RECORD PLANS	
CONTRACTOR:	WINTERSET, INC. – LYNDONVILLE, VT
RESIDENT ENGINEER:	MIKE BOOTH
CONSTRUCTION BEGAN:	AUGUST 28, 2017
CONSTRUCTION COMPLETE:	MAY 17, 2018
RECORD PLANS BY:	MIKE BOOTH & JESSE IVES

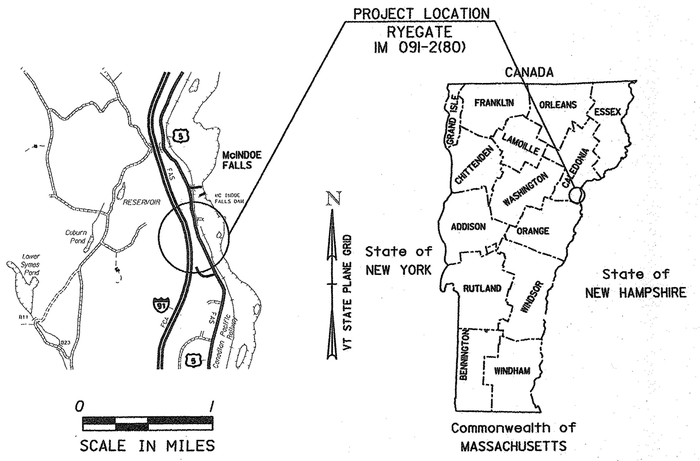
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 10-9-18

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
TOWN OF RYEGATE
COUNTY OF CALEDONIA
I-91 (PRINCIPAL ARTERIAL - INTERSTATE) (NHS)

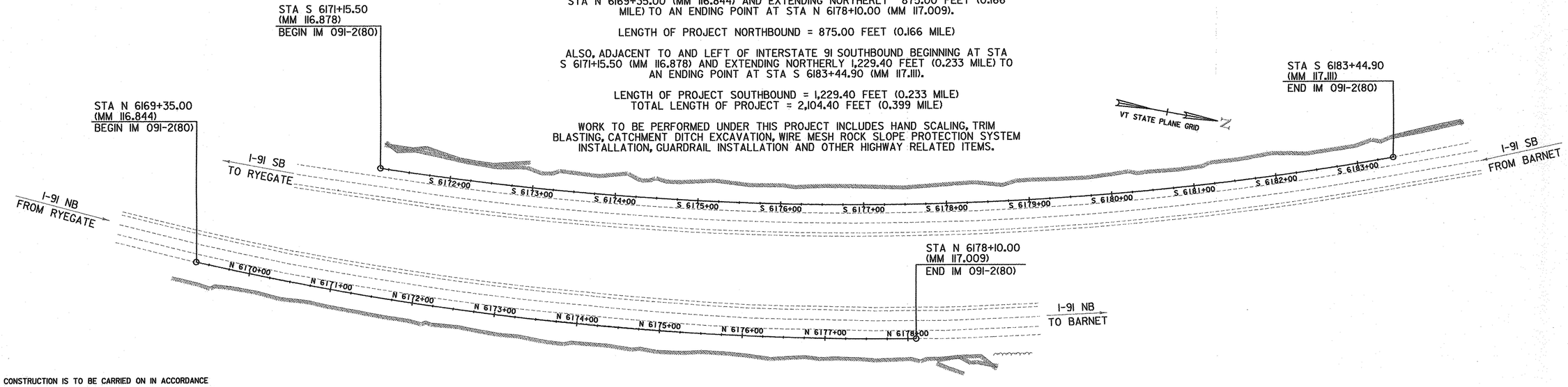
ADJACENT TO AND RIGHT OF INTERSTATE 91 NORTHBOUND BEGINNING AT STA N 6169+35.00 (MM 116.844) AND EXTENDING NORTHERLY 875.00 FEET (0.166 MILE) TO AN ENDING POINT AT STA N 6178+10.00 (MM 117.009).

LENGTH OF PROJECT NORTHBOUND = 875.00 FEET (0.166 MILE)

ALSO, ADJACENT TO AND LEFT OF INTERSTATE 91 SOUTHBOUND BEGINNING AT STA S 6171+15.50 (MM 116.878) AND EXTENDING NORTHERLY 1,229.40 FEET (0.233 MILE) TO AN ENDING POINT AT STA S 6183+44.90 (MM 117.111).

LENGTH OF PROJECT SOUTHBOUND = 1,229.40 FEET (0.233 MILE)
TOTAL LENGTH OF PROJECT = 2,104.40 FEET (0.399 MILE)

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES HAND SCALING, TRIM BLASTING, CATCHMENT DITCH EXCAVATION, WIRE MESH ROCK SLOPE PROTECTION SYSTEM INSTALLATION, GUARDRAIL INSTALLATION AND OTHER HIGHWAY RELATED ITEMS.



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 I

SURVEYED BY : R. GILMAN, VAOT
SURVEYED DATE : 06/2014

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (2011)

PLANS PREPARED BY

STATE OF VERMONT ROBERT J. FAULKNER No. 7323 REGISTERED PROFESSIONAL ENGINEER

CHA

3/30/17

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE 4/4/2017

PROJECT MANAGER : BRUCE MARTIN, P.E.

PROJECT NAME : RYEGATE
PROJECT NUMBER : IM 091-2(80)

SHEET 1 OF 61 SHEETS

INDEX OF SHEETS

IM 091-2(80) SHEETS

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2	INDEX OF SHEETS
3	CONVENTIONAL SYMBOLOGY LEGEND SHEET
4-6	DETAIL SHEETS
7	TIE SHEET
8-9	QUANTITY SHEETS
10	EARTHWORK SUMMARY SHEET
11	GENERAL NOTES SHEET
12-16	PLAN SHEETS
17	EPSC NARRATIVE SHEET
18-22	EPSC EXISTING CONDITIONS PLAN SHEETS
23-27	EPSC CONSTRUCTION PLAN SHEETS
28-32	EPSC FINAL PLAN SHEETS
33-35	EPSC DETAILS SHEETS
36-59	CROSS SECTIONS SHEETS
60-61	TRAFFIC CONTROL SHEETS

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G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	03-10-17
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T-11	CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED	08-06-12
T-12	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	08-06-12
T-13	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	08-06-12
T-16	TRAFFIC CONTROL FOR U-TURN USE ON DIVIDED HIGHWAY	08-06-12
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T-31	CONSTRUCTION SIGN DETAILS	08-06-12
T-40	DELINEATORS AND MILE POSTS	01-02-13
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-13

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DATE/TIME = 3/30/2017
USER = SJG3

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368ind.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
INDEX OF SHEETS	SHEET 2 OF 61

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

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

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (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

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DATE/TIME = 3/30/2017
USER = SJS23

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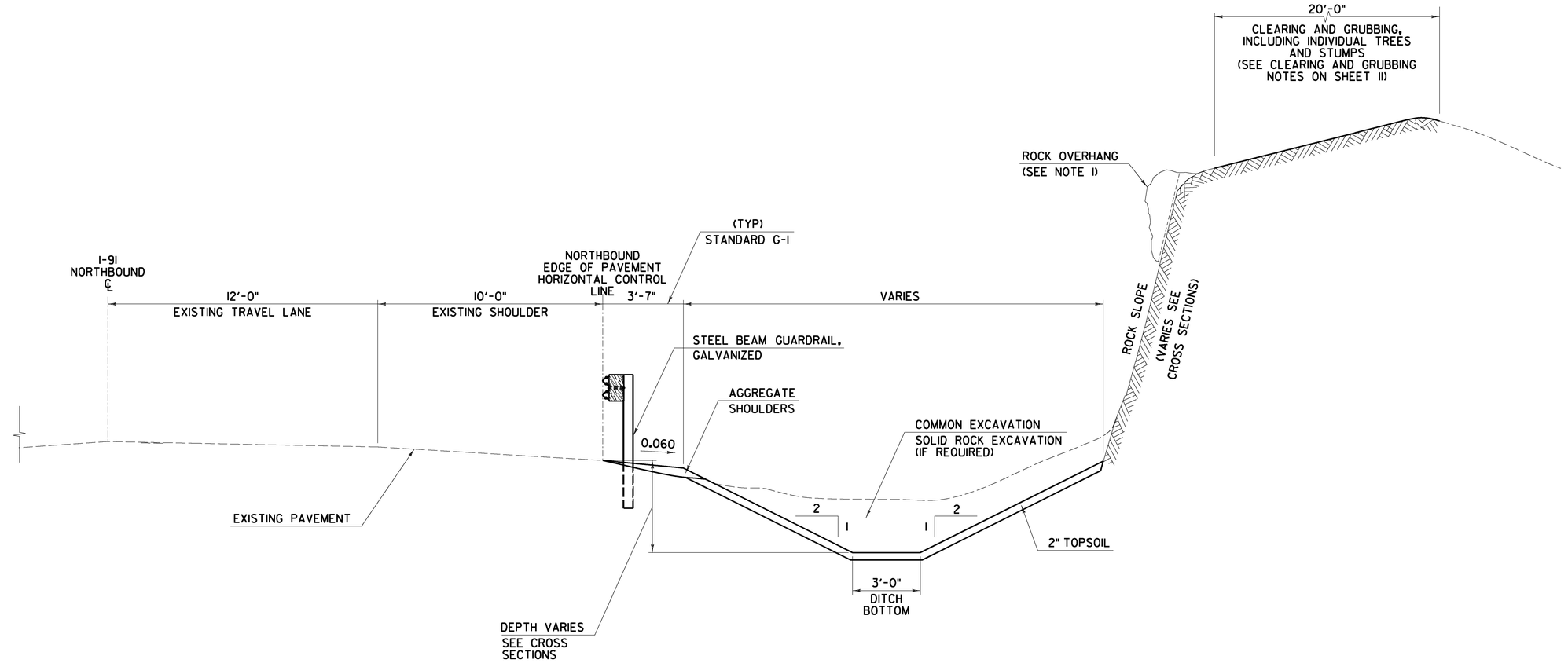
PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368csl.dgn — PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI — DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN — CHECKED BY: J. SHIELDS
CONVENTIONAL SYMBOLOGY LEGEND SHEET — SHEET 3 OF 61



PROPOSED CATCHMENT DITCH DETAIL

STA N 6169+35.0 - STA N 6173+50.0 RT

NOTE:

1. TRIM BLAST ROCK OVERHANGS TO MATCH EXISTING ROCK CUT SLOPE ANGLE OF APPROXIMATELY 76°.

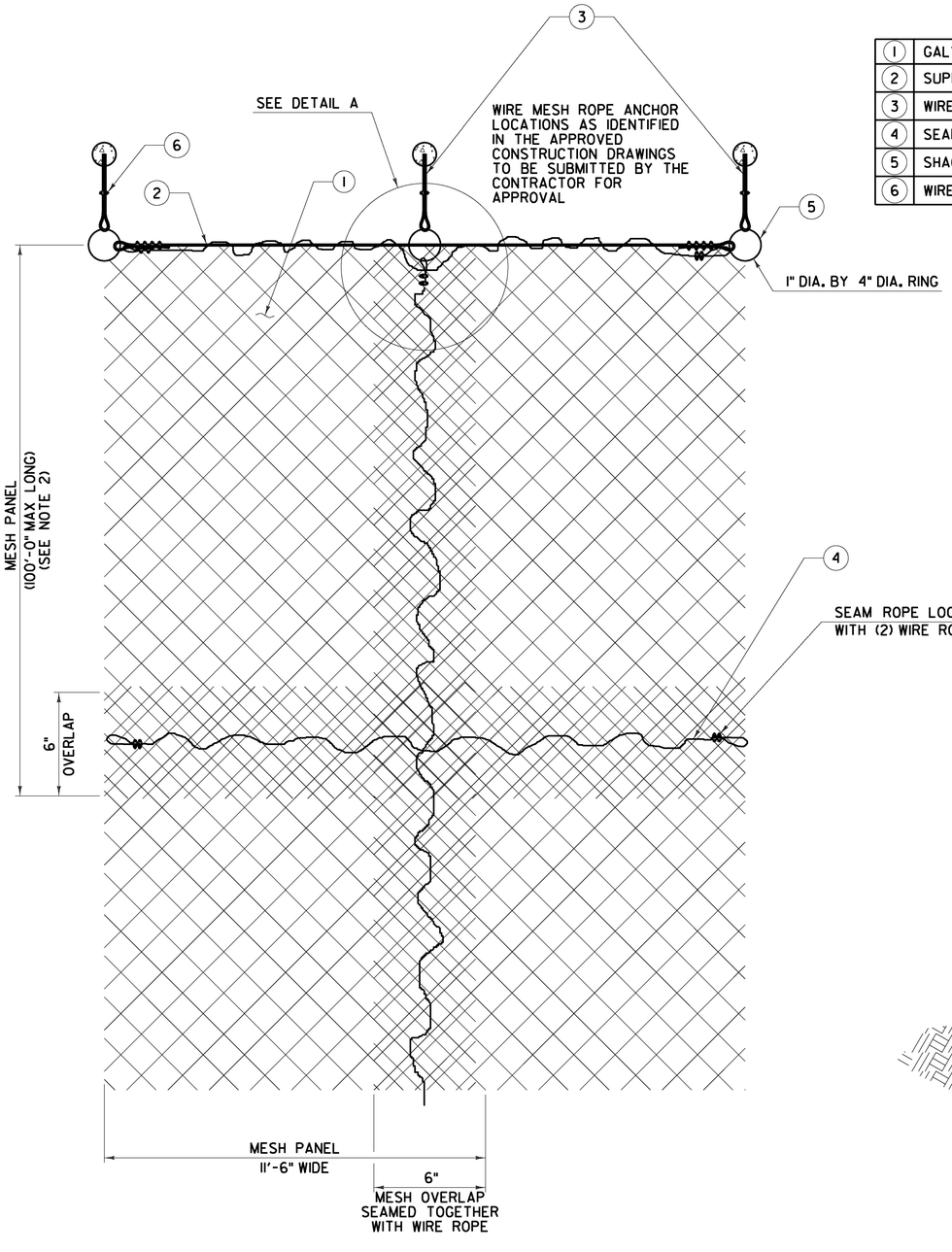
NOT TO SCALE

CHA

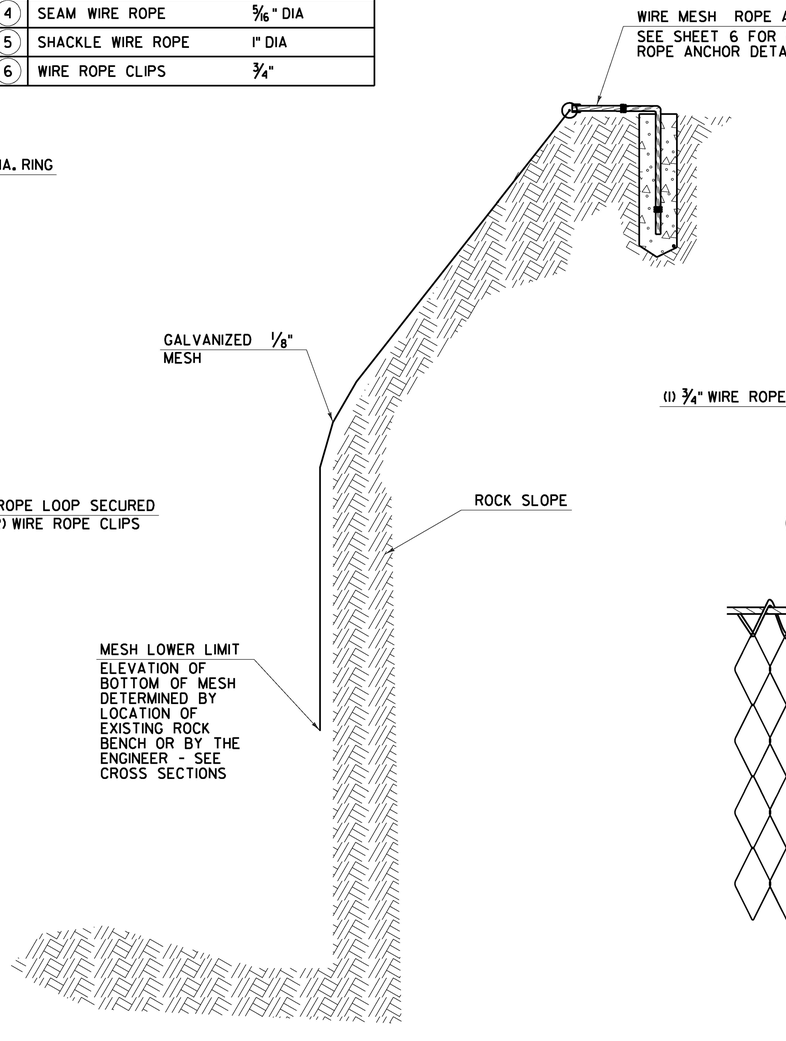
PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368detail01.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
DETAIL SHEET 1	SHEET 4 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368detail01.dgn
DATE/TIME = 3/30/2017
USER = SJS

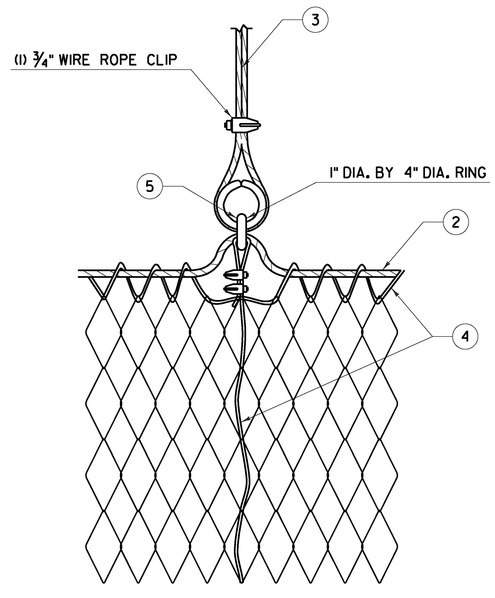
	DESCRIPTION AND SIZE	
1	GALVANIZED MESH	1/8" DIA
2	SUPPORT WIRE ROPE	3/4" DIA
3	WIRE MESH ROPE ANCHOR	3/4" DIA
4	SEAM WIRE ROPE	5/16" DIA
5	SHACKLE WIRE ROPE	1" DIA
6	WIRE ROPE CLIPS	3/4"



FRONT VIEW



CROSS SECTION



DETAIL A

WIRE MESH ROCK SLOPE PROTECTION SYSTEM DETAIL

(SEE NOTE 1)

NOTES:

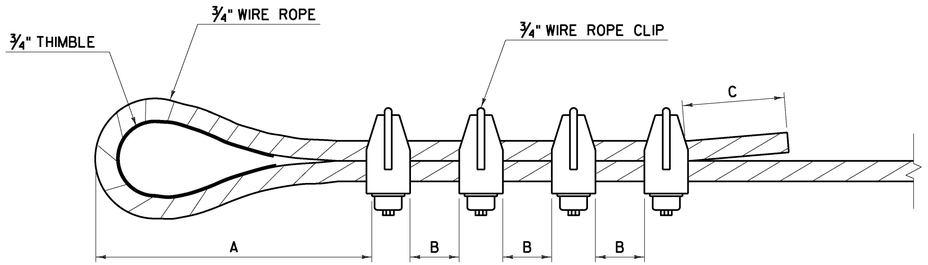
1. WIRE MESH ROCK SLOPE PROTECTION SYSTEM TO BE PAID FOR UNDER SPECIAL PROVISION 900.670 (WIRE MESH ROCK SLOPE PROTECTION SYSTEM).
2. SEE CROSS SECTIONS FOR TOTAL LENGTH OF MESH PANEL.

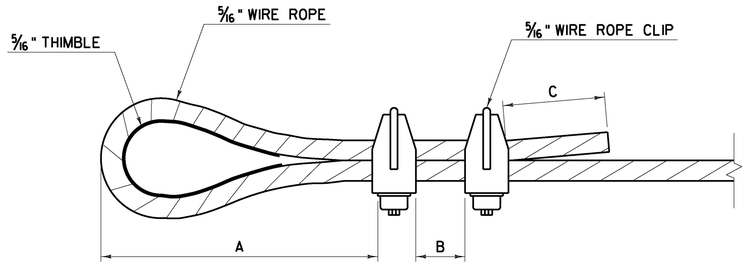
NOT TO SCALE

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368detail02.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: M. QUINN	CHECKED BY: J. SHIELDS
DETAIL SHEET 2	SHEET 5 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368detail02.dgn
DATE/TIME = 3/30/2017
USER = 5323

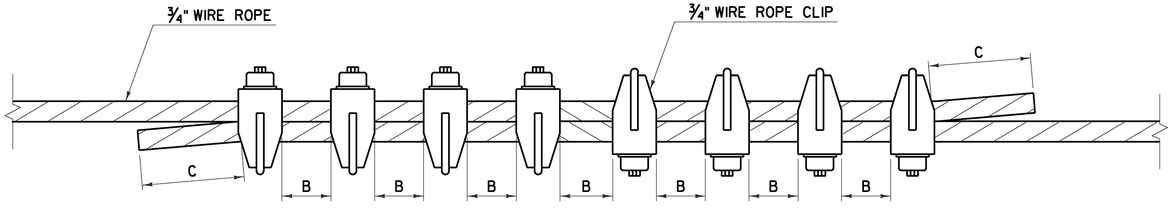


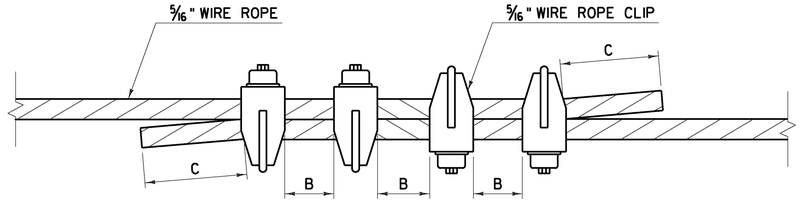


WIRE ROPE LOOP DETAIL

FOR 5/16" AND 3/4" WIRE ROPE AS NOTED

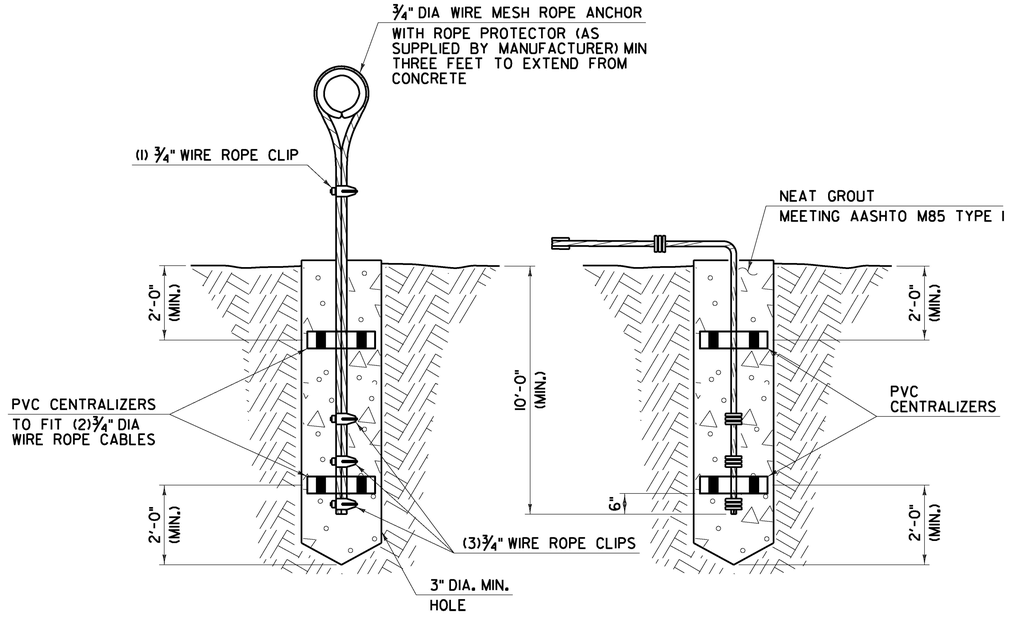
DIMENSION	3/4" WIRE ROPE	5/16" WIRE ROPE
A	11"	6"
B	5"	3"
C	6"	6"





WIRE ROPE SPLICE DETAILS "BB"

FOR 5/16" AND 3/4" WIRE ROPE AS NOTED



FRONT ELEVATION **SIDE ELEVATION**

WIRE MESH ROPE ANCHOR DETAIL

(SEE NOTE 1)

NOTE:

1. WIRE MESH ROPE ANCHOR AND GROUTING OF ANCHOR TO BE PAID FOR UNDER ITEM 900.640 SPECIAL PROVISION (WIRE MESH ROPE ANCHOR) AND ITEM 900.620 SPECIAL PROVISION (WIRE MESH ROPE ANCHOR TESTING).

NOT TO SCALE

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368detail03.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: M. QUINN
DETAIL SHEET 3

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 6 OF 61

FILE NAME = V:\Projects\ANY\X4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368detail03.dgn
DATE/TIME = 3/30/2017
USER = S323

GPS CONTROL POINTS

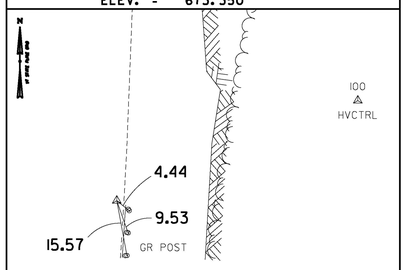
BRADFORD CORS ARP VTOX
NORTH = 549812.32
EAST = 1741883.79
ELEV. = 411.08

THE MONUMENT IS ATTACHED TO A TWO STORY CONCRETE /BRICK BUILDING WITH A 6 FT CONCRETE FOUNDATION BUILT IN 1972. THE MAST IS A 1.75 INCH DIA GALV PIPE THAT IS 108 INCHES LONG. THE MAST ATTACHED TO A STEEL MOUNTING FRAME WITH THREE ATTACHMENTS CONSISTING OF 3/8 INCH SS THROUGH BOLTS. THE MOUNTING FRAME IS ATTACHED TO THE BUILDING USING 8 ATTACHMENT POINTS. THE TOP 4 ARE 1/2 INCH SS BOLTS SECURED TO THE BRICK OR CONC WITH LEAD ANCHORS. THE BOTTOM 4 ATTACHMENTS ARE TROUGH BOLTED AND CONSIST OF 1/2 INCH SS THREADED ROD AND NUTS.

TRAVERSE TIES NORTHBOUND

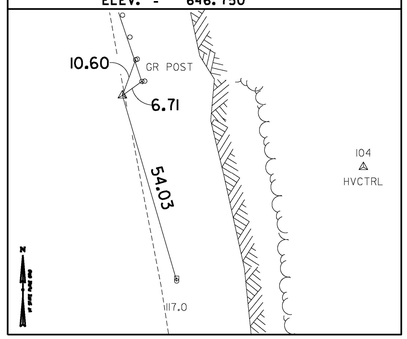
HVCTRL #1

NORTH = 638174.2000
EAST = 1755450.9800
ELEV. = 673.350



HVCTRL #2

NORTH = 639059.9000
EAST = 1755387.0300
ELEV. = 646.750



NORTH = / EAST = / ELEV. =

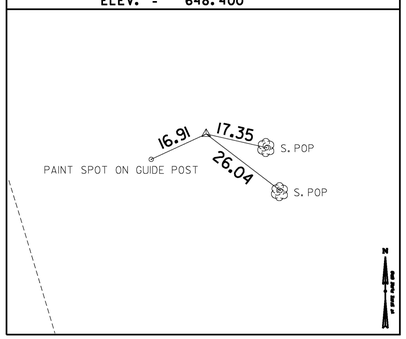
NORTH = / EAST = / ELEV. =

NORTH = / EAST = / ELEV. =

TRAVERSE TIES SOUTHBOUND

HVCTRL #3

NORTH = 639395.8400
EAST = 1755193.2000
ELEV. = 648.400



HVCTRL #4

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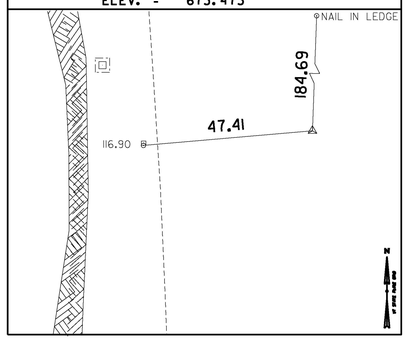
EAST = 1755340.8300
ELEV. = 673.473



NORTH = / EAST = / ELEV. =

NORTH = / EAST = / ELEV. =

NORTH = / EAST = / ELEV. =

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(2011)
ADJUSTMENT COMPASS

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: x13a368t1
PROJECT LEADER: B. MARTIN/K. UPMAL
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 3/30/2017
DRAWN BY: C. CYR
CHECKED BY: P. BEYOR
SHEET 7 OF 61

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\x13a368b1t.dgn
DATE/TIME = 3/30/2017
USER = 5323

QUANTITY SHEET 1

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1			1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
1.1			1.1		ACRE	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.11	0.1			
300			300		CY	COMMON EXCAVATION	203.15	EST			
100			100		CY	SOLID ROCK EXCAVATION	203.16	EST			
1			1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
50			50		TON	AGGREGATE SHOULDERS	402.12	2.6			
2			2		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II	604.415	-			
502			502		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	-			
1			1		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
37.5			37.5		LF	REMOVE AND RESET GUARDRAIL	621.75	-			
14.5			14.5		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	-			
3500			3500		LF	TEMPORARY TRAFFIC BARRIER	621.90	45			
240			240		HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST			
40			40		HR	FLAGGERS	630.15	EST			
20			20		HR	FLAGGERS, RAILROAD	630.20	EST			
		1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
		3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
1			1		LS	TRAFFIC CONTROL	641.10	-			
6			6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
2			2		EACH	PORTABLE ARROW BOARD	641.16	-			
6850			6850		LF	TEMPORARY 6 INCH WHITE LINE, TEMPORARY PAVEMENT MARKING TAPE	646.6211	35			
500			500		SF	PAVEMENT MARKING MASK	646.86	52			
	60		60		SY	GEOTEXTILE FOR SILT FENCE	649.51	2.6			
	60		60		LB	SEED	651.15	EST			
	250		250		LB	FERTILIZER	651.18	EST			
	1		1		TON	AGRICULTURAL LIMESTONE	651.20	EST			
	1		1		TON	HAY MULCH	651.25	EST			
120			120		CY	TOPSOIL	651.35	EST			
	1		1		LS	EPSC PLAN	652.10	-			
	110		110		HR	MONITORING EPSC PLAN	652.20	EST			
	1		1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
	2300		2300		SY	TEMPORARY EROSION MATTING	653.20	EST			
	40		40		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	5			
	70		70		CY	VEHICLE TRACKING PAD	653.35	2			
	8		8		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
	2550		2550		LF	PROJECT DEMARCATION FENCE	653.55	41			
2			2		EACH	REMOVING SIGNS	675.50	-			
2			2		EACH	ERECTING SALVAGED SIGNS	675.60	-			
2			2		EACH	SETTING SALVAGED POSTS	675.61	-			
7			7		EACH	DELINEATOR WITH STEEL POST	676.10	-			
6			6		EACH	REMOVAL OF EXISTING DELINEATOR	676.12	-			

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368qtybdr.dgn
DATE/TIME = 3/30/2017
USER = 5323

PROJECT NAME:	RYEGATE
PROJECT NUMBER:	IM 091-2(80)
FILE NAME: z13a368qtybdr.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
QUANTITY SHEET 1	SHEET 8 OF 61

CHA

QUANTITY SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
183			183		CY	SPECIAL PROVISION (REMOVAL OF LEDGE WASTE MATERIAL)	900.608	EST
400			400		CY	SPECIAL PROVISION (TRIM BLASTING)	900.608	EST
5			5		EACH	SPECIAL PROVISION (WIRE MESH ROPE ANCHOR TESTING)	900.620	-
80			80		HR	SPECIAL PROVISION (HAND SCALING)	900.630	EST
380			380		LF	SPECIAL PROVISION (WIRE MESH ROPE ANCHOR)	900.640	40
33000			33000		SF	SPECIAL PROVISION (WIRE MESH ROCK SLOPE PROTECTION SYSTEM)	900.670	503

TOTALS

DESCRIPTIONS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368qtybdr.dgn
DATE/TIME = 3/30/2017
USER = S323

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368qtybdr.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
QUANTITY SHEET 2

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 9 OF 61

EARTHWORKS SUMMARY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK VOLUME	ROCK EXCAVATION AREA	ROCK EXCAVATION VOLUME	EMBANKMENT AREA	EMBANKMENT VOLUME			STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK VOLUME	ROCK EXCAVATION AREA	ROCK EXCAVATION VOLUME	EMBANKMENT AREA	EMBANKMENT VOLUME			STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK VOLUME	ROCK EXCAVATION AREA	ROCK EXCAVATION VOLUME	EMBANKMENT AREA	EMBANKMENT VOLUME		
	FT.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.		FT.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.		FT.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.
I-91 Northbound																													
N 6169+35		0																											
	15		9																										
N 6169+50		30																											
	50		48																										
N 6170+00		22																											
	50		41																										
N 6170+50		22																											
	50		39																										
N 6171+00		19																											
	50		38					CUT	373																				
N 6171+50		22						ROCK	0																				
	50		48					R.FAC	0.495																				
N 6172+00		30						FILL	0																				
	50		47					F.FAC	1.15																				
N 6172+50		20						EX. C	373																				
	50		37																										
N 6173+00		19																											
	50		35																										
N 6173+50		18																											
	50		24																										
N 6174+00		7																											
	50		7																										
N 6174+50		0																											
Column Footing			373																										

SUMMARY AND BALANCES

STATION TO STATION		TOT EXC. EARTH & ROCK C.Y.	ROCK EXCAV C.Y.	EMBANK C.Y.	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
N 6169+35	N 6174+50	373						

REMARKS

EARTH AND ROCK EXCAVATION	373
SOLID ROCK EXCAVATION - ESTIMATED 25% OF TOTAL	93
EARTH EXCAVATION - ESTIMATED 75% OF TOTAL	280
PLANIMETERED FILL	0
LESS FACTORED SOLID ROCK	0
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	0
FACTOR	1.00
PLANIMETERED FILL INCLUDING FACTOR	0
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	280
CHANNEL EXCAVATION	0
UNDERDRAIN EXCAVATION	0
STRUCTURE EXCAVATION	0
TOTAL MATERIAL AVAILABLE FOR FILL	280
TOTAL FILL INCLUDING FACTOR	0
TOTAL MATERIAL FOR FILL	280
BORROW	0
EXCESS EXCAVATION	280

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368ess.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EARTHWORK SUMMARY SHEET

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 10 OF 61

FILE NAME = V:\Projects\VNY\X4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368ess.dgn
DATE/TIME = 3/30/2017
USER = 5323

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS APPLICABLE TO THIS WORK.

2. IN ACCORDANCE WITH SUBSECTION 107.12 THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE THE EXISTING PAVEMENT, SUBBASE, SHOULDER MATERIAL, PIPES, DROP INLETS, SIGNS, SIGN POSTS, CONCRETE SIGN FOUNDATIONS AND HEADWALLS. IF DAMAGED, THE CONTRACTOR, AT NO ADDITIONAL COMPENSATION BY THE STATE OF VERMONT, SHALL REPAIR THE DAMAGED ITEMS TO THE SATISFACTION OF THE ENGINEER.

3. THE CONTRACTOR SHALL REMOVE AND STORE SIGNS, MILE MARKER POSTS, AND DELINEATORS AND REINSTALL THEM IN THEIR PROPER LOCATION AT THE EARLIEST PRACTICABLE OPPORTUNITY WHEN REQUIRED WORK MAY CAUSE DAMAGE TO THEM.

4. ALL EQUIPMENT SHALL BE MOVED OUTSIDE OF THE CLEAR ZONE (30 FEET OUTSIDE TRAVELED WAY) OR PROTECTED BY APPROVED BARRIERS AT ALL TIMES.

5. THE CONTRACTOR SHALL ADEQUATELY MAINTAIN A FLOW LINE TO ENSURE PROPER DRAINAGE DURING CONSTRUCTION ACTIVITIES. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL RE-ESTABLISH (OR IMPROVE) THE EXISTING DITCH LINE. THE COST SHALL BE CONSIDERED INCIDENTAL IN THE PRICE BID FOR ITEM 203.15 COMMON EXCAVATION. COMMON EXCAVATION HAS BEEN ASSUMED TO BE 75% OF EARTH AND ROCK EXCAVATION AND SOLID ROCK EXCAVATION HAS ASSUMED TO BE 25% OF EARTH AND ROCK EXCAVATION

6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF EXISTING UTILITIES THROUGH DIG SAFE AND ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.) PRIOR TO THE START OF CONSTRUCTION.

LEDGE REMOVAL NOTES

1. LEDGE REMOVAL SHALL CONSIST OF THE REMOVAL OF LEDGE FROM THE LEDGE CUT USING THE FOLLOWING CONTRACT ITEMS:

   900.608 SPECIAL PROVISION (REMOVAL OF LEDGE WASTE MATERIAL)
   900.608 SPECIAL PROVISION (TRIM BLASTING)
   900.630 SPECIAL PROVISION (HAND SCALING)

   APPROXIMATE LIMITS OF LEDGE REMOVAL METHODS ARE PROVIDED ON THE PLANS.

2. ADDITIONAL LEDGE REMOVAL WORK (HAND SCALING OR TRIM BLASTING) MAY BE REQUIRED OUTSIDE THE WORK SHOWN IN THE PLANS. DETERMINATION OF THIS WILL BE BY THE ENGINEER OR VAOT GEOLOGIST. THE CONTRACTOR SHALL PERFORM ANY ADDITIONAL WORK WITHIN THE PROJECT LIMITS AT THE UNIT PRICES PROVIDED IN THE CONTRACT UNDER THE FOLLOWING ITEMS:

   900.608 SPECIAL PROVISION (REMOVAL OF LEDGE WASTE MATERIAL)
   900.608 SPECIAL PROVISION (TRIM BLASTING)
   900.630 SPECIAL PROVISION (HAND SCALING)

WIRE MESH ROCK SLOPE PROTECTION SYSTEM

1. INSTALLATION OF THE WIRE MESH ROCK SLOPE PROTECTION SYSTEM SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND WITH THE FOLLOWING CONTRACT ITEMS:

   900.620 SPECIAL PROVISION (WIRE MESH ROPE ANCHOR TESTING)
   900.640 SPECIAL PROVISION (WIRE MESH ROPE ANCHOR)
   900.670 SPECIAL PROVISION (WIRE MESH ROCK SLOPE PROTECTION SYSTEM)

   APPROXIMATE LIMITS OF WIRE MESH ARE PROVIDED ON THE PLANS.

CLEARING AND GRUBBING NOTES

1. CLEARING SHALL CONSIST OF REMOVAL OF ALL TREES WITH A DIAMETER OF LESS THAN THREE INCHES, SHRUBS, AND ROOT BALLS WHILE MINIMIZING IMPACTS TO TOPSOIL AND GROUND COVER AS DEPICTED ON THE PLANS (APPROXIMATELY 20 FEET BEYOND THE CREST OF THE LEDGE). THE FINAL CLEARING LIMITS SHALL BE DETERMINED BY THE ENGINEER AND THE VAOT GEOLOGIST. DUE TO TIME-OF-YEAR RESTRICTIONS ALL TREES GREATER THAN OR EQUAL TO THREE INCHES IN DIAMETER HAVE BEEN CLEARED BY THE AGENCY. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THESE STUMPS. THIS WORK SHALL BE INCIDENTAL TO ITEM 201.11 CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS.

2. ALL VEGETATION SHALL BE REMOVED FROM THE FACE OF THE LEDGE. THIS WORK SHALL BE PAID FOR UNDER ITEM 201.10 CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES, STUMPS AND ROOTS. ALL TOOLS, MACHINES AND LABOR REQUIRED TO REMOVE VEGETATION AND SOILS SHALL BE INCIDENTAL TO ITEM 201.10.

3. ALL VEGETATION, INCLUDING REMOVED LIMBS, FOR ITEM 201.10 AND 201.11, SHALL BE CLEARED AND DISPOSED OF IN ACCORDANCE WITH SECTION 201 AND THE CONTRACT DOCUMENTS.

4. INDIVIDUAL TREES WITH A DIAMETER OF LESS THAN THREE INCHES THAT ARE DEEMED, BY THE ENGINEER, TO BE AT RISK OF FALLING OUTSIDE OF THE CLEARING AND GRUBBING AREA IDENTIFIED ON THE PLANS SHALL BE REMOVED. THIS WORK SHALL BE INCIDENTAL TO ITEM 201.11 CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN, TO THE SATISFACTION OF THE ENGINEER, AS NEAT OF A TREE LINE ALONG THE AREA TO BE CLEARED AS POSSIBLE. THIS WORK SHALL BE INCIDENTAL TO ITEM 201.11 CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS.

6. AN ESTIMATED QUANTITY OF ITEM 651.35 TOPSOIL HAS BEEN ADDED IF THE ENGINEER DEEMS NECESSARY THAT THE RESHAPING OF THE DITCH REQUIRES MORE MATERIAL ONCE THE LEDGE HAS BEEN REMOVED.

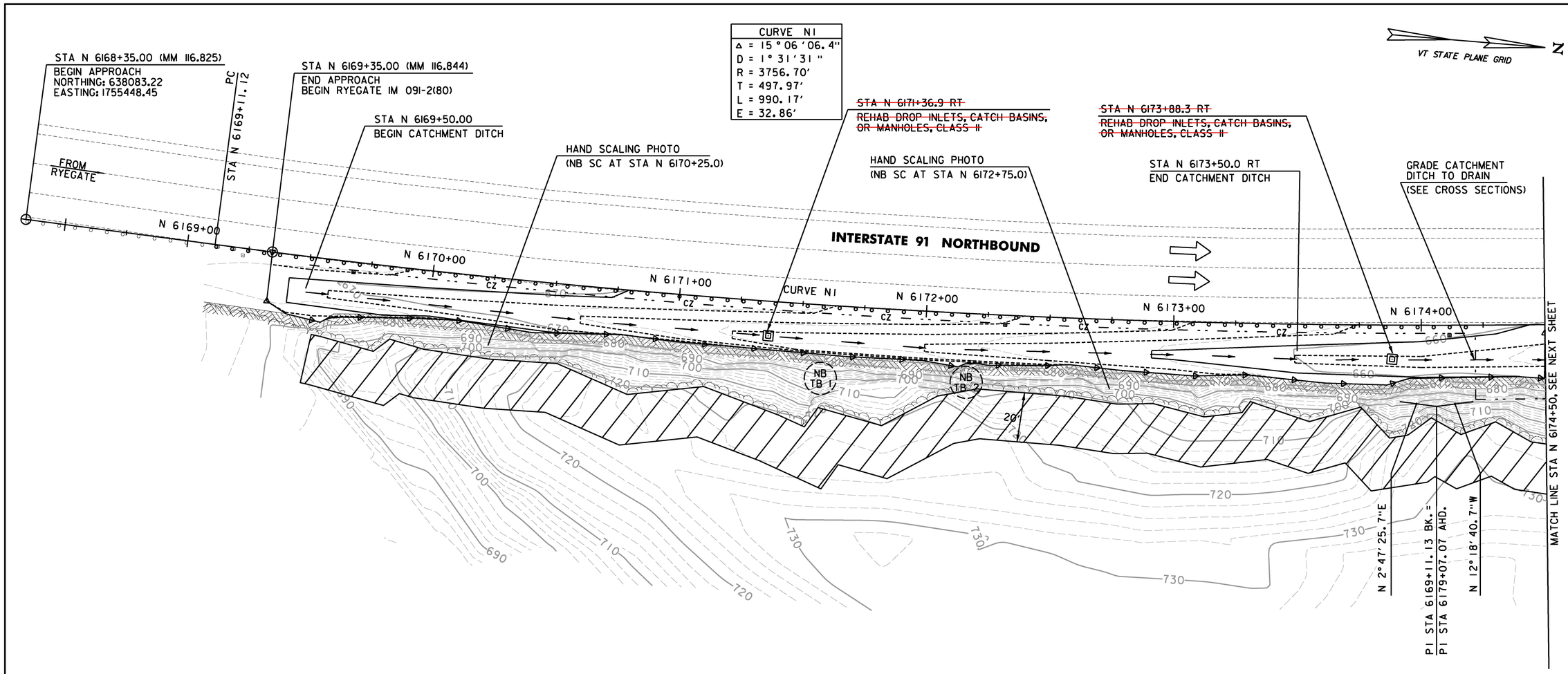
7. AN ESTIMATED QUANTITY OF ITEM 651.25 HAY MULCH HAS BEEN ADDED IF THE ENGINEER DEEMS ITS USE IS NECESSARY.

8. THE CONTRACTOR MAY GRIND OR TREAT WITH HERBICIDES THE EXISTING STUMPS DESIGNATED FOR REMOVAL WITHIN CLEARING AND GRUBBING AREAS (APPROXIMATELY 20 FEET BEYOND THE CREST OF THE LEDGE). THE CONTRACTOR SHALL ENSURE THAT THE STUMPS WILL NOT GROW BACK. IF HERBICIDES ARE USED TO TREAT EXISTING STUMPS, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY ADDITIONAL PERMITTING THAT MAY BE REQUIRED FROM OTHER AGENCIES INCLUDING, BUT NOT LIMITED TO, THE DEPARTMENT OF AGRICULTURE, AGENCY OF NATURAL RESOURCES, ETC. WORK SHALL BE CONDUCTED BY A LICENSED APPLICATOR AND PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 201.11.

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368notes.dgn
DATE/TIME = 5/2/2017
USER = S323

PROJECT NAME:	RYEGATE
PROJECT NUMBER:	IM 091-2(80)
FILE NAME: z13a368notes.dgn	PLOT DATE: 5/2/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
GENERAL NOTES SHEET	SHEET 11 OF 61

CHA



REMOVAL AND DISPOSAL OF GUARDRAIL
STA N 6169+09.4 - STA N 6169+23.9 RT

~~REHAB DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II~~
~~STA N 6171+36.9 RT~~
~~STA N 6173+88.3 RT~~

SPECIAL PROVISION (HAND SCALING)
STA N 6169+69.1 - STA N 6174+50.0 RT

SPECIAL PROVISION (TRIM BLASTING)
NB TB1 - STA N 6171+59.0 RT
NB TB2 - STA N 6172+09.0 RT

STEEL BEAM GUARDRAIL, GALVANIZED
STA N 6169+09.4 - STA N 6174+11.4 CL
(CONNECT TO EXISTING GUARDRAIL)

ANCHOR FOR STEEL BEAM RAIL
STA N 6174+03.4 CL

REMOVAL OF EXISTING DELINEATOR
STA N 6169+23.0 RT (GREEN)
STA N 6172+32.0 RT (WHITE)

DELINEATOR WITH STEEL POST
STA N 6169+68.0 RT (WHITE)
STA N 6172+32.0 RT (WHITE)
STA N 6174+11.4 RT (GREEN)

ROCK CUT TREATMENT LOCATION	PHOTO REFERENCE NUMBER					
	1	2	3	4	5	6
NB TB1	X	X	X	X		
NB TB2		X	X	X		
NB SC @ STA N 6170+25.0					X	
NB SC @ STA N 6172+75.0						X

NOTE: REFER TO CONTRACT DOCUMENTS FOR PHOTOGRAPHS

LEGEND
- TRIM BLASTING LOCATION
- DIRECTION OF TRAFFIC
- CLEARING AND GRUBBING (BY THE ACRE)

EXISTING R.O.W.

0 20 40
SCALE IN FEET

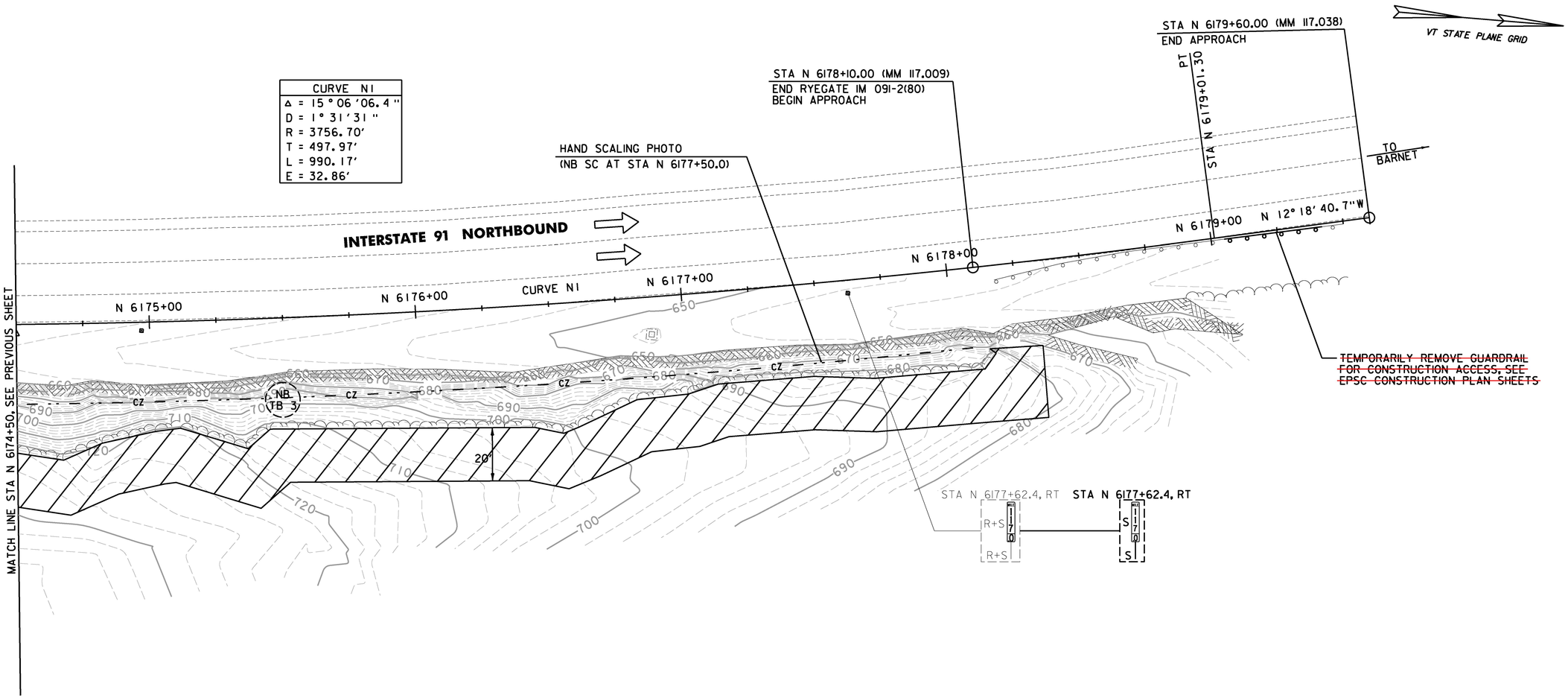
CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
PLAN SHEET 1

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 12 OF 61

FILE NAME = Y:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr.dgn
DATE/TIME = 3/30/2017
USER = 5323



ROCK CUT TREATMENT LOCATION	PHOTO REFERENCE NUMBER					
	7	8	9	10		
NB TB3	X	X	X			
NB SC @ STA N 6177+50.0				X		

NOTE: REFER TO CONTRACT DOCUMENTS FOR PHOTOGRAPHS

LEGEND

- TRIM BLASTING LOCATION
- DIRECTION OF TRAFFIC
- CLEARING AND GRUBBING (BY THE ACRE)

SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = – – – – – –
NEW = ————

SPECIAL PROVISION (HAND SCALING)
STA N 6174+50.0 - STA N 6178+10.0 RT

REMOVAL OF EXISTING DELINEATOR
STA N 6174+97.0 RT (WHITE)

DELINEATOR WITH STEEL POST
STA N 6174+97.0 RT (WHITE)

SPECIAL PROVISION (TRIM BLASTING)
NB TB3 - STA N 6175+49.0 RT

REMOVING SIGNS
STA N 6177+62.4 RT

ERECTING SALVAGED SIGNS
STA N 6177+62.4 RT

SETTING SALVAGED POST
STA N 6177+62.4 RT

~~**REMOVE AND RESET GUARDRAIL**~~
~~STA N 6179+05.0 - STA N 6179+42.5 RT~~

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
PLAN SHEET 2	SHEET 13 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr.dgn
DATE/TIME = 3/30/2017
USER = SJG3

VT STATE PLANE GRID

N

EXISTING R.O.W.

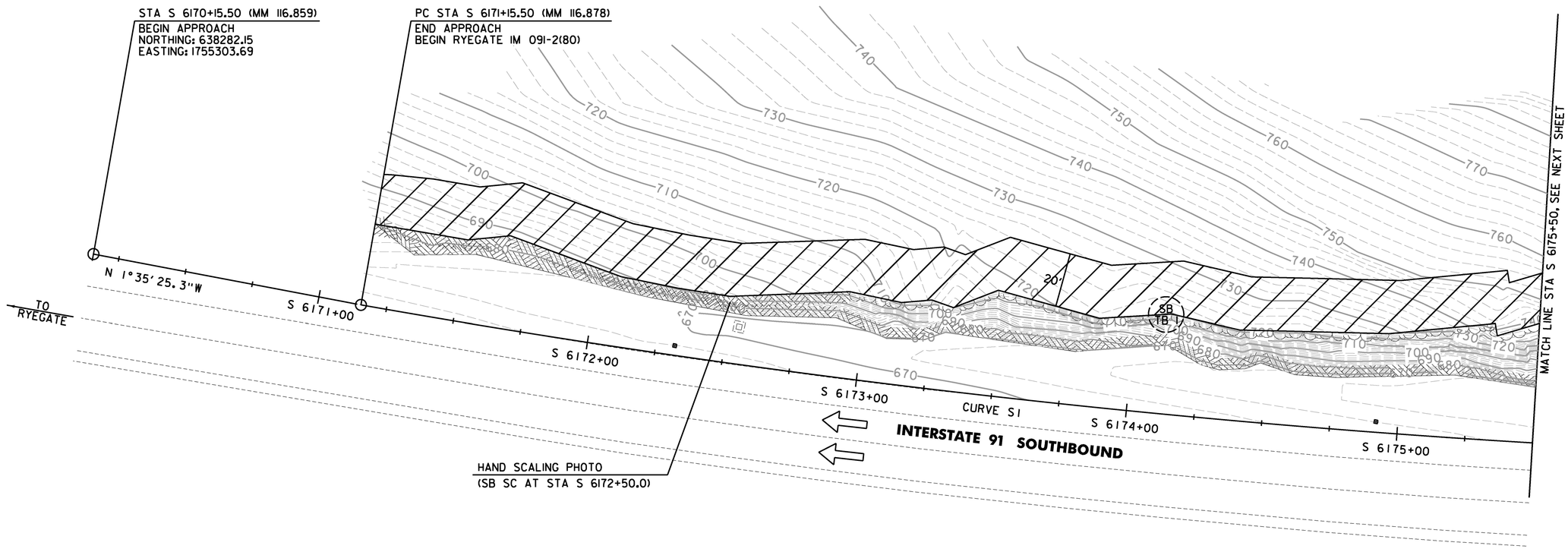
ROCK CUT TREATMENT LOCATION	PHOTO REFERENCE NUMBER					
	11	12	13	14	15	16
SB TBI	X	X	X	X		
SB SC @ STA S 6172+50.0					X	X

NOTE: REFER TO CONTRACT DOCUMENTS FOR PHOTOGRAPHS

CURVE S1
Δ = 20° 01'05.7"
D = 1° 30'57"
R = 3779.70'
T = 667.08'
L = 1313.86'
E = 58.42'

STA S 6170+15.50 (MM 116.859)
BEGIN APPROACH
NORTHING: 638282.15
EASTING: 1755303.69

PC STA S 6171+15.50 (MM 116.878)
END APPROACH
BEGIN RYEGATE IM 091-2(80)



SPECIAL PROVISION (HAND SCALING)
STA S 6171+15.5 - STA S 6175+50.0 LT

SPECIAL PROVISION (TRIM BLASTING)
SB TB1 - STA S 6174+10.0 LT

REMOVAL OF EXISTING DELINEATOR
STA S 6172+32.0 LT (WHITE)
STA S 6174+92.0 LT (WHITE)

DELINEATOR WITH STEEL POST
STA S 6172+32.0 LT (WHITE)
STA S 6174+92.0 LT (WHITE)

LEGEND
- TRIM BLASTING LOCATION
- DIRECTION OF TRAFFIC
- CLEARING AND GRUBBING (BY THE ACRE)

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368bdr.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
PLAN SHEET 3

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 14 OF 61

FILE NAME = W:\Projects\VNY\VK4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368bdr.dgn
DATE/TIME = 3/30/2017
USER = SJS23

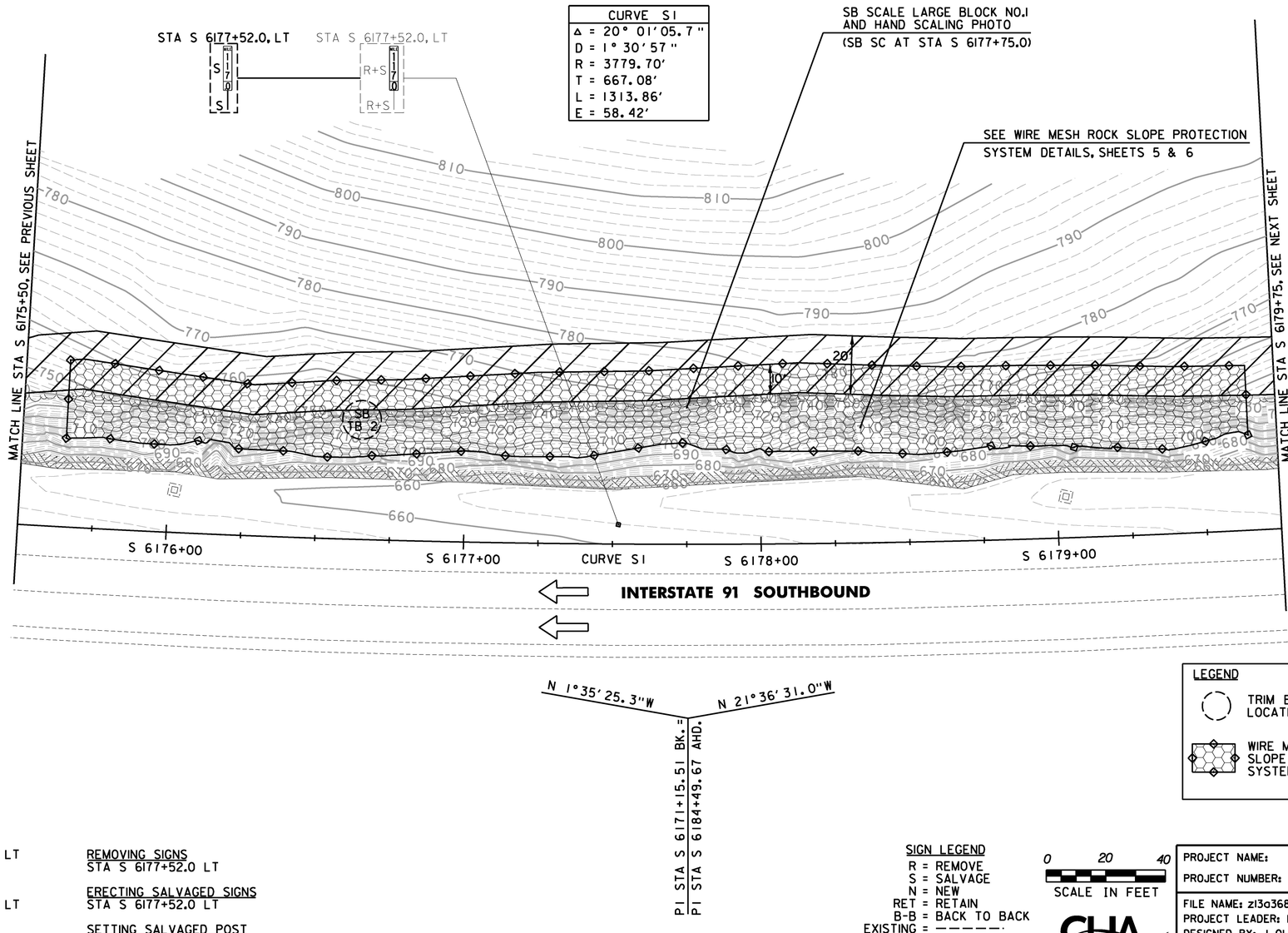
ROCK CUT TREATMENT LOCATION	PHOTO REFERENCE NUMBER						
	17	18	19	20	21	22	23
SB TB2	X	X					
SB SC @ STA S 6177+75.0			X	X	X		
SB SCALE LARGE BLOCK NO.1						X	X

NOTE: REFER TO CONTRACT DOCUMENTS FOR PHOTOGRAPHS

VT STATE PLANE GRID

N

CURVE S1
Δ = 20° 01' 05.7"
D = 1° 30' 57"
R = 3779.70'
T = 667.08'
L = 1313.86'
E = 58.42'



LEGEND

- TRIM BLASTING LOCATION
- DIRECTION OF TRAFFIC
- WIRE MESH ROCK SLOPE PROTECTION SYSTEM
- CLEARING AND GRUBBING (BY THE ACRE)

SPECIAL PROVISION (HAND SCALING)
STA S 6175+50.0 - STA S 6179+75.0 LT

SPECIAL PROVISION (WIRE MESH ROCK SLOPE PROTECTION SYSTEM)
STA S 6175+65.0 - STA S 6179+65.0 LT

SPECIAL PROVISION (TRIM BLASTING)
SB TB2 - STA S 6176+65.0 LT

REMOVING SIGNS
STA S 6177+52.0 LT

ERECTING SALVAGED SIGNS
STA S 6177+52.0 LT

SETTING SALVAGED POST
STA S 6177+52.0 LT

SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = - - - - - -
NEW = ———

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

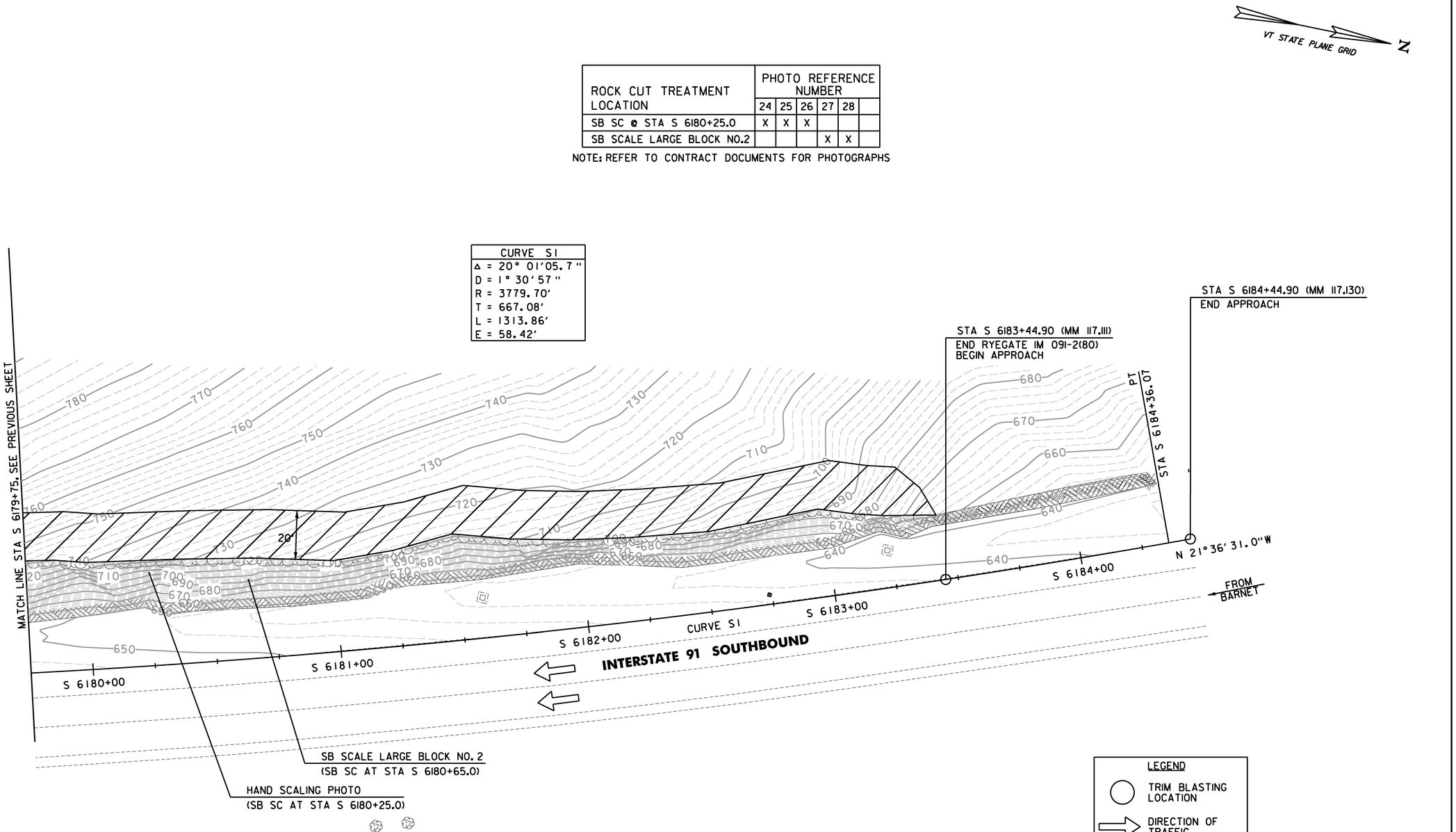
FILE NAME: z13a368bdr.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
PLAN SHEET 4

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 15 OF 61

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr.dgn
DATE/TIME = 3/30/2017
USER = S323

ROCK CUT TREATMENT LOCATION	PHOTO REFERENCE NUMBER					
	24	25	26	27	28	
SB SC @ STA S 6180+25.0	X	X	X			
SB SCALE LARGE BLOCK NO.2				X	X	

NOTE: REFER TO CONTRACT DOCUMENTS FOR PHOTOGRAPHS



LEGEND

- TRIM BLASTING LOCATION
- DIRECTION OF TRAFFIC
- CLEARING AND GRUBBING (BY THE ACRE)

SPECIAL PROVISION (HAND SCALING)
STA S 6179+75.0 - STA S 6183+44.9 LT

REMOVAL OF EXISTING DELINEATOR
STA S 6182+73.9 LT (WHITE)

DELINEATOR WITH STEEL POST
STA S 6182+73.9 LT (WHITE)

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
PLAN SHEET 5	SHEET 16 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr.dgn
DATE/TIME = 3/30/2017
USER = SJG3

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF AN EXISTING ROCK SLOPE ADJACENT TO INTERSTATE 91 NORTHBOUND AND SOUTHBOUND. THE PROJECT LIMITS FOR THE NORTHBOUND BARREL BEGIN AND END BETWEEN MILE MARKERS 116.844 AND 117.009, RESPECTIVELY. THE PROJECT LIMITS FOR THE SOUTHBOUND BARREL BEGIN AND END BETWEEN MILE MARKERS 116.878 AND 117.111, RESPECTIVELY. THE SUBJECT ROCK SLOPE IS LOCATED BETWEEN THE TOWNS OF RYEGATE AND BARNET, ADJACENT TO AND RIGHT OF INTERSTATE 91 NORTHBOUND AND ADJACENT TO AND LEFT OF INTERSTATE 91 SOUTHBOUND.

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 PLANS IS APPROXIMATELY 1.27 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS GENERALLY ROLLING, MOSTLY WOODED WITH OCCASIONAL OPEN AREAS WITH NO SURROUNDING COMMERCIAL OR RESIDENTIAL BUILDINGS.

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

DRAINAGE THROUGH THE PROJECT AREA CONSISTS PRIMARILY OF OVERLAND FLOW WHICH COLLECTS IN GRASSED SWALES THAT RUN PARALLEL WITH INTERSTATE 91. THE RUNOFF IS THEN COLLECTED IN A CLOSED SYSTEM THAT DISCHARGE TO THE SLOPE EVENTUALLY DRAINING TO THE CONNECTICUT RIVER. THERE ARE NO WETLANDS IDENTIFIED WITHIN THE PROJECT CORRIDOR.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASSY SWALES AND EVERGREEN TREES ATOP THE ROCK SLOPE. THE IMPACT TO VEGETATION WILL CONSIST OF CLEARING AND GRUBBING ON TOP OF THE ROCK SLOPE AND DITCH WORK ADJACENT TO THE INTERSTATE HIGHWAY. THE DISTURBED AREA WILL BE COVERED WITH TEMPORARY EROSION MATTING UNTIL THE VEGETATION CAN BE ESTABLISHED AND STABILIZE THE AREA.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CALEDONIA, VERMONT. SEE TABLE BELOW FOR SOIL TYPES LOCATED WITHIN THE PROJECT AREA.

MAP UNIT	DESCRIPTION	SLOPES	K-VALUE
46E	LAMOINE SILT LOAM	25-50%	0.28
46D	LAMOINE SILT LOAM	15-25%	0.28
56E	VERSHIRE - GLOVER COMPLEX	35-60%	0.32

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: YES, NORTHERN LONG-EARED BAT
WATER RESOURCE: NONE
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATION TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION PREVENTION AND SEDIMENT 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 VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

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

1.4.1 MARK SITE BOUNDARIES

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

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

1.4.2 LIMIT DISTURBANCE AREA

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION OF STABALIZED CONSTRUCTION ENTRANCE SHALL COINCIDE WITH THE CONTRACTOR'S 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 WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER FABRIC DROP INLET PROTECTION AND PIPE INLET PROTECTION WILL BE INSTALLED TO FILTER SEDIMENT FROM INCOMING STORMWATER FOR EXISTING DROP INLETS AND CULVERTS ALONG THE INTERSTATE.

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.

LARGE PORTIONS OF THE PROJECT AREA CONSIST OF STEEP BEDROCK OR LEDGE AND DUE TO THE LIMITED EXPOSURE OF EARTH ATOP THE ROCK LEDGE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

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.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

THIS PROJECT DOES NOT REQUIRE ANY PERMANENT STORMWATER TREATMENT DEVICES.

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.

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

IF CONSTRUCTION ACTIVITIES INVOLVING EARTH DISTURBANCE CONTINUE PAST OCTOBER 15 OR BEGIN BEFORE APRIL 15, THE FOLLOWING MUST BE INCORPORATED INTO THE EPSC PLAN:

1. ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.

2. LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.

3. A SNOW MANAGEMENT PLAN INCLUDING ADEQUATE STORAGE AND CONTROL OF SNOWMELT, REQUIRING CLEARED SNOW TO BE STORED DOWN GRADIENT OF ALL AREAS OF DISTURBANCE AND PROHIBITING STORAGE OF SNOW IN STORMWATER TREATMENT STRUCTURES.

4. A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE TO ALLOW FOR SNOW CLEARING AND MAINTENANCE.

5. IN AREAS OF DISTURBANCE WITHIN 100 FEET OF A RECEIVING WATER, SILT FENCE SHALL BE REINFORCED OR ELSE REPLACED WITH PERIMETER DIKES, SWALES, OR OTHER PRACTICES RESISTANT TO THE FORCES OF SNOW LOADS.

6. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

7. THE CONTRACTOR SHALL INSTALL SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE AHEAD OF GROUND FREEZING.

8. WHERE MULCH IS THE SELECTED STABILIZATION MEASURE, USE DOUBLE THE STANDARD RATE OF MULCH.

9. THE REQUIREMENT FOR NETTING OR OTHER APPROACH TO ANCHOR MULCH TO PREVENT REMOVAL BY WIND.

10. TO ENSURE COVER OF DISTURBED SOIL IN ADVACE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:

a. IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.

b. DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.

11. REMOVE SNOW OR ICE TO LESS THAN 1 INCH THICKNESS PRIOR TO STABILIZATION.

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

NO DE-WATERING ACTIVITIES ARE ANTICIPATED AT THIS TIME.

1.4.12 INSPECT YOUR SITE

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

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VAOT 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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DATE/TIME = 3/30/2017
USER = DJG23

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368epscgn01.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC NARRATIVE SHEET

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 17 OF 61

VT STATE PLANE GRID

N

FROM RYEGATE

N 6169+00

N 6170+00

N 6171+00

N 6172+00

N 6173+00

N 6174+00

INTERSTATE 91 NORTHBOUND

MATCH LINE STA N 6174+50, SEE NEXT SHEET

46E

46D

EXISTING R.O.W.

LEGEND

DIRECTION OF TRAFFIC

XX SOIL MAP UNIT SYMBOL (SEE EPSC NARRATIVE FOR DETAILS)

0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr_ero_ex.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC EXISTING CONDITIONS PLAN SHEET 1	SHEET 18 OF 61

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DATE/TIME = 3/30/2017
USER = 5323

VT STATE PLANE GRID

N

TO BARNET

INTERSTATE 91 NORTHBOUND

N 6175+00

N 6176+00

N 6177+00

N 6178+00

N 6179+00

MATCH LINE STA N 6174+50, SEE PREVIOUS SHEET

46D

46E

EXISTING R.O.W.

LEGEND

DIRECTION OF TRAFFIC

XX — SOIL MAP UNIT SYMBOL (SEE EPSC NARRATIVE FOR DETAILS)

0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE

PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero_ex.dgn | PLOT DATE: 3/30/2017

PROJECT LEADER: D. GOZALKOWSKI | DRAWN BY: J. HEALD

DESIGNED BY: J. OLSEN | CHECKED BY: J. SHIELDS

EPSC EXISTING CONDITIONS PLAN SHEET 2 | SHEET 19 OF 61

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DATE/TIME = 3/30/2017
USER = SJG23

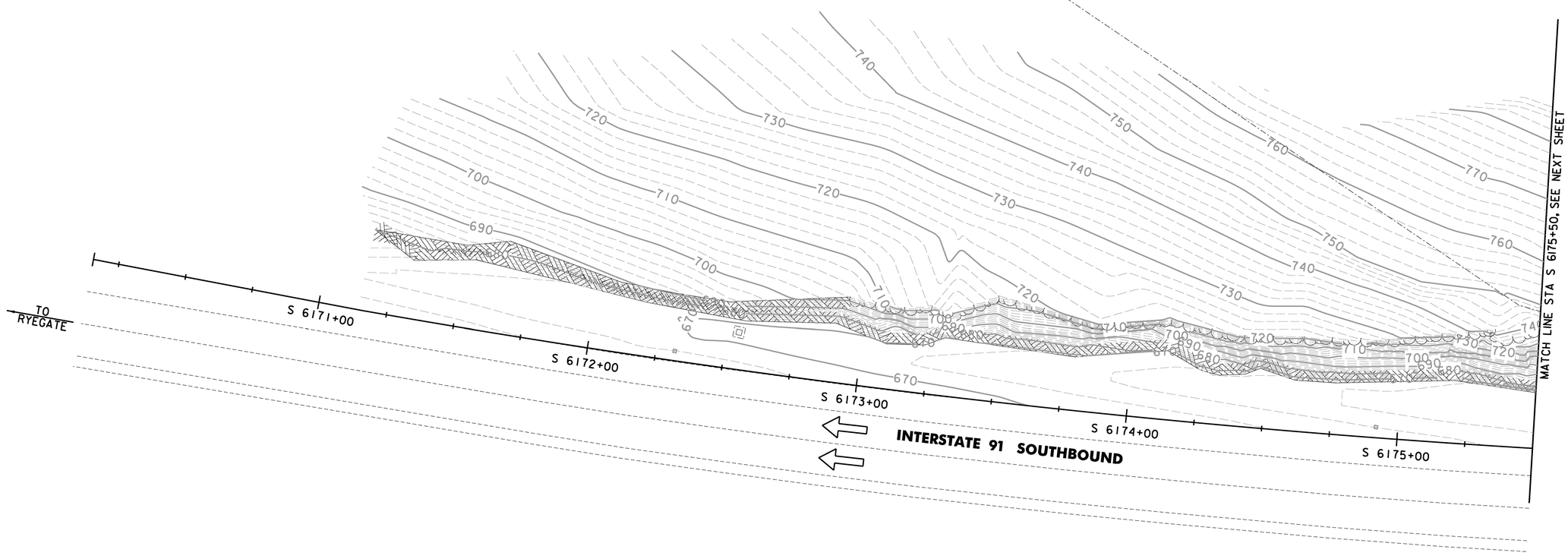
VT STATE PLANE GRID

N

EXISTING R.O.W.

46D

56E



LEGEND

- DIRECTION OF TRAFFIC
- XX SOIL MAP UNIT SYMBOL (SEE EPSC NARRATIVE FOR DETAILS)

0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE

PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368bdr_ero_ex.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC EXISTING CONDITIONS PLAN SHEET 3	SHEET 20 OF 61

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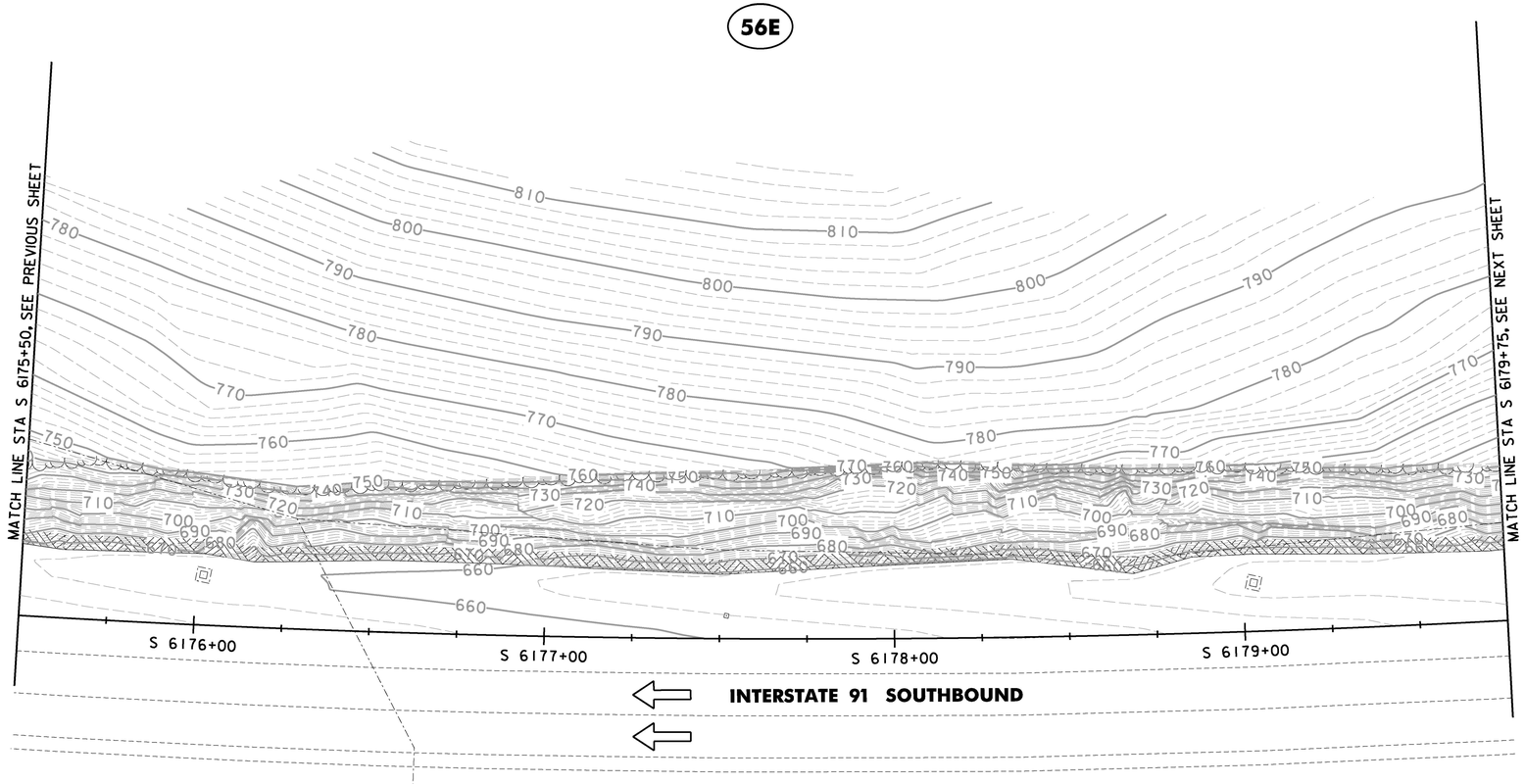
VT STATE PLANE GRID

N

56E



46D

46E

LEGEND

DIRECTION OF TRAFFIC

XX — SOIL MAP UNIT SYMBOL (SEE EPSC NARRATIVE FOR DETAILS)

0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE

PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368bdr_ero_ex.dgn | PLOT DATE: 3/30/2017

PROJECT LEADER: D. GOZALKOWSKI | DRAWN BY: J. HEALD

DESIGNED BY: J. OLSEN | CHECKED BY: J. SHIELDS

EPSC EXISTING CONDITIONS PLAN SHEET 4 | SHEET 21 OF 61

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DATE/TIME = 3/30/2017
USER = SJS23

VT STATE PLANE GRID

N

56E

46E

MATCH LINE STA S 6179+75, SEE PREVIOUS SHEET

780 770 760 750 740 730 720 710 700 690 680 670 660 650 640

S 6180+00 S 6181+00 S 6182+00 S 6183+00 S 6184+00

INTERSTATE 91 SOUTHBOUND

FROM BARNET

LEGEND

DIRECTION OF TRAFFIC

XX SOIL MAP UNIT SYMBOL (SEE EPSC NARRATIVE FOR DETAILS)

0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE

PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero_ex.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC EXISTING CONDITIONS PLAN SHEET 5	SHEET 22 OF 61

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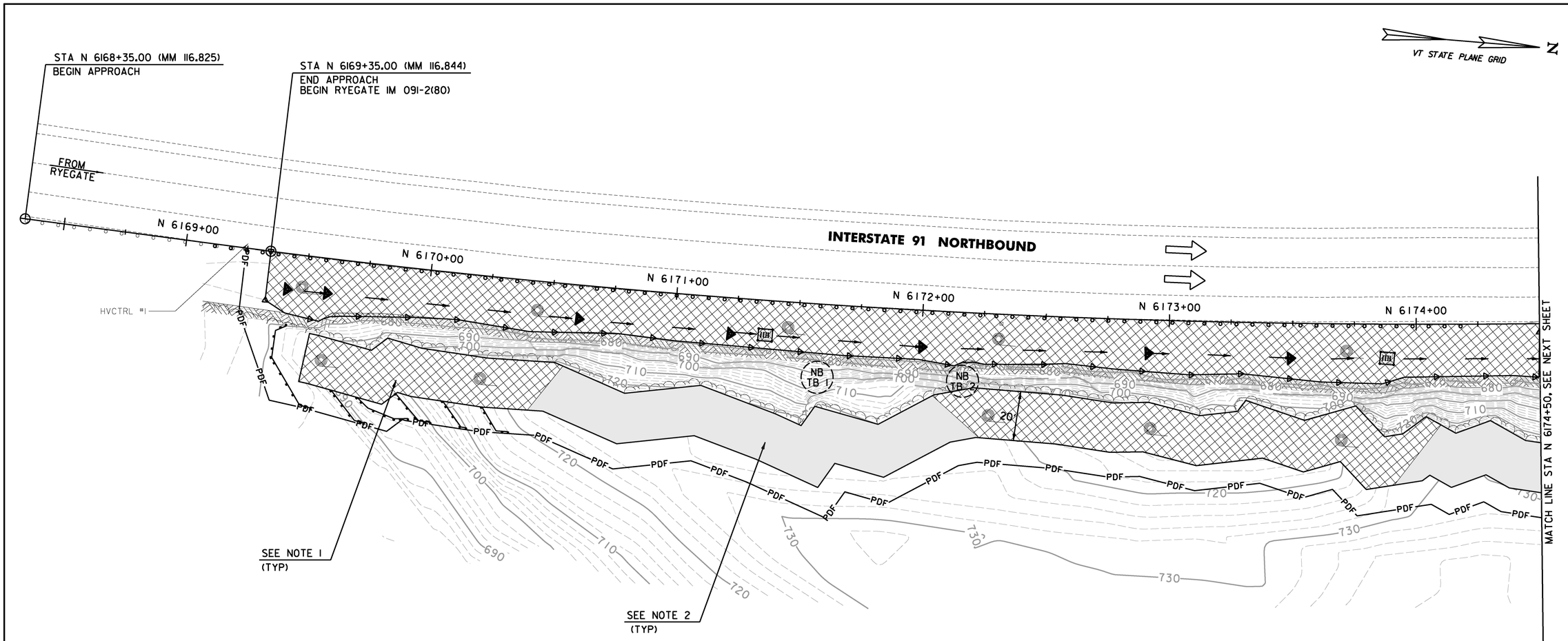

PROJECT DEMARCATION FENCE
STA N 6169+25.0 - STA N 6174+50.0 RT

TEMPORARY STONE CHECK DAM, TYPE I
STA N 6169+43.0 RT
STA N 6169+59.0 RT
STA N 6170+61.0 RT
STA N 6171+22.0 RT
STA N 6172+00.0 RT
STA N 6172+91.0 RT
STA N 6173+49.0 RT

TEMPORARY EROSION MATTING
STA N 6169+35.0 - STA N 6174+50.0 RT
STA N 6169+52.0 - STA N 6170+57.0 RT
STA N 6172+06.0 - STA N 6174+10.0 RT

SILT FENCE
STA N 6169+44.0 - STA N 6169+58.0 RT
STA N 6169+65.0 - STA N 6169+80.0 RT
STA N 6169+76.0 - STA N 6169+97.0 RT
STA N 6169+91.0 - STA N 6170+06.0 RT
STA N 6170+10.0 - STA N 6170+21.0 RT
STA N 6170+23.0 - STA N 6170+37.0 RT

INLET PROTECTION DEVICE, TYPE I
STA N 6171+36.9 RT
STA N 6173+88.3 RT

NOTES:
1. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREAS SHOWN WILL NEED TO BE REVEGETATED AND NEED PROTECTION WITH EROSION CONTROL MATTING DUE TO TREE REMOVAL OPERATIONS.

2. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREAS SHOWN WILL NEED TO BE REVEGETATED DUE TO TREE REMOVAL OPERATIONS.

EXISTING R.O.W.

LEGEND

- DIRECTION OF TRAFFIC
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER FABRIC DROP INLET PROTECTION
- STONE - CHECK DAM
- TRIM BLASTING LOCATION

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368bdr_ero.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC CONSTRUCTION PLAN SHEET 1	SHEET 23 OF 61

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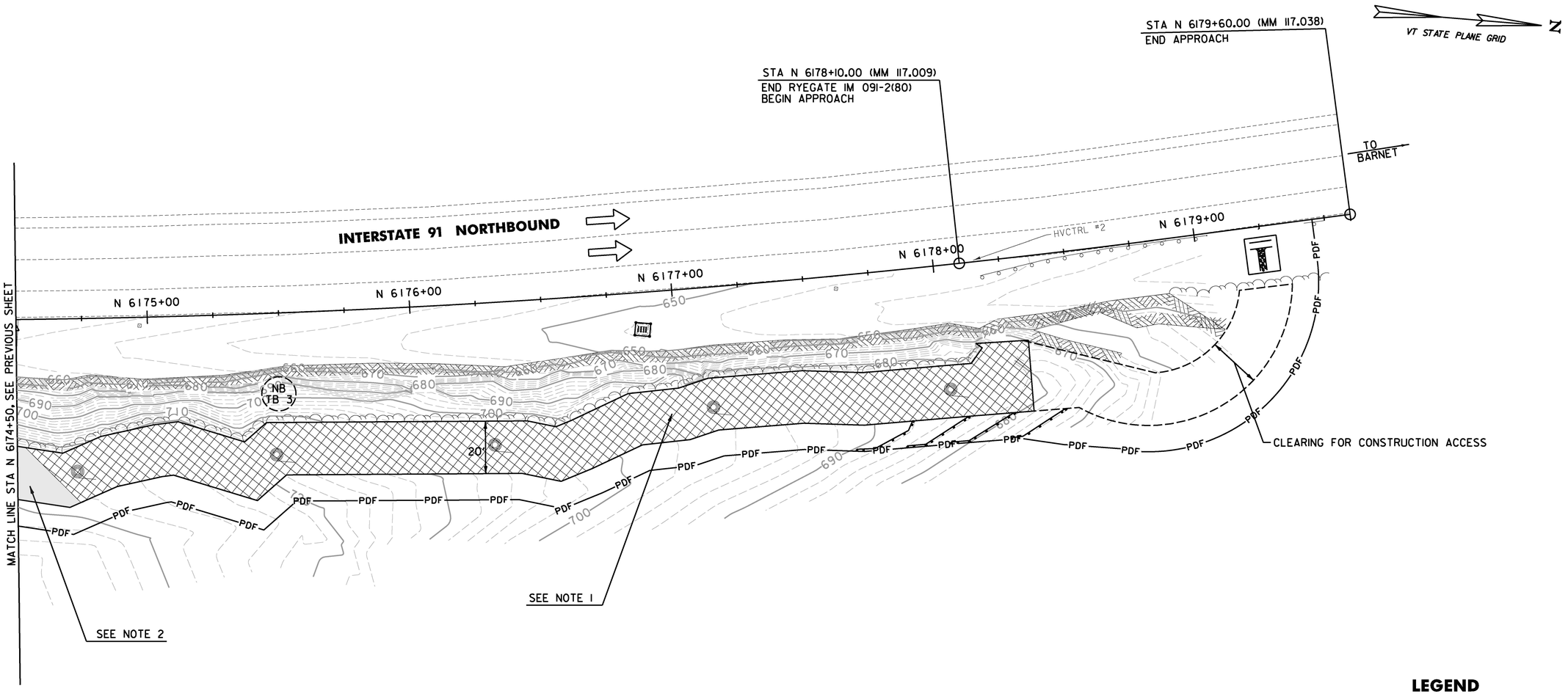

LEGEND

- DIRECTION OF TRAFFIC
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER FABRIC DROP INLET PROTECTION
- STONE - CHECK DAM
- TRIM BLASTING LOCATION

PROJECT DEMARCATION FENCE
STA N 6174+50.0 - STA N 6179+45.0 RT

TEMPORARY EROSION MATTING
STA N 6174+50.0 - STA N 6174+51.0 RT
STA N 6174+53.0 - STA N 6178+33.0 RT

SILT FENCE
STA N 6177+65.0 - STA N 6177+86.0 RT
STA N 6177+83.0 - STA N 6178+07.0 RT
STA N 6178+00.0 - STA N 6178+24.0 RT
STA N 6178+23.0 - STA N 6178+44.0 RT

VEHICLE TRACKING PAD
STA N 6179+25.0 RT

INLET PROTECTION DEVICE, TYPE I
STA N 6176+88.4 RT

NOTES:
1. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREA SHOWN WILL NEED TO BE REVEGETATED AND NEED PROTECTION WITH EROSION CONTROL MATTING DUE TO TREE REMOVAL OPERATIONS.
2. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREA SHOWN WILL NEED TO BE REVEGETATED DUE TO TREE REMOVAL OPERATIONS.

EXISTING R.O.W.

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC CONSTRUCTION PLAN SHEET 2

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 24 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero.dgn
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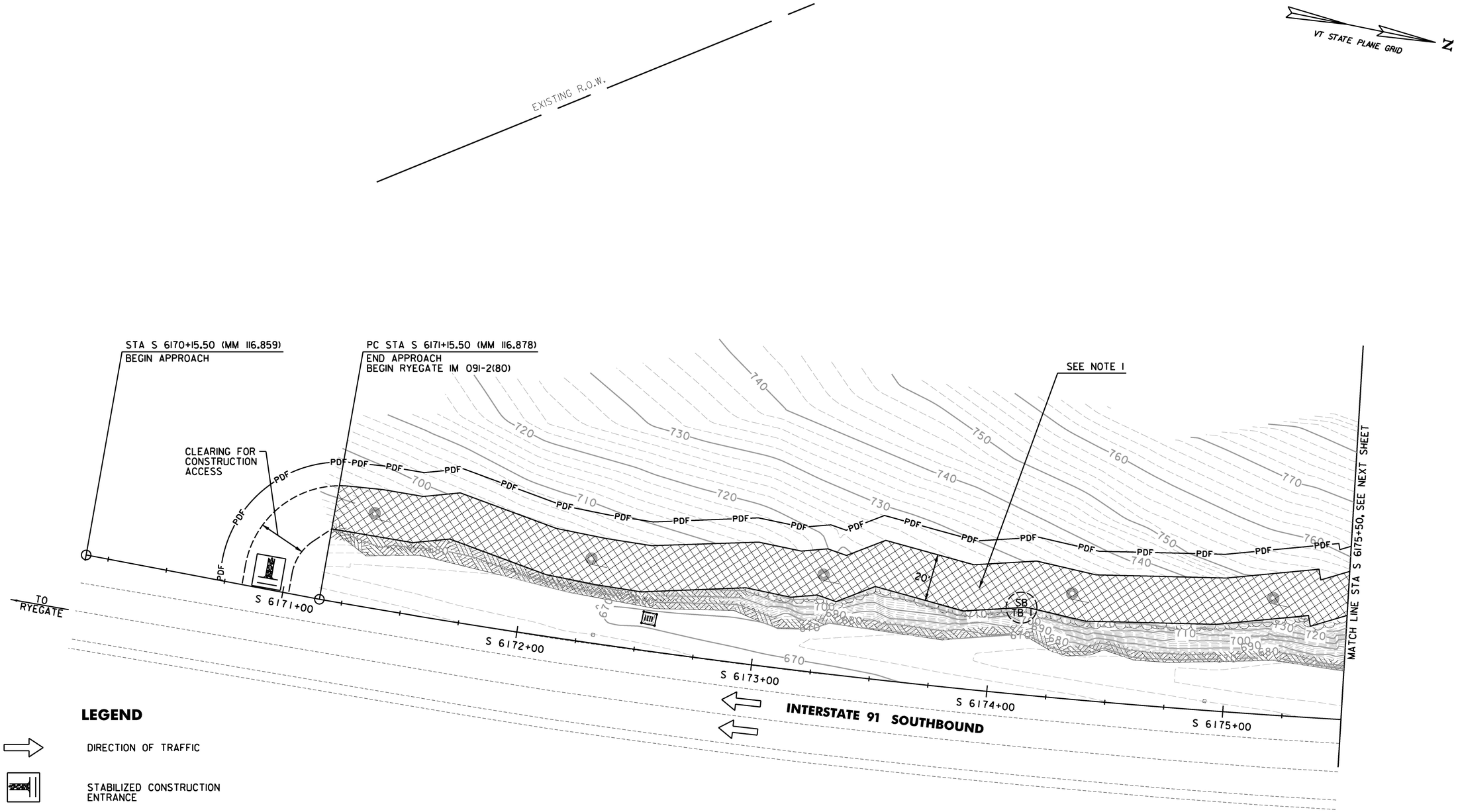


LEGEND

- DIRECTION OF TRAFFIC
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER FABRIC DROP INLET PROTECTION
- STONE - CHECK DAM
- TRIM BLASTING LOCATION

PROJECT DEMARCATION FENCE
STA S 6170+72.0 - STA S 6175+50.0 LT

VEHICLE TRACKING PAD
STA S 6170+93.0 LT

TEMPORARY EROSION MATTING
STA S 6171+15.50 - STA S 6175+50.0 LT

INLET PROTECTION DEVICE, TYPE I
STA S 6172+54.3 LT

NOTE:
1. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREA SHOWN WILL NEED TO BE REVEGETATED AND NEED PROTECTION WITH EROSION CONTROL MATTING DUE TO TREE REMOVAL OPERATIONS.

0 20 40
SCALE IN FEET

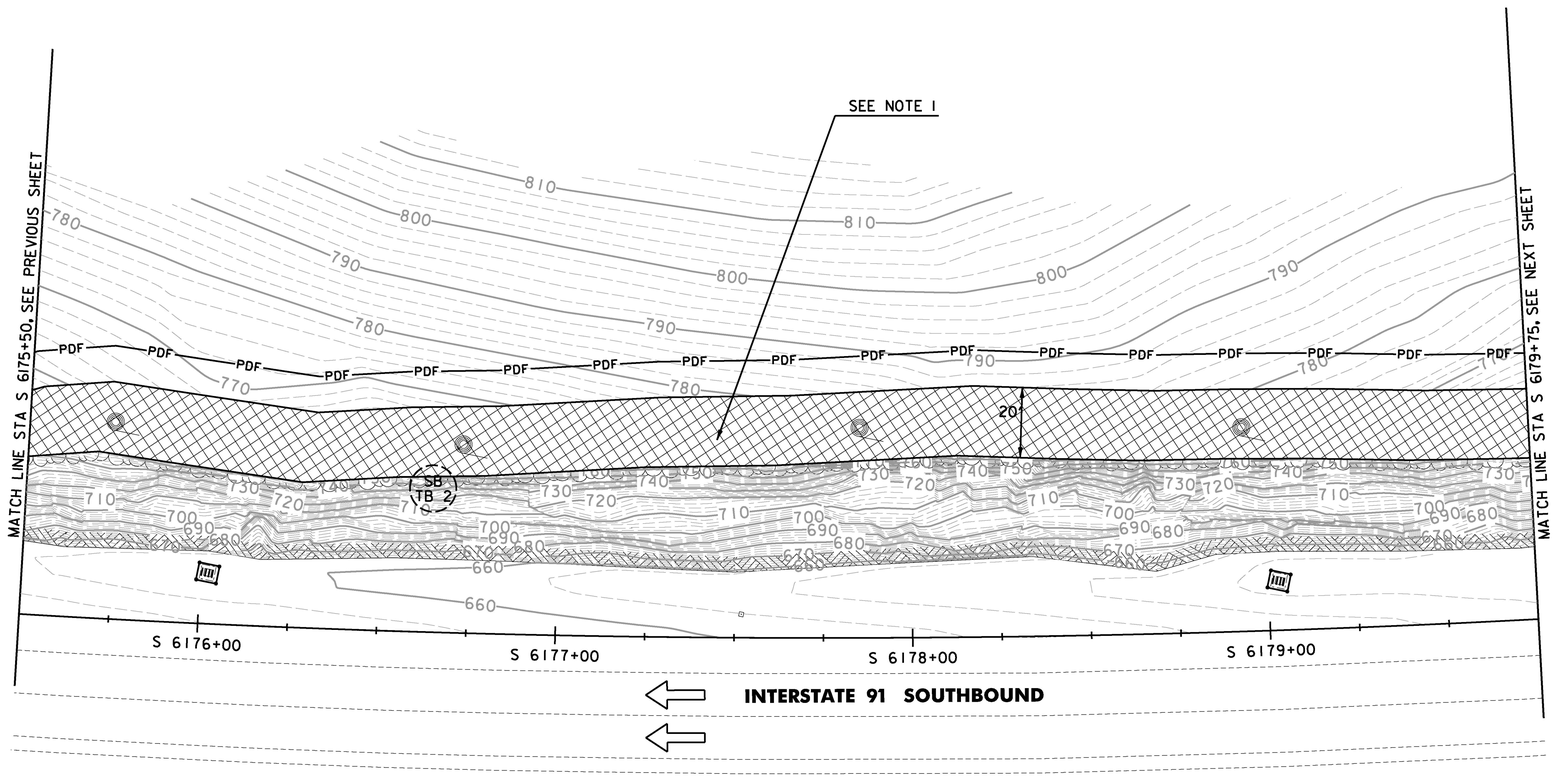
CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC CONSTRUCTION PLAN SHEET 3

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 25 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero.dgn
DATE/TIME = 3/30/2017
USER = SJG23



LEGEND

- DIRECTION OF TRAFFIC
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER FABRIC DROP INLET PROTECTION
- STONE - CHECK DAM
- TRIM BLASTING LOCATION

NOTE:
1. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREA SHOWN WILL NEED TO BE REVEGETATED AND NEED PROTECTION WITH EROSION CONTROL MATTING DUE TO TREE REMOVAL OPERATIONS.

PROJECT DEMARCATION FENCE
STA S 6175+50.0 - STA S 6179+75.0 LT

TEMPORARY EROSION MATTING
STA S 6175+50.0 - STA S 6179+75.0 LT

INLET PROTECTION DEVICE, TYPE I
STA S 6176+02.1 LT
STA S 6179+02.9 LT

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

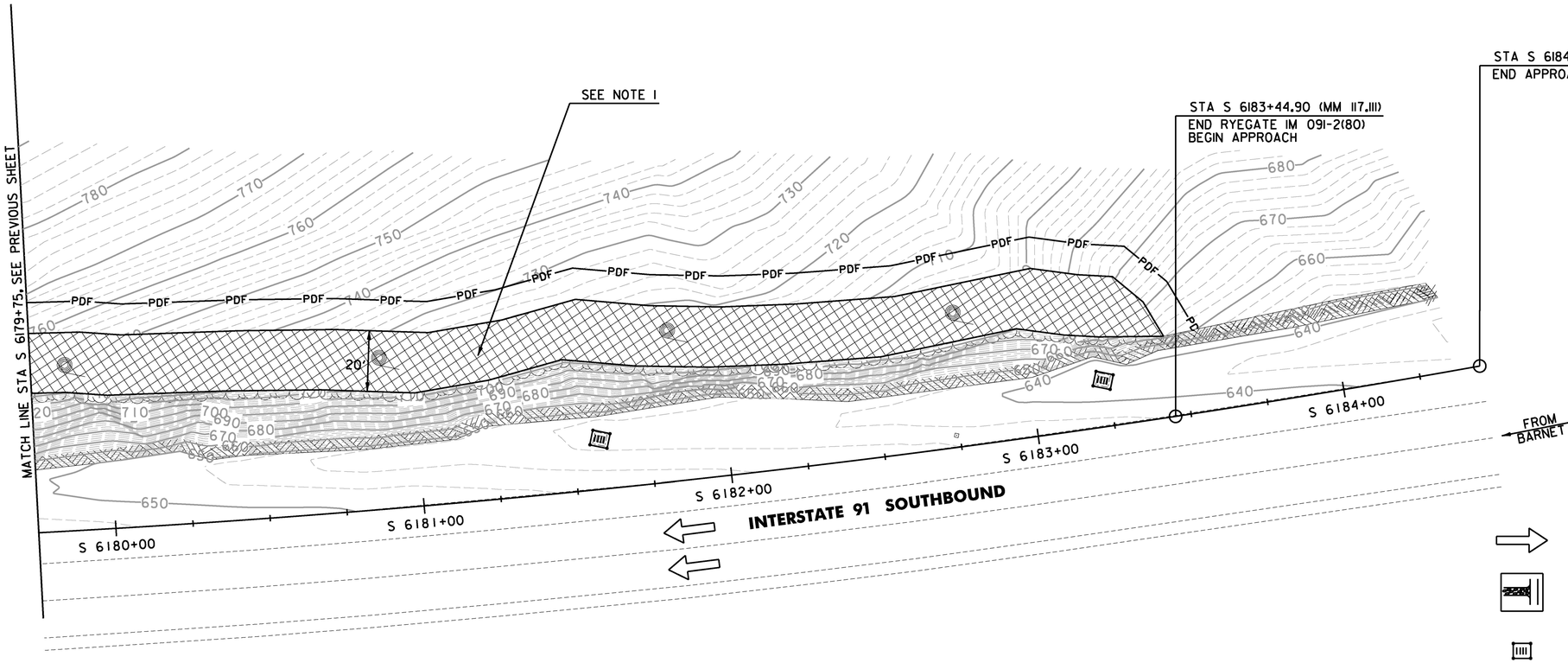
FILE NAME: zl3a368bdr_ero.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC CONSTRUCTION PLAN SHEET 4

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 26 OF 61

FILE NAME = W:\Projects\VMYVK4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368bdr_ero.dgn
DATE/TIME = 3/30/2017
USER = SJS23

VT STATE PLANE GRID

N



LEGEND

- DIRECTION OF TRAFFIC
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER FABRIC DROP INLET PROTECTION
- STONE - CHECK DAM
- TRIM BLASTING LOCATION

NOTE:
1. FOR ESTIMATING PURPOSES ASSUME 25% OF THE AREA SHOWN WILL NEED TO BE REVEGETATED AND NEED PROTECTION WITH EROSION CONTROL MATTING DUE TO TREE REMOVAL OPERATIONS.

PROJECT DEMARCATION FENCE
STA S 6179+75.0 - STA S 6183+55.0 LT

TEMPORARY EROSION MATTING
STA S 6179+75.0 - STA S 6183+45.0 LT

INLET PROTECTION DEVICE, TYPE I
STA S 6181+58.7 LT
STA S 6183+23.4 LT

0 20 40
SCALE IN FEET

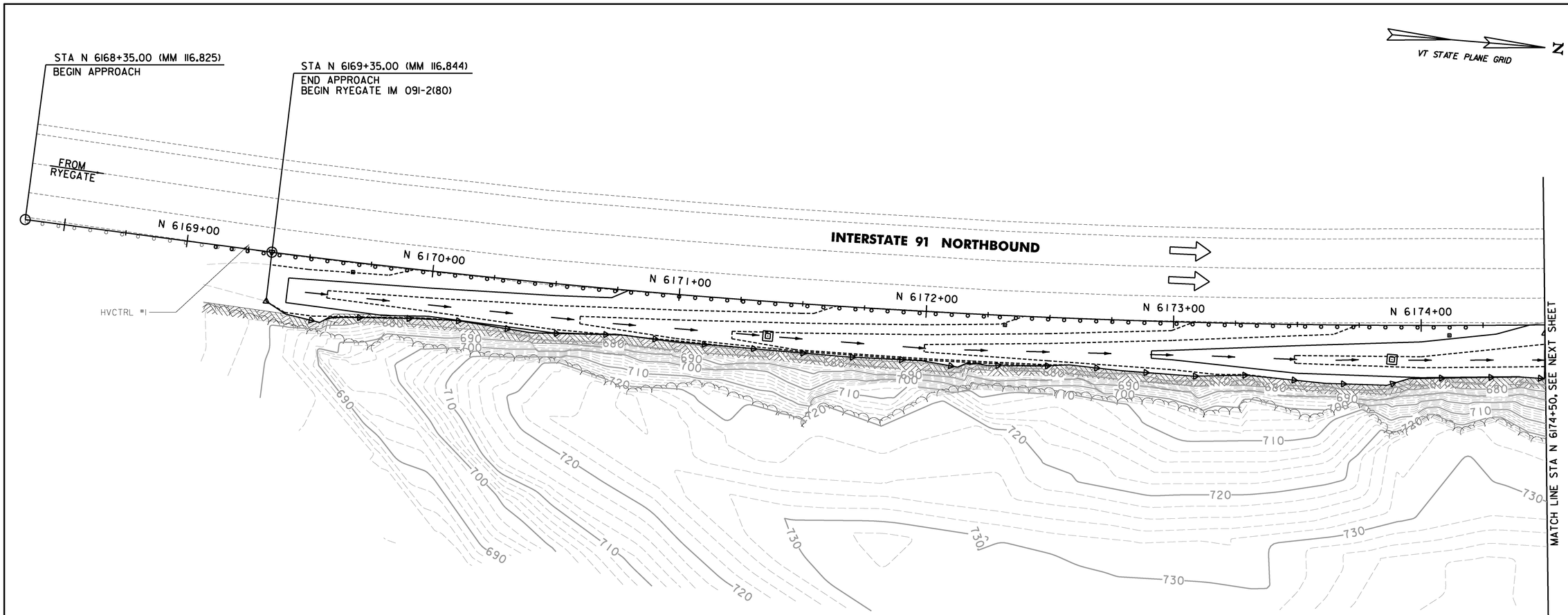
CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC CONSTRUCTION PLAN SHEET 5

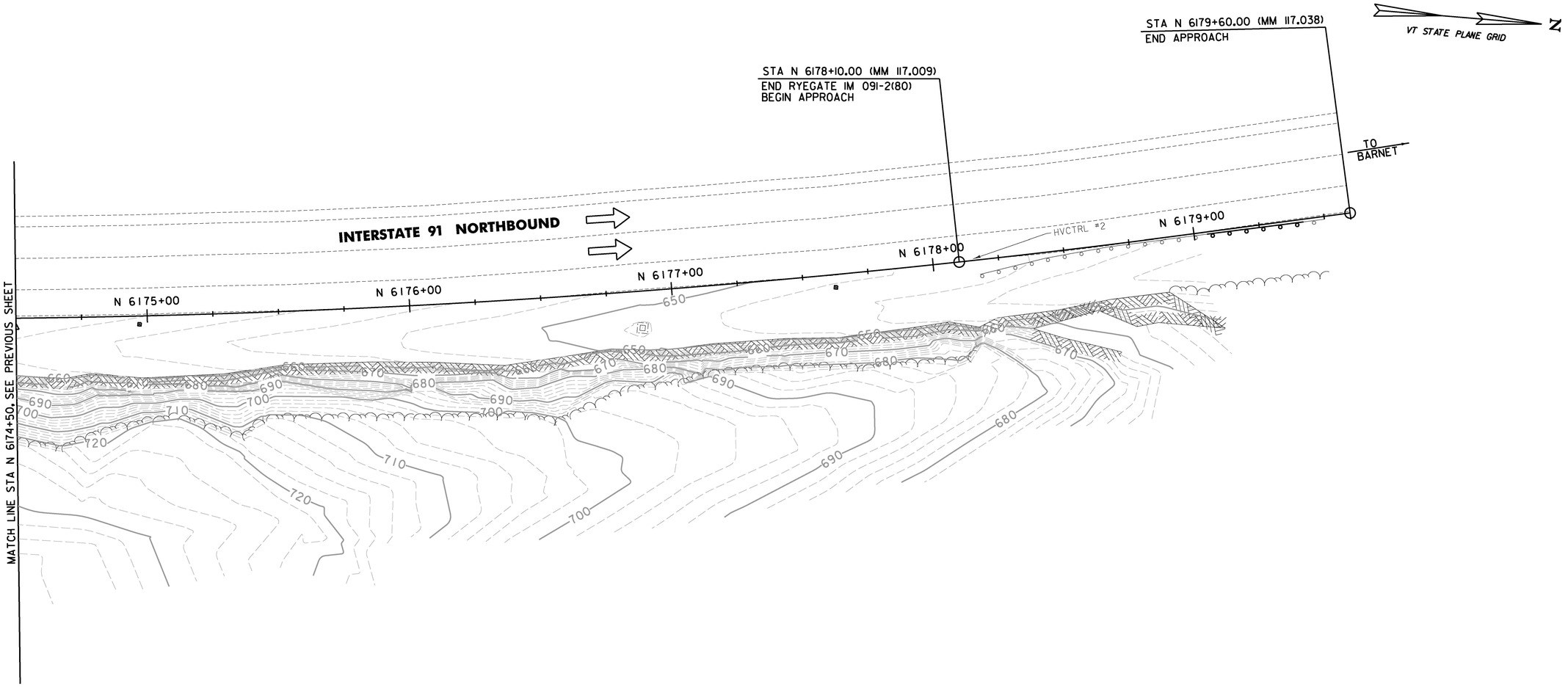
PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 27 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero.dgn
DATE/TIME = 3/30/2017
USER = sjg



PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr_ero_fin.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC FINAL PLAN SHEET I	SHEET 28 OF 61

FILE NAME = V:\Projects\ANY\KA\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero_fin.dgn
DATE/TIME = 3/30/2017
USER = SJS



PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368bdr_ero_fin.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC FINAL PLAN SHEET 2	SHEET 29 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero_fin.dgn
DATE/TIME = 3/30/2017
USER = SJG23

VT STATE PLANE GRID

N

EXISTING R.O.W.

STA S 6170+15.50 (MM 116.859)
BEGIN APPROACH

PC STA S 6171+15.50 (MM 116.878)
END APPROACH
BEGIN RYEGATE IM 091-2(80)

TO RYEGATE

S 6171+00

S 6172+00

S 6173+00

S 6174+00

S 6175+00

INTERSTATE 91 SOUTHBOUND

MATCH LINE STA S 6175+50, SEE NEXT SHEET

0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368bdr_ero_fin.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC FINAL PLAN SHEET 3	SHEET 30 OF 61

FILE NAME = W:\Projects\ANY\VK4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368bdr_ero_fin.dgn
DATE/TIME = 3/30/2017
USER = sjs

VT STATE PLANE GRID

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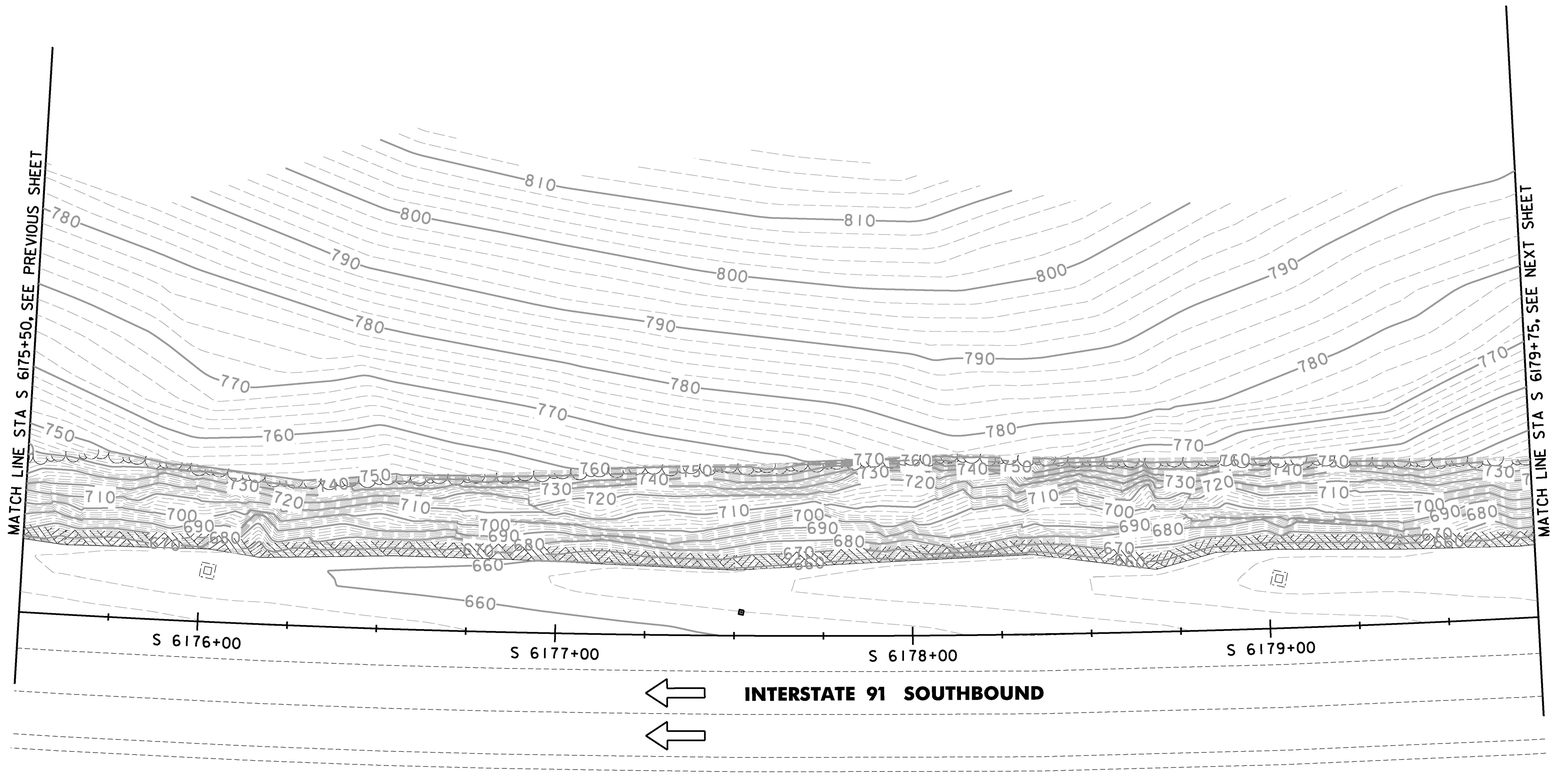


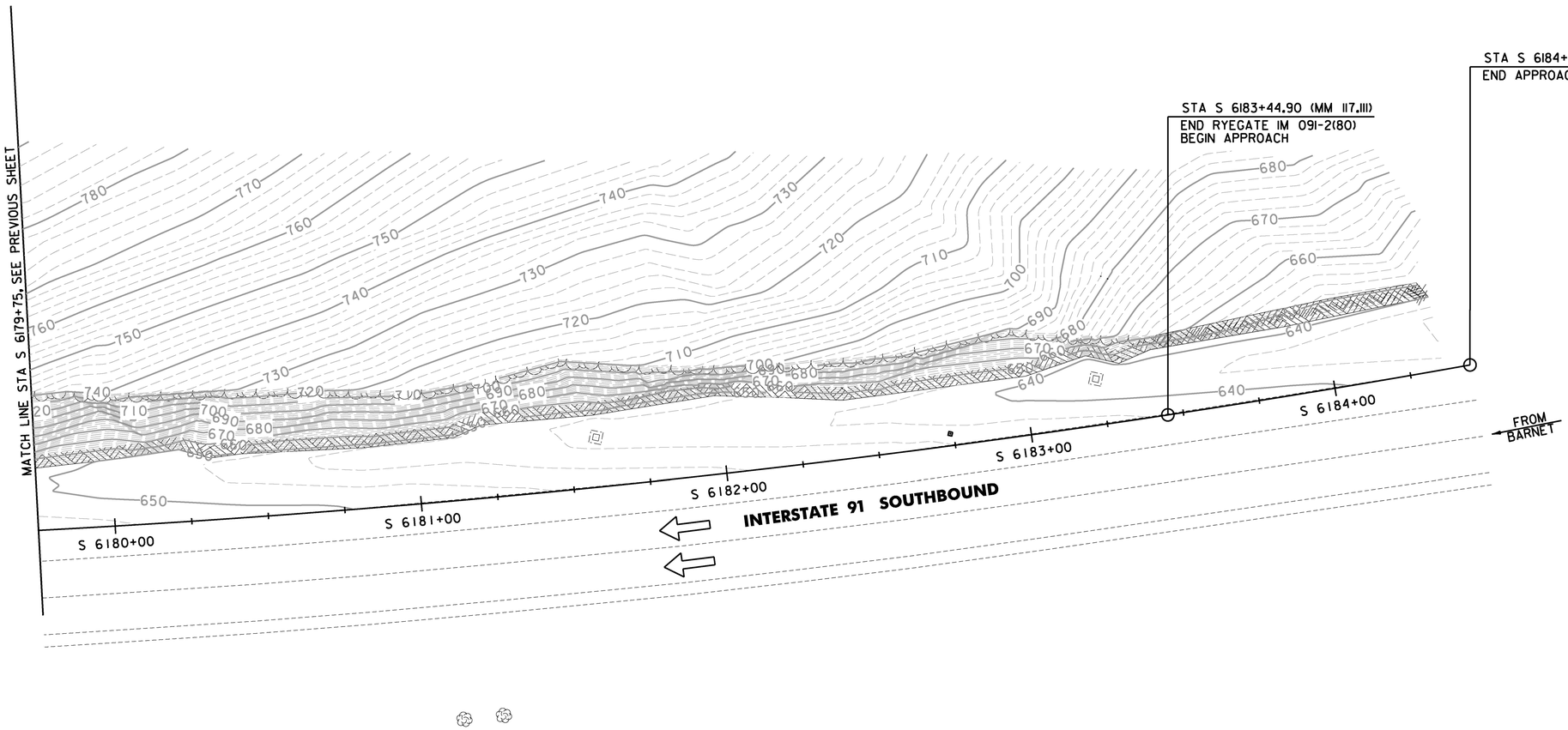
0 20 40

SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr_ero_fin.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC FINAL PLAN SHEET 4	SHEET 31 OF 61

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero_fin.dgn
DATE/TIME = 3/30/2017
USER = SJS23



0 20 40
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368bdr_ero_fin.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC FINAL PLAN SHEET 5	SHEET 32 OF 61

FILE NAME = V:\Projects\ANYX4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368bdr_ero_fin.dgn
DATE/TIME = 3/30/2017
USER = SJG23

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				

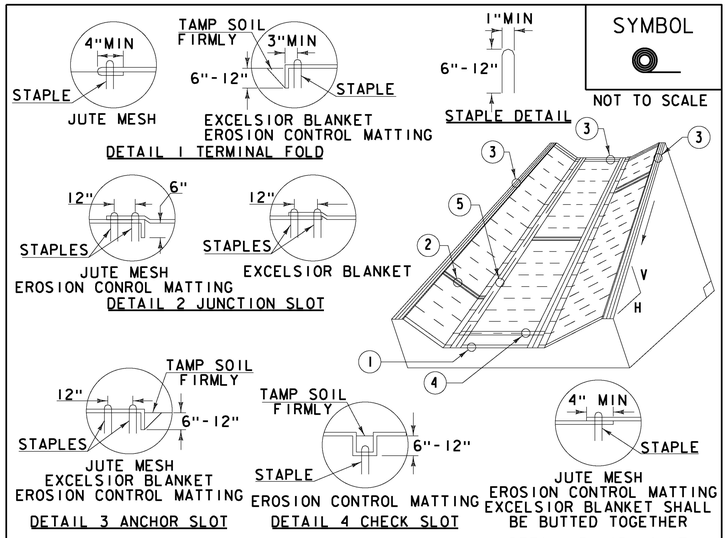
GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

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



SYMBOL

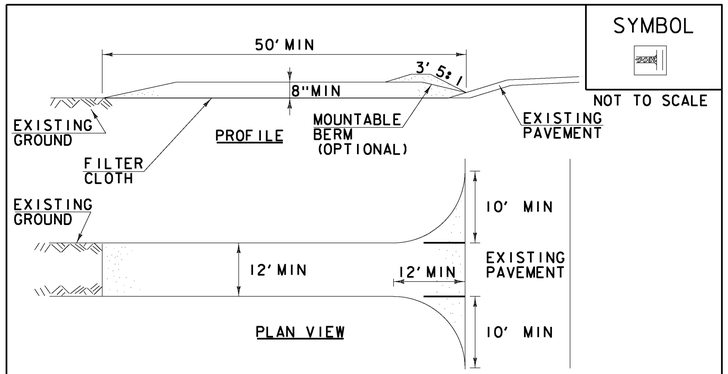
NOT TO SCALE

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. 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.	

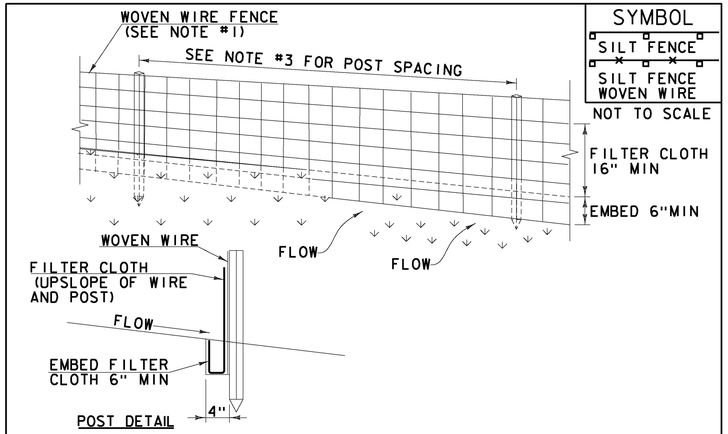
REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

NOT TO SCALE

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368ecd.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC DETAILS SHEET 1	SHEET 33 OF 61

CHA

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368ecd.dgn
DATE/TIME = 3/30/2017
USER = 5323



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

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.

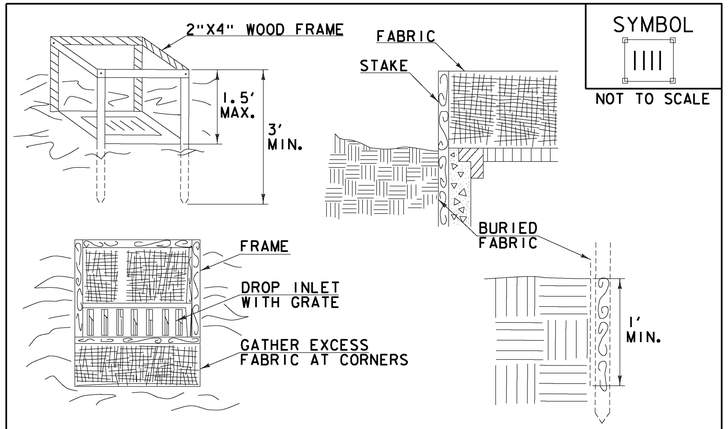
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



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

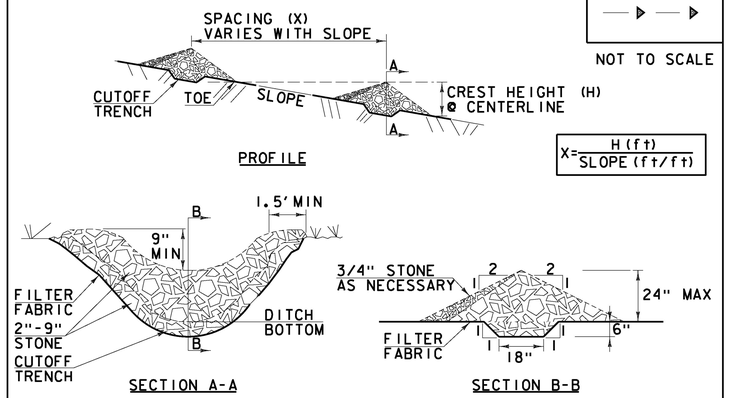
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

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

NOT TO SCALE

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368ecd.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
EPSC DETAILS SHEET 2

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 34 OF 61

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FILE NAME = V:\Projects\ANY\X4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368ecd.dgn
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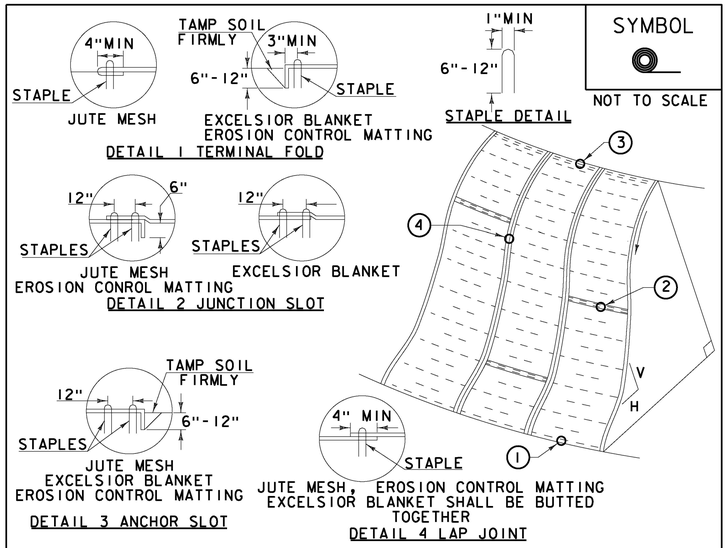
USER = 5323



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: IV 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

NOT TO SCALE

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368ecd.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
EPSC DETAILS SHEET 3	SHEET 35 OF 61

CHA

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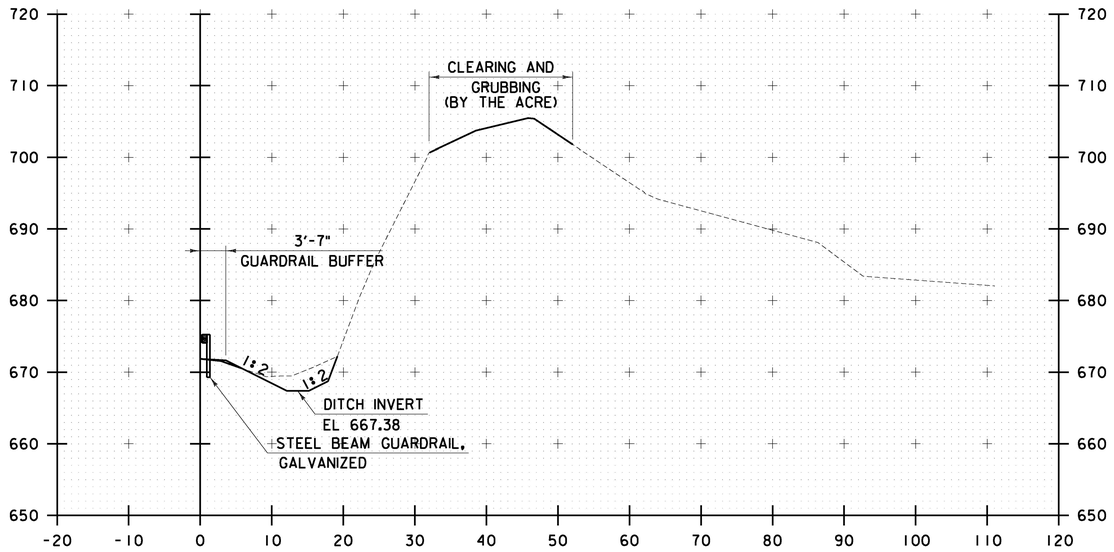
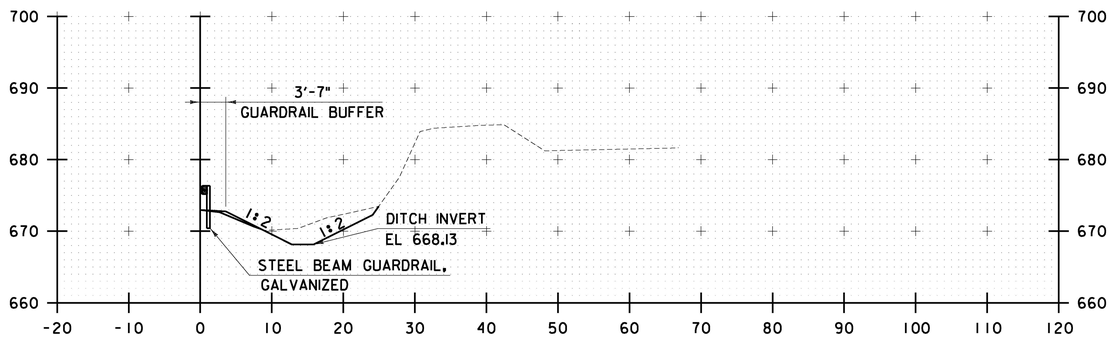
USER = S323



N 6170+00



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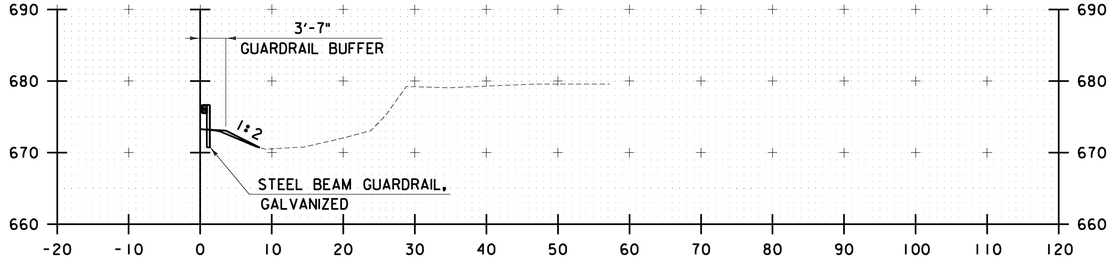

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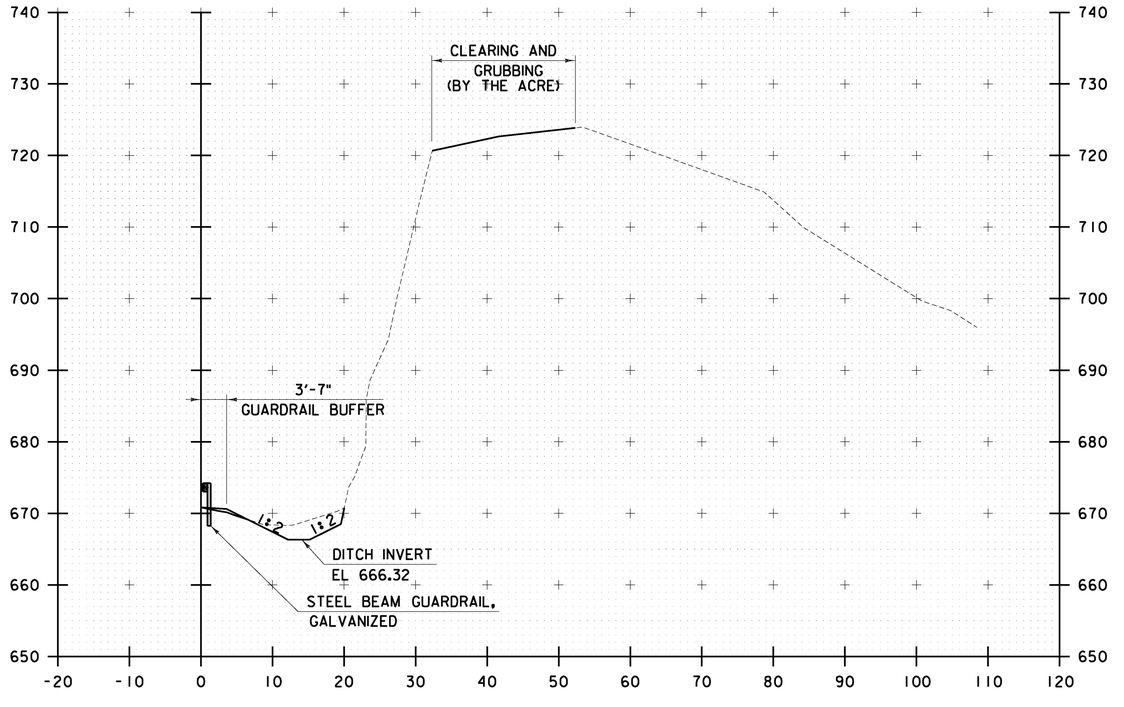
DITCH ZERO EXCAVATION



N 6170+50

STA. N 6169+35 TO STA. N 6170+50

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SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 1	SHEET 36 OF 61

CHA

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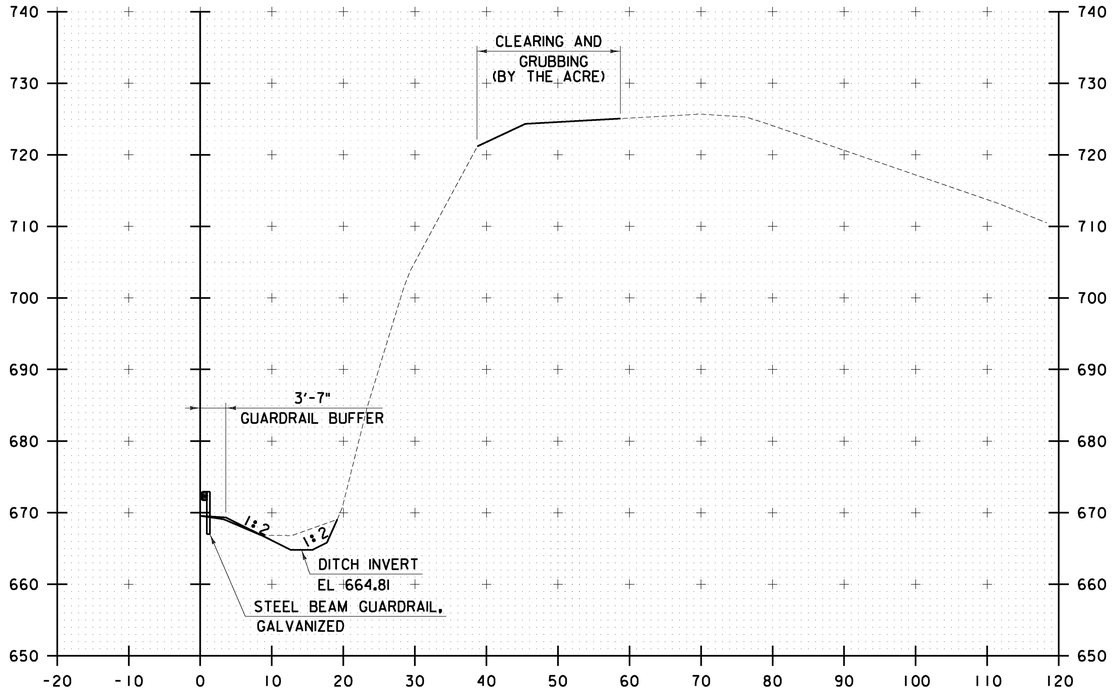
DATE/TIME = 3/30/2017
USER = SJS23



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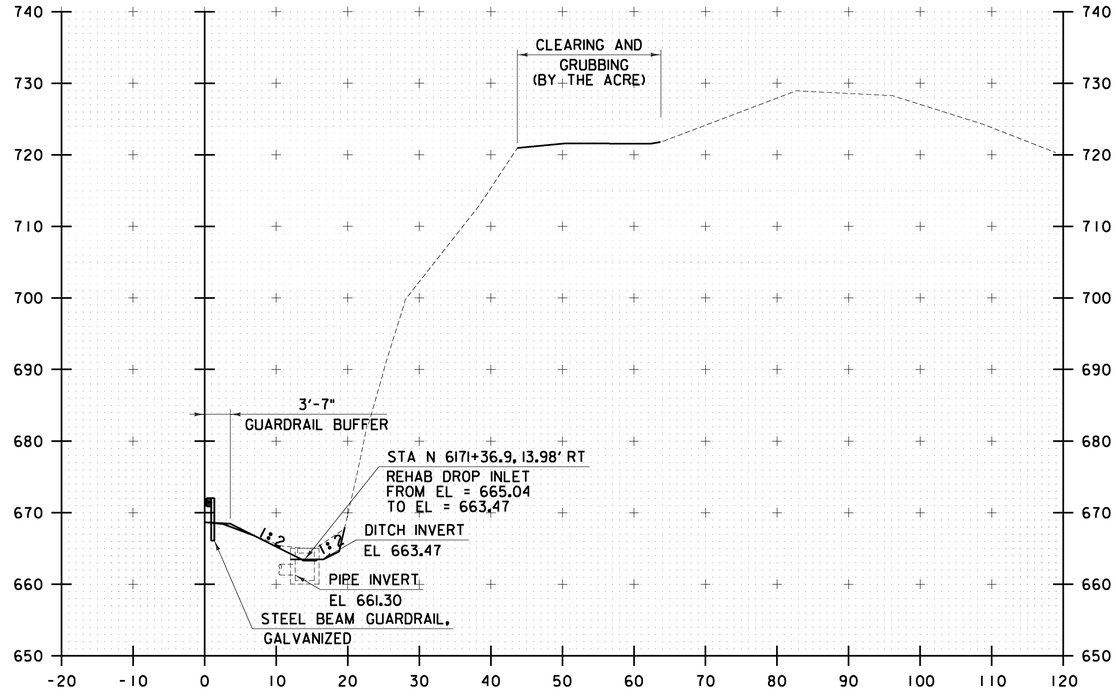

N 6171+36.9

STA. N 6171+00 TO STA. N 6171+36.9

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 2

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 37 OF 61

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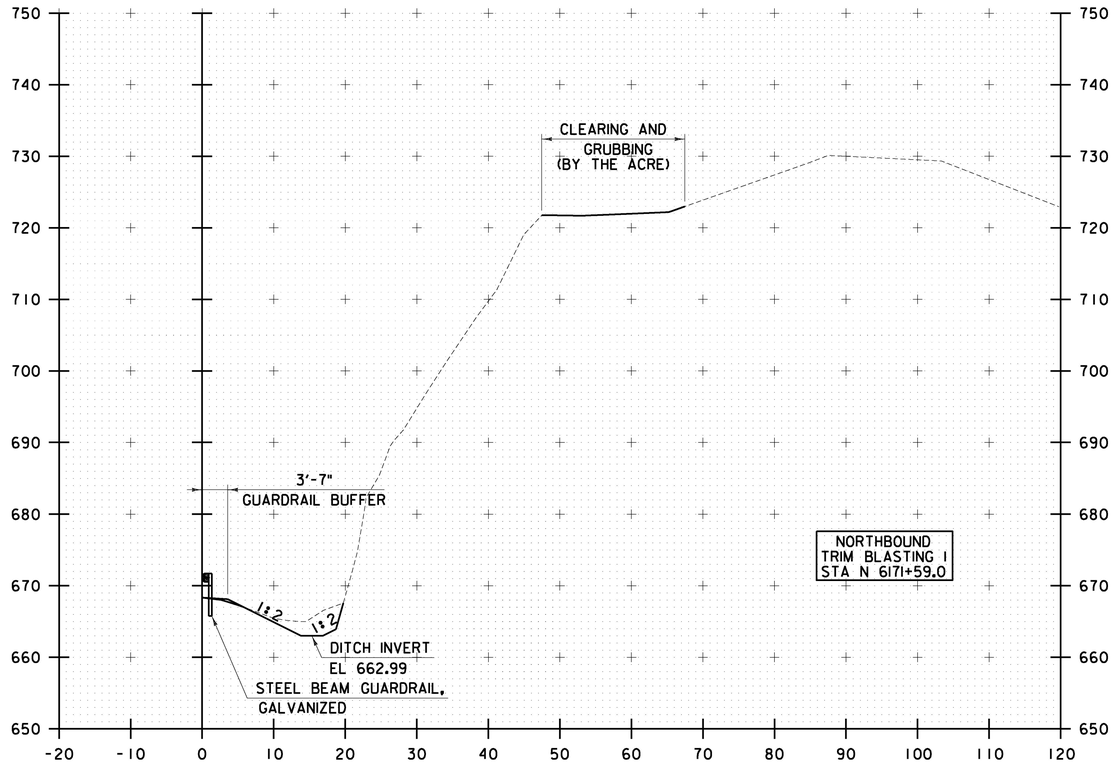

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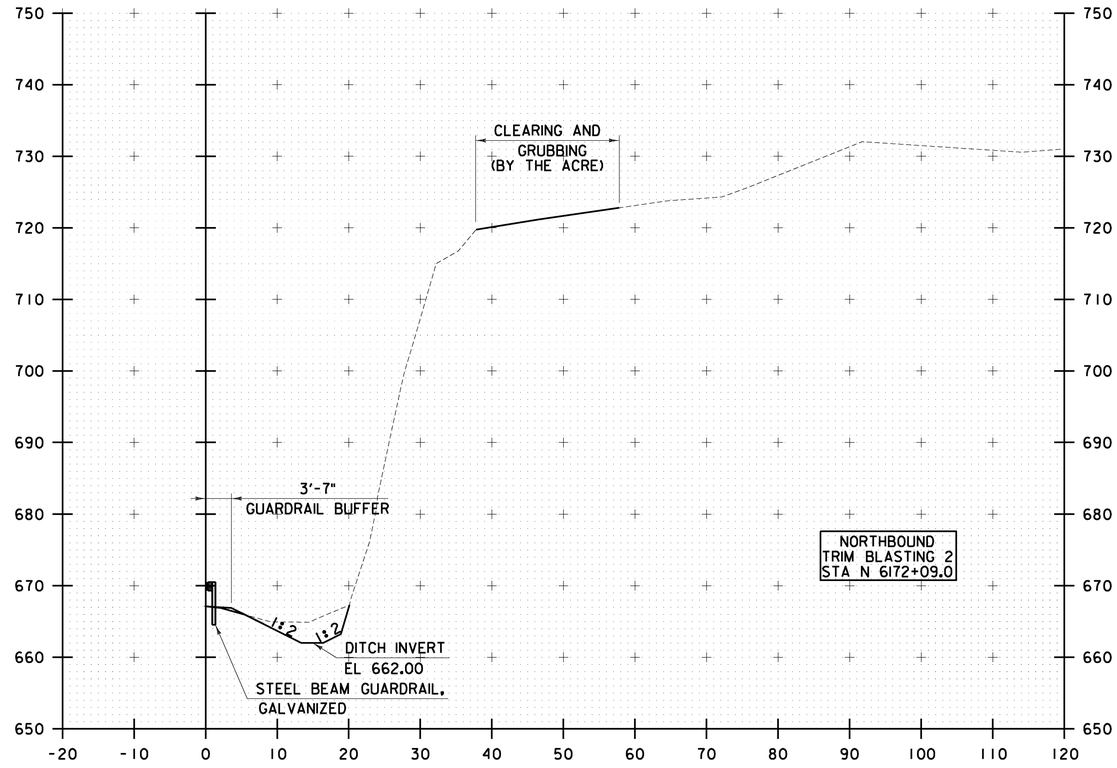

N 6172+00

STA. N 6171+50 TO STA. N 6172+00

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 3	SHEET 38 OF 61

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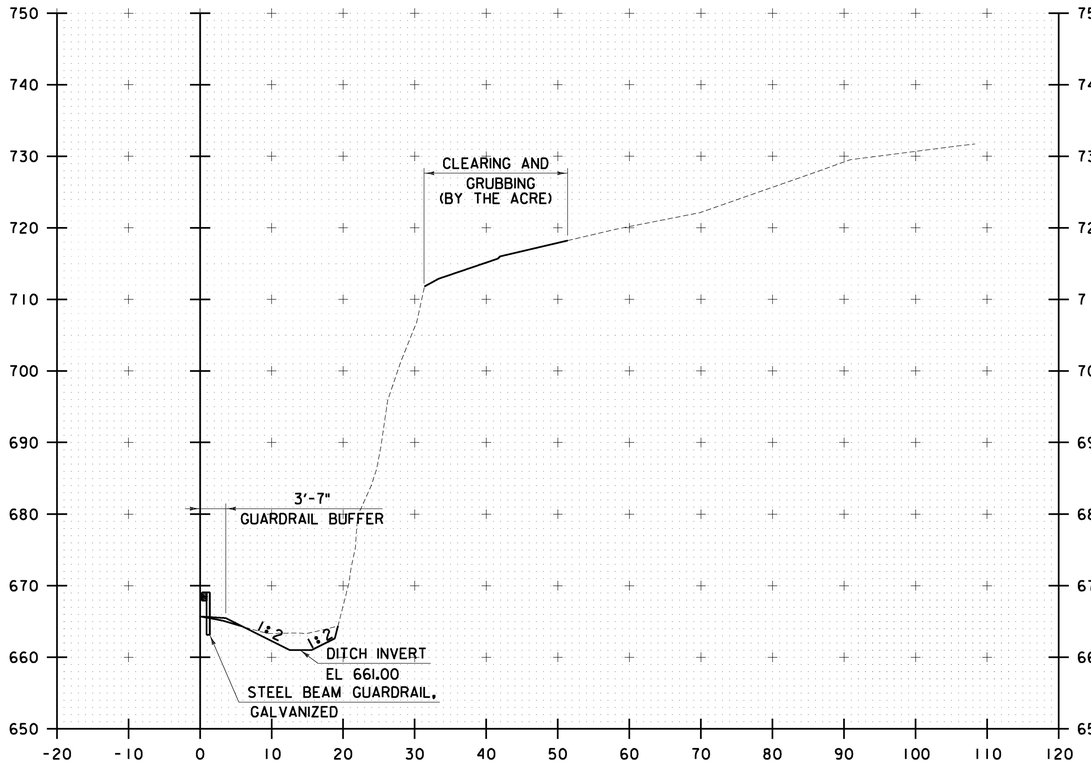

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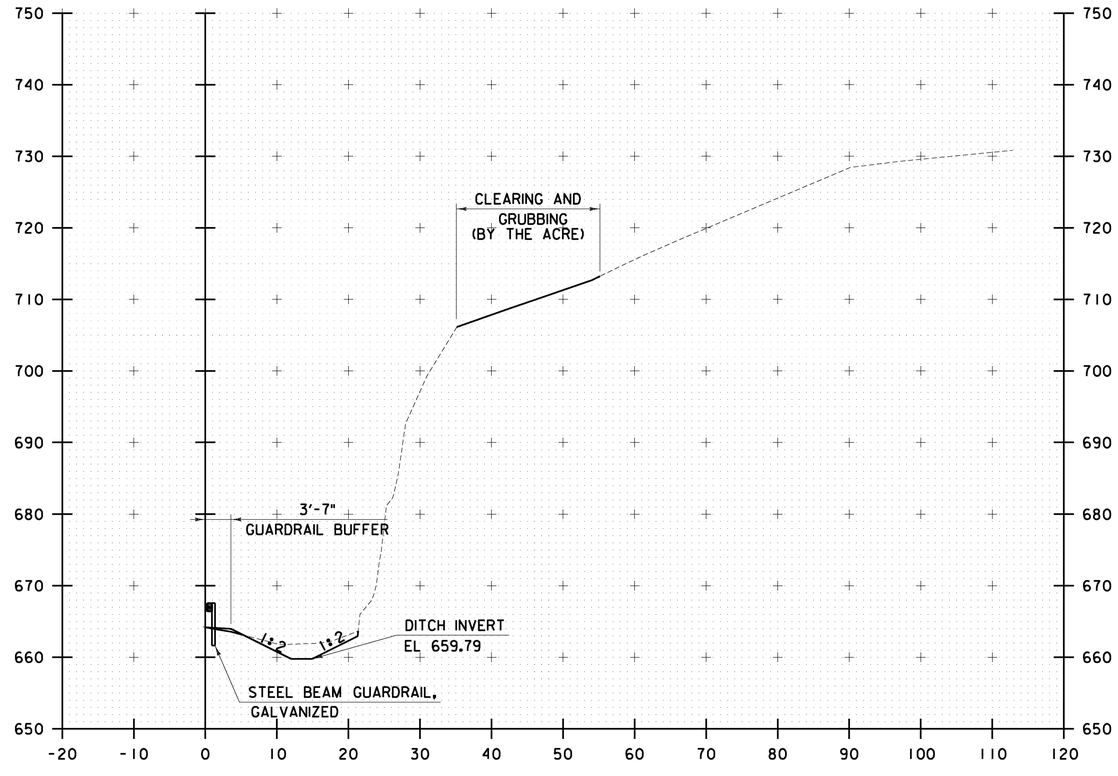

N 6173+00

STA. N 6172+50 TO STA. N 6173+00

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 4	SHEET 39 OF 61

CHA

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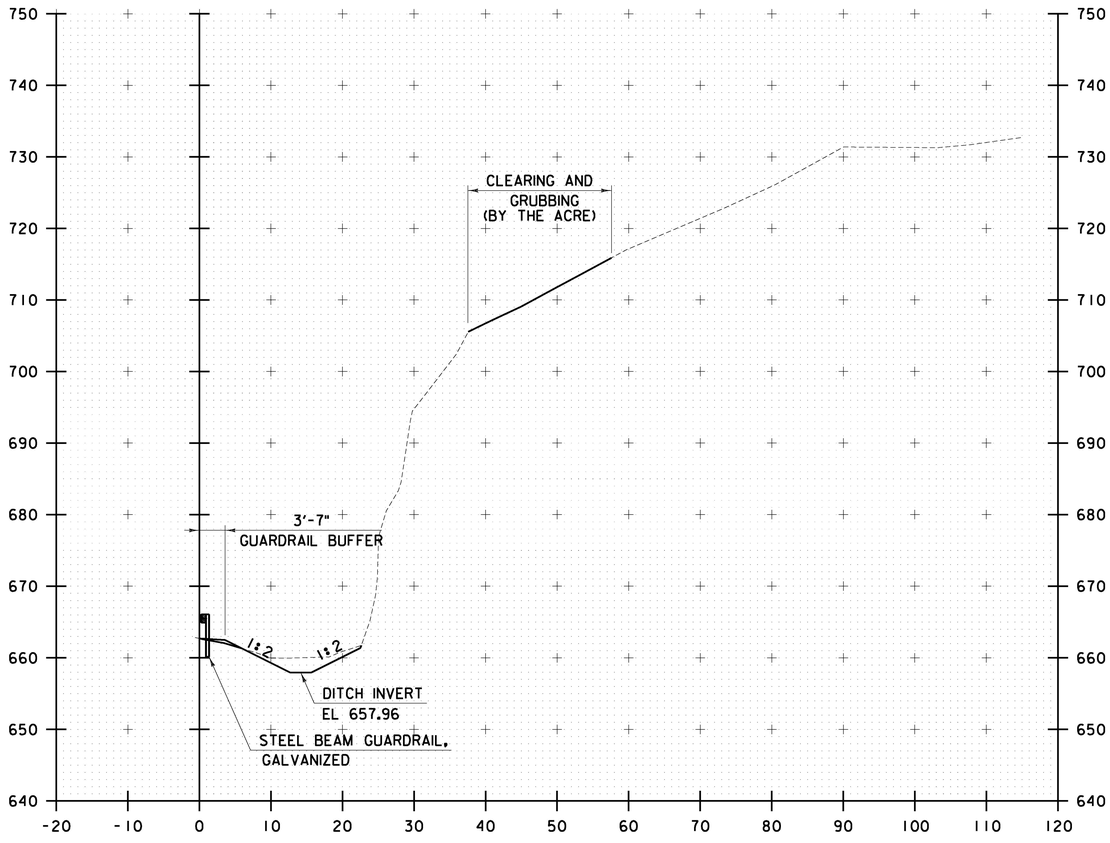

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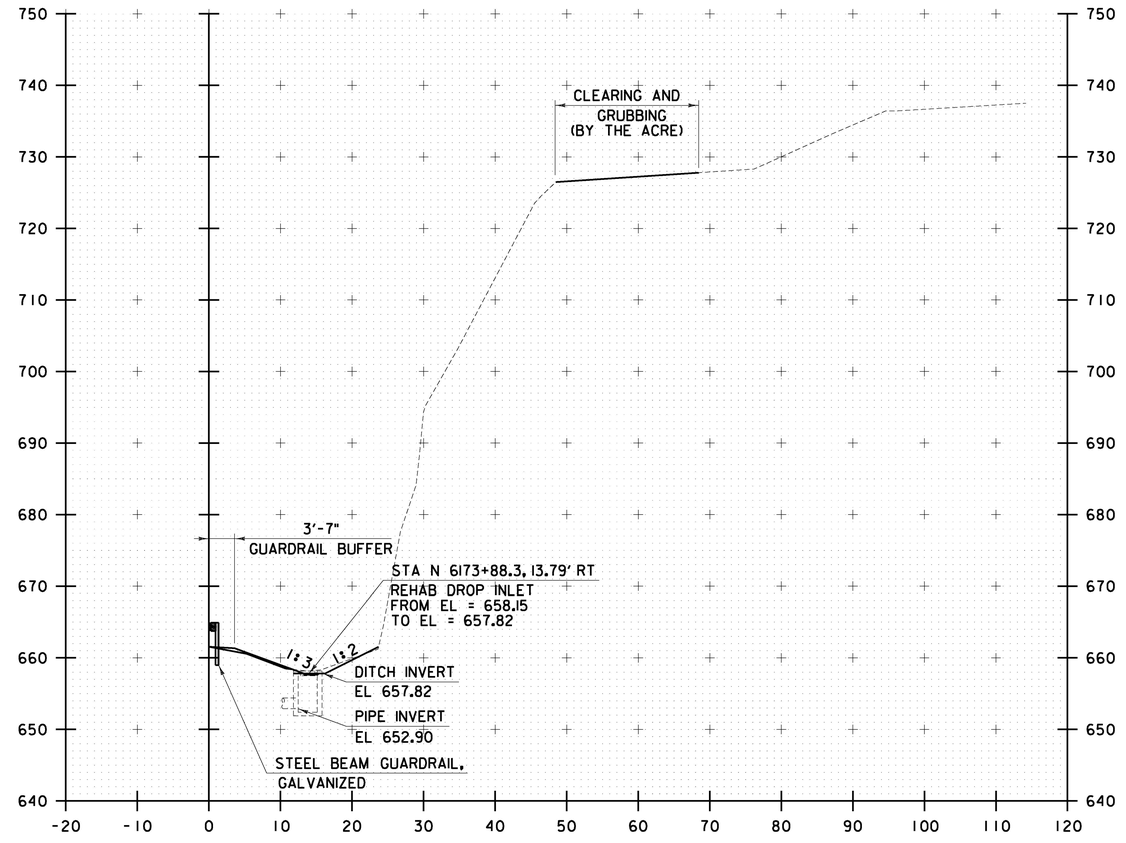

N 6173+88.3

STA. N 6173+50 TO STA. N 6173+88.3

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 5	SHEET 40 OF 61

CHA

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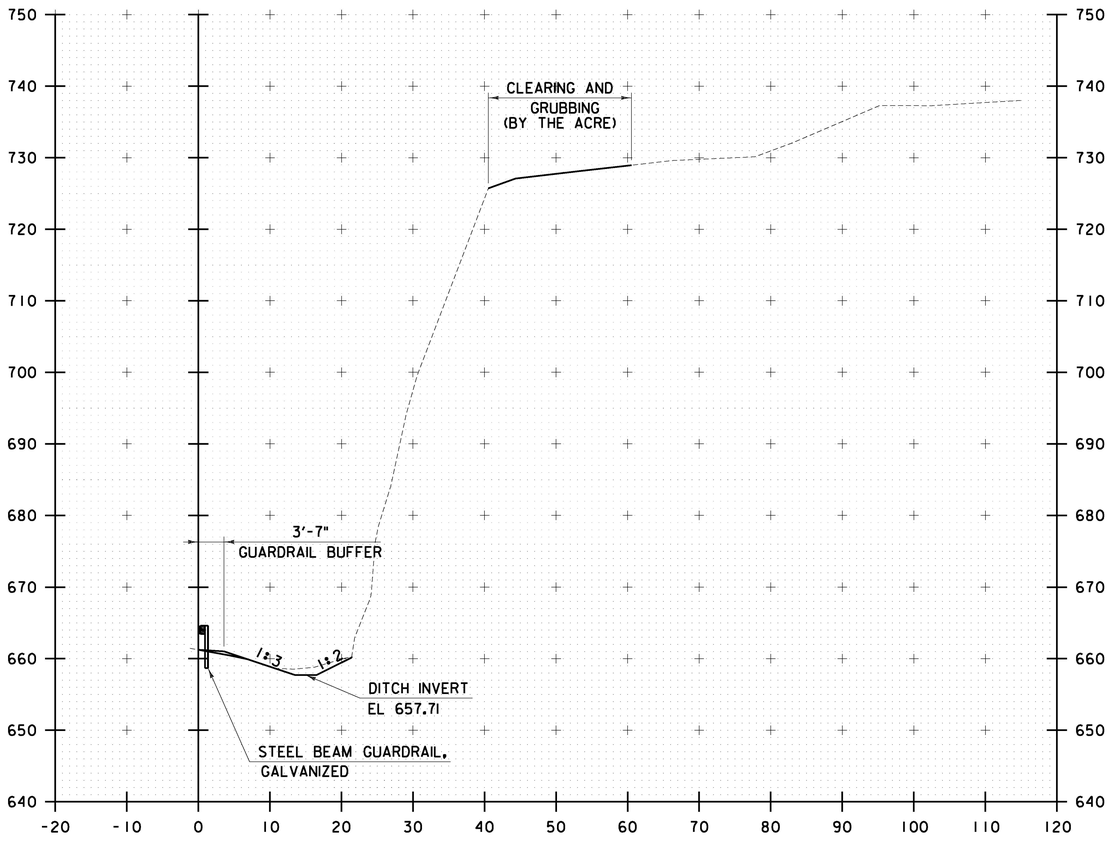

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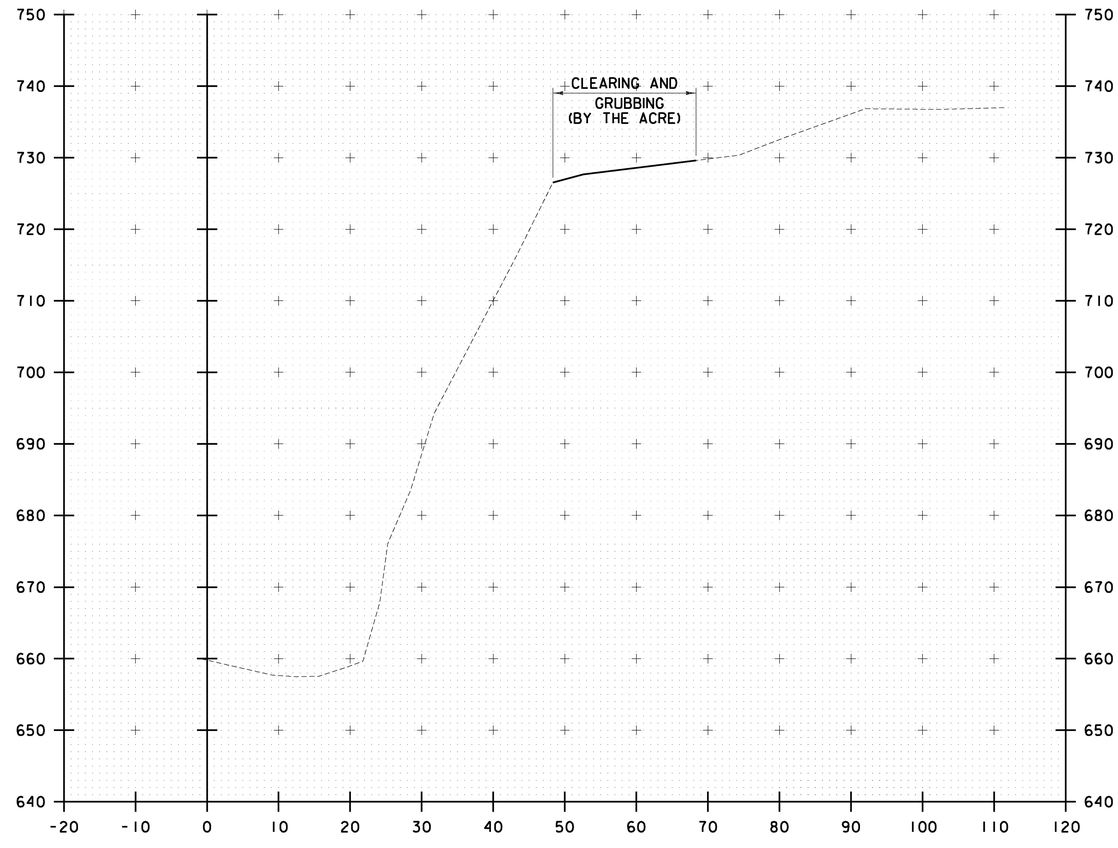

N 6174+50

DITCH ZERO EXCAVATION

STA. N 6174+00 TO STA. N 6174+50

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 6	SHEET 41 OF 61

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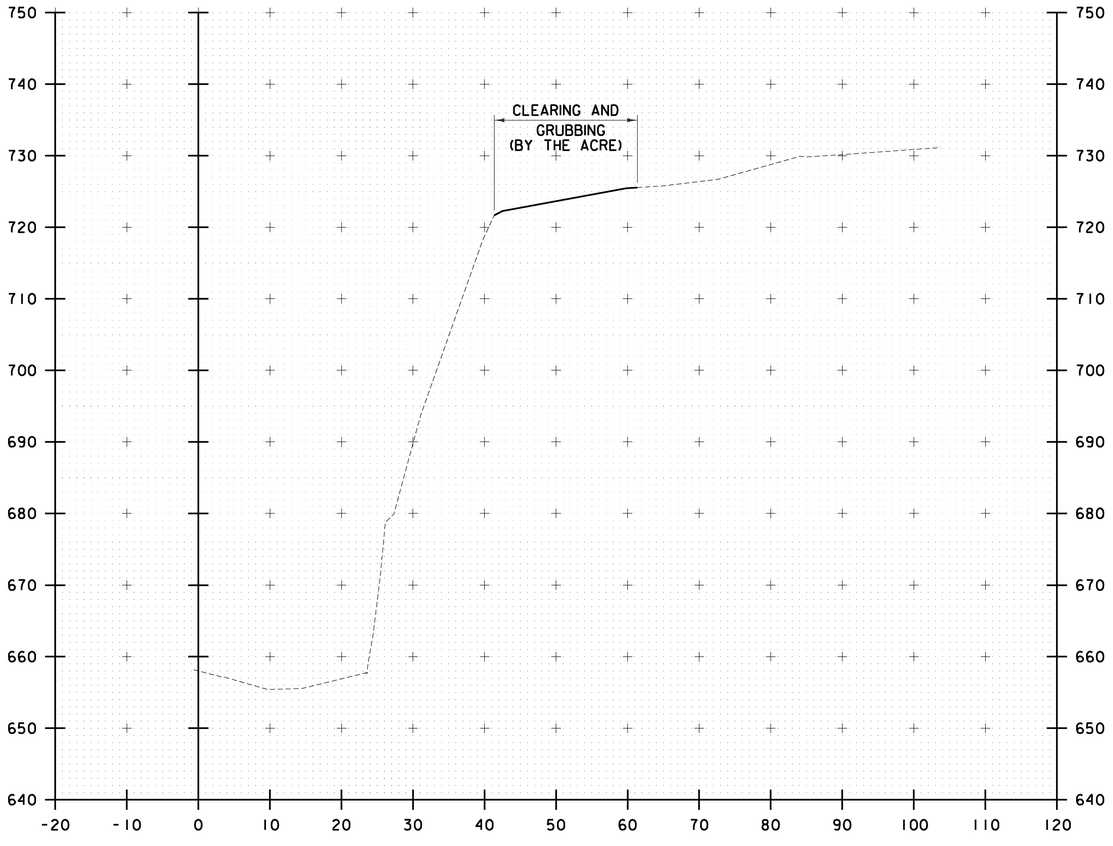
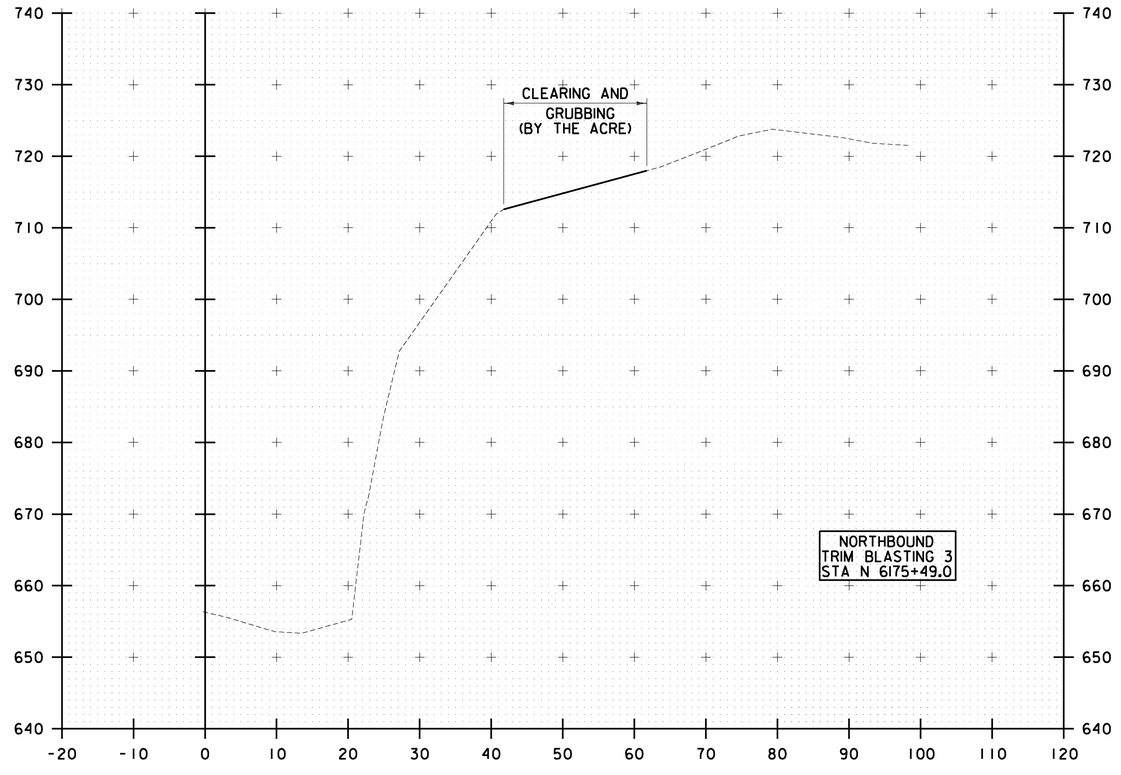


N 6175+00



N 6175+50

STA. N 6175+00 TO STA. N 6175+50

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 7

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 42 OF 61

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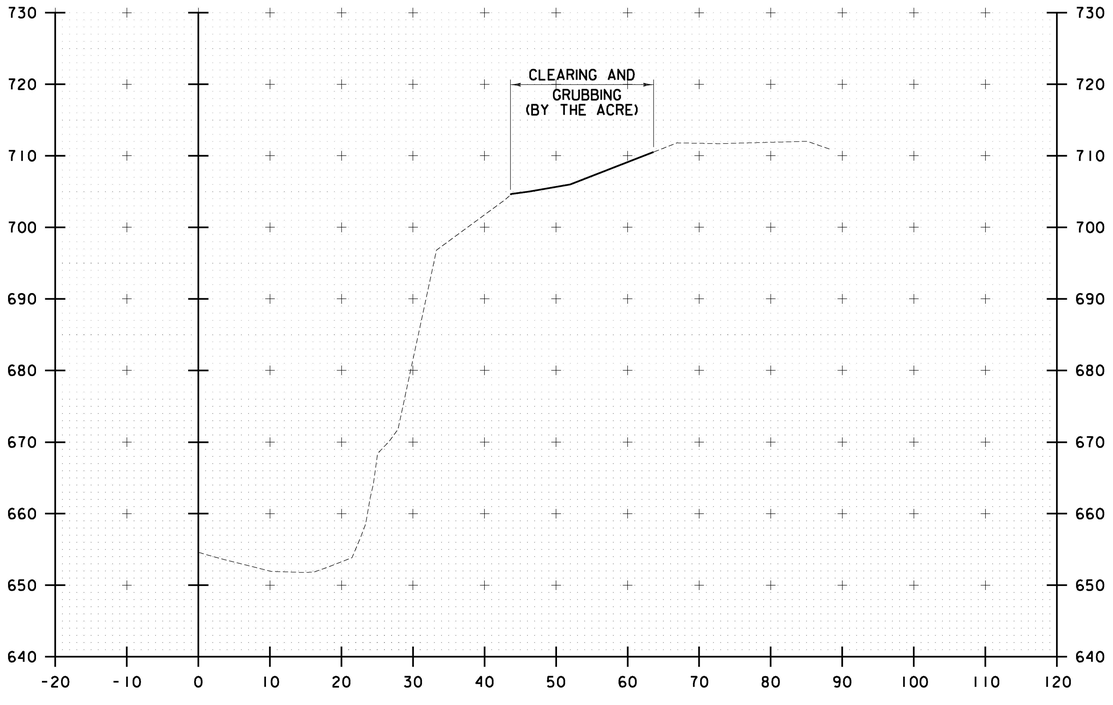
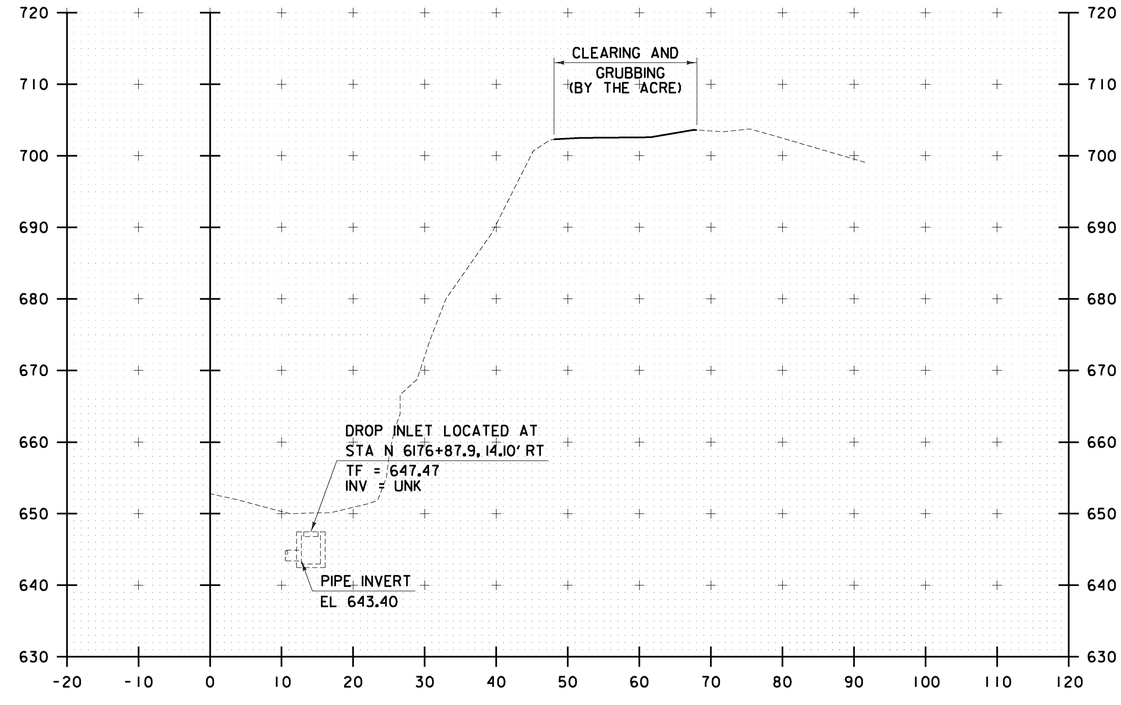


N 6176+00



N 6176+50

STA. N 6176+00 TO STA. N 6176+50

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 8	SHEET 43 OF 61

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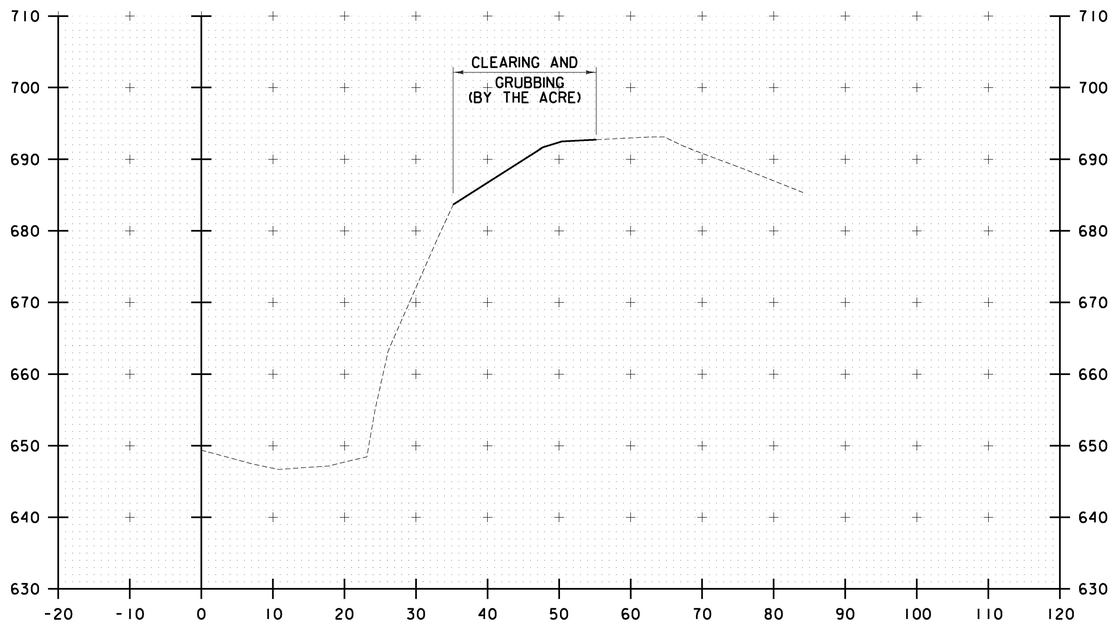
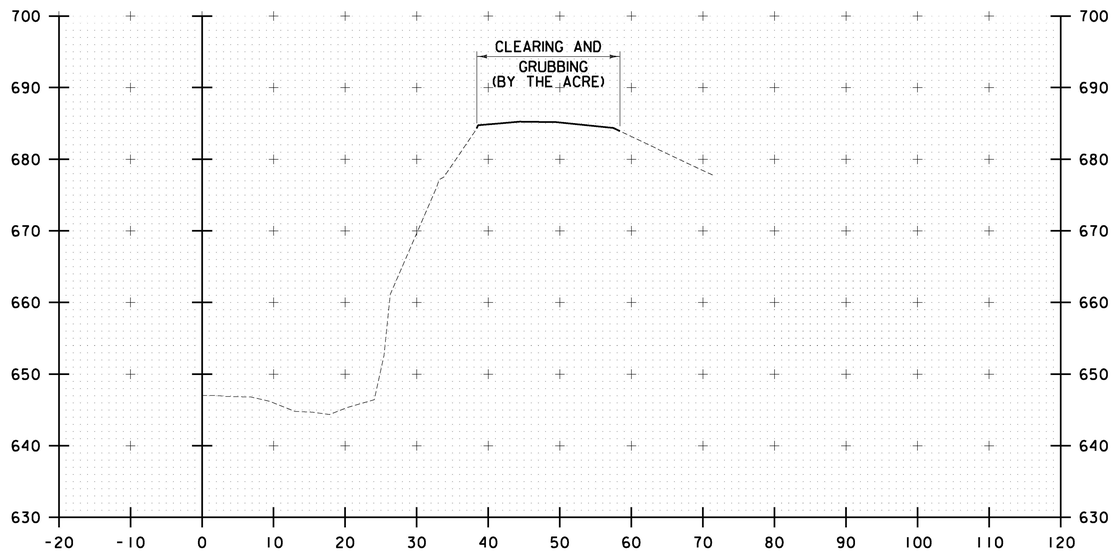


N 6177+50



N 6178+10.00
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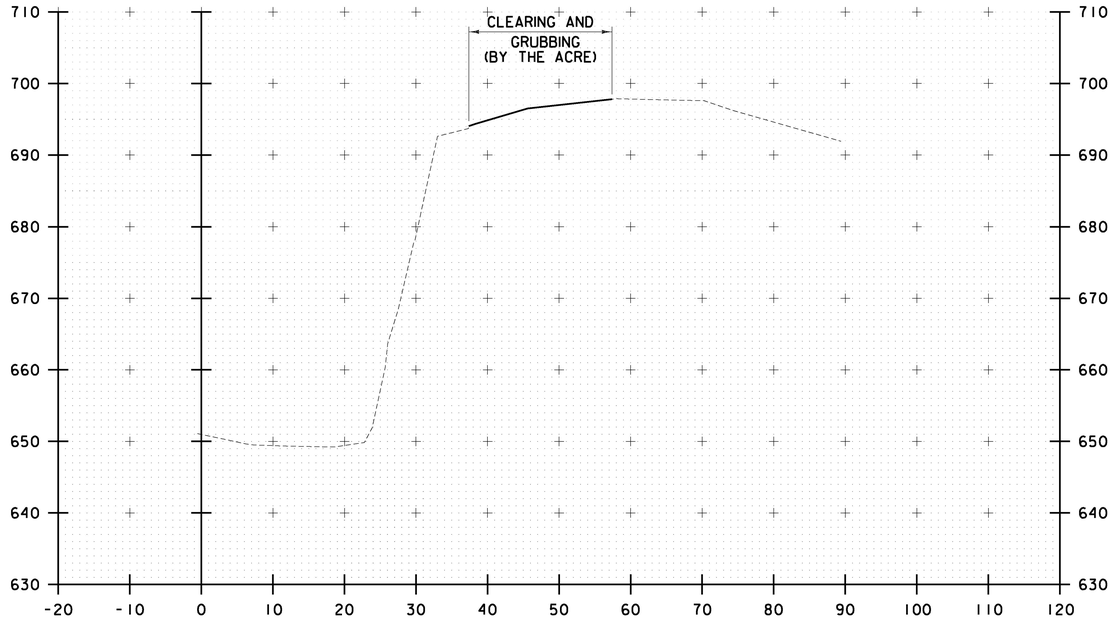

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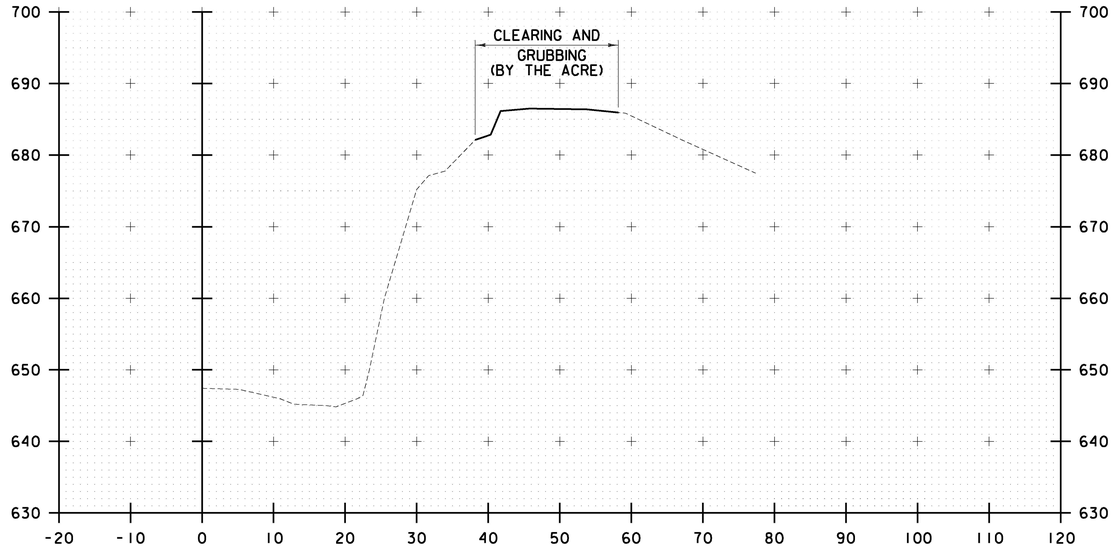

N 6178+00

STA. N 6177+00 TO STA. N 6178+10

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 9	SHEET 44 OF 61

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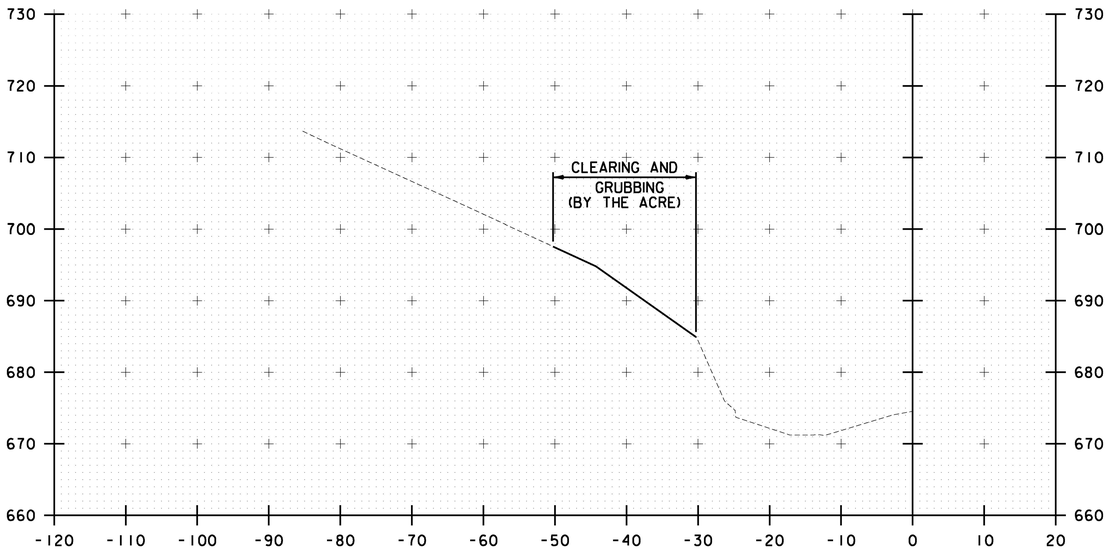
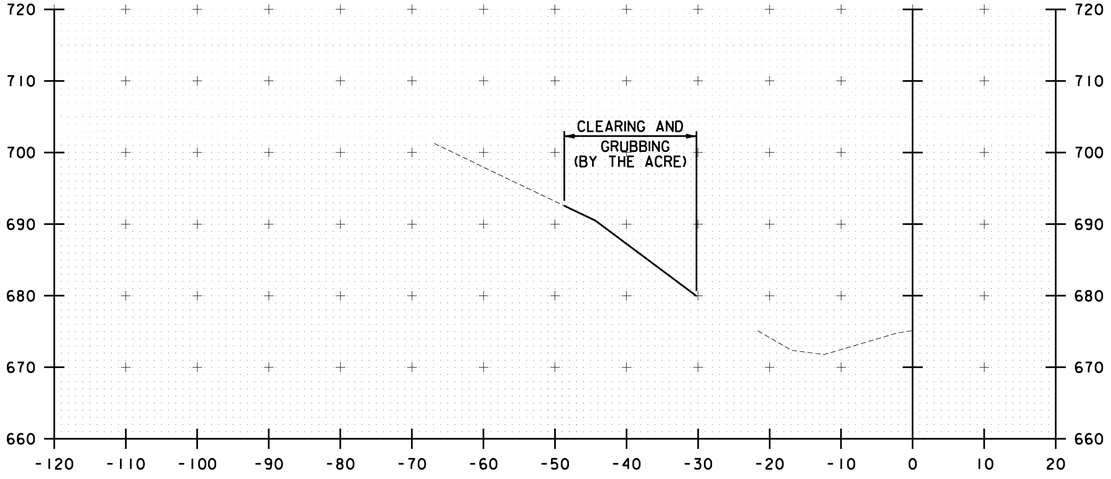


S 6171+50



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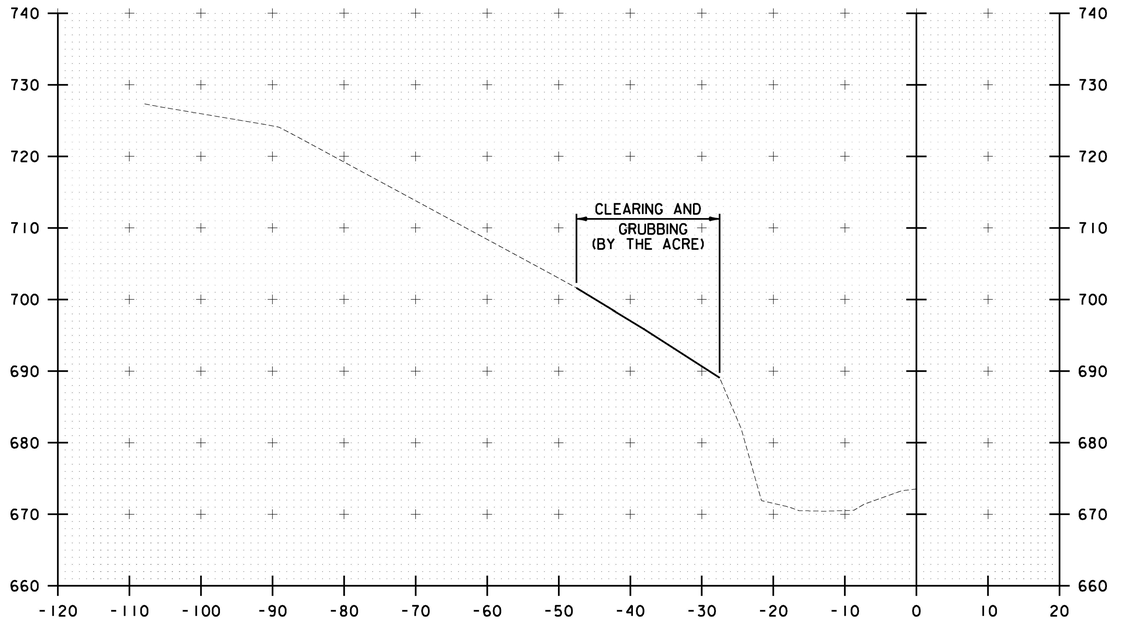

S 6172+00

STA. S 6171+15.50 TO STA. S 6172+00

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 10	SHEET 45 OF 61

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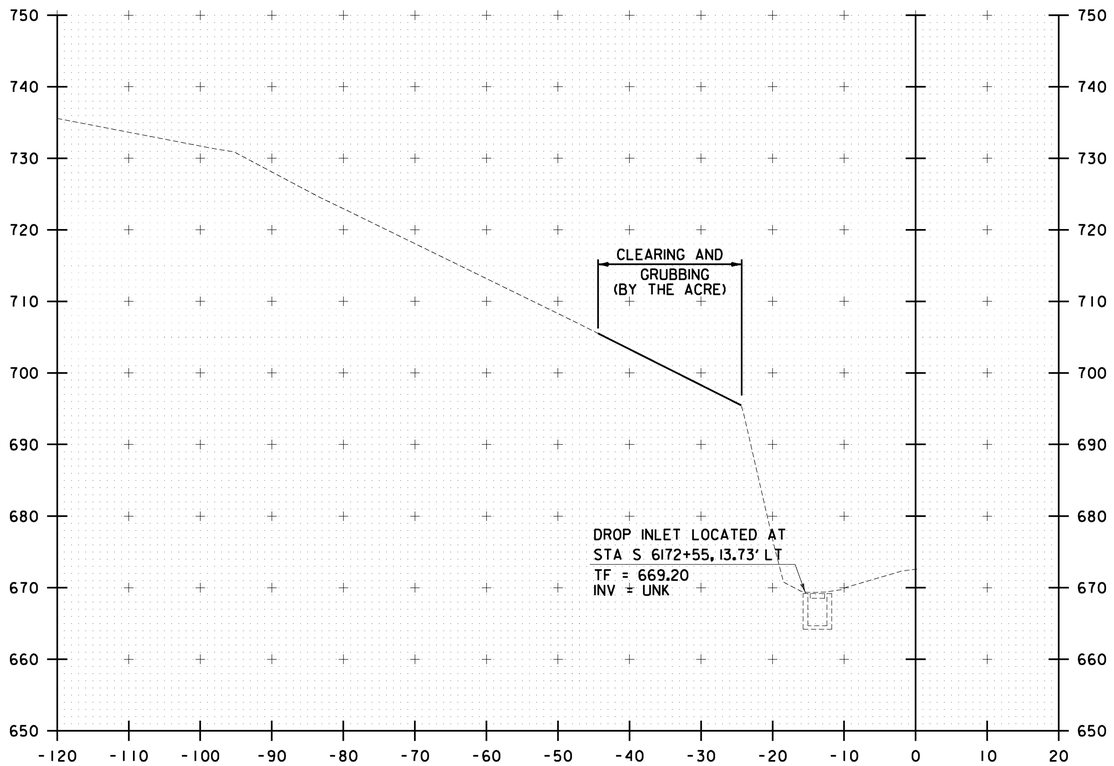
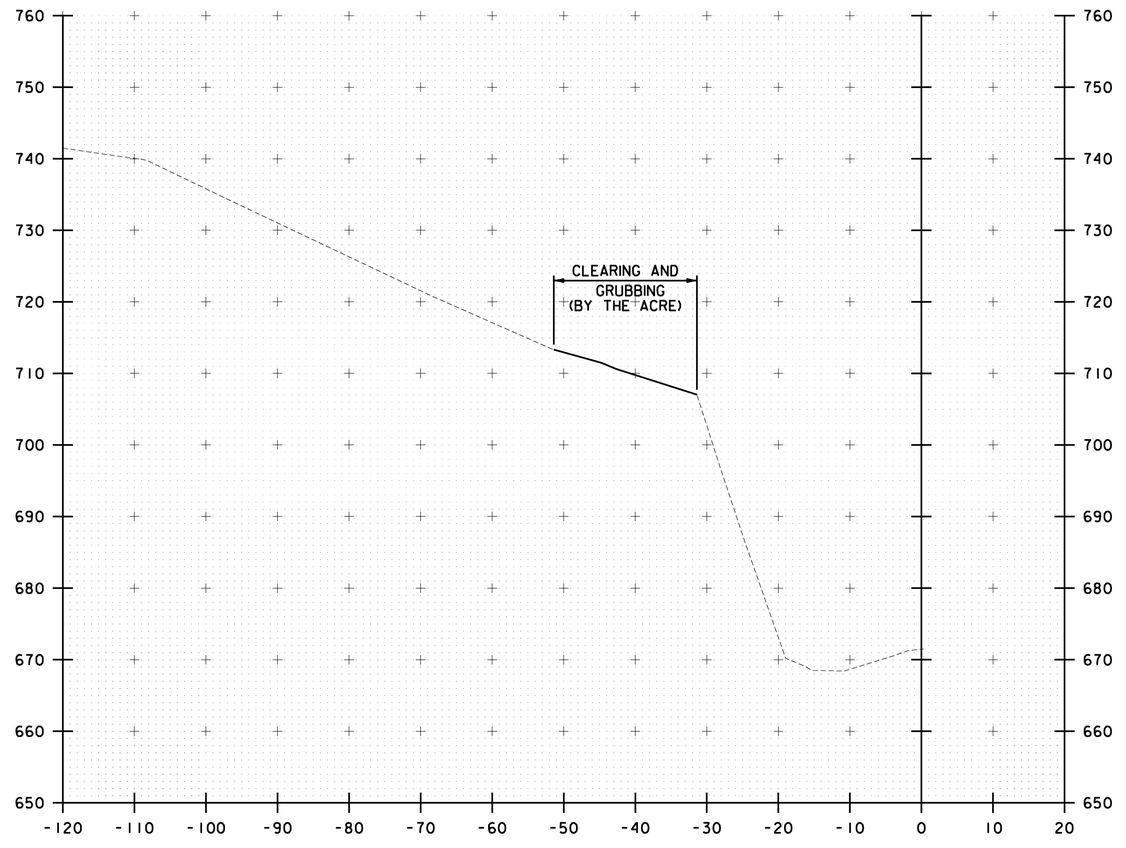


S 6172+50



S 6173+00

STA. S 6172+50 TO STA. S 6173+00

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET II	SHEET 46 OF 61

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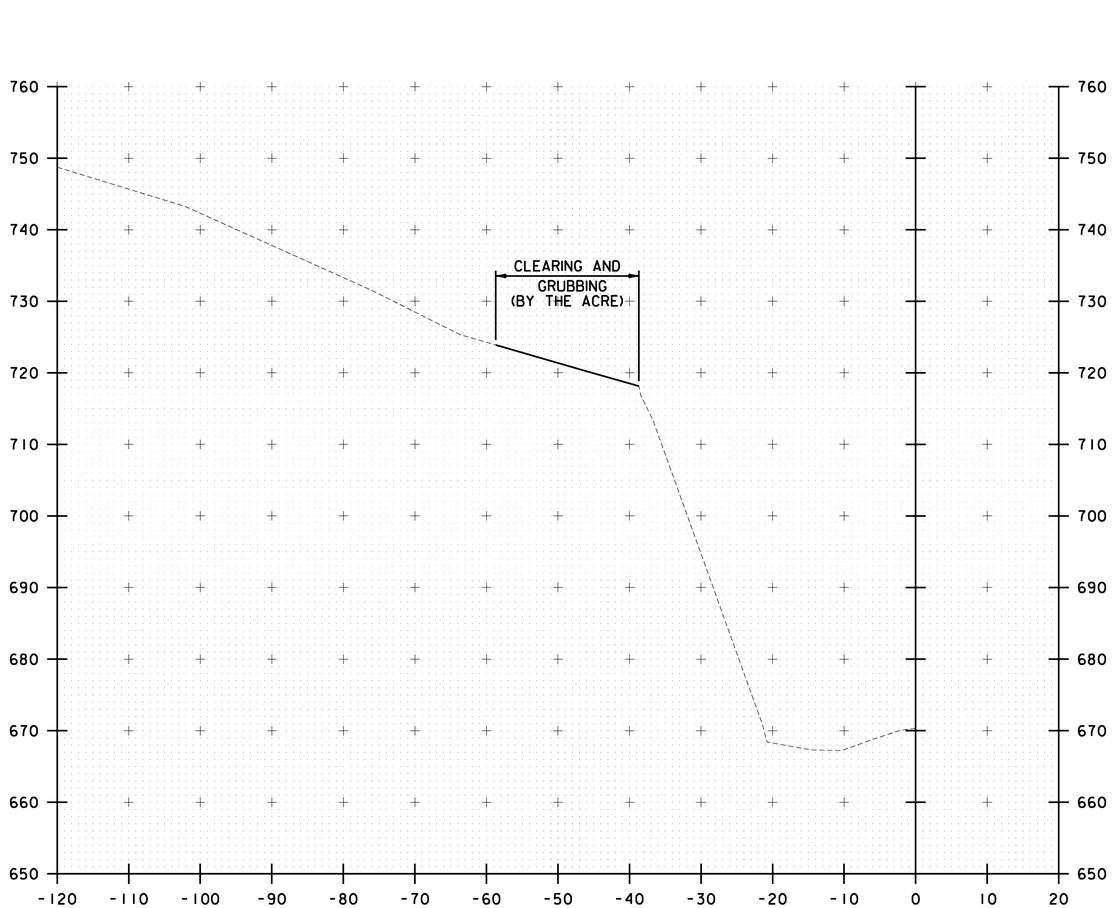
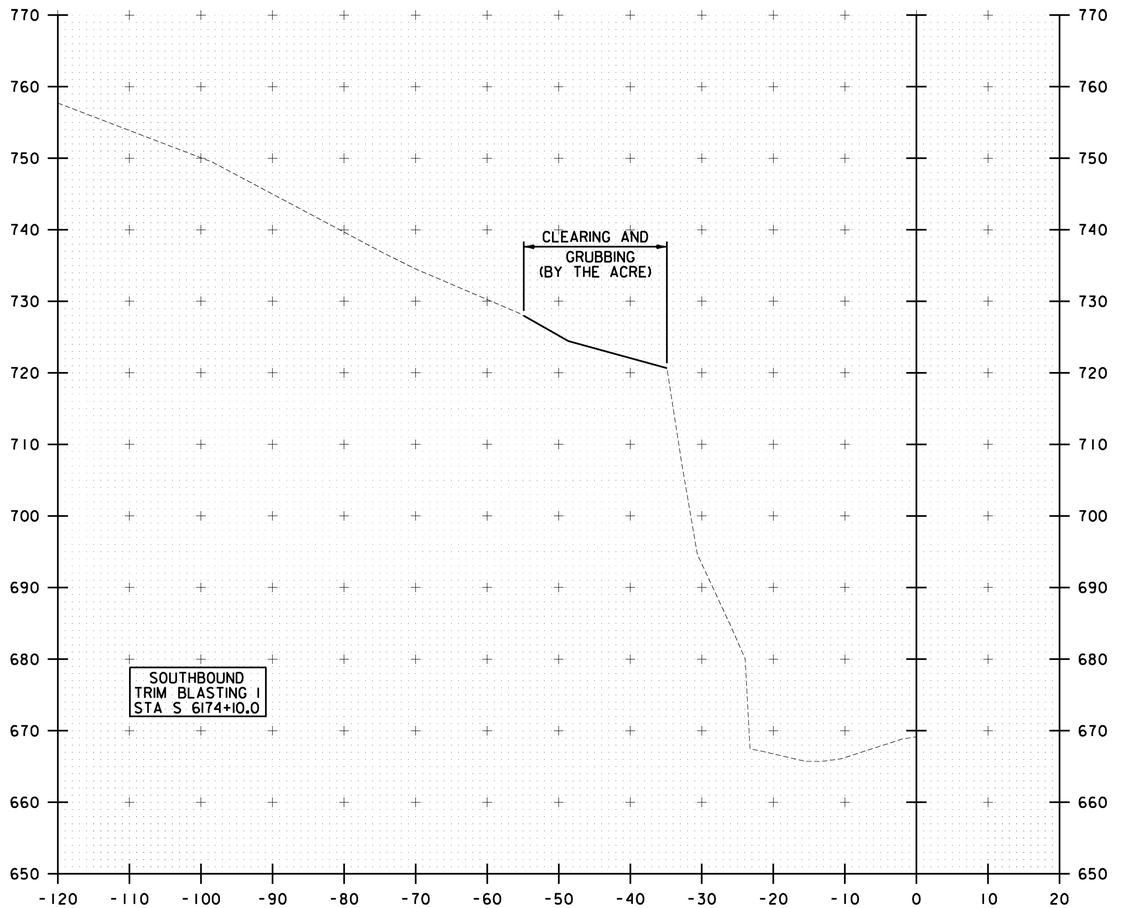


S 6173+50



S 6174+00

STA. S 6173+50 TO STA. S 6174+00

10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 12	SHEET 47 OF 61

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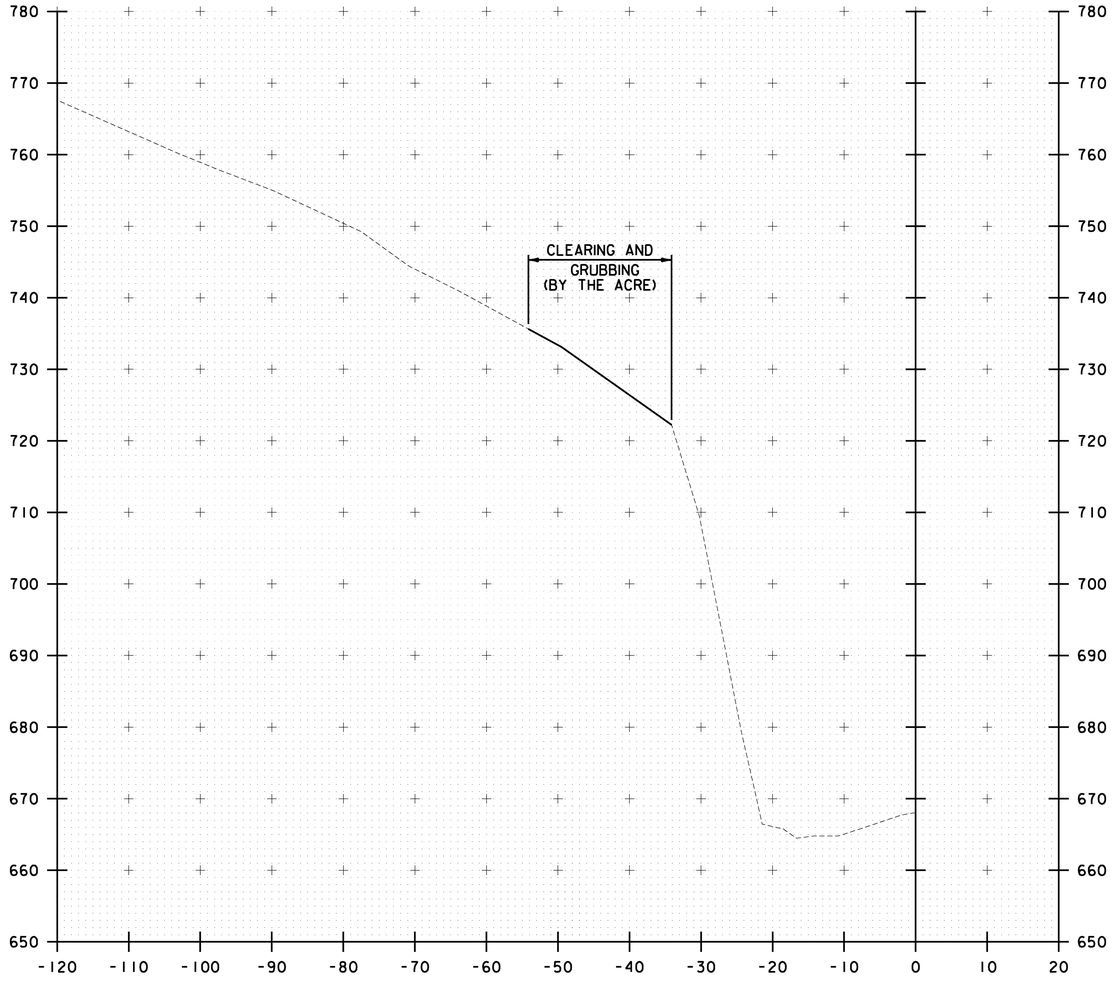
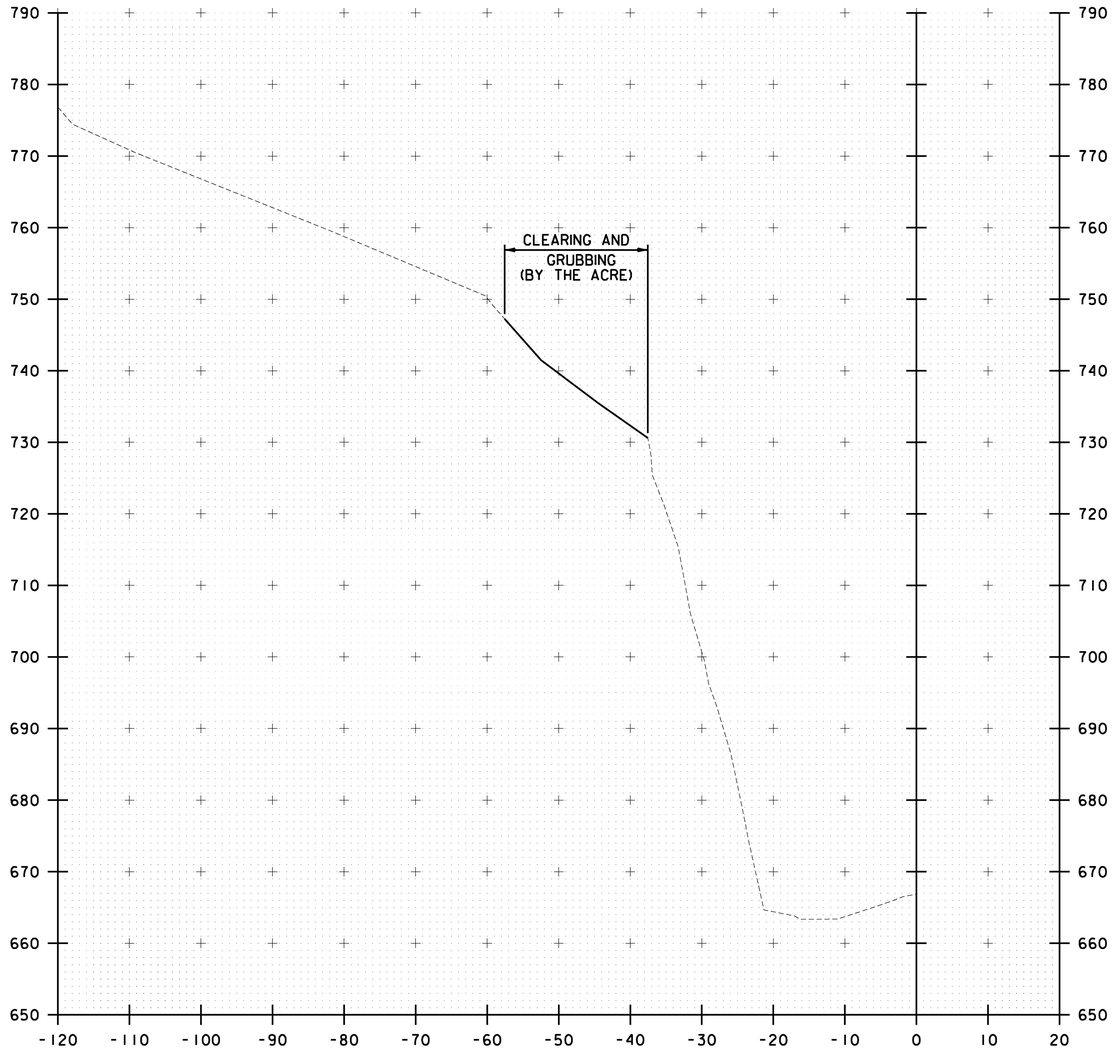


S 6174+50



S 6175+00

STA. S 6174+50 TO STA. S 6175+00

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 13	SHEET 48 OF 61

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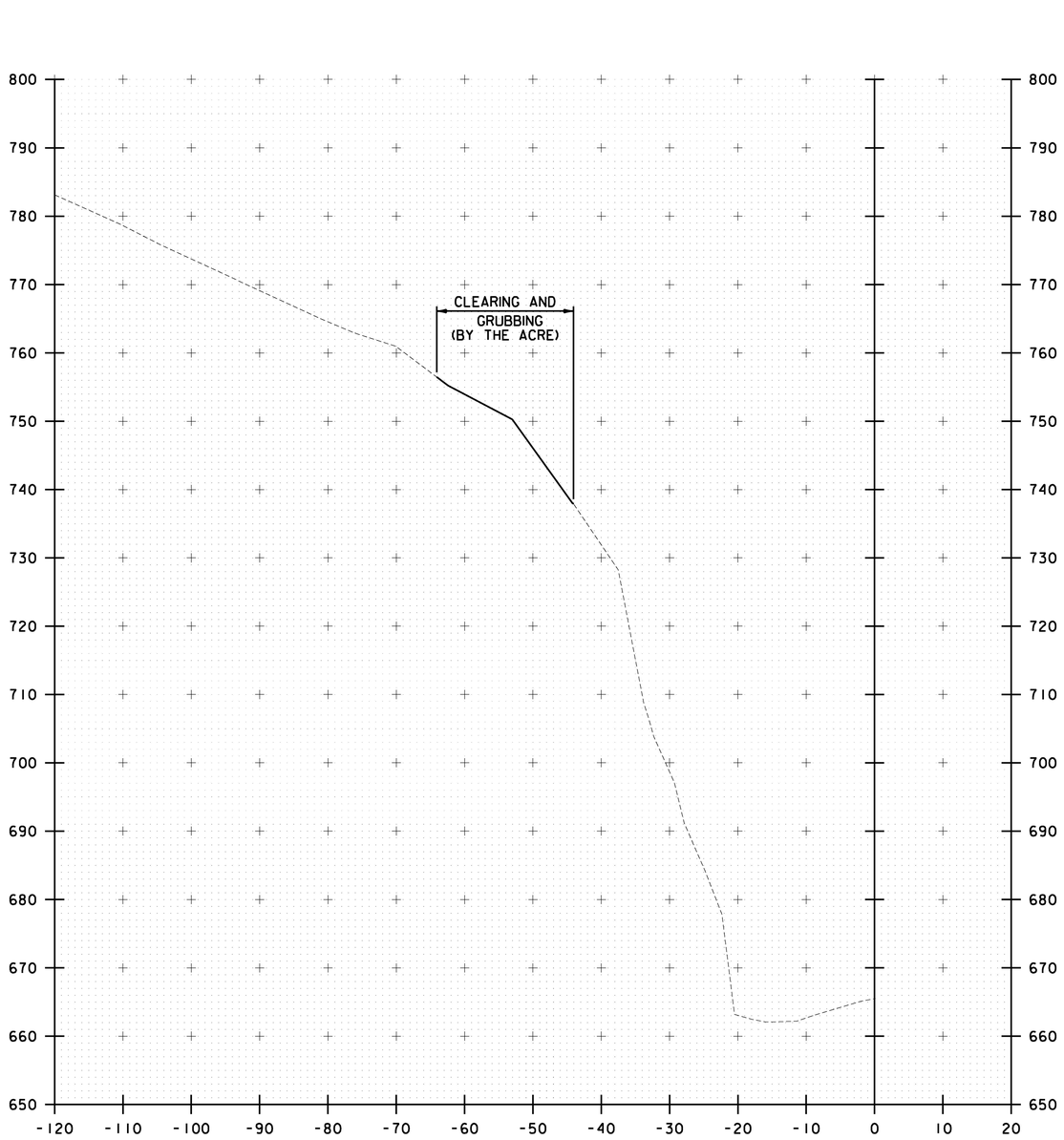
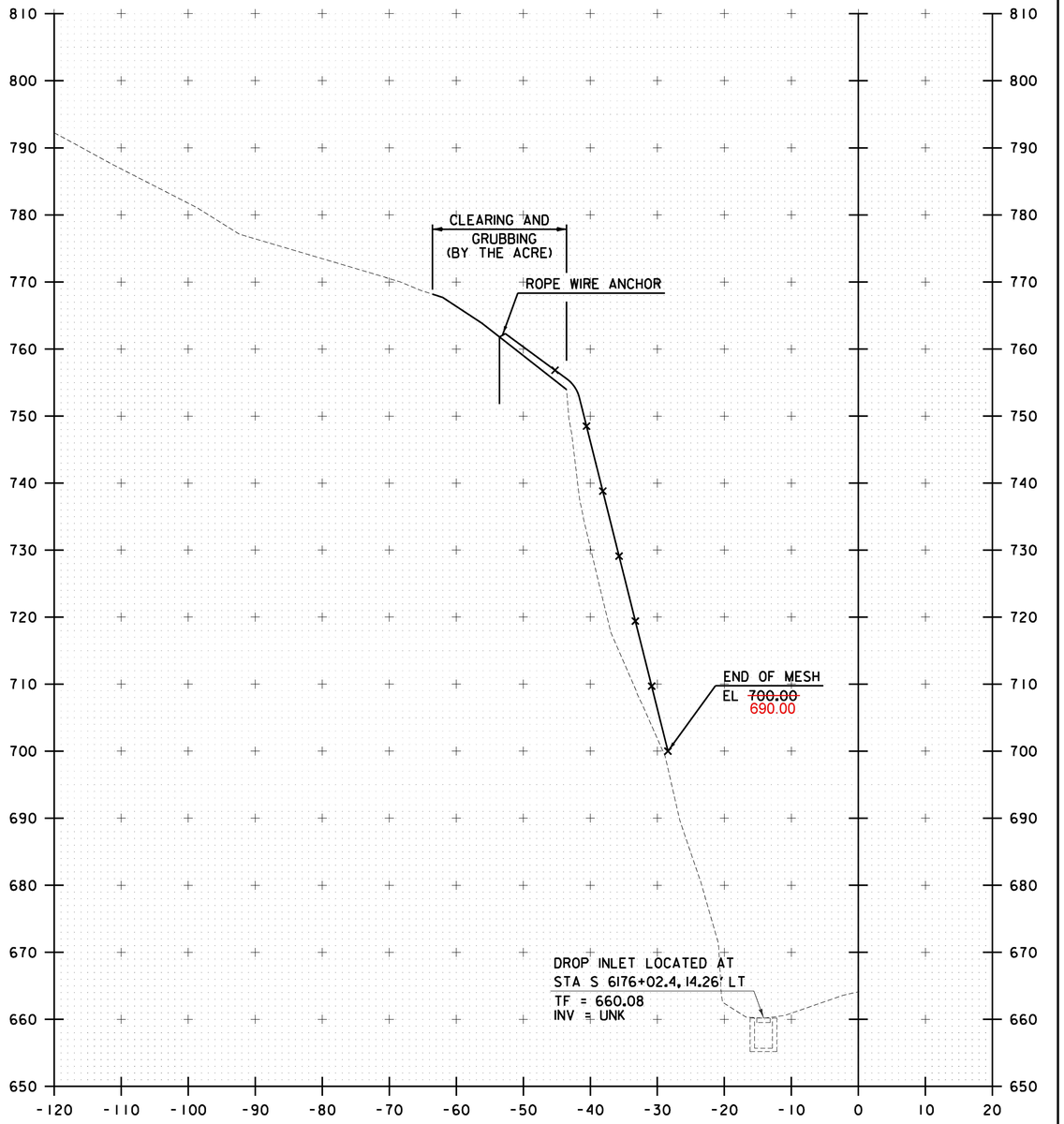


S 6175+50



S 6176+00

STA. S 6175+50 TO STA. S 6176+00

10 0 10
SCALE IN FEET

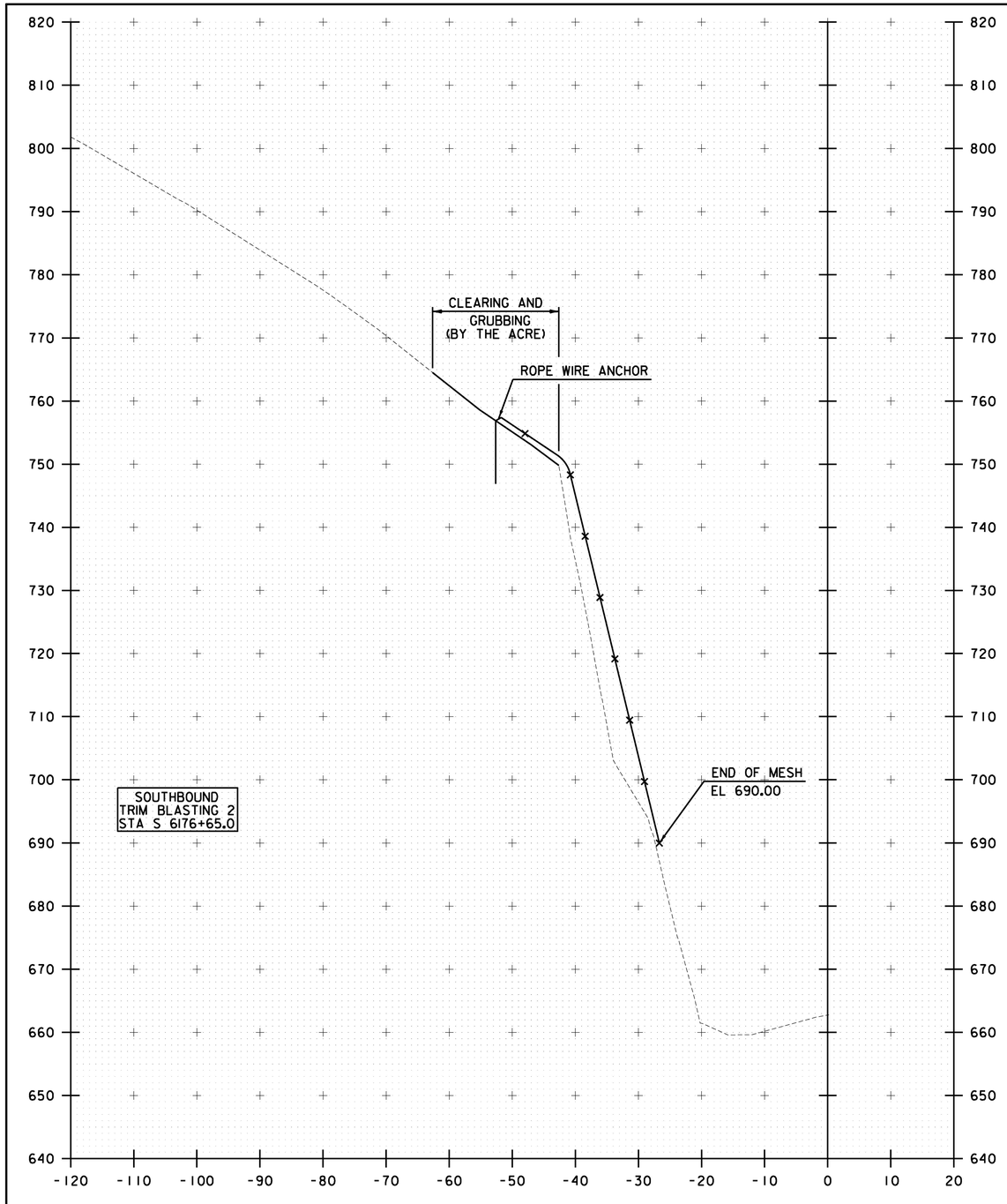
CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 14

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 49 OF 61

FILE NAME = V:\Projects\VNY\X4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368xsc.dgn
DATE/TIME = 3/30/2017
USER = 5323



S 6176+50

10 0 10
SCALE IN FEET

STA. S 6176+50

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 15	SHEET 50 OF 61

FILE NAME = W:\Projects\MNY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
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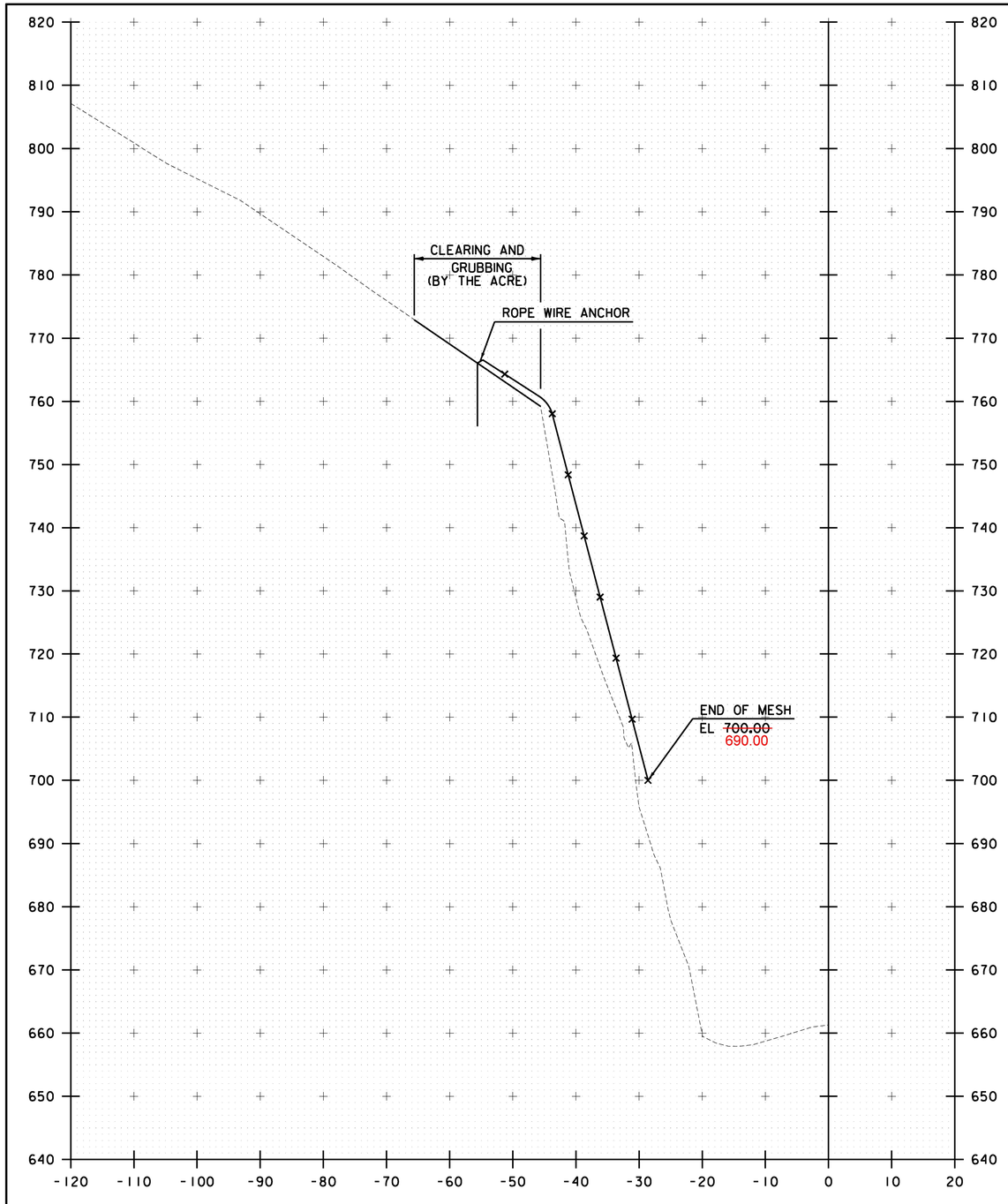


S 6177+00

10 0 10
SCALE IN FEET

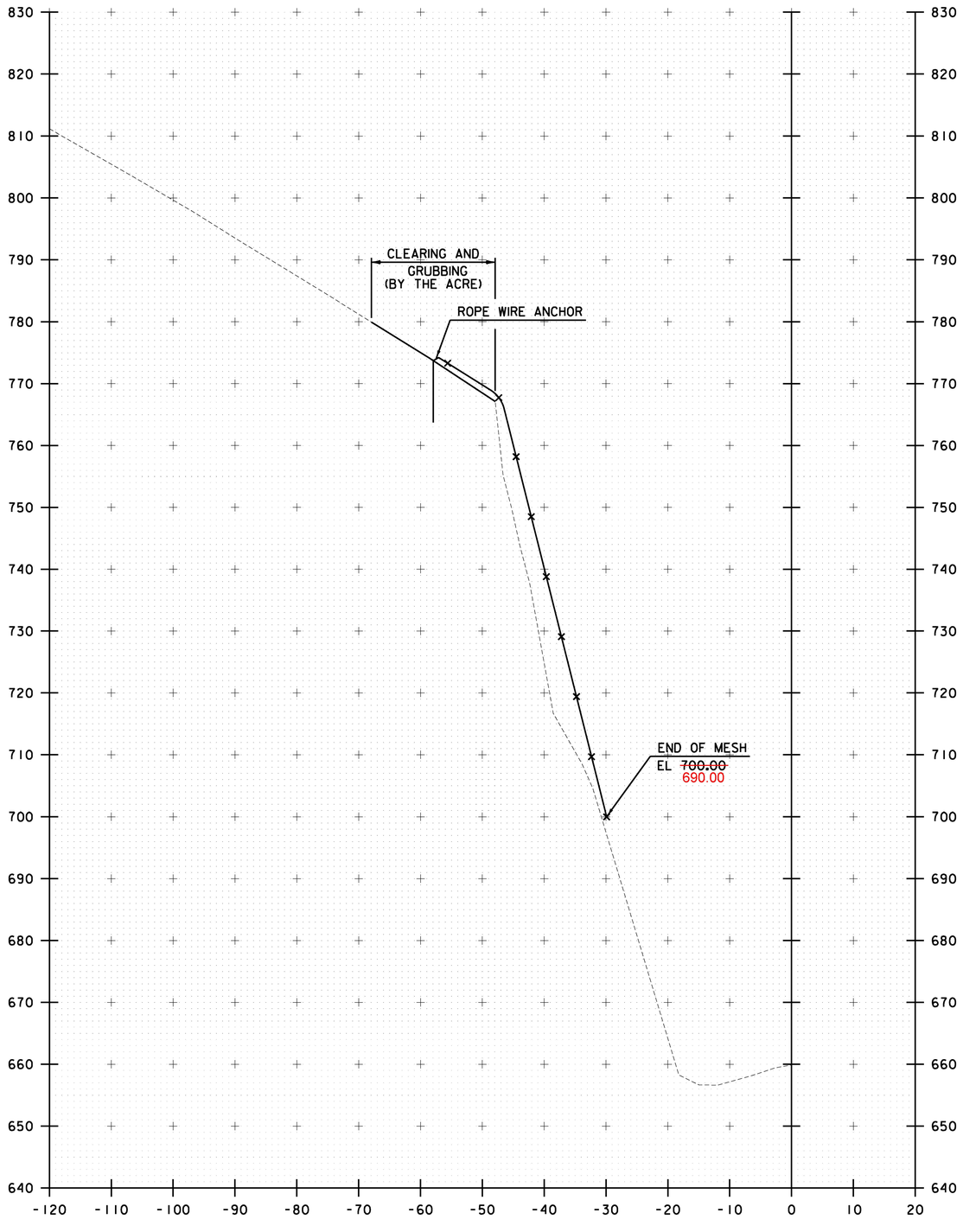
STA. S 6177+00

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 16

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 51 OF 61

FILE NAME = W:\Projects\WYVK4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
USER = SJS23



S 6177+50

10 0 10
SCALE IN FEET

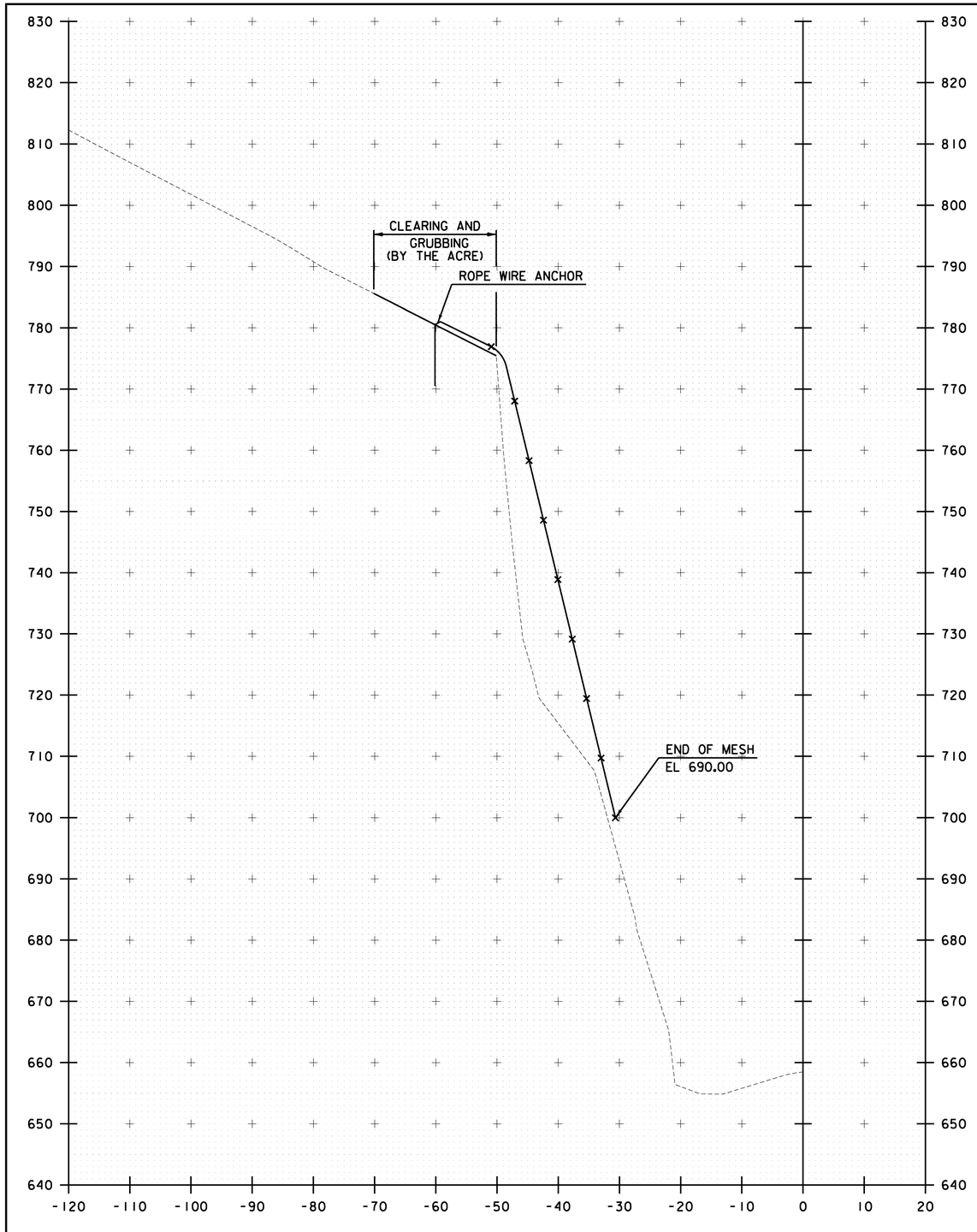
STA. S 6177+50

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 17

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 52 OF 61

FILE NAME = V:\Projects\ANY\X4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
USER = SJG23



S 6178+00

10 0 10
SCALE IN FEET

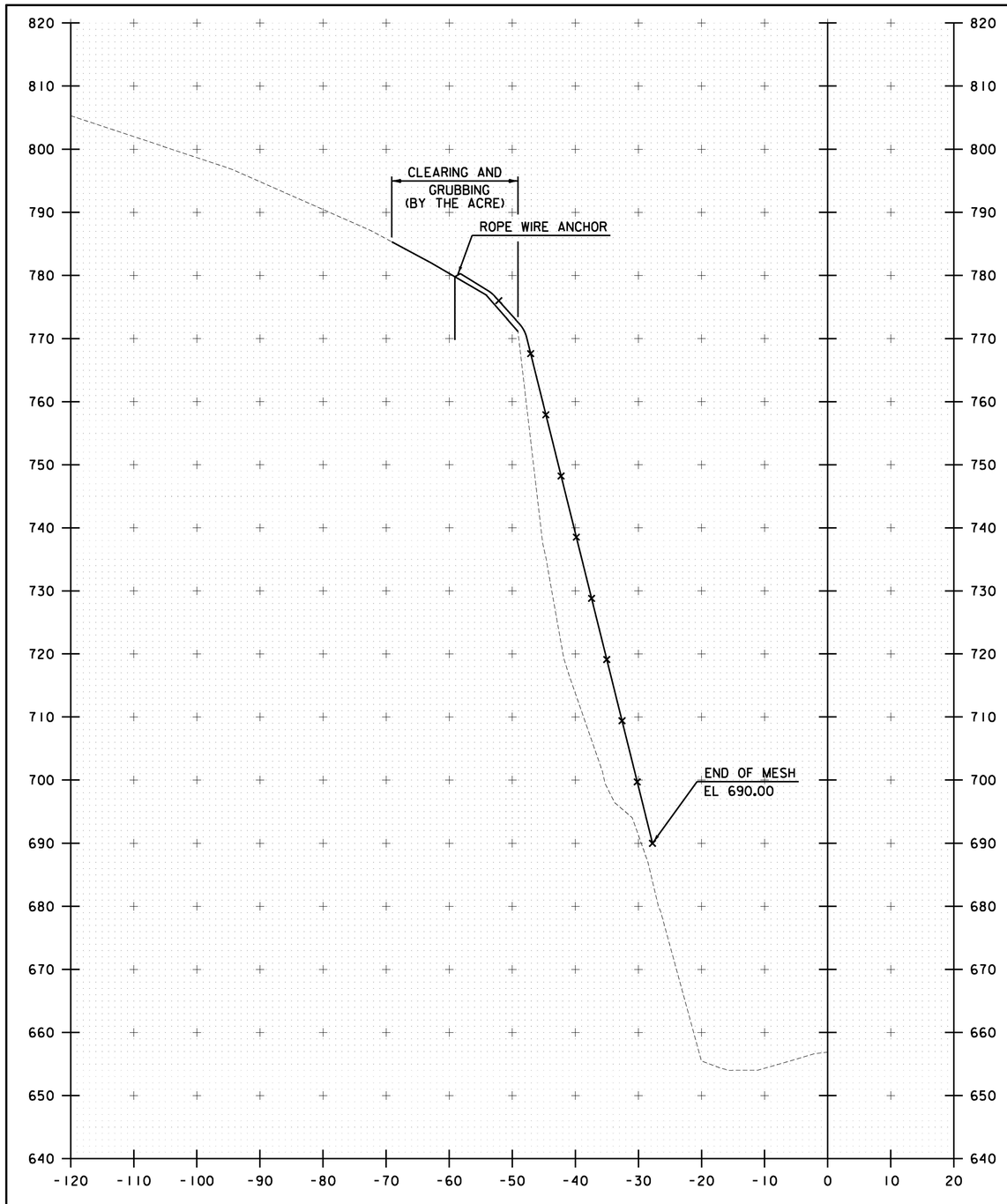
STA. S 6178+00

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

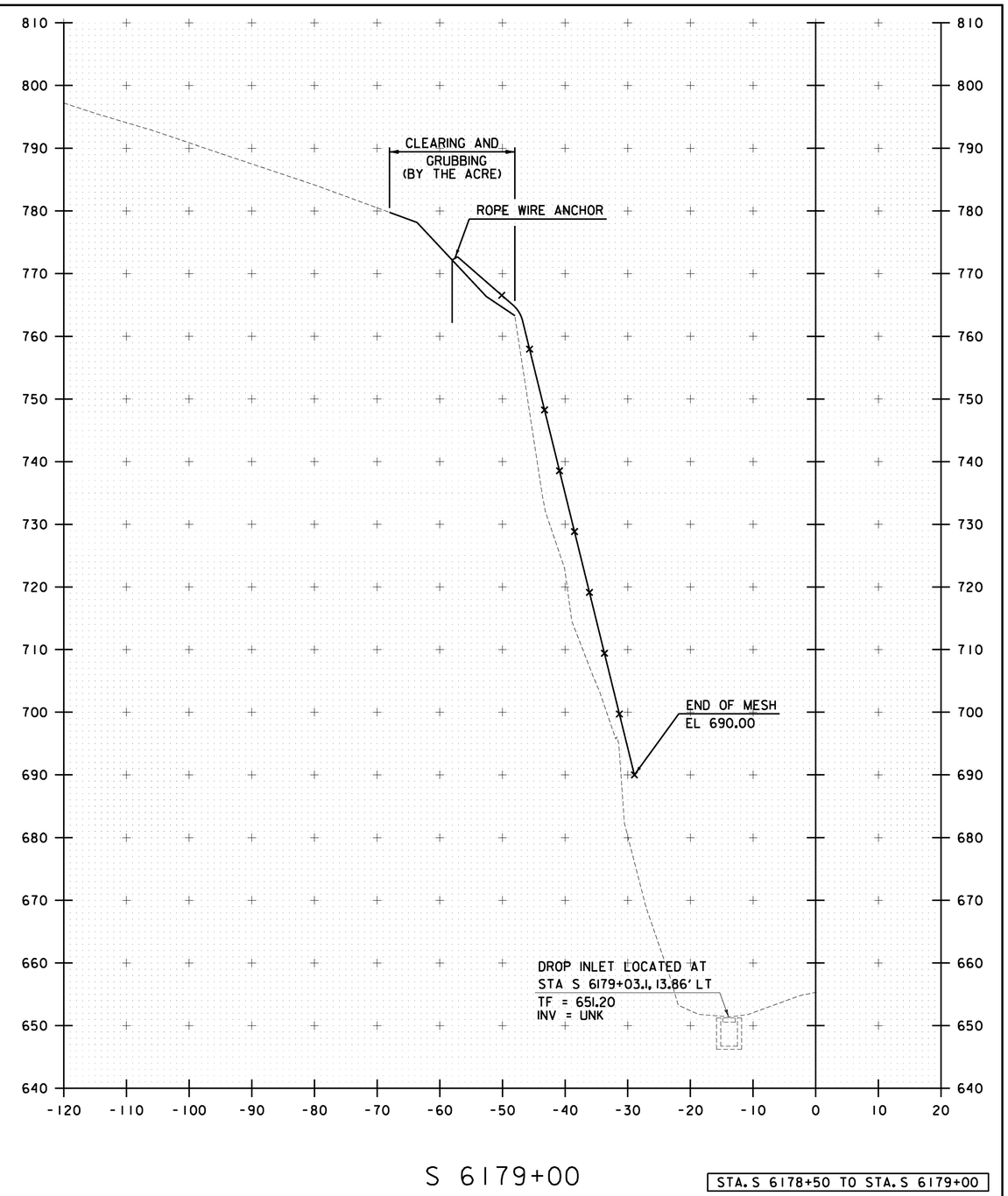
FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 18

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 53 OF 61

FILE NAME = W:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
USER = S323



S 6178+50



S 6179+00

10 0 10
SCALE IN FEET

STA. S 6178+50 TO STA. S 6179+00

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 19

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 54 OF 61

FILE NAME = W:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
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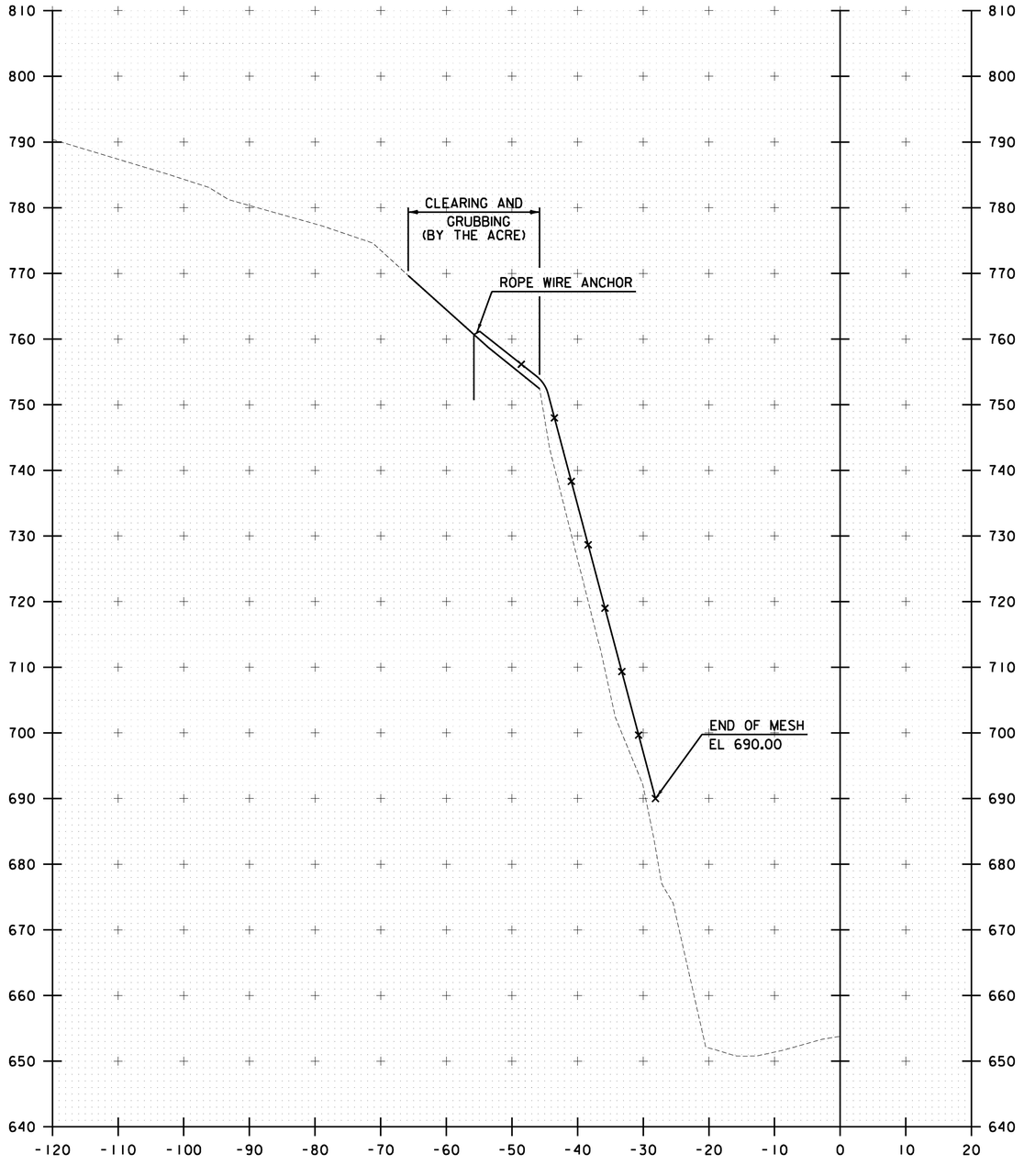
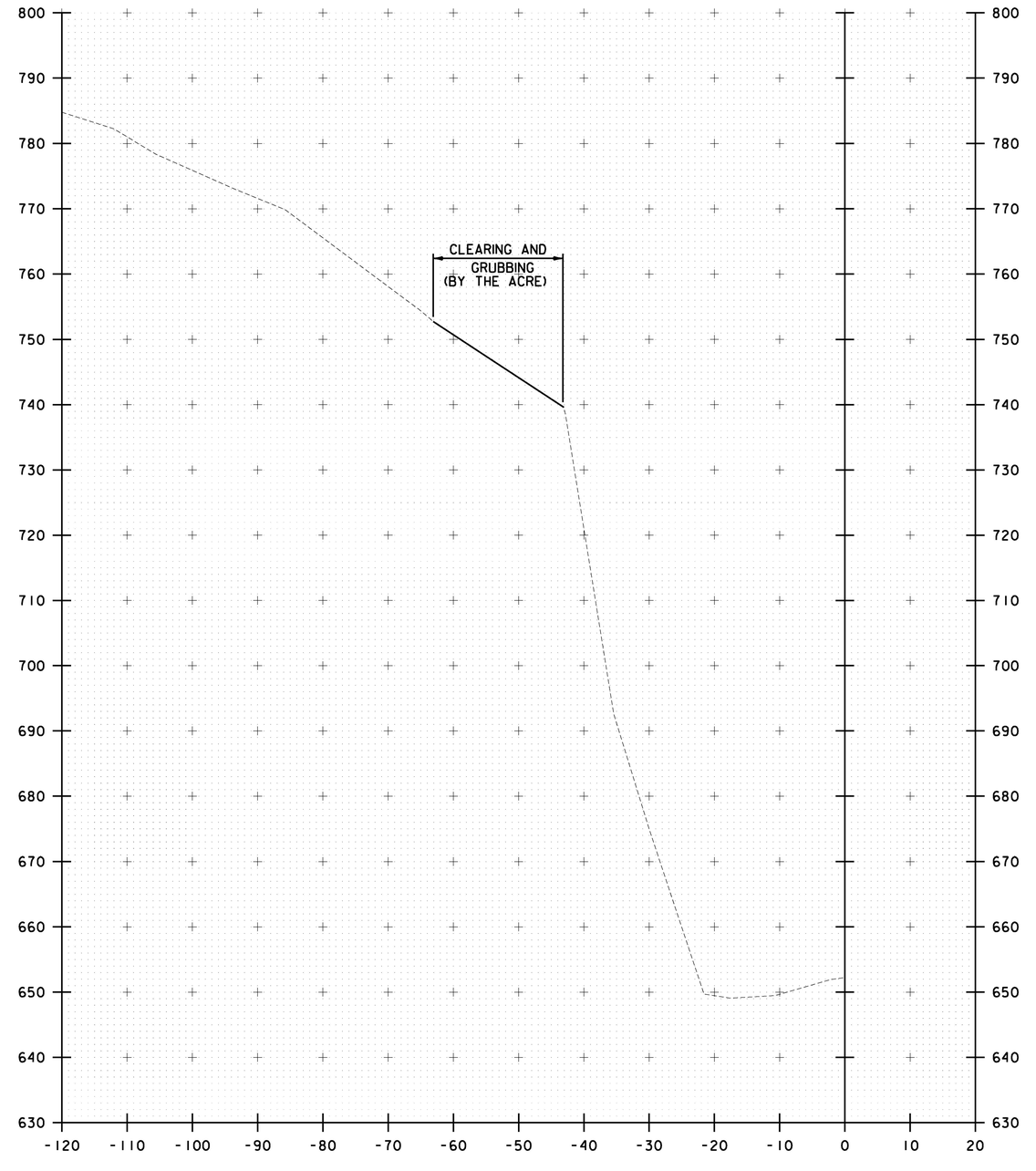


S 6179+50



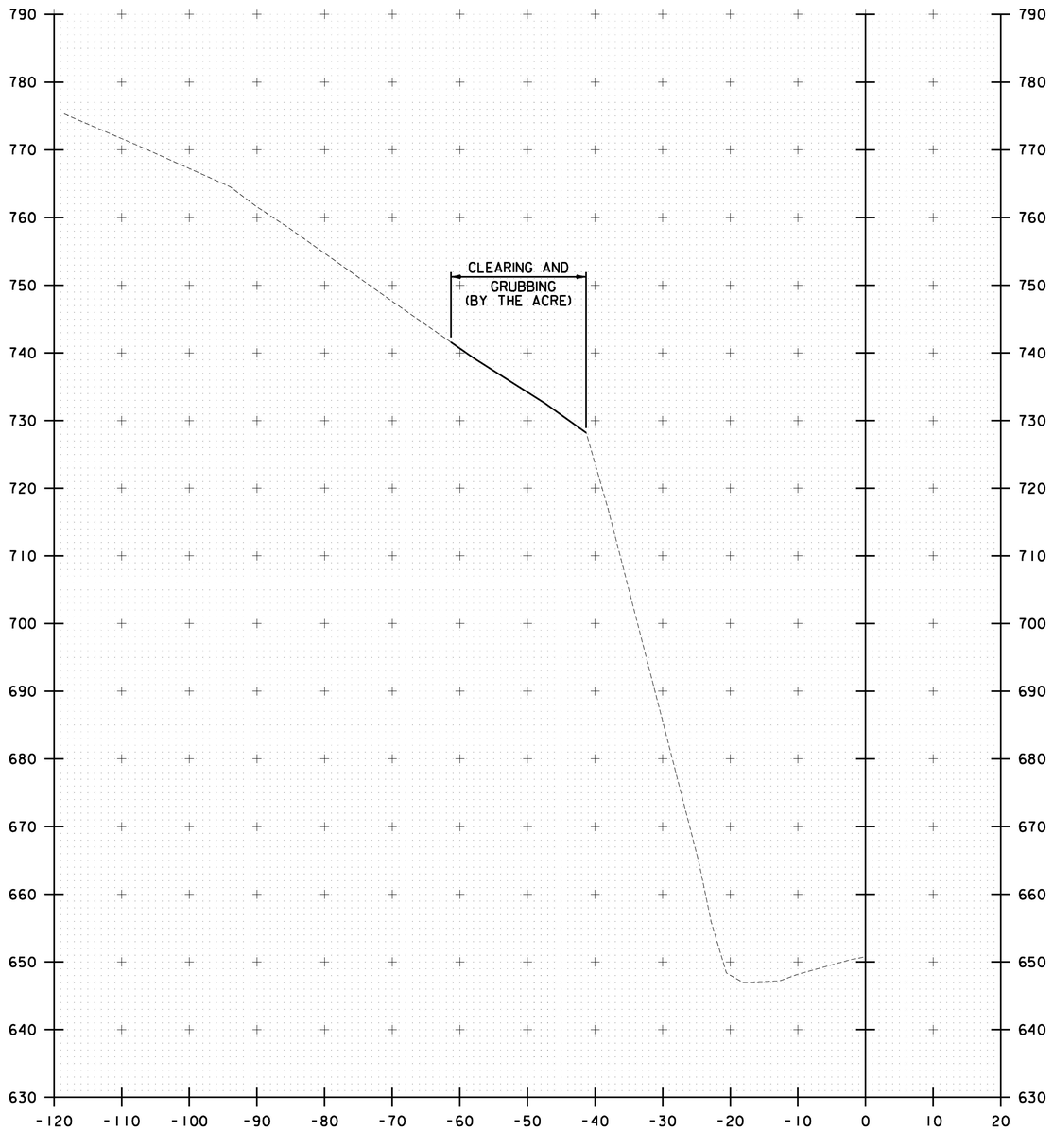
S 6180+00

STA. S 6179+50 TO STA. S 6180+00

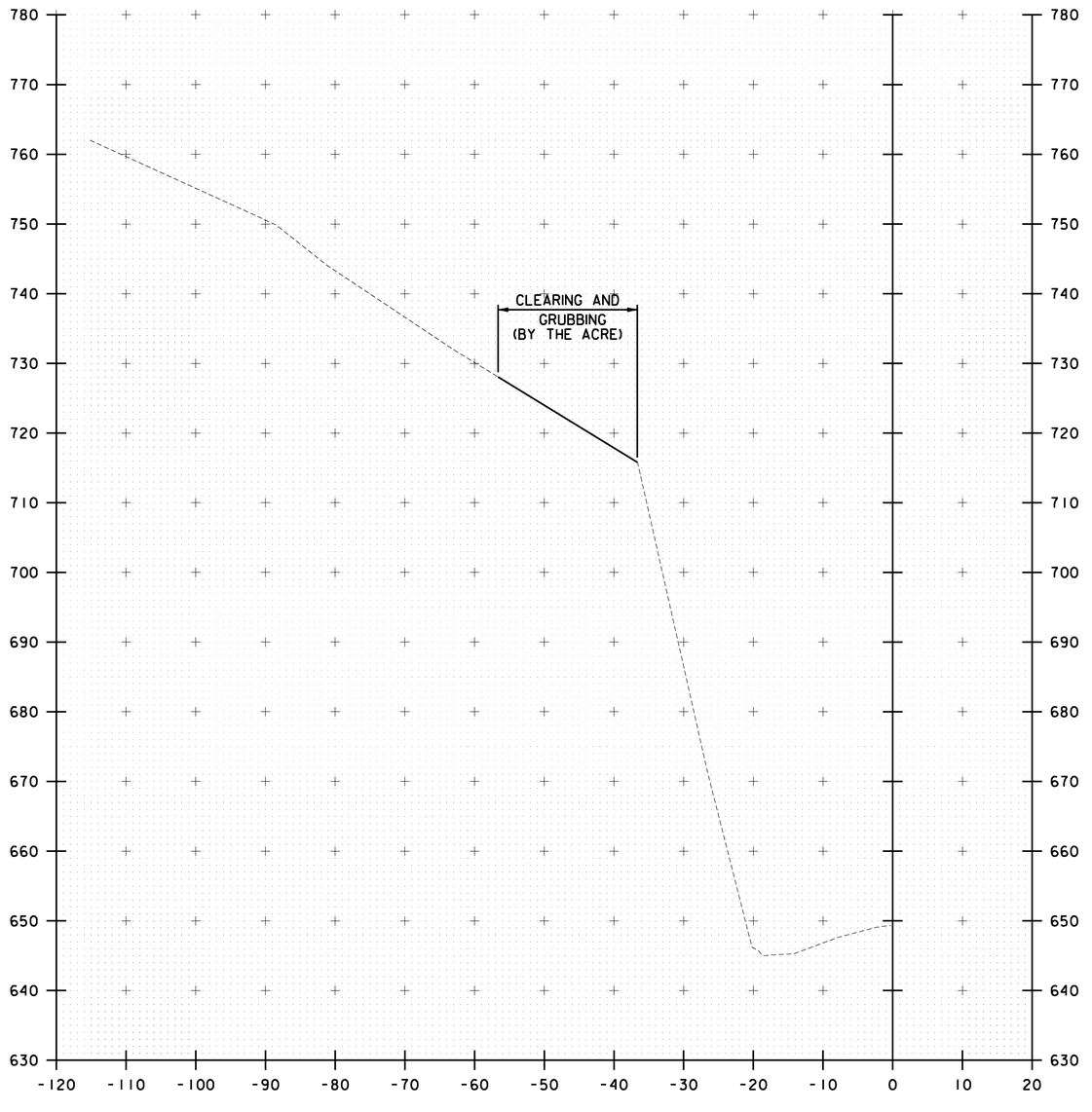
10 0 10
SCALE IN FEET

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 20	SHEET 55 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368xsc.dgn
DATE/TIME = 3/30/2017
USER = SJS23



S 6180+50



S 6181+00

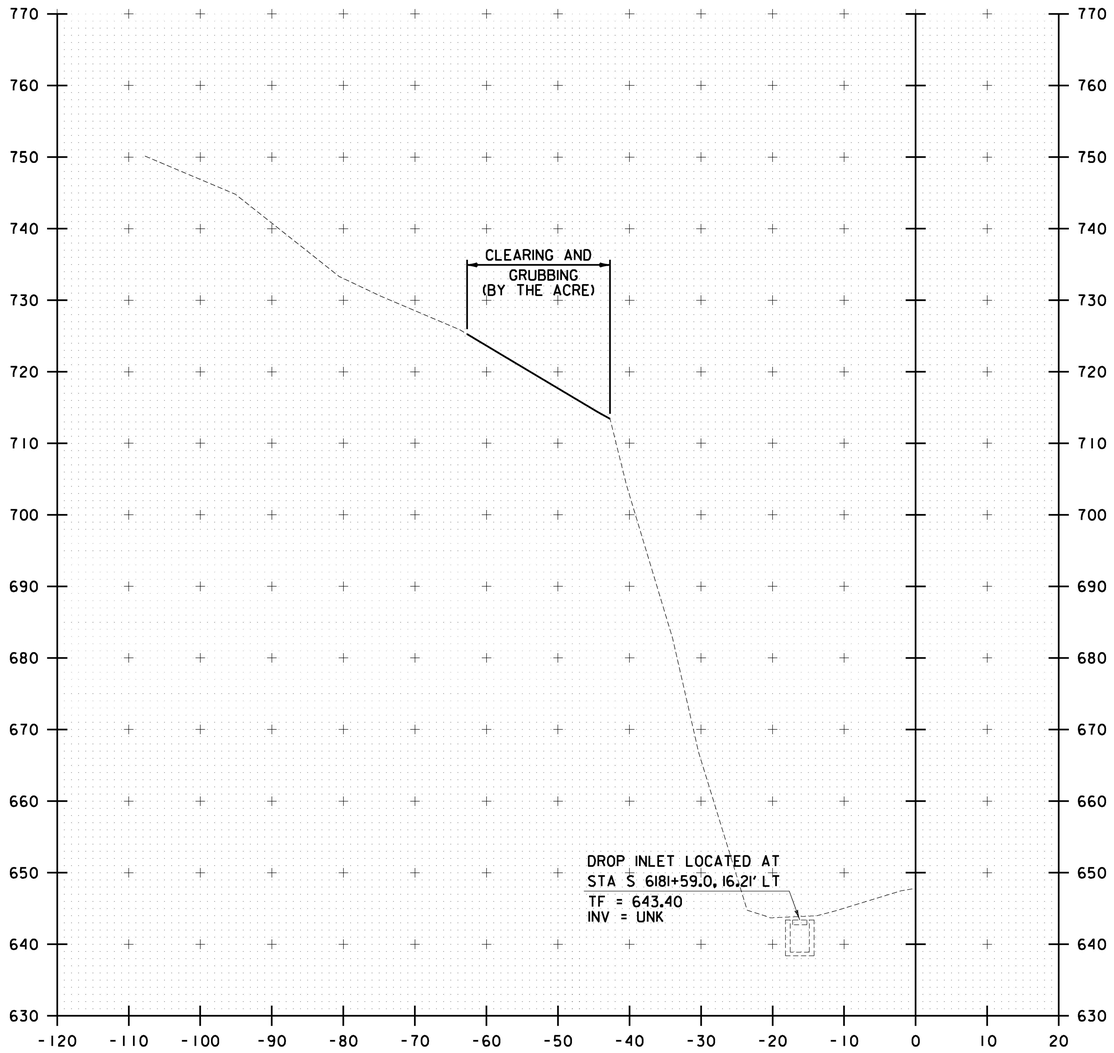
STA. S 6180+50 TO STA. S 6181+00

10 0 10
SCALE IN FEET

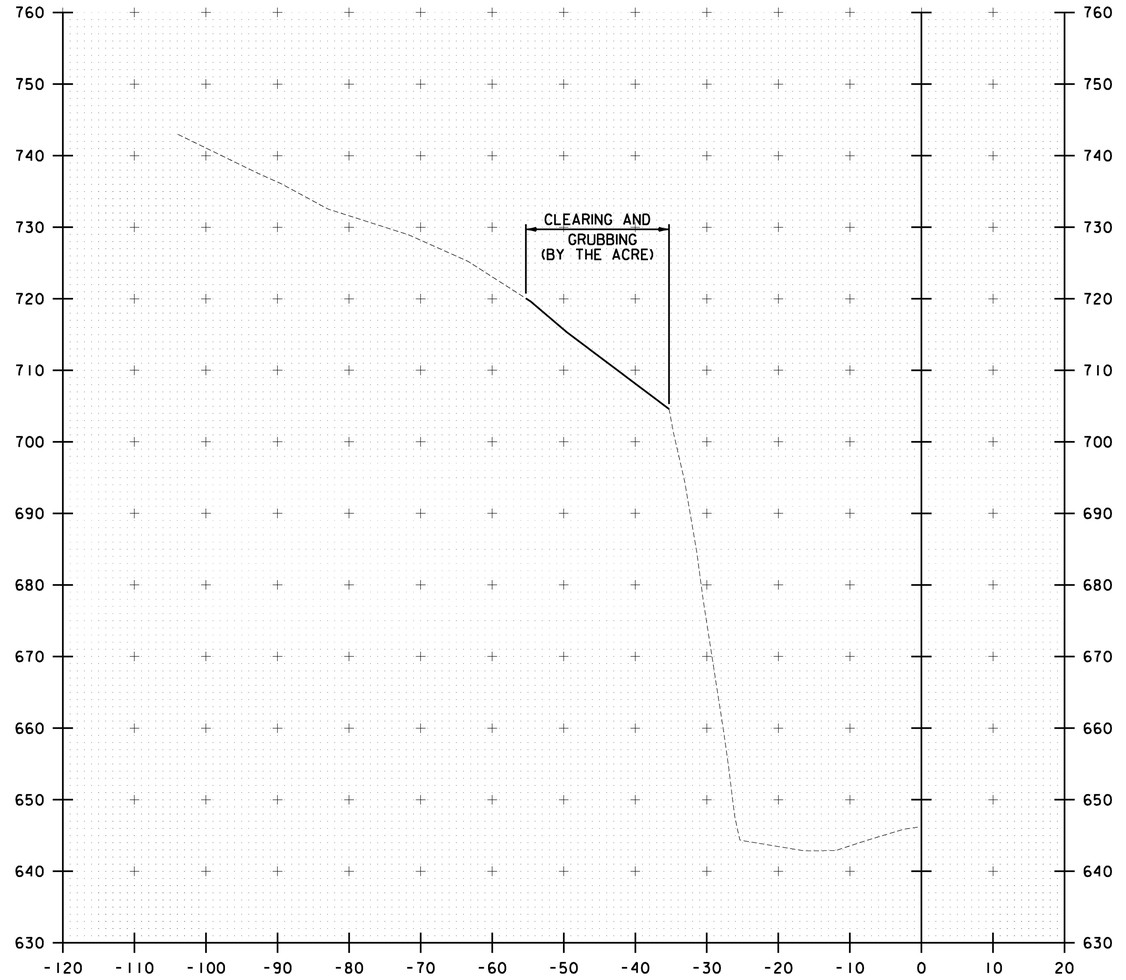
CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 21	SHEET 56 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368xsc.dgn
DATE/TIME = 3/30/2017
USER = SJS23



S 6181+50



S 6182+00

STA. S 6181+50 TO STA. S 6182+00

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: z13a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 22

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 57 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368xsc.dgn
DATE/TIME = 3/30/2017
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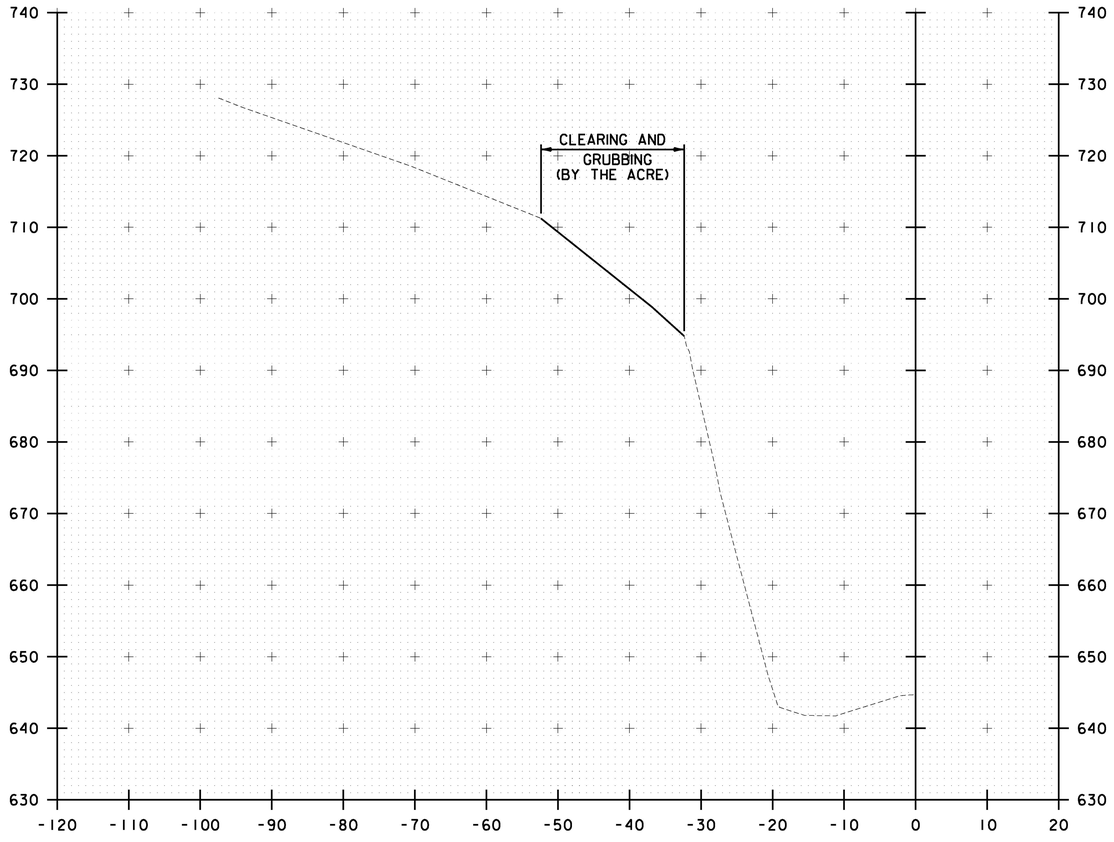
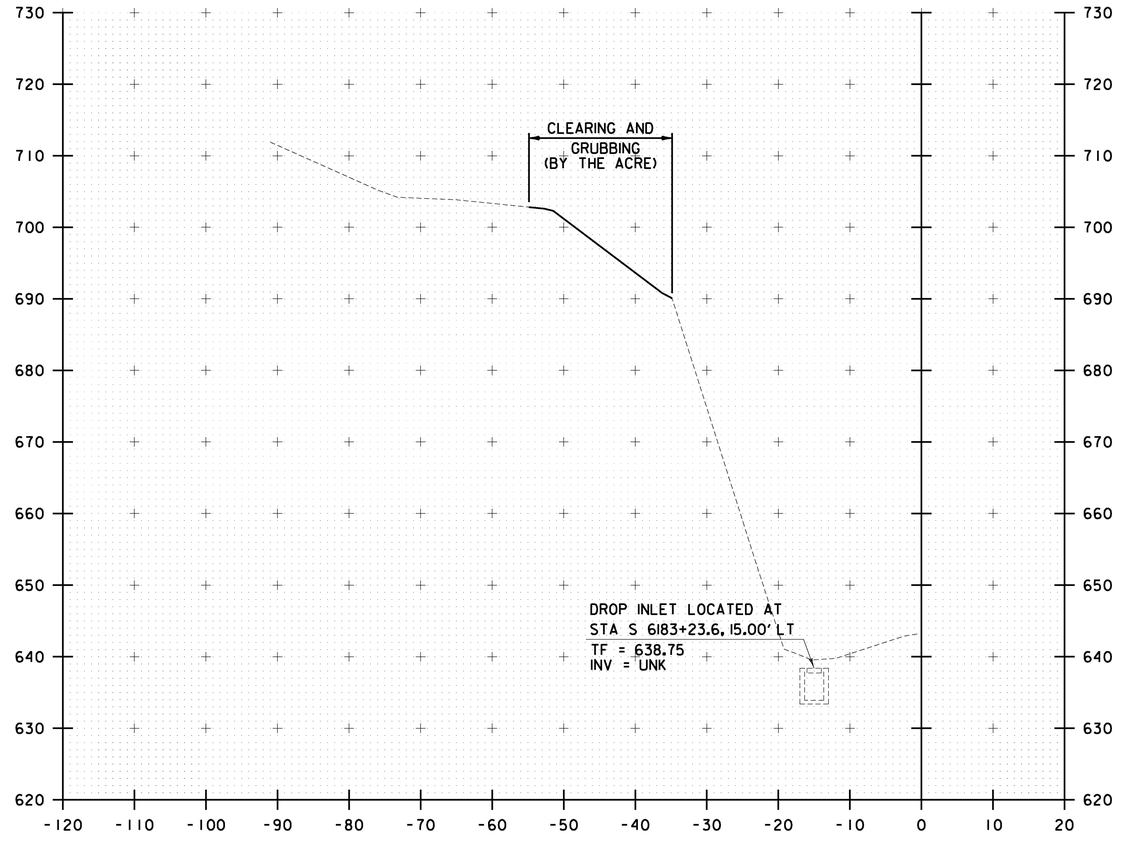


S 6182+50



S 6183+00

STA. S 6182+50 TO STA. S 6183+00

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368xsc.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
CROSS SECTION SHEET 23	SHEET 58 OF 61

FILE NAME = V:\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\z13a368xsc.dgn
DATE/TIME = 3/30/2017
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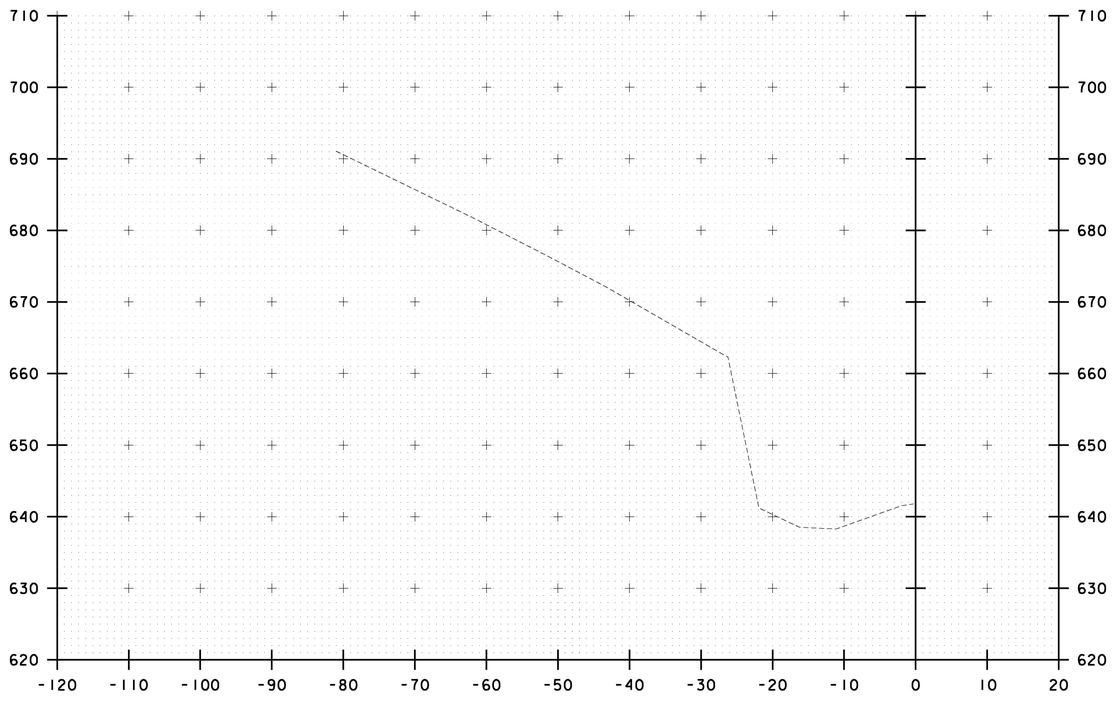

S 6183+44.90
END PROJECT

STA. S 6183+44.90

10 0 10
SCALE IN FEET

CHA

PROJECT NAME: RYEGATE
PROJECT NUMBER: IM 091-2(80)

FILE NAME: zl3a368xsc.dgn
PROJECT LEADER: D. GOZALKOWSKI
DESIGNED BY: J. OLSEN
CROSS SECTION SHEET 24

PLOT DATE: 3/30/2017
DRAWN BY: J. HEALD
CHECKED BY: J. SHIELDS
SHEET 59 OF 61

FILE NAME = V:\Projects\ANYK4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368xsc.dgn
DATE/TIME = 3/30/2017
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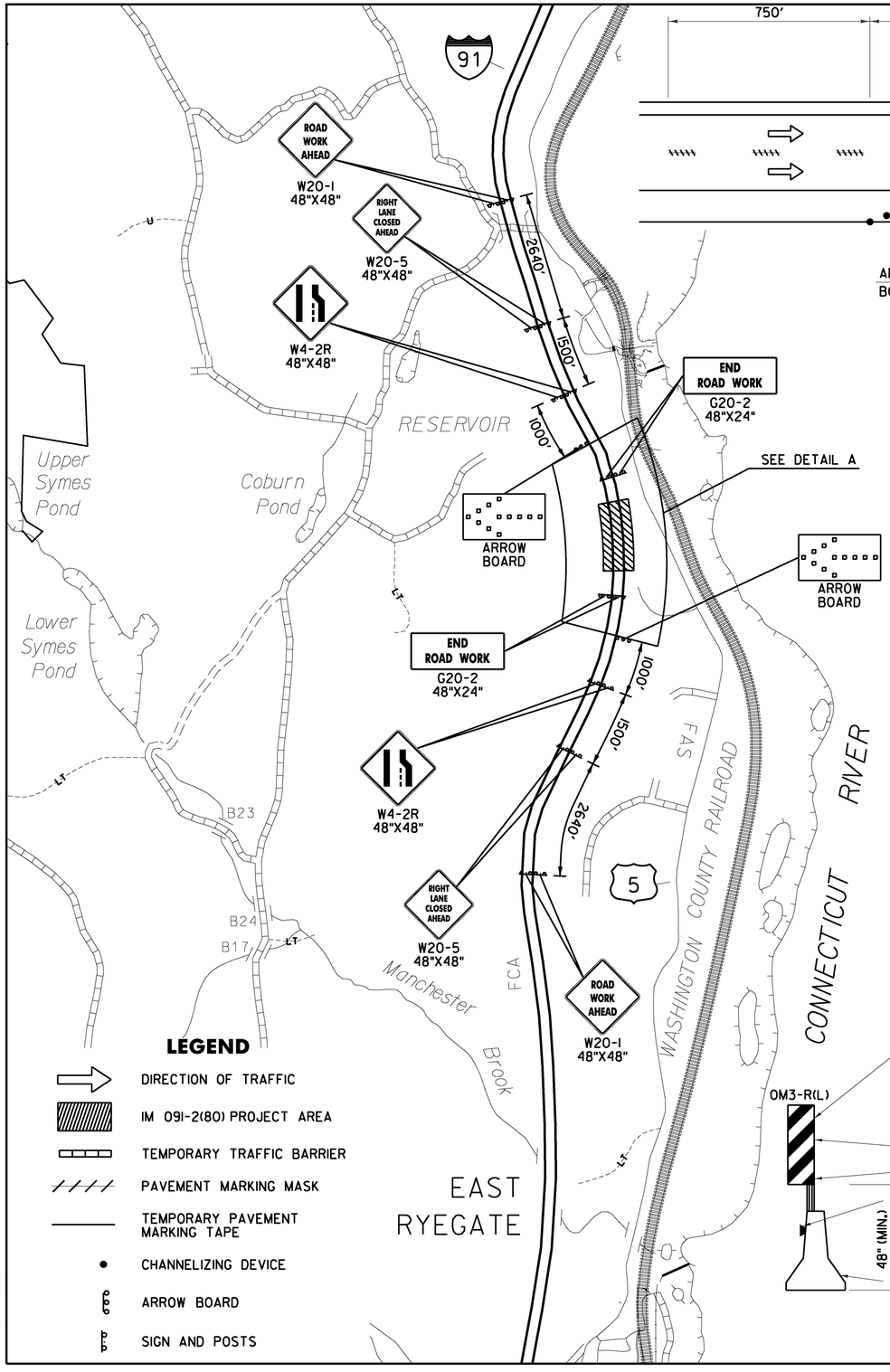
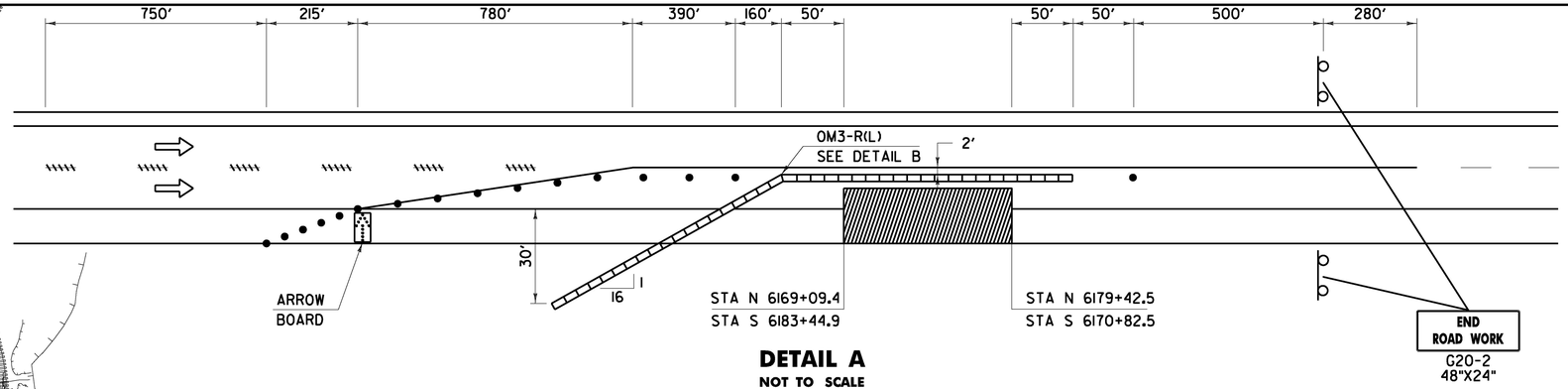
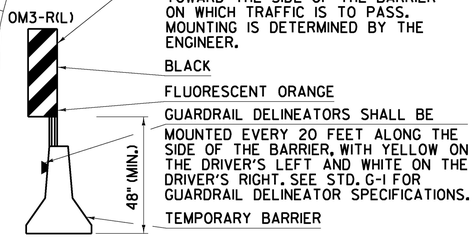




DETAIL A
NOT TO SCALE

LEGEND

- DIRECTION OF TRAFFIC
- IM 091-2(80) PROJECT AREA
- TEMPORARY TRAFFIC BARRIER
- PAVEMENT MARKING MASK
- TEMPORARY PAVEMENT MARKING TAPE
- CHANNELIZING DEVICE
- ARROW BOARD
- SIGN AND POSTS



12" X 36" OBJECT MARKER TO BE INSTALLED AT BEGINNING OF BARRIER TANGENT. STRIPES SLOPE DOWNWARD TOWARD THE SIDE OF THE BARRIER ON WHICH TRAFFIC IS TO PASS. MOUNTING IS DETERMINED BY THE ENGINEER.

BLACK

FLUORESCENT ORANGE

GUARDRAIL DELINEATORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER, WITH YELLOW ON THE DRIVER'S LEFT AND WHITE ON THE DRIVER'S RIGHT. SEE STD. G-1 FOR GUARDRAIL DELINEATOR SPECIFICATIONS.

TEMPORARY BARRIER

DETAIL B
NOT TO SCALE

GENERAL TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE ENGINEER AND VAOT HIGHWAY SAFETY AND DESIGN SECTION FOR REVIEW ONE MONTH PRIOR TO PERFORMING ANY CONSTRUCTION ACTIVITY. THE PLAN SHALL INCLUDE PROVISIONS FOR IMPLEMENTATION AND MAINTENANCE OF TRAFFIC CONTROL FOR ALL WORK ASSOCIATED WITH THIS PROJECT. UPON WRITTEN APPROVAL FROM THE ENGINEER, THE CONTRACTOR SHALL IMPLEMENT THE TRAFFIC CONTROL PLAN AND COMMENCE CONSTRUCTION ACTIVITIES. ALL COSTS ASSOCIATED WITH THE DEVELOPMENT AND ANY NECESSARY REVISION OF A TRAFFIC CONTROL PLAN SHALL BE PAID FOR UNDER CONTRACT ITEM 641.10 TRAFFIC CONTROL.
2. TRAFFIC CONTROL PLANS ARE INTENDED TO BE DEVELOPED IN CONJUNCTION WITH VAOT STANDARD SHEETS, SECTION 6 OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ITS REVISIONS, AND AT THE DISCRETION OF THE ENGINEER.
3. LOCATIONS OF TEMPORARY TRAFFIC CONTROL DEVICES ARE APPROXIMATE, ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
4. PORTABLE CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGES ARE TO BE APPROVED BY THE ENGINEER.
5. ALL SIGNS ASSOCIATED WITH THE TEMPORARY WORK ZONE ON THE INTERSTATE SHALL BE GATE POSTED AND SHALL BE VISIBLE TO THE TRAVELING PUBLIC FOR THE DURATION OF THE CLOSURE.
6. TEMPORARY TRAFFIC BARRIER SHALL BE USED FOR THE WORK ZONE AS INDICATED IN THE TRAFFIC CONTROL SHEET AND PAID FOR UNDER CONTRACT ITEM 621.90 TEMPORARY TRAFFIC BARRIER. ANY INTERIM REMOVING AND SETTING OF THE TEMPORARY TRAFFIC BARRIER SHALL BE INCIDENTAL TO CONTRACT ITEM 621.90 TEMPORARY TRAFFIC BARRIER.
7. THE TEMPORARY TRAFFIC BARRIER SHALL BE PLACED TWO FEET OUTSIDE THE EXISTING PASSING LANE, THROUGH THE LENGTH OF THE WORK AREA AND SHALL HAVE A 1:16 TAPER EXTENDING OUTSIDE OF THE CLEAR ZONE (30 FEET OUTSIDE TRAVELED WAY). IF IT IS NOT POSSIBLE TO GET THE TEMPORARY TRAFFIC BARRIER OUTSIDE OF THE CLEAR ZONE THEN AN IMPACT ATTENUATOR SHALL BE USED AND WILL BE INCIDENTAL TO THE ITEM 621.90 TEMPORARY TRAFFIC BARRIER.
8. ONCE TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED, THE CONTRACTOR SHALL BEGIN WORK IMMEDIATELY AND PROCEED IN A TIMELY MANNER THROUGH TO COMPLETION OF CONSTRUCTION IN ORDER TO MINIMIZE HAZARD AND INCONVENIENCE TO THE TRAVELING PUBLIC AS DIRECTED BY THE ENGINEER.
9. ALL SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY. ADDITIONAL CLEANING WILL BE AT THE DISCRETION OF THE ENGINEER. EXISTING PERMANENT SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 641.10 TRAFFIC CONTROL.
10. THE CONTRACTOR IS NOTIFIED THAT ALL ROADWAYS INCLUDED IN AND ASSOCIATED WITH THIS PROJECT ARE SUBJECT TO OCCASIONAL USE AND TRAVEL BY EMERGENCY RESPONSE VEHICLES. THE CONTRACTOR SHALL MAKE AND IMPLEMENT PLANS AND PROCEDURES DESIGNED TO ENSURE SWIFT AND UNIMPEDED TRAVEL OF EMERGENCY RESPONSE VEHICLES THROUGH CONSTRUCTION ZONES AND SHALL SUBMIT THEM TO THE ENGINEER. ANY COSTS ASSOCIATED WITH SUCH PLANS AND PROCEDURES SHALL BE INCIDENTAL TO CONTRACT ITEM 641.10 TRAFFIC CONTROL.
11. THE PRICE BID FOR ITEM 641.10 TRAFFIC CONTROL SHALL ACCOUNT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO IMPLEMENT AND PROVIDE FOR TRAFFIC CONTROL, WITH THE EXCEPTION OF THE FOLLOWING ITEMS WHICH SHALL BE PAID FOR SEPARATELY:
    621.90 TEMPORARY TRAFFIC BARRIER - LF
    630.10 UNIFORMED TRAFFIC OFFICERS - HR
    630.15 FLAGGERS - HR
    641.15 PORTABLE CHANGEABLE MESSAGE SIGN - EACH
    641.16 PORTABLE ARROW BOARD - EACH
    646.6211 TEMPORARY 6 INCH WHITE LINE, TEMPORARY PAVEMENT MARKING TAPE - LF
    646.86 PAVEMENT MARKING MASK - SF

0 0.25 0.5
SCALE IN MILES

CHA

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: z13a368tcp.dgn	PLOT DATE: 3/30/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
TRAFFIC CONTROL SHEET 1	SHEET 60 OF 61

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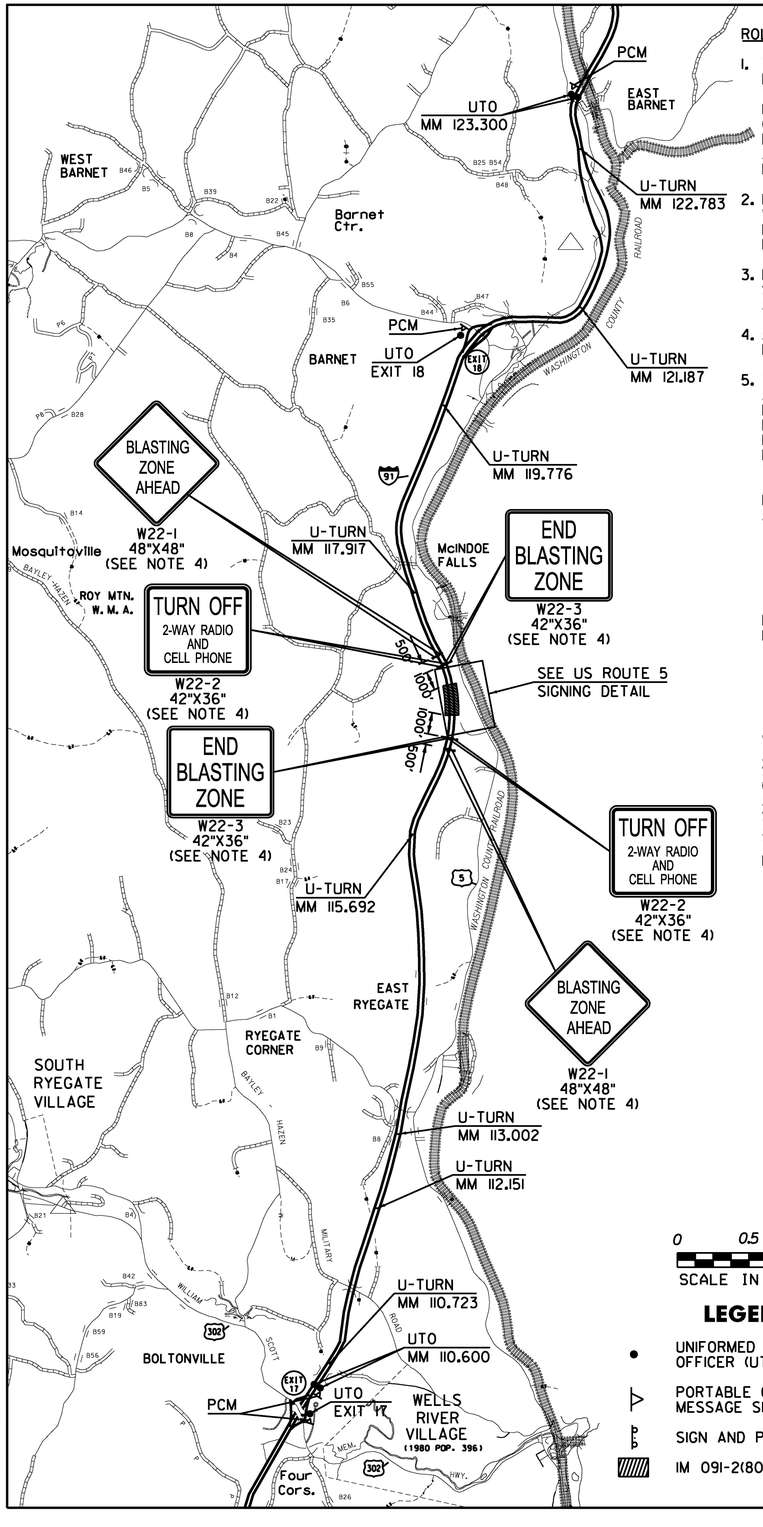
DATE/TIME = 3/30/2017
USER = SJG23



0 0.5 1
SCALE IN MILES

LEGEND

- UNIFORMED TRAFFIC OFFICER (UTO)
- PORTABLE CHANGEABLE MESSAGE SIGN (PCM)
- SIGN AND POSTS
- IM 091-2(80) PROJECT AREA

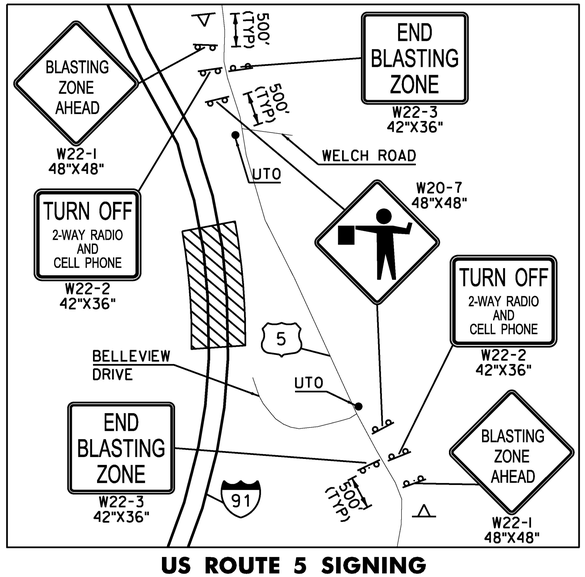
ROLLING ROADBLOCK TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL SUBMIT A ROLLING ROADBLOCK TRAFFIC CONTROL PLAN TO THE ENGINEER AND VAOT HIGHWAY SAFETY AND DESIGN SECTION AS PART OF THE OVERALL PROJECT TRAFFIC CONTROL PLAN. UPON WRITTEN APPROVAL FROM THE ENGINEER, THE CONTRACTOR SHALL IMPLEMENT THE ROLLING ROADBLOCK TRAFFIC CONTROL PLAN AND COMMENCE BLASTING OPERATIONS. THE ROLLING ROADBLOCK AND BLASTING SHALL TAKE PLACE PRIOR TO ESTABLISHING THE LANE CLOSURES. ALL COSTS ASSOCIATED WITH THE DEVELOPMENT OF AND ANY NECESSARY REVISION TO THE ROLLING ROADBLOCK TRAFFIC CONTROL PLAN SHALL BE PAID FOR UNDER CONTRACT ITEM 641.10 TRAFFIC CONTROL.
2. ROLLING ROADBLOCK TRAFFIC CONTROL PLANS ARE INTENDED TO BE DEVELOPED IN CONJUNCTION WITH VAOT STANDARD SHEETS, TRAFFIC ENGINEERS INSTRUCTIONS (TEI) 16-601, SECTION 6 OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ITS REVISIONS, AND AT THE DISCRETION OF THE ENGINEER.
3. LOCATIONS OF TEMPORARY TRAFFIC CONTROL DEVICES ARE APPROXIMATE, ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. ADJUSTMENTS MAY BE NEEDED TO ACCOUNT FOR OTHER TEMPORARY TRAFFIC CONTROL DEVICES ALREADY SET IN PLACE.
4. ALL SIGNS ASSOCIATED WITH THE ROLLING ROADBLOCK ON INTERSTATE 91 SHALL BE GATE POSTED AND SHALL BE VISIBLE TO THE TRAVELING PUBLIC FOR THE DURATION OF THE ESCORT.
5. THE CONTRACTOR SHALL CONTACT SAM PUTNAM AT (603) 477-2277 AT LEAST 24 HOURS IN ADVANCE TO COORDINATE ALL BLASTING ACTIVITIES WITH THE WASHINGTON COUNTY RAILROAD. BLASTING SHALL ONLY TAKE PLACE WHEN THE WASHINGTON COUNTY RAILROAD IS SCHEDULED TO BE CLEAR OF THE AREA AND AT NO TIME SHOULD THE WASHINGTON COUNTY RAILROAD BE REQUIRED TO STOP TRAIN TRAFFIC. AN ESTIMATED NUMBER OF HOURS OF ITEM 630.20 FLAGGERS, RAILROAD HAS BEEN ADDED TO THE CONTRACT TO ALLOW TIME TO INSPECT THE TRACKS AFTER EACH TRIM BLAST.

   PERIODS DURING WHICH THE STATE'S CONTRACTOR SHALL HAVE EXCLUSIVE AND UNINTERRUPTED ACCESS TO THE WASHINGTON COUNTY RAILROAD RIGHT-OF-WAY
   (1) MONDAY 6:00 PM THROUGH TUESDAY 11:00 AM
   (2) TUESDAY 6:00 PM THROUGH WEDNESDAY 11:00 AM
   (3) WEDNESDAY 6:00 PM THROUGH THURSDAY 11:00 AM
   (4) THURSDAY 6:00 PM THROUGH FRIDAY 11:00 AM
   (5) FRIDAY 6:00 PM THROUGH MONDAY 11:00 AM

   PERIODS DURING WHICH THE STATE'S CONTRACTOR SHALL HAVE NON-EXCLUSIVE AND INTERRUPTIBLE ACCESS TO THE WASHINGTON COUNTY RAILROAD RIGHT-OF-WAY
   (1) MONDAY 11:01 AM THROUGH 5:59 PM
   (2) TUESDAY 11:01 AM THROUGH 5:59 PM
   (3) WEDNESDAY 11:01 AM THROUGH 5:59 PM
   (4) THURSDAY 11:01 AM THROUGH 5:59 PM
   (5) FRIDAY 11:01 AM THROUGH 5:59 PM

WHILE ADDITIONAL PERIODS OF EXCLUSIVE AND NON-EXCLUSIVE TRACK OCCUPANCY MAY BE AVAILABLE, THE WASHINGTON COUNTY RAILROAD DOES NOT MAKE ANY REPRESENTATIONS TO THE STATE AS TO SUCH AVAILABILITY. THE CONTRACTOR IS HEREBY ADVISED THAT THE WASHINGTON COUNTY RAILROAD'S OPERATING SCHEDULE IS PERIODICALLY SUBJECT TO REVISION AT ANY TIME. AS SUCH, THE SPECIFIED NON-EXCLUSIVE AND INTERRUPTIBLE OCCUPANCY INTERVALS WILL BE SUBJECT TO REVISION. THE CONTRACTOR WILL RECEIVE VERBAL NOTICE COMMUNICATED BY THE ASSIGNED RAILROAD FLAG PERSON AT LEAST SIXTY MINUTES PRIOR TO THE TRAIN'S ARRIVAL. THE CONTRACTOR SHALL ALLOW TRAIN PASSAGE AND SHALL NOT BE REIMBURSED FOR ANY INCURRED EXPENSE.



US ROUTE 5 SIGNING
NOT TO SCALE
(SEE NOTE 6)

ROLLING ROADBLOCK TRAFFIC CONTROL NOTES (CONT.)

6. TRAFFIC CONTROL ON US ROUTE 5 WILL BE ESTABLISHED AS SHOWN ON THIS SHEET PRIOR TO THE START OF THE TRIM BLASTING OPERATIONS. ALL HOMEOWNERS RESIDING ON AND BETWEEN BELLEVIEW DRIVE AND WELCH ROAD ALONG US ROUTE 5 WILL BE NOTIFIED BY THE CONTRACTOR IN ADVANCE OF ALL SCHEDULED TRIM BLASTS. ANY OTHER HOMEOWNERS LOCATED IN THE VICINITY OF THE PROJECT WILL BE NOTIFIED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. ALL HOMEOWNERS WILL BE INFORMED BY THE CONTRACTOR TO TURN OFF 2-WAY RADIOS AND CELL PHONES WHEN LIVE EXPLOSIVES ARE SCHEDULED TO BE ONSITE. UNIFORMED TRAFFIC OFFICERS (UTO'S) SHALL BE USED TO BLOCK ACCESS TO US ROUTE 5 BETWEEN BELLEVIEW DRIVE AND WELCH ROAD WHILE ROLLING ROADBLOCKS ARE BEING IMPLEMENTED ON INTERSTATE 91. THE UTO'S WILL BE INCIDENTAL TO ITEM 630.10 UNIFORMED TRAFFIC OFFICERS.
7. ROLLING ROADBLOCKS SHALL BE UTILIZED ON BOTH THE NORTHBOUND AND SOUTHBOUND BARRELS OF INTERSTATE 91 DURING BLASTING OPERATIONS AND UTO'S SHALL BE NOTIFIED IN ADVANCE OF ANY BLASTING. ALL UTO'S COST ASSOCIATED WITH THE ROLLING ROADBLOCKS WILL BE CONSIDERED INCIDENTAL TO ITEM 630.10 UNIFORMED TRAFFIC OFFICERS.
8. PORTABLE CHANGEABLE MESSAGE SIGN MESSAGES AND ROLLING ROADBLOCK ADVANCED SIGN PROGRESSION CAN BE SEEN IN TEI 16-601. ADVANCED SIGNING LOCATIONS AND PORTABLE CHANGEABLE MESSAGE SIGN MESSAGES ARE TO BE SUBMITTED AS PART OF THE ROLLING ROADBLOCK TRAFFIC CONTROL PLAN AND APPROVED BY THE ENGINEER.
9. U-TURN LOCATIONS WITHIN THE LIMITS OF THE ROLLING ROADBLOCK ALONG INTERSTATE 91 SHALL BE BLOCKED OFF TO THE TRAVELING PUBLIC DURING THE BLUE LIGHT ESCORT, BUT MUST BE EASILY ACCESSIBLE IN THE EVENT OF AN EMERGENCY.
10. THE CONTRACTOR IS NOTIFIED THAT ALL ROADWAYS INCLUDED IN AND ASSOCIATED WITH THIS PROJECT ARE SUBJECT TO OCCASIONAL USE AND TRAVEL BY EMERGENCY RESPONSE VEHICLES. THE CONTRACTOR SHALL MAKE AND IMPLEMENT PLANS AND PROCEDURES DESIGNED TO ENSURE SWIFT AND UNIMPEDED TRAVEL OF EMERGENCY RESPONSE VEHICLES THROUGH CONSTRUCTION ZONES AND SHALL SUBMIT THEM TO THE ENGINEER. ANY COSTS ASSOCIATED WITH SUCH PLANS AND PROCEDURES SHALL BE INCIDENTAL TO CONTRACT ITEM 641.10 TRAFFIC CONTROL.
11. AT THE BEGINNING OF THE ROLLING ROADBLOCK, MILE MARKER 110.600 NORTHBOUND AND MILE MARKER 123.300 SOUTHBOUND, ONE UTO (BLUE LIGHTS FLASHING) PER LANE SHALL BEGIN ESCORTING TRAFFIC TOWARD THE WORK ZONE AT TEN MPH. IF IT IS DEEMED UNSAFE TO PASS THROUGH THE WORK ZONE AS TRAFFIC NEARS, THE ESCORT SHALL STOP 1500 FEET IN ADVANCE OF THE WORK ZONE FOR A MAXIMUM OF TEN MINUTES.
12. PRIOR TO THE RELEASE OF THE BLUE LIGHT ESCORT, UTO'S STATIONED AT RAMP LOCATIONS WILL STOP ALL TRAFFIC FROM ENTERING THE INTERSTATE.
13. ONCE THE BLUE LIGHTS BEGIN ESCORTING THE TRAFFIC TO THE WORK AREA, THE CONTRACTOR SHALL PROVIDE A SWEEP VEHICLE IN EACH DIRECTION OF TRAVEL WITH AMBER STROBE LIGHTS ACTIVATED TO FOLLOW THE LAST VEHICLE TRAVELING IN ADVANCE OF THE ROLLING ROADBLOCK TO ENSURE THERE ARE NO PARKED VEHICLES AND NO OPEN RAMPS OR OTHER ACCESS POINTS AND THAT THE ROADWAY IS CLEAR BEFORE THE WORK IS TO BEGIN.
14. ALL SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY. ADDITIONAL CLEANING WILL BE AT THE DISCRETION OF THE ENGINEER. EXISTING PERMANENT SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE ROLLING ROADBLOCK TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 641.10 TRAFFIC CONTROL.
15. SUCCESSIVE ROLLING ROADBLOCKS SHOULD NOT BE STARTED UNTIL THE TRAFFIC FROM THE PRECEDING ROLLING ROADBLOCK HAS BEEN SUFFICIENTLY CLEARED FROM THE WORK LOCATION. IF NO MORE ROLLING ROADBLOCKS ARE PLANNED, THERE ARE NO EXPLOSIVES IN THE AREA OR THE AREA IS OTHERWISE SECURE, ROLLING ROADBLOCK AND BLASTING ZONE SIGNING SHALL BE COVERED OR REMOVED.

PROJECT NAME: RYEGATE	
PROJECT NUMBER: IM 091-2(80)	
FILE NAME: zl3a368tcp.dgn	PLOT DATE: 4/3/2017
PROJECT LEADER: D. GOZALKOWSKI	DRAWN BY: J. HEALD
DESIGNED BY: J. OLSEN	CHECKED BY: J. SHIELDS
TRAFFIC CONTROL SHEET 2	SHEET 61 OF 61

CHA

FILE NAME = \\cha-11p.com\proj\Projects\ANY\K4\29741\CADD_MSTN\13a368\Consultants\Highway\zl3a368tcp.dgn
DATE/TIME = 4/3/2017
USER = ANG

VERMONT

State of Vermont *Agency of Transportation*

TO: Michael Booth, Resident Engineer

FROM: Bruce Martin P.E., Roadway Design Project Manager

DATE: October 4, 2017

SUBJECT: Ryegate IM 091-2(80) – Wire Rope and Mesh System

Review of the Wire Rope and Mesh System submitted on 9/26/2017 for the above referenced project has been completed. Based on the review, the submittal has been **Accepted**.

VERMONT

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TECHNICAL DATA SHEET

Rev. 01, Date 02.23.2014

MAC.RO. SYSTEM - Rock Mesh® 30100

COMPOSITE CABLED WIRE MESH

Product Description

Rock Mesh 30100 composite mesh is particularly suitable for rockfall protection as a pinned or simple drapery system for surface or soil veneer slope stability. **Rock Mesh 30100** is a woven composite mesh system made of steel wire and steel wire ropes woven together during the manufacturing process of the hexagonal double twisted wire mesh.

The wire ropes are inserted longitudinally every 12 inches (300 mm) into the wire mesh in both directions. The transversal ropes are inserted within each double twisted mesh and are secured to the selvedge ropes during the manufacturing process. The **Rock Mesh 30100** forms a biaxial 12 inches (300 mm) x 39 inches (1000 mm) cable net grid within the mesh. (See figure 3)

The steel wire used for manufacturing the **Rock Mesh 30100** is heavily galvanized soft temper steel as per ASTM A641.
The hexagonal wire mesh has traditionally been used in the production of gabions and is manufactured in accordance with ASTM A975. The double twist provides a high resistance to the thrust and impact of rocks without unravelling even in the event of individual wire breakages.



Figure 1

The tolerance on the opening of mesh 'D' being the distance between the axis of two consecutive twists, is according to ASTM A975

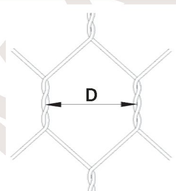

Figure 2

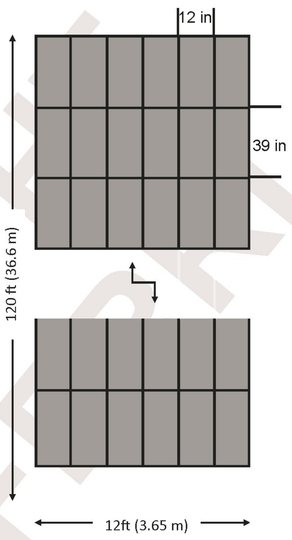

Figure 3

Wire

All tests on wire must be performed prior to manufacturing the mesh.

Tensile strength: wire used in the manufacturing of wire mesh shall have a maximum tensile strength of 75,000 psi (515 MPa) in accordance with ASTM A641/ A641M. Wire tolerances (Table 3) are in accordance with ASTM A641/A641M.
Elongation: Elongation shall not be less than 12%, in accordance with ASTM 370. Test must be carried out on a sample at least 12 in. (25 cm) long.
Zinc Coating: minimum quantities of zinc shown at Table 3 meet the requirements of ASTM A641/A641M, Class III.
Adhesion of Zinc: the adhesion of the zinc coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers.

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Rev. 01, Date 02.23.2014

Table 1—Wire Rope Specifications	
Wire Rope Class 7	ASTM A1023
Wire Rope Diameter in (mm)	5/16 (8)
Galvanized steel	ASTM A1023
Wire Rope Min. Breaking Load lb (kN)	9200 (40.9)
Tolerances	ASTM A1023

Table 2—Standard Product Sizes				
Type	Roll Length ft (m)	Roll Width ft (m)	Longitudinal rope spacing in (m)	Transversal rope spacing in (m)
Rock Mesh 30100	150 (45.7)	12 (3.65)	12 (0.31)	39 (1.00)

Table 3 - RockMesh 30100 Tensile Strength	
Longitudinal mesh tensile strength lbs/ft (kN/m)	12,130 (177)
Transversal mesh tensile strength lbs/ft (kN/m)	5,483 (80)

Table 4—Standard Wire Mesh		
Mesh type		8 x 10
Wire mesh	ø in. (ø mm)	0.106 (2.70)
Wire tolerances	(±) ø in. ((±) ø mm)	0.004 (0.1)
Zinc minimum quantity	oz/ft^2 (gr/m^2)	0.80 (244)
Longitudinal and transversal rope	ø in. (ø mm)	5/16 (8)



Figure 4

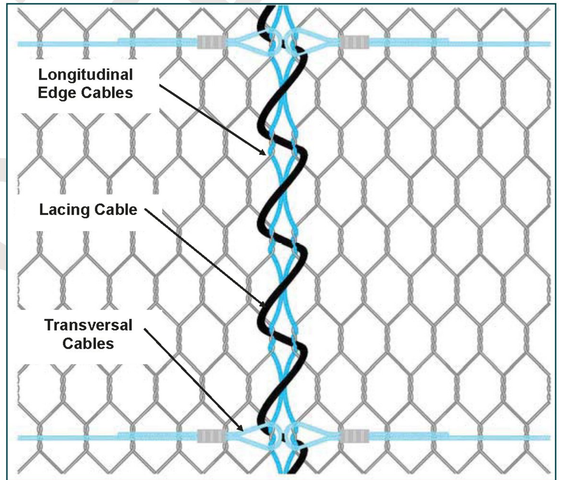

Figure 5 - Typical Panel to Panel Connection

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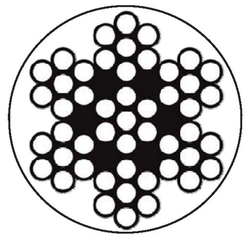
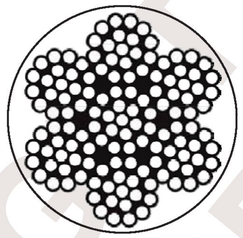
Rev. 01, Date 01.01.2013

PVC Coated Small Diameter Wire Rope (Galvanized Aircraft Cable - GAC)



7 x 7
Steel Core



7 x 19
Steel Core

PVC Coated Small Diameter (Galvanized) Wire Rope				
Nominal Rope Diameter Inches (mm)	**Nominal Coated Diameter Inches (mm)**	**Construction**	**Breaking Strength lbs (kN)**	**Approximate Weight lbs / ft (kg / m)**
1/4 (6.4)	5/16 (7.9)	7x7	6,100 (27.1)	.106 (.157)
1/4 (6.4)	5/16 (7.9)	7x19	7,000 (31.1)	.110 (.164)
5/16 (7.9)	3/8 (9.5)	7x7	9,200 (40.9)	.167 (.249)
5/16 (7.9)	3/8 (9.5)	7x19	9,800 (43.6)	.173 (.259)
3/8 (9.5)	7/16 (11.1)	7x7	13,100 (58.3)	.236 (.350)
3/8 (9.5)	7/16 (11.1)	7x19	14,400 (64.1)	.243 (.361)

Per ASTM A1023-02 Table 9

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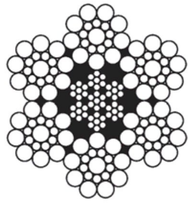
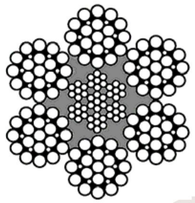
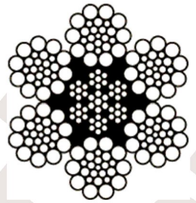
Wire Rope



6 x 19
Seale
IWRC



6 x 25
Filler Wire
IWRC



6 x 26
Warrington-Seale
IWRC

Wire Rope Classification 6x19 Bright or Drawn-Galvanized, IWRC, EIPS			
Nominal Diameter Inches (mm)	**Construction EIPS**	**Minimum Break Strength EIPS Tons (kN)**	**Approximate Weight lbs / Ft (kg / m)**
3/8 (10)	6x25 or 6x26	7.55 (67.1)	0.26 (.386)
1/2 (12)	6x25 or 6x26	13.3 (118.3)	0.46 (.687)
9/16 (14)	6x25 or 6x26	16.8 (149.4)	0.59 (.870)
5/8 (16)	6x25 or 6x26	20.6 (183.2)	0.72 (1.074)
3/4 (19)	6x25 or 6x26	29.4 (261.5)	1.04 (1.546)
7/8 (22)	6x25 or 6x26	39.8 (354)	1.42 (2.104)
1 (25)	6x25 or 6x26	51.7 (459.9)	1.85 (2.748)
1-1/8 (29)	6x25 or 6x26	65.0 (578.2)	2.34 (3.478)
1-1/4 (32)	6x25 or 6x26	79.9 (710.7)	2.89 (4.292)

Meets or exceeds federal specification RR-W-410 [latest revision] and or ASTM A1023
Minimum breaking strength for final-galvanized ropes 10 % lower than values listed per ASTM A1023.

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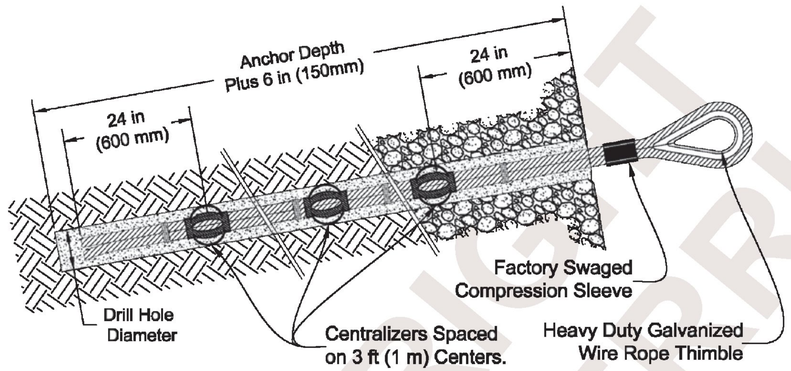
Rev. 01, Date 01.01.2013

Double Leg Wire Rope Anchor



Typical Detail - Double Leg Wire Rope Anchor
Wire Rope Galvanized, Class 6x19 IWRC, EIPS (Or Equivalent) With Pressed Sleeve w/ Heavy Duty Thimble.

Double Leg Wire Rope Anchor Class 6x19 Galvanized, IWRC, EIPS

Nominal Wire Rope Diameter inch (mm)	Wire Rope Minimum Break Strength Tons (kN)	Anchor Assembly Minimum Break Strength Kips (kN)	Anchor Assembly Average Tested Break Kips (kN)
5/8 (16)	20.6 (149.4)	54 (240)*	76.1 (338)
3/4 (19)	29.4 (261.5)	80 (355)*	94.6 (420)
7/8 (22)	39.8 (354.0)	108 (480)*	126.6 (563)
1 (25)	51.7 (459.9)	140 (622)	N/A
1-1/8 (29)	65.0 (578.2)	176 (782)	N/A

*Anchor Minimum Break Strength based on Minimum Tested Values Plus 10% Safety Factor.
Wire Ropes Meet or exceed federal specification RR-W-410 [latest revision] and or ASTM A1023
Minimum breaking strength for final-galvanized ropes 10 % lower than values listed per ASTM A1023.

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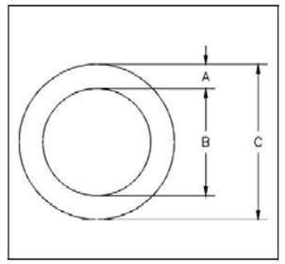
Weldless Rings

Made in USA

Replace with
7/8inch Domestic
galvanized shackle

Weldless Rings meet the performance requirements of Federal Specification RR-C-271D Type VI.





Self colored or Hot Dip galvanized
Forged Carbon Steel- Quenched and Tempered

Size (A) (in.)	Working Load Limit Single Pull (lbs.)*	Weight Each (lbs.)	Dimensions (in.)	
			B	C
7/8 x 4	7200	2.72	4.00	5.75
7/8 x 5-1/2	5600	3.47	5.50	7.25
1 x 4	10800	3.69	4.00	6.00
1-1/8 x 6	10400	6.60	6.00	8.25
1-1/4 x 5	17000	6.82	5.00	7.50
1-3/8 x 6	19000	10.12	6.00	8.75

* Ultimate Load is 6 times the Working Load Limit.

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RYEGATE IM 091-2 (80) / ROCK SLOPE PROTECTION

Client: VAOT

Rev:	Observations	Dis:	App:	Date:

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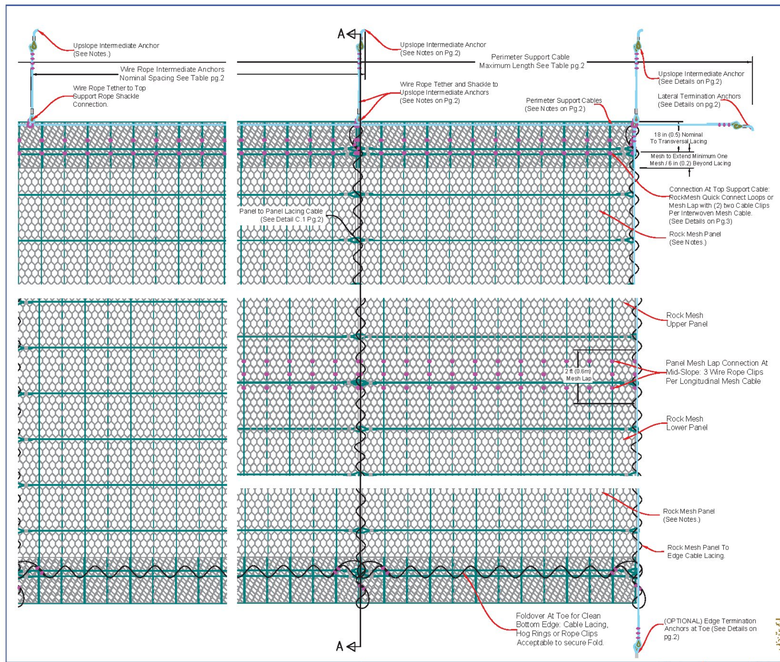

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Rev.	Issue / Revision:	Drawn:	App:	Date:

Drawing Title: RockMesh 30100 Drapery
Typical Face View and Cross Section

Project No: RFBU2017 - 102
Client: VAOT
Drawing No: 1 / 03
Units: Feet
Scale: NTS
Rev: 1
Printed on: 8/28/17

Designed: - Date: -
Drawn: BL Date: 08.24.17
Checked: - Date: -

Project: RYEGATE IM 091-2 (80) / ROCK SLOPE PROTECTION

TYPICAL DRAWINGS

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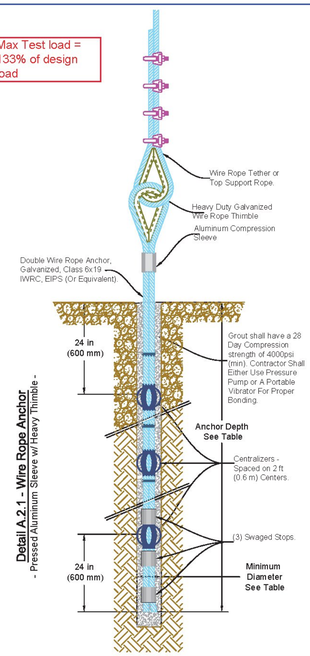
LATERAL WIRE ROPE ANCHOR DETAILS

Anchor Designation / Location	Maximum Anchor Spacing	Foundation Material	Suggested Drilled Hole Diameter	Suggested Embedment Depth	Minimum Pullout
Lateral Termination Wire Rope Anchor Rope Ø= 3/4 inch	200 ft (61 m)	Soil	5 in (126 mm)	16 ft (5 m)	36 Kips (160 kN)
		Rock	3 in (75 mm)	16 ft (5 m)	
Intermediate Wire Rope Anchor Rope Ø= 3/4 inch	16 ft (5 m)	Soil	5 in (126 mm)	10 ft (3 m)	20 Kips (88 kN)
		Rock	3 in (75 mm)	10 ft (3 m)	

Max Test load = 133% of design load

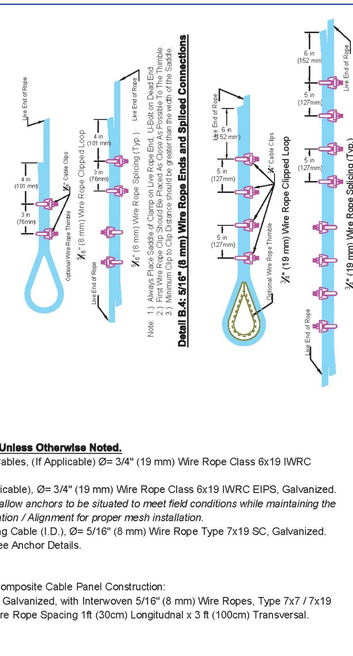


Detail A.2.1 - Wire Rope Anchor
- Pressed Aluminum Sleeve w/ Heavy Thimble -

Wire Rope Clip Specifications Table

Clip Size Ø mm [in]	Cable Diameter Tolerance mm [in]	Number of Clips	Nominal Torque ft-lbs [N-m]	Nominal Saddle Length mm [in]	Tightening Torque ft-lbs [ft-lbs]
8 [5/16]	8 [5/16]	2	275 [11]	76 [3.0]	40 [30]
20 [3/4]	20 [3/4]	4	650 [25]	127 [5.0]	175 [130]

*To a greater number of clips are used than shown in the table, the amount of turnback should be increased proportionally. The tightening torque values shown are based upon the threads being lubricated using a basic oil or wax lubricant.



Detail B.4: 5/16" (8 mm) Wire Rope Ends and Spliced Connections

Detail B.1: 3/4" (19mm) Wire Rope Ends and Spliced Connections

Notes:

All Wire Ropes As Listed Unless Otherwise Noted.

1. Perimeter Support Cables, (If Applicable) Ø= 3/4" (19 mm) Wire Rope Class 6x19 IWRC EIPS, Galvanized.
2. Tether Lines (If Applicable), Ø= 3/4" (19 mm) Wire Rope Class 6x19 IWRC EIPS, Galvanized. *Tethers are used to allow anchors to be situated to meet field conditions while maintaining the Support Cable Elevation / Alignment for proper mesh installation.*
3. Panel to Panel Lacing Cable (I.D.), Ø= 5/16" (8 mm) Wire Rope Type 7x19 SC, Galvanized.
4. **Anchors:** Please See Anchor Details.

Rock Mesh Panels.

5. Rock Mesh **30100** Composite Cable Panel Construction:
- DT Mesh Type 8x10 Galvanized, with Interwoven 5/16" (8 mm) Wire Ropes, Type 7x7 / 7x19 SC, Galvanized. Wire Rope Spacing 1ft (30cm) Longitudnal x 3 ft (100cm) Transversal.

Maccaferri Inc. assumes no responsibility for the drawings and calculations it provides, as they must be intended as a general indication to suggest the proper use of its products.

Rev.	Issue / Revision:	Drawn	App.	Date

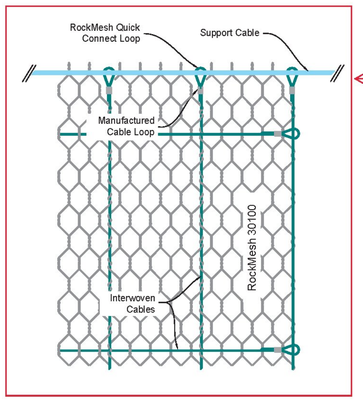
Drawing Title: RockMesh 30100 Drapery
Notes, Rope Splicing and Anchor Details

Project No: RFBU2017 - 102
Client: VAOT
Drawing No: 2 / 03
Units: Feet
Scale: NTS
Rev: 1
Printed on: 8/28/17

Designed: - Date: -
Drawn: BL Date: 08.24.17
Checked: - Date: -

Project: RYEGATE IM 091-2 (80) / ROCK SLOPE PROTECTION
TYPICAL DRAWINGS

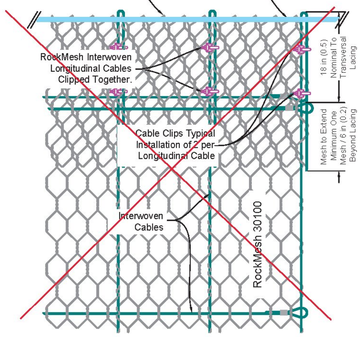
MACCAFERRI
Maccaferri, Inc.
10303 Governor Lane Blvd.
Williamsport, MD 21795-3116 USA
Ph. (301) 223-6910 Fax (301) 223-6134



Detail C.2.A - Panel to Support Cable Connection

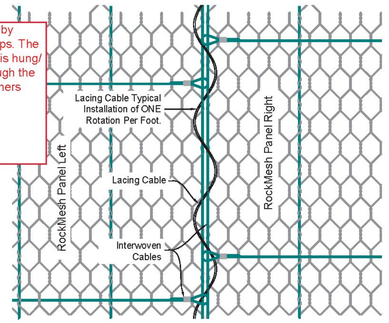
- With RockMesh Quick Connect Cable Loop Option -

The mesh will be anchor to the top rope/main support rope by passing maine support rope through pre-manufactured loops. The mesh will first be attached to a temp. cable. Once all mesh is hung/ installed the 3/4 inch main support rope willbe passed through the pre-manufactured loops or eyes then connected to the thethers using a 7/8" shackle connection.



Detail C.2.B - Panel to Support Cable Connection

- With Wire Rope Clip Option -



Detail C.1.A - Panel to Panel Connection

- With Wire Rope Lacing Option -

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Rev.	Issue / Revision:	Drawn:	App.:	Date:

Drawing Title: RockMesh 30100 Drapery
Mesh Connection and Lacing Details

Project No: RFBU2017 - 102
Client: VAOT
Drawing No: 3 / 03
Units: Feet
Scale: NTS
Rev: 1
Printed on: 8/28/17

Designed:	-	Date: -
Drawn:	BL	Date: 08.24.17
Checked:	-	Date: -

Project: RYEGATE IM 091-2 (80) / ROCK SLOPE PROTECTION

TYPICAL DRAWINGS

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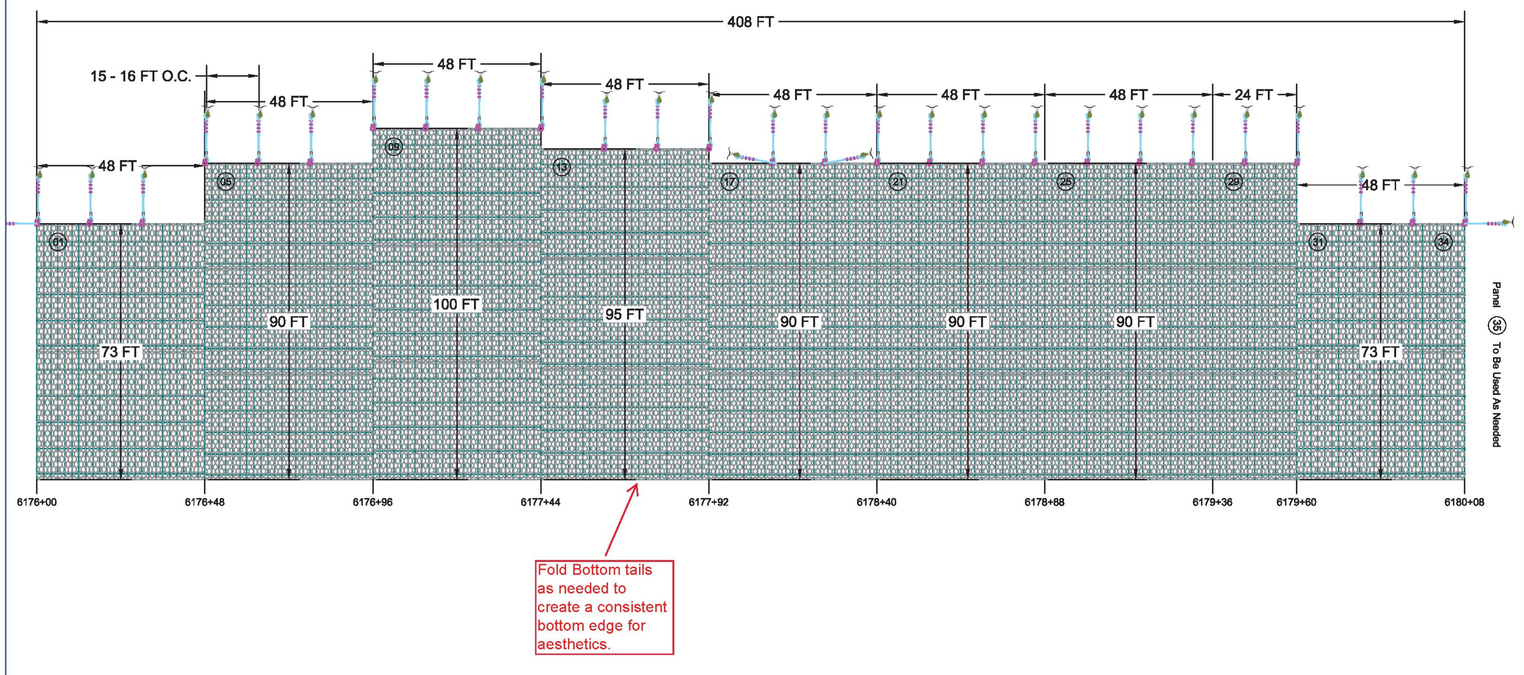

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Rev:	Issue / Revision:	Drawn:	App:	Date:

Scaled to fit 24X36X32 mm sheet; Tabloid

Drawing Title: RockMesh 30100 Drapery Project Panel & Anchor Layout Elevation View				Designed: -	Date: -
Project No: RFBU2017 - 102	Client: VAOT			Drawn: BL	Date: 08.24.17
Drawing No: 2 / 03	Units: Feet	Scale: NTS	Rev: 1 Printed on: 9/22/17	Checked: -	Date: -

Project: RYEGATE IM 091-2 (80) / ROCK SLOPE PROTECTION

TYPICAL DRAWINGS

MACCAFERRI

Maccaferri, Inc.
10303 Governor Lane Blvd.
Williamsport, MD 21795-3116 USA
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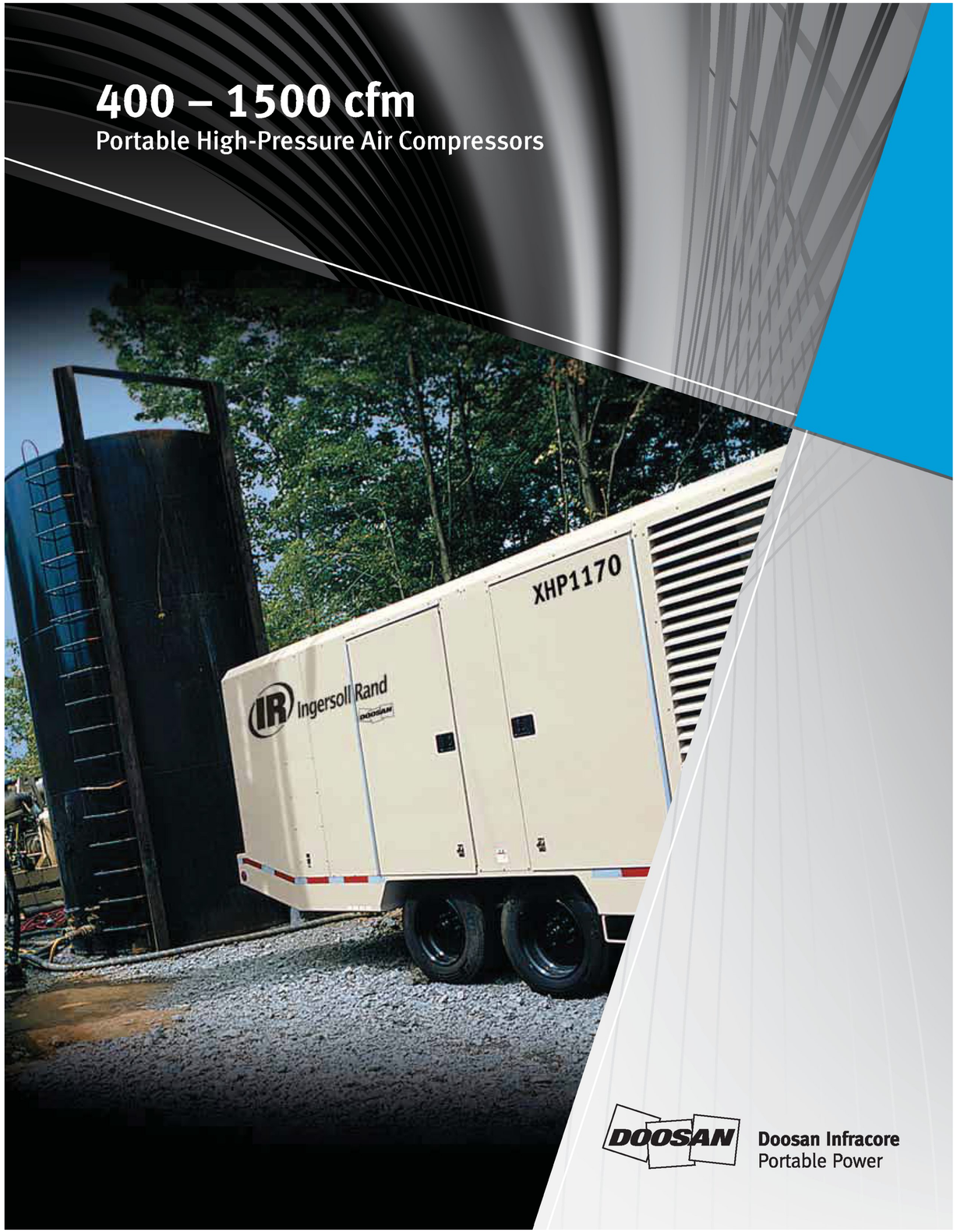
This drawing is stored in: L:\Projects\AA ROCKFALL ONLY\New Jersey CT MA ME NH NJ NY\2017\RFBU2017 - 102 VAOT Rock Slope Rhyegate IM091-2\Typical Drawings\RFBU2017 - 102 (V1) VAOT Rhyegate - RockMesh Anchor Drapery.dwg

APPENDIX D

Drilling and Grouting Equipment

400 – 1500 cfm

Portable High-Pressure Air Compressors



DOOSAN **Doosan Infracore**
Portable Power

Doosan Infracore
Portable Power

Compressor technology that sets the standard

Doosan Portable Power offers the right level of technology, from years of proven direct engine control to our innovative microcontroller and more. We listen to our customers and design our product to meet those demands. We utilize mechanical control of the inlet and oil temperature valve for maximum durability that performs in the harshest conditions. The backlit gauges on the panel are intuitively placed, the layout of the cool-box design allows quick service and the paint quality, weld strength and reliability are just some of the things that enhance your product experience. The running gear system is designed with life extending features that provide security mile after mile. No wonder Doosan Portable Power sets the standard by which others are measured.



Performance features (WCAT)

- 110% fluid containment base (except XHP750)
- 1-year/2,000-hour warranty package
- 2-year/4,000-hour airend warranty is standard, extended to 5-year/10,000-hour warranty when genuine filters, fluids and parts from an authorized Doosan Portable Power dealer are used at the prescribed maintenance intervals
- 500-hour engine oil service/1,000-hour airend oil service warranty
- Automatic safety shutdowns for high discharge air temp, low engine oil pressure, high engine coolant temp and low fuel level
- Central drains included (drains for XHP750 are optional)
- Construction-grade pedestal jack stand
- Easy access for service maintenance of coolers and filters
- Fuel/water separator as primary filtration
- Galvanneal sheet metal enclosure
- Heavy-duty A-frame detachable drawbar with adjustable pintle eye
- Microprocessor-controlled engine with optimal compressor performance and diagnostics

The highest density commercialized portable compressors available

XHP open frame models

- XHP1170FCAT
- XXHP1270/XHP1500FCAT

Available options (factory-installed WCAT)

- Aftercoolers plus water separator with 20 degree F approach temperature (25 degree F on XHP750)
- Automatic engine oil replenishment system
- Automatic start/stop controller with remote start
- Battery trickle charger sealed for drill environment durability
- Cold-start kit includes heaters for engine block, engine oil pan and batteries
- Emergency stop
- IQ System® consists of aftercooler plus particulate and coalescing filters with a patented condensate disposal system for cleaner, Instrument Quality air (low ambient system included with aftercooler blowdown, airflow control and orifice heaters for operation at any temperature)
- Less running gear includes isolation mounts for truck or trailer or permanent pad installation



	MODEL	VHP400WJD	VHP750WCAT	XHP750WCAT
Compressor	Free-Air Delivery – cfm (m³/min)	400 (11.3)	750 (21.2)	750 (21.2)
	Rated Operating Pressure – psi (bar)	200 (13.8)	200 (13.8)	300 (21)
	Pressure Range – psi (bar)	80 – 225 (5.5 – 15.5)	80 – 225 (5.5 – 15.5)	140 – 325 (9.65 – 22.4)
	Air Discharge Outlet NPT Size – in (mm)	2.0 (50.8)	2.0 (50.8)	2.0 (50.8)
	Air Discharge Outlet Quantity	1	1	1
	Compressor Oil Capacity – gal (L)	12 (45.4)	18.5 (70)	19.8 (75)
Engine	Make/Model	John Deere/6068H	Caterpillar/C9	Caterpillar/C9
	Emissions Tier Level	Tier 3	Tier 3	Tier 3
	# of Cylinders	6	6	6
	Displacement – cu in (L)	414 (6.8)	535 (8.8)	535 (8.8)
	Rated Speed – rpm	2200	1800	1800
	Idle Speed – rpm	1500	1350	1350
	Bhp (kW)@ Rated Speed	173 (129)	300 (223.7)	350 (261)
	Electrical – volts/battery qty	24/(2) 1000 CCA	24/(2) 1000 CCA	24/(2) 1000 CCA
	Engine Oil Capacity – qt (L)	8.6 (32.5)	34 (32.1)	34 (32.1)
	Radiator Coolant Capacity – gal (L)	7.0 (26.5)	12.7 (48)	12.7 (48)
	Fuel Tank Capacity – gal (L)	73 (276)	110 (416) Tandem 140 (530) Wagon	110 (416) Tandem 140 (530) Wagon
Dimensions With Running Gear	Overall Length – in (mm)	170 (4318)	163 (4140) Wagon 215 (5461) Tandem	163 (4140) Wagon 215 (5461) Tandem
	Overall Width – in (mm)	78.1 (1984)	79 (2007)	79 (2007)
	Overall Height – in (mm); excluding exh. pipe	76 (1930)	91.2 (2316) Wagon 87.9 (2233) Tandem	91.2 (2316) Wagon 87.9 (2233) Tandem
	Track Width – in (mm)	66.2 (1681)	66.3 (1684) Wagon 68.5 (1740) Tandem	66.3 (1684) Wagon 68.5 (1740) Tandem
	Tire Size	ST235/80R16	7.5-16LT Wagon 8-14.5LT Tandem	7.5-16LT Wagon 8-14.5LT Tandem
	Shipping Weight – lb (kg) no fuel	5133 (2328)	9370 (4250) Wagon 9480 (4300) Tandem	9370 (4250) Wagon 9480 (4300) Tandem
	Working Weight – lb (kg) with fuel	5644 (2560)	10560 (4790) Wagon* 10460 (4745) Tandem*	10560 (4790) Wagon* 10460 (4745) Tandem*
Dimensions Without Running Gear	Overall Length – in (mm)	117 (2972)	153 (3886)	153 (3886)
	Overall Width – in (mm)	61 (1549)	79 (2007)	79 (2007)
	Overall Height – in (mm)	56.9 (1443)	80.4 (2042)	80.4 (2042)
	Shipping Weight – lb (kg) no fuel	4565 (2070)	9120 (4137)	9120 (4137)
	Working Weight – lb (kg) with fuel	5000 (2268)	10110 (4586)	10110 (4586)

	MODEL	XHP1170WCAT	XHP1170FCAT	XXHP1270-XHP1500FCAT
Compressor	Free-Air Delivery – cfm (m³/min)	1170 (33.1)	1170 (33.1)	1270 (36) – 1500 (42.5)
	Rated Operating Pressure – psi (bar)	350 (24.1)	350 (24.1)	500 (34.5) – 350 (24.1)
	Pressure Range – psi (bar)	150 – 375 (10.3 – 25.9)	150 – 375 (10.3 – 25.9)	175 – 375 (12.1 – 25.9) 400 – 525 (27.8 – 36.2)
	Air Discharge Outlet NPT Size – in (mm)	3 (76.2)	2 (50.8)	3 (76.2)
	Air Discharge Outlet Quantity	1	1	1
	Compressor Oil Capacity – gal (L)	55 (208)	55 (208)	85 (322)
Engine	Make/Model	Caterpillar/C15	Caterpillar/C15	Caterpillar/C18
	Emissions Tier Level	Tier 3	Tier 3	Tier 3
	# of Cylinders	6	6	6
	Displacement – cu in (L)	923 (15.1)	923 (15.1)	1105 (18.1)
	Rated Speed – rpm	1800	1800	1625/1850
	Idle Speed – rpm	1350	1350	1350
	Bhp (kW)@ Rated Speed	540 (402.7)	540 (402.7)	700 (522)
	Electrical – volts/battery qty	24/(2) 1400 CCA	24/(2) 1400 CCA – Optional	24/(2) 1400 CCA – Optional
	Engine Oil Capacity – qt (L)	42 (40)	42 (40)	50 (47.3)
	Radiator Coolant Capacity – gal (L)	15.2 (57.5)	15.2 (57.5)	13.5 (51.1)
	Fuel Tank Capacity – gal (L)	Tank 1 – 98 (369) Tank 2 – 98 (369) **Total – 196 (738)**	14 (52) day tank option	20 (75.7) day tank option
Dimensions With Running Gear	Overall Length – in (mm)	222.4 (5649) Wagon 290.5 (7379) Tandem	N/A	N/A
	Overall Width – in (mm)	90 (2286)	N/A	N/A
	Overall Height – in (mm); excluding exh. pipe	101.8 (2586) Wagon 100 (2540) Tandem	N/A	N/A
	Track Width – in (mm)	71.6 (1818.5) Wagon 71 (1803) Tandem	N/A	N/A
	Tire Size	215/75R17.5	N/A	N/A
	Shipping Weight – lb (kg) no fuel	16100 (7303) Wagon 16420 (7464) Tandem	N/A	N/A
	Working Weight – lb (kg) with fuel	17790 (8069) Wagon** 17850 (8114) Tandem**	N/A	N/A
Dimensions Without Running Gear	Overall Length – in (mm)	222.4 (5649)***	156 (3962)	184.1 (4676)
	Overall Width – in (mm)	90 (2286)	89.5 (2273)	89.2 (2266)
	Overall Height – in (mm)	86.4 (2196)	92 (2337)	89.5 (2273)
	Shipping Weight – lb (kg) no fuel	15350 (6963)	11200 (5080)	16120 (7327)
	Working Weight – lb (kg) with fuel	17040 (7729)**	N/A	16910 (7686)

*Rear steps deduct 4.5"
**Add 600 lb (272 kg) for IQ System
***Deduct 12.5" for Service Valve

GRADALL®

Model 534D10-45 TELEHANDLER



Performance

Rated Capacity
At 24 in. (610 mm) load center,
10,000 lb (4,536 kg)

Maximum Lift Height
45 ft (13.7 m)

Frame Leveling
8 degrees

Lift Speed (boom retracted)
Up: 10.8 sec
Down: 8.1 sec

Boom Speed
Extend: 14.5 sec
Retract: 13.4 sec

Travel Speeds Forward
2WD 0-19 mph (30.6 kmph)
4WD 0-6.5 mph (10.5 kmph)

Drawbar Pull (Loaded)
21,000 lb (9,526 kg)

Operating Weight
With 48 in. (1.2 m) carriage and forks,
25,300 lb (11,476 kg)

Standard Specifications

Engine

Make and Model	John Deere 4045TF275 Turbocharged
Fuel	No. 2 Diesel
Cycles	4
No. of Cylinders	4
Displacement	276 cu in (4.5 L)
Rated Speed	2,500 rpm
Max. Gross BHP	115 hp (85 kW)
Fuel Tank	38 gal (144 L)

Engine Filters
Two-stage dry air cleaner – centrifugal pre-cleaner with continuous dust ejector plus replaceable dry filter element.

Visual service indicator.

Replaceable spin-on fuel filter. Full-flow replaceable spin-on engine oil filter.

Electrical System
Voltage: 12V
Alternator: 65 amp
Battery: 1050 cold cranking amps at 0°F

Hydrostatic Drive
6,300 PSI (43,437 kPa) closed loop with piston pump and motors.

All hydraulic connections ORS and Code 62 O-ring flanges.

Integral reservoir with implement hydraulics.

8 micron suction filter for charge pump.

Self-contained, swashplate design, variable displacement, over center, piston pump.

Neutral start switch. (Park brake must also be engaged to start.)

2WD – 4WD inching.

Audible back-up travel alarm mounted in counterweight area signals reverse movement.

Axles
Planetary hubs with piston motors on rear axle.

Piston motor-driven planetary front axle with high-bias differential.

Service Brakes
Hydraulic wet disc brake on each front wheel.

Hydraulic dynamic braking on front axle and both rear wheels.

Parking Brakes
Wet disc spring-applied electro/hydraulic release, fail-safe on both front wheels.

Light on dash indicates when brakes are on.

Frame mounted right side rear view mirror.

Tires
Standard: 14:00 x 24 – 12PR, G2 type.
Optional: Radial 14:00 x 24 – 12PR L2 rock tires.

Cab
Certified ROPS/FOPS structure with horn, back-up alarm and standard right side rear view mirror.

Forward, neutral, reverse lever on left of steering column.

Single foot pedal control provides both braking and inching for lifting while maneuvering vehicle.

Electro/hydraulic traction lock valve for superior tractive effort.

Steering
Hydraulic power steering with manual backup.

Rear wheel steering, 90° pivot around either front tire.

Outside turning radius is less than chassis length.

Instruments
Volt meter, hourmeter, engine oil pressure, temperature, fuel gauge.

All gauges protected by clear acrylic cover.

Controls
Grouped for operator comfort and convenience.

2WD and 4WD switch on dash.

Boom lift and crowd on single joystick.

Right-hand tilt and sway lever.

Foot throttle.

Floor mounted traction lock switch.

Hydraulic System-Implement
Single-section gear pump.

40 gal (151.6 L) system capacity.

8 micron filter with visual service indicator and suction strainer.

Lift, crowd, tilt and sway cylinders have safety checks to prevent dropping of load in the event of hose or other hydraulic failure.

Auxiliary Hydraulics
Used for all attachments equipped with cylinders or other hydraulic components. Consists of valves, controls and hydraulic lines.

Accessories & Options

Cab Enclosure
Lockable, split door. Windshield wiper. Heater & defroster fan.

Light Group
Consists of 2 cab-mounted headlights, 1 backup/tail/stoplight and rotating beacon.

Radial and Rock Tires

Winch

Left Hand Tilt/Sway Control

Tilt on Joystick

Attachments

Standard Carriage
48 in. (1.2 m), 66 in. (1.7 m) or 72 in. (1.8 m)

Side Tilt Carriage
48 in. (1.2 m) or 66 in. (1.7 m)

100° Swing Carriage
72 in. (1.8 m) Carriage

180° Swing Carriage
72 in. (1.8 m)

100° Drywall Swing Carriage
72 in. (1.8 m)

Pallet Forks
2 x 6 x 48 in.
(51 mm x 152 mm x 1.2 m)

Cubing Forks
2 x 2 x 48 in.
(51 mm x 51 mm x 1.2 m)

Vertical Mast
6 ft (1.8 m)

100° Swing Mast
6 ft (1.8 m)

Truss Boom With or Without Winch
10 ft (3.0 m)

Bucket
0.75 cu yd (0.57 m^3) or
1.25 cu yd (0.95 m^3)

Work Platform

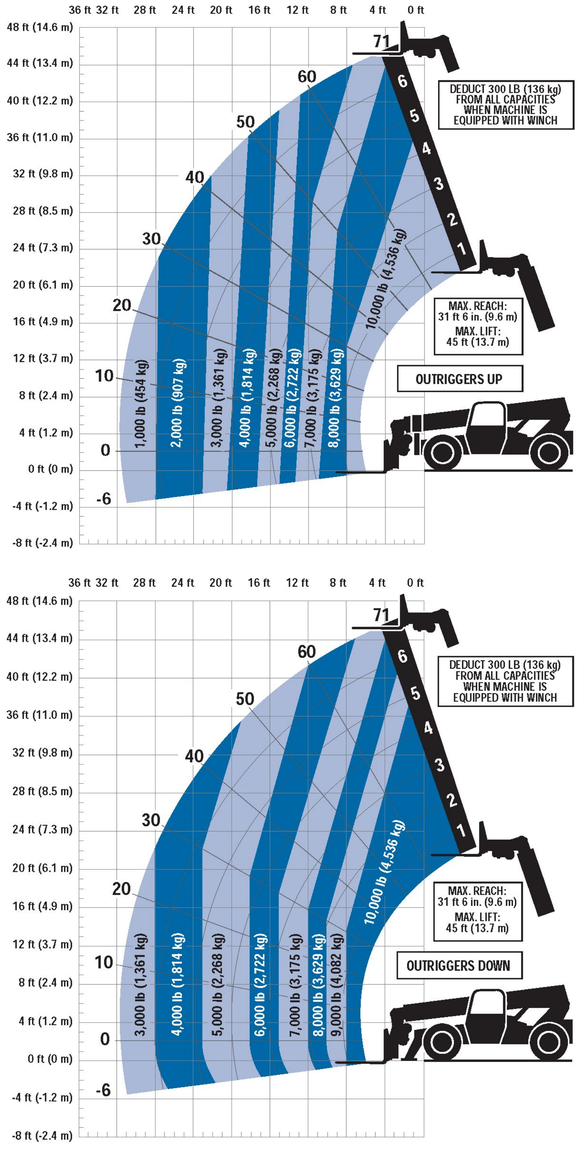
Slip On Crane Hook

Instant Hook

SPECIFICATIONS

GRADALL®

Model
534D10-45
TELEHANDLER



Dimensions

Length (less forks) . . . . . 237 in. (6.01 m)
Width . . . . . 98.8 in. (2.50 m)
Height . . . . . 93 in. (2.36 m)
Wheelbase . . . . . 135 in. (3.42 m)
Ground Clearance . . . . 19.3 in. (490 mm)
Outside Turning Radius . . 175 in. (4.44 m)
Max. Reach from Front Tires to 24 in. (610 mm) Load Center . . . . 31.5 ft (9.60 m)

IMPORTANT

Rated lift capacities shown are with machine equipped with carriage and pallet forks. The machine must be level on a firm surface with undamaged, properly inflated tires. Machine specifications and stability are based on rated lift capacities at specific boom angles and boom lengths. (If specifications are critical, the proposed application should be discussed with your dealer.)

DO NOT exceed rated lift capacity loads, as unstable and dangerous machine conditions will result.

DO NOT tip the machine forward to determine the allowable load.

Use only JLG approved attachments with proper material handler model/attachment load capacity charts displayed in the operator's cab. OSHA requires all rough terrain forklift operators be trained according to OSHA 29 CFR 1910.178 (1).

Due to continuous product improvements, JLG Industries reserves the right to make specification and/or equipment changes without prior notification. This machine meets or exceeds ASME B56.6-2002 as originally manufactured for intended applications.

Form No.: SS-G534D1045-0104-15M
Part No.: 3132206
R060501
Printed in USA

JLG®

JLG Industries, Inc.
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McConnellsburg, PA 17233-9533
Telephone 717-485-5161
Toll-free in US 877-JLG-LIFT
Fax 717-485-6417
www.jlg.com

ChemGrout®

Geotech Series

The versatile Geotech Series pumps a wide variety of materials including bentonites, neat cement and non-shrink grouts.

*CG-500/031/DH/GT
Diesel/Hyd. Powered



*Shown with optional water batcher.

CG-555/031/GH/GT
Gas/Hyd. Powered



CG-550/031/GH/GT
Gas/Hyd. Powered



Large capacity mix tanks and holding hopper provide continuous pumping, increasing productivity and reducing line blockage.

Series features ChemGrout's powerful 3" piston pump for fast, trouble-free operation.

Conveniently located variable speed controls allow a single operator to quickly mix and pump batches, ensuring a simple, efficient operation.

Match grout plant with job size with your choice of single or double 70-gallon mix tanks.

Geotech Series features specially designed blades and baffles that develop a high shearing action, providing rapid and thorough mixing.

Optional trailer package available for single mix tank design, for convenient job-site mobility.

ChemGrout®

Widest Selection of Grouting Equipment in the World

CG Geotech Series

The ChemGrout Geotech Series offers exceptional productivity, minimal maintenance and a quick payback for a wide variety of grouting applications.

These simple, easy-to-use grout plants offer a balanced design and are ready for jobsite operation. Both mixer and pump feature centrally located, variable speed controls for quick adjustment. The mixer utilizes specially designed blades and baffles that develop a high shearing action, insuring a rapid and thorough mixing process.

The mixer, hopper and grout pump are a balanced system allowing the mixer to stay ahead of the pump to provide a continuous output of material. After mixing, the material is transferred to the lower hopper through a large slide gate designed to handle high ratio sand/cement, neat cement and non-shrink grout. This efficient use of a holding hopper enables a new batch to be mixed while the first is being pumped.

The Geotech Series features ChemGrout's patented CG-031 single acting variable speed piston pump that easily handles materials ranging from fluid slurries to heavily sanded grouts.

The versatile CG-031 piston pump is engineered for ease of operation and low cost of maintenance. The unique staple lock construction holds all working components together allowing parts to be easily accessed for cleaning and maintenance. The pump can be completely disassembled and reassembled in minutes by using only a hammer.

The compact skid mounted versions are available in air, hydraulic, gas/hydraulic electric/hydraulic and diesel/hydraulic. The trailer mounted CG555/GT is available in a single tank design and is a fully integrated system, combining mixer, pump and power system, all in a single road worthy package.

Specifications

Model	CG500/031/GT	CG550/031/GT
Mix Tank	2 - 70 Gallon (530 liters)	1 - 70 Gallon (265 liters)
Pump	CG-031 Single Acting Piston	
Max. Output Pressure	16 gpm (60 ipm) 550 psi (38 bar)	
Holding Hopper	45 Gallon (170 liters)	

CG550/031 Skid	Required	Weight	Size
Air	185 cfm	690 lbs	66"L x 34"W x 58"H
Hydraulic	2 supplies 9/6 gpm, 2300 psi	650 lbs	88"L x 34"W x 58"H
Electric/Hyd.	*Three Phase Electricity	1300 lbs	88"L x 34"W x 58"H
Gas/Hydraulic	Self-Contained	1300 lbs	90"L x 34"W x 58"H
Diesel/Hydraulic	Self-Contained	1300 lbs	90"L x 34"W x 58"H

CG500/031 Skid	Required	Weight	Size
Air	185 cfm	1100 lbs	88"L x 34"W x 58"H
Hydraulic	2 supplies 9/6 gpm, 2300 psi	1050 lbs	88"L x 34"W x 58"H
Electric/Hyd.	*Three Phase Electricity	1500 lbs	88"L x 34"W x 58"H
Gas/Hydraulic	Self-Contained	1500 lbs	88"L x 34"W x 58"H
Diesel/Hydraulic	Self-Contained	1500 lbs	88"L x 34"W x 58"H

CG555/031 Trailer	Required	Weight	Size
Electric/Hyd.	*Three Phase Electricity	1700 lbs	110"L x 68"W x 76"H
Gas	Self-Contained	1700 lbs	110"L x 68"W x 76"H
Diesel	Self-Contained	1700 lbs	110"L x 68"W x 76"H

*Several Voltages Available

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Slitte MCD-MCDP

Le slitte da perforazione tipo MCD ed MCDP sono delle unità da perforazione estremamente leggere e maneggevoli. Possono essere equipaggiate con una testa di rotazione pneumatica (per l'utilizzo di martello fondo foro da 2" o 3" – fig.1) con una perforatrice pneumatica da 58 kg a rotazione separata destra e sinistra – fig. 2, oppure con una perforatrice pneumatica a rotopercussione fino a 30 kg - fig. 3. Un particolare puntone a snodo sferico ne consente l'ancoraggio su roccia. Due piastre con opportuno ancoraggio a fissaggio rapido ne permettono l'applicazione su ponteggi a struttura tubolare – fig.4 o per altre particolari applicazioni.
Le slitte tipo MCD sono dotate di motore di avanzamento pneumatico a palette che fornisce una forza di trazione di 4710 N (480 Kg).
Le slitte MCDP sono dotate di motore di avanzamento pneumatico a pistoni che fornisce una forza di trazione di 8340 N (850 Kg).
I due tipi di slitta, nelle loro versioni standard, sono realizzate per l'utilizzo di aste da 1,0 m o da 1,5 m.

MCD-MCDP SADDLES
The MCD and MCDP drilling slides are extremely light and handy drilling units. They can be equipped with a pneumatic rotating head (for using 2" or 3" down-the-hole hammer – fig. 1), with a rock-drill weighing 58 kg with separate right and left rotation – fig. 2, or with a rotopercussion pneumatic rock-drill up to 30 Kg – fig. 3. A special down jack allows it to be anchored on rock. Two plates with a special quick-fixing anchorage, allow to use it on tubular-structure scaffolds – fig. 4 or in other special operations. The MCD slides are equipped with a pneumatic blade motor for feeding, which supplies a tractive force of 4710 N (480 Kg). The MCDP slides are equipped with a pneumatic piston motor for feeding, which supplies a tractive force of 8340 N (850 Kg). The two kinds of slides, in their standard versions, are suitable for using 1.0 m or 1.5 m rods.

MCD – MCDP SCHLITTEN
Die Schlitten für die Bohrung vom Typ MCD und MCDP gehören zu den extrem leichten und handlichen Bohrungseinheiten. Die Einheiten können mit einem über Druckluft betriebenen Rotationskopf (bei Einsatz des Hammers mit Futter 2" oder 3" – Abb.1) mit einer 58 kg-Perforationsmaschine mit unabhängiger Links-Rechtsdrehung – Abb. 2 - oder mit einer pneumatischen Perforationsmaschine für Druckluftrotationsbohrung mit Leistung bis 30 kg – Abb. 3 – ausgestattet werden. Ein besonderer Druckstab mit Kugelgelenk ermöglicht die Verankerung an Felsen. Zwei Platten mit zweckmäßiger Verankerung und schneller Befästigung ermöglichen die Verwendung auf Baugerüsten mit röhrenförmiger Struktur – Abb. 4 oder auch bei anderen besonderen Anwendungen. Die Schlitten vom Typ MCD sind mit einem Druckluftmotor mit Schaufeln zum Vor-und-Rückshub versehen, der eine Zugkraft von 4710 N (480 Kg) liefert.
Die Schlitten vom Typ MCDP sind mit einem Druckluft Kolbenmotor zum Vor-und-Rückshub versehen, der eine Zugkraft von 8340 N (850 Kg) liefert.
Beide Schlittentypen sind in ihrer Standardversion für die Verwendung von Bohrgestänge von 1,0 m Länge oder 1,5 m Länge verwirklicht.

CHARITOS MCD-MCDP
Les chariots de forage du type MCD et MCDP sont des unités de perforation très légères et maniables. Elles peuvent être munies d'une tête de rotation pneumatique (pour l'utilisation d'un marteau-fond-de-trous de 2" ou 3" – fig. 1), avec un perforateur pneumatique de 58 kg à rotation séparée droite et gauche – fig. 2, ou d'un marteau pneumatique à rotopercussion jusqu'à 30 Kg – fig. 3. Un dispositif à articulation sphérique en permet l'accrochage sur la roche. Deux plaques qui permettent l'accrochage à fixage rapide peuvent s'appliquer sur des échafaudages à structure tubulaire – fig. 4 ou pour d'autres applications. Les chariots du type MCD sont munis d'avancement pneumatique à palettes qui fournit une force de traction de 4710 N (480 Kg).
Les chariots MCDP sont munis d'un moteur à avancement pneumatique à pistons qui fournit une force de traction de 8340 N (850 Kg). Les deux types de chariots, dans leurs versions standard, sont réalisés pour l'utilisation de tiges de 1,0 m ou de 1,5 m.

CARROS MCD-MCDP
Los carros de perforación tipo MCD y MCDP son unidades de perforación extremamente ligeras y de fácil maniobrabilidad. Pueden ser equipadas de una cabeza de rotación neumática (para el empleo de martillo de fondo de 2" ó 3" – fig.1), con una perforadora neumática de 58 kg. con rotación separada derecha e izquierda – fig. 2, o con una perforadora de rotopercusión hasta los 30 Kg – fig. 3. Una tornapunta especial de articulación esférica permite su anclaje sobre la roca. Dos planchas con anclaje adecuado de fijación rápida permiten su aplicación sobre andamiajes de estructura tubular – fig. 4 o para otras aplicaciones particulares. Los carros de tipo MCD están equipados de avance neumático de paletas que suministra una fuerza de tracción de 4710 N (480 Kg). Los carros MCDP están equipados de motor de avance neumático de pistones que suministra una fuerza de tracción de 8340 N (850 Kg). Los dos tipos de carros, en sus versiones estándar, han sido realizados para la utilización de varillas de 1,0 m o de 1,5 m.

Fig.1



Fig.2



Fig.3



Fig.4









APPENDIX E

Testing Equipment

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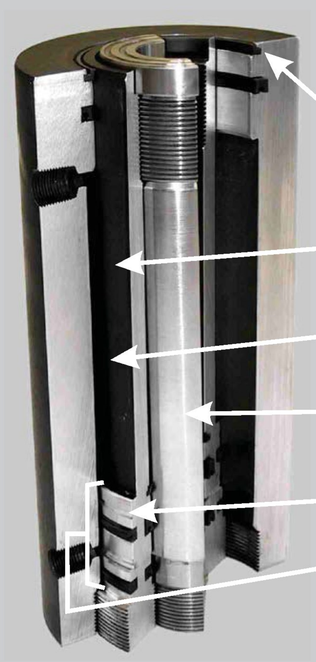

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