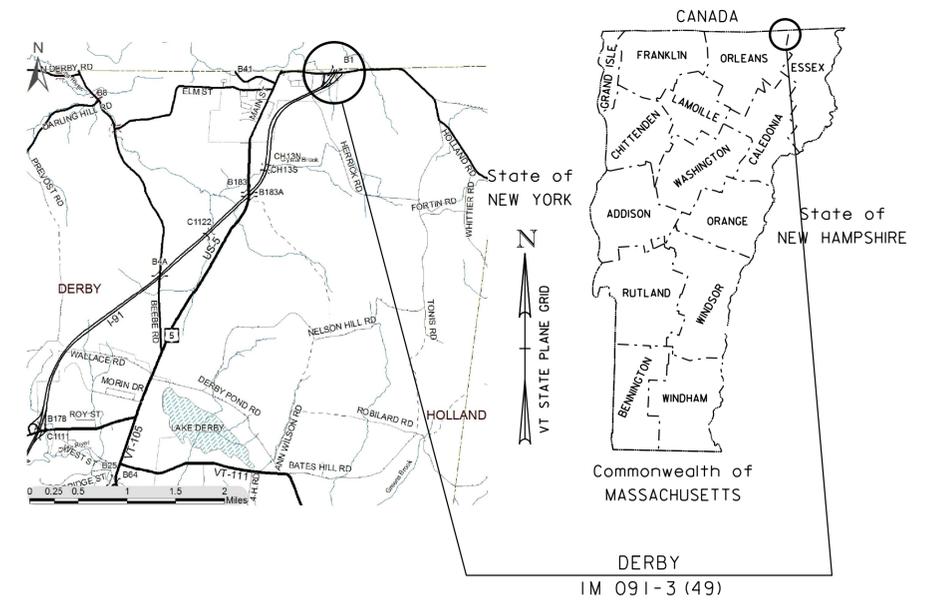


STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF DERBY
COUNTY OF ORLEANS

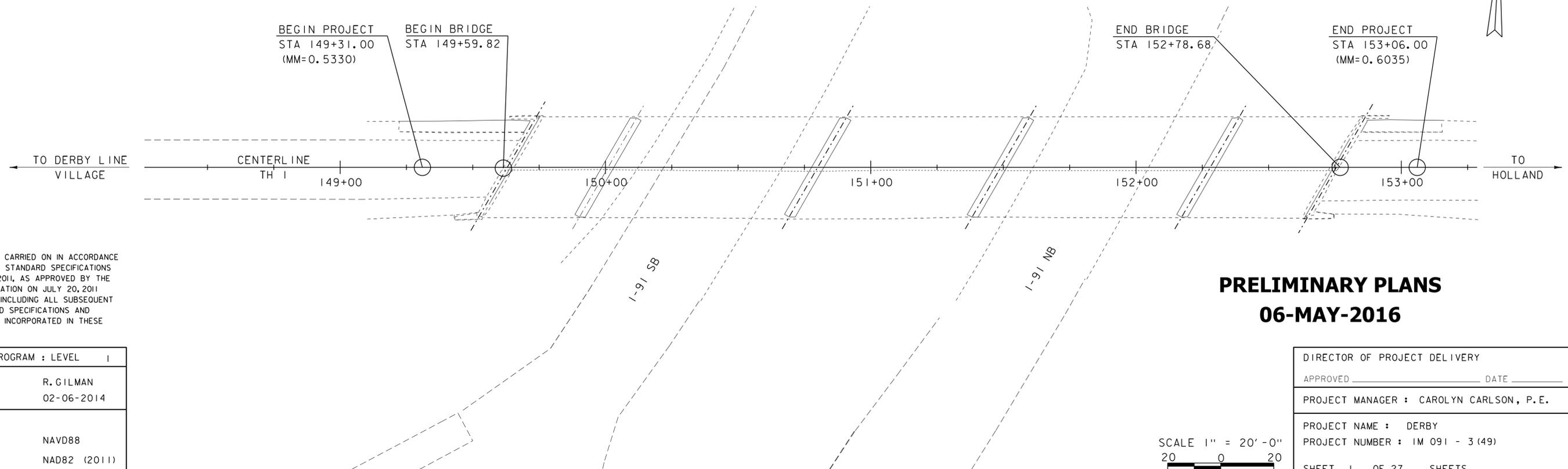


ROUTE NO : TH 1 (US 5 CONNECTOR OVER I-91) BRIDGE NO : 1

PROJECT LOCATION : THE BRIDGE IS LOCATED ON US 5 CONNECTOR, 500' EAST OF THE I-91S ON RAMP AND 200' SOUTH OF THE CANADA BORDER

PROJECT DESCRIPTION : REHABILITATION OF EXISTING BRIDGE, TO INCLUDE NEW SUPERSTRUCTURE, NEW BEARINGS, REPLACEMENT OF PIER CAPS, ELIMINATION OF THE WESTERN PIER AND RELATED ROADWAY WORK.

LENGTH OF STRUCTURE : 318.86 FEET
 LENGTH OF ROADWAY : 56.14 FEET
 LENGTH OF PROJECT : 375.00 FEET

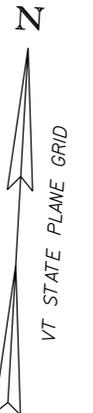
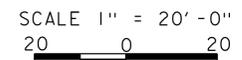


CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 1	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	02-06-2014
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD82 (2011)

PRELIMINARY PLANS
06-MAY-2016

DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : CAROLYN CARLSON, P.E.	
PROJECT NAME : DERBY	
PROJECT NUMBER : IM 091 - 3 (49)	
SHEET 1	OF 27 SHEETS



PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

INDEX OF SHEETS

PLAN SHEETS

- 1 TITLE SHEET
- 2 PRELIMINARY INFORMATION SHEET
- 3 TYPICAL SECTIONS
- 4 CONVENTIONAL SYMBOLOGY LEGEND
- 5 TIE SHEET
- 6 LAYOUT SHEET
- 7 TH 1 PROFILE
- 8 BRIDGE PHASING TYPICALS
- 9 TEMPORARY TRAFFIC PLAN
- 10 BRIDGE RAIL DETAIL SHEET
- 11 BRIDGE APPROACH RAIL DETAIL SHEET
- 12 PLAN & ELEVATION
- 13 - 16 TH 1 CROSS SECTIONS SHEET 1-4
- 17 - 24 I91 CROSS SECTIONS SHEET 1-8
- 25 EPSC NARRATIVE
- 26 EPSC LAYOUT
- 27 EPSC DETAIL SHEET

STANDARDS LIST

STRUCTURES DETAIL SHEETS

SD-366.00	LONGSPAN STEEL BEAM GUARDRAIL, GALVANIZED	11/25/2013
SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	5/7/2010
SD-516.11a	BRIDGE EXPANSION JOINT, VERMONT	2/24/2011
SD-516.11b	BRIDGE EXPANSION JOINT, VERMONT	2/25/2011
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	5/7/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	5/7/2010

DRY CROSSING

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING STRUCTURE.
2. INSTALL AND MAINTAIN TRAFFIC SIGNALS.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: ---
3. ABUTMENT BEARING TO BEARING LENGTH (FOUR SPANS)	L: 312.50 FT (117.00 - 69.00 - 79.00 - 47.50) FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'cr: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy: 50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	qn: 4.0 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
16. NOMINAL BEARING RESISTANCE OF ROCK	qn: 10.0 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

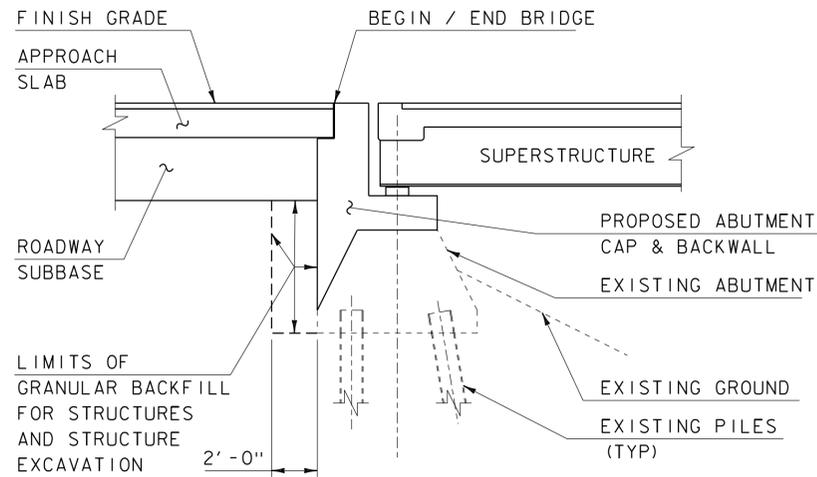
TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	
2016	1400	1600	52	8.3	160	20 year ESAL for flexible pavement from 2016 to 2036 : 1403000
2036	1500	170	52	12.1	240	40 year ESAL for flexible pavement from 2016 to 2056 : 3371000
						Design Speed : 30 mph

18. PILE RESISTANCE FACTOR
19. LATERAL PILE DEFLECTION
20. BASIC WIND SPEED
21. MINIMUM GROUND SNOW LOAD
22. SEISMIC DATA PGA: 0
- 23.
- 24.
- 25.
- 26.

PROJECT NAME: **DERBY**
PROJECT NUMBER: **IM 091-3(49)**

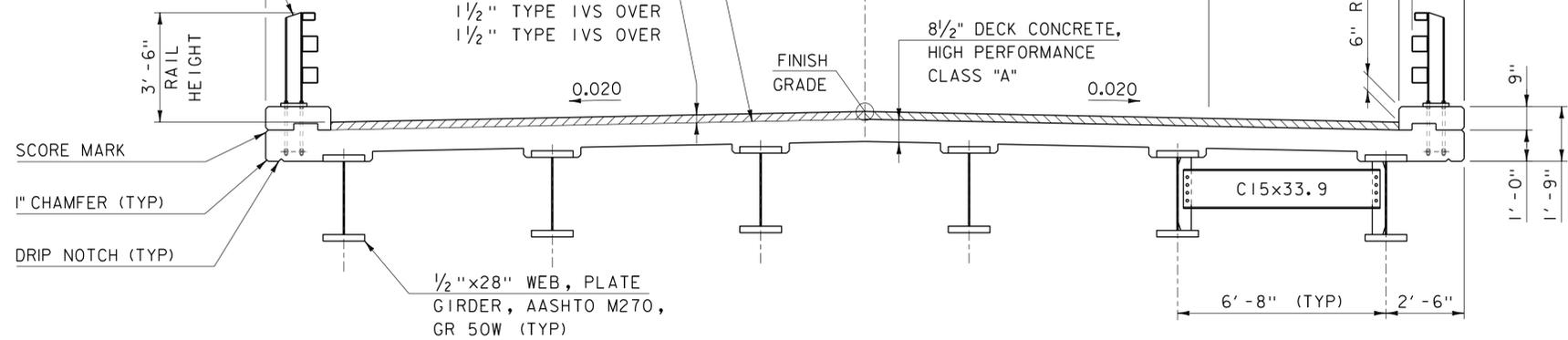
FILE NAME: s12a274forms.dgn PLOT DATE: 5/5/2016
PROJECT LEADER: C.W. CARLSON DRAWN BY: M. LONGSTREET
DESIGNED BY: M. EVANS-MONGEON CHECKED BY: M. E-MONGEON
PRELIMINARY INFORMATION SHEET SHEET 2 OF 27



ABUTMENT TYPICAL EARTHWORK SECTION

SCALE: 1/4" = 1'-0"

SPECIAL PROVISION
 NYSDOT "STEEL BRIDGE
 RAILING, THREE RAIL
 WITH CURB" BD-RS3E RI

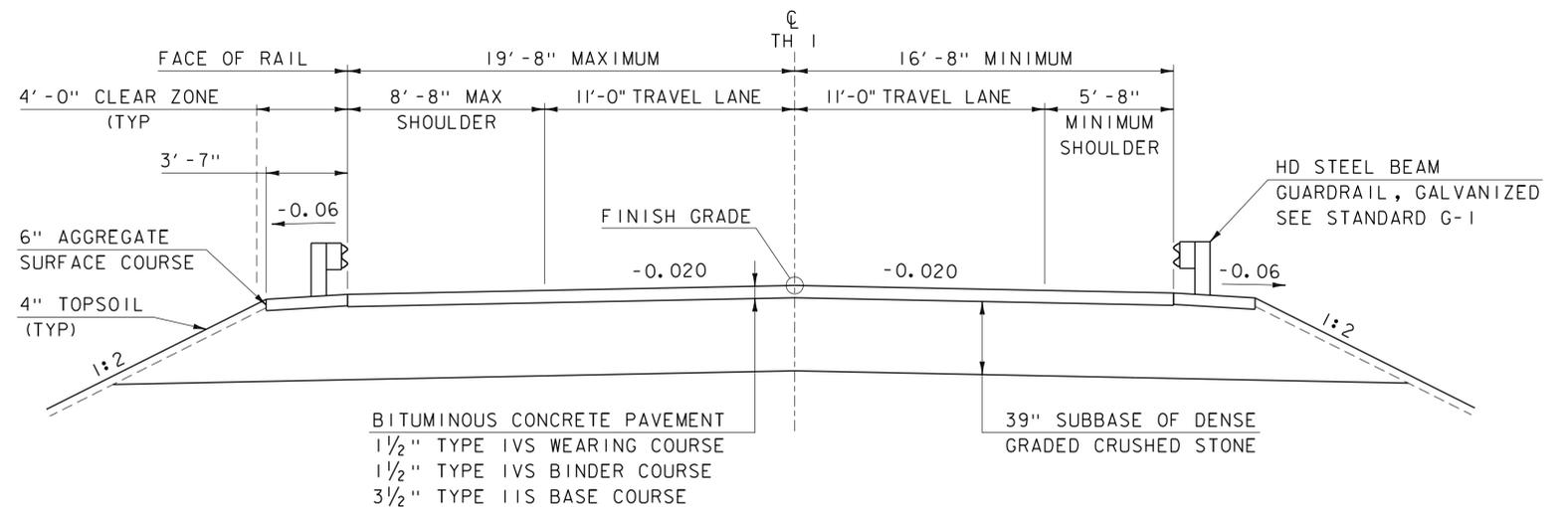


BRIDGE TYPICAL SECTION

SCALE: 3/8" = 1'-0"

MATERIAL TOLERANCES
 (IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"



TH-1 ROADWAY TYPICAL SECTION

SCALE: 1/4" = 1'-0"

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT, 0.08 GAL/SY FOR EMULSION ON MILLED SURFACES, OR AS DIRECTED THE ENGINEER.

PROJECT NAME: DERBY
 PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274typ.dgn
 PROJECT LEADER: C.W. CARLSON
 DESIGNED BY: M. E-MONGEON
 TYPICAL SECTIONS

PLOT DATE: 06-MAY-2016
 DRAWN BY: M.LONGSTREET
 CHECKED BY: M. E-MONGEON
 SHEET 3 OF 27

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R. O. W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊠	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
□	BM BENCHMARK
□	BND BOUND
⊠	CB CATCH BASIN
⊕	COMB COMBINATION POLE
⊠	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
○	GASFIL GAS FILLER
○	GP GUIDE POST
×	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
×	GV GATE VALUE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
●	IP IRON PIN
●	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
○	MH MANHOLE (MH)
●	MM MILE MARKER
●	PM PARKING METER
●	PMK PROJECT MARKER
○	POST POST STONE/WOOD
⊕	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
○	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
○	WELL WELL
×	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UGU —	UTILITY (GENERIC-UNKNOWN)
— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

▲ —▲ —▲ —▲	TOP OF CUT SLOPE
○ —○ —○ —○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
-----	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF — PDF —	PROJECT DEMARCATION FENCE
BF — BF —	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
//////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

—————	TOWN BOUNDARY LINE
—————	COUNTY BOUNDARY LINE
—————	STATE BOUNDARY LINE
———	PROPOSED STATE R.O.W. (LIMITED ACCESS)
———	PROPOSED STATE R.O.W.
———	STATE ROW (LIMITED ACCESS)
———	STATE ROW
———	TOWN ROW
-----	PERMANENT EASEMENT LINE (P)
-----	TEMPORARY EASEMENT LINE (T)
-----	SURVEY LINE
— P — P —	PROPERTY LINE (P/L)
— L — L —	PROPERTY LINE (P/L)
▲ — SR — SR — SR —	SLOPE RIGHTS
6f — 6f —	6F PROPERTY BOUNDARY
4f — 4f —	4F PROPERTY BOUNDARY
HAZ — HAZ —	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
— — — — —	SILT FENCE
— X — X — X — X —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
▬	DISTURBED AREAS REQUIRING RE-VEGETATION
⊠	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

**ENVIRONMENTAL RESOURCES**

— — — — —	WETLAND BOUNDARY
-----	RIPARIAN BUFFER ZONE
-----	WETLAND BUFFER ZONE
-----	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
HAZ — HAZ —	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
— — — — —	STORM WATER
— — — — —	USDA FOREST SERVICE LANDS
— — — — —	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

-----	ROAD EDGE PAVEMENT
-----	ROAD EDGE GRAVEL
-----	DRIVEWAY EDGE
-----	DITCH
-----	FOUNDATION
— X — X — X — X —	FENCE (EXISTING)
□ — □ — □ — □ —	FENCE WOOD POST
○ — ○ — ○ — ○ —	FENCE STEEL POST
~~~~~	GARDEN
○ — ○ — ○ — ○ —	ROAD GUARDRAIL
	RAILROAD TRACKS
-----	CULVERT (EXISTING)
-----	STONE WALL
-----	WALL
~~~~~	WOOD LINE
~~~~~	BRUSH LINE
~~~~~	HEDGE
-----	BODY OF WATER EDGE
-----	LEDGE EXPOSED

PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274forms.dgn PLOT DATE: 06-MAY-2016  
PROJECT LEADER: C.W. CARLSON DRAWN BY: M.LONGSTREET  
DESIGNED BY: M. E-MONGEON CHECKED BY: M. E-MONGEON  
CONVENTIONAL SYMBOLGY LEGEND SHEET 4 OF 27

GPS CONTROL POINTS

PT #1 191 EXIT 29 AZ MK  
 NORTH = 912425.9000  
 EAST = 1745663.3300  
 ELEV. = 1154.400

PT #2 191 EXIT 29  
 NORTH = 913434.6300  
 EAST = 1747284.9600  
 ELEV. = 1135.930

DERBY, VT. ABOUT 120 M W OF THE MOST NORTHERLY U-TURN ON 191, IN THE TOP OF A 0.9 M X 0.7 M ROCK OUTCROP. IT IS 6.4 M N OF AND ABOUT 2.0 M LOWER THAN THE 1-91 NB NORTH EDGE OF PAVEMENT, 8.1 M S OF THE 1-91 SB SOUTH EDGE OF PAVEMENT, 36.4 M E OF A 60 CM SQUARE METAL DRAIN WITH METAL DELINEATOR, 54.3 M WEST OF THE CENTER OF A 75 CM DIAMETER CONC DRAIN WITH A COVER OF TWO 0.6 M X 1.0 M LOOSE CONC SLABS, AND 0.7 M N OF A FIBERGLASS WITNESS

DERBY, VT. AT THE END OF THE 1-91 NORTHBOUND ON/OFF RAMP AT EXIT 29. 20.7 M SOUTHWEST OF AND ABOUT 1.2 M LOWER THAN THE CL OF CASWELL AVENUE, 8.3 M NORTHWEST OF THE CL OF THE ON/OFF RAMP, 15.2 M SOUTH SOUTHEAST OF THE MOST EASTERLY METAL POST FOR A GUARD RAIL, 32.8 M NORTHWEST OF AND ACROSS THE RAMP FROM THE NORTH END OF A RIGHT-OF-WAY FENCE, 5.6 M SOUTH OF A STOP SIGN, 6.3 M NORTH NORTHWEST OF A TWO-WAY TRAFFIC SIGN, AND 0.3 M SOUTHEAST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

CONTROL LINE DATA - TH-1_CL

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT
2	N 86°45'00.00" E	600.00'	913464.2438	1746583.3034		148+00.00	
4			913498.2595	1747182.3384		154+00.00	

DATUM  
 VERTICAL NAVD88  
 HORIZONTAL NAD83(2011)  
 ADJUSTMENT COMPASS

PROJECT NAME: DERBY  
 PROJECT NUMBER: IM 091-3(49)  
 FILE NAME: x12a274TL.dgn  
 PROJECT LEADER: C. CARLSON  
 DESIGNED BY: M. E-MONGEON  
 TIE SHEET  
 PLOT DATE: 06-MAY-2016  
 DRAWN BY: C. CYR  
 CHECKED BY: P. BEYOR  
 SHEET 5 OF 27

SPECIAL PROVISION (THREE-RAIL STEEL BEAM APPROACH RAIL)

TH 1 STA 149+31.12 - STA 149+63.12 LT  
 TH 1 STA 149+10.20 - STA 149+42.08 RT  
 TH 1 STA 152+96.42 - STA 153+28.42 LT  
 TH 1 STA 152+75.38 - STA 153+07.27 RT

SPECIAL PROVISION (GUARDRAIL, TRANSITION, STEEL BEAM TO BOX BEAM)

TH 1 STA 148+69.62 - STA 149+31.12 LT  
 TH 1 STA 148+48.77 - STA 149+10.20 RT  
 TH 1 STA 153+28.42 - STA 153+89.92 LT  
 TH 1 STA 153+07.27 - STA 153+68.69 RT

SPECIAL PROVISION (THREE-RAIL STEEL BEAM BRIDGE RAIL WITH CURB)

TH 1 STA 149+63.12 - STA 152+96.42 LT  
 TH 1 STA 149+42.08 - STA 152+75.38 RT

4" YELLOW LINE, (DOUBLE CL)

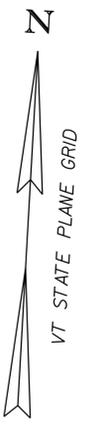
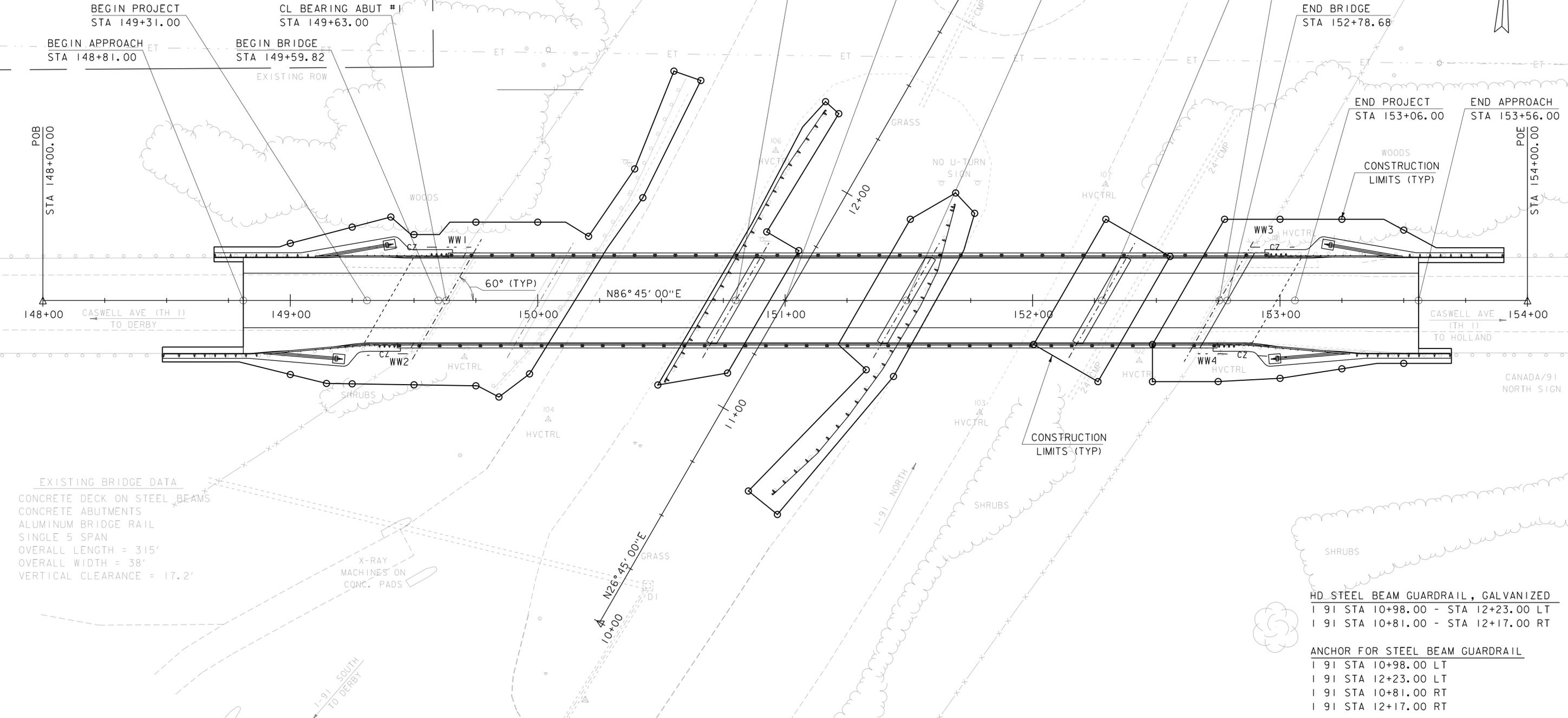
TH 1 STA 148+81.00 - STA 153+56.00

4" WHITE LINE

TH 1 STA 148+81.00 - STA 153+56.00 LT  
 TH 1 STA 148+81.00 - STA 153+56.00 RT

COLD PLANING, BITUMINOUS PAVEMENT

TH 1 STA 148+81.00 - STA 149+31.00  
 TH 1 STA 153+06.00 - STA 153+56.00



EXISTING BRIDGE DATA  
 CONCRETE DECK ON STEEL BEAMS  
 CONCRETE ABUTMENTS  
 ALUMINUM BRIDGE RAIL  
 SINGLE 5 SPAN  
 OVERALL LENGTH = 315'  
 OVERALL WIDTH = 38'  
 VERTICAL CLEARANCE = 17.2'

REMOVAL AND DISPOSAL OF GUARDRAIL  
 TH 1 STA 148+71.90 - STA 149+65.40 LT  
 TH 1 STA 148+50.99 - STA 149+44.37 RT  
 TH 1 STA 152+94.63 - STA 153+88.13 LT  
 TH 1 STA 152+73.60 - STA 153+67.01 RT

REMOVAL AND DISPOSAL OF GUARDRAIL  
 I 91 STA 10+60.39 - STA 12+07.53 LT  
 I 91 STA 10+97.09 - STA 12+23.38 LT  
 I 91 STA 10+80.77 - STA 12+16.70 RT

REMOVING AND RESETTNG FENCE  
 I 91 STA 149+71.00 - STA 149+78.00 LT  
 I 91 STA 149+31.00 - STA 149+50.00 RT  
 I 91 STA 152+88.00 - STA 152+98.00 LT  
 I 91 STA 152+57.00 - STA 152+68.00 RT

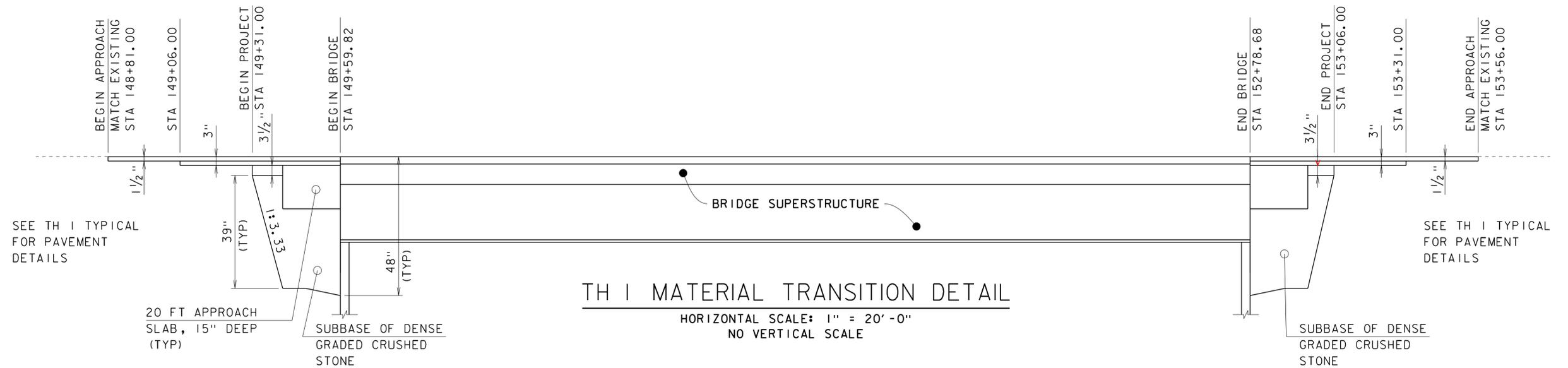
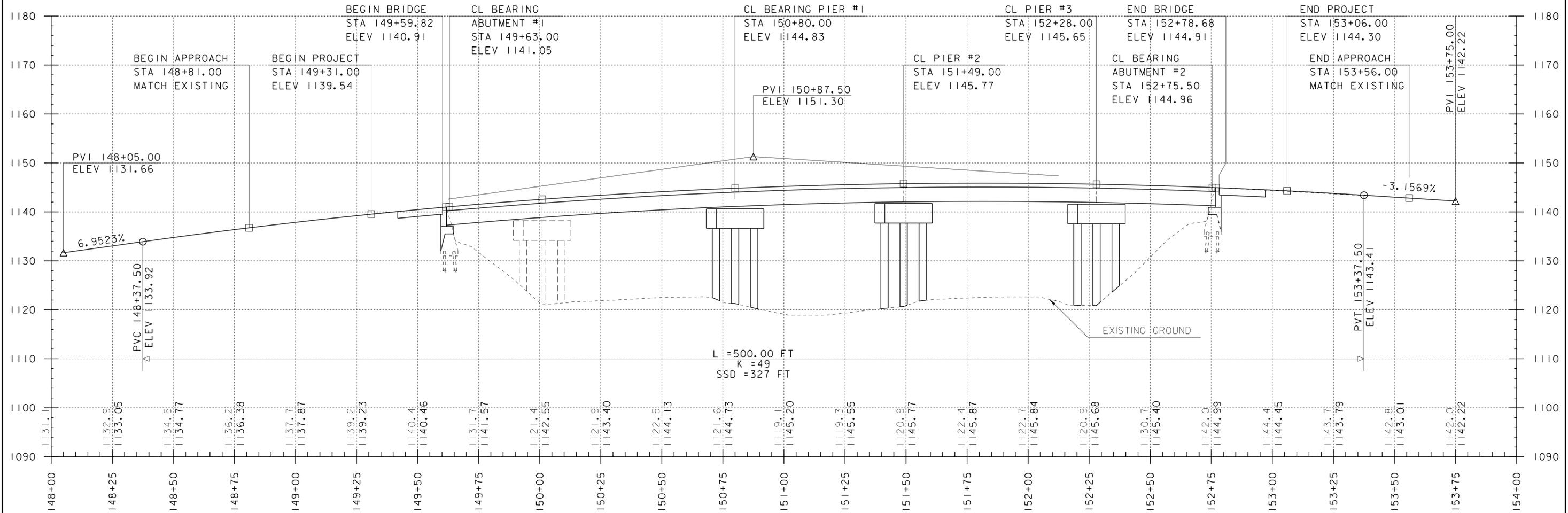
HD STEEL BEAM GUARDRAIL, GALVANIZED  
 I 91 STA 10+98.00 - STA 12+23.00 LT  
 I 91 STA 10+81.00 - STA 12+17.00 RT  
 ANCHOR FOR STEEL BEAM GUARDRAIL  
 I 91 STA 10+98.00 LT  
 I 91 STA 12+23.00 LT  
 I 91 STA 10+81.00 RT  
 I 91 STA 12+17.00 RT

PROJECT NAME: DERBY  
 PROJECT NUMBER: IM 091-3(49)  
 FILE NAME: sl2a274bdr.dgn  
 PROJECT LEADER: C.W. CARLSON  
 DESIGNED BY: M. E-MONGEON  
 LAYOUT SHEET  
 PLOT DATE: 06-MAY-2016  
 DRAWN BY: M.LONGSTREET  
 CHECKED BY: M. E-MONGEON  
 SHEET 6 OF 27

SCALE 1" = 20'-0"  
 20 0 20

# TH 1 VERTICAL PROFILE

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE 1"=10'



## TH 1 MATERIAL TRANSITION DETAIL

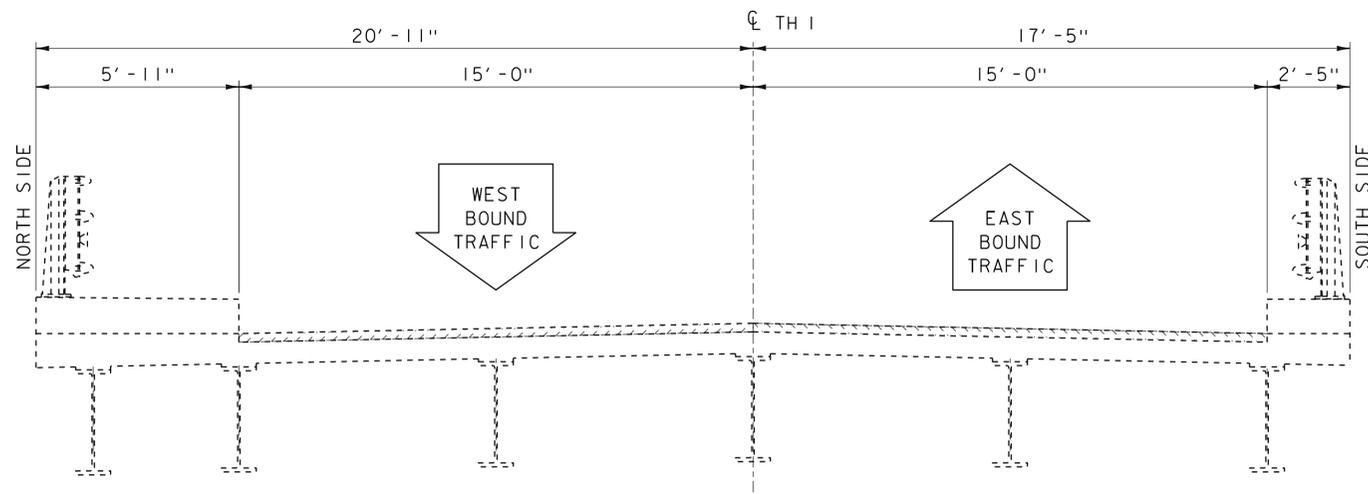
HORIZONTAL SCALE: 1" = 20' -0"  
NO VERTICAL SCALE

**NOTE:**

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

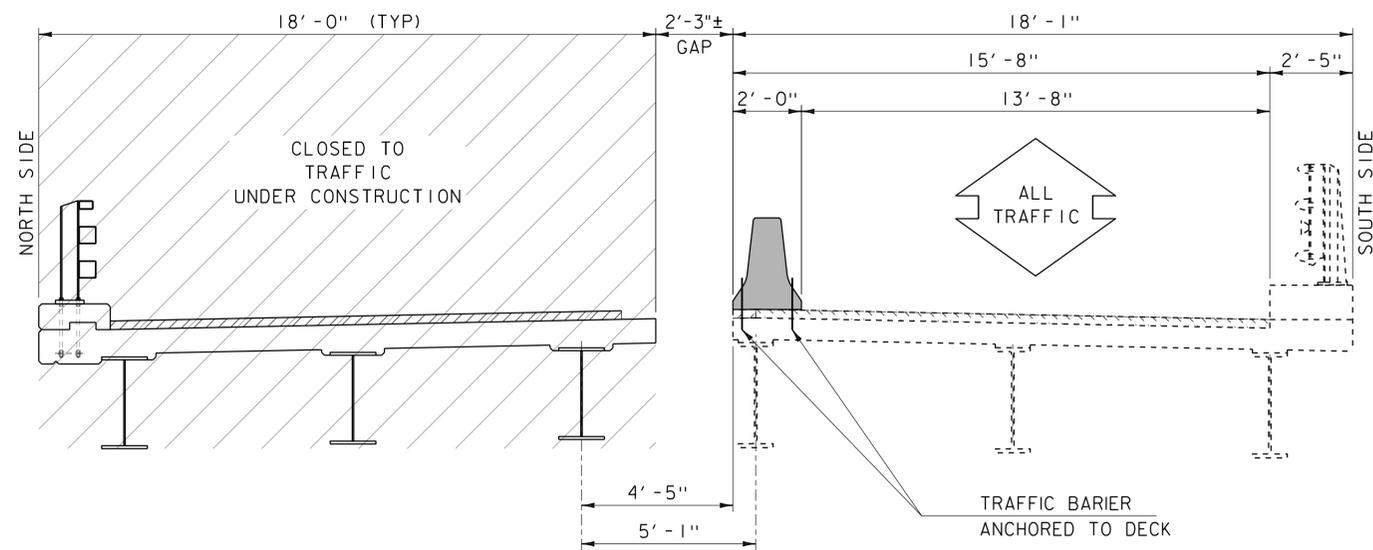
ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274pro.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
TH 1 PROFILE	SHEET 7 OF 27



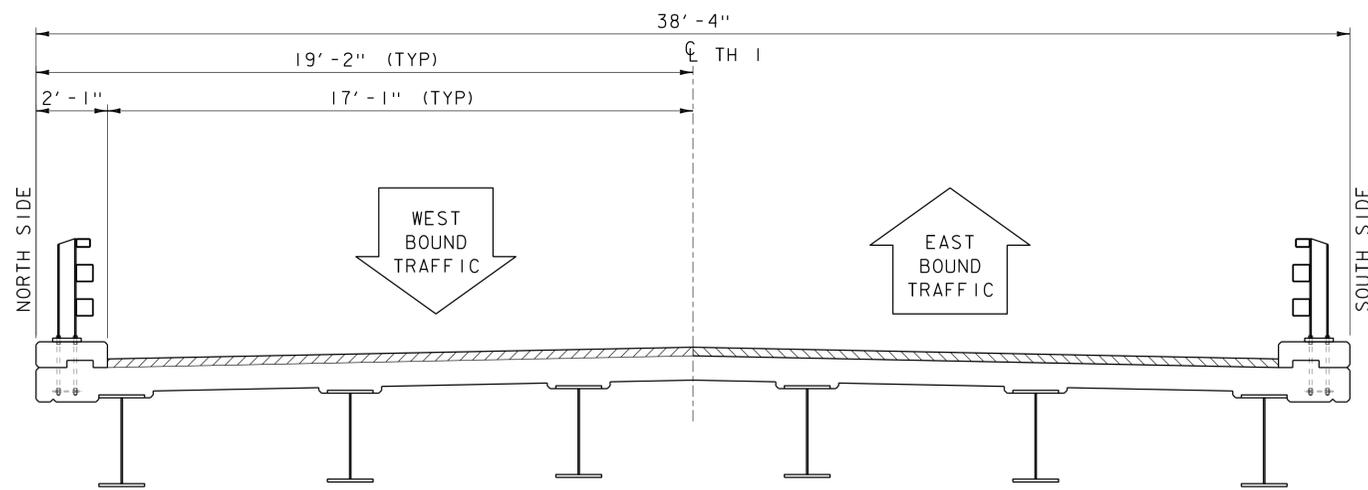
EXISTING TYPICAL - BEFORE

SCALE: 3/8" = 1'-0"



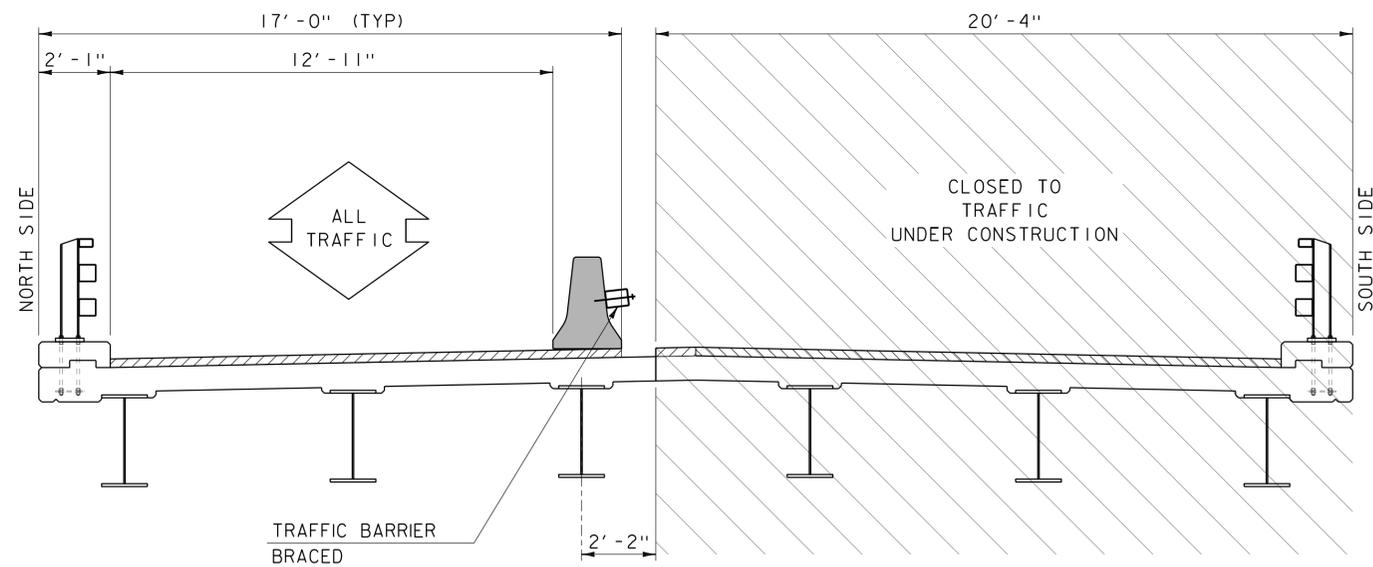
BRIDGE TYPICALS - PHASE I

SCALE: 3/8" = 1'-0"



PROPOSED TYPICAL - AFTER

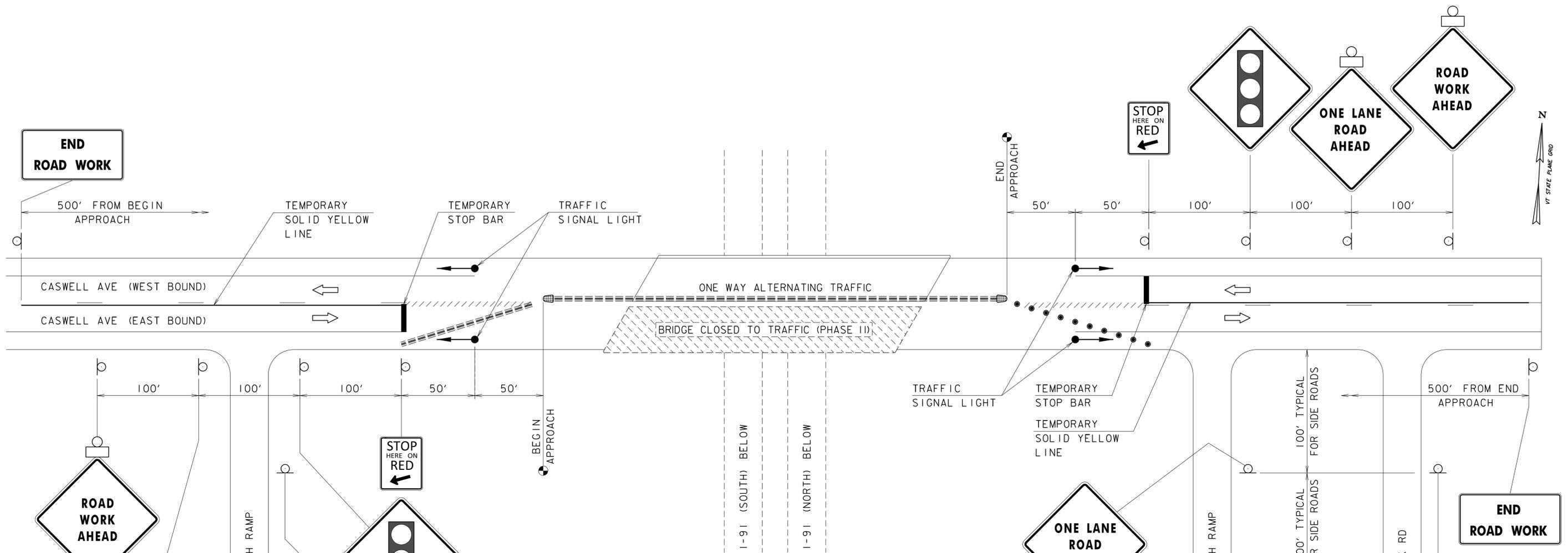
SCALE: 3/8" = 1'-0"



BRIDGE TYPICALS - PHASE II

SCALE: 3/8" = 1'-0"

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274typ.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M.E-MONGEON	CHECKED BY: M.E-MONGEON
BRIDGE PHASING TYPICALS	SHEET 8 OF 27

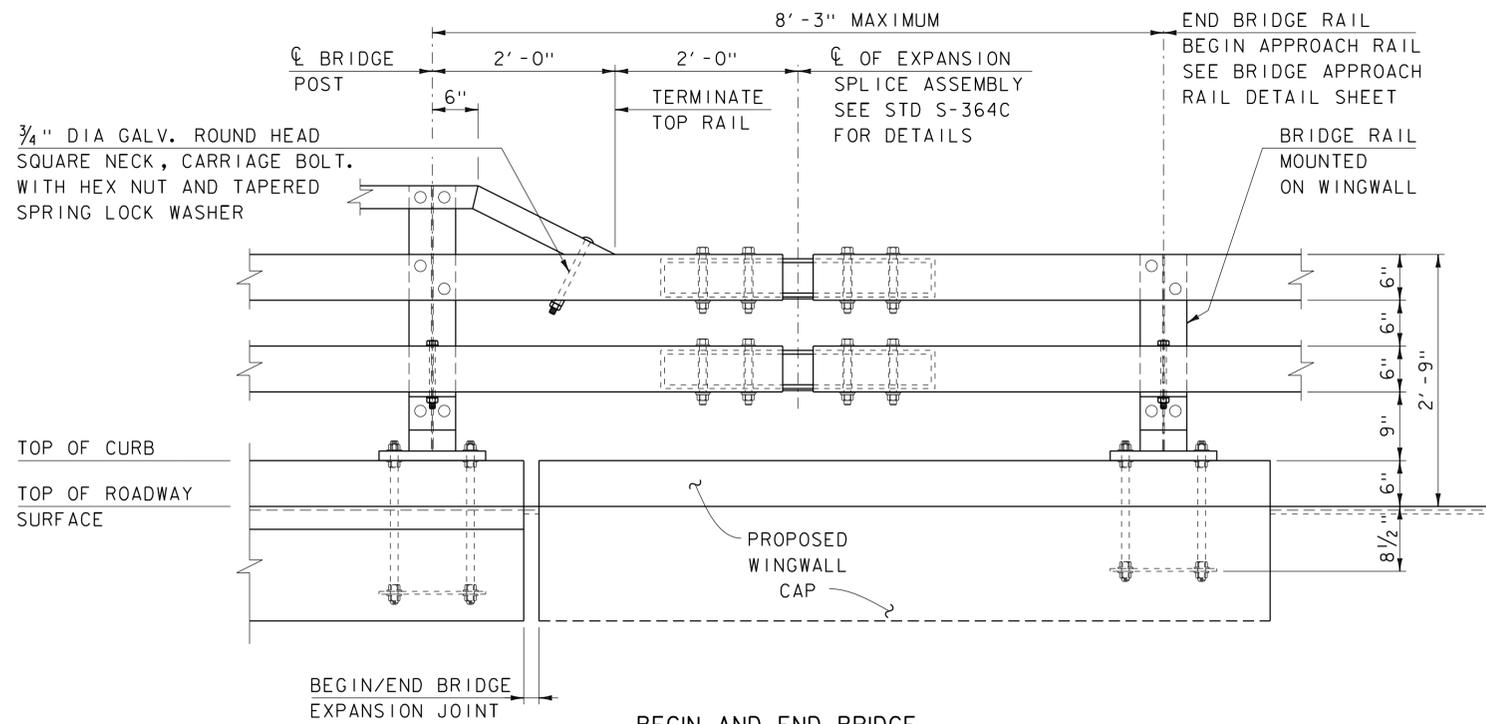


**BRIDGE TEMPORARY TRAFFIC PLAN**  
SCHEMATIC PLAN (NOT TO SCALE)

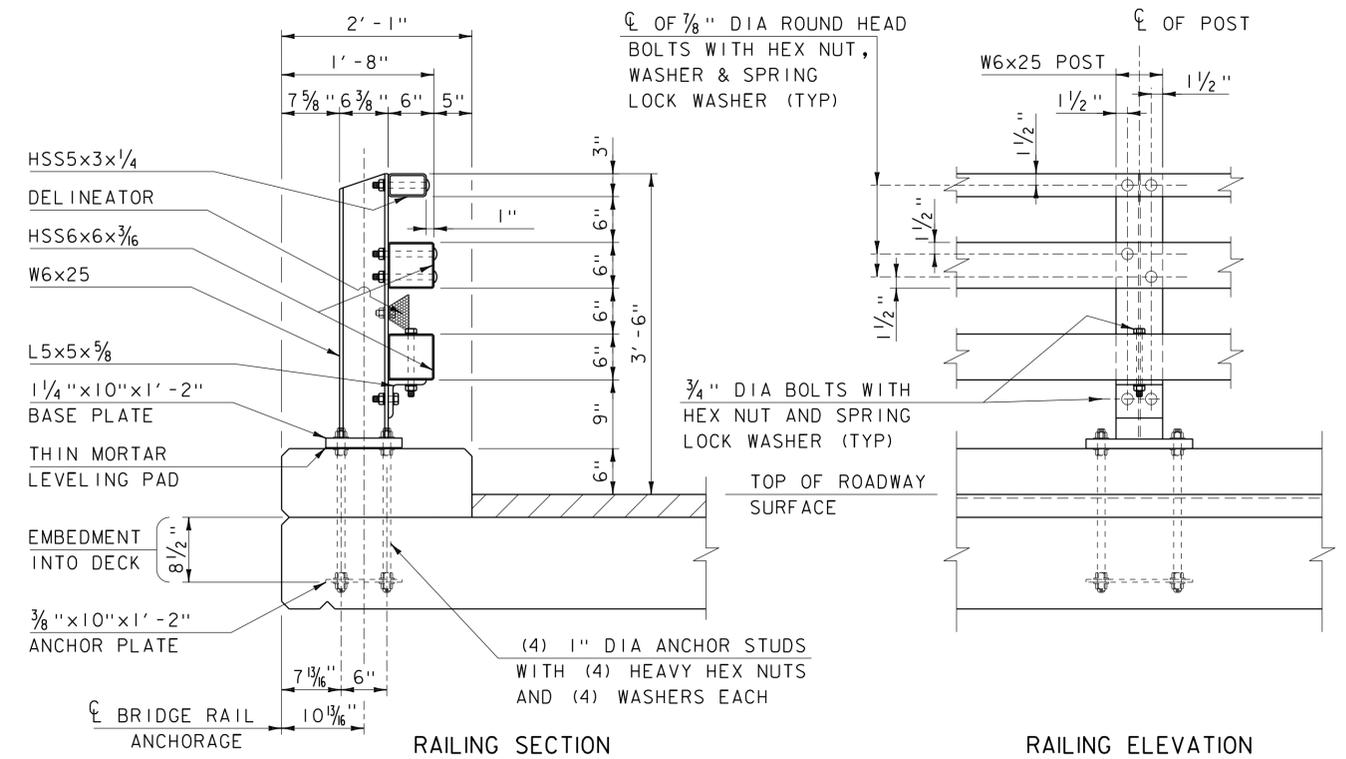
1. THE TRAFFIC PLAN HERE SHOWS THE PHASE II BRIDGE LANE CLOSURE CONDITION. PHASE I BRIDGE LANE CLOSURE WILL BE SIMILAR, BUT WITH TRAFFIC DIVERTED TO THE OTHER SIDE OF THE BRIDGE. TRAFFIC BARRIERS, CHANNELIZING DEVICES, AND SIGNS SHALL BE MOVED ACCORDINGLY TO THE PROPER SIDE OF THE ROAD AND / OR BRIDGE.
2. THE "BRIDGE PHASING TYPICALS" SHEET INDICATES THE BRIDGE PHASING CONDITIONS AND DEFINES THE SIDE OF THE BRIDGE THAT SHALL BE CLOSED, VERSUS THE SIDE THAT SHALL BE OPEN TO ONE WAY TRAFFIC FOR EACH PHASE OF CONSTRUCTION.
3. TEMPORARY TRAFFIC BARRIER SHALL MEET THE REQUIREMENTS OF SECTION 621 AND WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).

TRAFFIC PLAN LEGEND			
=====	TEMPORARY TRAFFIC BARRIER	⊕	CRASH CUSHION
•••	TEMPORARY CHANNELIZING DEVICE	⊕	WARNING LIGHT
←	DIRECTION OF TRAVEL	⊕	TRAFFIC SIGN LOCATION
////	PAVEMENT MARKING REMOVAL	⊕	TYPE III BARRICADE
←●	TRAFFIC SIGNAL	⊕	LUMINAIRE (LIGHTING)

PROJECT NAME: DERBY  
 PROJECT NUMBER: IM 091-3(49)  
 FILE NAME: sl2a274phaseDetour.dgn  
 PROJECT LEADER: C.W. CARLSON  
 DESIGNED BY: M. E-MONGEON  
 TEMPORARY TRAFFIC PLAN  
 PLOT DATE: 06-MAY-2016  
 DRAWN BY: M.LONGSTREET  
 CHECKED BY: M. E-MONGEON  
 SHEET 9 OF 27

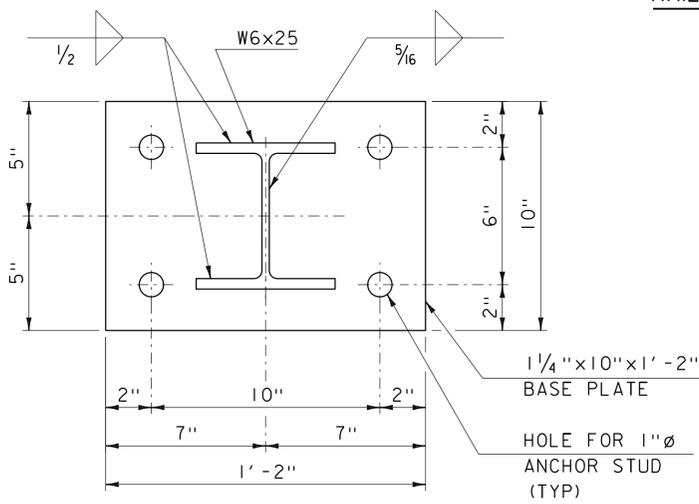


BEGIN AND END BRIDGE RAIL ELEVATION

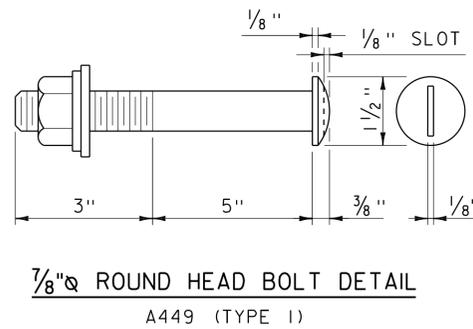


RAILING SECTION

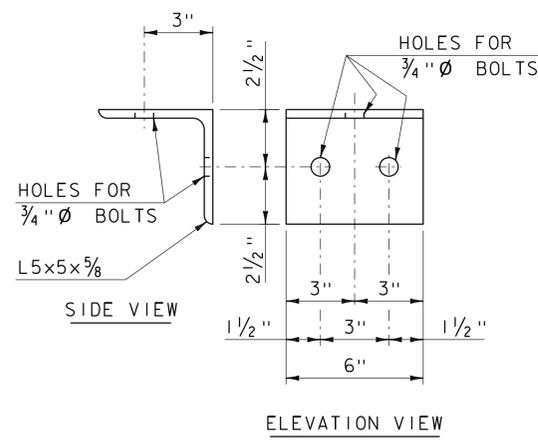
RAILING ELEVATION



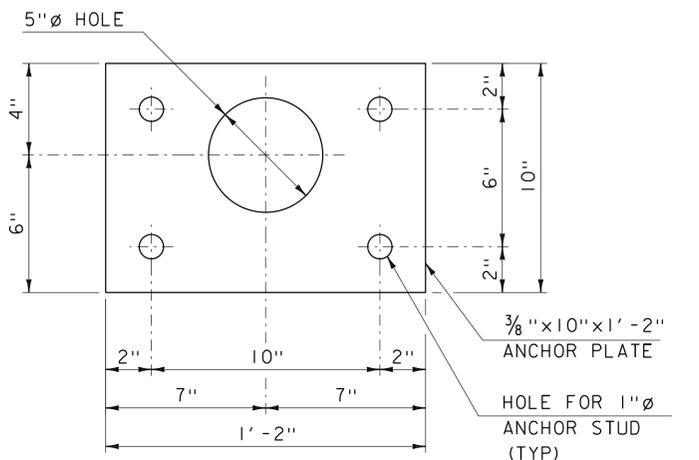
BASE PLATE DETAIL



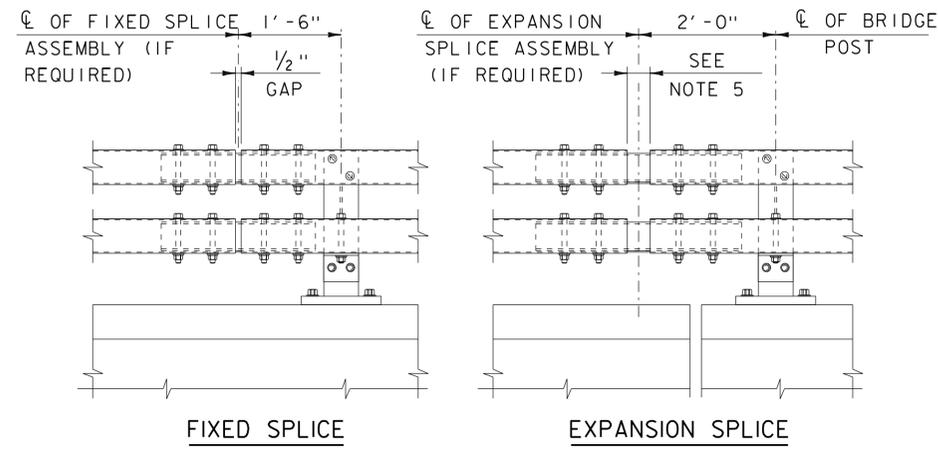
7/8" DIA ROUND HEAD BOLT DETAIL



RAILING ANGLE DETAILS



ANCHOR PLATE DETAIL



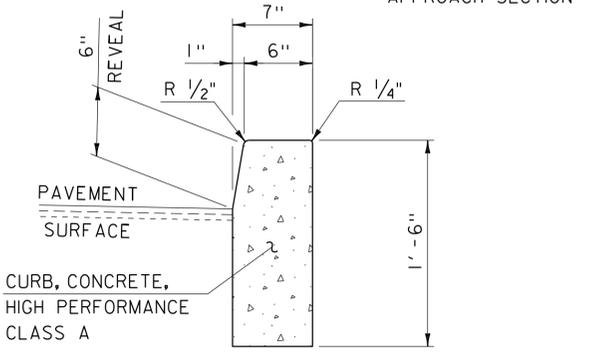
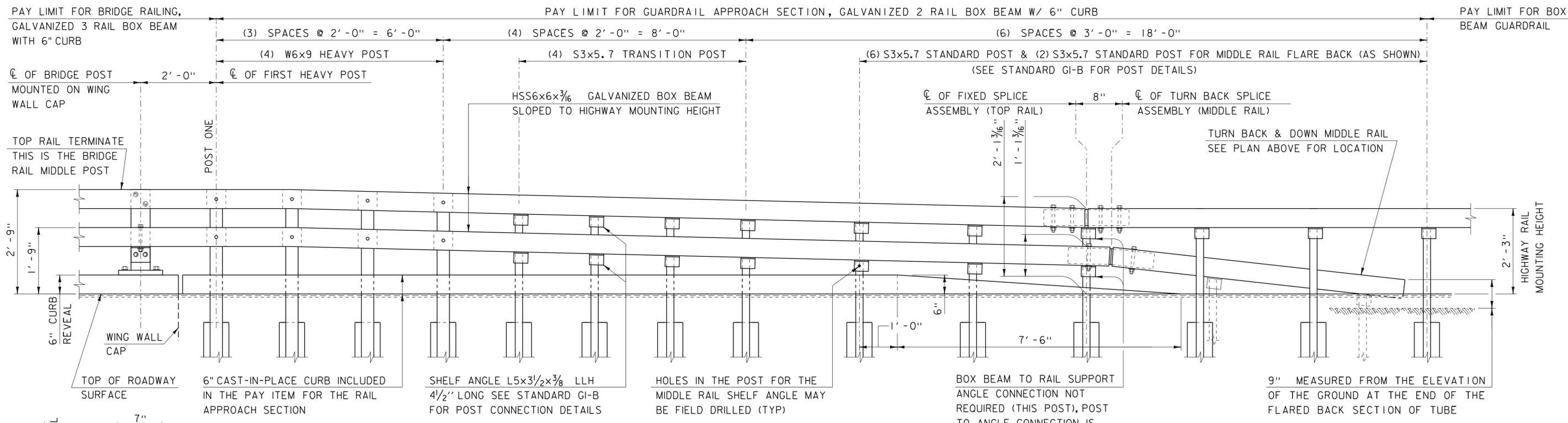
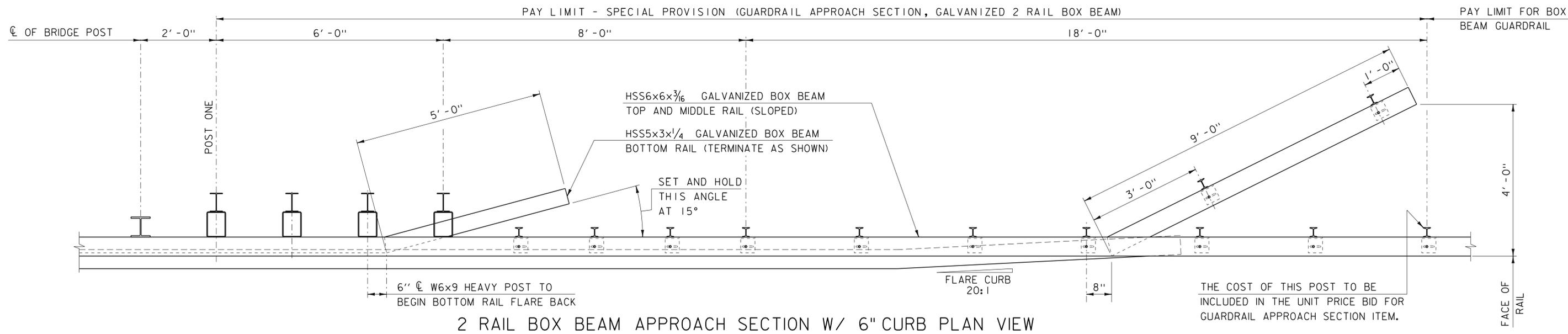
RAILING SPLICE DETAIL ELEVATION

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3. ALL POSTS SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POSTS IS 8'-3".
4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
5. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" @ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
8. SEE STANDARD DRAWING G-1B FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
9. ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
10. THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

SEE STD S-364C FOR SPLICE DETAILS  
 SEE STD S-364D APPROACH POST & DETAILS  
 SEE STD S-391 FOR SNOW BARRIER  
 SEE STD G-1B FOR DELINEATORS

PROJECT NAME: DERBY	PLOT DATE: 06-MAY-2016
PROJECT NUMBER: IM 091-3(49)	DRAWN BY: M.LONGSTREET
FILE NAME: sl2a274r.dgn	CHECKED BY: M.E-MONGEON
PROJECT LEADER: C.W. CARLSON	SHEET 10 OF 27
DESIGNED BY: M.E-MONGEON	
BRIDGE RAIL DETAIL SHEET	

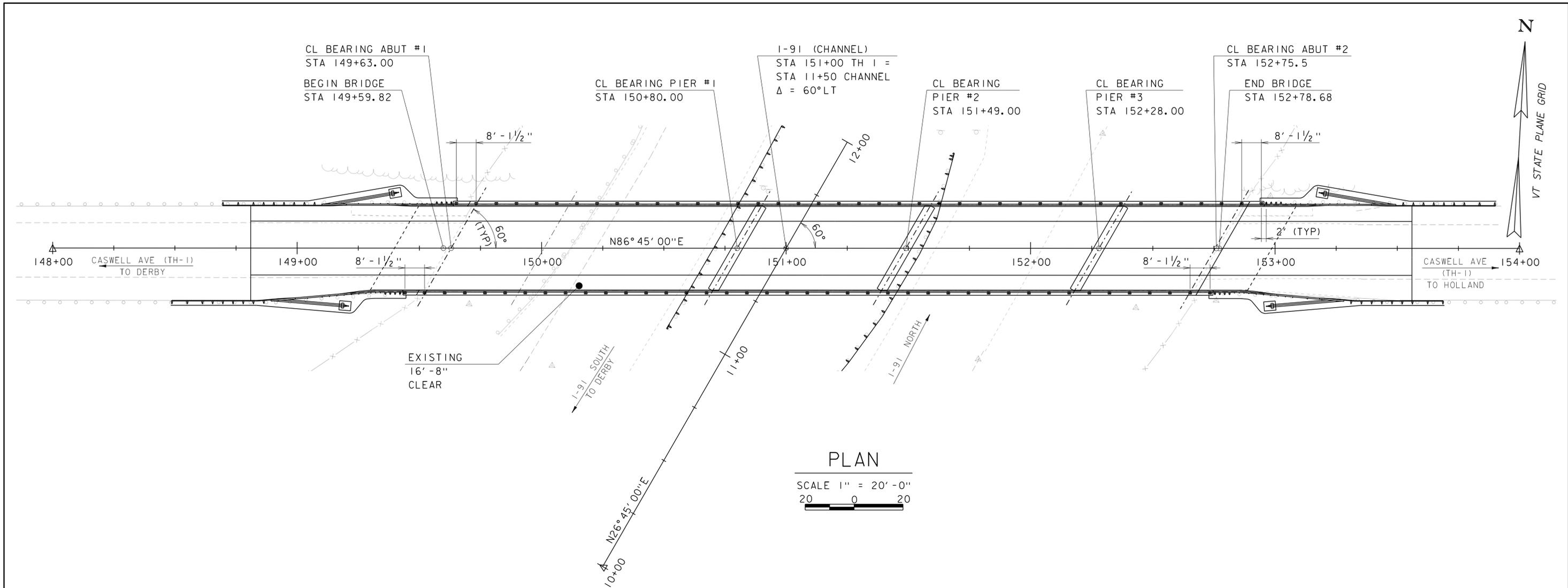


**CAST-IN-PLACE APPROACH RAIL CONCRETE CURB DETAIL**  
SCALE: 1/2" = 1'-0"

- NOTES:
1. BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.

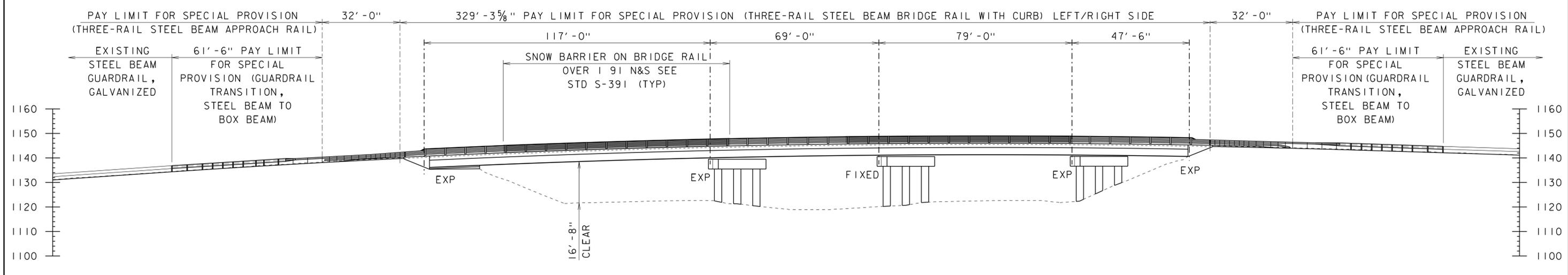
SEE STD S-364C FOR SPLICE DETAILS  
SEE STD S-364D FOR TRANSITION POST  
SEE STD G-1B FOR POST DETAILS

PROJECT NAME: DERBY	PLOT DATE: 06-MAY-2016
PROJECT NUMBER: IM 091-3(49)	DRAWN BY: M.LONGSTREET
FILE NAME: sl2a274rail.dgn	CHECKED BY: M. E-MONGEON
PROJECT LEADER: C.W. CARLSON	SHEET II OF 27
DESIGNED BY: M. E-MONGEON	
BRIDGE APPROACH RAIL DETAIL SHEET	



PLAN

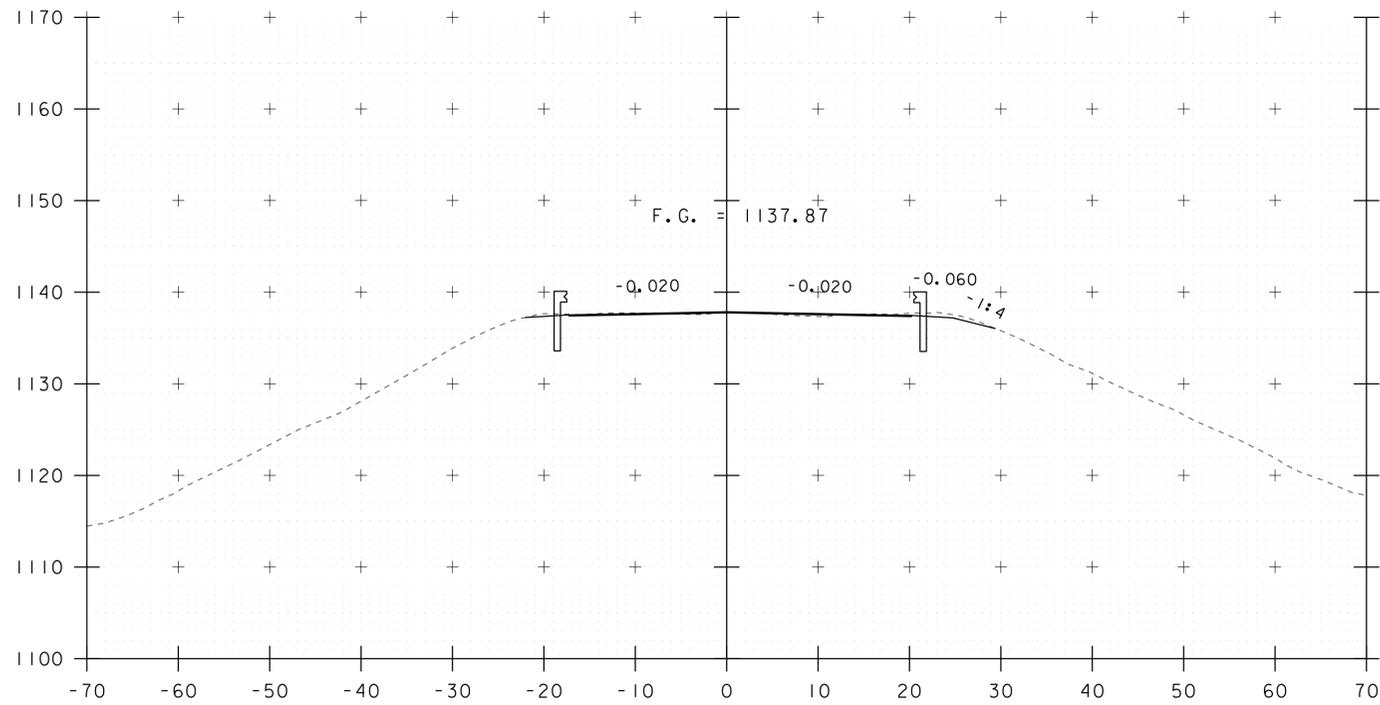
SCALE 1" = 20'-0"  
 20 0 20



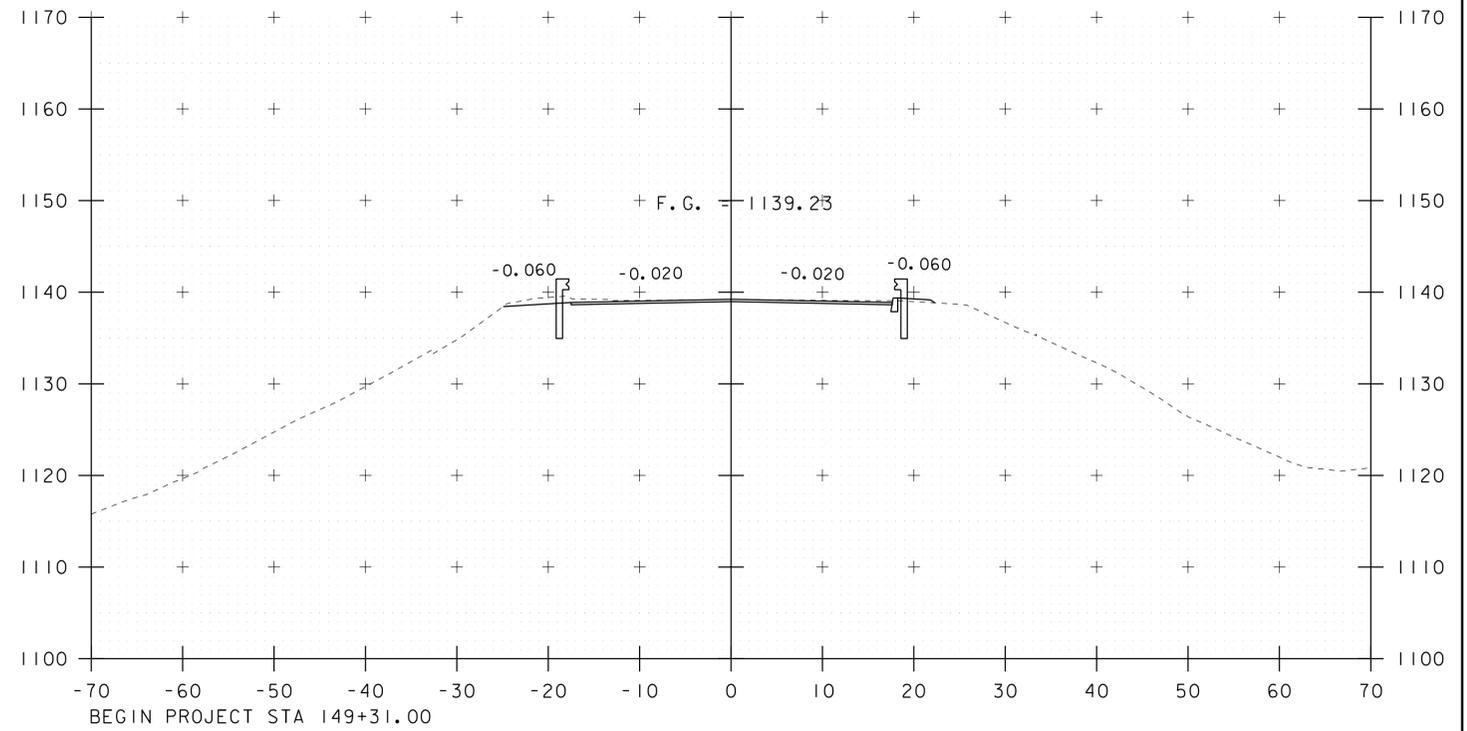
PROFILE

SCALE 1" = 20'-0"  
 20 0 20

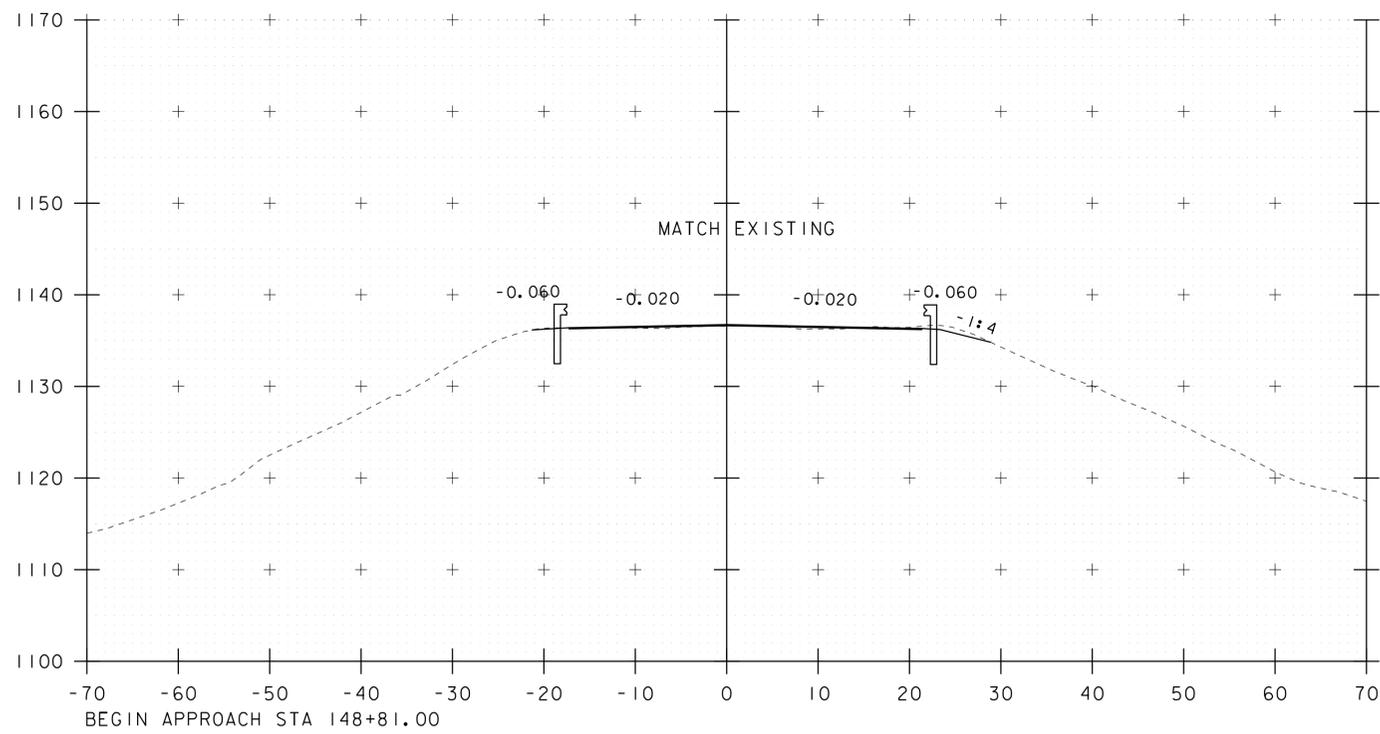
PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274pe.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M.E-MONGEON	CHECKED BY: M.E-MONGEON
PLAN & ELEVATION	SHEET 12 OF 27



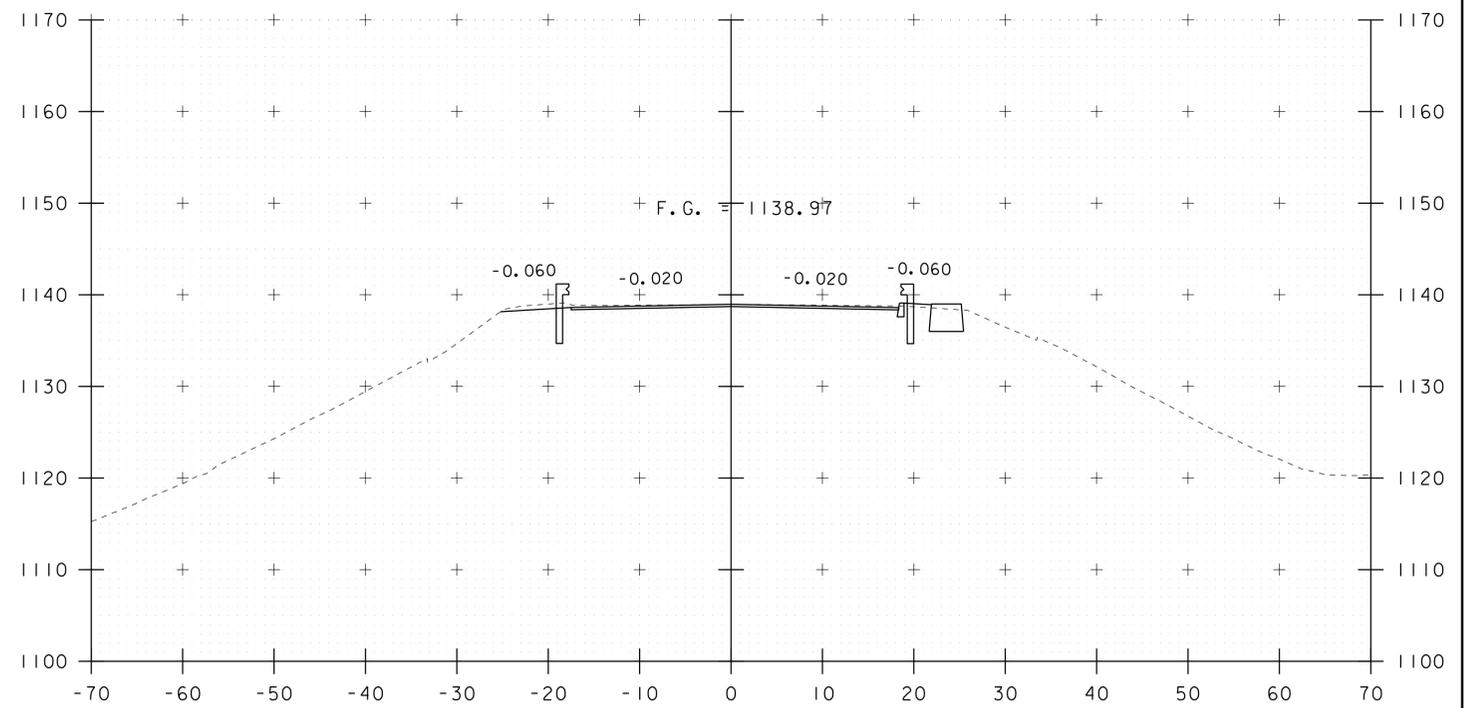
149+00



149+25



148+81



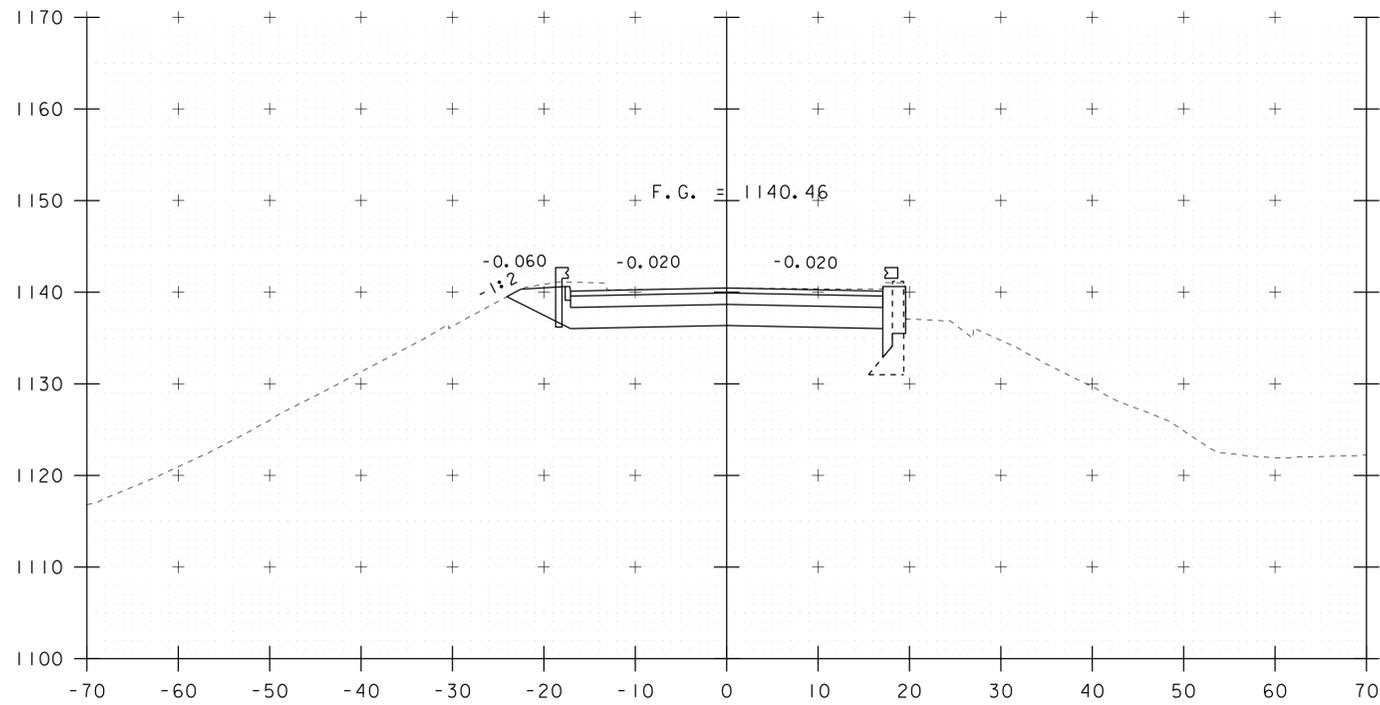
149+20

STA. 148+81 TO STA. 149+25

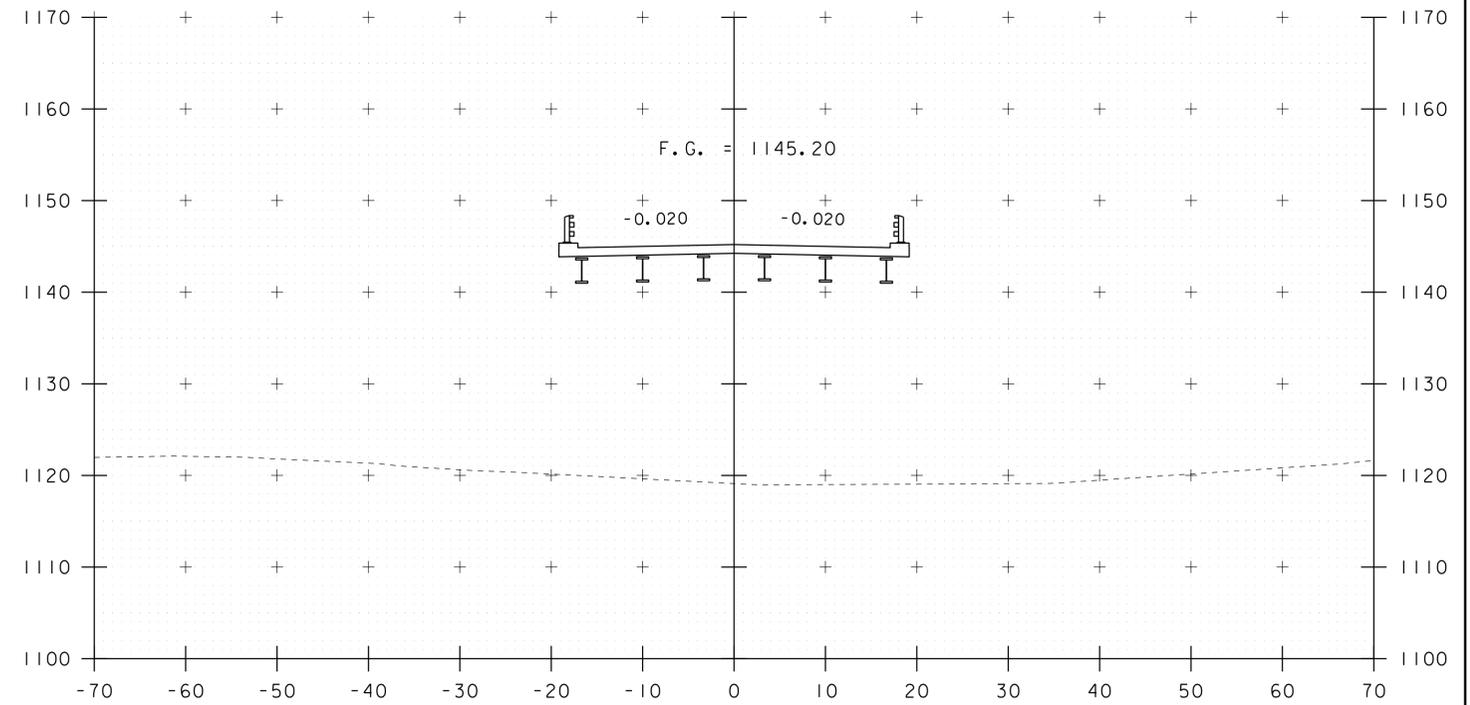
PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274xs.dgn  
PROJECT LEADER: C.W. CARLSON  
DESIGNED BY: M. E-MONGEON  
TH 1 CROSS SECTIONS SHEET 1

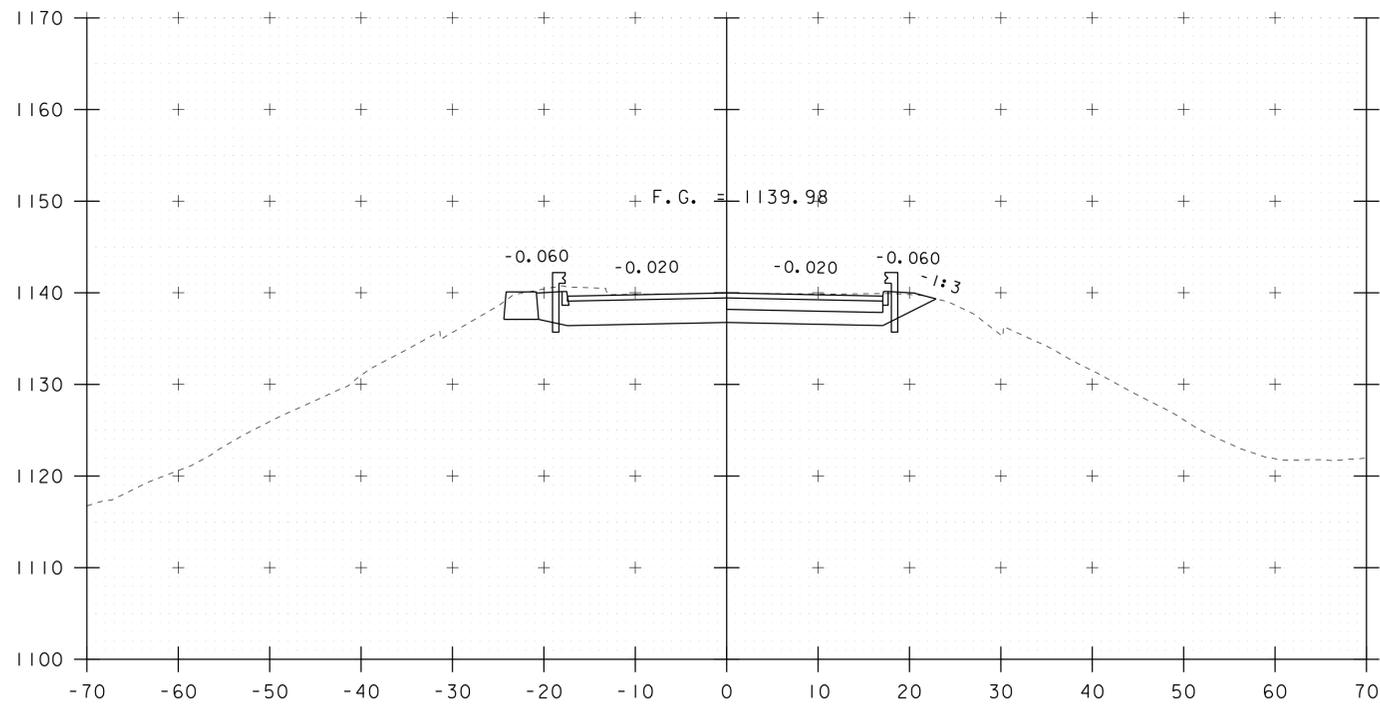
PLOT DATE: 06-MAY-2016  
DRAWN BY: M.LONGSTREET  
CHECKED BY: M. E-MONGEON  
SHEET 13 OF 27



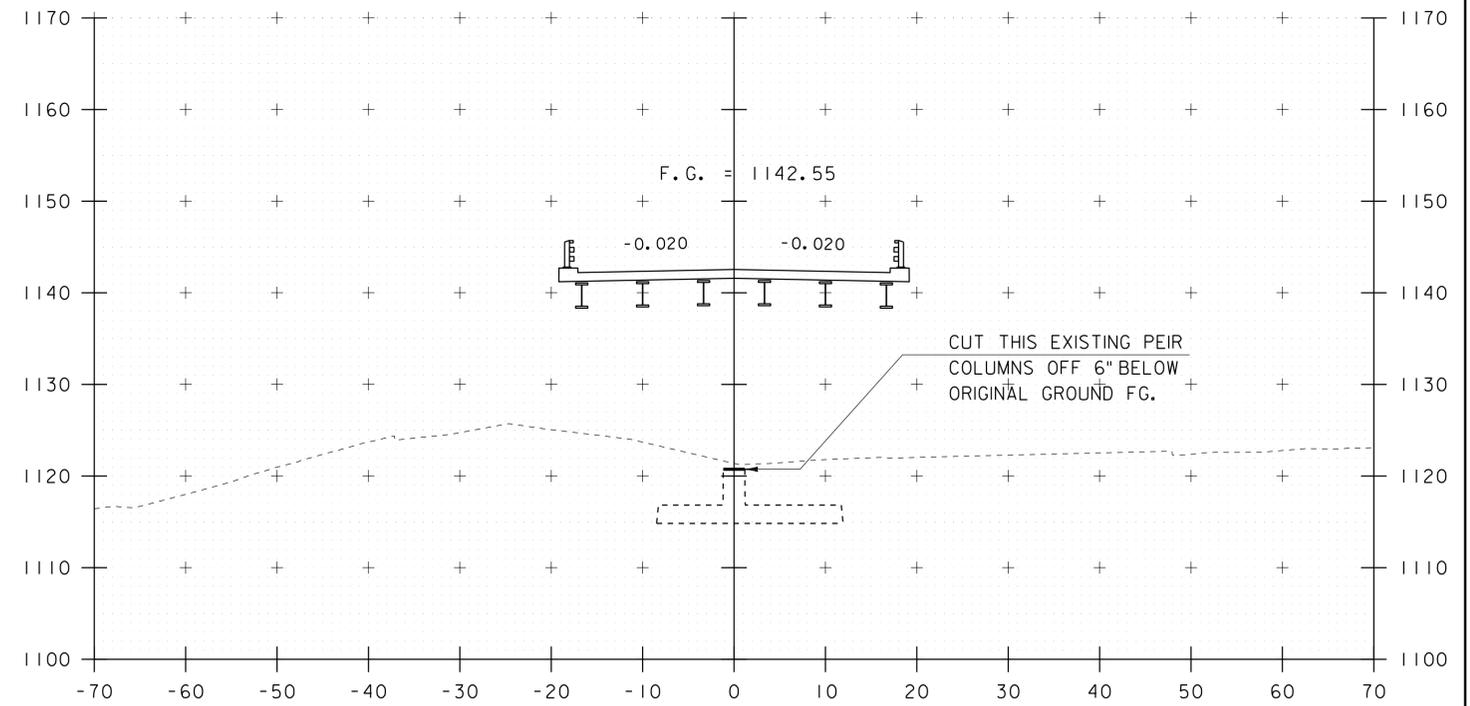
149+50



151+00



149+40

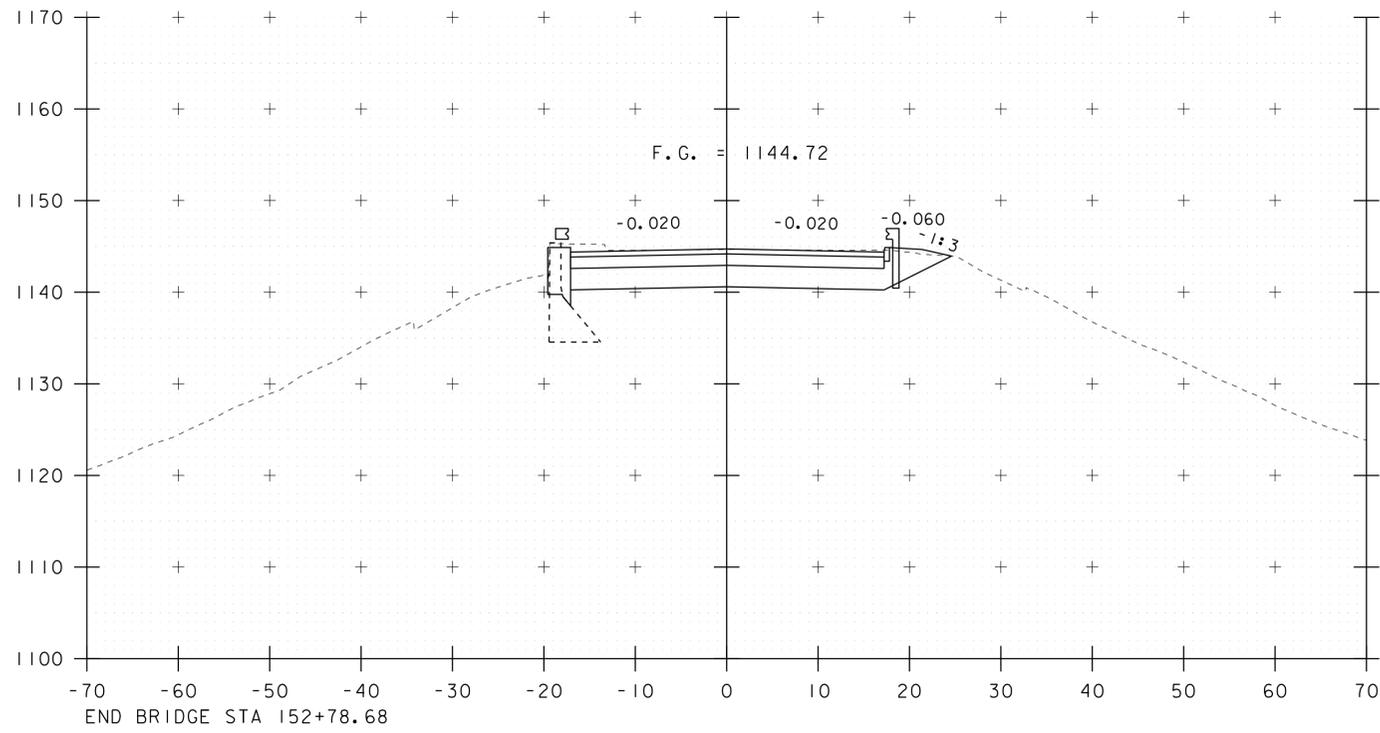


150+00

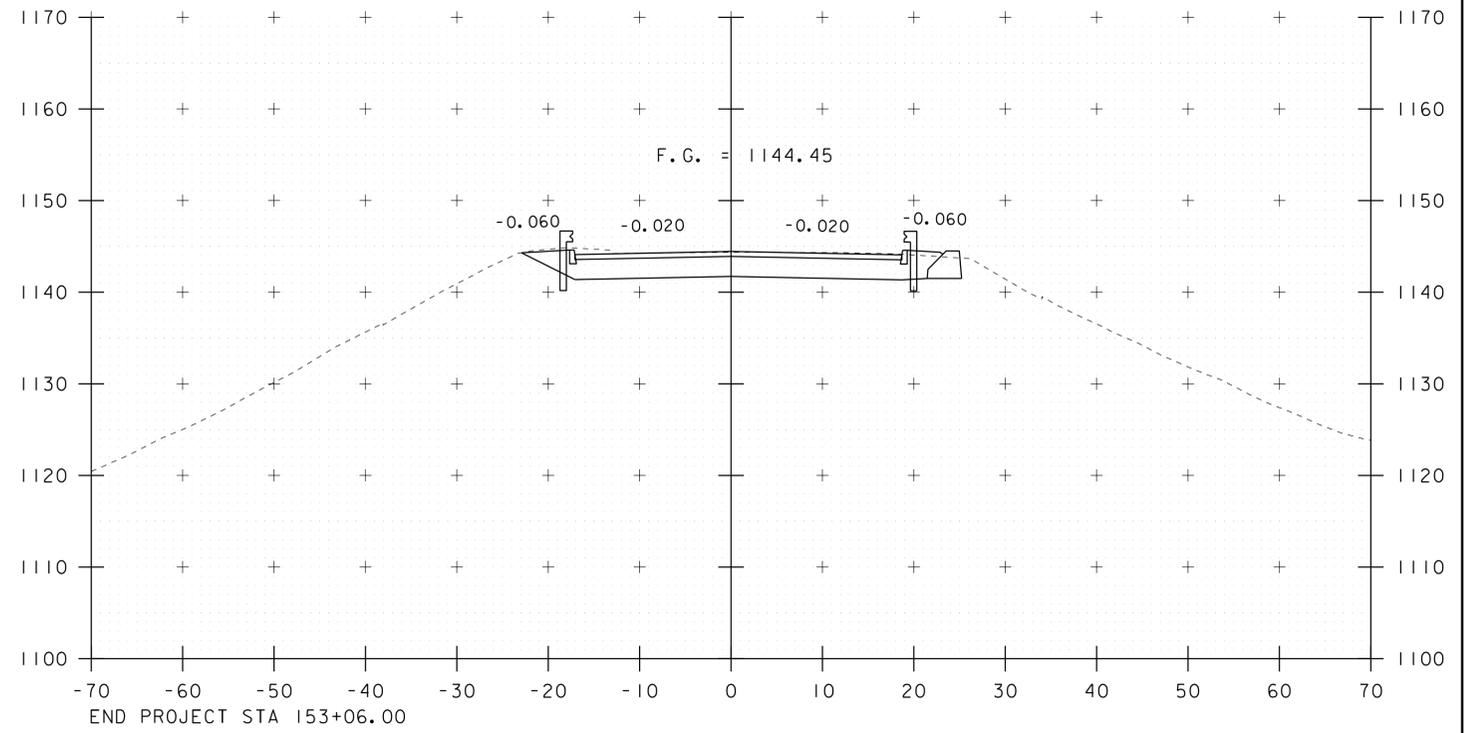
BEGIN BRIDGE STA 149+59.82

STA. 149+40 TO STA. 151+00

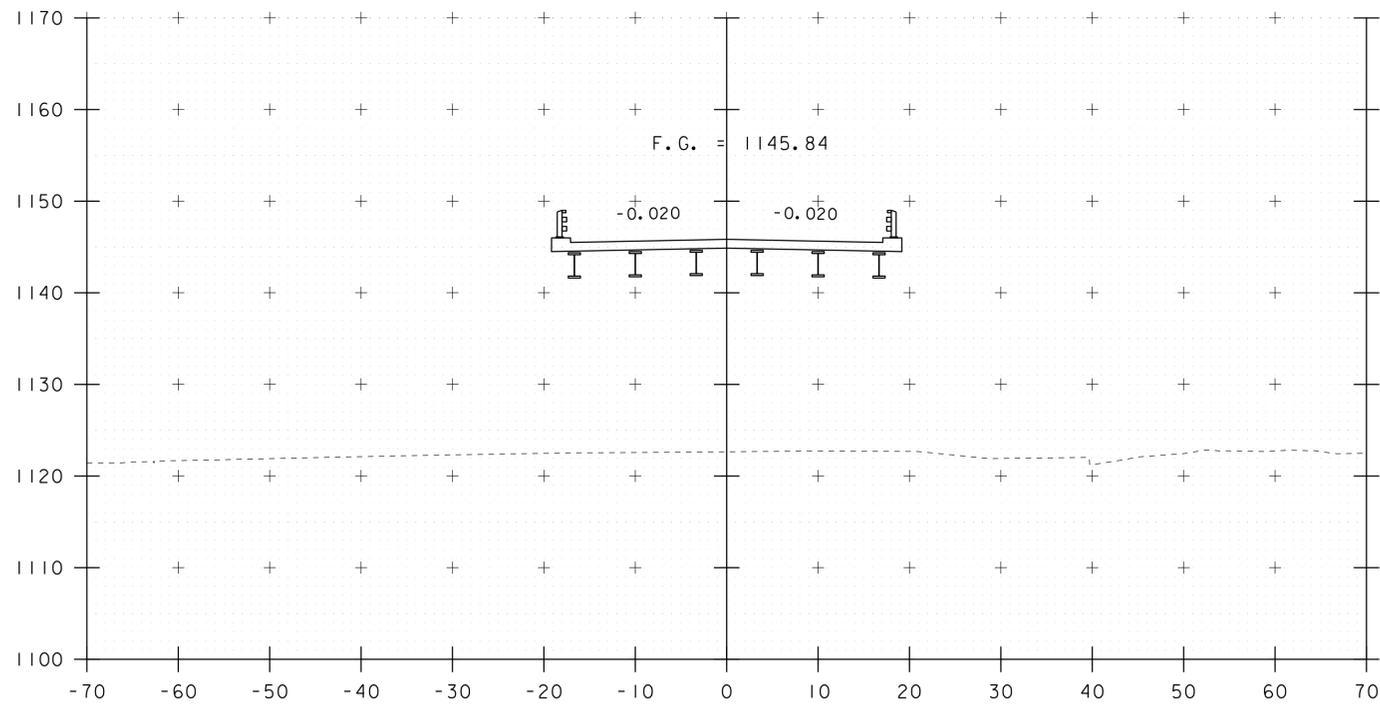
PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
TH 1 CROSS SECTIONS SHEET 2	SHEET 14 OF 27



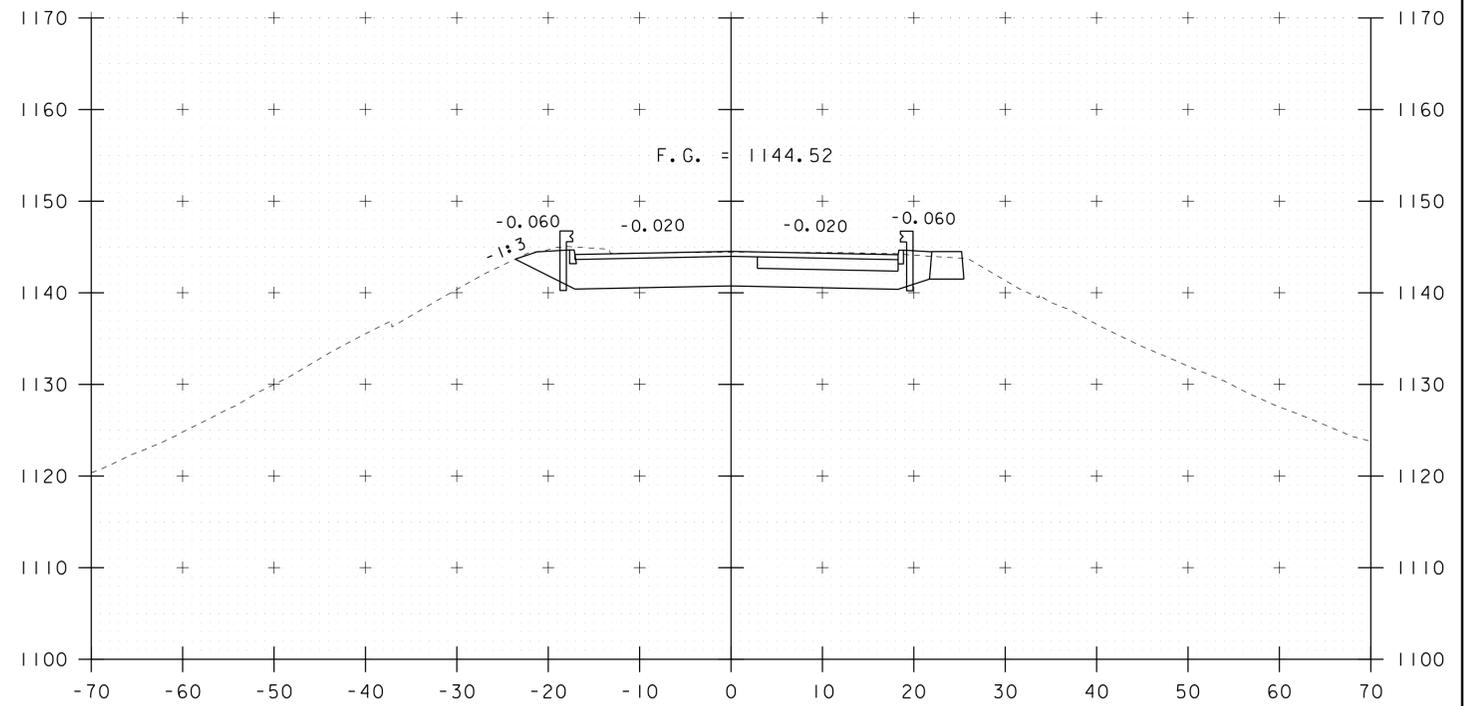
152+88



153+00



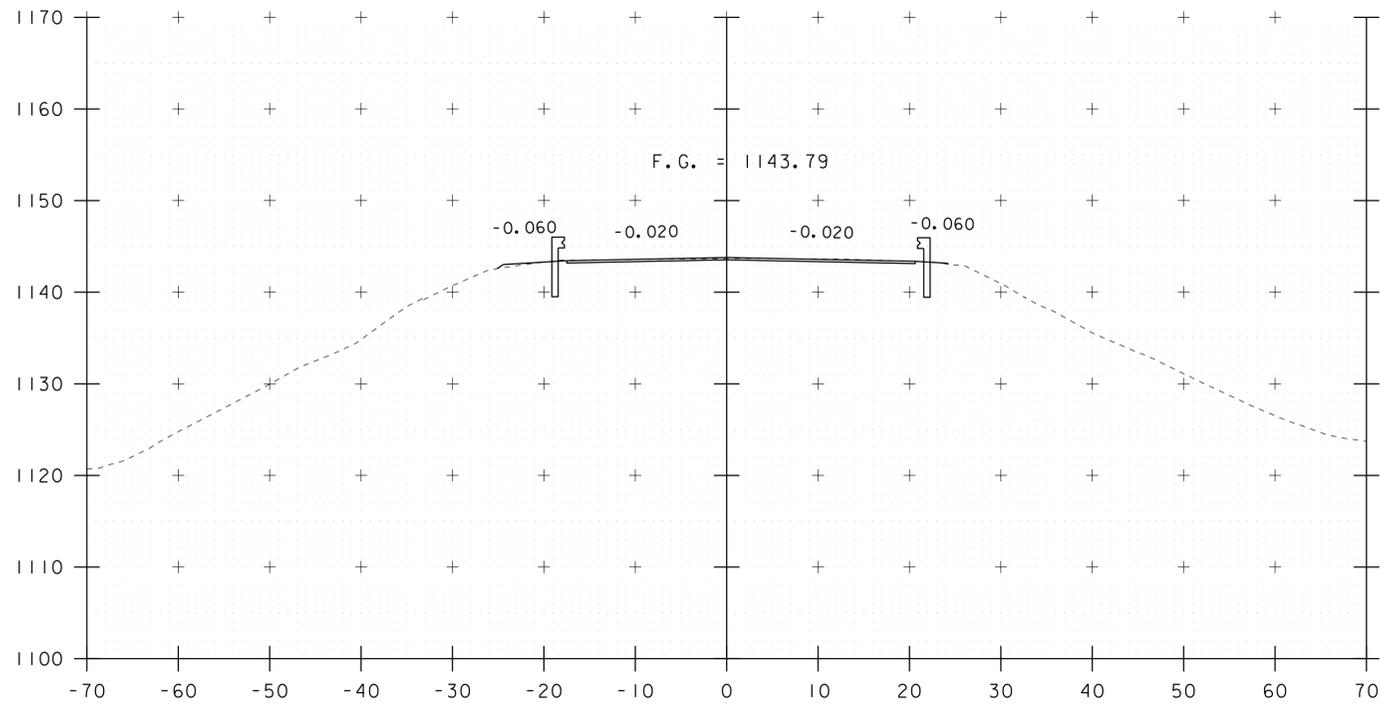
152+00



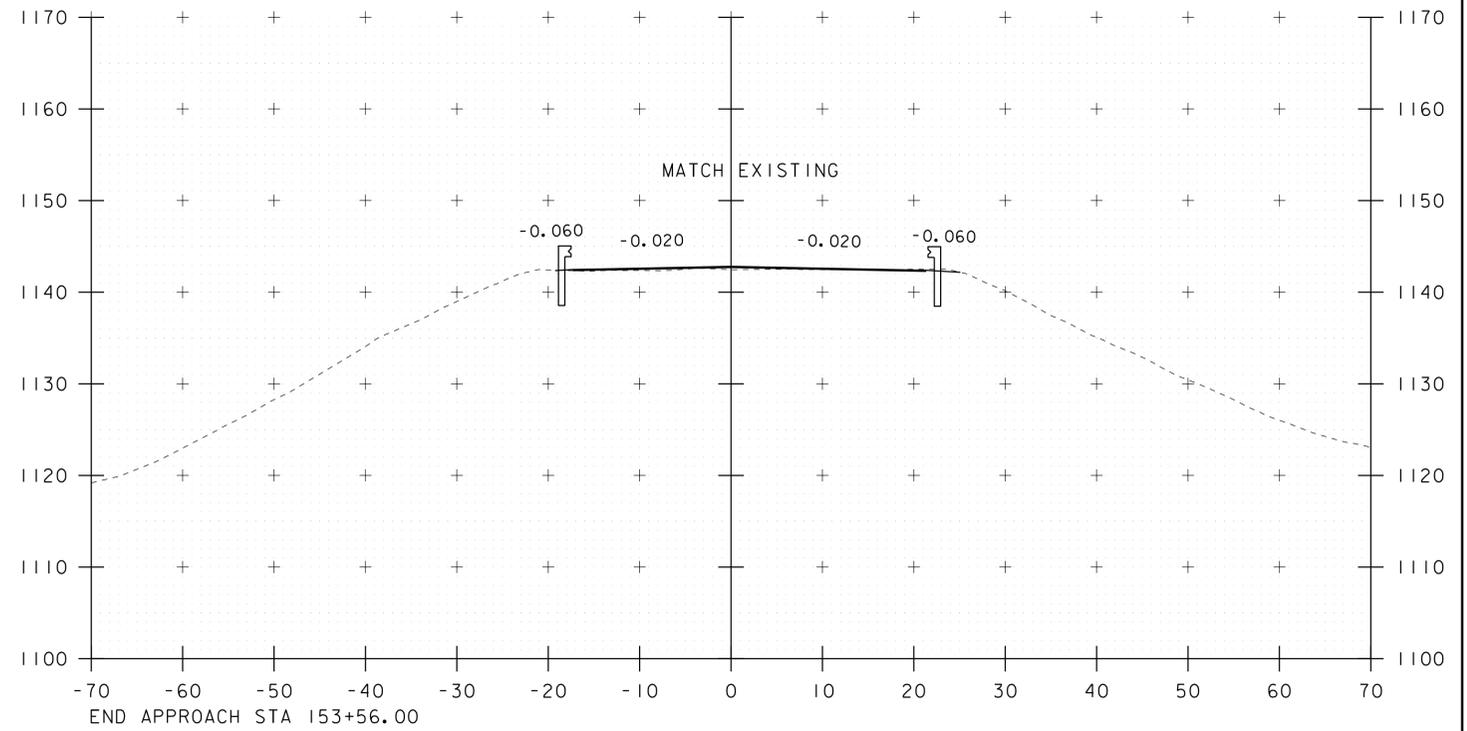
152+97

STA. 152+00 TO STA. 153+00

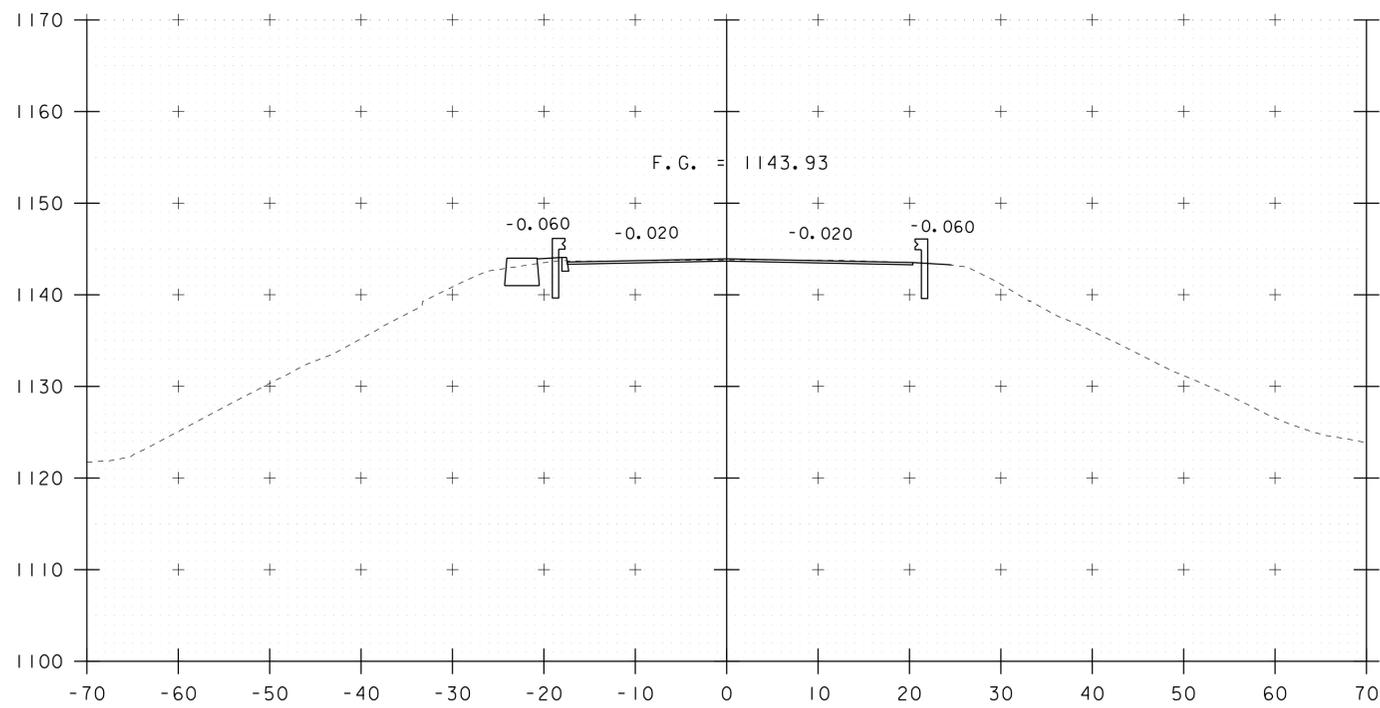
PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
TH I CROSS SECTIONS SHEET 3	SHEET 15 OF 27



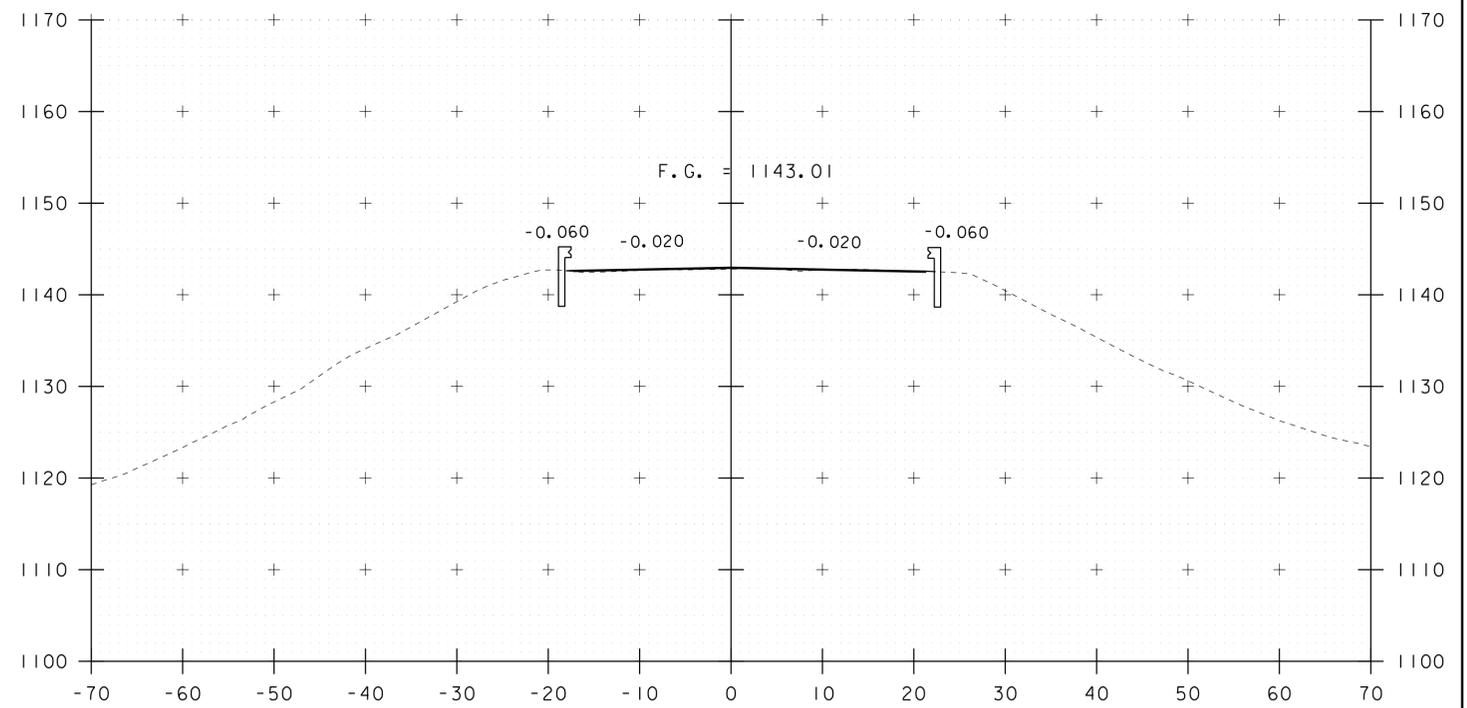
153+25



153+56



153+20



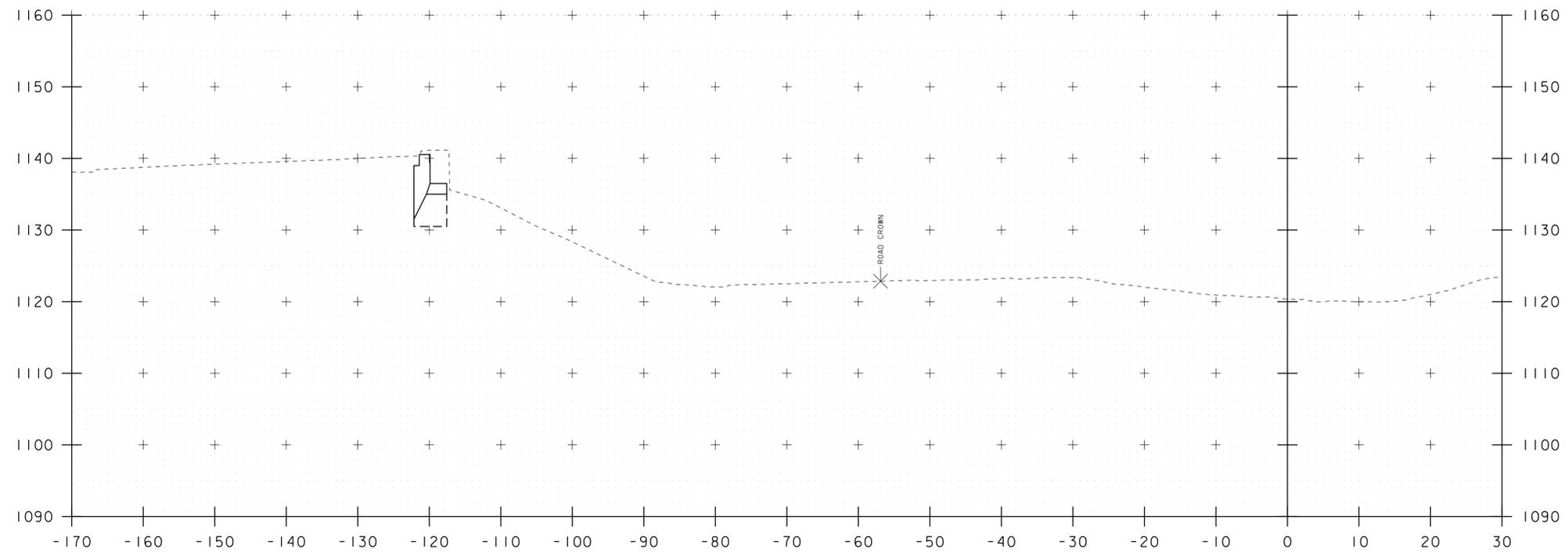
153+50

STA. 153+20 TO STA. 153+56

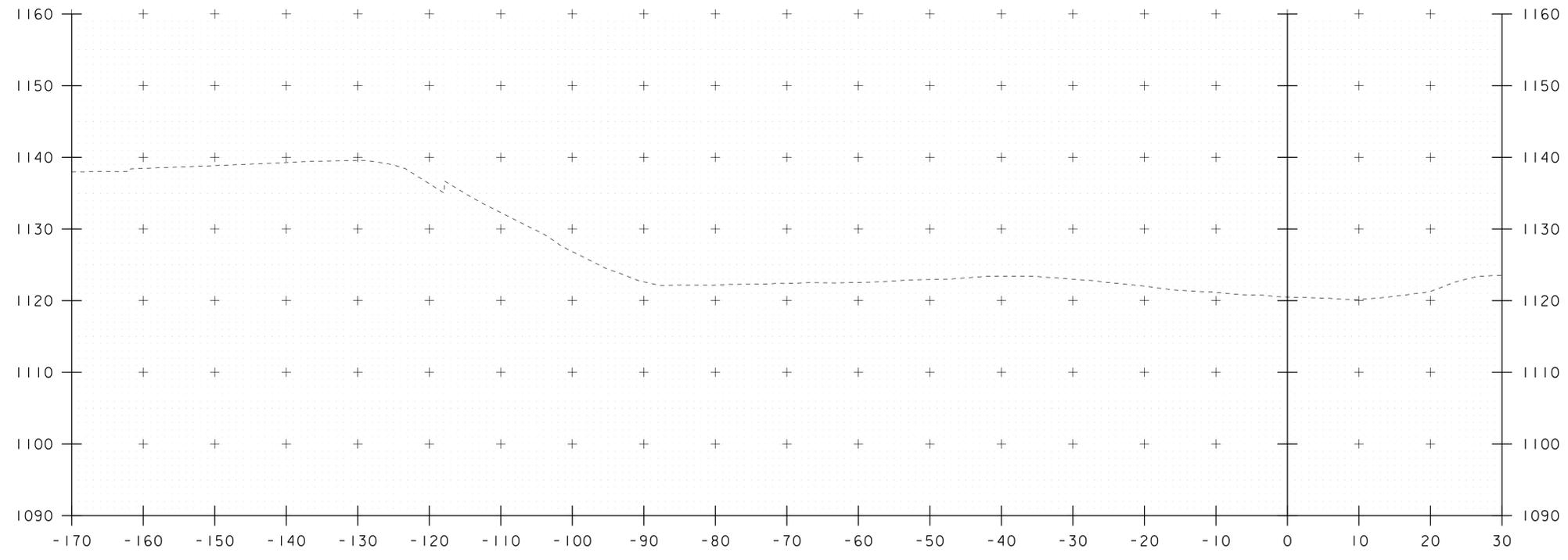
PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274xs.dgn  
PROJECT LEADER: C.W. CARLSON  
DESIGNED BY: M. E-MONGEON  
TH I CROSS SECTIONS SHEET 4

PLOT DATE: 06-MAY-2016  
DRAWN BY: M.LONGSTREET  
CHECKED BY: M. E-MONGEON  
SHEET 16 OF 27



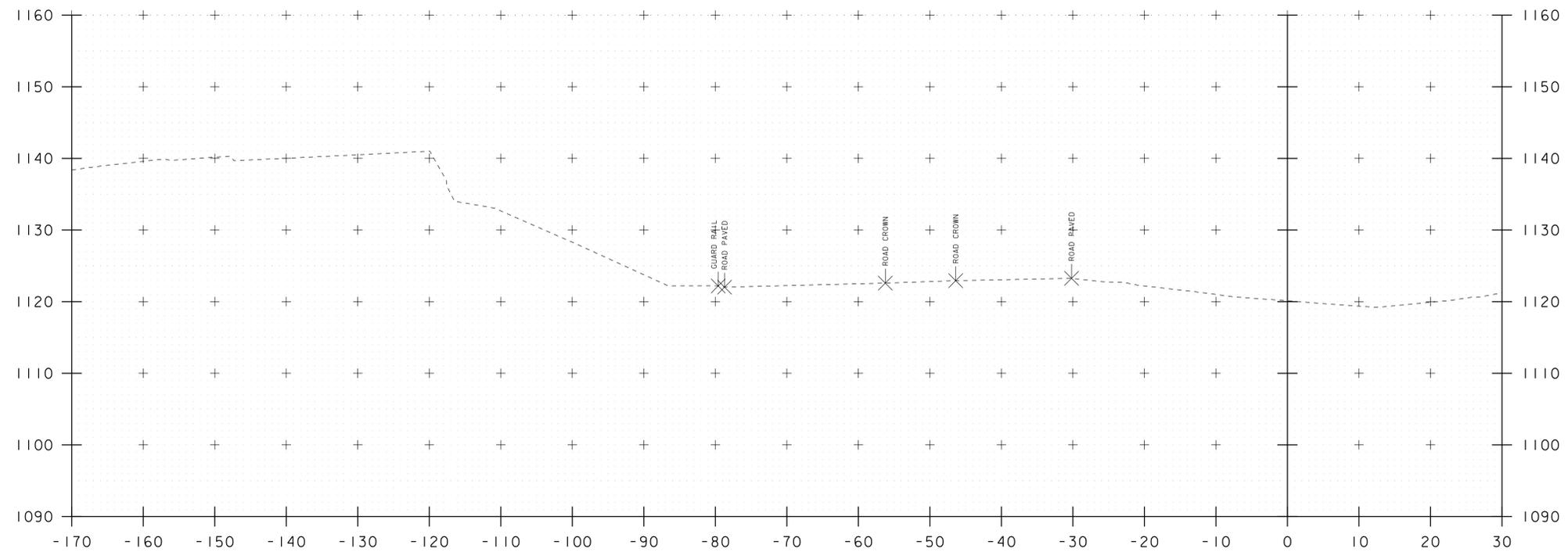
10+60



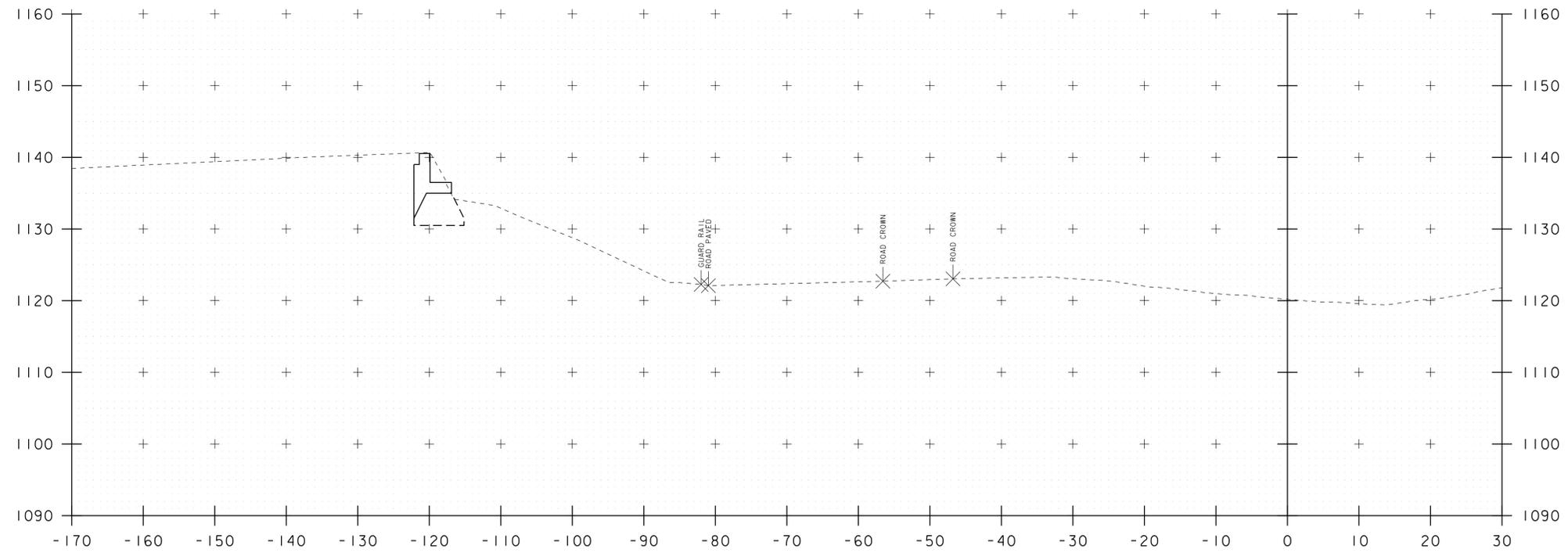
10+50

STA. 10+50 TO STA. 10+60

PROJECT NAME: DERBY	PLOT DATE: 06-MAY-2016
PROJECT NUMBER: IM 091-3(49)	DRAWN BY: M.LONGSTREET
FILE NAME: sl2a274xs.dgn	CHECKED BY: M. E-MONGEON
PROJECT LEADER: C.W. CARLSON	SHEET 17 OF 27
DESIGNED BY: M. E-MONGEON	
191 CROSS SECTIONS SHEET 1	



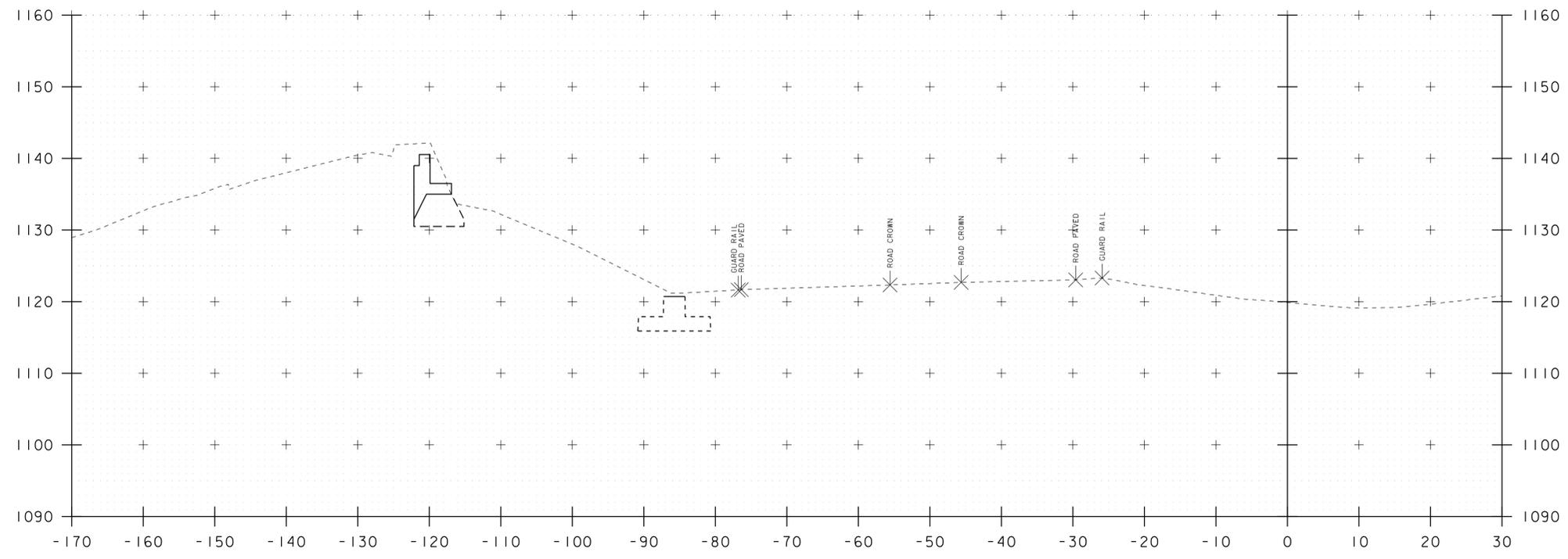
10+80



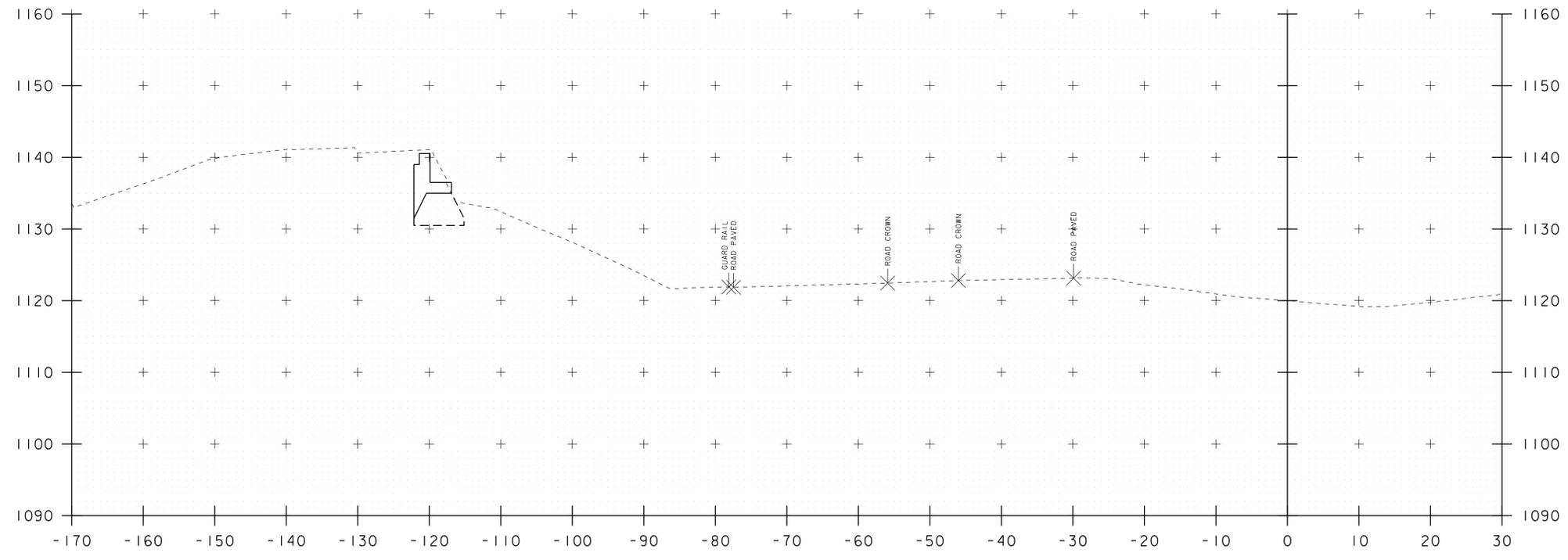
10+70

STA. 10+70 TO STA. 10+80

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 2	SHEET 18 OF 27



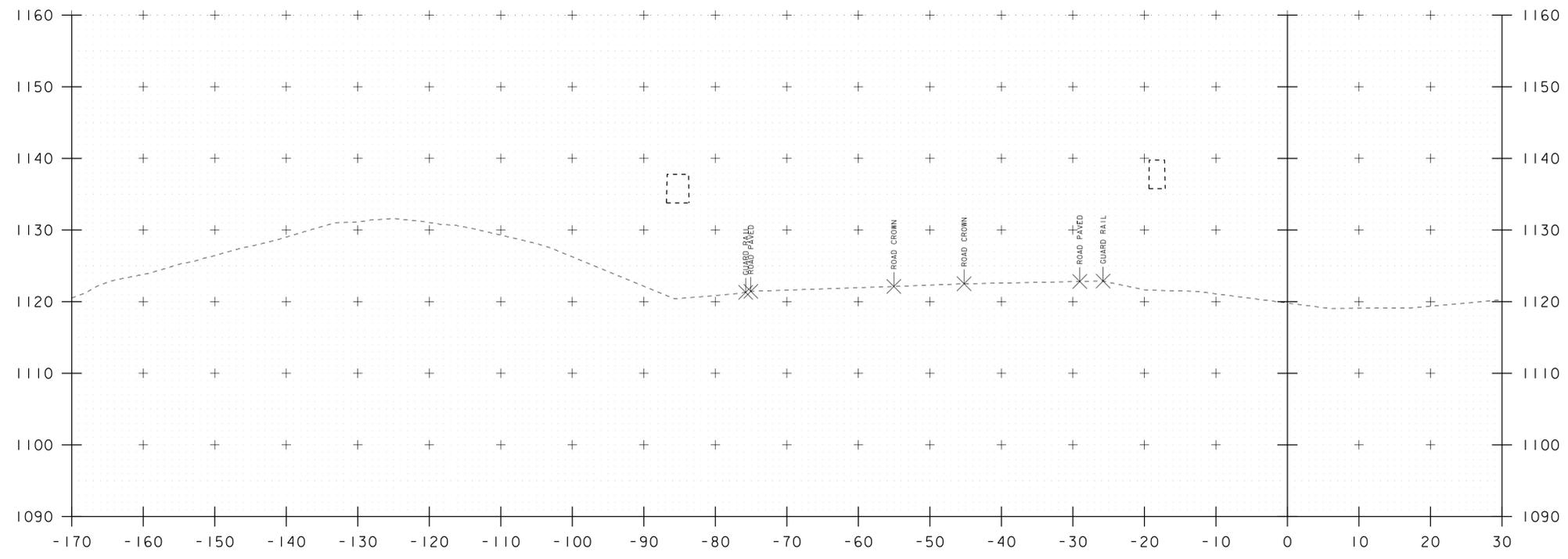
11+00



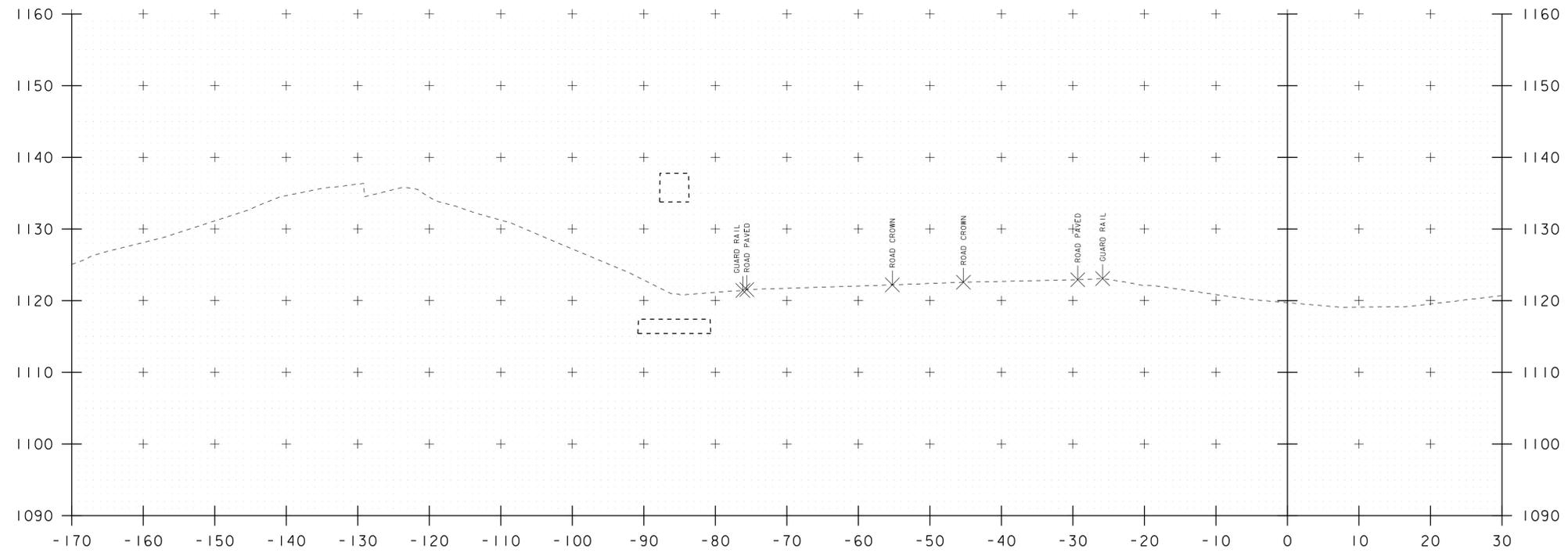
10+90

STA. 10+90 TO STA. 11+00

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 3	SHEET 19 OF 27



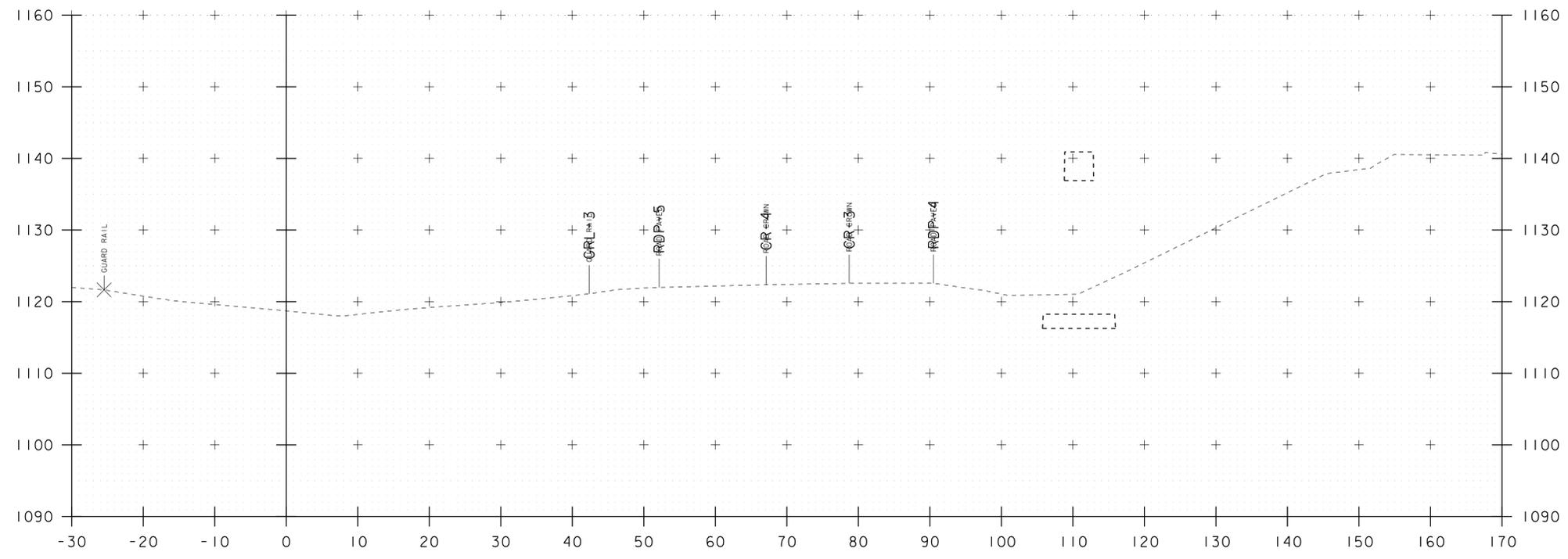
11+20



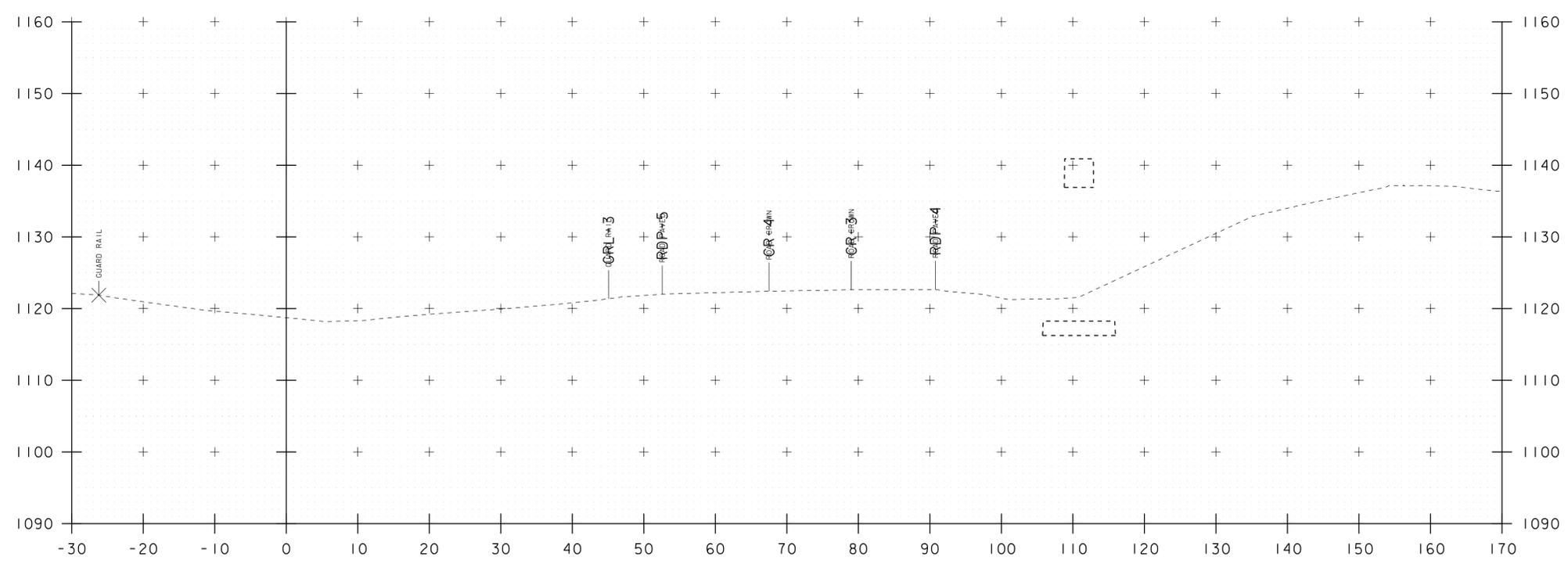
11+10

STA. 11+10 TO STA. 11+20

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 4	SHEET 20 OF 27



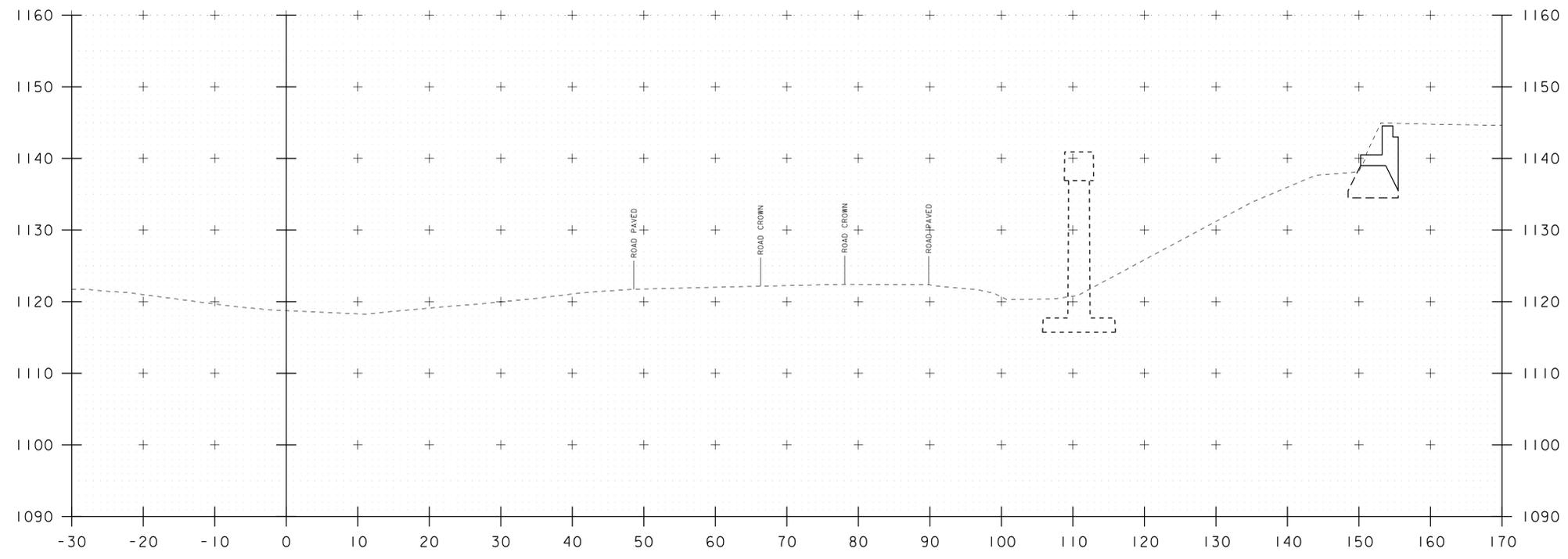
12+10



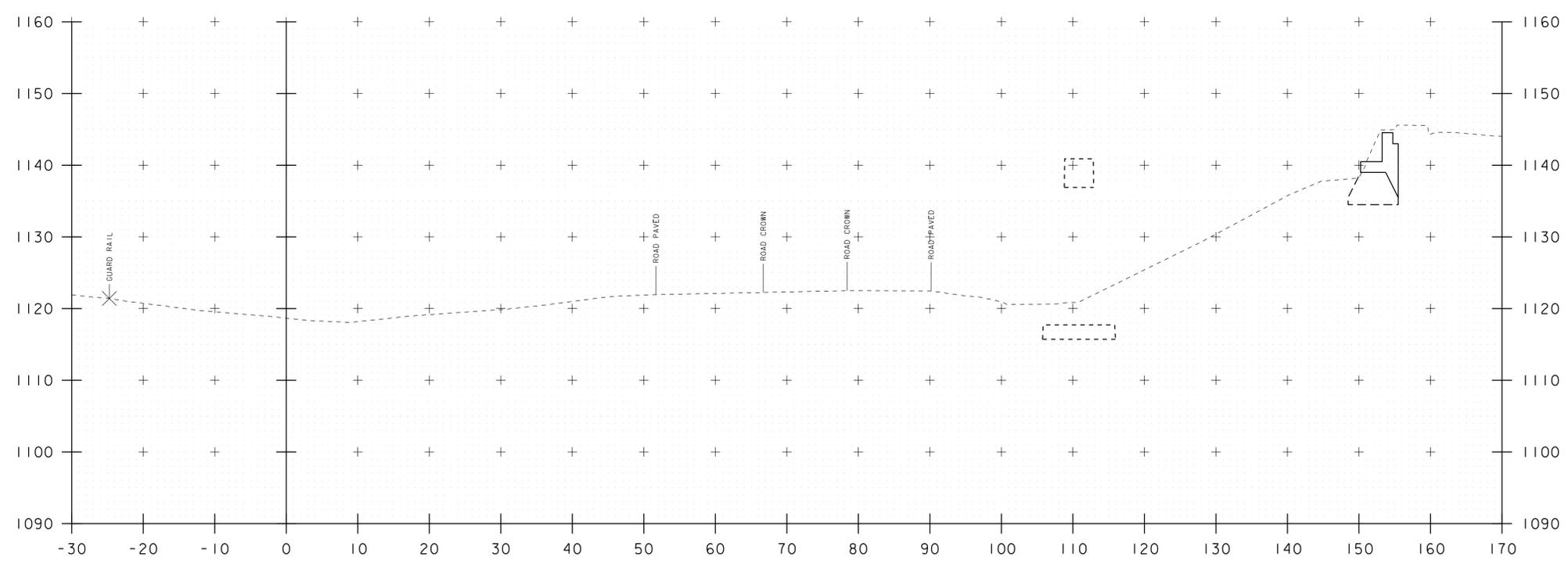
12+00

STA. 12+00 TO STA. 12+10

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 5	SHEET 21 OF 27



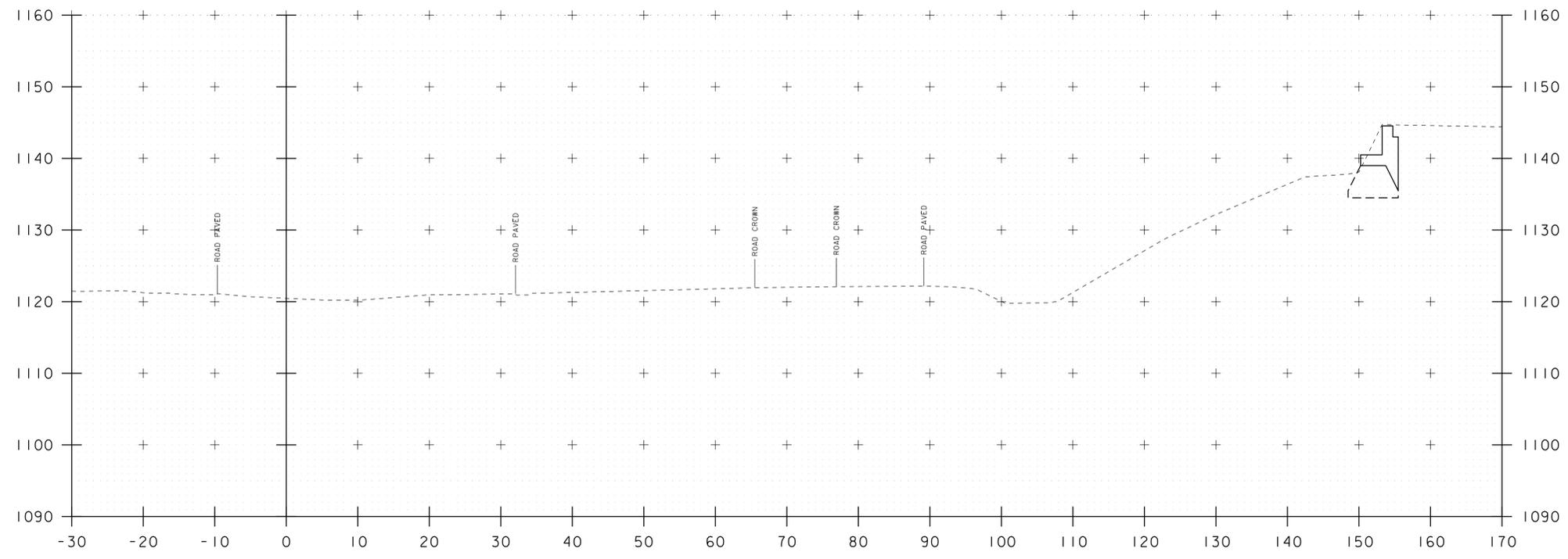
12+30



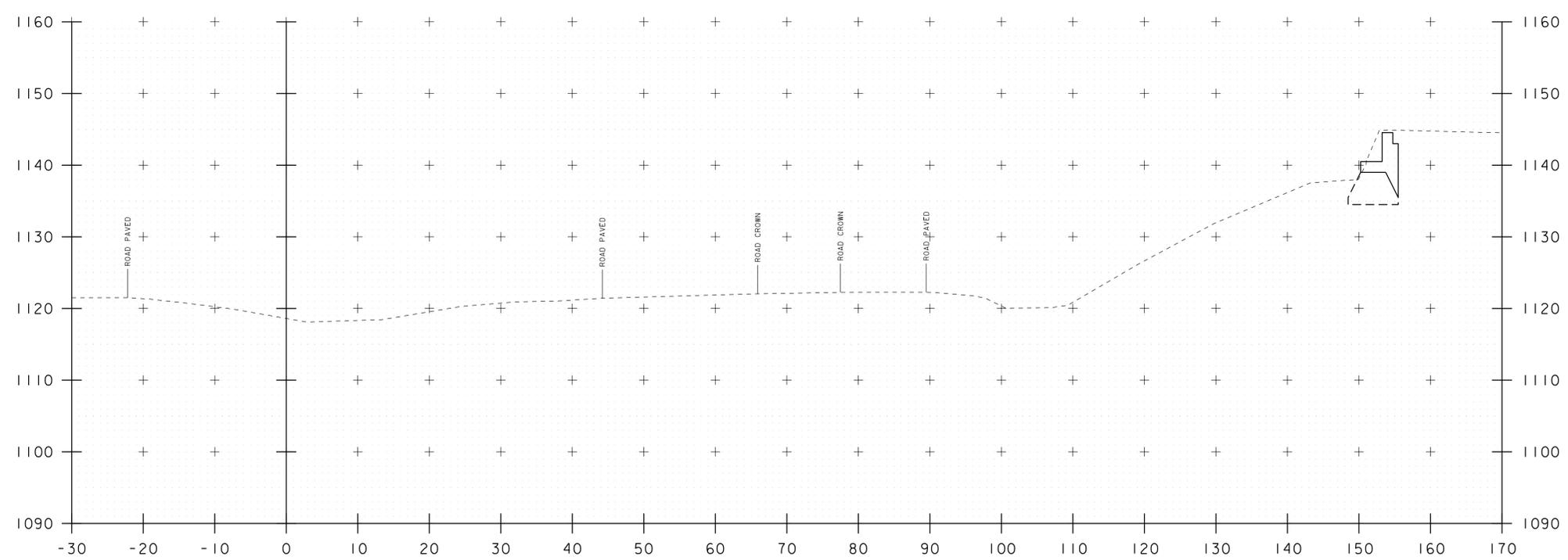
12+20

STA. 12+20 TO STA. 12+30

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 6	SHEET 22 OF 27



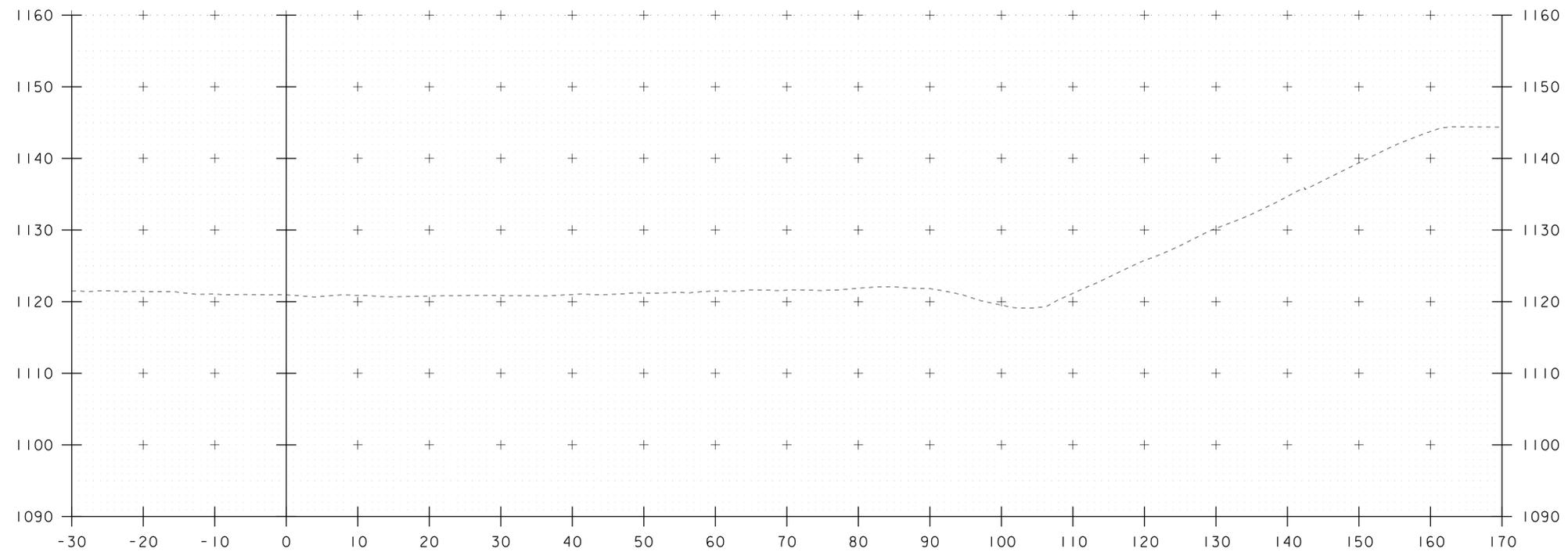
12+50



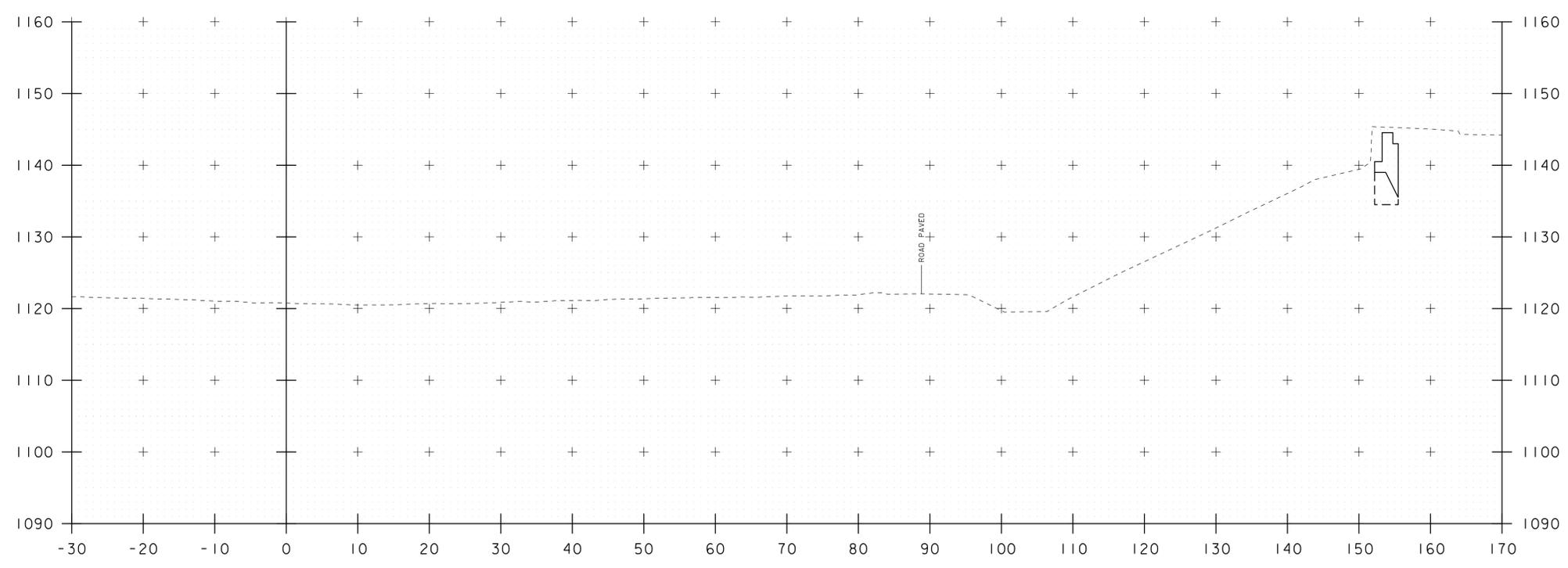
12+40

STA. 12+40 TO STA. 12+50

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 7	SHEET 23 OF 27



12+70



12+60

STA. 12+60 TO STA. 12+70

PROJECT NAME: DERBY	
PROJECT NUMBER: IM 091-3(49)	
FILE NAME: sl2a274xs.dgn	PLOT DATE: 06-MAY-2016
PROJECT LEADER: C.W. CARLSON	DRAWN BY: M.LONGSTREET
DESIGNED BY: M. E-MONGEON	CHECKED BY: M. E-MONGEON
191 CROSS SECTIONS SHEET 8	SHEET 24 OF 27

# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE FULL REPLACEMENT OF THE 315 FOOT MULTI SPAN BRIDGE DECK. THE TOPS OF THE ABUTMENT AND WING WALL WILL BE REMOVED AND CAPED WITH NEW CONCRETE AND REINFORCING. THERE ARE FOUR EXISTING PIERS, THE WESTERN MOST PIER WILL BE REMOVED AND THE BRIDGE WILL SPAN OVER ITS LOCATION. THE REMAINING PIERS WILL BE REHABILITATED. THE PROPOSED BRIDGE IS ON THE EXISTING ALIGNMENT. THE BRIDGE IS LOCATED IN THE TOWN OF DERBY, ON CASWELL AVENUE (US 5 CONNECTOR) AND SPANS OVER I-91 NORTH AND SOUTH. THE BRIDGE IS LOCATED NEAR THE US AND CANADA BORDER, BETWEEN THE US AND CANADIAN BORDER CROSSING STATIONS ON I-91. THE LENGTH OF THE PROJECT WILL NOT CHANGE BUT THE BRIDGE WILL CHANGE FROM A FIVE (5) SPAN BRIDGE TO A FOUR (4) SPAN BRIDGE.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.50 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS RELATIVELY FLAT OR ROLLING HILL FARM LANDS. THE PROJECT IS A RAISED UP ROADWAY BED TO CROSS I-91. THERE IS A MIX OF WOODED AREA, LOW VEGETATION, AND PAVED PARKING AND ROADWAY SURFACES.

### 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THERE IS NO WATER SOURCE IN THE PROJECT AREA OR SITE. THE NEAREST RIVER IS TOMFOBIA RIVER GENERALLY ON THE CANADIAN SIDE OF THE BORDER APPROXIMATELY ONE-HALF MILE WEST OF THE PROJECT. THERE ARE A NUMBER OF DROP INLETS NEAR THE US BORDER STATION BUT NONE IN THE PROJECT AREA. THERE IS ONE CULVERT THROUGH THE PROJECT AREA BETWEEN THE EAST MOST PIER AND ABUTMENT #2 THAT SHOULD BE PROTECTED FROM DAMAGE, BUT THE INLET AND OUTLET ARE OFF THE PROJECT SITE.

### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF BRIDGE DECK AND REHABILITATION OF THE ABUTMENTS AND PIERS. UPON PROJECT COMPLETION, THE DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE BUCKLAND FINE SANDY LOAM (POTENTIALLY HIGHLY ERODIBLE) K-FACTOR 0.32, 3%-8% SLOPES, HYDROLOGICAL SOIL GROUP:C.

**NOTE:** K-VALUES GENERALLY INDICATE THE FOLLOWING:  
0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: NO  
WETLANDS: NO

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

IMPACT AREA	AREA ACRES
ABUT #1 & PIER #1	0.21
PIER #2	0.04
PIER #3	0.06
PIER #4	0.04
ABUTMENT #2	0.14
TOTAL	0.50

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

### 1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

### 1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE, IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

### 1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

**1.4.12 INSPECT YOUR SITE**  
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

## 1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

### 1.5.3 UPDATES

PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274er0Details.dgn  
PROJECT LEADER: C.W. CARLSON  
DESIGNED BY: M. E-MONGEON  
EPSC NARRATIVE

PLOT DATE: 06-MAY-2016  
DRAWN BY: M.LONGSTREET  
CHECKED BY: M. E-MONGEON  
SHEET 25 OF 27



CANADA  
UNITED STATES

1-91 SOUTH  
U.S. CUSTOMS

1-91 NORTH  
TO CANADA

SOIL INFORMATION:  
BUCKLAND FINE SANDY LOAM  
(POTENTIALLY HIGHLY ERODIBLE)  
K-FACTOR = 0.32, 3%-8% SLOPES  
HYDROLOGICAL SOIL GROUP: C ET

EXISTING ROW

STABILIZED  
CONSTRUCTION  
ENTRANCE

STABILIZED  
CONSTRUCTION  
ENTRANCE

148+00 CASWELL AVE (TH 1) TO DERBY 149+00 150+00 N86° 45' 00" E 151+00 152+00 153+00 CASWELL AVE (TH 1) TO HOLLAND 154+00

EXISTING BRIDGE DATA

NOTES:

1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
2. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER AND ON SITE COORDINATOR. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON SITE COORDINATOR.
4. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
5. EXISTING CONTOURS SHOWN, SEE CROSS SECTIONS FOR FINAL CONDITIONS.

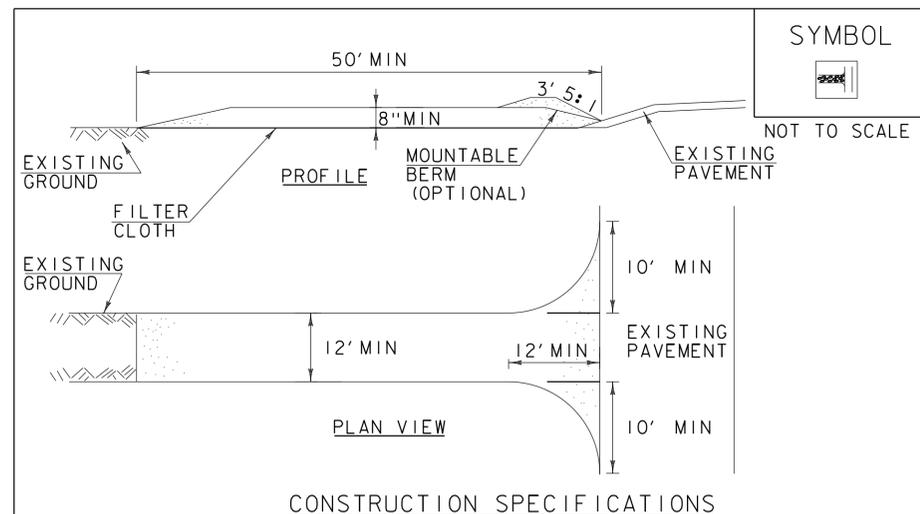
SOIL INFORMATION:  
BUCKLAND FINE SANDY LOAM  
(POTENTIALLY HIGHLY ERODIBLE)  
K-FACTOR = 0.32, 3%-8% SLOPES  
HYDROLOGICAL SOIL GROUP: C

PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)

FILE NAME: sl2a274bdrero.dgn  
PROJECT LEADER: C.W. CARLSON  
DESIGNED BY: M. E-MONGEON  
EPSC LAYOUT

PLOT DATE: 06-MAY-2016  
DRAWN BY: M.LONGSTREET  
CHECKED BY: M. E-MONGEON  
SHEET 26 OF 27

SCALE 1" = 20' - 0"  
20 0 20



CONSTRUCTION SPECIFICATIONS

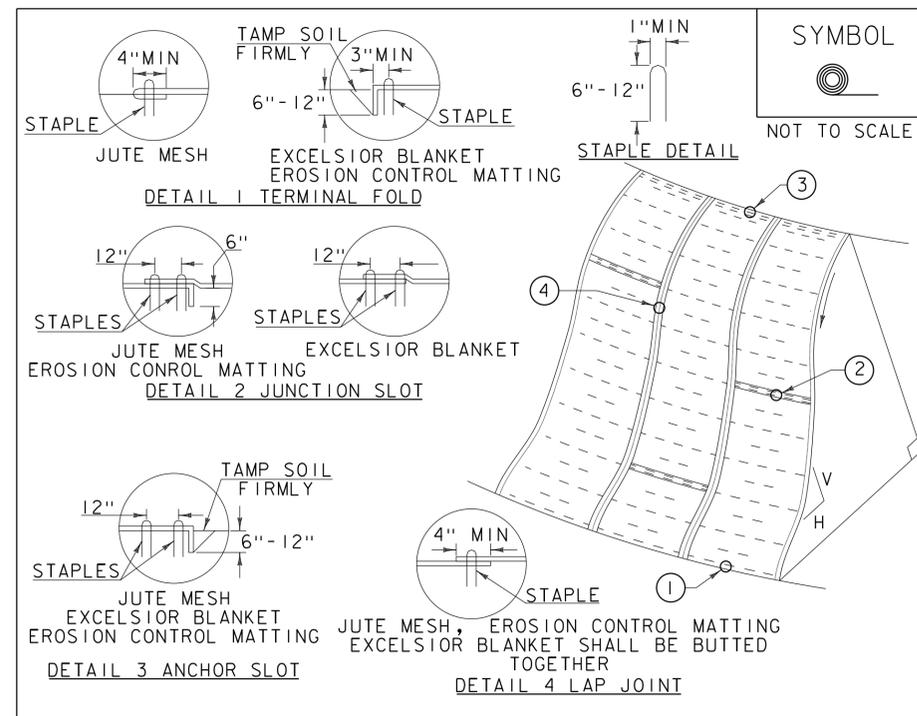
1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED  
CONSTRUCTION  
ENTRANCE

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR  
EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM  
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL  
GUIDANCE.  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH  
SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35)  
OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION  
CONTROL PRODUCT  
(RECP) SIDE SLOPE

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR  
EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM  
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL  
GUIDANCE.  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION  
653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION  
MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING  
(PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

VAOT LOW GROW / FINE FESCUE MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
38%	57	95	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
37.5%	22.5	45	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR  
ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH  
SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF

PROJECT NAME: DERBY  
PROJECT NUMBER: IM 091-3(49)  
FILE NAME: sl2a274erodetails.dgn  
PROJECT LEADER: C.W. CARLSON  
DESIGNED BY: M. E-MONGEON  
EPSC DETAIL SHEET  
PLOT DATE: 06-MAY-2016  
DRAWN BY: M.LONGSTREET  
CHECKED BY: M. E-MONGEON  
SHEET 27 OF 27