SCALE: ⅜"=1'-0" C

KEY NOTES

1. FOR PIER REINFORCING, SEE DWG. NO. B17.
2. FOR BEARING SEAT DETAIL, SEE DWG. NO. B13.
3. FOR GIRDER DETAILS, SEE DWG. NOS. B19 AND B20.

VE-2

NOTES

1. CONCRETE SHALL BE CONCRETE CLASS D (BRIDGE).
2. PIER DIAPHRAGM AND DECK SHALL BE PLACED MONOLITHICALLY.
3. FOR DECK DETAILS, SEE DWG. NOS. B18 AND B22.
4. FOR SIDEWALK DETAILS, SEE DWG. NO. B23.
5. FOR BRIDGE RAIL DETAILS, SEE DWG. NO. B26.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Computer File Information			
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Last Modification Date:	02/03/09	Initials:	PMH
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Sheet Revisions		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

Colorado Department of Transportation
REGION 2
1480 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276
PBS&J

As Constructed	
No Revisions:	
Revised: GMH 12-22-09	
Void:	

BAPTIST ROAD OVER I-25
PIER DIAPHRAGM

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B21 of 42	

Project No./Code	
IM 252-341	
13388	
Sheet Number	67

Design: Initial DAN, Date 01/06, Checked By SA
Detail: Initial ARP, Date 02/06, Checked By AGW
Quantities By AGW, Date 03/06, Checked By KAL
Revision Dates (Preliminary Stage Only)
Issue: Initial AGW, Date 03/06
Designed By, Checked By
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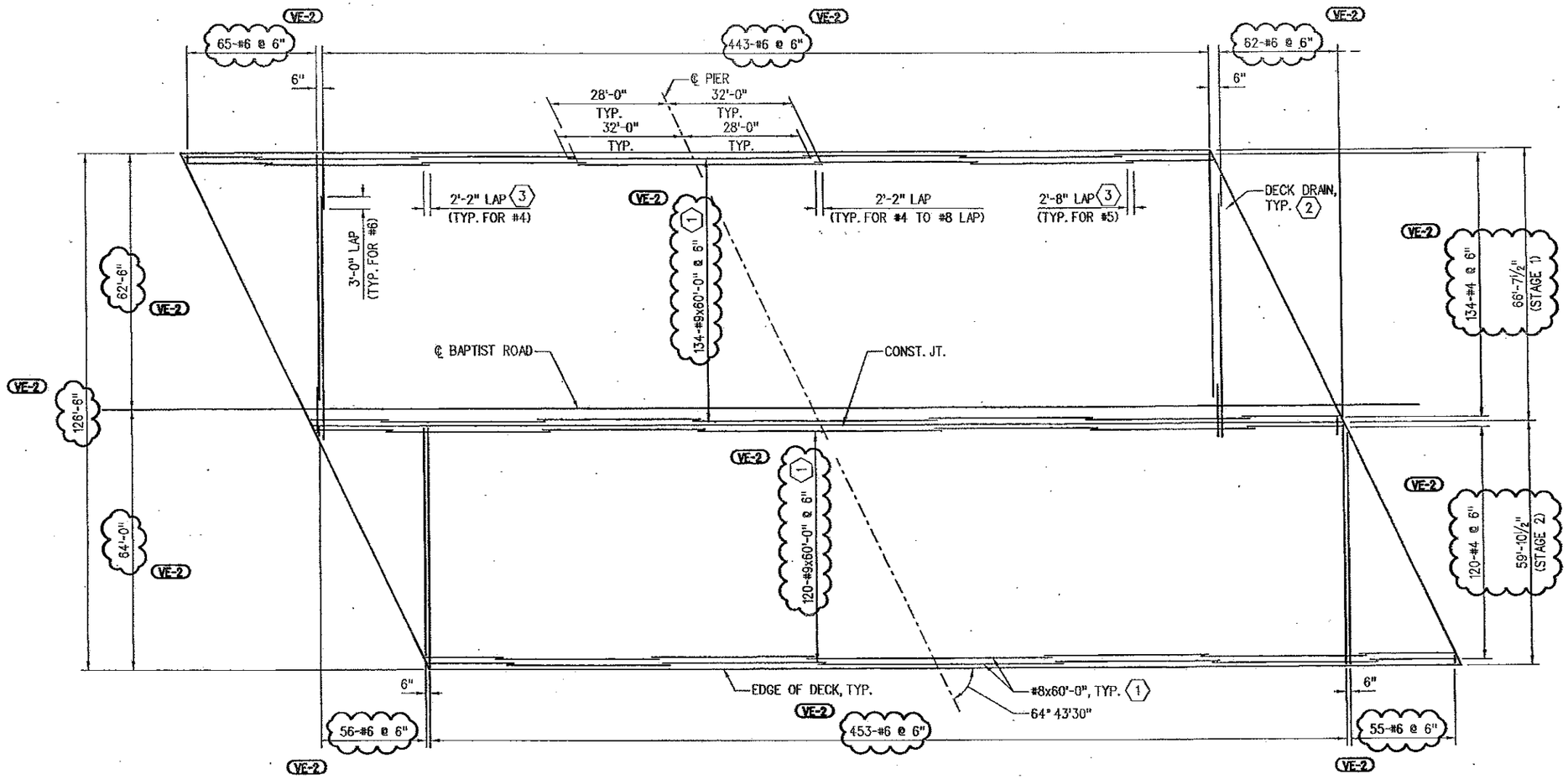
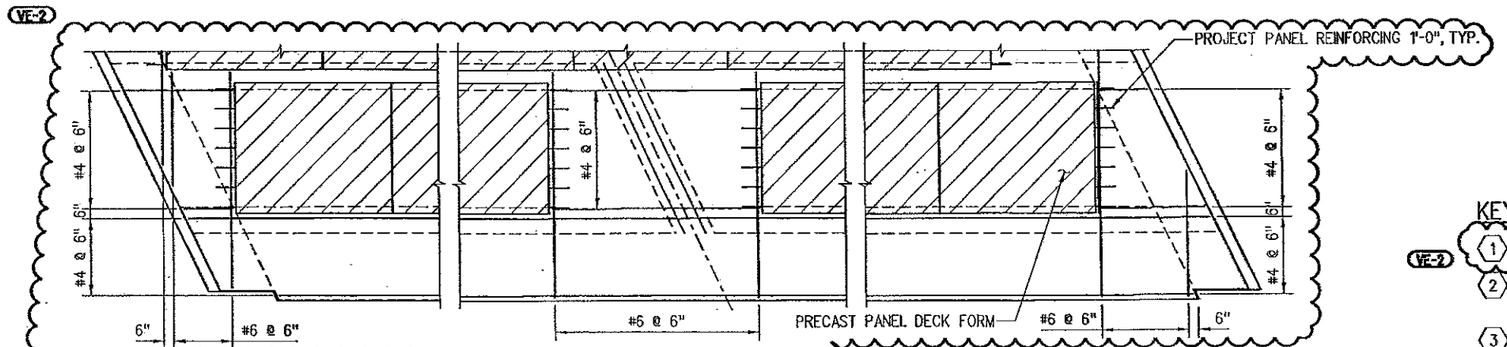


PLAN-TOP REINFORCING
(SIDEWALK & BRIDGE RAIL NOT SHOWN)



PARTIAL PLAN- BOTTOM REINFORCING

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

KEY NOTES

(VE-2)
(1) PLACE #9 BARS IN TOP MAT ONLY. STAGGER AS SHOWN.
(2) MODIFY DECK REINFORCING AT DECK DRAINS AS SHOWN ON DWG. NO. B25.
(3) STAGGER ADJACENT LAP SPLICES A MINIMUM OF 3'-0".

NOTES

1. ALTERNATE SPLICES AS SHOWN.

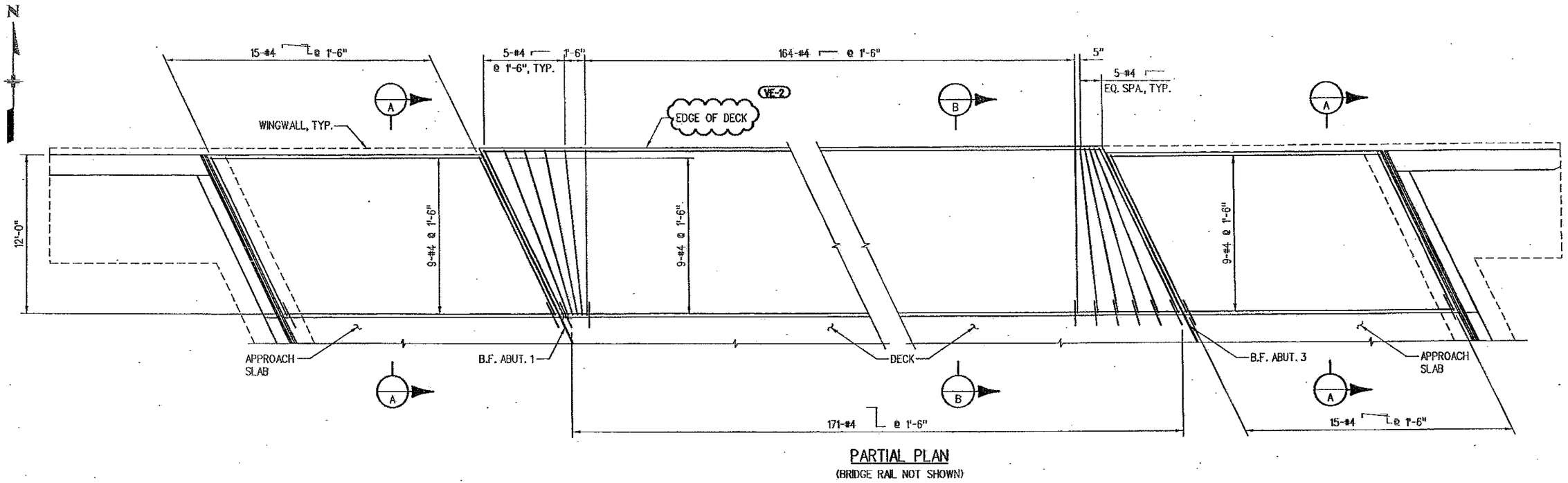
Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	DAN	07/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ERS	12/05
Checked By	AGW	03/06

Quantities By	AGW	03/06
Checked By	KAL	03/06

$$$$DESIGN$$$$



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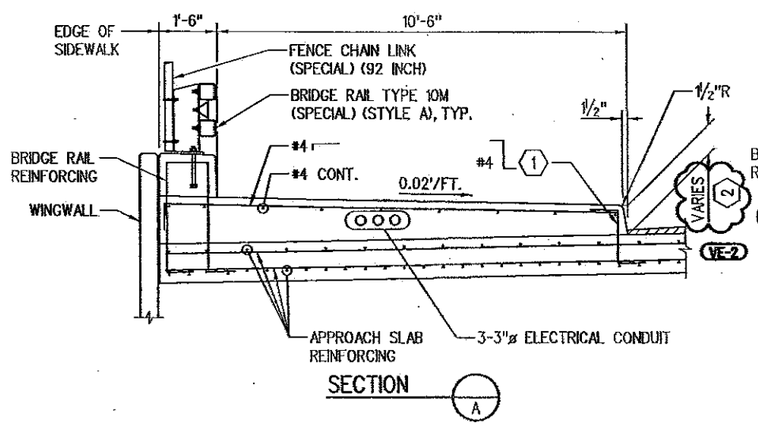
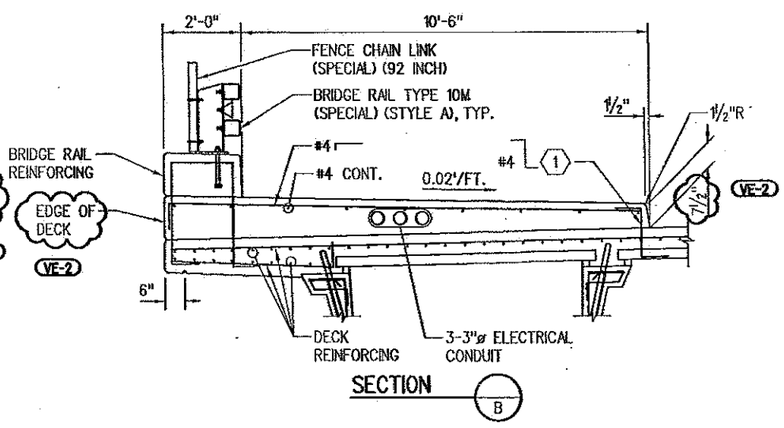
(BRIDGE RAIL NOT SHOWN)



SECTION A



SECTION B

KEY NOTES

(1) CONTRACTOR MAY SUBSTITUTE #4 } @ 1'-0" DRILLED AND GROUTED INTO DECK USING HILTI HIT HY-150 INJECTION ADHESIVE OR ENGINEER APPROVED EQUAL.

VE-2 (2) 7½" AT B.F. ABUT. 6" AT END OF APPROACH SLAB.

NOTES

1. CONCRETE SHALL BE CONCRETE CLASS B (BRIDGE).
2. SIDEWALK SURFACE SHALL BE BROOM-FINISHED IN ACCORDANCE WITH SECTION 608.
3. FOR BRIDGE RAIL DETAILS, SEE DWG. NO. B26.
4. FOR COVER PLATE DETAILS, SEE DWG. NO. B31.

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

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CAD Ver. MicroStation V8	Scale: NONE	Units:	ENGLISH

Sheet Revisions		
02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

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REGION 2
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PBSJ

As Constructed
No Revisions:
Revised: Gmh 12-23-09
Void:

BAPTIST ROAD OVER I-25
SIDEWALK DETAILS

Designer: D. Nemovitz
Detailer: E. Schowo
Sheet Subset: BRIDGE
Structure Numbers: H-17-DC
Subset Sheets: B23 of 42

Project No./Code
IM 252-341
13388
Sheet Number 69

Design: INITIAL DAN, DATE 07/05, Designed By, Checked By AGW 03/06
Detail: INITIAL ERS, DATE 12/05, Detailed By, Checked By AGW 03/06
Quantities By, Checked By KAL 03/06
Revision Dates (Preliminary Stage Only)
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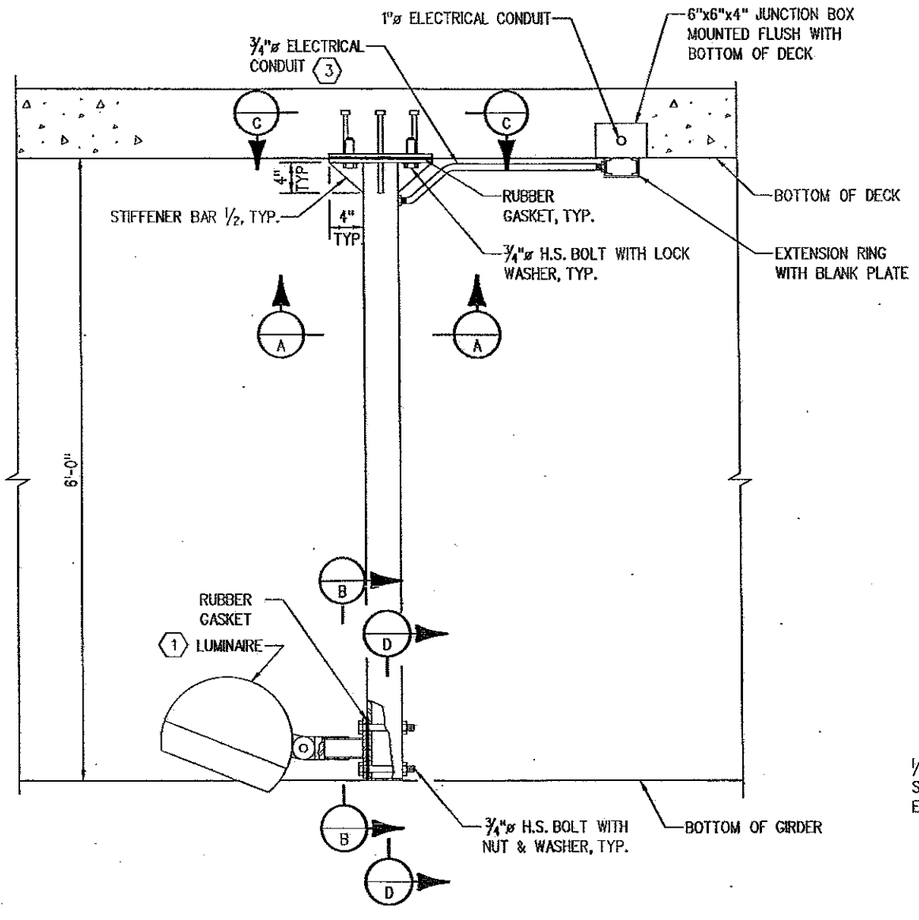
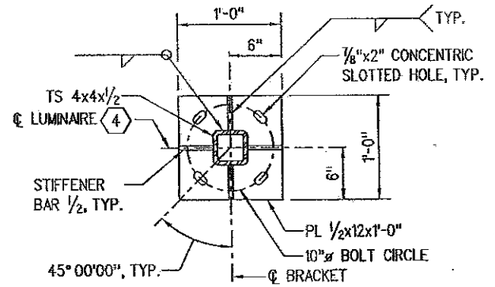


LIGHTING HANGER DETAIL



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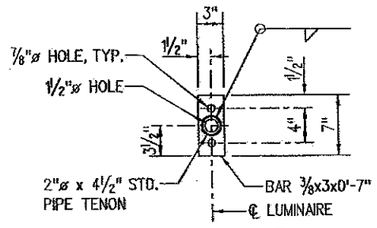

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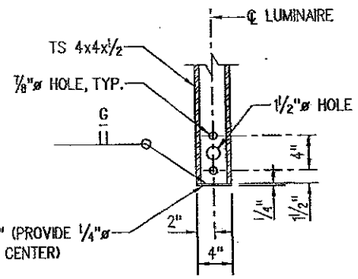
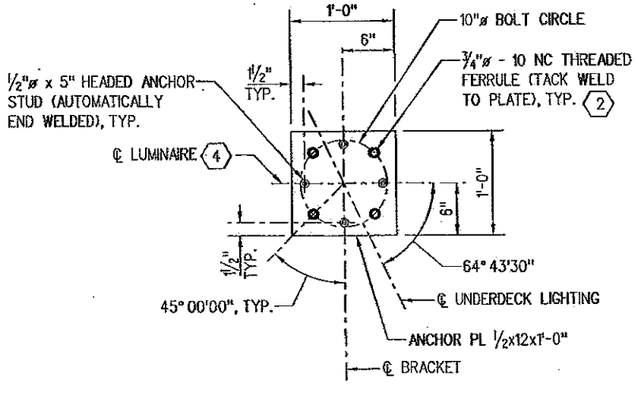


SECTION (D)



SECTION ANCHOR PLATE (C)

KEY NOTES

(1) ATTACH LUMINAIRE TO TENON PER MANUFACTURER'S RECOMMENDATIONS. FOR LUMINAIRE DETAILS, SEE LIGHTING PLANS.

(2) PROVIDE ⅞"ø HOLE THROUGH ANCHOR PLATE AT EACH FERRULE LOCATION TO RECEIVE ¾"ø H.S. BOLT.

(3) PROVIDE CONNECTION IN TUBE FOR ¾"ø ELECTRICAL CONDUIT.

(4) ℄ LUMINAIRE SHALL BE PARALLEL TO ℄ GIRDER AND SHALL BE APPROXIMATELY CENTERED BETWEEN GIRDERS.

NOTES

1. FOLLOWING FABRICATION, STEEL COMPONENTS SHALL BE GALVANIZED AND PAINTED IN ACCORDANCE WITH SECTION 509. THE COLOR SHALL BE LIGHT BROWN, EQUIVALENT TO FEDERAL STANDARD 595B COLOR NO. 30227.
2. FOLLOWING FABRICATION, ANCHOR PLATE ASSEMBLY SHALL BE ONLY GALVANIZED IN ACCORDANCE WITH SECTION 509.
3. USE ASTM RUBBER GASKET BETWEEN ALL STEEL-TO-STEEL CONNECTIONS.
4. FOR UNDERDECK LUMINAIRE LOCATIONS, SEE DWG. NO. B7.
5. SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION.

(VE-2) 6. DETAILS FOR CONDUIT, JUNCTION BOXES AND CONNECTION OF THE LIGHTING HANGER TO THE BOTTOM OF THE PRECAST DECK PANEL TO BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL.

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Design	INITIAL	DATE
Designed By	DAN	07/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ERS	12/05
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06

Revision Dates (Preliminary Stage Only)	INITIAL	DATE
	AGW	03/06
	KAL	03/06

$$DGN$$ 1:34:44 PM $$DATE$$

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CAD Ver.	MicroStation V8	Scale:	NONE
Units:	ENGLISH		

Sheet Revisions		
(VE-2) 02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

Colorado Department of Transportation
REGION 2
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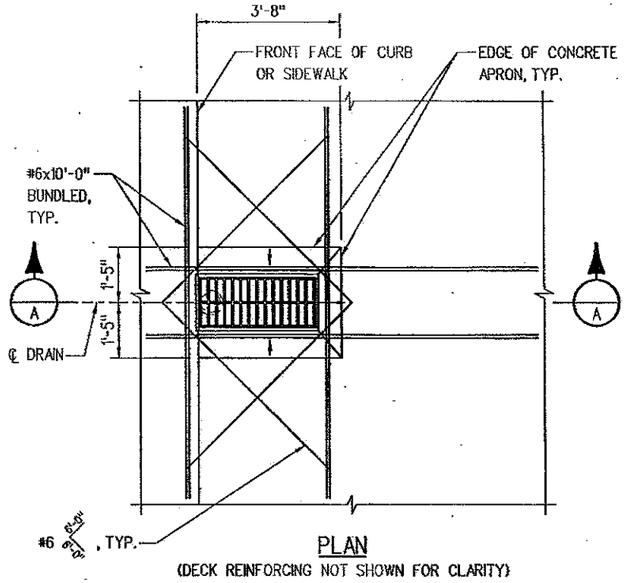
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276
PBSJ

As Constructed	
No Revisions:	
Revised:	Grid 12-23-09
Void:	

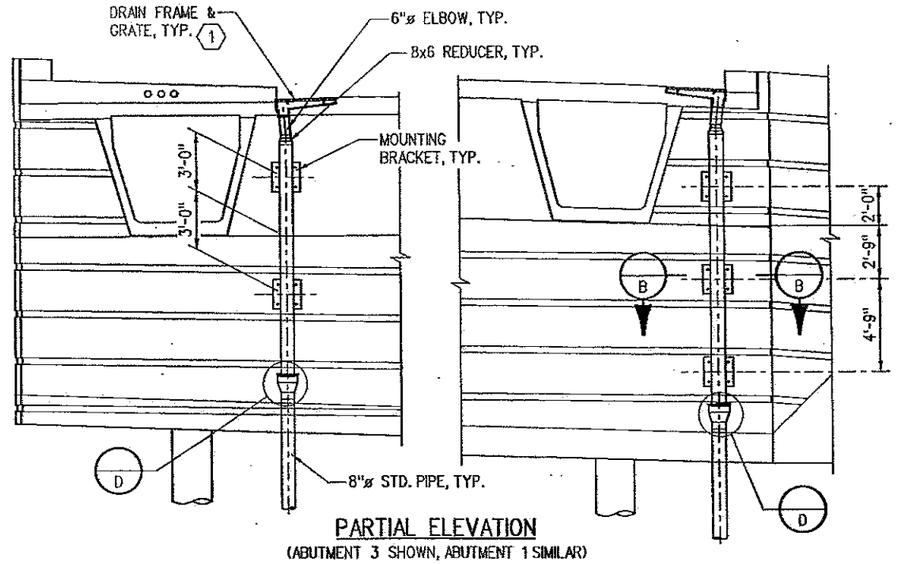
BAPTIST ROAD OVER I-25
UNDERDECK LUMINAIRE DETAILS

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	E. Schawo		
Sheet Subset:	BRIDGE	Subset Sheets: B24	of 42

Project No./Code	
IM 252-341	
13388	
Sheet Number	70



PLAN
(DECK REINFORCING NOT SHOWN FOR CLARITY)



PARTIAL ELEVATION
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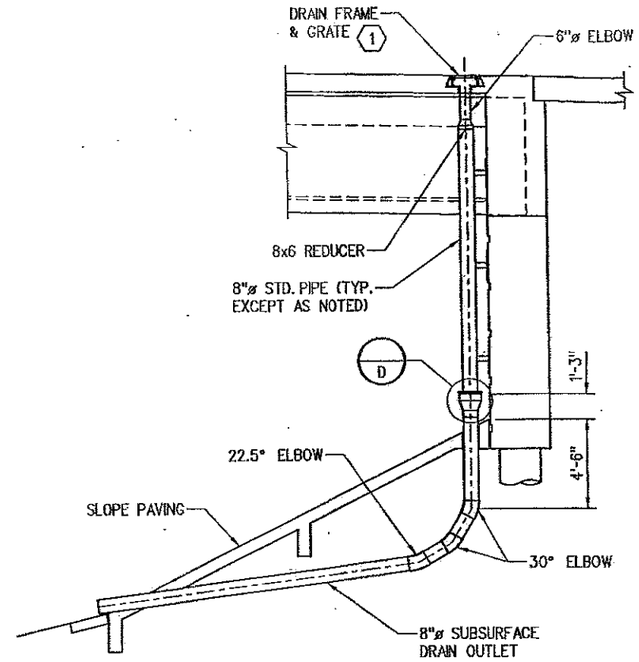
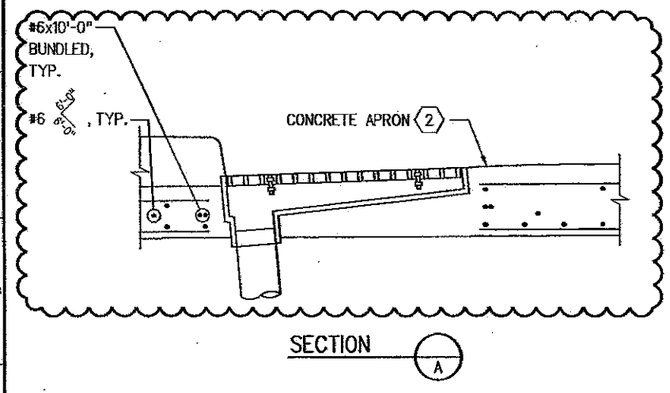


TYPICAL SECTION

VE-2



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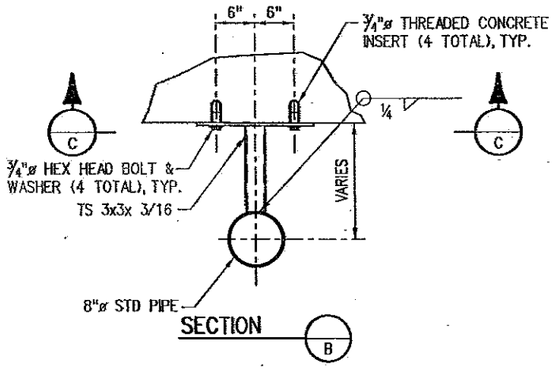

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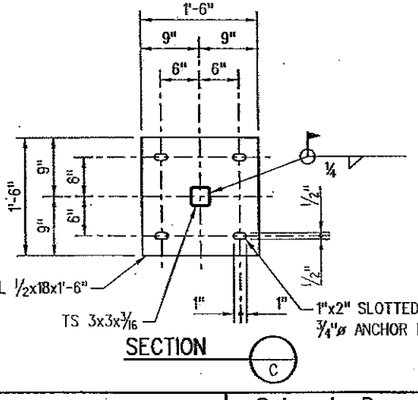

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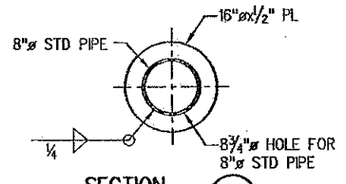

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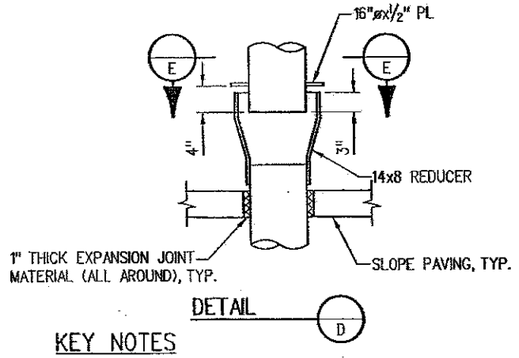

DETAIL D

KEY NOTES

1. DRAIN SHALL BE NEENAH TYPE R-4014-C1 BRIDGE SCUPPER OR ENGINEER APPROVED EQUAL.
2. SLOPE CONCRETE APRON TO DRAIN TOWARD GRATE.

NOTES

1. FOR LOCATION OF BRIDGE DRAINS, SEE DWG. NO. B7.
2. CUT DECK REINFORCING TO CLEAR DRAIN FRAME. ADDITIONAL #6 BARS SHALL BE PLACED BETWEEN TOP AND BOTTOM MATS OF DECK REINFORCING.
3. COST OF FURNISHING AND INSTALLING DRAIN FRAME AND GRATE, DOWN DRAIN PIPING AND CONNECTIONS, MOUNTING BRACKETS AND ANY OTHER INCIDENTAL MATERIALS SHALL BE INCLUDED IN THE COST OF ITEM 513, BRIDGE DRAIN (SPECIAL). MATERIALS AND WORKMANSHIP REQUIRED FOR FABRICATION AND INSTALLATION OF ALL STEEL COMPONENTS SHALL CONFORM TO SECTION 513.
4. ALL DOWN DRAIN COMPONENTS SHALL GALVANIZED IN ACCORDANCE WITH SECTION 513.
5. FIELD PAINT ALL VISIBLE SURFACES OF DOWN DRAIN. PAINT COLOR SHALL MATCH ADJACENT CONCRETE COATING.
6. SUBSURFACE DRAIN OUTLET INCLUDES 8 INCH NON-PERFORATED PIPE, END TREATMENT, AND ALL ELBOWS AND FITTINGS NECESSARY FOR INSTALLATION.
7. SUBSURFACE DRAIN OUTLET SHALL CONFORM TO THE CONSTRUCTION REQUIREMENTS OF SECTION 605.06.
8. ALL MATERIALS AND WORKMANSHIP NECESSARY FOR INSTALLATION OF SUBSURFACE DRAIN OUTLET SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 513, BRIDGE DRAIN (SPECIAL).
9. SUBSURFACE DRAIN OUTLET SHALL HAVE AN ANIMAL GUARD AND EROSION CONTROL PAD, AS SHOWN IN "OUTLET PIPE END TREATMENT" DETAIL ON STANDARD PLAN NO. M-605-1.

(VE-2) VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

Design	Initial	Date
Designed By	AGW	02/06
Checked By		
Detail	Initial	Date
Detailed By	ARP	02/06
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06
Revision Dates (Preliminary Stage Only)	Initial	Date
Use		

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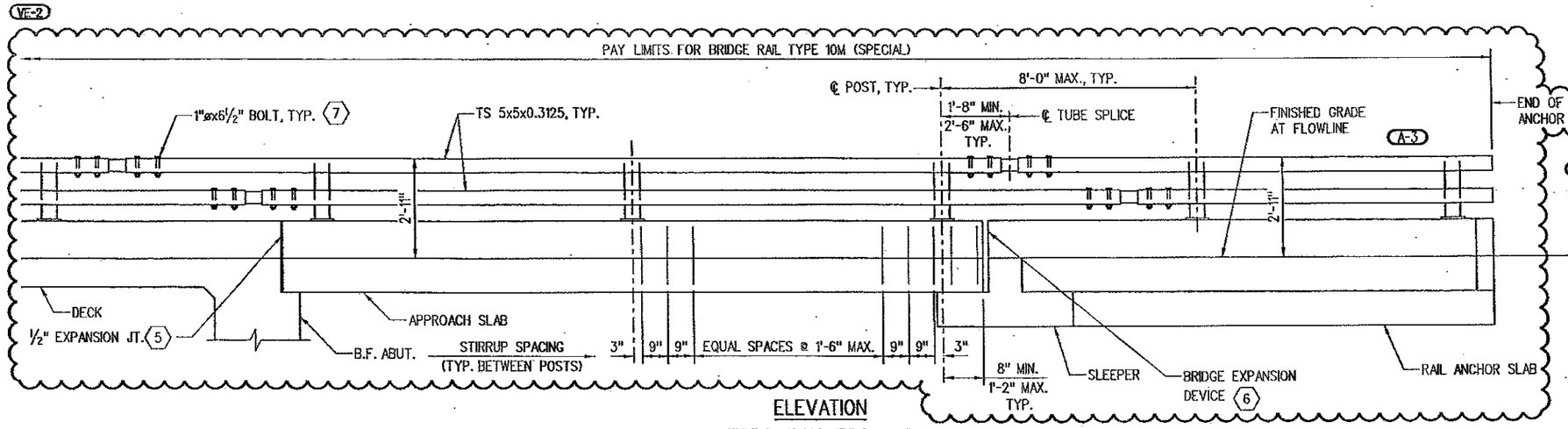


ELEVATION

(STYLE B SHOWN, STYLE A SIMILAR)

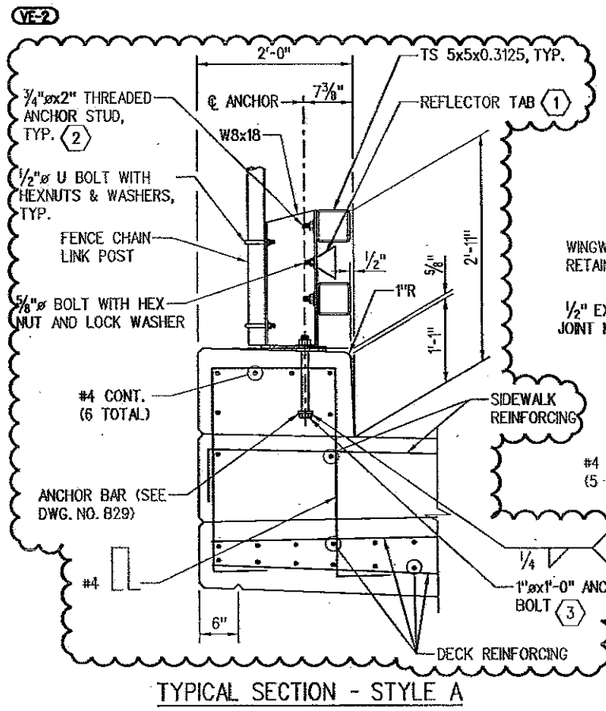
KEY NOTES

1. REFLECTOR TAB REQUIRED AT EACH POST. SEE STD. PLAN NO. M-606-1, SHEET 3 OF 15, FOR DETAILS.
2. THREADED ANCHOR STUD SHALL BE AUTOMATICALLY END WELDED TO RAILING TUBE. 4 STUDS REQUIRED AT EACH POST LOCATION. PROVIDE HEX NUT, HARDENED WASHER AND LOCK WASHER AT EACH STUD. LOCATE TO MATCH SLOTTED HOLES IN POSTS.
3. 2 ANCHOR BOLTS REQUIRED AT EACH POST LOCATION. PROVIDE HEX NUT AND LOCK WASHER WITH EACH ANCHOR BOLT. BOLT SHALL BE ASTM A325 OR A449. PROVIDE 2½" BOLT PROJECTION.
4. ~~FOR GUARDRAIL TRANSITION DETAILS, SEE STD. PLAN NO. M-606-1. THE HEIGHT OF THE TRANSITION WILL VARY TO MATCH BRIDGE RAIL AND ROADWAY GUARDRAIL. SEE ROADWAY PLANS FOR TRANSITION TYPE AND LOCATION.~~ A-3
5. FOR TREATMENT OF CURB AT EXPANSION JOINT, SEE DWG. NO. B30.
6. FOR TREATMENT OF CURB AT BRIDGE EXPANSION DEVICE, SEE DWG. NO. B30.
7. 4 BOLTS REQUIRED AT EACH TUBE SPLICE LOCATION. PROVIDE HEX NUT, WASHER AND LOCK WASHER WITH EACH BOLT. BOLT SHALL BE ASTM A325.

VE-2

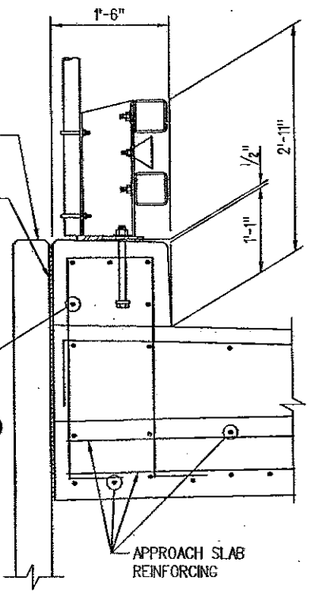
INFORMATION ONLY

DESCRIPTION	UNIT (PER L.F.)	STYLE A		STYLE B	
		BRIDGE DECK	APPROACH SLAB	BRIDGE DECK	APPROACH SLAB
STRUCTURAL STEEL (GALVANIZED)	LB.	45.1	45.1	45.1	45.1
CONCRETE CLASS D (BRIDGE)	C.Y.	0.12	0.06	0.10	0.06
REINFORCING STEEL (EPOXY COATED)	LB.	12.8	8.2	10.7	6.6



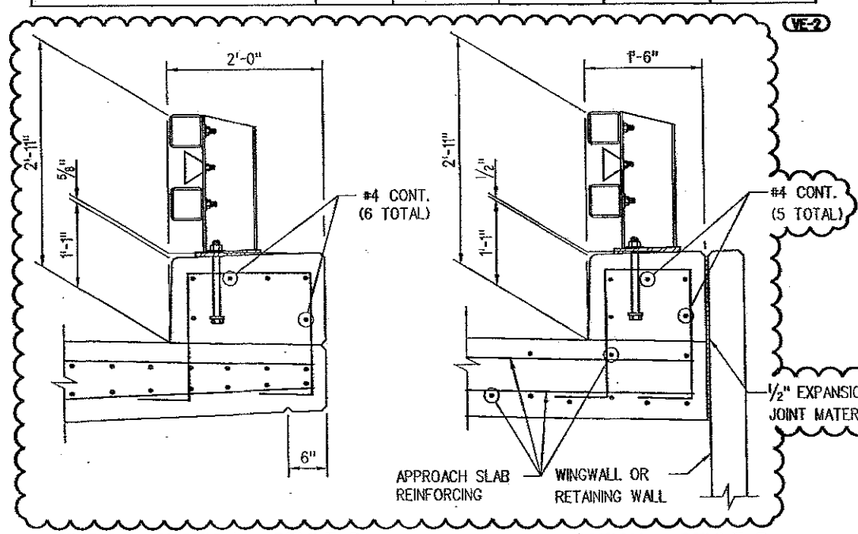
TYPICAL SECTION - STYLE A

(ON BRIDGE DECK)



TYPICAL SECTION - STYLE A

(ON APPROACH SLAB)
(ON RAIL ANCHOR SLAB SIMILAR)
(DIMENSIONS SIMILAR TO "TYPICAL SECTION - STYLE A", ON BRIDGE DECK, EXCEPT AS NOTED)



TYPICAL SECTION - STYLE B

(ON BRIDGE DECK)
(DIMENSIONS SIMILAR TO "TYPICAL SECTION - STYLE A", ON BRIDGE DECK, EXCEPT AS NOTED)

TYPICAL SECTION - STYLE B

(ON APPROACH SLAB)
(ON RAIL ANCHOR SLAB SIMILAR)
(DIMENSIONS SIMILAR TO "TYPICAL SECTION - STYLE A", ON BRIDGE DECK, EXCEPT AS NOTED)

VE-2 VALUE ENGINEERING ITEM NO. 2-SUBSTITUTE BRIDGE DECK METAL FORMING SYSTEM WITH PRECAST CONCRETE DECK PANELS. REVISIONS PERFORMED BY TSIOUVARAS SIMMONS HOLDERNESS FOR LAWRENCE CONSTRUCTION CO.

NOTES

1. 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.
2. 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.
3. POST ANCHOR, ENCASED IN CONCRETE, SHALL BE ASTM A-36 (AASHTO M-183) STEEL AND NEED NOT BE GALVANIZED.
4. TUBES SHALL BE CONTINUOUS OVER NOT LESS THAN TWO POSTS. NO WELDED BUTT SPLICES WILL BE ALLOWED IN THE TUBE SECTIONS.
5. THE CENTERLINE OF THE TUBE SPLICE SHALL BE 1'-8" MINIMUM AND 2'-6" MAXIMUM FROM THE CENTERLINE OF THE POSTS.
6. ALL BOLTS THAT HAVE LOCK WASHERS SHALL BE TIGHTENED TO SNUG ONLY.
7. POSTS SHALL BE PERPENDICULAR TO THE LONGITUDINAL ROADWAY GRADE.
8. PAYMENT WILL BE MADE UNDER ITEM 606, BRIDGE RAIL TYPE 10M (SPECIAL) 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.
9. 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.
10. FOR POST SPACING, SEE DWG. NO. B7.
11. FOR ADDITIONAL DETAILS, SEE DWG. NO. B27.

Revision Dates (Preliminary Stage Only)

Des	INITIAL	DATE
	AGW	03/06
	KAL	03/06

Detail

	INITIAL	DATE
Detailed By	ARP	08/05
Checked By	AGW	03/06
Quantities By		08/05
Checked By		03/06

Design

	INITIAL	DATE
Designed By	DAN	08/05
Checked By	AGW	03/06

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$$$$DATE$$$$

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Sheet Revisions

A-3	10-24-08	ADDENDUM NO. 3	SOS
VE-2	02-03-09	VALUE ENGINEERING ITEM NO.2	JWS

Colorado Department of Transportation

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As Constructed

No Revisions:

Revised: GMH 12-23-09

Void:

BAPTIST ROAD OVER I-25
BRIDGE RAIL TYPE 10M (SPECIAL)

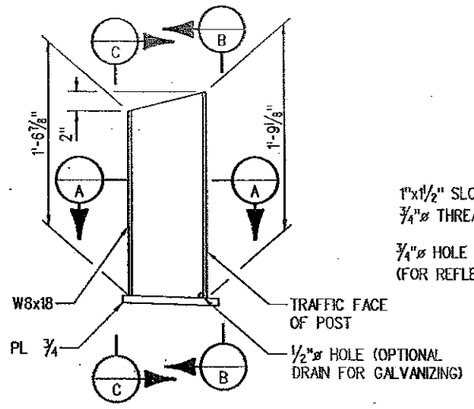
Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B26 of 42	

Project No./Code

IM 252-341

13388

Sheet Number 72



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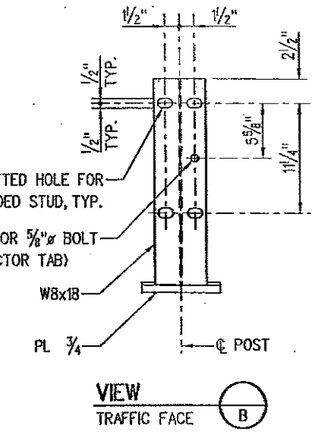

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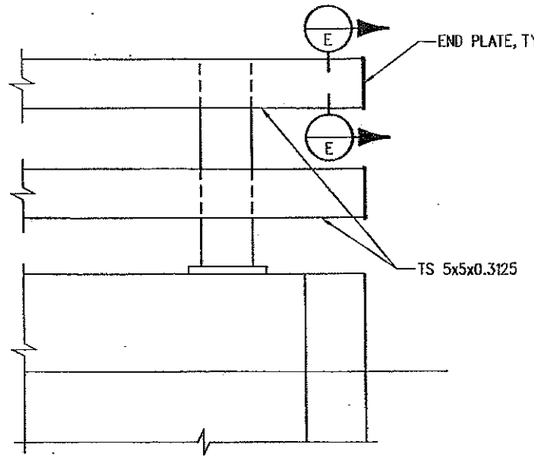


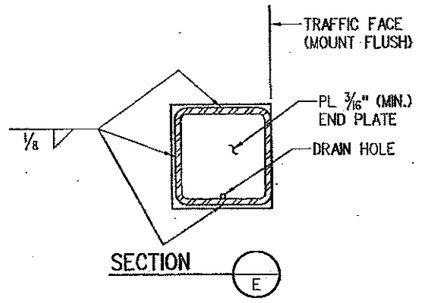
END DETAIL

(A-3)

(DELETED GUARDRAIL TRANSITION)

(A-3)

(DELETED 'SECTION D' - GUARDRAIL CONNECTION)



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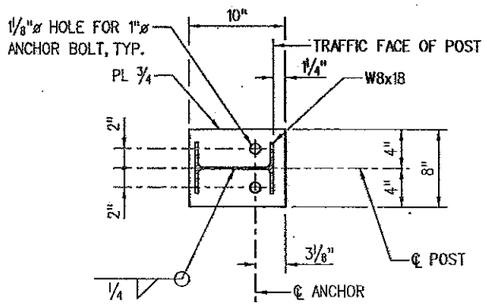

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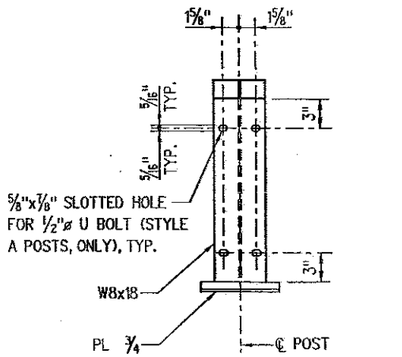
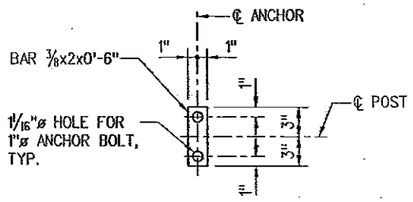


VIEW BACK FACE (C)

(DETAIL APPLIES TO STYLE A POSTS, ONLY)



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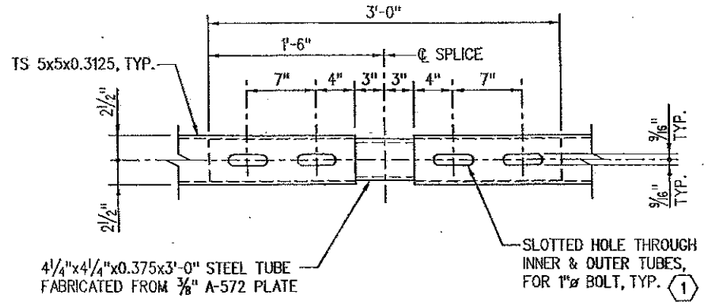

PLAN - TUBE SPLICE

KEY NOTES

(1) 1⅛"x1⅜" SLOTS AT TUBE FIELD SPLICE. 1⅛"x4¼" SLOTS AT BRIDGE EXPANSION DEVICE. SLOT BOTH INNER AND OUTER TUBES. STAGGER TOP AND BOTTOM SPLICES INTO DIFFERENT POST SPACINGS EXCEPT AT EXPANSION JOINT, PLACE AT OPPOSITE ENDS OF SAME POST SPACE. (RANGE OF MOTION = 1"-0" AT BRIDGE EXPANSION DEVICE.)

NOTES

1. FOR NOTES, SEE DWG. NO. B26.
2. STRUCTURAL STEEL:

AASHTO M-183 (ASTM A-36) f_y = 36,000 psi

AASHTO M-223 (ASTM A-572) GRADE 50 f_y = 50,000 psi

COLD FORMED ASTM A-500 GRADE B f_y = 46,000 psi

Revision Dates (Preliminary Stage Only)

Design	INITIAL	DATE
Designed By	DAN	08/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ARP	08/05
Checked By	AGW	03/06
Quantities By	AGW	03/06
Checked By	KAL	03/06

$$$$DGN$$$$ 137354.PM $$$$DATE$$$$

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Units:	ENGLISH		

A-3

Sheet Revisions		
10-24-08	ADDENDUM NO. 3	SOS

Colorado Department of Transportation

REGION 2

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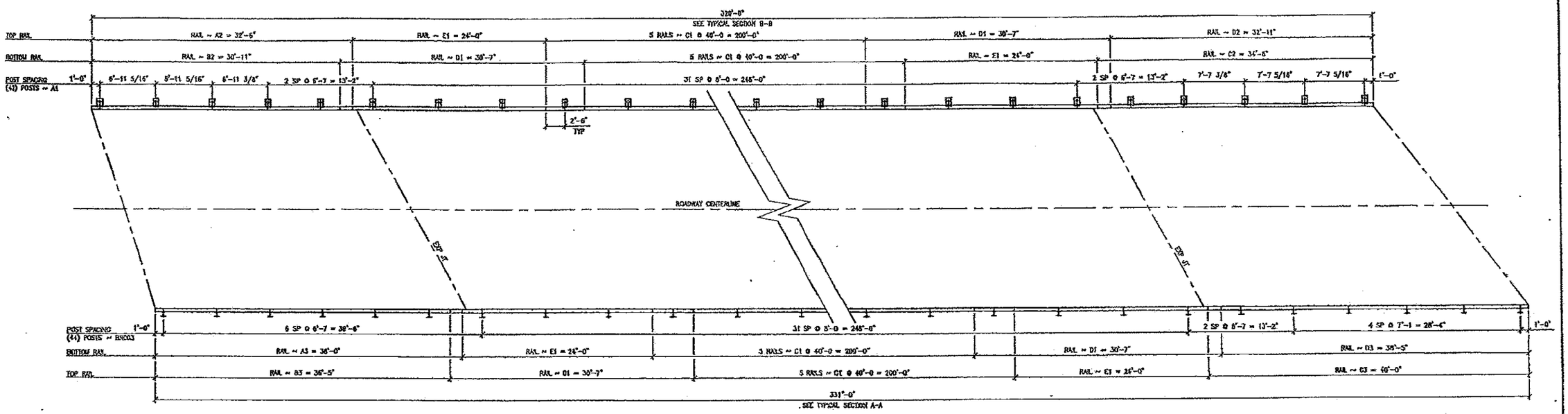
PBS&J

As Constructed	
No Revisions:	
Revised: GMH-12-23-09	
Void:	

BAPTIST ROAD OVER I-25
BRIDGE RAIL DETAILS

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B27 of 42	

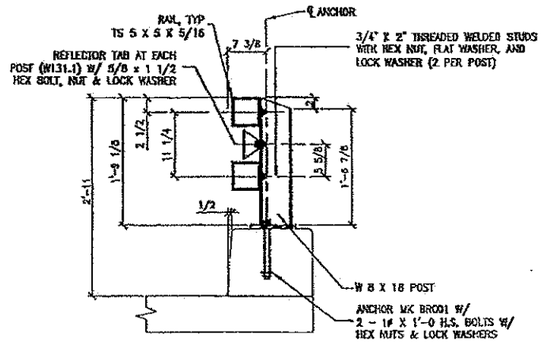
Project No./Code
IM 252-341
13388
Sheet Number 73



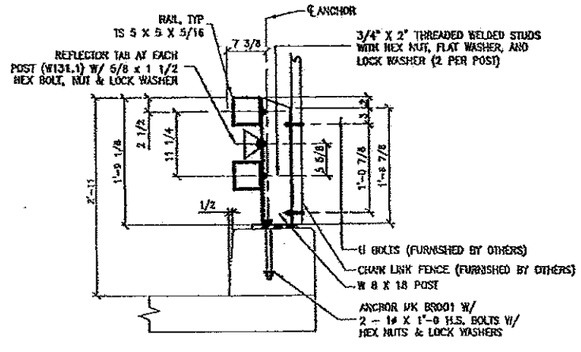
"WE ACKNOWLEDGE RECEIPT OF THESE SHOP DRAWINGS AND HAVE REVIEWED THEM WITH OUR ENGINEER. WE ASSUME NO RESPONSIBILITY FOR THE DESIGN CRITERIA OR DIMENSIONS."

1/9/08

LAWRENCE CONSTRUCTION COMPANY DATE



SECTION A-A



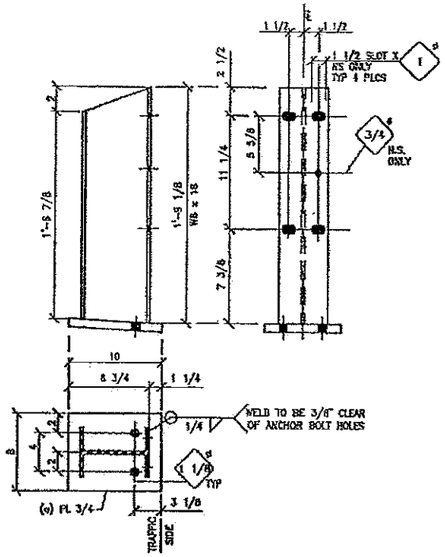
SECTION B-B

NOTE: DOMESTIC MATERIAL REQUIRED

MATERIAL SPECS.	
SCALE	NONE
HOLES	
COATING	GALVANIZE AFTER FABRICATION - ASTM A123
	BRIDGE RAIL - TYPE 10 (SPECIAL)
	BAPTIST ROAD OVER I-25 COLORADO SPRINGS

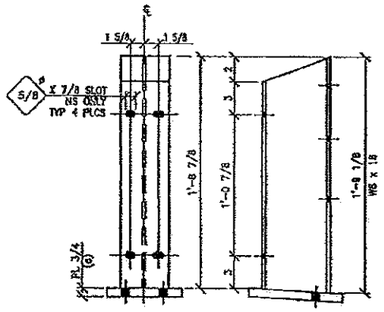
UNIVERSAL INDUSTRIAL SALES
P.O. BOX 699
PLEASANT GROVE, UTAH 84062
PHONE: 801-785-0505
www.universalindustrialsales.com

DRAWN BY	K. OLSEN	DATE 06JAN09
CHECKED BY	L.M.	DATE 06JAN09
CONTRACTOR	LAWRENCE CONSTRUCTION	
OWNER	COLORADO DEPARTMENT OF TRANSPORTATION	
P.O. NO.	10	PROJECT NO. IM 252-341
JOB NO.	32676	73A



(44) POSTS – MK BR003

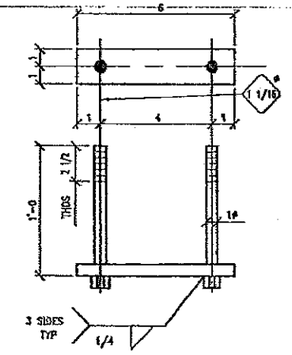
MAT'L: A572 Gr 50



(42) POSTS – MK A1

FOR DETAILS NOT SHOWN, SEE – POST MK BR003

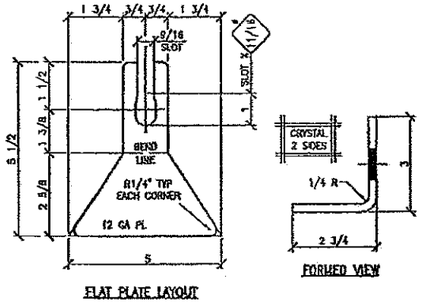
MAT'L: A572 Gr 50



(86) ANCHOR ASSEMBLIES – MK BR001

PL 3/8 X 2 X 6

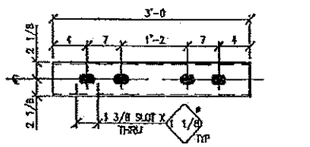
(NOT GALVANIZED)



FLAT PLATE LAYOUT

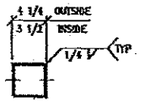
(86) REFLECTORS – Mk W131.1

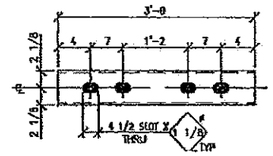
FOR ALL POSTS



(24) SPLICE TUBES – MK BR002

PL 3/8 X 7 X 3'-0



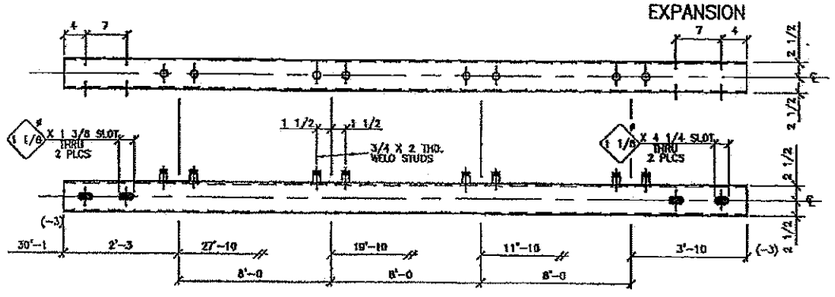


(8) EXP SPLICE TUBES – MK B1

PL 3/8 X 7 X 3'-0

MAT'L: A572 Gr 50

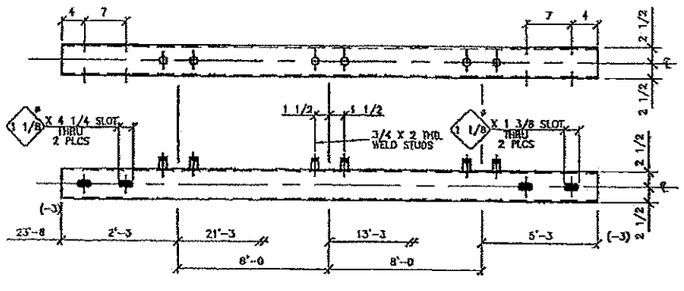
EXPANSION



(4) RAILS – MK D1

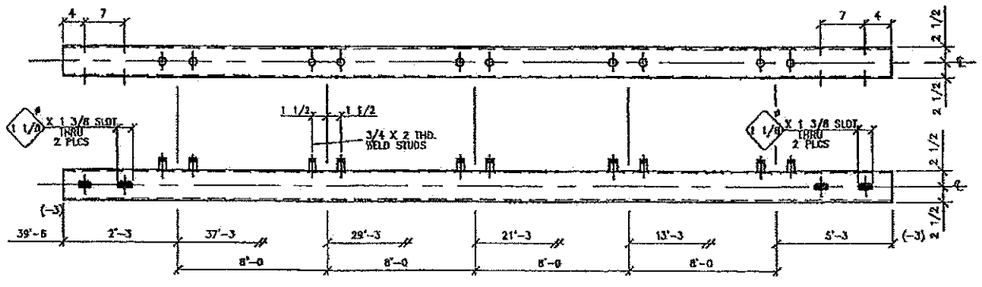
TS 5 X 5 X 5/16

EXPANSION



(4) RAILS – MK E1

TS 5 X 5 X 5/16



(20) RAILS – MK C1

TS 5 X 5 X 5/16

"WE ACKNOWLEDGE RECEIPT OF THESE SHOP DRAWINGS AND HAVE REVIEWED THEM WITH NO RESPONSIBILITY FOR THE DESIGN CRITERIA OR DIMENSIONS."

1/9/08

LAWRENCE CONSTRUCTION COMPANY DATE

BILL OF MATERIAL

Mark	No. Req'd	P/C	DESCRIPTION	LENGTH Ft.	LENGTH Ins.	Remarks	Weight
BR003	44	BR003	POSTS				
A1	42	BR003	POSTS				
	86		W8 X 18	1	9 1/8	BASE	2725
a	86		PL 3/4 X 8	0	10		1463
							4188
BR001	86	BR001	ANCHOR ASSEMBLIES				
	86		PL 3/8 X 2	0	6	NO GALV.	110
	172	F336	1# HEX BOLTS	1	0	A325	492
	172	F157	1 HEX NUTS			A563 GrDH	72
	172	F378	1 LOCK WASHERS				15
							689
BR002	24		SPLICE TUBES				
B1	8		SPLICE TUBES				
	84		PL 3/8 X 7	3	0	BEND	1715
	28		TS RAILS				
C1	20		TS 5 X 5 X 5/16	39	6	SIZE	15073
D1	4		TS 5 X 5 X 5/16	30	1	SIZE	2298
E1	4		TS 5 X 5 X 5/16	23	6	SIZE	1784
	256	F537	3/4# WELD STUD	0	2	THREAD	54
							19217
			REFLECTORS				
W131.	86	W131.	12 ga BUTTERFLY	CRYSTAL – 2 SIDES			60
			FIELD BOLTS			GALV.	
SPLICE	128	F727.1	1# HEX BOLTS	0	8 1/2	A325	212
	128	F157	1 HEX NUTS			A563 GrDH	54
	128	F194	1 FLAT WASHERS			F436	12
	128	F378	1 LOCK WASHERS				12
RAILS	344	F143	3/4 HEX NUT			A563 Gr A	41
	344	F192	3/4 FLAT WASHER			F436	17
	344	F376	3/4 LOCK WASHERS				14
WELDED SET	86	F217	5/8# HEX BOLTS	0	1 1/2	A307	20
	86	F142	5/8 HEX NUTS			A563 Gr A	6
	86	F375	5/8 LOCK WASHERS				2
							390

MATERIAL SPECS. ASTM A36, A572 Gr 50, A500 Gr B (DOMESTIC)

SCALE NONE

HOLES AS NOTED

COATING GALVANIZE AFTER FABRICATION PER ASTM A123

BRIDGE RAIL – TYPE 10 (SPECIAL)

BAPTIST ROAD OVER I-25
COLORADO SPRINGS

UNIVERSAL INDUSTRIAL SALES
P.O. BOX 669
PLEASANT GROVE, UTAH 84062
PHONE 801-785-0505
www.universalindustrialsales.com

DRAWN BY K. OLSEN DATE 08JAN09

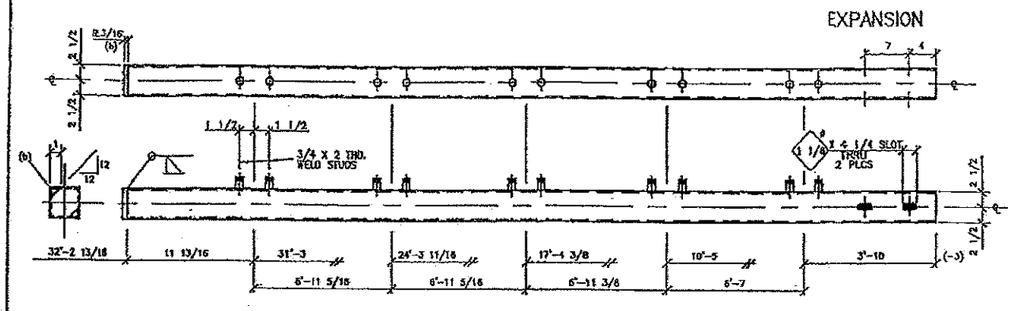
CHECKED BY I.S. DATE 08JAN09

CONTRACTOR LAWRENCE CONSTRUCTION

OWNER COLORADO DEPARTMENT OF TRANSPORTATION

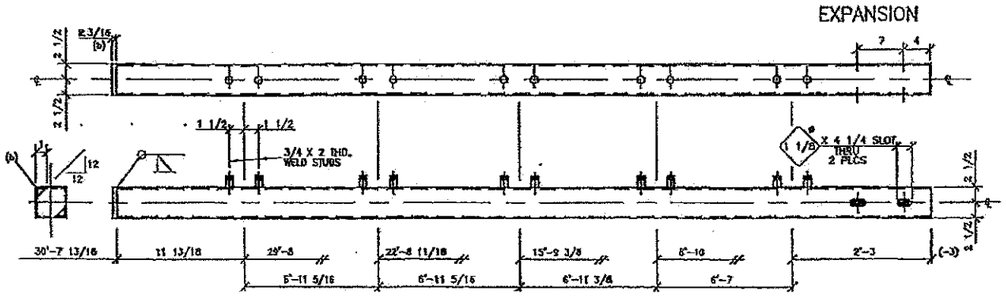
PO NO. 10 PROJECT NO. N 252-341

JOB NO. 32676



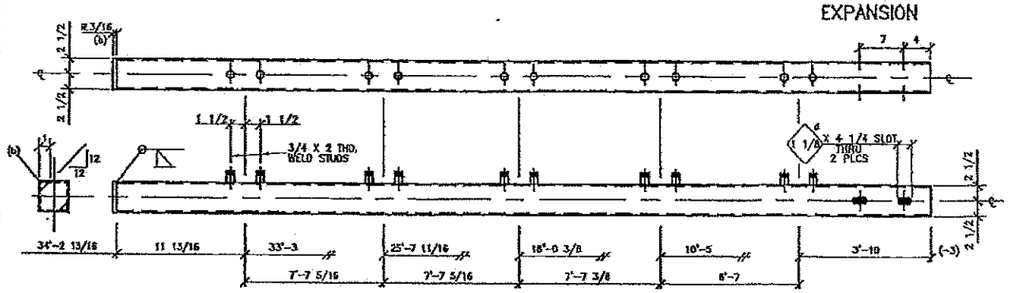
(1) RAIL – MK A2

TS 5 X 5 X 5/16



(1) RAIL – MK B2

TS 5 X 5 X 5/16

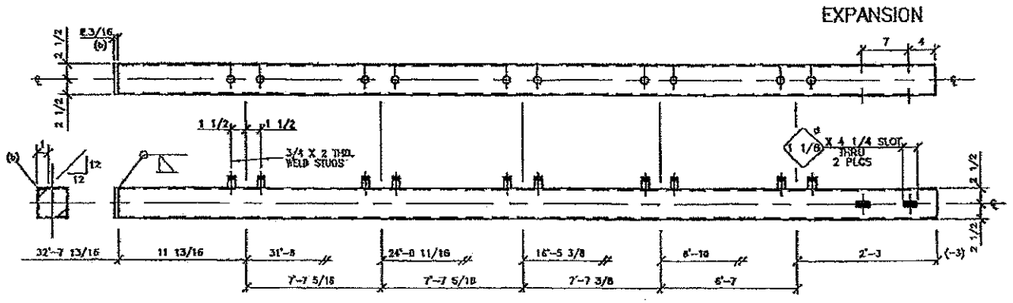


(1) RAIL – MK C2

TS 5 X 5 X 5/16

"WE ACKNOWLEDGE RECEIPT OF THESE SHOP DRAWINGS AND HAVE REVIEWED THEM WITH NO RESPONSIBILITY FOR THE DESIGN CRITERIA OR DIMENSIONS."

LAWRENCE CONSTRUCTION COMPANY DATE 1-9-09



(1) RAIL – MK D2

TS 5 X 5 X 5/16

BILL OF MATERIAL

Mark	No. Req'd	P/C	DESCRIPTION	LENGTH Ft.	LENGTH Ins.	Remarks	Weight
	4		TS RAILS				
A2	1		TS 5 X 5 X 5/16	32	2 7/8	S2E	515
B2	1		TS 5 X 5 X 5/16	30	7 7/8	S2E	585
C2	1		TS 5 X 5 X 5/16	34	2 7/8	S2E	653
D2	1		TS 5 X 5 X 5/16	32	7 7/8	S2E	623
b	6		PL 3/16 X 5	0	5		5
	40	F837	3/4ø WELD STUD	0	2	THREAD	8
							2489

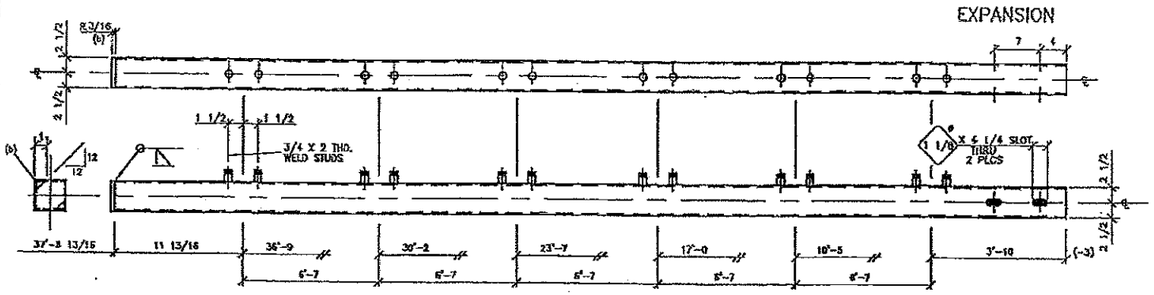
MATERIAL SPECS. ASTM A36, A572 Gr 50, A500 Gr B (DOMESTIC)
SCALE NONE
HOLES AS NOTED
COATING GALVANIZE AFTER FABRICATION PER ASTM A123
BRIDGE RAIL – TYPE 10 (SPECIAL)

BAPTIST ROAD OVER I-25
COLORADO SPRINGS

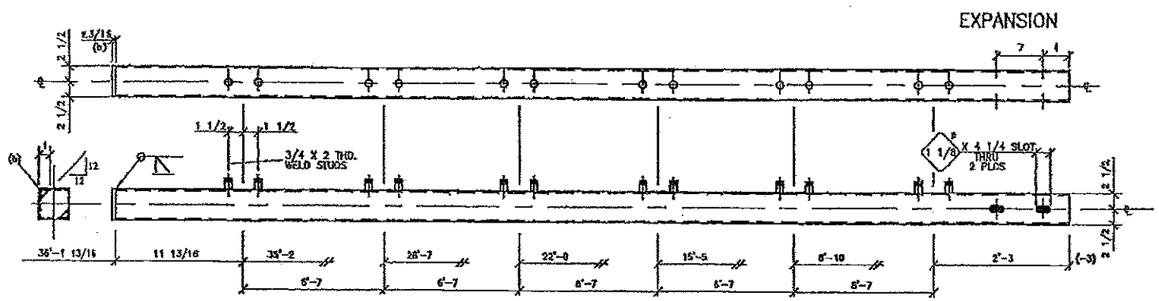
UNIVERSAL INDUSTRIAL SALES
P.O. BOX 909
PLEASANT GROVE, UTAH 84062
PHONE: 801-785-0505
www.universalindustrialsales.com

DRAWN BY K. OLSEN DATE 08JAN09
CHECKED BY L.H. DATE 08JAN09
CONTRACTOR LAWRENCE CONSTRUCTION
OWNER COLORADO DEPARTMENT OF TRANSPORTATION
PO NO. 10 PROJECT NO. F 252-341
JOB NO. 32676

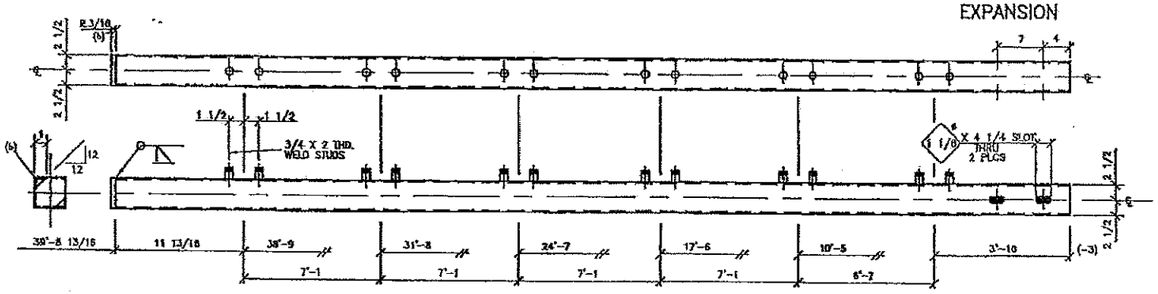
73C



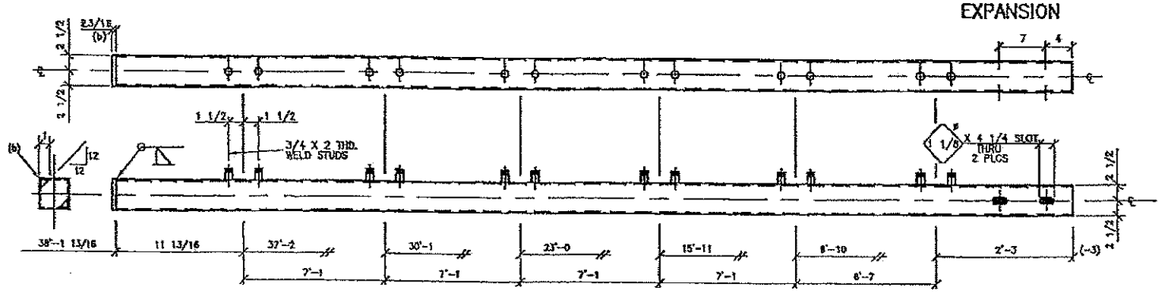
(1) RAIL – MK A3
TS 5 X 5 X 5/16



(1) RAIL – MK B3
TS 5 X 5 X 5/16



(1) RAIL – MK C3
TS 5 X 5 X 5/16



(1) RAIL – MK D3
TS 5 X 5 X 5/16

"WE ACKNOWLEDGE RECEIPT OF THESE SHOP DRAWINGS AND HAVE REVIEWED THEM WITH NO RESPONSIBILITY FOR THE DESIGN CRITERIA OR DIMENSIONS."

LAWRENCE CONSTRUCTION COMPANY DATE 1-9-08

BILL OF MATERIAL

Mark	No. Req'd	P/C	DESCRIPTION	LENGTH Ft.	LENGTH Ins.	Remarks	Weight
	4		TS RAILS				
A3	1		TS 5 X 5 X 5/16	37	8 7/8	SYE	720
B3	1		TS 5 X 5 X 5/16	36	1 7/8	SYE	690
C3	1		TS 5 X 5 X 5/16	39	8 7/8	SYE	758
D3	1		TS 5 X 5 X 5/16	38	1 7/8	SYE	728
b	4		PL 3/16 X 5	0	5		5
	68	FS37	3/4ø WELD STUD	0	2	THREAD	10
							2911

MATERIAL SPECS. ASTM A36, A572 Gr 50, A500 Gr B (DOMESTIC)
SCALE NONE
HOLES AS NOTED
COATING GALVANIZE AFTER FABRICATION PER ASTM A123

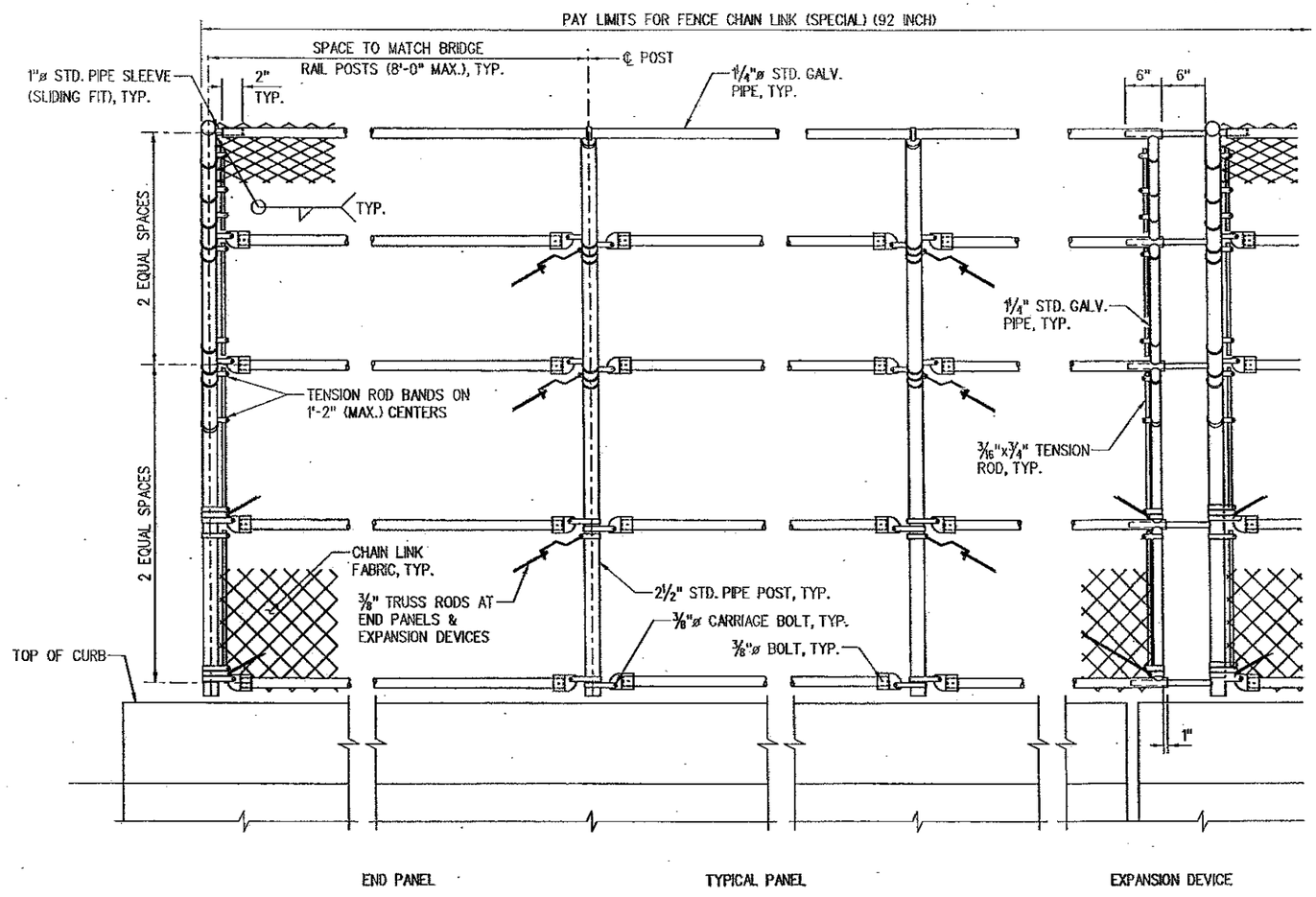
BRIDGE RAIL – TYPE 10 (SPECIAL)

BAPTIST ROAD OVER I-25
COLORADO SPRINGS

UNIVERSAL INDUSTRIAL SALES
P.O. BOX 666
PLEASANT GROVE, UTAH 84062
PHONE: 801-785-0508
www.universalindustrialsales.com

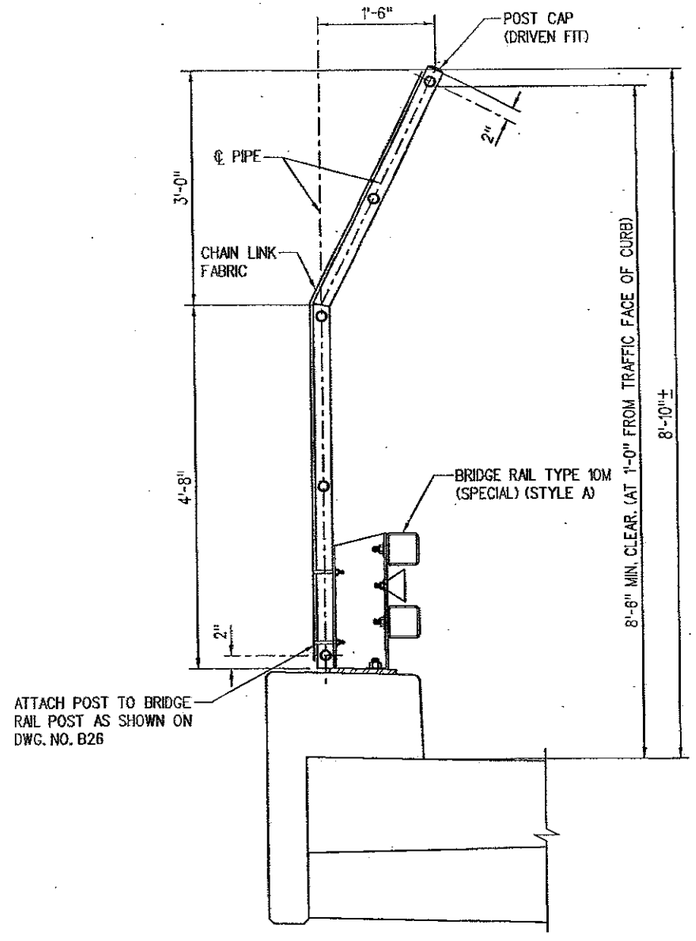
DRAWN BY K. OLSEN DATE 06JAN09
CHECKED BY L.U. DATE 06JAN09
CONTRACTOR LAWRENCE CONSTRUCTION
OWNER COLORADO DEPARTMENT OF TRANSPORTATION
PO NO. 10 PROJECT NO. IM 252-341
JOB NO. 32676

73D



ELEVATION

(BRIDGE RAIL NOT SHOWN)



TYPICAL SECTION

NOTES

1. FENCE ASSEMBLY SHALL BE GALVANIZED AND VINYL COATED AFTER FABRICATION. VINYL COATING SHALL BE STANDARD COLOR VINYL COATING OVER GALVANIZED WIRE AND SHALL BE BLACK, MUNSELL COLOR NO. 1.8PB 1.26/0.5. (PER ASTM).
2. CHAIN LINK FABRIC SHALL BE 2"x9 GAGE. KNUCKLE SELVAGE AT BOTTOM, BARBED SELVAGE AT TOP.
3. PIPE SHALL CONFORM TO ASTM A53 TYPE E OR S, GRADE B fy = 35,000 psi.
4. TRUSS RODS SHALL HAVE TURNBUCKLES.
5. POSTS SHALL BE PERPENDICULAR TO THE LONGITUDINAL ROADWAY GRADE.
6. CHAIN LINK FABRIC SHALL BE ATTACHED TO ALL HORIZONTAL PIPES WITH 9 GAGE WIRE TIES AT 1'-0" SPACING.
7. ALTERNATIVE DETAILS MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
8. FOR BRIDGE RAIL DETAILS, SEE DWG. NO. B26.

Revision Dates (Preliminary Stage Only)

Issue	INITIAL	DATE
	ACW	03/06
	KAL	03/06

	INITIAL	DATE
Quantities By		08/05
Checked By	AGW	03/06

Detail	INITIAL	DATE
Detailed By	ARP	08/05
Checked By	AGW	03/06

Design	INITIAL	DATE
Designed By	DAN	08/05
Checked By		

$$$$DGN$$$$ 1:34:47 PM $$$$DATE$$$$

Computer File Information	
Creation Date:	08/26/05 Initials: ARP
Last Modification Date:	10/25/06 Initials: ERS
Full Path:	S:\Tranproj\ 246091-00\HwyDes\Plans\Bridge\
Drawing File Name:	brfe01.dgn
CAD Ver. MicroStation V8	Scale: NONE Units: ENGLISH

Sheet Revisions

Colorado Department of Transportation

1483 Quail Lake Loop Suite A Colorado Springs, CO 80906 Phone: (719) 634-2323 Fax: (719) 227-3298

4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

PBSJ

REGION 2

As Constructed	
No Revisions:	GMH 12-23-09
Revised:	
Void:	

BAPTIST ROAD OVER I-25
FENCE CHAIN LINK (SPECIAL)

Designer:	D. Nemovitz	Structure Numbers	H-17-DC
Detailer:	A. Pelster		
Sheet Subset:	BRIDGE	Subset Sheets: B28 of 42	

Project No./Code	
IM 252-341	
13388	
Sheet Number	74