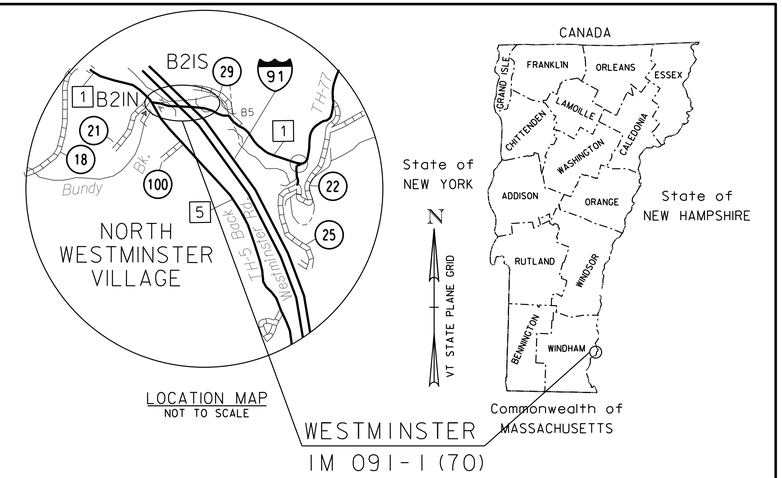
REVIEWERS NOTES:

1. IT IS ANTICIPATED THAT RIGHT-OF-WAY ACQUISITION WILL NOT BE NECESSARY.
2. IT IS ANTICIPATED THAT OVERHEAD UTILITY RELOCATION WILL BE NEEDED, AS INDICATED ON THE PLANS.
3. THE USE OF SACRIFICIAL ANODES IS PROPOSED TO PROVIDE CORROSION PROTECTION OF THE CONCRETE REPAIRS IN THE SUBSTRUCTURES.
4. REPAINTING OF THE STRUCTURAL STEEL IS PROPOSED TO BE INCLUDED IN THE SCOPE OF WORK FOR THIS PROJECT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



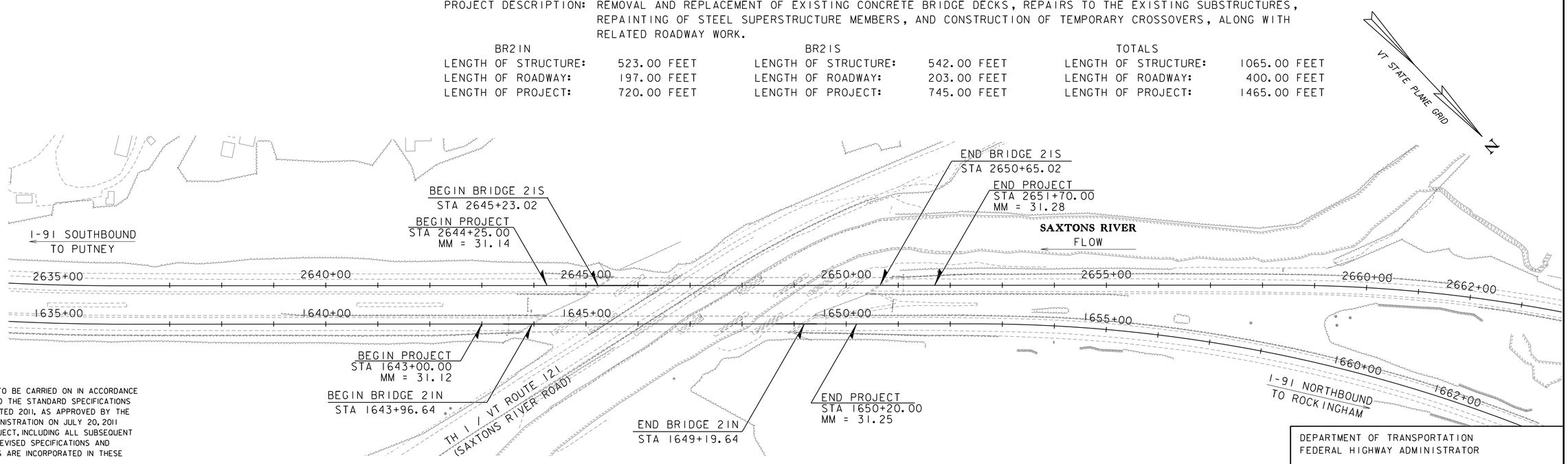
LOCATION MAP
NOT TO SCALE

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF WESTMINSTER
COUNTY OF WINDHAM
ROUTE NO: I-91 BRIDGES 21N & 21S OVER THE SAXTONS RIVER AND SAXTONS RIVER RD (VT 121)
(PRINCIPLE ARTERIAL - NHS)

PROJECT LOCATION: 2.4 MILES NORTH OF EXIT 5 ALONG INTERSTATE 91 (I-91)

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF EXISTING CONCRETE BRIDGE DECKS, REPAIRS TO THE EXISTING SUBSTRUCTURES, REPAINTING OF STEEL SUPERSTRUCTURE MEMBERS, AND CONSTRUCTION OF TEMPORARY CROSSOVERS, ALONG WITH RELATED ROADWAY WORK.

BR21N		BR21S		TOTALS	
LENGTH OF STRUCTURE:	523.00 FEET	LENGTH OF STRUCTURE:	542.00 FEET	LENGTH OF STRUCTURE:	1065.00 FEET
LENGTH OF ROADWAY:	197.00 FEET	LENGTH OF ROADWAY:	203.00 FEET	LENGTH OF ROADWAY:	400.00 FEET
LENGTH OF PROJECT:	720.00 FEET	LENGTH OF PROJECT:	745.00 FEET	LENGTH OF PROJECT:	1465.00 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 2

SURVEYED BY : VTRANS
SURVEYED DATE : 09/16/2015

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(2011)

SCALE 1" = 100'-0"
100 0 100

PRELIMINARY PLANS
5/16/2016

Stantec
Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE _____

PROJECT MANAGER : WENDY PELLETIER, P.E.

PROJECT NAME : WESTMINSTER
PROJECT NUMBER : IM 091-1 (70)

SHEET 1 OF 105 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

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SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-516.10	BRIDGE JOINT ASHPALTIC PLUG	5/7/2010
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	5/7/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	5/7/2010

FINAL HYDRAULIC REPORT

BRIDGE REHABILITATION - NO HYDRAULICS REPORT

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON EXISTING BRIDGE WITH CROSS OVERS.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	VARIES FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
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	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	- - -
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18. PILE RESISTANCE FACTOR	ϕ:	- - -
19. LATERAL PILE DEFLECTION	Δ:	- - -
20. BASIC WIND SPEED	V_{3s}:	- - -
21. MINIMUM GROUND SNOW LOAD	p_g:	- - -
22. SEISMIC DATA	PGA: 0	S_s: - - -
		S_1: - - -
23.		
24.		- - -
25.		- - -
26.		- - -

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:							

NOTE: DATA FOR ADTT BASED ON NORTHBOUND LANES

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2016	6400	1300	100	15.8	1400
2036	7400	1500	100	22.2	2300

20 year ESAL for flexible pavement from 2016 to 2036 : 11614000

40 year ESAL for flexible pavement from 2016 to 2056 : 27454000

Design Speed : 70 mph

AS BUILT "REBAR" DETAIL

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

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

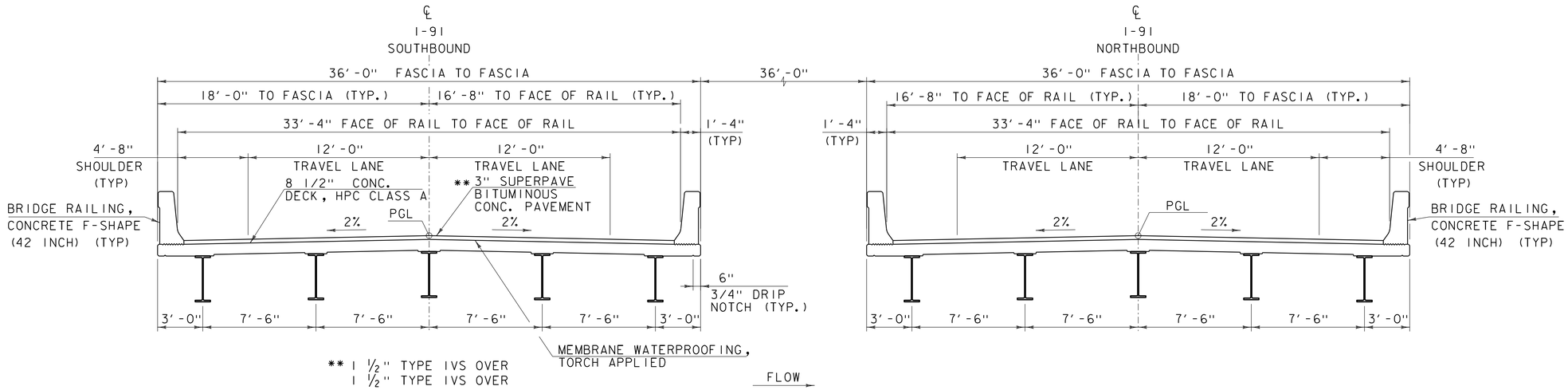
BOTTOM OF BEAMS ELEV. = 0.00 FT

0.00 FT (MIN) 1.00 FT (MIN)

PROJECT NAME: **WESTMINSTER**

PROJECT NUMBER: **IM 091-1(70)**

FILE NAME:	Westminster PI _sht.xls	PLOT DATE:	5/16/2016
PROJECT LEADER:	M. Chenette	DRAWN BY:	L. Buxton
DESIGNED BY:	T. Knight	CHECKED BY:	G. Bogue
PRELIMINARY INFORMATION SHEET 1		SHEET	2 OF 105



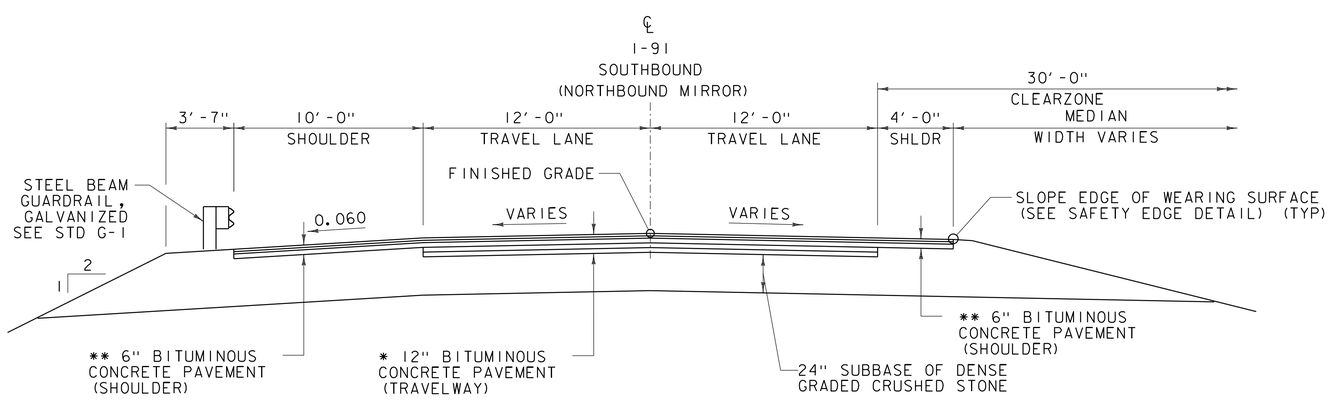
BRIDGE PROPOSED TYPICAL SECTION

SCALE 1/4" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
SUBBASE	+/- 1"



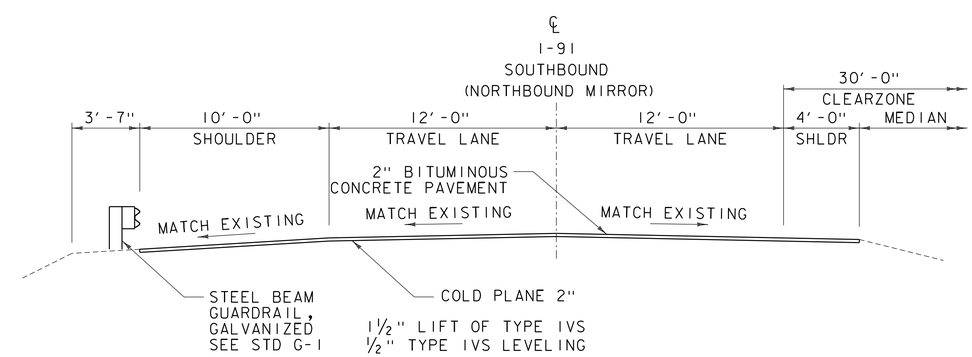
I-91 SOUTHBOUND FULL CONSTRUCTION

NORTHBOUND (MIRROR)

SCALE 1/4" = 1'-0"

* TRAVELWAY PAVEMENT
1 1/2" TYPE IVS OVER
1 1/2" TYPE IVS OVER
3" TYPE IIS OVER
3" OF TYPE IIS OVER
3" OF TYPE IIS

** SHOULDER PAVEMENT
1 1/2" LIFT OF TYPE IVS OVER
1 1/2" LIFT OF TYPE IVS OVER
3" LIFT OF TYPE IIS



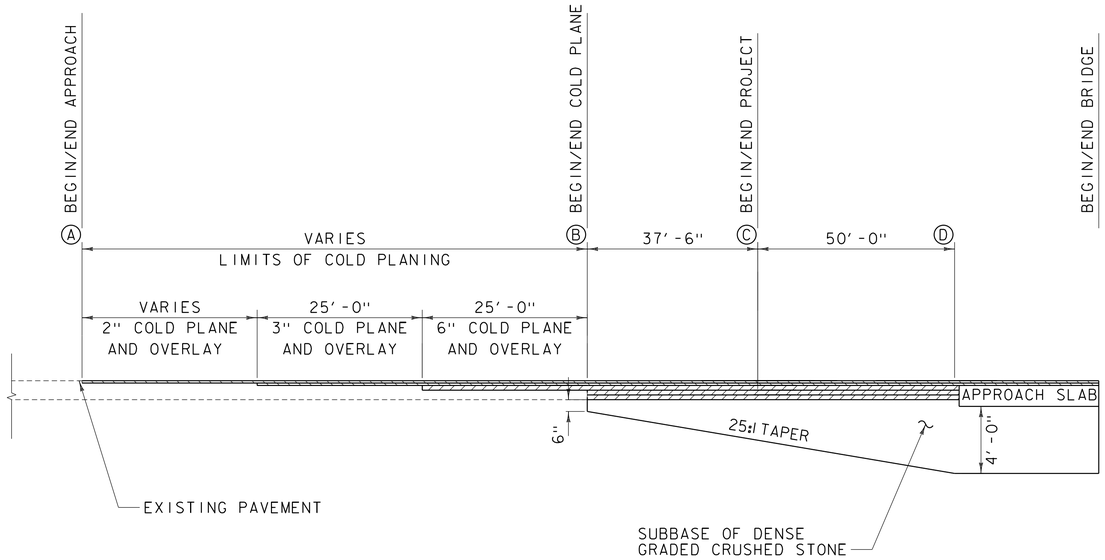
I-91 SOUTHBOUND COLD PLANE/OVERLAY

NORTHBOUND (MIRROR)

SCALE 1/4" = 1'-0"

Stantec

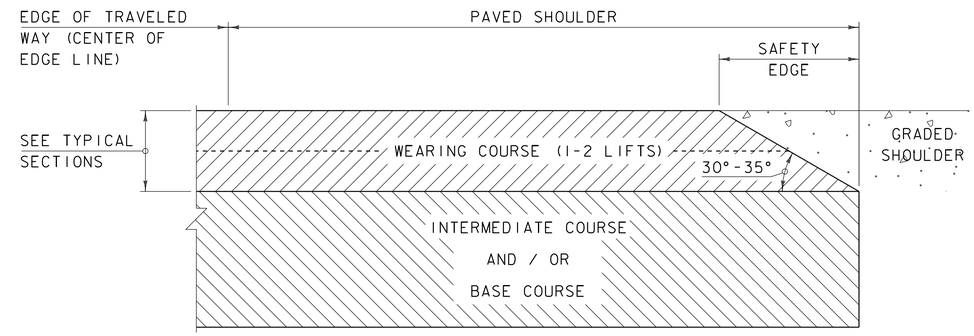
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098typical.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
TYPICAL SECTIONS - TYP 1	SHEET 3 OF 105



	A	B	C	D
NORTHBOUND				
SOUTH APPROACH	1631+00.00	1642+62.50	1643+00.00	1643+50.00
NORTH APPROACH	1661+50.00	1650+57.50	1650+20.00	1649+70.00
SOUTHBOUND				
SOUTH APPROACH	2632+00.00	2643+87.50	2644+25.00	2644+75.00
NORTH APPROACH	2665+00.00	2652+07.50	2651+70.00	2651+20.00

TYPICAL APPROACH SECTION

NOT TO SCALE

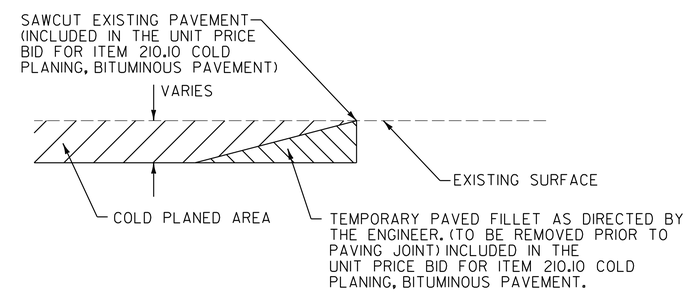


SAFETY EDGE DETAIL

NOT TO SCALE

1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.

2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".



DETAIL AT VERTICAL COLD PLANE JOINTS

NOTE: THIS DETAIL SHALL BE USED AT THE LOCATIONS SHOWN ABOVE AS DIRECTED BY THE ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: z13a098typical.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: I. MAYNARD
TYPICAL SECTIONS - TYP 2

PLOT DATE: 5/16/2016
DRAWN BY: L. BUXTON
CHECKED BY: X. XXXX
SHEET 4 OF 105

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY 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. SYMBOLOGY 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 SYMBOLOGY

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 SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

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	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
	TREE PROTECTION ZONE (TPZ)
	STRIPING LINE REMOVAL
	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

TOWN LINE	TOWN BOUNDARY LINE
COUNTY LINE	COUNTY BOUNDARY LINE
STATE 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/L	PROPERTY LINE (P/L)
SR	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

	FILTER CURTAIN
	SILT FENCE
	SILT FENCE WOVEN WIRE
	CHECK DAM
	DISTURBED AREAS REQUIRING RE-VEGETATION
	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

	WETLAND BOUNDARY
	RIPARIAN BUFFER ZONE
	WETLAND BUFFER ZONE
	SOIL TYPE BOUNDARY
T&E	THREATENED & ENDANGERED SPECIES
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
H	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

	ROAD EDGE PAVEMENT
	ROAD EDGE GRAVEL
	DRIVEWAY EDGE
	DITCH
	FOUNDATION
	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

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: z13a0981legend.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTRANS
CONVENTIONAL SYMBOLOGY LEGEND

PLOT DATE: 5/16/2016
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 5 OF 105

CONTROL POINTS

HVCTRL #1

191 EXIT 5 AZ MK
NORTH = 212899.5900
EAST = 1650764.2200
ELEV. = 434.080

GENERAL LOCATION, WESTMINSTER, VT.
THE MARK IS SET IN THE INTERSTATE 91 MEDIAN AT MILE MARKER 28.05; ABOUT 0.5 MILES SOUTH OF THE I-91 BRIDGES OVER WESTMINSTER STREET AT EXIT 5.
IT IS SET 0.2 M BELOW GROUND SURFACE IN THE TOP OF A 0.8 M X 0.6 M ROCK OUTCROP. IT IS 3.5 M SOUTHEAST OF AND ABOUT 0.5 M LOWER THAN THE I-91 SOUTHBOUND SOUTHEAST EDGE OF PAVEMENT, 9.3 M NORTHWEST OF THE I-91 NORTHBOUND NORTHWEST EDGE OF PAVEMENT, AND 2.0 M NORTHWEST OF A FIBERGLASS WITNESS POST.

HVCTRL #2

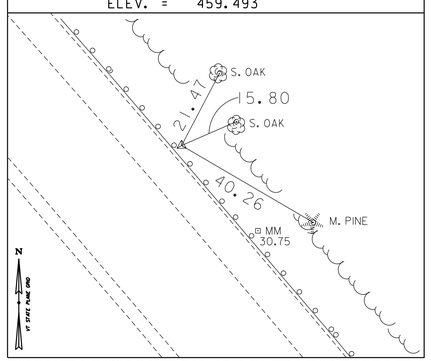
191 EXIT 5
NORTH = 215738.0400
EAST = 1652161.3900
ELEV. = 422.870

GENERAL LOCATION, WESTMINSTER, VT.
LOCATED IN THE TRIANGLE FORMED BY THE I 91 SB LANE, THE I 91 SB OFF-RAMP, AND THE I-91 ACCESS ROAD TO US ROUTE 5 AT EXIT 5. IT IS 4.9 M NW OF AND ABOUT 0.8 M LOWER THAN THE NORTHWEST EDGE OF PAVEMENT OF THE SB LANE, 10.3 M SE OF THE SOUTHEAST EDGE OF PAVEMENT OF THE OFF-RAMP, 14.2 M WSW OF THE NORTHEAST END OF THE METAL GUARD RAIL POST, 23.5 M NNE OF MILE MARKER 28.65, 34.9 M ENE OF A WRONG WAY SIGN FOR THE OFF-RAMP, AND 4.5 M NW OF A FIBERGLASS WITNESS.

TRAVERSE TIES

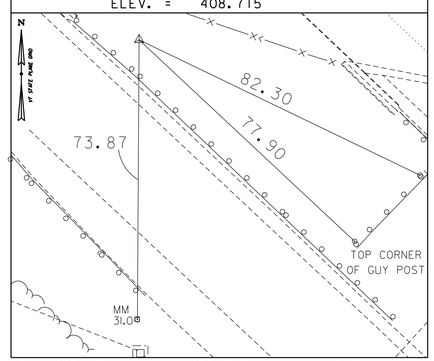
HVCTRL #8

NORTH = 226117.8771
EAST = 1650144.1616
ELEV. = 459.493



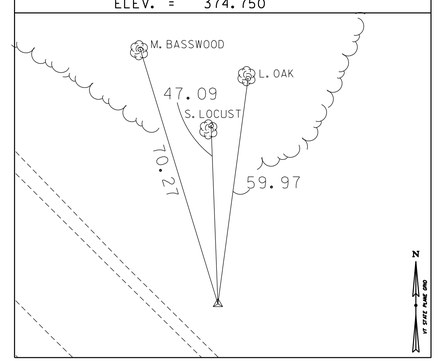
HVCTRL #9

NORTH = 227007.8844
EAST = 1649131.2221
ELEV. = 408.715



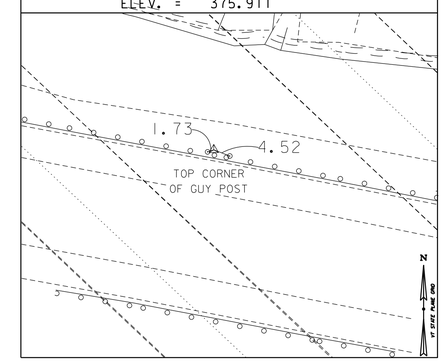
HVCTRL #10

NORTH = 227998.6530
EAST = 1648086.2990
ELEV. = 374.750



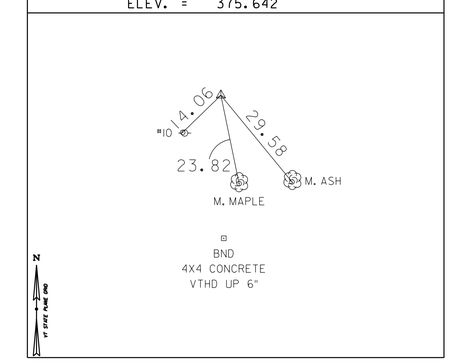
HVCTRL #51

NORTH = 227161.3015
EAST = 1648982.1907
ELEV. = 375.911



HVCTRL #52

NORTH = 227028.4495
EAST = 1649437.0057
ELEV. = 375.642

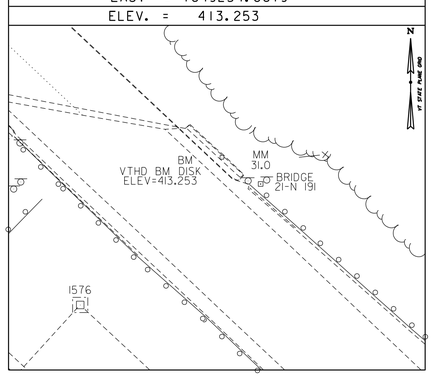


*MAIN TRAVERSE COMPLETED 09/16/2015 BY R.GILMAN P.C., P.WINTERS & C. CYR

TRAVERSE TIES

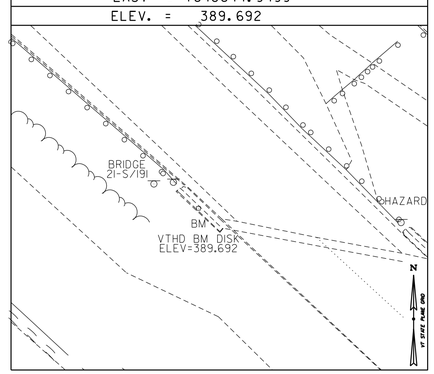
BM #1

NORTH = 226983.3740
EAST = 1649254.8619
ELEV. = 413.253



BM #2

NORTH = 227409.5739
EAST = 1648644.9499
ELEV. = 389.692



BM #3

NORTH =
EAST =
ELEV. =

BM #4

NORTH =
EAST =
ELEV. =

BM #5

NORTH =
EAST =
ELEV. =

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(2011)
ADJUSTMENT	COMPASS

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: 091-I(70)

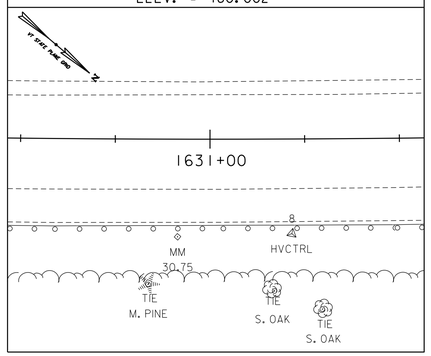
FILE NAME: z13a098ti.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTRANS
TIE SHEET I

PLOT DATE: 5/16/2016
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 6 OF 105

ALIGNMENT TIES

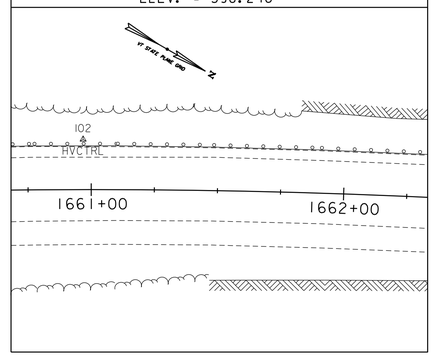
NB BEGIN, 1631+00

NORTH = 226085.242
EAST = 1650139.131
ELEV. = 460.002



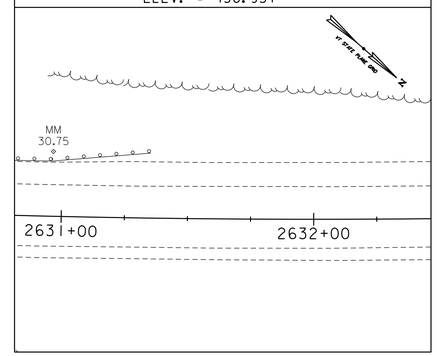
NB END, 1661+50

NORTH = 228289.936
EAST = 1648047.283
ELEV. = 398.246



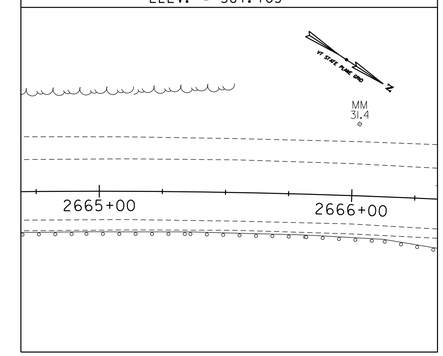
SB BEGIN, 2632+00

NORTH = 226107.115
EAST = 1650022.977
ELEV. = 456.951



SB END, 2665+00

NORTH = 228437.020
EAST = 1647693.226
ELEV. = 381.105



DATUM

VERTICAL NAVD88

HORIZONTAL NAD83(2011)

ADJUSTMENT COMPASS

Stantec

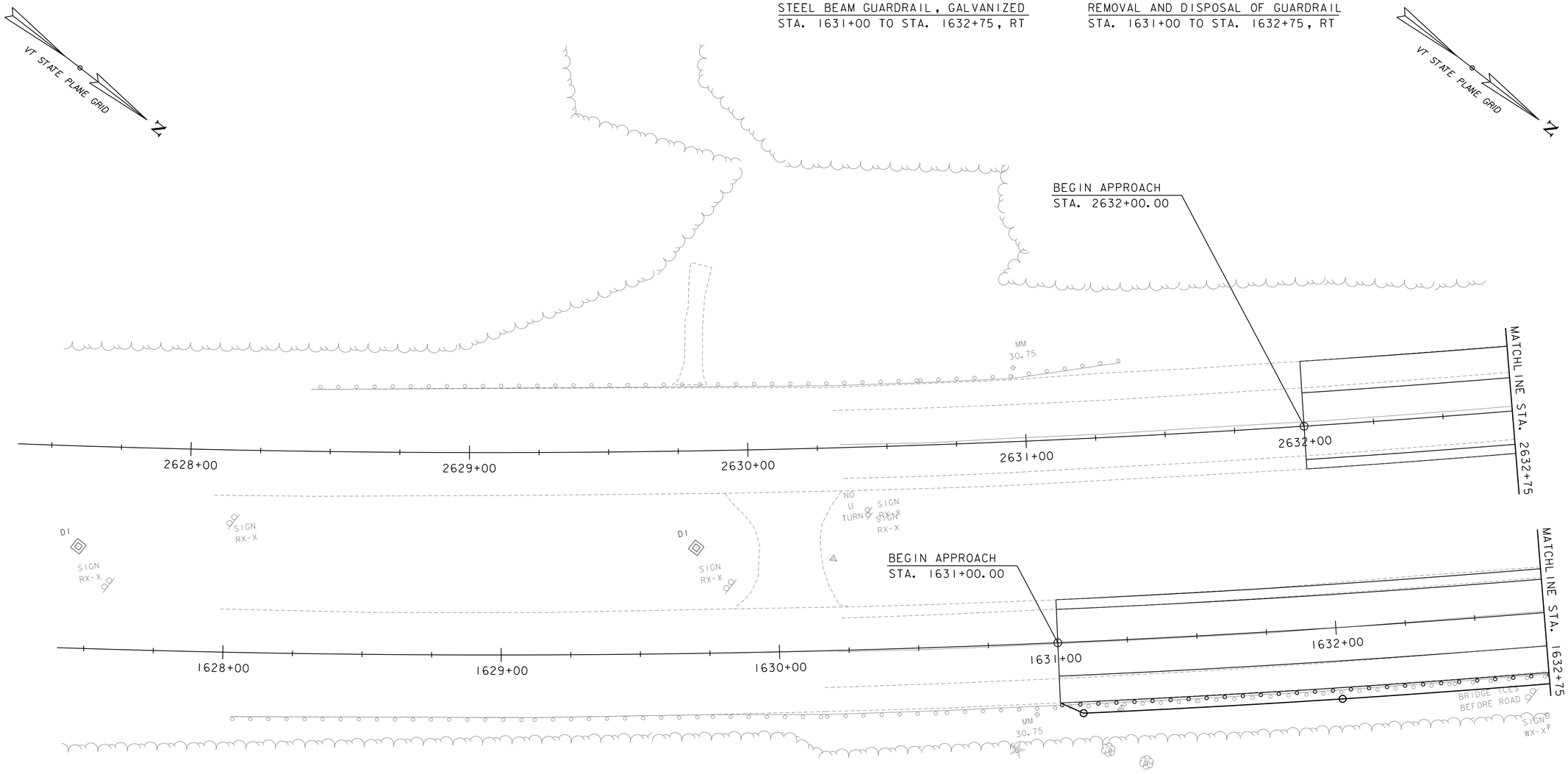
PROJECT NAME: WESTMINSTER
PROJECT NUMBER: 091-1(70)

FILE NAME: zl3a098ti.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. BURKE
TIE SHEET 2

PLOT DATE: 5/16/2016
DRAWN BY: J. BURKE
CHECKED BY: I. MAYNARD
SHEET 7 OF 105

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1631+00 TO STA. 1632+75, RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1631+00 TO STA. 1632+75, RT



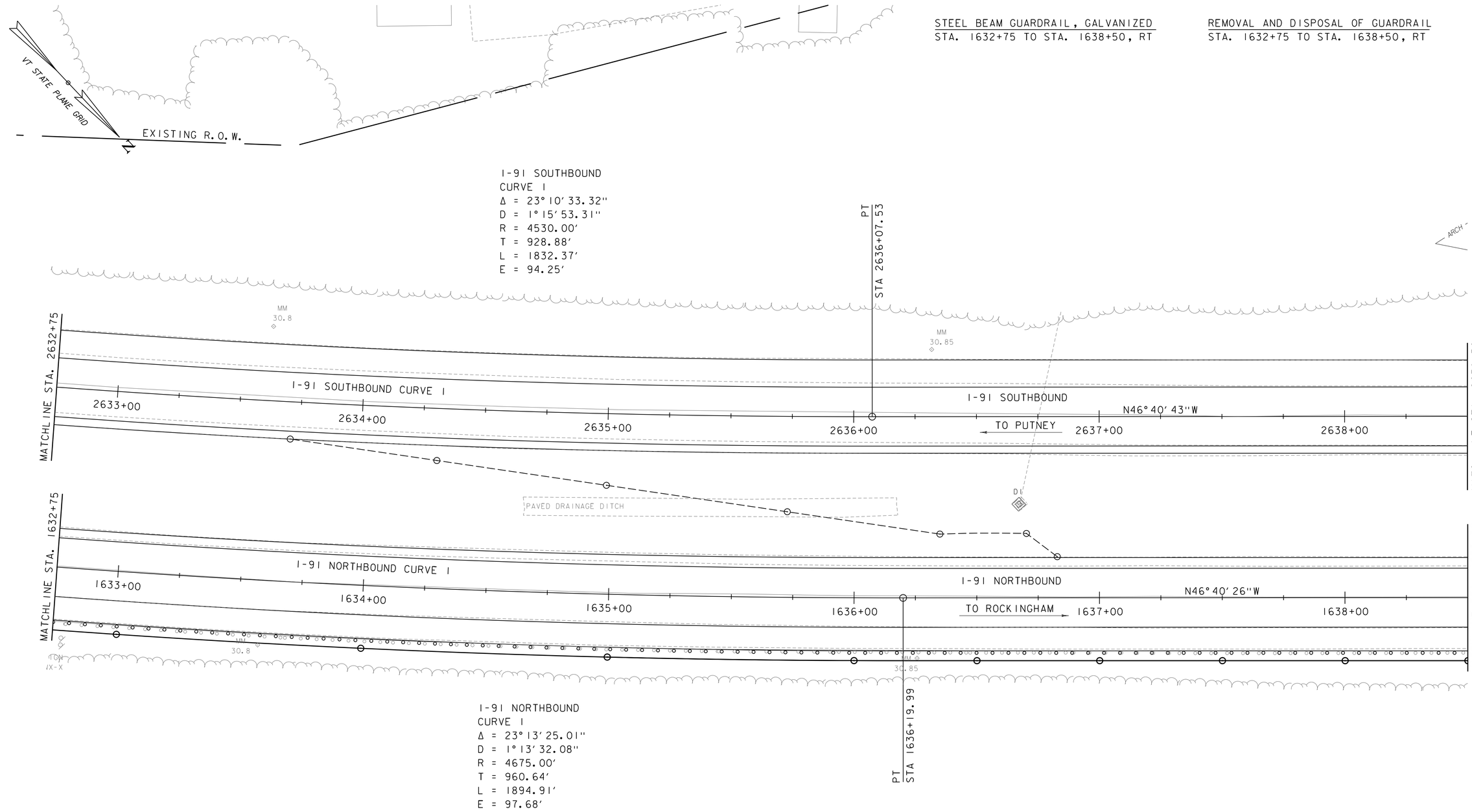
0 20 40
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 1	SHEET 8 OF 105

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1632+75 TO STA. 1638+50, RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1632+75 TO STA. 1638+50, RT



Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 2	SHEET 9 OF 105

CAST IN PLACE CONCRETE CURB, TYPE B
STA. 1643+62 TO STA. 1643+71, RT
STA. 1644+08 TO STA. 1644+17, LT

BITUMINOUS CONCRETE CURB, TYPE A
STA. 1643+34 TO STA. 1643+62, RT
STA. 1643+58 TO STA. 1644+08, LT

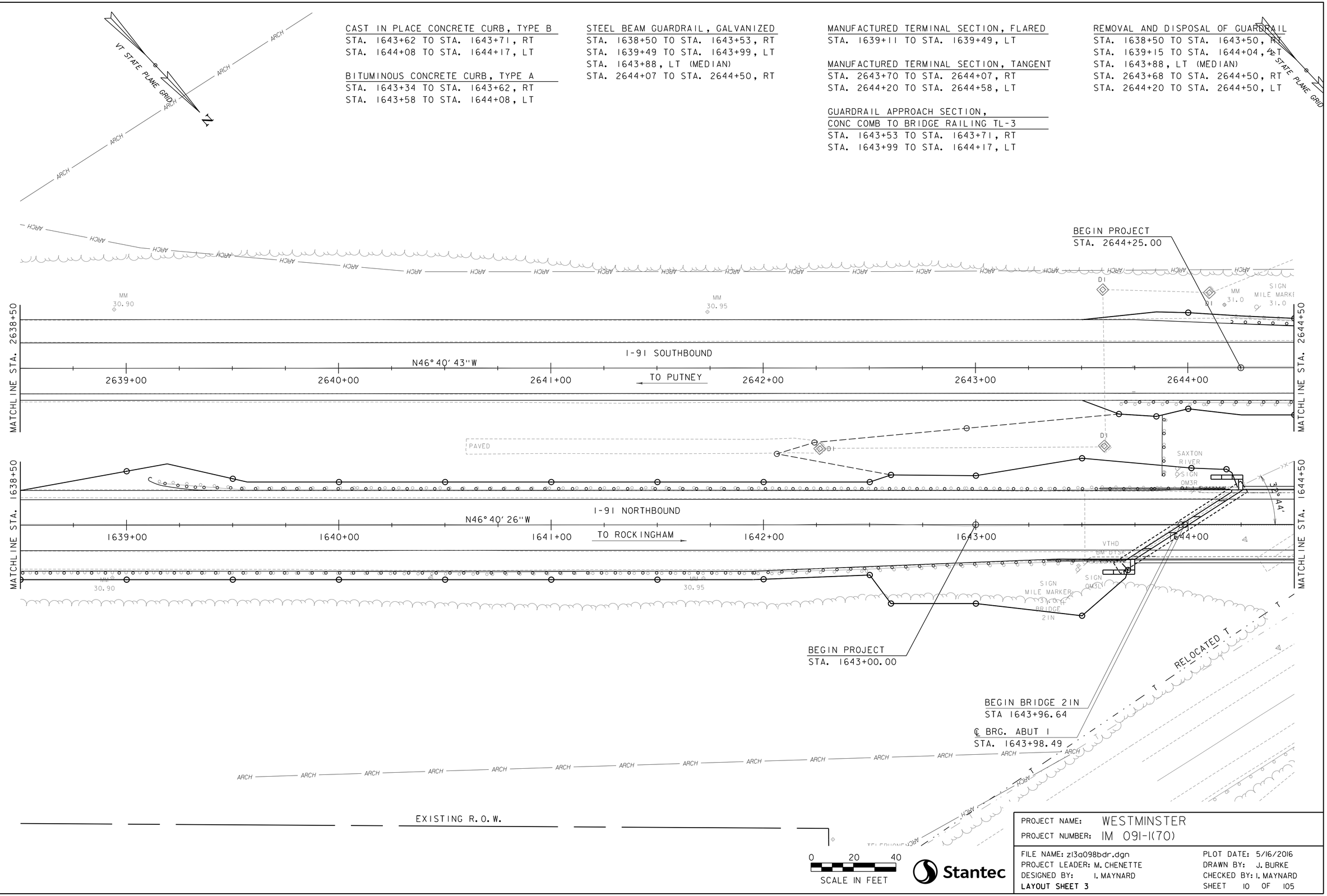
STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1638+50 TO STA. 1643+53, RT
STA. 1639+49 TO STA. 1643+99, LT
STA. 1643+88, LT (MEDIAN)
STA. 2644+07 TO STA. 2644+50, RT

MANUFACTURED TERMINAL SECTION, FLARED
STA. 1639+11 TO STA. 1639+49, LT

MANUFACTURED TERMINAL SECTION, TANGENT
STA. 2643+70 TO STA. 2644+07, RT
STA. 2644+20 TO STA. 2644+58, LT

GUARDRAIL APPROACH SECTION,
CONC COMB TO BRIDGE RAILING TL-3
STA. 1643+53 TO STA. 1643+71, RT
STA. 1643+99 TO STA. 1644+17, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1638+50 TO STA. 1643+50, RT
STA. 1639+15 TO STA. 1644+04, LT
STA. 1643+88, LT (MEDIAN)
STA. 2643+68 TO STA. 2644+50, RT
STA. 2644+20 TO STA. 2644+50, LT



Stantec

PROJECT NAME:	WESTMINSTER
PROJECT NUMBER:	IM 091-1(70)

FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 3	SHEET 10 OF 105

CAST IN PLACE CONCRETE CURB, TYPE B
STA. 1648+95 TO STA. 1649+04, RT
STA. 1649+41 TO STA. 1649+50, LT
STA. 2644+91 TO STA. 2645+00, RT
STA. 2645+42 TO STA. 2645+51, LT

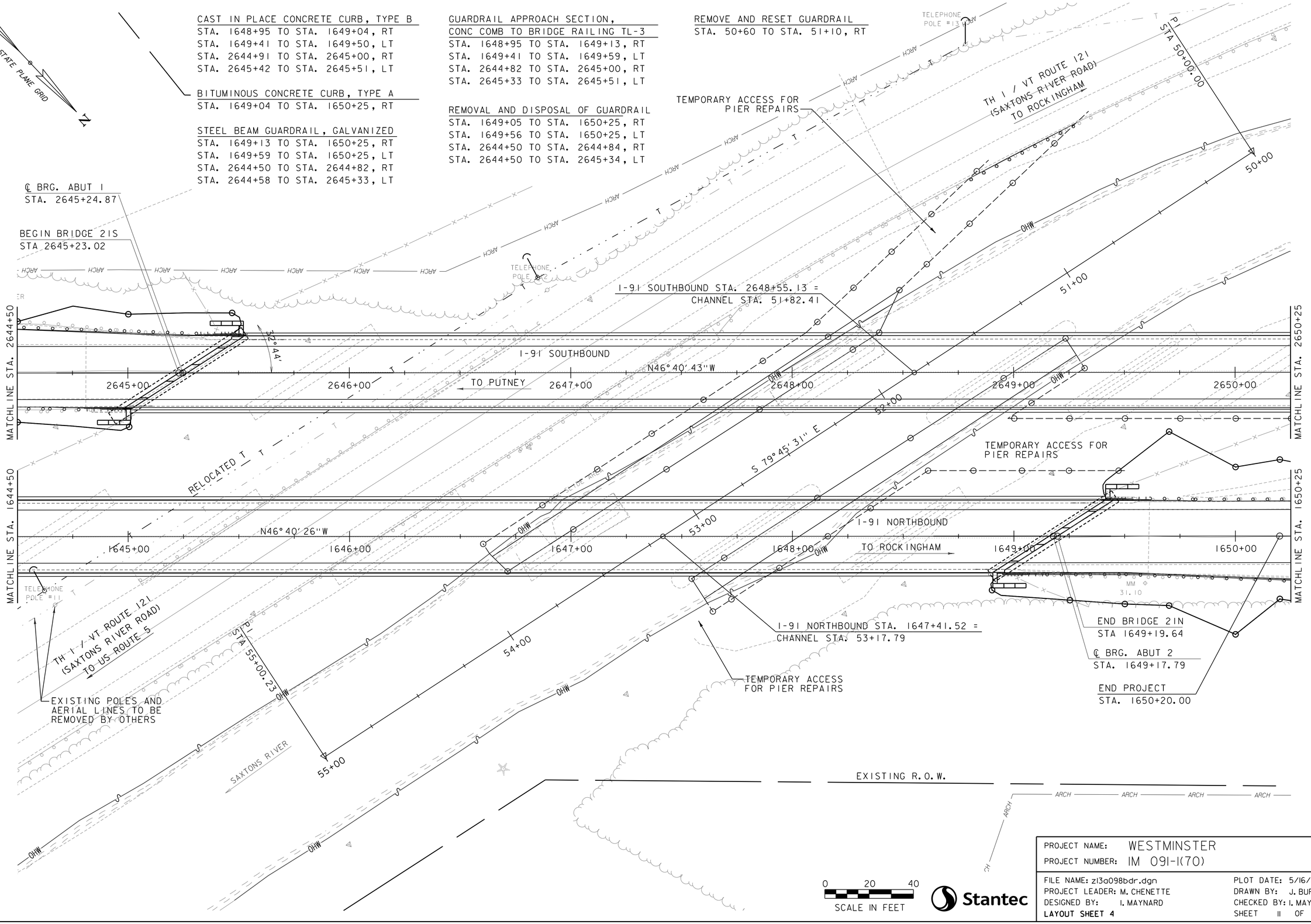
BITUMINOUS CONCRETE CURB, TYPE A
STA. 1649+04 TO STA. 1650+25, RT

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1649+13 TO STA. 1650+25, RT
STA. 1649+59 TO STA. 1650+25, LT
STA. 2644+50 TO STA. 2644+82, RT
STA. 2644+58 TO STA. 2645+33, LT

GUARDRAIL APPROACH SECTION,
CONC COMB TO BRIDGE RAILING TL-3
STA. 1648+95 TO STA. 1649+13, RT
STA. 1649+41 TO STA. 1649+59, LT
STA. 2644+82 TO STA. 2645+00, RT
STA. 2645+33 TO STA. 2645+51, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1649+05 TO STA. 1650+25, RT
STA. 1649+56 TO STA. 1650+25, LT
STA. 2644+50 TO STA. 2644+84, RT
STA. 2644+50 TO STA. 2645+34, LT

REMOVE AND RESET GUARDRAIL
STA. 50+60 TO STA. 51+10, RT



Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 4	SHEET 11 OF 105

CAST IN PLACE CONCRETE CURB, TYPE B
STA. 2650+40 TO STA. 2650+49, RT
STA. 2650+92 TO STA. 2651+01, LT

BITUMINOUS CONCRETE CURB, TYPE A
STA. 1650+25 TO STA. 1651+54, RT
STA. 2651+01 TO STA. 2652+54, LT

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1650+25 TO STA. 1652+38, RT
STA. 1650+25 TO STA. 1656+25, LT
STA. 1650+91, LT (MEDIAN)
STA. 2650+58 TO STA. 2655+08, RT
STA. 2651+10 TO STA. 2656+25, LT

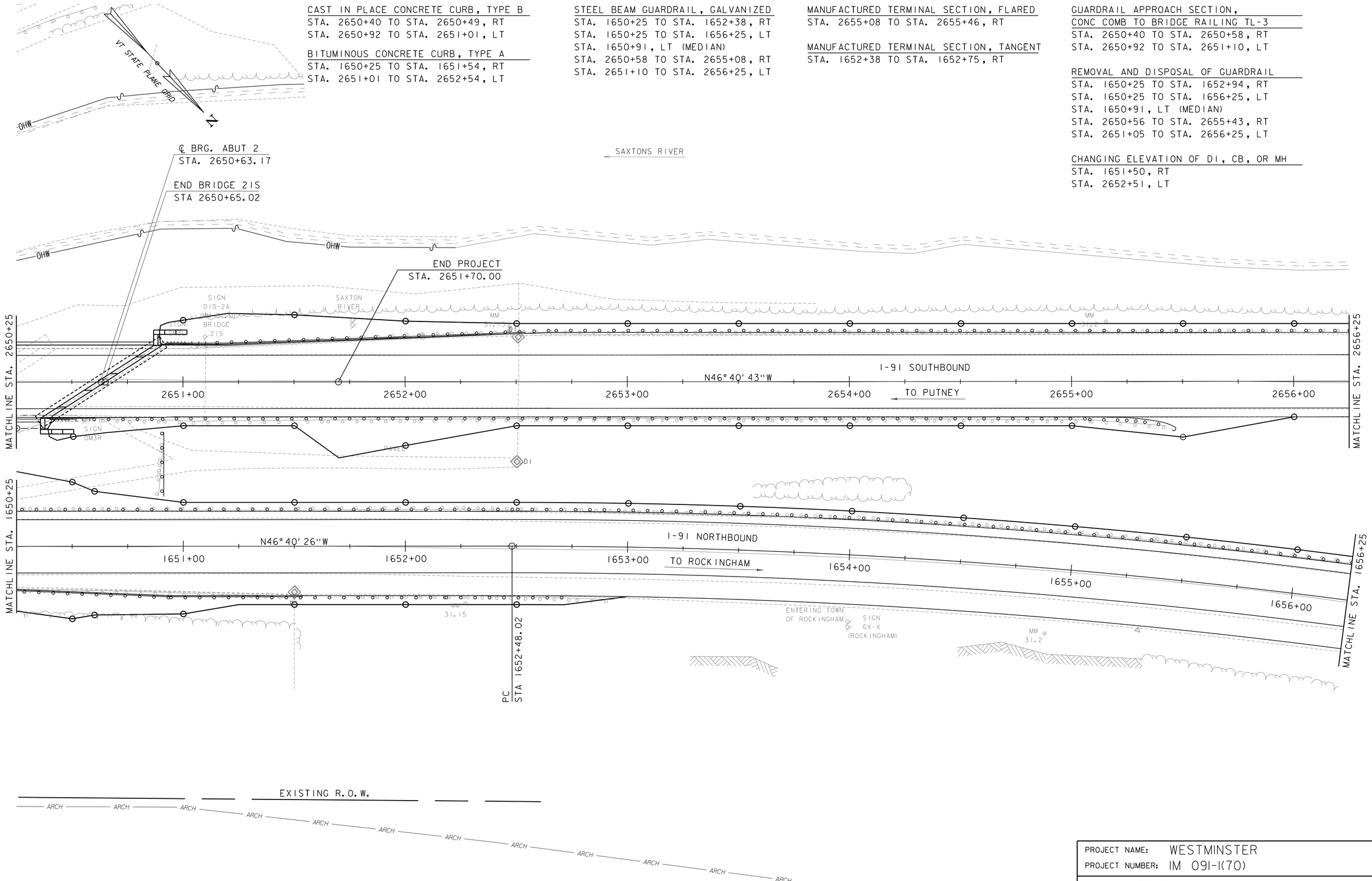
MANUFACTURED TERMINAL SECTION, FLARED
STA. 2655+08 TO STA. 2655+46, RT

MANUFACTURED TERMINAL SECTION, TANGENT
STA. 1652+38 TO STA. 1652+75, RT

GUARDRAIL APPROACH SECTION,
CONC COMB TO BRIDGE RAILING TL-3
STA. 2650+40 TO STA. 2650+58, RT
STA. 2650+92 TO STA. 2651+10, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1650+25 TO STA. 1652+94, RT
STA. 1650+25 TO STA. 1656+25, LT
STA. 1650+91, LT (MEDIAN)
STA. 2650+56 TO STA. 2655+43, RT
STA. 2651+05 TO STA. 2656+25, LT

CHANGING ELEVATION OF DI, CB, OR MH
STA. 1651+50, RT
STA. 2652+51, LT



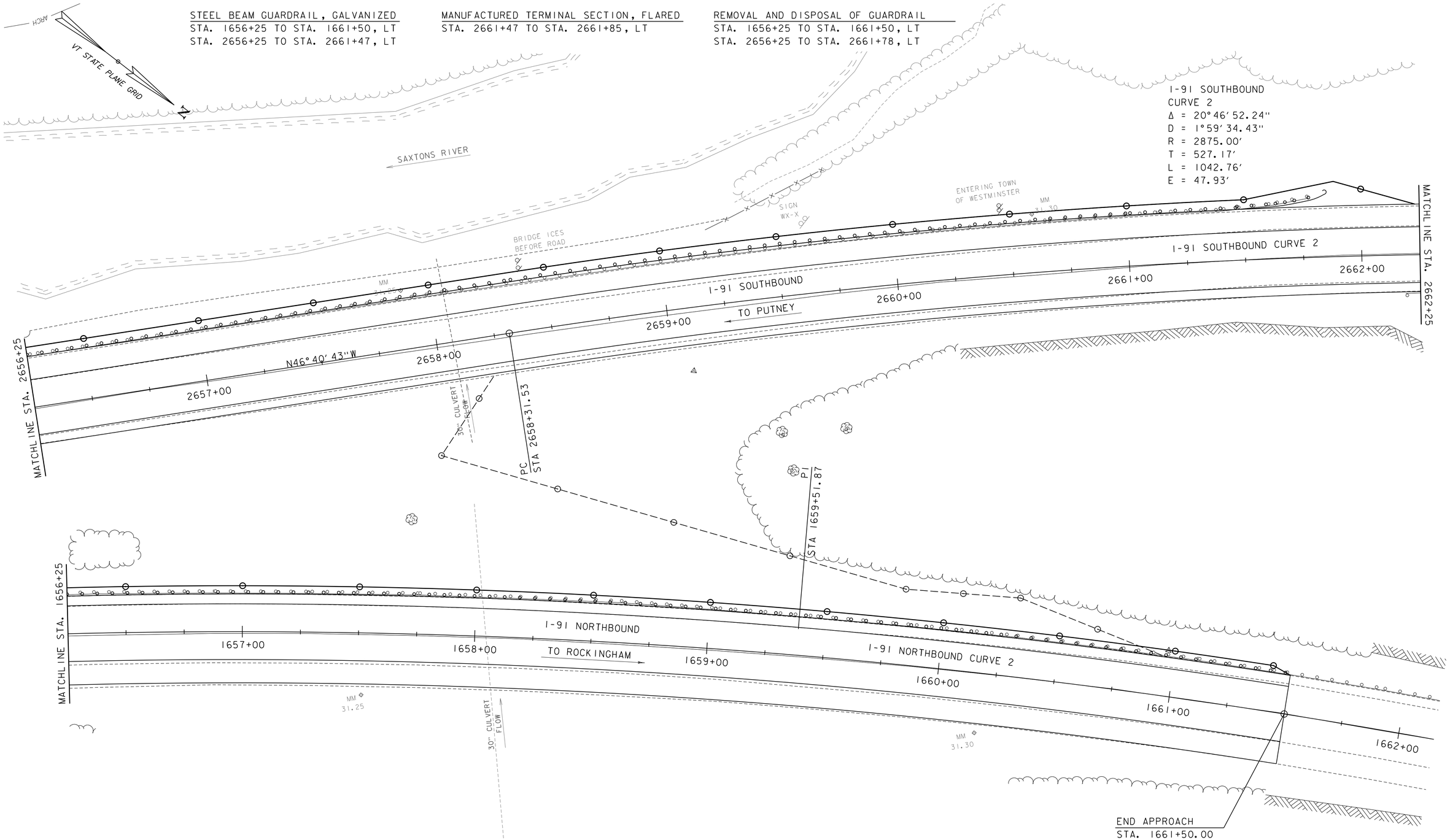
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 5	SHEET 12 OF 105

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 1656+25 TO STA. 1661+50, LT
STA. 2656+25 TO STA. 2661+47, LT

MANUFACTURED TERMINAL SECTION, FLARED
STA. 2661+47 TO STA. 2661+85, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1656+25 TO STA. 1661+50, LT
STA. 2656+25 TO STA. 2661+78, LT



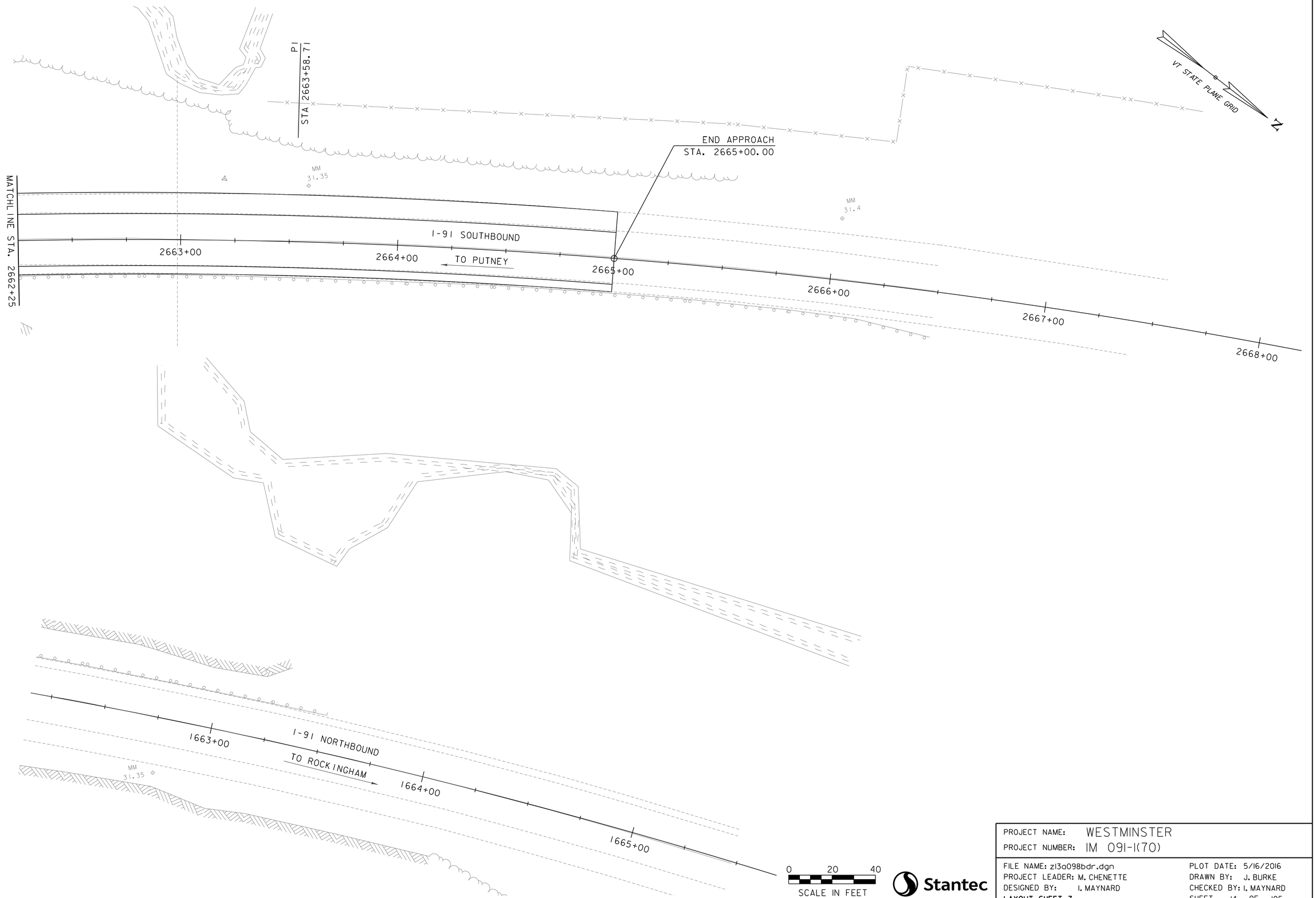
I-91 SOUTHBOUND
CURVE 2
Δ = 20° 46' 52.24"
D = 1° 59' 34.43"
R = 2875.00'
T = 527.17'
L = 1042.76'
E = 47.93'

I-91 NORTHBOUND
CURVE 2
Δ = 27° 17' 05.52"
D = 1° 58' 32.58"
R = 2900.00'
T = 703.86'
L = 1381.01'
E = 84.19'

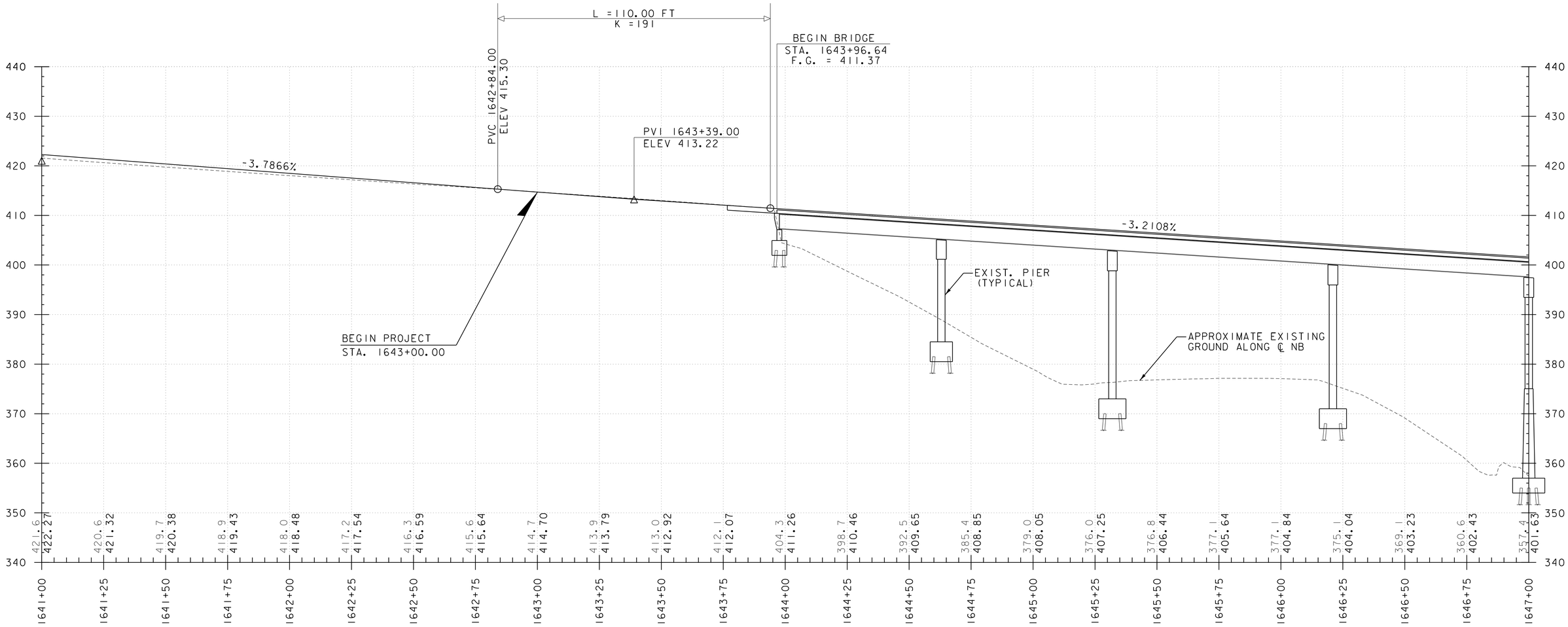
0 20 40
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 6	SHEET 13 OF 105



PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: I. MAYNARD	CHECKED BY: I. MAYNARD
LAYOUT SHEET 7	SHEET 14 OF 105



I-91 NORTHBOUND PROFILE

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

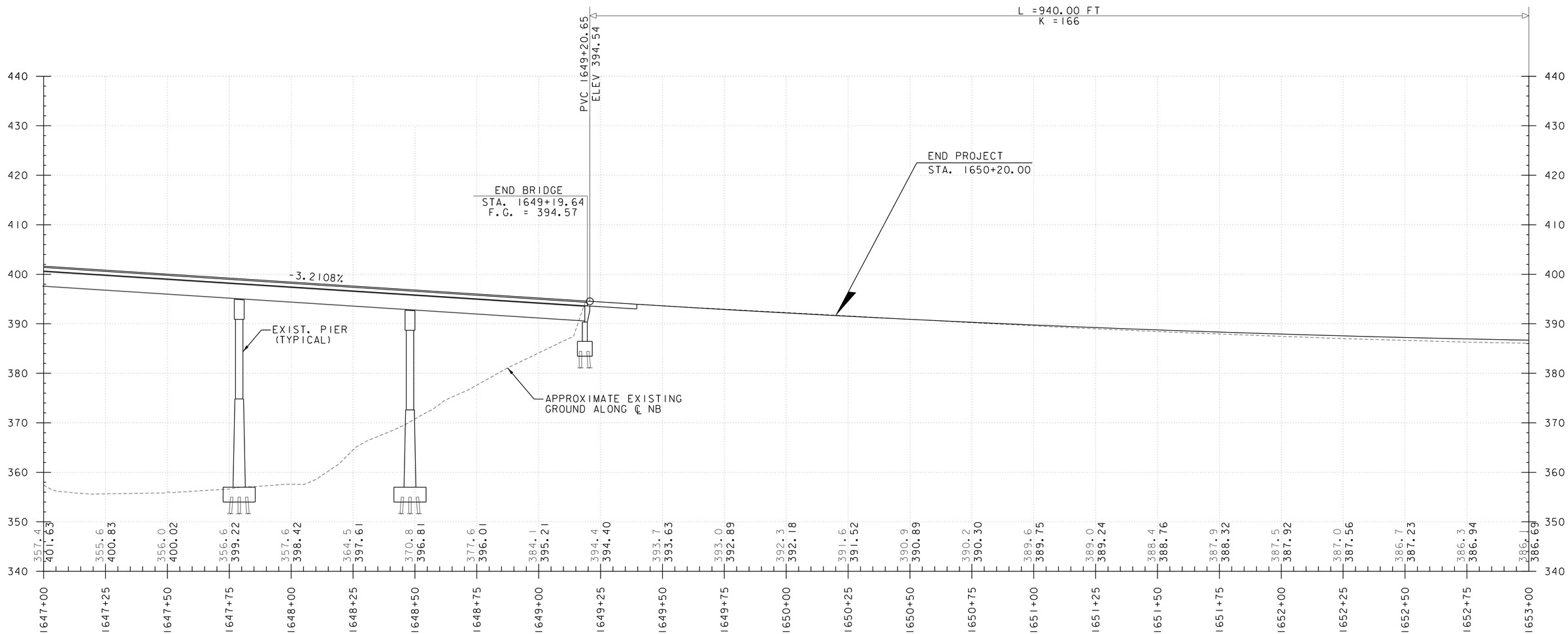
I-91 NORTHBOUND PROFILE

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098pro.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: G. SANTY
I-91 NORTHBOUND PROFILE SHEET 1	SHEET 15 OF 105



I-91 NORTHBOUND PROFILE

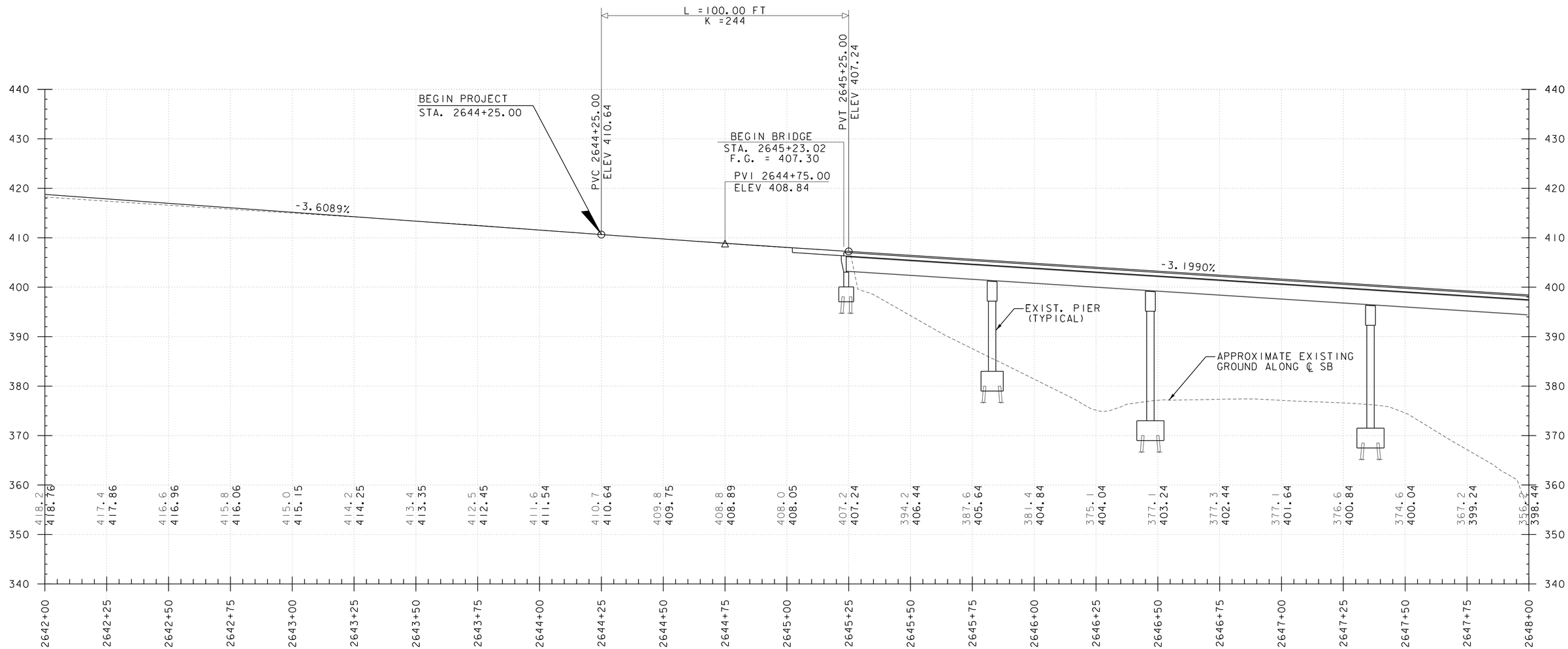
HORZONTAL SCALE: 1" = 20' VERTICAL SCALE 1" = 10'

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098pro.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: G. SANTY
I-91 NORTHBOUND PROFILE SHEET 2	SHEET 16 OF 105



I-91 SOUTHBOUND PROFILE

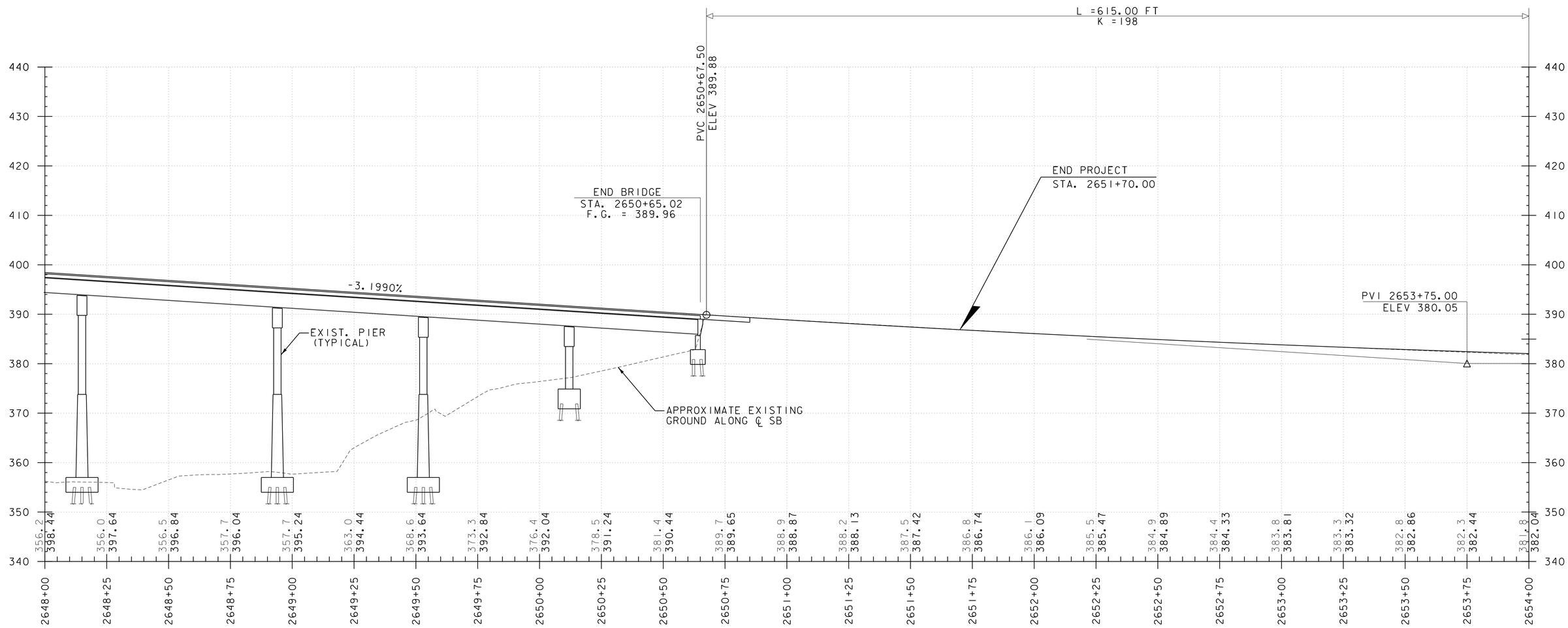
HORZONTAL SCALE: 1" = 20' VERTICAL SCALE 1" = 10'

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098pro.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: G. SANTY
I-91 SOUTHBOUND PROFILE SHEET 1	SHEET 17 OF 105



I-91 SOUTHBOUND PROFILE

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

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098pro.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: G. SANTY
I-91 SOUTHBOUND PROFILE SHEET 2	SHEET 18 OF 105

GENERAL TRAFFIC CONTROL NOTES

1. IT IS ANTICIPATED THAT CONSTRUCTION OF THIS PROJECT WILL REQUIRE TEMPORARY INFRASTRUCTURE SUCH AS CROSSOVERS DETAILED IN THE FOLLOWING TRAFFIC CONTROL PLANS. THE TRAFFIC CONTROL PLANS WERE DEVELOPED BASED ON THE PROPOSED TRAFFIC CONTROL SEQUENCE SHOWN ON SHEET TC-2. THE CONTRACTOR SHALL MODIFY THE TRAFFIC CONTROL SEQUENCE AND PLANS AS NECESSARY FOR SPECIFIC SITUATIONS. THE CONTRACTOR'S ALTERNATE PROPOSAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR MUST ALLOW AT LEAST 4 WEEKS FOR REVIEW AND APPROVAL OF A COMPREHENSIVE PLAN AND 2 WEEKS FOR REVIEW AND APPROVAL OF MINOR CHANGES/DETAILS. ALL MODIFIED PROPOSALS, PLANS AND DETAILS MUST BE DESIGNED AND IMPLEMENTED IN ACCORDANCE WITH THE MUTCD AND VTRANS STANDARDS (WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN).

2. THE EXISTING SPEED LIMIT ON I-91 IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 55 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED. ALL OTHER EXISTING SIGNS IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL CONDITIONS SHALL BE REMOVED OR COMPLETELY COVERED.

3. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM HIGHWAYS, STREETS, ROADS OR DRIVES.

4. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE ''MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'' (MUTCD) AND THE ''STANDARD HIGHWAY SIGNS'' BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

5. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) D 4956 TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED. SOLID SUBSTRATE REGULATORY SIGNS (WHITE BACKGROUND) SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE III.

6. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM D 4956 TYPE VI.

7. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

8. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL. SEE VTRANS STANDARD DETAIL T-55.

9. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.

10. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE ''NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM'' (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

11. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADE, AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY, THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.

12. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER, THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE 2009 EDITION OF THE MUTCD.

13. DURING NON-WORK PERIODS, ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUTSIDE THE CLEAR ZONE OR PROTECTED BY TRAFFIC BARRIER OR GUARDRAIL.

14. AT THE DISCRETION OF THE ENGINEER, MERGING TAPER AND BUFFER SPACE LENGTHS MAY BE EXTENDED BEYOND MINIMUM VALUES, ESPECIALLY IN CLOSE PROXIMITY TO INTERCHANGE RAMPS, CURVES OR OTHER INFLUENCING FACTORS.
    A. TAPER RATES SHALL BE 1:65 FOR MERGING, 1:33 FOR SHIFTING AND 1:22 FOR SHOULDER TAPERS.
    B. MAXIMUM DRUM SPACING SHALL BE 55' ON TAPERS AND 110' ON TANGENTS.

15. DROP OFF PROTECTION IN CONSTRUCTION AREAS SHALL CONFORM TO VAOT STANDARD T-35 AND T-36.

16. SIGNALIZED INTERSECTIONS MUST BE CONTROLLED BY UTO'S AT ALL TIMES WHEN NOT IN NORMAL OPERATION EXCEPT DURING NIGHT TIME FLASHING OPERATION.

17. TEMPORARY TRAFFIC CONTROL DETAILS PROVIDED IN THE PLANS UTILIZE MANY ITEMS THAT ARE SUITABLE FOR DAYTIME CONSTRUCTION USE ONLY. ANY COSTS ASSOCIATED WITH PREPARING AND IMPLEMENTING A MUTCD COMPLIANT OVERNIGHT TRAFFIC CONTROL PACKAGE, IF PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER, WILL BE INCLUDED IN THE UNIT PRICE BIDS FOR ITEMS 641.10 TRAFFIC CONTROL.

18. EXISTING SIGNING SHALL REMAIN UNTIL ITS NEED NO LONGER EXISTS. IF NECESSARY, RELOCATION OF EXISTING SIGNS SHALL BE PAID INCIDENTAL TO ITEM 641.10 TRAFFIC CONTROL. TEMPORARY SIGNING SHALL BE ADDED, AS NEEDED AND REQUIRED BY THE MUTCD. NEW SIGNING SHALL BE INSTALLED AS IT BECOMES APPLICABLE AND AS CONSTRUCTION NEARS COMPLETION IN EACH PHASE.

19. TRAFFIC SHALL NOT BE CHANGED FROM ONE PHASE TO THE NEXT PHASE UNTIL ALL TEMPORARY MARKING, SIGNING AND SIGNAL WORK ARE COMPLETED. ANY CONFLICT IN MARKING SHALL BE REMOVED.

20. UNLESS NOTED OTHERWISE, ALL COST FOR WORK SHOWN ON THE FOLLOWING SHEETS FOR CONSTRUCTION AND REMOVAL OF CROSSOVERS INCLUDING BUT NOT LIMITED TO BITUMINOUS CONCRETE PAVEMENT, COMMON EXCAVATION, FILL MATERIAL AND SUBBASE TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICES FOR THE APPROPRIATE ITEM 900.645 SPECIAL PROVISION (TEMPORARY ROADWAY). UNLESS OTHERWISE NOTED RETROREFLECTIVE DRUMS, DELINEATORS, SIGNS, SIGN POSTS AND OTHER TRAFFIC CONTROL DEVICES SHOWN WILL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICES FOR THE APPROPRIATE ITEM 641.10 TRAFFIC CONTROL.

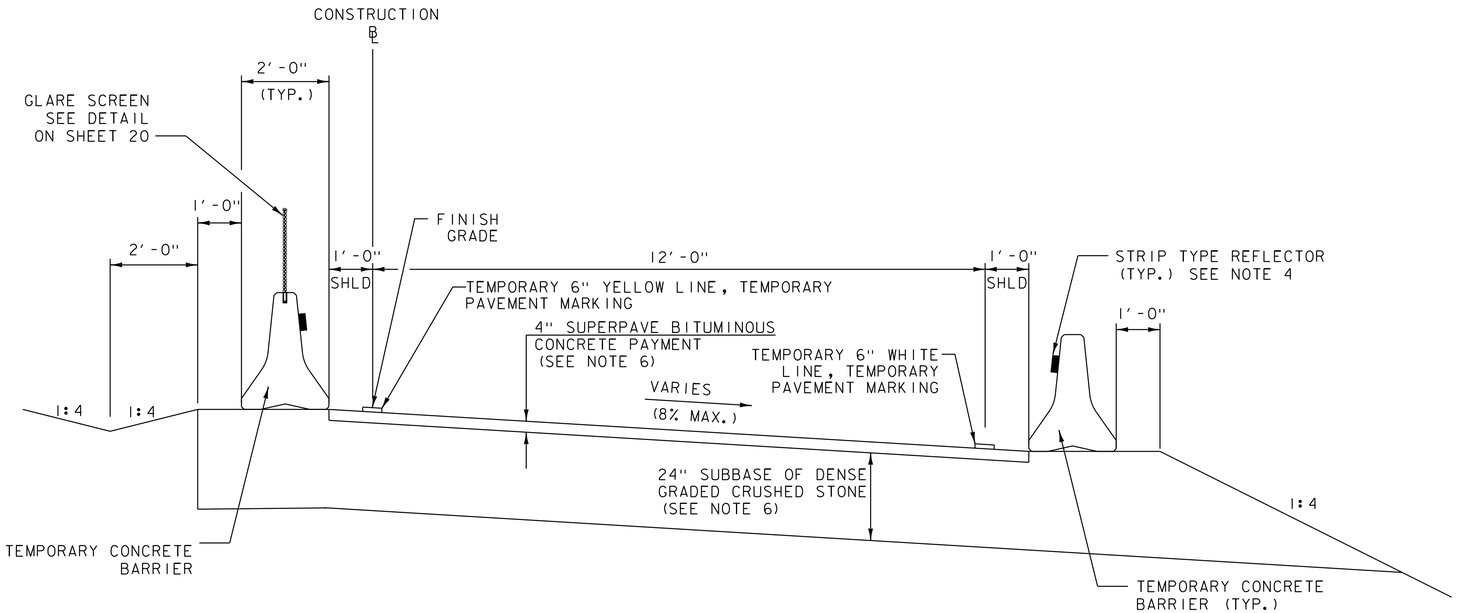
21. TEMPORARY ITEMS FOR CROSSOVERS INCLUDING STRIPING, PAVEMENT MARKING MASKING, PCMS, ARROW BOARDS AND TRAFFIC BARRIER WILL BE PAID UNDER INDIVIDUAL CONTRACT PAY ITEMS.

22. THE QUANTITY OF ITEM 621.90 TEMPORARY TRAFFIC BARRIER WAS CALCULATED BASED ON THE MAXIMUM AMOUNT OF BARRIER NECESSARY AT ANY ONE TIME DURING THE PROJECT DURATION. RE-USE OF THIS BARRIER FOR SUBSEQUENT PHASES OF CONSTRUCTION SHALL BE PAID AS ITEM 621.95 REMOVE AND RESET TEMPORARY TRAFFIC BARRIER.

23. ALL SIGN COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND APPROVED BY FHWA UNLESS OTHERWISE NOTED.

24. AN ENERGY ABSORPTION ATTENUATOR PAID AS ITEM 621.56, "ENERGY ABSORPTION ATTENUATOR", SHALL BE LOCATED AT LEADING END OF TEMPORARY CONCRETE BARRIER.

25. QUANTITIES FOR ENERGY ABSORPTION ATTENUATOR INCLUDE THE MAXIMUM IN PLACE AT ANY ONE TIME AND ONE BACKUP ATTENUATOR FOR THE PROJECT TO BE USED IN THE EVENT AN IN-SERVICE ATTENUATOR IS DAMAGED AND NEEDS TO BE REPLACED. COST TO MOVE ATTENUATORS FOR SHIFTING LANE CLOSURES TO BE INCLUDED IN ITEM 621.56 ENERGY ABSORPTION ATTENUATOR.



TEMPORARY MEDIAN CROSSOVER TYPICAL SECTION

NOT TO SCALE

TEMPORARY MEDIAN CROSSOVER TYPICAL SECTION NOTES:

1. ANY DIMENSION NOTED AS " VARIES" IS REFERENCED TO LAYOUT PLANS/SECTIONS FOR DETAIL.

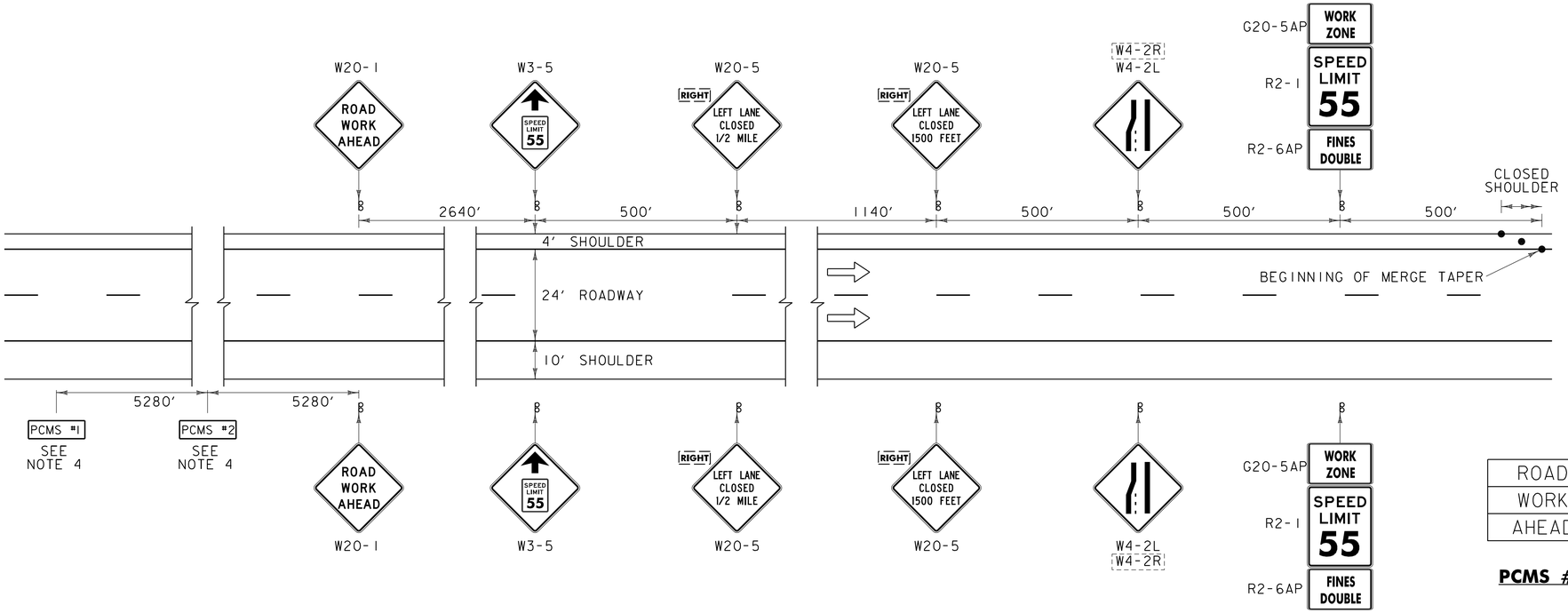
2. FOR SLOPES IN SOLID ROCK EXCAVATION AND DRILLING AND BLASTING OF SOLID ROCK SUBGRADE, SEE STD. SHEET A-60 AND A-62 AND DETAILS.

3. GLARE SCREEN SHALL BE INSTALLED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

4. REFLECTORS SHALL BE YELLOW FOR THE LEFT-HAND SIDE AND WHITE FOR THE RIGHT-HAND SIDE OF THE RAMP AND CONFORM TO THE STANDARDS FOR RETROREFLECTIVITY AND PLACEMENT SPECIFIED IN THE CURRENT EDITION OF THE MUTCD. REFLECTORS SHALL BE INCIDENTAL TO ITEM 621.90 TEMPORARY TRAFFIC BARRIER. REFLECTORS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

5. CONTRACTOR TO PROVIDE NCHRP 350 COMPLIANT CONNECTION TO EXISTING GUARDRAIL. COST OF ATTACHING TEMPORARY TRAFFIC BARRIER TO THE STEEL BEAM GUARDRAIL AND COSTS FOR DISMANTLING BARRIER CONNECTION AND RESTORING EXISTING BARRIER TO ORIGINAL CONFIGURATION WILL BE INCIDENTAL TO ITEM 621.90 TEMPORARY TRAFFIC BARRIER. ANY DAMAGED EXISTING STEEL BEAM GUARDRAIL CAUSED BY CONNECTING IT TO THE BARRIER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

6. BITUMINOUS CONCRETE PAVEMENT, EXCAVATION, FILL MATERIALS AND SUBBASE MATERIALS REQUIRED TO CONSTRUCT TEMPORARY MEDIAN CROSSOVER SHALL BE PAID FOR AS ITEM 900.645 SPECIAL PROVISION (TEMPORARY ROAD, NORTHBOUND CROSSOVER) OR ITEM 900.645 SPECIAL PROVISION (TEMPORARY ROAD, SOUTHBOUND CROSSOVER).



TRAFFIC CONTROL NOTES:

1. CONSTRUCTION APPROACH SIGNAGE PACKAGE ON THIS SHEET TO BE USED DURING LANE CLOSURES AND CROSSOVERS. SEE TRAFFIC CONTROL PHASING SHEETS FOR DETAILS.
2. SEE SHEET 19 FOR GENERAL TRAFFIC CONTROL NOTES.
3. THE ARROW BOARD SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, OR IF PRACTICAL FURTHER FROM THE TRAVELED LANE AT THE END OF THE SHOULDER TAPER.
4. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) ON THIS SHEET SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD. THE PCMS SHALL READ AS SHOWN ON THE DETAILS ON THIS SHEET.
5. TRAVEL LANE SHALL BE A MINIMUM OF 12 FEET WIDE.
6. THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF LEFT (RIGHT) LANE ON PROJECT BEFORE WORK COMMENCES.

ROAD	EXPECT
WORK	STOPPED
AHEAD	TRAFFIC

PCMS #1 – MESSAGES

RIGHT	LEFT	PLEASE
	LANE	MERGE
	CLOSED	EARLY

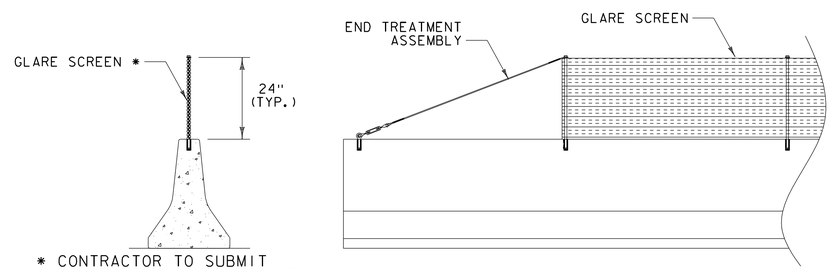
PCMS #2 – MESSAGES

CONSTRUCTION APPROACH SIGNING ON INTERSTATE 91 LEFT LANE CLOSED (RIGHT LANE CLOSURE SIMILAR)

NOT TO SCALE

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- PORTABLE ARROW BOARD PAID FOR AS ITEM 641.16
- TYPE III BARRICADE
- WORK AREA
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN PAID FOR AS 641.15
- CONSTRUCTION SIGNING



* CONTRACTOR TO SUBMIT DETAILS FOR MOUNTING GLARE SCREEN ON BRIDGE RAIL.

SECTION VIEW

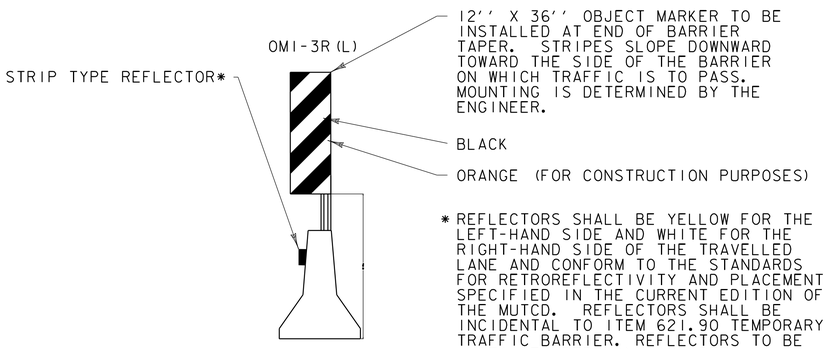
SIDE ELEVATION VIEW

GLARE SCREEN DETAIL

NOT TO SCALE

GLARE SCREEN NOTES:

1. GLARE SCREEN COMPONENTS AND INSTALLATION REQUIREMENTS PER MANUFACTURES SPECIFICATIONS.
2. EXACT LOCATIONS FOR THE GLARE SCREEN TO BE DETERMINED BY THE ENGINEER.
3. GLARE SCREEN TO PAID FOR AS ITEM 900.640 SPECIAL PROVISION (GLARE SCREEN).
4. THE QUANTITY FOR ITEM 900.640 SPECIAL PROVISION (GLARE SCREEN) WAS CALCULATED BASED ON THE MAXIMUM AMOUNT OF GLARE SCREEN AT ANY ONE TIME DURING THE PROJECT DURATION. RE-USE OF THIS GLARE SCREEN FOR SUBSEQUENT PHASES OF CONSTRUCTION SHALL BE INCIDENTAL TO ITEM 900.640 SPECIAL PROVISION (GLARE SCREEN)



BARRIER DETAIL

NOT TO SCALE

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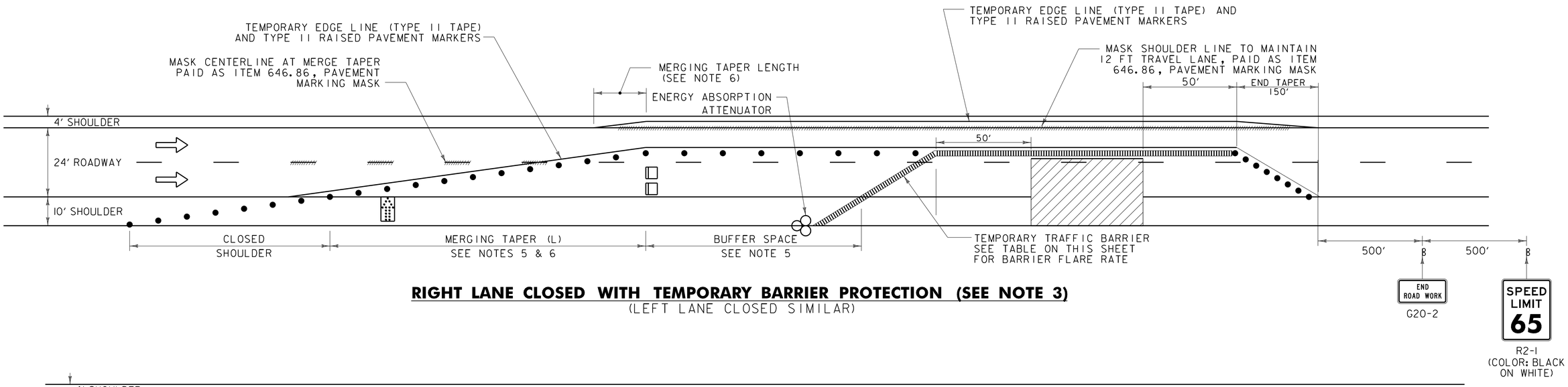
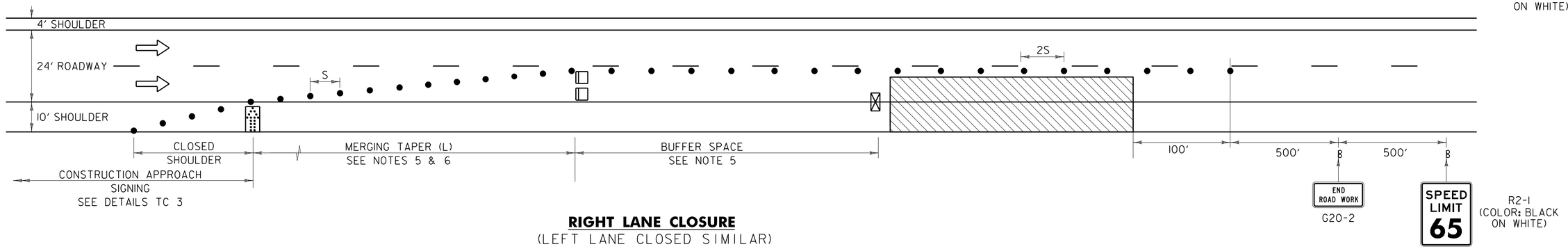
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM-091-1(70)	
FILE NAME: zl3a098frm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL DETAILS I	SHEET 20 OF 105



RIGHT LANE CLOSED WITH TEMPORARY BARRIER PROTECTION (SEE NOTE 3)

(LEFT LANE CLOSED SIMILAR)



RIGHT LANE CLOSURE

(LEFT LANE CLOSED SIMILAR)

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- PORTABLE ARROW BOARD PAID FOR AS ITEM 641.16
- TYPE III BARRICADE
- WORK AREA
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN PAID FOR AS 641.15
- CONSTRUCTION SIGNING
- TRUCK-MOUNTED ATTENUATOR (OPTIONAL)

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		SHIFTING W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE (L)				TAPER (S)	TANGENT (2S)
55	185	660	330	1:13	495	55	110

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
L = WS FOR POSTED SPEEDS OF 45 MPH OR GREATER

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

TRAFFIC CONTROL NOTES:

1. DETAILS ON THIS SHEET TO BE USED FOR LANE OR SHOULDER CLOSURE DURING CONTRUCTION.

2. SEE SHEET 19 FOR GENERAL TRAFFIC CONTROL NOTES.

3. IF THE LANE CLOSURE IS TO LAST LONGER THAN 3 DAYS, THE CONTRACTOR SHALL USE TEMPORARY TRAFFIC BARRIER AS SHOWN ON THIS SHEET AND PAID AS 621.90, "TEMPORARY TRAFFIC BARRIER". TEMPORARY TRAFFIC BARRIER SHALL BE A CONCRETE MEDIAN BARRIER (CMB) TYPE. STEEL BEAM GAURDRAIL WILL NOT BE ALLOWED FOR USE AS A TEMPORARY TRAFFIC BARRIER. WHEN ONE SIDE OF THE BRIDGE IS COMPLETE, MOVING THE BARRIER TO CLOSE THE OTHER SIDE TO TRAFFIC WILL BE PAID AS 621.95, "REMOVE AND RESET TEMPORARY TRAFFIC BARRIER".

4. TRAVEL LANE SHALL BE A MINIMUM OF 12 FEET WIDE.

5. AT THE DISCRETION OF THE ENGINEER, MERGING TAPER AND BUFFER SPACE LENGTHS MAY BE EXTENDED BEYOND MINIMUM VALUES.

6. EXTEND MERGING TAPER LENGTH TO ACCOUNT FOR REQUIRED LANE SHIFT OFFSET.

7. WHEN A TEMPORARY LANE CLOSURE IS BEING INSTALLED, IN USE, OR REMOVED A "UNIFORMED TRAFFIC OFFICER" WITH BLUE LIGHT WILL BE REQUIRED.

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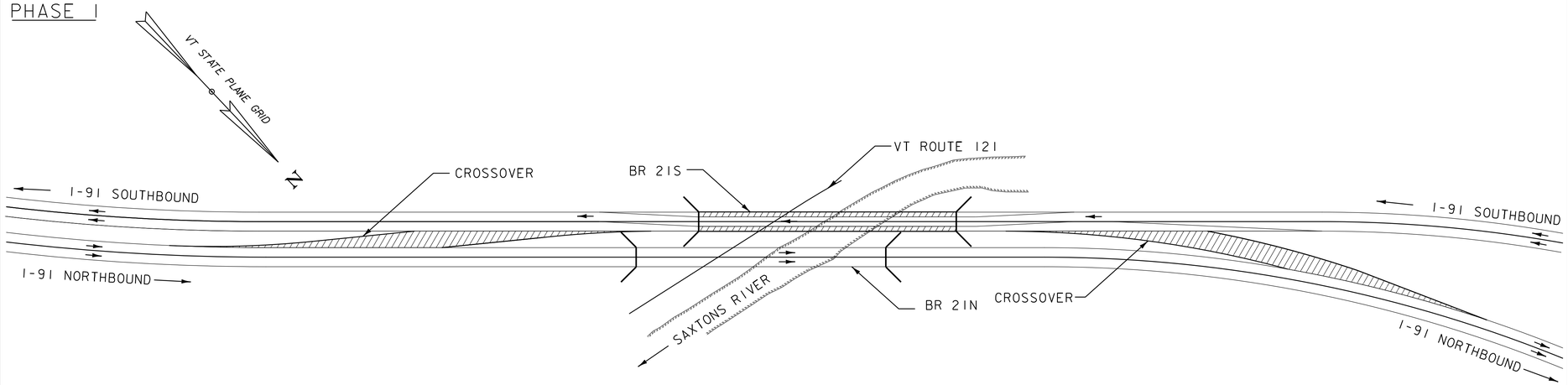
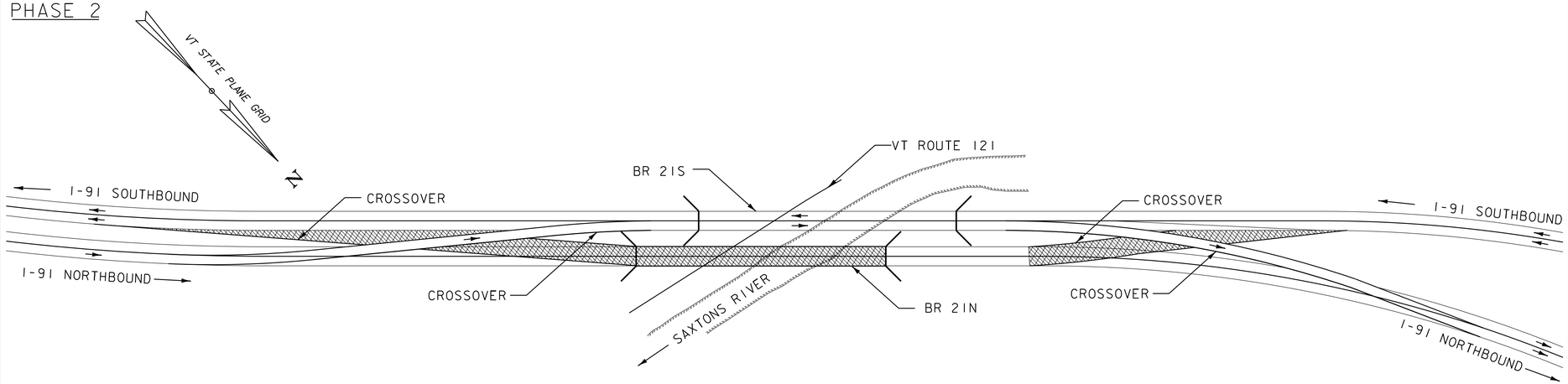
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM-091-1(70)	
FILE NAME: z13a098frm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL DETAILS 2	SHEET 21 OF 105

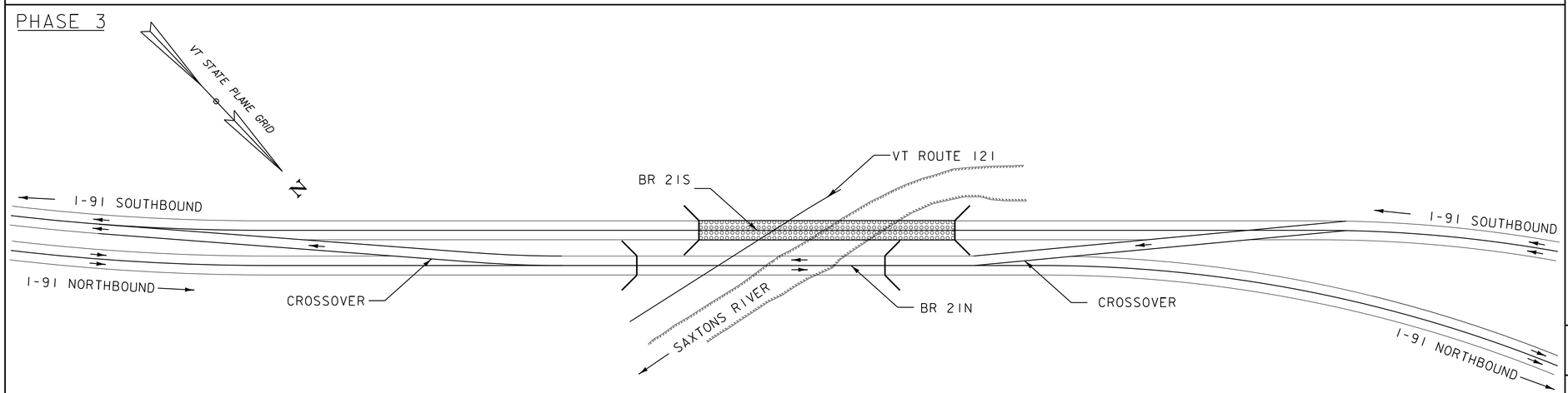
PHASE 1



PHASE 2



PHASE 3



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PROPOSED CONSTRUCTION SEQUENCE:

NOTE:

1. SEE SPECIAL PROVISIONS FOR INTERIM COMPLETION DATES FOR ALL PHASES OF WORK.
2. TRAFFIC CONTROL PATTERN SHOWN FOR SOUTHBOUND BRIDGE STRENGTHENING, CONTRACTOR MAY CHOOSE TO UTILIZE TRAFFIC CONTROL PATTERN FOR NORTHBOUND BRIDGE STRENGTHENING AT THE DISCRETION OF THE ENGINEER.
3. THIS PHASING PLAN IS SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. SEE TRAFFIC CONTROL PLANS (SHEETS 19 TO 31) FOR MORE DETAILS.

PHASE 1: BRIDGE 21S STRENGTHENING

- I-91 SOUTHBOUND TRAFFIC TO BE MERGED INTO SINGLE LANE ON CENTER OF BRIDGE 21S WITH TEMPORARY CONCRETE BARRIER ON BOTH SIDES TO PROTECT BRIDGE STRENGTHENING WORK ZONES
- CONSTRUCT NORTHBOUND MEDIAN CROSSOVERS

PHASE 2: BRIDGE 21N

- WITH TRAFFIC ON I-91 NORTHBOUND MEDIAN CROSSOVERS CONSTRUCT BRIDGE 21N REPAIRS
- CONSTRUCT SOUTHBOUND MEDIAN CROSSOVERS

PHASE 3: BRIDGE 21S

- WITH TRAFFIC ON I-91 SOUTHBOUND MEDIAN CROSSOVERS CONSTRUCT BRIDGE 21S REPAIRS

LEGEND

- PHASE 1: BRIDGE 21S STRENGTHENING
- PHASE 2: CONSTRUCT NORTHBOUND CROSSOVERS AND BRIDGE 21N RECONSTRUCTION
- PHASE 3: CONSTRUCT SOUTHBOUND CROSSOVERS AND BRIDGE 21S RECONSTRUCTION

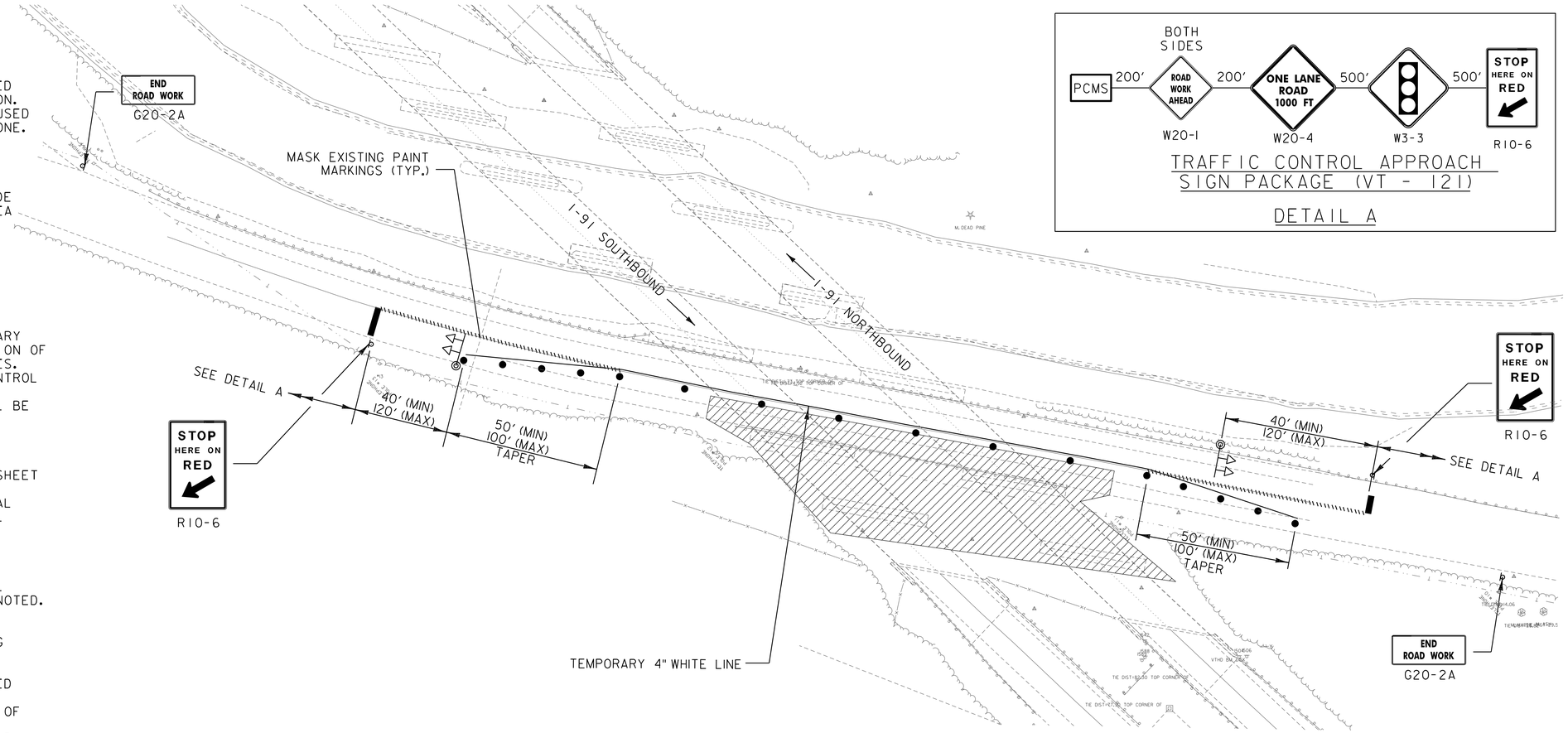
PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM-091-1(70)

FILE NAME: z13a098frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. BURKE
TRAFFIC CONTROL SEQUENCE

PLOT DATE: 5/16/2016
DRAWN BY: J. BURKE
CHECKED BY: I. MAYNARD
SHEET 22 OF 105

VT-121 TRAFFIC CONTROL NOTES

1. IT IS ANTICIPATED THAT VT ROUTE 121 WILL NEED TO BE REDUCED TO ONE LANE DURING CONSTRUCTION. TRAFFIC CONTROL SHOWN ON THIS PLAN WILL BE USED TO SAFELY CONVEY TRAFFIC THROUGH THE WORK ZONE.
2. REFER TO STANDARD T-10 FOR CONSTRUCTION APPROACH SIGNS CRITERIA.
3. ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.
4. CHANNELIZING DEVICE SPACING:
   TANGENT SECTIONS: 90 FT.
   TAPER SECTIONS: 45 FT.
5. THIS TRAFFIC CONTROL PLAN IS SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL MODIFY THIS PLAN AS NECESSARY FOR SPECIFIC SITUATIONS PER THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. NO WORK SHALL COMMENCE UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. DEVELOPMENT AND IMPLEMENTATION OF TRAFFIC CONTROL PLAN SHALL BE PAID AS ITEM 641.10 TRAFFIC CONTROL.
6. ALL SIGNS, PAVEMENT MARKINGS, MASKING, BARRELS, BARRICADES, AND OTHER INCIDENTALS REQUIRED FOR TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM 641.10 TRAFFIC CONTROL. PAYMENT FOR TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL BE PAID AS ITEM 900.620 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL SYSTEM, PORTABLE).
7. ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
8. PEDESTRIAN PASSAGE THROUGH THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
9. IT IS ANTICIPATED THAT VT ROUTE 121 WILL NEED TO BE COMPLETELY CLOSED FOR SHORT DURATIONS DURING CONSTRUCTION. COMPLETE ROAD CLOSURES OF MORE THAN 15 MINUTES SHALL NOT BE PERMITTED MONDAY-FRIDAY BETWEEN THE TIMES OF 6:00AM AND 6:00 PM, OR AS DIRECTED BY THE ENGINEER.
10. THIS CONCEPTUAL TRAFFIC CONTROL PLAN DOES NOT SPECIFICALLY ADDRESS ALL WORK TO BE DONE. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN THAT ADDRESSES THIS WORK PER VAOT STANDARD DRAWINGS AND THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR APPROVAL BY THE ENGINEER. THIS WORK PAID AS ITEM 641.10 TRAFFIC CONTROL.



VT -121 TRAFFIC CONTROL PLAN EASTBOUND LANE CLOSED
(WESTBOUND LANE CLOSURE SIMILAR)

NOT TO SCALE

VT RTE
121
WORK

EXPECT
DELAYS

PCMS MESSAGE 1

VT RTE
121
WORK

15 MIN
CLOSURES

PCMS MESSAGE 2

LEGEND

- ● RETROREFLECTIVE PLASTIC DRUM
- TEMPORARY TRAFFIC SIGNAL
- TEMPORARY CONSTRUCTION SIGN
- WORK ZONE

TEMPORARY TRAFFIC SIGNAL NOTES

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SIGNAL PHASING. THE CONTRACTOR SHALL SUBMIT PHASING DIAGRAM TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAKE SIGNALS OPERATIONAL ONLY AFTER RECEIVING APPROVAL OF THE PHASING DIAGRAM BY THE ENGINEER. DEVELOPMENT OF THE PHASING DIAGRAM SHALL BE PAID INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL SYSTEM, PORTABLE).

12. DESIGN OF THE SIGNAL SUPPORTS AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.

13. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT SHALL BE INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL SYSTEM, PORTABLE). THE ENGINEER SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.

14. SIGNAL FACES SHALL BE LED AND CONSIST OF 12" LENSES. (RED, YELLOW, AND GREEN)

15. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16.5 FEET NOR MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN EIGHT FEET NOR MORE THAN 15 FEET ABOVE THE GROUND.

16. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN EIGHT FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.

17. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE OF NO GREATER THAN 14.5 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.

18. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.

19. THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGNS, LUMINARIES, FLASHING BEACONS, ASSOCIATED PAVEMENT MARKINGS, AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. THE CONTRACTOR WILL BE RESPONSIBLE FOR PERMITS AND COSTS ASSOCIATED WITH PROVIDING ELECTRICAL POWER.

20. INSTALL WIRING BETWEEN SIGNAL POLES TO PROVIDE FOR A SAFE INSTALLATION. ATTACHMENT TO UTILITY POLES TO BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY COMPANY.

21. PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.

22. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELING PUBLIC.

23. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 30 FEET ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT. LIGHTING SHALL BE PAID INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL SYSTEM, PORTABLE).

24. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND STATE INSPECTOR.

25. CONSTRUCTION APPROACH SIGNS SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER PER STANDARD T-10. PAYMENT FOR THESE SIGNS, THE REFLECTORIZED PLASTIC DRUMS, ETC., SHALL BE PAID INCIDENTAL TO OTHER TRAFFIC CONTROL ITEMS.

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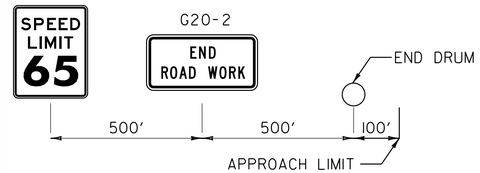
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM-091-1(70)	
FILE NAME: zl3a098frm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYANRD
DESIGNED BY: I. MAYNARD	CHECKED BY: G. SANTY
TRAFFIC CONTROL PLAN VT-121	SHEET 23 OF 105

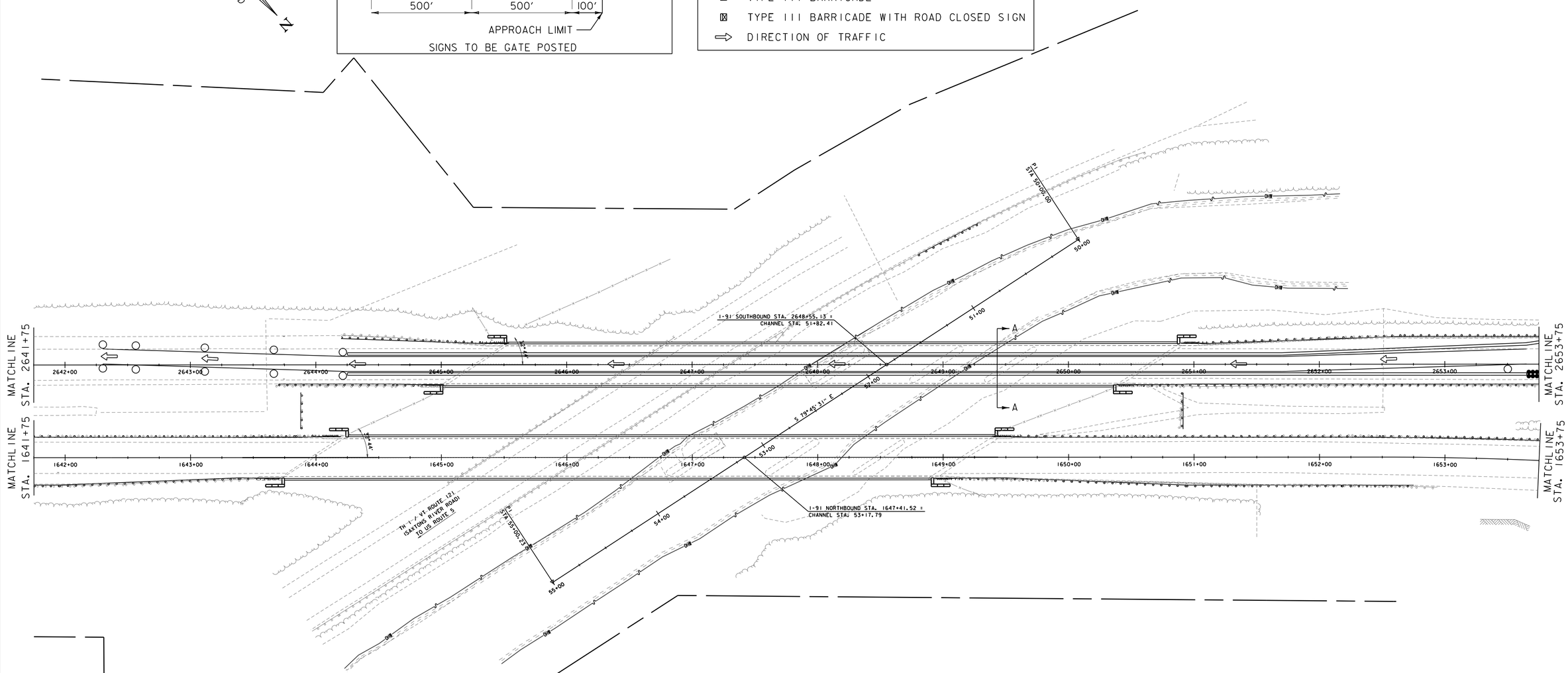
END ROAD WORK SIGN PACKAGE

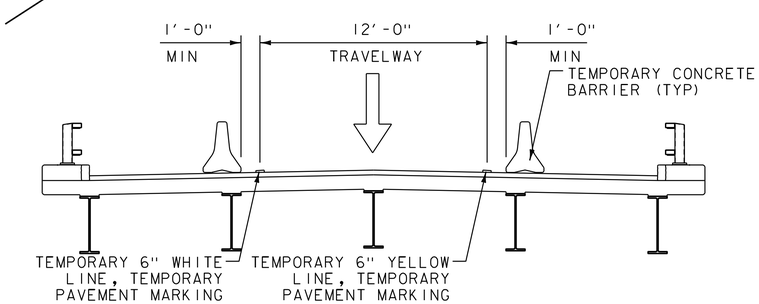


SIGNS TO BE GATE POSTED

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC





SECTION A-A

NOT TO SCALE

0 40 80

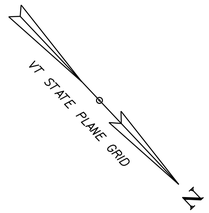
SCALE IN FEET

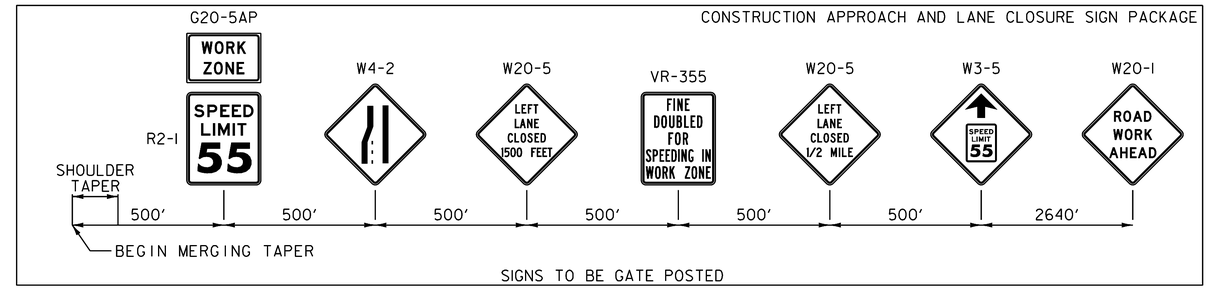
NOTES:

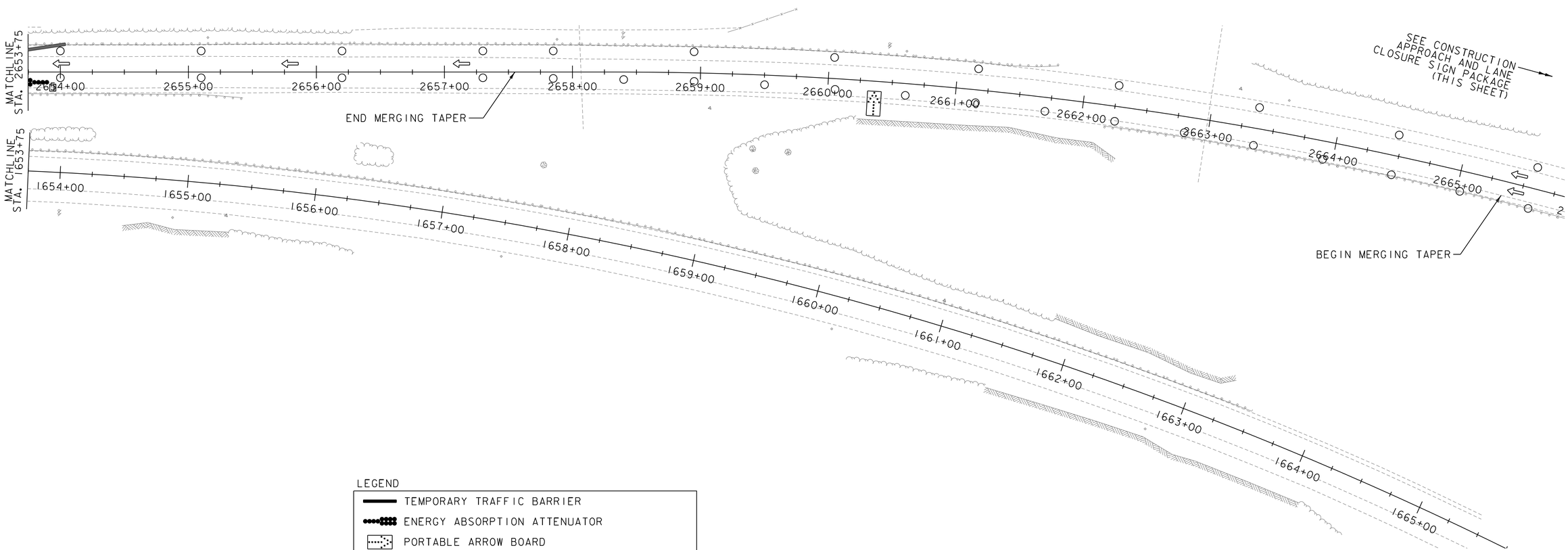
1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 1- SHEET 1	SHEET 24 OF 105







LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC

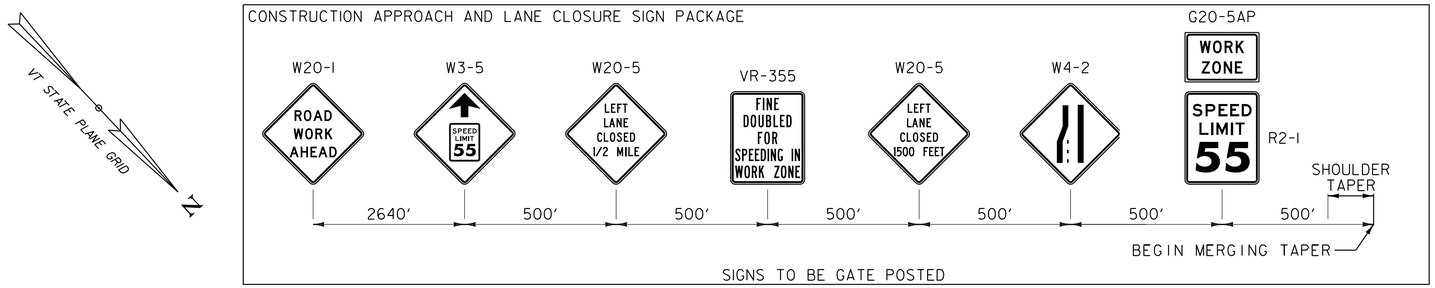
NOTES:

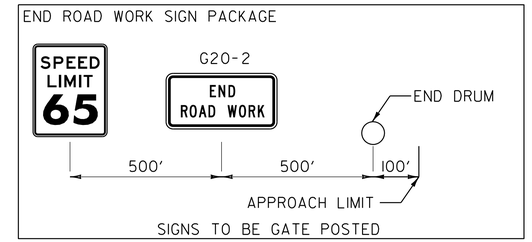
1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12′ TRAVEL LANES WITH MINIMUM 1′ SHOULDERS.

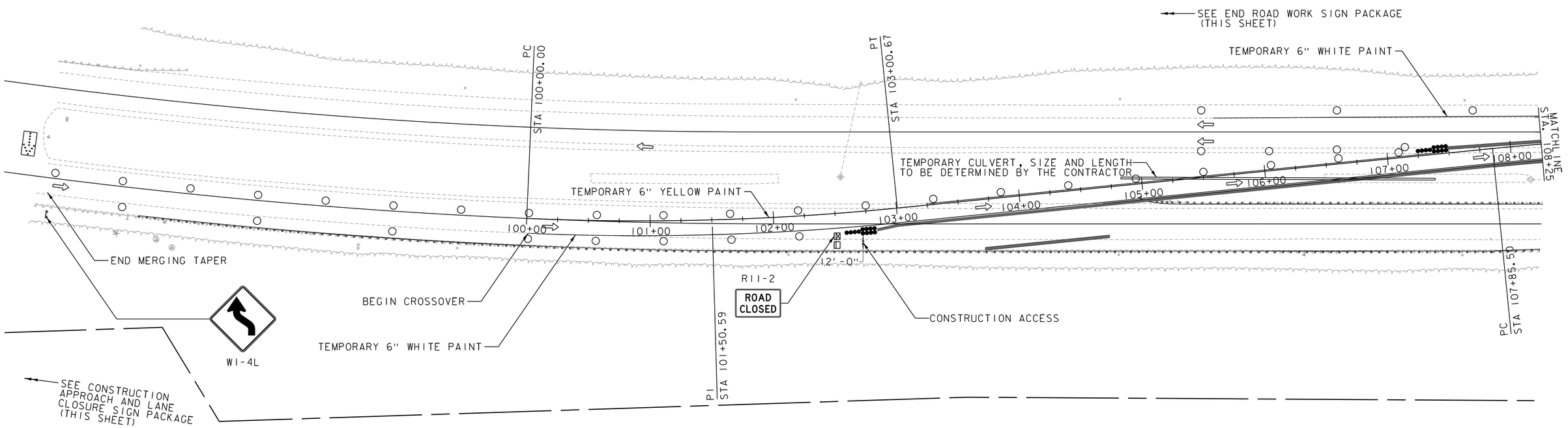
0 40 80
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 1- SHEET 2	SHEET 25 OF 105







LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC

NOTES:

1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

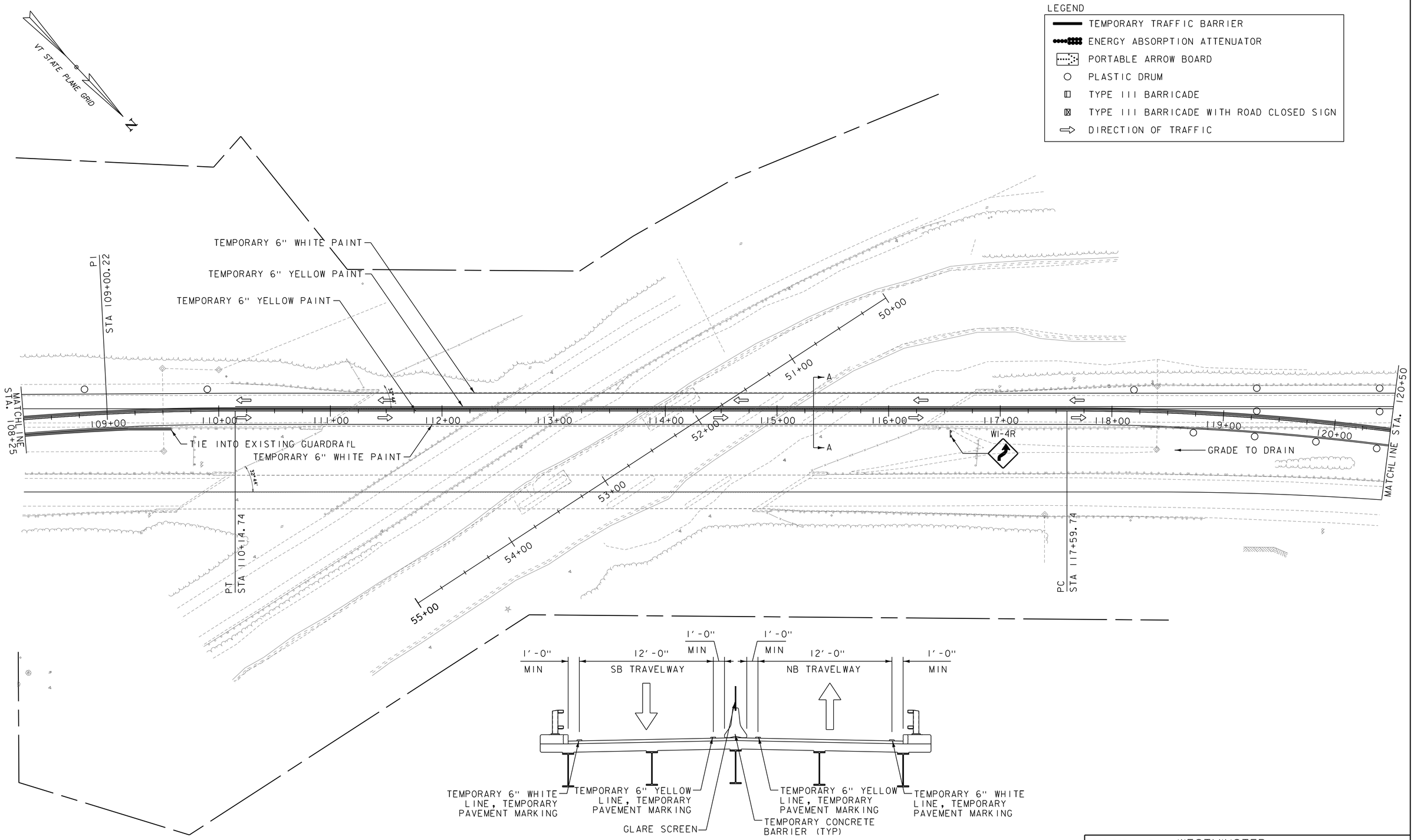
0 40 80
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 2 - SHEET 1	SHEET 26 OF 105

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC



SECTION A-A

NOT TO SCALE

NOTES:

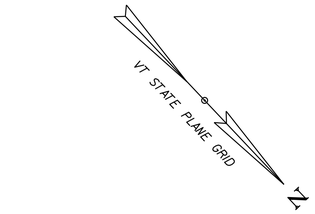
1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

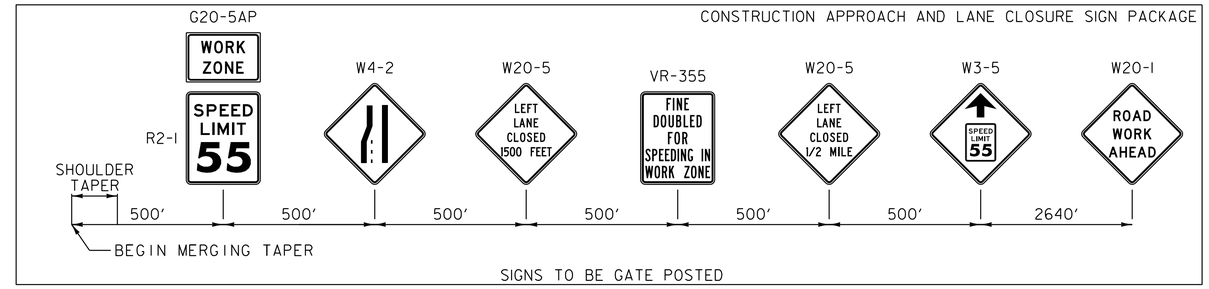
0 40 80

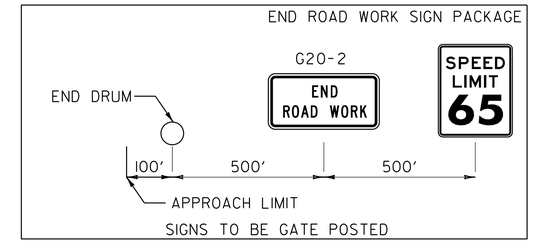
SCALE IN FEET

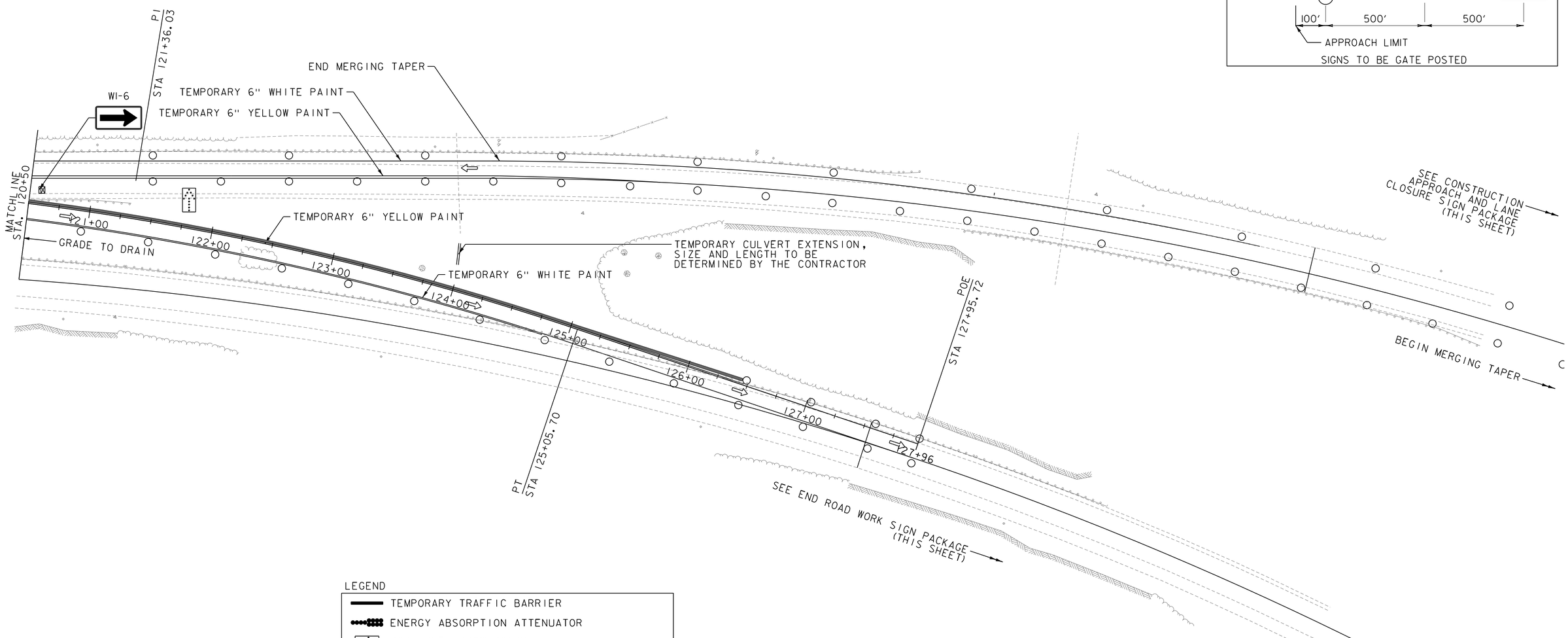
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 2 - SHEET 2	SHEET 27 OF 105









LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC

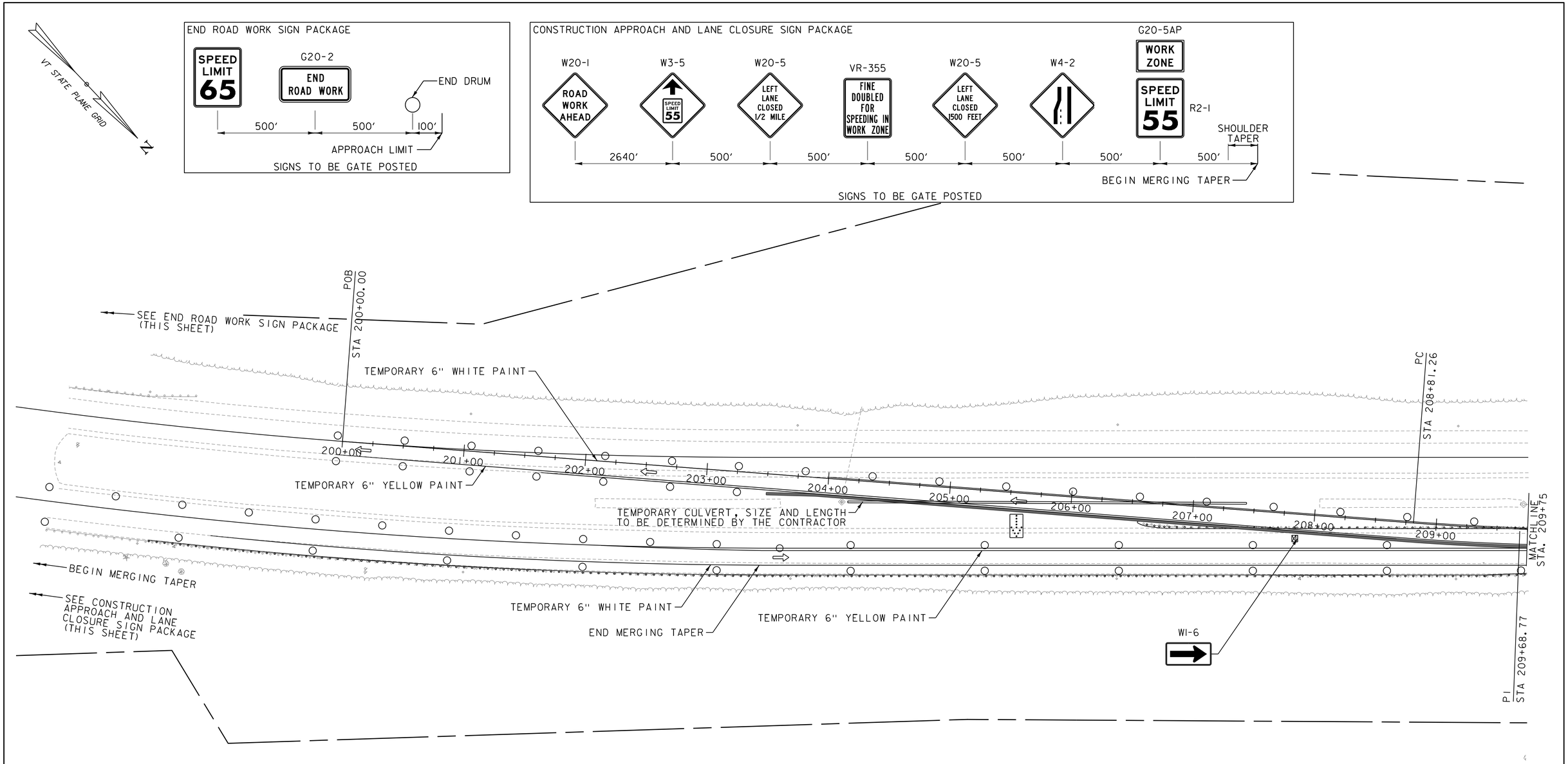
NOTES:

1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

0 40 80
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 2 - SHEET 3	SHEET 28 OF 105



LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC

NOTES:

1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

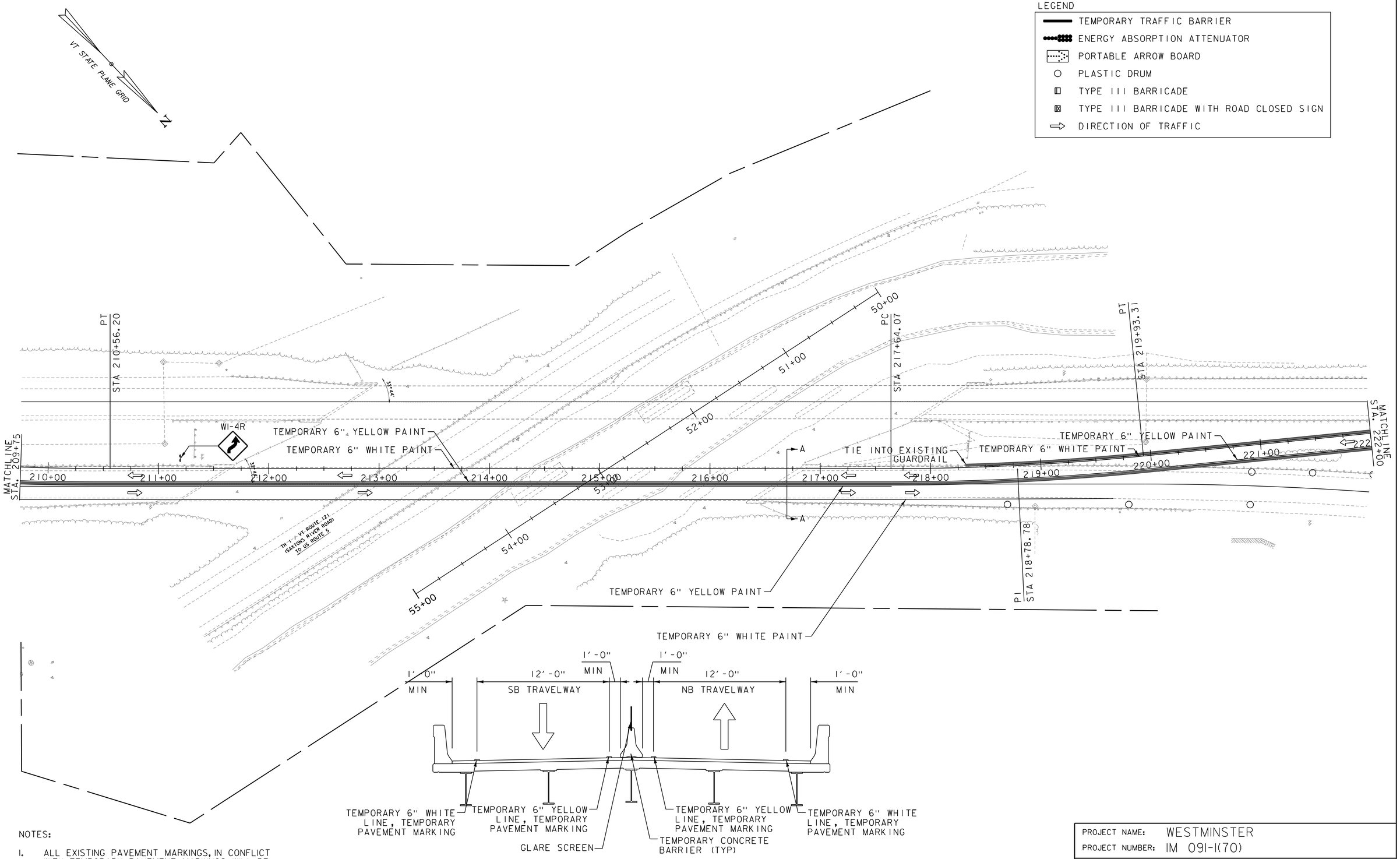
0 40 80
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 3 - SHEET 1	SHEET 29 OF 105

LEGEND

- TEMPORARY TRAFFIC BARRIER
- ENERGY ABSORPTION ATTENUATOR
- PORTABLE ARROW BOARD
- PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ROAD CLOSED SIGN
- DIRECTION OF TRAFFIC



SECTION A-A

NOT TO SCALE

NOTES:

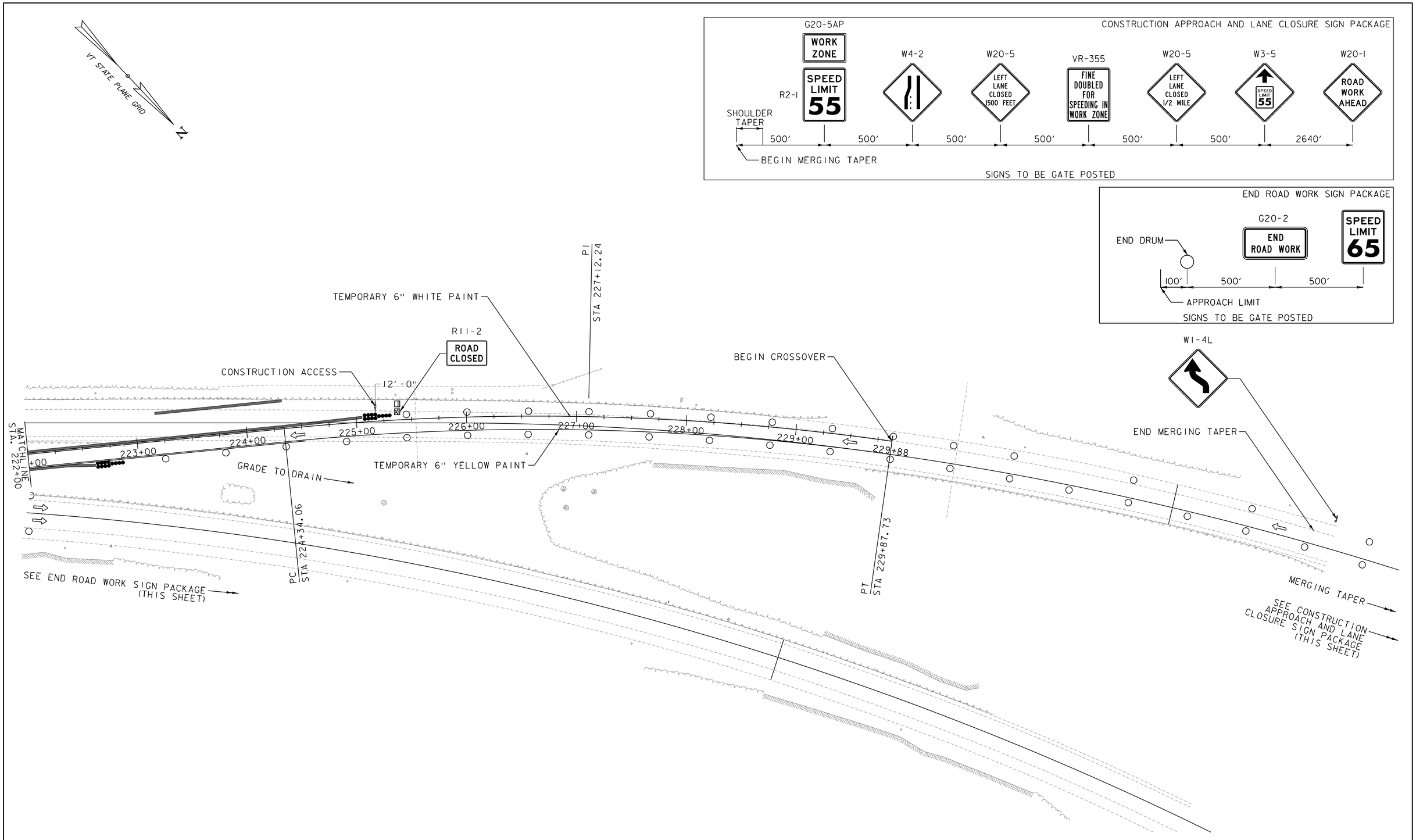
1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

0 40 80

SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 3 - SHEET 2	SHEET 30 OF 105



NOTES:

1. ALL EXISTING PAVEMENT MARKINGS, IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS, WILL BE REMOVED.
2. 12' TRAVEL LANES WITH MINIMUM 1' SHOULDERS.

0 40 80
SCALE IN FEET

Stantec

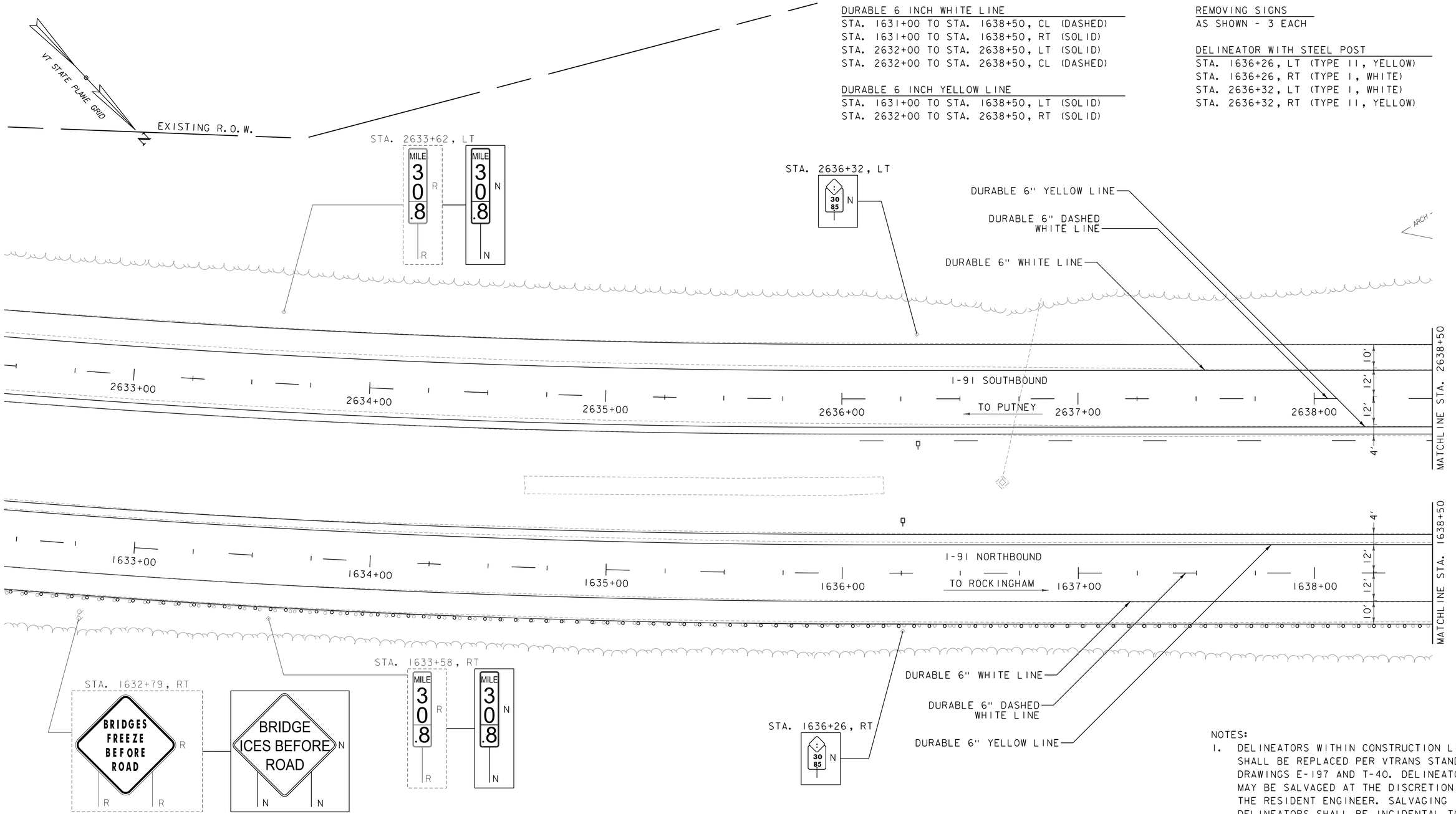
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_tcp.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PHASE 3 - SHEET 3	SHEET 31 OF 105

DURABLE 6 INCH WHITE LINE
STA. 1631+00 TO STA. 1638+50, CL (DASHED)
STA. 1631+00 TO STA. 1638+50, RT (SOLID)
STA. 2632+00 TO STA. 2638+50, LT (SOLID)
STA. 2632+00 TO STA. 2638+50, CL (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 1631+00 TO STA. 1638+50, LT (SOLID)
STA. 2632+00 TO STA. 2638+50, RT (SOLID)

REMOVING SIGNS
AS SHOWN - 3 EACH

DELINEATOR WITH STEEL POST
STA. 1636+26, LT (TYPE II, YELLOW)
STA. 1636+26, RT (TYPE I, WHITE)
STA. 2636+32, LT (TYPE I, WHITE)
STA. 2636+32, RT (TYPE II, YELLOW)



NOTES:

1. DELINEATORS WITHIN CONSTRUCTION LIMITS SHALL BE REPLACED PER VTRANS STANDARD DRAWINGS E-197 AND T-40. DELINEATORS MAY BE SALVAGED AT THE DISCRETION OF THE RESIDENT ENGINEER. SALVAGING DELINEATORS SHALL BE INCIDENTAL TO ITEM 676.10 DELINEATOR WITH STEEL POST.

2. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.

SIGN LEGEND

N	= NEW
R	= REMOVE
R&S	= REMOVE & SALVAGE
S	= SALVAGE SIGN
RET	= RETAIN
B-B	= BACK TO BACK
	= TYPE II YELLOW DELINEATOR
XX XX	= TYPE I WHITE DELINEATOR WITH MILEPOST PLAQUE

0 20 40
SCALE IN FEET

Stantec

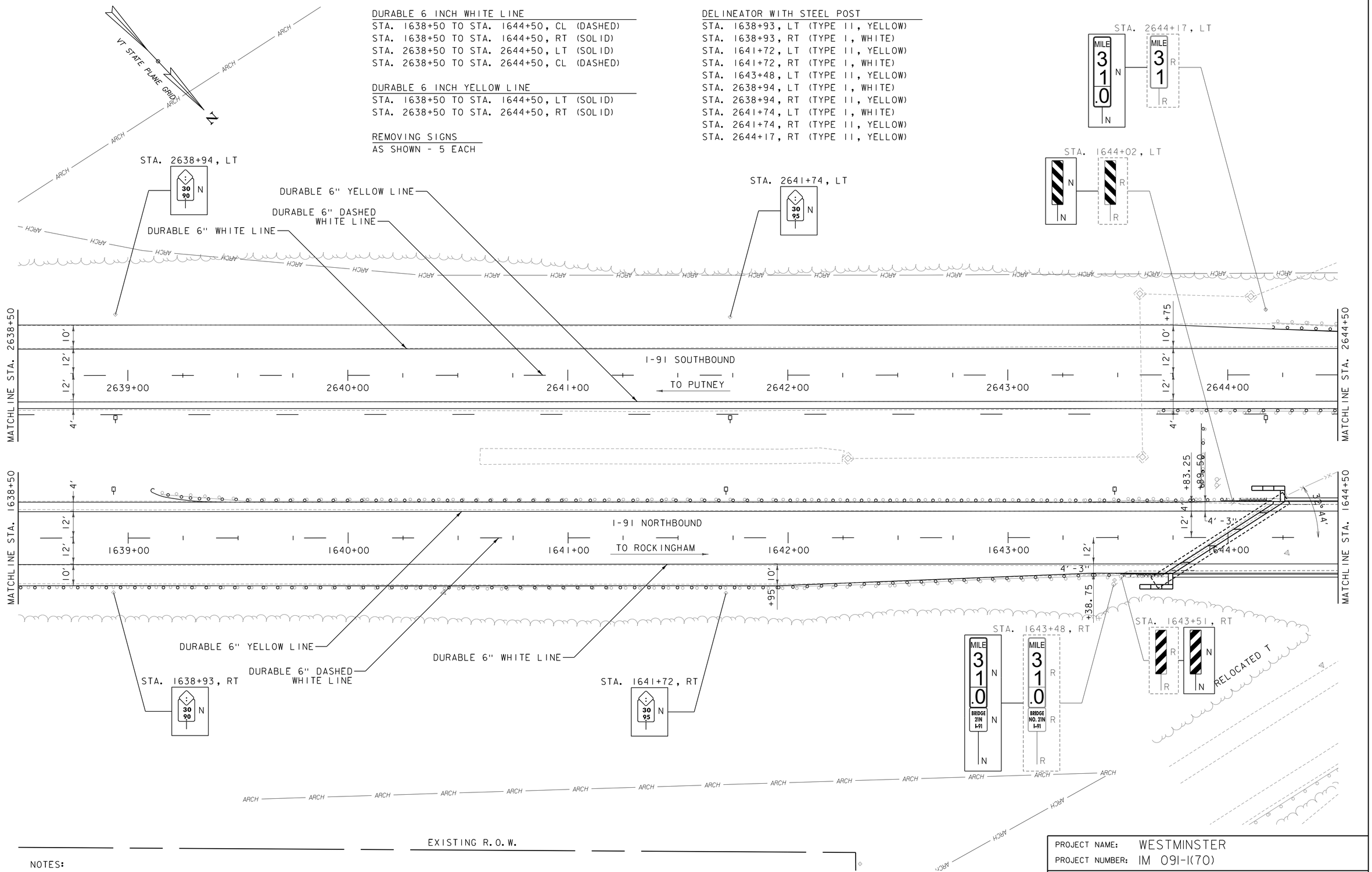
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_spm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
SIGNS & PAVEMENT MARKINGS SHEET 1	SHEET 32 OF 105

DURABLE 6 INCH WHITE LINE
STA. 1638+50 TO STA. 1644+50, CL (DASHED)
STA. 1638+50 TO STA. 1644+50, RT (SOLID)
STA. 2638+50 TO STA. 2644+50, LT (SOLID)
STA. 2638+50 TO STA. 2644+50, CL (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 1638+50 TO STA. 1644+50, LT (SOLID)
STA. 2638+50 TO STA. 2644+50, RT (SOLID)

REMOVING SIGNS
AS SHOWN - 5 EACH

DELINEATOR WITH STEEL POST
STA. 1638+93, LT (TYPE II, YELLOW)
STA. 1638+93, RT (TYPE I, WHITE)
STA. 1641+72, LT (TYPE II, YELLOW)
STA. 1641+72, RT (TYPE I, WHITE)
STA. 1643+48, LT (TYPE II, YELLOW)
STA. 2638+94, LT (TYPE I, WHITE)
STA. 2638+94, RT (TYPE II, YELLOW)
STA. 2641+74, LT (TYPE I, WHITE)
STA. 2641+74, RT (TYPE II, YELLOW)
STA. 2644+17, RT (TYPE II, YELLOW)



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.

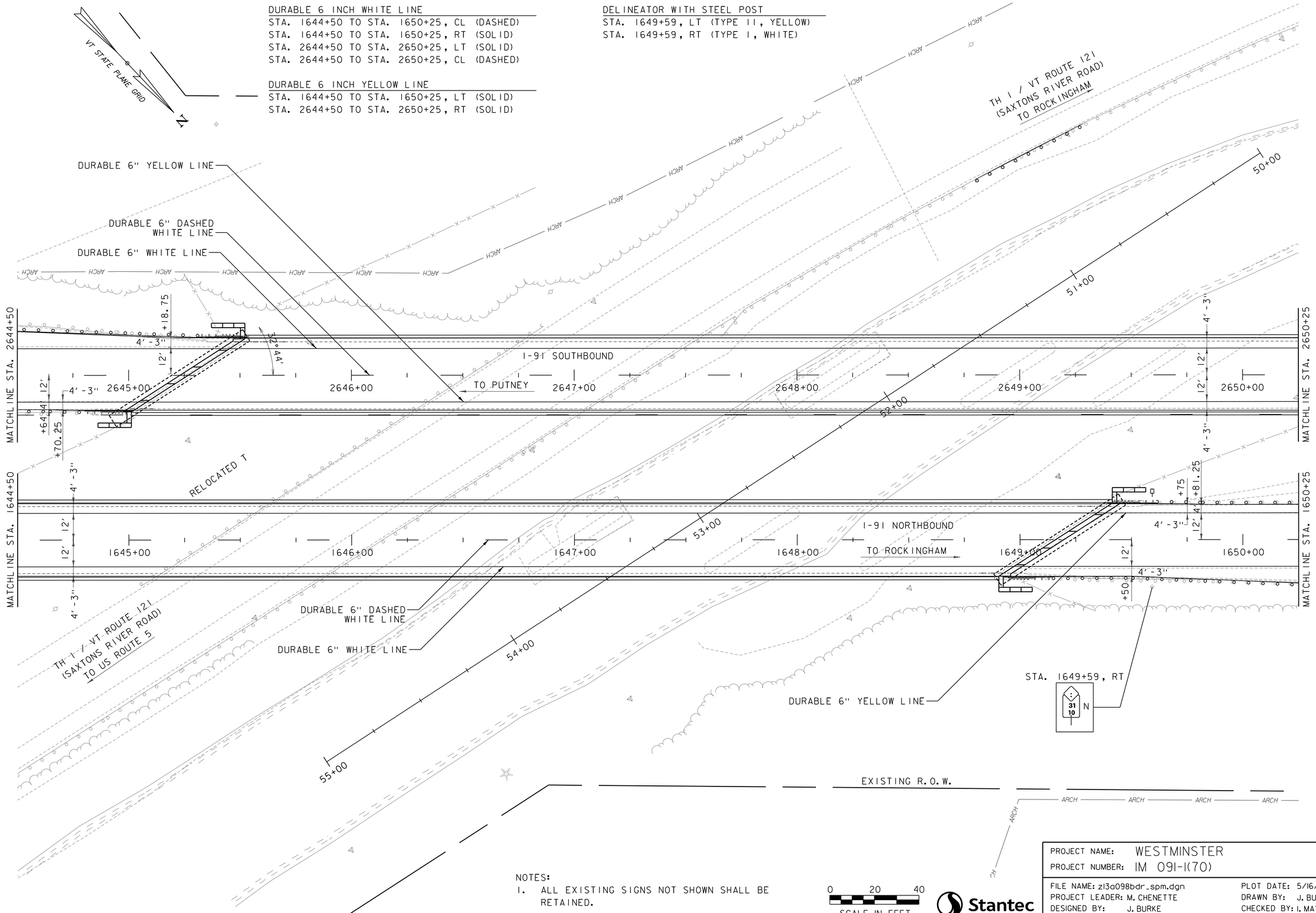
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_spm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
SIGNS & PAVEMENT MARKINGS SHEET 2	SHEET 33 OF 105

DURABLE 6 INCH WHITE LINE
STA. 1644+50 TO STA. 1650+25, CL (DASHED)
STA. 1644+50 TO STA. 1650+25, RT (SOLID)
STA. 2644+50 TO STA. 2650+25, LT (SOLID)
STA. 2644+50 TO STA. 2650+25, CL (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 1644+50 TO STA. 1650+25, LT (SOLID)
STA. 2644+50 TO STA. 2650+25, RT (SOLID)

DELINEATOR WITH STEEL POST
STA. 1649+59, LT (TYPE 11, YELLOW)
STA. 1649+59, RT (TYPE 1, WHITE)



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.

0 20 40
SCALE IN FEET

Stantec

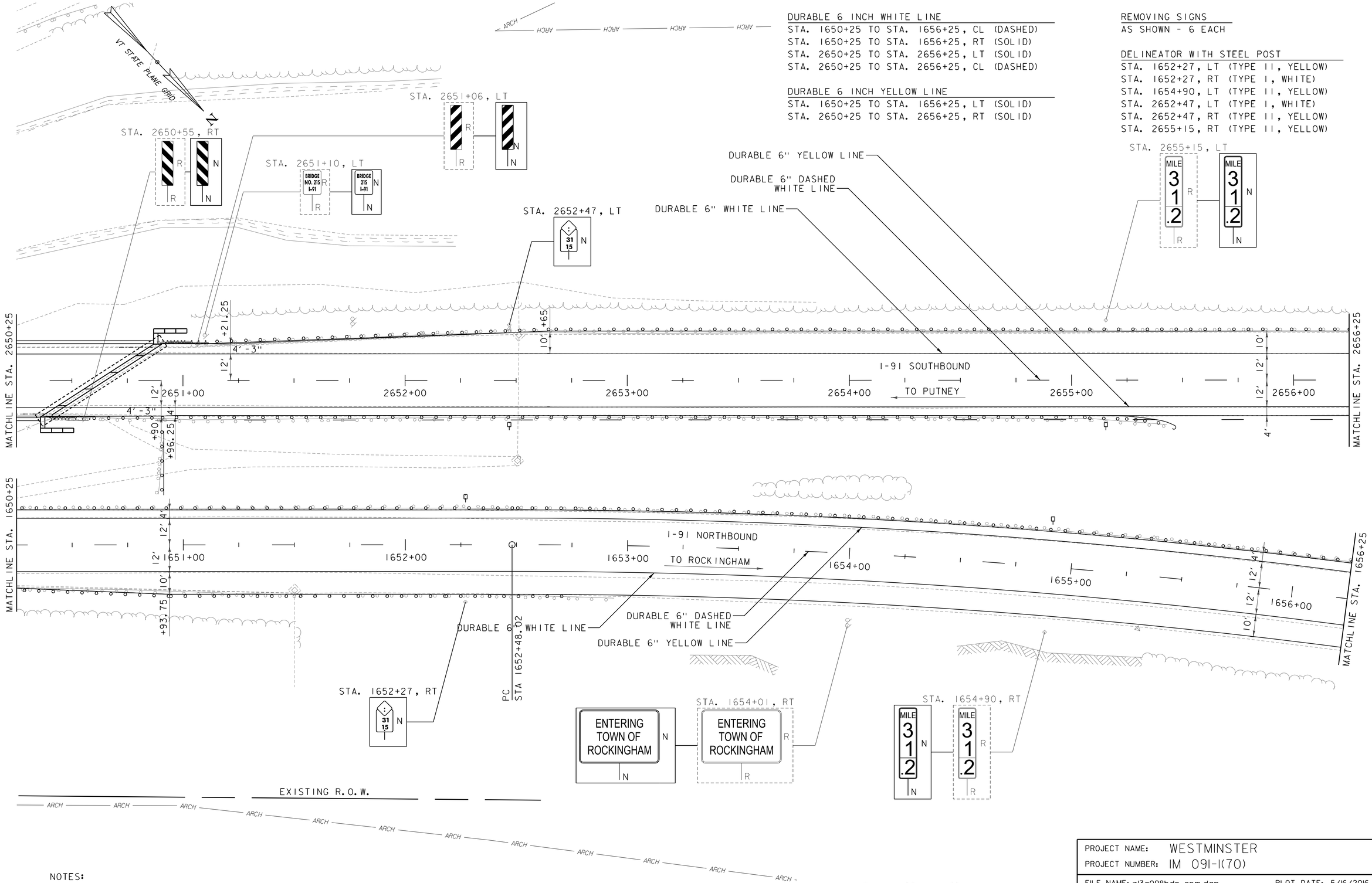
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_spm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
SIGNS & PAVEMENT MARKINGS SHEET 3	SHEET 34 OF 105

DURABLE 6 INCH WHITE LINE
STA. 1650+25 TO STA. 1656+25, CL (DASHED)
STA. 1650+25 TO STA. 1656+25, RT (SOLID)
STA. 2650+25 TO STA. 2656+25, LT (SOLID)
STA. 2650+25 TO STA. 2656+25, CL (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 1650+25 TO STA. 1656+25, LT (SOLID)
STA. 2650+25 TO STA. 2656+25, RT (SOLID)

REMOVING SIGNS
AS SHOWN - 6 EACH

DELINEATOR WITH STEEL POST
STA. 1652+27, LT (TYPE II, YELLOW)
STA. 1652+27, RT (TYPE I, WHITE)
STA. 1654+90, LT (TYPE II, YELLOW)
STA. 2652+47, LT (TYPE I, WHITE)
STA. 2652+47, RT (TYPE II, YELLOW)
STA. 2655+15, RT (TYPE II, YELLOW)



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.

0 20 40
SCALE IN FEET

Stantec

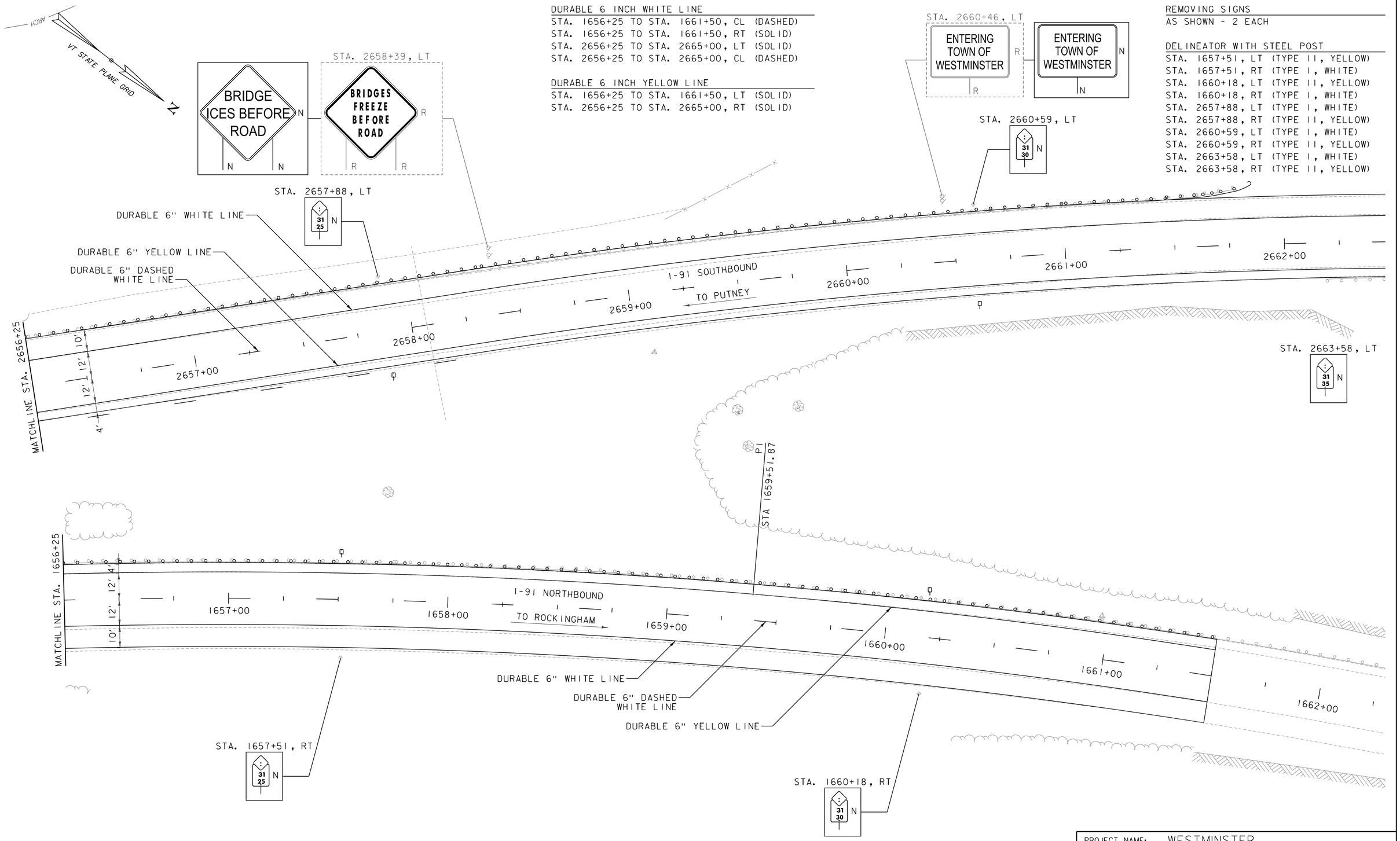
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_spm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
SIGNS & PAVEMENT MARKINGS SHEET 4	SHEET 35 OF 105

DURABLE 6 INCH WHITE LINE
STA. 1656+25 TO STA. 1661+50, CL (DASHED)
STA. 1656+25 TO STA. 1661+50, RT (SOLID)
STA. 2656+25 TO STA. 2665+00, LT (SOLID)
STA. 2656+25 TO STA. 2665+00, CL (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 1656+25 TO STA. 1661+50, LT (SOLID)
STA. 2656+25 TO STA. 2665+00, RT (SOLID)

REMOVING SIGNS
AS SHOWN - 2 EACH

DELINEATOR WITH STEEL POST
STA. 1657+51, LT (TYPE II, YELLOW)
STA. 1657+51, RT (TYPE I, WHITE)
STA. 1660+18, LT (TYPE II, YELLOW)
STA. 1660+18, RT (TYPE I, WHITE)
STA. 2657+88, LT (TYPE I, WHITE)
STA. 2657+88, RT (TYPE II, YELLOW)
STA. 2660+59, LT (TYPE I, WHITE)
STA. 2660+59, RT (TYPE II, YELLOW)
STA. 2663+58, LT (TYPE I, WHITE)
STA. 2663+58, RT (TYPE II, YELLOW)



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.

0 20 40
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_spm.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: X. XXXX
SIGNS & PAVEMENT MARKINGS SHEET 5	SHEET 36 OF 105

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 01

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS "B"	NEW & SALVAGED SIGNS SALV SIGN	NEW & SALVAGED SIGNS SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS FLANGED CHANNEL lb/ft 1.12	FLANGED CHANNEL lb/ft 2.0	FLANGED CHANNEL lb/ft 3.0	SQUARE STEEL (in) lb/ft 1.75	SQUARE STEEL (in) lb/ft 2.0	SQUARE STEEL (in) lb/ft 2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	TUBULAR ALUMINUM Ø (in) lb/ft 4.0	TUBULAR ALUMINUM Ø (in) lb/ft 4.0 MOD	FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft 3.0	TUBULAR STEEL Ø (in) lb/ft 3.5	TUBULAR STEEL Ø (in) lb/ft 4.0	TUBULAR STEEL Ø (in) lb/ft 5.0	W-SHAPE STEEL FTG. SIZE 24"	W-SHAPE STEEL FTG. SIZE 30"	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHSM * BOOK	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
1632+79, RT	BRIDGE ICES BEFORE ROAD	1	48	48	16.00											30		X																W8-13	X		
1633+58, RT	MILE 30.8	1	12	48	4.00											12		X																D10-2A	X		
1636+26, RT	30 85	1	6	8	0.33																													MOUNT ON POST WITH DELINEATOR (TYPE 1, WHITE)			T-40
1638+93, RT	30 90	1	6	8	0.33																													MOUNT ON POST WITH DELINEATOR (TYPE 1, WHITE)			T-40
1641+72, RT	30 95	1	6	8	0.33																													MOUNT ON POST WITH DELINEATOR (TYPE 1, WHITE)			T-40
1643+48, RT	MILE 31.0 / BRIDGE 21N I-91	1 1	12 6	48 10	4.00 0.42											13		X																D10-2A VD-701	X		T-42
1643+51, RT		1	12	36	3.00											11		X																OM-3R	X		
1644+02, LT		1	12	36	3.00											11		X																OM-3L	X		
1649+59, RT	31 10	1	6	8	0.33																													MOUNT ON POST WITH DELINEATOR (TYPE 1, WHITE)			T-40
1652+27, RT	31 15	1	6	8	0.33																													MOUNT ON POST WITH DELINEATOR (TYPE 1, WHITE)			T-40
1657+25, RT	ENTERING TOWN OF ROCKINGHAM	1	36	24	6.00											10		X																TOWN LINE SIGN			E-131
												FT	FT	FT	FT	FT 87	FT		EA	LB	LB	LB		LB	LB	LB	LB								
												FT			FT 87					LB			EA.	LB				EA.	EA.	LB					
		TOTALS	SF 38.07	SF	EA.	SF																														

"SHSM"-STANDARD HIGHWAY SIGNS AND MARKINGS

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM-091-1(70)

FILE NAME: z13a098frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. BURKE
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: 5/16/2016
DRAWN BY: J. BURKE
CHECKED BY: I. MAYNARD
SHEET 37 OF 105

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 02

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHSM * BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
1654+90, RT	MILE 31 .2	1	12	48	4.00											12		X															DIO-2A	X		
1657+25, RT	31 25	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
1660+18, RT	31 30	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2633+62, LT	MILE 30 .8	1	12	48	4.00											12		X															DIO-2A	X		
2636+32, LT	30 85	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2638+94, LT	30 90	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2641+74, LT	30 95	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2644+17, LT	MILE 31 .0	1	12	48	4.00											12		X															DIO-2A	X		
2650+55, RT		1	12	36	3.00											11		X															OM-3L	X		
2651+06, LT		1	12	36	3.00											11		X															OM-3R	X		
2651+10, LT	BRIDGE 215 I-91	1	6	10	0.42											8		X															VD-701			T-42
2652+47, LT	31 15	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
												FT	FT	FT	FT	FT 66	FT		EA	LB	LB	LB		LB	LB	LB	LB								
TOTALS		SF 20.40	SF	EA.	SF							FT			FT 66					LB			EA.	LB				EA.	EA.	LB					

"SHSM"-STANDARD HIGHWAY SIGNS AND MARKINGS

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM-091-1(70)

FILE NAME: z13a098frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. BURKE
TRAFFIC SIGN SUMMARY SHEET 2

PLOT DATE: 5/16/2016
DRAWN BY: J. BURKE
CHECKED BY: I. MAYNARD
SHEET 38 OF 105

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 03

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	TUBULAR STEEL Ø (in) FOUND-ATION	lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHSM * BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
																				1.3	1.7	1.7		7.6	9.0	10.8	14.6									
2655+15, LT	MILE 3 1 .2	1	12	48	4.00											12		X															DIO-2A	X		
2657+88, LT	31 25	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2658+39, LT	BRIDGE ICES BEFORE ROAD	1	48	48	16.00											30		X															W8-13	X		
2660+46, LT	ENTERING TOWN OF WESTMINSTER	1	36	24	6.00											10		X															TOWN LINE SIGN			E-131
2660+59, LT	31 30	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
2663+58, LT	31 35	1	6	8	0.33																												MOUNT ON POST WITH DELINEATOR (TYPE I, WHITE)			T-40
	SHEET SUBTOTAL				26.99											52																				
	SHEET 1 SUBTOTAL				38.07											87																				
	SHEET 2 SUBTOTAL				20.40											66																				
	SHEET 3 SUBTOTAL				26.99											52																				
	PROJECT SUBTOTAL				85.46											205																				
	ROUNDING				4.54											5																				
												FT	FT	FT	FT	FT 210	FT		EA	LB	LB	LB		LB	LB	LB	LB									
	TOTALS				SF 90	SF	EA.	SF				FT			FT 210					LB			EA.	LB				EA.	EA.	LB						

"SHSM"-STANDARD HIGHWAY SIGNS AND MARKINGS

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM-091-1(70)

FILE NAME: z13a098frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. BURKE
TRAFFIC SIGN SUMMARY SHEET 3

PLOT DATE: 5/16/2016
DRAWN BY: J. BURKE
CHECKED BY: I. MAYNARD
SHEET 39 OF 105

EXISTING R.O.W.

℄ BRG. ABUT. 1
STA. 2645+24.87
F.G. EL. 407.24

BEGIN BRIDGE 2IS
STA. 2645+23.02
F.G. EL. 407.30

I-91 SOUTHBOUND STA. 2648+55.13 =
CHANNEL STA. 51+82.41

TH 1/ VT ROUTE 121
(SAXTONS RIVER ROAD)
TO ROCKINGHAM

PI
STA 50+00.00

50+00

51+00

52+00

53+00

54+00

55+00

PI
STA 55+00.23

SAXTONS RIVER

VT STATE PLANE GRID

N

℄ BRG. ABUT. 2
STA. 2650+63.17
F.G. EL. 390.02

END BRIDGE 2IS
STA. 2650+65.02
F.G. EL. 389.96

WW 1

WW 2

WW 3

WW 4

I-91 SOUTHBOUND

2643+00 TO PUTNEY 2644+00 2645+00 2646+00 2647+00 2648+00 2649+00 2650+00 2651+00 TO PUTNEY 2652+00

N 46° 40' 43" W

S 79° 45' 31" E

I-91 NORTHBOUND

1643+00 TO ROCKINGHAM 1644+00 1645+00 1646+00 1647+00 1648+00 1649+00 1650+00 1651+00 TO ROCKINGHAM 1652+00

N 46° 38' 50.97" W

EXIST. POLES AND AERIAL
LINES TO BE REMOVED
BY OTHERS

BEGIN BRIDGE 2IN
STA. 1643+96.64
F.G. EL. 411.37

℄ BRG. ABUT. 1
STA. 1643+98.49
F.G. EL. 411.31

TH 1/ VT ROUTE 121
(SAXTONS RIVER ROAD)
TO US ROUTE 5

I-91 NORTHBOUND STA. 1647+41.52 =
CHANNEL STA. 53+17.79

END BRIDGE 2IN
STA. 1649+19.64
F.G. EL. 394.57

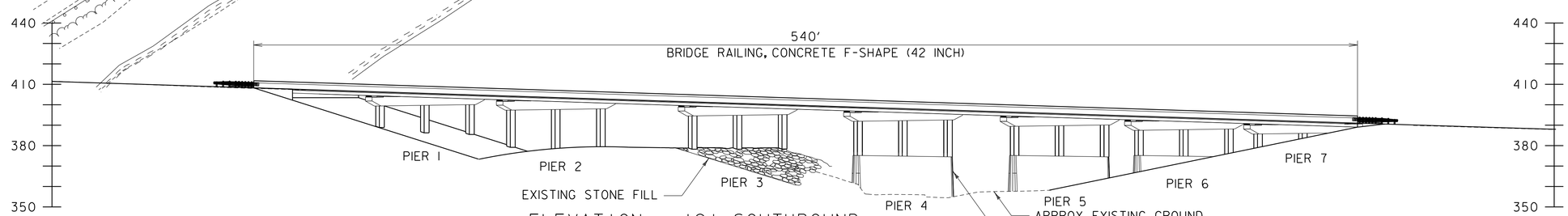
℄ BRG. ABUT. 2
STA. 1649+17.79
F.G. EL. 394.64

EXISTING R.O.W.

EXISTING R.O.W.

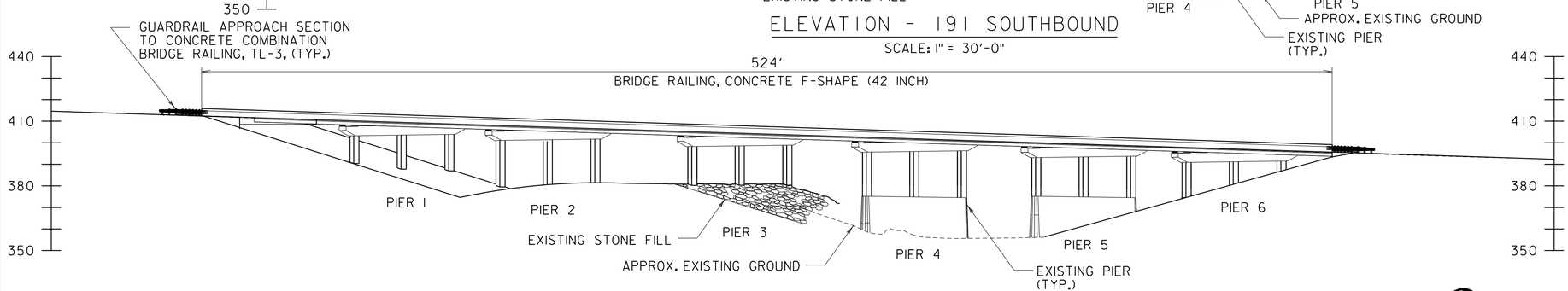
PLAN

SCALE: 1" = 30'-0"



ELEVATION - I91 SOUTHBOUND

SCALE: 1" = 30'-0"



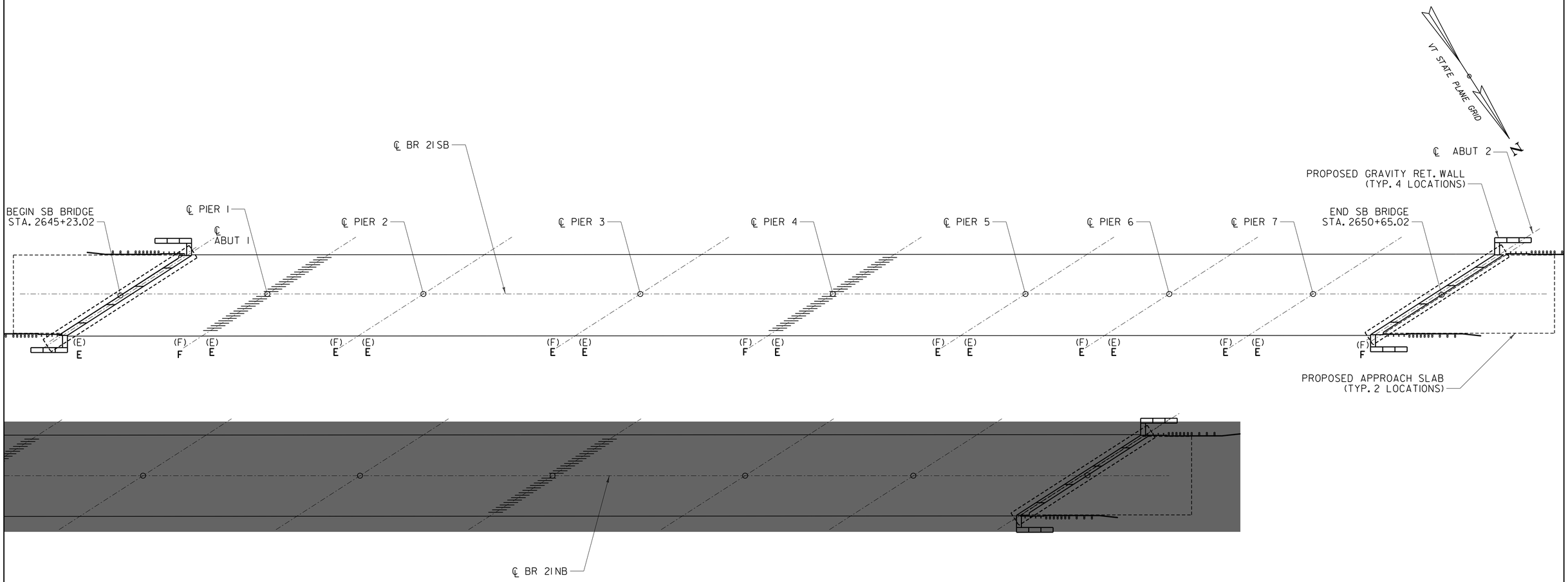
ELEVATION - I91 NORTHBOUND

SCALE: 1" = 30'-0"

0 30 60
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_pe.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: ------
PLAN AND ELEVATION	SHEET 40 OF 105



WESTMINSTER BR 21 SOUTHBOUND - SUPERSTRUCTURE REHABILITATION PLAN

SCALE: 1" = 20'-0"

WESTMINSTER BR 21S - SUPERSTRUCTURE REHABILITATION SUMMARY										
	ABUT 1	P1	P2	P3	P4	P5	P6	P7	ABUT 2	**TOTALS**
BRIDGE JT., ASPHALTIC PLUG	67 LF									67 LF
CONSTRUCT LINK SLAB			✓	✓		✓	✓	✓		5
BRIDGE EXP. JOINT, FINGER		67 LF			67 LF					134 LF
NEW STEEL DIAPHRAGMS		8	8	8	8	8	8	8		56
NEW EXPANSION BEARINGS	5	5	10	10	5	10	10	10		65
NEW FIXED BEARINGS		5			5				5	15
SAWED PAVEMENT JOINT	36 LF								36 LF	72 LF
PROPOSED APPROACH SLABS	1445 SF								1445 SF	2890 SF
PRECAST CONC. RETAIN. WALL	625 SF								500 SF	1125 SF

LEGEND

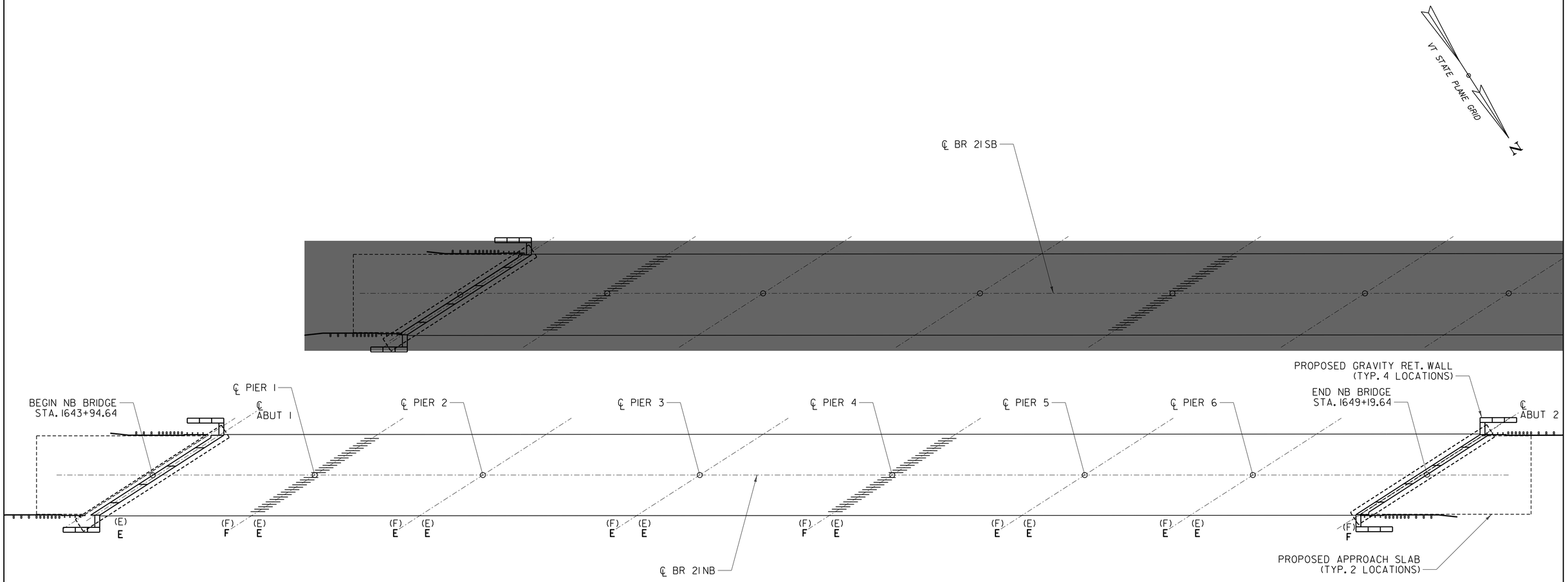
(F) - EXISTING FIXED BEARING
(E) - EXISTING EXPANSION BEARING
F - PROPOSED FIXED BEARING
E - PROPOSED EXPANSION BEARING

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: z13a098rehab_summ.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: N. TIRK
SOUTHBOUND REHABILITATION PLAN

PLOT DATE: 5/16/2016
DRAWN BY: J. SOTER
CHECKED BY: T. KNIGHT
SHEET 41 OF 105



WESTMINSTER BR 21 NORTHBOUND - SUPERSTRUCTURE REHABILITATION PLAN

SCALE: 1" = 20'-0"

WESTMINSTER BR 21N - SUPERSTRUCTURE REHABILITATION SUMMARY									
	ABUT 1	P1	P2	P3	P4	P5	P6	ABUT 2	**TOTALS**
BRIDGE JT., ASPHALTIC PLUG	67 LF								67 LF
CONSTRUCT LINK SLAB			✓	✓		✓	✓		4
BRIDGE EXP. JOINT, FINGER		67 LF			67 LF				134 LF
NEW STEEL DIAPHRAGMS		8	8	8	8	8	8		48
NEW EXPANSION BEARINGS	5	5	10	10	5	10	10		55
NEW FIXED BEARINGS		5			5			5	15
SAWED PAVEMENT JOINT	36 LF							36 LF	72 LF
PROPOSED APPROACH SLABS	1450 SF							1450 SF	2890 SF
PRECAST CONC. RETAIN. WALL	625 SF							500 SF	1125 SF

LEGEND

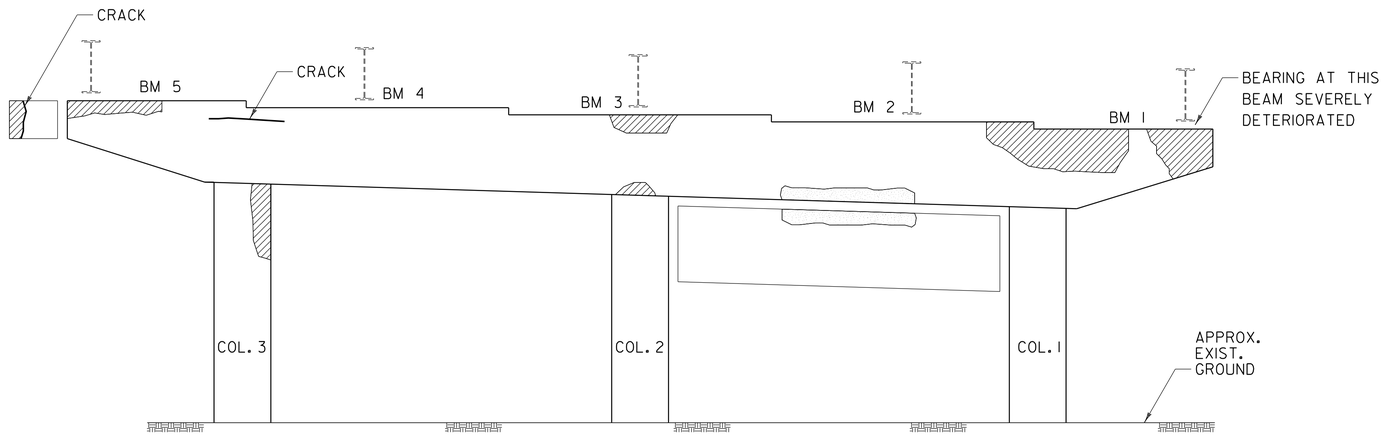
(F) - EXISTING FIXED BEARING
(E) - EXISTING EXPANSION BEARING
F - PROPOSED FIXED BEARING
E - PROPOSED EXPANSION BEARING

Stantec

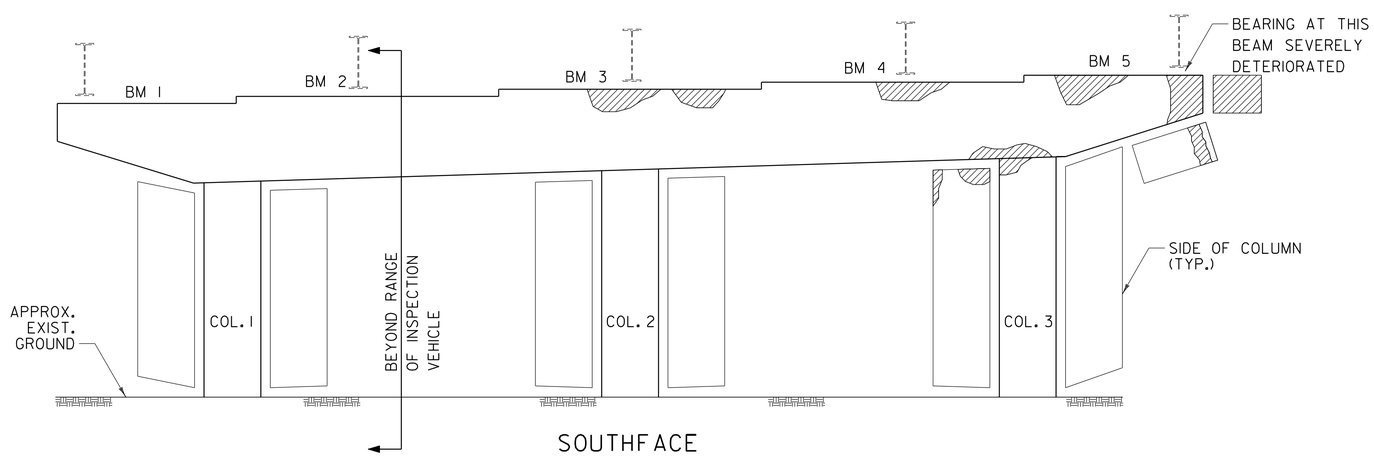
PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: z13a098rehab_summ.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: N. TIRK
NORTHBOUND REHABILITATION PLAN

PLOT DATE: 5/16/2016
DRAWN BY: J. SOTER
CHECKED BY: T. KNIGHT
SHEET 42 OF 105



NORTH FACE



SOUTH FACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

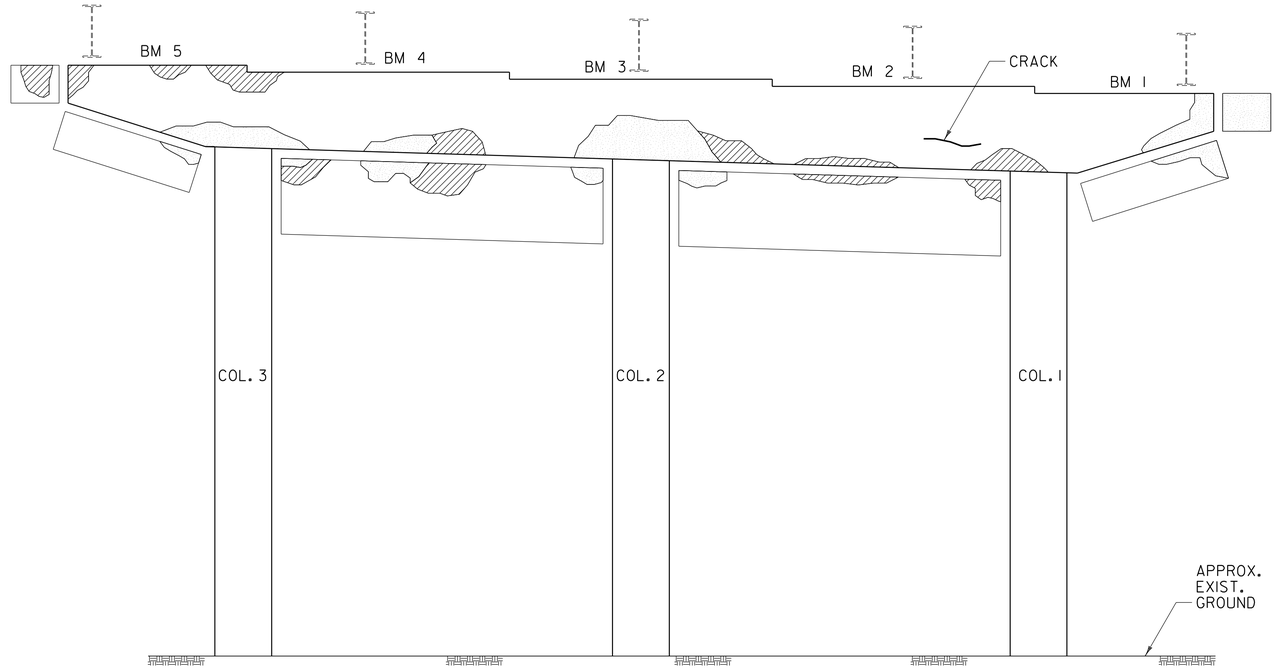
PIER NO. 1 NORTHBOUND

SCALE 1/4" = 1'-0"

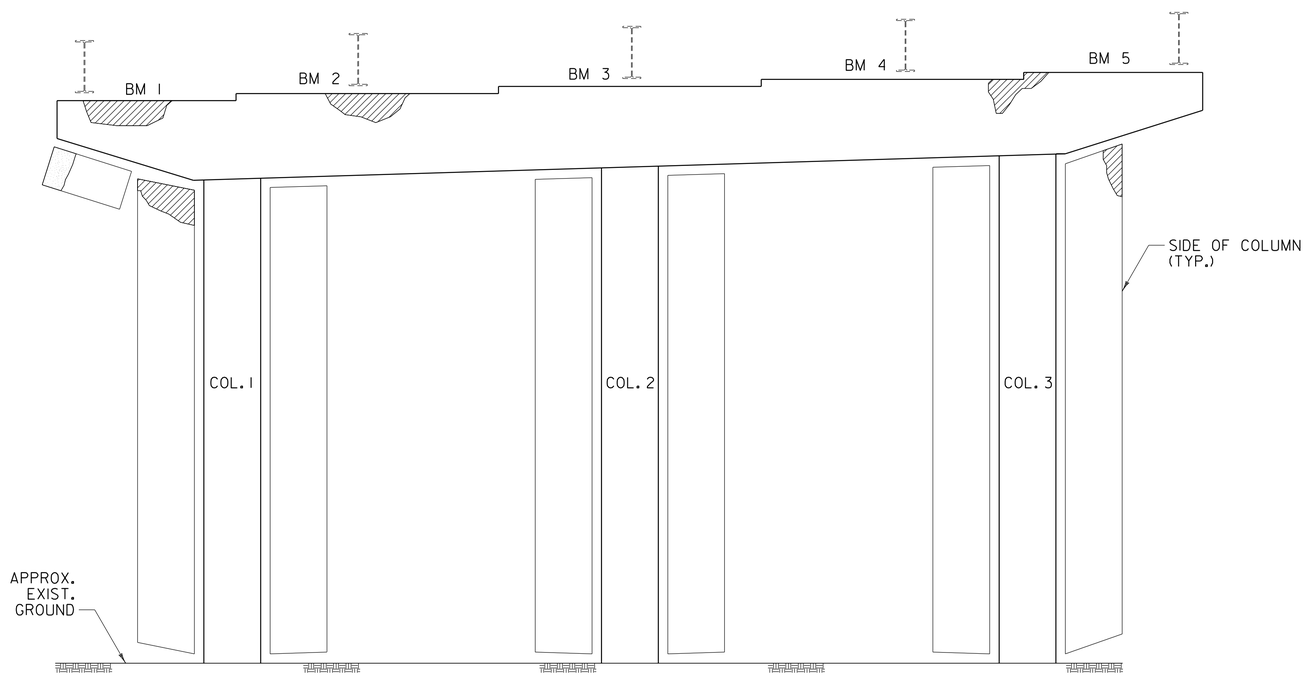
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 1 NORTHBOUND - REPAIRS	SHEET 43 OF 105



NORTH FACE



NOTE:
NO ACCESS WITH BUCKET,
BEST QUESS AT DETERIORATION
FROM GROUND.

SOUTH FACE

PIER NO. 2 NORTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON
INSPECTIONS CONDUCTED IN JULY 2015.
ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR
TO BE DETERMINED BY THE RESIDENT ENGINEER.

NOTE:

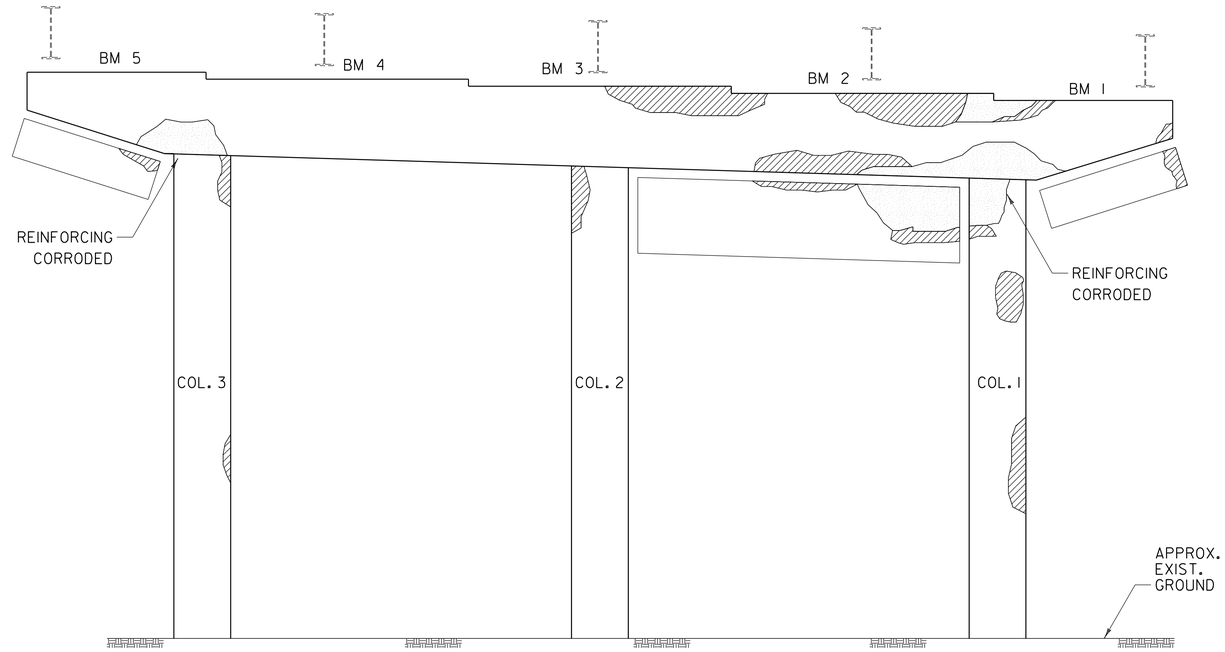
ALL REPAIRS ARE ESTIMATED.

LEGEND

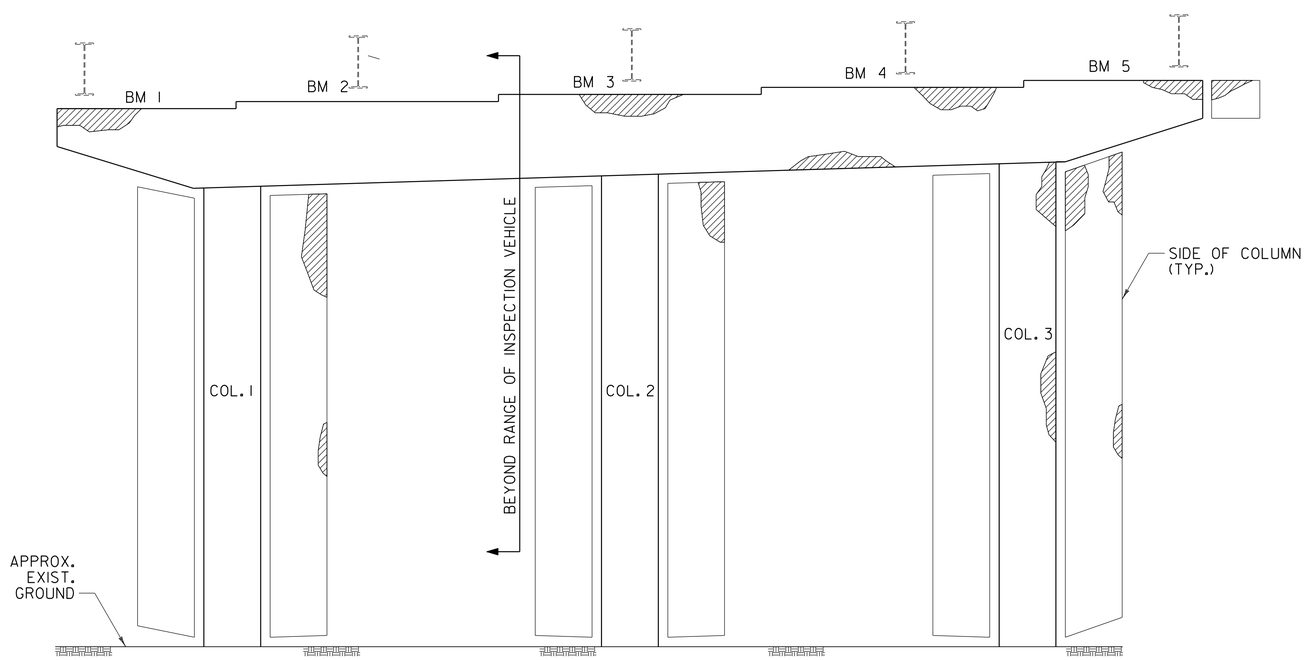
- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 2 NORTHBOUND - REPAIRS	SHEET 44 OF 105



NORTH FACE



SOUTH FACE

PIER NO. 3 NORTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

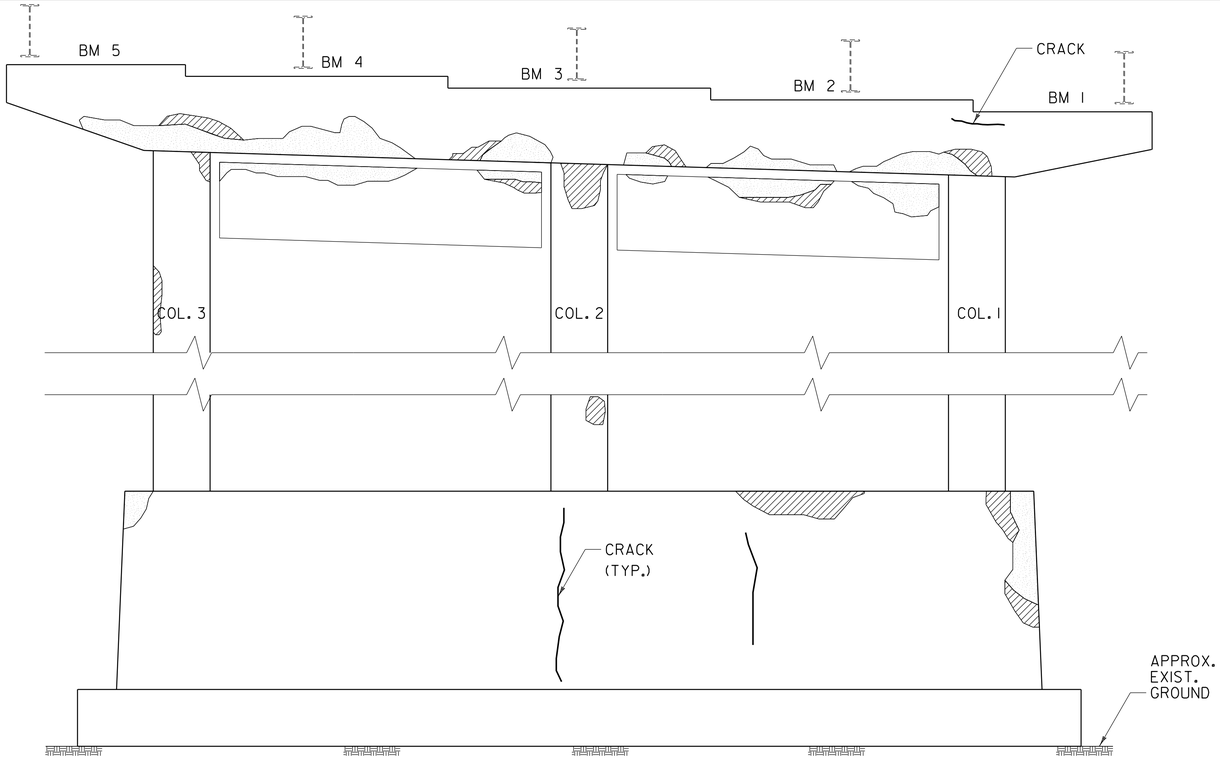
NOTE:

ALL REPAIRS ARE ESTIMATED.

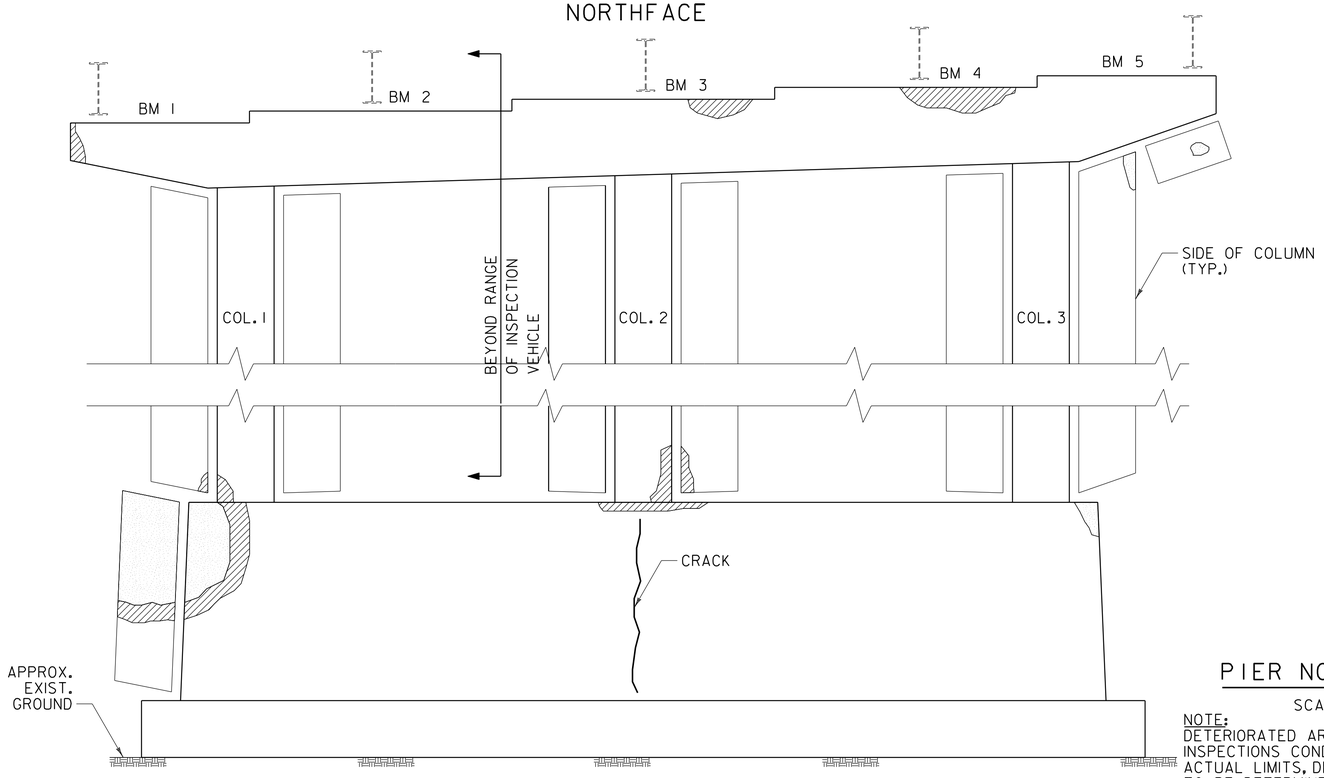
LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 3 NORTHBOUND - REPAIRS	SHEET 45 OF 105



NORTH FACE



SOUTH FACE

PIER NO. 4 NORTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

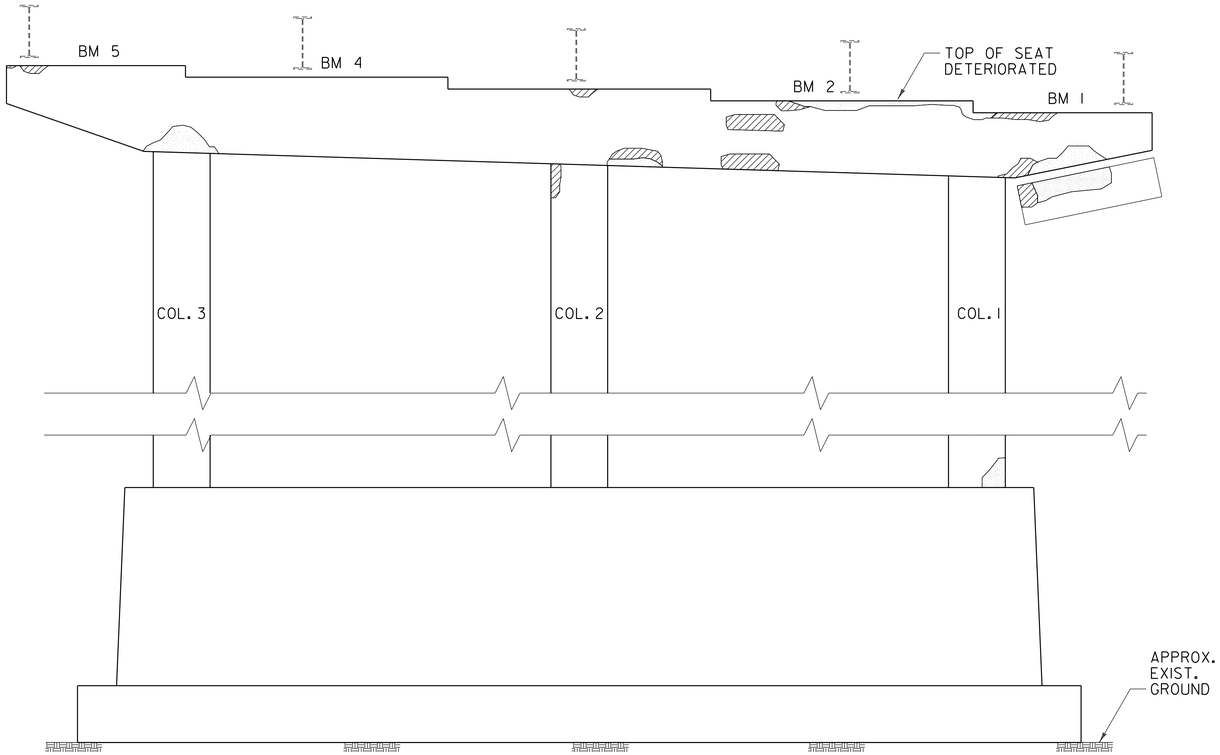
NOTE:
ALL REPAIRS ARE ESTIMATED.

LEGEND

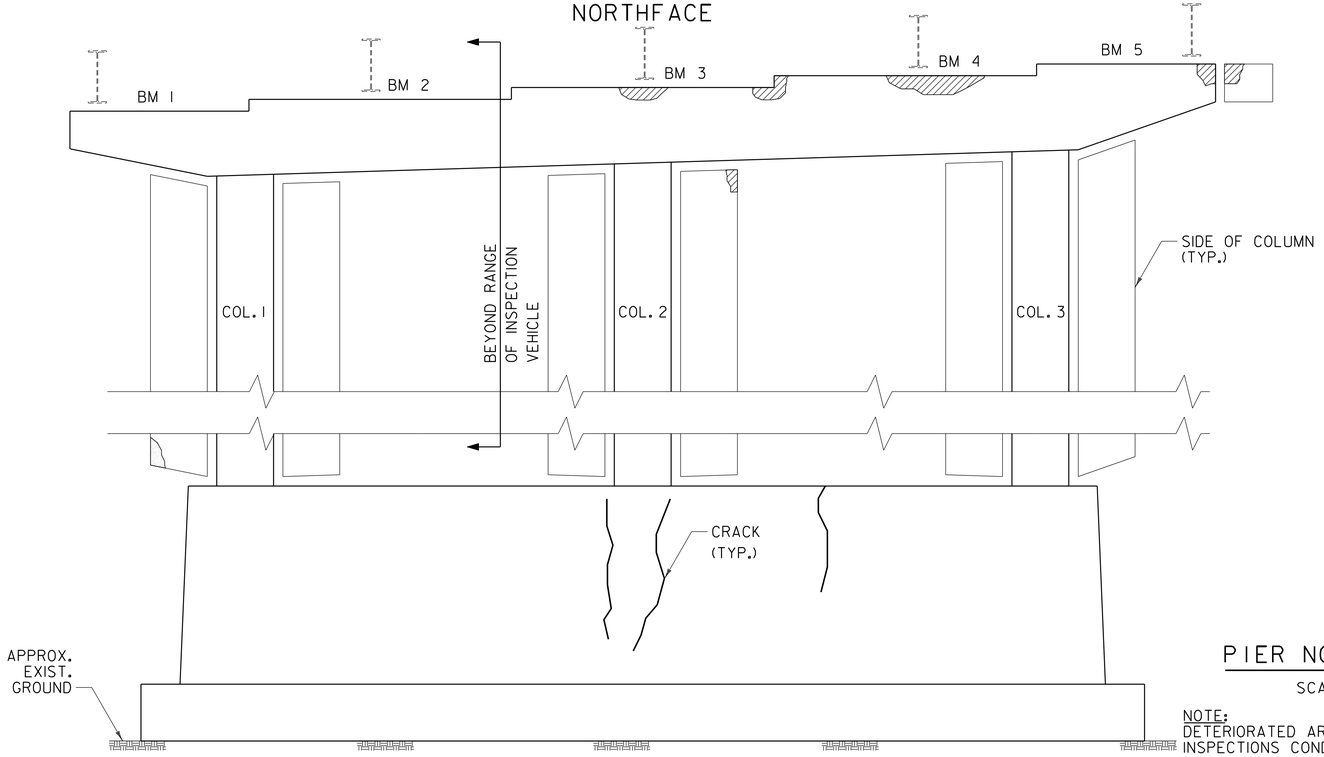
- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 4 NORTHBOUND - REPAIRS	SHEET 46 OF 105



NORTH FACE



SOUTH FACE

PIER NO. 5 NORTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

NOTE:

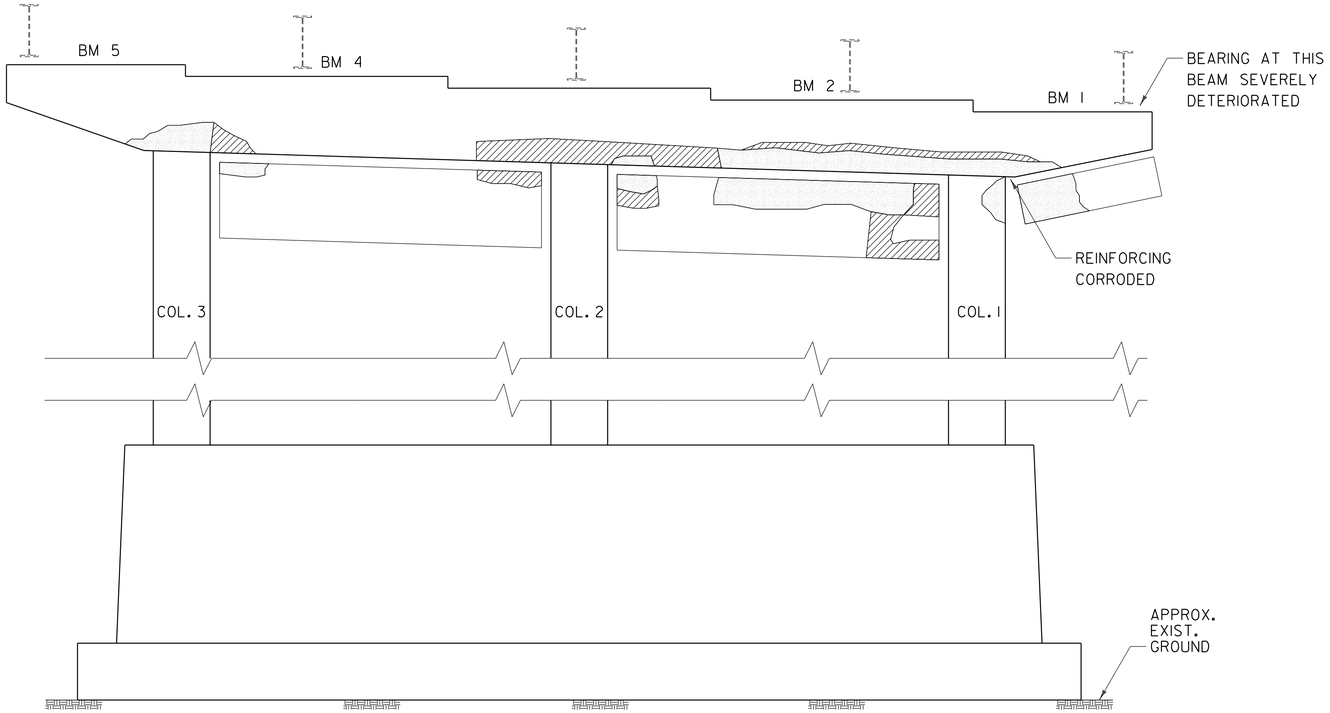
ALL REPAIRS ARE ESTIMATED.

LEGEND

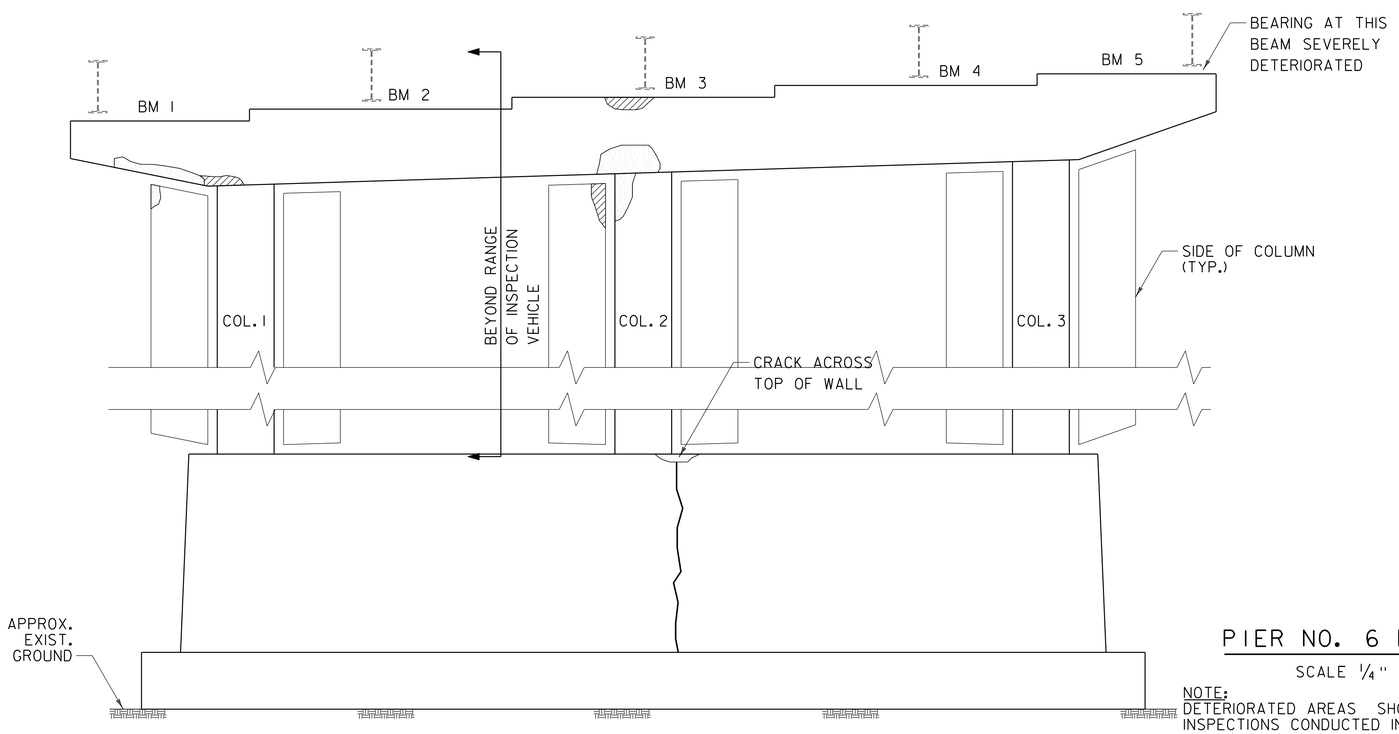
- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 5 NORTHBOUND - REPAIRS	SHEET 47 OF 105



NORTHFACE



SOUTHFACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

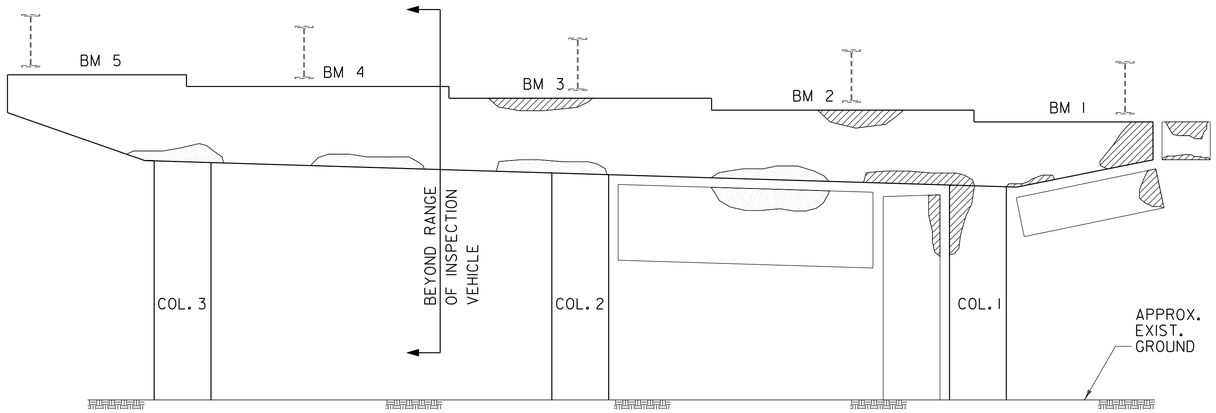
PIER NO. 6 NORTHBOUND

SCALE 1/4" = 1'-0"

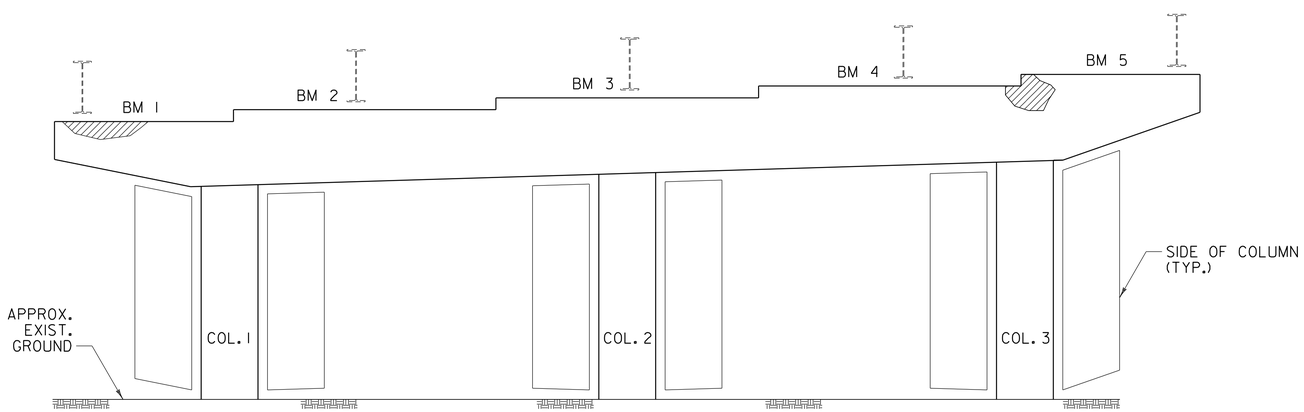
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 6 NORTHBOUND - REPAIRS	SHEET 48 OF 105



NORTH FACE



SOUTH FACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

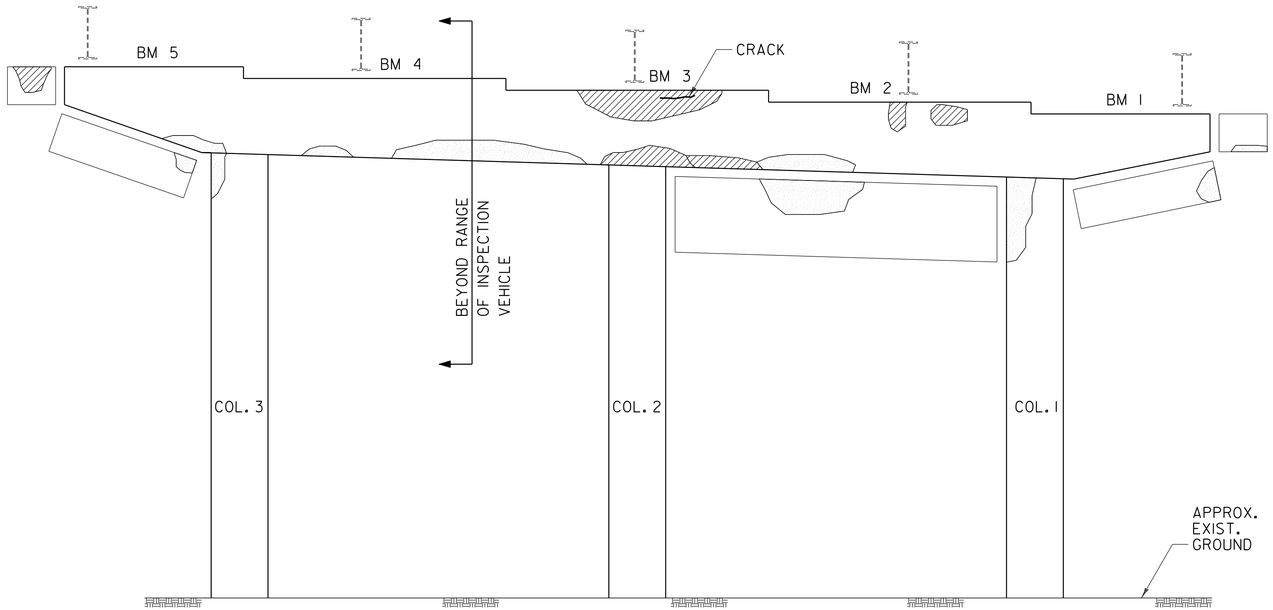
PIER NO. 1 SOUTHBOUND

SCALE 1/4" = 1'-0"

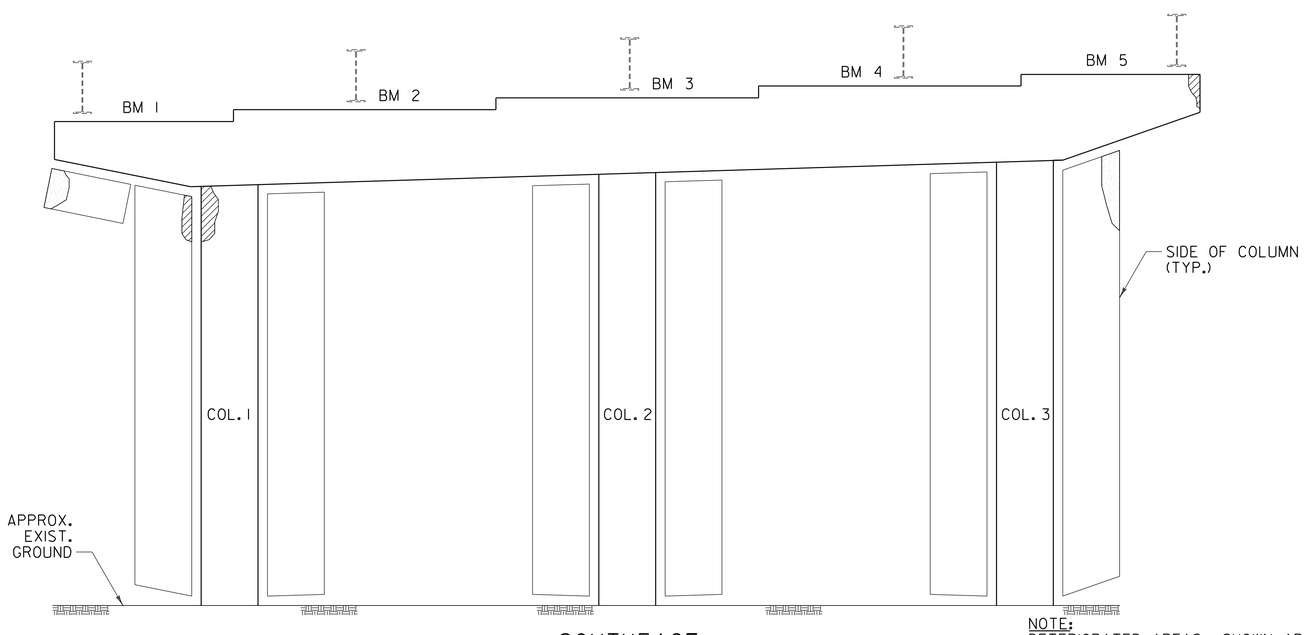
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 1 SOUTHBOUND - REPAIRS	SHEET 49 OF 105



NORTHFACE



SOUTHFACE

PIER NO. 2 SOUTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

NOTE:

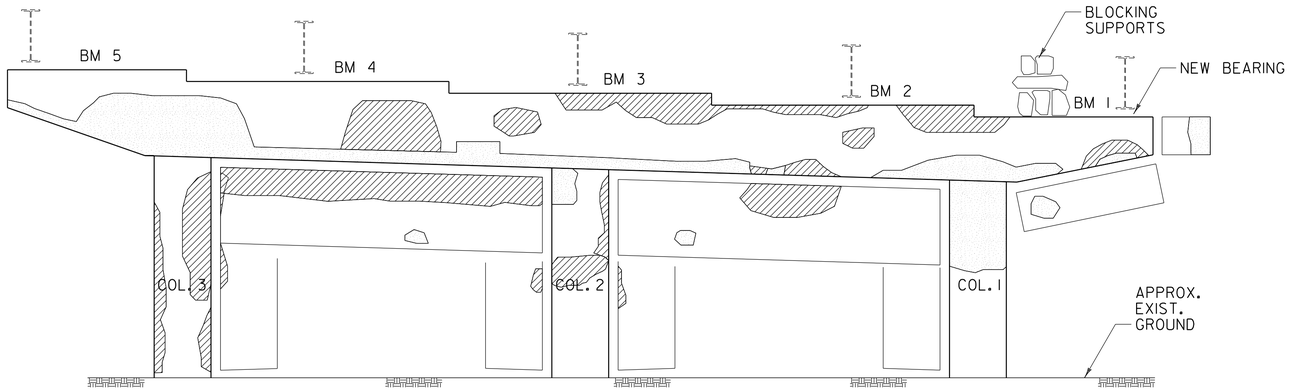
ALL REPAIRS ARE ESTIMATED.

LEGEND

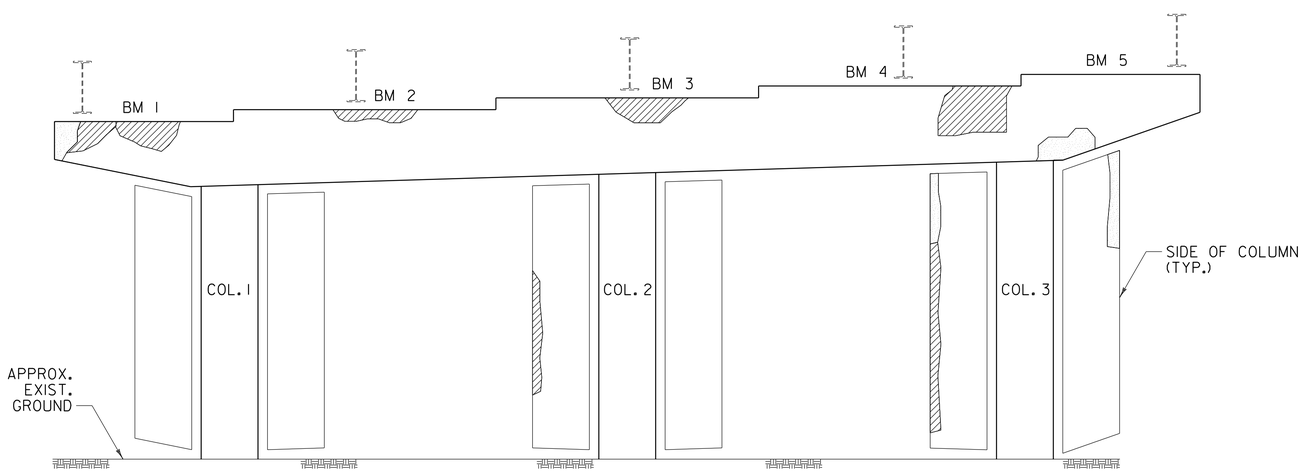
- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 2 SOUTHBOUND - REPAIRS	SHEET 50 OF 105



NORTHFACE



SOUTHFACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

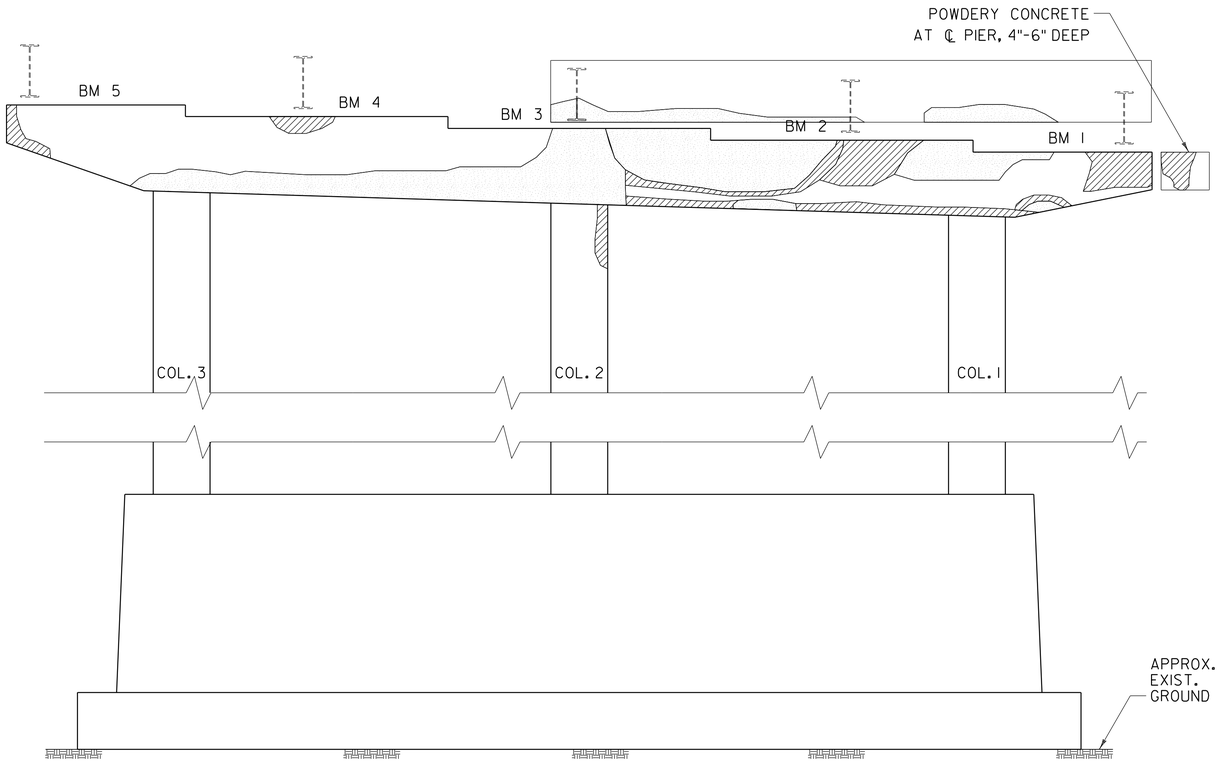
PIER NO. 3 SOUTHBOUND

SCALE 1/4" = 1'-0"

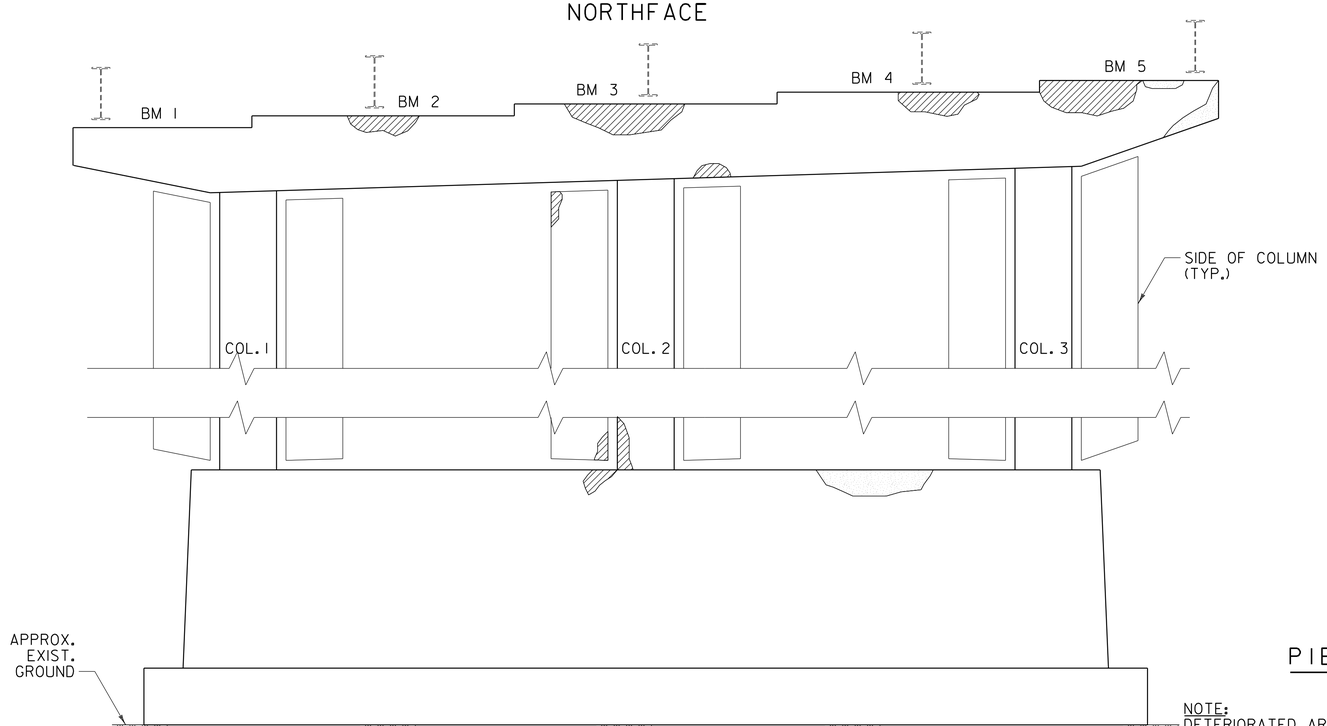
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 3 SOUTHBOUND - REPAIRS	SHEET 51 OF 105



NORTH FACE



SOUTH FACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

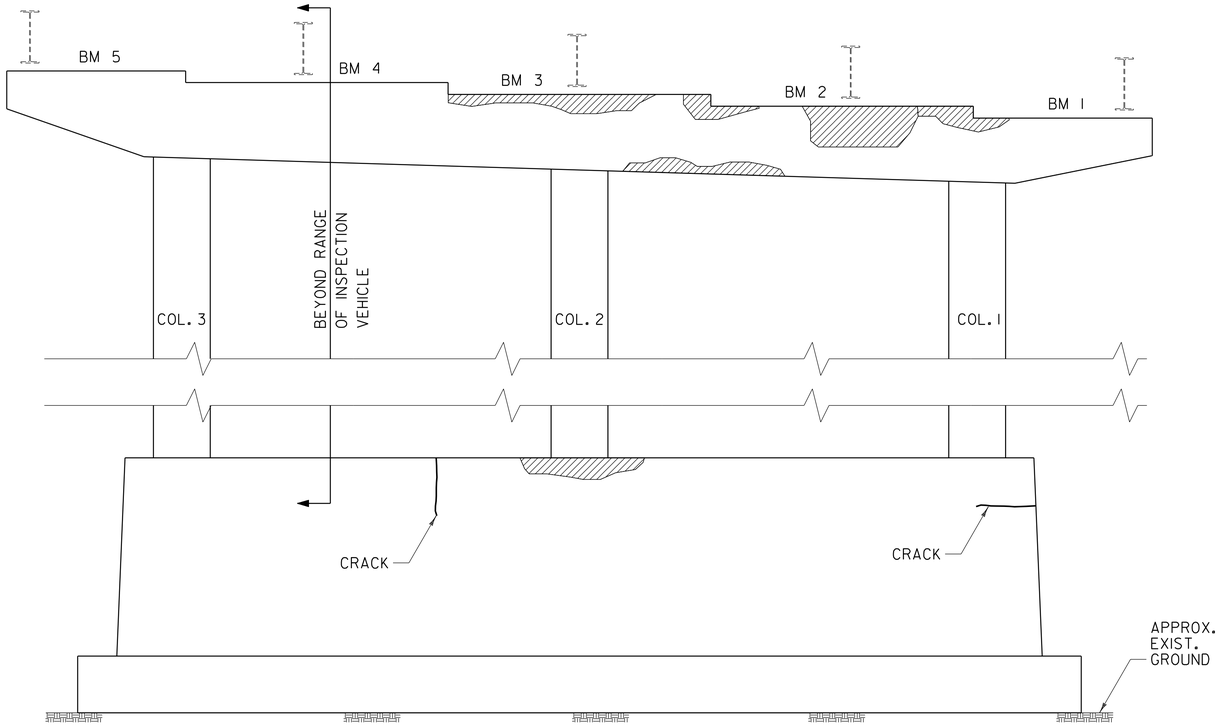
PIER NO. 4 SOUTHBOUND

SCALE 1/4" = 1'-0"

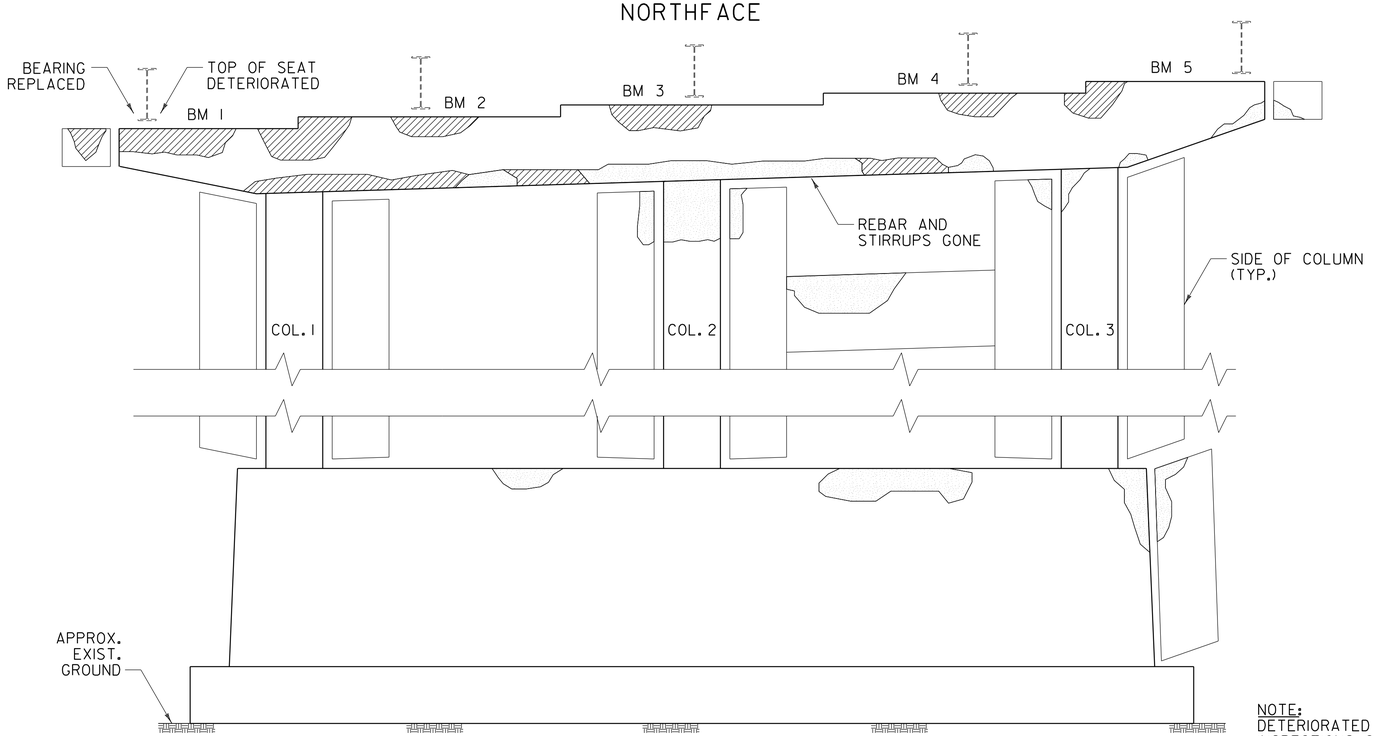
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015.
ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 4 SOUTHBOUND - REPAIRS	SHEET 52 OF 105



NORTH FACE



SOUTH FACE

NOTE:
ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

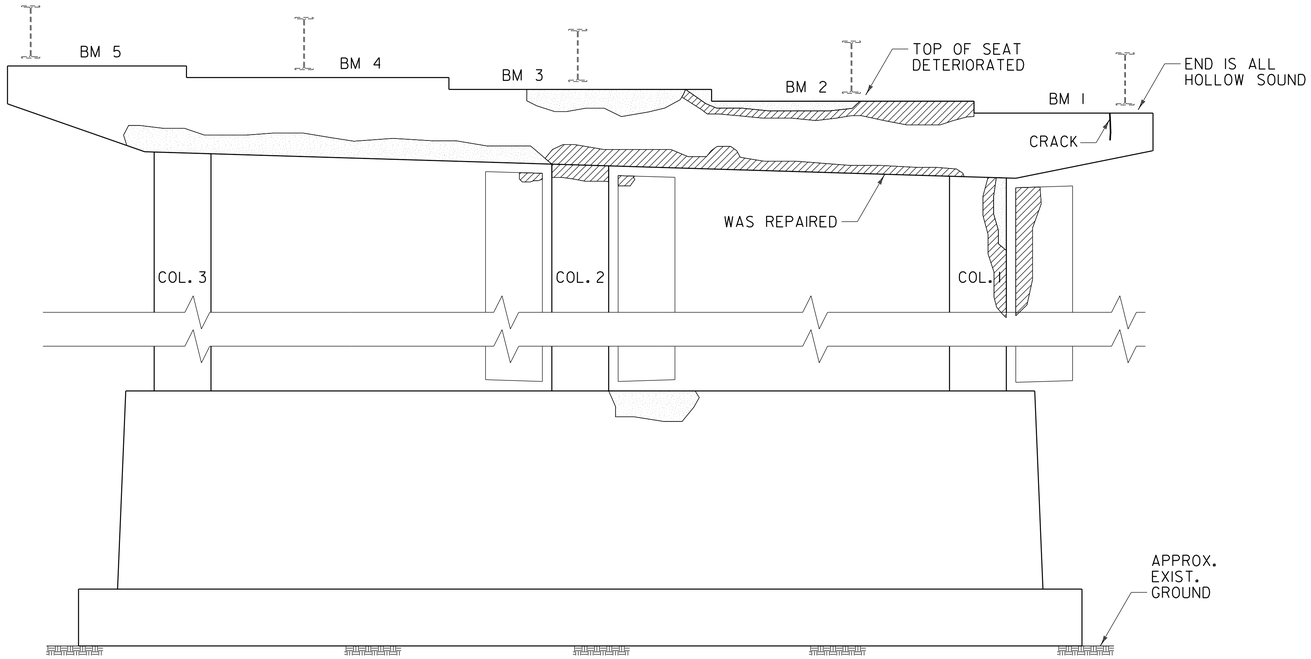
PIER NO. 5 SOUTHBOUND

SCALE 1/4" = 1'-0"

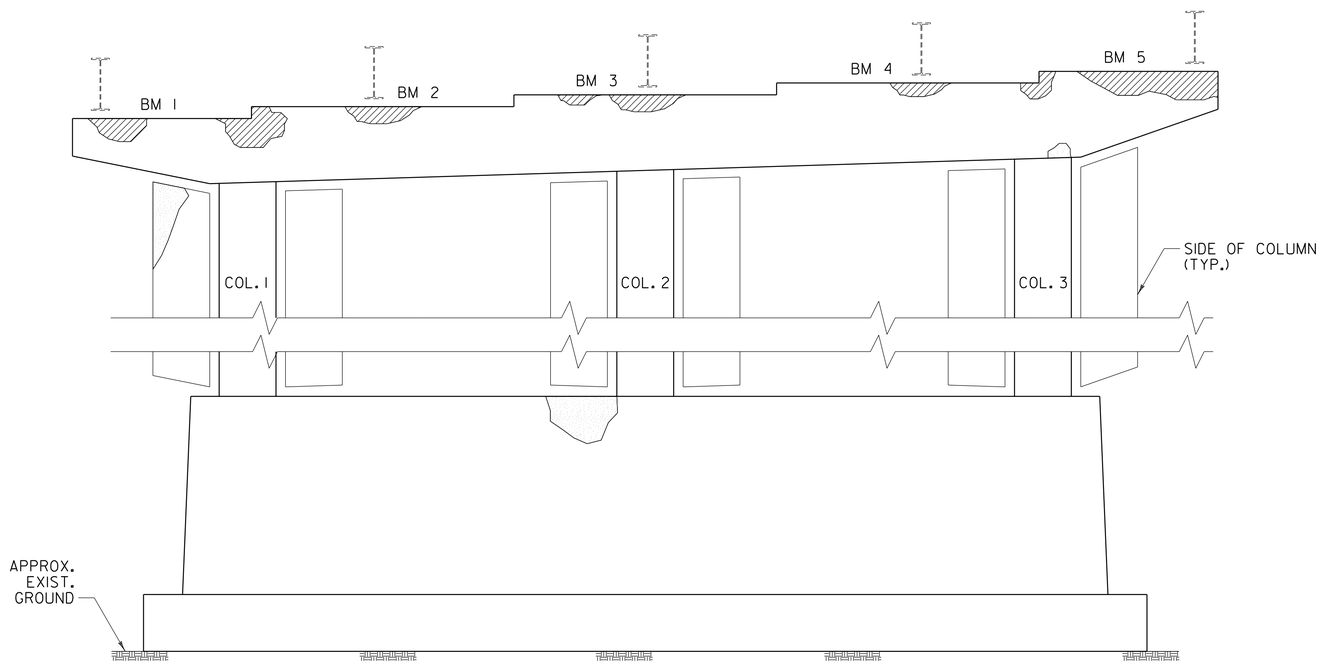
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015.
ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 5 SOUTHBOUND - REPAIRS	SHEET 53 OF 105



NORTHFACE



SOUTHFACE

PIER NO. 6 SOUTHBOUND

SCALE 1/4" = 1'-0"

NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

NOTE:

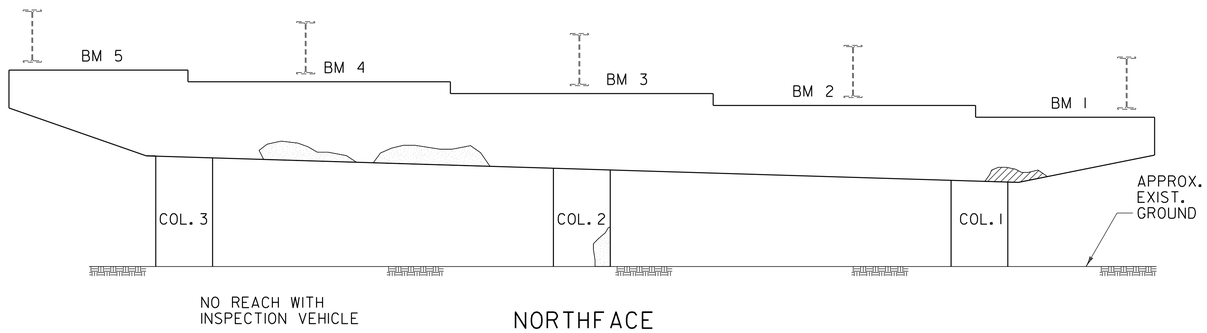
ALL REPAIRS ARE ESTIMATED.

LEGEND

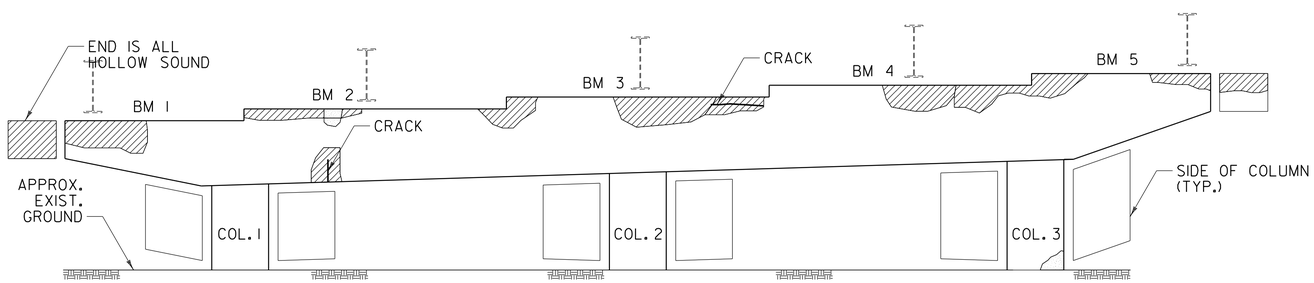
- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 6 SOUTHBOUND - REPAIRS	SHEET 54 OF 105



NORTH FACE



SOUTH FACE

NOTE:

ALL REPAIRS ARE ESTIMATED.

LEGEND

- CRACK
- SPALLED GREATER THAN 2" DEPTH WITH EXPOSED REBAR
- DELAMINATED AREA

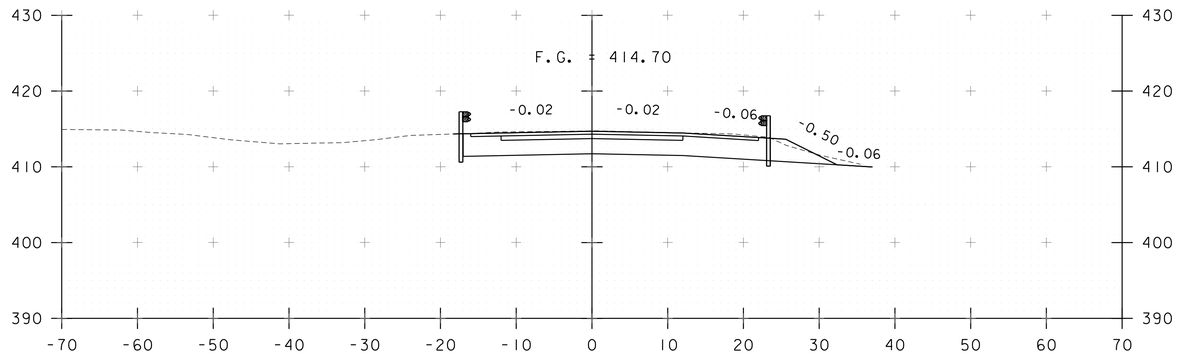
PIER NO. 7 SOUTHBOUND

SCALE 1/4" = 1'-0"

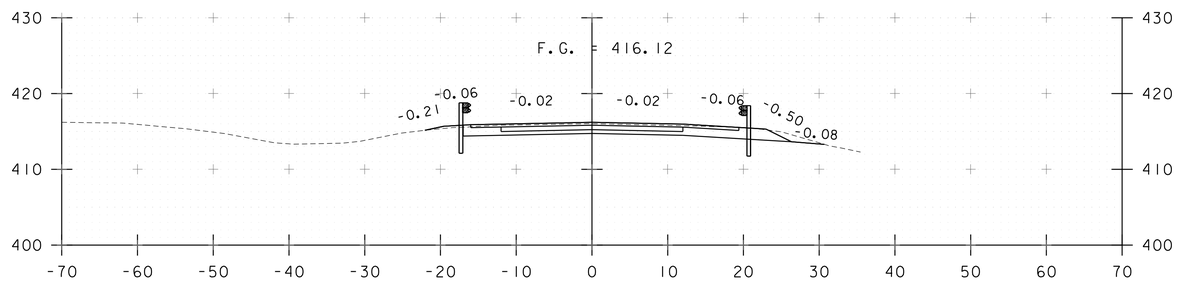
NOTE:
DETERIORATED AREAS SHOWN ARE BASED ON INSPECTIONS CONDUCTED IN JULY 2015. ACTUAL LIMITS, DEPTH AND CLASS OF REPAIR TO BE DETERMINED BY THE RESIDENT ENGINEER.

Stantec

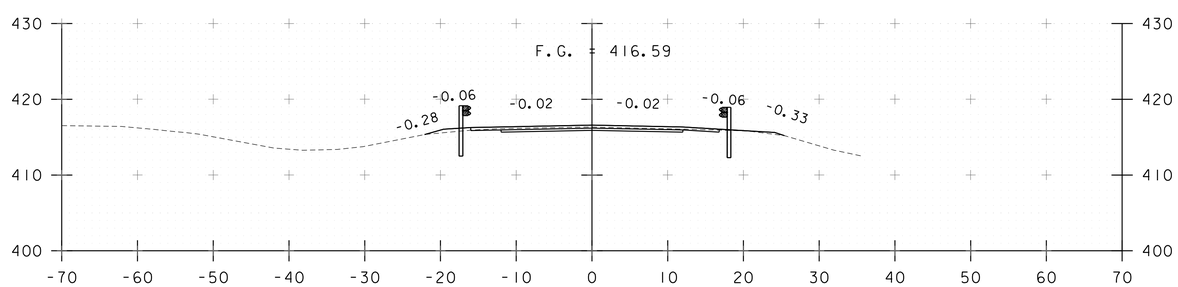
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098piers.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: X. XXXX
PIER NO. 7 SOUTHBOUND - REPAIRS	SHEET 55 OF 105



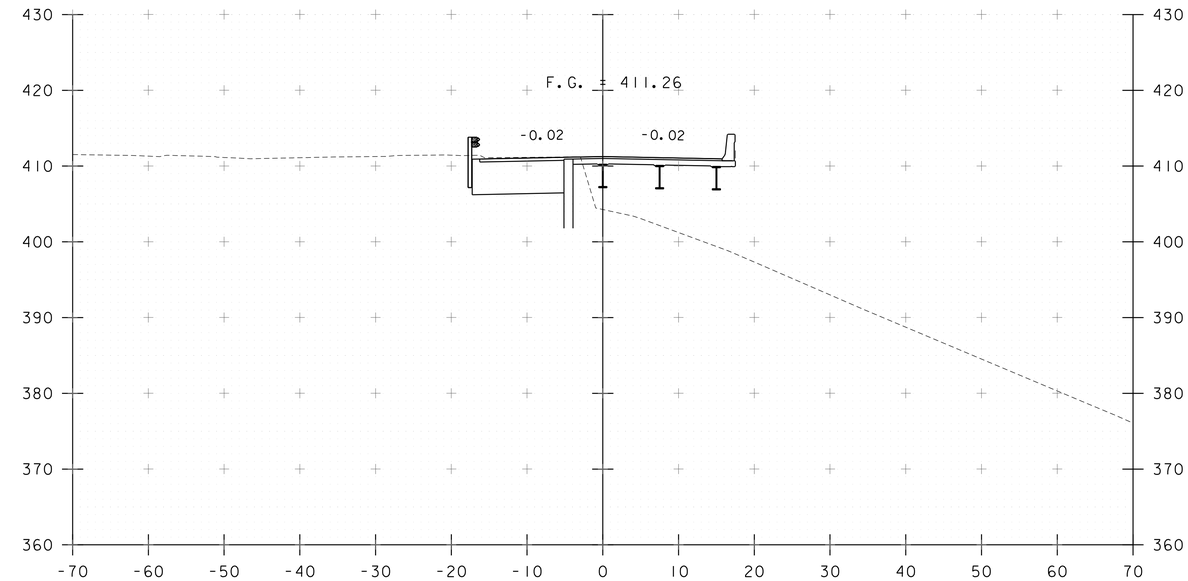
1643+00
BEGIN PROJECT



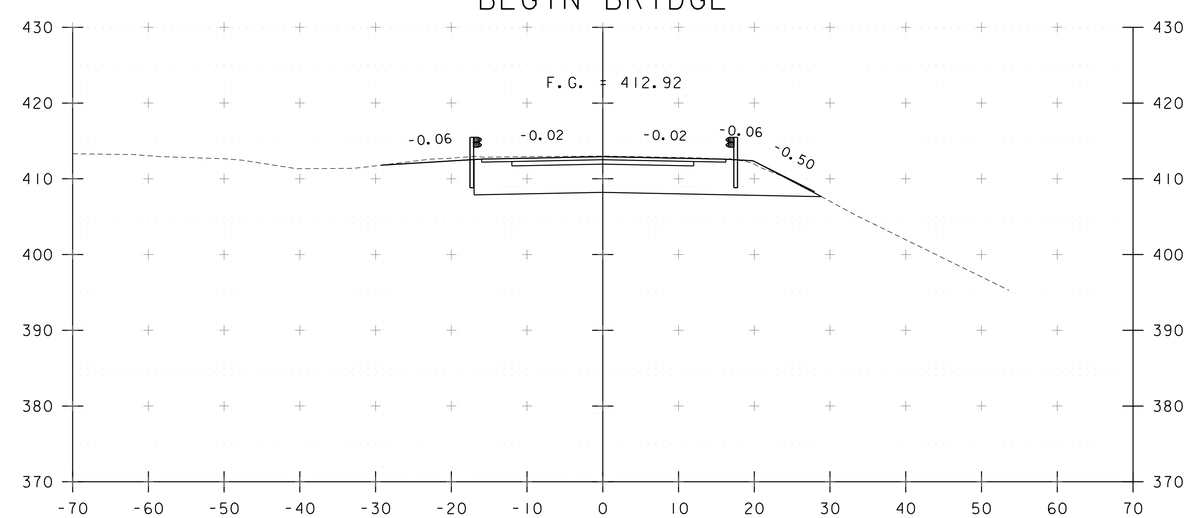
1642+62.5



1642+50



1644+00
1643+96.64
BEGIN BRIDGE

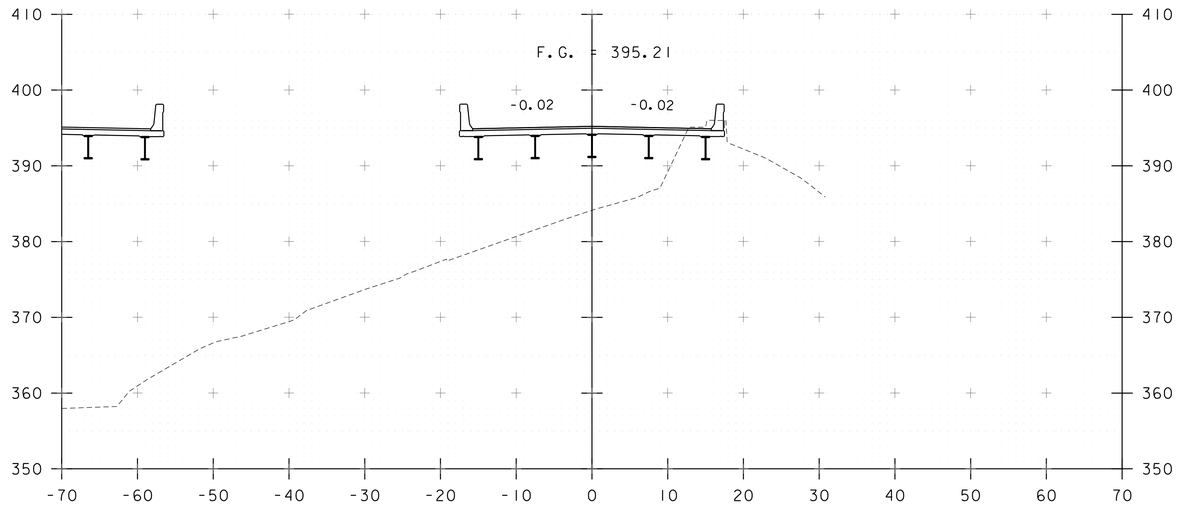


1643+50

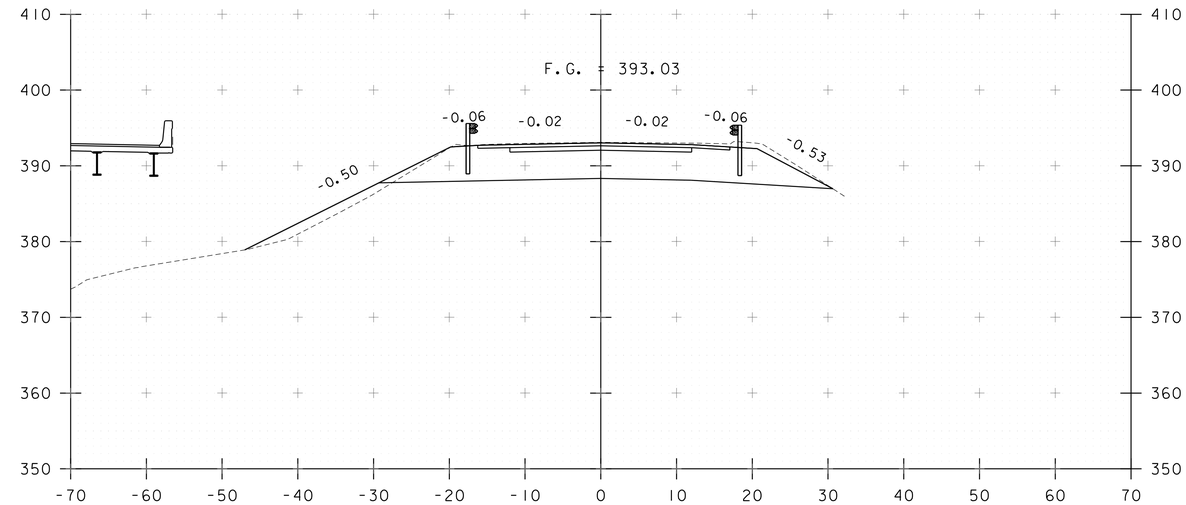
STA. 1642+50 TO STA. 1644+00

Stantec

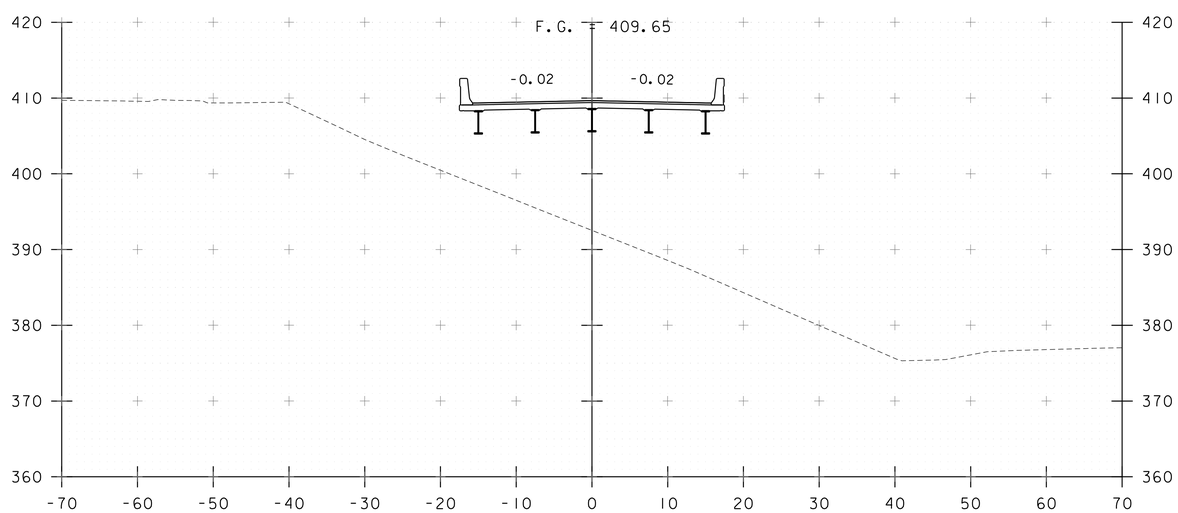
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 NORTHBOUND CROSS SECTION SHEET 1	SHEET 56 OF 105



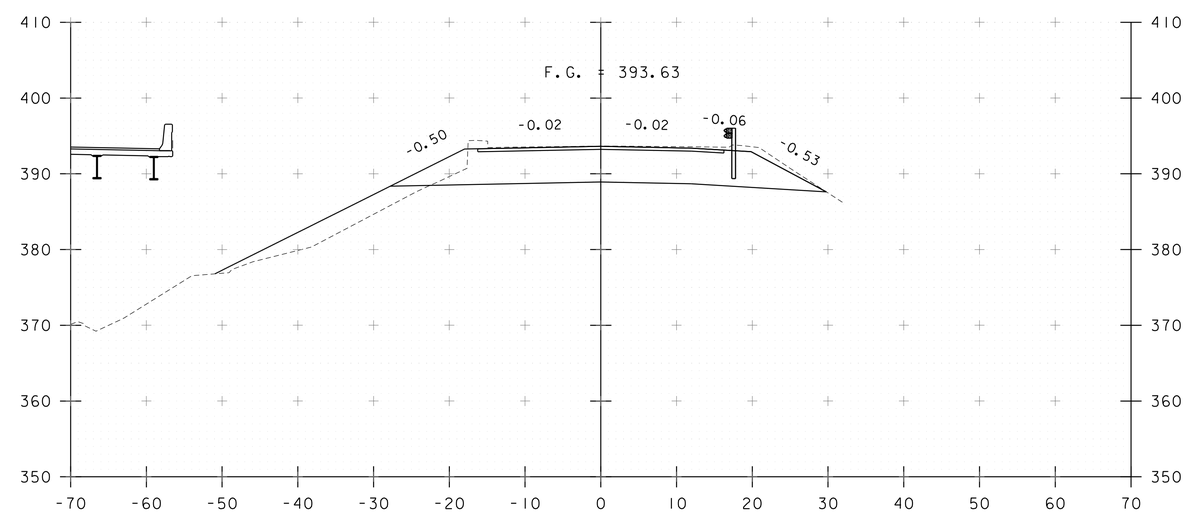
1649+00



1649+70



1644+50

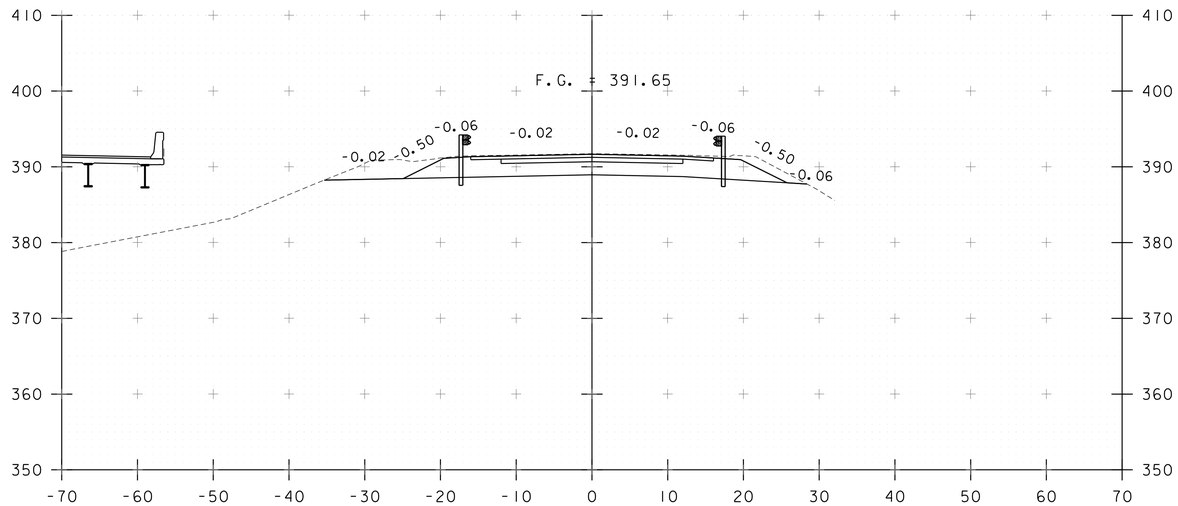


1649+50
1649+19.64
END BRIDGE

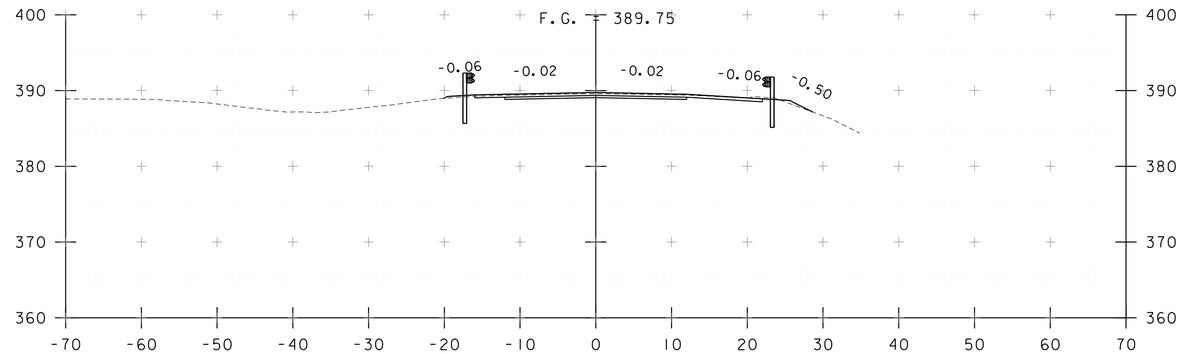
STA. 1644+50 TO STA. 1649+70

Stantec

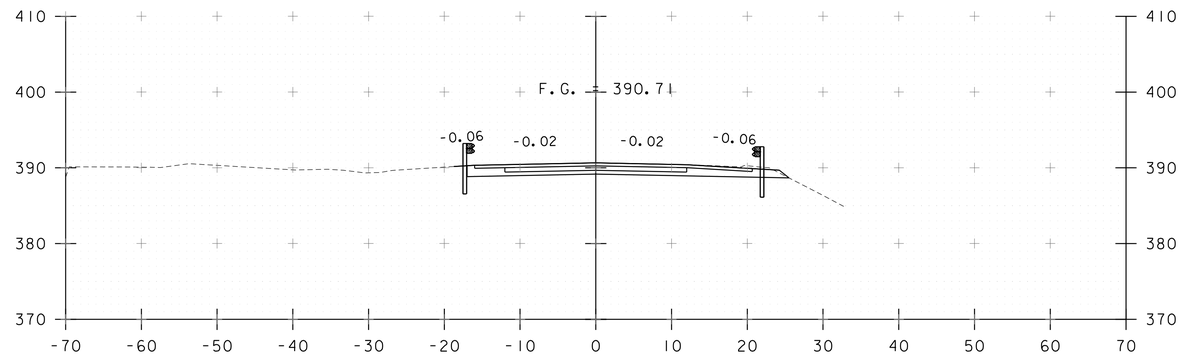
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 NORTHBOUND CROSS SECTION SHEET 2	SHEET 57 OF 105



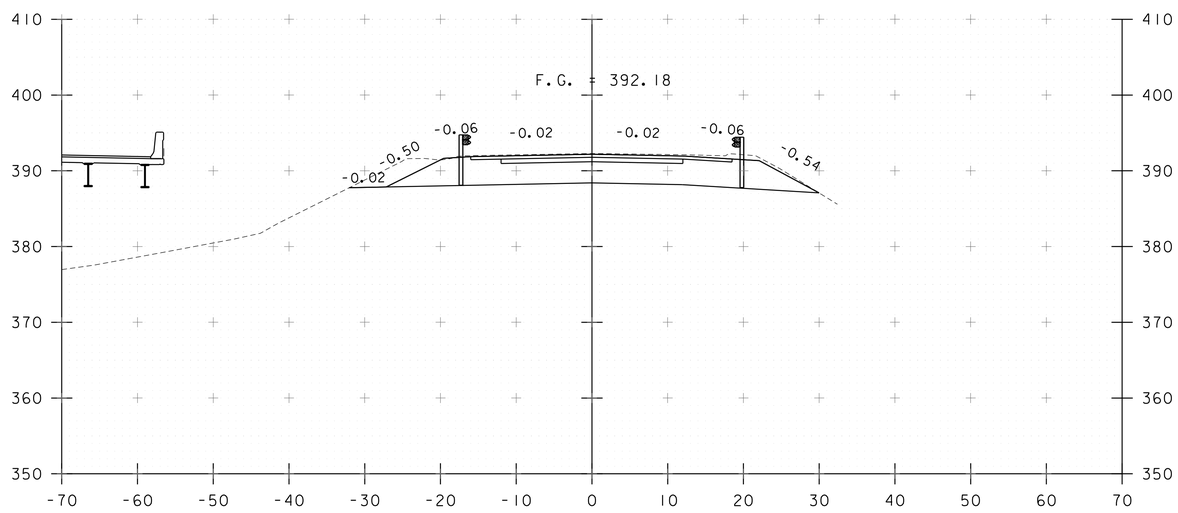
1650+20
END PROJECT



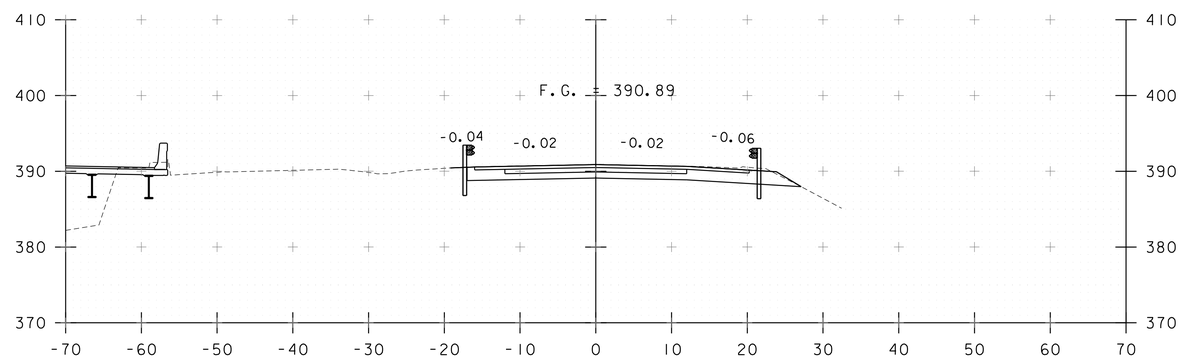
1651+00



1650+57.50



1650+00

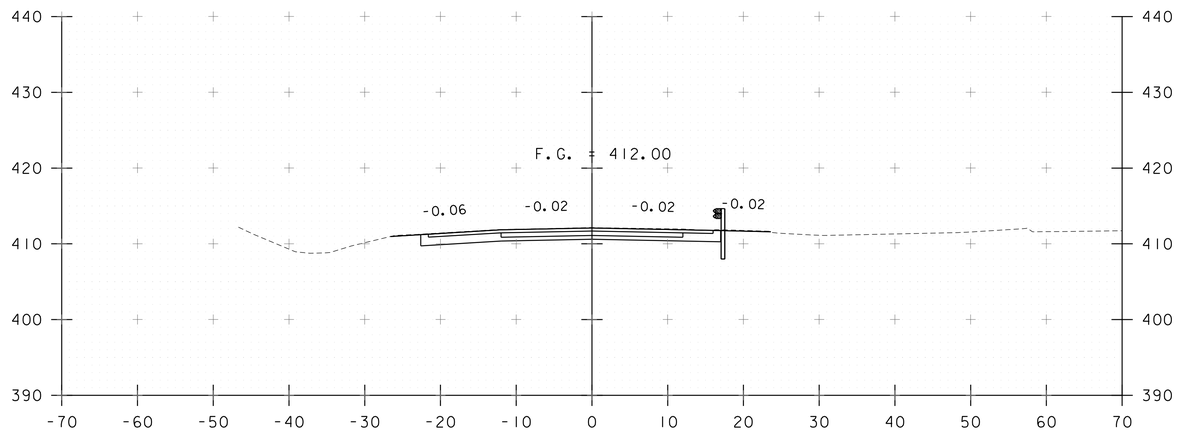


1650+50

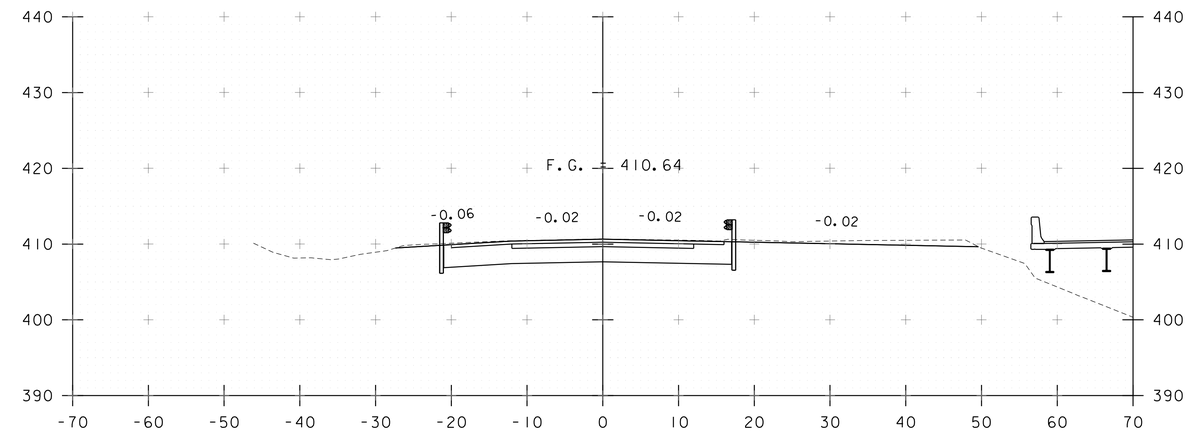
STA. 1650+00 TO STA. 1651+00

Stantec

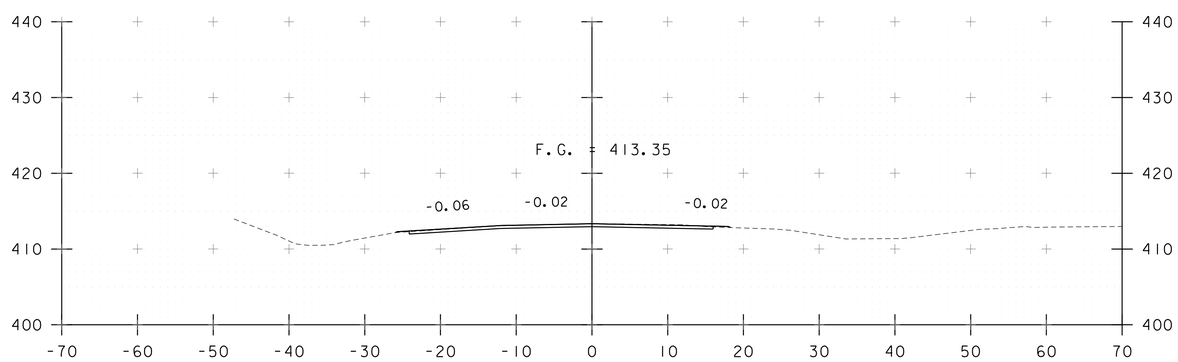
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 NORTHBOUND CROSS SECTION SHEET 3	SHEET 58 OF 105



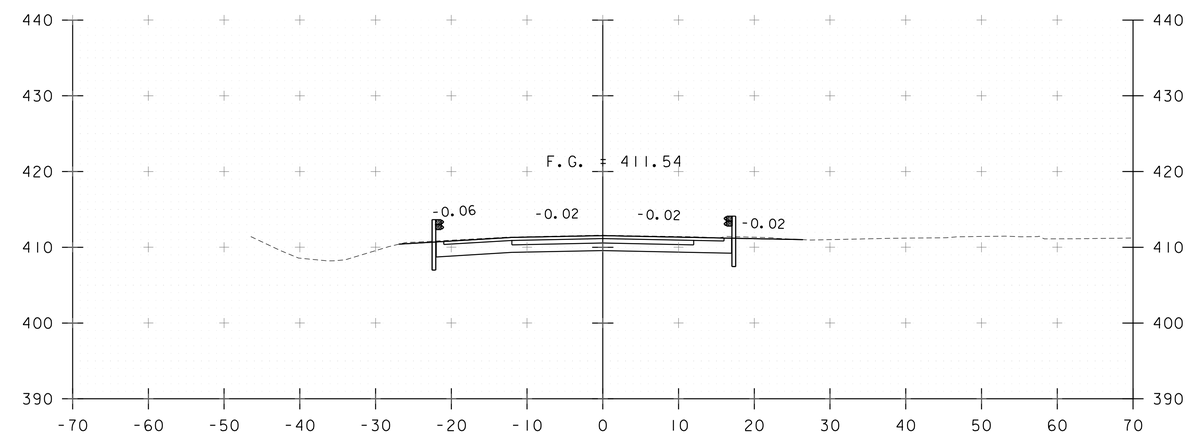
2643+87.50



2644+25
BEGIN PROJECT



2643+50

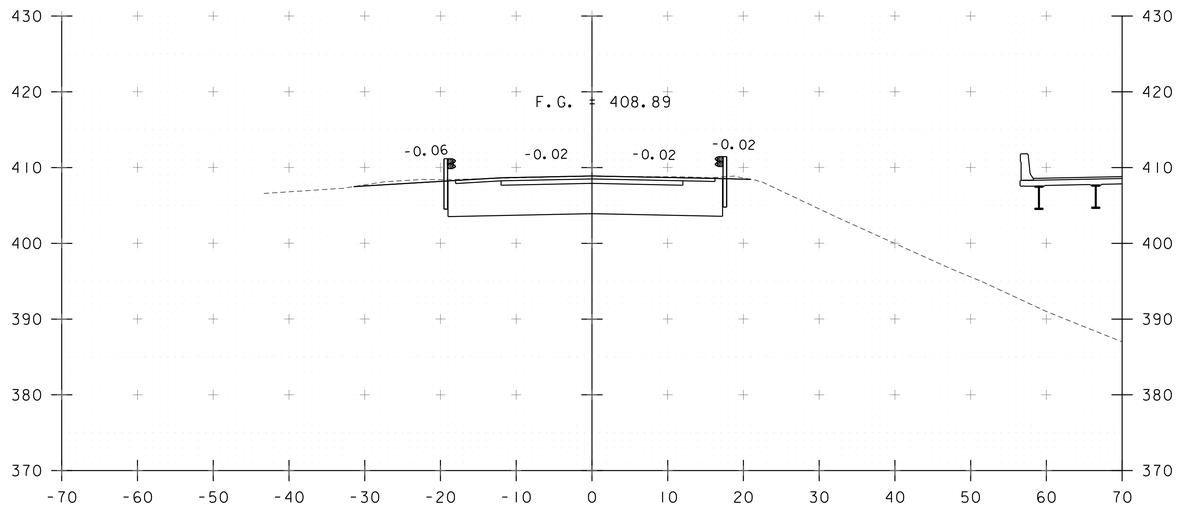


2644+00

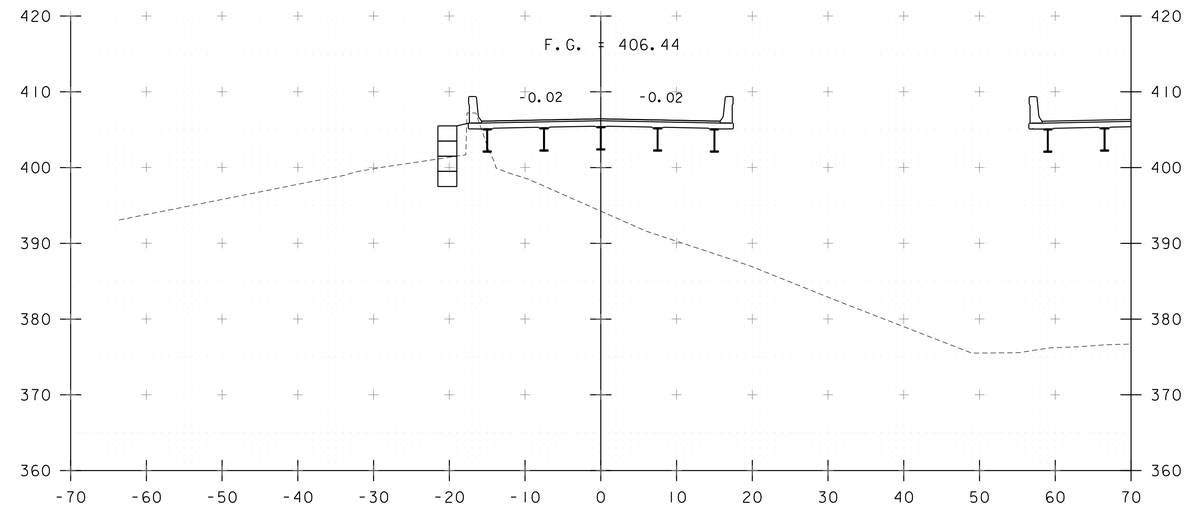
STA. 2643+50 TO STA. 2644+25

Stantec

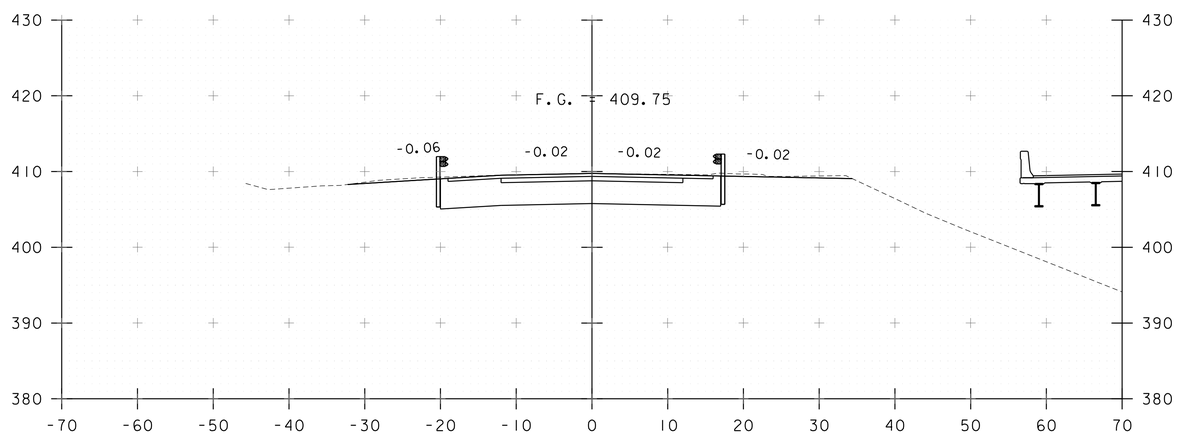
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 SOUTHBOUND CROSS SECTION SHEET 1	SHEET 59 OF 105



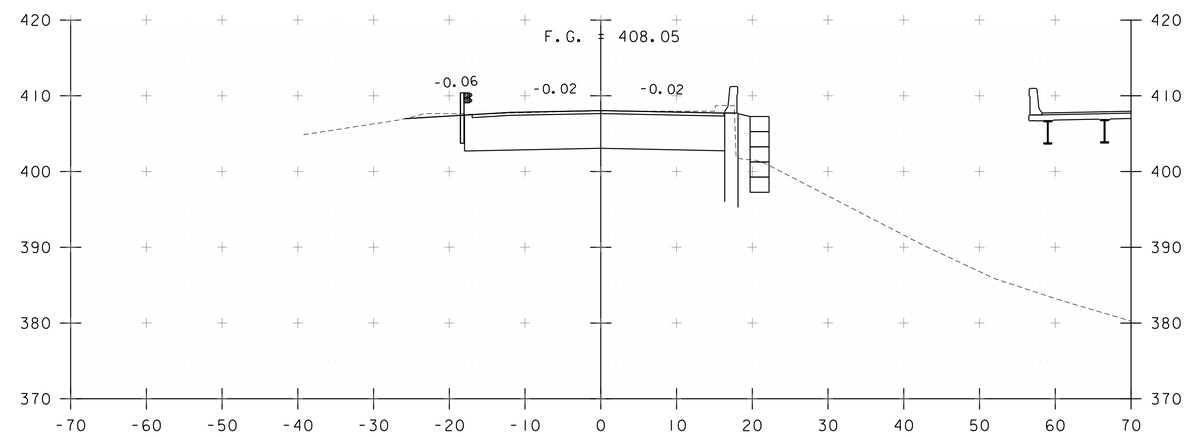
2644+75



2645+50



2644+50

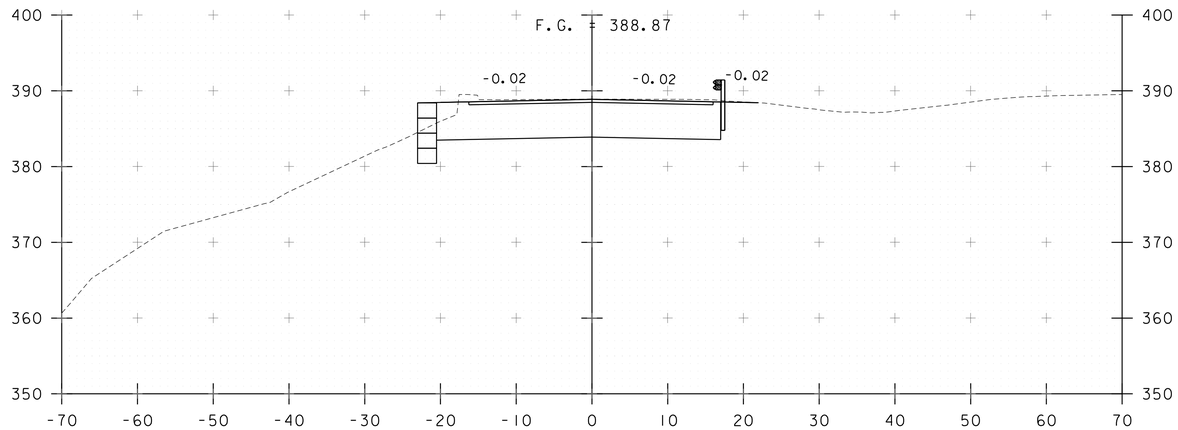


2645+00
2645+23.02
BEGIN BRIDGE

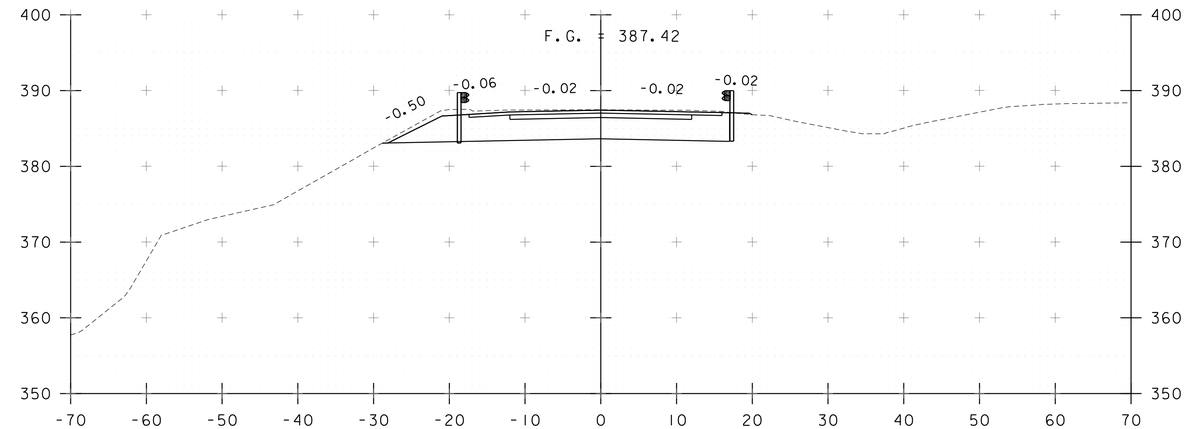
STA. 2644+50 TO STA. 2645+50

Stantec

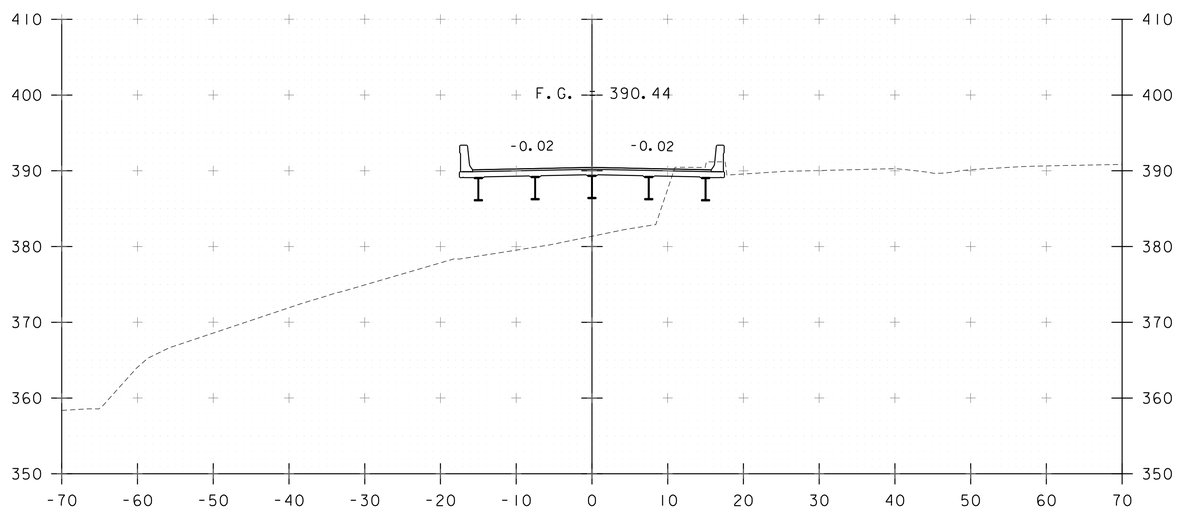
PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 SOUTHBOUND CROSS SECTION SHEET 2	SHEET 60 OF 105



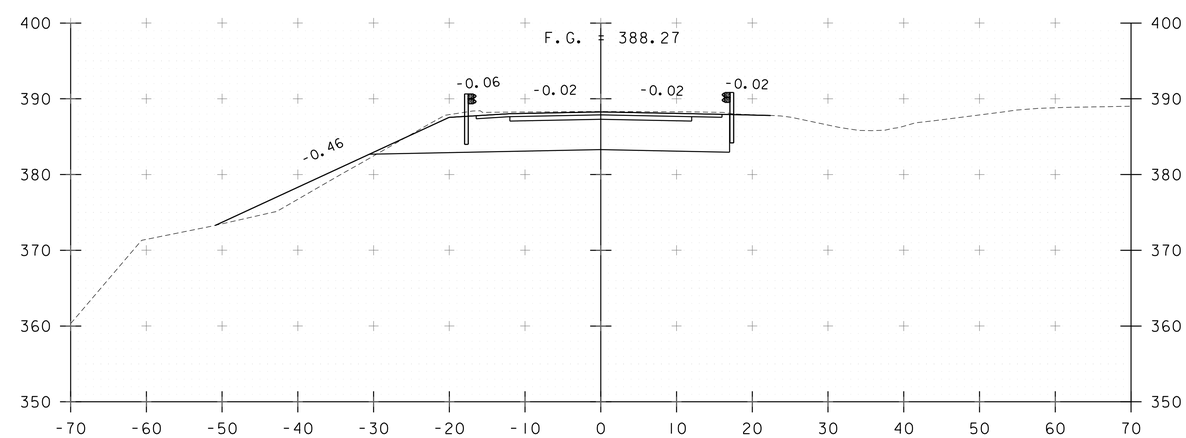
2651+00



2651+50



2650+50
2650+65.02
END BRIDGE

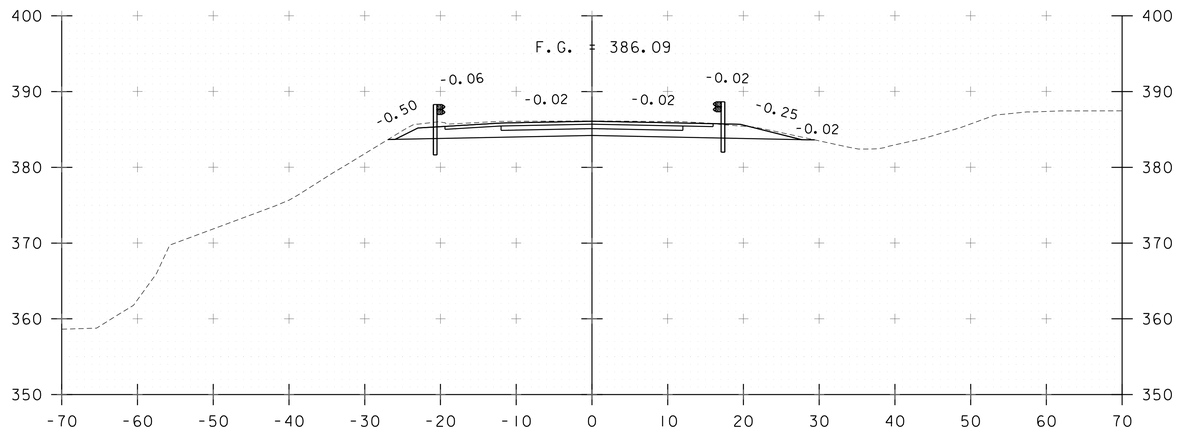


2651+20

STA. 2650+50 TO STA. 2651+50

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 SOUTHBOUND CROSS SECTION SHEET 3	SHEET 61 OF 105



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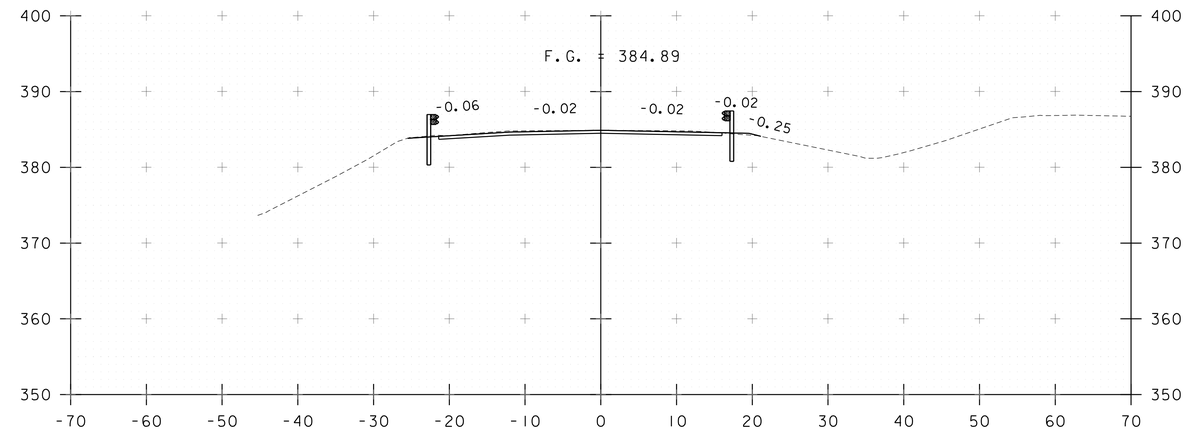

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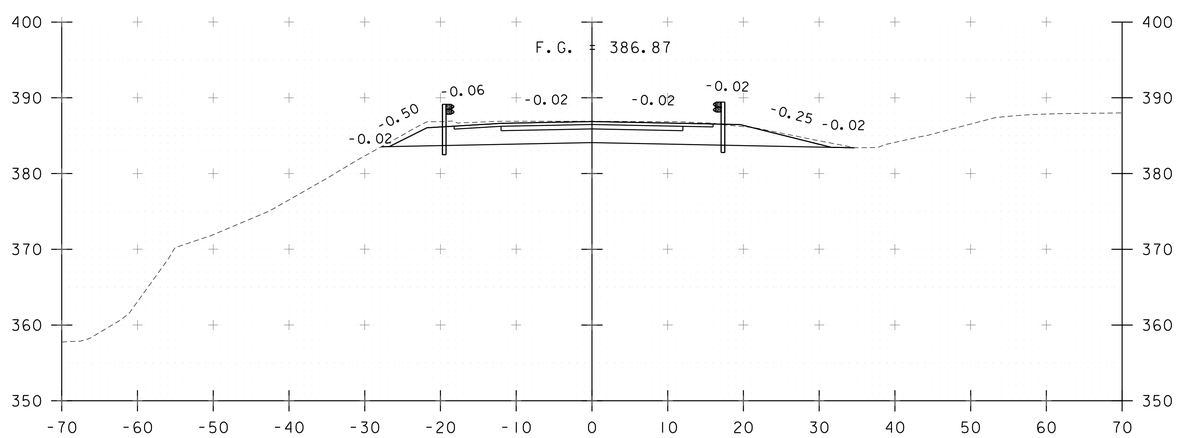

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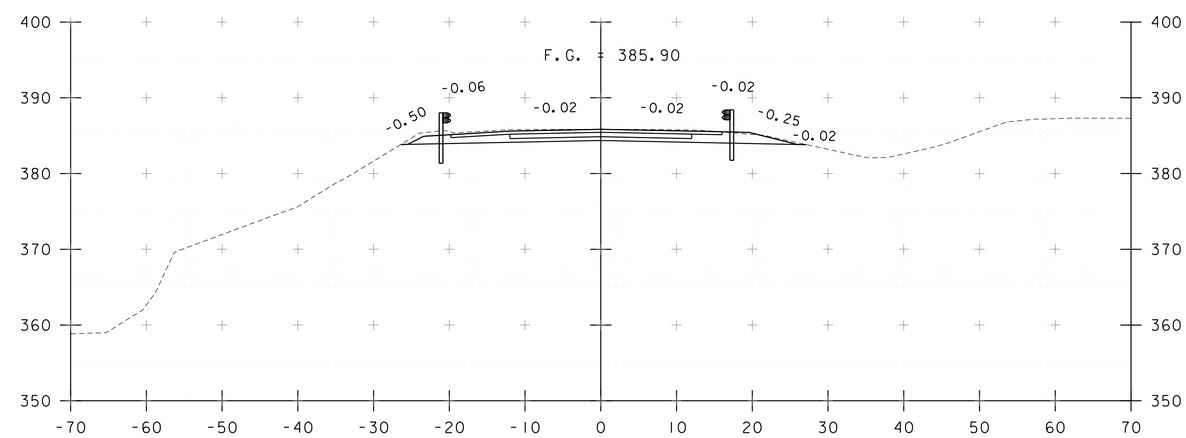

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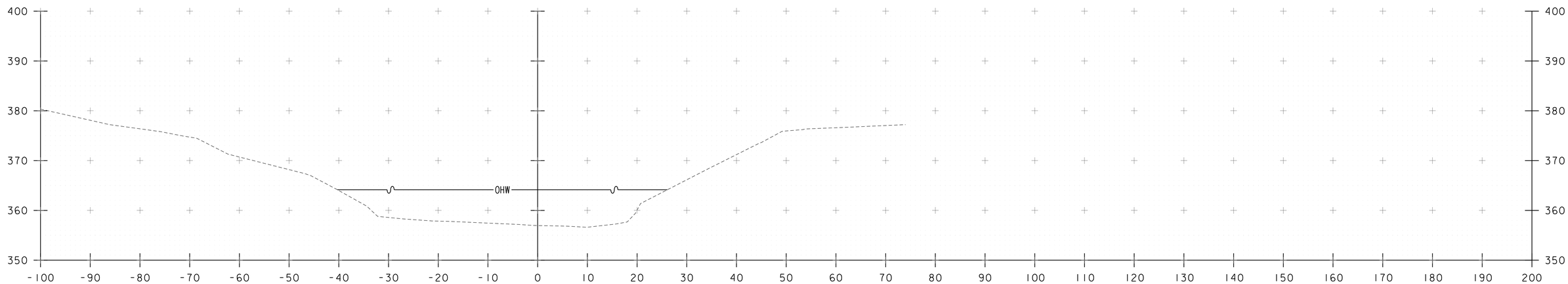
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098xs.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: X. XXXX
I-91 SOUTHBOUND CROSS SECTION SHEET 4	SHEET 62 OF 105



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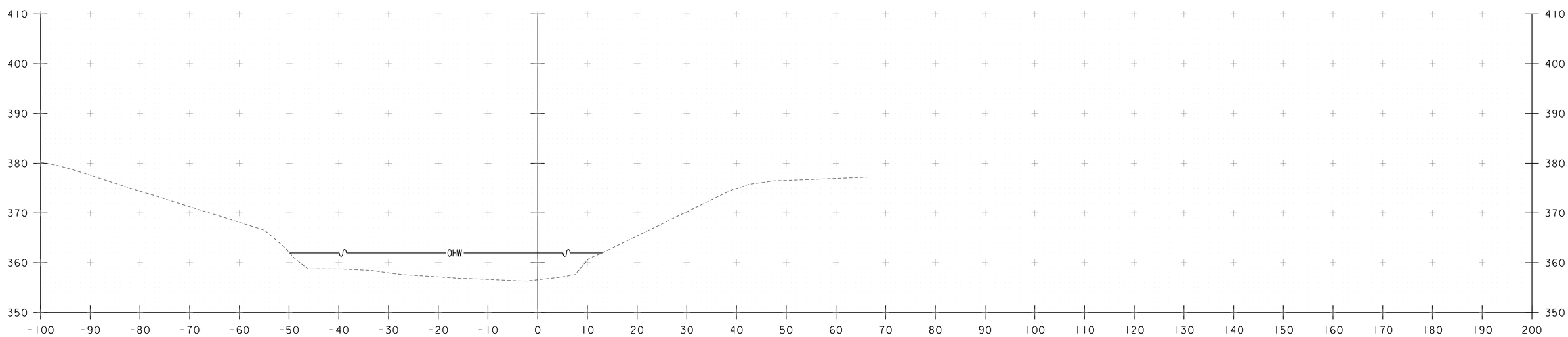

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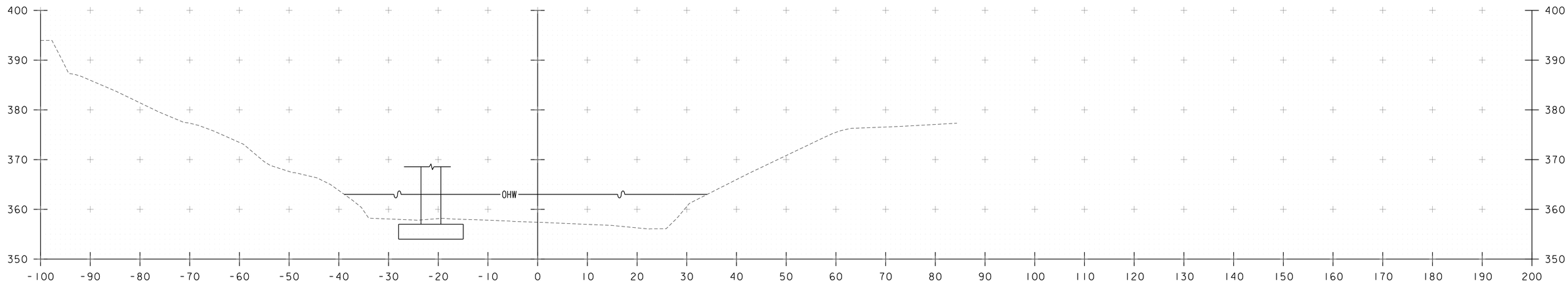
SAXTONS RIVER CROSS SECTION SHEET 1	SHEET 63 OF 105



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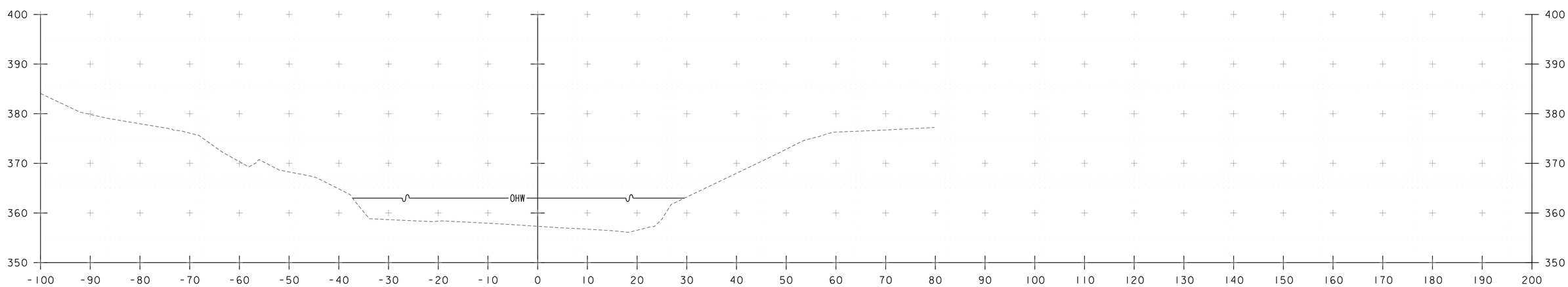

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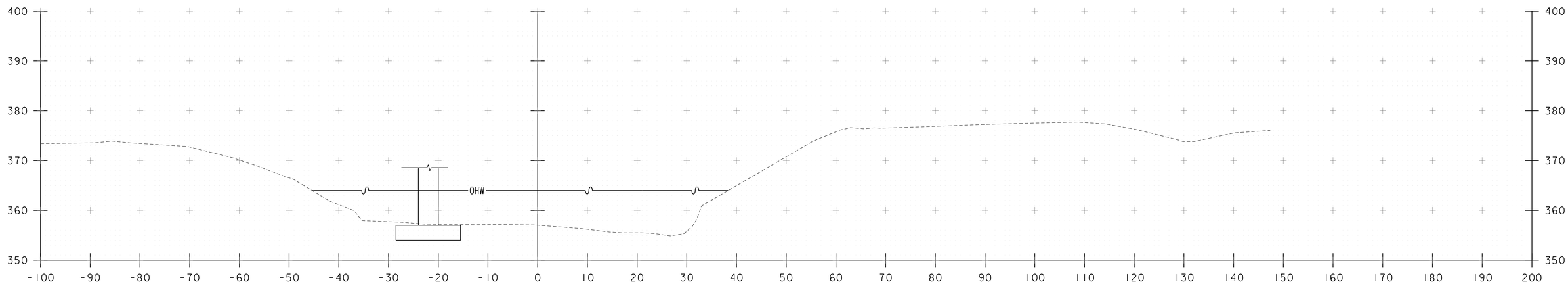
SAXTONS RIVER CROSS SECTION SHEET 2	SHEET 64 OF 105



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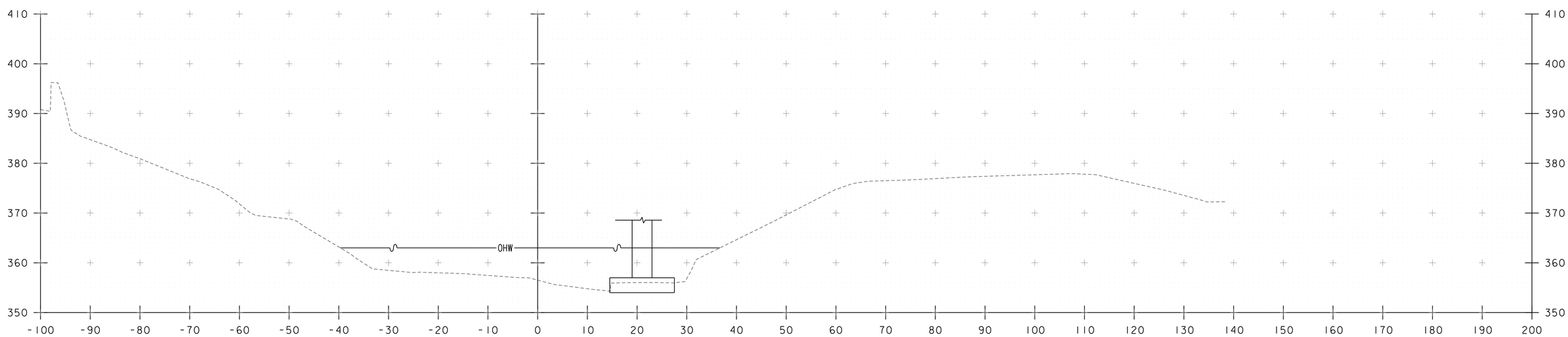

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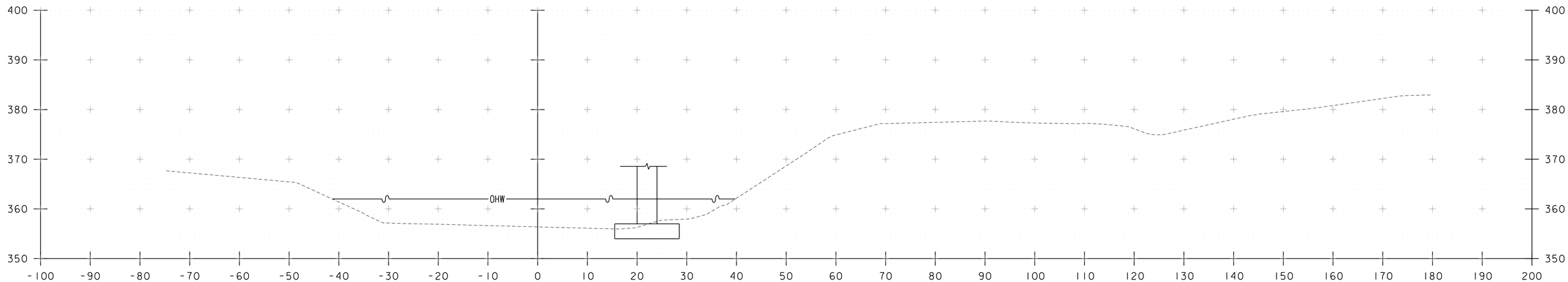
SAXTONS RIVER CROSS SECTION SHEET 3	SHEET 65 OF 105



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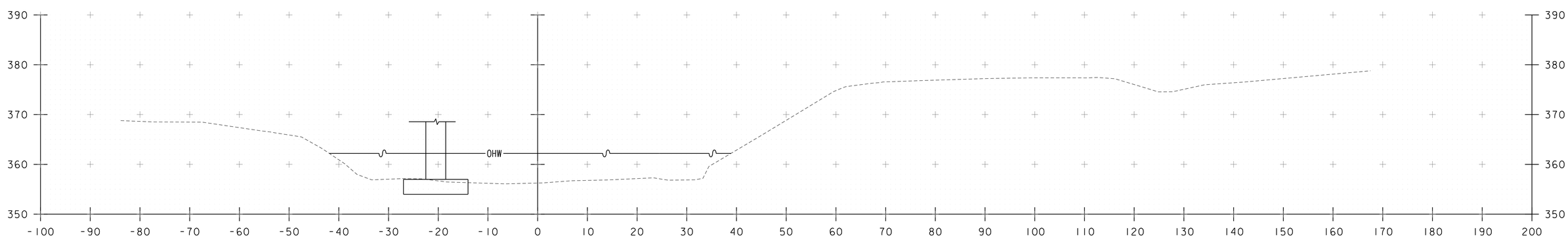

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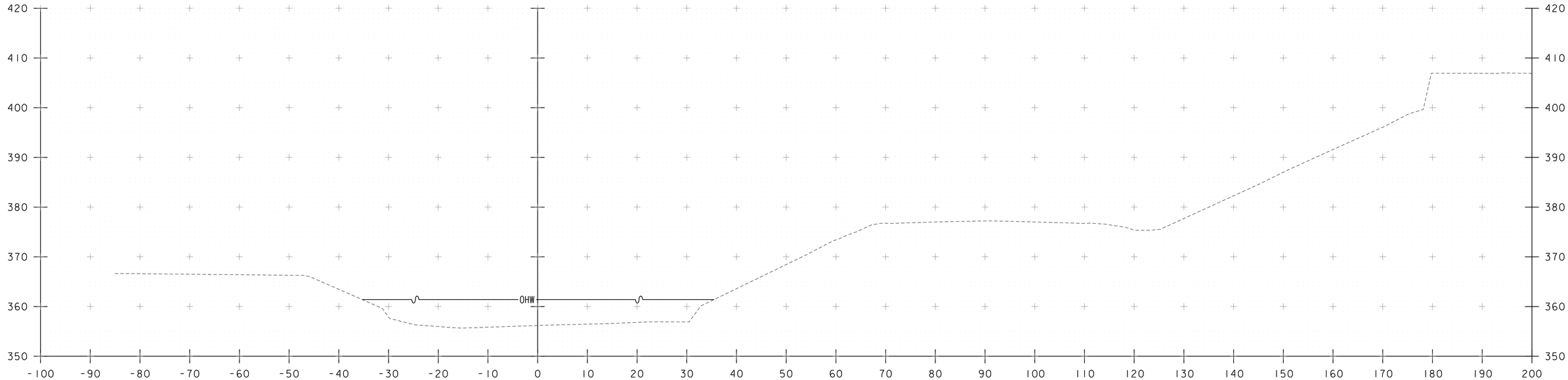
SAXTONS RIVER CROSS SECTION SHEET 4	SHEET 66 OF 105



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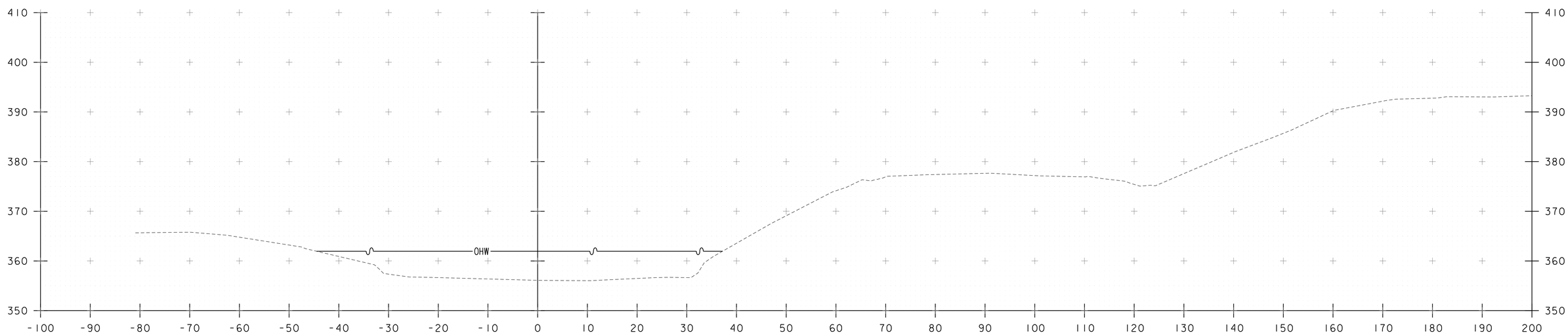

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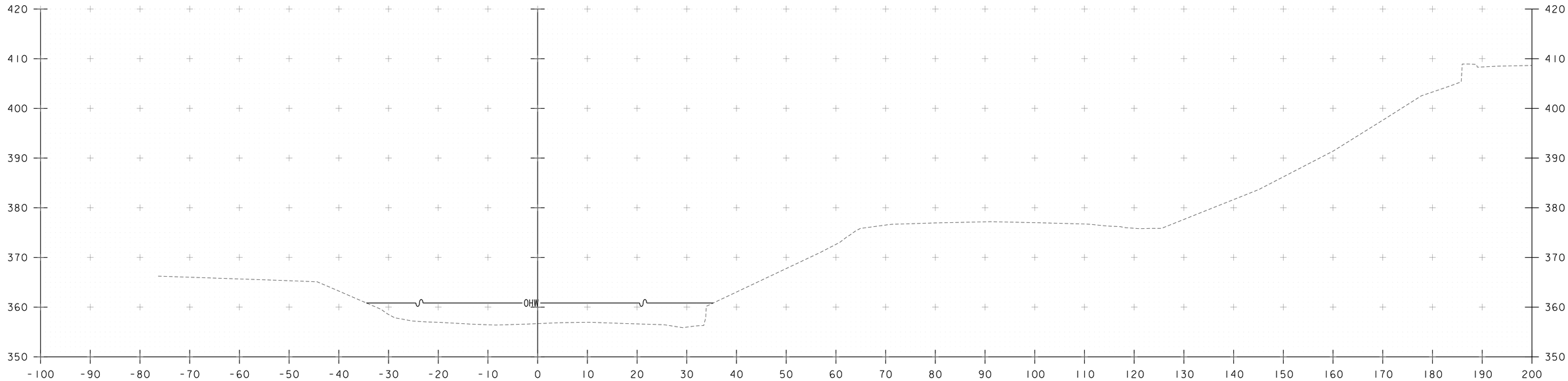
SAXTONS RIVER CROSS SECTION SHEET 5	SHEET 67 OF 105



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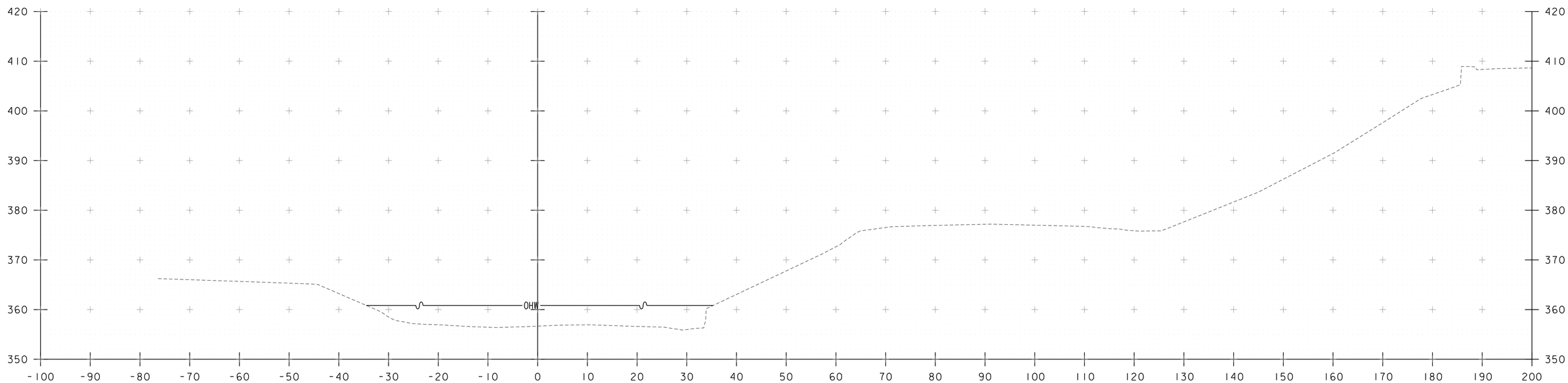

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SAXTONS RIVER CROSS SECTION SHEET 6	SHEET 68 OF 105

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF CONCRETE BRIDGE DECKS FOR BRIDGES 21N & 21S, REPAIRS TO THE EXISTING SUBSTRUCTURES, CONSTRUCTION OF TEMPORARY CROSSOVERS, ALONG WITH RELATED ROADWAY WORK AND INCIDENTALS. BRIDGES 21N & 21S ARE LOCATED IN THE TOWN OF WESTMINSTER, VT INTERSTATE 91, 2.4 MILES NORTH OF EXIT 5 ALONG INTERSTATE 91 WHERE THEY CROSS SAXTONS RIVER AND SAXTONS RIVER ROAD (VT 121).

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 2.74 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE IMMEDIATE PROJECT AREA IS RURAL SURROUNDED BY ROLLING HILLS AND FORESTED LAND.

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

SAXTONS RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE SAXTONS RIVER IS CLASSIFIED AS ESSENTIAL FISH HABITAT. THE STREAM BED CONSISTS OF BOULDERS, BED ROCK AND SOME STONES. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF OPEN GRASSED AREAS, HARDWOOD TREES, SOFTWOOD TREES AND UNDERGROWTH. THERE WILL BE MINOR CLEARING ASSOCIATED WITH ABUTMENT EXCAVATION. 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 WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE AS FOLLOWS:

NORTH OF BRIDGES: PODUNK FINE SANDY LOAM, 0 TO 3% SLOPES, “K FACTOR” = 0.24. THE SOIL IS CONSIDERED TO HAVE MODERATE EROSION POTENTIAL.

SOUTH OF BRIDGES: QUONSET AND WARWICK SOILS, 25 TO 70% SLOPES, “K FACTOR” = .24. THE SOIL IS CONSIDERED TO HAVE MODERATE EROSION POTENTIAL.

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: ESSENTIAL FISH HABITAT
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, ARCHEOLOGICAL IN ALL FOUR PROJECT QUADRANTS
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NORTHERN LONG-EARED BAT
WATER RESOURCE: SAXTONS RIVER
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN TWO OR MORE ACRES OF EARTH DISTURBANCE AT ONE TIME OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

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 APPPROVED 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) AND BARRIER FENCE (BF) 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 MNIMIZED 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.

SILT FENCE TO BE INSTALLED AT LOCATIONS SHOWN ON THE EPSC PLANS.

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.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

CHECK DAMS TO BE INSTALLED AT THE LOCATIONS SHOWN ON THE EPSC PLAN.

1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE ARE NO PERMANENT STORMWATER TREATMENT DEVICES TO BE INSTALLED WITH THIS PROJECT.

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.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

SEDIMENT CONTAINMENT BAGS (FILTER BAGS) WILL BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEEER. SEE SHEET 86 FOR DETAIL.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

1.5 SEQUENCE AND STAGING

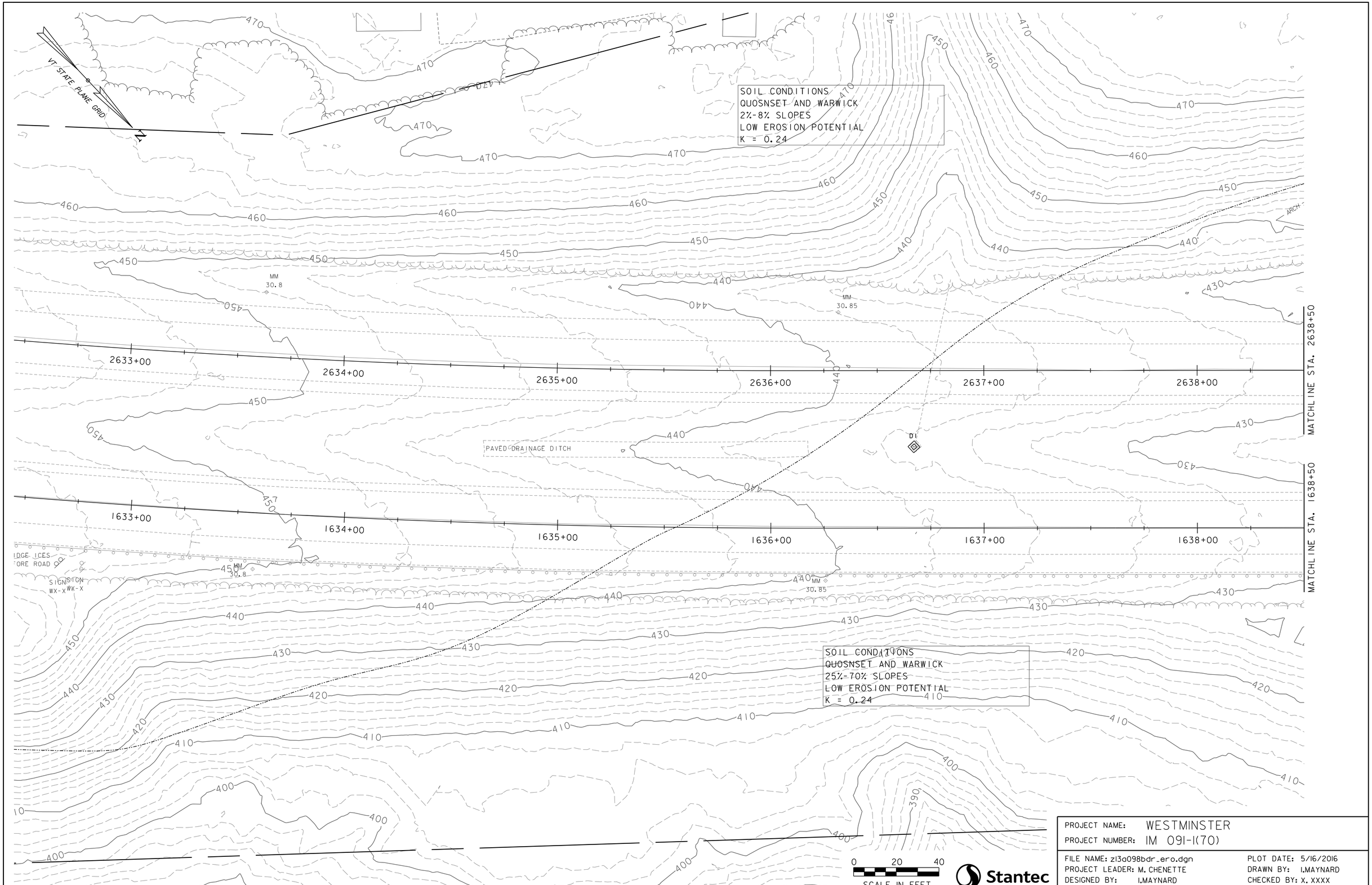
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

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



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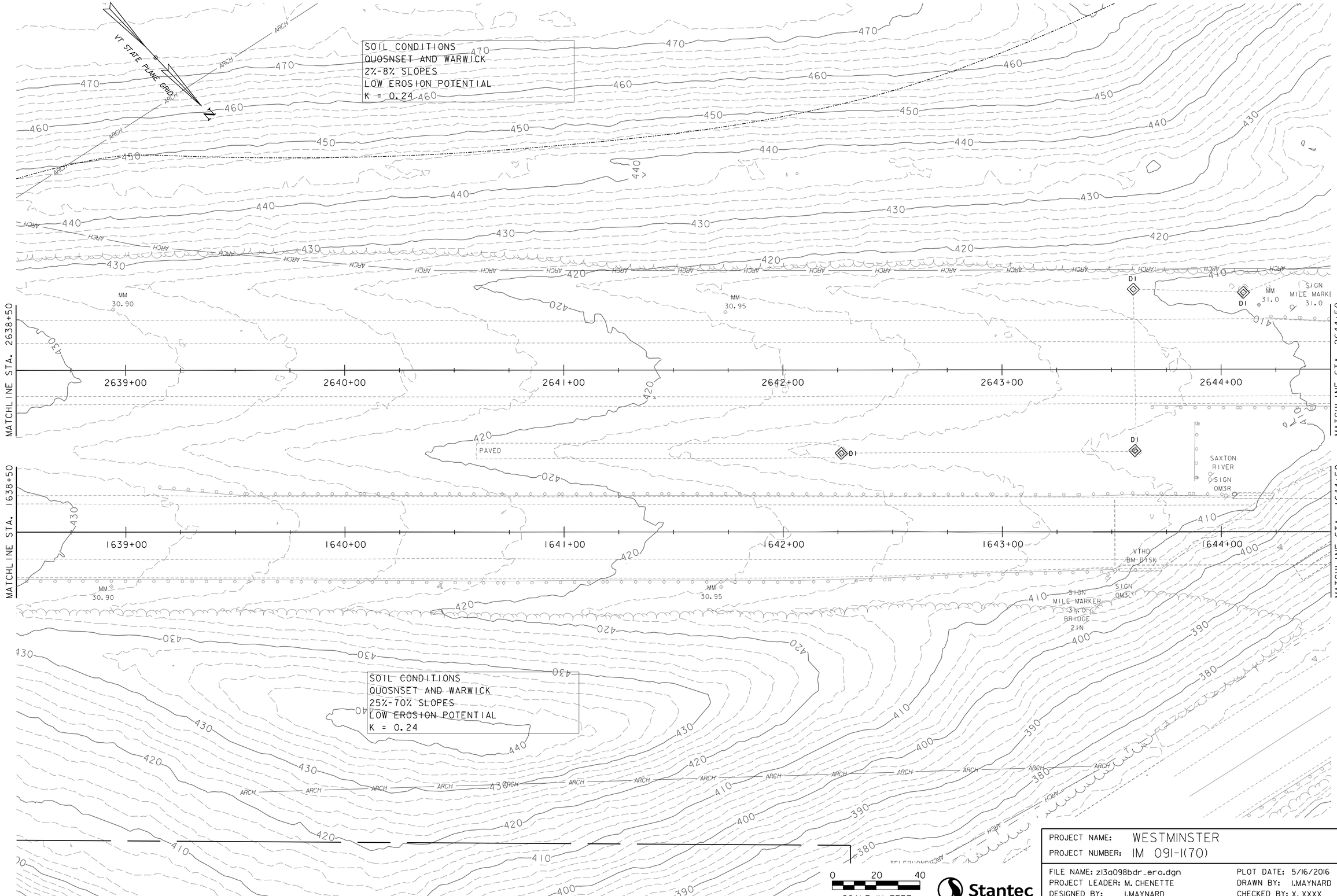
DESIGNED BY: I.MAYNARD	CHECKED BY: X. XXXX
EPSC - EXISTING SHEET 1	SHEET 70 OF 105



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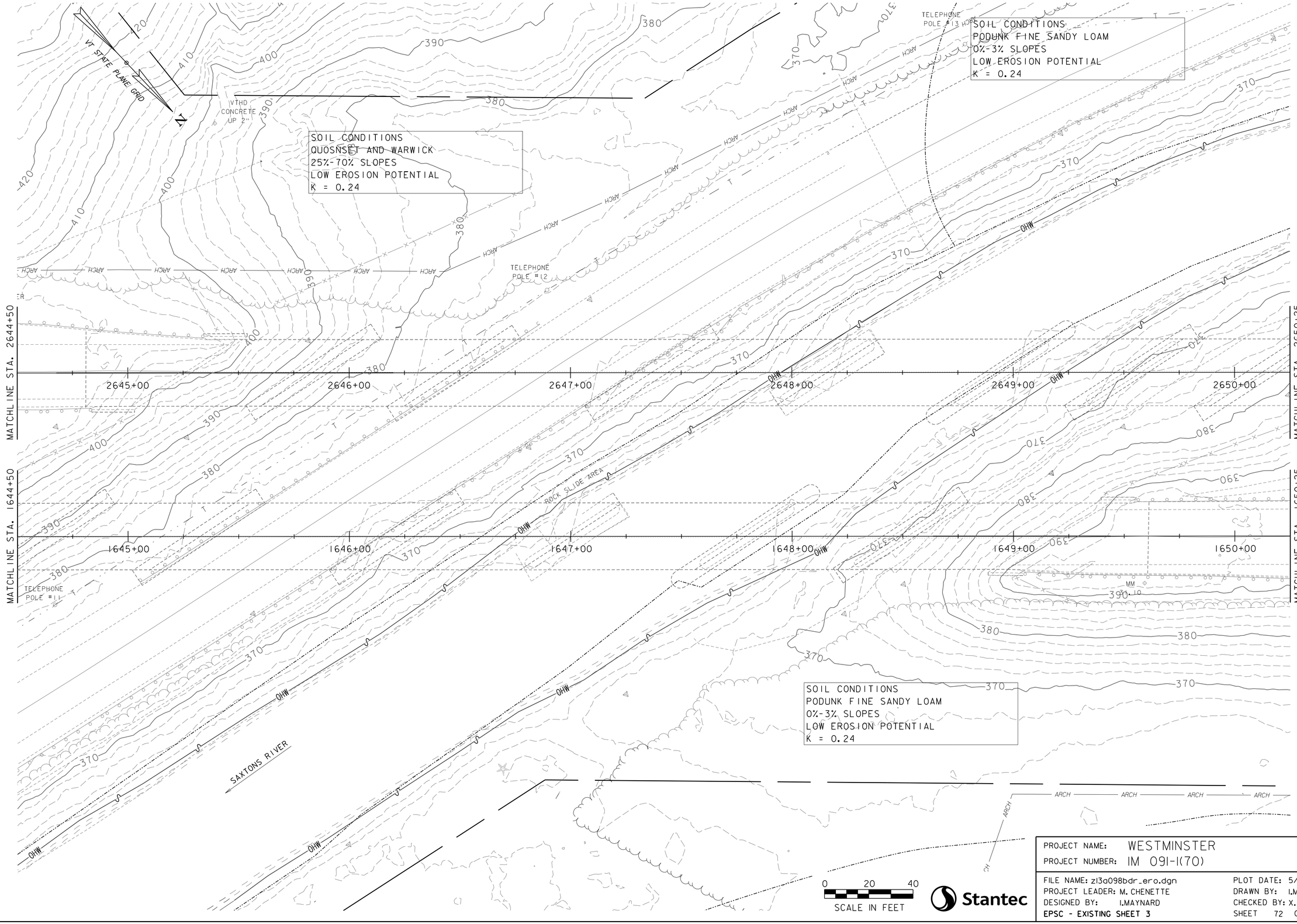
EPSC - EXISTING SHEET 2	SHEET 71 OF 105



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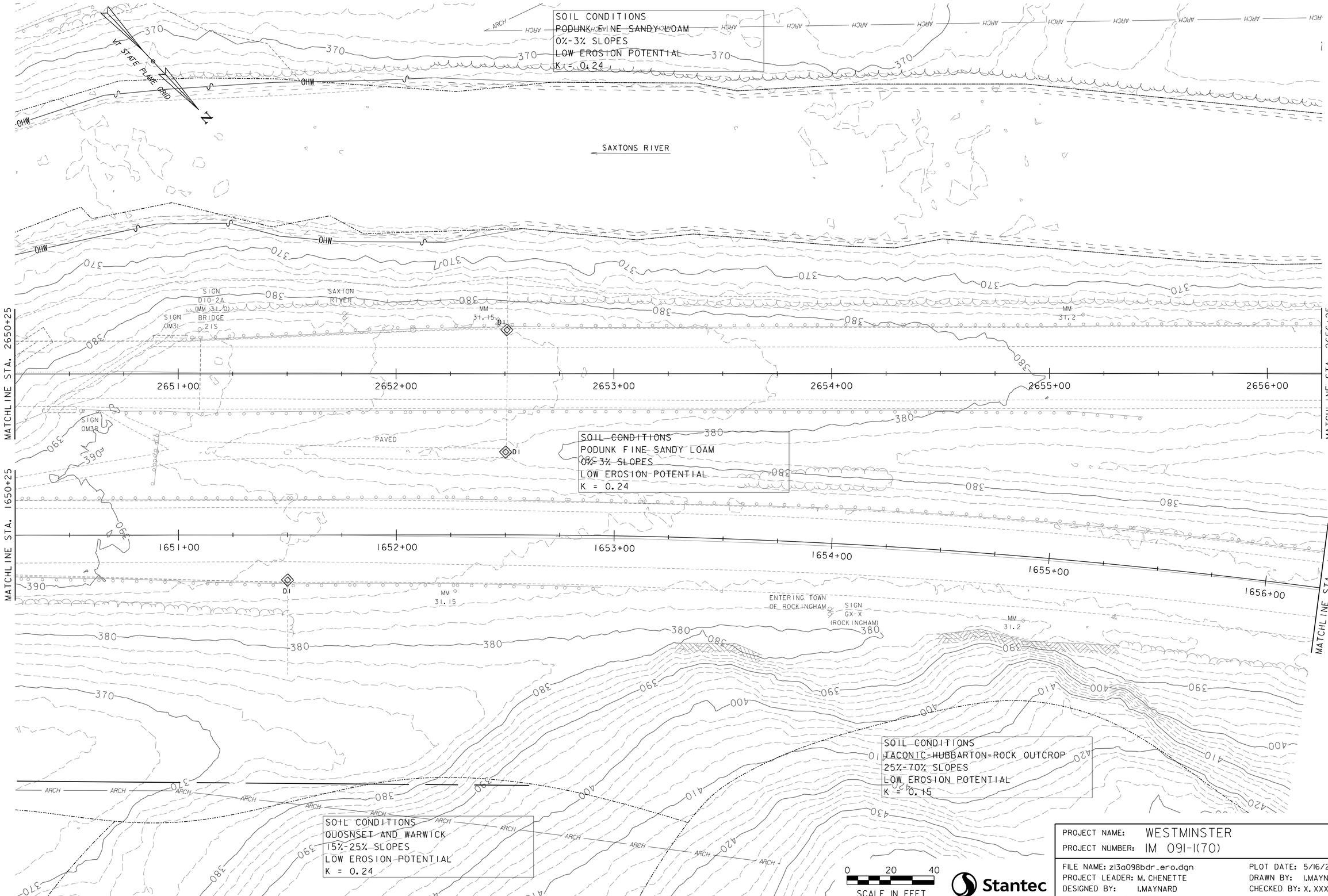
DESIGNED BY: I.MAYNARD
EPSC - EXISTING SHEET 3

PLOT DATE: 5/16/2016
DRAWN BY: I.MAYNARD
CHECKED BY: X. XXXX
SHEET 72 OF 105



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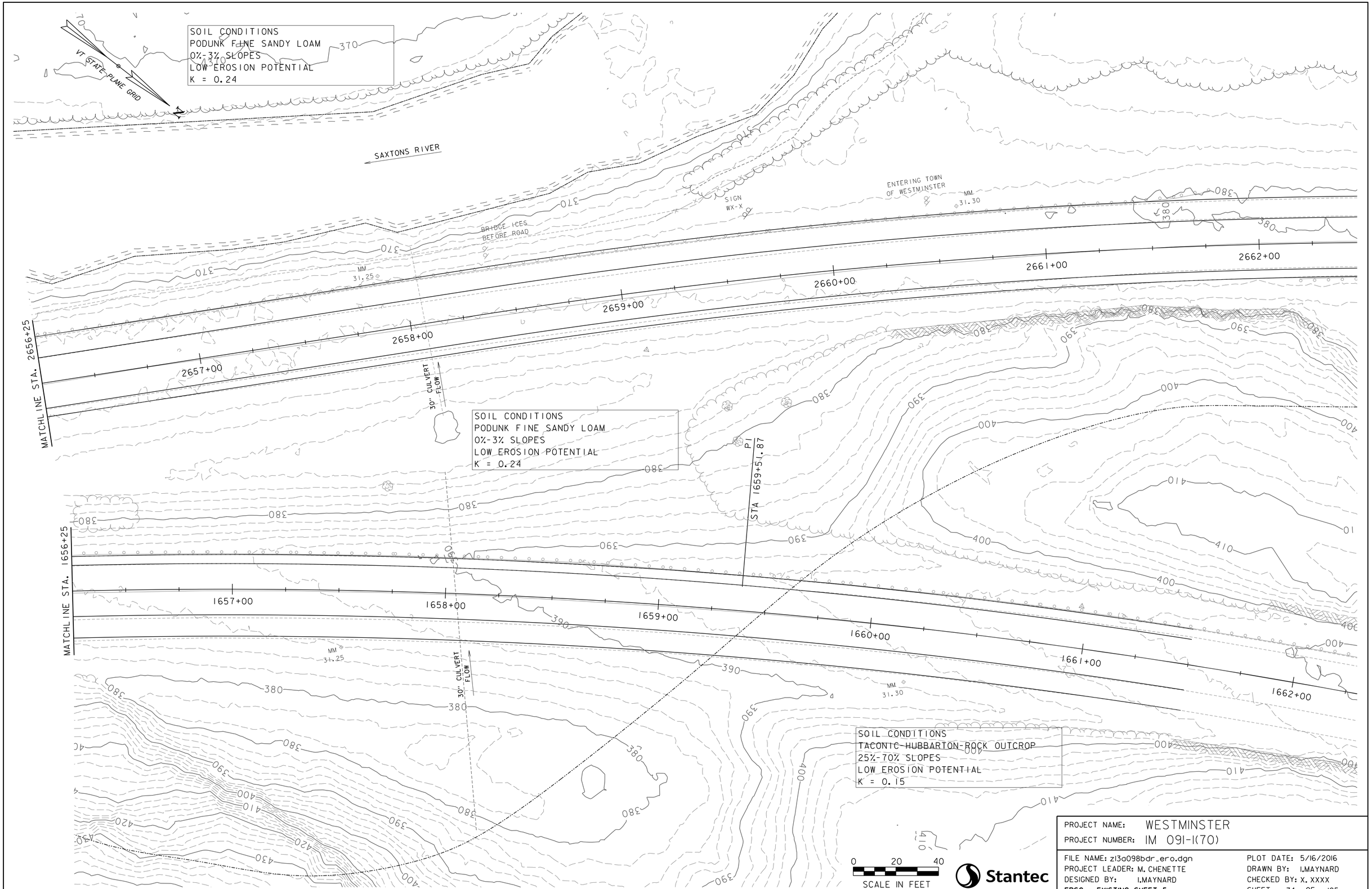
EPSC - EXISTING SHEET 4	SHEET 73 OF 105



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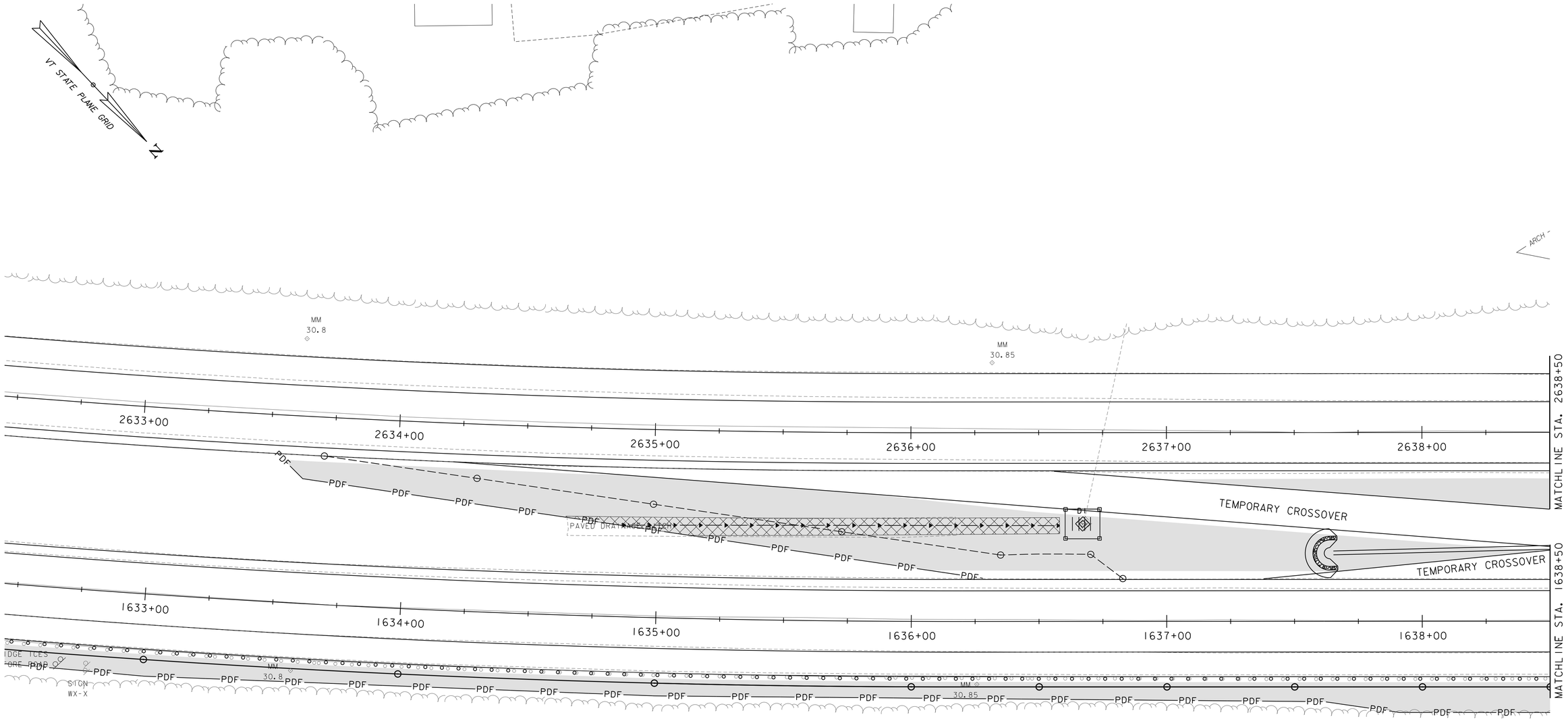
DESIGNED BY: I.MAYNARD	CHECKED BY: X. XXXX
EPSC - EXISTING SHEET 5	SHEET 74 OF 105



LEGEND

VEHICLE TRACKING PAD

FILTER BAG

IN WATER SEDIMENT ISOLATION DEVICE

FOR ADDITIONAL INFORMATION, SEE
CONVENTIONAL SYMBOLOGY LEGEND SHEET

0 20 40
SCALE IN FEET

Stantec

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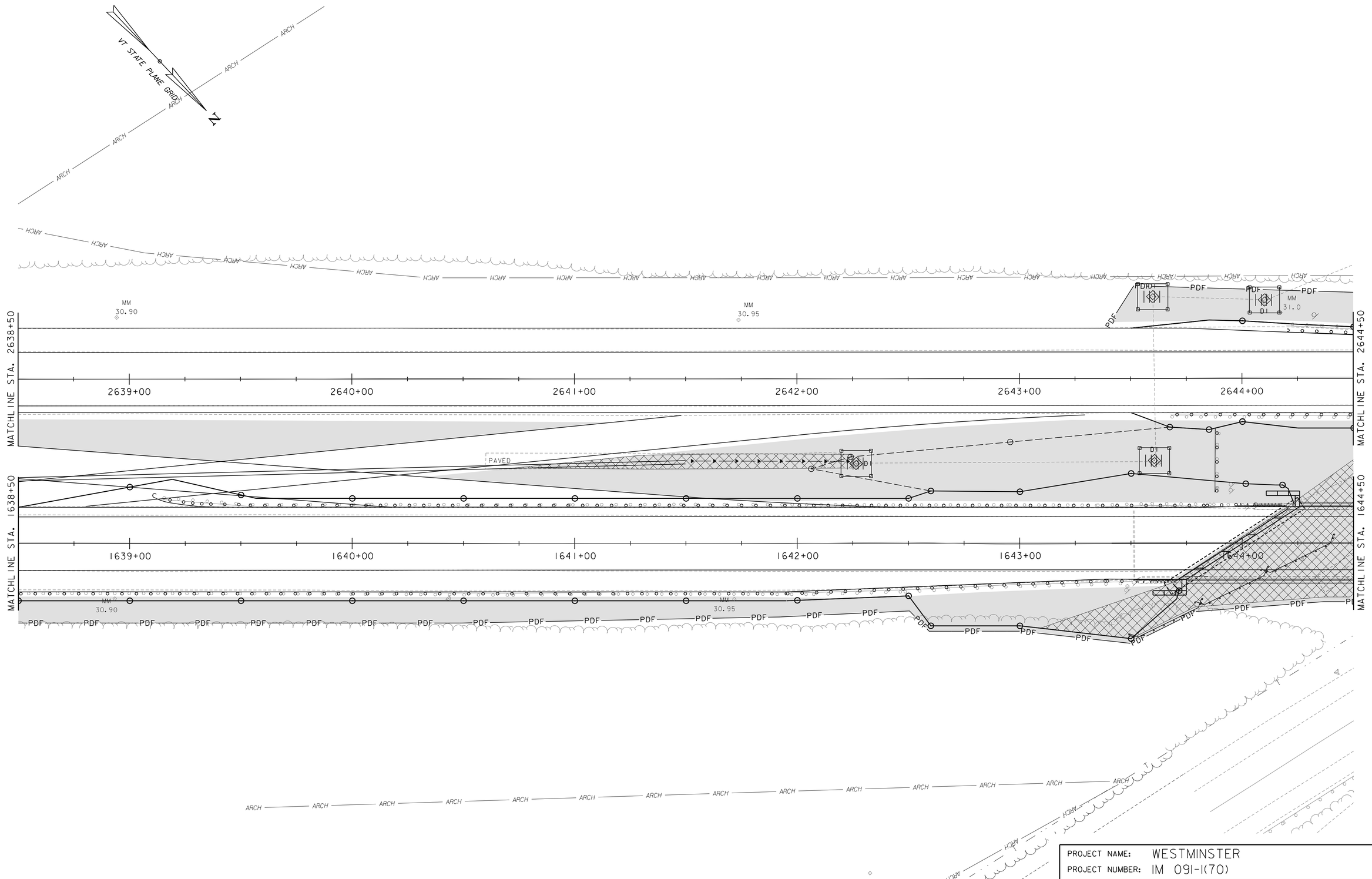
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - CONSTRUCTION SHEET 1	SHEET 75 OF 105



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SCALE IN FEET

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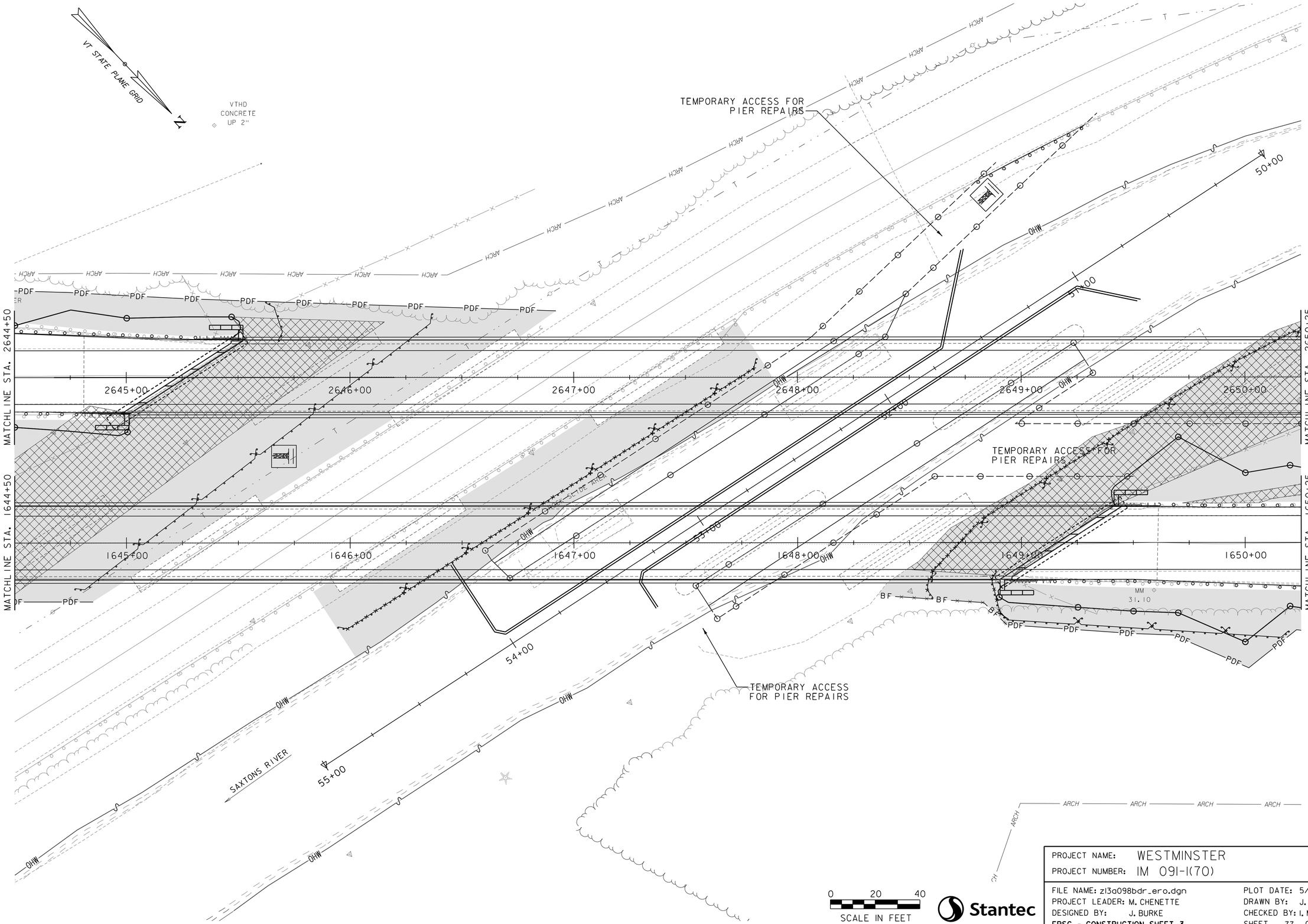
EPSC - CONSTRUCTION SHEET 2	SHEET 76 OF 105



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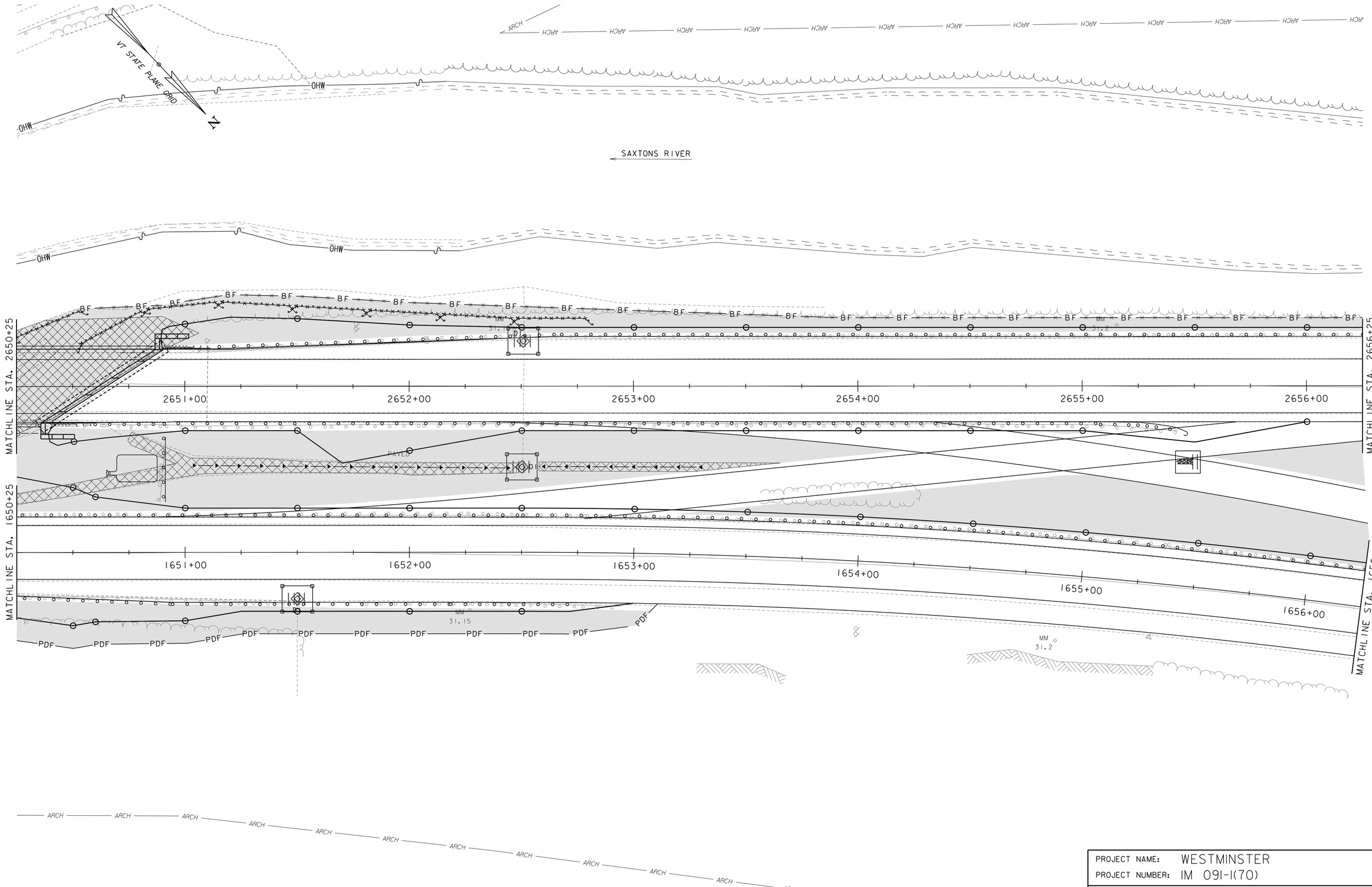
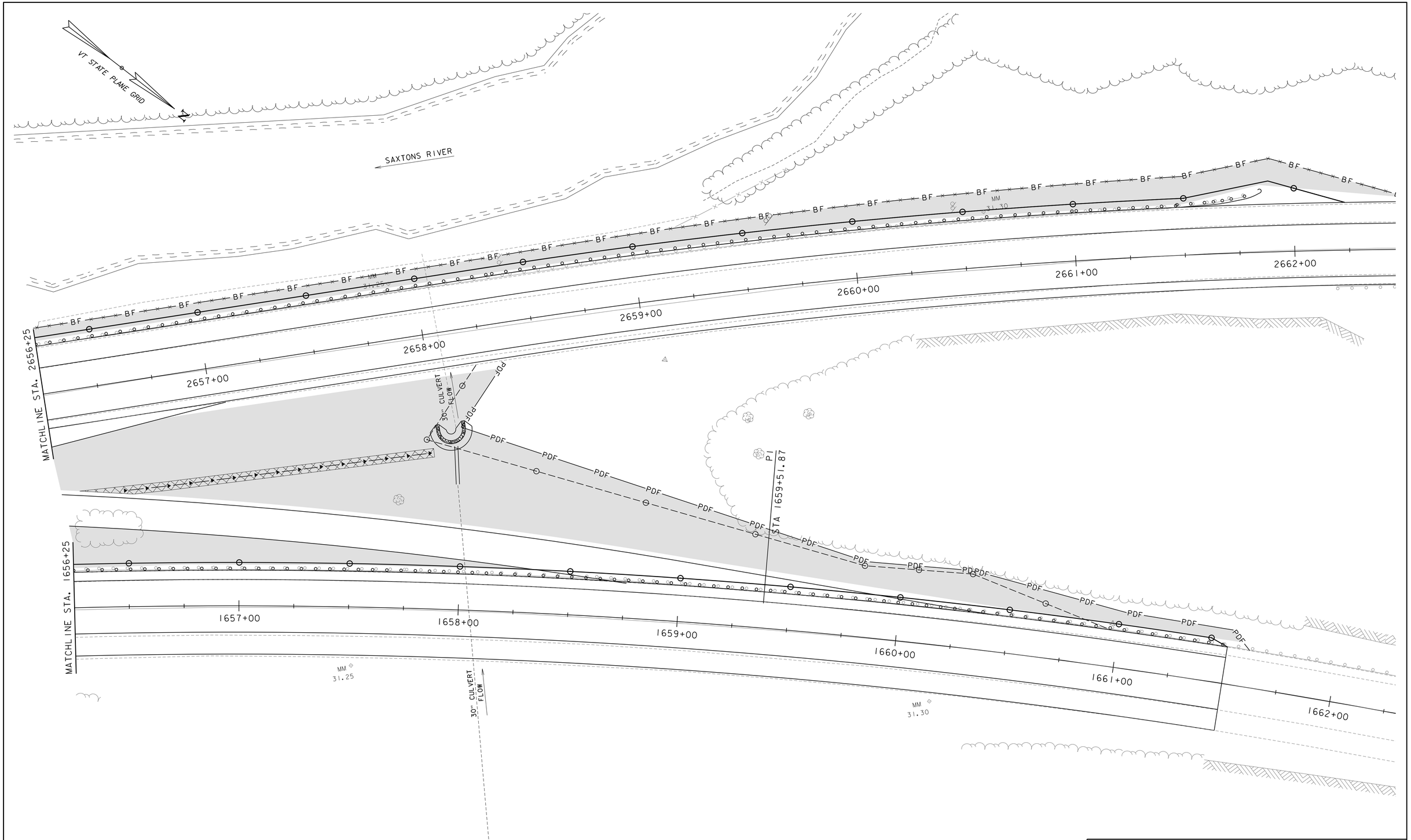
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - CONSTRUCTION SHEET 3	SHEET 77 OF 105



0 20 40
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - CONSTRUCTION SHEET 4	SHEET 78 OF 105



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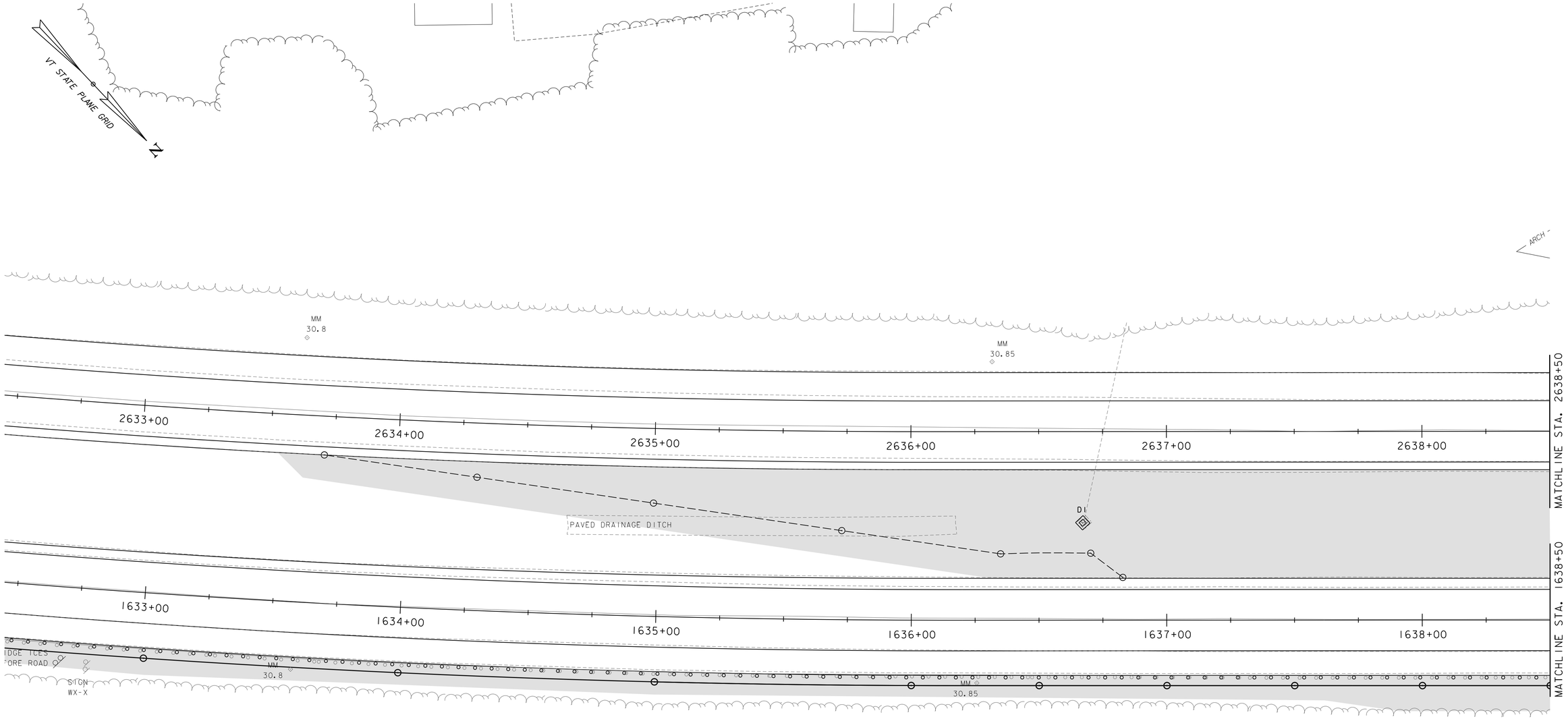
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - CONSTRUCTION SHEET 5	SHEET 79 OF 105



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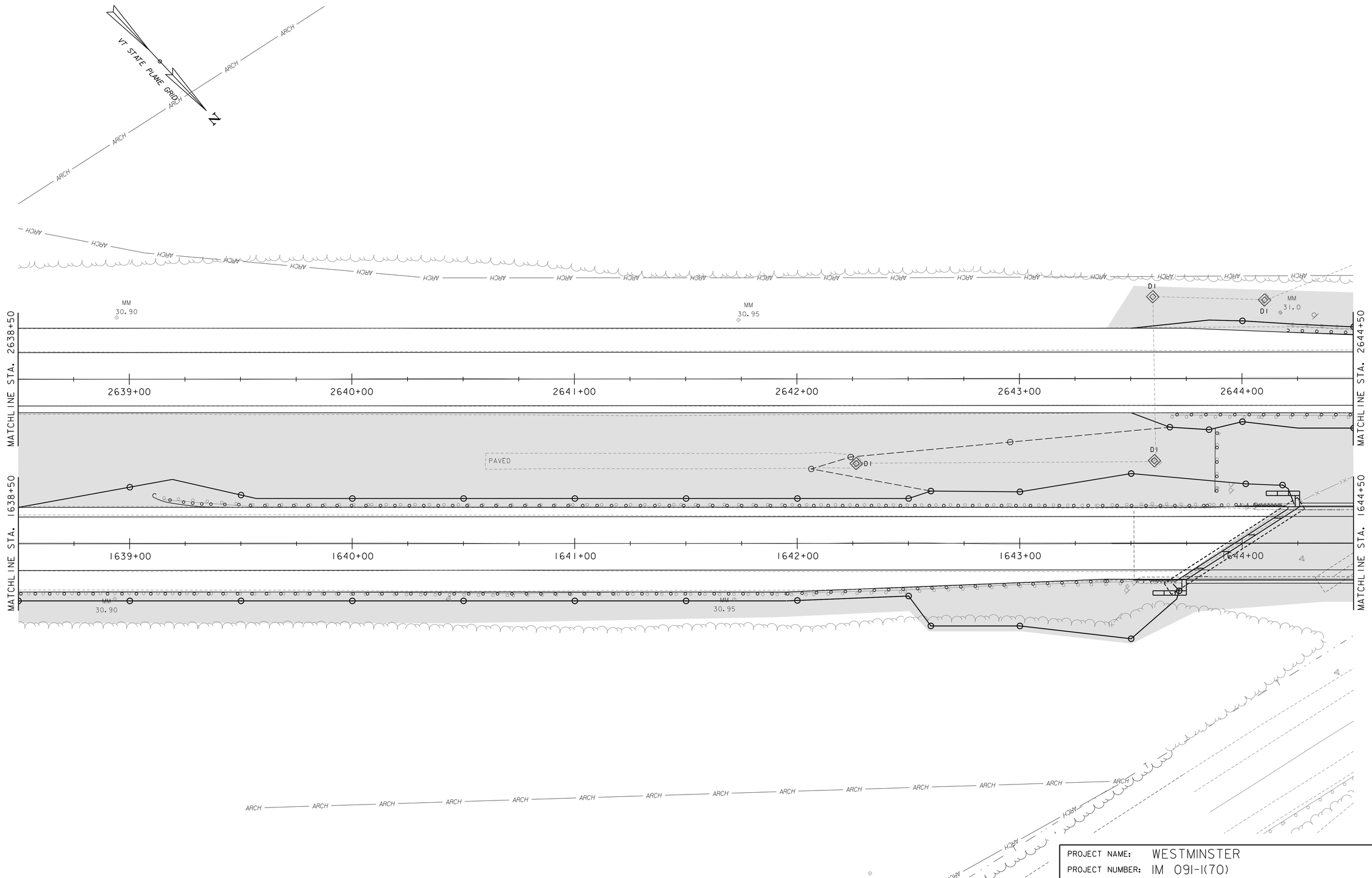
SCALE IN FEET

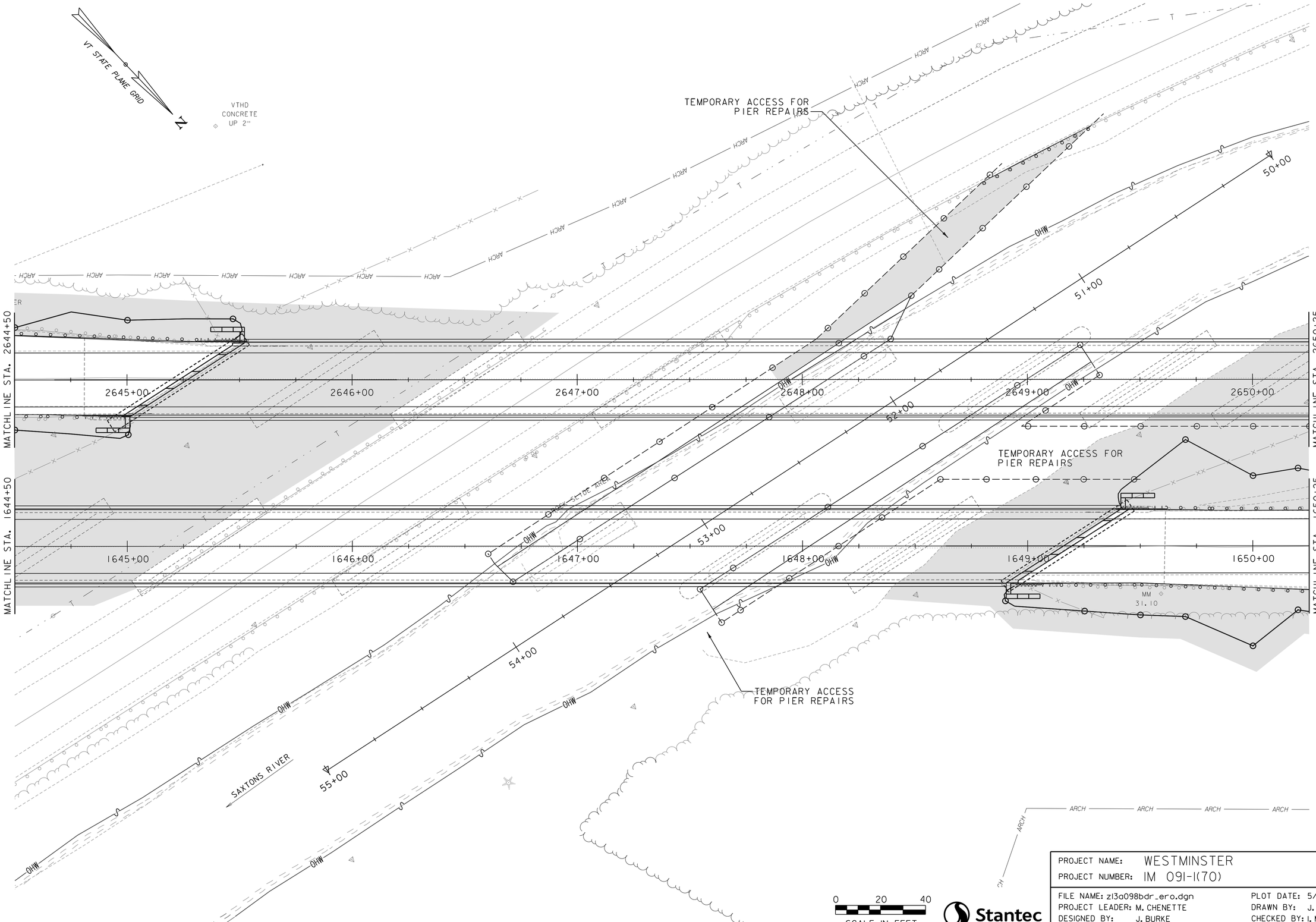
Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - FINAL SHEET 1	SHEET 80 OF 105



Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - FINAL SHEET 2	SHEET 81 OF 105



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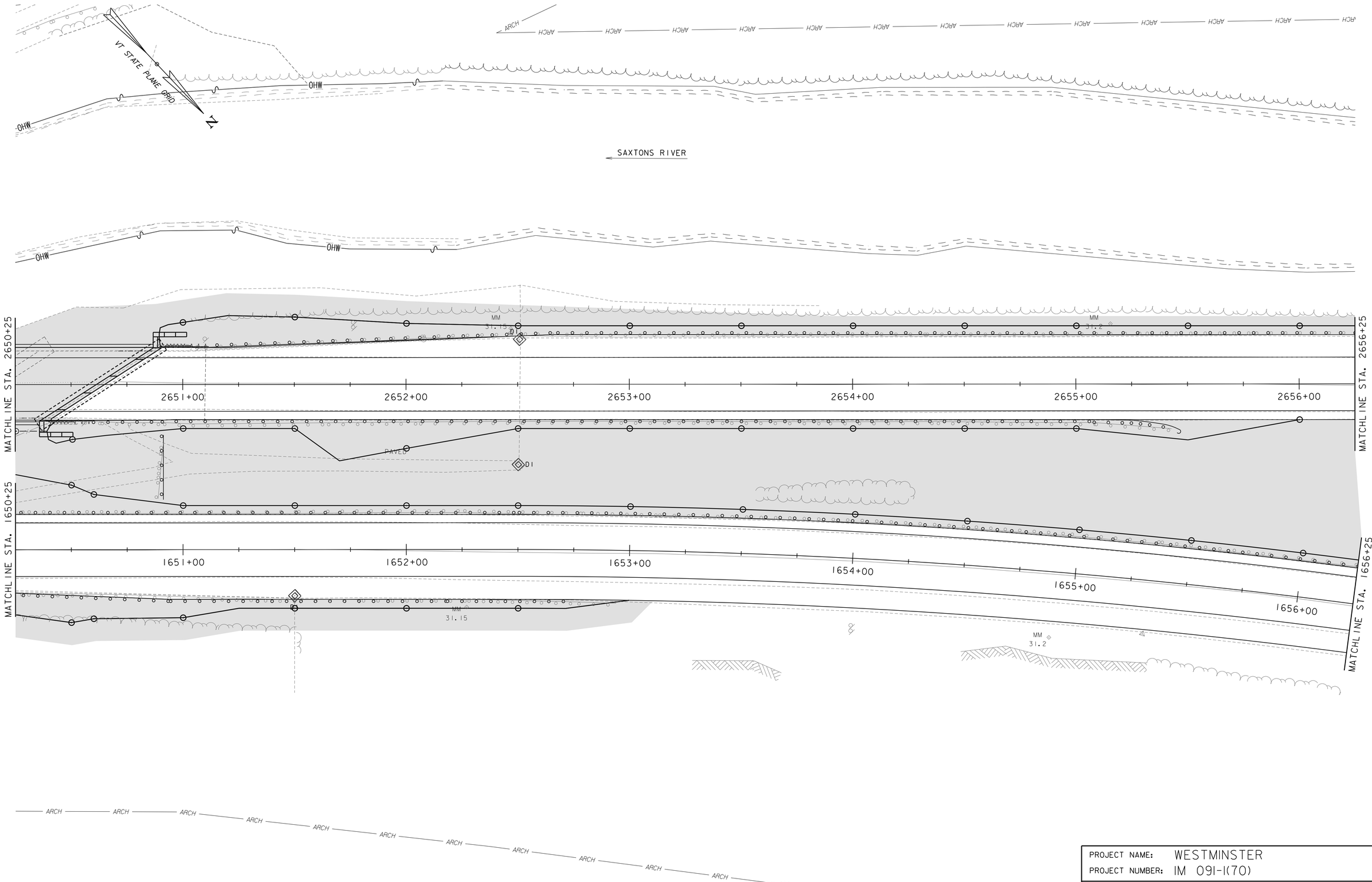
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - FINAL SHEET 3	SHEET 82 OF 105



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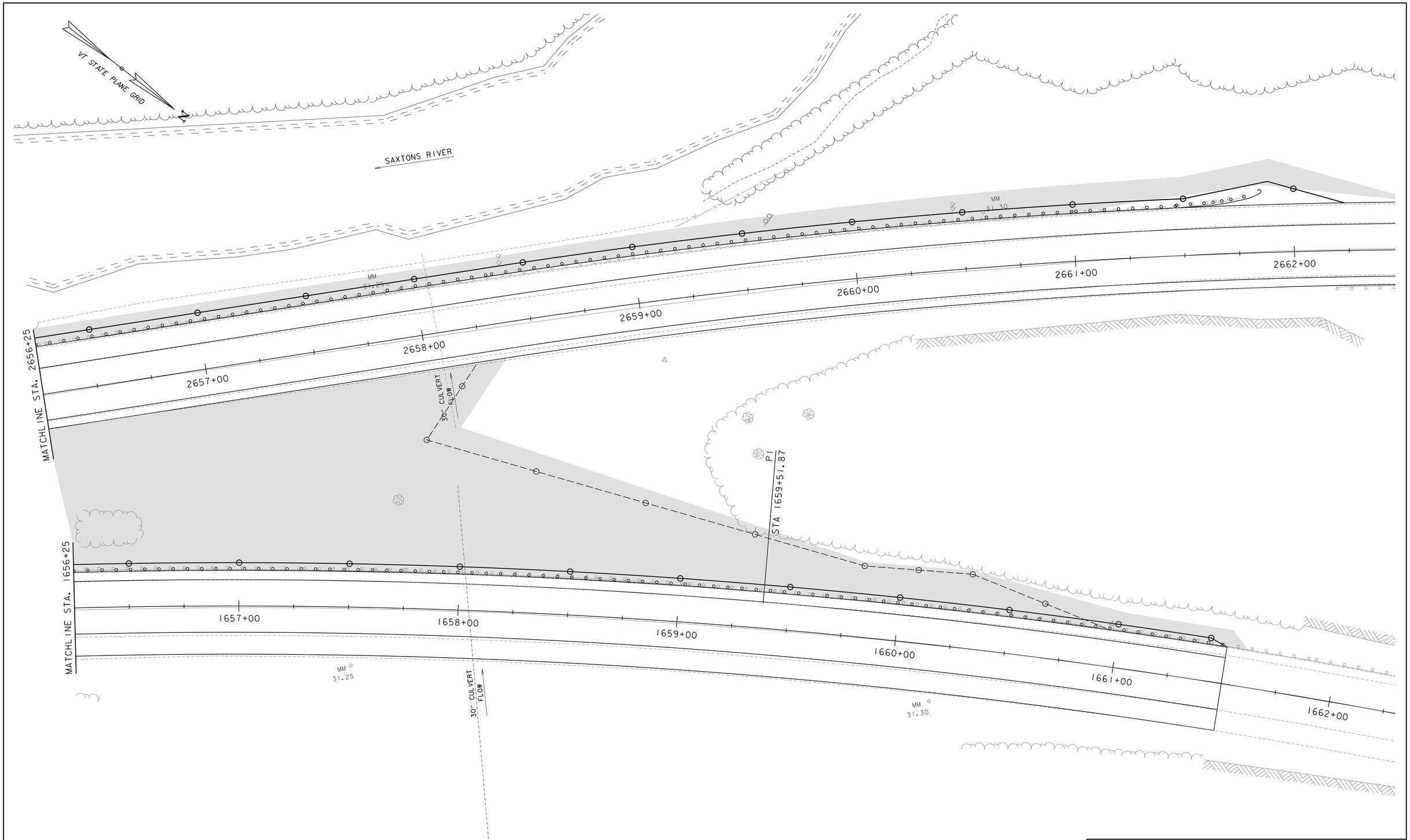
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - FINAL SHEET 4	SHEET 83 OF 105



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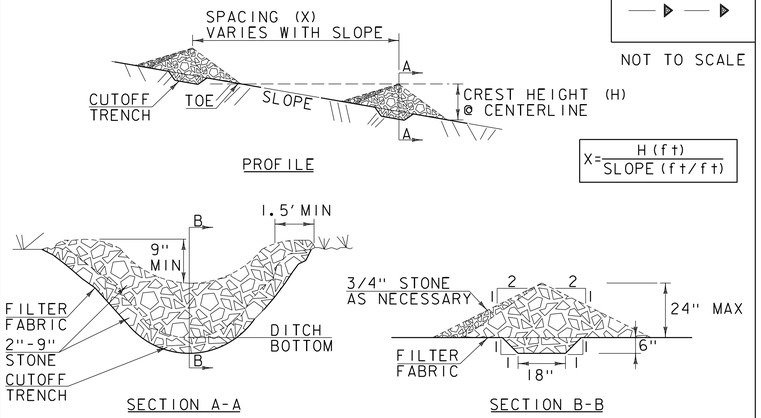
SCALE IN FEET

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: zl3a098bdr_ero.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. BURKE
DESIGNED BY: J. BURKE	CHECKED BY: I. MAYNARD
EPSC - FINAL SHEET 5	SHEET 84 OF 105

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

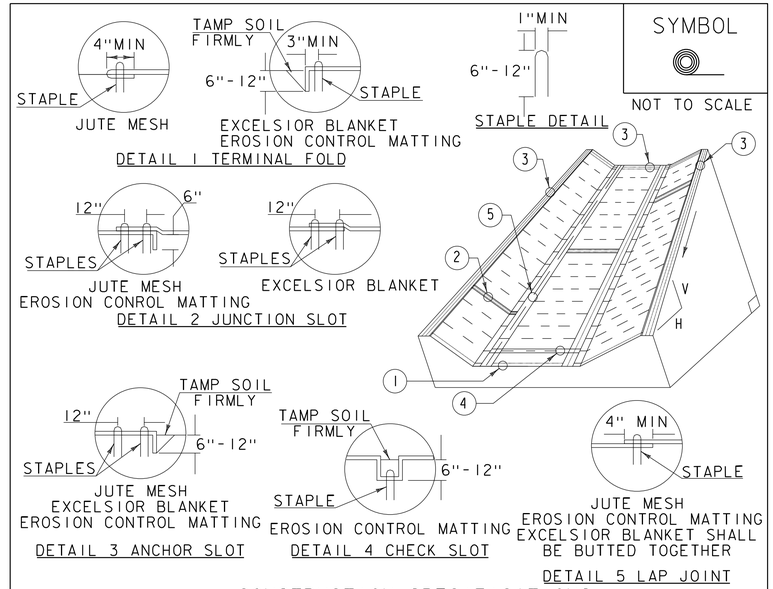
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
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'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' 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

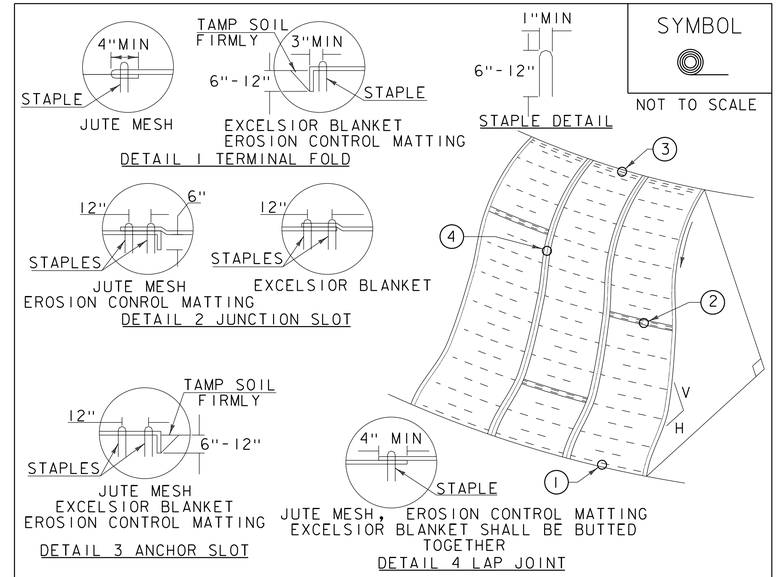
ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

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	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



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'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' 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

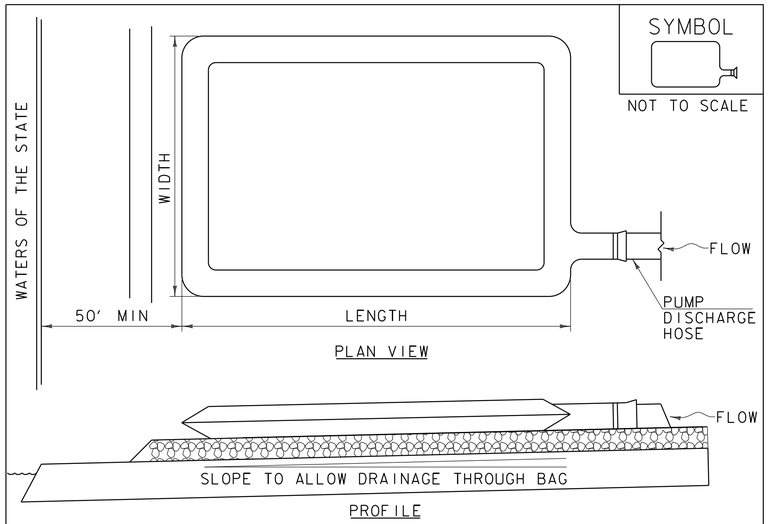
ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098ero_dets.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: VAOT
DESIGNED BY: VAOT	CHECKED BY: VAOT
EPSC DETAILS 1	SHEET 85 OF 105



CONSTRUCTION SPECIFICATIONS

1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

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 FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

VAOT LOW GROW/FINE FESCUE MIX

LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
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

LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
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

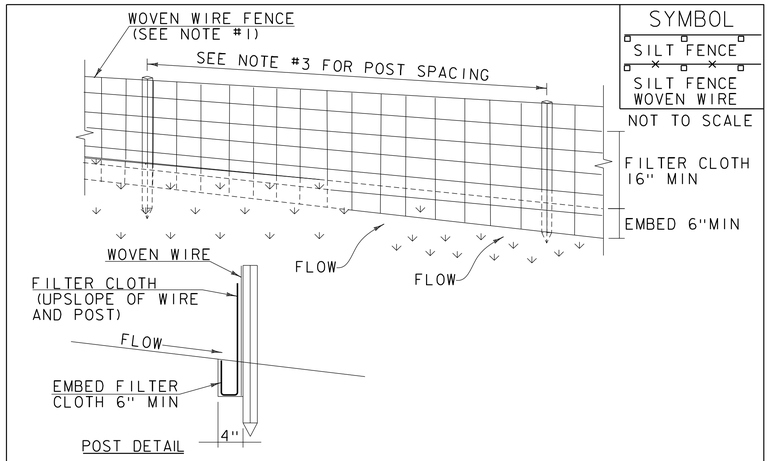
1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT 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



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

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

SILT FENCE

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 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

Stantec

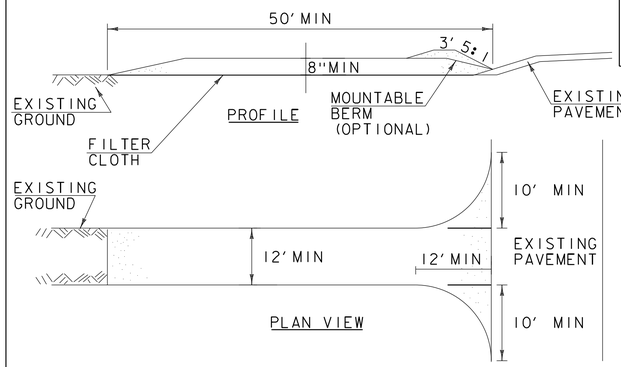
PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: z13a098ero_dets.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VAOT
EPSC DETAILS 2

PLOT DATE: 5/16/2016
DRAWN BY: VAOT
CHECKED BY: VAOT
SHEET 86 OF 105

SYMBOL

NOT TO SCALE



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

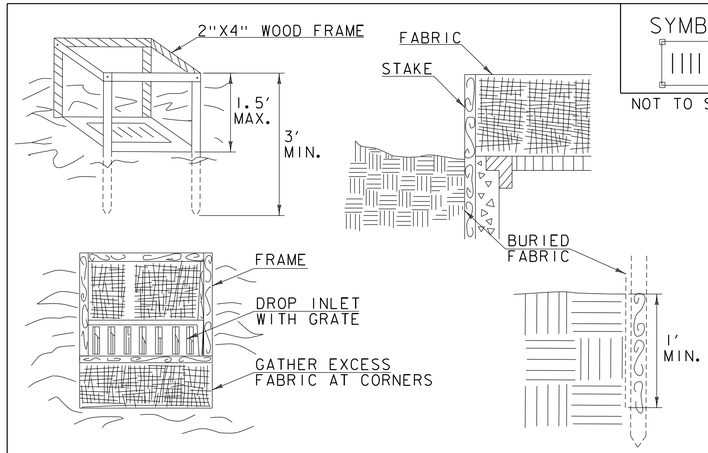
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

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

FILTER FABRIC DROP INLET PROTECTION

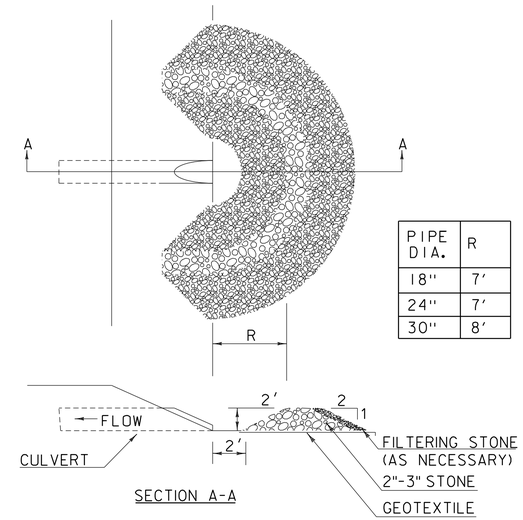
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I(PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



PIPE DIA.	R
18"	7'
24"	7'
30"	8'

CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHALL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE . (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS

PIPE INLET PROTECTION

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I(PAY ITEM 653.40).

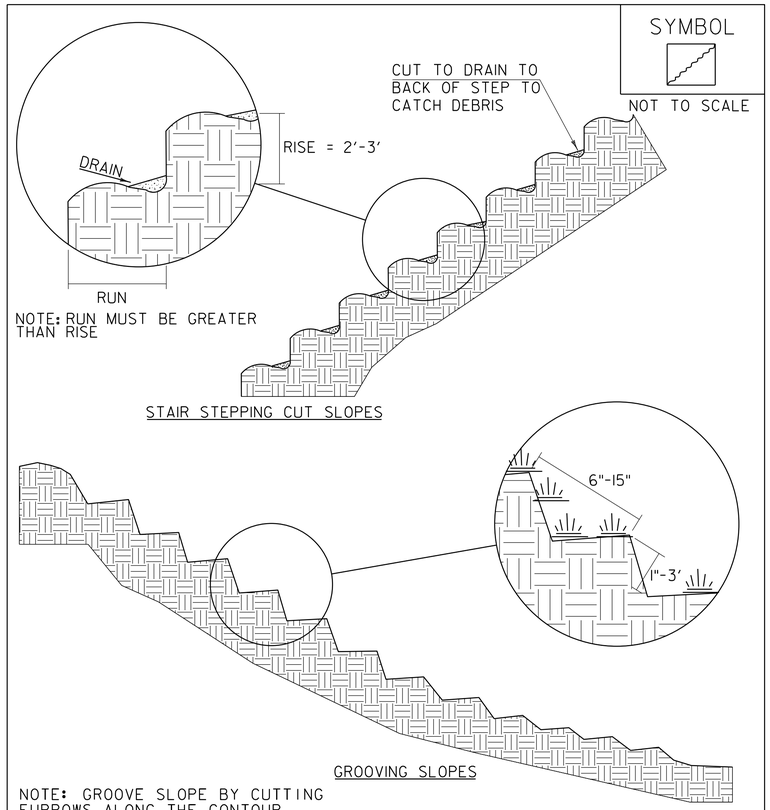
REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

FILE NAME: zl3a098ero_dets.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VAOT
EPSC DETAILS 3

PLOT DATE: 5/16/2016
DRAWN BY: VAOT
CHECKED BY: VAOT
SHEET 87 OF 105



NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

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

SURFACE ROUGHENING

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 CONSIDERED INCIDENTAL TO THE CONTRACT

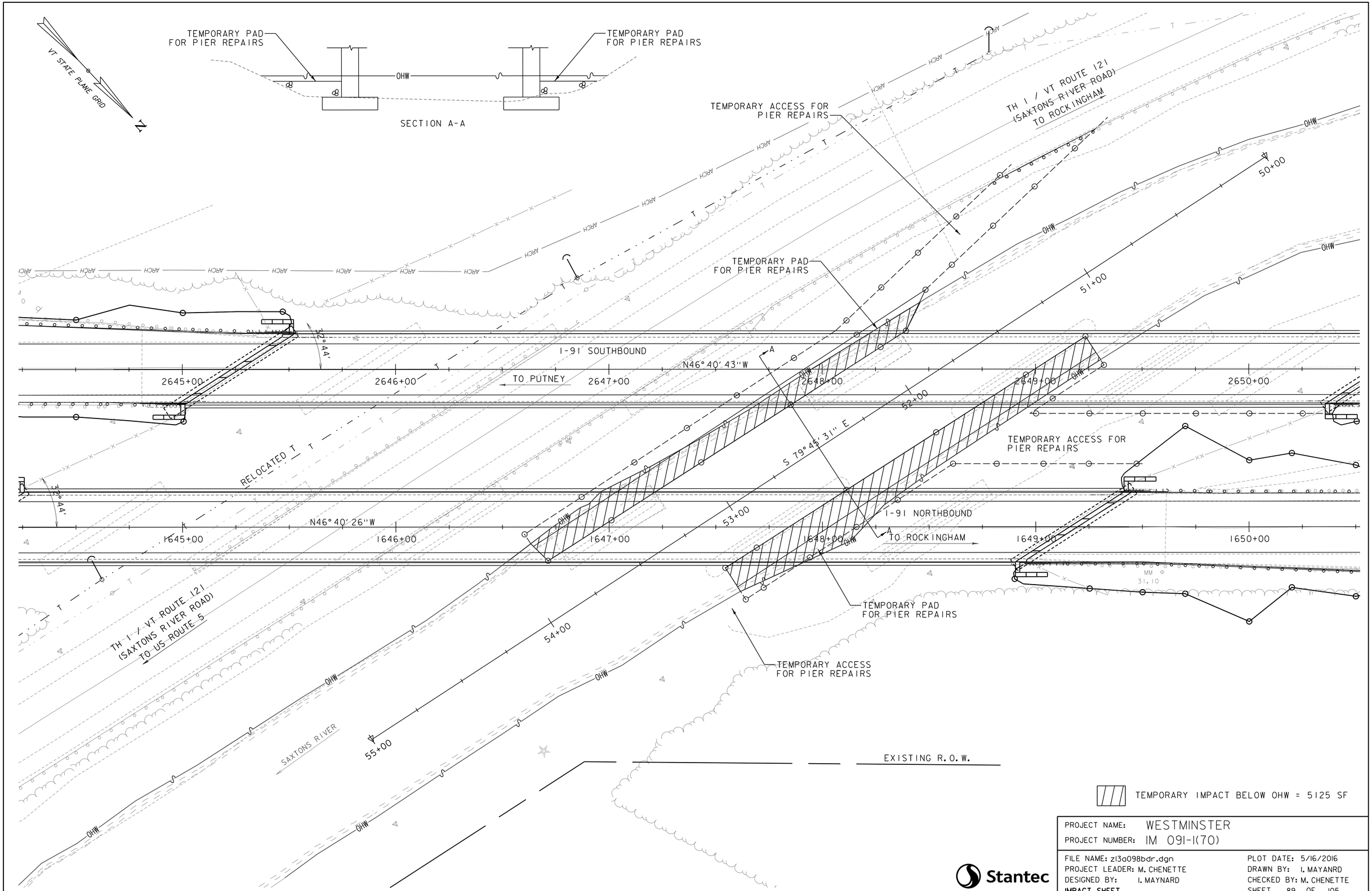
REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

Stantec

PROJECT NAME: WESTMINSTER
PROJECT NUMBER: IM 091-1(70)

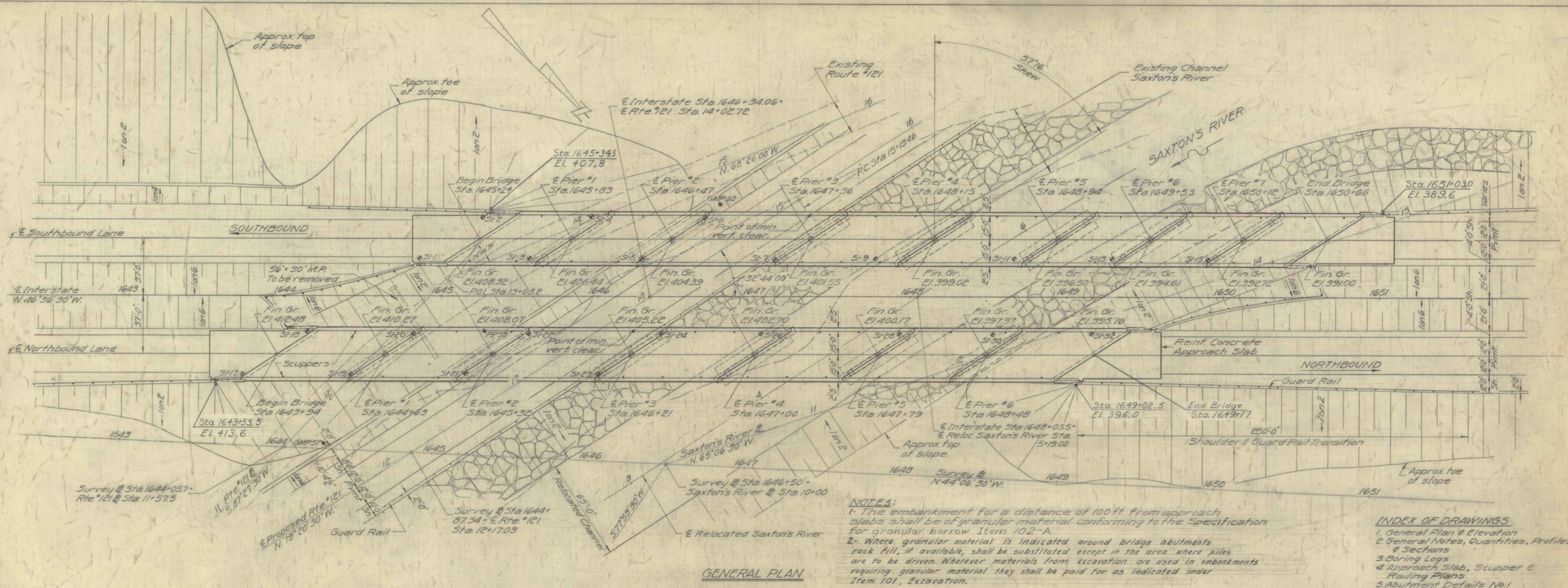
FILE NAME: zl3a098ero_dets.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VAOT
EPSC DETAILS 4

PLOT DATE: 5/16/2016
DRAWN BY: VAOT
CHECKED BY: VAOT
SHEET 88 OF 105



Stantec

PROJECT NAME: WESTMINSTER	
PROJECT NUMBER: IM 091-1(70)	
FILE NAME: z13a098bdr.dgn	PLOT DATE: 5/16/2016
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYANRD
DESIGNED BY: I. MAYNARD	CHECKED BY: M. CHENETTE
IMPACT SHEET	SHEET 89 OF 105



GENERAL PLAN

NOTES:

1- The embankment for a distance of 100 ft. from approach slabs shall be of granular material conforming to the Specification for granular borrow Item 102-A

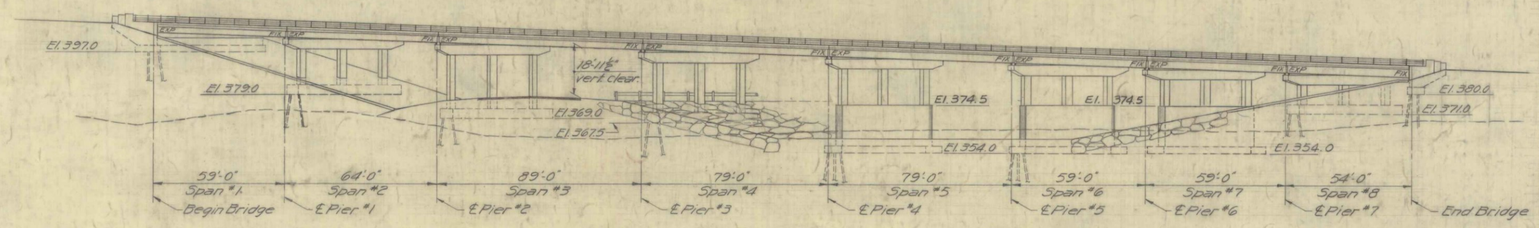
2- Where granular material is indicated around bridge abutments rock fill, if available, shall be substituted except in the area where piles are to be driven. Wherever materials from excavation are used in embankments requiring granular material they shall be paid for as indicated under Item 101, Excavation.

INDEX OF DRAWINGS

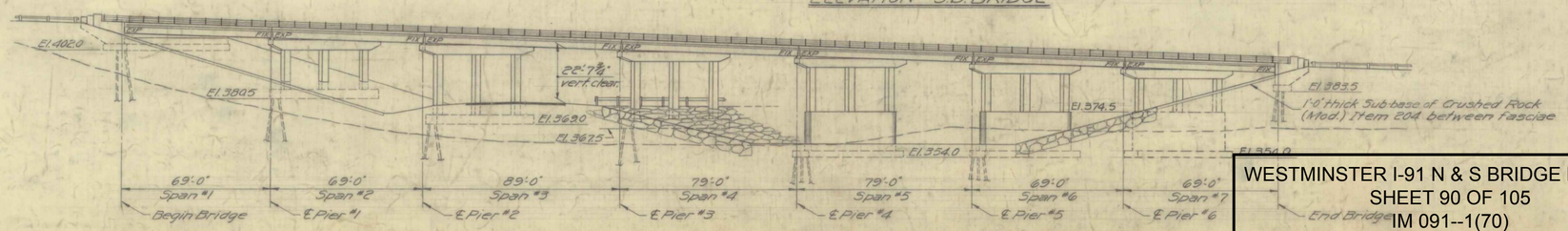
1. General Plan & Elevation
2. General Notes, Quantities, Profiles & Sections
3. Boring Logs
4. Approach Slab, Scupper & Railing Plans
5. Abutment Details No. 1
6. Abutment Details No. 2
7. Piers #1, 2, & 3 – Northbound Piers #1, 2, 3 & 7 – Southbound
8. Pier Data
9. Piers #4, 5 & 6 Northbound & Southbound
10. Reinforcement Sheet 1 of 4
11. Reinforcement Sheet 2 of 4
12. Reinforcement Sheet 3 of 4
13. Reinforcement Sheet 4 of 4

Vermont State Highway Department Standard Sheets

SCB-30-58-(1)
SCB-30-58-(2)
SB-56-60 2-SHEETS
SB-20-56
SB-22-56
SCB-D-60



ELEVATION - S.B. BRIDGE



ELEVATION - N.B. BRIDGE

WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 90 OF 105
IM 091--1(70)
FOR REFERENCE ONLY

PRELIMINARY INFORMATION SHEET FOR BRIDGES

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

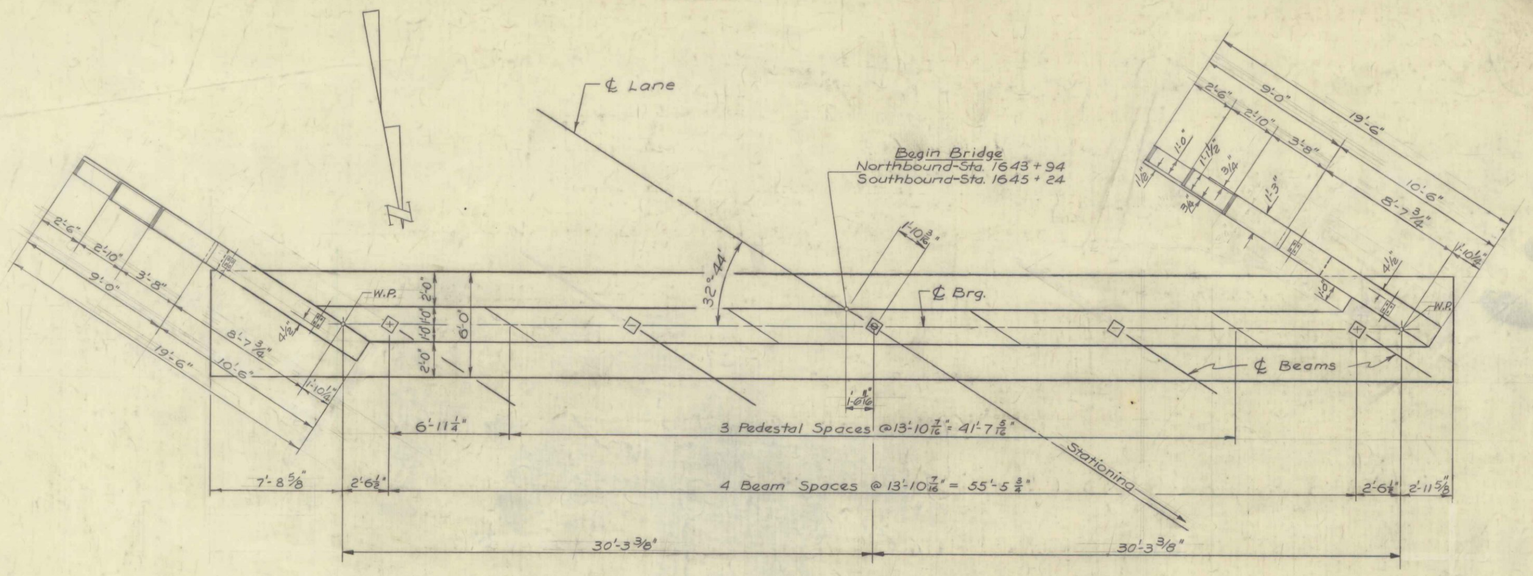
SAXTON'S RIVER BRIDGE
GENERAL PLAN AND ELEVATION

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

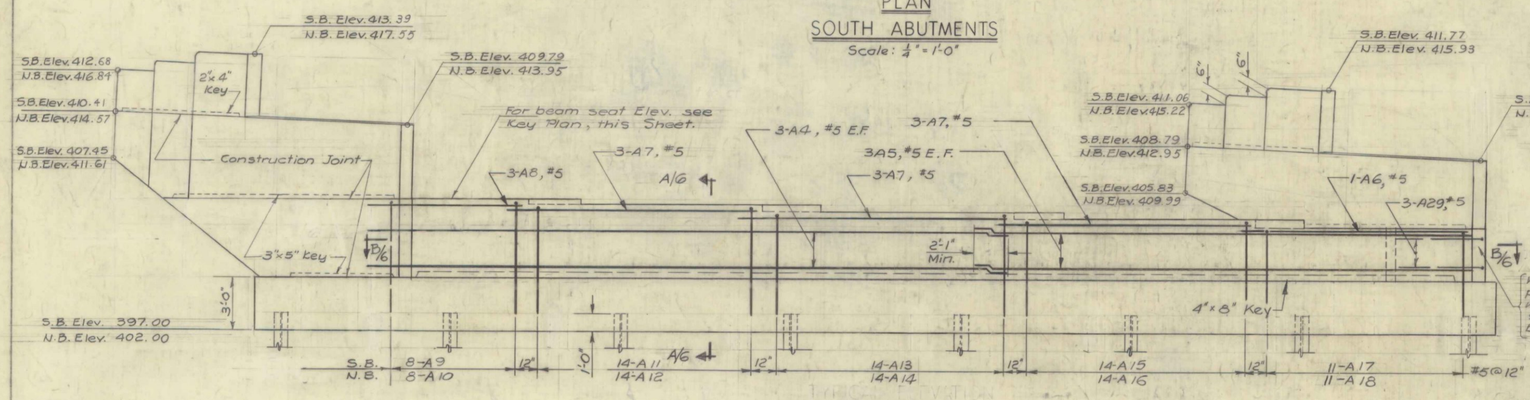
DESIGNED: F.W.C.	CHECKED: L.H.S. & G.S.	DATE: 12-30-60
DRAWN: C.C.Bellis	IN CHARGE: M.G.C.	SCALE: 1" = 30'

PROJ. # I 91-1(15) CONT. # 2 SH. 34 OF 184

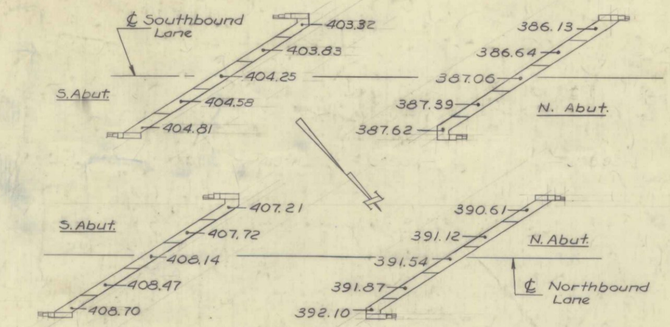
BRIDGE SHEET 1 OF 13



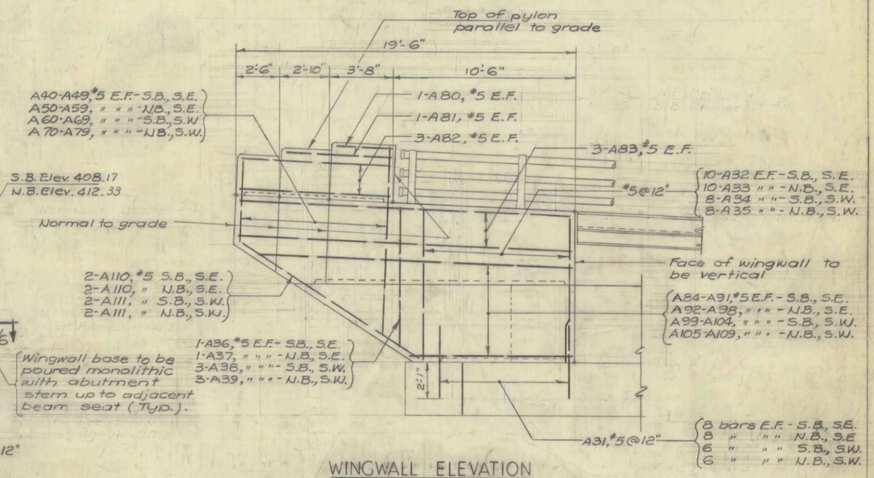
PLAN
SOUTH ABUTMENTS
Scale: 1/4" = 1'-0"



ELEVATION
Scale: 1/4" = 1'-0"



KEY PLAN
No Scale

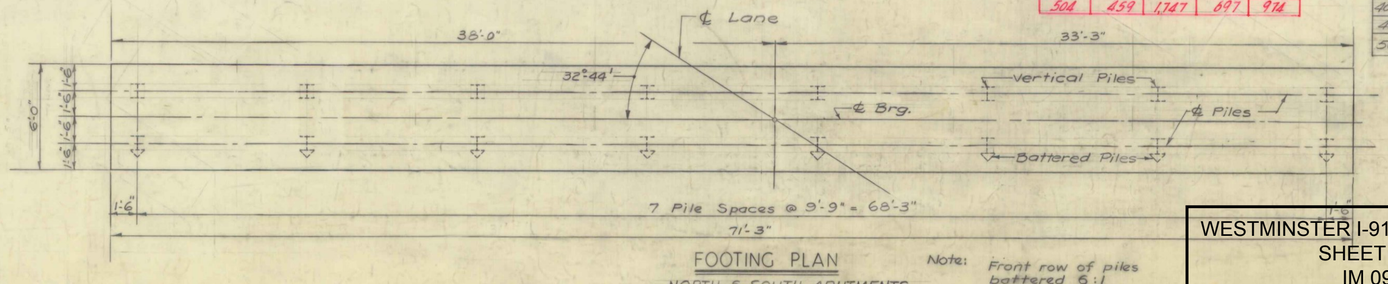


WINGWALL ELEVATION
Scale: 1/4" = 1'-0"

Item	FINAL S.Abut.	N.Brg. N.Abut.	S.Brg. S.Abut.	N.Abut.
222	38	51	44	42
401-B	75	84	82	78
407	7	7	7	7
504	459	1,747	897	974

ESTIMATED QUANTITIES

ITEM NO	ITEM	S. ABUT. NORTHBOUND NEAT	OVERRUN	TOTAL	N. ABUT. NORTHBOUND NEAT	OVERRUN	TOTAL	S. ABUT. SOUTHBOUND NEAT	OVERRUN	TOTAL	N. ABUT. SOUTHBOUND NEAT	OVERRUN	TOTAL
222	Gravel Backfill, Mod.	~~33~~ c.y.	—	~~33~~ c.y.	~~46~~ c.y.	—	~~46~~ c.y.	~~40~~ c.y.	—	~~40~~ c.y.	~~39~~ c.y.	—	~~39~~ c.y.
401-B	Concrete Class B, Mod.	~~76~~ c.y.	~~4~~ c.y.	~~80~~ c.y.	~~84~~ c.y.	~~4~~ c.y.	~~88~~ c.y.	81 c.y.	~~4~~ c.y.	~~85~~ c.y.	~~79~~ c.y.	~~4~~ c.y.	~~83~~ c.y.
407	Asph. Asbest. Coating	7 s.y.	-	7 s.y.	7 s.y.	-	7 s.y.	7 s.y.	-	7 s.y.	7 s.y.	-	7 s.y.
504	Steel Piling, Mod.	~~480~~ l.f.	-	~~480~~ l.f.	~~480~~ l.f.	-	~~480~~ l.f.	~~720~~ l.f.	-	~~720~~ l.f.	~~480~~ l.f.	-	~~480~~ l.f.



FOOTING PLAN
NORTH & SOUTH ABUTMENTS
Scale: 1/4" = 1'-0"

Note: Front row of piles battered 6:1
All piles are 12 BP53

NOTES:

1. For footing reinforcement see Sheet 6.
2. Bridge seats to be sloped 1/4" per ft. and coated with Asphaltic-Asbestos Coating-Item 407 except under masonry plates.
3. For anchor bolt details see Std. Sheet [illegible]
4. Approximate length of piles:
   Southbound S. Abut. = 45'
   " N. " = 30'
   Northbound S. Abut. = 30'
   " N. " = 30'
5. For location of railing posts see Sheet 4.

WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 91 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

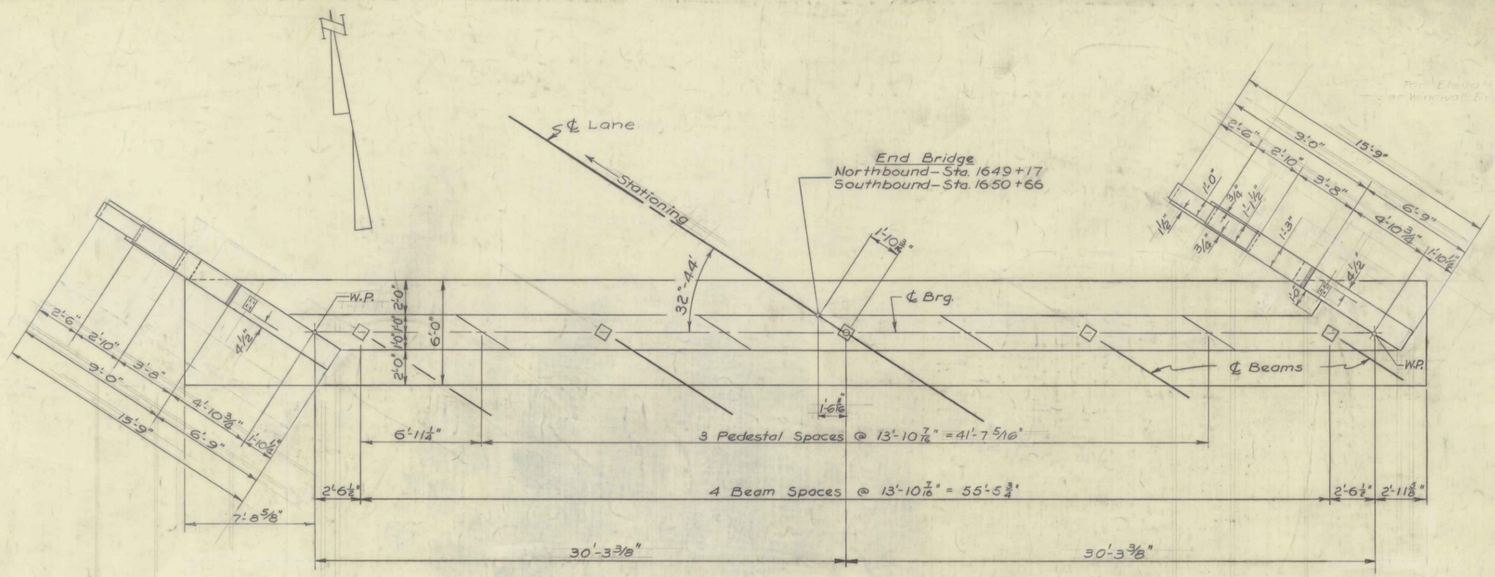
VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

SAXTON'S RIVER BRIDGE

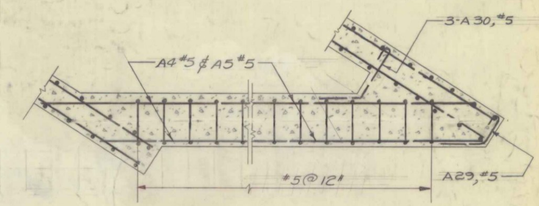
ABUTMENT DETAILS NO. 1

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

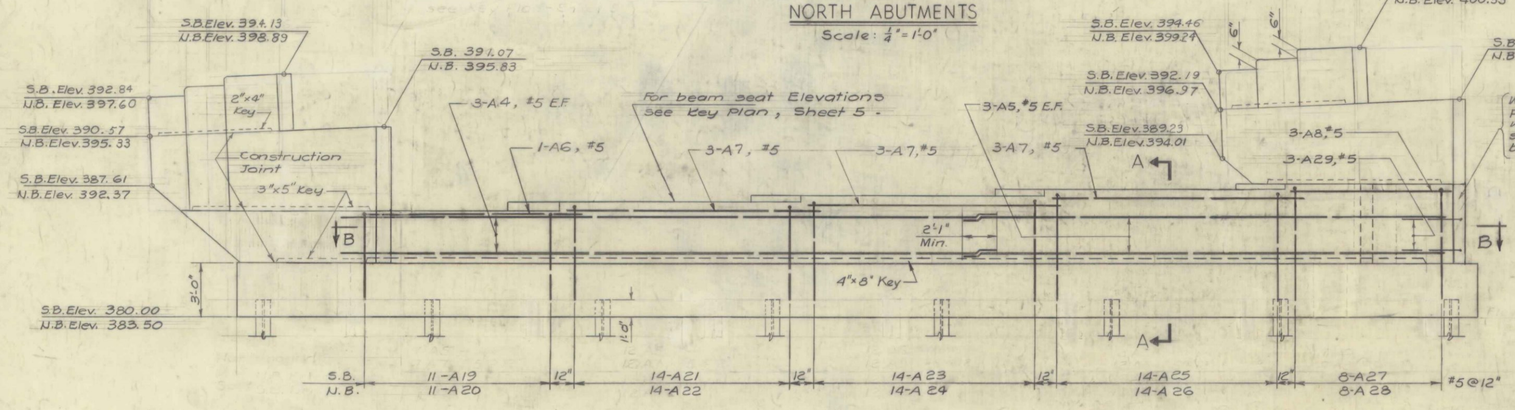
DESIGNED: F.W.C. | CHECKED: CCB & GGS | DATE: 12-30-60
DRAWN: J. Kleske | IN CHARGE: H.G.C. | SCALE: as noted
PROJ* I 91-1(15) CONT. *2 SH. 38 OF 184



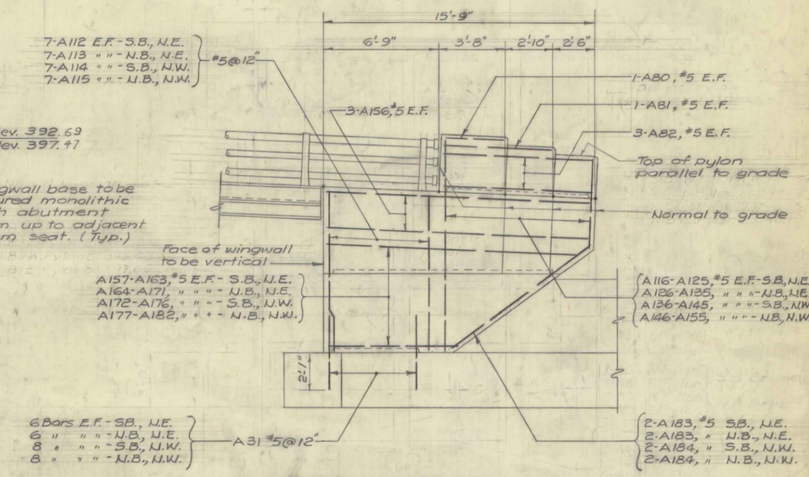
PLAN
NORTH ABUTMENTS
Scale: ¼" = 1'-0"



SECTION B-B
Scale: 3/8" = 1'-0"



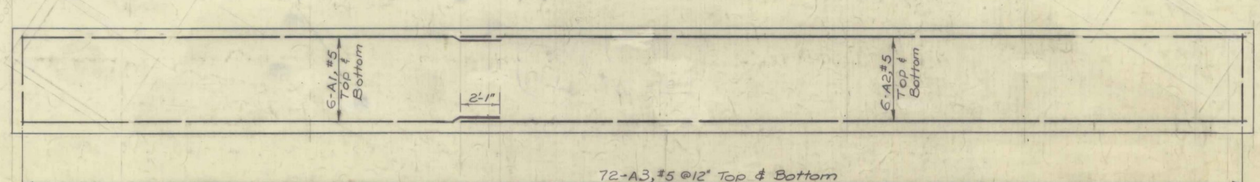
ELEVATION
Scale: ¼" = 1'-0"



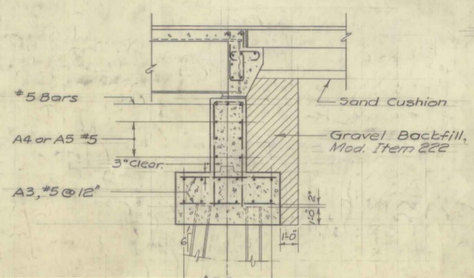
WINGWALL ELEVATION
Scale: ¼" = 1'-0"

NOTES:
1. For footing plan see Sheet 5.
2. For abutment notes see Sheet 5.
3. For estimated quantities see Sheet 5.

NOTE: All splices in abutment reinforcement shall be alternated.



FOOTING REINFORCEMENT
NORTH & SOUTH ABUTMENTS
Scale: ¼" = 1'-0"



SECTION A-A
Scale: ¼" = 1'-0"

WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 92 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

SAXTON'S RIVER BRIDGE

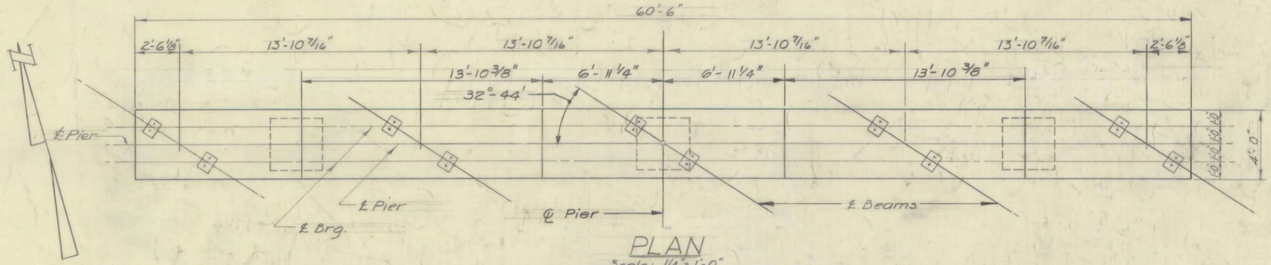
ABUTMENT DETAILS NO. 2

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

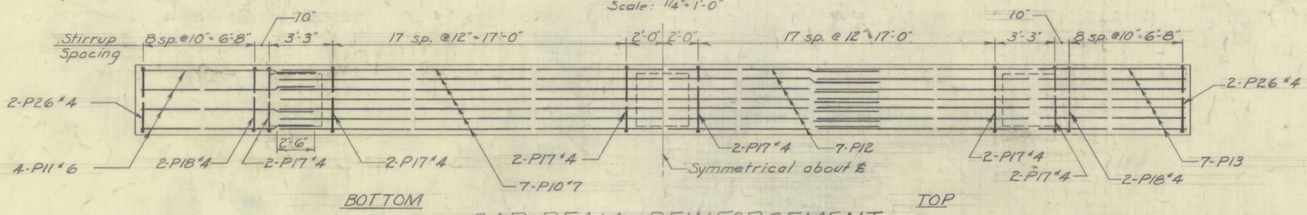
DESIGNED: F.W.C.	CHECKED: C.C.B./G.G.S.	DATE: 12-30-60
DRAWN: J. Kleske	INCHARGE: H.G.C.	SCALE: as noted

PROJ.* I 91-1(15) CONT.* 2 SH. 39 OF 184

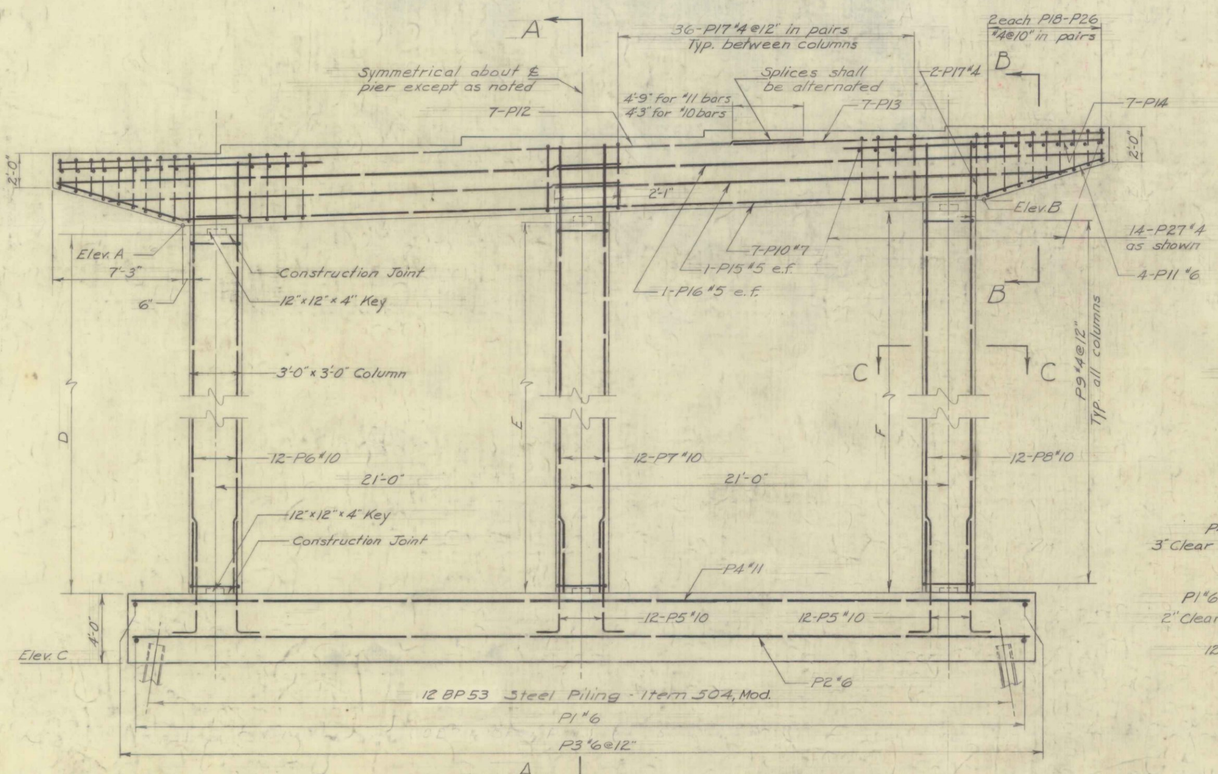
BRIDGE SHEET 6 OF 13



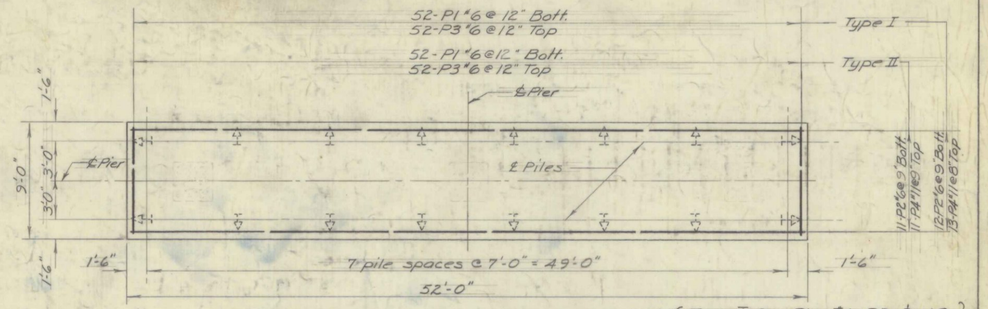
PLAN
Scale: 1/4" = 1'-0"



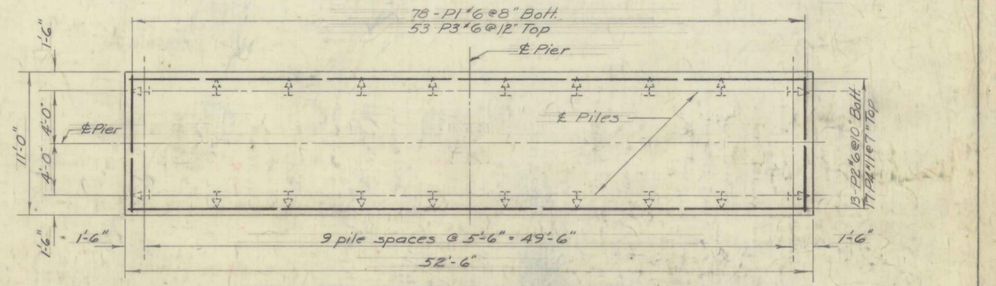
CAP BEAM REINFORCEMENT
Scale: 1/4" = 1'-0"



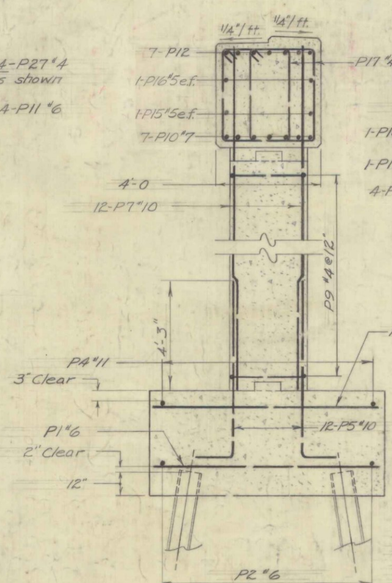
ELEVATION
Scale: 1/4" = 1'-0"



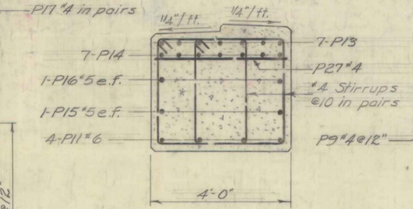
FOOTING PLAN - TYPES I & II { Type I for Pier #1 S.B. & N.B. / Type II for Pier #7 S.B. }
Scale: 3/16" = 1'-0"



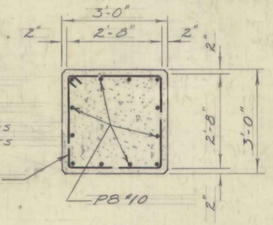
FOOTING PLAN - TYPE III (For Piers #2 & #3 S.B. & N.B.)
Scale: 3/16" = 1'-0"



SECTION A-A
Scale: 3/8" = 1'-0"



SECTION B-B
Scale: 1/2" = 1'-0"



SECTION C-C
Scale: 1/2" = 1'-0"

Notes:
1. For Reinforcing Bar Schedule see sheets 12 & 13.
2. For General Notes see sheet 2
3. For pile lengths, Beam Seat Elevations, and dimensions not shown on this sheet see sheet 8
4. Chamfer all exposed edges of concrete 1" unless otherwise shown.
5. Batter all piles 1 on 6 in the direction shown.
6. Bridge seats to be sloped 1/4"/ft. and coated with Asphaltic-Asbestos Coating, Item 407, except under masonry plates.

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

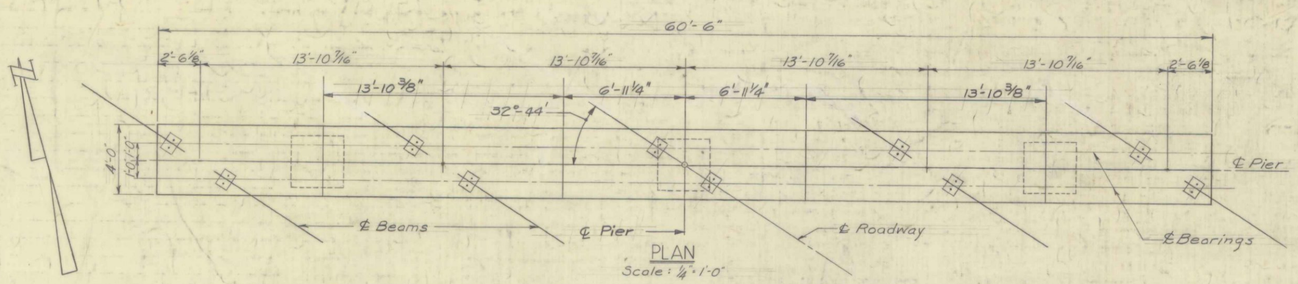
SAXTONS RIVER BRIDGE
PIERS 1,2 & 3 NORTHBOUND
PIERS 1,2,3 & 7 SOUTHBOUND

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

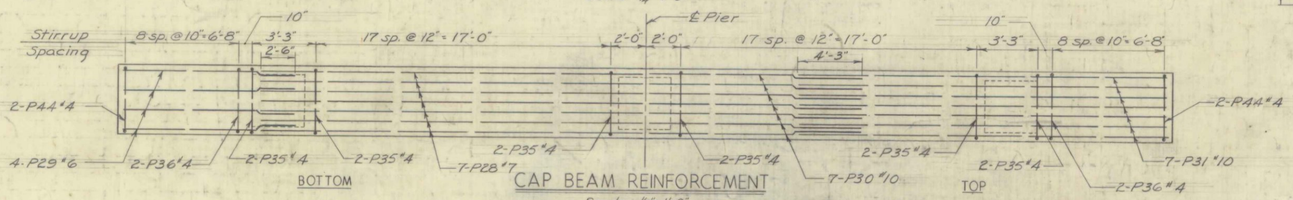
DESIGNED: H.B.	CHECKED: HB & GGS	DATE: 12-30-60
DRAWN: G.S. & D.S.	IN CHARGE: H.G.C.	SCALE: As Noted

PROJ. I 91-1(15) CONT. 2 SH. 40 OF 184

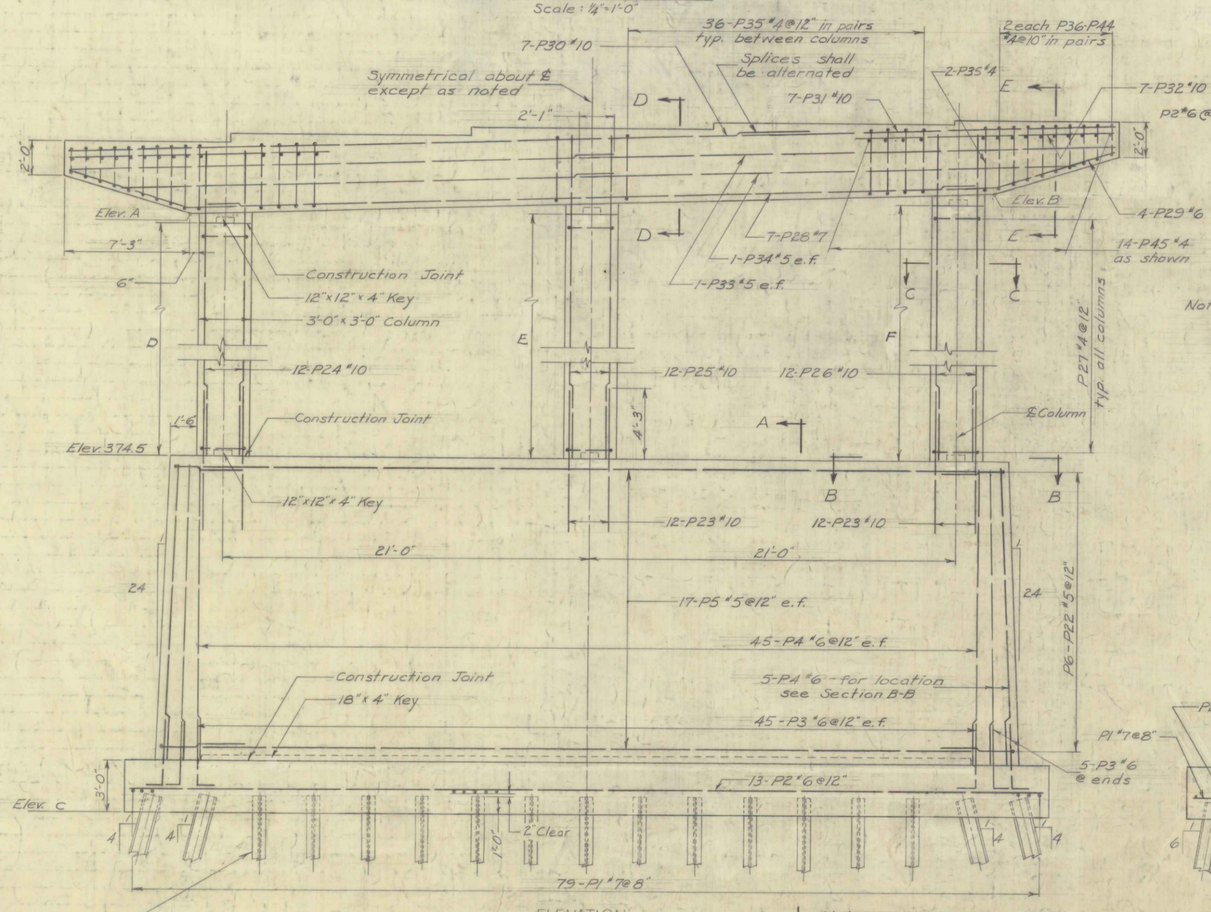
WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 93 OF 105
IM 091-1(70)
FOR REFERENCE ONLY



PLAN
Scale: 1/4"=1'-0"

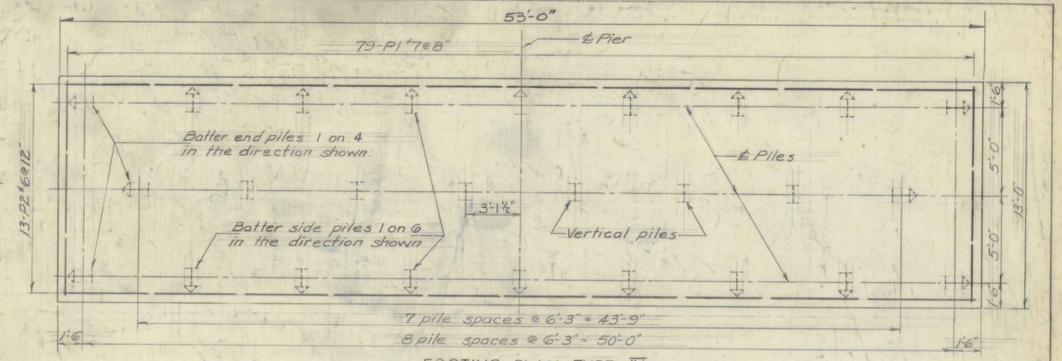


CAP BEAM REINFORCEMENT
Scale: 1/4"=1'-0"

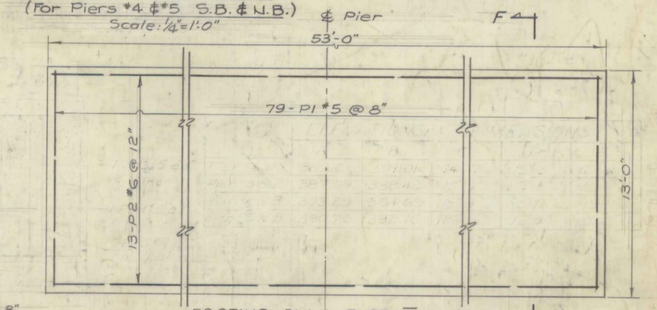


ELEVATION
Scale: 1/4"=1'-0"

Note: Footings shown in Elevation & Section A-A apply to Piers #4 & #5 S.B. & N.B.



FOOTING PLAN TYPE IV
(For Piers #4 & #5 S.B. & N.B.)
Scale: 1/4"=1'-0"



FOOTING PLAN TYPE V
(For Pier #6 S.B. & N.B.)
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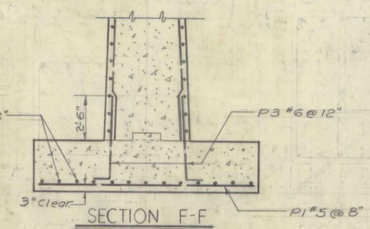
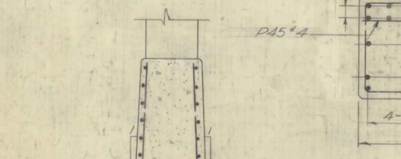
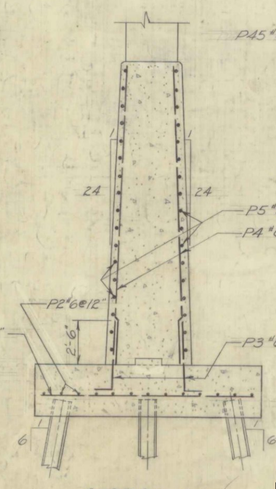


SECTION F-F
Scale: 1/4"=1'-0"

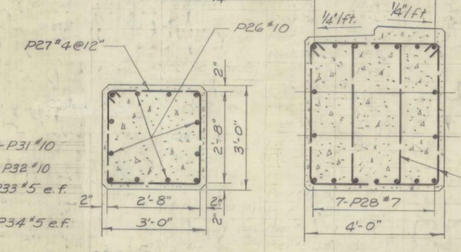
Note: Bridge seats to be sloped 1/4"/ft. and coated with Asphaltic-Asbestos Coating-Item 407 except under masonry plates.



SECTION E-E
Scale: 1/2"=1'-0"

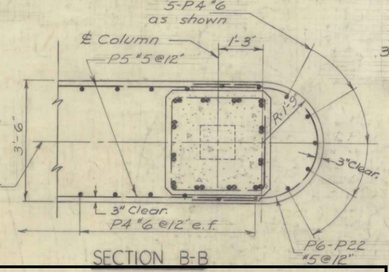


SECTION A-A
Scale: 1/4"=1'-0"



SECTION C-C
Scale: 1/2"=1'-0"

SECTION D-D
Scale: 1/2"=1'-0"



SECTION B-B

NOTES

1. For reinforcing bar schedule and quantity see Sheets 12 & 13.
2. For pier quantities, pile lengths, beam seat elevations, and dimensions not shown on this sheet see Sheet 8.
3. Chamfer all exposed edges of concrete 1", unless otherwise shown.

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

SAXTON'S RIVER BRIDGE
PIERS 4, 5 & 6
NORTHBOUND & SOUTHBOUND

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

DESIGNED: H.B.	CHECKED: H.B. & G.G.S.	DATE: 12-30-60
DRAWN: D.A.S.	IN CHARGE: H.G.C.	SCALE: As Noted

PROJ. I 91-1(15) CONT. #2 SH. 42 OF 184

BRIDGE SHEET 9 OF 13

WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 94 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

INDEX OF SHEETS

1. TITLE SHEET & NOTES
2. QUANTITY SHEET & PROJECT DESCRIPTIONS
3-4. DECK REHABILITATION GENERAL NOTES
5-6. TYPICAL DETAILS
7-8. SPECIFIC NOTES
9. B 18 N&S SUBSTRUCTURE REPAIR (PRELIMINARY INSPECTION)
10. B 19 SUBSTRUCTURE REPAIR (PRELIMINARY INSPECTION)
11. B 20 N&S SUBSTRUCTURE REPAIR (PRELIMINARY INSPECTION)
12. B 21 N&S SUBSTRUCTURE REPAIR (PRELIMINARY INSPECTION)
13. BRIDGE RAILING, NOTES & REINFORCING SCHEDULE - B19
14. BRIDGE RAILING, POST & CURB DETAILS - B19
15. APPROACH RAILING DETAILS - B19
16. SNOW FENCE DETAILS - B19
17. REPLACING DRAIN TROUGH ON PIER A ON BR. 19 & REPAIRING CONC. SHOULDER PIER1 - BR21S
18. DRAIN TROUGH EXTENSION AND APRON DETAILS
19. BLANK
20. EXISTING BEARING DETAILS
21. DETAILS REPLACING EXISTING EXP. BRGS. @ PIERS A & B ON BR19
22. REPAIR DETAILS FOR PIER BEARINGS ON BR19, PIER C, SPAN 4, BEAM 5; PIER A, SPAN 1, BEAM 5
23. DETAILS FOR REPLACING EXISTING EXP. BEARINGS @ PIER D, SPAN 2, BR20N & REPAIRING BRG. @ ABUT. 1, SPAN 1, BM1&5, B19
24. REPAIR DETAILS FOR B18N PIER C, SPAN 2, BM7; PIER D, SPAN 2, BEAM 1 & 7; PIER D, SPAN 3, BM1
25. REPAIR DETAILS FOR B18S, PIER B, SPAN 2, BM7 & BR21S, PIER 5, SPAN 5, BM1
26. REPAIR DETAILS FOR BR20N&S, PIER A & B, SPAN 2, BM1, PIER C SPAN 2, BM5; PIER B, SPAN 1, BM1; PIER A, SPAN 1, BM 1&5
27. REPAIR DETAILS FOR BR20N&S, PIER C&D, SPAN 3, BM5; ABUT. 1, SPAN 1, BM1 & ABUT. 4, SPAN 3, BM5
28. REPLACEMENT DETAILS BR21N&S, PIER 2, SPAN 3, PIER 3, SPAN 4, & PIER 4, SPAN 5
29. DETAILS FOR REPLACING EXISTING EXP. BRNGS. ON ABUT. 1 & PIER A (SPAN 2) ON BR 18S
30. POSITIVE CONNECTION DETAILS BETWEEN BARRIER RAIL AND EXISTING GUARD RAIL
31. TRAFFIC CONTROL SHEET FOR BR18N&S
32. TRAFFIC CONTROL - B19
33-34. TRAFFIC CONTROL SHEET FOR BR20N&S
35. TRAFFIC CONTROL SHEET FOR BR21N&S
36. BLANK
37. TRAFFIC CONTROL TYPICAL FOR CONSTRUCTION VEHICLE TURNING
38. SIGN SUMMARY CONSTRUCTION VEHICLE TURNING
39-47. BR.18N&S INFORMATION SHEETS (9 SHEETS)
48-52. BR19 INFORMATION SHEETS (5 SHEETS)
53-66. BR20N&S INFORMATION SHEETS (14 SHEETS)
67-76. BR21N&S INFORMATION SHEETS (10 SHEETS)
29A. DETAILS FOR REPLACING EXISTING EXP. BRNGS. ON ABUT. 3 ON BR 20S

LIST OF STANDARDS

E-10	2/3/86 R
E-100	9/10/87
E-101	10/30/87
E-102	1/23/89 R
E-103	1/23/89 R
E-104	1/23/89 R
E-104A	1/23/89
E-106	1/23/89 R
E-107	4/29/88 R
E-107A	9/10/87
E-110	3/1/88 R
E-120	4/1/88
E-121	1/23/89
E-140	4/25/88 R
E-141	10/30/87
E-142	10/30/87
E-150	10/30/87
E-151	10/30/87
E-152	10/30/87
E-160	3/1/88 R
E-171A	6/21/89
E-172	9/10/87
E-191	1/23/89 R
G-1	10/31/85 R
G-18	1/19/88 R
SB-R4A-82	12/13/88 R
SB-R4B-82	3/30/88 R

REFERENCE SHEETS

SCB-42-56
SB-20-56
SCB-30-56
SB-22-58

RECORD PLANS

CONTRACTOR PARK CONSTRUCTION CORP FITZWILLIAM, N.H.

RESIDENT ENGINEER IAN JENIKE

CONSTRUCTION BEGAN 2-26-90
CONSTRUCTION COMPLETED 11-08-91

RECORD PLANS BY J P RUSSELL

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By _____ Resident Engineer

Date JAN 11, 1993

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found on microfilm in Central Files.

NOTE: SHEETS 29 AND 29A WERE ADDED IN APRIL 1991 AS A RESULT OF AN FHWA REQUEST TO INCLUDE THIS ADDITIONAL WORK IN THIS CONTRACT. A CHANGE OF DESIGN WAS PROCESSED TO PAY FOR THIS WORK.

CONVENTIONAL SIGNS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

DATUM
VERTICAL N/A
HORIZONTAL N/A

PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF WESTMINSTER
COUNTY OF WINDHAM

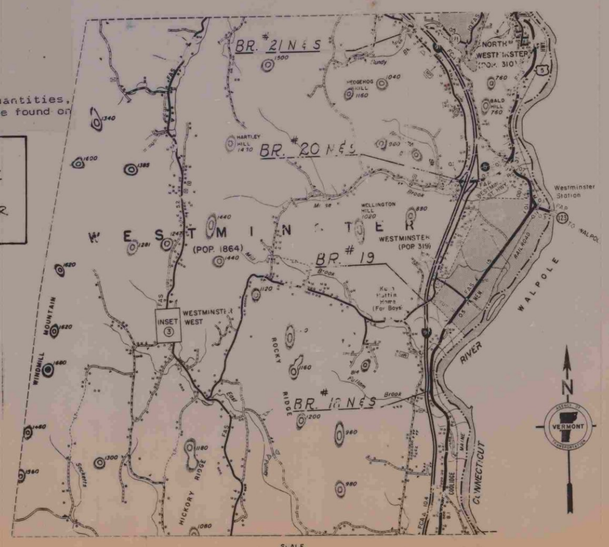
ROUTE NO: I-91 BRIDGE NO: 18N&S, 19, 20N&S, 21N&S

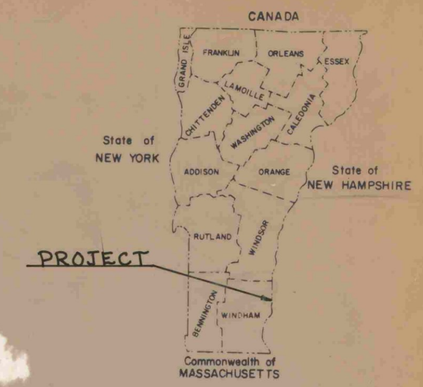
PROJECT LOCATION: BR 18N&S, I91 over TH 52; BR 19, I91 under TH 4; BR 20N&S, I91 over WESTMINSTER ST. Hwy., BR21N&S, I91 over TH 1 and SAXTONS RIVER

PROJECT DESCRIPTION: INSTALL TRAFFIC CONTROL.
REHABILITATE STRUCTURES.
REMOVE TRAFFIC CONTROL.

LENGTH OF STRUCTURE: BR 18N = 132.72'
BR 18S = 135.26'
BR 19 = 268.65'
BR 20N = 162.78'
BR 20S = 162.78'
BR 21N = 523.00'
BR 21S = 542.00'

TOTAL LENGTH OF STRUCTURES = 1927.19'





NOTES

A. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND ITS LATEST REVISIONS.

B. ALL FIELD CONNECTIONS SHALL BE MADE WITH TYPE III BOLTS MEETING ASTM DESIGNATION A-325.

C. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE.

D. REINFORCING PLACEMENT TOLERANCES SHALL BE:

SPACING + - 1"
CLEARANCE + - 1/4"

E. THE FOLLOWING TABLE OF ALLOWABLE STRESSES APPLY TO THESE PLANS FOR DESIGN PURPOSES:

CONCRETE: f'c = 3500 PSI fc = 1400 PSI

		A-588 (M-222)	A-36 (M-183)
STRUCTURAL STEEL:	fy =	27,000 PSI	20,000 PSI
	fv =	17,000 PSI	12,000 PSI

GRADE 60
REINFORCING STEEL: Fs = 24,000 PSI

F. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F.

G. NO VEHICLES WILL BE ALLOWED TO TRAVEL ON THE EXPOSED REINFORCING STEEL ONCE THE EXISTING SUPERSTRUCTURE CONCRETE HAS BEEN REMOVED.

H. NORMAL OR USUAL SIGNING AND TRAFFIC CONTROL ITEMS WITHIN OR ADJACENT TO THE PROJECT AREA, AS DIRECTED ON THE STANDARDS OR SHEETS 31 thru 38, WILL BE SUBSIDIARY TO THE ITEM OF TRAFFIC CONTROL. THE ENGINEER MAY DIRECT THE CONTRACTOR TO ERECT OTHER SIGNS TO PROVIDE AND MAINTAIN SAFE TRAFFIC FLOW. ANY SUCH ADDITIONAL WORK WILL BE PAID FOR UNDER THE APPROPRIATE CONTRACT ITEM. COVERING AND UNCOVERING SIGNS, THE REMOVAL OF CONSTRUCTION SIGNS OR TEMPORARY PAVEMENT MARKINGS AND ANY OTHER WORK INCIDENTAL TO RETURNING THE HIGHWAYS TO THEIR ORIGINAL CONDITION SHALL BE SUBSIDIARY TO OTHER ITEMS. PAVING OF ROADWAY CROSSOVER DETOURS SHALL BE PAID FOR AS BITUMINOUS CONCRETE PAVEMENT, TYPE III, ITEM 406.25, AND SHALL BE PLACED IN A SINGLE COURSE 2" THICK. FILL MATERIAL PLACED IN THE MEDIAN SHALL BE ACCEPTABLE TO THE ENGINEER AND SHALL NOT CONTAIN EXCESSIVE AMOUNT OF MOISTURE, SILT OR ORGANIC MATTER. PLACEMENT OF FILL AND MODIFICATION OF MEDIAN DRAINAGE WILL BE CONSIDERED SUBSIDIARY TO THE ITEM OF TRAFFIC CONTROL.

WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 95 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE AGENCY SECRETARY.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, FOR USE ON THESE PROJECTS, INCLUDING ALL SUBSEQUENT PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD
APPROVED Arthur J Gore DATE 8/30/89
DIRECTOR OF PLANNING

APPROVED SEPT 15, 1989
G A Jensen
For the Federal Highway Administration

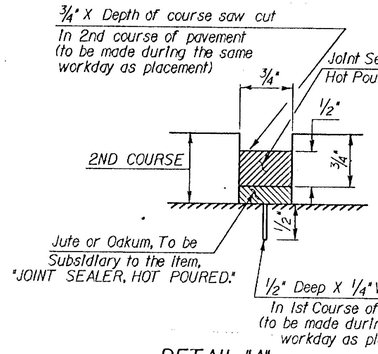
PROJECT	PROJECT NO.
WESTMINSTER	IR-DECK (26)

SHEET 1 OF 76 SHEETS

D-10

SJB 7/21/81

BRUNING 44-131 40592-1

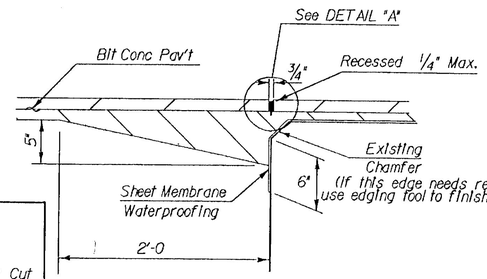


DETAIL "A"

Scale 1" = 1"

Note: Clean sawing dust and other foreign material from the sawed joint before applying the Hot Poured Joint Sealer. See VT. SPEC. 524.05

①

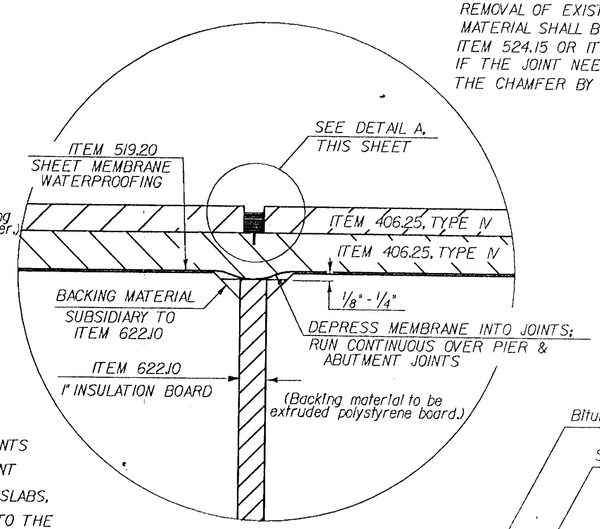


JOINT SEALER DETAIL WITHOUT SURFACE APPROACH SLAB

Scale 1 1/2" = 1'-0"

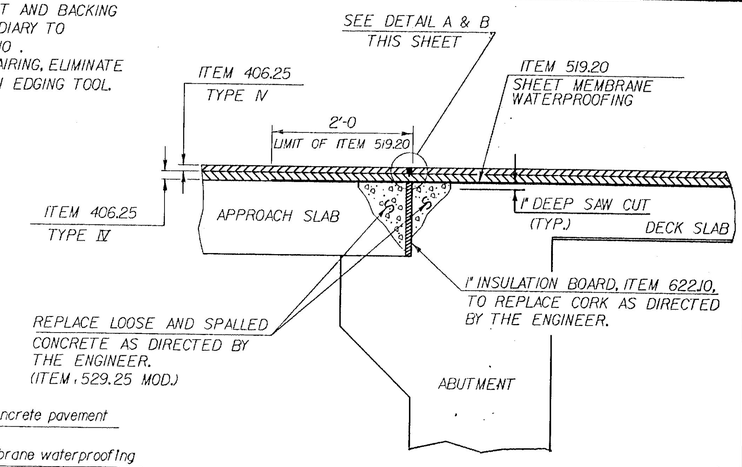
MEMBRANE WILL BE DEPRESSED INTO DECK JOINTS AND RUN CONTINUOUS OVER PIER AND ABUTMENT JOINTS. ON BRIDGES WITH SURFACE APPROACH SLABS, THE MEMBRANE WILL EXTEND TWO (2) FEET ONTO THE SLAB FROM THE END OF THE BRIDGE.

REMOVAL OF EXISTING JOINT AND BACKING MATERIAL SHALL BE SUBSIDIARY TO ITEM 524.15 OR ITEM 622.10. IF THE JOINT NEEDS REPAIRING, ELIMINATE THE CHAMFER BY USING AN EDGING TOOL.



DETAIL B

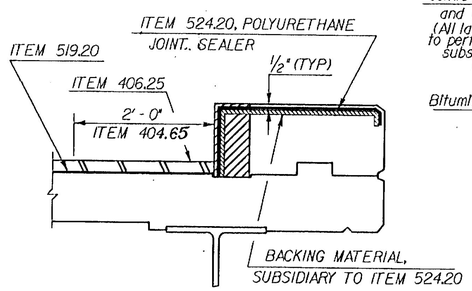
NTS



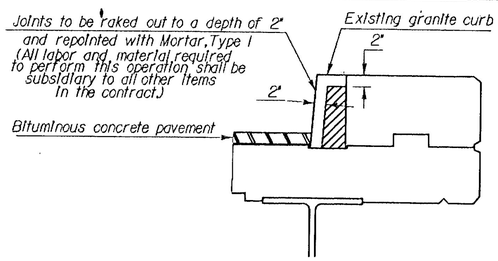
TYPICAL ABUTMENT JOINT DETAIL (WITH SURFACE APPROACH SLAB)

NTS

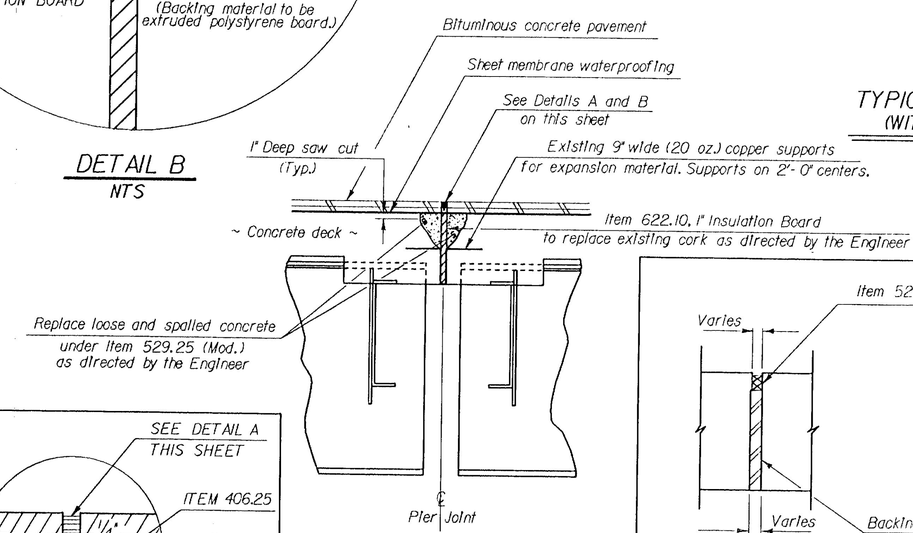
②



SECTION C - C

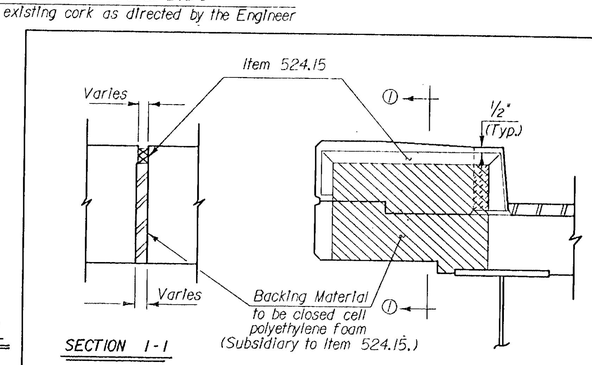


GRANITE CURB JOINT DETAIL

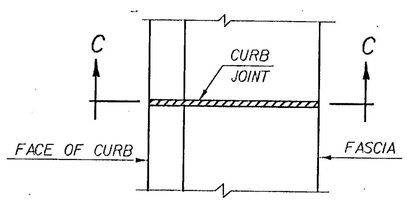


TYPICAL PIER JOINT DETAIL

NTS



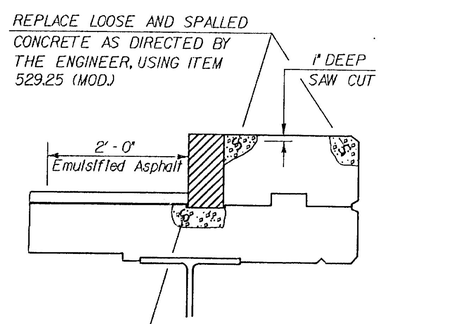
SECTION 1-1



PLAN VIEW

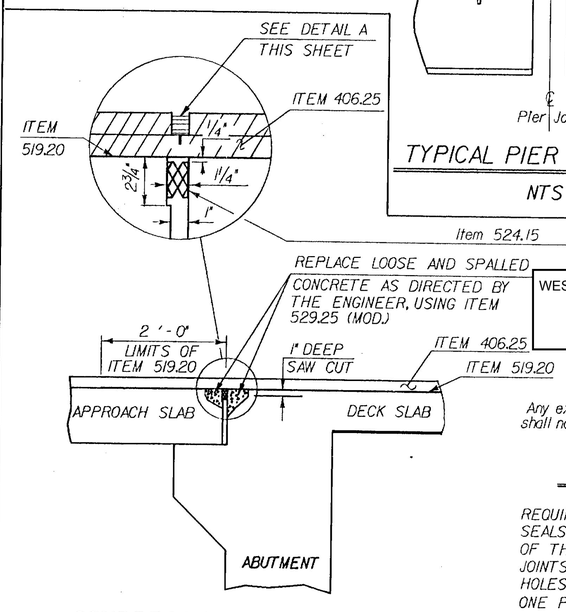
CURB JOINT WITH POLYURETHANE JOINT SEALER *

NTS



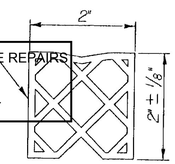
* Note: Polyurethane joint sealer to be used in curb construction joints and at fixed or expansion curb joints to replace existing material.

③



COMPRESSION SEAL DETAILS

NTS



WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 96 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

Any existing Joint Sealer, Preformed Neoprene, if removed, shall not be reused but shall be replaced with new material.

ADHESIVE SPECIFICATION

REQUIRED ADHESIVE FOR STRUCTURAL JOINT SEALS SERVES AS A LUBRICANT FOR INSERTION OF THE COMPRESSION SEALS IN STEEL AND CONCRETE JOINTS; PRIMES THE JOINT FACES; SEALS SMALL HOLES AND IMPERFECTIONS IN CONCRETE WALLS. ONE PART MOISTURE CURING POLYURETHANE AND AROMATIC HYDROCARBON SOLVENT MIXTURE. SOLID CONTENT 72% ± 3% BY WEIGHT. APPROXIMATE WEIGHT 8 1/2 ± POUNDS PER GALLON. COLOR, CONCRETE GRAY.

④

Any existing Joint Sealer, Preformed Neoprene, if removed, shall not be reused but shall be replaced with new material.

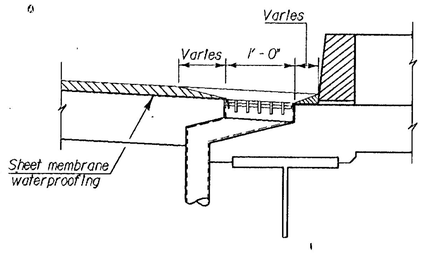
CURB JOINT WITH NEOPRENE COMPRESSION SEAL

NTS

⑤

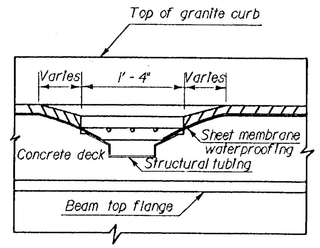
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WESTMINSTER	Bridge No.
Highway No. 191	Log Sta. / Surv. Sta.
Bridges 18N&S, 19, 20N&S & 21N&S	
TYPICAL DETAILS	
Designed By G. S. Rogers	Drawn By D. W. Newton
Checked By G. S. Rogers, Date June '89	Bridge Design Supervisor D. E. Lathrop, Date June '89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK(26)
I.G.C. Info. ZFA:[30,32]WESTMNSTR.DGN	PRF:IR26TYPI
Bridge Sheet No.	Sheet 5 of 76



SECTION B-B

N.T.S.



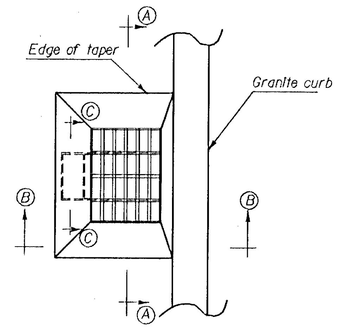
SECTION A-A

N.T.S.

Note: Mark location of scupper; install membrane; make a "X" incision on diagonals of scupper; trim, seal, and wrap into scupper.

MEMBRANE DETAIL FOR SCUPPERS FLUSH WITH DECK

1

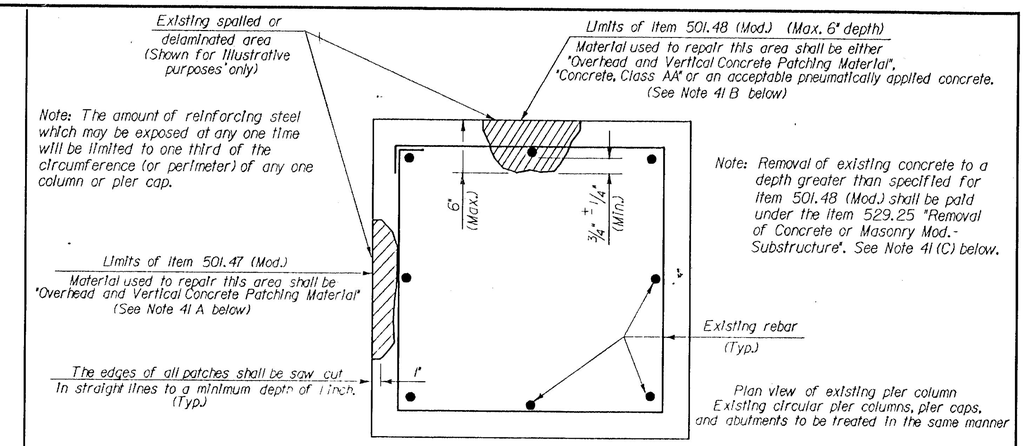


PLAN VIEW

(TYP. FOR DETAILS NO. 1 & 2)

N.T.S.

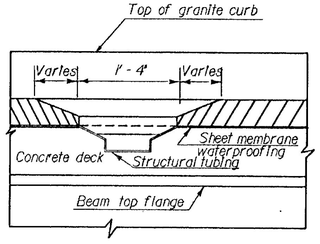
3



DETAIL SHOWING LIMITS OF ITEMS 501.47 (MOD.), 501.48 (MOD.) AND 529.25 (MOD. - SUBSTRUCTURE) (PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I AND CLASS II AND REMOVAL OF CONCRETE OR MASONRY MOD. - SUBSTRUCTURE)

N.T.S.

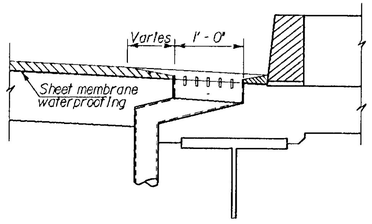
5



SECTION A-A

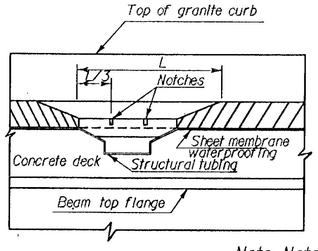
N.T.S.

Fit membrane to outside perimeter of scupper.



SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

Note: Notch scupper 1/2" wide to top of concrete on three sides. This work to be subsidiary to the Item 519.20

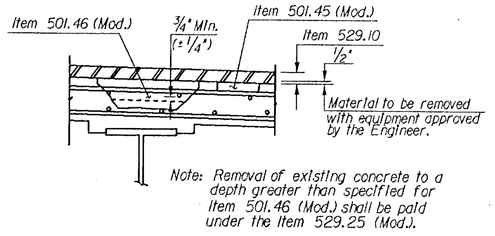
MEMBRANE DETAIL FOR RAISED SCUPPERS

2

Note: All edges of repair areas are to be saw cut square and a minimum of one (1) inch deep.

Note: Item 501.45 (Mod.) shall include removal of concrete to a maximum depth as determined by the top of the top bars of the top mat of reinforcing steel.

Note: Item 501.46 (Mod.) shall include removal of concrete to a maximum depth as determined by the top of the top bars of the bottom mat of reinforcing steel.



Note: Removal of existing concrete to a depth greater than specified for Item 501.46 (Mod.) shall be paid under the Item 529.25 (Mod.).

TYPICAL LIMITS FOR REMOVAL ITEMS

N T S

4

WESTMINSTER 1-91 N & S BRIDGE REPAIRS
SHEET 97 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

NOTES CONCERNING REPAIRS TO ABUTMENTS AND PIERS CONTINUED FROM SHEET 4

41. (CONT'D.)

A. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 501.47, "PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I (MOD.)" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A MAXIMUM DEPTH OF THE OUTSIDE FACE OF THE REINFORCING STEEL. ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.47 "PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I (MOD.)". THE FILLING MATERIAL SHALL BE "OVERHEAD AND VERTICAL CONCRETE PATCHING MATERIAL" COMFORMING WITH SUBSECTION 707.14. THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF 1 INCH. IF MORE THAN 1/4 OF THE REBAR IS EXPOSED OR THE BOND BETWEEN THE REBAR AND THE CONCRETE IS BROKEN, THEN PROCEED TO ITEM 501.48, "PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II (MOD.)".

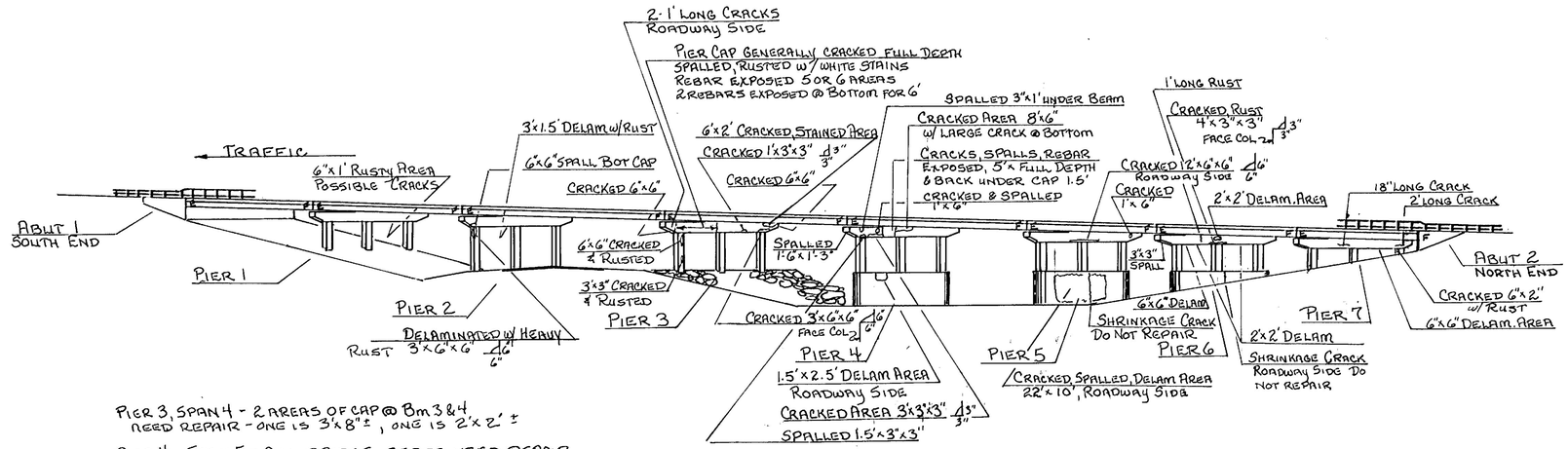
B. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 501.48, "PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II (MOD.)" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A MINIMUM DEPTH OF 3/4" ± 1/4" INSIDE THE INSIDE FACE OF REINFORCING STEEL AND TO A MAXIMUM DEPTH OF 6" FROM THE EXISTING CONCRETE SURFACE. ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.48, "PREPARATION OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II (MOD.)". THE FILLING MATERIAL MAY BE EITHER "OVERHEAD AND VERTICAL CONCRETE PATCHING MATERIAL" CONFORMING WITH SUBSECTION 707.14 OR "CONCRETE CLASS AA" OR AN ACCEPTABLE PNEUMATICALLY APPLIED CONCRETE (SEE SPECIAL PROVISIONS). THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF 1 INCH.

C. THE LIMITS FOR REMOVAL OF CONCRETE UNDER THE ITEM 529.25 "REMOVAL OF CONCRETE OR MASONRY MOD. - SUBSTRUCTURE" SHALL BE FROM THE EXISTING CONCRETE SURFACE TO A DEPTH OF GREATER THAN 6". ALL WORK AND MATERIALS NECESSARY FOR PREPARING A PATCH AND FILLING IT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 529.25 "REMOVAL OF CONCRETE OR MASONRY MOD. - SUBSTRUCTURE". THE FILLING MATERIAL MAY BE EITHER "OVERHEAD AND VERTICAL CONCRETE PATCHING MATERIAL" CONFORMING WITH SUBSECTION 707.14 OR "CONCRETE CLASS AA" OR AN ACCEPTABLE PNEUMATICALLY APPLIED CONCRETE (SEE SPECIAL PROVISIONS). THE EDGES OF ALL PATCHES SHALL BE SAW CUT IN STRAIGHT LINES TO A MINIMUM DEPTH OF 1 INCH.

AB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

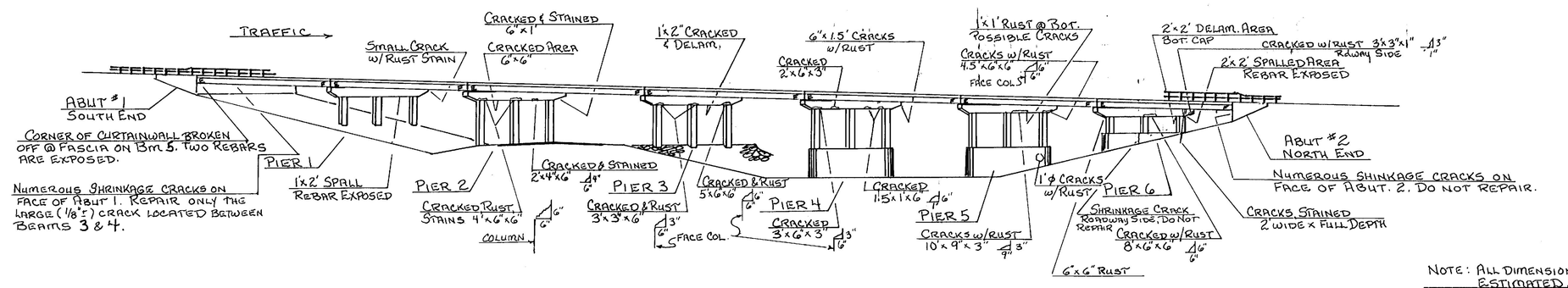
Town Of WESTMINSTER	Bridge No.
Highway No. 191	Log Sta. / Surv. Sta.
TYPICAL DETAILS	
Bridges 18N&S, 19, 20N&S & 21N&S	
Designed By G.S. Rogers	Drawn By D.W. Newton
Checked By G.S. Rogers Date 6/89	Bridge Design Supervisor D.E. Lathrop Date 6/89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK(26)
I.G.C. info. ZFA:[30,32]WESTMNSTR.DGN	PRF:IR26TYP2
Bridge Sheet No.	Sheet 6 of 76



PIER 3, SPAN 4 - 2 AREAS OF CAP @ Bm 3 & 4
NEED REPAIR - ONE IS 3'x8" ±, ONE IS 2'x2' ±

PIER 4, SPAN 5 - ALL BRIDGE SEATS NEED REPAIR

BRIDGE 21 - SOUTHBOUND
N.T.S.



BRIDGE 21 - NORTHBOUND
N.T.S.

NOTE: ALL DIMENSIONS OF CRACKS OR SPALLS ARE ESTIMATED.

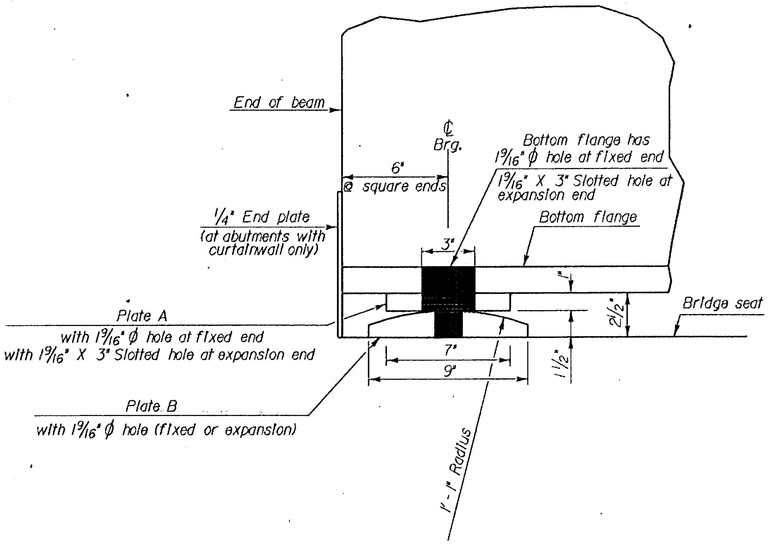
WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 98 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WESTMINSTER	Bridge No. BR 21 N & S
Highway No. I - 91	Log Sta. ~
	Surv. Sta. 1648+00
BRIDGE 21 N & S	SUBSTRUCTURE
REPAIR AREAS FOUND ON PRELIMINARY INSPECTION	
Designed By G. S. ROGERS	Drawn By W. C. SINCLAIR
Checked By D.W. NEWTON Date 7/89	Bridge Design Supervisor D.E. LATHROP Date 6/89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK (26)
I.G.C. Info.	
Bridge Sheet No.	Sheet 12 of 16

BRUNING 44.232 73216

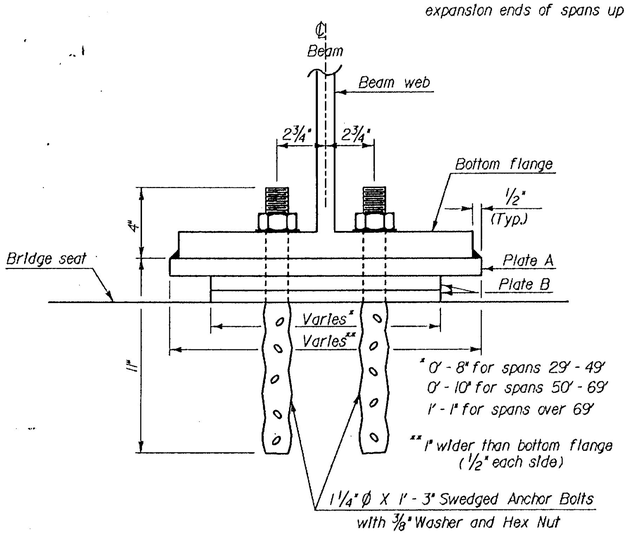
BR-6



SIDE VIEW

3" = 1' - 0"

This type of bearing device was originally designed to be used on fixed ends of all spans and on expansion ends of spans up to and including 69' - 0".

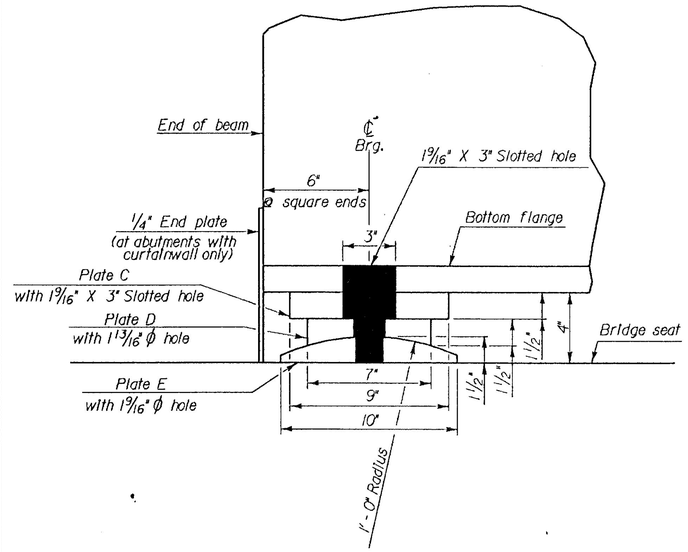


FRONT VIEW

DETAIL OF EXISTING FIXED BEARINGS AND EXPANSION BEARINGS FOR SPANS UP TO AND INCLUDING 69' - 0"

3" = 1' - 0"

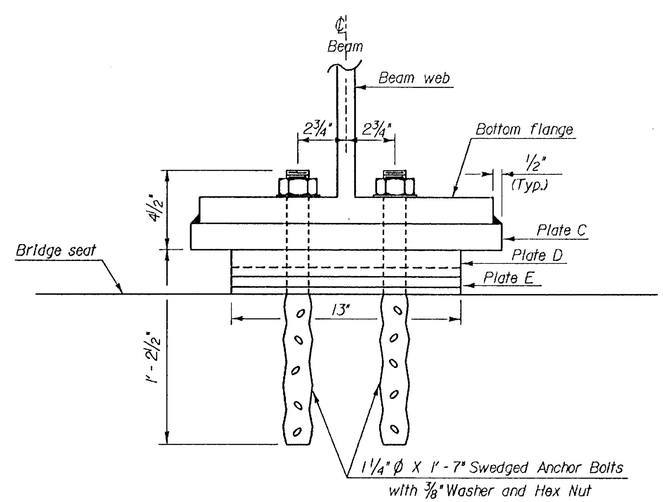
(A)



SIDE VIEW

3" = 1' - 0"

This type of bearing device was originally designed to be used on the expansion end of all spans over 69' - 0".



FRONT VIEW

DETAIL OF EXISTING EXPANSION BEARINGS FOR SPANS OVER 69' - 0"

3" = 1' - 0"

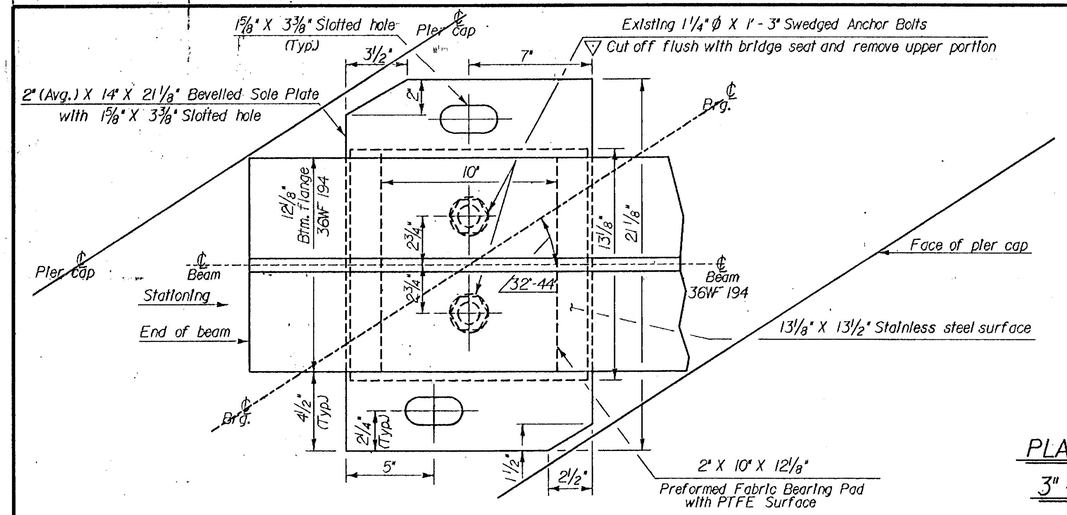
(B)

BRIDGE NO.	SKEW	SPAN NO.	BEAM SIZE	COVER PLATE SIZE	DIAPHRAGMS
18N	68°-22'-33" Lt.	1	2 ~ 33WF130 (1 at each fascia) 5 ~ 30WF108 (Interior beams)	(NONE)	15 [33.9
		2	7 ~ 33WF141	(NONE)	15 [33.9
		3	2 ~ 33WF130 (1 at each fascia) 5 ~ 30WF108 (Interior beams)	(NONE)	15 [33.9
18S	55°-37'-30" Lt.	1	2 ~ 33WF130 (1 at each fascia) 5 ~ 30WF108 (Interior beams)	(NONE)	15 [33.9
		2	7 ~ 33WF130	1/2" X 10" X 29' - 3"	18 [42.7
		3	2 ~ 33WF130 (1 at each fascia) 5 ~ 30WF108 (Interior beams)	(NONE)	15 [33.9
19	51°-07'-30" Lt.	1	5 ~ 36WF150	7/8" X 10" X 39' - 6"	18 [42.7
		2	5 ~ 36WF245	1" X 14" X 51' - 10"	18 [42.7
		3	5 ~ 36WF245	1" X 14" X 51' - 10"	18 [42.7
		4	2 ~ 36WF150 (1 at each fascia) 3 ~ 30WF108 (Interior beams)	(NONE)	15 [33.9
20N & S	62°-18'-05" Rt.	1	2 ~ 36WF150 (1 at each fascia) 3 ~ 33WF141 (Interior beams)	(NONE)	18 [42.7
		2	5 ~ 36WF150	7/8" X 10" X 39' - 6"	18 [42.7
		3	2 ~ 36WF150 (1 at each fascia) 3 ~ 33WF141 (Interior beams)	(NONE)	18 [42.7
21N	32°-44' Lt.	1	5 ~ 36WF160	7/8" X 13" X 46' - 3"	18 [42.7
		2	5 ~ 36WF160	7/8" X 13" X 46' - 3"	18 [42.7
		3	5 ~ 36WF300	1" X 14" X 52' - 8"	18 [42.7
		4	5 ~ 36WF194	1 1/8" X 14" X 54' - 0"	18 [42.7
		5	5 ~ 36WF194	1 1/8" X 14" X 54' - 0"	18 [42.7
		6	5 ~ 36WF160	7/8" X 13" X 46' - 3"	18 [42.7
		7	5 ~ 36WF160	7/8" X 13" X 46' - 3"	18 [42.7
21S	32°-44' Lt.	1	5 ~ 33WF130	7/8" X 10" X 36' - 6"	18 [42.7
		2	5 ~ 36WF150	7/8" X 10" X 39' - 6"	18 [42.7
		3	5 ~ 36WF300	1" X 14" X 52' - 8"	18 [42.7
		4	5 ~ 36WF194	1 1/8" X 14" X 54' - 0"	18 [42.7
		5	5 ~ 36WF194	1 1/8" X 14" X 54' - 0"	18 [42.7
		6	5 ~ 33WF130	7/8" X 10" X 36' - 6"	18 [42.7
		7	5 ~ 33WF130	7/8" X 10" X 36' - 6"	18 [42.7
		8	5 ~ 33WF130	1/2" X 10" X 29' - 3"	18 [42.7

WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 99 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

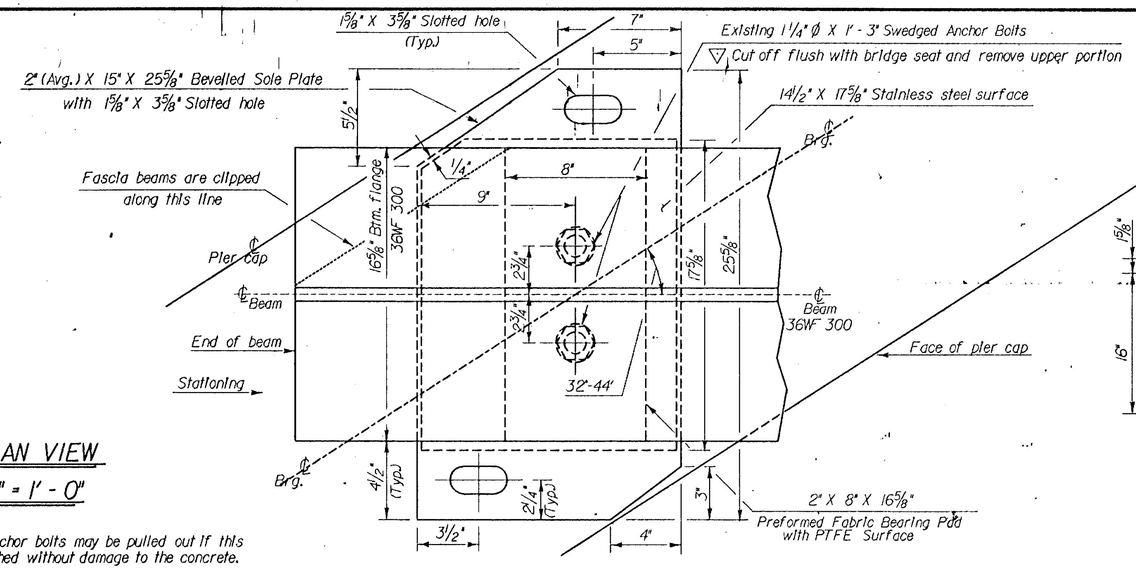
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WESTMINSTER	Bridge No. ____ Log Sta. ____ Surv. Sta. ____
Highway No. 191	
Bridges 18N&S, 19, 20N&S & 21N&S	
Existing Bearing Details	
Designed By G.S.Rogers	Drawn By D.W.Newton
Checked By G.S.Rogers Date July '89	Bridge Design Supervisor D. E. Lathrop Date July '89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK(26)
I.G.C. Info. ZFA:[30,32]WESTMNSTR.DGN PRF:IR260LBRG	
Bridge Sheet No.	Sheet 20 of 76

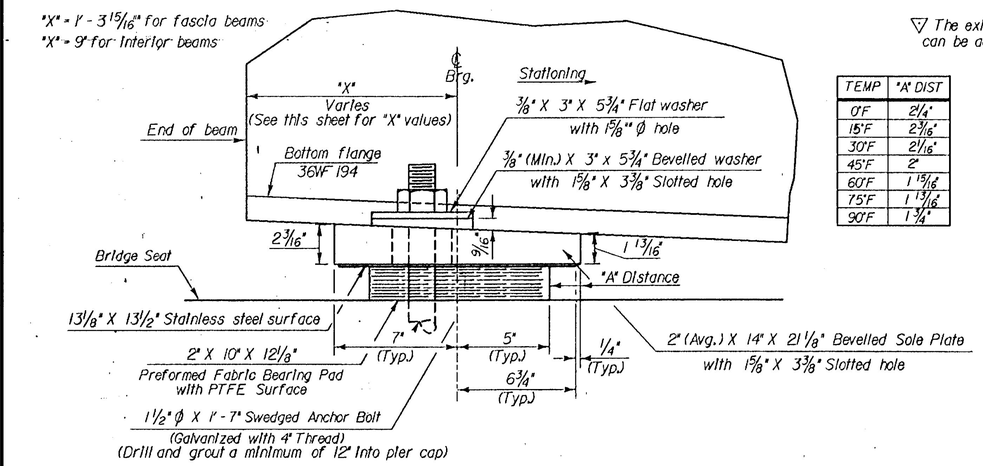


PLAN VIEW

3" = 1' - 0"



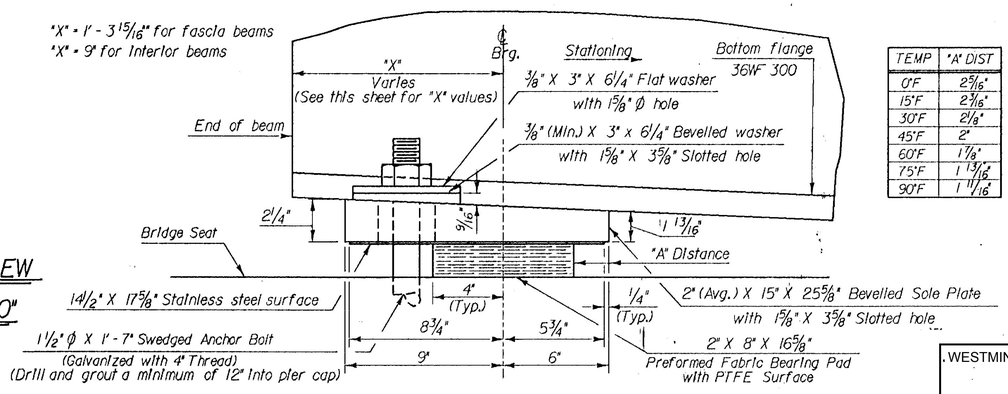
▽ The existing anchor bolts may be pulled out if this can be accomplished without damage to the concrete.



TEMP	"A" DIST
0°F	2 1/4"
15°F	2 3/16"
30°F	2 1/16"
45°F	2"
60°F	1 15/16"
75°F	1 13/16"
90°F	1 3/4"

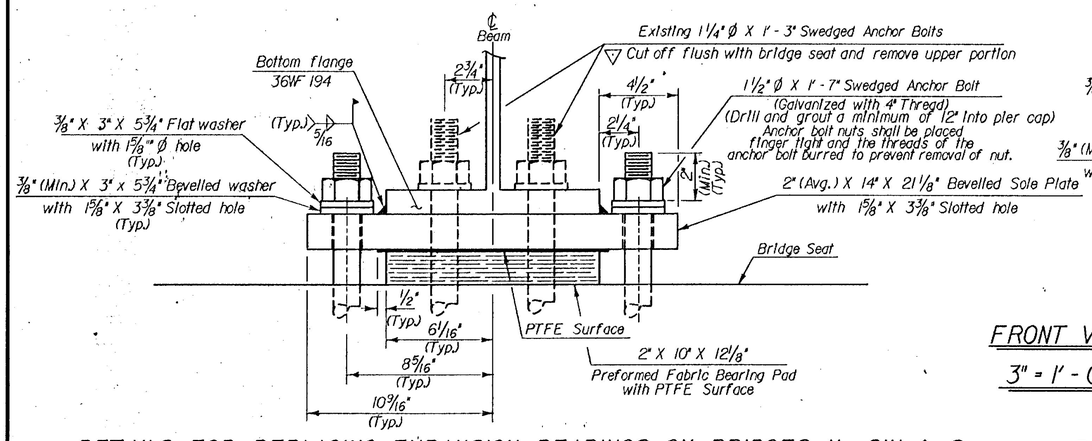
SIDE VIEW

3" = 1' - 0"



TEMP	"A" DIST
0°F	2 5/16"
15°F	2 3/16"
30°F	2 1/8"
45°F	2"
60°F	1 7/8"
75°F	1 13/16"
90°F	1 11/16"

WESTMINSTER I-91 N & S BRIDGE PLANS
SHEET 100 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

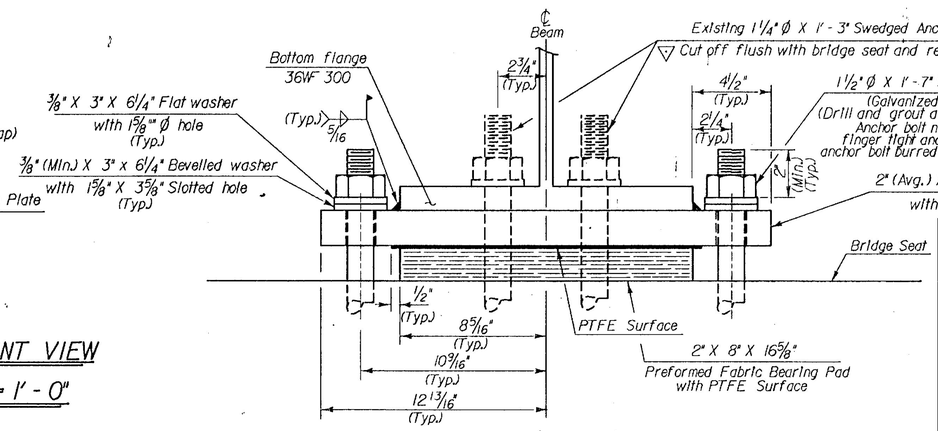


DETAILS FOR REPLACING EXPANSION BEARINGS ON BRIDGES No. 2IN & S

(PIERS No. 3 & 4, SPANS No. 4 & 5)

FRONT VIEW

3" = 1' - 0"

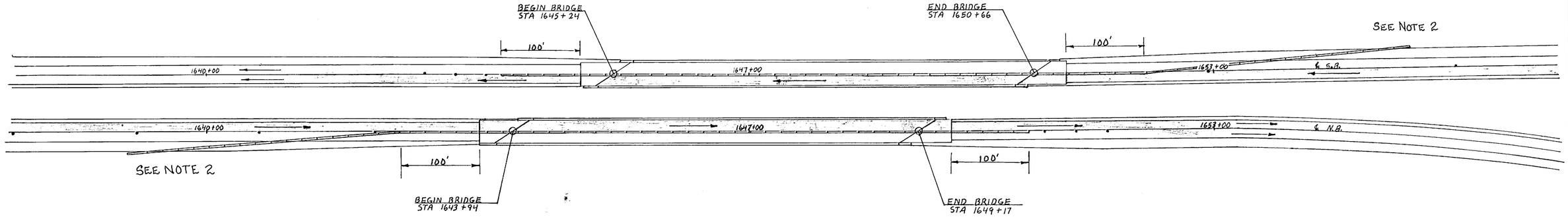


DETAILS FOR REPLACING EXPANSION BEARINGS ON BRIDGES No. 2IN & S

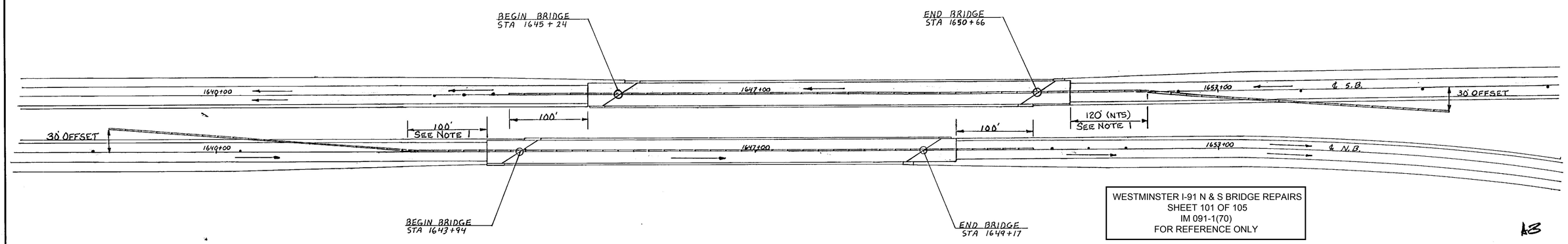
(PIER No. 2, SPAN 3)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WESTMINSTER	Bridge No. 2IN & S
Highway No. 191	Log Sta. / Surv. Sta.
Details for Replacing Existing Expansion Brngs. At Piers No. 2, 3 & 4 on Bridges 2IN & S	
Designed By G.S.Rogers	Drawn By D.W.Newton
Checked By G.S.Rogers Date July '89	Bridge Design Supervisor D. E. Lathrop Date July '89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK (26)
I.G.C. Info. ZFA1:[30,32]WESTMNSTR.DGN PRF:IR26EXP21	
Bridge Sheet No.	Sheet 28 of 76



TRAVEL LANES (RIGHT LANES) CLOSED
SCALE 1" = 60'



WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 101 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

PASSING LANES (LEFT LANES) CLOSED
SCALE 1" = 60'

NOTES

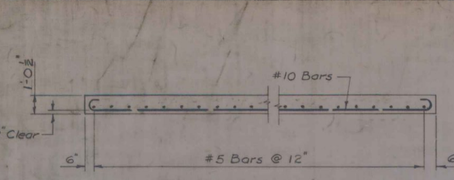
1. INCREASE THIS DISTANCE AS REQUIRED TO INSURE THAT THE 1 ON 13 TAPER FOR THE TEMPORARY BARRIER RAIL DOES NOT INTERSECT THE EXISTING GUARD RAIL.
2. THE TEMPORARY BARRIER RAIL SHALL GO THROUGH THE EXISTING GUARD RAIL WITH END TREATMENT AS DETAILED ON SHEET 30.
3. THIS SHEET SHOWS APPROXIMATE LOCATION OF THE TEMPORARY BARRIER RAIL FOR SINGLE LANE CLOSURES. SEE STD. DWG. E-103 FOR OTHER DETAILS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WESTMINSTER	Bridge No. B21 N&S
Highway No. I 91	Log Sta. ———
	Surv. Sta. ———
I91 OVER ROUTE 121	
TRAFFIC CONTROL SHEET FOR B21 N&S	
Designed By G.S. ROGERS	Drawn By B.L. DONALD
Checked By D.W. NEWTON Date JUNE 1989	Bridge Design Supervisor D.E. LATHROP Date 6/89
PROJECT WESTMINSTER	PROJECT NO. IR-DECK(26)
I.G.C. Info.	
Bridge Sheet No.	Sheet 35 of 76

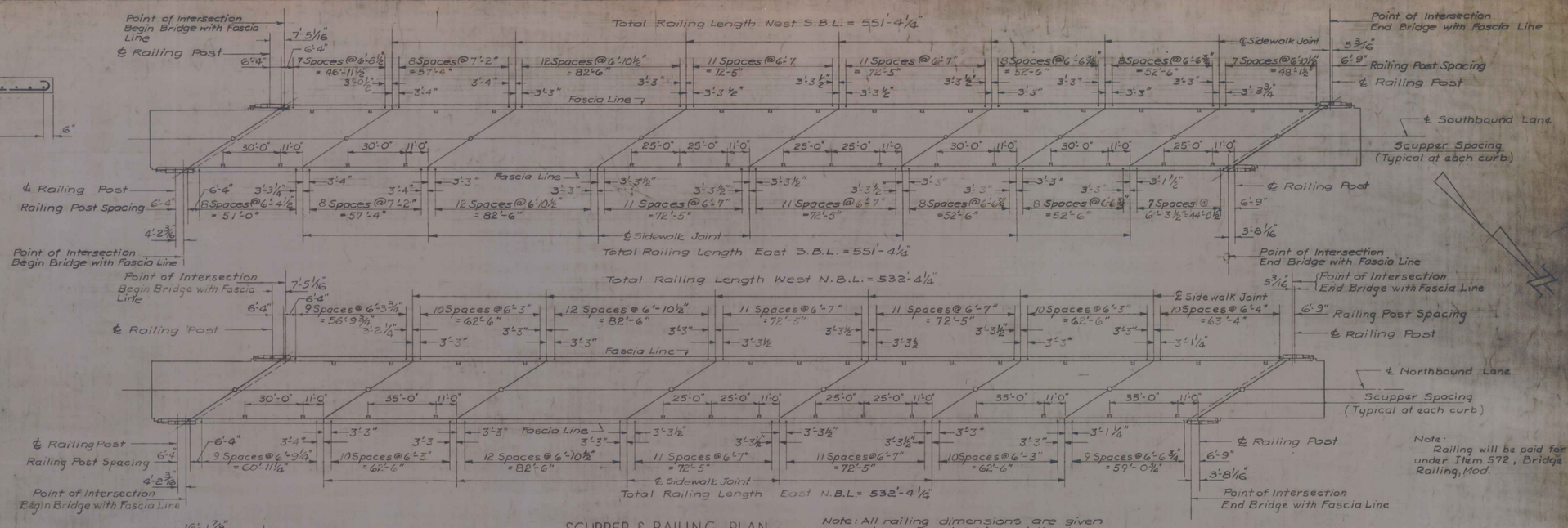
BRUNING 44-232 73216

BR-6



SECTION E-E

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



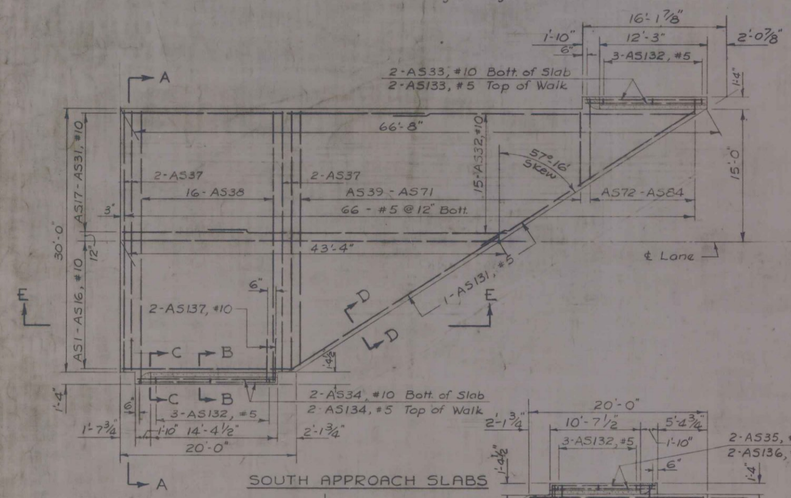
Note: Railing will be paid for under Item 572, Bridge Railing, Mod.

SCUPPER & RAILING PLAN

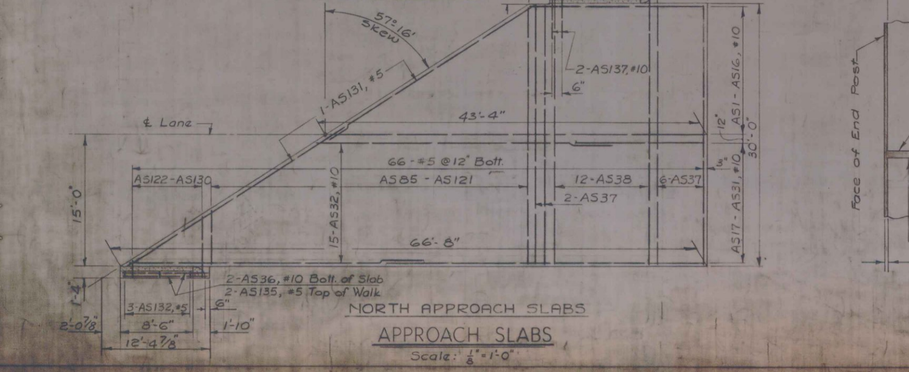
Scale: 1" = 30'

Note: All railing dimensions are given along Fascia Line at the top of Sidewalk.

REQUIRED BEAM CAMBER		
SPAN	N.B. BRIDGE	S.B. BRIDGE
1	2 1/2"	2"
2	2 1/2"	2 1/2"
3	4"	4"
4	3 1/4"	3 1/4"
5	3 1/4"	3 1/4"
6	2 1/2"	2"
7	2 1/2"	2"
8	—	1 3/4"



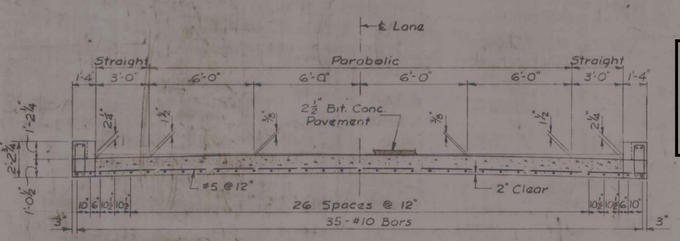
SOUTH APPROACH SLABS



NORTH APPROACH SLABS

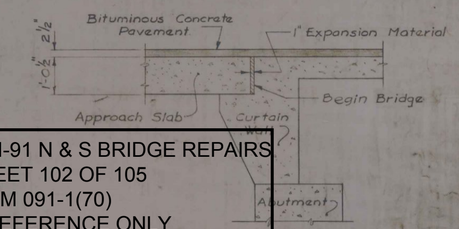
APPROACH SLABS

Scale: 1/8" = 1'-0"



SECTION A-A

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

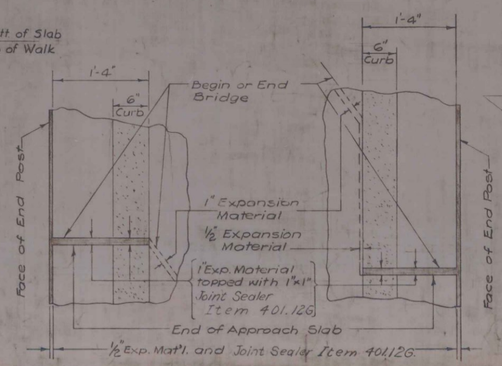


EXPANSION DETAIL D-D

Scale: 1/2" = 1'-0"

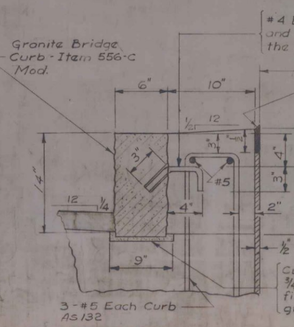
WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 102 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

FINAL		APPROACH SLAB QUANTITIES								
N.Bnd.	S.Bnd.	ITEM NO.	ITEM	UNIT	NORTHBOUND			SOUTHBOUND		
					NEAT	OVERRUN	TOTAL	NEAT	OVERRUN	TOTAL
*	*	318	Tar Emul. for Bridge Floors	gal.	116	—	116	116	—	116
*	*	361-B	Bitum. Concrete Pvmt., Mod.	ton	40	6	46	40	6	46
104	104	401-B	Concrete Class B, Mod.	c.y.	104 V	~~5~~	~~109~~	104 V	~~5~~	~~109~~
54	54	556-C	Granite Bridge Curb, Type 3, Mod.	l.f.	54	—	54	54	—	54



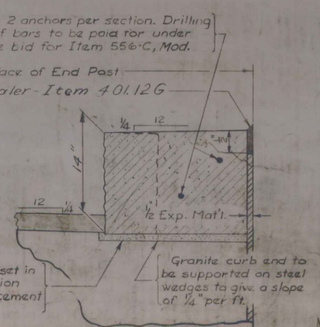
CURB ENDS & JOINT DETAIL

Scale: 1" = 1'-0"



SECTION B-B

Scale: 1 1/2" = 1'-0"



SECTION C-C

Scale: 1 1/2" = 1'-0"

IR-DECK(26)
BR 21 N&S
THIS SHEET FOR INFORMATION ONLY

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

SAXTON'S RIVER BRIDGE

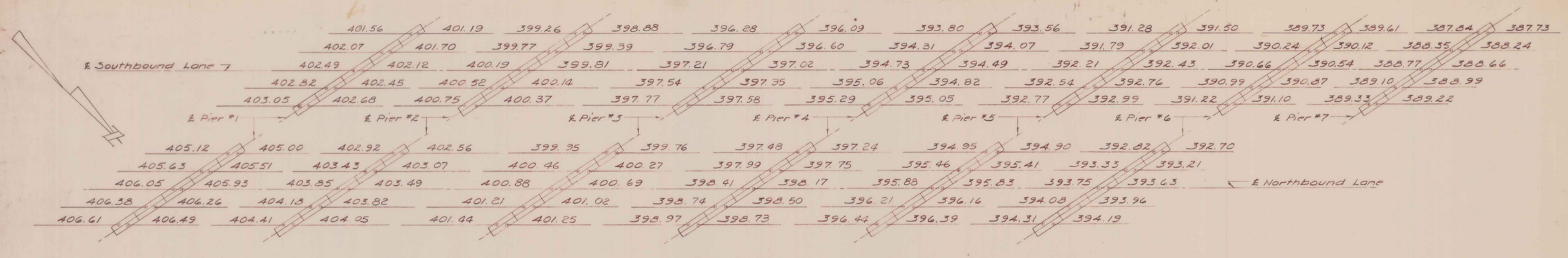
APPROACH SLAB, SCUPPER & RAILING PLANS

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

DESIGNED: F.W.C. CHECKED: KWR/GGS DATE: 12-30-69
DRAWN: W.L. M.E. JR. IN CHARGE: H.G.C. SCALE: AS NOTED
PROJ. * I 91-1(15) CONT. *2 SH. 37 OF 76

SHEET 69 OF 76

BRIDGE SHEET 4 OF 8



KEY PLAN

No Scale

	LOCATION	TYPE OF FOOTING	ELEVATIONS			DIMENSIONS			QUANTITIES											
									ITEM 107 STRUCTURE EXCAVATION, MOD. (cubic yards)			ITEM 401-B CONCRETE CLASS B, MOD. (cubic yards)			ITEM 407 ASPHALT ASBESTOS COATING (square yards)			ITEM 504 STEEL PILING, MOD. (linear feet)		
			A	B	C	D	E	F	NEAT	FINAL	TOTAL	NEAT	FINAL	TOTAL	NEAT	FINAL	TOTAL	NEAT	FINAL	TOTAL
SOUTHBOUND	Pier #1	I	397.12	398.52	379.00	13'-7"	14'-3"	14'-11"	–	22	–	121 V	121	127	27 V	27	27 V	640	643	640
	Pier #2	III	394.81	396.21	369.00	21'-4"	21'-11"	22'-7"	–	26	–	145 V	145	152	27 V	27	27 V	900	968	900
	Pier #3	III	392.02	393.42	367.50	20'-0"	20'-8"	21'-3"	–	26	–	143 V	143	150	27 V	27	27 V	1,200	1,211	1,200
	Pier #4	IV	389.49	390.89	354.00	14'-6"	15'-1"	15'-9"	~~194~~	214	~~213~~	261	260	274	27	42	27	520	1,001	520
	Pier #5	IV	387.21	388.61	354.00	12'-2"	12'-10"	13'-5"	~~194~~	214	~~213~~	258 V	258	271	27	42	27	520	1,398	520
	Pier #6	V	385.54	386.94	354.00	10'-6"	11'-2"	11'-10"	~~391~~	268	430	256 V	256	269	27	42	27	–	1,031	–
	Pier #7	II	383.66	385.06	371.00	8'-2"	8'-9"	9'-5"	–	22	–	115 V	115	127	27 V	27	27 V	320	1,184	320
NORTHBOUND	Pier #1	I	400.93	402.33	380.50	15'-11"	16'-7"	17'-2"	–	22	–	122	123	128	27 V	27	27 V	480	455	480
	Pier #2	III	398.49	399.89	369.00	25'-0"	25'-7"	26'-3"	–	26	–	149 V	149	157	27 V	27	27 V	600	627	600
	Pier #3	III	395.69	397.09	367.50	23'-8"	24'-4"	24'-11"	–	26	–	147 V	147	154	27 V	27	27 V	800	817	800
	Pier #4	IV	393.17	394.57	354.00	18'-2"	18'-9"	19'-5"	~~183~~	189	201	264 V	264	277	27	42	27	650	1,779	650
	Pier #5	IV	390.83	392.23	354.00	15'-10"	16'-5"	17'-1"	~~183~~	189	201	261 V	261	274	27	42	27	780	1,945	780
	Pier #6	V	388.63	390.03	354.00	13'-7"	14'-3"	14'-11"	~~391~~	330	430	259 V	259	272	27	42	27	–	1,879	–

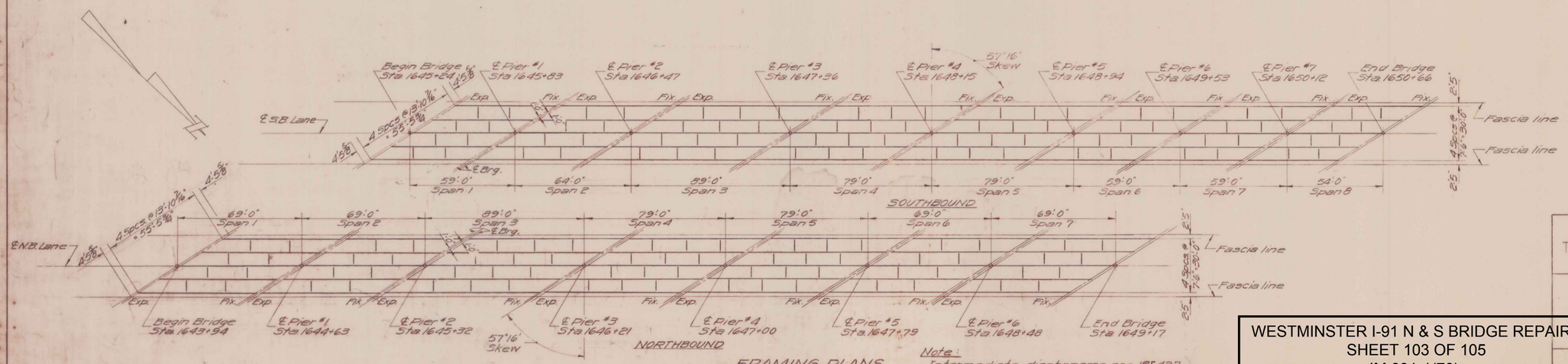
NOTES:

1. Estimated length of piles:

Southbound	Northbound
Pier #1 = 40 ft.	Pier #1 = 30 ft.
Pier #2 = 45 ft.	Pier #2 = 30 ft.
Pier #3 = 60 ft.	Pier #3 = 40 ft.
Pier #4 = 20 ft.	Pier #4 = 25 ft.
Pier #5 = 20 ft.	Pier #5 = 30 ft.
Pier #7 = 20 ft.	

2. For details of Southbound Piers #1, #2, #3 & #7 and Northbound Piers #1, #2 & #3 see sheet 7.

3. For details of Southbound Piers #4, #5 & #6 and Northbound Piers #4, #5 & #6 see sheet 9.



FRAMING PLANS

Scale: 1" = 30'

Note:
Intermediate diaphragms are 18[42.7 equally spaced on a line midway between beams as shown.

IR-DECK (26)
THIS SHEET FOR INFORMATION ONLY

VERMONT
STATE HIGHWAY DEPARTMENT
TOWNS OF WESTMINSTER-ROCKINGHAM
INTERSTATE ROUTE 91

SAXTON'S RIVER BRIDGE
PIER DATA
& FRAMING PLANS

WM. H. McFARLAND
ENGINEER
BINGHAMTON, N.Y.

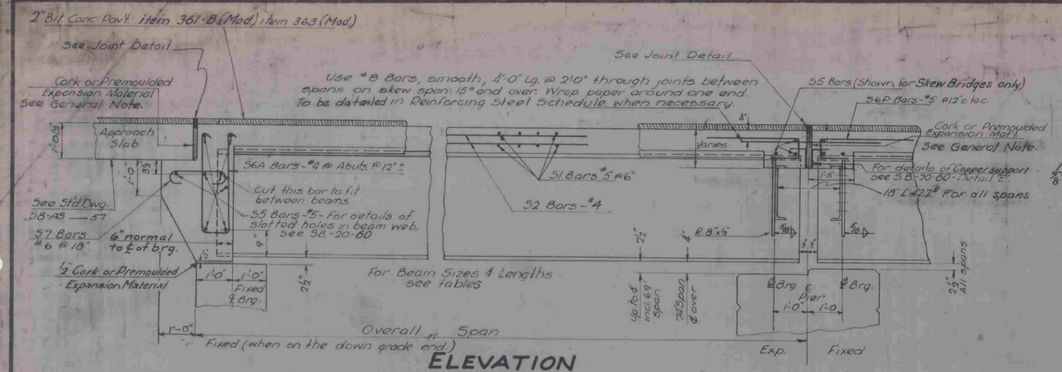
DESIGNED: H.B. | CHECKED: HB & GGS | DATE: 12-30-60
DRAWN: G.G.S. & F.C. | IN CHARGE: H.G.C. | SCALE: No Scale

WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 103 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

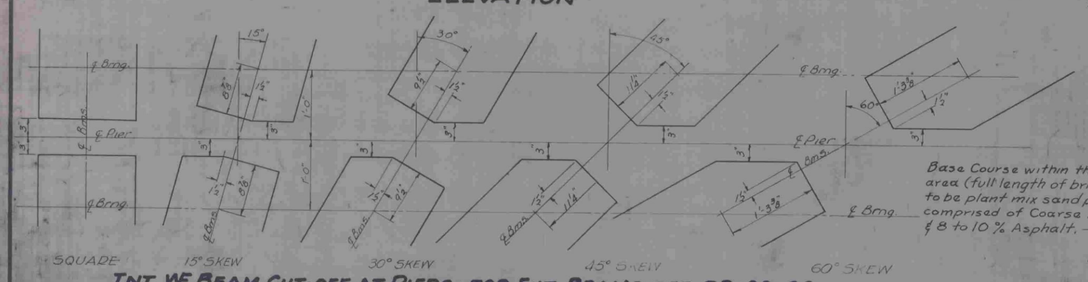
SHEET 73 OF 76

PROJ. #191-1(15) CONT #2 SH 41 OF 184

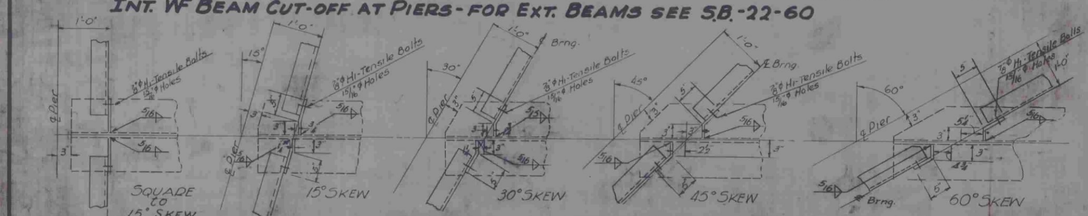
BRIDGE SHEET 8 OF 13



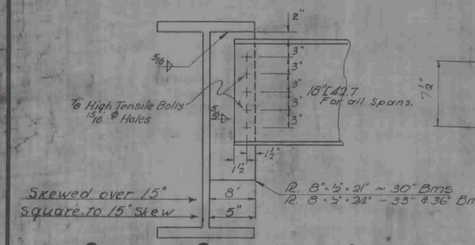
ELEVATION



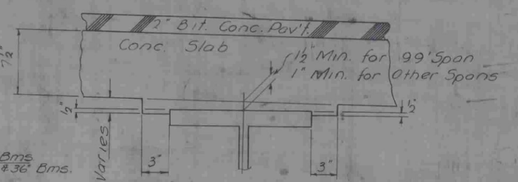
INT. WF BEAM CUT-OFF AT PIERS - FOR EXT. BEAMS SEE SB.-22-60



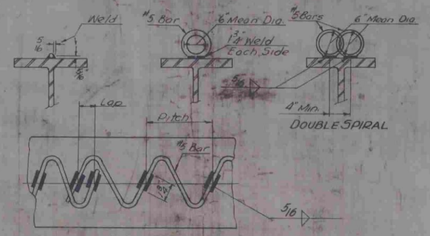
DETAIL OF PIER DIAPHRAGM CONNECTIONS



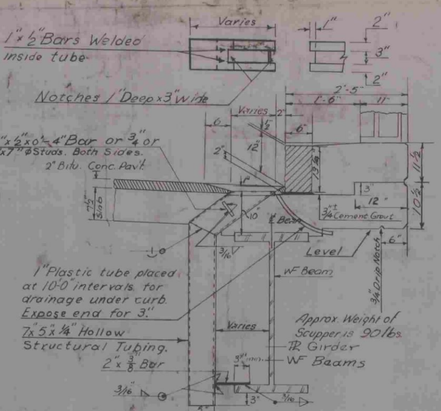
DETAIL OF DIAPHRAGM ASSEMBLY AT PIERS



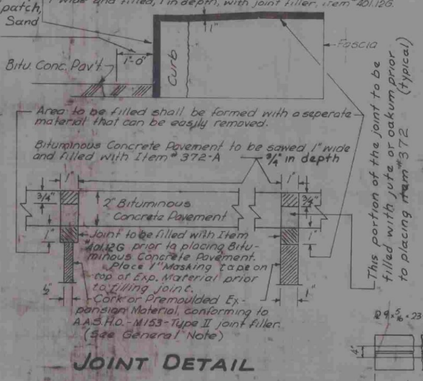
DETAIL OF BEAM HAUNCH



SPIRAL WELDING DETAIL



SCUPPER DETAIL



JOINT DETAIL

GENERAL NOTES

The final coat of field paint shall be green, unless otherwise directed by the Engineer:
Quantities given in accompanying standards are for a single span, square bridge. These are net quantities.

For skewed bridges:- transverse bars shall be furnished as for square spans; bars shall be cut in the field to fit skewed end and cut-off bars used at opposite end of span; the 55 bars shall be lengthened and the number of 56A and 57 bars increased; the 56P bars are to be used at piers only; increase the beam lengths as indicated on this sheet and S.B.-22-60; for variation in treatment of cut-off for interior and exterior beams see details on this sheet and standard S.B.-22-60.

All materials and construction shall conform to the State of Vermont, Department of Highways, Standard Specifications for Highway & Bridge Construction, dated January 1956, and the A.A.S.H.O. specifications date 1961. Design is for H20-Sk-44 loading modified for National System of Interstate Highways, applied in accordance with the provisions of the A.A.S.H.O. Standard Specifications Article 1.2.8.

For location of fixed and expansion bearings, see the Contract Plans. In general the fixed end bearing device is on the down grade end of the span. For details of bearing devices, see standard S.B.-20-60, detail 'C'.

Intermediate diaphragms shall be 15" [33.9# for 30" beams and 18" [42.7# for 33" and 36" beams. On skewed spans, the diaphragms shall be spaced at equal intervals between adjacent beams. For details of diaphragms, see standard S.B.-20-60, detail 'F' or 'G'.

The welding of cover plates shall be done in such a manner that no internal stresses are introduced into the beam flanges. When a cover plate is wider than a beam flange, the weld is to be omitted one inch (1") either side of the intersection of the cover plate and the edge of the beam flange. All welds on cover plates shall be continuous fillets of size noted.

Scuppers are to be omitted over roadways and sidewalks under a bridge; place the scuppers a minimum of 2'-0" outside of shoulder or back of sidewalk, but not within 4'-0" of face of Abutment or Pier. On Superelevated bridges, scuppers are placed on the low side only. Payment for scuppers shall be under item #401 Steel.

All exposed edges of concrete shall be chamfered 1"x1" unless otherwise indicated on the plans.

All construction joints to be made as indicated on standard S.B.-20-60, details 'H' & 'K' unless otherwise noted.

Details of shear connectors shall be submitted to the State for approval. Either channel or stud connectors may be substituted for the designed spiral steel. The studs shall be substituted on the basis of two (2) ¾" studs for each pitch of a ⅞" spiral, or on the basis of two (2) ⅞" studs to 1½" times the pitch of a ⅞" Spiral.

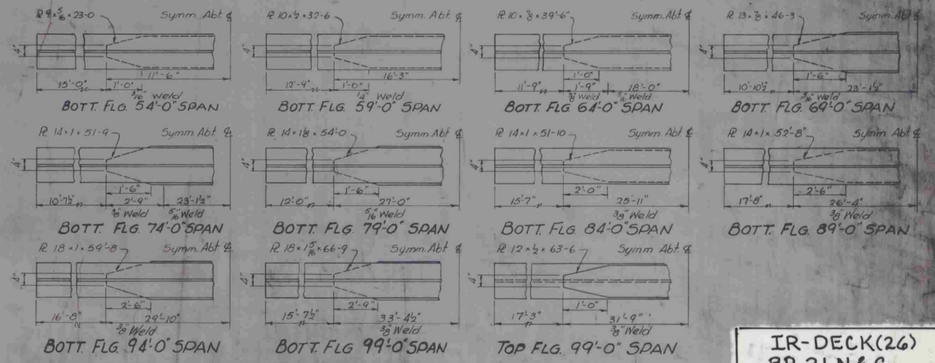
Abutments (fixed end) use ½" expansion material. Abutments (expansion end) & piers; for temperatures less than 60°F, use 1" thick expansion material, & for temperatures over 60°F, use ½" thick expansion material. Expansion material to be as noted on this sheet or as indicated on SB-20-60.

After the superstructure steel has been erected, beam profiles shall be taken under the direction of the engineer to determine the final grade.

Unless otherwise called for, beams shall be cambered to the minimum camber likely to remain permanent as indicated in the AISC Handbook. The camber shall approximate a simple regular curve from end to end of beam. Tolerances in camber shall be as indicated in the AISC Handbook.

All Structural Steel shall meet ASTM Designation: A36-60T unless specified otherwise.

WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 104 OF 105
IM 091-1(70)
FOR REFRENCE ONLY



IR-DECK(26)
BR 21 N&S
THIS SHEET FOR INFORMATION ONLY

SHEET 75 OF 76

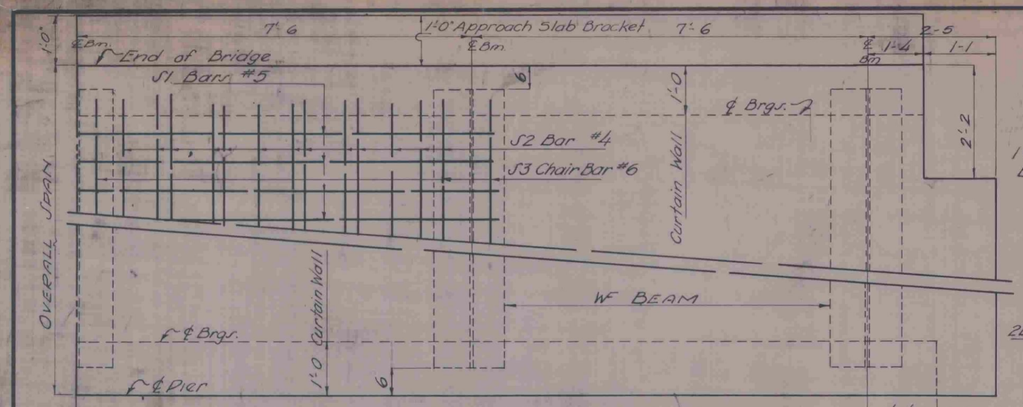
Revisions & Corrections		
Corrected for latest details	April 1962	

Drawn By: M.W.S. June 1960
Traced By: H.W.S. June 1960
Checked By: R.T.B. & R.S.H. June 1960
Correct: 13 July 1960
Bridge Engineer
Approved: 13 July 1960
Chief Engineer

DETAILS OF WF BEAM BRIDGES
34' TO 44' NON COMPOSITE ~ 49' TO 99' COMPOSITE

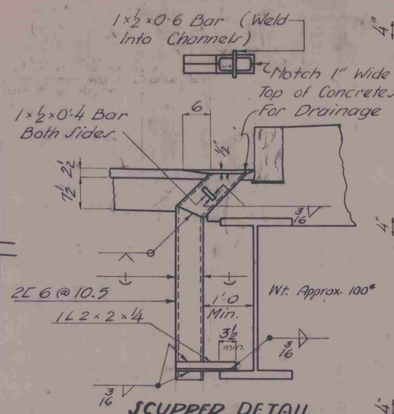
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURES

SCB-D-60



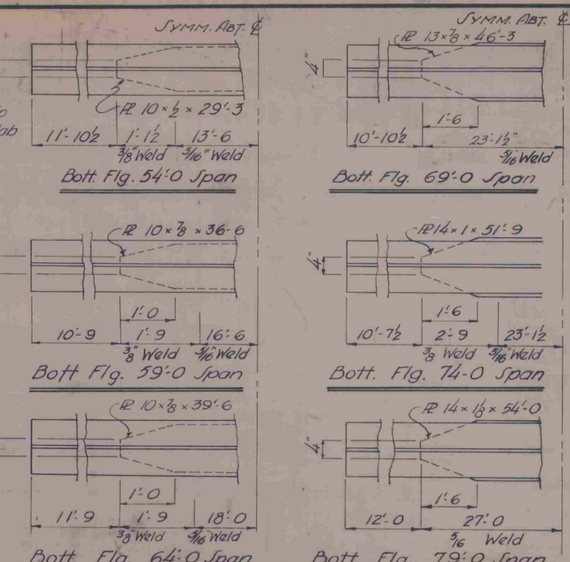
HALF PLAN

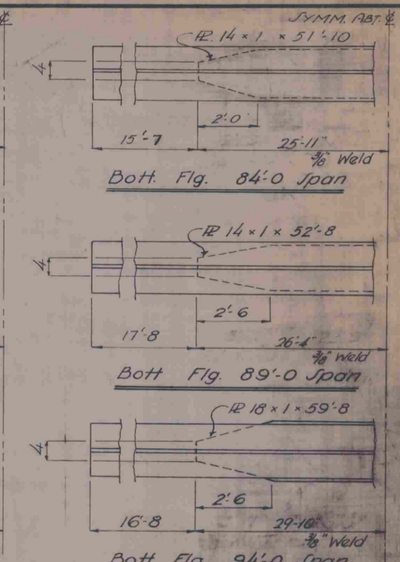
Floor Slab to be Concrete Class B 7½" thick, dapped as shown at beam haunch, surface to be screeded floated and broomed. Partial Parabolic crown, as per detail, to be obtained by stepping bridge seats.

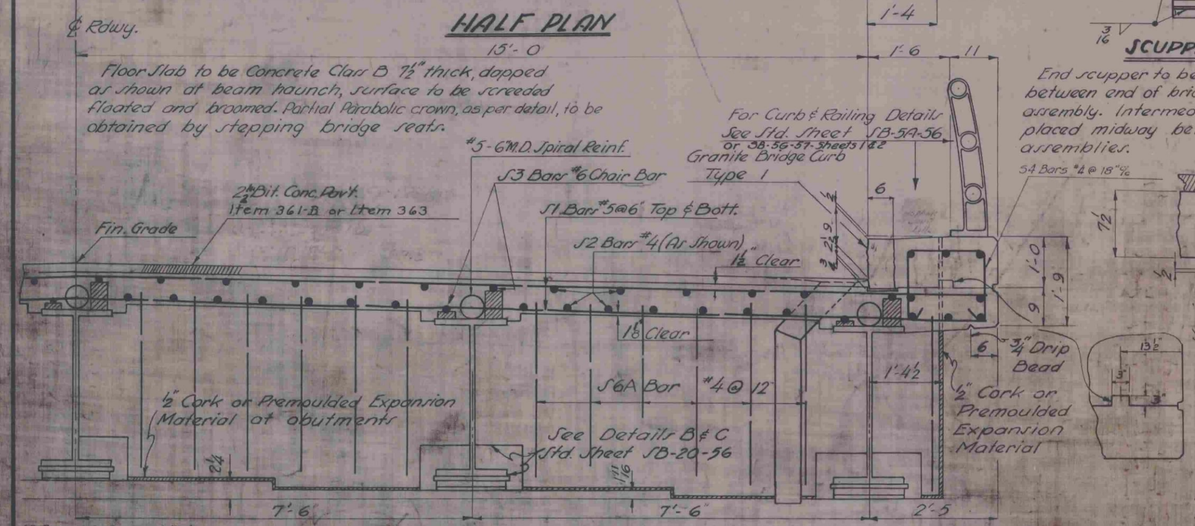


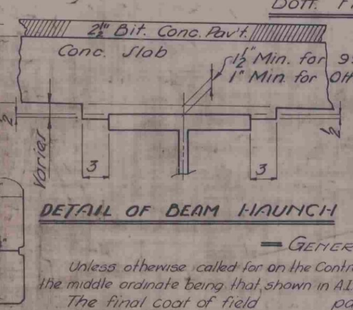
SCUPPER DETAIL

End scupper to be placed midway between end of bridge and first diaph. assembly. Intermediate scuppers to be placed midway between diaphragm assemblies.

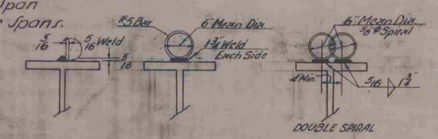




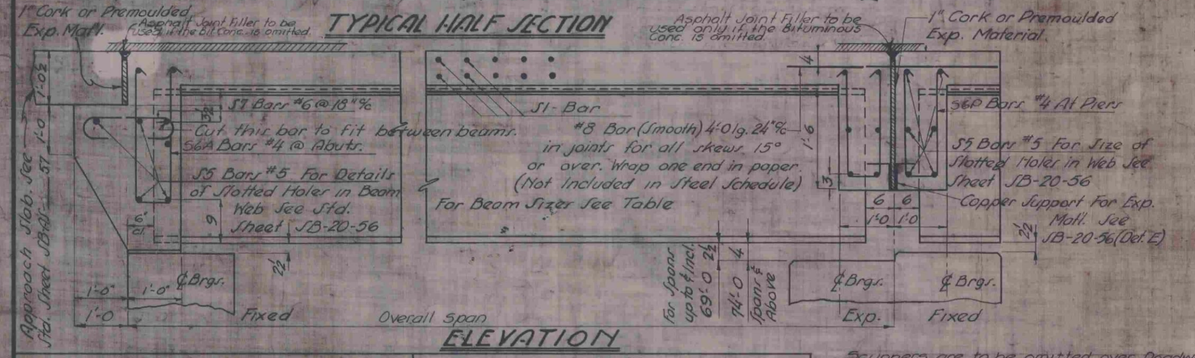




DETAIL OF BEAM HAUNCH

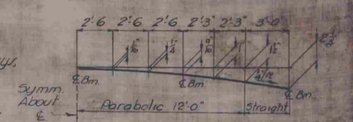


SPIRAL WELDING



TYPICAL HALF SECTION

ELEVATION



DETAIL of PARTIAL PARABOLIC CROWN of SLAB

Note:
Details of Shear Connectors shall be submitted to the State for approval. Either Channel or Stud Shear Connectors may be substituted for the designed Spiral Connectors. The Studs shall be substituted on the basis of 2-¾ Studs for each pitch of a ⅝" Spiral.

General Notes

Unless otherwise called for on the Contract Plans, all beams shall be rolled to a true circular camber; the middle ordinate being that shown in A.I.S.C. handbook as being the minimum camber likely to remain permanent.

The final coat of field paint shall be black, unless otherwise directed by Engineer.

Quantities given in accompanying table are for single span square bridge. Quantities for Bituminous Concrete Pavement include 15% overrun, and Concrete quantities include 5% overrun, & Structural Steel includes 2% overrun.

When bridge is on a skew, transverse bars shall be furnished as for a square span. Bars shall be cut in field to fit skew end and cut-offs shall be used in opposite skew end. In skew spans, the S5 bars shall be lengthened and the S6A and S6P bars shall be increased in number. The length of beams is increased on skew spans as indicated in detail © drwg. SB-20-56.

All materials and construction shall conform to the State of Vermont, Dep't. of Highways, Standard Specifications for Road and Bridge Construction, dated Jan. 1956 and the AASHO Specifications dated 1957. Designed for H20-S16 (44) loading modified for National System of Interstate Highways, applied in accordance with the provisions of the AASHO Standard Specifications Art. 1.2.8.

For location of fixed and expansion bearings see contract plans. For details of bearing devices see drwg. SB-20-56 detail ©.

Diaphragms shall be 15" [33.9 for beams up to and including 30" and 18" [42.7 for 33 and 36" beams. For details see drwg. SB-20-56, detail Ⓕ or Ⓖ.

All welding of cover plates to be done in such a manner that no internal stresses are introduced into beam flanges. When cover plate is wider than beam flange, the weld is to be omitted one inch either side of the intersection of the cover plate and the edge of the beam flange. All welds on cover plates shall be continuous fillets of size noted.

Scuppers are to be omitted over Roadways or Sidewalks under a bridge and placed at least 2'-0" outside of shoulder point or edge of sidewalk, but not within 4'-0" of face of Abutment or Pier. On a banked Bridge, Scuppers are to be placed on the lower side only.

All exposed edges of Concrete to be Chamfered ¾. All Construction Joints to be made as on drw'g SB-20-56 details Ⓑ and Ⓒ unless otherwise noted.

All Structural Steel shall conform to the latest revisions of Structural Steel for Welding A.S.T.M. Designation A-373-54T.

Revisions & Corrections
Cov. PL Welds & Pitch of Spiral Shear Connectors
Revised to Meet A.A.S.H.O. Specs for 1957
Bit. Conc. Pavt. Revised for 2½" & Asphalt Joint Filler
Revised for 1½" Clear for slab reinforcing steel. (Revised Sept. 23, 1959)
Revised brick slab spacing & clearance 2/29/60
Structural Steel Note added 4/20/60

Drawn By LMB 10/31/56 - Redrawn 9-11-58
Traced By LMB 10/31/56 - Retraced 9-12-58
Checked By RTB - Rechecked 9-12-58
Correct 12/17/56
Bridge Engineer
Approved 12/18/56
Chief Engineer

Details of 30 Ft. Roadway Composite Beam Bridges

DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURES
SHEET 76 OF 76

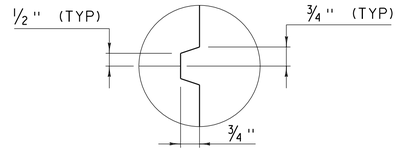
IR-DECK(26)
BR 21 N&S
THIS SHEET FOR INFORMATION ONLY

SCB-30-58

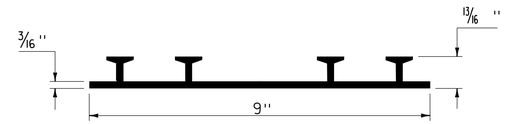
WESTMINSTER I-91 N & S BRIDGE REPAIRS
SHEET 105 OF 105
IM 091-1(70)
FOR REFERENCE ONLY

CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.



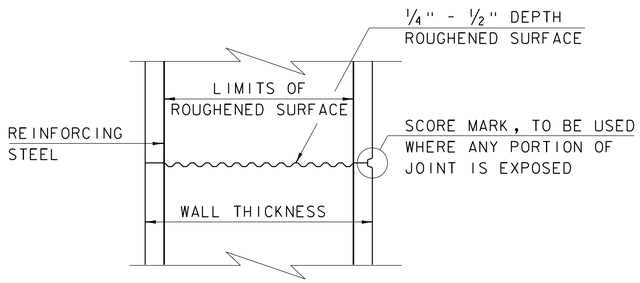
SCORE MARK DETAIL
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

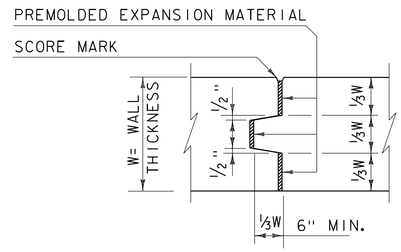
PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

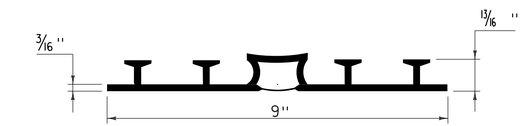


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



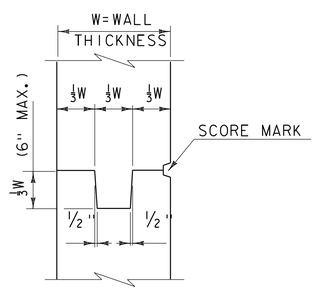
TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



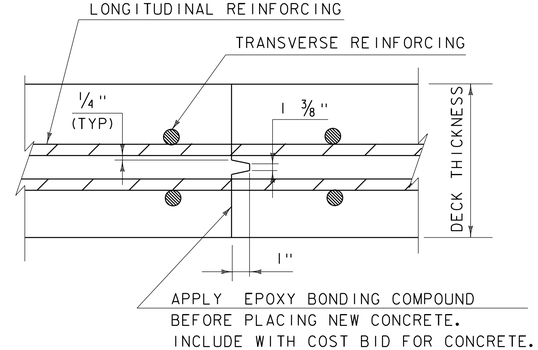
P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

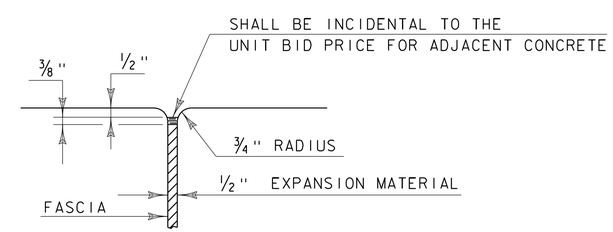
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



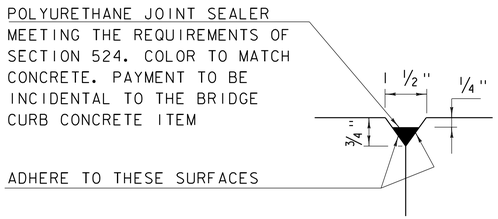
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

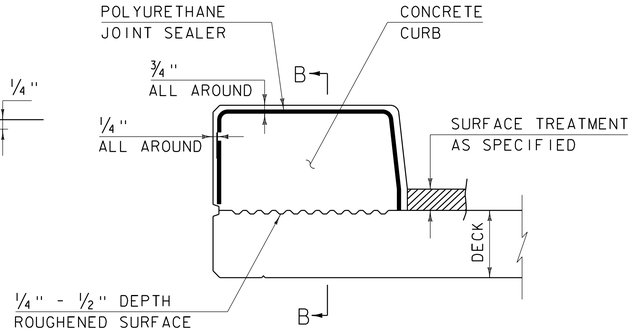
CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES SECTION

STRUCTURES DETAIL
SD-501.00

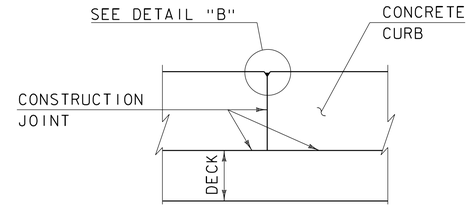


DETAIL "B"
(NOT TO SCALE)

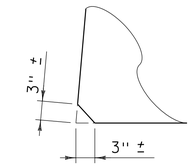


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

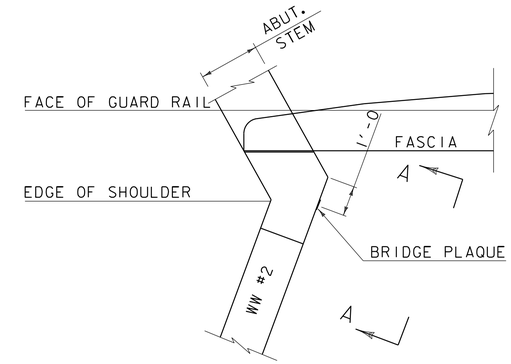
1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



SECTION B - B
(NOT TO SCALE)



ACUTE ANGLE CLIP DETAIL
(NOT TO SCALE)



PLAN

CONCRETE CURB JOINT NOTES

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.

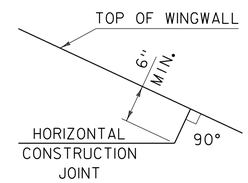
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.

3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.

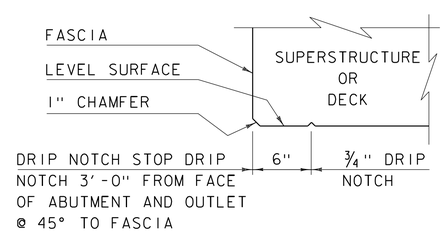
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.

5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.

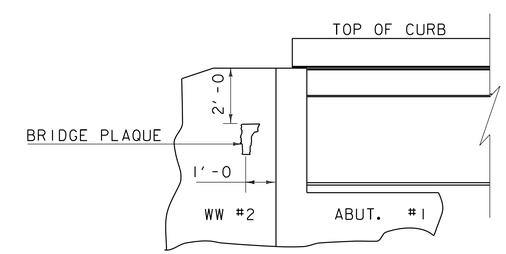
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

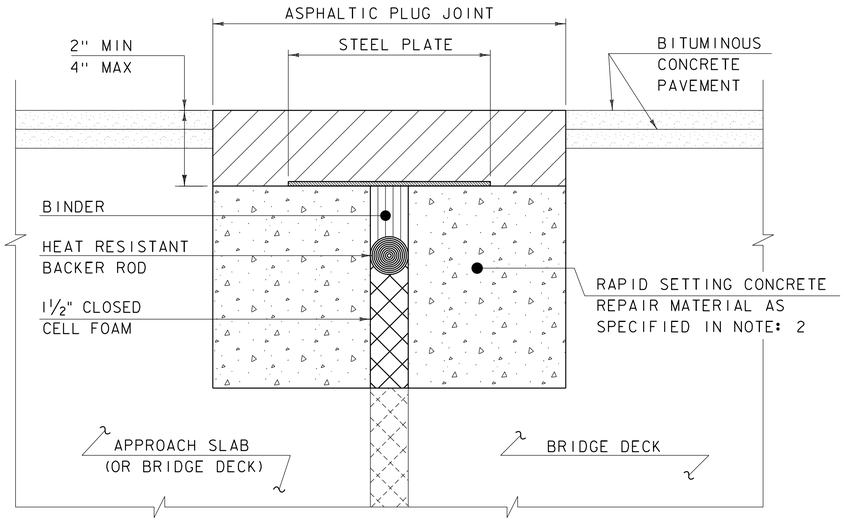
REVISIONS

MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL
SD-502.00



ASPHALTIC PLUG JOINT DETAIL - REHAB

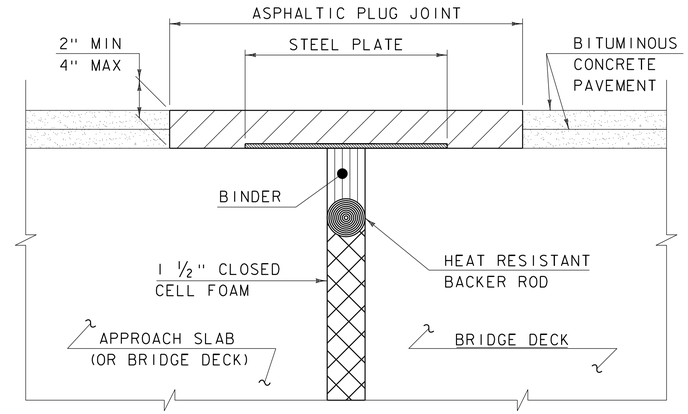
NOTES:

1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.

2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.

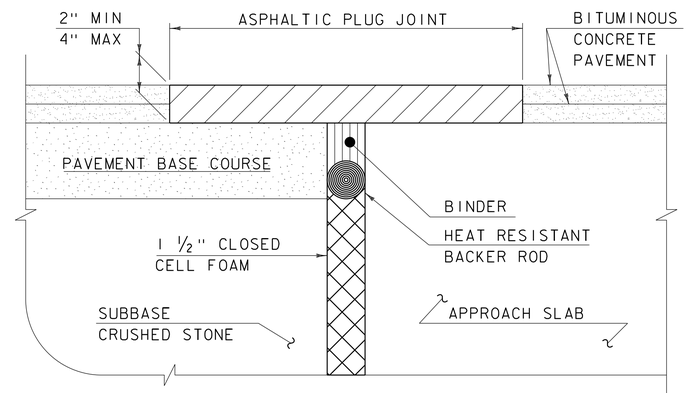
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.

4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:
PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.

3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.

5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.

6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.

2. THE ROAD SURFACE IS DRY.

3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

BRIDGE JOINT
ASPHALTIC PLUG

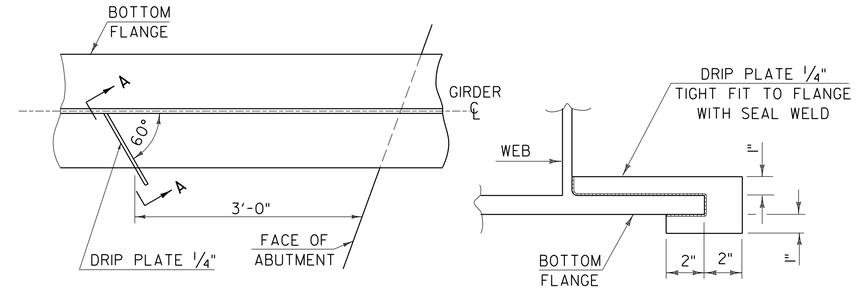
VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - DIVISION

STRUCTURES DETAIL

SD-516.10

STRUCTURAL STEEL GENERAL NOTES:

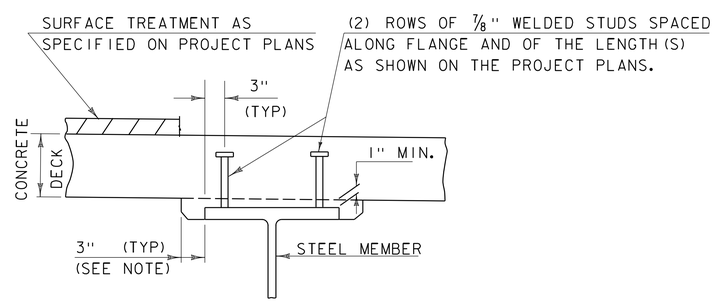
1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.19, UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.
4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

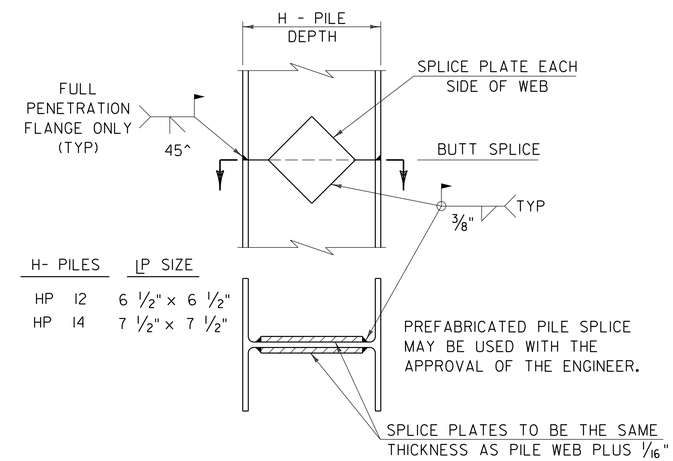
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



NOTE:
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL



DETAIL OF PILE SPLICE

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

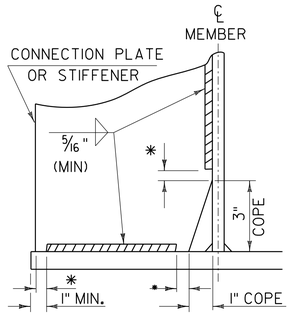
REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

STRUCTURAL STEEL DETAILS & NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

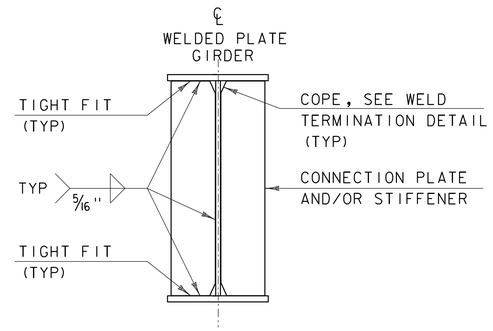
STRUCTURES DETAIL

SD-601.00



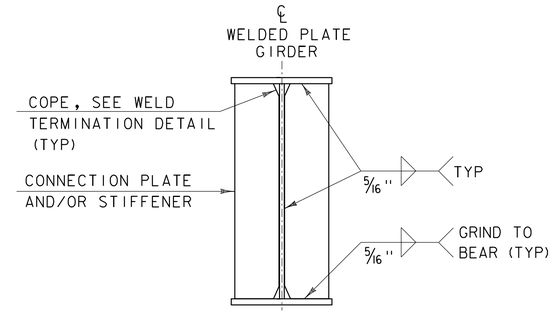
WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

*NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

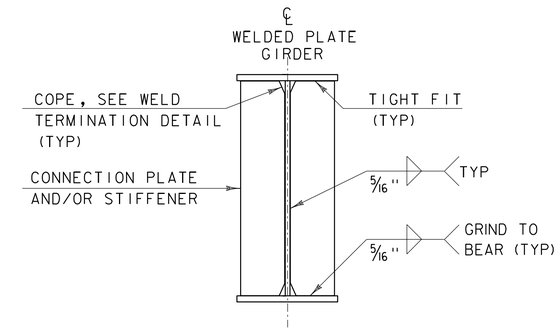


INTERMEDIATE CONNECTION PLATES AND/OR STIFFENERS FOR WELDED PLATE GIRDERS

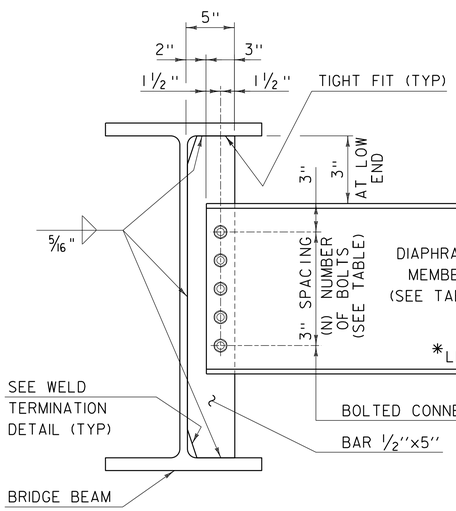
INTERMEDIATE DETAIL IS ONLY USED WHEN PLATE DOES NOT OCCUR AT AN ABUTMENT OR PIER.



ABUTMENT BEARING STIFFENERS AND/OR CONNECTION PLATES FOR WELDED PLATE GIRDERS



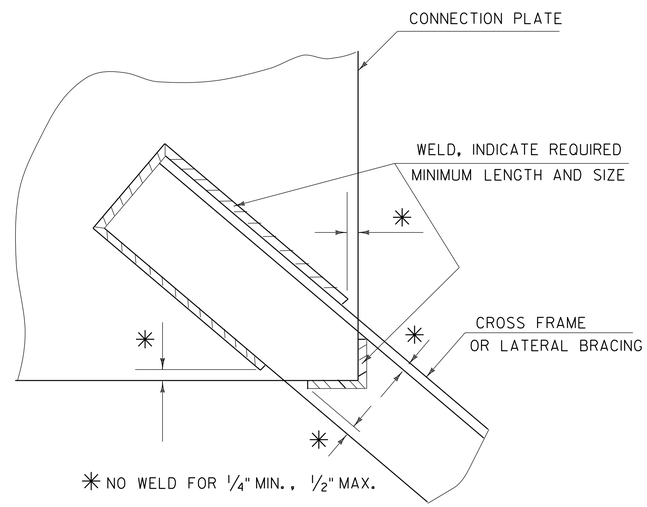
PIER BEARING STIFFENERS AND/OR CONNECTION PLATES FOR WELDED PLATE GIRDERS



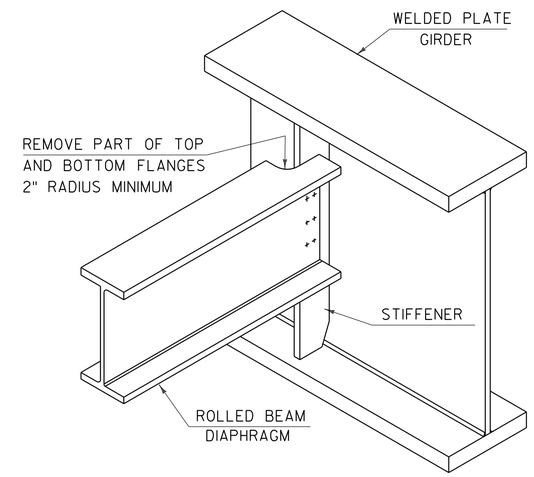
DEPTH		DIAPHRAGM MEMBER	(N) BOLTS
ROLLED BEAM	24" 30"	C15x33.9	4
	31" 36"	MC18x42.7	5
	37" 42"	W21x44	6
PLATE GIRDER WEB	31" 36"	W27x84	7
	37" 42"	W33x118	9
	43" 48"	W36x135	10

INTERMEDIATE DIAPHRAGMS FOR 24" TO 48" BRIDGE BEAMS

* IF CLEARANCE CANNOT BE MET, DIAPHRAGM MAY BE SLOPED.



WELD LOCATION DETAIL AT CROSS FRAMES AND LATERAL BRACING



SEE CONTRACT DRAWINGS FOR SIZES OF MEMBERS AND CONNECTION DETAILS

ROLLED BEAM USED AS DIAPHRAGM

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
MAY 2, 2011	ADD INTERMEDIATE DIAPHRAGMS DETAIL & ADD NOT TO SCALE NOTE

STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION * STRUCTURES - SECTION *

STRUCTURES DETAIL

SD-602.00