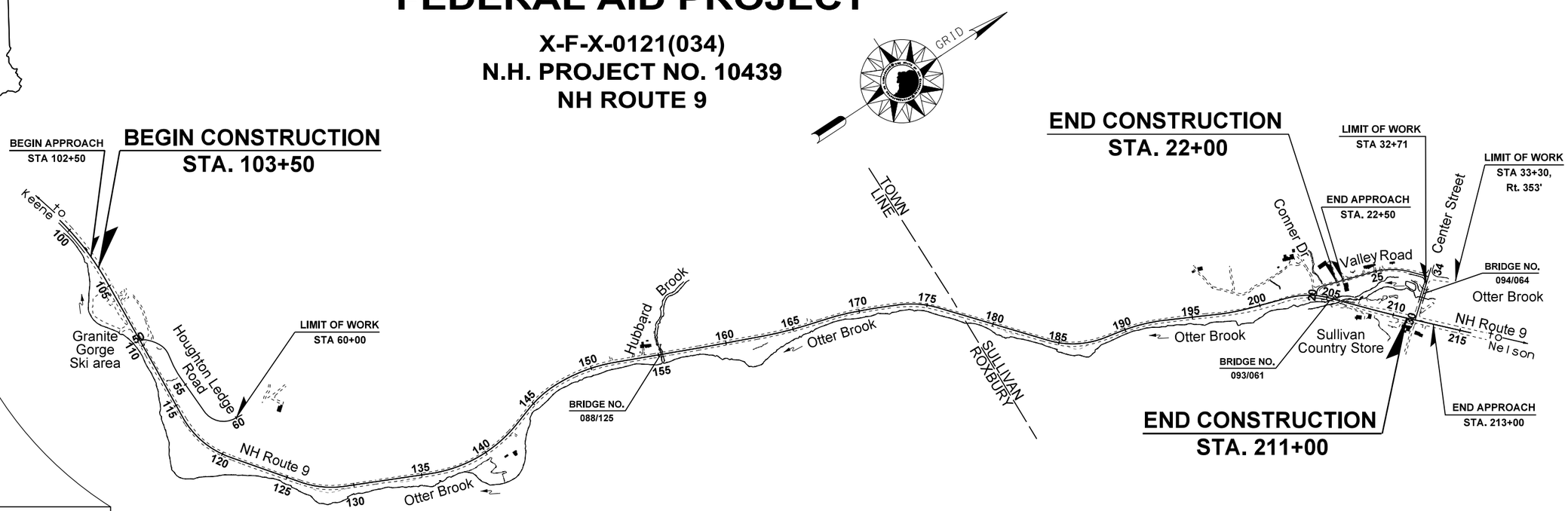
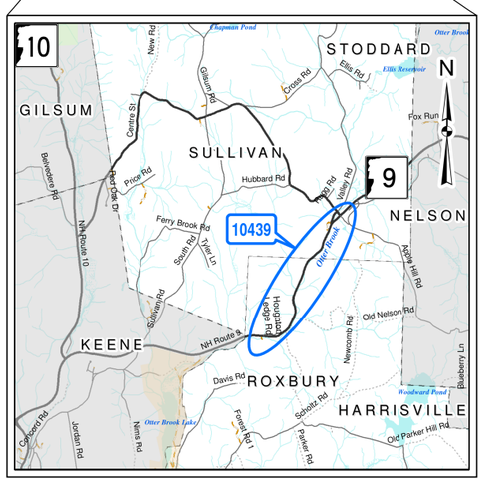
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
FEDERAL AID PROJECT

X-F-X-0121(034)
N.H. PROJECT NO. 10439
NH ROUTE 9

DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 19	7400
AVERAGE DAILY TRAFFIC 20 39	9030
PERCENT OF TRUCKS	8.6
DESIGN SPEED	45 mph
LENGTH OF PROJECT	2.1 Miles





LOCATION MAP

THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY ½ SCALE

TOWNS OF ROXBURY AND SULLIVAN

COUNTY OF CHESHIRE

SCALE: 1" = 400'

NHDOT — THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL: _____ 9/7/2017
DIRECTOR OF PROJECT DEVELOPMENT — DATE

APPROVED: _____ 9/11/17
ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR — DATE

STATE OF NEW HAMPSHIRE — JAMES A. MARSHALL — No. 6222 — LICENSED PROFESSIONAL ENGINEER — 9/6/17

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-F-X-0121(034)	10439	1	294

DRAWN BY TWC — DATE 08/2017
CHECKED BY SLM — DATE 08/2017

INDEX OF SHEETS

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2	INDEX OF SHEET AND GENERAL NOTES
3,4	STANDARD SYMBOLS
5-10	TYPICALS
11-15	QUANTITY SUMMARIES
	SPECIAL USE PLANS
16-17	SIGN TEXT LAYOUT
18-21	PAVEMENT MATCH DETAILS
22	DRIVEWAY DETAILS
23	DRAINAGE DETAIL NOTE #17
24	DRAINAGE DETAIL NOTE #23
25	DRAINAGE DETAIL NOTE #52
26	DRAINAGE DETAIL NOTE #54
27	VALLEY ROAD CULVERT DETAILS
28	TYPICAL OUTLET PROTECTION DETAIL
29	STORMWATER TREATMENT SWALE DETAILS
30	RWIS DETAILS
31-34	GUARDRAIL PLATFORMS
35	CURVED GUARDRAIL WITH CRT POSTS
36	TERMINAL UNIT DELINEATION
37	T101 BRIDGE & APPROACH RAIL (STEEL POSTS)
38	ALUMINUM APPROACH RAIL (2-BAR)
39	SULLIVAN COUNTRY STORE PARKING AREA DETAILS

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	(NEW BRIDGE NUMBER 093/060)
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86-89	REINFORCING SCHEDULE
	DIVERSION PLANS
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97	DIVERSION PROFILE
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110-118	GENERAL PLANS
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127-134	PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLANS
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150-153	GUARDRAIL NOTES
	CROSS SECTIONS
154-273	NH ROUTE 9
274-281	HOUGHTON LEDGE ROAD
282-285	VALLEY ROAD
286-294	DRAINAGE

GENERAL NOTES

1. FOR STANDARD PLANS, SEE DEPARTMENT OF TRANSPORTATION WEBSITE AT: WWW.NH.GOV/DOT/ORG/PROJECTDEVELOPMENT/HIGHWAYDESIGN/STANDARDPLANS/INDEX.HTM.
2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
3. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.
4. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.
5. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
6. PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.
7. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).
8. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY SDR AND THE FIELD NOTES CAN BE FOUND IN THE FIELD BOOKS 11878, 12164, 12558, 12600, 12652, 12937, AND 13020. COORDINATES ARE NEW HAMPSHIRE STATE PLANE COORDINATES OF NAD83, 1986 ADJUSTMENT AND THE BEARINGS ARE GRID. ELEVATIONS ARE REFERENCED TO NGVD29.
9. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:

1	2		4	5			8	9			

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

INDEX OF SHEETS AND GENERAL NOTES

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	10439index_sheet	10439	2	294

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed) — (label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous)(coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW
ORDINARY HIGH WATER — OHW
TOP OF BANK — TOB
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW
NORMAL HIGH WATER — NHW
WIDTH AT BANK FULL — WBF
PRIME WETLAND — PWET
PRIME WETLAND 100' BUFFER — PWET100
NON-JURISDICTIONAL DRAINAGE AREA — NJDA
COWARDIN DISTINCTION LINE — CDL
TIDAL BUFFER ZONE — TBZ
DEVELOPED TIDAL BUFFER ZONE — DTBZ
HIGHEST OBSERVABLE TIDE LINE — HOTL
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
VERNAL POOL — VP
SPECIAL AQUATIC SITE — SAS
REFERENCE LINE — REF
WATER FRONT BUFFER — WB50
NATURAL WOODLAND BUFFER — NWB150
PROTECTED SHORELAND — PS250
INVASIVE SPECIES LABEL — I.S. I — I.S. II
INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500
100 YEAR FLOODPLAIN BOUNDARY — FP100
FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 31 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) — 72.5
FINISHED GRADE ELEVATION (RIGHT) — 79.14

SHEET 1 OF 2

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	10439stdsymb1_2	10439	3	294

DRAINAGE

MANHOLE
CATCH BASIN — cb — (existing) — (PROPOSED)
DROP INLET — di
DRAINAGE PIPE (existing) — (label size & type)
DRAINAGE PIPE (PROPOSED)
UNDERDRAIN (existing) W/ FLUSHING BASIN — fb — (label size & type)
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN
show direction of flow
HEADER (existing & PROPOSED) — (with stone outlet protection)
END SECTION (existing & PROPOSED) — METAL or PLASTIC — RCP
OPEN DITCH (PROPOSED)
EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)
RR RIGHT-OF-WAY LINE
PROPERTY LINE — PL
PROPERTY LINE (COMMON OWNER) — Z
TOWN LINE — BOW / CONCORD
COUNTY LINE — COOS / GRAFTON
STATE LINE — MAINE / NEW HAMPSHIRE
NATIONAL FOREST
CONSERVATION LAND — LC
BENCH MARK / SURVEY DISK
BOUND — bnd — (PROPOSED)
STATE LINE/ TOWN LINE MONUMENT — S/L — T/L
NHDOT PROJECT MARKER
IRON PIPE OR PIN — ip
DRILL HOLE IN ROCK — dh
TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±
PROPERTY PARCEL NUMBER — 12
HISTORIC PROPERTY

UTILITIES

	existing	PROPOSED
TELEPHONE POLE		
POWER POLE		
JOINT OCCUPANCY	(plot point at face not center of symbol)	
MISCELLANEOUS/UNKNOWN POLE		
GUY POLE OR PUSH BRACE		
LIGHT POLE		
LIGHT ON POWER POLE		
LIGHT ON JOINT POLE		
POLE STATUS: REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.:	R L	P+04 25.0′ T+04 25.0′
RAILROAD	(label ownership)	
RAILROAD SIGN		
RAILROAD SIGNAL		
UTILITY JUNCTION BOX	jb	JB
OVERHEAD WIRE	OW (label type)	OW
UNDERGROUND UTILITIES		
WATER (on existing lines label size, type and note if abandoned)	W	PW
SEWER	S	PS
TELEPHONE	T	PT
ELECTRIC	E	PE
GAS	G	PG
LIGHTING	L	PL
INTELLIGENT TRANSPORTATION SYSTEM	ITS	PITS
FIBER OPTIC	FO	PFO
WATER SHUT OFF	WSO	WSO
GAS SHUT OFF	GSO	GSO
HYDRANT	HYD	HYD
MANHOLES		
SEWER	S	MHS
TELEPHONE	T	MHT
ELECTRICAL	e	MHE
GAS	g	MHG
UNKNOWN	U	

TRAFFIC SIGNALS / ITS

	existing	PROPOSED
MAST ARM (existing)		30′ MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER		
OPTICOM STROBE		
TRAFFIC SIGNAL		
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT		
SIGNAL CONDUIT	C	PC
CONTROLLER CABINET	cc	CC
METER PEDESTAL	mp	MP
PULL BOX	pb	PB
LOOP DETECTOR (QUADRUPOLE)		(label size)
LOOP DETECTOR (RECTANGULAR)		(label size)
CAMERA POLE (CCTV)		
FIBER OPTIC DELINEATOR	fod	FOD
FIBER OPTIC SPLICE VAULT	SV	SVF
ITS EQUIPMENT CABINET	its	ITS
VARIABLE SPEED LIMIT SIGN		
DYNAMIC MESSAGE SIGN		
ROAD AND WEATHER INFO SYSTEM		

CONSTRUCTION NOTES

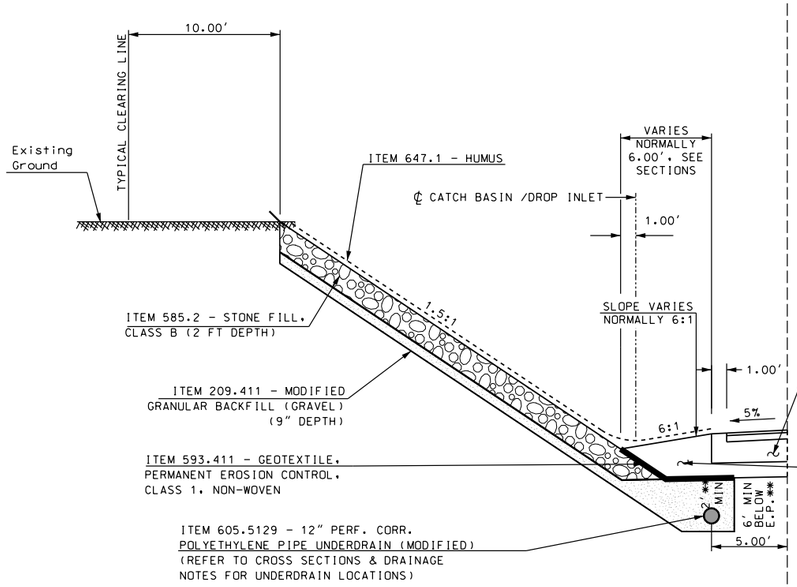
CURB MARK NUMBER - BITUMINOUS	B-1
CURB MARK NUMBER - GRANITE	G-1
CLEARING AND GRUBBING AREA	A
DRAINAGE NOTE	1
EROSION CONTROL NOTE	A
FENCING NOTE	A
GUARDRAIL NOTE	1
ITS NOTE	1
LIGHTING NOTE	A
TRAFFIC SIGNAL NOTE	1

SHEET 2 OF 2

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

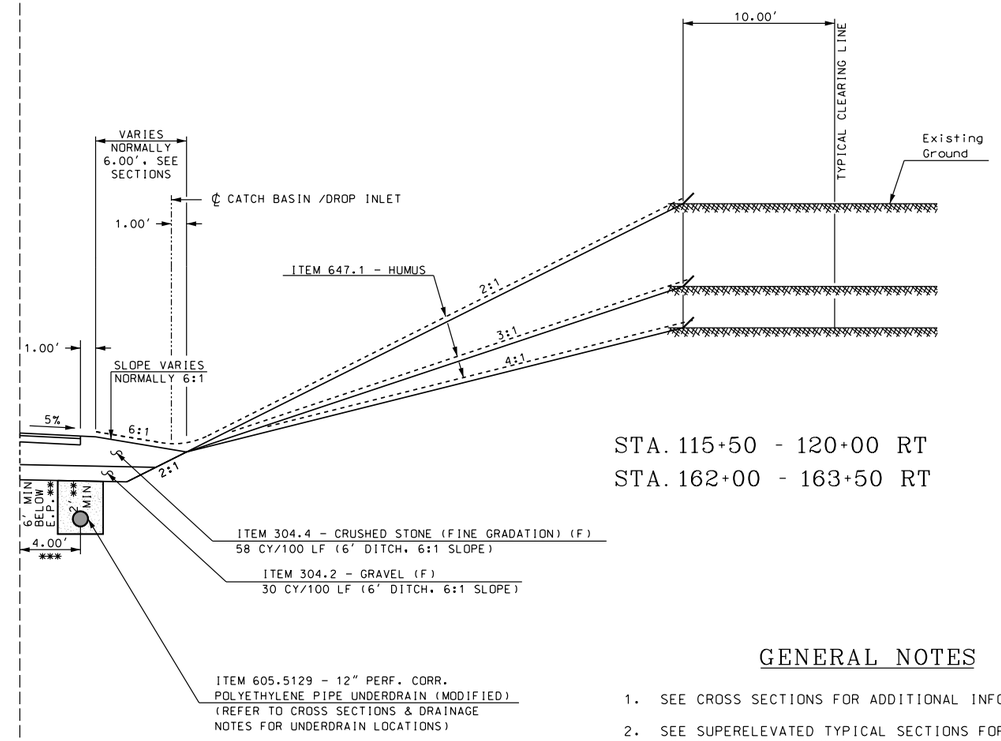
STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	10439stdsymb1_2	10439	4	294

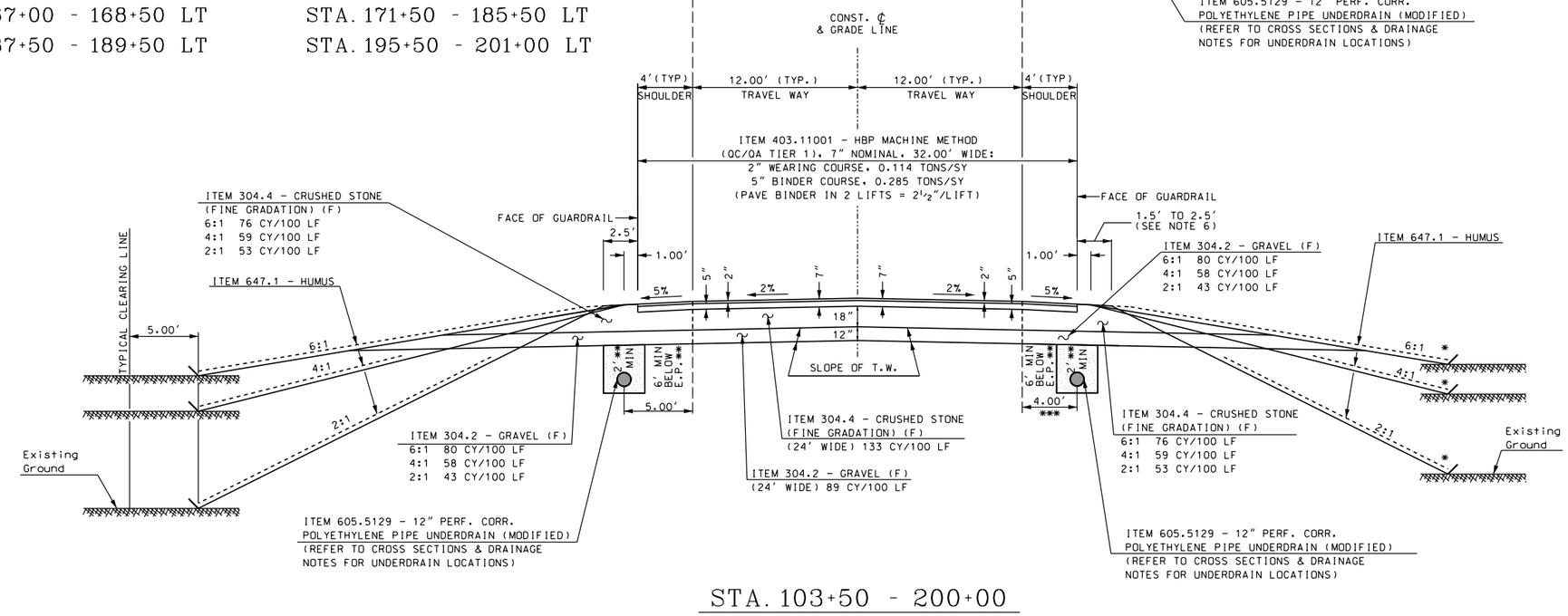


STA. 124+00 - 125+00 LT
STA. 156+00 - 158+50 LT
STA. 167+00 - 168+50 LT
STA. 187+50 - 189+50 LT

STA. 129+50 - 145+00 LT
STA. 162+50 - 165+00 LT
STA. 171+50 - 185+50 LT
STA. 195+50 - 201+00 LT



STA. 115+50 - 120+00 RT
STA. 162+00 - 163+50 RT



STA. 103+50 - 200+00

GENERAL NOTES

1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE SUPERELEVATED TYPICAL SECTIONS FOR TYPICALS ALONG CURVES.
3. SEE PAVEMENT MATCH DETAILS FOR VALLEY ROAD PAVEMENT DESIGN AND FOR ADDITIONAL INFORMATION.
4. IN AREAS OF HUMUS (INCLUDING AREAS OF STONE FILL WITH HUMUS), USE ITEM 645.611 - BONDED FIBER MATRIX (BFM) WITH ITEM 646.21 - TURF ESTABLISHMENT WITHOUT MULCH, OR AS DIRECTED BY THE ENGINEER.
5. IN AREAS OF LOAM, USE ITEM 646.3 - TURF ESTABLISHEMENT WITH MULCH & TACKIFIERS, OR AS DIRECTED BY THE ENGINEER.
6. FOR SHOULDER BREAKS BEHIND GUARDRAIL: USE 2.5' MIN. FOR STANDARD W-BEAM (ITEM 606.18001) USE 1.5' MIN. FOR NU-GUARD 31 (ITEM 606.15805)
7. ITEM 647.1 - HUMUS SHALL BE THE MATERIAL EXCAVATED AS 203.11 - COMMON EXCAVATION LRS. HUMUS SHALL BE PLACED AT A MINIMUM DEPTH OF 6". ALL ITEM 203.11 SHALL BE RE-USED ON THE PROJECT.

* CLEAR TO LIMITS OF SLOPE LINE ONLY, UNLESS OTHERWISE SHOWN ON PLANS

** USE CONTROL THAT RESULTS IN GREATER DEPTH

*** USE 3.00' WIDTH IN GUARDRAIL SECTIONS.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

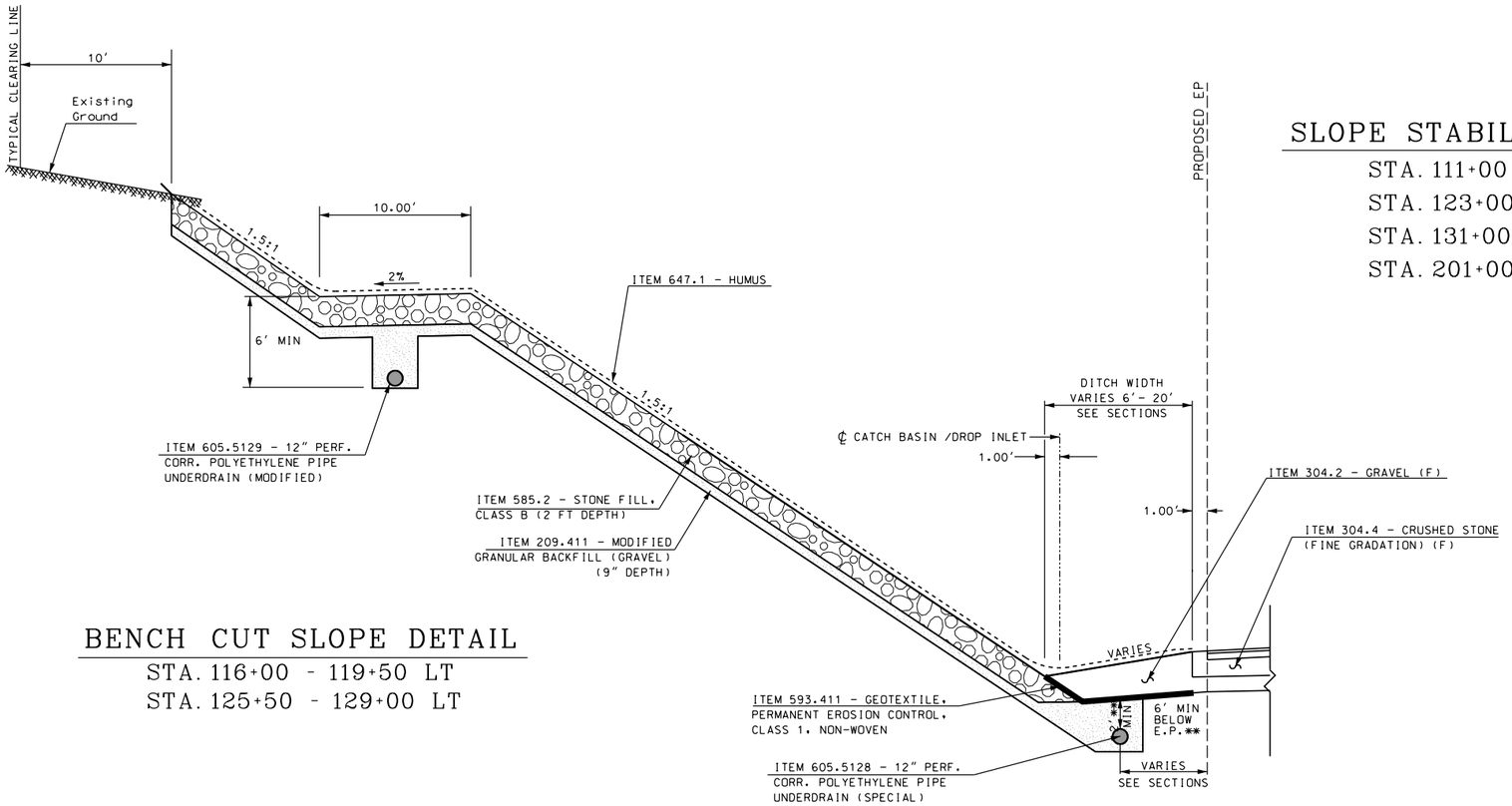
NH ROUTE 9
TYPICAL SECTIONS

PAGE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
1 OF 5	10439TYP	10439	5	294

NUMBER	DATE	DESCRIPTION	STATION	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

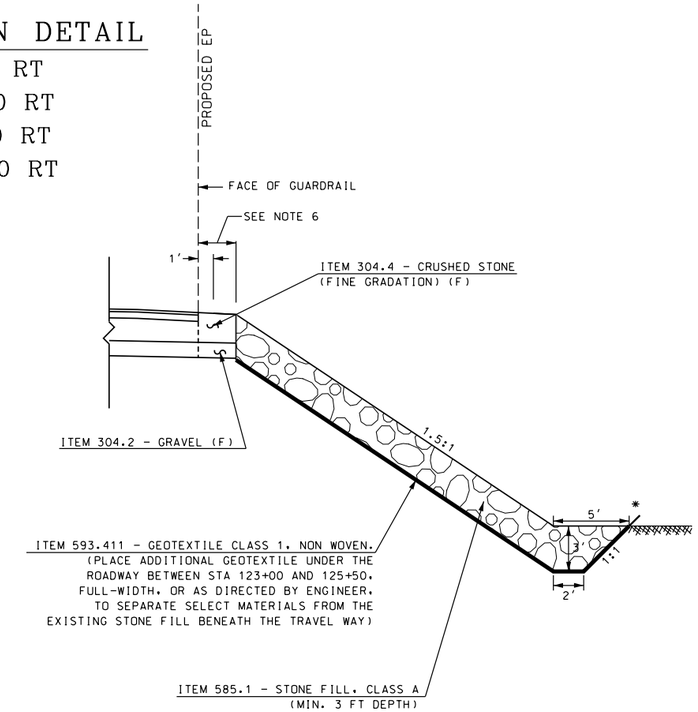


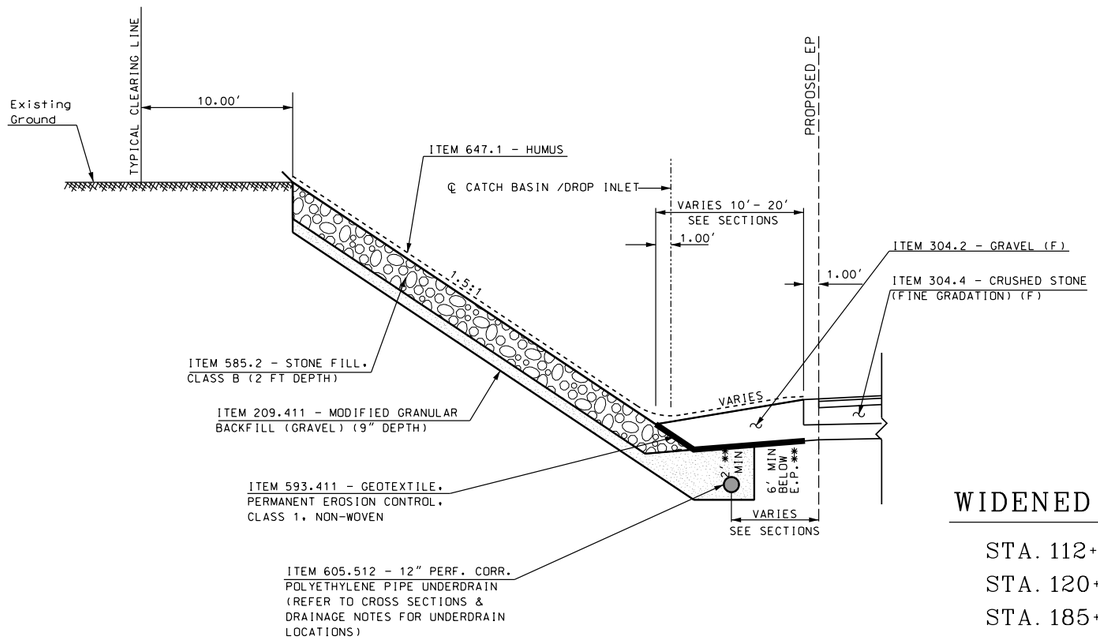
BENCH CUT SLOPE DETAIL

STA. 116+00 - 119+50 LT
STA. 125+50 - 129+00 LT

SLOPE STABILIZATION DETAIL

STA. 111+00 - 113+50 RT
STA. 123+00 - 125+50 RT
STA. 131+00 - 133+50 RT
STA. 201+00 - 203+00 RT





WIDENED DITCH DETAIL

STA. 112+50 - 115+50 LT
STA. 120+00 - 123+50 LT
STA. 185+50 - 187+00 LT

GENERAL NOTES

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3. SEE PAVEMENT MATCH DETAILS FOR VALLEY ROAD PAVEMENT DESIGN AND FOR ADDITIONAL INFORMATION.
4. IN AREAS OF HUMUS (INCLUDING AREAS OF STONE FILL WITH HUMUS), USE ITEM 645.611 - BONDED FIBER MATRIX (BFM) WITH ITEM 646.21 - TURF ESTABLISHMENT WITHOUT MULCH, OR AS DIRECTED BY THE ENGINEER.
5. IN AREAS OF LOAM, USE ITEM 646.3 - TURF ESTABLISHEMENT WITH MULCH & TACKIFIERS, OR AS DIRECTED BY THE ENGINEER.
6. FOR SHOULDER BREAKS BEHIND GUARDRAIL:
   USE 2.5' MIN. FOR STANDARD W-BEAM (ITEM 606.18001)
   USE 1.5' MIN. FOR NU-GUARD 31 (ITEM 606.15805)
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* CLEAR TO LIMITS OF SLOPE LINE ONLY, UNLESS OTHERWISE SHOWN ON PLANS

** USE CONTROL THAT RESULTS IN GREATER DEPTH

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

NH ROUTE 9
TYPICAL SECTIONS

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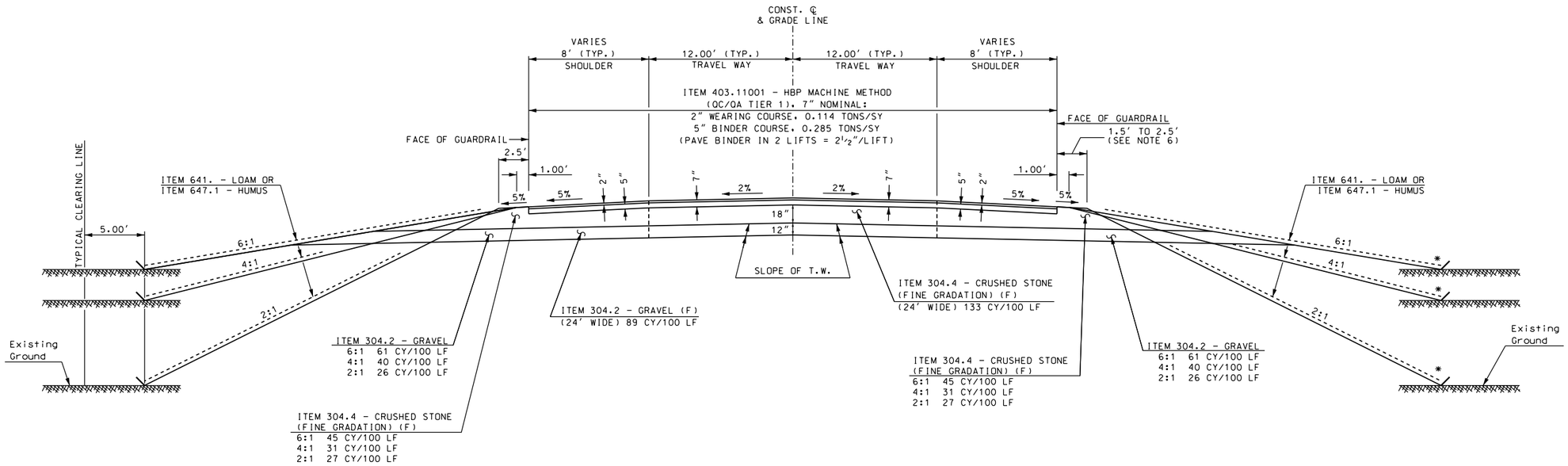

STA. 200+00 - 211+00

GENERAL NOTES

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* CLEAR TO LIMITS OF SLOPE LINE ONLY, UNLESS OTHERWISE SHOWN ON PLANS

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

NH ROUTE 9
TYPICAL SECTIONS

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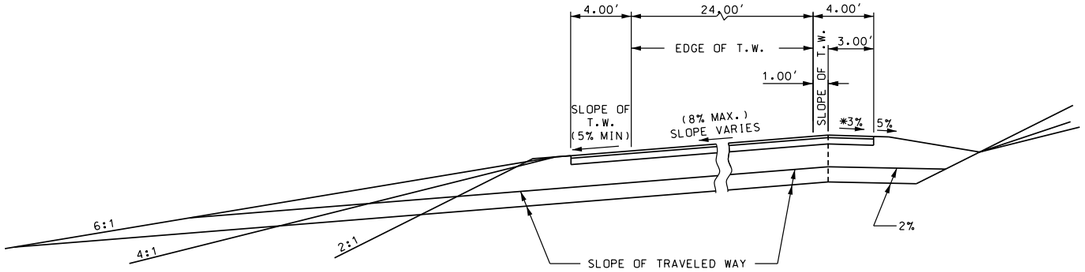
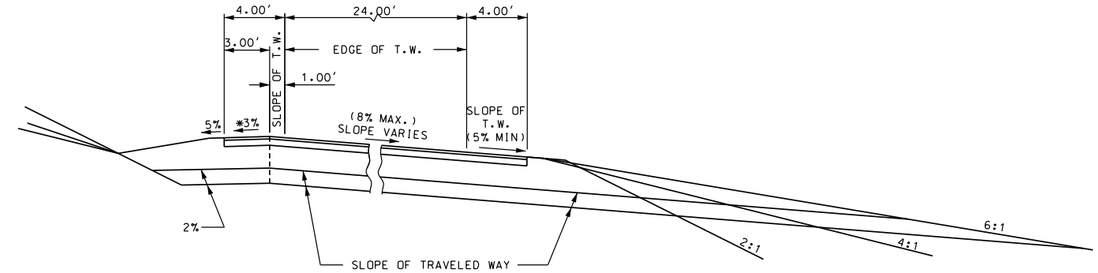


* - SUPERELEVATION GREATER THAN OR EQUAL TO 6% USE 2%

SUPERELEVATED SECTION
(CURVES 3,4,5,&9)



* - SUPERELEVATION GREATER THAN OR EQUAL TO 6% USE 2%

SUPERELEVATED SECTION
(CURVES 1,6,7,10,11,&12)

SUPERELEVATION TABLES

STA. 103+50 - 105+07

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
CURVE 1	*(NOTE: Project Start Station is at 103+50. Match to existing grade and slopes)*						
Full Bank	103+50 to 103+61	-1.50%	4.15%	4.15%	-3.93%	-5.00%	-5.00%
Transition:	103+61 to 105+07						
	104+19	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	104+63	-5.00%	0.00%	0.00%	-2.00%	-5.00%	-5.00%
Begin Normal Crown	105+07	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 2	*(No Supere\evation Required. Maintain Normal Crown)*						

SUPERELEVATION TABLES

STA. 114+28 - 122+28

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	114+28	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 3							
Transition:	114+28 to 116+50						
	114+72	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	115+16	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	115+83	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	116+06	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
Full Bank	116+50 to 120+06	-8.00%	-8.00%	-8.00%	8.00%	8.00%	-2.00%
Transition:	120+06 to 122+28						
	120+51	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
	120+73	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	121+40	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	121+84	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
Begin Normal Crown	122+28	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%

SUPERELEVATION TABLES

STA. 124+32 - 131+04

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	124+32	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 4							
Transition:	124+32 to 126+54						
	124+76	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	125+20	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	125+87	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	126+10	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
Full Bank:	126+54 to 128+82	-8.00%	-8.00%	-8.00%	8.00%	8.00%	-2.00%
Transition:	128+82 to 131+04						
	129+27	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
	129+49	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	130+16	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	130+60	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
Begin Normal Crown	131+04	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%

SUPERELEVATION TABLES

STA. 134+11 - 153+18

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	134+11	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 5							
Transition:	134+11 to 136+11						
	134+55	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	134+99	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	135+66	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	135+89	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
Full Bank	136+11 to 142+12	-7.00%	-7.00%	-7.00%	7.00%	7.00%	-2.00%
Transition:	142+12 to 144+20						
	142+34	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
	142+57	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	143+24	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	143+68	-5.00%	0.00%	0.00%	0.00%	0.00%	-5.00%
CURVE 6							
Transition:	144+20 to 145+45						
	144+20	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	144+87	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	145+09	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
Full Bank	145+45 to 146+51	-2.00%	7.60%	7.60%	-7.60%	-7.60%	-7.60%
CURVE 7							
Transition:	146+51 to 147+43						
	147+00	-2.00%	6.85%	6.85%	-6.85%	-6.85%	-6.85%
Full Bank	147+43 to 151+36	-2.00%	6.20%	6.20%	-6.20%	-6.20%	-6.20%
Transition:	151+36 to 153+18						
	151+40	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
	151+63	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	152+30	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	152+74	-5.00%	0.00%	0.00%	-2.00%	-5.00%	-5.00%
Begin Normal Crown	153+18	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 8	*(No Superelevation Required. Maintain Normal Crown)*						

SUPERELEVATION TABLES

STA. 161+67 - 177+56

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	161+67	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 9							
Transition:	161+67 to 162+82						
	162+11	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	162+55	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
Full Bank	162+82 to 165+98	-5.00%	-5.00%	-3.20%	3.20%	3.20%	-3.00%
Transition:	165+98 to 167+31						
	166+29	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	166+80	-5.00%	0.00%	0.00%	0.00%	0.00%	-5.00%
CURVE 10							
Transition:	167+31 to 168+17						
	167+31	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	168+08	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
Full Bank	168+17 to 169+25	-3.00%	5.40%	5.40%	-5.40%	-5.40%	-5.40%
CURVE 11	*(Maintain 5.4% Full Bank)*						
Full Bank	169+25 to 172+80	-3.00%	5.40%	5.40%	-5.40%	-5.40%	-5.40%
CURVE 12							
Transition:	172+80 to 173+39						
	172+95	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
Full Bank	173+39 to 175+34	-2.00%	8.00%	8.00%	-8.00%	-8.00%	-8.00%
Transition:	175+34 to 177+56						
	175+79	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
	176+01	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	176+68	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	177+12	-5.00%	0.00%	0.00%	-2.00%	-5.00%	-5.00%
Begin Normal Crown	177+56	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED DATE
NEW DESIGN T. RUSSO DATE 5/2017
SHEET CHECKED NAME3 DATE DATE3
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

NH ROUTE 9
TYPICAL SECTIONS

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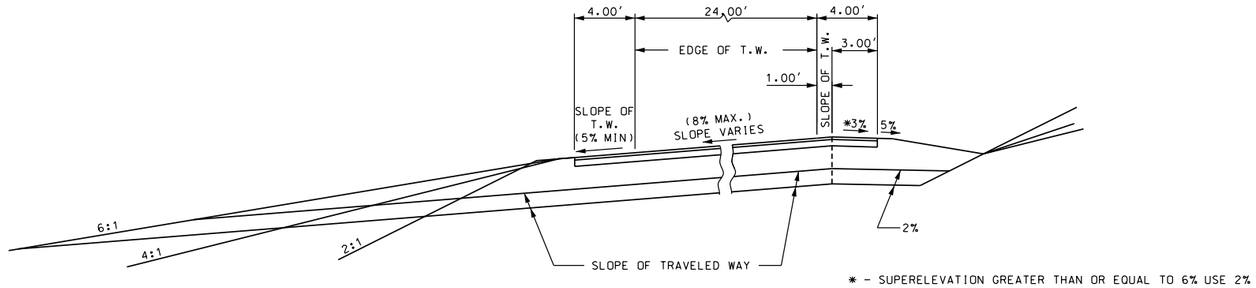
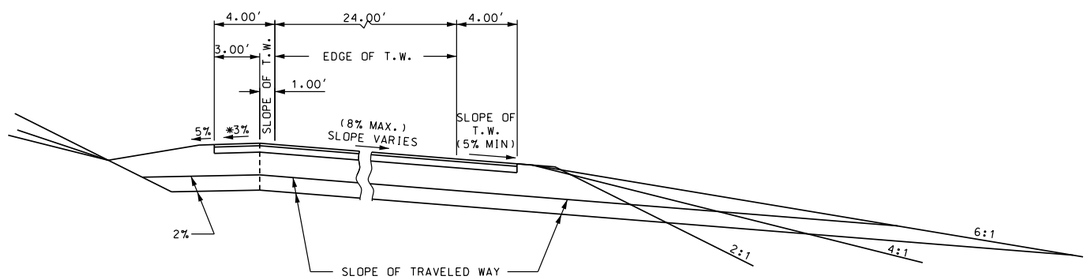
4 OF 5	10439TYP	10439	8	294



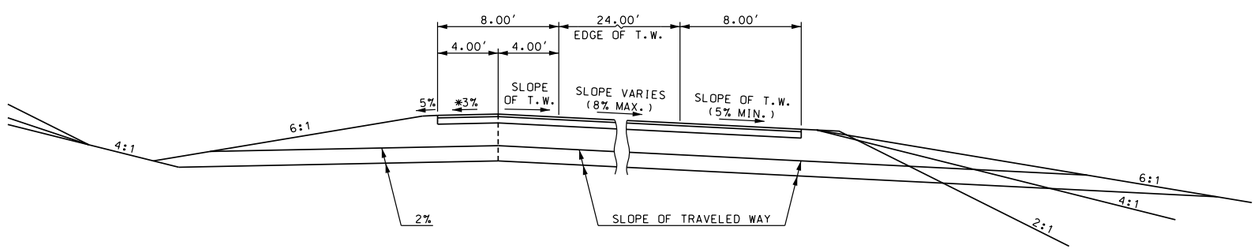
* - SUPERELEVATION GREATER THAN OR EQUAL TO 6% USE 2%

SUPERELEVATED SECTION
(CURVES 13 & 15)



* - SUPERELEVATION GREATER THAN OR EQUAL TO 6% USE 2%

SUPERELEVATED SECTION
(CURVE 14)



SUPERELEVATED SECTION
(CURVE 16)

* - SUPERELEVATION GREATER THAN OR EQUAL TO 6% USE 2%

SUPERELEVATION TABLES

STA. 182+48 - 194+36

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	182+48	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 13							
Transition:	182+48 to 184+70						
	182+92	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	183+36	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	184+03	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	184+26	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
Full Bank	184+70 to 187+33	-8.00%	-8.00%	-8.00%	8.00%	8.00%	-2.00%
Transition:	187+33 to 189+54						
	187+78	-6.00%	-6.00%	-6.00%	6.00%	6.00%	-2.00%
	188+00	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	188+67	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	189+11	-5.00%	0.00%	0.00%	0.00%	0.00%	-5.00%
CURVE 14							
Transition:	189+54 to 190+48						
	189+54	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	190+21	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	190+44	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
Full Bank	190+48 to 192+54	-2.00%	6.20%	6.20%	-6.20%	-6.20%	-6.20%
Transition:	192+54 to 194+36						
	192+58	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
	192+81	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	193+48	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	193+92	-5.00%	0.00%	0.00%	-2.00%	-5.00%	-5.00%
Begin Normal Crown	194+36	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%

SUPERELEVATION TABLES

STA. 195+60 - 208+65

	Station	LEFT Shoulder Slope	LEFT Shoulder Break	LEFT Travel Way	RIGHT Travel Way	RIGHT Shoulder Break	RIGHT Shoulder Slope
End Normal Crown	195+60	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 15							
Transition:	195+60 to 197+24						
	196+04	-5.00%	-5.00%	-2.00%	0.00%	0.00%	-5.00%
	196+48	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	197+15	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
Full Bank	197+24 to 198+78	-5.40%	-5.40%	-5.40%	5.40%	5.40%	-3.00%
Transition:	198+78 to 200+89						
	198+89	-5.00%	-5.00%	-5.00%	5.00%	5.00%	-3.00%
	199+75	-5.00%	-5.00%	-2.00%	2.00%	2.00%	-3.00%
	200+32	-5.00%	0.00%	0.00%	0.00%	0.00%	-5.00%
CURVE 16							
Transition:	200+89 to 202+62						
	200+89	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	201+75	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
	202+04	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
Full Bank	202+62 to 204+40	-2.00%	8.00%	8.00%	-8.00%	-8.00%	-8.00%
Transition:	204+40 to 205+07						
	204+85	-2.00%	6.00%	6.00%	-6.00%	-6.00%	-6.00%
Bridge:	205+07 to 207+10	-3.00%	5.00%	5.00%	-5.00%	-5.00%	-5.00%
Transition:	207+10 to 208+65						
	207+77	-3.00%	2.00%	2.00%	-2.00%	-5.00%	-5.00%
	208+21	-5.00%	0.00%	0.00%	-2.00%	-5.00%	-5.00%
Begin Normal Crown	208+65	-5.00%	-5.00%	-2.00%	-2.00%	-5.00%	-5.00%
CURVE 17	*(Nc Superelevation Required. Maintain Normal Crown)*						

NUMBER	DATE	DESCRIPTION	STATION	STATION
		REVISIONS AFTER PROPOSAL		

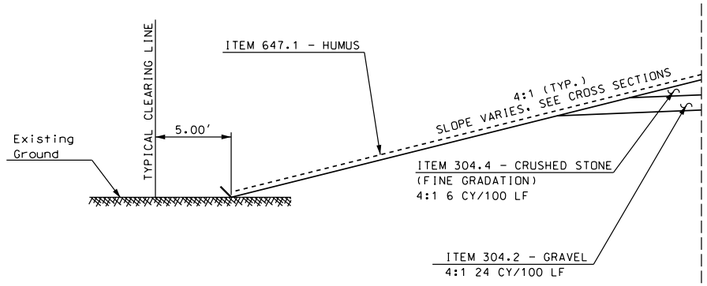
SDR PROCESSED	DATE		
NEW DESIGN	T. RUSSO	DATE 5/2017	
SHEET CHECKED	NAME3	DATE DATE3	
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

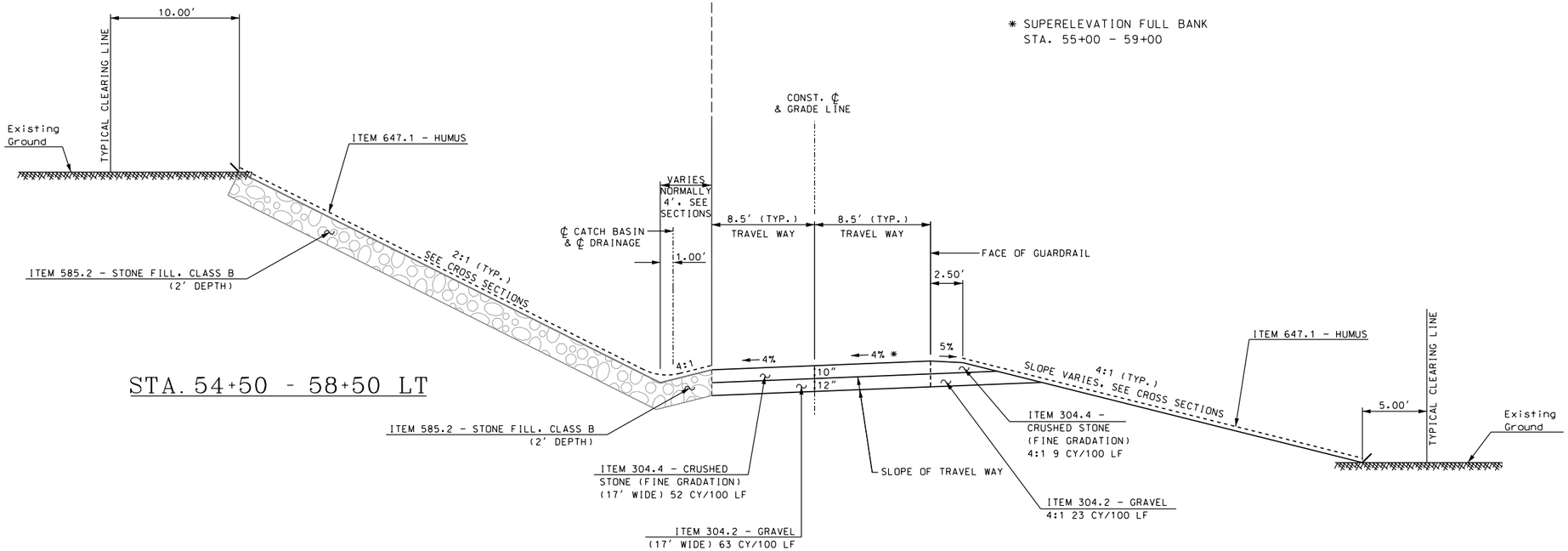
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

NH ROUTE 9
TYPICAL SECTIONS

PAGE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
5 OF 5	10439TYP	10439	9	294



STA. 54+00 - 54+50 LT
STA. 58+50 - 60+00 LT



STA. 54+50 - 58+50 LT

* SUPERELEVATION FULL BANK
STA. 55+00 - 59+00

STA. 54+00 - 60+00

GENERAL NOTES

1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. IN AREAS OF HUMUS (INCLUDING AREAS OF STONE FILL WITH HUMUS), USE ITEM 645.611 - BONDED FIBER MATRIX (BFM) WITH ITEM 646.21 - TURF ESTABLISHMENT WITHOUT MULCH, OR AS DIRECTED BY THE ENGINEER.
3. IN AREAS OF LOAM, USE ITEM 646.3 - TURF ESTABLISHEMENT WITH MULCH & TACKIFIERS, OR AS DIRECTED BY THE ENGINEER.
4. ALL TOPSOIL EXCAVATED AS ITEM 203.1 - COMMON EXCAVATION ALONG HOUGHTON LEDGE ROAD SHALL BE RE-USED AS ITEM 647.1 - HUMUS ALONG HOUGHTON LEDGE ROAD. NO HUMUS/TOPSOIL SHALL BE USED FROM OFF-SITE.

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE	
NEW DESIGN	T. RUSSO	DATE	5/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

HOUGHTON LEDGE RD
TYPICAL SECTIONS

PAGE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
1 OF 1	10439TYP	10439	10	294

DRAINAGE

REF. NO.	202.41 REMOVAL OF EXISTING PIPE, 0-24" DIAMETER (LF)	202.42 REMOVAL OF EXISTING PIPE, OVER 24" DIAMETER (LF)	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES (EA)	206.1 COMMON STRUCTURE EXCAVATION (CY)	206.2 ROCK STRUCTURE EXCAVATION (CY)	403.99 TEMPORARY BITUMINOUS PAVEMENT (T)	503.101 WATER DIVERSION STRUCTURE (U)	503.102 WATER DIVERSION STRUCTURE (U)	503.103 WATER DIVERSION STRUCTURE (U)	503.104 WATER DIVERSION STRUCTURE (U)	503.105 WATER DIVERSION STRUCTURE (U)	503.106 WATER DIVERSION STRUCTURE (U)	520.1 CONCRETE CLASS A (CY)	529.8301 PRECAST CONCRETE SPECIAL HEADWALL (U)	529.8302 PRECAST CONCRETE SPECIAL HEADWALL (U)	544. REINFORCING STEEL (F) (LB)	570.4 MORTAR RUBBLE MASONRY (F) (CY)	585.2 STONE FILL, CLASS B (CY)	593.411 GEOTEXTILE: PERM. CONTROL CL. 1, NON-WOVEN (SY)	603.0001 VIDEO INSPECTION (LF)	603.00315 15" R.C. SLOPE, 3000D (LF)	603.00318 18" R.C. SLOPE, 3000D (LF)	603.00324 24" R.C. SLOPE, 3000D (LF)	603.00330 30" R.C. SLOPE, 3000D (LF)	603.00336 36" R.C. SLOPE, 3000D (LF)	603.00348 48" R.C. SLOPE, 3000D (LF)	603.30130 30" CONCRETE END SECTION (EA)	603.30136 36" CONCRETE END SECTION (EA)	603.34118 STEEL END SECTIONS 18" (EA)	603.34124 STEEL END SECTIONS 24" (EA)	603.82215 PE PIPE (TYPE S) 15" (LF)	603.82236 PE PIPE (TYPE S) 36" (LF)	604.0007 POLYETHYLENE LINER (EA)	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER ACT (U)	604.124 EST (U)	604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER ACT (U)	604.125 EST (U)	604.1912 SPECIAL CATCH BASIN DOUBLE GRATE ACT (U)	604.1912 EST (U)	604.1941 SPECIAL CATCH BASIN TYPE G, 4-FOOT DIAMETER ACT (U)	604.1941 EST (U)	604.1951 SPECIAL CATCH BASIN TYPE G, 5-FOOT DIAMETER ACT (U)	604.1951 EST (U)	604.1952 SPECIAL CATCH BASIN TYPE H, 5-FOOT DIAMETER ACT (U)	604.1952 EST (U)	604.224 DROP INLETS TYPE B, 4-FOOT DIAMETER ACT (U)	604.224 EST (U)	604.225 DROP INLETS TYPE B, 5-FOOT DIAMETER ACT (U)	604.225 EST (U)	604.291 SPECIAL DROP INLET ACT (U)	604.291 EST (U)	604.2912 SPECIAL DROP INLET, DOUBLE GRATE ACT (U)	604.2912 EST (U)	605.5128 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - FURNISHED (LF)	605.5129 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - MODIFIED (LF)	605.79 UNDERDRAIN FLUSHING BASINS (EA)	622.1 STEEL WITNESS MARKERS (EA)	REMARKS
1	55			27.2		16.6	1						8.8			91		27.2	65	72					72																																	
2				5.3		4.2											1.66	5.3	16	46		46								1																												2	
3				26.5				1										26.5	59.4	63					63			2																														
4				33.2														33.3	72.1	101								1				101										1	1.1															
5				4.5																121												121										1	1.2															
6				8.4																86				86																		1	1.2														1	
7						39.6														257									1		257		1	1	1																						2	
8						25.4														150											150		1	1	1																						1	
9						23.1														150											150		1	1	1																						1	
10						20.1														150											150		1													1	1										1	
11				30.3		17.2							1.7			16		5.2	15.3	69		69																		1	1.2																2	
12				11.6		7.6							1.7			16		8.2	23.9	63		63																		1	1																2	
13						8.9							1.7			16				46		46																		1	1																2	
14				18.9		9.1							1.7			16		3.7	12	72		72																		1	1																2	
15				15.9		9.6							1.7			16		6.9	21.4	80		80																		1	1																2	
16	57																			56											56									1	1																1	
17				25.4		13.1			1				3.2			47		16.7	47.5	56					56													1	1																		2	
18				13.4		8.5							1.7			16		13.4	33.8	57		57																		1	1																2	
19	16					8.9														33		33																		1	1.1																1	
20				2.1									1.7			16		2.1	8.9	11		11											1	1	1.2																						1	
21													3.3			29				22				22																																	1	
21A				3.5		9.6														26				26									1			1	1.3																					
22				11.4									3.3			29		10	28.6	8				8									1			1	1.1																				1	
23				36.1		10.5				1								36.1	78.3	43				43																																	1	
24				17.2									3.3			29		17.2	40.9	17				17									1			1	1.2																				1	
26				4.2		9.6							2.6			42		4.2	17.5	62				62																		1	1														2	
27																				19											19																											
28	28			8.8		9.2							1.7			16		8.8	23.9	55		55																		1	1.1																2	
29	50		1	2.6		17.1							1.7			16		2.6	10	58		58																		1	1																2	
30																				40											40																											
31						0.4														16	16								1				1	1	1																						1	
32				7.1		7.9							2.4			24		6.5	18.1	55			55																	1	1.1																2	
33						6.8														36		36																		1	1																1	
34				11.7									1.7			16		10.7	27.2	12		12											1	1	1.1																						1	
35				4.1		6.4														33		33																		1	1																1	
36				3.1									1.7			16		2.6	10	17		17											1	1	1																						1	
37				8.6		8.5							1.7			16		7.1	20.9	55		55																		1	1																2	
38				5.4		9.1							2			36		5.4	19.2	48			48																	1	1.2																2	
39				6.1		8.5							1.7			16		6.1	17.3	54		54																		1	1																2	
40				5.6		8.1							1.7			16		5.2	15.3	60		60																		1	1.1																2	
41				11.8		9							2			36		6.3	21.3	48			48																	1	1.1																2	
42				14.8		8.9							1.7			16		2.6	9.4	51		51																		1	1.2																2	
43						7.6														41			41																	1	1																1	
44				3.9									2.4			24		2.4	9.3	8			8										1	1	1.1																						1	
45	27			6.2		7.9							2			36		6.2	17.6	50			50																	1	1																2	
46				7.5		9.6							1.7			16		6.1	17.2	48		48																		1	1																2	
SHEET 1 SUBTOTAL	233	0	1	402.4	0	366.6	1	1	1	1	0	0	62	0	0	679	1.66	295	777.3	2721	16	956	250	264	191	0	0	3	2	1	822	222	12	8	8.4	3	3.6	1	1	22	23.1	4	4.5	0	0	1	1	0	0	0	0	0	0	0	0	0	60	

GENERAL NOTES:

1. FOR TRAFFIC CONTROL QUANTITIES, SEE PROPOSAL DOCUMENTS

SUMMARY OF QUANTITIES (ESTIMATED)
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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARIES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SS1	10439Summary	10439	11	294

DRAINAGE

REF. NO.	202.41 REMOVAL OF EXISTING PIPE, 0-24" DIAMETER (LF)	202.42 REMOVAL OF EXISTING PIPE, OVER 24" DIAMETER (LF)	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES (EA)	206.1 COMMON STRUCTURE EXCAVATION (CY)	206.2 ROCK STRUCTURE EXCAVATION (CY)	403.99 TEMPORARY BITUMINOUS PAVEMENT (T)	503.101 WATER DIVERSION STRUCTURE (U)	503.102 WATER DIVERSION STRUCTURE (U)	503.103 WATER DIVERSION STRUCTURE (U)	503.104 WATER DIVERSION STRUCTURE (U)	503.105 WATER DIVERSION STRUCTURE (U)	503.106 WATER DIVERSION STRUCTURE (U)	520.1 CONCRETE CLASS A (CY)	529.8301 PRECAST CONCRETE SPECIAL HEADWALL (U)	529.8302 PRECAST CONCRETE SPECIAL HEADWALL (U)	544.1 REINFORCING STEEL (ROADWAY) (LB)	570.4 MORTAR RUBBLE MASONRY (F) (CY)	585.2 STONE FILL, CLASS B (CY)	593.411 GEOTEXTILE; PERM. CONTROL CL. 1, NON-WOVEN (SY)	603.0001 VIDEO INSPECTION (LF)	603.00315 15" R.C. SLOPE, 3000D (LF)	603.00318 18" R.C. SLOPE, 3000D (LF)	603.00324 24" R.C. SLOPE, 3000D (LF)	603.00330 30" R.C. SLOPE, 3000D (LF)	603.00336 36" R.C. SLOPE, 3000D (LF)	603.00348 48" R.C. SLOPE, 3000D (LF)	603.30130 30" CONCRETE END SECTION (EA)	606.30136 36" CONCRETE END SECTION (EA)	603.34118 STEEL END SECTIONS 18" (EA)	603.34124 STEEL END SECTIONS 24" (EA)	603.82215 PE PIPE (TYPE S) 15" (LF)	603.82236 PE PIPE (TYPE S) 36" (LF)	604.0007 POLYETHYLENE LINER (EA)	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER ACT (U)	604.124 EST (U)	604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER ACT (U)	604.125 EST (U)	604.1912 SPECIAL CATCH BASIN DOUBLE GRATE ACT (U)	604.1912 EST (U)	604.1941 SPECIAL CATCH BASIN TYPE G, 4-FOOT DIAMETER ACT (U)	604.1941 EST (U)	604.1951 SPECIAL CATCH BASIN TYPE G, 5-FOOT DIAMETER ACT (U)	604.1951 EST (U)	604.1952 SPECIAL CATCH BASIN TYPE H, 5-FOOT DIAMETER ACT (U)	604.1952 EST (U)	604.224 DROP INLETS TYPE B, 4-FOOT DIAMETER ACT (U)	604.224 EST (U)	604.225 DROP INLETS TYPE B, 5-FOOT DIAMETER ACT (U)	604.225 EST (U)	604.291 SPECIAL DROP INLET ACT (U)	604.291 EST (U)	604.2912 SPECIAL DROP INLET, DOUBLE GRATE ACT (U)	604.2912 EST (U)	605.5128 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - FURNISHED (LF)	605.5129 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - MODIFIED (LF)	605.79 UNDERDRAIN FLUSHING BASINS (EA)	622.1 STEEL WITNESS MARKERS (EA)	REMARKS
47	43		1	4.6		4.7														36		36																	1	1																	1	
48						2.9							1.7			16		9.4	27.5	10		10											1	1	1.2																					1	
49						3.6														78		78																	1	1																	1	
50																				23		23											1	1	1.7																					1	
51				75.9		12.3					1			1	1			75.9	142.2						152																																
52	28					9.9														47				47																			1	1					1	1					1	
53	10																			26				26			1						1															1	2.1						1	
54				126		10.2						1					3.19	71.1	263.5	71				71																												1	1				2	
55																																																									PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION
56																																																									PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION
57																																																									PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION
60																	1.66			33		33																	1	1																		
61																	1.32			60	60										1																										2	
71																				58		58											1																									
R1	40																																																								
R2	42																																																								
R3	61																																																								
R4	66		1																																																						
R5	58		1																																																						
R6	46																																																								
R7	49																																																								
R8		26																																																								
R9	40																																																								
R10	15																																																								
U1																				505																																	505		1		
U2																				401																																		401	2		
U3A																				396																																	396		1		
U3B																				420.5																																		420.5	1		
U3C													0.5							137.3																																		137.3	1		
U4													0.5							350.2																																		350.2	1		
U5																				267.5																																	267.5		1		
U6																				264																																	264				
U7A																				242.5																																	242.5				
U7B													0.5							368.7																																		368.7	1		
U8																				643.5																																	643.5		1		
U9																				285.4																																	285.4				
U10																				313.5																																	313.5				
U11																				448.9																																	448.9		1		
U12																				240																																		240			
U13																				393																																		393			
U14																				141.5																																		141.5			
U15													0.5							360.7																																	360.7				
U16																				403.2																																		403.2	1		
U17																				255.8																																	255.8		1		
U18																				381.4																																	381.4				
U19																				138.1																																		138.1			
SHEET 2 SUBTOTAL	498	26	3	206.5	0	43.6	0	0	0	0	1	1	3.5	1	1	16	6.17	156	433.2	7800	60	238	0	144	0	152	1	0	1	1	0	0	3	2	2.9	0	0	0	0	3	3	0	0	1	1	0	0	1	2.1	1	1	1	1	4364.2	2993.5	13	10	

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SUMMARY OF QUANTITIES (ESTIMATED)
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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARIES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SS2	10439Summary	10439	12	294

DRAINAGE

REF. NO.	202.41 REMOVAL OF EXISTING PIPE, 0-24" DIAMETER LF	202.42 REMOVAL OF EXISTING PIPE, OVER 24" DIAMETER LF	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES EA	206.1 COMMON STRUCTURE EXCAVATION CY	206.2 ROCK STRUCTURE EXCAVATION CY	403.99 TEMPORARY BITUMINOUS PAVEMENT T	503.101 WATER DIVERSION STRUCTURE U	503.102 WATER DIVERSION STRUCTURE U	503.103 WATER DIVERSION STRUCTURE U	503.104 WATER DIVERSION STRUCTURE U	503.105 WATER DIVERSION STRUCTURE U	503.106 WATER DIVERSION STRUCTURE U	520.1 CONCRETE CLASS A CY	529.8301 PRECAST CONCRETE SPECIAL HEADWALL U	529.8302 PRECAST CONCRETE SPECIAL HEADWALL U	544.1 REINFORCING STEEL (ROADWAY) LB	570.4 MORTAR RUBBLE MASONRY (F) CY	585.2 STONE FILL, CLASS B CY	593.411 GEOTEXTILE; PERM. CONTROL CL 1, NON-WOVEN SY	603.0001 VIDEO INSPECTION LF	603.00315 15" R.C. SLOPE, 3000D LF	603.00318 18" R.C. SLOPE, 3000D LF	603.00324 24" R.C. SLOPE, 3000D LF	603.00330 30" R.C. SLOPE, 3000D LF	603.00336 36" R.C. SLOPE, 3000D LF	603.00348 48" R.C. SLOPE, 3000D LF	603.30130 30" CONCRETE END SECTION EA	606.30136 36" CONCRETE END SECTION EA	603.34118 STEEL END SECTIONS 18" EA	603.34124 STEEL END SECTIONS 24" EA	603.82215 PE PIPE (TYPE S) 15" LF	603.82236 PE PIPE (TYPE S) 36" LF	604.0007 POLYETHYLENE LINER EA	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER ACT U	604.124 EST U	604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER ACT U	604.125 EST U	604.1912 SPECIAL CATCH BASIN DOUBLE GRATE ACT U	604.1912 EST U	604.1941 SPECIAL CATCH BASIN TYPE G, 4-FOOT DIAMETER ACT U	604.1941 EST U	604.1951 SPECIAL CATCH BASIN TYPE G, 5-FOOT DIAMETER ACT U	604.1951 EST U	604.1952 SPECIAL CATCH BASIN TYPE H, 5-FOOT DIAMETER ACT U	604.1952 EST U	604.224 DROP INLETS TYPE B, 4-FOOT DIAMETER ACT U	604.224 EST U	604.225 DROP INLETS TYPE B, 5-FOOT DIAMETER ACT U	604.225 EST U	604.291 SPECIAL DROP INLET ACT U	604.291 EST U	604.2912 SPECIAL DROP INLET, DOUBLE GRATE ACT U	604.2912 EST U	605.5128 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - FURNISHED LF	605.5129 12" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN - MODIFIED LF	605.79 UNDERDRAIN FLUSHING BASINS EA	622.1 STEEL WITNESS MARKERS EA	REMARKS
U20																				256.5																																					256.5				
U21																				270.5																																					270.5				
U22																				204.8																																					204.8				
U23																				239.7																																					239.7				
U24																				164.7																																						164.7			
U25																				139.1																																					139.1				
U26																				361																																					361		1		
U27																				172.8																																					172.8		1		
U28																				221.6																																					221.6				
U29																				260.8																																						260.8			
U30																				0																																									
U31																				295.9																																						295.9			
U32																				495.9																																					495.9		1		
U33																				278.3																																						278.3	1		
PROJECT WIDE				-43.3	52																																																								19	7% OF ITEM 206.1 WILL BE ASSUMED TO BE ITEM 206.2
SHEET 3 SUBTOTAL	0	0	0	-43	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3362	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2362	1000	4	19	
SHEET 2 SUBTOTAL	498	26	3	207	0	44	0	0	0	0	1	1	4	1	1	16	6.17	156	433	7800	60	238	0	144	0	152	1	0	1	1	0	0	3	2	2.9	0	0	0	0	3	3	0	0	1	1	0	0	1	2.1	1	1	1	1	4364	2994	13	10	
SHEET 1 SUBTOTAL	233	0	1	402	0	367	1	1	1	1	0	0	62	0	0	679	1.66	295	777	2721	16	956	250	264	191	0	0	3	2	1	822	222	12	8	8.4	3	3.6	1	1	22	23.1	4	4.5	0	0	1	1	0	0	0	0	0	0	0	0	0	60	
ROUNDING	29	4	1	0	8	0	0	0	0	0	0	0	10	0	0	5	2.17	0	0	458	4	66	20	12	9	8	0	0	0	0	48	18	1		1.7		0.4		0		0.9		0.5		0		0		0.9		0		0	74	47	0	1	
TOTAL	760	30	5	580	60	*	1	1	1	1	1	1	75	1	1	700	10	*	*	14340	80	1260	270	420	200	160	1	3	3	2	870	240	16	10	13	3	4	1	1	25	27	4	5	1	1	1	1	1	3	1	1	1	1	6800	4040	17	90	

* NOT AN ITEM TOTAL SEE SURFACING MATERIALS FOR ITEM 403.99 AND LANSCAPING AND SLOPE PROTECTION FOR ITEM 593.411

PERMANENT SIGNING

ITEM NO.	DESCRIPTION	UNIT	TOTAL
615.0201	TRAFFIC SIGN TYPE B	SF	50
615.023	REMOVING TRAFFIC SIGN TYPE B	U	3
615.0301	TRAFFIC SIGN TYPE C	SF	131
615.03201	TRAFFIC SIGN TYPE C, BREAKAWAY MOUNTS	SF	10
615.033	REMOVING TRAFFIC SIGN TYPE C	U	19
615.034	RELOCATING TRAFFIC SIGN, TYPE C	U	3
615.0501	TRAFFIC SIGN TYPE BB	SF	3
615.0601	TRAFFIC SIGN TYPE CC	SF	45
615.063	REMOVING TRAFFIC SIGN TYPE CC	U	1

LOAM

ITEM NO.	641.
ITEM	LOAM
UNIT	CY
LOCATION	
STA. 106+30 RT. - STA. 108+10 RT.	66.4
STA. 153+30 LT. - STA. 153+80 LT.	7.6
STA. 154+00 LT. - STA. 155+10 LT.	17.7
STA. 204+50 LT. - STA. 205+90 LT.	77.7
STA. 207+05 LT. - STA. 211+55 LT.	125.1
STA. 211+90 LT. - STA. 213+10 LT.	25.5
STA. 205+85 RT. - STA. 207+25 RT.	25.2
STA. 207+55 RT. - STA. 211+55 RT.	74.3
STA. 211+60 RT. - STA. 212+15 RT.	12.9
STA. 212+50 RT - STA. 213+00 RT.	9.5
STA. 20+50 LT. - STA. 21+95 LT.	91.6
STA. 22+10 LT. - STA. 22+50 LT.	6.2
SUBTOTAL	540
ROUNDING	30
TOTAL	570

LANDSCAPING AND SLOPE PROTECTION

ITEM NO.	209.411	585.1	585.2	585.3	593.411	645.121	645.3	645.41	645.512	645.531	645.611	646.2	646.3
DESCRIPTION	MODIFIED GRANULAR BACKFILL (GRAVEL)	STONE FILL, CLASS A	STONE FILL, CLASS B	STONE FILL, CLASS C	GEOTEXTILE; PERM. CONTROL CL. 1, NON-WOVEN	TEMPORARY MULCH AND TACKIFIERS	EROSION STONE	TEMPORARY SLOPE STABILIZATION TYPE A	COMPOST SILT SOCKS	SILT FENCE	BONDED FIBER MATRIX (BFM)	TURF ESTABLISH-MENT WITHOUT MULCH	TURF ESTABLISH-MENT WITH MULCH AND TACKIFIERS
UNIT	CY		CY	CY	SY	SY	TON	SY	LF	LF	LB	A	A
LOCATION													
NH ROUTE 9	15455	4094	20665	500	8193	1281	1772	2562	12000	13600	51160	12	1.1
SUBTOTAL	15455	4094	20665	500	8193	1281	1772	2562	12000	13600	51160	12	1.1
DRAINAGE SUMMARY SUBTOTAL			451		1211								
ROUNDING	45	406	1054	0	346	19	28	38	0	0	40	0.3	0.9
TOTAL	15500	4500	22170	500	9750	1300	1800	2600	12000	13600	51200	12	2

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QUANTITY SUMMARIES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SS3	10439Summary	10439	13	294

GUARDRAIL

REF. NO.	LOCATION	202.7 REMOVAL OF GUARDRAIL	203.5540 GUARDRAIL TAPERED RAIL PLATFORM	203.5554 GUARDRAIL EAGRT PLATFORM, TL 3	203.55541 GUARDRAIL EAGRT PLATFORM, ALTERNATE, TL 3	203.55542 GUARDRAIL EAGRT OFFSET PLATFORM, ALTERNATE, TL 3	203.55543 GUARDRAIL EAGRT OFFSET PLATFORM, TL 3	203.5555 GUARDRAIL EAGRT PLATFORM, TL 2	203.55551 GUARDRAIL EAGRT PLATFORM, ALTERNATE, TL 2	203.55555 GUARDRAIL EAGRT OFFSET PLATFORM, TL 2	203.5596 GUARDRAIL E-2 PLATFORM	565.802 ADJUSTING BRIDGE APPROACH RAIL	606.01558 FURNISH STEEL POSTS (NU-GUARD-31), 8' WITH HARDWARE	606.1254 BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 3) (STEEL POSTS)	606.1255 BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 2) (STEEL POSTS)	606.1285 BEAM GUARDRAIL (BRIDGE APPROACH UNIT)	606.1296 BEAM GUARDRAIL (TERMINAL UNIT TYPE E2) (STEEL POSTS)	606.1297 BEAM GUARDRAIL (TERMINAL UNIT TYPE E2 MODIFIED 45) (STEEL POSTS)	606.141 BEAM GUARDRAIL (CURVED W/CRT POSTS)	606.15805 BEAM GUARDRAIL, 8' STEEL POSTS (NU-GUARD 31)	606.18001 31" W-BEAM W/8" OFFSET BLOCKS (STEEL POSTS)
	UNIT	LF	LF	U	U	U	U	U	U	U	U	U	EA	LF	U	U	U	U	LF	LF	LF
	NH ROUTE 9																				
1	STA. 104+05 (*approximately*)	50												1							
2	STA. 109+00 RT. - STA. 116+50 RT.	725	50	1							190			1			189.5				600
3	STA. 120+85 RT. - STA. 127+10 RT.	625			1		1						9	2						537.5	
4	STA. 128+63 RT. - STA. 142+20 RT.	1375	50		2								20	2						1262.5	
5	STA. 150+68 RT. - STA. 155+20 RT.	450	50	1									18	1		1				1125	12.5
6	STA. 154+57 LT. - STA. 155+20 LT.	62.5			1									1		1					12.5
7	STA. 155+32 LT. - STA. 156+20 LT.	87.5									152					1		152			12.5
8	STA. 155+32 RT. - STA. 156+34 RT.	100					1						8	1		1				487.5	12.5
9	STA. 163+80 RT. - STA. 185+64 RT.	2100			1	1							33	2						2050	
10	STA. 187+04 RT. - STA. 192+43 RT.	537.5			1								26	1						1637.5	50
11	STA. 205+27 LT. - STA. 21+06 RT. (*Valley Road*)	150		1										1							12.5
12	STA. 206+23 RT. - STA. 206+46 RT.	25		1										1							12.5
13	STA. 206+67 LT. - STA. 209+38 LT.	275	50	1										1							162.5
	CENTRE ST																				
14	STA. 30+77 LT. - STA. 31+27 LT.	50								1		1			1						37.5
15	STA. 30+97 RT. - STA. 31+29 RT.	37.5										1							25		25
16	STA. 32+59 LT. (Centre St.) to	175						1				1			1						450
17	STA. 32+59 RT. - STA. 33+30 RT. 215'	250							1			1			1						362.5
	DIVERSION (Route 9, Centre St, Valley Rd)																				
1T	STA. 5+33 RT. - STA.10+82 RT. (*Rte. 9*)	662.5			1																
2T	STA. 11+78 RT. - STA. 12+88 RT. (*Rte. 9*)	150							1												
	HOUGHTON LEDGE RD																				
1H	STA. 53+34 RT. - STA. 59+48 RT.								2						2						575
	SUBTOTAL	7887.5	200	5	7	1	2	1	4	1	341.5	4	113.6	15	5	4	189.5	152	25	7100	2337.5
	ROUNDING	12.5	25	0	0	0	0	0	0	0	8.5	0	6.4	0	0	0	10.5	8	12.5	200	63
	TOTAL	7900	225	5	7	1	2	1	4	1	350	4	120	15	5	4	200	160	37.5	7300	2400

GUARDRAIL

REF. NO.	LOCATION	606.84 ANCHOR FOR CURVED GUARDRAIL W/ CRT POSTS	606.91 RESETTING OR SETTING GUARDRAIL	606.93 TEMPORARY BEAM GUARDRAIL	606.93254 TEMPORARY BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 3) (STEEL POST)	606.93255 TEMPORARY BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 2) (STEEL POSTS)	621.2 RETRO-REFLECTIVE BEAM GUARDRAIL DELINEATOR	REMARKS
	UNIT	U	LF	LF	U	U	EA	
	NH ROUTE 9							
1	STA. 104+05 (*approximately*)		150					
2	STA. 109+00 RT. - STA. 116+50 RT.						10	
3	STA. 120+85 RT. - STA. 127+10 RT.						8	
4	STA. 128+63 RT. - STA. 142+20 RT.						18	
5	STA. 150+68 RT. - STA. 154+95 RT.						14	
6	STA. 154+57 LT. - STA. 155+20 LT.						1	
7	STA. 155+32 LT. - STA. 156+20 LT.						2	
8	STA. 155+32 RT. - STA. 156+34 RT.						7	
9	STA. 163+80 RT. - STA. 185+64 RT.						25	
10	STA. 187+04 RT. - STA. 192+43 RT.						20	
11	STA. 205+27 LT. - STA. 21+06 RT. (*Valley Road*)						2	
12	STA. 206+23 RT. - STA. 206+46 RT.						1	
13	STA. 206+67 LT. - STA. 209+38 LT.						3	
	CENTRE ST							
14	STA. 30+77 LT. - STA. 31+27 LT.						1	
15	STA. 30+97 RT. - STA. 31+29 RT.	1					3	
16	STA. 32+59 LT. (Centre St.) to						12	
17	STA. 32+59 RT. - STA. 33+30 RT. 215'						6	
	DIVERSION (Route 9, Centre St, Valley Rd)							
1T	STA. 5+33 RT. - STA.10+82 RT. (*Rte. 9*)			700	1		11	
2T	STA. 11+78 RT. - STA. 12+88 RT. (*Rte. 9*)			137.5		1	7	
	HOUGHTON LEDGE RD							
1H	STA. 53+34 RT. - STA. 59+48 RT.						15	
	SUBTOTAL	1	150	837.5	1	1	166	
	ROUNDING	0	50	12.5	0	0	9	
	TOTAL	1	200	850	1	1	175	

SURFACING MATERIALS

ITEM NO.	304.2	304.32	304.4	403.11	403.11001	403.12	403.4	403.6	403.99	410.22	417
DESCRIPTION	GRAVEL (F)	CRUSHED GRAVEL FOR SHOULDER LEVELING	CRUSHED STONE (FINE GRADATION) (F)	HOT BITUMINOUS, MACHINE METHOD	HOT BITUMINOUS PAVEMENT, MACHINE METHOD (QC/QA TIER 1)	HOT BITUMINOUS PAVEMENT, HAND METHOD	MATERIAL TRANSFER VEHICLE (MTV)	PAVEMENT JOINT ADHESIVE	TEMPORARY BITUMINOUS PAVEMENT	ASPHALT EMULSION FOR TACK COAT	COLD PLANING BITUMINOUS SURFACES
	CY	T	CY	T	TON	TON	TON	LF	TON	GAL	SY
LOCATION											
NH ROUTE 9	21542		26461		15840		16640	41007	403.2		1161
HOUGHTON LEDGE RD	461		377	34.6				210			
VALLEY RD			323	131.0				426	131.1		312
CENTRE ST				84.7				245			601
DRIVEWAYS			434			134			9		
COUNTRY STRE PARKING				47.9				209			
DRAINAGE									410		
DIVERSIONS		7		98.5				1919			256
GUARDRAIL AREAS		90									
PROJECT-WIDE								485	71	1534	
SUB-TOTAL	22003	96	27595	396.7	15840	134	16640	44502	1024	1534	2330
ROUNDING	1197	4	1605	3	800	16	0	498	101	66	20
TOTAL	23200	100	29200	400	16640	150	16640	45000	1125	1600	2350

GENERAL NOTES:

1. FOR TRAFFIC CONTROL QUANTITIES, SEE PROPOSAL DOCUMENTS

SUMMARY OF QUANTITIES (ESTIMATED)
THIS INFORMATION IS FOR BIDDING PURPOSES ONLY

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARIES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SS4	10439Summary	10439	14	294

BOUNDS

ITEM NO.	622.2
ITEM	CONCRETE BOUNDS
UNIT	EA
LOCATION	
HOUGHTON LEDGE RD	
STA. 50+92.99 RT 25.00'	1
STA. 51+60.46 RT 25.00'	1
STA. 52+46.75 RT 25.00'	1
STA. 53+08.85 RT 25.00'	1
STA. 54+29.98 RT 25.00'	1
STA. 54+82.54 LT 25.00'	1
STA. 57+38.06 LT 25.00'	1
STA. 57+38.06 RT 25.00'	1
STA. 58+62.79 RT 98.19'	1
STA. 58+99.94 RT 61.83'	1
STA. 59+87.35 LT 25.00'	1
STA. 59+87.35 RT 25.00'	1
STA. 60+00.00 LT 13.82'	1
STA. 60+00.00 LT 25.00'	1
STA. 60+00.00 RT 25.00'	1
STA. 60+00.00 RT 29.19'	1
VALLEY RD	
STA. 21+00.00 RT 29.17'	1
NH ROUTE 9	
STA. 115+24.74 RT 93.11'	1
STA. 115+48.25 RT 31.44'	1
STA. 120+43.43 RT 29.47'	1
STA. 121+80.55 RT 38.84'	1
STA. 108+85.00 LT 33.00'	1
SUBTOTAL	22
ROUNDING	3
TOTAL	25

CLEARING AND GRUBBING

ITEM NO. 201.1

DESCRIPTION		CLEARING AND GRUBBING (F)	DESCRIPTION		CLEARING AND GRUBBING (F)	DESCRIPTION		CLEARING AND GRUBBING (F)
UNIT	SF	A	UNIT	SF	A	UNIT	SF	A
AREA DESIGNATION			AREA DESIGNATION			AREA DESIGNATION		
A	502	0.012	X	432	0.010	U1	224	0.005
B	756	0.017	Y	120	0.003	V1	30219	0.694
C	2996	0.069	Z	86	0.002	W1	2533	0.058
D	4646	0.107	A1	265	0.006	X1	85	0.002
E	1824	0.042	B1	1211	0.028	Y1	1452	0.033
F	298	0.007	C1	34	0.001	Z1	1609	0.037
G	2900	0.067	D1	22	0.001	A2	275	0.006
H	193	0.004	E1	454	0.010	B2	19345	0.444
I	21955	0.504	F1	12319	0.283	C2	1355	0.031
J	1901	0.044	G1	311	0.007	D2	2520	0.058
K	2978	0.068	H1	1041	0.024	E2	3165	0.073
L	152473	3.500	I1	567	0.013	F2	396	0.009
M	1478	0.034	J1	887	0.020	G2	3544	0.081
N	468	0.011	K1	3622	0.083			
O	194	0.004	L1	1070	0.025			
P	311	0.007	M1	401	0.009			
Q	302	0.007	N1	4736	0.109			
R	2543	0.058	O1	249	0.006			
S	655	0.015	P1	488	0.011			
T	540	0.012	Q1	28027	0.643			
U	45	0.001	R1	354	0.008			
V	1427	0.033	S1	558	0.013			
W	750	0.017	T1	1012	0.023			
SUBTOTAL		4.64	SUBTOTAL		1.34	SUBTOTAL		1.53
						ROUNDING		0.49
						TOTAL		8.00

EARTHWORK

DESCRIPTION		CY	TOTAL
COMMON EXCAVATION IN SECTIONS, INCL. BLDRS. & CONC. PVMT.		141879	
COMMON EXCAVATION LRS (LIMITED REUSE SOIL)	(ITEM 203.11)	8752	8800
ROCK EXCAVATION (5% OF TOTAL EXCAVATION)		7094	
DRIVE AND APPROACH EXCAVATION		323	
COMMON EXCAVATION FOR ESTIMATE	(ITEM 203.1)	126033	129850
**********		**********	**********
ROCK EXCAVATION FOR ESTIMATE	(ITEM 203.2)	7040	7400
**********		**********	**********
EMBANKMENT-IN-PLACE FOR ESTIMATE (F)	(ITEM 203.6)	7591	7670

SUBSIDIARY ITEMS

DESCRIPTION
TRAFFIC SIGN REMOVAL
LONGITUDINAL SAW CUTS

NOTE: THIS LIST SHOULD NOT BE CONSIDERED TO BE THE COMPLETE LIST OF SUBSIDIARY WORK PRESENT IN THE PROJECT. REFER ALSO TO THE PLANS, PROPOSAL, SPECIAL PROVISIONS, AND TO THE STANDARD SPECIFICATIONS.

INCIDENTAL ITEMS

ITEM NO.	DESCRIPTION	UNIT	TOTAL
201.881	INVASIVE SPECIES CONTROL I	SY	40
201.882	INVASIVE SPECIES CONTROL II	SY	320
202.851	REMOVAL OF FLASHING BEACON	U	1
203.35	HANDLING EXCAVATED, CONTAMINATED SOILS (DEPARTMENT DISPOSAL)	CY	100
206.19	COMMON STRUCTURE EXCAVATION EXPLORATORY	CY	50
214.	FINE GRADING	U	1
572.1	RECONSTRUCTING STONE WALL, ONE STONE WIDE	LF	40
607.350	CHAIN LINK FENCE WITH VINTL COATED STEEL FABRIC, 5' HIGH	LF	130
607.435	POST ASSEMBLIES FOR CHAIN LINK FENCE WITH VINYL CTD STL FABRIC, 5' HIGH	EA	3
614.331	3" STEEL CONDUIT	LF	13
614.73114	3" PVC CONDUIT , SCHEDULE 40	LF	48
628.2	SAWED BITUMINOUS PAVEMENT	LF	430
645.7	STORM WATER POLLUTION PREVENTION PLAN	U	1
645.71	MONITORING SWPPP AND EROSION SEDIMENT CONTROLS	HR	360
670.04501	CONSTRUCT AND REMOVE DIVERSION	U	1
670.066	MAILBOX SUPPORT ASSEMBLIES	EA	12
670.0661	MULTIPLE MAILBOXES SUPPORT ASSEMBLIES	EA	2
670.95	TEMPORARY SAFETY FENCE	LF	560
677.4201	ROADWAY WEATHER INFORMATION STATION (RWIS) SYSTEM	U	1
677.6301	METER AND DISCONNECT PEDESTAL	U	1
677.9412	4-CONDUCTOR #12 AWG CABLE	LF	10
692.	MOBILIZATION	U	0.6 **
693.	ON-THE-JOB TRAINING OF UNSKILLED WORKERS	$	1200
697.11	INVASIVE SPECIES CONTROL AND MANAGEMENT PLAN	U	1
697.31	PROJECT OPERATIONS PLAN	U	1
697.41	CRITICAL PATH METHOD (CPM) ELECTRONIC SCHEDULE	U	1
698.13	FIELD OFFICE TYPE C	MON	30
698.2	PHYSICAL TESTING LABORATORY	MON	25
699.	MISCELLANEOUS TEMPORARY EROSION AND SEDIMENT CONTROL	$	50000
1009.21	TREATMENT OR DISPOSAL OF CONTAMINATED GROUNDWATER (FRAC TANK)	$	10000
1010.15	FUEL ADJUSTMENT	$	68000 **
1010.2	ASPHALT CEMENT ADJUSTMENT	$	49700 **
1010.3	QUALITY CONTROL QUALITY ASSURANCE (QC/QA) ASPHALT	$	60000 **
** NOT AN ITEM TOTAL SEE SUMMARY OF BRIDGE QUANTITIES			

TREE WORK

ITEM NO.	201.21	201.22
ITEM	REMOVING SMALL TREES	REMOVING LARGE TREES
UNIT	EA	EA
LOCATION		
STA. 105+22 RT	1	
STA. 105+23 RT	1	
STA.105+66 RT	1	
STA. 117+55 LT	1	
STA. 152+25 LT		1
STA. 181+46 RT	1	
STA. 181+61 RT	1	
STA. 201+35 RT	1	
STA. 204+92 LT	1	
STA. 205+02 LT	1	
STA. 205+48 LT	1	
STA. 205+66 LT	1	
STA. 205+95 LT	1	
STA. 21+01 LT	1	
STA. 21+10 LT	1	
STA. 21+34 LT	1	
STA. 21+67 LT	1	
STA. 21+11 RT	1	
STA. 21+14 RT	1	
STA. 21+19 RT	1	
SUBTOTAL	19	1
ROUNDING	0	0
TOTAL	19	1

POST MOUNTED DELINEATORS

ITEM NO.	621.31	621.32
ITEM	SINGLE DELINEATOR WITH POST	DOUBLE DELINEATOR WTH POST
COLOR	EA	EA
WHITE	256	
RED		11
GREEN	12	
SUBTOTAL	268	11
ROUNDING	12	4
TOTAL	280	15

CURBING

ITEM NO.			202.6	609.01	609.5	609.811
ITEM	MARK NUMBER	RADIUS	CURB REMOVAL FOR SALVAGE	STRAIGHT GRANITE CURB	RESET GRANITE CURB	BITUMINOUS CURB, TYPE B (4" REVEAL)
UNIT			LF	LF	LF	LF
LOCATION						
STA. 204+86 RT. - STA. 205+14 RT.	G-1		25	32.5		
STA. 205+13 LT. - STA. 205+45 LT.	G-2			32.5		
STA. 206+07 RT. - STA. 206+35 RT.	G-3		28	32.5		
STA. 206+43 RT. - STA. 206+84 RT.	G-4		41	32.5		
STA. 31+29 LT. - STA. 31+51 RT.	G-5				23	
STA. 31+29 RT. - STA. 31+51 RT.	G-6				22	
STA. 32+34 LT. - STA. 31+59 LT.	G-7				24	
STA. 32+34 RT. - STA. 32+60 RT.	G-8				25	
STA. 110+00 RT. - STA. 114+50 RT.	B-1					450
STA. 203+65 RT. - STA. 204+15 RT.	B-2					50
PROJECT WIDE				10		
SUB-TOTAL			94	140	94	500
ROUNDING			6	10	6	25
TOTAL			100	150	100	525

SALVAGE OF MATERIALS

DESCRIPTION
· W-BEAM RAIL END UNITS · HIGHWAY MAINTENANCE, DISTRICT 4
· DRAINAGE FRAMES AND GRATES · HIGHWAY MAINTENANCE, DISTRICT 4
· GRANITE CURB · HIGHWAY MAINTENANCE, DISTRICT 4
· FLASHING BEACON AND ASSOCIATED EQUIPMENT UNDER 202.851 - REMOVAL OF FLASHING BEACON · BUREAU OF TRAFFIC

GENERAL NOTES:

1. FOR TRAFFIC CONTROL QUANTITIES, SEE PROPOSAL DOCUMENTS

SUMMARY OF QUANTITIES (ESTIMATED)

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARIES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SS5	10439Summary	10439	15	294

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAM	CONCRETE BASE	4" OD ALUMINUM	U-CHANNEL-GALV.	REMARKS
615.0301	R1-1	30	30	STOP			10C				2	6.25	12.50					1	WHITE / RED Valley Rd & Conner Dr
615.0301 615.0601	R1-1*	36	36	STOP			12C				1 2*	9.00	27.00					1	WHITE / RED * Mount behind W14-1(M) & R5-1
615.0301	R2-1(30)	30	36	SPEED LIMIT 30			5E 5E			12E	1	7.50	7.50					1	BLACK / WHITE
615.0301	R2-1(45)	24	30	SPEED LIMIT 45			4E 4E			10E	1	5.00	5.00					1	BLACK / WHITE
615.0301	R3-2	24	24								1	4.00	4.00					1	RED, BLACK / WHITE
615.0601	R3-3LB1	24	18	NO LEFT TURN			5/4C 4C				1	3.00	3.00						BLACK / WHITE Mount below R3-2
615.0301	R5-1	36	36	DO NOT ENTER			5D 5D				1	9.00	9.00				1		WHITE / RED
615.03201	R5-1	36	36	DO NOT ENTER			5D 5D				1	9.00	9.00	X			1		WHITE / RED
615.0601	R6-1L	36	12	ONE WAY			4D				1	3.00	3.00						BLACK / WHITE WHITE / BLACK Mount above R1-1 & R5-1
615.0601	R6-1R	36	12	ONE WAY			4D				1	3.00	3.00						BLACK / WHITE WHITE / BLACK Mount above R1-1 & R5-1

ITEM #	IDENT#	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAM	CONCRETE BASE	4" OD ALUMINUM	U-CHANNEL-GALV.	REMARKS
615.0301	W2-2L	36	36								2	9.00	18.00					2	BLACK / YELLOW
615.0301	W2-2R	36	36								2	9.00	18.00					2	BLACK / YELLOW
615.0301	W3-1	30	30								2	6.25	12.50					1	RED, BLACK / YELLOW
615.0301	W14-1(M)	36	36	DEAD END ROAD			6C 6C 6C				1	9.00	9.00					2	BLACK / YELLOW
615.0601	W16-8(M)1	36	8	Centre Street	4C	4C					2	2.00	4.00						BLACK / YELLOW Mount below W2-2L & W2-2R
615.0601	W16-8(M)2	36	16	Houghton Ledge Road	4C 4C	4C 4C					2	4.00	8.00						BLACK / YELLOW Mount below W2-2L & W2-2R

GENERAL NOTES

1. REFER TO THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PUBLISHED BY THE NHDOT.

2. NOTE NEW REFLECTIVITY REQUIREMENTS IN THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 718 PUBLISHED BY THE NHDOT.

3. REFER TO THE LATEST STANDARD PLANS FOR ROAD CONSTRUCTION AS PUBLISHED BY THE NHDOT FOR EXACT DETAILS OF PERMANENT SIGNING STANDARDS AND NHDOT SPECIFIC SIGNS.

4. REFER TO THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS MANUAL AS PUBLISHED BY THE USDOT-FHWA FOR EXACT DETAILS OF BORDERS, ETC.

5. THE ALUMINUM OR U-CHANNEL POST SHALL BE FLUSH WITH THE TOP OF THE SIGN ON ALL SINGLE POST ASSEMBLIES.

SEE PROPOSAL DOCUMENTS FOR PERMANENT CONSTRUCTION SIGN TEXT LAYOUT.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

SIGN TEXT LAYOUT

PAGE NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
1 OF 2	TRAFFIC SIGN NOTES	10439	16	294

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAM	CONCRETE BASE	4" OD ALUMINUM	U-CHANNEL-GALV.	REMARKS
615.0201	GA-01	72	48		6D 6D	6D 6D	6/5D	18	14 X 6 9 X 6 9 X 6	10E	1	24.00	24.00					2	BLACK / WHITE WHITE / GREEN
615.0201	GA-02	78	30		6D 6D	6D 6D			6D 6D		1	16.25	16.25					2	WHITE / GREEN
615.0701	GA-03	48	18		6D	6D			6D		1	6.00	6.00					2	WHITE / GREEN
615.0301	M1-5(9)	24	24						12D		2	4.00	8.00						BLACK / WHITE
615.0601	M3-2	24	12				*6C				1	2.00	2.00						*First Letter is 10% larger (6.6") BLACK / WHITE Mount above M1-5(9)
615.0601	M3-4	24	12				*6C				1	2.00	2.00						*First Letter is 10% larger (6.6") BLACK / WHITE Mount above M1-5(9)
615.0201	I-20(1)	8	48				*3D				1	2.67	2.67					1	WHITE / GREEN * See NHDOT Standard Plans SG-14, Plate 1
615.0501	I-20(2)	8	48				*4D				1	2.67	2.67						WHITE / GREEN * See NHDOT Standard Plans SG-14, Plate 1 Mount behind I-20(1)
615.0301	S3-1	36	36								2	9.00	18.00					2	RED, BLACK / FLUORESCENT YELLOW-GREEN

ITEM #	IDENT#	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAM	CONCRETE BASE	4" OD ALUMINUM	U-CHANNEL-GALV.	REMARKS

GENERAL NOTES

1. REFER TO THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PUBLISHED BY THE NHDOT.

2. NOTE NEW REFLECTIVITY REQUIREMENTS IN THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 718 PUBLISHED BY THE NHDOT.

3. REFER TO THE LATEST STANDARD PLANS FOR ROAD CONSTRUCTION AS PUBLISHED BY THE NHDOT FOR EXACT DETAILS OF PERMANENT SIGNING STANDARDS AND NHDOT SPECIFIC SIGNS.

4. REFER TO THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS MANUAL AS PUBLISHED BY THE USDOT-FHWA FOR EXACT DETAILS OF BORDERS, ETC.

5. THE ALUMINUM OR U-CHANNEL POST SHALL BE FLUSH WITH THE TOP OF THE SIGN ON ALL SINGLE POST ASSEMBLIES.

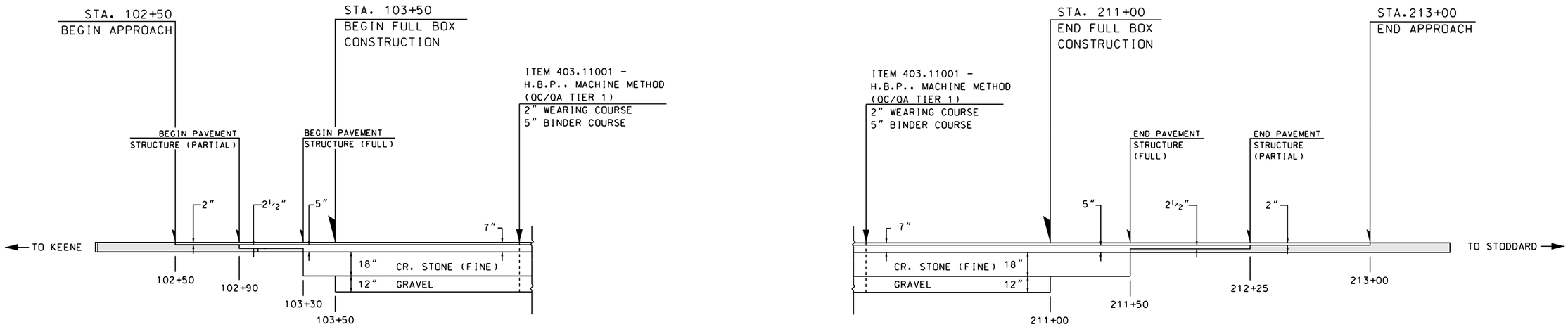
SEE PROPOSAL DOCUMENTS FOR PERMANENT CONSTRUCTION SIGN TEXT

STATE OF NEW HAMPSHIRE

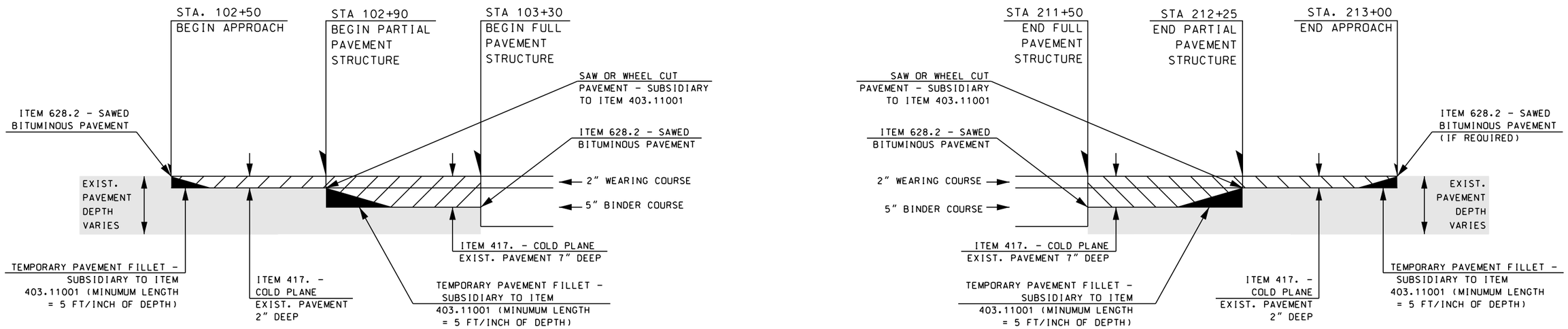
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

SIGN TEXT LAYOUT

PAGE NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
2 OF 2	TRAFFIC SIGN NOTES	10439	17	294



NH ROUTE 9
PAVEMENT MATCH



NH ROUTE 9
COLDPLANING DETAIL

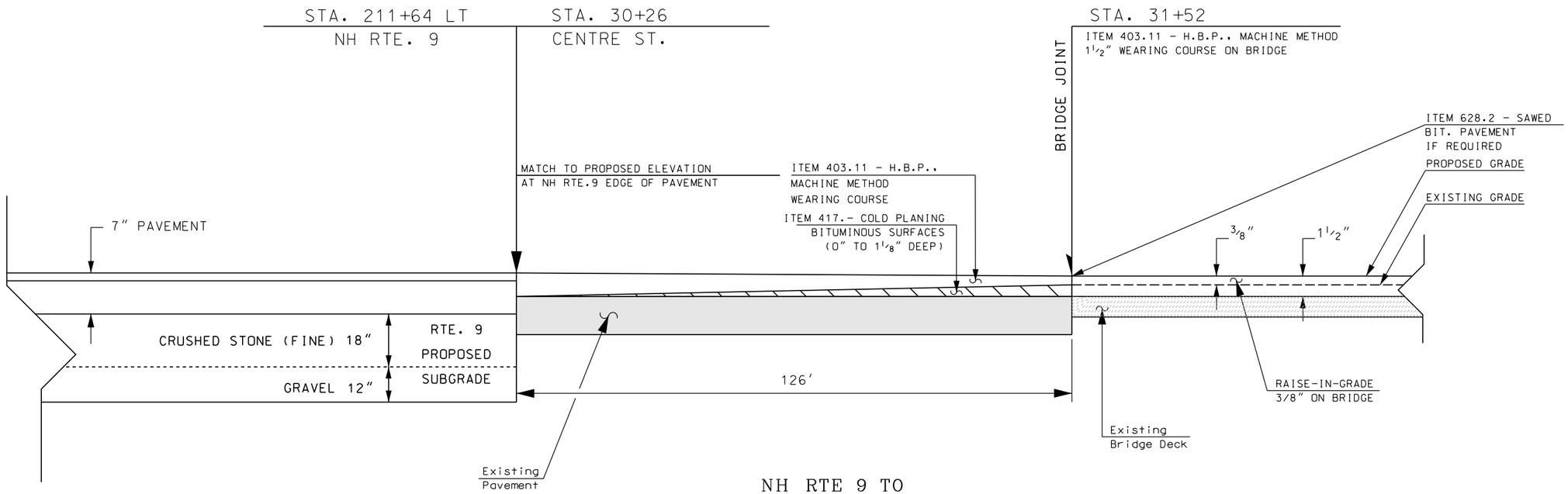
NOT TO SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN			
NH ROUTE 9 PAVEMENT MATCH DETAILS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439PVT-MTH	10439	18	294

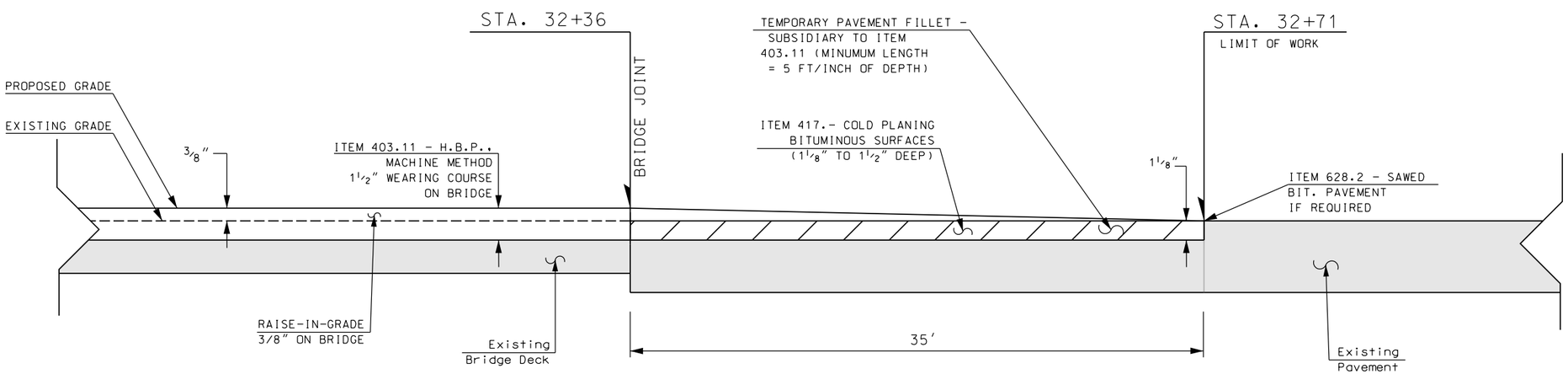
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	T. RUSSO	DATE 05/2017
SHEET CHECKED	J. FINDON-HENRY	DATE 07/2017
AS BUILT DETAILS		DATE



NH RTE 9 TO
CENTRE ST. BRIDGE 094/064
PAVEMENT MATCH



CENTRE ST. BRIDGE 094/064
TO LIMIT OF WORK
PAVEMENT MATCH

NOT TO SCALE

NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

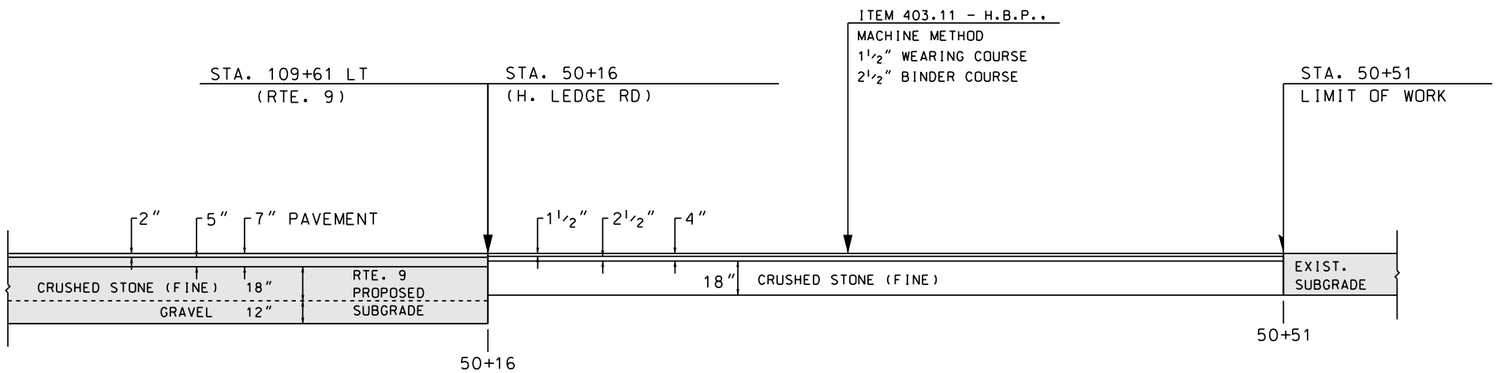
		DATE
SDR PROCESSED		
NEW DESIGN	T. RUSSO	DATE 07/2017
SHEET CHECKED	J. FINDON-HENRY	DATE 05/2017
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

CENTRE ST BRIDGE 094/064
PAVEMENT MATCH DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439PVT-MTH	10439	19	294



NH RTE 9 &
HOUGHTON LEDGE ROAD
PAVEMENT MATCH

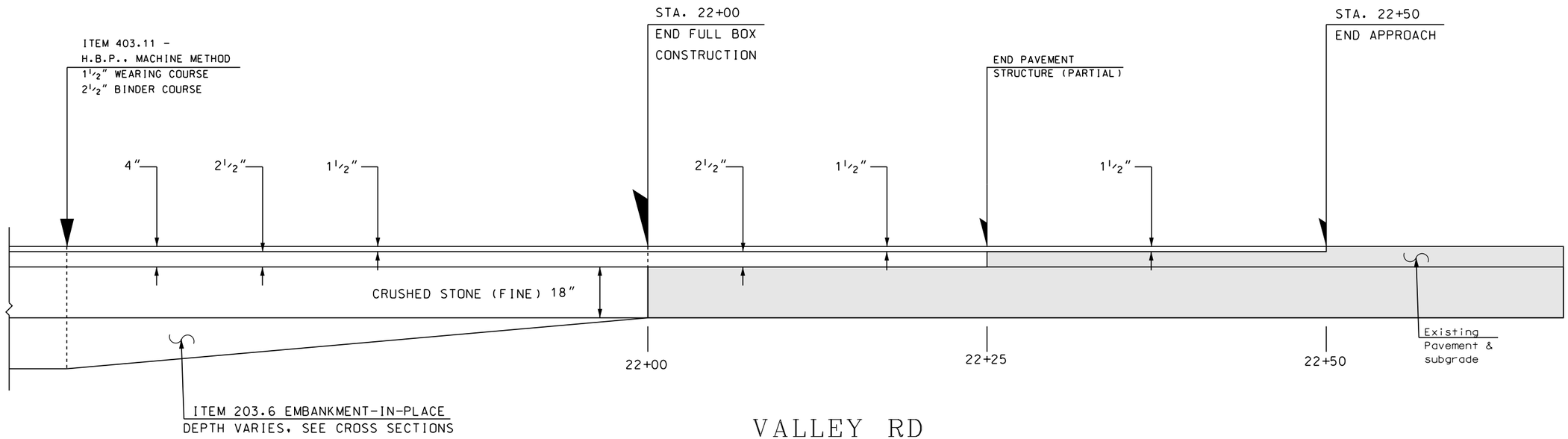
NOT TO SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN			
HOUGHTON LEDGE RD PAVEMENT MATCH DETAILS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439PVT-MTH	10439	20	294

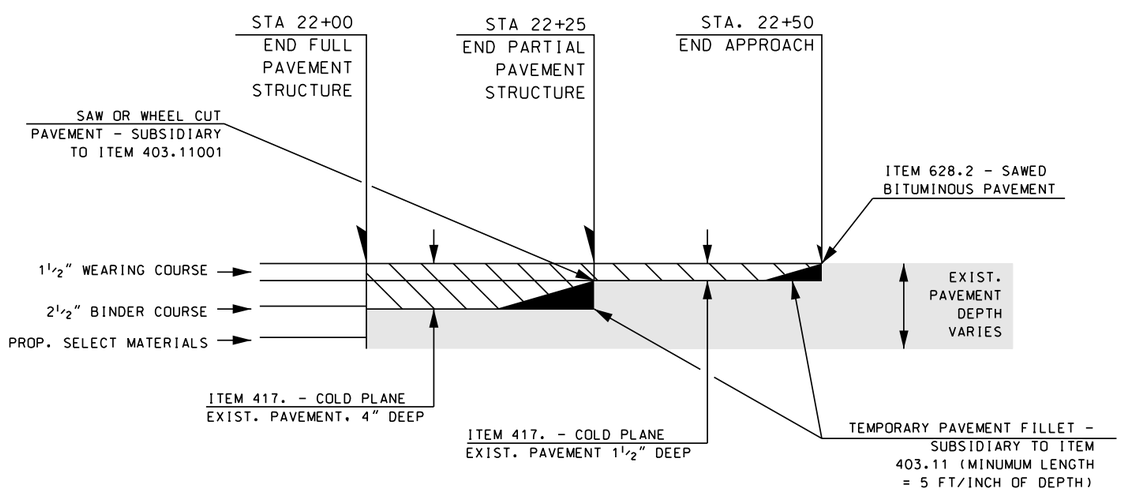
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	T. RUSSO	DATE 05/2017
SHEET CHECKED	J. FINDON-HENRY	DATE 07/2017
AS BUILT DETAILS		DATE



VALLEY RD
FINAL CONDITION
PAVEMENT MATCH



VALLEY ROAD FINAL CONDITION
COLDPLANING DETAIL

NOT TO SCALE

REVISIONS AFTER PROPOSAL			
DESCRIPTION	STATION	STATION	NUMBER	DATE

SDR PROCESSED	T. RUSSO	DATE 05/2017
NEW DESIGN	J. FINDON-HENRY	DATE 07/2017
SHEET CHECKED		
AS BUILT DETAILS		DATE

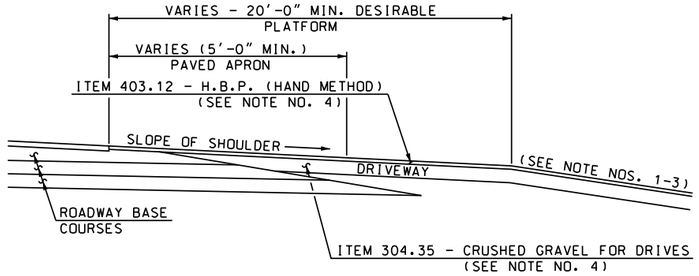
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

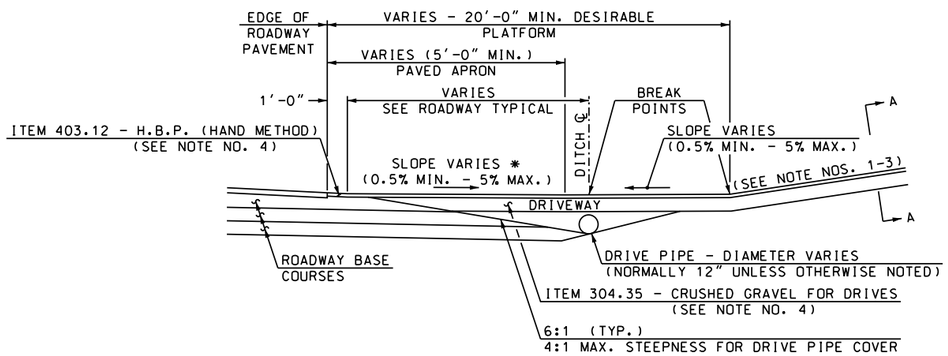
VALLEY RD
PAVEMENT MATCH DETAILS

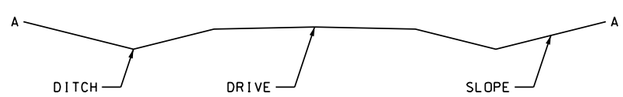
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439PVT-MTH	10439	21	294

NOTE: REFER TO PAVEMENT LAYOUT PLANS AND CROSS-SECTIONS FOR DRIVEWAY LENGTHS, WIDTHS, RADII, CURB CUTS, GRADES AND PAVEMENT & BASE COURSE DEPTHS



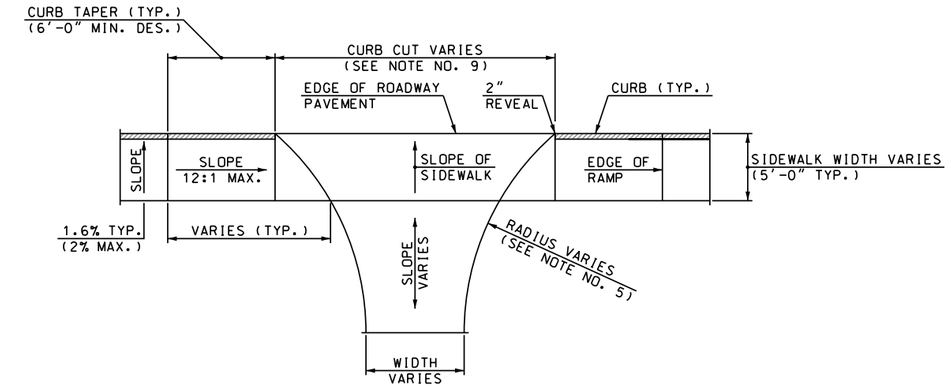
TYPICAL UNCURBED DRIVE IN FILL SECTION



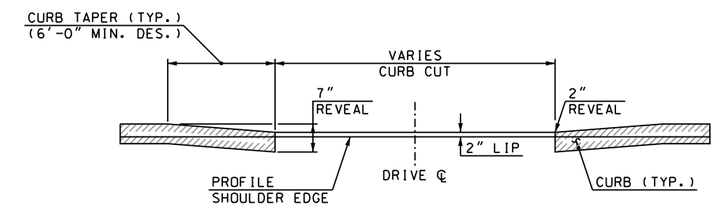


A-A DRIVEWAY CROSS-SECTION

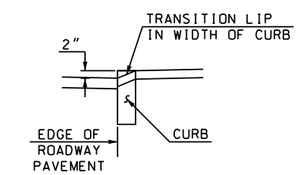
TYPICAL UNCURBED DRIVE IN CUT SECTION



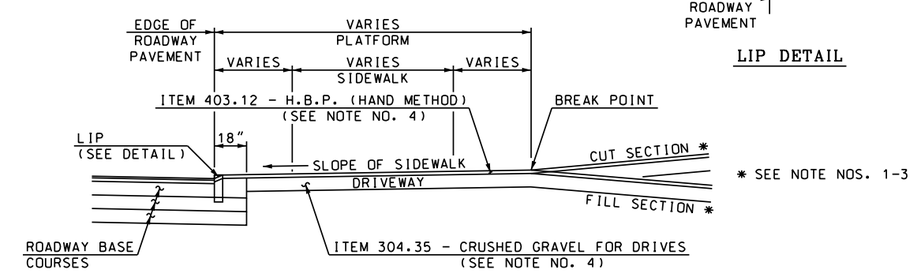
PLAN VIEW WITH SIDEWALK RAMP



END VIEW



LIP DETAIL



TYPICAL URBAN CURBED DRIVE IN CUT/FILL SECTION

GENERAL NOTES

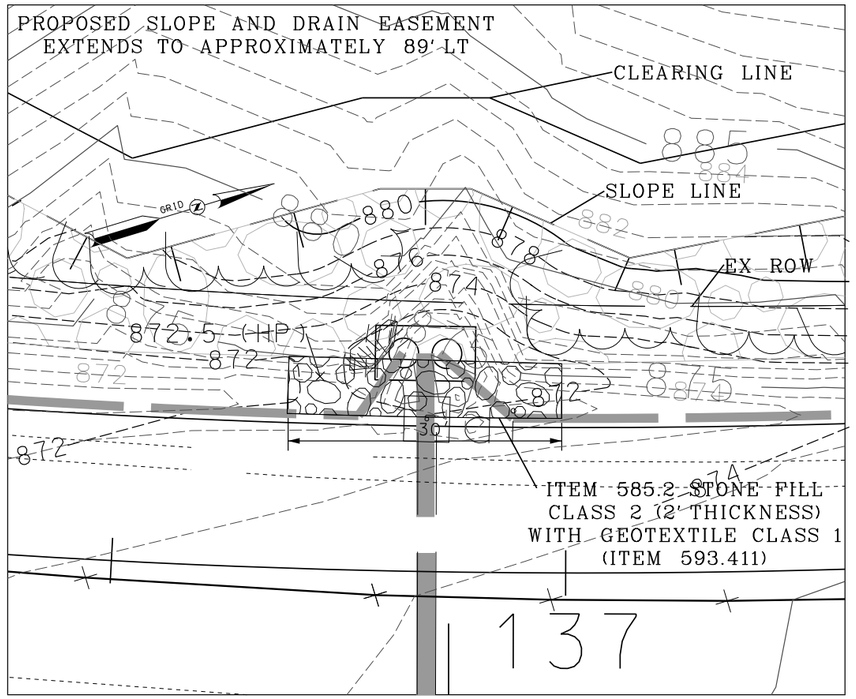
1. GRADES OF MAJOR ENTRANCES BEYOND THE PLATFORM SHOULD NOT EXCEED 8%.
2. GRADES OF OTHER DRIVES BEYOND THE PLATFORM SHOULD NOT EXCEED 15%.
3. THE ALGEBRAIC DIFFERENCE BETWEEN TWO ADJACENT GRADES SHOULD NOT EXCEED 10%.
4. PAVEMENT AND BASE COURSE DEPTHS ARE:
   A. TYPICALLY 8" CRUSHED GRAVEL WITH 3" HBP (HAND METHOD, PLACED IN 2 COURSES) FOR RESIDENTIAL DRIVES ADJACENT TO ROADWAYS WITH CONVENTIONAL CRUSHED GRAVEL, GRAVEL, AND SAND STRUCTURAL BOX. IF THE DRIVE IS ADJACENT TO A ROADWAY WITH A CRUSHED STONE STRUCTURAL BOX, 6" OF CRUSHED STONE FINE GRADATION MAY BE SUBSTITUTED FOR THE 8" OF CRUSHED GRAVEL NOTED ABOVE.
   B. TYPICALLY 12" CRUSHED GRAVEL WITH 3" HBP (HAND METHOD, PLACED IN 2 COURSES) FOR COMMERCIAL DRIVES WITH FREQUENT HEAVY TRUCK TRAFFIC THAT ARE ADJACENT TO ROADWAYS WITH CONVENTIONAL CRUSHED GRAVEL, GRAVEL, AND SAND STRUCTURAL BOX. IF THE DRIVE IS ADJACENT TO A ROADWAY WITH A CRUSHED STONE STRUCTURAL BOX, 9" OF CRUSHED STONE FINE GRADATION MAY BE SUBSTITUTED FOR THE 12" OF CRUSHED GRAVEL NOTED ABOVE.
5. FOR DESIGN CRITERIA AND OTHER ADDITIONAL INFORMATION, REFER TO THE NHDOT DRIVEWAY MANUAL.
6. DITCHES ARE RECOMMENDED FOR UNCURBED DRIVEWAYS IN CUT SLOPES.
7. USE SLOPED END SECTIONS ON DRIVE PIPES FOR UNCURBED DRIVEWAYS.
8. CURBING CAN BE FLARED TO FIT DRIVE RADII IF APPROPRIATE OR ENDED AS DETAILED ABOVE.
9. CURB CUTS FOR RESIDENTIAL DRIVES WITH ANGLES OF ENTRY OF 75°-90° ARE TYPICALLY 25'-0".

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

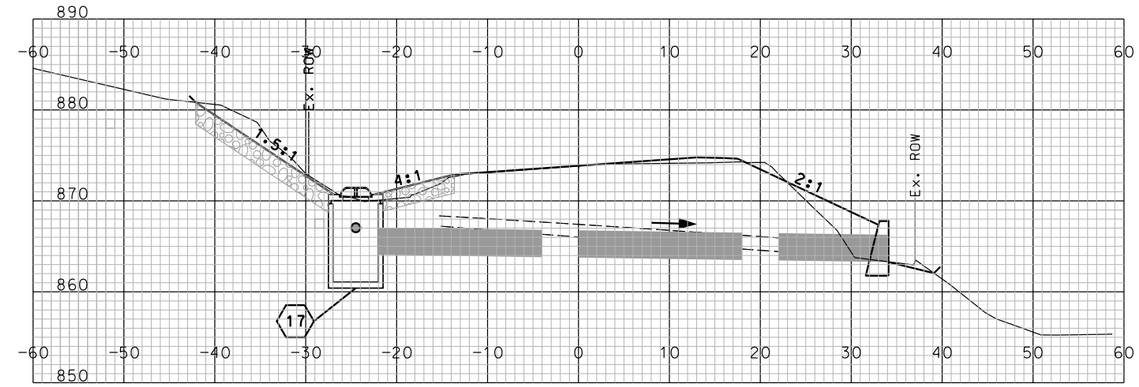
DRIVEWAY DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_driveway details	10439	22	294



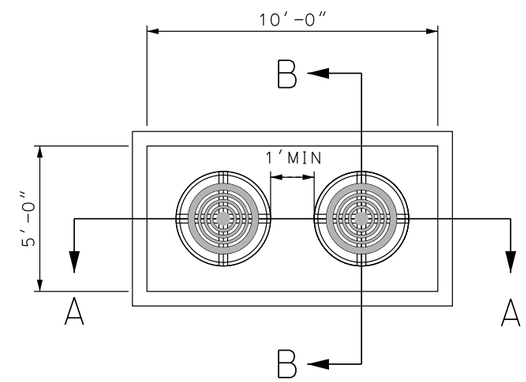
INLET DETAIL GRADING

SCALE: 1"=50'



STA. 136+85.0

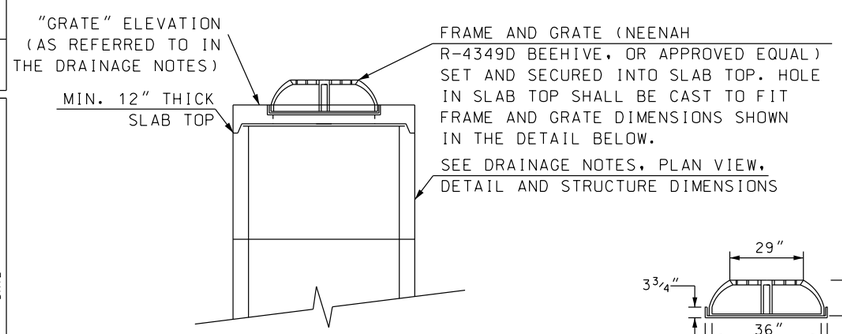
SCALE: 1"=10'



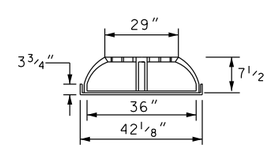
PLAN VIEW

NOT TO SCALE

(17) STA. 136+85, RT. 34' TO STA. 136+85, LT. 22'
REMOVE 46' x 18" C.M.P. & EXISTING DI (SUBSIDIARY)
CONST. 56' x 36" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA 136+85, RT. 30'
36" INV. OUT = 863.30'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CATCH BASIN, DOUBLE GRATE
(SEE DETAIL) @ STA. 136+85, LT 22'
GRATE ELEV. = 871.50'
36" INV. OUT = 864.10'
12" INV. IN = 866.55' (UD. NOTE 10)
12" INV. OUT = 867.55 (CLEANOUT UD. NOTE U9)



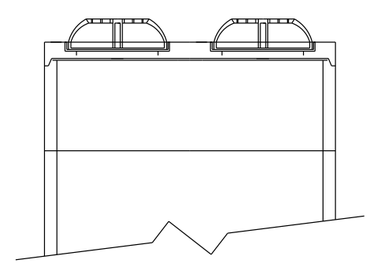
CATCH BASIN
W/ SLAB TOP SECTION VIEW



FRAME AND GRATE
DETAIL

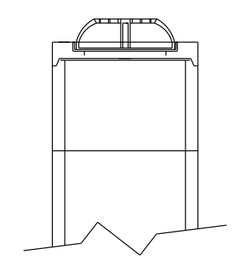
SPECIAL CATCH BASIN DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

NOTES:

1. CATCH BASIN SHALL COMPLY WITH ALL APPLICABLE PARTS OF STANDARD NO. DR-5.
2. REFER TO DRAINAGE NOTES FOR CATCH BASIN LOCATION.
3. CATCH BASIN, SLAB TOP, AND FRAME AND GRATE SHALL BE PAID FOR AS A UNIT UNDER ITEM 604.1912 - SPECIAL CATCH BASIN, DOUBLE GRATE.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE INLET STRUCTURE TO NHDOT FOR REVIEW IN ACCORDANCE WITH 105.02 PRIOR TO CONSTRUCTION.

STATE OF NEW HAMPSHIRE

DRAINAGE DETAIL
NOTE # 17

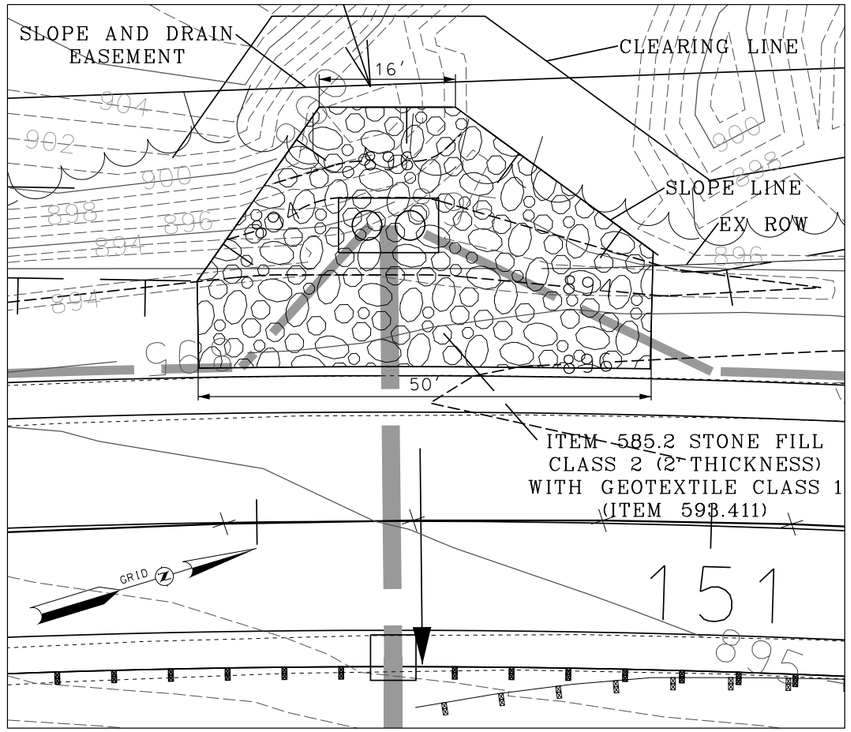
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DrainDets	10439	23	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

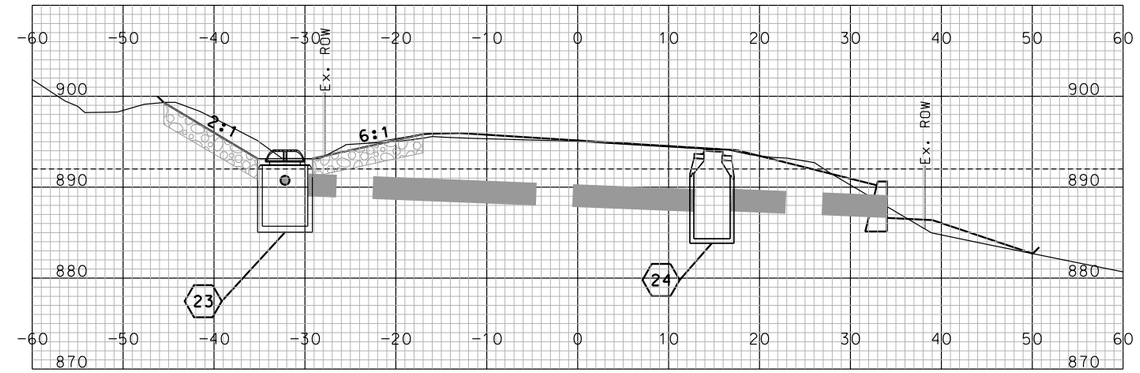
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	TEAM MICUCCI	DATE	9/11/17
SHEET CHECKED	TEAM MICUCCI	DATE	9/11/17

AS BUILT DETAILS DATE



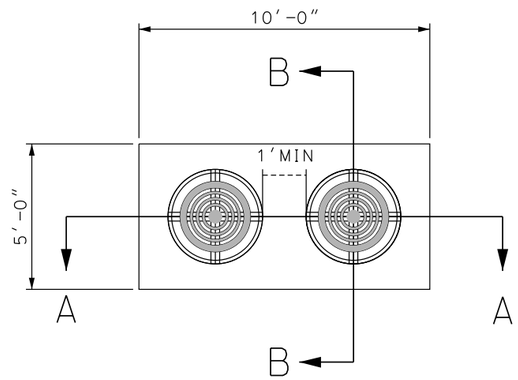
INLET DETAIL GRADING

SCALE: 1"=50'



STA. 150+65.0

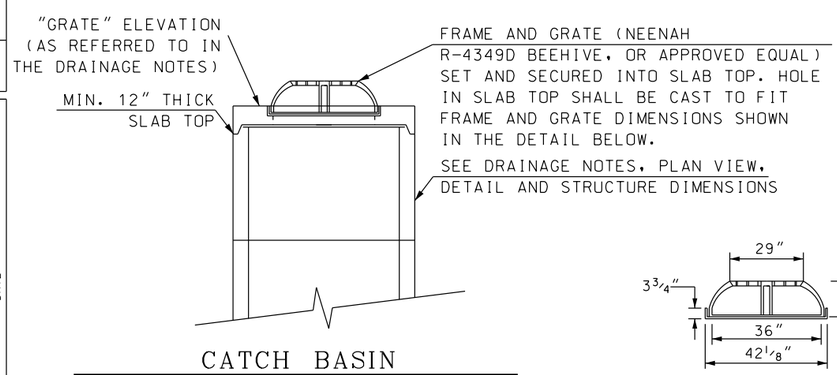
SCALE: 1"=10'



PLAN VIEW

NOT TO SCALE

23 STA. 150+65, RT. 15' TO STA. 150+65, LT. 32'
CONST. 43' x 30" R.C.P.
CONST. SPECIAL CATCH BASIN, DOUBLE GRATE
(SEE DETAIL) @ STA. 150+65, LT. 32'
GRATE ELEV. = 894.10'
30" INV. OUT = 889.00'
12" INV. IN = 890.25' (UD. NOTE 14)
12" INV. OUT = 891.25' CLEANOUT (UD. NOTE 13)



CATCH BASIN W/ SLAB TOP SECTION VIEW

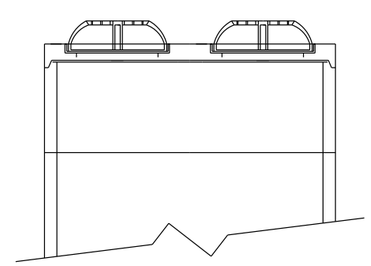
NOT TO SCALE

FRAME AND GRATE DETAIL

NOT TO SCALE

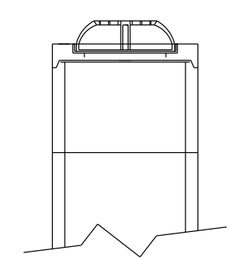
SPECIAL CATCH BASIN DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

NOTES:

1. CATCH BASIN SHALL COMPLY WITH ALL APPLICABLE PARTS OF STANDARD NO. DR-5.
2. REFER TO DRAINAGE NOTES FOR CATCH BASIN LOCATION.
3. CATCH BASIN, SLAB TOP, AND FRAME AND GRATE SHALL BE PAID FOR AS A UNIT UNDER ITEM 604.1912 - SPECIAL CATCH BASIN, DOUBLE GRATE.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE INLET STRUCTURE TO NHDOT FOR REVIEW IN ACCORDANCE WITH 105.02 PRIOR TO CONSTRUCTION.

STATE OF NEW HAMPSHIRE

DRAINAGE DETAIL
NOTE # 23

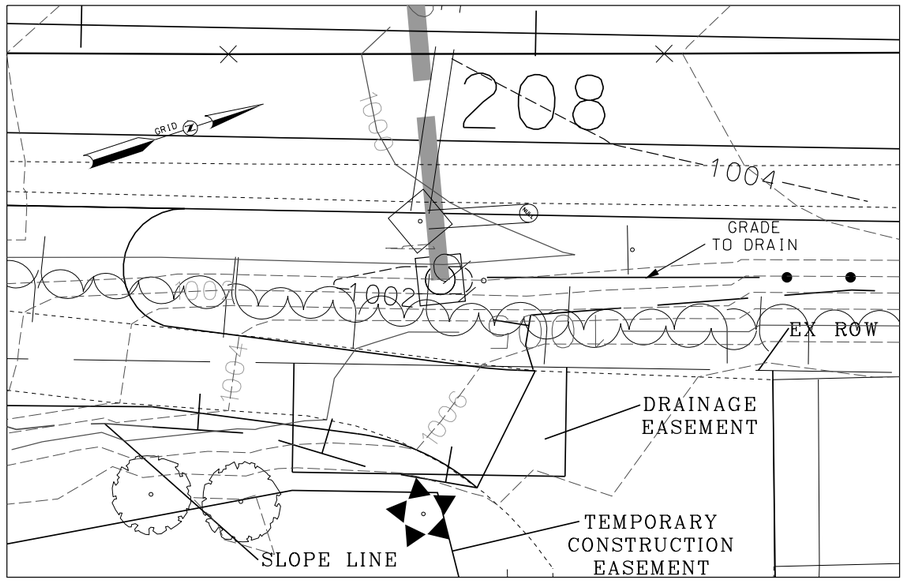
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DrainDets	10439	24	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

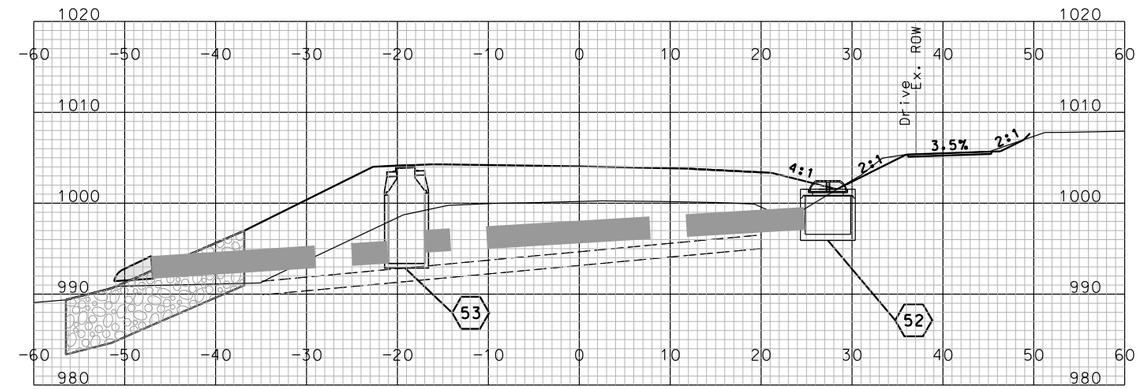
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	TEAM MICUCCI	DATE	9/11/17
SHEET CHECKED	TEAM MICUCCI	DATE	9/11/17

AS BUILT DETAILS DATE



INLET DETAIL GRADING

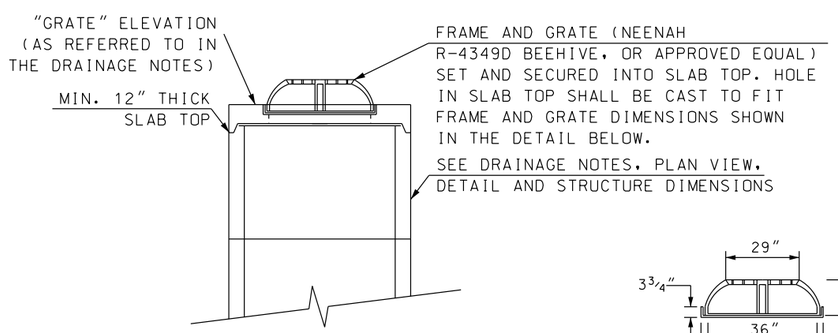
SCALE: 1"=50'



STA. 207+90.0

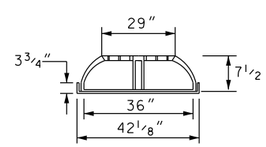
SCALE: 1"=10'

52 STA. 207+85, LT.19' TO STA. 207+90, RT. 27'
REMOVE 43' x 18" C.M.P./15" R.C.P. & EXISTING CB (15' & CB SUBSIDIARY)
CONST. 47' x 30" R.C.P.
CONST. SPECIAL DROP INLET (5 FT.) @ STA. 207+90, RT. 27'
GRATE ELEV. = 1002.50'
30" INV. OUT = 997.10'



DROP INLET
W/ SLAB TOP SECTION VIEW

NOT TO SCALE



FRAME AND GRATE
DETAIL

NOT TO SCALE

SPECIAL DROP INLET DETAIL

NOT TO SCALE

NOTES:

1. DROP INLET SHALL COMPLY WITH ALL APPLICABLE PARTS OF STANDARD NO. DR-5.
2. REFER TO DRAINAGE NOTES FOR DROP INLET LOCATION.
3. DROP INLET, SLAB TOP, AND FRAME AND GRATE SHALL BE PAID FOR AS A UNIT UNDER ITEM 604.291 - SPECIAL DROP INLET.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE INLET STRUCTURE TO NHDOT FOR REVIEW IN ACCORDANCE WITH 105.02 PRIOR TO CONSTRUCTION.

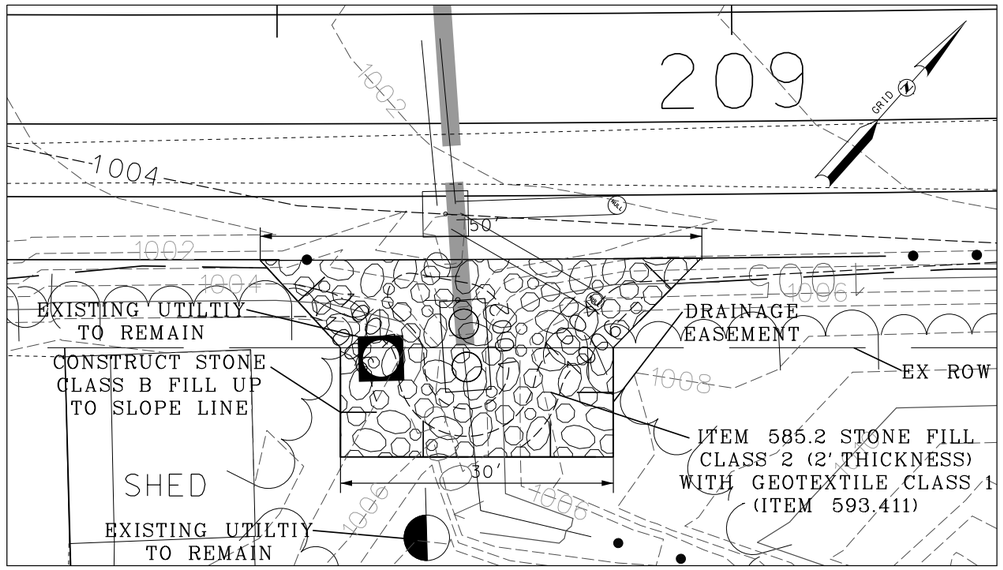
REVISIONS AFTER PROPOSAL				
DESCRIPTION	STATION	STATION	DATE	NUMBER

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	TEAM MICUCCI	DATE	9/11/17
SHEET CHECKED	TEAM MICUCCI	DATE	9/11/17
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

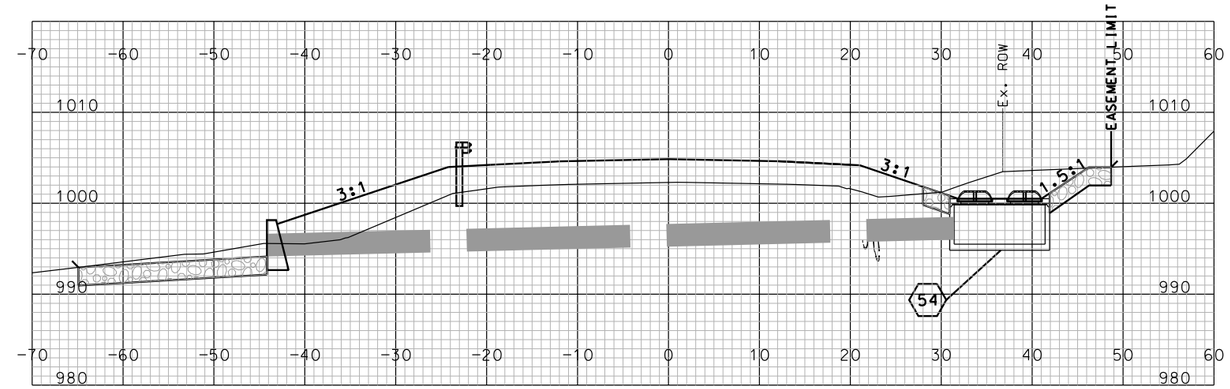
DRAINAGE DETAIL
NOTE # 52

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DrainDets	10439	25	294



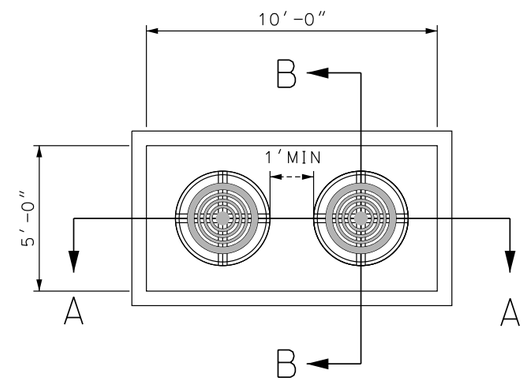
INLET DETAIL GRADING

SCALE: 1"=50'



STA. 208+68.2

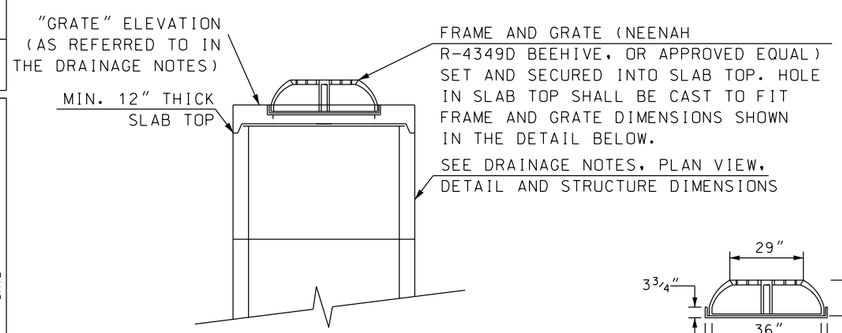
SCALE: 1"=10'



PLAN VIEW

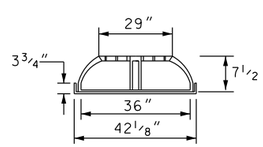
NOT TO SCALE

54 STA. 208+66, LT. 35' TO STA. 208+71, RT. 37'
REMOVE 58' x 18" R.C.P. (SUBSIDIARY)
CONST. 71' x 30" R.C.P.
CONST. P.C.-8 MRM HEADWALL @ STA 200+80, RT. 28'
30" INV. OUT=994.15'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL DROP INLET, DOUBLE GRATE (SEE DETAILS) @ STA. 207+90, RT. 27'
GRATE ELEV. = 1000.10'
30" INV. OUT = 996.35'



DROP INLET
W/ SLAB TOP SECTION VIEW

NOT TO SCALE

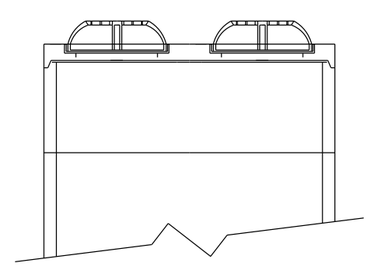


FRAME AND GRATE
DETAIL

NOT TO SCALE

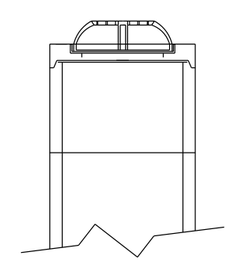
SPECIAL DROP INLET DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

NOTES:

1. DROP INLET SHALL COMPLY WITH ALL APPLICABLE PARTS OF STANDARD NO. DR-5.
2. REFER TO DRAINAGE NOTES FOR DROP INLET LOCATION.
3. DROP INLET, SLAB TOP, AND FRAME AND GRATE SHALL BE PAID FOR AS A UNIT UNDER ITEM 604.2912 - SPECIAL DROP INLET, DOUBLE GRATE.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE INLET STRUCTURE TO NHDOT FOR REVIEW IN ACCORDANCE WITH 105.02 PRIOR TO CONSTRUCTION.

STATE OF NEW HAMPSHIRE

DRAINAGE DETAIL
NOTE # 54

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DrainDets	10439	26	294

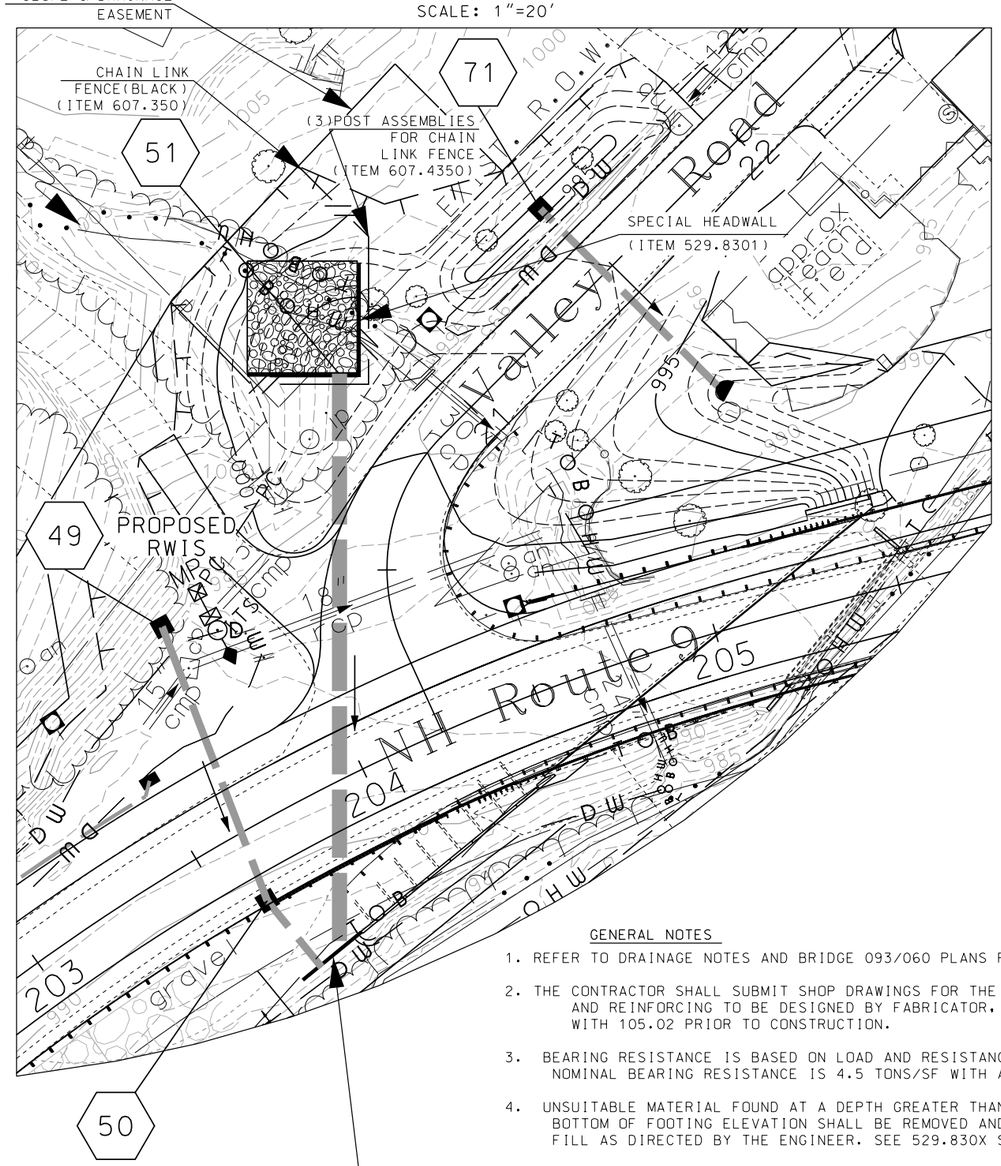
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	TEAM MICUCCI	DATE	9/11/17
SHEET CHECKED	TEAM MICUCCI	DATE	9/11/17
AS BUILT DETAILS		DATE	

GRADING PLAN DETAIL

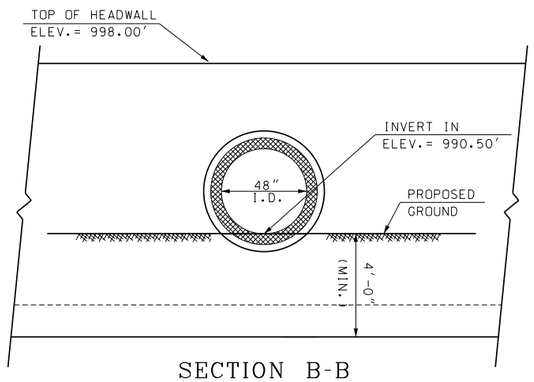
SCALE: 1"=20'



SPECIAL HEADWALL (ITEM 529.8302)
- SEE BRIDGE 093/060 PLAN (ABUT A SW WING MASONRY 7 REINFORCEMENT) FOR OUTLET DETAILS

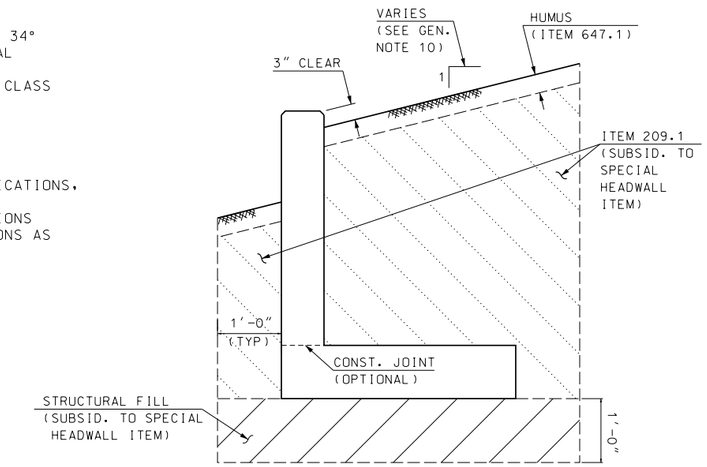
MATERIALS & SPECIFICATIONS

1. MATERIALS
   - BACKFILL: GRANULAR BACKFILL, ϕ = 34°
   - BEARING SOIL: ITEM 508, STRUCTURAL FILL, ϕ = 34°
   - CONCRETE: ITEM 520.001, CONCRETE CLASS AAA, f'c = 5000 PSI
   - REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
2. SPECIFICATIONS:
   - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED. (2014) WITH 2015 & 2016 INTERIM REVISIONS
   - 2016 NHDOT STANDARD SPECIFICATIONS AS AMENDED
   - ITEM 529.830X SPECIAL PROVISION



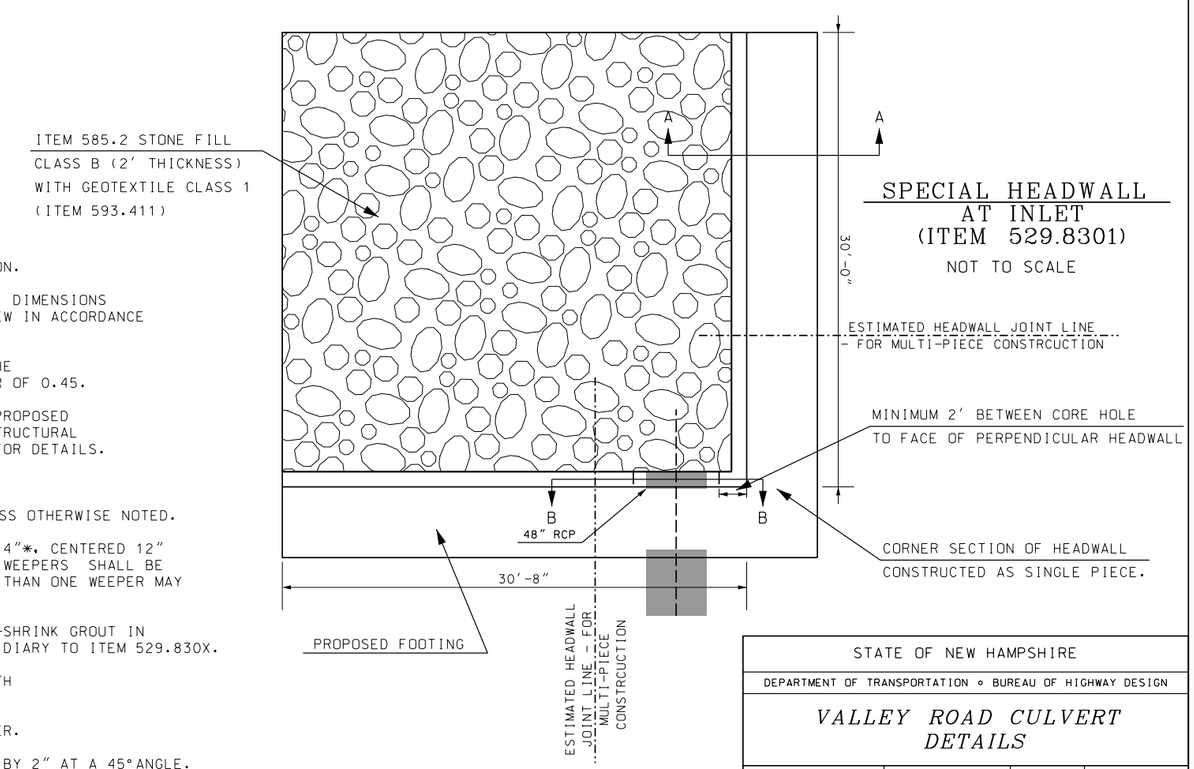
SECTION B-B

NOT TO SCALE



SECTION A-A EARTHWORK

NOT TO SCALE



SPECIAL HEADWALL AT INLET (ITEM 529.8301)

NOT TO SCALE

GENERAL NOTES

1. REFER TO DRAINAGE NOTES AND BRIDGE 093/060 PLANS FOR MORE INFORMATION.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE SPECIAL HEADWALLS, DIMENSIONS AND REINFORCING TO BE DESIGNED BY FABRICATOR, TO NHDOT FOR REVIEW IN ACCORDANCE WITH 105.02 PRIOR TO CONSTRUCTION.
3. BEARING RESISTANCE IS BASED ON LOAD AND RESISTANCE FACTOR DESIGN.THE NOMINAL BEARING RESISTANCE IS 4.5 TONS/SF WITH A RESISTANCE FACTOR OF 0.45.
4. UNSUITABLE MATERIAL FOUND AT A DEPTH GREATER THAN 1'-0" BELOW THE PROPOSED BOTTOM OF FOOTING ELEVATION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL AS DIRECTED BY THE ENGINEER. SEE 529.830X SPECIAL PROVISION FOR DETAILS.
5. REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2".
6. ALL EXPOSED EDGES OF CONCRETE SURFACES SHALL BE CHAMFERED ¾", UNLESS OTHERWISE NOTED.
7. A MINIMUM OF ONE WEEPER IS REQUIRED PER HEADWALL. WEEPERS SHALL BE 4"*, CENTERED 12" ABOVE THE TOP OF FOOTING, AND SLOPED TO DRAIN WITH A 12:1 SLOPE. WEEPERS SHALL BE PLACED NO MORE THAN 10'-0" FROM EACH END OF THE HEADWALL. MORE THAN ONE WEEPER MAY BE REQUIRED. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 529.830X.
8. ANNULAR SPACE BETWEEN PIPE AND HEADWALL SHALL BE FILLED WITH A NON-SHRINK GROUT IN CONFORMANCE WITH SECTION 528 OF THE QUALIFIED PRODUCTS LIST, SUBSIDIARY TO ITEM 529.830X.
9. COAT ALL SURFACES OF THE CONCRETE TO 1'-0" BELOW FINISHED GRADE WITH WATER REPELLENT (SILANE-SILOXANE) IN ACCORDANCE WITH SECTION 534.
10. THESE DETAILS SHALL ONLY BE USED FOR GROUND SLOPES OF 2:1 OR FLATTER.
11. INLET AND OUTLET HEADWALLS SHALL HAVE A BEVELED PIPE ENTRACE OF 2" BY 2" AT A 45° ANGLE.

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

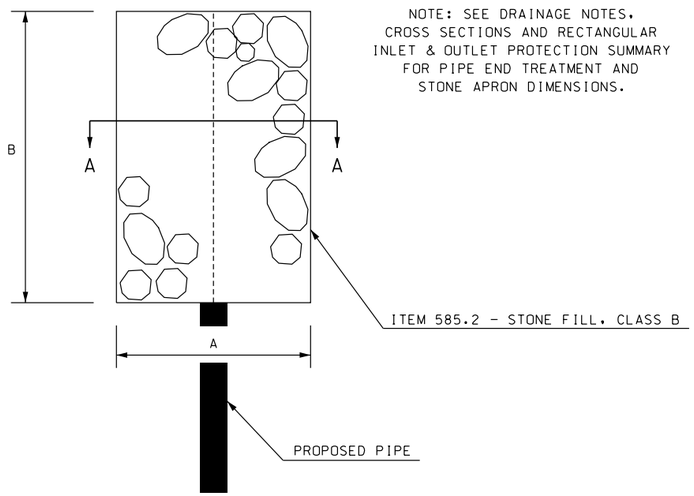
SDR PROCESSED	N/A	DATE	N/A
NEW DESIGN	JAA	DATE	9/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

VALLEY ROAD CULVERT DETAILS

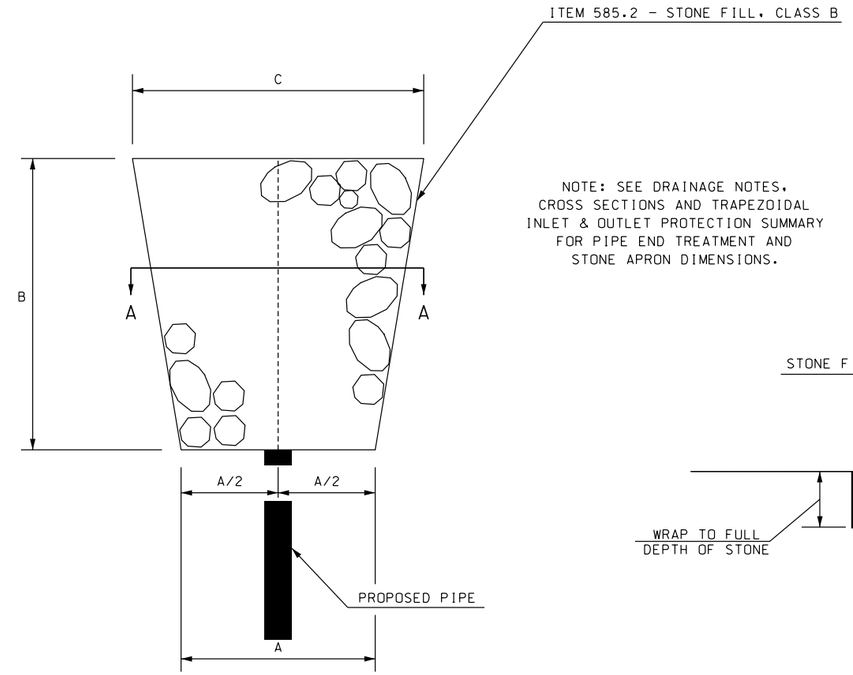
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DN 51_Details	10439	27	294



NOTE: SEE DRAINAGE NOTES, CROSS SECTIONS AND RECTANGULAR INLET & OUTLET PROTECTION SUMMARY FOR PIPE END TREATMENT AND STONE APRON DIMENSIONS.

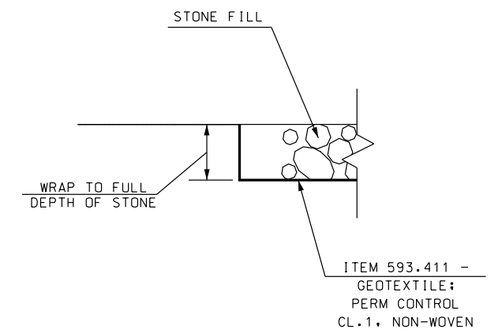
RECTANGULAR INLET & OUTLET PROTECTION

TRAPEZOIDAL INLET & OUTLET PROTECTION SUMMARY			
NOTE	A (FT)	B (FT)	C (FT)
1 (OUTLET)	13	18	18
3	9	33.5	12.5
60	4.5	10	7.5
11	7	9	9
12	6	14	10
14	7	6	10
15	6	10	13
18	7	19	12
20	7	3.5	10
22	11	10	16
23 (OUTLET)	11	16	18
28	7	14	10
32	7	10	10.5
34	7	16	11
37	7	12	9
39	7	11	10
41	7	10	11
45	7	10	10
46	7	10	10
48	7	15	10
54	7	21	14.5



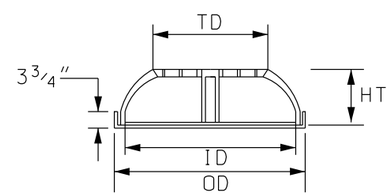
NOTE: SEE DRAINAGE NOTES, CROSS SECTIONS AND TRAPEZOIDAL INLET & OUTLET PROTECTION SUMMARY FOR PIPE END TREATMENT AND STONE APRON DIMENSIONS.

TRAPEZOIDAL INLET & OUTLET PROTECTION

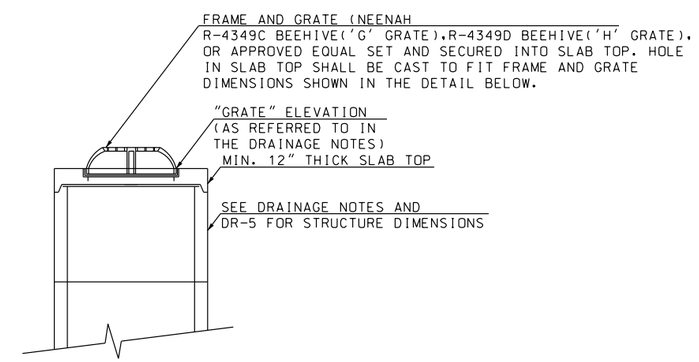


GEOTEXTILE SECTION DETAIL

RECTANGULAR INLET & OUTLET PROTECTION SUMMARY			
NOTE	A (FT)	B (FT)	VOLUME (CY)
1 (INLET)	13	9	
2	12	6	
17	5	10	
26	7	10	
29	5	7	
36	5	7	
38	10	8	
40	10	7	
42	7	5	
44	4	9	

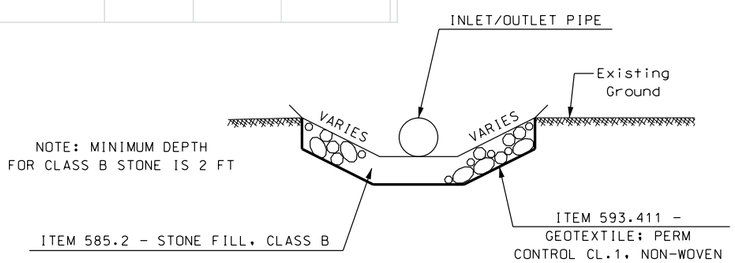


FRAME AND GRATE DETAIL



CATCH BASIN/DROP INLET
W/ SLAB TOP SECTION VIEW

SPECIAL CATCH BASIN DETAIL



SECTION A-A

BEEHIVE GRATE DIMENSIONS				
TYPE	TD	ID	OD	HT
"G"	17 1/2"	24"	29"	6 3/4"
"H"	29"	36"	42 1/8"	7 1/2"

NOTES:

1. CATCH BASIN SHALL COMPLY WITH ALL APPLICABLE PARTS OF STANDARD NO. DR-5.
2. REFER TO DRAINAGE NOTES FOR CATCH BASIN LOCATIONS.
3. CATCH BASIN, SLAB TOP, AND FRAME AND GRATE SHALL BE PAID FOR AS A UNIT UNDER ITEM 604.1941 - SPECIAL CATCH BASINS, ITEM 604.1951 - SPECIAL CATCH BASINS.

NOT TO SCALE

STATE OF NEW HAMPSHIRE

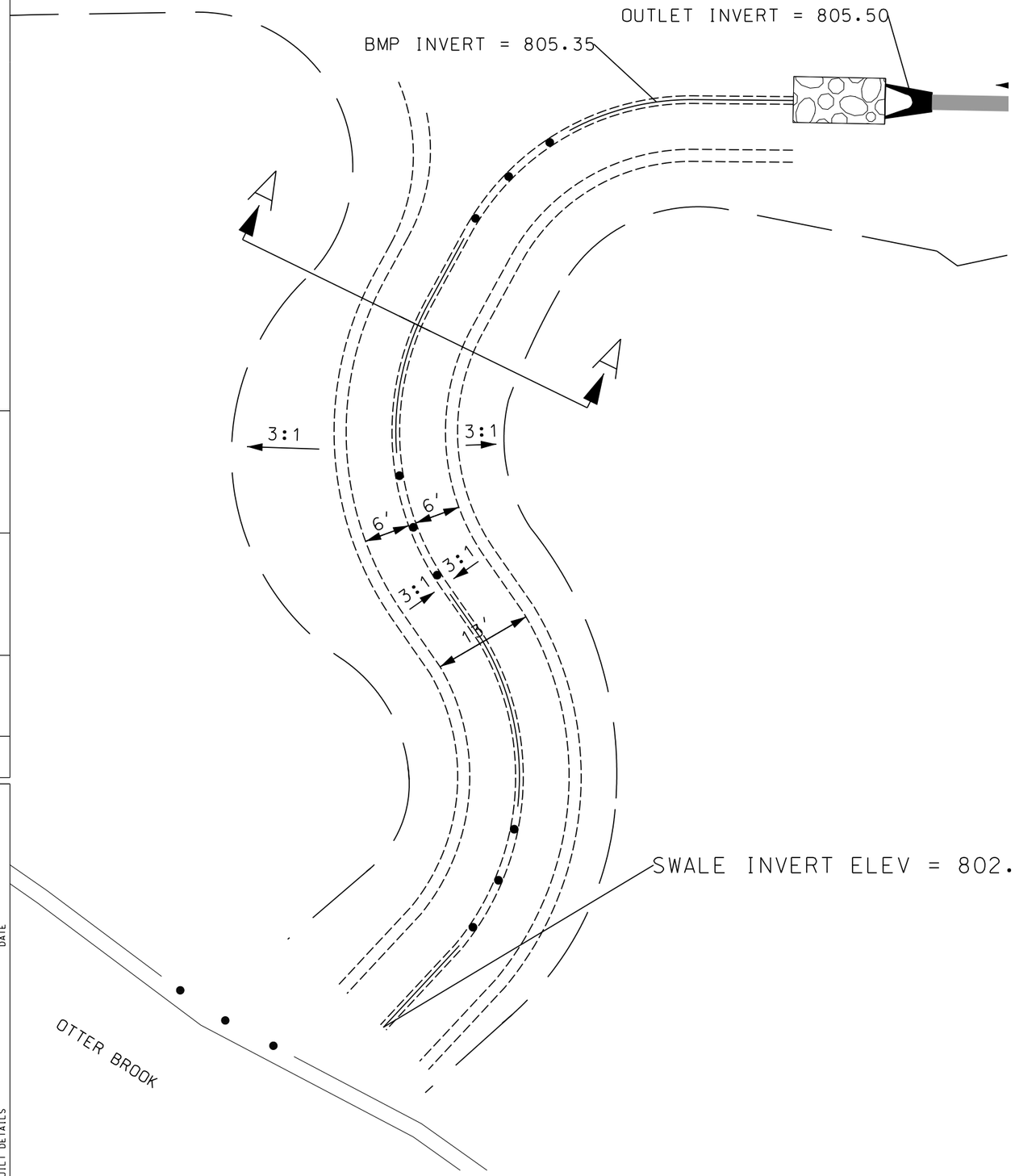
TYPICAL OUTLET PROTECTION DETAIL

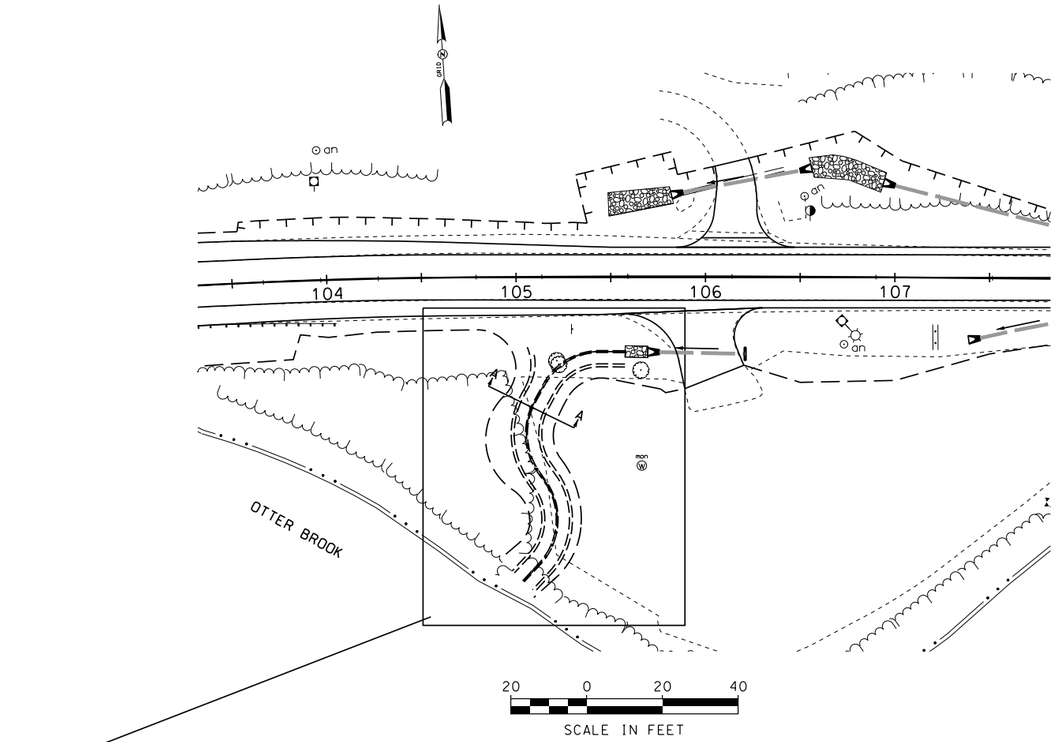
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DrainDets	10439	28	294

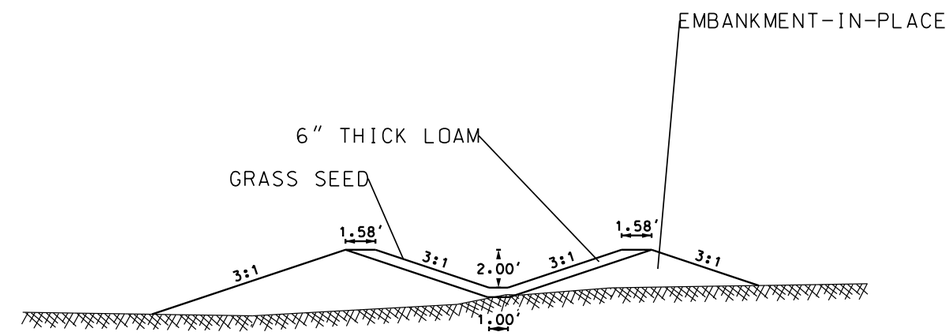
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED DATE
NEW DESIGN TEAM MICUCCI DATE 9/11/17
SHEET CHECKED TEAM MICUCCI DATE 9/11/17
AS BUILT DETAILS DATE







SECTION A-A

SCALE: 1"=10'

NUMBER	DATE	DESCRIPTION	STATION	STATION

REVISIONS AFTER PROPOSAL

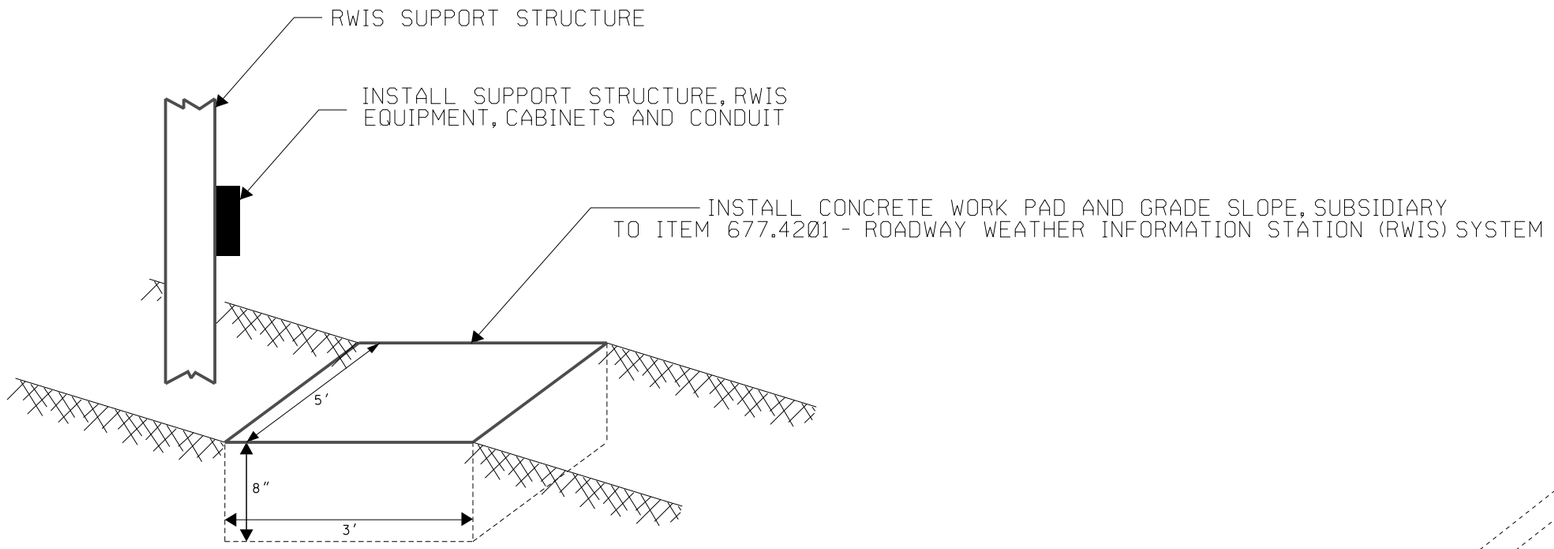
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

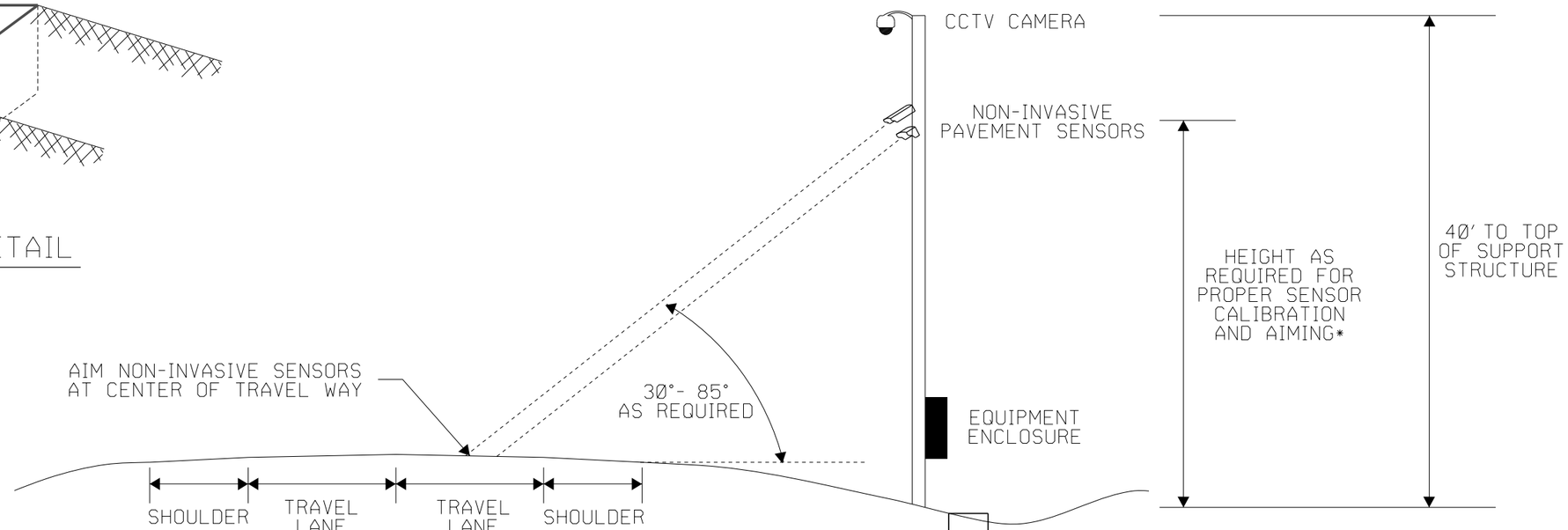
STORMWATER TREATMENT SWALE DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 BMPDetail	10439	29	294



CONCRETE WORK PAD DETAIL

SCALE: NTS



RWIS SUPPORT STRUCTURE

SCALE: NTS

*INSTALL ALL OTHER DEVICES AS RECOMMENDED BY THE MANUFACTURER

GENERAL NOTES:

1. CLEAR TREES AS REQUIRED TO PROVIDE A CLEAR LINE OF SIGHT FOR THE CCTV CAMERA.
2. LOCATIONS ARE APPROXIMATE. ALL STRUCTURES SHALL BE VERIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION.
3. POWER SOURCE LOCATION TO BE DETERMINED BY UTILITY COMPANY AND APPROVED BY THE ENGINEER.
4. ALL INSTALLATIONS SHALL BE IN CONFORMANCE WITH NHDOT STANDARDS.
5. ELECTRICAL SUPPLY SYSTEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS.
6. CONCRETE WORK PAD SHALL BE PRECAST OR CAST IN PLACE. PAD SHALL BE PLACED IN FRONT OF RWIS POLE CABINETS TO PROVIDE A LEVEL MAINTENANCE WORK AREA. SET PAD AND GRADE SLOPE TO PROVIDE POSITIVE DRAINAGE AWAY FROM AREA. ALL WORK SHALL BE SUBSIDIARY TO 677.4201 - ROADWAY WEATHER INFORMATION STATION (RWIS) SYSTEM.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

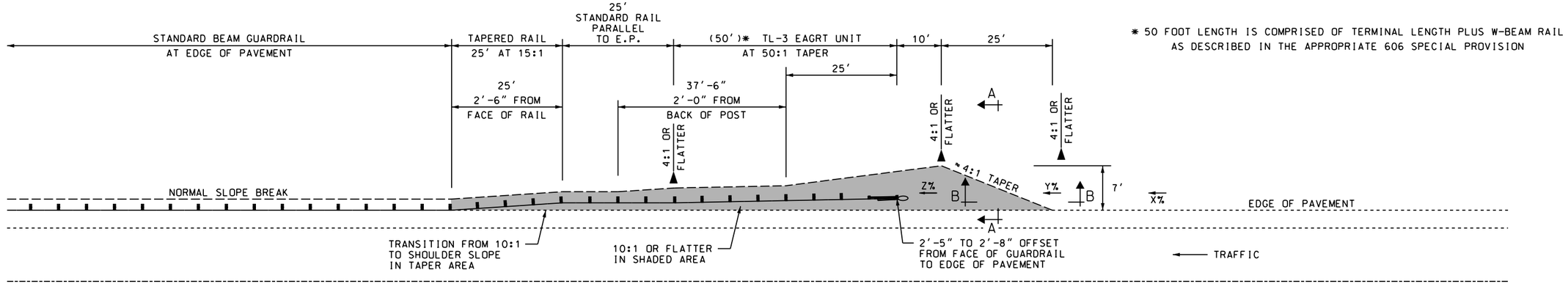
SDR PROCESSED	NAME:	DATE	DATE:
NEW DESIGN	TSMO	DATE	5/17/17
SHEET CHECKED	TSMO	DATE	5/15/17
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

RWIS DETAILS

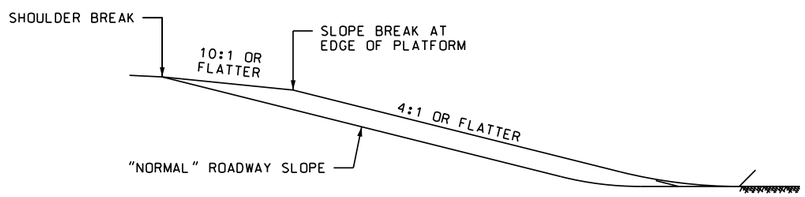
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 RWIS Detai	10439	30	294



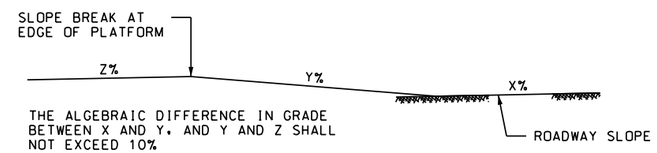
* 50 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION

TL-3 EAGRT PLATFORM

ITEM 203.55542 - GUARDRAIL EAGRT OFFSET PLATFORM, ALTERNATE, TL 3
(GUARDRAIL RUN 9)

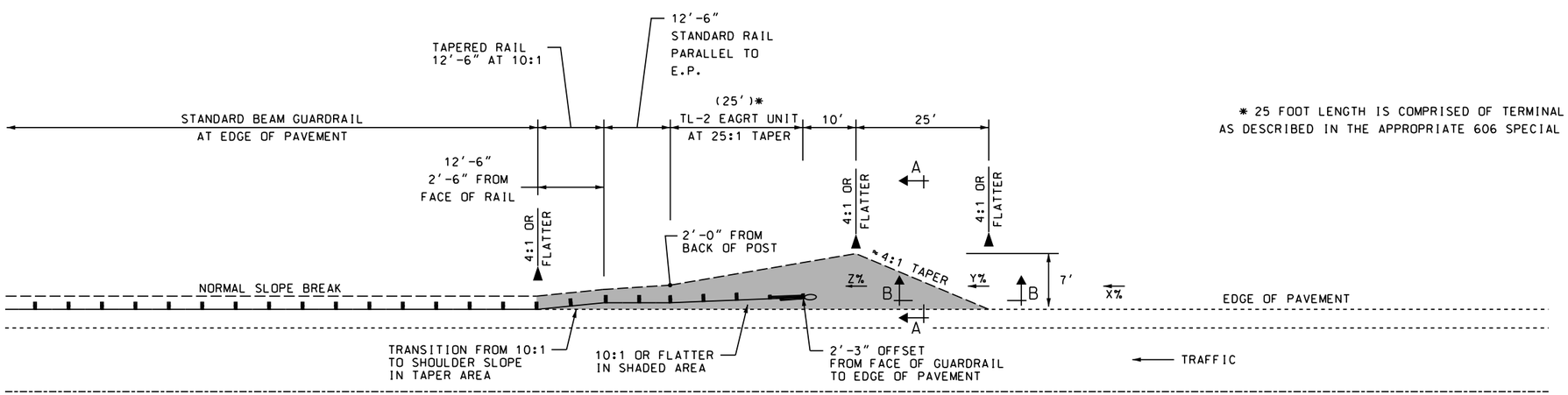


SECTION A-A
PLATFORM SLOPE GRADING



X: LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y: LONGITUDINAL GRADE OF PLATFORM APPROACH
Z: LONGITUDINAL GRADE OF PLATFORM

SECTION B-B
PLATFORM APPROACH GRADING



* 25 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION

TL-2 EAGRT PLATFORM

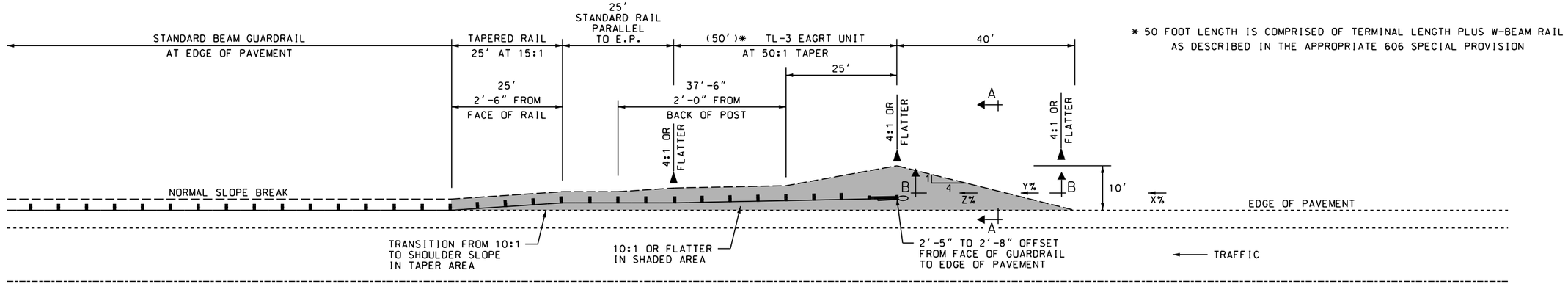
ITEM 203.55554 - GUARDRAIL EAGRT OFFSET PLATFORM, ALTERNATE, TL 2

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

ALTERNATE PLATFORM FOR OFFSET ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT)

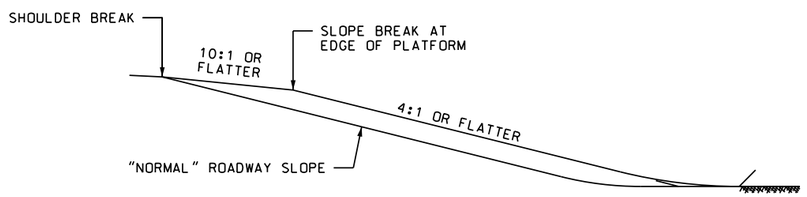
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
06/18/15	apo_t12_3	10439	31	294



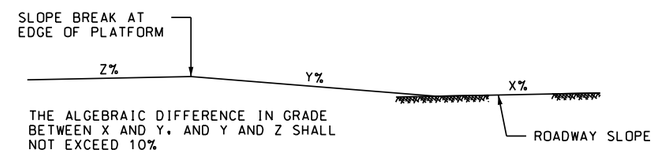
* 50 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION

TL-3 EAGRT PLATFORM

ITEM 203.55543 - GUARDRAIL EAGRT OFFSET PLATFORM, TL 3
(GUARDRAIL RUNS 3 & 8)

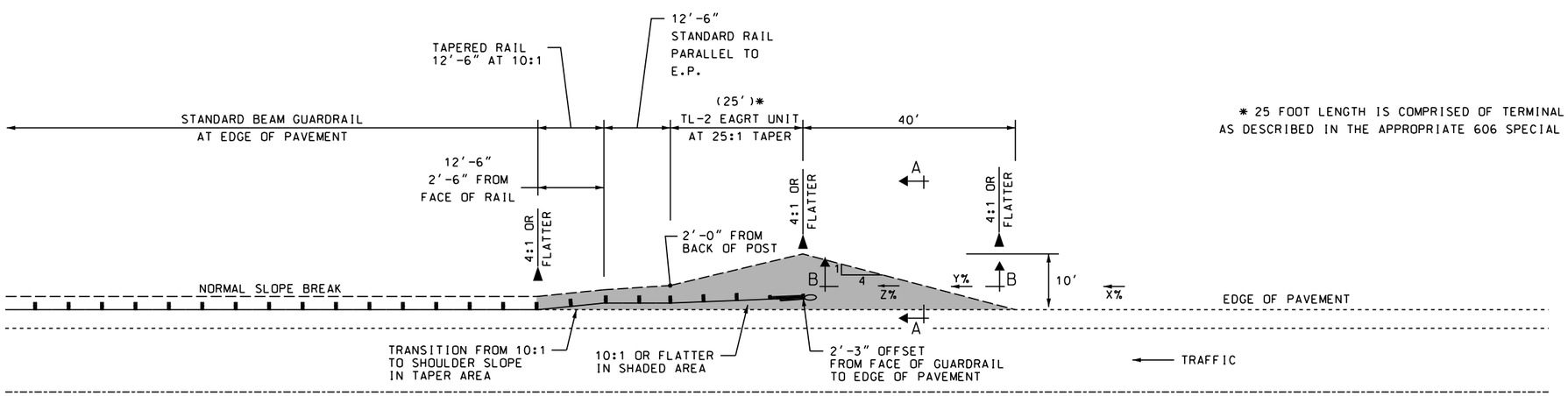


SECTION A-A
PLATFORM SLOPE GRADING



X: LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y: LONGITUDINAL GRADE OF PLATFORM APPROACH
Z: LONGITUDINAL GRADE OF PLATFORM

SECTION B-B
PLATFORM APPROACH GRADING



* 25 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION

TL-2 EAGRT PLATFORM

ITEM 203.55555 - GUARDRAIL EAGRT OFFSET PLATFORM, TL 2
(GUARDRAIL RUN 14)

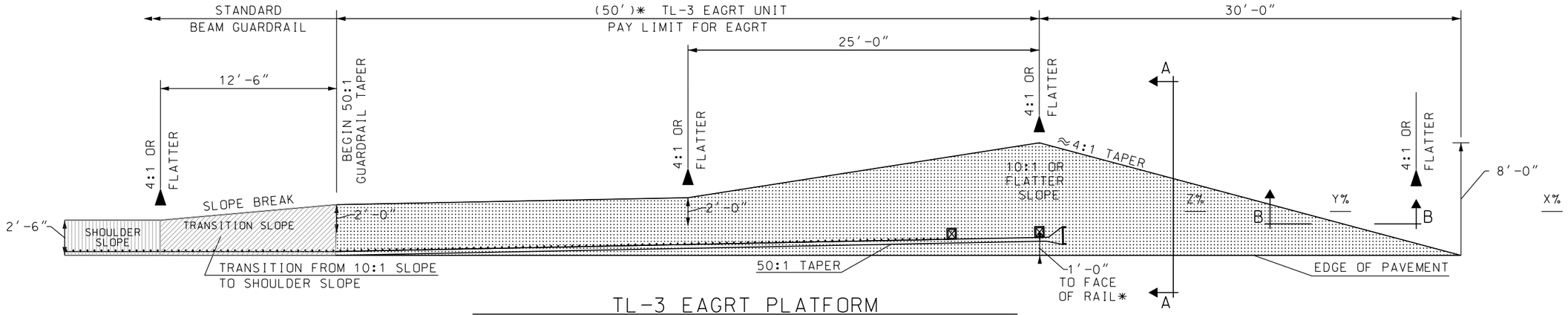
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PREFERRED PLATFORM FOR OFFSET ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT)

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
06/18/15	ppo_t12_3	10439	32	294

* 50 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION

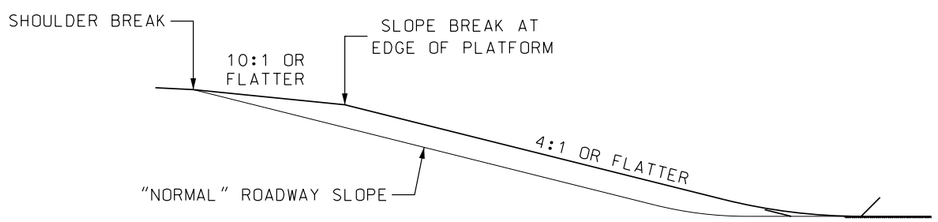


TL-3 EAGRT PLATFORM

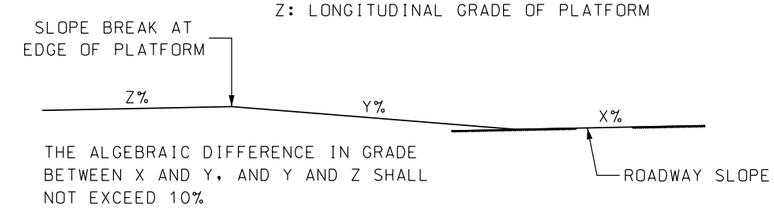
ITEM 203.5554 - GUARDRAIL EAGRT PLATFORM, TL 3
(GUARDRAIL RUNS 2,5,11,12,& 13)

(* DEPENDING ON UNIT, SEE MANUFACTURER REQUIREMENTS)

X: LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y: LONGITUDINAL GRADE OF PLATFORM APPROACH
Z: LONGITUDINAL GRADE OF PLATFORM

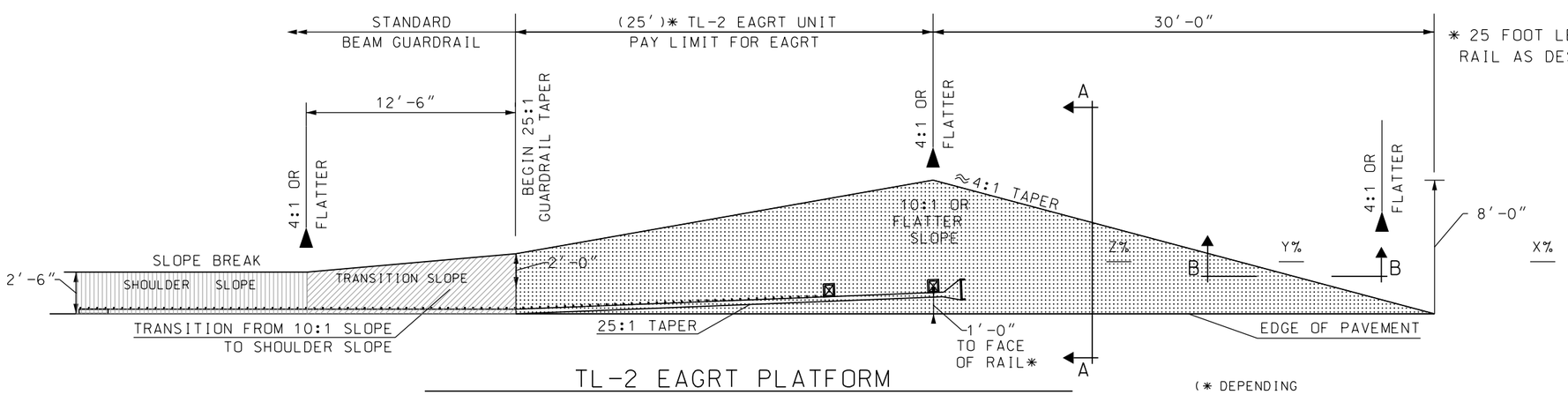


SECTION A-A
PLATFORM SLOPE GRADING



SECTION B-B
PLATFORM APPROACH GRADING

* 25 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION



TL-2 EAGRT PLATFORM

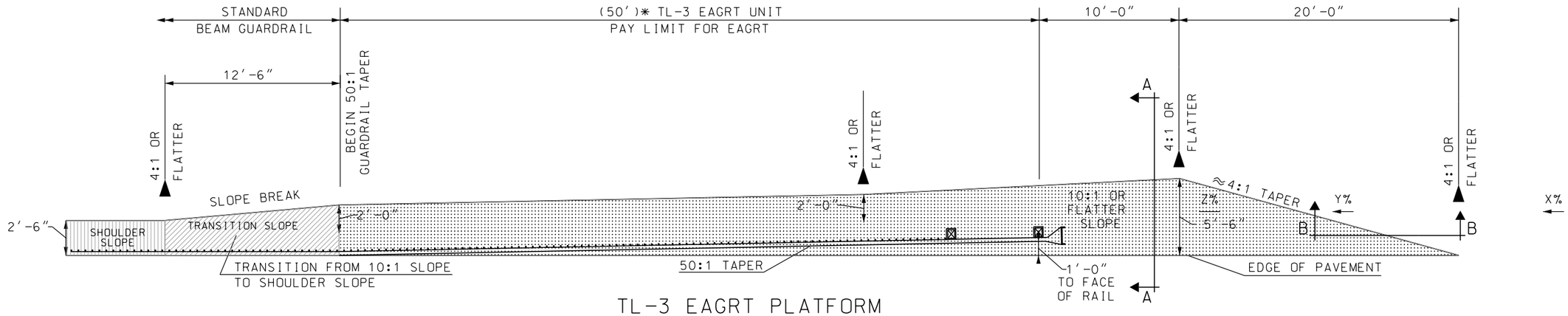
ITEM 203.5555 - GUARDRAIL EAGRT PLATFORM, TL 2
(GUARDRAIL RUN 16)

(* DEPENDING ON UNIT, SEE MANUFACTURER REQUIREMENTS)

NOT TO SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN			
PREFERRED PLATFORM FOR ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT)			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
EAGRT_platform	10439	33	294

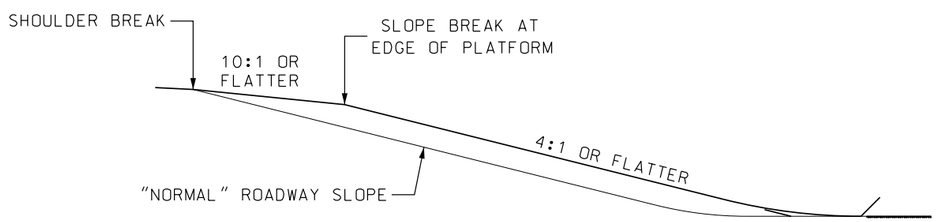
* 50 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH
AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION



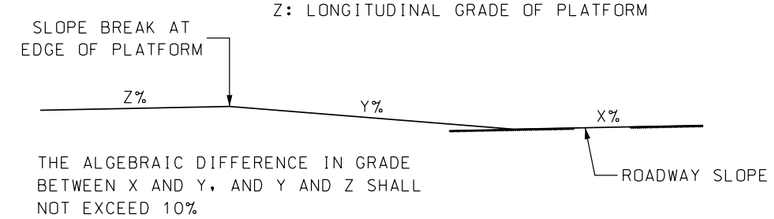
TL-3 EAGRT PLATFORM

ITEM 203.55541 - GUARDRAIL EAGRT PLATFORM, ALTERNATE, TL 3
(GUARDRAIL RUNS 3,4,6,9,10,& 1T)

X: LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y: LONGITUDINAL GRADE OF PLATFORM APPROACH
Z: LONGITUDINAL GRADE OF PLATFORM



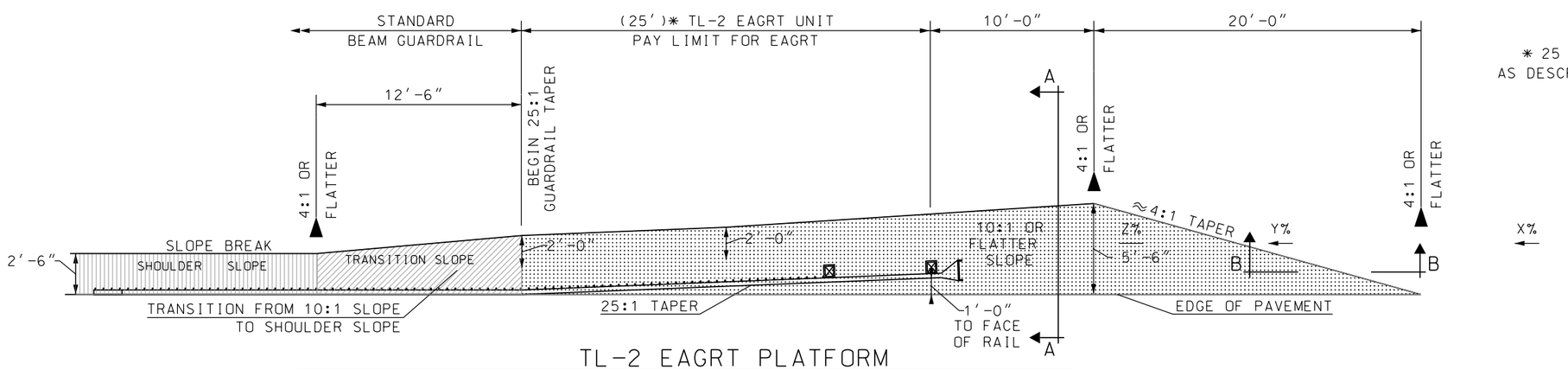
SECTION A-A
PLATFORM SLOPE GRADING



THE ALGEBRAIC DIFFERENCE IN GRADE BETWEEN X AND Y, AND Y AND Z SHALL NOT EXCEED 10%

SECTION B-B
PLATFORM APPROACH GRADING

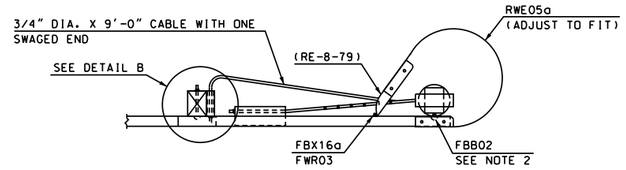
* 25 FOOT LENGTH IS COMPRISED OF TERMINAL LENGTH
AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION



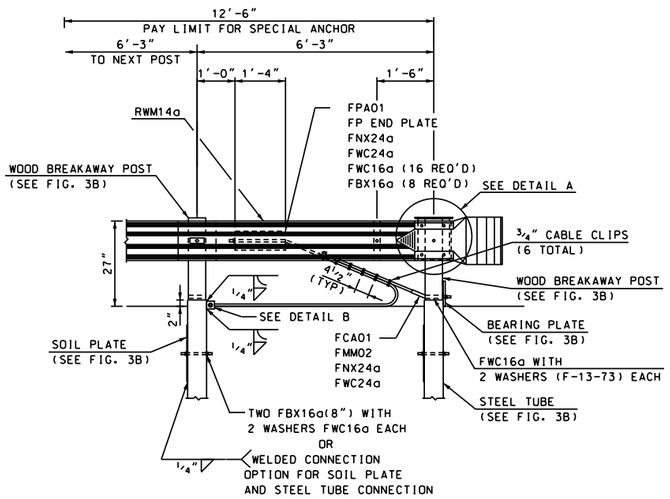
TL-2 EAGRT PLATFORM

ITEM 203.55551 - GUARDRAIL EAGRT PLATFORM, ALTERNATE, TL 2
(GUARDRAIL RUNS 17,1H,& 2T)

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
ALTERNATIVE PLATFORM FOR ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT)			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
EAGRT_ALT Platform	10439	34	294



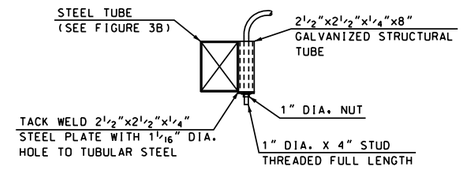
PLAN



ELEVATION

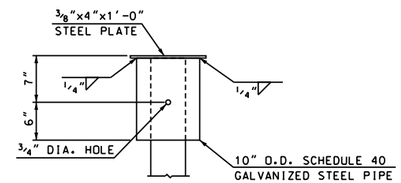
FIGURE 3A (SPECIAL ANCHOR)

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



DETAIL B

SCALE: 1" = 1'-0"



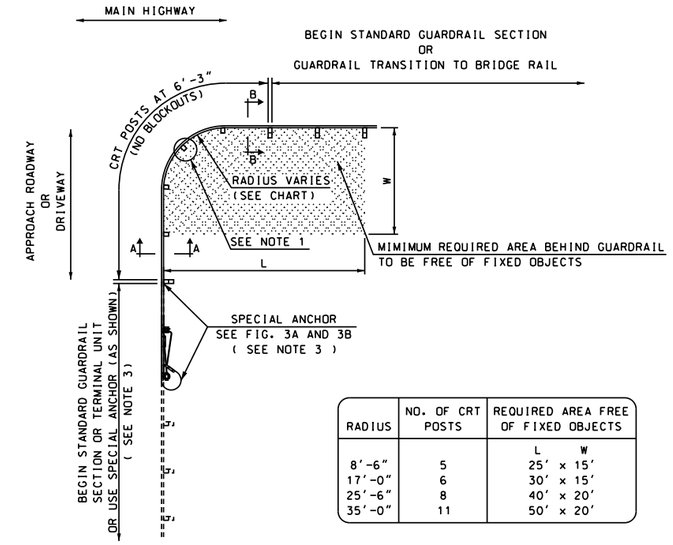
DETAIL A

SCALE: 1" = 1'-0"

FIGURE 3A & B NOTES

FBB02

1. ATTACH W-BEAM TO STEEL PIPE WITH F-3[2"]-76 BUTTON HEAD BOLT WITH NO WASHER. NO CONNECTION TO POST IS REQUIRED.
2. THE STEEL TUBE FOR POST B IS FABRICATED FROM POST A BY ADDING THE GALVANIZED STRUCTURAL TUBE (SEE FIGURE 3A, DETAIL B) BEFORE GALVANIZING.



RADIUS	NO. OF CRT POSTS	REQUIRED AREA FREE OF FIXED OBJECTS	
		L	W
8'-6"	5	25'	x 15'
17'-0"	6	30'	x 15'
25'-6"	8	40'	x 20'
35'-0"	11	50'	x 20'

CURVED GUARDRAIL DETAIL FOR 8'-6" RADIUS

(ITEMS 606.141 & 606.84)

SCALE: 1" = 10'-0"

CURVED GUARDRAIL NOTES

1. THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE NOSE AS SHOWN. (8'-6" RADIUS ONLY).
2. THE CURVED GUARDRAIL SECTION SHALL BE SHOP BENT.
3. THE SPECIAL ANCHOR HAS NOT BEEN TESTED AS A CRASHWORTHY END TREATMENT FOR APPROACHING TRAFFIC ON THE INTERSECTING ROADWAY. THEREFORE, IT'S USE SHALL BE LIMITED TO DRIVEWAYS OR LOW SPEED, LOW VOLUME (I.E., 40 MPH MAX., 6000 ADT MAX.) ROADS.

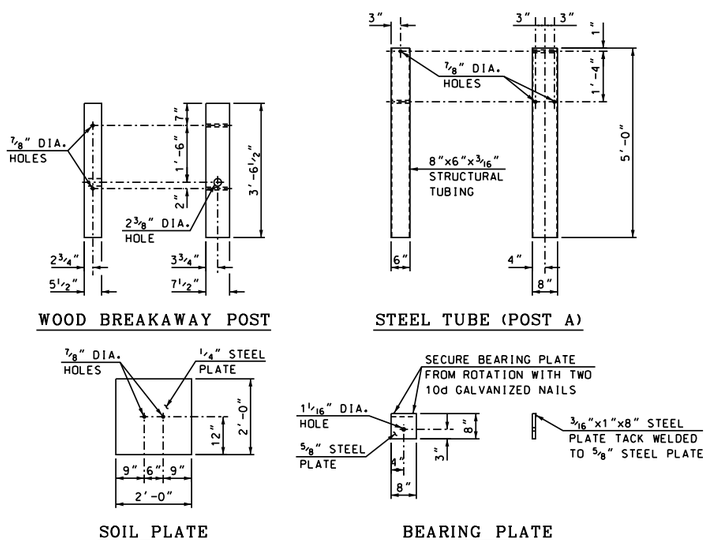
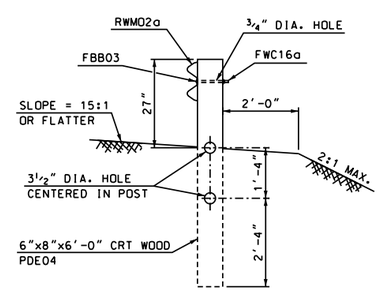


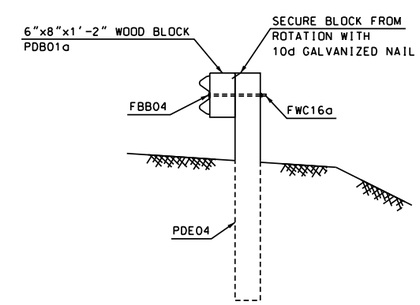
FIGURE 3B

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



SECTION A-A

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



SECTION B-B

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

GENERAL NOTES

1. ALL DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.
2. DESIGNATIONS PROVIDED IN PARENTHESIS REFERENCE STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." 2005, AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.

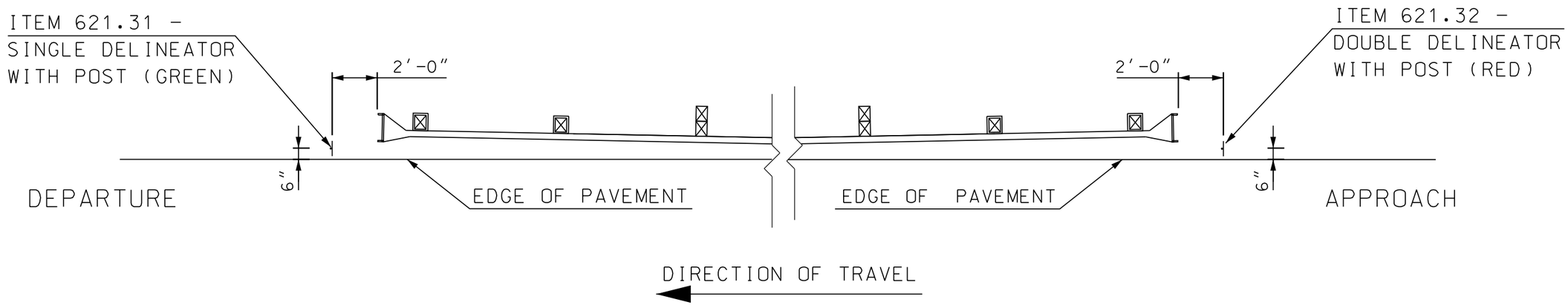
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

CURVED GUARDRAIL WITH CRT POSTS

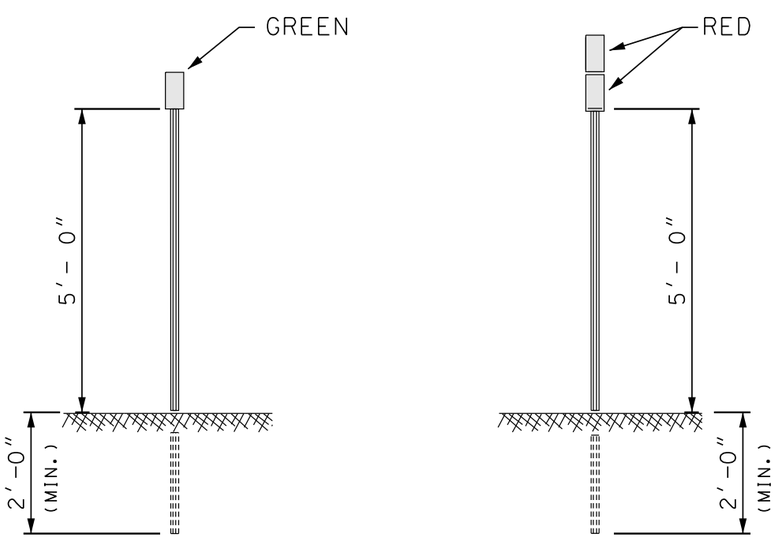
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
06/04/12	CRT_Rail	10439	35	294

Terminal Unit Delineation



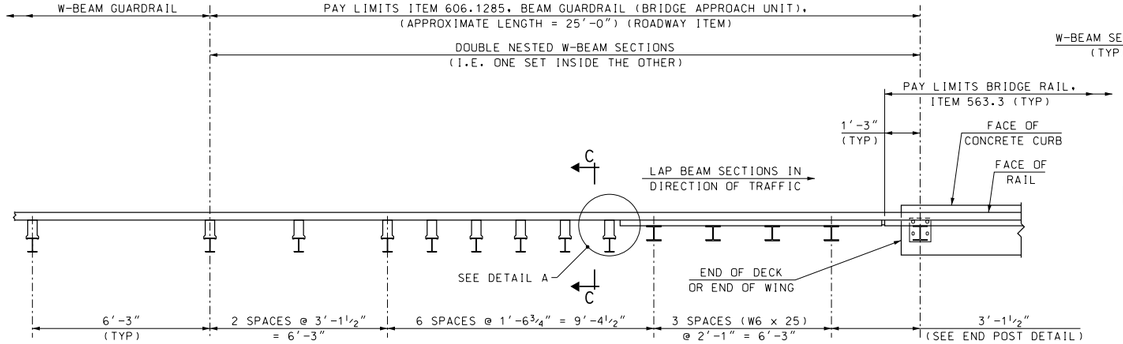
ITEM 621.31 - SINGLE DELINEATOR WITH POST

ITEM 621.32 - DOUBLE DELINEATOR WITH POST



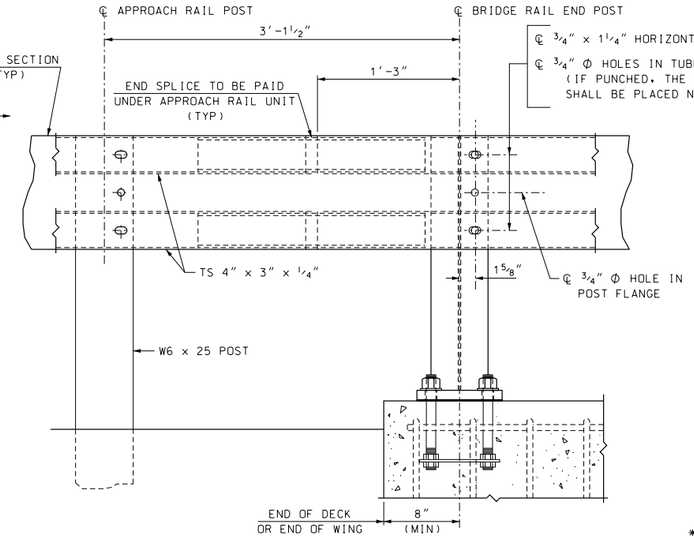
TYPICAL INSTALLATION

STATE OF NEW HAMPSHIRE				
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN				
TERMINAL UNIT DELINEATION				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
09-01-16	term_unit_delin	10439	36	294



APPROACH RAIL LAYOUT

SCALE: ⅜" = 1'-0"



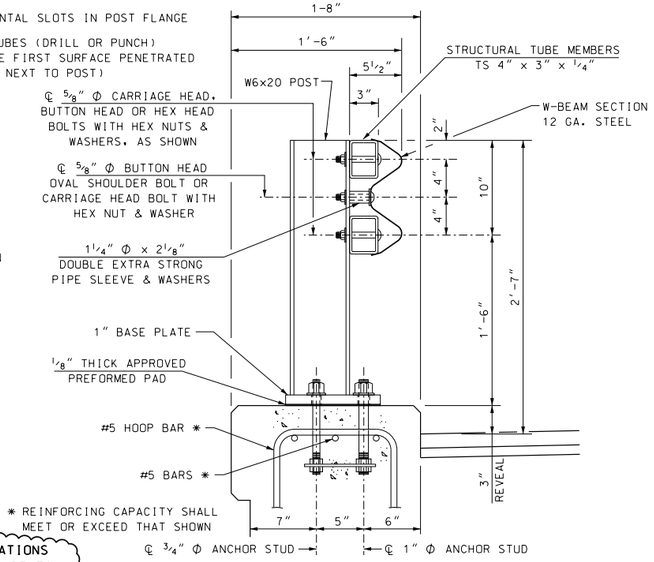
END POST DETAIL

SCALE: 1½" = 1'-0"

℄ ¾" x 1¼" HORIZONTAL SLOTS IN POST FLANGE

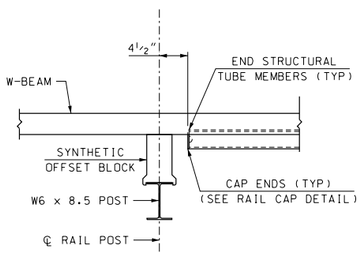
℄ ¾" Φ HOLES IN TUBES (DRILL OR PUNCH) (IF PUNCHED, THE FIRST SURFACE PENETRATED SHALL BE PLACED NEXT TO POST)

℄ ¾" Φ HOLE IN POST FLANGE



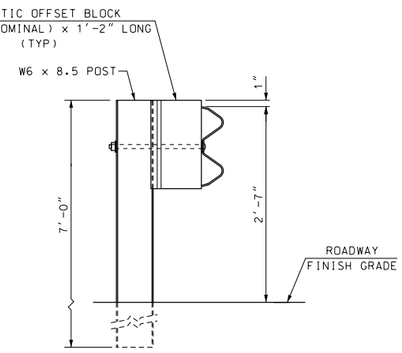
BRIDGE RAIL DETAIL

SCALE: 1½" = 1'-0"



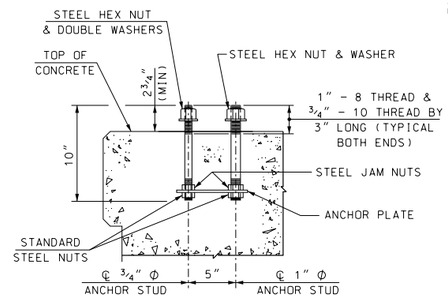
DETAIL A

SCALE: 1" = 1'-0"



SECTION C-C

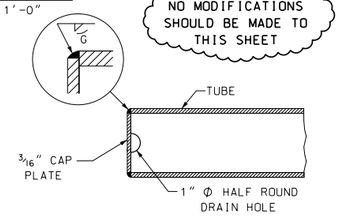
SCALE: 1" = 1'-0"



POST ANCHOR ASSEMBLY

SCALE: 1½" = 1'-0"

NO MODIFICATIONS SHOULD BE MADE TO THIS SHEET



RAIL CAP DETAIL (BOTTOM VIEW)

SCALE: 3" = 1'-0"

GENERAL NOTES

(1) BRIDGE RAIL T101 SHALL NOT BE USED ON NATIONAL HIGHWAY SYSTEMS.

(2) BRIDGE RAIL T101 WAS SUCCESSFULLY CRASHED TESTED FOR NCHRP 350 (@ HEIGHT OF 2'-3"), TL-3 PER FHWA MAY 30, 1997 MEMORANDUM. USE OF THIS SYSTEM SHALL BE FOR POSTED SPEEDS ≤ 45 mph.

(3) ITEM 563.3, BRIDGE RAIL T101, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR STUDS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STRUCTURAL TUBING, SPLICE BARS, PIPE SLEEVES AND W-BEAM SECTIONS.
- ASTM A572 GRADE 50 : POSTS AND BASE PLATES
- ASTM A500 GRADE B : STRUCTURAL TUBING
- ASTM A36 : PIPE SLEEVES, RAIL SPLICE BARS AND ANCHOR PLATES
- ASTM A449 : ANCHOR STUDS WITH STANDARD NUTS AND HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS
- A307 : RAIL BOLTS, NUTS, AND WASHERS
- AASHTO M180 TYPE II : W-BEAM SECTIONS

(4) ALL STEEL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION IN CONFORMANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED.

(5) STRUCTURAL TUBING SHALL BE SUPPLIED AS ONE PIECE FOR BRIDGE RAIL 40 FEET OR LESS IN LENGTH. IN OTHER CASES, TUBING SHALL BE SPLICED WITH A SPLICE BAR (SEE SPLICE BAR DETAILS). NO TRANSVERSE BUTT WELDS ARE PERMITTED ON RAIL TUBING WITHIN A CONTINUOUS LENGTH.

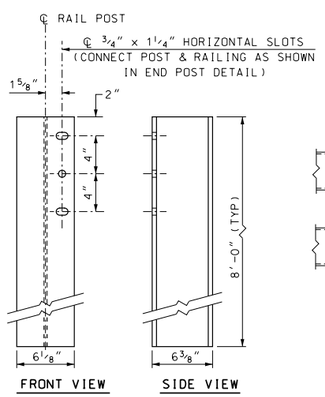
(6) EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

(7) FOR BRIDGE RAIL POST SPACING, SEE BRIDGE RAIL LAYOUT. THE MAXIMUM BRIDGE RAIL POST SPACING SHALL BE 8'-4". POST SPACING OF 8'-4" OR 6'-3" IS RECOMMENDED WHENEVER POSSIBLE FOR USE WITH 25' SECTIONS OF STANDARD W-BEAM RAIL.

(8) PREFORMED BEARING PADS SHALL CONFORM TO AASHTO M251.

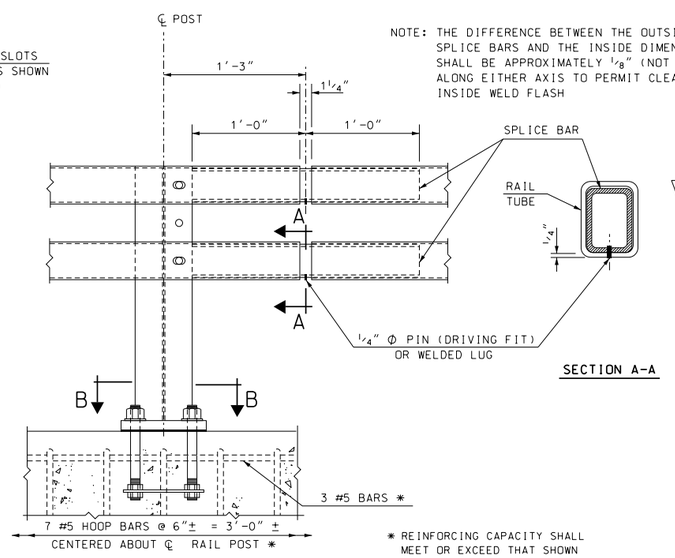
(9) NUTS FOR THREADED ANCHOR STUDS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.

(10) OTHER TYPES OF OFFSET BLOCKS MAY BE SUBSTITUTED FOR THOSE SHOWN. SEE NOTES IN STANDARD PLAN GR-2 (BEAM GUARDRAIL STANDARD SECTION - STEEL POSTS & HARDWARE DETAILS) OF THE HIGHWAY DESIGN STANDARD PLANS FOR ROAD CONSTRUCTION.



W6 x 25 STEEL POST (BRIDGE APPROACH RAIL)

SCALE: 1½" = 1'-0"

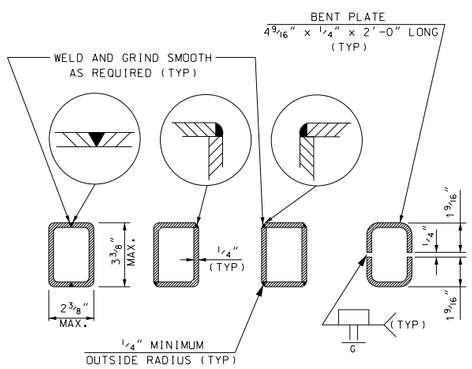


NOTE: THE DIFFERENCE BETWEEN THE OUTSIDE DIMENSIONS OF SPLICE BARS AND THE INSIDE DIMENSIONS OF THE RAIL SHALL BE APPROXIMATELY ⅛" (NOT TO EXCEED 3/16") ALONG EITHER AXIS TO PERMIT CLEARANCE FOR INSIDE WELD FLASH

✱ REINFORCING CAPACITY SHALL MEET OR EXCEED THAT SHOWN

SECTION A-A

TYPICAL SPLICE

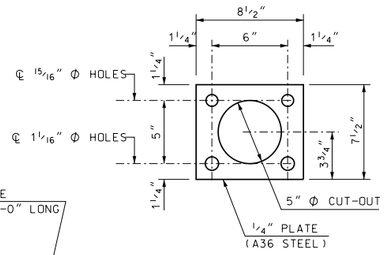


NOTE: OTHER SECTIONS OF EQUAL OR GREATER STRENGTH ARE ACCEPTABLE FOR SPLICE BARS

SPLICE BAR FABRICATION OPTIONS

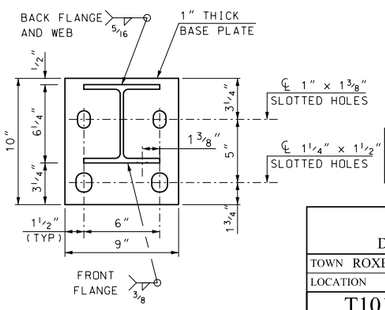
SPLICE BAR DETAILS

NOT TO SCALE



ANCHOR PLATE DETAIL

SCALE: 2" = 1'-0"



BASE PLATE DETAIL (SECTION B-B)

SCALE: 2" = 1'-0"

(GALVANIZED - 3" CURB REVEAL)

FOR GUARDRAIL RUNS #5, 6, 7, & 8

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN ROXBURY | BRIDGE NO. 088/125 | STATE PROJECT 10439

LOCATION

T101 BRIDGE & APPROACH RAIL (STEEL POSTS)

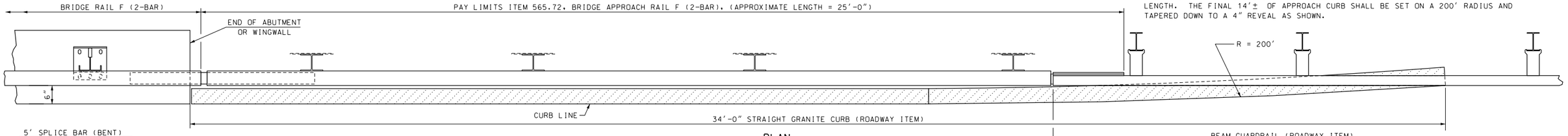
REVISIONS AFTER PROPOSAL	BY	DATE	BY	DATE
DESIGNED TEXAS/JSZ	3/90	CHECKED NHDOT		
DRAWN PJP	1/10	CHECKED NHDOT	1/10	
QUANTITIES		CHECKED		
ISSUE DATE 1/20/10	FEDERAL PROJECT NO.		SHEET NO. 37	TOTAL SHEETS 294
REV. DATE 3/30/14				

BRIDGE SHEET I OF I

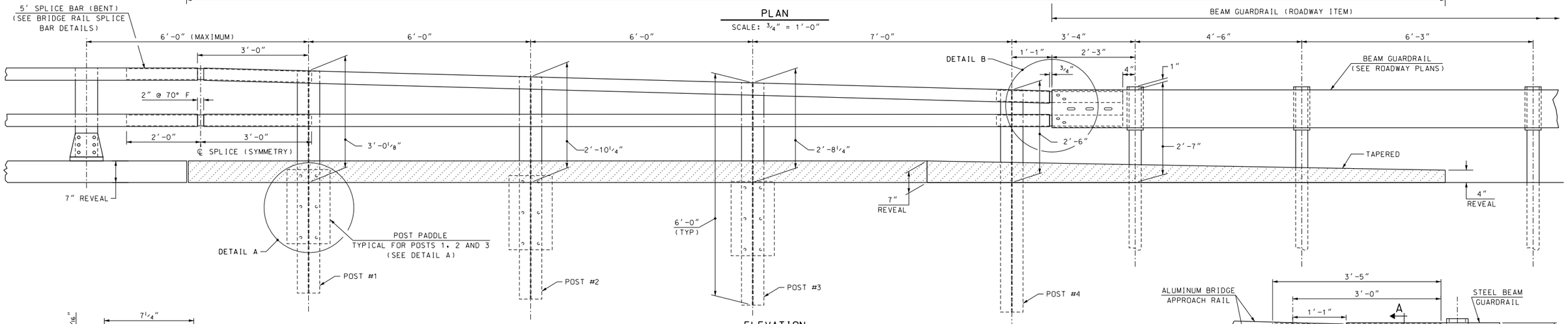
FILE NUMBER

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/T101	T101-Rail	AS NOTED

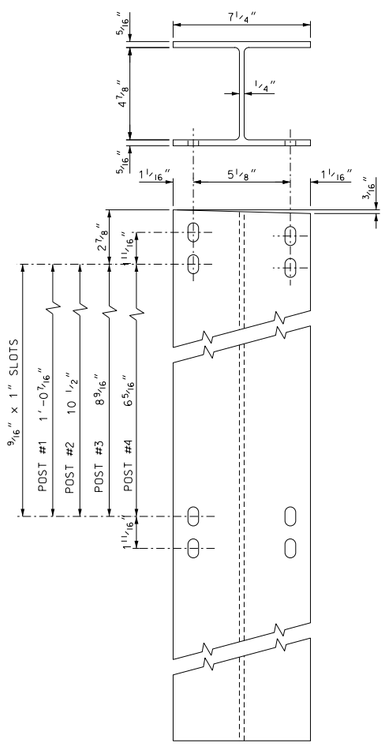
CURB NOTE:
THE ROADWAY APPROACH CURB SHALL MAINTAIN THE 7" REVEAL FOR THE FIRST 20'± OF LENGTH. THE FINAL 14'± OF APPROACH CURB SHALL BE SET ON A 200' RADIUS AND TAPERED DOWN TO A 4" REVEAL AS SHOWN.



PLAN
SCALE: 3/4" = 1'-0"

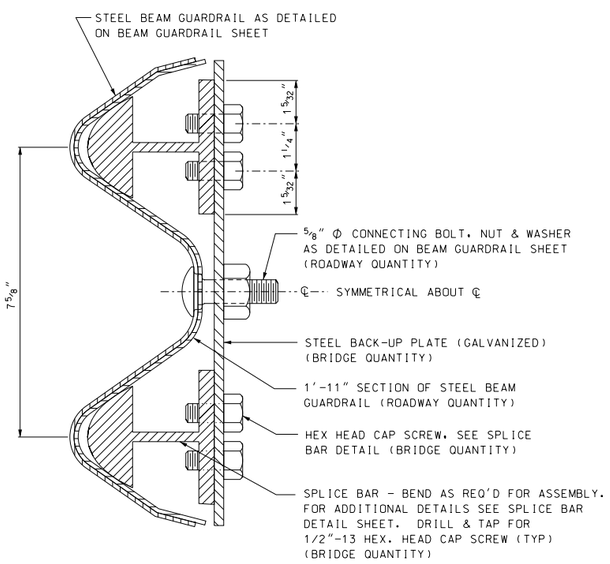


ELEVATION
SCALE: 3/4" = 1'-0"

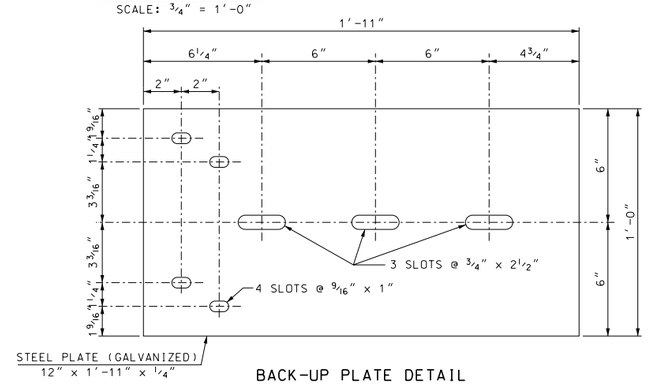


POSTS #1, #2, #3 & #4

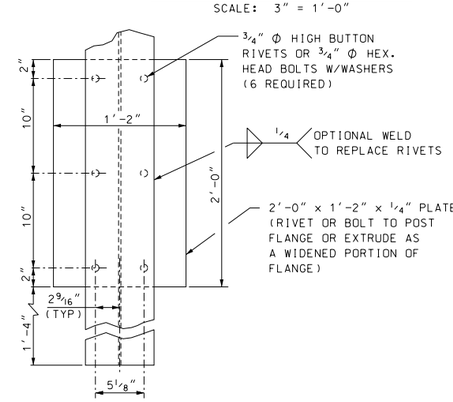
RAIL POST - FRONT ELEVATION
SCALE: 3" = 1'-0"



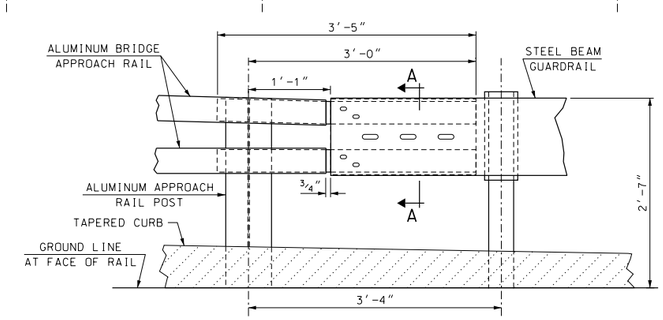
SECTION A-A
HALF SCALE



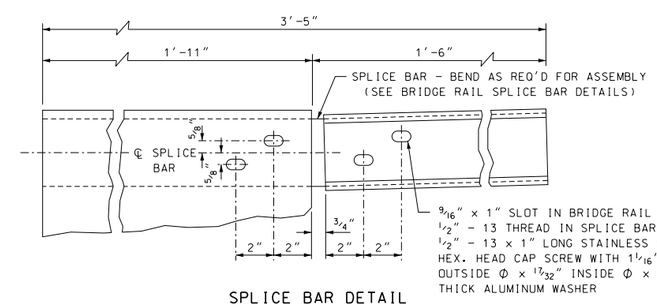
BACK-UP PLATE DETAIL
SCALE: 3" = 1'-0"



DETAIL A
SCALE: 1 1/2" = 1'-0"



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



SPLICE BAR DETAIL
SCALE: 3" = 1'-0"
(BACK VIEW)

** FOR INFORMATIONAL PURPOSES ONLY FOR ITEM 565.802-ADJUSTING BRIDGE APPROACH RAIL AT GUARDRAIL RUNS 14, 15, 16, & 17

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

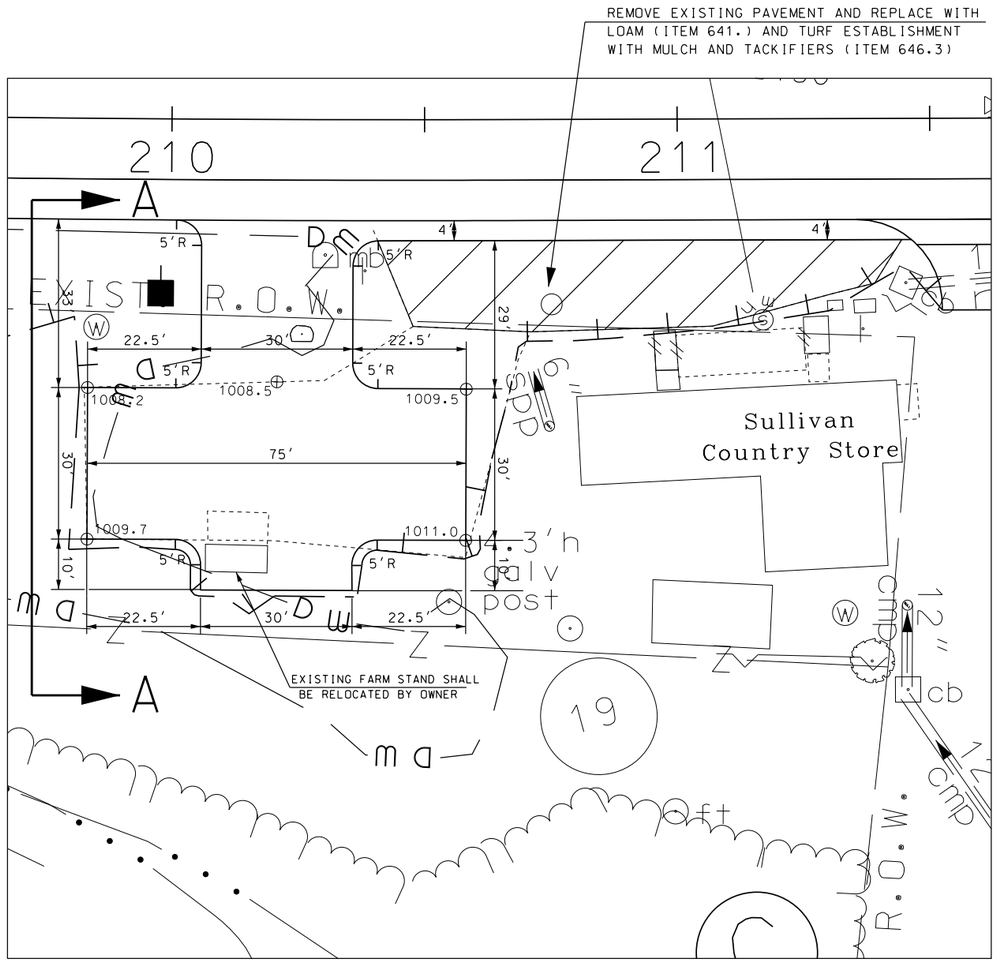
TOWN SULLIVAN | BRIDGE NO. 094/064 | STATE PROJECT 10439
LOCATION

ALUMINUM APPROACH RAIL (2-BAR)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NHDOT	9/87	CHECKED	NHDOT	
	DRAWN	GMC/SMG	2/06	CHECKED	PJP/MGL	2/06
	QUANTITIES			CHECKED		
	ISSUE DATE	---	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE	3/30/14			38	294

BRIDGE SHEET I OF I
FILE NUMBER

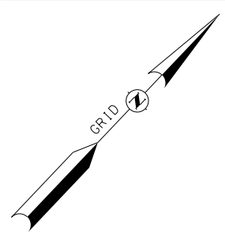
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/AL-RAIL	APP-2BAR_SP	AS NOTED

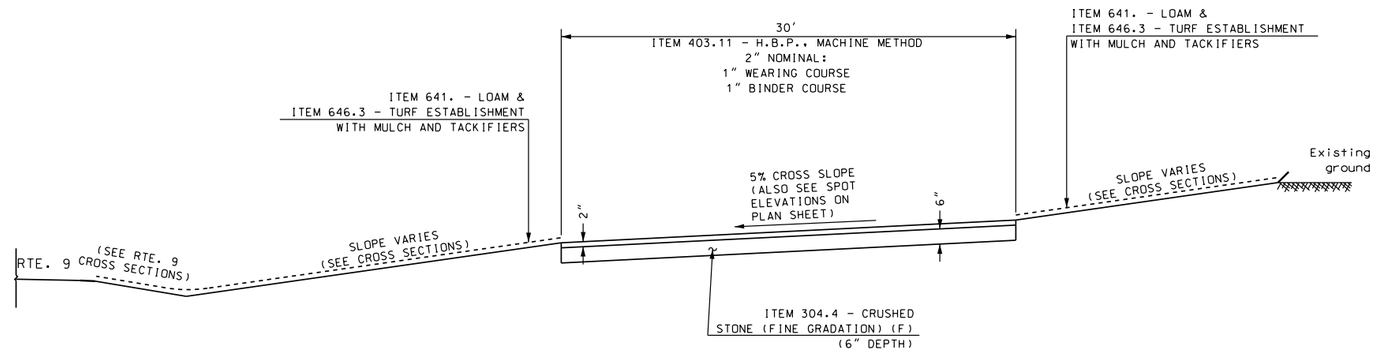


PLAN VIEW

10 0 10 20

SCALE IN FEET





SECTION A-A

NOT TO SCALE

GENERAL NOTES

1. SEE ROUTE 9 CROSS-SECTIONS FOR MORE INFORMATION
2. SEE DRIVEWAY CROSS-SECTION STA 210+21 RT FOR DRIVEWAY PLATFORM DESIGN.
3. EXCAVATION FOR PARKING AREA PAVEMENT AND SELECTS SHALL BE PAID FOR UNDER ITEM 203.1

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

SULLIVAN COUNTRY STORE
PARKING AREA DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_Country Store parking	10439	39	294

	SUMMARY OF BRIDGE QUANTITIES BR NO 088/125			
	ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
**	304.301	CRUSHED GRAVEL	23	CY
**	403.61	PAVEMENT JOINT ADHESIVE (BRIDGE BASE)	43	LF
**	403.911	HOT BITUMINOUS BRIDGE PAVEMENT, 1" BASE COURSE	3	TON
**	504.1	COMMON BRIDGE EXCAVATION (F)	47	CY
**	534.3	WATER REPELLENT (SILANE-SILOXANE)	1	GAL
**	538.2	BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F)	15	SY
**	538.5	BARRIER MEMBRANE, HEAT WELDED (F)	54	SY
**	628.22	SAWED BITUMINOUS PAVEMENT (BRIDGE)	65	LF
**	692.	MOBILIZATION	0.01	U
**	1002.1	REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES	*	$

* NOT A BID ITEM
** NOT AN ITEM TOTAL

ROXBURY - BR NO 088/125 NOTES

NH ROUTE 9 OVER HUBBARD BROOK

SCOPE OF WORK

- REMOVE PAVEMENT AND FILL OVER BRIDGE SLAB
- INSTALL BARRIER MEMBRANE AND PAVEMENT

MATERIALS AND SPECIFICATIONS

1. SPECIFICATIONS: NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED

GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT DIG SAFE TO SURVEY AND TAG ALL BRIDGE COPING AND UNDERGROUND LOCATIONS NEAR THE BRIDGE FOR POSSIBLE UTILITIES.
2. EXISTING BRIDGE PLANS FOR ROXBURY BR. NO. 088/125 ARE NOT AVAILABLE.

REMOVAL NOTES

1. PORTABLE CONCRETE BARRIER (ROADWAY ITEM) SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE. SEE TRAFFIC CONTROL PLAN IN PROPOSAL.
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW THE EXISTING STRUCTURE.
3. EXISTING DECK PAVEMENT AND FILL OVER BRIDGE SLAB SHALL BE REMOVED UNDER ITEM 504.1, COMMON BRIDGE EXCAVATION (F).

CONSTRUCTION NOTES

1. EXISTING DECK COPING, ABUTMENTS AND WINGS SHALL BE POWER WASHED (SUBSIDIARY TO ITEM 534.3), IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE). APPLICATION RATE = 150 SF/GAL.
2. APPLY PAVEMENT JOINT ADHESIVE ALONG ALL LONGITUDINAL PAVEMENT JOINTS BETWEEN BRIDGE BASE PAVEMENT PASSES AND ALONG BRIDGE CURB LINES PRIOR TO PLACING BRIDGE BASE PAVEMENT COURSE, ITEM 403.61.
3. APPLY PAVEMENT JOINT ADHESIVE ALONG THE BRIDGE CURB LINES BETWEEN WEARING COURSE PAVEMENT PASSES IN ADDITION TO TYPICAL ROADWAY REQUIREMENTS FOR ITEM 403.6. PAID AS ITEM 403.6 (ROADWAY ITEM).
4. AFTER THE EXISTING PAVEMENT AND FILL MATERIALS HAVE BEEN REMOVED AND PREPARATION FOR MEMBRANE APPLICATION HAS BEEN COMPLETED, AN INSPECTION OF THE SLAB SURFACE SHALL BE COMPLETED JOINTLY BY THE CONTRACTOR AND ENGINEER TO DETERMINE THE CONDITION OF THE SLAB CONCRETE. IF DIRECTED BY THE ENGINEER, REPAIRS TO THE DECK SLAB SHALL BE UNDERTAKEN IN ACCORDANCE WITH SECTIONS 511 AND 520 OF THE SPECIFICATION. COST TO CONDUCT THE INSPECTION SHALL BE SUBSIDIARY TO ITEM 538.5. ALL LABOR AND MATERIAL COST TO DO REPAIRS SHALL BE PAID UNDER ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

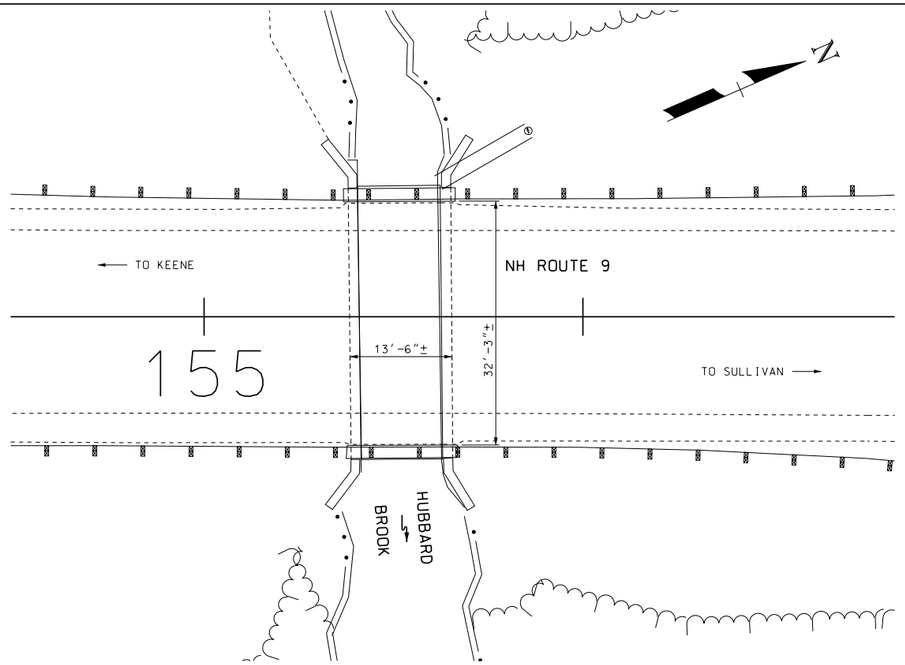
TOWN ROXBURY BRIDGE NO. 088/125 STATE PROJECT 10439
LOCATION NH ROUTE 9 over HUBBARD BROOK

BR NO 088/125 NOTES AND QUANTITY BOX

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	WPS	7/17	CHECKED	KFD	8/17
	DRAWN	SMG	7/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	7/17	CHECKED	ABH	8/17

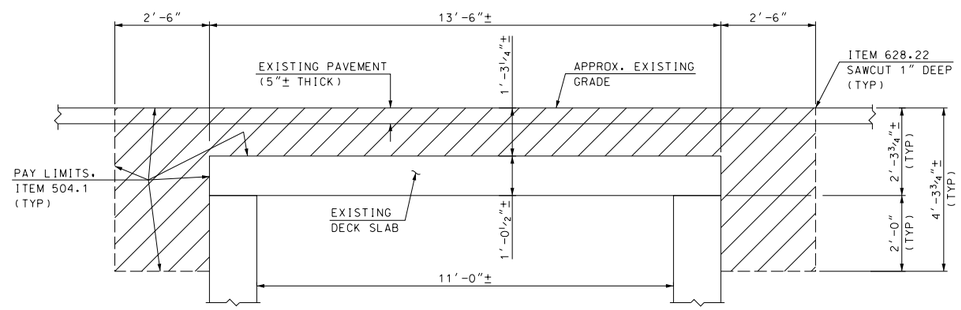
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\BRSITE	10439 Notes	AS NOTED	REV. DATE	----------	40	294

BRIDGE SHEET 1 OF 50
FILE NUMBER 132-3-1



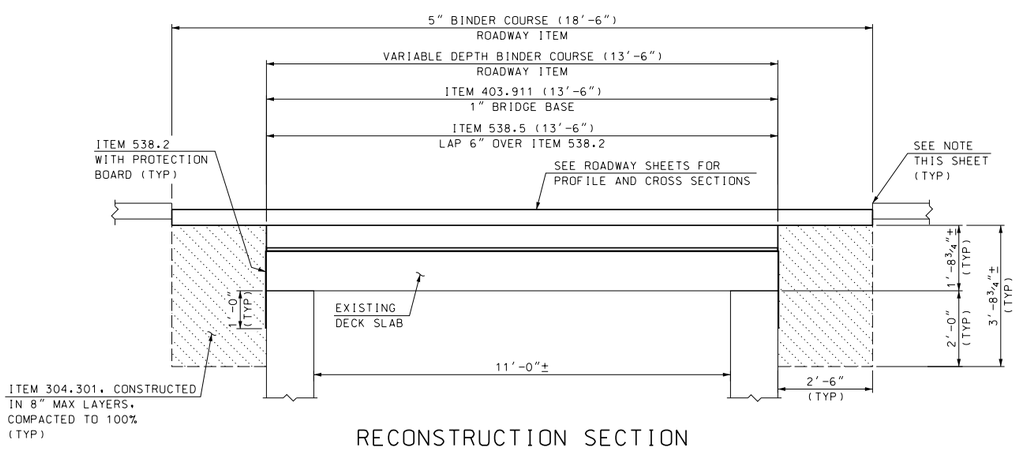
PLAN VIEW

SCALE: 1" = 10'



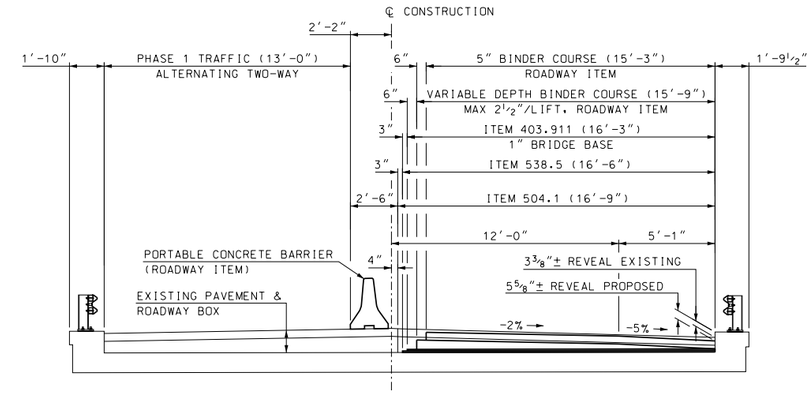
REMOVAL SECTION

SCALE: ½" = 1'-0"



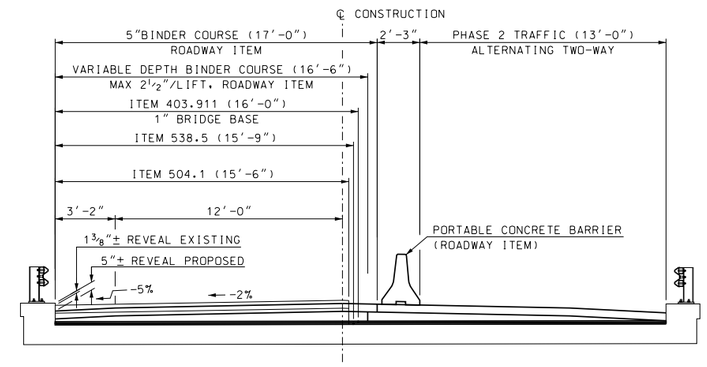
RECONSTRUCTION SECTION

SCALE: ½" = 1'-0"



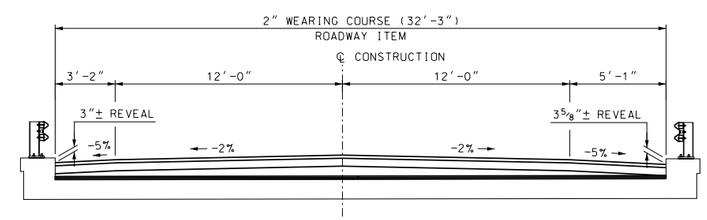
PHASE 1 CONSTRUCTION

SCALE: ¼" = 1'-0"



PHASE 2 CONSTRUCTION

SCALE: ¼" = 1'-0"



FINAL DECK SECTION

SCALE: ¼" = 1'-0"

NOTE:
THE EXISTING AND PROPOSED PROFILES AND CROSS SLOPES AT THE BRIDGE ARE DIFFERENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PAVEMENT TRANSITIONS BETWEEN THE BRIDGE AND APPROACH PAVEMENTS AS REQUIRED BY THE CONTRACTORS MEANS AND METHODS, SUBSIDIARY TO THE WORK TO BE PERFORMED.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\HUBBARD BROOK	10439 section 088-125	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN ROXBURY BRIDGE NO. 088/125 STATE PROJECT 10439

LOCATION NH ROUTE 9 over HUBARD BROOK

PHASING & SECTIONS BR NO 088/125

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/17	CHECKED	WPS	8/17
	DRAWN	SMG	6/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	8/17	CHECKED	ABH	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		41	

BRIDGE SHEET 2 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294

SUMMARY OF BRIDGE QUANTITIES BR NO 093/060

	ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
	207.3	UNCLASSIFIED CHANNEL EXCAVATION	3330	CY
	209.201	GRANULAR BACKFILL (BRIDGE) (F)	1533	CY
	211.11	VIBRATION MONITORING SERVICES	100	HR
**	403.61	PAVEMENT JOINT ADHESIVE (BRIDGE BASE)	974	LF
**	403.911	HOT BITUMINOUS BRIDGE PAVEMENT 1" BASE COURSE	38.3	TON
	502.101	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
	502.102	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
	503.201	COFFERDAMS	1	U
**	504.1	COMMON BRIDGE EXCAVATION (F)	3900	CY
	508.	STRUCTURAL FILL	230	CY
	520.0302	CONCRETE CLASS AA APPROACH SLABS (QC/QA) (F)	147.5	CY
	520.12	CONCRETE CLASS A, ABOVE FOOTINGS (F)	735.0	CY
	520.2	CONCRETE CLASS B	104.2	CY
	520.213	CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)	376.9	CY
	520.7002	CONCRETE BRIDGE DECK (QC/QA) (F)	297.8	CY
**	534.3	WATER REPELLENT (SILANE-SILOXANE)	53	GAL
**	538.2	BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F)	105	SY
	538.6	BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F)	737	SY
	541.1	PVC WATERSTOPS, NH TYPE 1 (F)	90	LF
	541.2	PVC WATERSTOPS, NH TYPE 2 (F)	83	LF
	541.3	PVC WATERSTOPS, NH TYPE 3 (F)	42	LF
	541.4	PVC WATERSTOPS, NH TYPE 4 (F)	45	LF
**	541.5	PVC WATERSTOPS, NH TYPE 5 (F)	112	LF
**	544.	REINFORCING STEEL (F)	77257	LB
	544.2	REINFORCING STEEL, EPOXY COATED (F)	69408	LB
	544.7	SYNTHETIC FIBER REINFORCEMENT (F)	1033	LB
	547.	SHEAR CONNECTORS (F)	2100	EA
	550.1	STRUCTURAL STEEL (F)	490464	LB
	550.2101	BRIDGE SHOES - HLMR	14	EA
**	559.41	ASPHALTIC PLUG FOR CRACK CONTROL (F)	102	LF
	561.3001	PREFABRICATED FINGER EXPANSION JOINT (F)	102	LF
**	562.1	SILICONE JOINT SEALANT (F)	677	LF
	563.22	BRIDGE RAIL T2	331	LF
	565.222	BRIDGE APPROACH RAIL T2 (STEEL POSTS)	2	U
	565.2229	BRIDGE APPROACH RAIL T2 (STEEL POSTS) (MODIFIED)	2	U
	583.9	RIPRAP, CLASS IX	3000	CY
	592.31	PRECAST CONCRETE MODULAR RETAINING WALL	2000	SF
	593.411	GEOTEXTILE; PERM CONTROL CL. 1, NON-WOVEN	2100	SY
	609.01	STRAIGHT GRANITE CURB	98	LF
	609.02	CURVED GRANITE CURB	33	LF
**	692.	MOBILIZATION	0.54	U
**	1002.1	REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES	*	$
	1010.41	QUALITY CONTROL QUALITY ASSURANCE (QC/QA) FOR CONCRETE	*	$
	1020.02	INSPECTION - PAINT	*	$
	1020.03	INSPECTION - STEEL	*	$

* NOT A BID ITEM
** NOT AN ITEM TOTAL

SULLIVAN - BR NO 093/060 NOTES

NH ROUTE 9 OVER OTTER BROOK

SCOPE OF WORK

- REMOVE EXISTING BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE AS DESCRIBED IN THE BRIDGE REMOVAL NOTES
- CONSTRUCT NEW BRIDGE

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

1. DESIGN LOADING: HL-93
2. DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
3. SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7th ED., 2014 AS AMENDED
   AASHTO BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS
   NHDOT 2016 STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION AS AMENDED
   WELDING PER AASHTO/AWS D1.5-10 (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE)
4. FOUNDATION DATA: ABUTMENTS - REINFORCED CONCRETE SPREAD FOOTINGS SUPPORTED ON SOIL WITH 12 INCHES OF STRUCTURAL FILL. NOMINAL BEARING RESISTANCE OF 18 KSF WITH A 0.45 RESISTANCE FACTOR. NOMINAL SLIDING RESISTANCE (TAN δ) OF 34 DEGREES WITH A 0.8 RESISTANCE FACTOR.
5. REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
   ALL DECK, APPROACH SLAB, COPING, AND TOP OF BACKWALL REINFORCEMENT SHALL BE EPOXY COATED.
6. STRUCTURAL STEEL: AASHTO M270, GRADE 50W (ASTM A709, GRADE 50W), UNPAINTED, EXCEPT AS NOTED.
   STRUCTURAL TUBING: BRIDGE RAIL - ASTM A500, GRADE B
   HSS SPLIT PIPE STIFFENER - ASTM A847
7. CONCRETE:
   FOOTINGS:
   ITEM 520.213, CONCRETE CLASS B, FOOTINGS ON SOIL (F)
   3000 psi
   ABUTMENTS BELOW THE BEARING SEAT CONSTRUCTION JOINT AND WINGWALL STEMS:
   ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F)
   3000 psi
   DECK SLAB, BRUSH CURBS, AND ABUTMENTS ABOVE THE BEARING SEAT CONSTRUCTION JOINT:
   ITEM 520.7002, CONCRETE BRIDGE DECK (QC/QA) (F)
   4000 psi
   APPROACH SLABS, APPROACH CURB BLOCKING AND CONCRETE FILL BETWEEN APPROACH SLAB AND CURBS:
   ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F)
   4000 psi
   PCM WALL SCOUR PROTECTION
   ITEM 520.2, CONCRETE CLASS B
   3000 psi
8. SEISMIC: PEAK GROUND ACCELERATION (PGA)= 0.073
   SITE CLASS = C
   ZONE= 1

GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT DIG SAFE TO SURVEY AND TAG ALL BRIDGE COPING AND UNDERGROUND LOCATIONS NEAR THE BRIDGE FOR POSSIBLE UTILITIES.
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW THE EXISTING, TEMPORARY, AND PROPOSED STRUCTURES. ALL COSTS, INCLUDING ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES, OR OTHER SUCH APPROVED METHODS, SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS OF WORK BEING PERFORMED.
3. APPLY PAVEMENT JOINT ADHESIVE ALONG ALL LONGITUDINAL JOINTS BETWEEN PAVEMENT PASSES AND ALONG BRIDGE CURB LINES AND EXPANSION JOINT ARMORING PRIOR TO PLACING ALL PAVEMENT COURSES. FOR BRIDGE BASE COURSE APPLY ITEM 403.61, PAVEMENT JOINT ADHESIVE (BRIDGE BASE) AND FOR WEARING COURSE APPLY ITEM 403.6, PAVEMENT JOINT ADHESIVE (ROADWAY ITEM).
4. EXISTING BRIDGE PLANS (SULLIVAN BR. NO. 093/061 FILE NO. M-39) ARE AVAILABLE ON-LINE ON THE INVITATION TO BID WEB PAGE IN THE PROJECT'S PROPOSAL PACKING DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN AWARDED, A SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS NOTED OTHERWISE.
6. SHEAR KEYS SHALL BE 3" HIGH BY ONE-THIRD THE THICKNESS OF THE WALL, CENTERED, UNLESS NOTED OTHERWISE.
7. FOR BOTTOM OF DECK SLAB ELEVATIONS SEE BRIDGE SHEET 30.
8. FOR SURVEY LAYOUT SEE BRIDGE SHEET 7.
9. FOR BORING NOTES SEE BRIDGE SHEET 8.
10. FOR HLMR BEARING ASSEMBLY NOTES SEE BRIDGE SHEET 24.
11. FOR EXPANSION JOINT (ITEM 561.3001) NOTES, SEE BRIDGE SHEET 34.
12. FOR HYDRAULIC DATA SEE BRIDGE SHEET 5.
13. FOR RAIL AND CURB NOTES SEE BRIDGE SHEET 37.

BRIDGE REMOVAL NOTES

1. THE CONTRACTOR'S METHOD FOR REMOVAL OF THE EXISTING BRIDGE SHALL BE SUBMITTED FOR DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02 PRIOR TO THE COMMENCEMENT OF ANY REMOVAL OPERATIONS.
2. ITEM 502.101, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE REMOVAL OF THE ENTIRE EXISTING BRIDGE SUPERSTRUCTURE.
3. ITEM 502.102, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE REMOVAL OF THE ENTIRE EXISTING BRIDGE SUBSTRUCTURE AT ABUTMENTS AND REMOVAL OF THE PIER TO THE TOP OF THE EXISTING FOOTING INCLUDING CUTTING OFF THE EXISTING REBAR FLUSH WITH THE TOP OF FOOTING.

COFFERDAM NOTES

1. ALL COFFERDAM ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. THE CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR DOCUMENTATION IN ACCORDANCE WITH 105.02. THE SUBMITTAL SHALL INCLUDE THE PROPOSED METHOD OF DEWATERING AND THE METHOD OF DISPOSAL OF WATER PUMPED FROM THE EXCAVATION.
2. THE COFFERDAM ITEM IS INCLUDED IN THE CONTRACT FOR THE PURPOSE OF SUPPORTING AND DEWATERING ALL ABUTMENT, WINGWALL AND RIP-RAP EXCAVATIONS. ALL COSTS ASSOCIATED WITH THE DESIGN, INSTALLATION, DEWATERING, MAINTENANCE, AND REMOVAL OF THE COFFERDAM, AND FOR ANY ASSOCIATED STREAM DIVERSION WILL BE PAID FOR UNDER COFFERDAM ITEM 503.201.
3. THE LOCATION AND LIMITS OF THE COFFERDAMS DETAILED ON THE PLANS ARE SCHEMATIC AND NOT INTENDED FOR THE FINAL DESIGN OF THE COFFERDAM. THE COFFERDAM LIMITS, LOCATION AND COMPONENTS (E.G., STEEL SHEETING, EARTH DIKES) SHALL BE SELECTED BY THE CONTRACTOR TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION. THE COFFERDAM SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE REQUIREMENTS OF SECTIONS 503 AND 504, THE FOUNDATION NOTES AND ALL ENVIRONMENTAL PERMITS.
4. ANY PRE-EXCAVATION OF BOULDERS OR COBBLES BELOW THE BOTTOM OF STRUCTURAL FILL GRADE TO PERMIT INSTALLATION OF STEEL SHEETS SHALL BE SUBJECT TO APPROVAL. ANY OVER-EXCAVATED AND DISTURBED AREAS BELOW THE FOOTING SHALL BE REPLACED WITH STRUCTURAL FILL. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN ITEM 503.201.
5. THE WATER LEVEL WITHIN THE ABUTMENT AND WINGWALL EXCAVATIONS SHALL BE MAINTAINED BELOW THE BOTTOM OF FOOTING GRADE. ALL SUBSTRUCTURE CONCRETE SHALL BE PLACED IN THE DRY. DEWATERING SHALL BE CONTINUOUS UNTIL THE SUBSTRUCTURES ARE BACKFILLED TO THE ELEVATION OF THE SURROUNDING WATER TABLE. ALL MEANS AND METHODS ASSOCIATED WITH THE FOUNDATION DEWATERING SHALL BE LOCATED WITHIN THE LIMITS OF WORK SHOWN ON THE PROJECT WETLANDS PERMIT.
6. COFFERDAMS THAT ARE CUTOFF AND LEFT IN PLACE AT THE CONTRACTOR'S CHOICE SHALL BE CUTOFF A MINIMUM OF 3 FEET BELOW FINAL GRADE. NO ADDITIONAL PAYMENT WILL BE MADE FOR COFFERDAMS THAT ARE CUTOFF AND LEFT IN PLACE.
7. ALL COSTS ASSOCIATED WITH THE RE-DESIGN AND RE-INSTALLATION OF COFFERDAMS DUE TO SUBSURFACE CONDITIONS ENCOUNTERED DURING THE COFFERDAM INSTALLATION THAT ARE DIFFERENT FROM WHAT THE COFFERDAM DESIGNER ASSUMED AND/OR INTERPRETED FROM THE AVAILABLE SUBSURFACE INFORMATION SHALL BE SUBSIDIARY TO THE ASSOCIATED COFFERDAM ITEM. SECTION 102.05 SHALL BE REFERENCED FOR ADDITIONAL INFORMATION REGARDING THE USE OF SUBSURFACE INFORMATION PROVIDED IN THE CONTRACT.

FOUNDATION NOTES

1. ALL FOOTINGS SHALL BE FOUNDED ON A MINIMUM 12 INCH THICK LAYER OF STRUCTURAL FILL, PLACED OVER THE ACCEPTABLE BEARING MATERIALS DESCRIBED BELOW. THE CONTRACTOR MAY SUBSTITUTE UP TO 12 INCHES OF CLEAN STONE STRUCTURAL FILL FOR THE CRUSHED GRAVEL STRUCTURAL FILL IN ACCORDANCE WITH 508.2.1.3 AT NO COST TO THE DEPARTMENT.
2. THE NATURAL GLACIAL TILL DEPOSIT IS GENERALLY EXPECTED ABOVE THE PROPOSED BOTTOM OF FOOTING GRADE FOR THE ABUTMENTS AND WINGWALLS. THE GLACIAL TILL IS ACCEPTABLE FOR SUPPORT OF THE PROPOSED FOOTINGS FOR THE ABUTMENTS AND WINGWALLS. EXCAVATION OF THE GLACIAL TILL BELOW THE SPECIFIED STRUCTURAL FILL THICKNESS IS NOT REQUIRED. ANY TOPSOIL, WOOD OR OTHER UNSUITABLE MATERIALS ENCOUNTERED BELOW THE PROPOSED BOTTOM OF STRUCTURAL FILL GRADE SHALL BE EXCAVATED AND REPLACED WITH STRUCTURAL FILL, AS DIRECTED.
3. THE EXCAVATION TO FINAL GRADE AND THE CONTROL OF WATER SHALL BE CONDUCTED IN ACCORDANCE WITH SECTIONS 503 AND 504, AND IN A MANNER THAT PREVENTS DISTURBANCE OF THE FOUNDATION SUPPORT MATERIALS. PUMPING EQUIPMENT SHALL BE PROPERLY FILTERED TO PREVENT LOSS OF FINES. ANY DISTURBED AREAS SHALL BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL AT THE CONTRACTOR'S EXPENSE. SUMP AREAS SHALL BE LOCATED OUTSIDE A 1H:2V SUPPORT LIMIT BELOW THE ABUTMENT AND WINGWALL FOOTINGS.
4. PROTRUDING COBBLES AND BOULDERS ENCOUNTERED AT THE FINAL EXCAVATION LEVEL SHOULD BE EITHER REMOVED AND REPLACED WITH STRUCTURAL FILL OR SPLIT TO PROVIDE A LEVEL SURFACE.

ABUTMENT AND WINGWALL NOTES

1. WEEPERS SHALL BE PLACED SYMMETRICALLY 10'-0" APART AND CENTERED AT 12" ABOVE THE TOP OF FOOTING. WEEPERS SHALL BE 4" DIAMETER AND SLOPED TO DRAIN AT 12:1. ALL COSTS WILL BE SUBSIDIARY TO ITEM 520.12.
2. ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2' WIDE WITH PROTECTION BOARD (SUBSIDIARY), SHALL BE PLACED CENTERED OVER ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS.
3. ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF WINGWALLS AND ABUTMENTS (INCLUDING BRIDGE SEATS AND BACKWALLS) TO 1'-0" BELOW FILL LINES.
4. SECTIONS OF THE ABUTMENTS, WINGWALL AND PCM WALL SHALL BE CAST WITH A FORM LINER PATTERN NO. 17050 ONTARIO ASHLAR, MANUFACTURED BY FITZGERALD FORMLINERS OR APPROVED EQUAL. THE FORM LINER IS SUBSIDIARY TO ITEM 520.12, ITEM 520.7002 AND ITEM 592.31. SEE BRIDGE SHEETS 18, 19, 21 AND 23 FOR FORM LINER LOCATIONS.

APPROACH SLAB NOTES

1. FILL SPACE BETWEEN TIPPED DOWN APPROACH SLAB AND ROADWAY CURB WITH ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F) (6" MIN DEPTH). EXTEND CONCRETE FROM ABUTMENT END OF APPROACH SLAB 6' ALONG SLAB, OR AS DIRECTED BY THE ENGINEER. (QC/QA TESTING REQUIREMENTS WAIVED).
2. APPROACH SLABS SHALL BE POURED AFTER THE CONCRETE DECK HAS BEEN CONSTRUCTED.
3. APPROACH SLABS FOR BOTH ABUTMENTS SHALL BE CAST $2\frac{5}{8}$" BELOW FINISHED GRADE AT THE APPROACH SLAB SEATS AND SLOPE DOWN AS DETAILED ON THE PLANS.
4. APPROACH CURBS SHALL BE SUPPORTED ON CONCRETE FORMED INTO BLOCKS AS SHOWN ON THE ABUTMENT MASONRY SHEETS. COST TO BE INCLUDED IN ITEM 520.0302, WITH ALL QC/QA TESTING REQUIREMENTS WAIVED.
5. ITEM 544.7, SYNTHETIC FIBER REINFORCEMENT (F), SHALL BE ADDED TO THE CONCRETE USED FOR THE APPROACH SLABS.

REINFORCEMENT NOTES

1. REINFORCEMENT IN THE BOTTOM OF FOOTINGS, BOTTOM OF APPROACH SLABS AND FACE OF CONCRETE CURBS SHALL HAVE 3" MINIMUM CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE A $2\frac{1}{2}$" MINIMUM CLEAR COVER, UNLESS OTHERWISE NOTED.
2. PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES, ANCHOR BOLTS, AND EXPANSION JOINT STEEL.
3. ANY EPOXY COATED REBAR CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2.
4. REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE, BOT = BOTTOM, ALT = ALTERNATING, DOW = DOWEL, MID = MIDDLE.
5. REINFORCING BAR MARKS APPENDED WITH AN "E" INDICATE EPOXY COATED BARS.
6. REINFORCING SHALL BE PAID UNDER ITEM 544, REINFORCING STEEL (F) OR ITEM 544.2, REINFORCING STEEL, EPOXY COATED (F).

STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES

1. ALL STRUCTURAL STEEL SHALL BE PAID UNDER ITEM 550.1, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, DIAPHRAGMS, CONNECTION PLATES, SPLICE PLATES, STIFFENERS, AND FASTENERS.
2. THE NHDOT WILL INSPECT THE SHOP FABRICATION OF THE STRUCTURAL STEEL AND PROTECTIVE COATINGS.
3. NOTCH TOUGHNESS REQUIREMENTS SHALL BE IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS SECTION 550.2.2.3 AND SHALL APPLY TO THE WEB AND FLANGES OF GIRDERS, AND SPLICE PLATES.
4. ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL (CLASS-B) MADE WITH HIGH STRENGTH BOLTS ALL FASTENERS SHALL CONFORM TO REQUIREMENTS FOR AASHTO M164 (ASTM A325) TYPE 3 (IN PAINTED AREAS BOLTS SHALL BE TYPE 1 GALVANIZED).
5. DIRECT TENSION INDICATORS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.
6. GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD DEFLECTION AND GEOMETRIC CAMBER ACCORDING TO BRIDGE SHEET 29 AND SHALL BE ACHIEVED BY CUTTING THE WEB PLATE.
7. BEARING STIFFENERS AND ENDS OF THE GIRDERS SHALL BE VERTICAL UNDER STEEL DEAD LOAD DEFLECTION. DETAILING SHALL BE FOR STEEL DEAD LOAD FIT CONDITION.
8. ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STRUCTURAL STEEL.
9. THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF THE WELDS. ALL COSTS TO BE INCLUDED IN ITEM 550.1.
10. SHOP DRAWINGS SHALL INDICATE THE METHOD AND SEQUENCE TO BE FOLLOWED IN WELDING THE GIRDER COMPONENTS.
11. LOCATION OF WELDED SHOP SPLICES SHALL BE APPROVED BY THE BUREAU OF BRIDGE DESIGN. WEB SPLICES SHALL BE LOCATED A MINIMUM OF 9" FROM WELDED FLANGE SPLICES. WEB AND FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF 6" FROM TRANSVERSE STIFFENERS OR CONNECTION PLATES.
12. HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FINAL BEARING ELEVATIONS
13. ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE PLATE GIRDERS FOR CONSTRUCTION PURPOSES WILL NOT BE PERMITTED, UNLESS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
14. THE CONTRACTOR SHALL SUBMIT A HANDLING AND ERECTION PLANS AND PROCEDURES TO THE ENGINEER PRIOR TO HANDLING THE STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 550.3.14 AND 550.3.15. THE ERECTION PROCEDURE SHALL INDICATE THE LOCATION AND NUMBER OF LIFTING POINTS AS DETERMINED BY CHECKING THE L/B RATIOS IN ACCORDANCE WITH SECTION 550.3.14.2.4 TO GUARD AGAINST LATERAL BUCKLING OF THE GIRDERS. THE HANDLING AND ERECTION PLANS AND PROCEDURES SHALL BE "RECEIVED FOR DOCUMENTATION" BEFORE ERECTION STARTS.
15. STEEL ERECTION SHALL NOT TAKE PLACE UNTIL ABUTMENTS HAVE BEEN BACKFILLED TO THE LEVEL OF THE BRIDGE SEATS.
16. ALL SHEAR CONNECTORS SHALL BE FIELD WELDED TO THE TOP FLANGE WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. RELOCATE SHEAR CONNECTORS AT SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FASTENERS.
17. SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF GIRDERS.
18. BRIDGE DECK CONCRETE SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POUR.
19. ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH THE AASHTO/AWS D1.5-10 BRIDGE WELDING CODE (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE) AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
20. ALL STRUCTURAL STEEL, INCLUDING BRIDGE BEARINGS, DIAPHRAGMS, AND INTERIOR AND FASCIA SURFACES OF GIRDERS SHALL BE PAINTED WITHIN 10' OF THE CENTERLINE OF BEARING, BOTH ENDS OF BRIDGE. THE TOP OF THE TOP FLANGE SHALL BE PAINTED WITH A LIGHT RUST PROTECTIVE COAT OF PRIMER WITHIN 10' OF THE CENTERLINE OF BEARING, BOTH ENDS OF BRIDGE. ALL COSTS SUBSIDIARY TO ITEM 550.1, STRUCTURAL STEEL (F).
21. THE BEARING RELEASES SHOWN ON BRIDGE SHEET 25 SHALL BE REQUIRED DURING ALL PHASES OF CONSTRUCTION.
22. THE SUPERSTRUCTURE GIRDERS ARE EXPECTED TO TWIST DURING THE PLACEMENT OF THE DECK CONCRETE. IF FULLY REALIZED, THE RESULTING TOP FLANGE ROTATIONAL MOVEMENTS WILL LATERALLY SHIFT THE LOCATION OF THE DECK CURBLINES AS FOLLOWS:

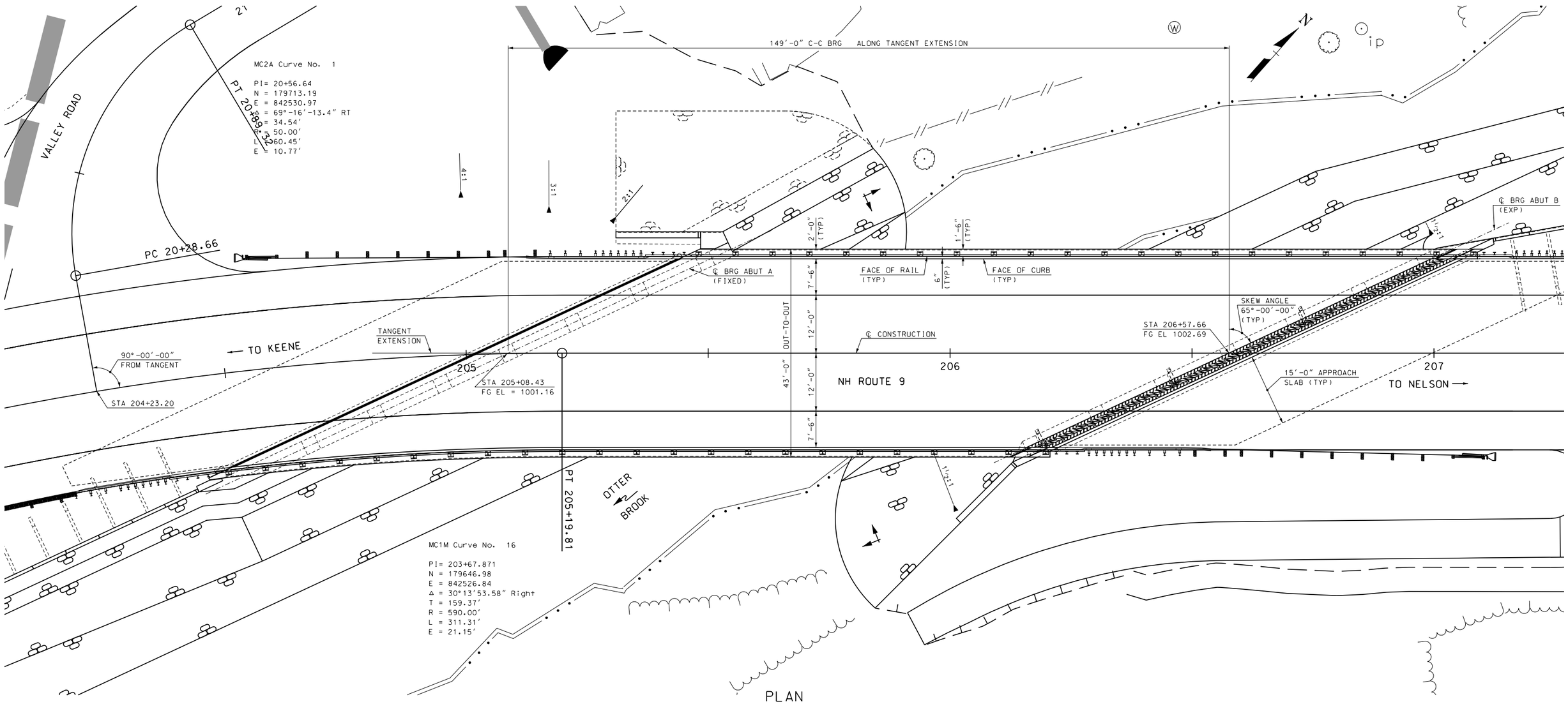
    NORTH CURBLINE: $1\frac{1}{4}$" TO THE NORTH AT ℄ BEARING, ABUTMENT B AND $\frac{1}{2}$" TO THE SOUTH AT ℄ BEARING, ABUTMENT A

    SOUTH CURBLINE: $\frac{1}{2}$" TO THE NORTH AT ℄ BEARING, ABUTMENT B AND $1\frac{1}{4}$" TO THE SOUTH AT ℄ BEARING, ABUTMENT A

    CONTRACTOR SHALL BE PREPARED TO MAKE ADJUSTMENTS TO THE DECK JOINTS AND CURB LAYOUTS AT ABUTMENTS, BACKWALLS AND ALONG THE BRIDGE AS DIRECTED BY THE ENGINEER TO PROPERLY ALIGN THE APPROACH AND BRIDGE CURBLINES AND MINIMIZE EFFECTS OF THE MOVEMENTS NOTED ABOVE, SUBSIDIARY TO ITEMS.

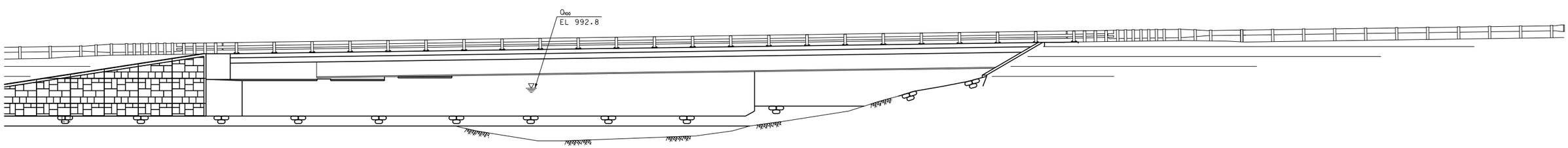
PCM WALL NOTES

1. THE NORTHEAST AND SOUTHWEST WING WALLS SHALL BE PRECAST CONCRETE MODULAR (PCM) WALLS. MODULE DIMENSIONS AND CONFIGURATION SHALL DEPEND ON THE PCM WALL MANUFACTURER'S DESIGN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INTERNAL STABILITY OF THE SELECTED PCM WALL SYSTEM. THE CONTRACTOR SHALL SUBMIT PCM WALL SYSTEM PLANS AND CALCULATIONS IN ACCORDANCE WITH SECTION 105.02 FOR REVIEW AND APPROVAL. ALL PLANS AND CALCULATIONS SHALL BE PREPARED BY A NH LICENSED PROFESSIONAL ENGINEER, AND SHALL BEAR THE ENGINEER'S SEAL AND SIGNATURE.
3. ALL COSTS ASSOCIATED WITH THE DESIGN, FABRICATION, AND CONSTRUCTION OF THE PCM WALL INCLUDING REINFORCED CONCRETE MODULES AND END OR CLOSURE UNITS, GRANULAR BACKFILL WITHIN, ABOVE, BEHIND AND IN FRONT OF THE MODULES AS DFINED IN THE CONTRACT DRAWINGS, CAST-IN-PLACE CONCRETE LEVELING PADS, JOINT MATERIALS, GEOTEXTILE AT WALL JOINTS, WALL SUPPLIERS TECHNICAL REPRESENTATIVE VISITS, AND INCIDENTAL SHALL BE INCLUDED IN ITEM 592.31.
4. REFER TO ITEM 592.31 SPECIAL PROVISION FOR APPROVED WALL SYSTEMS, AND THE PCM WALL DESIGN AND CONSTRUCTION REQUIREMENTS.
5. THE FACE OF THE WALL MODULES SHALL HAVE AN ASHLAR PATTERN FORM LINER FINISH THAT EXTENDS A MINIMUM OF 1'-0" BELOW THE FINISH GRADE AT THE FACE OF THE WALL, AS SHOWN ON THE PLANS. THE ASHALR PATTERN FORM LINER SHALL BE FITZGERALD 17050 ONTARIO ASHLAR OR APPROVED EQUAL. THE COST OF THE FORM LINER FINISH SHALL BE INCLUDED IN ITEM 592.31.
6. THE PCM RETAINING WALL PLANS SHALL INCLUDE END UNIT DETAILS AT ALL WALL STEPS AND AT THE ENDS OF THE WALL, AS APPLICABLE.
7. THE PCM WALL LAYOUT AND WORKING POINTS ARE REFERENCED TO THE FRONT FACE OF THE PRECAST CONCRETE MODULE AS DEFINED BY THE ARCHITECTURAL FINISH THAT EXTENDS BEYOND THE STRUCTURAL THICKNESS OF THE MODULE. THE MAX DEPTH OF THE ARCHITECTURAL FINISH SHALL BE $1\frac{1}{2}$". TO LAYOUT THE PCM WALL AS DEFINED BY THE STRUCTURAL THICKNESS, THE FACE OF THE STRUCTURAL SECTION OF WALL SHALL BE OFFSET $1\frac{1}{2}$" FROM THE LAYOUT LINE FOR THE PCM WALLS. THE ARCHITECTURAL FINISH OF THE PCM WALL SHALL LINE UP WITH EITHER THE STRUCTURAL OR ARCHITECTURAL FINISHES OF THE ABUTMENT AS DETAILED IN THE PLANS.
8. THE PCM WALL SHALL BE DESIGNED TO PREVENT CONFLICT WITH THE PROPOSED GUARDRAIL POSTS FOR THE BRIDGE APPROACH RAIL AND THE ROADWAY GUARDRAIL LOCATED WITHIN THE PCM WALL MODULE. DETAILS OF THE BRIDGE APPROACH RAIL ARE INCLUDED WITH THE CONTRACT BRIDGE PLANS.
9. THE PCM REINFORCING STEEL SHALL BE GALVANIZED AND THE CONCRETE SHALL INCLUDE A CORROSION INHIBITOR (CALCIUM NITRATE), AS DESCRIBED IN THE SECTION 592.31 SPECIAL PROVISION.
10. ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO THE PCM WALL FACE, TOP AND BACK TO 12 INCHES BELOW THE FINISHED GRADE AT THE WALL.



PLAN

SCALE: 1" = 10'-0"



ELEVATION

SCALE: 1" = 10'-0"

HYDRAULIC DATA

1. DRAINAGE AREA: 34.5 SQUARE MILES
2. DESIGN FLOOD: Q100 = 5400 CFS
3. DESIGN VELOCITY: 10.8 FPS
4. DESIGN FLOOD HEIGHT: EL = 992.8
5. BRIDGE WATERWAY OPENING: 691 SQ. FT. BELOW Q100 ELEVATION
6. Q100 ELEVATION SHOWN ACCOUNTS FOR HYDRAULIC JUMP THROUGH BRIDGE. Q100 ELEVATION PRIOR TO HYDRAULIC JUMP IS 994.8

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Genplan	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

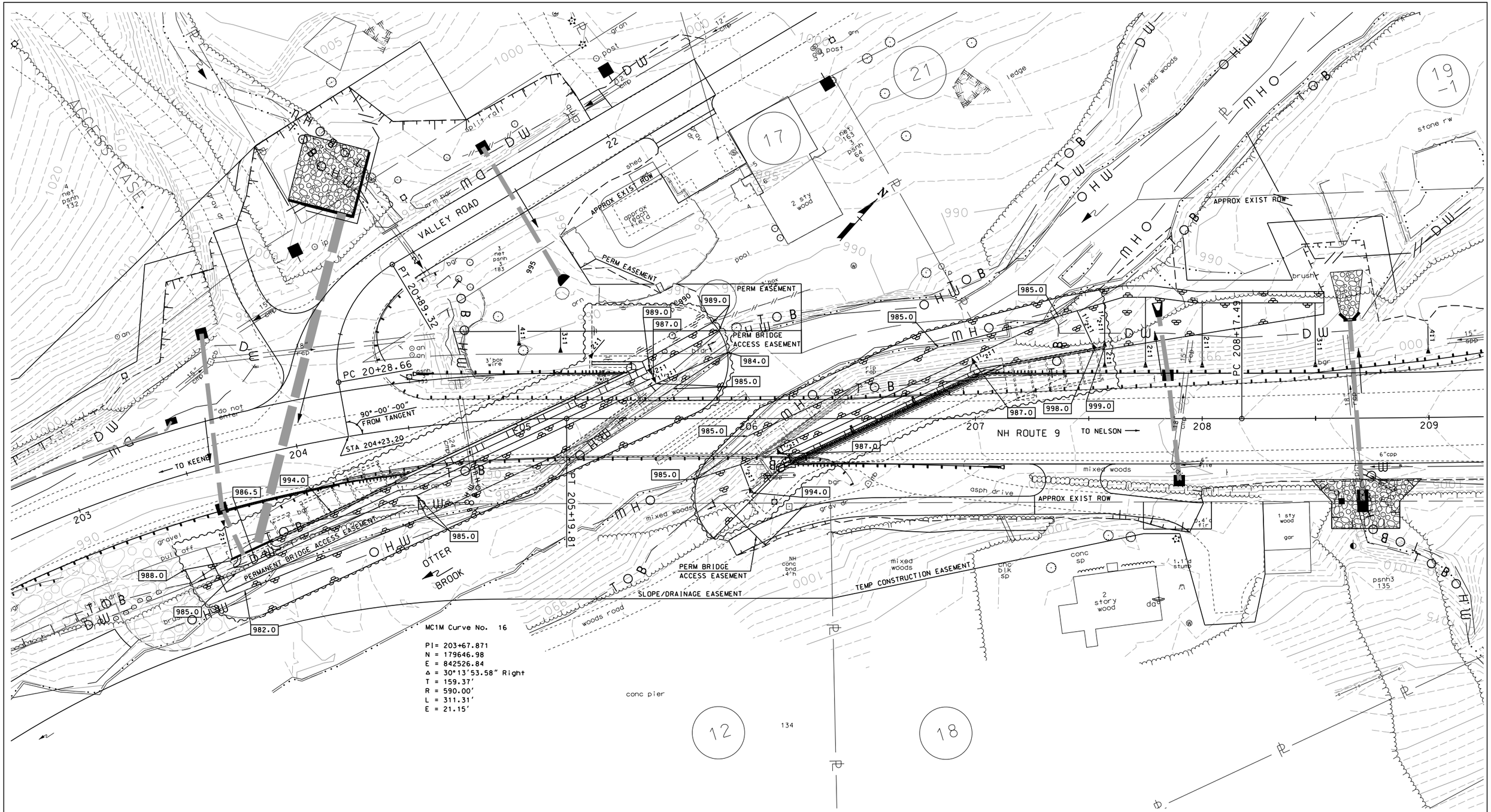
GENERAL PLAN AND ELEVATION

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/17	CHECKED	WPS	8/17
	DRAWN	SMG	8/17	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		44	

BRIDGE SHEET 5 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294



PLAN

SCALE: 1" = 20'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

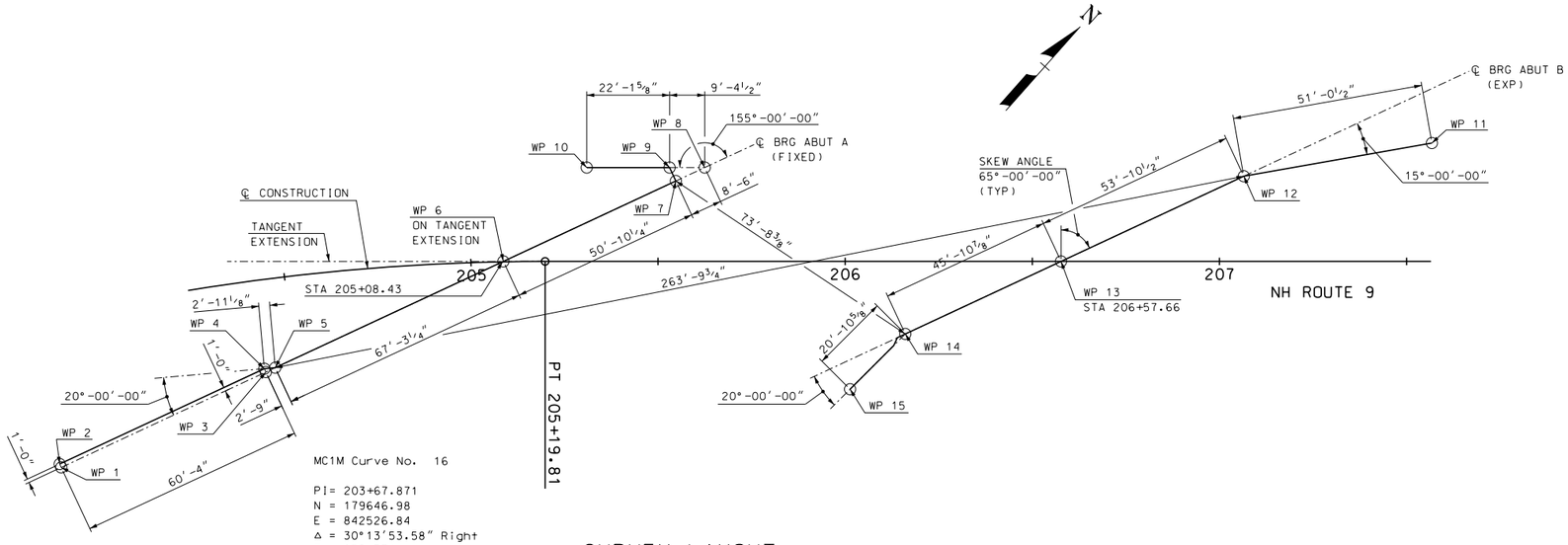
SITE PLAN

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	9/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\BRSITE	10439 Siteplan	AS NOTED	REV. DATE	----------	45	294

BRIDGE SHEET 6 OF 50

FILE NUMBER 132-3-1



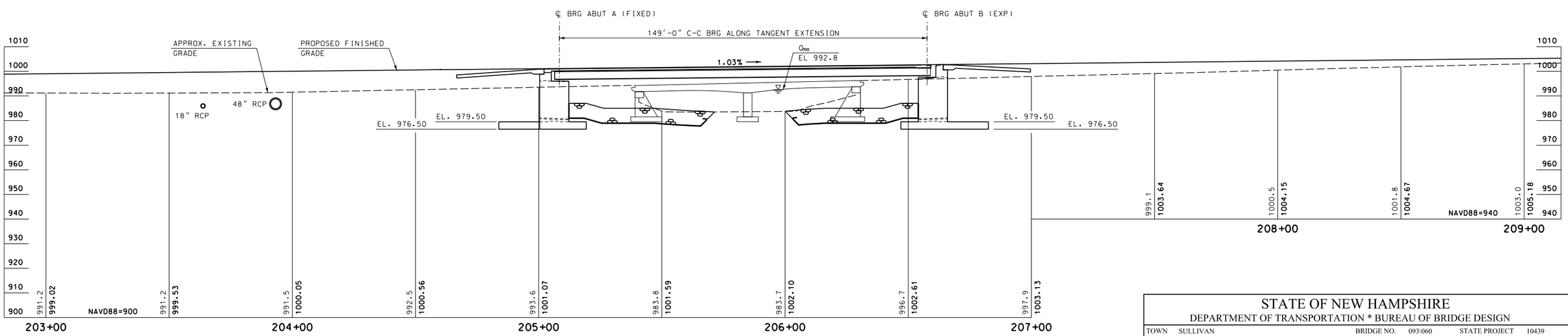
MC1M Curve No. 16

PI= 203+67.871
N = 179646.98
E = 842526.84
Δ = 30°13′53.58″ Right
T = 159.37′
R = 590.00′
L = 311.31′
E = 21.15′

SURVEY LAYOUT

SCALE: 1″ = 20′-0″

WORKING POINT COORDINATES		
WP #	NORTH	EAST
1	179625.71	842585.90
2	179626.11	842584.98
3	179681.07	842609.90
4	179681.46	842608.98
5	179683.59	842610.99
6	179745.30	842637.76
7	179791.96	842657.99
8	179799.76	842661.37
9	179793.54	842654.35
10	179778.85	842637.79
11	179933.55	842802.43
12	179893.57	842770.69
13	179844.14	842749.26
14	179802.03	842730.99
15	179781.18	842729.74



PROFILE

SCALE: 1″ = 20′-0″

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

SURVEY LAYOUT AND PROFILE

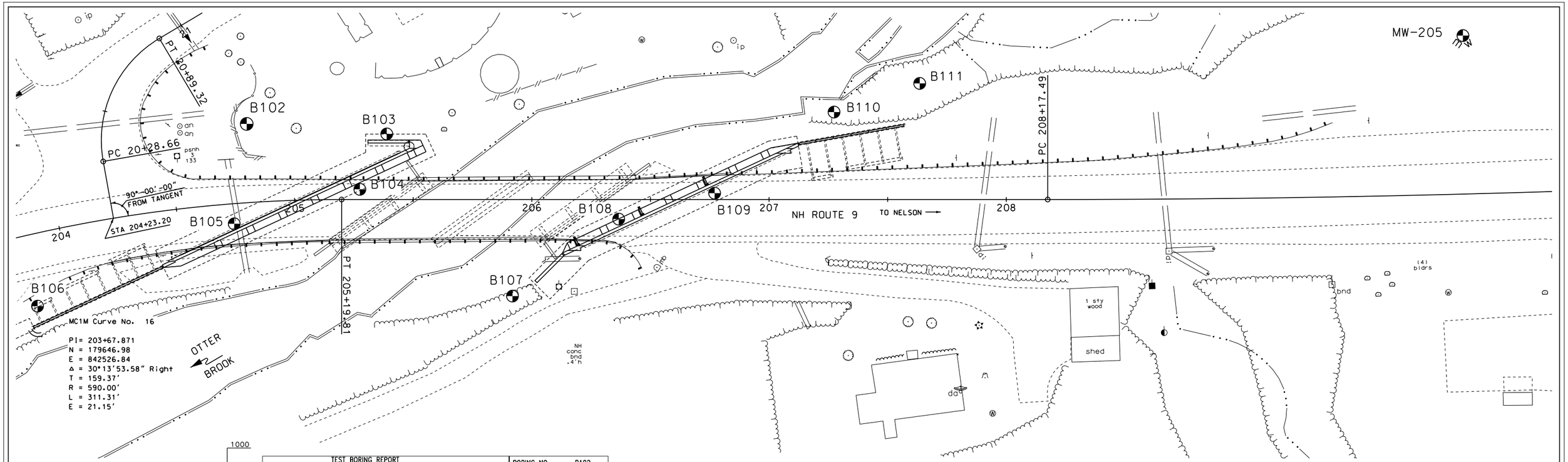
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	9/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	46	294

BRIDGE SHEET 7 OF 50

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 survey	AS NOTED



BORING PLAN

SCALE: 1" = 20'-0"

BORING LOG

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

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME: ROXBURY - SULLIVAN 10439 — BRIDGE NO. 093/061
DESCRIPTION: Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B102
SHEET NO. 1 OF 2
STA. 204+80 OFF. LT 34
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 991.0
START/END 5/14/15 / 5/14/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842595/179750

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW
						SIZE I.D. (in):	1.375	3
						HAMMER WT. (lb):	140	DRILL RIG
						HAMMER FALL (in):	30	Mobile B-53 Trk
						HAMMER TYPE:	Safety	

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1 1 1 2	S-1	1.2 [58]	0.0 – 2.0	Very loose, brown, FINE to MEDIUM SAND, some gravel, trace silt.	
							-SAND AND GRAVEL-	
5			11 13 8 10	S-2	0.5 [25]	5.0 – 7.0	Medium dense, gray, FINE to COARSE SAND, some gravel, trace silt.	
	8.0	983.0						
10			11 16 16 32	S-3	1.5 [75]	10.0 – 12.0	Dense, gray, sandy SILT, little gravel.	
15			27 49 41 46	S-4	0.3 [17]	15.0 – 17.0	Very dense, gray, sandy SILT, little gravel.	
							-GLACIAL TILL-	
20			19 28 34 41	S-5	0.3 [17]	20.0 – 22.0	Very dense, gray, sandy SILT, little gravel.	
25			12 16 17 31	S-6	0.0 [0]	25.0 – 27.0	No recovery.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOH - Weight of Rod
WOH - Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME: ROXBURY - SULLIVAN 10439 — BRIDGE NO. 093/061
DESCRIPTION: Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B102
SHEET NO. 2 OF 2
STA. 204+80 OFF. LT 34
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 991.0

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			20 24 22 28	S-7	1.2 [58]	30.0 – 32.0	Dense, gray, sandy SILT, little gravel.	
35			17 17 23 29	S-8	1.2 [58]	35.0 – 37.0	Dense, gray, sandy SILT, little gravel.	
40			12 17 15 17	S-9	1.0 [50]	40.0 – 42.0	Dense, gray, sandy SILT, little gravel.	
45			18 25 39 46	S-10	0.0 [0]	45.0 – 47.0	No recovery.	
							-GLACIAL TILL-	
50			28 38 38 43	S-11	0.3 [17]	50.0 – 52.0	Very dense, gray, sandy SILT, little gravel.	
55			15 25 25 48	S-12	1.0 [50]	55.0 – 57.0	Dense, gray, sandy SILT, little gravel.	
60			20 100/0.4	S-13	0.0 [0]	60.0 – 60.9	No recovery.	
							Bottom of Exploration @ 60.9 ft (El. 930.1)	

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

BORING LOCATIONS

NO.	STATION	OFFSET	NORTH	EAST
B102	204+80	LT 34'	179750	842595
B103	205+40	LT 28'	179786	842642
B104	205+27	LT 04'	179761	842649
B105	204+74	RT 09'	179715	842619
B106	203+82	RT 30'	179634	842580
B107	205+90	RT 41'	179770	842727
B108	206+36	RT 08'	179824	842739
B109	206+77	LT 03'	179859	842762
B110	207+28	LT 37'	179918	842777
B111	207+65	LT 48'	179951	842796
B205 INF.	209+94	LT 66'	180118	842954
B205 (OW)	209+94	LT 66'	180118	842954

BORING NOTES

(1) BORINGS INDICATED ⊕ WERE DRILLED BY NEW HAMPSHIRE BORING, INC. REFER TO THE TEST BORING LOGS FOR ADDITIONAL INFORMATION.

(2) BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.

(3) THE GEOTECHNICAL REPORT IS AVAILABLE IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE. SEE PROSECUTION OF WORK FOR MORE INFORMATION.

(4) WATER LEVELS INDICATED THUS ▽ WERE MEASURED AT THE TIME OF EXPLORATION. THE WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE, RAINFALL, OR OTHER FACTORS.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN — BRIDGE NO. 093\060 — STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

BORING LAYOUT AND BORINGS (1 OF 7)

SUBDIRECTORY	REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
BRC\BRSITE		DESIGNED	KFD	5/15	CHECKED	WPS	8/17
.DGN LOCATOR		DRAWN	SMG	9/16	CHECKED	KFD	8/17
10439 Bore		QUANTITIES	---	---	CHECKED	---	---
SHEET SCALE		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
AS NOTED		REV. DATE		----------		47	

BRIDGE SHEET 8 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294

ABUT A

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B103
SHEET NO. 1 OF 2
STA. 205+40 OFF. LT 28
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 990.0
START/END 5/15/15 / 5/15/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842642/179786

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30		
						HAMMER TYPE:	Safety	Mobile B-53 Trk	

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			6 6 8 14	S-1	0.2 [8]	0.0 – 2.0	Medium dense, gray, sandy GRAVEL, trace silt. (Rock observed in tip of spoon)	
							–SAND AND GRAVEL–	
5			7 23 35 25	S-2	0.5 [25]	5.0 – 7.0	Very dense, gray, gravelly FINE to MEDIUM SAND, trace silt. (Rock observed in tip of spoon)	
	7.0	983.0						
TF 10			8 11 21 25	S-3	1.0 [50]	10.0 – 12.0	Dense, gray, sandy SILT, little gravel.	
BF 15			22 23 26 39	S-4	0.2 [8]	15.0 – 17.0	Dense, gray, sandy SILT, little gravel.	
							–GLACIAL TILL–	
20			16 24 27 100/0.2	S-5	1.5 [88]	20.0 – 21.7	Dense, gray, sandy SILT, trace gravel.	
25			9 14 22 33	S-6	0.0 [0]	25.0 – 27.0	No recovery.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense
WOR – Weight of Rod	
WOH – Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B103
SHEET NO. 2 OF 2
STA. 205+40 OFF. LT 28
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 990.0

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			19 20 19 25	S-7	1.3 [67]	30.0 – 32.0	Dense, gray, sandy SILT, trace gravel.	
35			14 18 21 27	S-8	1.5 [75]	35.0 – 37.0	Dense, gray, sandy SILT, trace gravel.	
40			18 31 38 38	S-9	1.5 [75]	40.0 – 42.0	Very dense, gray, sandy SILT, trace gravel.	
45			21 25 37 43	S-10	1.8 [92]	45.0 – 47.0	Very dense, gray, sandy SILT, trace gravel.	
							–GLACIAL TILL–	
50			20 27 45 53	S-11	0.5 [25]	50.0 – 52.0	Very dense, gray, sandy SILT, trace gravel.	
55			15 30 45 39	S-12	2.0 [100]	55.0 – 57.0	Very dense, gray, sandy SILT, trace gravel.	
60			31 31 41 60	S-13	0.0 [0]	60.0 – 62.0	No recovery.	
							Bottom of Exploration @ 62.0 ft (El. 928.0)	
65								

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B104
SHEET NO. 1 OF 2
STA. 205+27 OFF. LT 04
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 993.5
START/END 5/21/15 / 5/21/15
DRILLER M. D'Ambrosio (NEBC)
INSPECTOR M. Bergen
CLASSIFIER M. Bergen
EAST/NORTH (ft) 842649/179761

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Acker AD II Trk	
						HAMMER TYPE:	Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							11 inches of Asphalt.	
	0.9	992.6	100/0.4	S-1	0.5 [83]	1.0 – 1.4	Very dense, brown, FINE to MEDIUM SAND, some gravel, trace silt.	
							–FILL–	
5			38 30 36 50/0	S-2	1.0 [67]	5.0 – 6.5	Very dense, gray, gravelly FINE to MEDIUM SAND, little silt.	
	7.0	986.5					–BOULDER–	
	8.5	985.0					Advanced roller bit through boulder from approximately 7 to 8.5 feet below ground surface.	
10			30 30 50/0	S-3	0.5 [50]	10.0 – 11.0	Very dense, gray, gravelly FINE to COARSE SAND, little silt. Lead casing broke off at 11 feet below ground surface and was abandoned. Boring was moved 2 feet to the east of original location and drilling was resumed.	
TF 15			10 13 19 30	S-4	0.2 [10]	15.0 – 17.0	Dense, gray, SILT, some fine to coarse sand, trace gravel.	
BF							–GLACIAL TILL–	
20			33 28 33 37	S-5	1.4 [70]	20.0 – 22.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
25			34 36 100/0.4	S-6	1.3 [93]	25.0 – 26.4	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense
WOR – Weight of Rod	
WOH – Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B104
SHEET NO. 2 OF 2
STA. 205+27 OFF. LT 04
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 993.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			21 27 84 50/0.2	S-7	1.1 [65]	30.0 – 31.7	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
35			17 25 30 37	S-8	1.5 [75]	35.0 – 37.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
40			24 25 28 28	S-9	1.5 [75]	40.0 – 42.0	Very dense, gray, SILT, some fine to coarse sand, little gravel.	
45			29 60 36 46	S-10	1.4 [70]	45.0 – 47.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
							–GLACIAL TILL–	
50			23 30 100/0.4	S-11	1.4 [100]	50.0 – 51.4	Very dense, gray, SILT, little fine to coarse sand, trace gravel.	
55			50/0.2	S-12	0.0 [0]	55.0 – 55.2	S-12, 55' – 55.2', no recovery. Rock observed in tip of spoon.	
60			20 33 36 42	S-13	2.0 [100]	60.0 – 62.0	Very dense, gray, SILT, little fine to coarse sand, little gravel.	
							Bottom of Exploration @ 62.0 ft (El. 931.5)	
65								

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

BORING LOG

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BORINGS (2 OF 7)

BRIDGE SHEET 9 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	5/15	CHECKED	WPS	8/19
	DRAWN	SMG	9/16	CHECKED	KFD	8/19
	QUANTITIES	---	---	CHECKED	---	---

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED

ISSUE DATE
REV. DATE

FEDERAL PROJECT NO. ----------

SHEET NO. 48

TOTAL SHEETS 294

ABUT A

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME ROXBURY - SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B105
SHEET NO. 1 OF 2
STA. 204+74 OFF. RT 09
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 992.5
START/END 5/20/15 / 5/20/15
DRILLER M. D'Ambrosio (NEBC)
INSPECTOR M. Bergen
CLASSIFIER M. Bergen
EAST/NORTH (ft) 842619/179715

GROUNDWATER DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE
5/20/15	1305	7.8	984.7	0	62

EQUIPMENT		SAMPLER	CASING	CORE
TYPE:		S	HW	
SIZE I.D. (in):		1.375	3	
HAMMER WT. (lb):	140	DRILL RIG		
HAMMER FALL (in):	30	Acker AD II Trk		
HAMMER TYPE:	Safety			

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.8	991.7				1.0	10 Inches of Asphalt.	
			21 55 59 53	S-1	1.9 [95]	3.0	Very dense, brown, FINE to COARSE SAND, little gravel, trace silt. -FILL-	
5	7.0	985.5	11 6 6 5	S-2	0.2 [10]	7.0	Medium dense, brown, FINE to MEDIUM SAND, little gravel, little silt.	
10			35 39 26 21	S-3	1.0 [50]	12.0	Very dense, brown, gravelly FINE to MEDIUM SAND, little silt.	
15 (TF, BF)			19 21 27 34	S-4	1.6 [80]	17.0	Dense, brown, sandy SILT, trace gravel. -GLACIAL TILL-	
20			22 22 30 42	S-5	1.9 [95]	22.0	Very dense, gray, sandy SILT, trace gravel.	
25			15 24 34 39	S-6	1.9 [95]	27.0	Very dense, gray, sandy SILT, trace gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME ROXBURY - SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B105
SHEET NO. 2 OF 2
STA. 204+74 OFF. RT 09
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 992.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			27 34 77 50/0	S-7	1.5 [100]	30.0 31.5	Very dense, gray, sandy SILT, trace gravel.	
35			58 69 63 70	S-8	0.5 [25]	35.0 37.0	Very dense, gray, sandy SILT, trace gravel.	
40			37 43 51 58	S-9	1.8 [90]	40.0 42.0	Very dense, gray, sandy SILT, trace gravel.	
45			50/0.3	S-10	0.2 [80]	45.0 45.3	S-10, 45' - 45.25', 0.2' recovered. Very dense, gray, sandy SILT, trace gravel. -GLACIAL TILL-	
50			32 27 47 53	S-11	1.7 [85]	50.0 52.0	Very dense, gray, sandy SILT, trace gravel.	
55			25 37 40 50	S-12	1.7 [85]	55.0 57.0	Very dense, gray, sandy SILT, trace gravel.	
60			38 25 41 37	S-13	1.5 [75]	60.0 62.0	Very dense, gray, sandy SILT, trace gravel.	
65							Bottom of Exploration @ 62.0 ft (El. 930.5)	

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME ROXBURY - SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B106
SHEET NO. 1 OF 2
STA. 203+82 OFF. RT 30
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 994.0
START/END 5/12/15 / 5/12/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842580/179634

GROUNDWATER DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE

EQUIPMENT		SAMPLER	CASING	CORE
TYPE:		S	HW	
SIZE I.D. (in):		1.375	4	
HAMMER WT. (lb):		140	DRILL RIG	
HAMMER FALL (in):		30	Mobile B-53 Trk	
HAMMER TYPE:		Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1 13 4 4	S-1	0.7 [33]	0.0 2.0	Medium dense, gray, sandy GRAVEL, trace silt.	
5	8.0	986.0	50/0				-SAND AND GRAVEL- S-2, 5' - 5', no recovery. Spoon refusal.	
10			3 4 8 10	S-3	1.2 [58]	10.0 12.0	Medium dense, gray, FINE to COARSE SAND, some silt, little gravel.	
15 (TF, BF)			18 21 26 23	S-4	0.8 [42]	15.0 17.0	Dense, gray, FINE to COARSE SAND, some silt, little gravel. -GLACIAL TILL-	
20			20 29 45 47	S-5	0.2 [8]	20.0 22.0	Very dense, gray, FINE to COARSE SAND, some silt, little gravel.	
25			16 22 34 49	S-6	1.5 [75]	25.0 27.0	Hard, gray, Clayey SILT, some fine sand.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME ROXBURY - SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B106
SHEET NO. 2 OF 2
STA. 203+82 OFF. RT 30
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 994.0

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			18 26 36 44	S-7	1.0 [50]	30.0 32.0	Very hard, gray, Clayey SILT, some fine sand.	
35			15 16 23 31	S-8	1.3 [67]	35.0 37.0	Hard, gray, Clayey SILT, some fine sand.	
40			100/0.4	S-9	0.4 [103]	40.0 40.4	Very hard, gray, Clayey SILT, some fine sand. -GLACIAL TILL-	
45			19 20 24 24	S-10	1.2 [58]	45.0 47.0	Hard, gray, SILT & CLAY, some fine sand.	
50			10 16 21 36	S-11	2.0 [100]	50.0 52.0	Dense, gray, FINE to COARSE SAND, some silt, some gravel.	
55			25 38 60 57	S-12	2.0 [100]	55.0 57.0	Very dense, gray, FINE to COARSE SAND, some silt, some gravel.	
60			32 47 67 119	S-13	2.0 [100]	60.0 62.0	Very dense, gray, FINE to COARSE SAND, some silt, some gravel.	
65							Bottom of Exploration @ 62.0 ft (El. 932.0)	

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BORINGS (3 OF 7)

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	KFD	5/15	CHECKED	WPS	8/17
DRAWN	SMG	9/16	CHECKED	KFD	8/17
QUANTITIES	---	---	CHECKED	---	---

BRIDGE SHEET 10 OF 50
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED

ISSUE DATE
REV. DATE
FEDERAL PROJECT NO. ----------
SHEET NO. 49
TOTAL SHEETS 294

1000 / 998 / 996 / 994 / 992 / 990 / 988 / 986 / 984 / 982 / 980 / 978 / 976 / 974 / 972 / 970 / 968 / 966 / 964 / 962 / 960 / 958 / 956

ABUT B

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO.	B107
SHEET NO.	1 OF 5
STA.	205+90 OFF. RT 41
BASELINE	NH Rte 9 Const. Line
ELEVATION (ft)	988.5
START/END	5/6/15 / 5/11/15
DRILLER	B. Enos (NEBC)
INSPECTOR	C. Melby
CLASSIFIER	C. Melby
EAST/NORTH (ft)	842727/179770

GROUNDWATER

DATE	TIME	DEPTH (ft) (ELEVATION)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE
5/7/15	0700	1.2	987.3	14	82
5/11/15	1100	+8.0		117.4	140

EQUIPMENT	SAMPLER	CASING	CORE
TYPE:	S	HW	NQ
SIZE I.D. (in):	1.375	4	1.875
HAMMER WT. (lb):	140	DRILL RIG	
HAMMER FALL (in):	30	Mobile B-53 Trk	
HAMMER TYPE:	Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			2 3 5 3	S-1	0.8 [42]	0.0 – 2.0	Loose, brown, gravelly FINE to MEDIUM SAND, trace silt.	
5			8 10 8 11	S-2	1.8 [92]	5.0 – 7.0	Medium dense, brown, sandy FINE to COARSE GRAVEL, little silt.	
							-SAND AND GRAVEL-	
10			26 18 19 25	S-3	1.7 [83]	10.0 – 12.0	Dense, gray-brown, sandy FINE to COARSE GRAVEL, little silt.	
15			13 18 24 34	S-4	1.7 [83]	15.0 – 17.0	Dense, gray, FINE to MEDIUM SAND, some silt, little gravel.	
	18.3	970.2						
20							Advanced roller bit through cobbles and boulders from 18.3 feet below ground surface to 19.5 feet and cored through cobbles and boulders from 19.5 feet to 24.5 feet.	
							-GLACIAL TILL-	
25			50/0.2	S-5	0.0 [0]	24.8 – 25.1	S-5, 24.9' – 25.1', no recovery. Spoon refusal.	
							Advanced roller bit through cobbles and boulders from approximately 25 to 30 feet below ground surface.	

TF
BF

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOH – Weight of Rod
WOH – Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component 35% – 50%
Lower Case Adjective	20% – 35%
Some	10% – 20%
Little	1% – 10%
Trace	

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO.	B107
SHEET NO.	2 OF 5
STA.	205+90 OFF. RT 41
BASELINE	NH Rte 9 Const. Line
ELEVATION (ft)	988.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			32 55 47 46	S-6	1.8 [92]	30.0 – 32.0	Very dense, gray, SILT, some fine to coarse sand, some gravel.	
35			16 23 29 37	S-7	0.5 [25]	35.0 – 37.0	Very dense, gray, SILT, some fine to coarse sand, some gravel.	
40			9 20 29 44	S-8	1.7 [83]	40.0 – 42.0	Dense, gray, SILT, some fine to coarse sand, some gravel.	
							-GLACIAL TILL-	
45			15 26 41 49	S-9	1.3 [67]	45.0 – 47.0	Very dense, gray, SILT, some fine to coarse sand, some gravel.	
50			14 27 45 46	S-10	1.8 [92]	50.0 – 52.0	Very dense, gray, SILT, some fine to coarse sand, little gravel. (Rock observed in tip of spoon)	
55			16 23 39 37	S-11	1.0 [50]	55.0 – 57.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
							Advanced roller bit through cobbles and boulders from 57 feet below ground surface to 60 feet below ground surface.	
60			12 27 34 49	S-12	1.2 [58]	60.0 – 62.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
65			49			65.0		

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO.	B107
SHEET NO.	3 OF 5
STA.	205+90 OFF. RT 41
BASELINE	NH Rte 9 Const. Line
ELEVATION (ft)	988.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
			50 58 88	S-13	0.5 [25]	67.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
70			8 17 22 23	S-14	1.0 [50]	70.0 – 72.0	Dense, gray, SILT, some fine to coarse sand, trace gravel.	
							-GLACIAL TILL-	
75			6 7 12 14	S-15	2.0 [100]	75.0 – 77.0	Medium dense, gray, SILT, some fine to coarse sand, trace gravel.	
80			17 21 36 55	S-16	0.7 [33]	80.0 – 82.0	Very dense, gray, SILT, some fine to coarse sand, trace gravel.	
	83.0	905.5						
85			29 52 71 100/0.3	S-17	1.8 [97]	85.0 – 86.8	Very dense, gray, FINE to MEDIUM SAND, some silt, trace gravel.	
90			40 35 27 33	S-18	2.0 [100]	90.0 – 92.0	Very dense, gray, FINE to MEDIUM SAND, little silt, trace gravel.	
							-SAND-	
95			20 39 45 44	S-19	1.3 [67]	95.0 – 97.0	Very dense, gray, FINE to MEDIUM SAND, some silt, trace gravel.	
100			13 24 50 73	S-20	2.0 [100]	100.0 – 102.0	Very dense, gray, SILT, some fine sand, trace gravel.	

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO.	B107
SHEET NO.	4 OF 5
STA.	205+90 OFF. RT 41
BASELINE	NH Rte 9 Const. Line
ELEVATION (ft)	988.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
105			36 55 44 49	S-21	1.8 [92]	105.0 – 107.0	Very dense, gray-brown, FINE to MEDIUM SAND, some silt, trace gravel.	
							-SAND-	
110			20 41 82 100/0.3	S-22	1.8 [100]	110.0 – 111.8	Very dense, gray-brown, FINE to MEDIUM SAND, some silt, trace gravel. (Rock observed in tip of spoon)	
115			44 100/0.4	S-23	0.9 [101]	115.0 – 115.9	Very dense, gray-brown, FINE to MEDIUM SAND, little silt, trace gravel.	
							Artesian conditions observed at 117.4 feet (producing 3.5 gallons of water a minute). After advancing the casing to 120 feet the borehole stopped producing water. Flow resumed upon casing extraction after completion of drilling.	
120			100/0.1					
							S-24, 123' – 123.1', 0.1' recovered. Very dense, gray-brown, FINE to COARSE SAND, some gravel, little silt.	
125							-SAND-	
130			32 74 100/0.3	S-25	1.3 [102]	130.5 – 131.8	Very dense, gray-brown, FINE to COARSE SAND, some gravel, little silt.	
135			45 50/0	S-26	0.5 [100]	135.0 – 135.5	Very dense, gray-brown, FINE to COARSE SAND, some gravel, little silt.	
140			100/0.3	S-27	0.3 [100]	140.0 – 140.3	Very dense, gray-brown, FINE to COARSE SAND, some gravel, little silt.	
	142.5	846.0					-APPROXIMATE BEDROCK SURFACE- Top of bedrock encountered at approximately 142.5 feet below ground surface. Advanced roller bit to approximatley 145 feet below ground surface and began coring.	
145				C-1	4.9 [100]	145.0 – 149.9	Moderately hard, slightly to moderately weathered, moderately fractured, fine to medium grained, gray, PELITIC SCHIST, with close to very close, moderately dipping joints and fractures. RQD = 4.1/5.0 = 82%.	
150							Bottom of Exploration @ 149.9 ft (El. 838.6)	
							Borehole grouted with bentonite to ground surface upon completion of drilling.	

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

BORING LOG

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BORINGS (4 OF 7)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	5/15	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	50	294

BRIDGE SHEET 11 OF 50
FILE NUMBER 132-3-1

ABUT B

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B108
SHEET NO. 1 OF 3
STA. 206+36 OFF. 8'
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 995.5
START/END 5/19/15 / 5/19/15
DRILLER M. D'Ambrosio (NEBC)
INSPECTOR M. Bergen
CLASSIFIER M. Bergen
EAST/NORTH (ft) 842739/179824

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	
5/19/15	1350	19.5	976.0		66	SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30		
						HAMMER TYPE:	Safety	Acker AD II Trk	

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							11 inches of Asphalt.	
	0.9	994.6	15 15 11 13	S-1	1.5 [75]	1.0 – 3.0	Dense, brown, FINE to MEDIUM SAND, little gravel, trace silt.	
5							–FILL–	
			12 22 17 7	S-2	1.1 [55]	5.0 – 7.0	Dense, brown, FINE to MEDIUM SAND, little gravel, little silt.	
	7.0	988.5						
10			22 14 14 18	S-3	0.0 [0]	10.0 – 12.0	No recovery. (Rock observed in tip of spoon)	
TF 15			32 8 12 10	S-4	1.0 [50]	15.0 – 17.0	Very stiff, gray, sandy Clayey SILT, trace gravel.	
							–GLACIAL TILL–	
BF 20			21 25 25 24	S-5	1.4 [70]	20.0 – 22.0	Hard, gray, sandy Clayey SILT, trace gravel.	
25			37 48 36 38	S-6	1.4 [70]	25.0 – 27.0	Very hard, gray, sandy Clayey SILT, trace gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOR – Weight of Rod
WOH – Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B108
SHEET NO. 2 OF 3
STA. 206+36 OFF. 8'
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 995.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			19 25 38 42	S-7	1.6 [80]	30.0 – 32.0	Very hard, gray, sandy Clayey SILT, trace gravel.	
35			45 50/0	S-8	5.0 [100]	35.0 – 35.5	Very hard, gray, sandy Clayey SILT, trace gravel.	
40			50/0.2	S-9	0.0 [0]	40.0 – 40.2	S-9, 40' – 40.2', no recovery.	
45			30 40 46 45	S-10	1.7 [85]	45.0 – 47.0	Very hard, gray, sandy Clayey SILT, trace gravel.	
							–GLACIAL TILL–	
50			39 40 43 46	S-11	1.7 [85]	50.0 – 52.0	Very hard, gray, sandy Clayey SILT, trace gravel.	
55			65 55 48 54	S-12	1.8 [90]	55.0 – 57.0	Very hard, gray, sandy Clayey SILT, trace gravel.	
60			68 70 100/0.4	S-13	1.4 [100]	60.0 – 61.4	Very hard, gray, sandy Clayey SILT, trace gravel.	
65			55 80 50/0	S-14	1.1 [100]	65.0 – 66.0	Very hard, gray, sandy Clayey SILT, trace gravel.	
							Bottom of Exploration ● 66.0 ft (El. 929.5)	

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B109
SHEET NO. 1 OF 3
STA. 206+77 OFF. LT 03
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 996.5
START/END 5/18/15 / 5/18/15
DRILLER M. D'Ambrosio (NEBC)
INSPECTOR M. Bergen
CLASSIFIER M. Bergen
EAST/NORTH (ft) 842762/179859

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	
5/18/15	1410	8.0	987.5	0	85	SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30		
						HAMMER TYPE:	Safety	Acker AD II Trk	

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							11 inches of Asphalt.	
	0.9	995.6	19 23 26 19	S-1	1.3 [65]	1.0 – 3.0	Dense, brown, gravelly FINE to MEDIUM SAND, trace silt.	
			100/0				S-2, 4' – 4', no recovery. Rock observed in tip of spoon.	
5							–FILL– Advanced roller bit through cobbles and boulders from 4 feet below ground surface to 7 feet below ground surface.	
10	10.0	986.5	22 20 18 30	S-3	0.6 [30]	10.0 – 12.0	Dense, brown, silty FINE to MEDIUM SAND, little gravel.	
TF 15			43 83 85 65	S-4	1.1 [55]	15.0 – 17.0	Very dense, dark brown, FINE to COARSE GRAVEL, some fine to coarse sand, trace silt.	
							–GLACIAL TILL–	
BF 20			19 15 24 33	S-5	1.4 [70]	20.0 – 22.0	Dense, gray, sandy SILT, little gravel.	
25			28 29 82 54	S-6	1.2 [60]	25.0 – 27.0	Very dense, gray, sandy SILT, little gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOR – Weight of Rod
WOH – Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B109
SHEET NO. 2 OF 3
STA. 206+77 OFF. LT 03
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 996.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			50/0				S-7, 30' – 30', no recovery.	
35			15 19 38 45	S-8	1.8 [90]	35.0 – 37.0	Very dense, gray, sandy SILT, little gravel.	
40			24 35 52 74	S-9	1.6 [80]	40.0 – 42.0	Very dense, gray, sandy SILT, little gravel.	
45			33 50 99 96	S-10	1.7 [85]	45.0 – 47.0	Very dense, gray, sandy SILT, little gravel.	
							–GLACIAL TILL–	
50			38 31 39 61	S-11	1.5 [75]	50.0 – 52.0	Very dense, gray, sandy SILT, little gravel.	
55			20 28 35 44	S-12	2.0 [100]	55.0 – 57.0	Very dense, gray, sandy SILT, little gravel.	
60			36 100/0.2	S-13	0.7 [94]	60.0 – 60.7	Very dense, gray, sandy SILT, little gravel.	
65			41 46 55 44	S-14	1.7 [85]	65.0 – 67.0	Very dense, gray, sandy SILT, little gravel.	
							Bottom of Exploration ● 67.0 ft (El. 929.5)	
70								

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BORINGS (5 OF 7)

BRIDGE SHEET 12 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	5/15	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

FILE NUMBER 132-3-1

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	51	294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED

ABUT B

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B110
SHEET NO. 1 OF 2
STA. 207+28 OFF. LT 37
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 985.5
START/END 5/13/15 / 5/14/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842777/179918

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	
						SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 Trk	
						HAMMER TYPE:	Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1/1" 1/1"	S-1	0.2 [8]	0.0 – 2.0	Very loose, brown, FINE to MEDIUM SAND, some silt, little gravel.	
							-SAND AND GRAVEL-	
5			16 20 20 19	S-2	0.7 [33]	5.0 – 7.0	Dense, brown, sandy GRAVEL, little silt.	
TF								
BF	8.0	977.5						
10			10 11 13 28	S-3	1.3 [67]	10.0 – 12.0	Medium dense, gray, silty FINE to COARSE SAND, little gravel.	
15			9 14 18 31	S-4	0.0 [0]	15.0 – 17.0	No recovery.	
							-GLACIAL TILL-	
20			26 21 24 34	S-5	0.5 [25]	20.0 – 22.0	Dense, gray, silty FINE to COARSE SAND, little gravel.	
25			90 51 33 48	S-6	0.3 [17]	25.0 – 27.0	Very dense, gray, silty FINE to COARSE SAND, little gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOR – Weight of Rod
WOH – Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B110
SHEET NO. 2 OF 2
STA. 207+28 OFF. LT 37
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 985.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			16 26 35 41	S-7	1.0 [50]	30.0 – 32.0	Very dense, gray, silty FINE to COARSE SAND, little gravel.	
35			100/0.2	S-8	0.1 [40]	35.0 – 35.2	S-8, 35' – 35.2', 0.1' recovered. Very dense, gray, sandy SILT, little gravel.	
40			23 30 53 78	S-9	1.3 [67]	40.0 – 42.0	Very dense, gray, sandy SILT, little gravel.	
							-GLACIAL TILL-	
45			28 47 71 65	S-10	1.3 [67]	45.0 – 47.0	Very dense, gray, sandy SILT, little gravel.	
50			36 46 62 81	S-11	0.0 [0]	50.0 – 52.0	No recovery.	
55			25 32 54 60	S-12	0.3 [17]	55.0 – 57.0	Very dense, gray, sandy SILT, little gravel.	
60							Bottom of Exploration @ 57.0 ft (El. 928.5)	
65								

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B111
SHEET NO. 1 OF 2
STA. 207+65 OFF. LT 48
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 986.5
START/END 5/13/15 / 5/13/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842796/179951

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	
						SIZE I.D. (in):	1.375	3	
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 Trk	
						HAMMER TYPE:	Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1 50/0	S-1	0.3 [50]	0.0 – 0.5	Very dense, brown, sandy GRAVEL, trace silt. Spoon refusal on cobble or boulder.	
							-SAND AND GRAVEL-	
5			13 36 24 20	S-2	2.0 [100]	5.0 – 7.0	Very dense, brown, gravelly FINE to MEDIUM SAND, trace silt.	
TF								
BF	8.0	978.5						
10			6 21 17 30	S-3	2.0 [100]	10.0 – 12.0	Dense, gray, sandy SILT, little gravel.	
15			26 30 45 45	S-4	1.0 [50]	15.0 – 17.0	Very dense, gray, sandy SILT, little gravel.	
							-GLACIAL TILL-	
20			19 48 46 45	S-5	0.0 [0]	20.0 – 22.0	No recovery.	
25			16 23 23 28	S-6	0.5 [25]	25.0 – 27.0	Dense, gray, sandy SILT, little gravel.	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense

WOR – Weight of Rod
WOH – Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B111
SHEET NO. 2 OF 2
STA. 207+65 OFF. LT 48
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 986.5

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			28 24 25 31	S-7	0.2 [8]	30.0 – 32.0	Dense, gray, sandy SILT, little gravel.	
35			46 37 44 53	S-8	1.0 [50]	35.0 – 37.0	Very dense, gray, sandy SILT, little gravel.	
40			30 50/0	S-9	0.5 [100]	40.0 – 40.5	Very dense, gray, sandy SILT, little gravel.	
							-GLACIAL TILL-	
45			24 28 100/0.4	S-10	1.0 [71]	45.0 – 46.4	Very dense, gray, sandy SILT, trace gravel.	
50			31 36 100 100/0.3	S-11	1.5 [83]	50.0 – 51.8	Very dense, gray, sandy SILT, trace gravel.	
55			44 64 100/0.3	S-12	0.7 [53]	55.0 – 56.3	Very dense, gray, sandy SILT, trace gravel.	
60							Bottom of Exploration @ 56.3 ft (El. 930.3)	
65								

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

BORING LOG

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BORINGS (6 OF 7)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	5/15	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

ISSUE DATE | FEDERAL PROJECT NO. | SHEET NO.
REV. DATE | ---------- | 52

BRIDGE SHEET 13 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B205 INF.
SHEET NO. 1 OF 1
STA. 209+94 OFF. LT 66
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 1001.0
START/END 5/12/15 / 5/12/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842954/180118

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	HW	
						SIZE I.D. (in): 1.375	4	
						HAMMER WT. (lb): 140	DRILL RIG	
						HAMMER FALL (in): 30	Mobile B-53 Trk	
						HAMMER TYPE: Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			3 5 15 13	S-1	1.5 [75]	0.0 – 2.0	Medium dense, brown, FINE to COARSE SAND, some silt, trace gravel.	
			6 5 4 4	S-2	2.0 [100]	2.0 – 4.0	-SAND & GRAVEL- Loose, gray, FINE to MEDIUM SAND, some silt.	
5			4 5 8 9	S-3	0.5 [25]	4.0 – 6.0	Medium dense, gray, gravelly FINE to MEDIUM SAND, some silt.	
							Bottom of Exploration @ 6.0 ft (El. 995.0)	
							Infiltration testing conducted in 4-inch-diameter casing on May 13 and 14, 2015. See geotechnical engineering report for infiltration test results.	
10								
15								
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense
WOR – Weight of Rod	
WOH – Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT NAME ROXBURY – SULLIVAN 10439 BRIDGE NO. 093/061
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

BORING NO. B205(OW)
SHEET NO. 1 OF 1
STA. 209+94 OFF. LT 66
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 1001.0
START/END 5/12/15 / 5/12/15
DRILLER B. Enos (NEBC)
INSPECTOR C. Melby
CLASSIFIER C. Melby
EAST/NORTH (ft) 842954/180118

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	HW	
						SIZE I.D. (in): 1.375	4	
						HAMMER WT. (lb): 140	DRILL RIG	
						HAMMER FALL (in): 30	Mobile B-53 Trk	
						HAMMER TYPE: Safety		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (in) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			3 6 6 24	S-1	1.8 [92]	0.0 – 2.0	Medium dense, brown, FINE to COARSE SAND, trace gravel.	
5	7.0	994.0	1 2 6 6	S-2	1.2 [58]	5.0 – 7.0	-SAND & GRAVEL- Loose, gray, gravelly FINE to MEDIUM SAND, some silt.	
10			3 1 3 4	S-3	2.0 [100]	10.0 – 12.0	Soft, gray, sandy Clayey SILT, trace gravel.	
15			8 9 10 14	S-4	1.0 [50]	15.0 – 17.0	Medium dense, gray, SILT, some fine to coarse sand, trace gravel. -GLACIAL TILL-	
20			7 9 14 27	S-5	0.5 [25]	20.0 – 22.0	Medium dense, gray, SILT, some fine to coarse sand, trace gravel.	
25			9 11 15 18	S-6	1.0 [50]	25.0 – 27.0	Dense, gray, SILT, some fine to coarse sand, trace gravel.	
							Bottom of Exploration @ 27.0 ft (El. 974.0)	
							Note: Groundwater monitoring well installed, see well log for details	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Medium Stiff
9 – 15	Stiff
16 – 30	Very Stiff
31 – 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 – 4	Very Loose
5 – 10	Loose
11 – 24	Medium Dense
25 – 50	Dense
> 50	Very Dense
WOR – Weight of Rod	
WOH – Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% – 50%
Some	20% – 35%
Little	10% – 20%
Trace	1% – 10%

ENGLISH

OBSERVATION WELL REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU – GEOTECHNICAL SECTION

PROJECT ROXBURY – SULLIVAN 10439
DESCRIPTION Bridge 093/061, NH Rt. 9 over Otter Brook, Sullivan, NH

DRILL RIG Mobile B-53 Trk
BOREHOLE DIAMETER 4.625 in

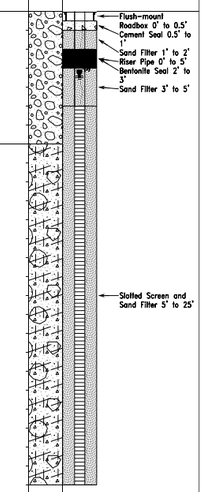
GROUNDWATER	DEPTH (ft)	ELEV. (ft)
1. 5/12/2015 at 4:00 pm	3.5	997.5
2. 5/13/2015 at 7:15 am	3.4	997.6
3. 5/14/2015 at 9:30 am	3.5	997.5

WELL NO. B205(OW)
STA. 209+94 OFF. LT 66
BASELINE NH Rte 9 Const. Line
ELEVATION (ft) 1001.0
START/END 5/12/15 / 5/12/15
INSPECTOR C. Melby
EAST/NORTH (ft) 842954/180118

Elev. (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0	Medium dense, brown, FINE to COARSE SAND, trace gravel.
	5	-SAND & GRAVEL- Loose, gray, gravelly FINE to MEDIUM SAND, some silt.
994.0		
	10	Soft, gray, sandy Clayey SILT, trace gravel.
	15	Medium dense, gray, SILT, some fine to coarse sand, trace gravel. -GLACIAL TILL-
	20	Medium dense, gray, SILT, some fine to coarse sand, trace gravel.
	25	

Stratum Symbol

WELL DIAGRAM



Remarks: Observation well constructed of 2 in. PVC with a screened section of 0.010 in. machined slots.

SHEET 1 OF 1
ENGLISH

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING LOG

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

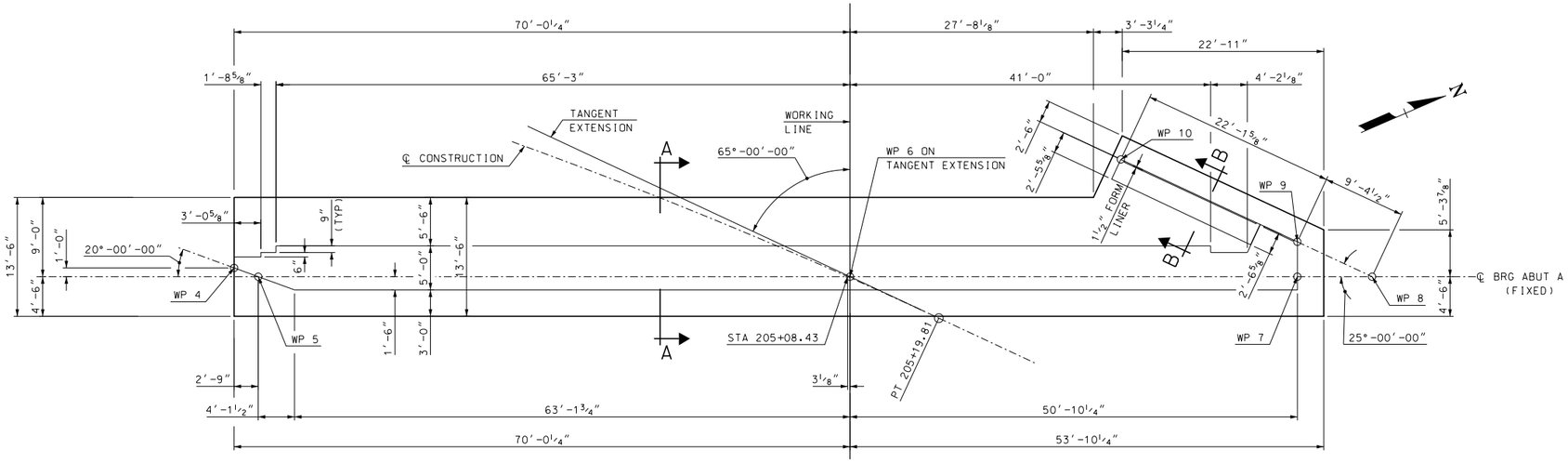
BORINGS (7 OF 7)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	5/15	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

ISSUE DATE
REV. DATE
FEDERAL PROJECT NO. ----------
SHEET NO. 53

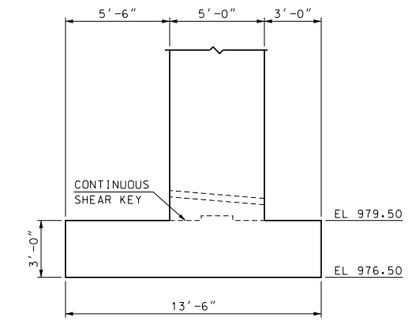
BRIDGE SHEET 14 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Bore	AS NOTED



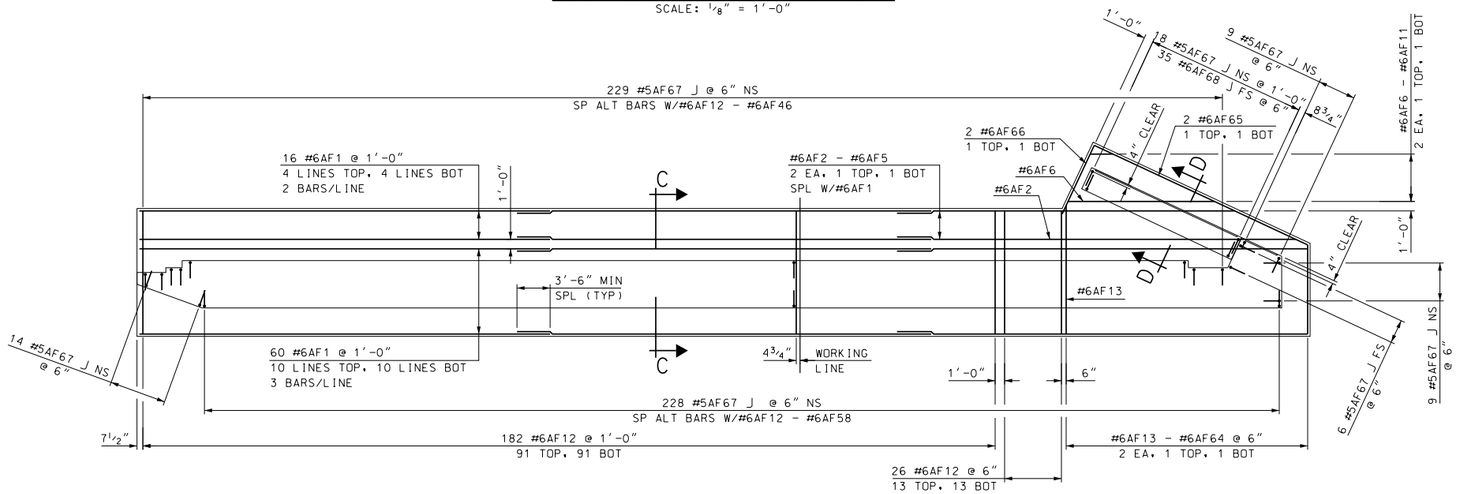
ABUTMENT A FOOTING PLAN

SCALE: ⅛" = 1'-0"



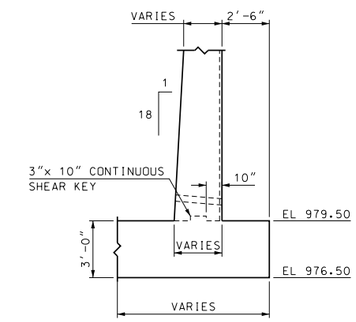
SECTION A-A

SCALE: ¼" = 1'-0"



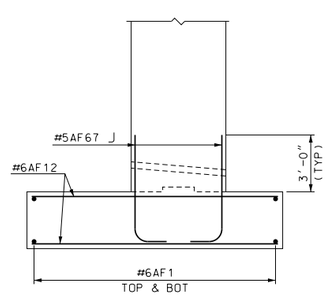
ABUTMENT A FOOTING REINFORCEMENT

SCALE: ⅛" = 1'-0"



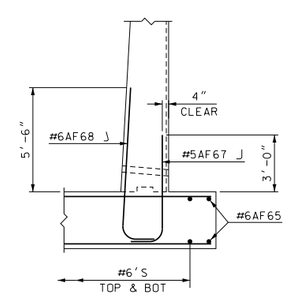
SECTION B-B

SCALE: ¼" = 1'-0"



SECTION C-C

SCALE: ¼" = 1'-0"



SECTION D-D

SCALE: ¼" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

ABUT A FOOTING MASONRY & REINFORCEMENT

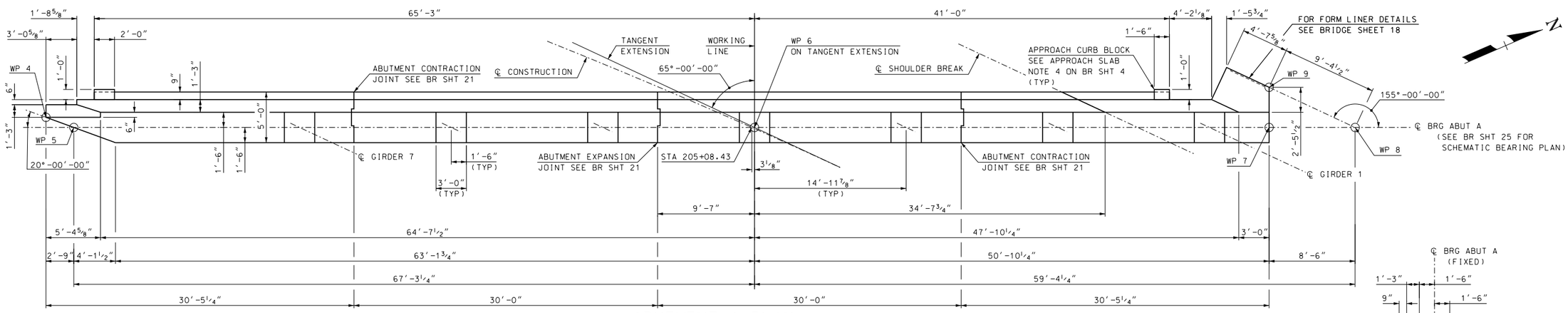
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	3/17	CHECKED	WPS	8/17
	DRAWN	SMG	3/17	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH/WPS	8/17

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	54	294

BRIDGE SHEET 15 OF 50

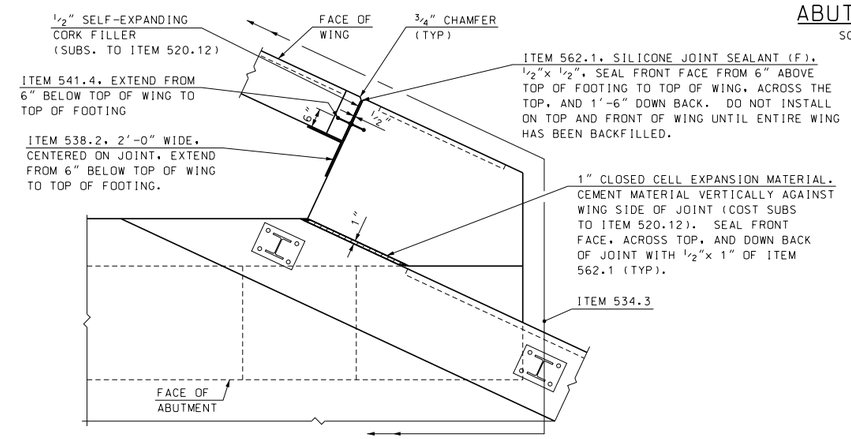
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\ABUTA	10439 Afoot	AS NOTED



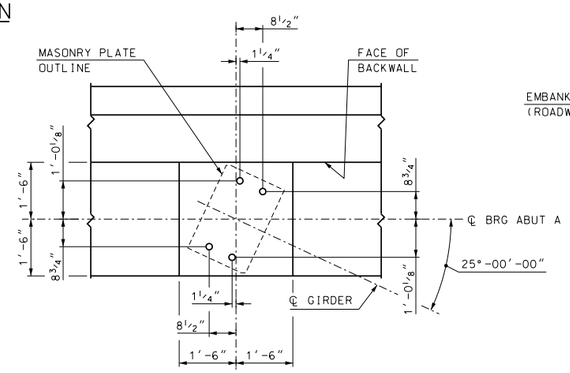
ABUTMENT A PLAN

SCALE: 3/16" = 1'-0"



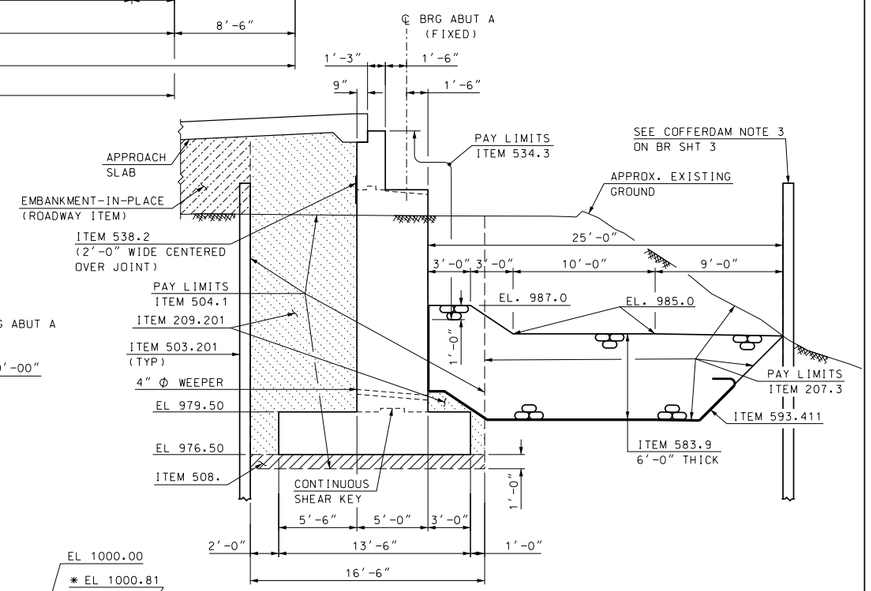
TYPICAL DECK AND WING JOINTS

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



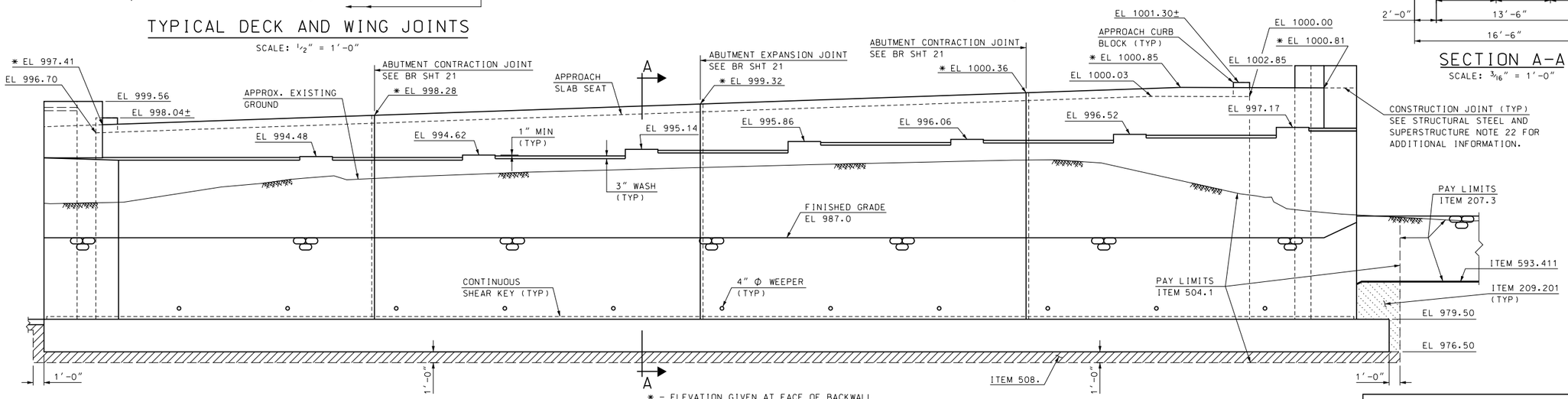
ANCHOR BOLT LAYOUT

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



SECTION A-A

SCALE: 3/16" = 1'-0"



* - ELEVATION GIVEN AT FACE OF BACKWALL

ABUTMENT A ELEVATION

SCALE: 3/16" = 1'-0"

NOTE:
CHANGES TO PEDESTAL ELEVATIONS AND ANCHOR ROD LAYOUT MAY BE NECESSARY. SEE HLMR BEARING NOTES ON BR SHT 24.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

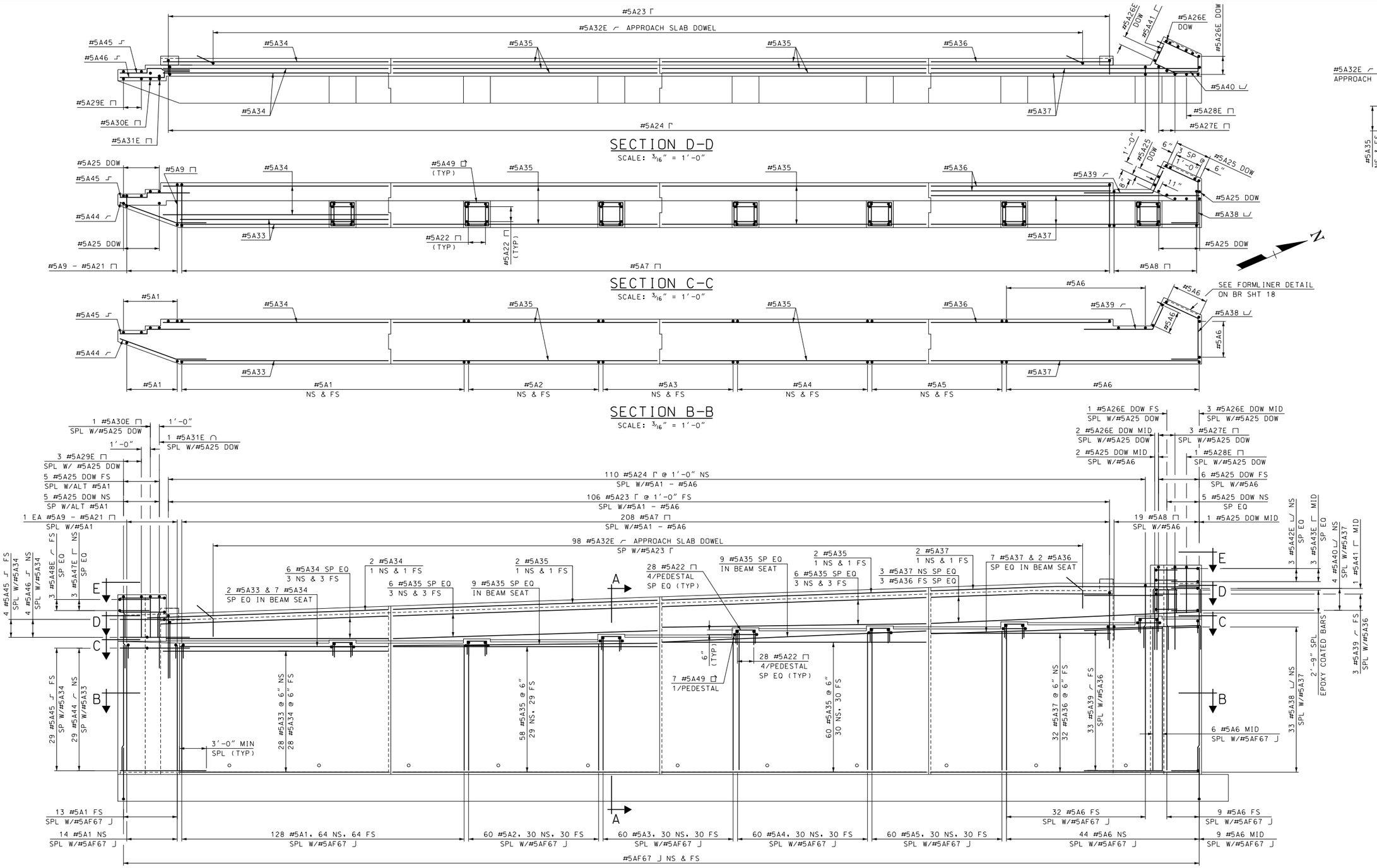
ABUTMENT A MASONRY

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
	ISSUE DATE					
	REV. DATE					

BRIDGE SHEET 16 OF 50

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\ABUTA	10439 AbutA	AS NOTED	----------	55	294



STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

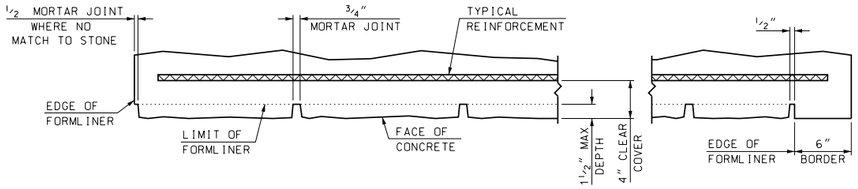
ABUTMENT A REINFORCEMENT

SUBDIRECTORY	REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
BRC\ABUTA			DESIGNED KFD	5/17	CHECKED	WPS	8/17
.DGN LOCATOR			DRAWN SMG	5/17	CHECKED	KFD	8/17
10439 Arein			QUANTITIES KFD	8/17	CHECKED	WPS	8/17
SHEET SCALE			ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	
AS NOTED			REV. DATE		----------	56	

BRIDGE SHEET 17 OF 50

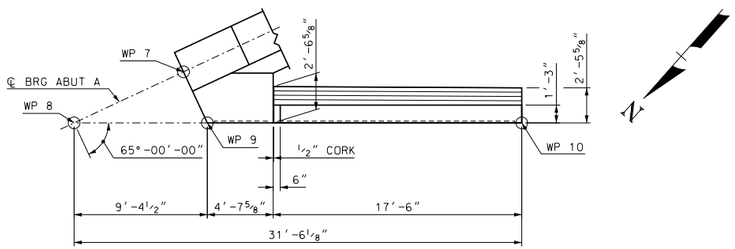
FILE NUMBER 132-3-1

TOTAL SHEETS 294



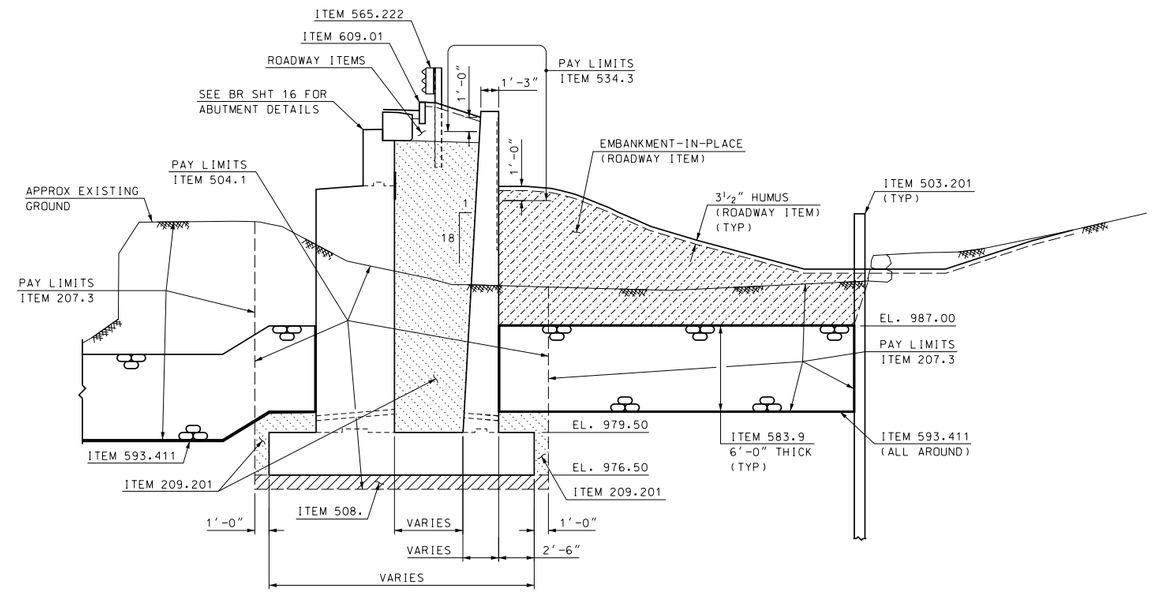
FORMLINER DETAIL

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



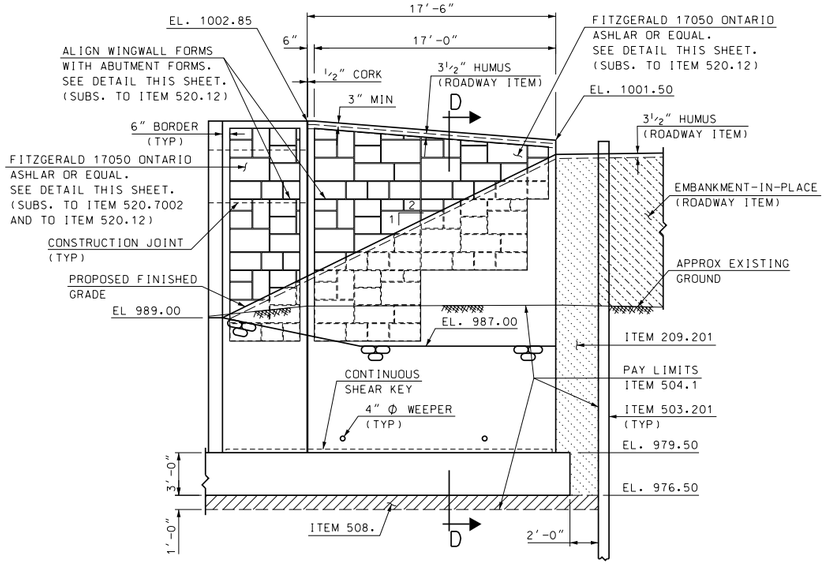
NW WING MASONRY PLAN

(SEE BR SHT 16 FOR WING JOINT DETAIL)
SCALE: 3/16" = 1'-0"



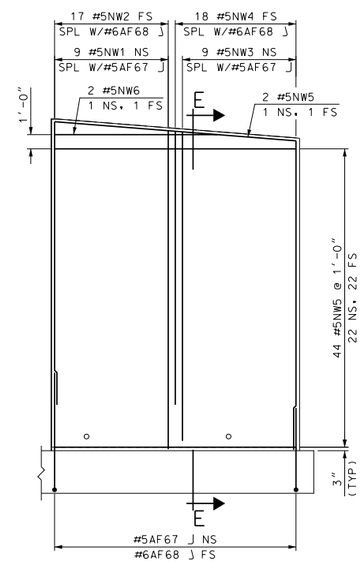
SECTION D-D

SCALE: 3/16" = 1'-0"



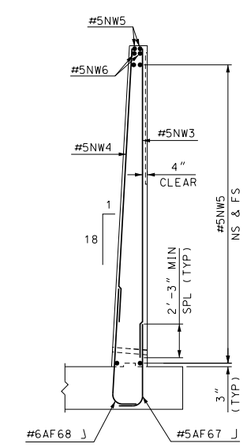
NW WING MASONRY ELEVATION

SCALE: 3/16" = 1'-0"



NW WING REINFORCEMENT

SCALE: 3/16" = 1'-0"



SECTION E-E

SCALE: 3/16" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

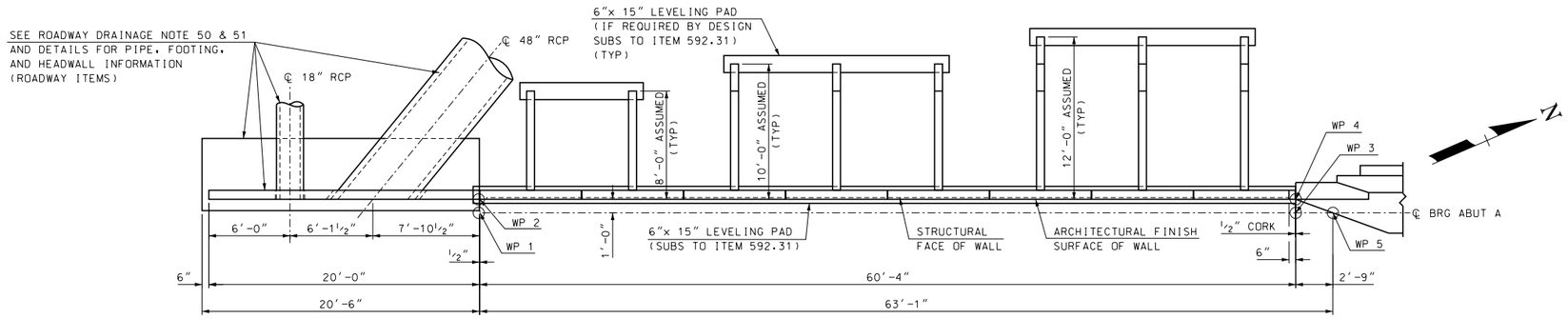
ABUTMENT A NW WING MASONRY

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH/WPS	8/17

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\ABUTA	10439 Awing	AS NOTED	REV. DATE	----------	57	294

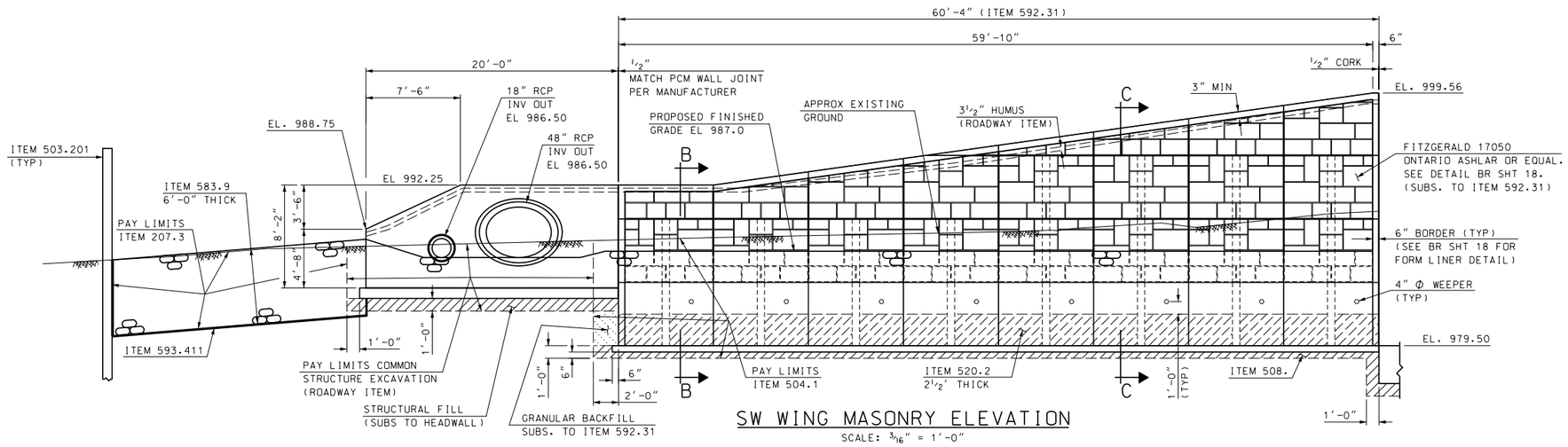
BRIDGE SHEET 18 OF 50

FILE NUMBER 132-3-1



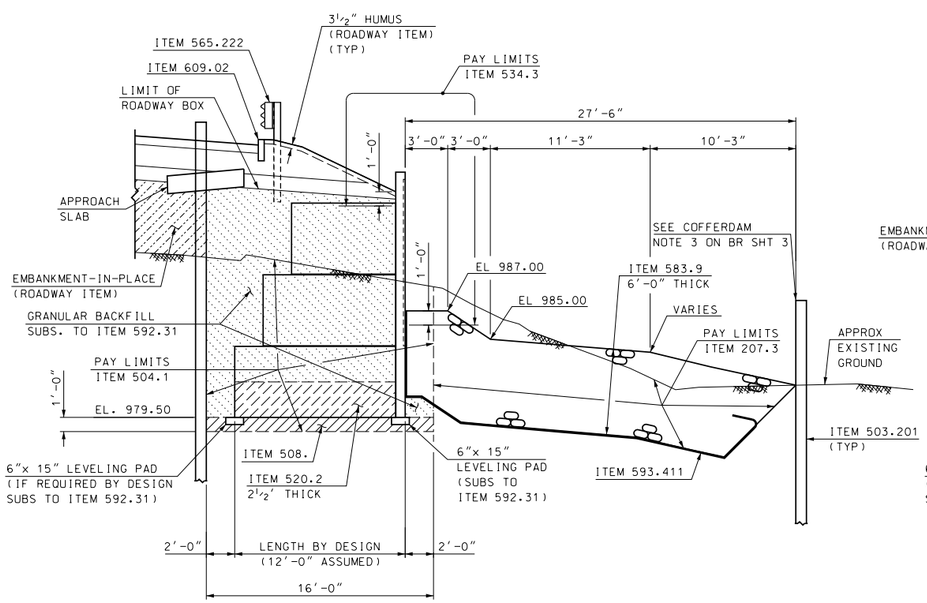
SW WING MASONRY PLAN

SCALE: 3/16" = 1'-0"



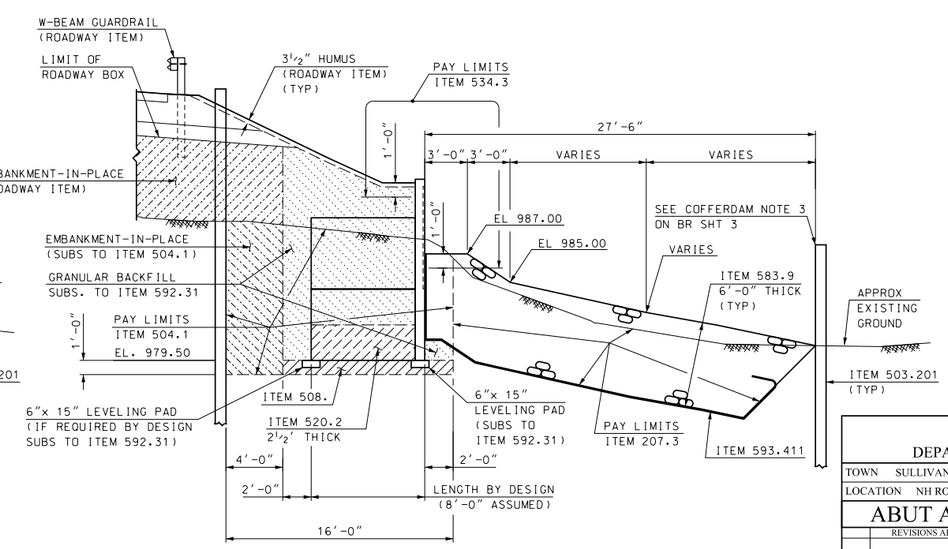
SW WING MASONRY ELEVATION

SCALE: 3/16" = 1'-0"



SECTION C-C

SCALE: 3/16" = 1'-0"



SECTION B-B

SCALE: 3/16" = 1'-0"

NOTE:
SEE SPECIAL PROVISION FOR ITEM 592.31 FOR THE REQUIREMENTS OF THE GRANULAR BACKFILL SUBSIDIARY TO THIS ITEM.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093/060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

ABUT A SW WING MASONRY & REINFORCEMENT

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH/WPS	8/17
	ISSUE DATE			FEDERAL PROJECT NO.		
	REV. DATE			----------		

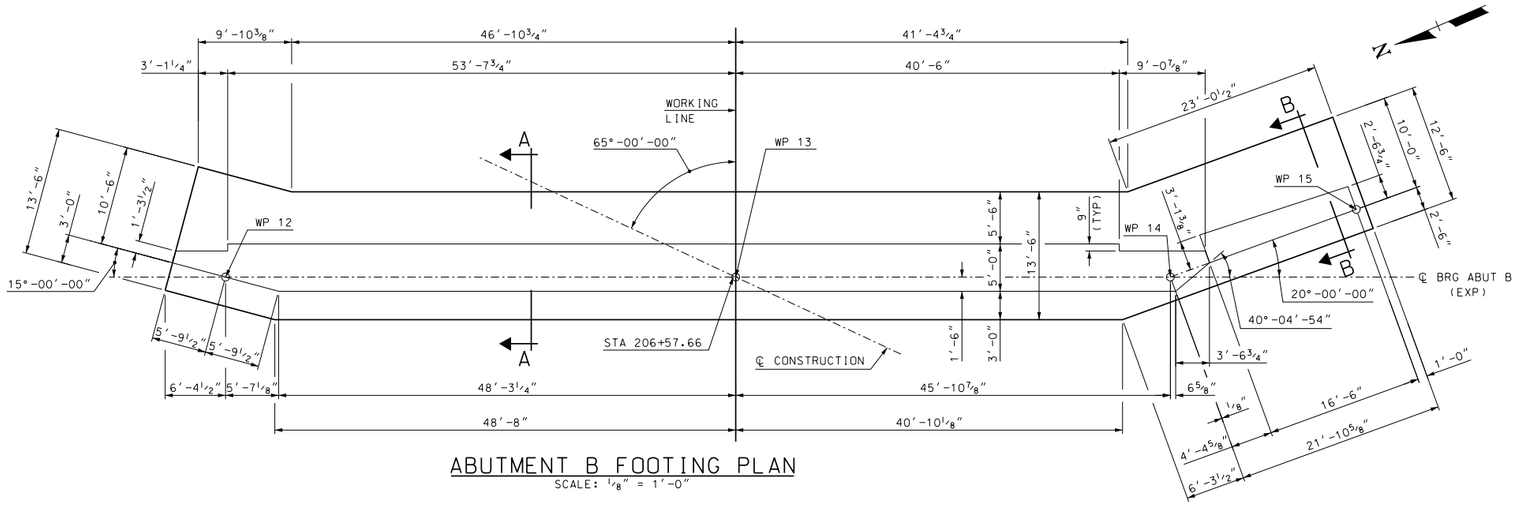
BRIDGE SHEET 19 OF 50

FILE NUMBER 132-3-1

SHEET NO. 58

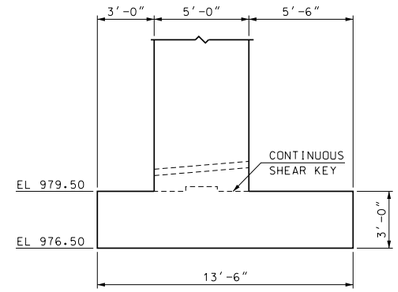
TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\ABUTA	10439 Awing	AS NOTED



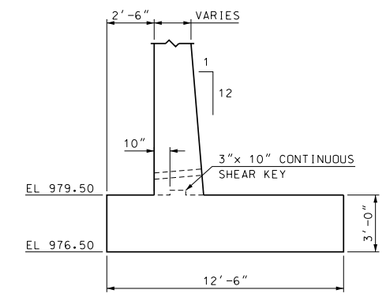
ABUTMENT B FOOTING PLAN

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



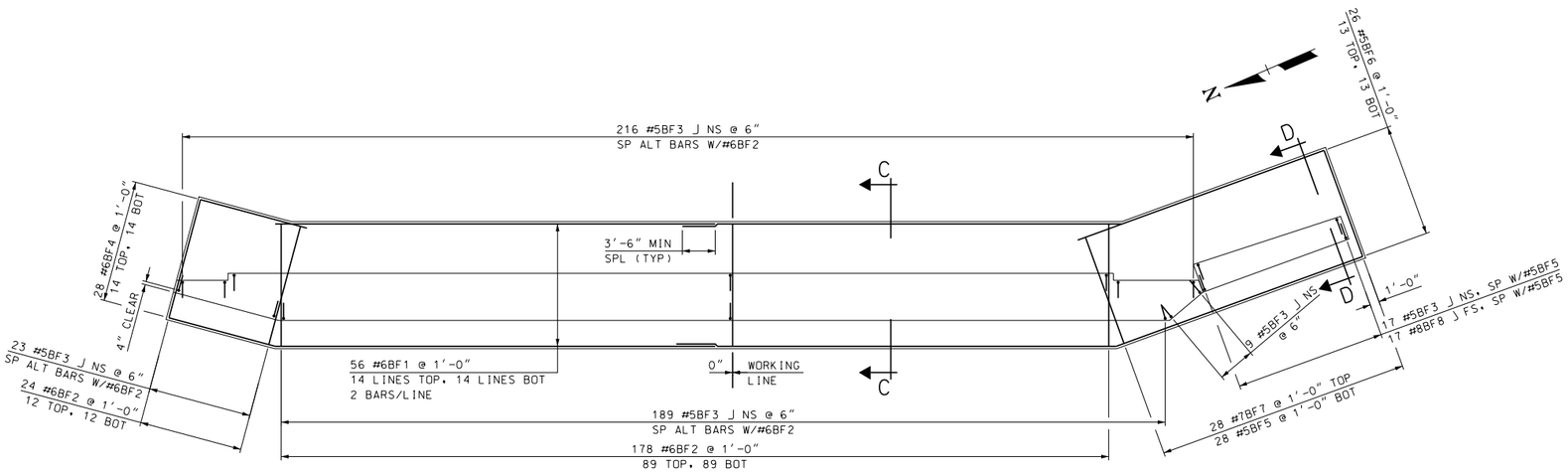
SECTION A-A

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



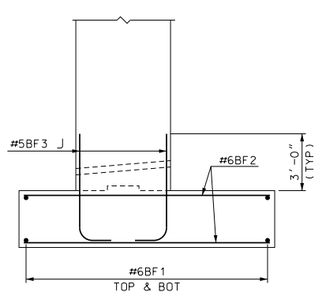
SECTION B-B

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



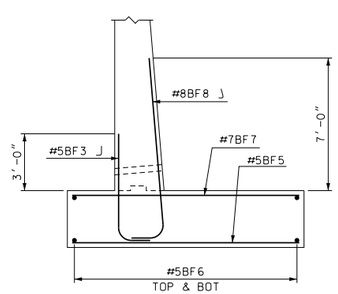
ABUTMENT B FOOTING REINFORCEMENT

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



SECTION C-C

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



SECTION D-D

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

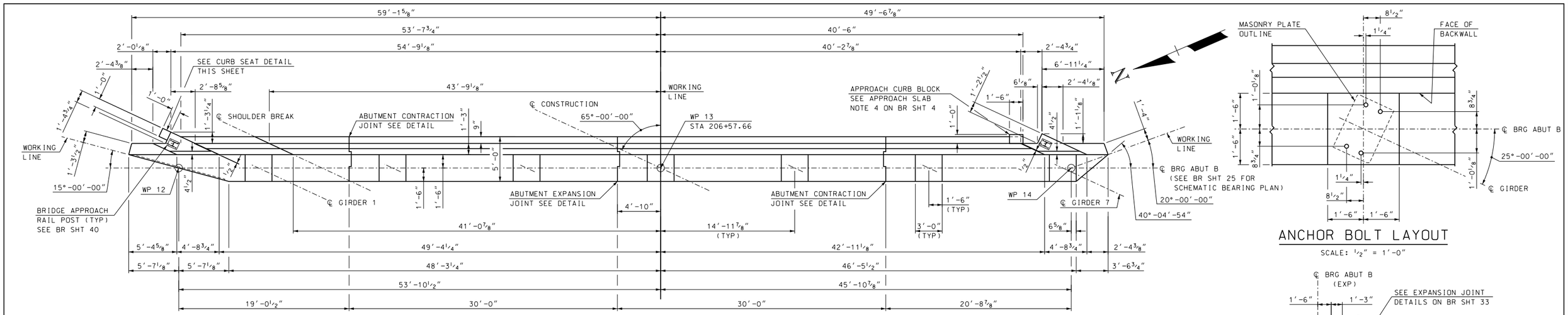
ABUT B FOOTING MASONRY & REINFORCEMENT

BRIDGE SHEET 20 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	3/17	CHECKED	WPS	8/17
	DRAWN	SMG	3/17	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	WPS	8/17

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\ABUTB	10439 Bfoot	AS NOTED	REV. DATE	----------	59	294

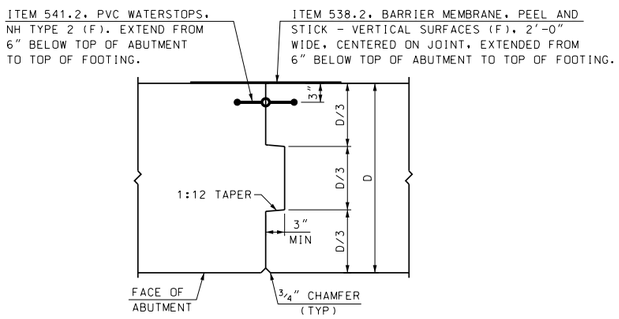


ABUTMENT B PLAN

SCALE: 3/16" = 1'-0"

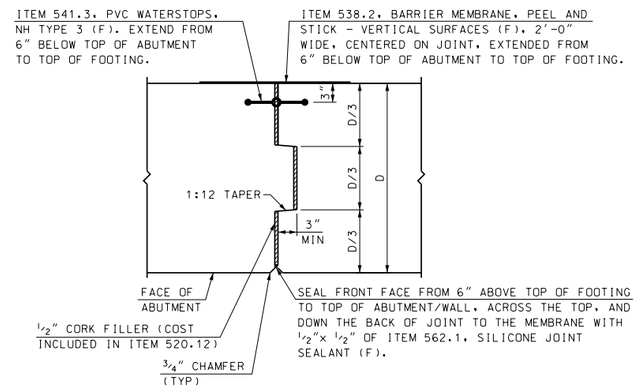
ANCHOR BOLT LAYOUT

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



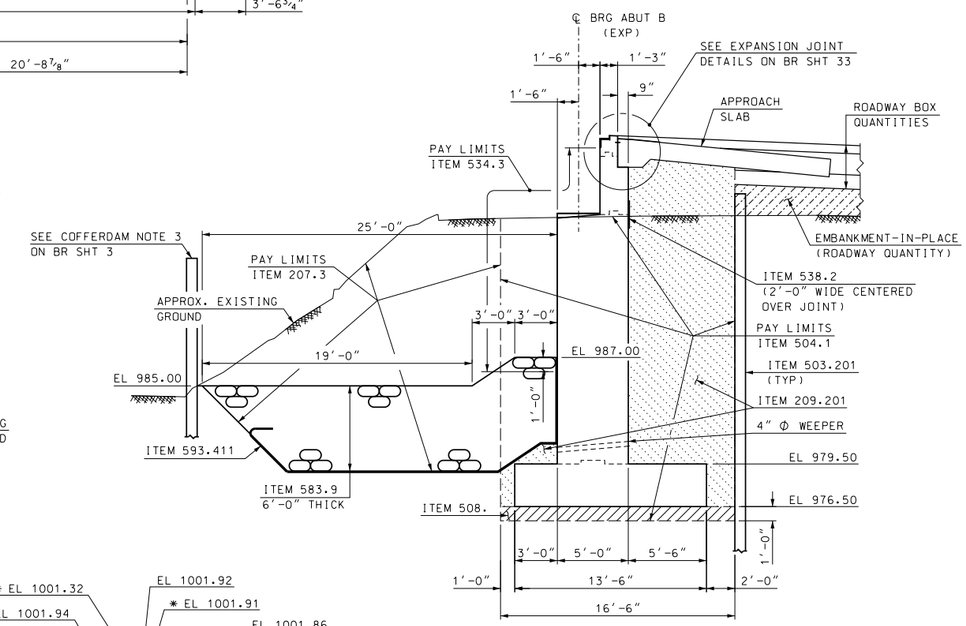
ABUTMENT CONTRACTION JOINT DETAIL

(TYPICAL ABUTMENTS A & B)
NTS



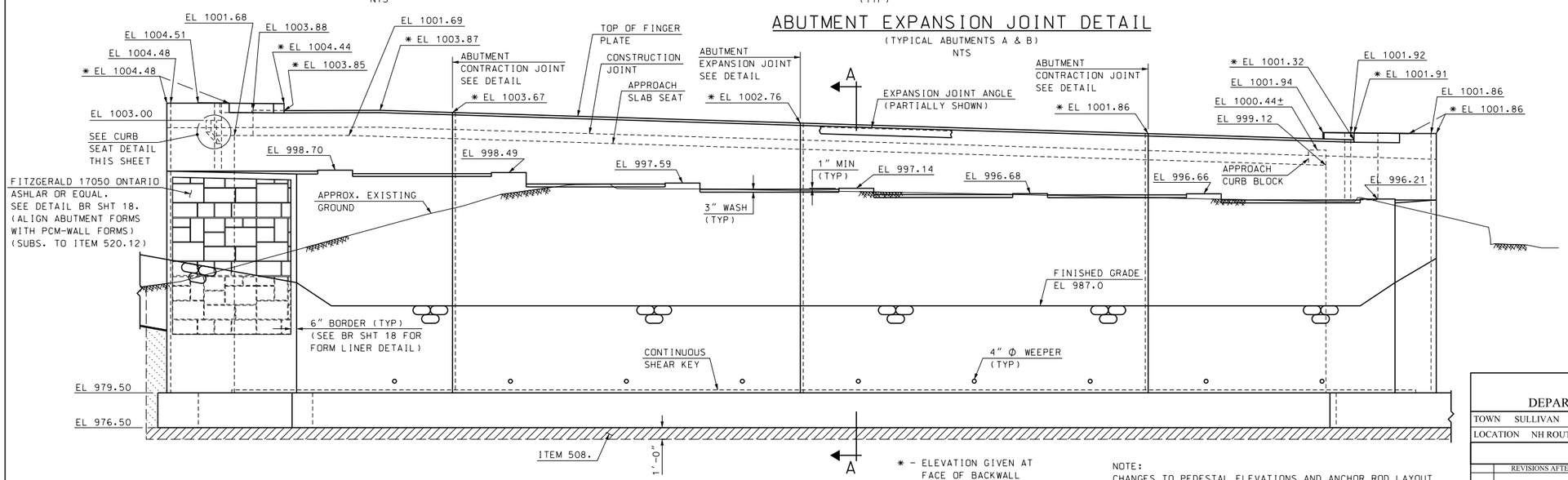
ABUTMENT EXPANSION JOINT DETAIL

(TYPICAL ABUTMENTS A & B)
NTS



SECTION A-A

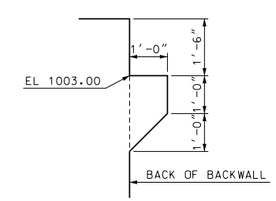
SCALE: 3/16" = 1'-0"



ABUTMENT B ELEVATION

SCALE: 3/16" = 1'-0"

NOTE:
CHANGES TO PEDESTAL ELEVATIONS AND ANCHOR ROD LAYOUT MAY BE NECESSARY. SEE HLMR BEARING NOTES ON BR SHT 24.



CURB SEAT DETAIL

(NE CORNER ONLY)
SCALE: 1/2" = 1'-0"

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

ABUTMENT B MASONRY

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	9/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

ISSUE DATE
REV. DATE

FEDERAL PROJECT NO. ----------

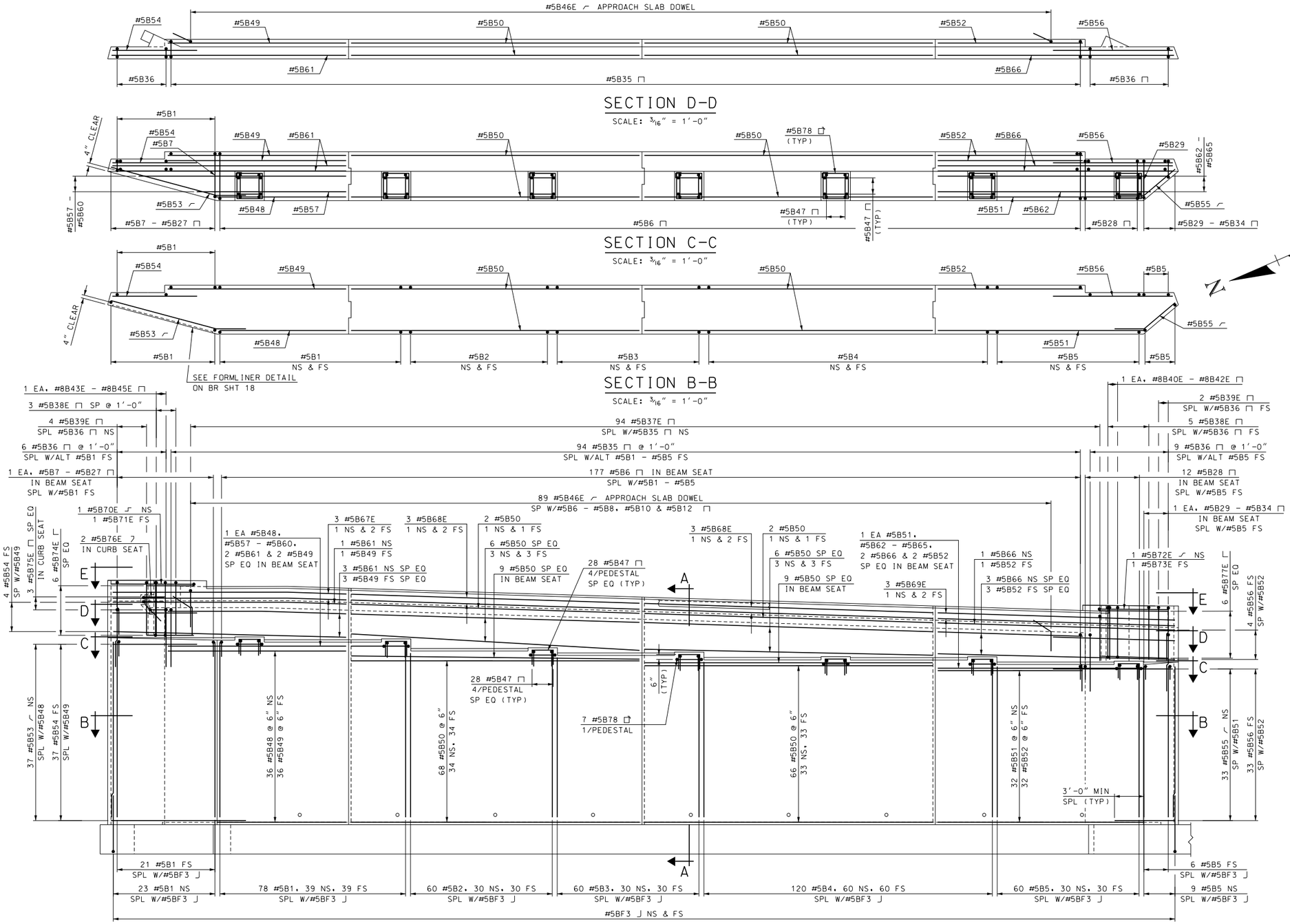
SHEET NO. 60

BRIDGE SHEET 21 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\ABUTB	10439 AbutB	AS NOTED



ABUTMENT B REINFORCEMENT

SCALE: 3/16" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\ABUTB	10439 Brein	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

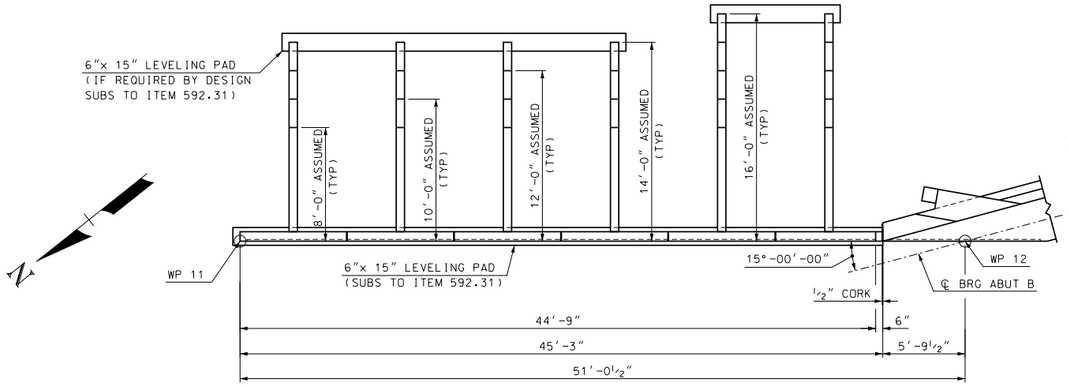
ABUTMENT B REINFORCEMENT

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	9/16	CHECKED	WPS	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	WPS	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		61	

BRIDGE SHEET 22 OF 50

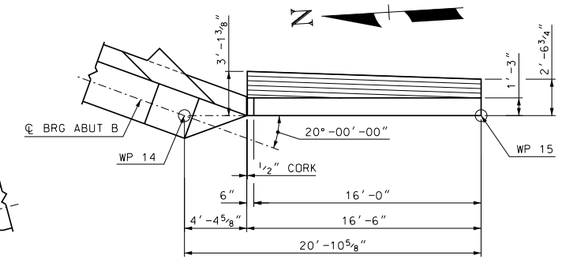
FILE NUMBER 132-3-1

TOTAL SHEETS 294



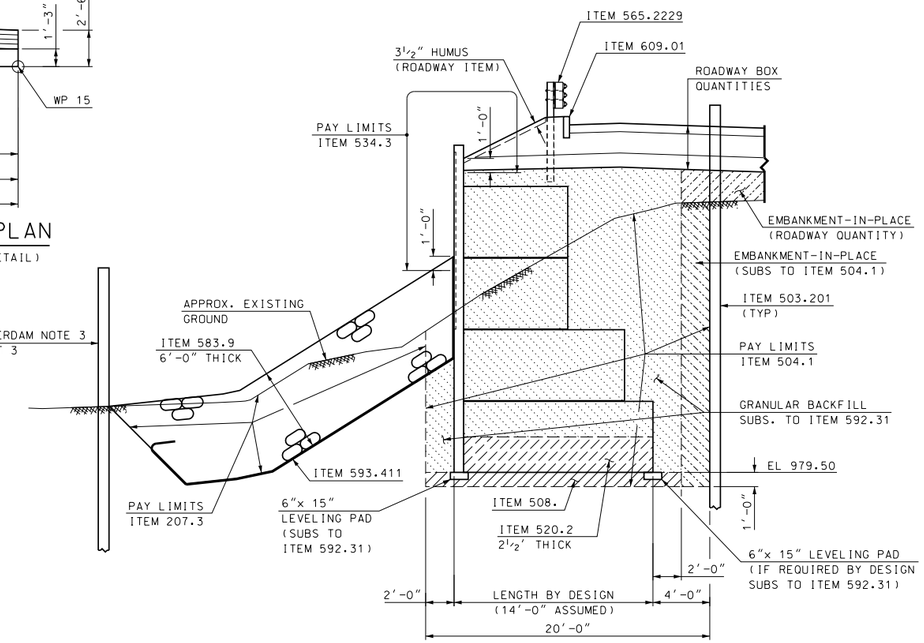
NE WING MASONRY PLAN

SCALE: 3/16" = 1'-0"



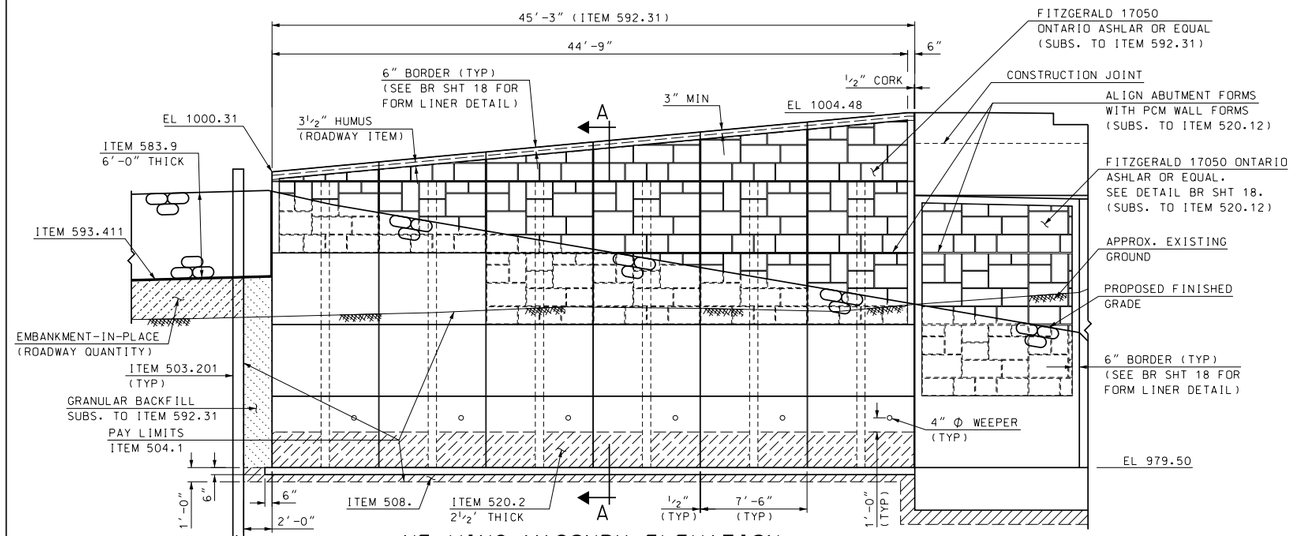
SE WING MASONRY PLAN

(SEE BR SHT 16 FOR WING JOINT DETAIL)
SCALE: 3/16" = 1'-0"



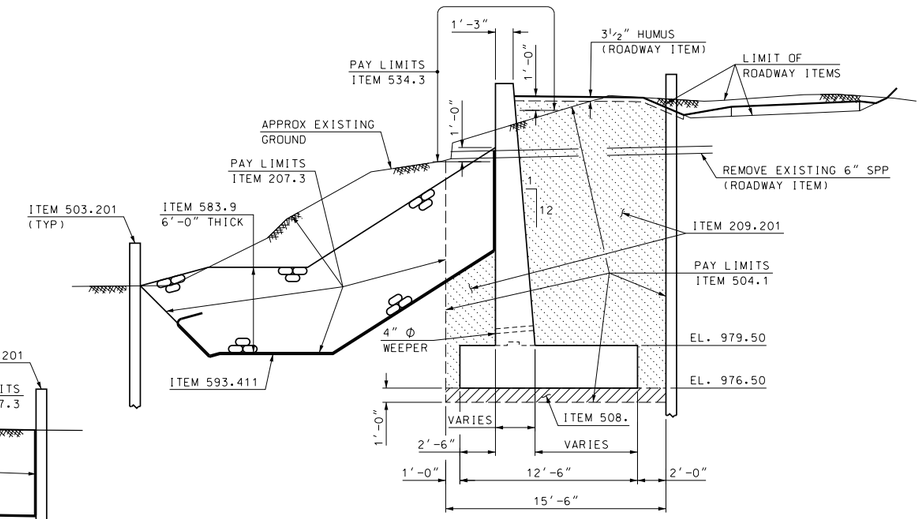
SECTION A-A

SCALE: 3/16" = 1'-0"



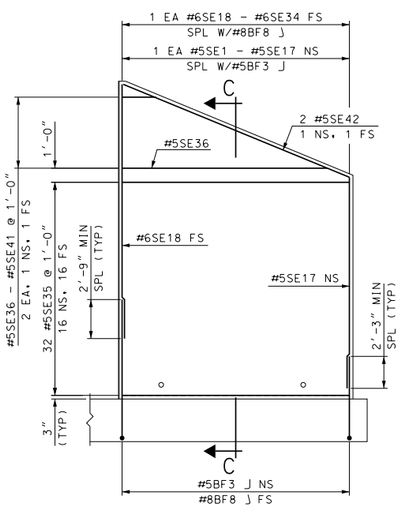
NE WING MASONRY ELEVATION

SCALE: 3/16" = 1'-0"



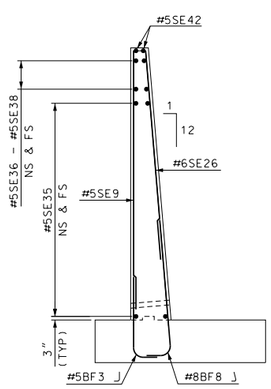
SECTION B-B

SCALE: 3/16" = 1'-0"



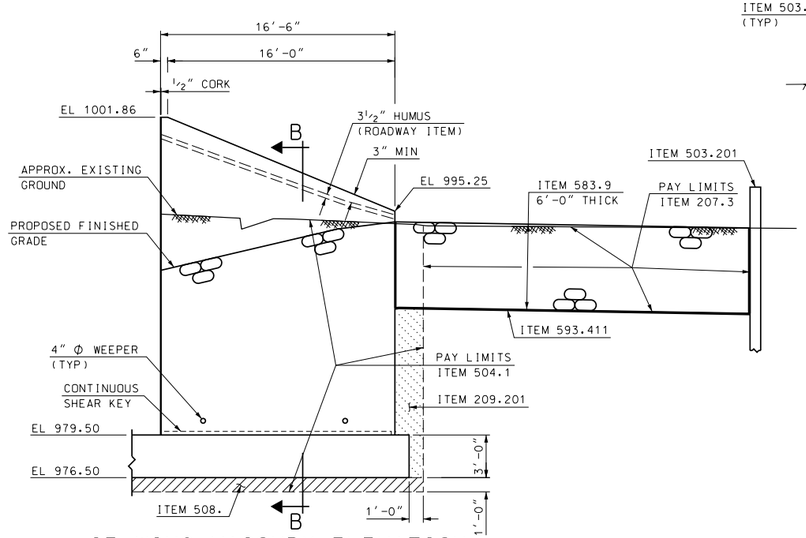
SE WING REINFORCEMENT

SCALE: 3/16" = 1'-0"



SECTION C-C

SCALE: 3/16" = 1'-0"



SE WING MASONRY ELEVATION

SCALE: 3/16" = 1'-0"

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

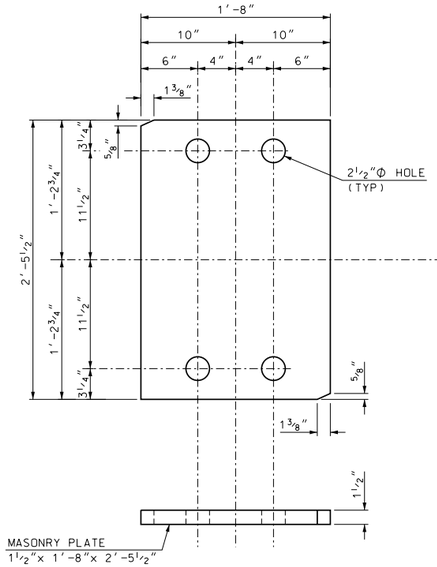
ABUTMENT B WING MASONRY AND REINFORCEMENT

SUBDIRECTORY	REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
BRC\ABUTB			DESIGNED	KFD	9/16	CHECKED	WPS	8/17
.DGN LOCATOR			DRAWN	SMG	10/16	CHECKED	KFD	8/17
10439 Bwing			QUANTITIES	KFD	8/17	CHECKED	ABH/WPS	8/17
SHEET SCALE			ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
AS NOTED			REV. DATE		----------		62	

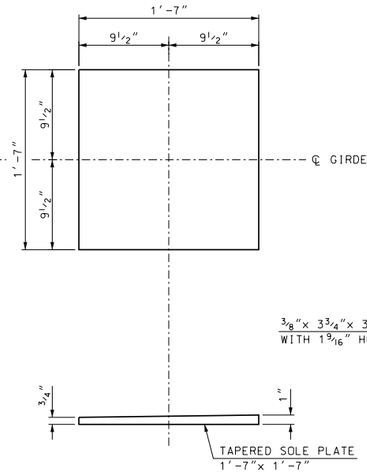
BRIDGE SHEET 23 OF 50

FILE NUMBER 132-3-1

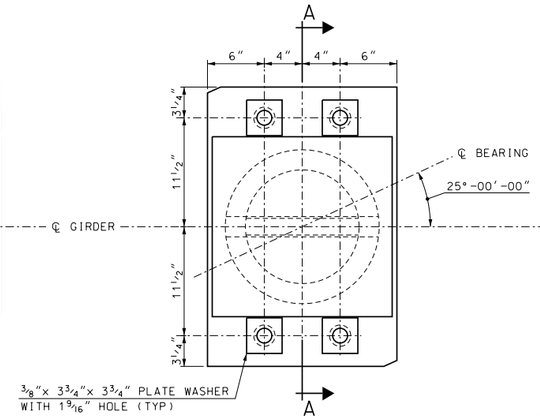
TOTAL SHEETS 294



MASONRY PLATE



TAPERED SOLE PLATE

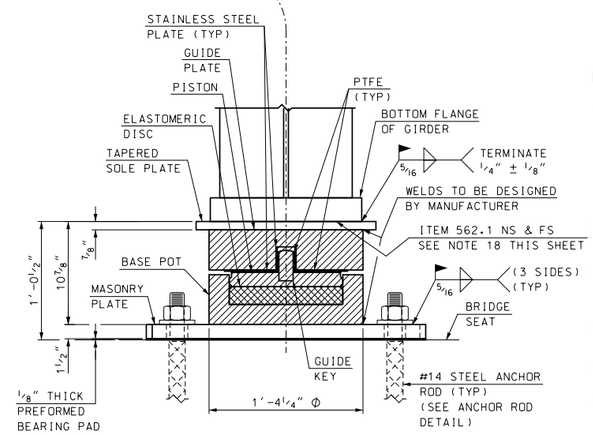


PLAN VIEW

NOTE:
GUIDE KEY FOR ABUTMENT A SHALL BE PARALLEL WITH THE CENTERLINE OF BEARING.

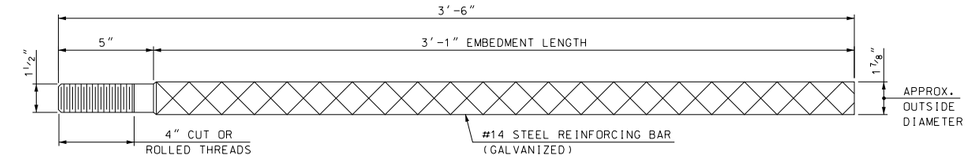
UNI-DIRECTIONAL EXPANSION BEARING

(7 REQUIRED)
SCALE: 1 1/2" = 1'-0"



SECTION A-A

(ABUTMENT B SHOWN, ABUTMENT A SIMILAR)

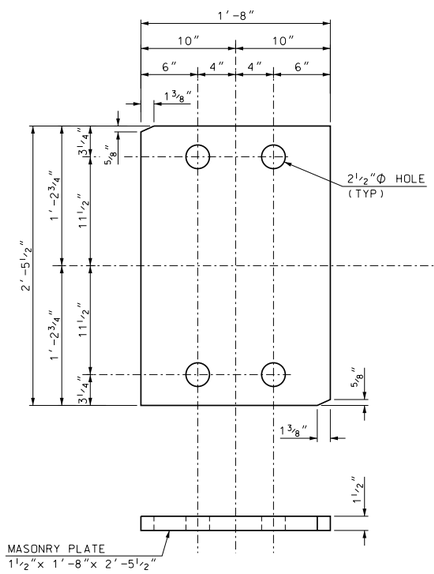


ANCHOR ROD DETAIL

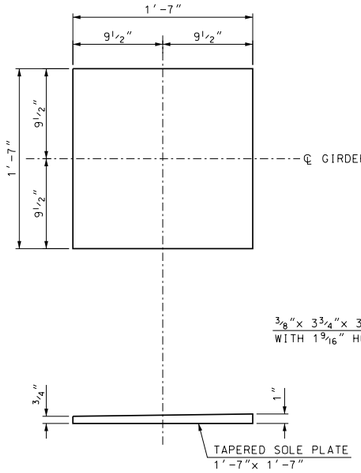
SCALE: 3" = 1'-0"

HLMR BEARING NOTES

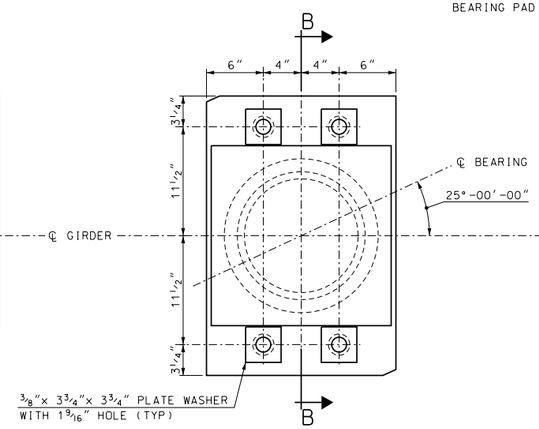
1. DETAILS SHOWN ARE FOR HIGH LOAD, MULTI-ROTATIONAL, POT BEARINGS. OTHER TYPES OF HIGH LOAD, MULTI-ROTATIONAL BEARINGS WILL BE ACCEPTED, PROVIDED THEY CAN MEET THE DESIGN REQUIREMENTS. THE BUREAU OF BRIDGE DESIGN SHALL MAKE THE DETERMINATION OF A BEARING'S ABILITY TO MEET THE REQUIREMENTS. ANY DIFFERENCE IN BEARING HEIGHT FROM THAT WHICH IS SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH ADJUSTING BEARING SEAT ELEVATIONS AND/OR ANCHOR ROD LAYOUT DUE TO BEARING ALTERATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.
2. HIGH LOAD, MULTI-ROTATIONAL BEARINGS, INCLUDING SOLE PLATES, MASONRY PLATES, ANCHOR RODS, NUTS, WASHERS AND BEARING PADS SHALL BE PAID AS BRIDGE SHOES - HLMR, ITEM 550.2101.
3. STRUCTURAL STEEL PLATES FOR BEARINGS SHALL CONFORM TO AASHTO M 270, GRADE 50W (ASTM A 709, GRADE 50W), PAINTED. STAINLESS STEEL SHALL CONFORM TO 550.2.7. PTFE SURFACES SHALL CONFORM TO 550.2.10. ALL BEARINGS SHALL BE PAINTED.
4. PREFORMED FABRIC BEARING PADS SHALL BE TYPE 1 CONFORMING TO 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.
5. ALL ANCHOR RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A 153.
6. HIGH LOAD BEARINGS SHALL BE DESIGNED TO ACCOMMODATE THE FORCES AND MOVEMENTS SHOWN ON THE PLANS (SEE BRIDGE SHEET 25).
7. NEOPRENE IN ALL BEARING PADS SHALL HAVE A GRADE 60 DUROMETER HARDNESS AND THE MINIMUM SHEAR MODULUS SHALL BE 120 PSI. THE MAXIMUM SHEAR MODULUS HARDNESS SHALL BE 200 PSI.
8. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
9. ALL ANCHOR RODS SHALL BE SET BY TEMPLATE BEFORE CONCRETE IS PLACED.
10. ANCHOR ROD LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO ACCOMODATE THE ACTUAL BEARING SUPPLIED.
11. ALL BEARING COMPONENTS SHALL BE ALIGNED WITHIN THE CENTERLINE OF BEARING AND CENTERLINE OF GIRDER AT 45 DEGREES F. IF BEARINGS ARE SET AT ANOTHER TEMPERATURE, THE BEARINGS SHALL BE ADJUSTED PER THE TEMPERATURE ADJUSTMENT TABLE ON BRIDGE SHEET 25.
12. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPMENT TO INCLUDE BEARING LOCATION AND DIRECTION OF BEARING INSTALLATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER BEARING IS INSTALLED.
13. ALL EXPANSION BEARINGS SHALL HAVE A MAXIMUM FRICTION COEFFICIENT OF 3% AT 68°F. HORIZONTAL PTFE FOR EXPANSION BEARINGS SHALL BE DIMPLED AND LUBRICATED. LUBRICATION SHALL BE SUPPLIED AND INSTALLED PER THE BEARING MANUFACTURER'S RECOMMENDATION.
14. BEARINGS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE BUREAU OF BRIDGE DESIGN. BEARING DEVICES SHALL NOT BE DISASSEMBLED DURING INSTALLATION.
15. RECESS AND BOND THE PTFE TO THE TOP OF THE POT AND SIDES OF GUIDES WITH AN APPROVED ADHESIVE. THE SURFACE PREPARATION OF THE PTFE AND THE MATING STEEL SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
16. ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
17. THE DESIGN MOVEMENT IS THE MAXIMUM MOVEMENT TO ONE SIDE OF THE BEARING CENTERLINE. THE TOTAL MOVEMENT IS TWICE THE DESIGN MOVEMENT.
18. SEAL THE TRANSVERSE EDGES UP AND AROUND TO THE FILLET WELD TERMINATION ON THE SOLE PLATE WITH ITEM 562.1, SILICONE JOINT SEALANT (F).
19. THE GUIDE PLATE, SLIDER PLATE AND TOP PLATE MAY BE TAPPERED IN THE TRANSVERSE DIRECTION TO COUNTERACT THE DEAD LOAD ROTATIONS ABOUT THE LONGITUDINAL AXIS OR AN ADDITIONAL PLATE TAPPERED IN THE TRANSVERSE DIRECTION MAY BE ADDED TO THE BEARING ASSEMBLY WITH ALL COSTS INCLUDED IN ITEM 550.2101, BRIDGE SHOES - HLMR



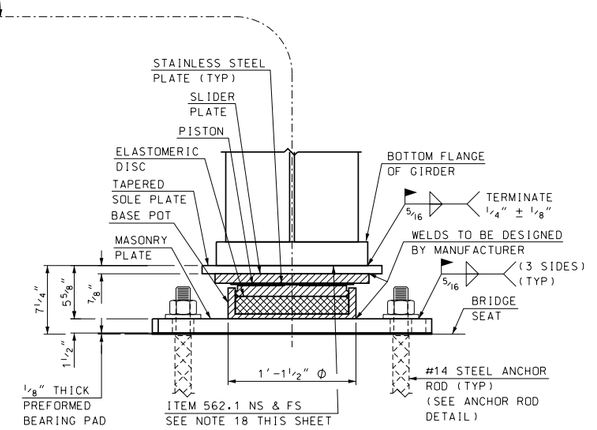
MASONRY PLATE



TAPERED SOLE PLATE



PLAN VIEW



SECTION B-B

(ABUTMENT B SHOWN, ABUTMENT A SAME)

MULTI-DIRECTIONAL EXPANSION BEARING

(6 REQUIRED)
SCALE: 1 1/2" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

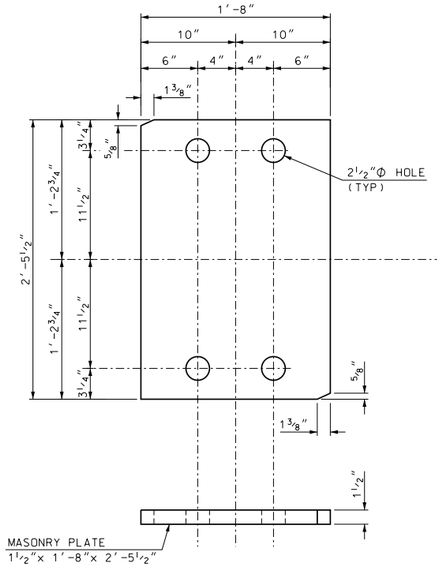
TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BEARINGS (1 of 2)

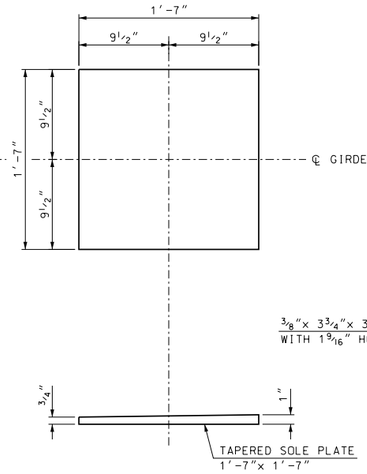
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/16	CHECKED	ANW	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

BRIDGE SHEET 24 OF 50
FILE NUMBER 132-3-1

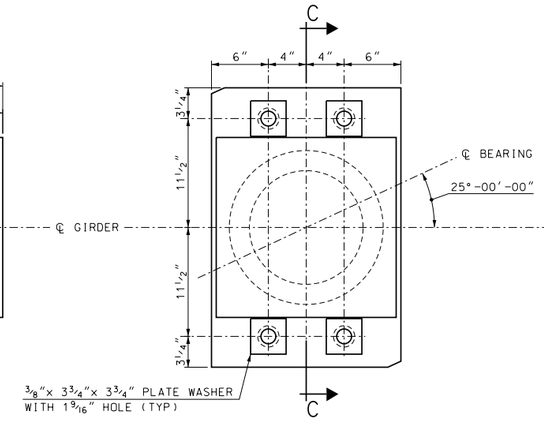
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\SUPER	10439 Bearings	AS NOTED	REV. DATE	----------	63	294



MASONRY PLATE



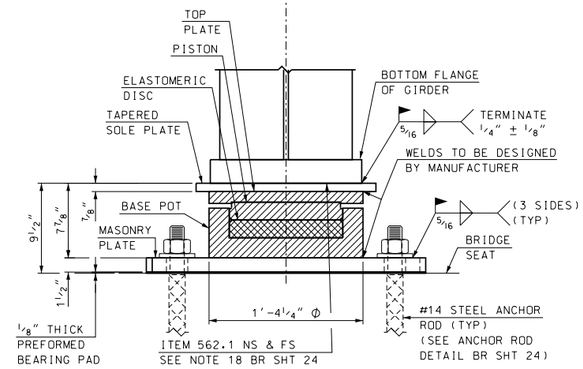
TAPERED SOLE PLATE



PLAN VIEW

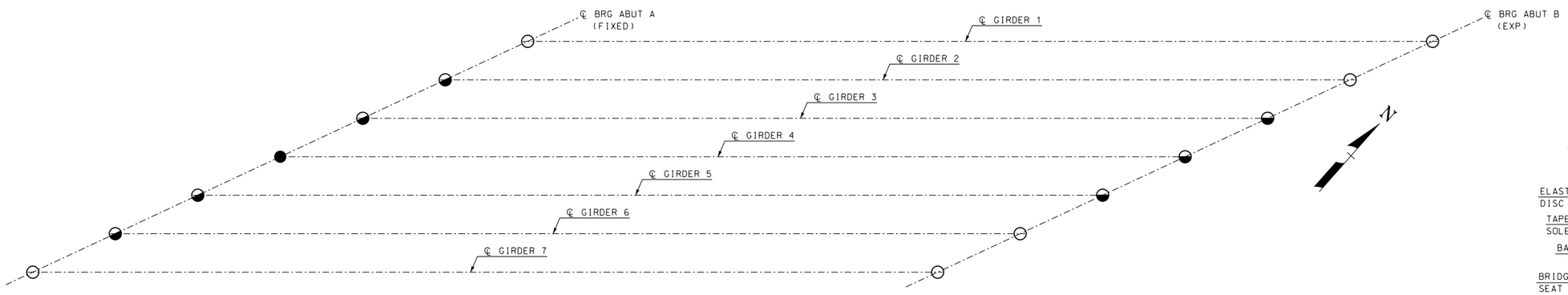
FIXED BEARING

(1 REQUIRED)
SCALE: 1 1/2" = 1'-0"



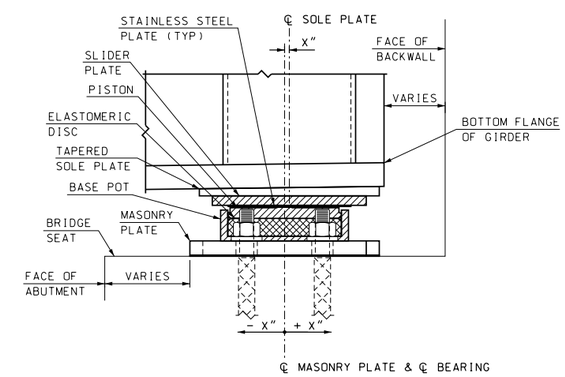
SECTION C-C
(ABUTMENT A ONLY)

TEMPERATURE ADJUSTMENT TABLE (X") (MEASURED ALONG ℄ GIRDER)							
TEMP °F	G1	G2	G3	G4	G5	G6	G7
5°	-9/16"	-9/16"	-1/2"	-7/16"	-7/16"	-3/8"	-5/16"
15°	-7/16"	-7/16"	-3/8"	-3/8"	-5/16"	-5/16"	-1/4"
25°	-5/16"	-1/4"	-1/4"	-1/4"	-3/16"	-3/16"	-3/16"
35°	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/16"
45°	0"	0"	0"	0"	0"	0"	0"
55°	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"
65°	5/16"	1/4"	1/4"	1/4"	3/16"	3/16"	3/16"
75°	7/16"	7/16"	3/8"	3/8"	5/16"	5/16"	1/4"
85°	9/16"	9/16"	1/2"	7/16"	7/16"	3/8"	5/16"
95°	3/4"	11/16"	5/8"	9/16"	1/2"	1/2"	7/16"



SCHEMATIC BEARING PLAN

SCALE: 1" = 10'-0"



ABUTMENT B BEARING ADJUSTMENT

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

HLMR BEARING DESIGN TABLE

Bearing Type	Quantity	Service Loads								Strength Loads								Design Movement	
		Vertical Loads		Horizontal Loads		Dead Load Rotations		Total Rotations		Vertical Loads		Horizontal Loads		Dead Load Rotations		Total Rotations			
		Dead (Kip)	Total (Kip)	Trans. (Kip)	Long (Kip)	About Long. Axis (rad.)	About Trans. Axis (rad.)	About Long. Axis (rad.)	About Trans. Axis (rad.)	Dead (Kip)	Total (Kip)	Trans. (Kip)	Long (Kip)	About Long. Axis (rad.)	About Trans. Axis (rad.)	About Long. Axis (rad.)	About Trans. Axis (rad.)	Long. (in.)	Trans. (in.)
Fixed	1	84.7	161.3	31.2[C]	125.2[C]	0.029	-0.02[D]	0.040	0.005	107.8	240.1	39.7[C]	197.4[C]	0.037	-0.025[D]	0.057	0.009	0.0625	0.0625
Uni-Direct.	7	107.6	200.8	142.3[B]	FR[A]	0.036	-0.022[D]	0.052	0.006	137.0	300.1	228.6[B]	FR[A]	0.046	-0.028[D]	0.074	0.011	1.5	0.0625
Multi-Direct.	6	154.8	284.8	FR[A]	FR[A]	0.038	-0.025[D]	0.053	0.007	198.6	423.9	FR[A]	FR[A]	0.048	-0.032[D]	0.076	0.012	1.5	1.0

A - LOADS DESIGNATED AS FR STAND FOR FRICTION FORCES THAT ARE DETERMINED BASED ON THE COEFFICIENT OF FRICTION FOR THE SLIDING SURFACE.
B - LOADS IN THE TRANSVERSE DIRECTION FOR UNI-DIRECTIONAL BEARINGS ARE PERPENDICULAR TO THE BEARING GUIDE KEY.
C - LOADS IN THE TRANSVERSE AND LONGITUDINAL DIRECTION FOR THE FIXED BEARING ARE RELATIVE TO THE ℄ GIRDER.
D - NEGATIVE ROTATION VALUES ARE ROTATIONS INDUCED BY CAMBER WHICH WILL BE DIMISHED TO ZERO AS DEAD LOADS ARE APPLIED AND CAMBER REMOVED.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 Bearings	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

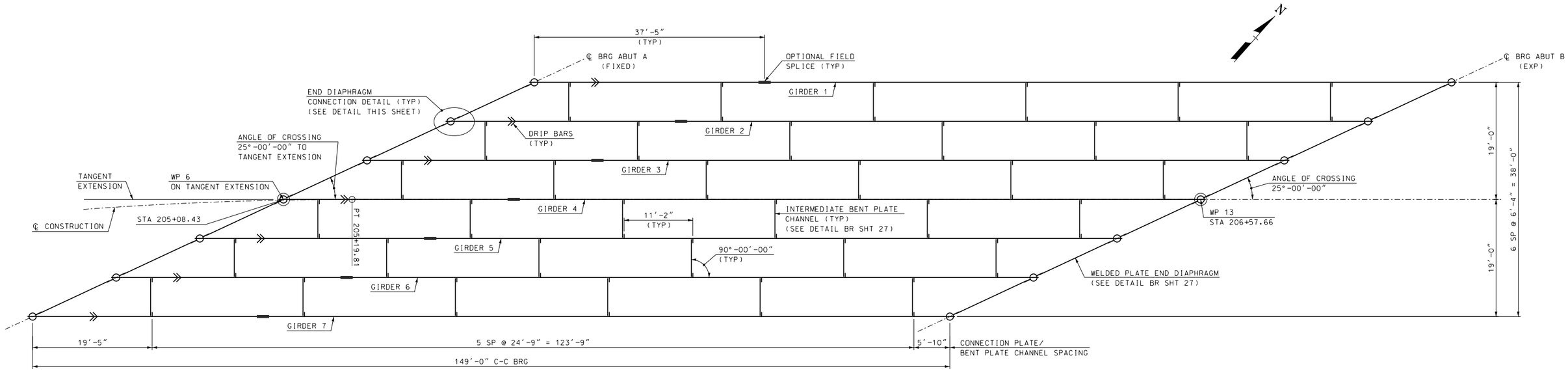
TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

BEARINGS (2 of 2)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	8/16	CHECKED	ANW	8/17
	DRAWN	SMG	9/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

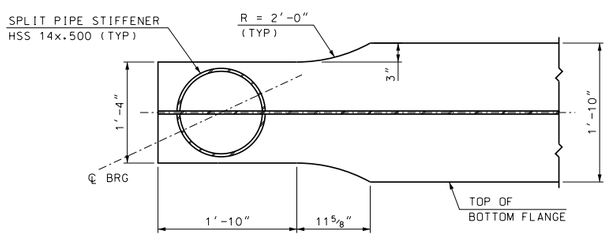
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	64	294

BRIDGE SHEET 25 OF 50
FILE NUMBER 132-3-1



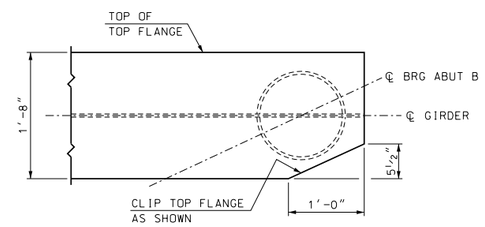
FRAMING PLAN

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



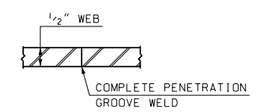
BOTTOM FLANGE WIDTH TRANSITION DETAIL

SCALE: 1" = 1'-0"



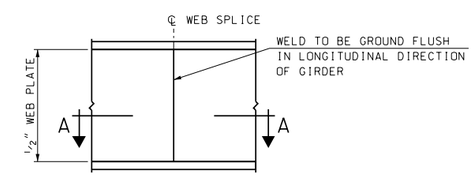
TOP FLANGE CLIP DETAIL

(TYP ALL GIRDERS ABUT B ONLY)
SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 6" = 1'-0"

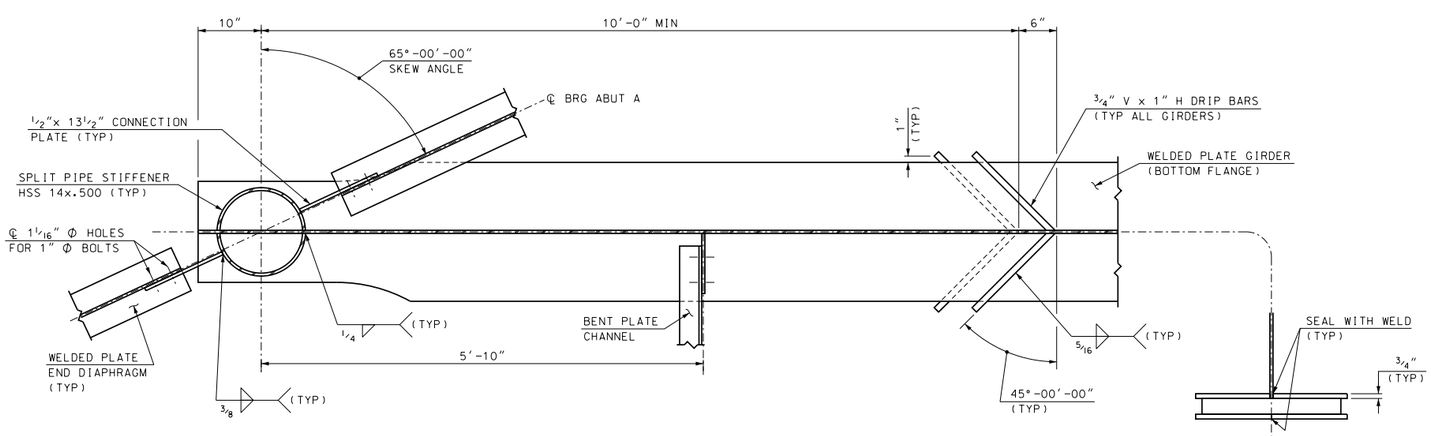


ELEVATION

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

SHOP WEB SPLICE DETAILS

SCALE: AS NOTED



END DIAPHRAGM CONNECTION AND DRIP BAR DETAILS

(ABUT A SHOWN, ABUT B SIMILAR, NO DRIP BARS)
SCALE: 1" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 Frameplan	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN — BRIDGE NO. 093\060 — STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

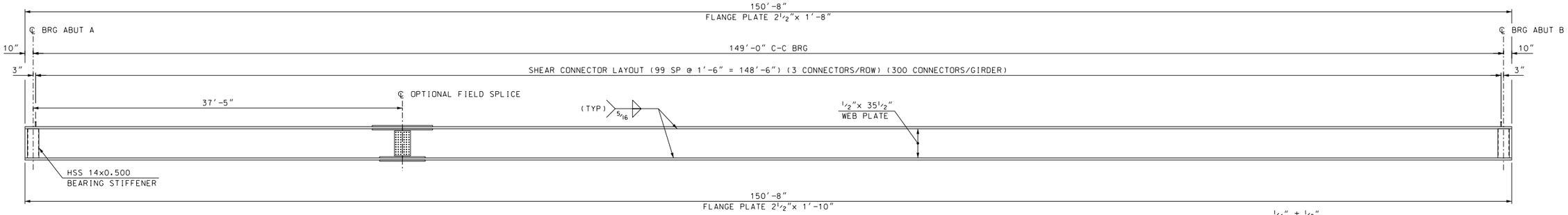
FRAMING PLAN AND DETAILS

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/16	CHECKED	ANW	8/17
	DRAWN	SMG	7/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		65	

BRIDGE SHEET 26 OF 50

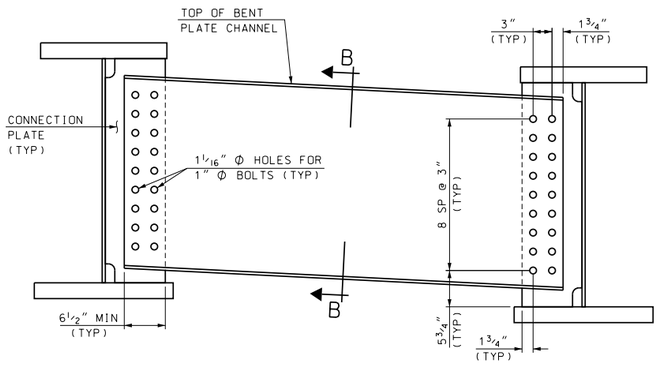
FILE NUMBER 132-3-1

TOTAL SHEETS 294



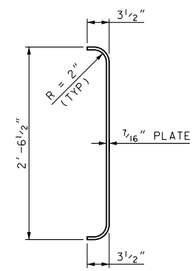
GIRDER ELEVATION AND SHEAR CONNECTOR LAYOUT

SCALE: 3/16" = 1'-0"



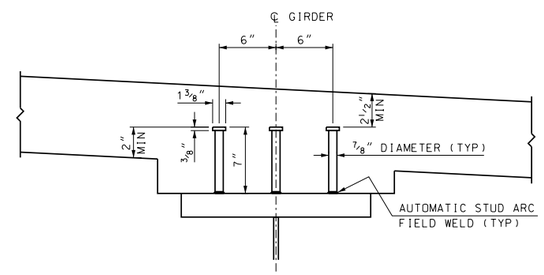
INTERMEDIATE BENT PLATE CHANNEL

SCALE: 1" = 1'-0"



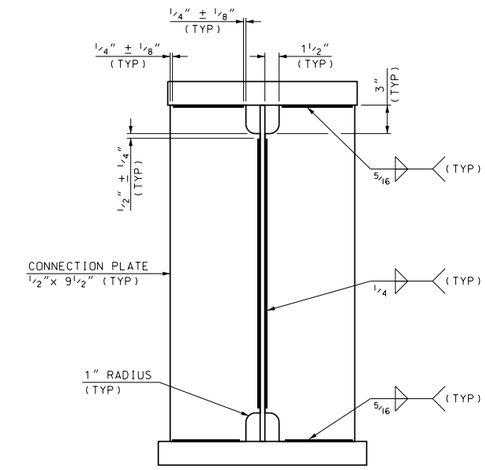
SECTION B-B

SCALE: 1" = 1'-0"



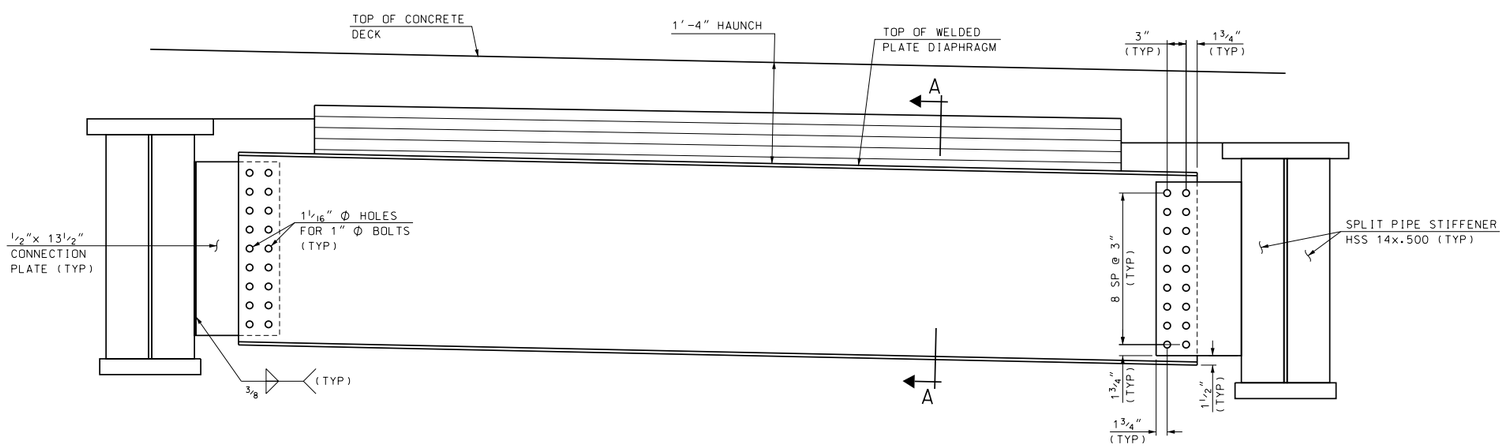
SHEAR CONNECTOR DETAIL

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



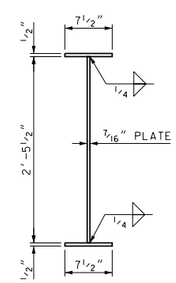
CONNECTION PLATE DETAIL

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



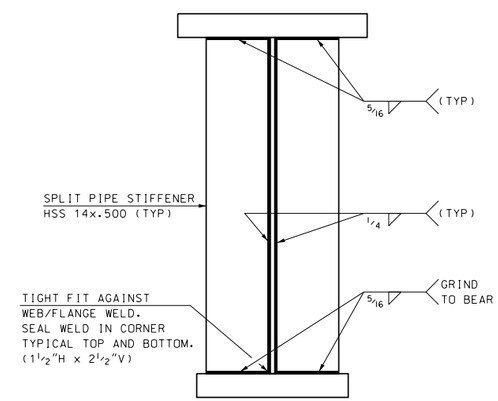
WELDED PLATE END DIAPHRAGM

(DIAPHRAGMS IN BAYS BETWEEN G2 AND G7 SHOWN.
DIAPHRAGM BETWEEN G1 AND G2 SIMILAR.
SEE DECK SECTION ON BR SHT 30)
SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1" = 1'-0"



BEARING STIFFENER DETAIL

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

MATERIAL NOTES

(1) HHS SPLIT PIPE STIFFENERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A847.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 SSdetls	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

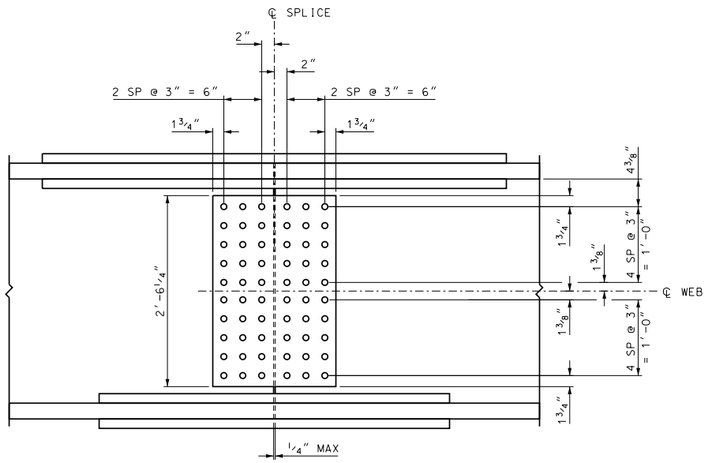
SUPERSTRUCTURE DETAILS

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/16	CHECKED	ANW	8/17
	DRAWN	SMG	7/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		66	

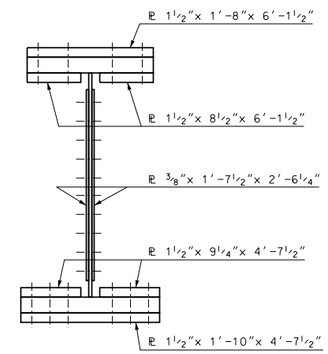
BRIDGE SHEET 27 OF 50

FILE NUMBER 132-3-1

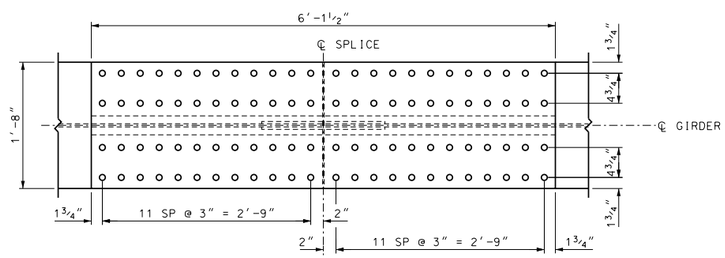
TOTAL SHEETS 294



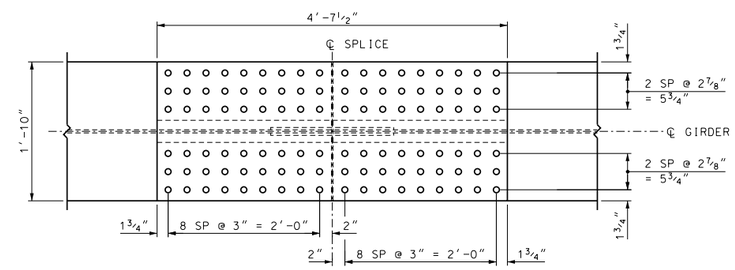
ELEVATION



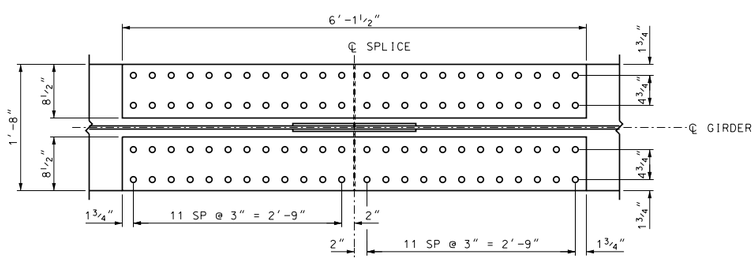
SECTION



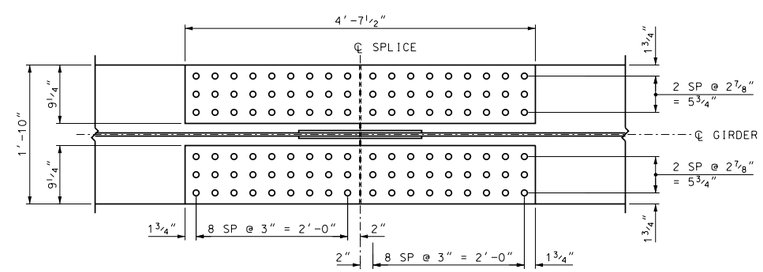
TOP FLANGE TOP SIDE



BOTTOM FLANGE BOTTOM SIDE



TOP FLANGE WEB SIDE



BOTTOM FLANGE WEB SIDE

NOTE:
HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FIT BEARING ELEVATIONS. HOLES FOR FIELD SPLICE ARE 15/16"Φ FOR 7/8"Φ BOLTS.

OPTIONAL FIELD SPLICE DETAILS

SCALE: 1" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

FIELD SPLICE DETAILS

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/16	CHECKED	ANW	8/17
	DRAWN	SMG	7/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

BRIDGE SHEET 28 OF 50
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\SUPER	10439 Splice	AS NOTED	REV. DATE	----------	67	294

Camber Table - Girder 1

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.707	1.409	2.068	2.674	3.212	3.646	3.992	4.245	4.401	4.455	4.377	4.204	3.937	3.583	3.145	2.614	2.027	1.393	0.726	0.000
Conc. Slab Defl. (in.)	0.000	1.208	2.406	3.531	4.564	5.482	6.223	6.813	7.245	7.512	7.606	7.475	7.182	6.729	6.126	5.381	4.476	3.472	2.388	1.244	0.000
Superimposed DL Defl. (in.)	0.000	0.358	0.704	1.029	1.325	1.589	1.801	1.970	2.093	2.168	2.194	2.155	2.070	1.939	1.765	1.551	1.292	1.005	0.694	0.365	0.000
TOTAL DL DEFL. (in.)	0.000	2.274	4.518	6.628	8.563	10.282	11.670	12.775	13.583	14.081	14.254	14.008	13.455	12.605	11.473	10.077	8.382	6.503	4.475	2.335	0.000
Geometric Camber (in.)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL CAMBER (in)	0.000	2.274	4.518	6.628	8.563	10.282	11.670	12.775	13.583	14.081	14.254	14.008	13.455	12.605	11.473	10.077	8.382	6.503	4.475	2.335	0.000

Camber Table - Girder 2

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.598	1.201	1.775	2.310	2.792	3.191	3.516	3.760	3.919	3.988	3.938	3.801	3.577	3.270	2.883	2.405	1.869	1.288	0.671	0.000
Conc. Slab Defl. (in.)	0.000	0.991	1.989	2.941	3.831	4.637	5.305	5.850	6.262	6.533	6.654	6.577	6.351	5.981	5.470	4.825	4.027	3.131	2.157	1.123	0.000
Superimposed DL Defl. (in.)	0.000	0.239	0.487	0.732	0.970	1.192	1.383	1.542	1.666	1.752	1.797	1.787	1.736	1.644	1.511	1.342	1.128	0.885	0.615	0.324	0.000
TOTAL DL DEFL. (in.)	0.000	1.828	3.677	5.448	7.111	8.621	9.879	10.907	11.688	12.204	12.439	12.302	11.888	11.201	10.251	9.050	7.560	5.885	4.060	2.118	0.000
Geometric Camber (in.)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL CAMBER (in)	0.000	1.828	3.677	5.448	7.111	8.621	9.879	10.907	11.688	12.204	12.439	12.302	11.888	11.201	10.251	9.050	7.560	5.885	4.060	2.118	0.000

Camber Table - Girder 3

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.573	1.151	1.700	2.210	2.667	3.043	3.347	3.574	3.720	3.782	3.732	3.599	3.385	3.093	2.725	2.271	1.765	1.215	0.632	0.000
Conc. Slab Defl. (in.)	0.000	0.941	1.891	2.794	3.633	4.388	5.007	5.509	5.885	6.128	6.231	6.150	5.934	5.583	5.101	4.496	3.749	2.913	2.005	1.043	0.000
Superimposed DL Defl. (in.)	0.000	0.216	0.437	0.651	0.855	1.041	1.198	1.329	1.431	1.503	1.540	1.533	1.490	1.412	1.300	1.155	0.971	0.761	0.528	0.277	0.000
TOTAL DL DEFL. (in.)	0.000	1.730	3.479	5.144	6.697	8.096	9.248	10.185	10.890	11.350	11.553	11.415	11.023	10.380	9.494	8.376	6.991	5.439	3.748	1.952	0.000
Geometric Camber (in.)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL CAMBER (in)	0.000	1.730	3.479	5.144	6.697	8.096	9.248	10.185	10.890	11.350	11.553	11.415	11.023	10.380	9.494	8.376	6.991	5.439	3.748	1.952	0.000

Camber Table - Girder 4

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.570	1.144	1.689	2.193	2.644	3.013	3.311	3.533	3.674	3.732	3.679	3.546	3.332	3.040	2.675	2.227	1.727	1.187	0.617	0.000
Conc. Slab Defl. (in.)	0.000	0.934	1.877	2.771	3.598	4.339	4.946	5.436	5.800	6.033	6.128	6.042	5.822	5.470	4.991	4.391	3.655	2.835	1.948	1.012	0.000
Superimposed DL Defl. (in.)	0.000	0.230	0.460	0.675	0.872	1.047	1.189	1.303	1.387	1.440	1.461	1.440	1.388	1.305	1.192	1.050	0.875	0.679	0.467	0.243	0.000
TOTAL DL DEFL. (in.)	0.000	1.734	3.482	5.135	6.663	8.030	9.148	10.049	10.720	11.148	11.321	11.161	10.756	10.107	9.223	8.116	6.756	5.242	3.603	1.871	0.000
Geometric Camber (in.)	0.000	-0.053	-0.057	-0.054	-0.051	-0.047	-0.044	-0.041	-0.038	-0.035	-0.032	-0.028	-0.025	-0.022	-0.019	-0.016	-0.013	-0.009	-0.006	-0.003	0.000
TOTAL CAMBER (in)	0.000	1.681	3.425	5.081	6.612	7.983	9.104	10.008	10.682	11.113	11.290	11.133	10.730	10.085	9.204	8.100	6.744	5.232	3.597	1.868	0.000

Camber Table - Girder 5

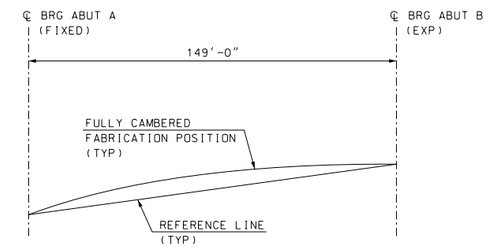
Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.581	1.167	1.720	2.231	2.687	3.059	3.358	3.579	3.719	3.775	3.719	3.582	3.364	3.068	2.698	2.246	1.742	1.197	0.620	0.000
Conc. Slab Defl. (in.)	0.000	0.959	1.927	2.841	3.684	4.436	5.049	5.540	5.903	6.133	6.221	6.127	5.900	5.539	5.050	4.441	3.694	2.865	1.968	1.020	0.000
Superimposed DL Defl. (in.)	0.000	0.261	0.521	0.761	0.976	1.163	1.311	1.425	1.504	1.548	1.555	1.517	1.447	1.345	1.215	1.058	0.873	0.671	0.457	0.234	0.000
TOTAL DL DEFL. (in.)	0.000	1.800	3.614	5.322	6.891	8.287	9.418	10.322	10.985	11.399	11.551	11.364	10.928	10.248	9.333	8.197	6.813	5.277	3.621	1.874	0.000
Geometric Camber (in.)	0.000	0.071	0.124	0.082	0.078	0.073	0.068	0.063	0.058	0.053	0.049	0.044	0.039	0.034	0.029	0.024	0.019	0.015	0.010	0.005	0.000
TOTAL CAMBER (in)	0.000	1.871	3.738	5.404	6.969	8.360	9.486	10.385	11.044	11.453	11.600	11.407	10.967	10.282	9.362	8.221	6.832	5.292	3.631	1.879	0.000

Camber Table - Girder 6

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.615	1.235	1.821	2.360	2.840	3.230	3.542	3.772	3.917	3.970	3.906	3.755	3.519	3.202	2.809	2.333	1.804	1.236	0.638	0.000
Conc. Slab Defl. (in.)	0.000	1.030	2.071	3.053	3.956	4.759	5.410	5.929	6.310	6.547	6.631	6.517	6.260	5.861	5.327	4.669	3.873	2.993	2.049	1.057	0.000
Superimposed DL Defl. (in.)	0.000	0.303	0.606	0.886	1.138	1.357	1.531	1.666	1.761	1.814	1.824	1.778	1.693	1.569	1.409	1.218	0.994	0.755	0.508	0.256	0.000
TOTAL DL DEFL. (in.)	0.000	1.948	3.913	5.760	7.453	8.956	10.171	11.137	11.843	12.277	12.425	12.202	11.707	10.948	9.938	8.697	7.200	5.553	3.793	1.951	0.000
Geometric Camber (in.)	0.000	0.122	0.346	0.659	0.770	0.709	0.661	0.614	0.567	0.519	0.472	0.425	0.378	0.330	0.283	0.236	0.189	0.142	0.094	0.047	0.000
TOTAL CAMBER (in)	0.000	2.070	4.258	6.418	8.223	9.665	10.832	11.751	12.409	12.796	12.897	12.626	12.085	11.279	10.221	8.933	7.389	5.695	3.887	1.999	0.000

Camber Table - Girder 7

Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Steel DL Defl. (in.)	0.000	0.665	1.340	1.979	2.571	3.104	3.543	3.901	4.171	4.350	4.429	4.377	4.228	3.983	3.644	3.215	2.682	2.082	1.430	0.735	0.000
Conc. Slab Defl. (in.)	0.000	1.142	2.298	3.393	4.406	5.316	6.065	6.675	7.135	7.437	7.570	7.481	7.226	6.806	6.226	5.493	4.582	3.558	2.443	1.257	0.000
Superimposed DL Defl. (in.)	0.000	0.343	0.688	1.012	1.308	1.574	1.792	1.971	2.105	2.193	2.231	2.205	2.128	2.004	1.832	1.617	1.349	1.048	0.719	0.368	0.000
TOTAL DL DEFL. (in.)	0.000	2.150	4.326	6.383	8.285	9.993	11.401	12.547	13.411	13.980	14.230	14.063	13.583	12.793	11.702	10.324	8.613	6.689	4.592	2.361	0.000
Geometric Camber (in.)	0.000	0.100	0.325	0.664	1.105	1.634	1.692	1.573	1.452	1.331	1.210	1.089	0.968	0.847	0.726	0.605	0.484	0.363	0.242	0.121	0.000
TOTAL CAMBER (in)	0.000	2.249	4.651	7.048	9.389	11.627	13.093	14.120	14.863	15.311	15.440	15.152	14.551	13.640	12.428	10.929	9.097	7.052	4.834	2.482	0.000



CAMBER DIAGRAM
NOT TO SCALE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

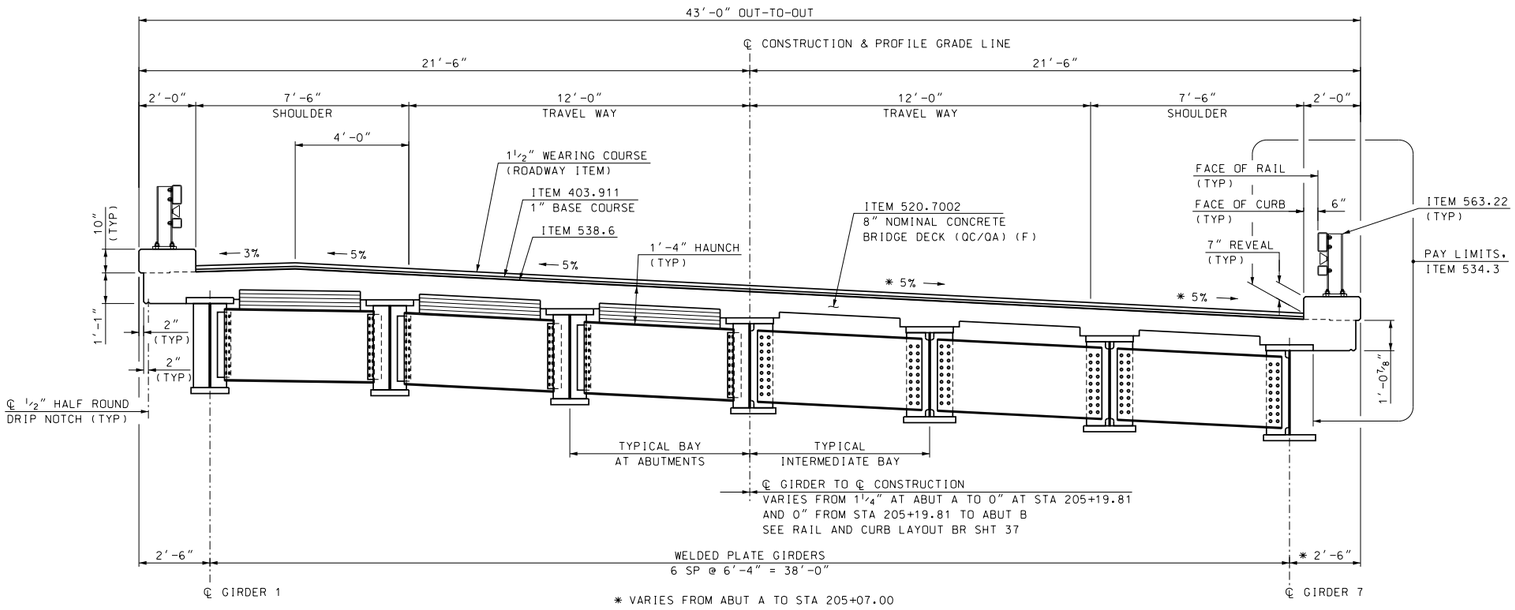
TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

CAMBER TABLES

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/17	CHECKED	ANW/WPS	8/17
	DRAWN	SMG	6/17	CHECKED	KFD	8/17
	QUANTITIES	---	---	CHECKED	---	---

ISSUE DATE
REV. DATE
FEDERAL PROJECT NO. ----------
SHEET NO. 68
BRIDGE SHEET 29 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294

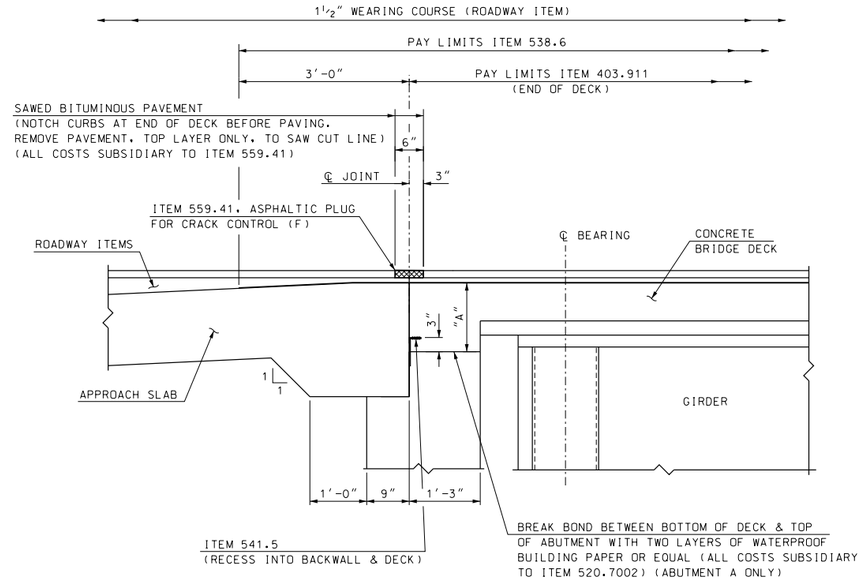
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 Camber	AS NOTED



* VARIES FROM ABUT A TO STA 205+07.00

DECK SECTION

SCALE: ⅜" = 1'-0"

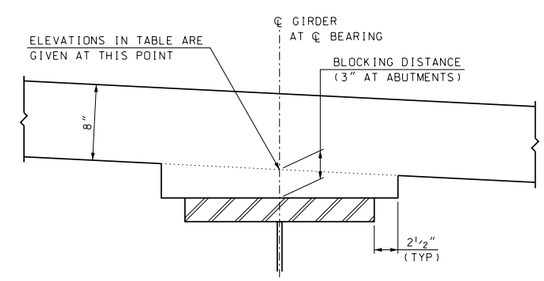


A = DECK THICKNESS + HAUNCH + FLANGE + 1"

ASPHALTIC PLUG FOR CRACK CONTROL
ABUTMENT A – FIXED END

SCALE: ¾" = 1'-0"

Bottom of Slab Elevations																					
Location	Abut. A	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	Abut. B
Girder 1	1001.40	1001.61	1001.82	1002.01	1002.20	1002.38	1002.53	1002.67	1002.79	1002.90	1002.99	1003.05	1003.09	1003.12	1003.13	1003.13	1003.11	1003.08	1003.04	1002.99	1002.93
Girder 2	1001.19	1001.37	1001.55	1001.72	1001.89	1002.06	1002.20	1002.34	1002.46	1002.57	1002.66	1002.73	1002.78	1002.82	1002.84	1002.85	1002.84	1002.82	1002.80	1002.76	1002.72
Girder 3	1000.73	1000.90	1001.08	1001.25	1001.41	1001.57	1001.71	1001.84	1001.95	1002.06	1002.14	1002.21	1002.27	1002.31	1002.34	1002.35	1002.35	1002.34	1002.32	1002.30	1002.26
Girder 4	1000.28	1000.45	1000.62	1000.79	1000.95	1001.11	1001.25	1001.37	1001.49	1001.59	1001.67	1001.74	1001.79	1001.83	1001.86	1001.88	1001.88	1001.87	1001.85	1001.83	1001.81
Girder 5	999.81	1000.00	1000.18	1000.35	1000.51	1000.67	1000.81	1000.94	1001.05	1001.15	1001.23	1001.30	1001.35	1001.39	1001.41	1001.43	1001.42	1001.41	1001.40	1001.38	1001.35
Girder 6	999.28	999.49	999.70	999.91	1000.10	1000.26	1000.40	1000.53	1000.65	1000.75	1000.83	1000.90	1000.94	1000.98	1001.00	1001.00	1000.99	1000.98	1000.95	1000.93	1000.89
Girder 7	998.71	998.92	999.15	999.39	999.62	999.85	1000.02	1000.16	1000.29	1000.40	1000.49	1000.56	1000.60	1000.64	1000.65	1000.65	1000.63	1000.59	1000.55	1000.50	1000.44



HAUNCH DETAIL

SCALE: 1½" = 1'-0"

DECK SLAB ELEVATION NOTES

1. AFTER THE STRUCTURAL STEEL IS ERECTED BUT BEFORE THE DECK FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE IN THE TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF THE GIRDER TO THE BOTTOM OF THE DECK SLAB AT THE ℄ OF THE GIRDER. SEE ELEVATION TABLE AND HAUNCH DETAIL THIS SHEET.
2. ELEVATIONS SHOWN IN THE TABLE ARE FINISHED BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION, LESS THE DEFLECTION DUE TO GIRDER WEIGHT.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

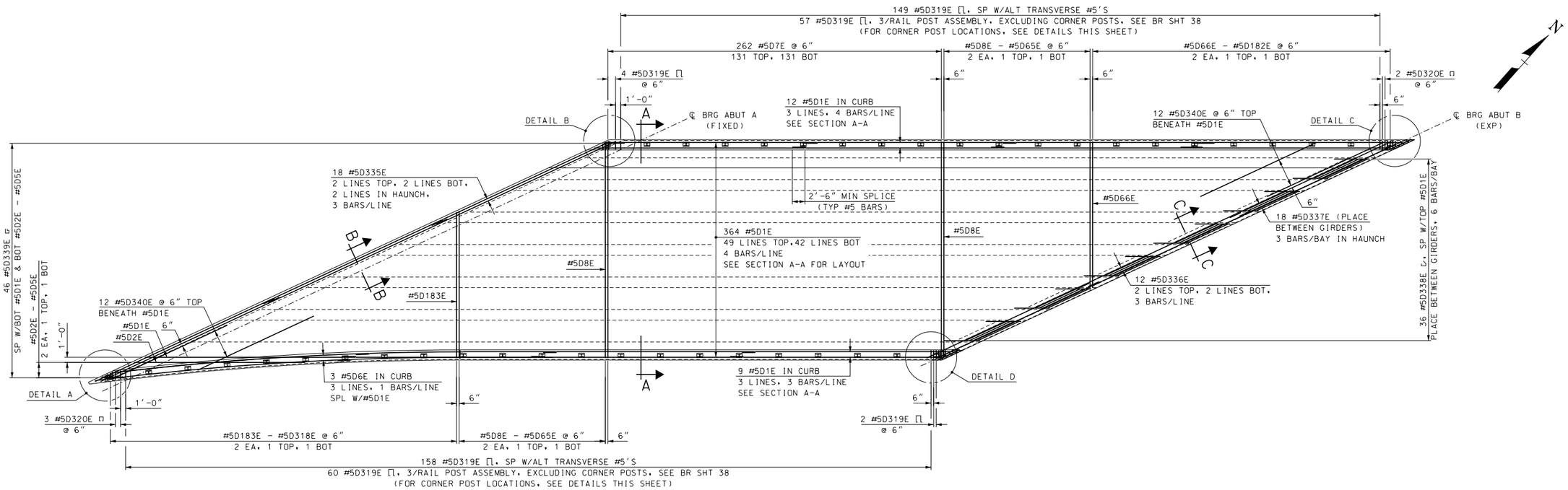
TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439
LOCATION NH ROUTE 9 over OTTER BROOK

DECK SECTION

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/16	CHECKED	ANW/WPS	8/17
	DRAWN	SMG	6/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

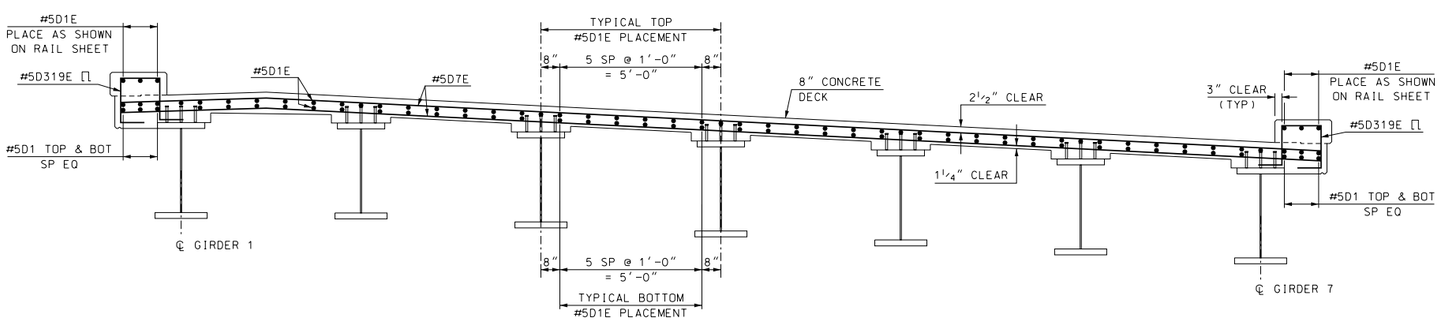
BRIDGE SHEET 30 OF 50
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\SUPER	10439 Decksect	AS NOTED	REV. DATE	----------	69	294



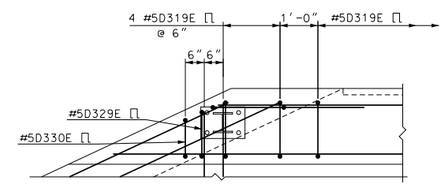
DECK REINFORCEMENT PLAN

SCALE: 3/32" = 1'-0"



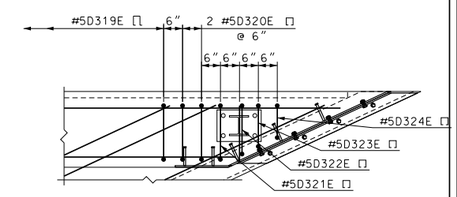
SECTION A-A

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



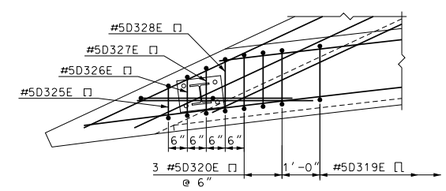
DETAIL B

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



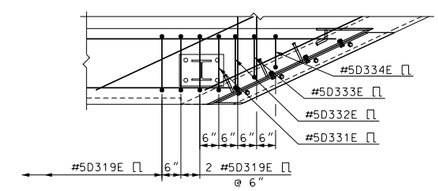
DETAIL C

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



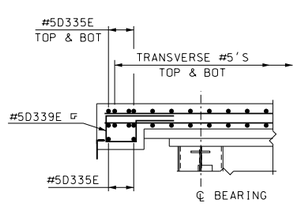
DETAIL A

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



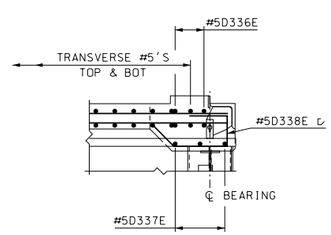
DETAIL D

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



SECTION B-B

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



SECTION C-C

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093/060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

DECK REINFORCEMENT

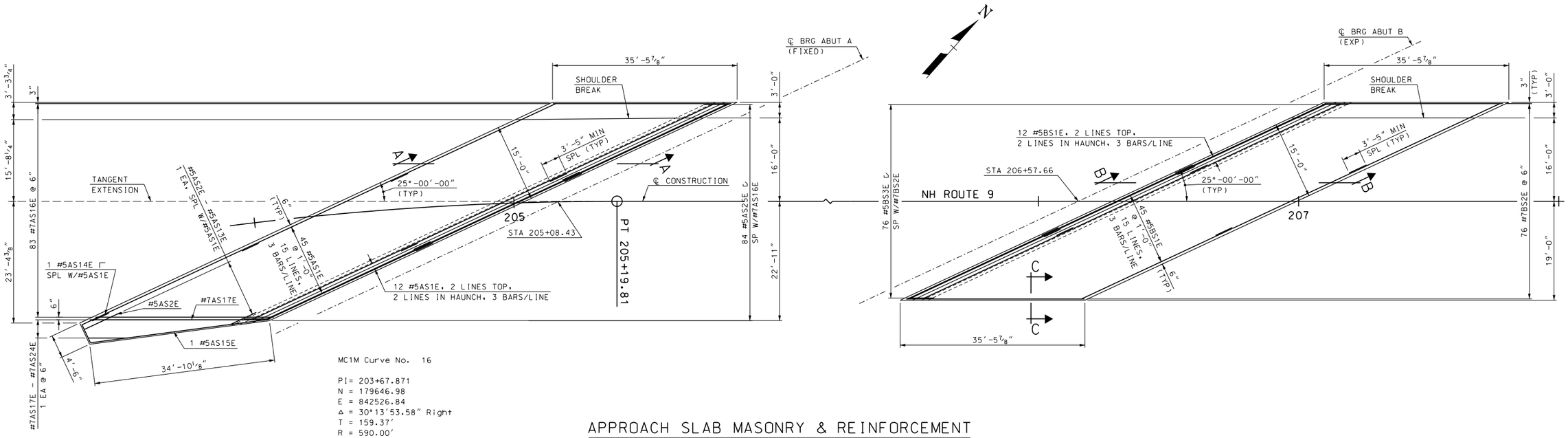
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	6/16	CHECKED	ANW	8/17
	DRAWN	SMG	7/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	WPS	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		70	

BRIDGE SHEET 31 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 Deckrein	AS NOTED

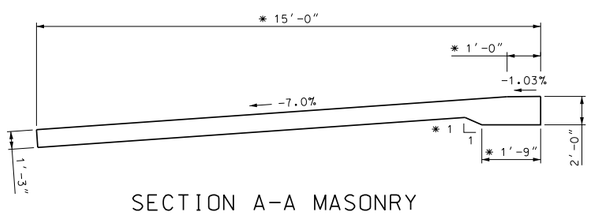


MC1M Curve No. 16

PI= 203+67.871
N = 179646.98
E = 842526.84
Δ = 30°13'53.58" Right
T = 159.37'
R = 590.00'
L = 311.31'
E = 21.15'

APPROACH SLAB MASONRY & REINFORCEMENT

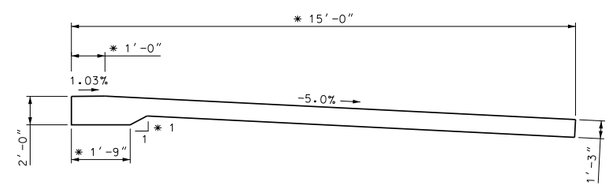
SCALE: 1" = 10'-0"



SECTION A-A MASONRY

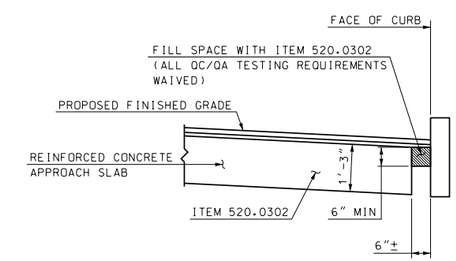
SCALE: 3/16" = 1'-0"

* DIMENSIONS NORMAL TO BACK OF BACKWALL



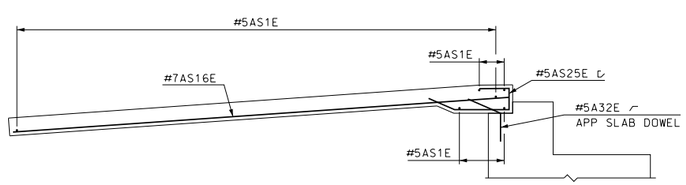
SECTION B-B MASONRY

SCALE: 3/16" = 1'-0"



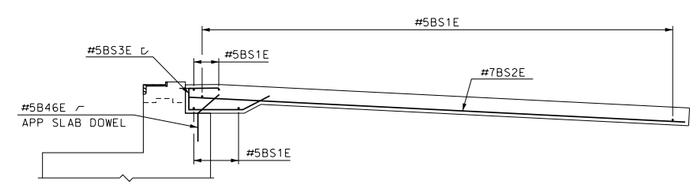
SECTION C-C

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



SECTION A-A REINFORCEMENT

SCALE: 3/16" = 1'-0"



SECTION B-B REINFORCEMENT

SCALE: 3/16" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

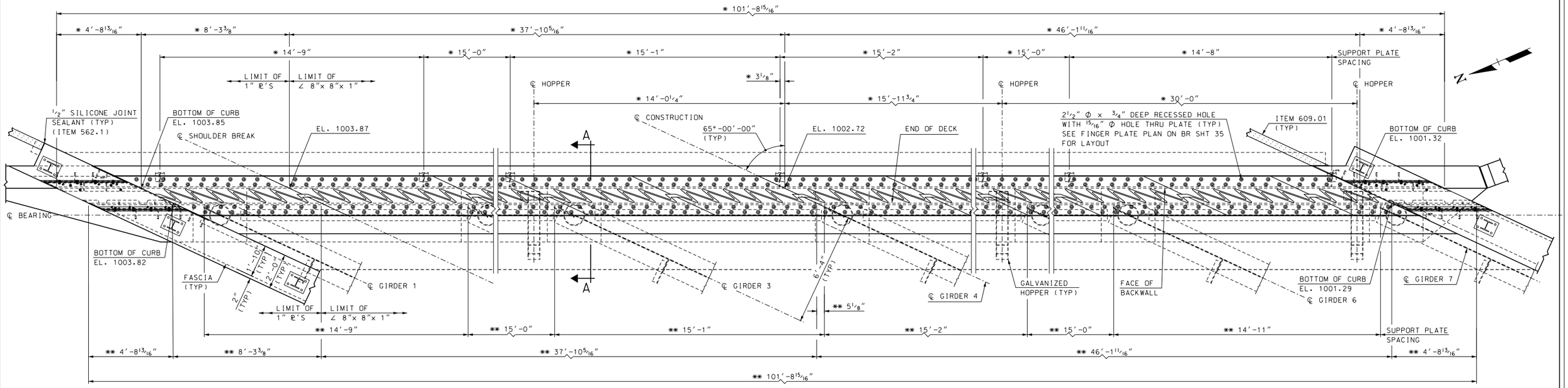
APPROACH SLAB MASONRY AND REINFORCEMENT

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	10/16	CHECKED	WPS	8/17
	DRAWN	SMG	10/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH/WPS	8/17

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\SUPER	10439 Appslab	AS NOTED	REV. DATE	----------	71	294

BRIDGE SHEET 32 OF 50

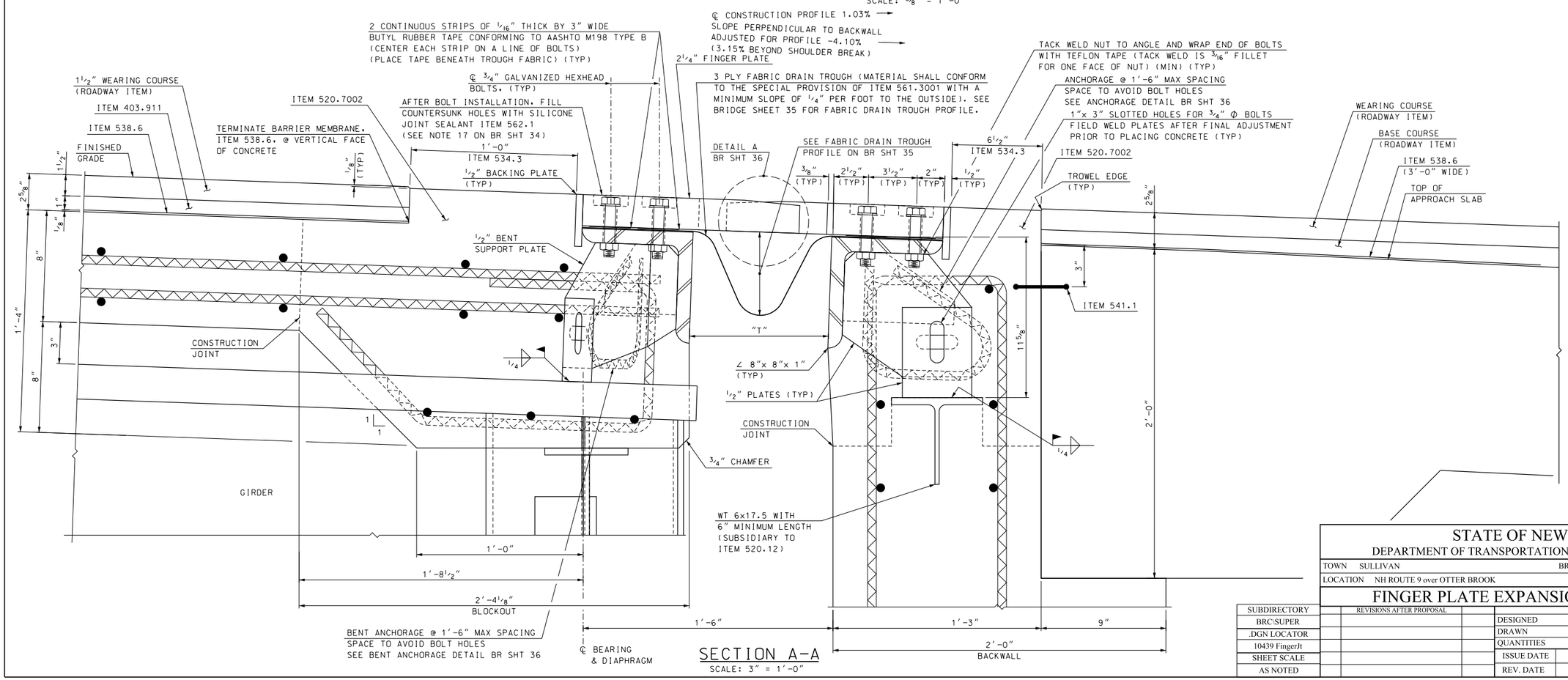
FILE NUMBER 132-3-1



PARTIAL PLAN

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

* = HORIZONTAL DIMENSIONS MEASURED ALONG FACE OF BACKWALL
** = HORIZONTAL DIMENSIONS MEASURED ALONG END OF DECK



SECTION A-A

SCALE: 3" = 1'-0"

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
15° F	10 3/16"
30° F	10 1/16"
45° F	10"
60° F	9 15/16"
75° F	9 13/16"
90° F	9 3/4"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

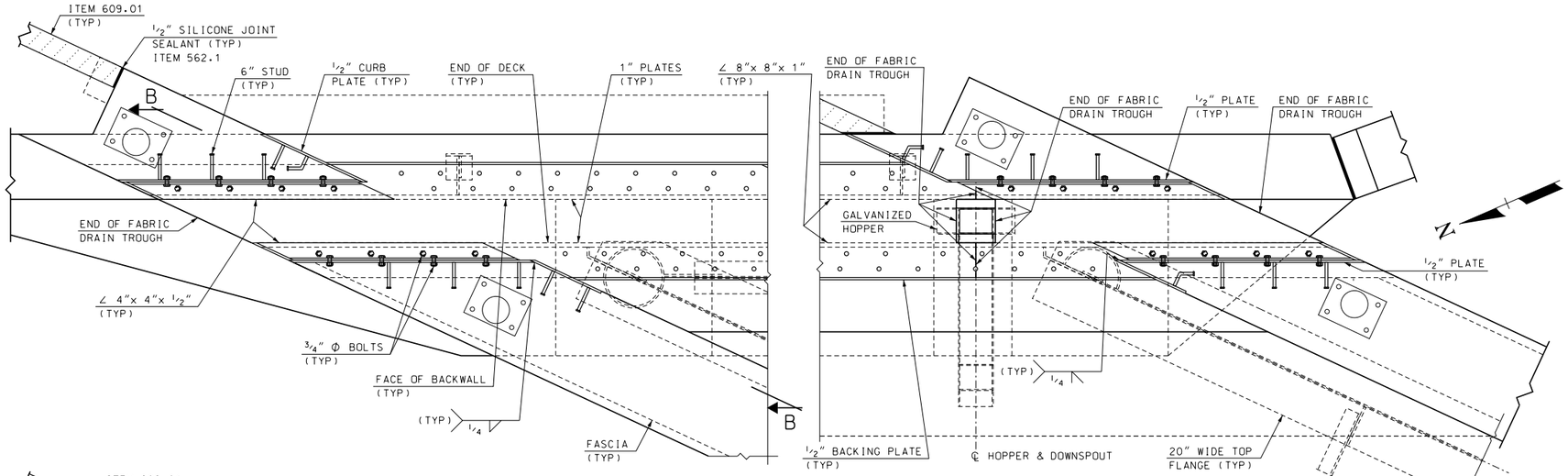
TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

FINGER PLATE EXPANSION JOINT (1 OF 4)

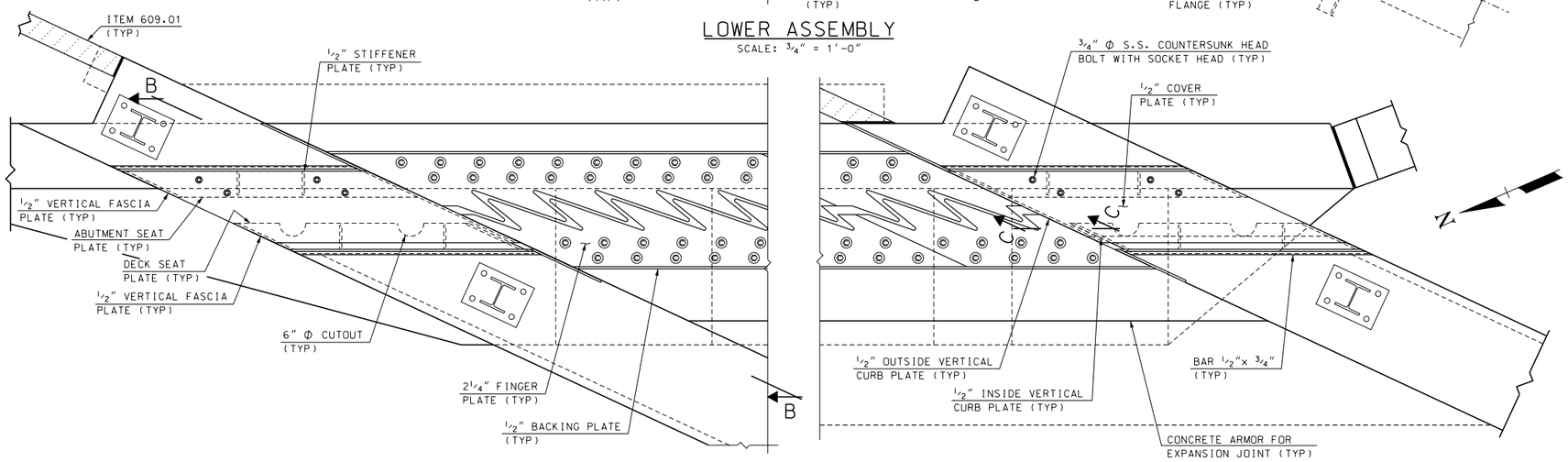
SUBDIRECTORY	REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
BRC\SUPER		DESIGNED	SMG	8/16	CHECKED	KFD	8/17
.DGN LOCATOR		DRAWN	SMG	8/16	CHECKED	KFD	8/17
10439 FingerJt		QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
SHEET SCALE		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
AS NOTED		REV. DATE		----------		72	

BRIDGE SHEET 33 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294



LOWER ASSEMBLY

SCALE: 3/4" = 1'-0"

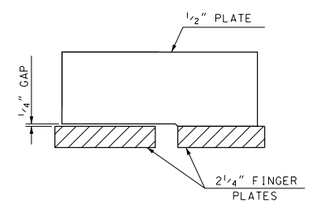


UPPER ASSEMBLY

SCALE: 3/4" = 1'-0"

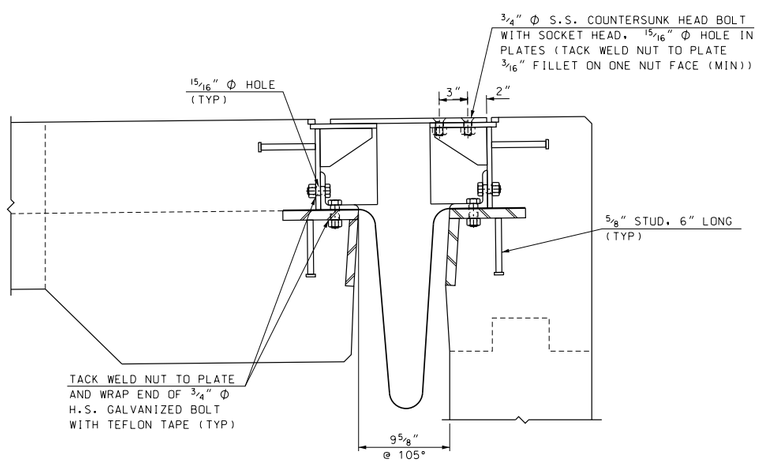
EXPANSION JOINT NOTES

1. EXPANSION JOINT STEEL SHALL BE AASHTO M223 (ASTM A572) GR 50. MINOR STEEL PLATES MAY CONFORM TO AASHTO M183 (ASTM A36). ALL STEEL SHALL BE GALVANIZED. THE ENTIRE ASSEMBLY SHALL BE PAID AS ITEM 561.3001, PREFABRICATED FINGER EXPANSION JOINT (F).
2. BOLTS IN THE CURBS OR SIDEWALKS SHALL BE STAINLESS STEEL COUNTERSUNK HEAD BOLTS WITH SOCKET HEAD AND SHALL CONFORM TO ASTM A276, TYPE 304. BOLTS IN THE ROADWAY SHALL BE GALVANIZED HIGH-STRENGTH BOLTS AND SHALL CONFORM TO ASTM A325. ANCHOR RODS SHALL BE GALVANIZED AND CONFORM TO ASTM A307.
3. SPLICES FOR EXPANSION JOINT STEEL SHALL DEVELOP FULL STRENGTH.
4. THE EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATED AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE ENGINEER (SEE TEMPERATURE TABLE ON BRIDGE SHEET 33). THE MAXIMUM ALLOWABLE MOVEMENT SHALL BE 2 1/8 INCHES.
5. PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
6. JOINT SUPPORT PLATES SHALL BE SHOP WELDED TO THE EXPANSION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
7. FASCIA AND CURB PLATES SHALL BE SHOP WELDED AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
8. IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES. WELDING OF SHIPPING DEVICES TO FINGER PLATE SHALL NOT BE ALLOWED.
9. THE FINGER PLATES SHALL BE CUT FROM ONE CONTINUOUS 2'-0" WIDE x 2 1/4" THICK PLATE AS SHOWN ON THE FINGER CUTTING DETAIL, AND FURNISHED IN 4 DIFFERENT LENGTHS.
10. THE HOPPERS AND DOWNSPOUTS SHALL BE A36 STEEL AND GALVANIZED IN ACCORDANCE WITH SECTION 550. PAYMENT FOR HOPPERS, BLOCKING PADS AND ALL ATTACHMENTS WILL BE SUBSIDIARY TO ITEM 561.3001.
11. ELEVATIONS SHOWN AT TOP OF FINGER PLATES ARE 1/8" LOWER THAN THE PROPOSED FINISHED ROADWAY GRADE.
12. SEE BRIDGE SHEET 36 FOR HOPPER DETAILS.
13. THE FABRIC TROUGH SHALL BE PREFORMED FABRIC MATERIAL AND SHALL BE CUT DURING SHOP PRE-ASSEMBLY. THE TROUGH MAY BE SUPPLIED IN 5 LENGTHS WITH 1'-0" OVERLAP AT ℄ SHOULDER BREAK. SEE BRIDGE SHEET 35 FOR FABRIC TROUGH SPLICE DETAIL.
14. TRIM EXCESS FABRIC BEHIND CURB PLATES.
15. RUBBER BLOCKS USED BETWEEN ABUTMENT CONCRETE AND DOWNSPOUTS SHALL BE MOLDED TO A THICKNESS OF 2" AND CUT BY THE FABRICATOR TO LENGTHS AND WIDTHS SPECIFIED IN THE PLANS. RUBBER BLOCKS SHALL BE OZONE, WATER, AND TEMPERATURE RESISTANT, AND BONDED TO THE FACE OF ABUTMENT WITH A COMPATIBLE ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
16. THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER THE APPROACH FILLS HAVE BEEN CONSTRUCTED TO THE BOTTOM OF THE APPROACH SLAB.
17. AFTER BOLT INSTALLATION, FILL COUNTERSUNK HOLES WITH ITEM 562.1, SILICONE JOINT SEALANT (F) (APPROX. 1 LF/HOLE).



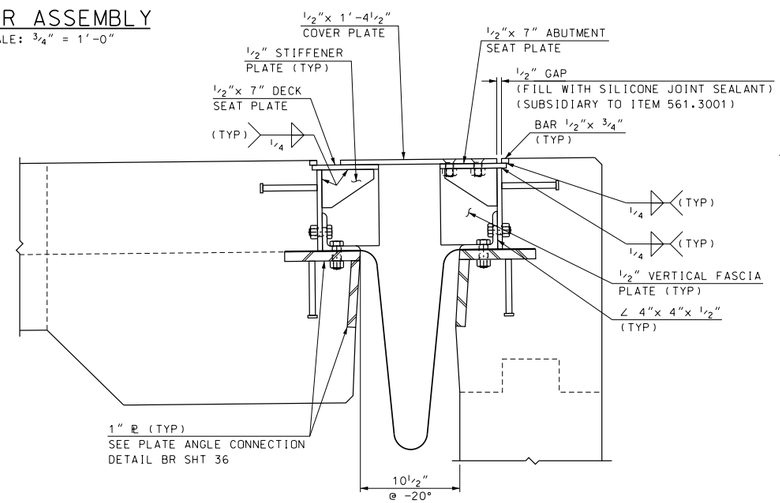
OUTSIDE VERTICAL CURB PLATE DETAIL

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



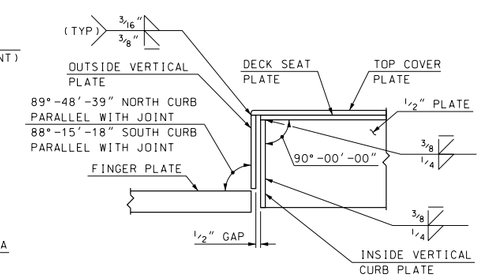
SECTION B-B

SCALE: 1 1/2" = 1'-0"
(MIN. OPENING)



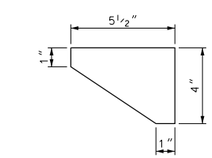
SECTION B-B

SCALE: 1 1/2" = 1'-0"
(MAX. OPENING)



SECTION C-C

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



STIFFENER PLATE

SCALE: 3" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 FingerJt	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

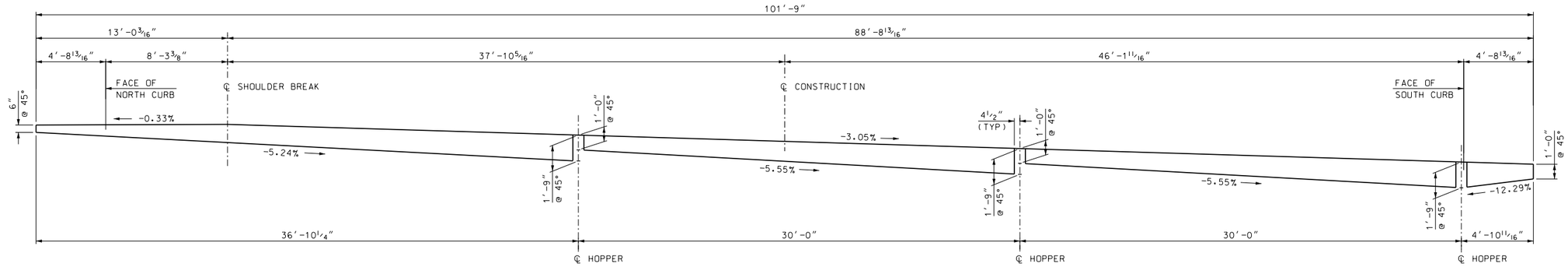
LOCATION NH ROUTE 9 over OTTER BROOK

FINGER PLATE EXPANSION JOINT (2 OF 4)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	8/16	CHECKED	KFD	8/17
	DRAWN	SMG	8/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

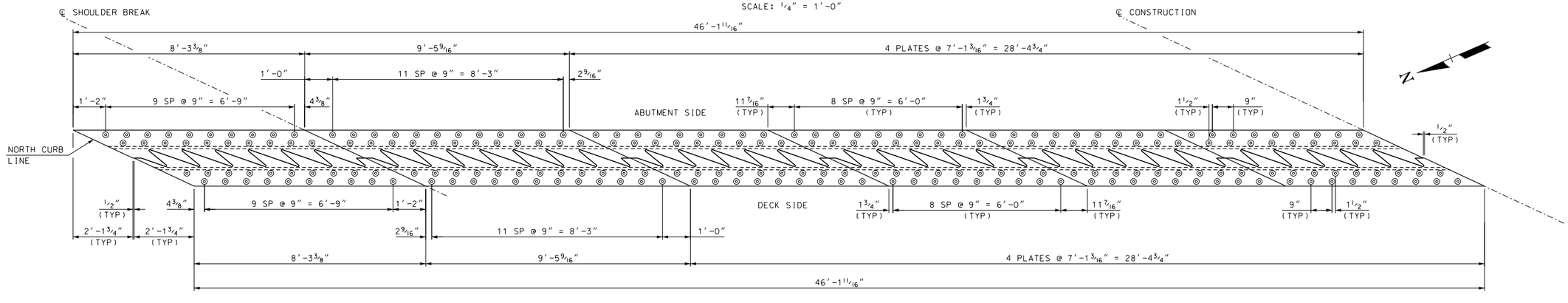
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.
REV. DATE	----------	73

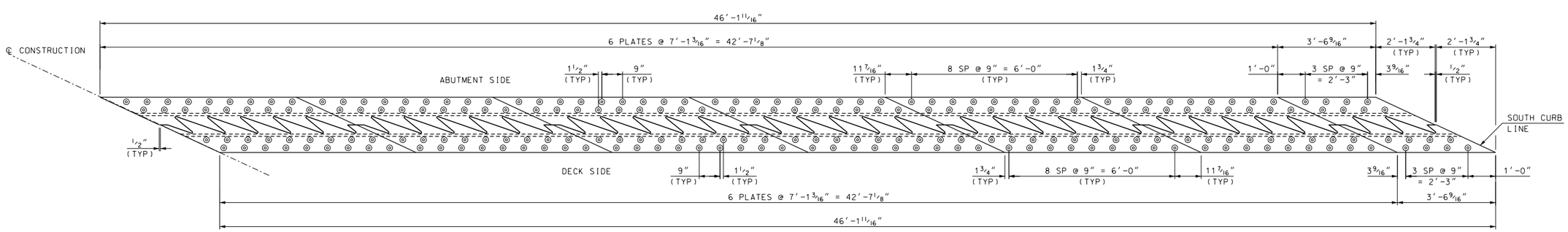
BRIDGE SHEET	FILE NUMBER	TOTAL SHEETS
34 OF 50	132-3-1	294



FABRIC DRAIN TROUGH PROFILE

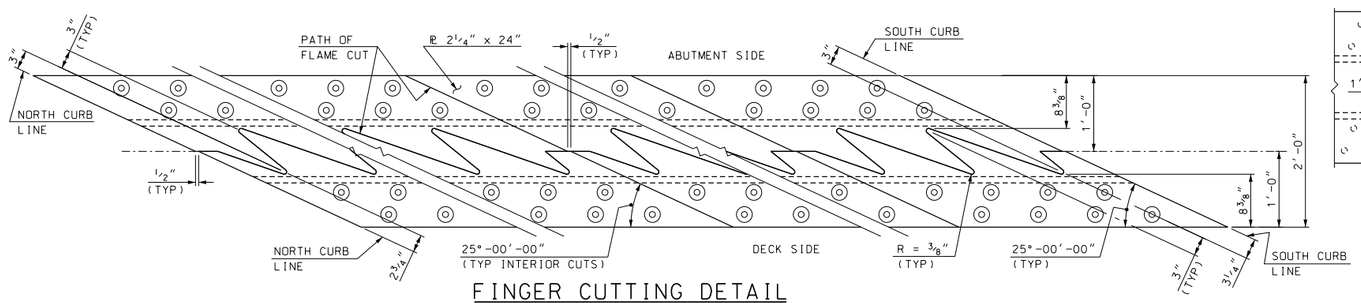
SCALE: 1/4" = 1'-0"





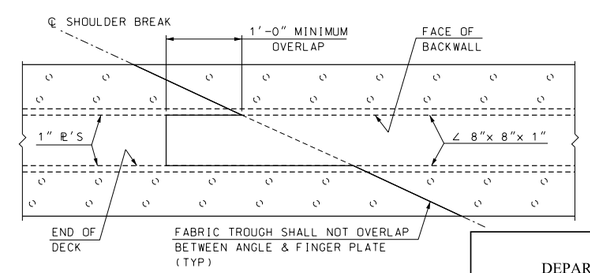
FINGER PLATE PLAN

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



FINGER CUTTING DETAIL

SCALE: 1" = 1'-0"



FABRIC TROUGH SPLICE

SCALE: 1" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	10439 FingerJt	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

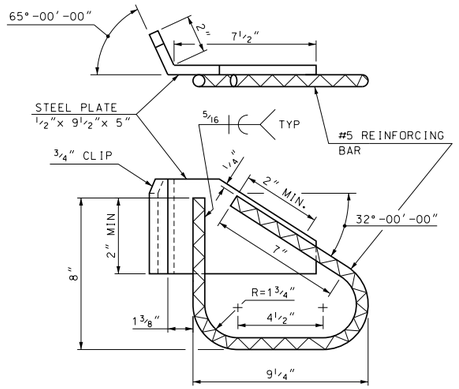
FINGER EXPANSION JOINT (3 OF 4)

BRIDGE SHEET 35 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	8/16	CHECKED	KFD	8/17
	DRAWN	SMG	8/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

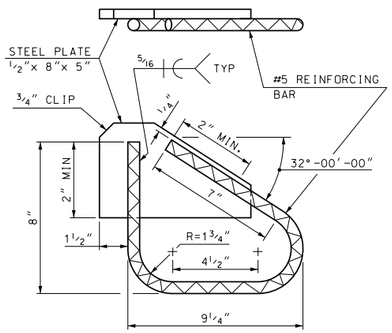
FILE NUMBER 132-3-1

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	74	294



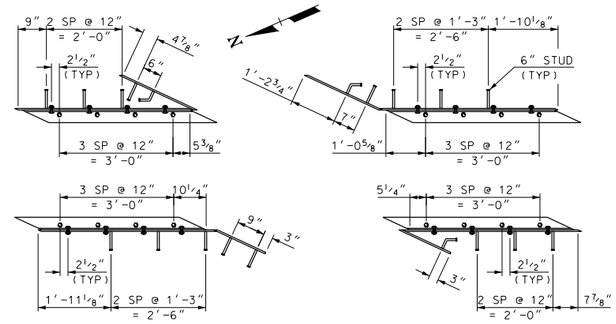
BENT ANCHORAGE DETAIL

SCALE: 3" = 1'-0"



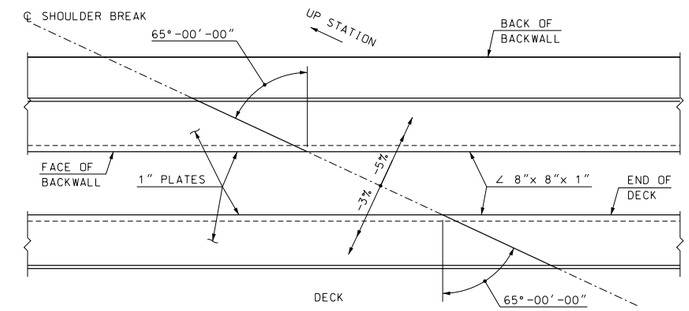
ANCHORAGE DETAIL

SCALE: 3" = 1'-0"



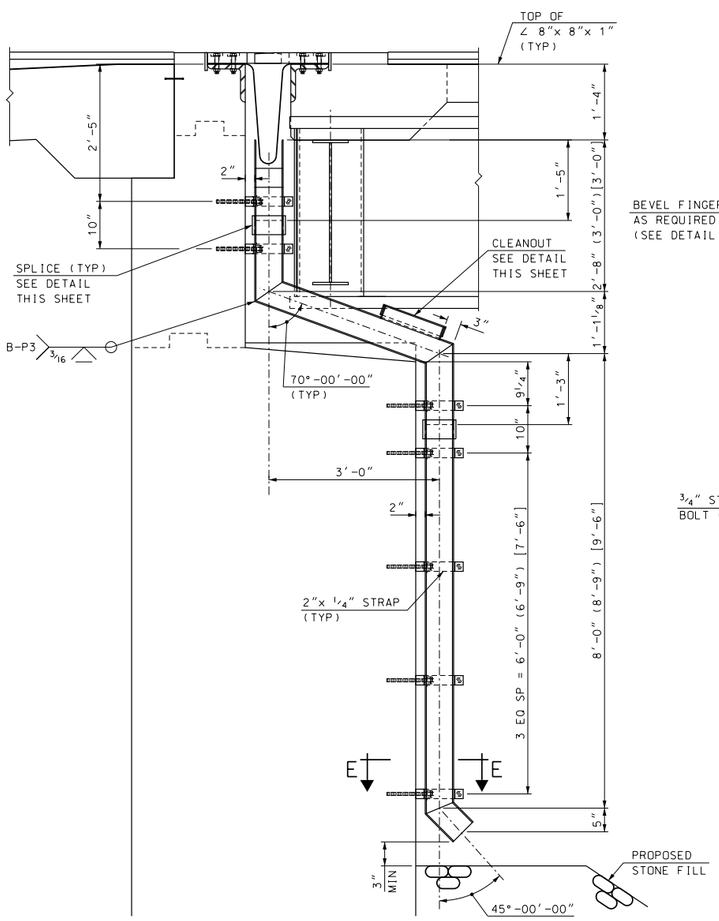
STUD AND BOLT LAYOUT

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



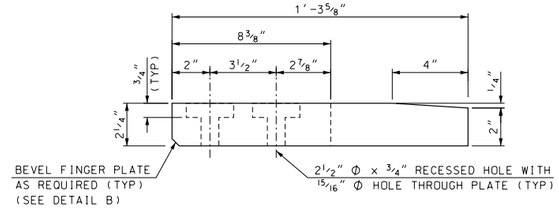
PLATE/ANGLE CONNECTION PLAN

SCALE: 1" = 1'-0"



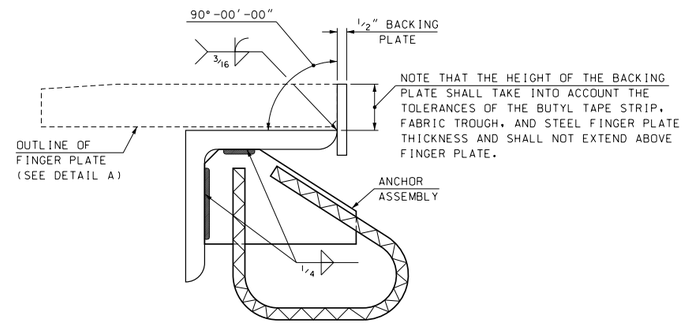
SECTION THRU ℄ OF HOPPER

SOUTH HOPPER SHOWN (CENTER HOPPER) [NORTH HOPPER]
SCALE: 3/4" = 1'-0"



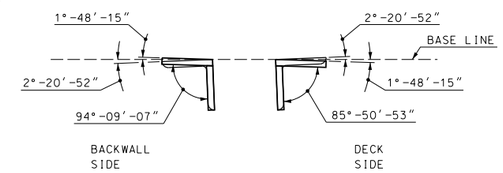
DETAIL A

SCALE: 3" = 1'-0"



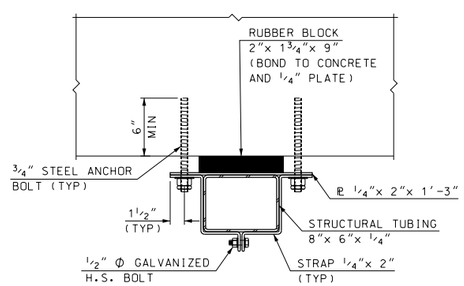
DETAIL B

SCALE: 3" = 1'-0"



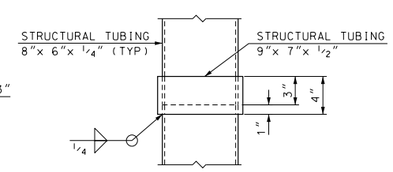
PLATE/ANGLE CONNECTION DETAIL

SCALE: 1" = 1'-0"



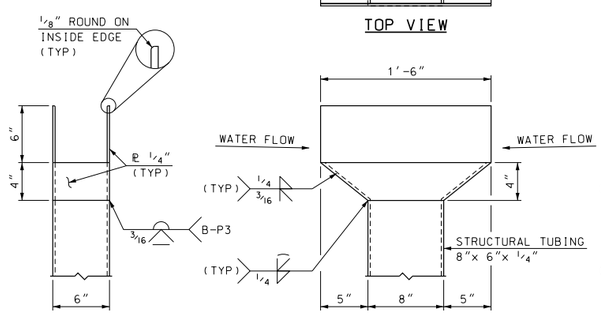
SECTION E-E

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



DOWNSPOUT SPLICE DETAIL

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

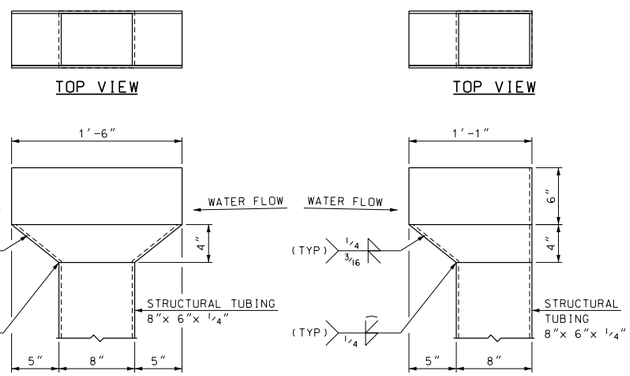


SIDE VIEW

2 WAY FLOW SHOWN
(1 WAY FLOW SIMILAR)

FRONT VIEW

2 WAY FLOW
(1 REQUIRED)

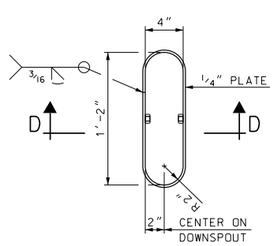


FRONT VIEW

1 WAY FLOW
(2 REQUIRED)

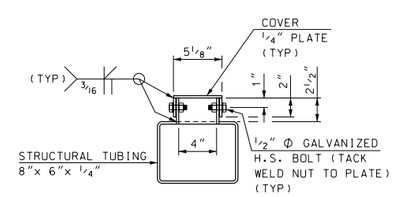
HOPPER DETAILS

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



CLEANOUT DETAIL

SCALE: 1 1/2" = 1'-0"
(COVER REMOVED)



SECTION D-D

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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

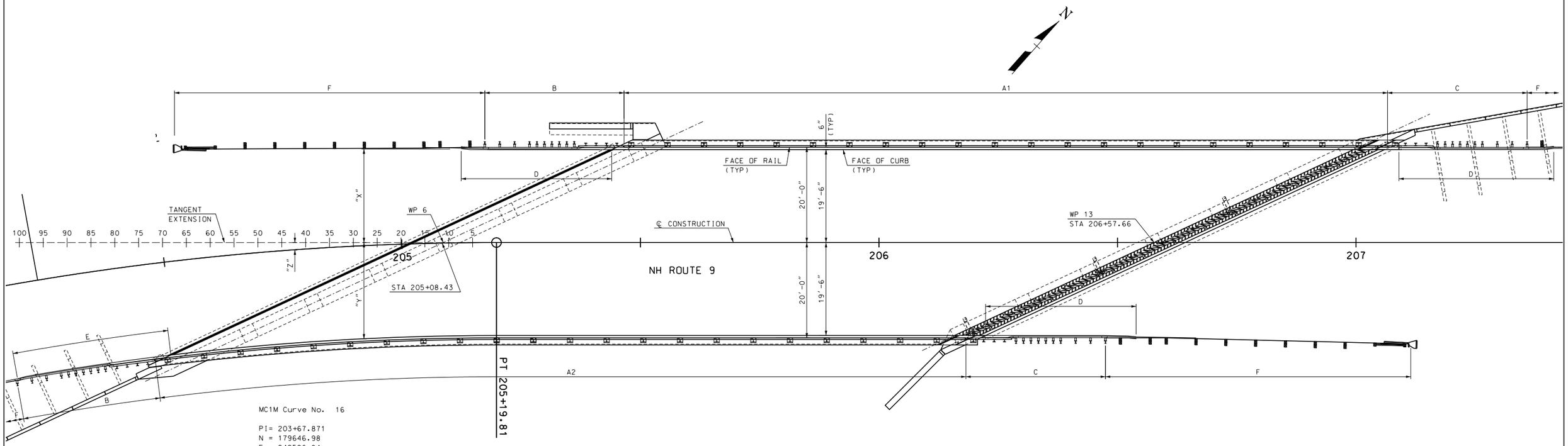
FINGER PLATE EXPANSION JOINT (4 OF 4)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	8/16	CHECKED	KFD	8/17
	DRAWN	SMG	8/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\SUPER	10439 FingerJt	AS NOTED	REV. DATE	----------	75	294

BRIDGE SHEET 36 OF 50

FILE NUMBER 132-3-1



MC1M Curve No. 16

PI= 203+67.871
N = 179646.98
E = 842526.84
Δ = 30°13'53.58" Right
T = 159.37'
R = 590.00'
L = 311.31'
E = 21.15'

BRIDGE RAIL AND CURB LAYOUT

SCALE: 1" = 10'-0"

CURB OFFSETS			
DIST. ALONG TANGENT EXT.	X	Y	Z
0 FT.	19'-6"	19'-6"	0"
5 FT.	19'-6"	19'-6 1/4"	1/4"
10 FT.	-	19'-7"	1"
15 FT.	-	19'-8 3/8"	2 1/4"
20 FT.	-	19'-10 1/4"	4 1/8"
25 FT.	-	20'-0 5/8"	6 3/8"
30 FT.	-	20'-3 1/2"	9 1/8"
35 FT.	-	20'-6 7/8"	1'-0 1/2"
40 FT.	-	20'-10 7/8"	1'-4 1/4"
45 FT.	-	21'-3 3/8"	1'-8 5/8"
50 FT.	-	21'-8 3/8"	2'-1 1/2"
55 FT.	-	22'-1 7/8"	2'-6 7/8"
60 FT.	-	22'-8"	3'-0 3/4"
65 FT.	-	23'-2 5/8"	3'-7 1/8"
70 FT.	-	23'-9 3/4"	4'-2"
75 FT.	-	24'-5 3/8"	4'-9 3/8"
80 FT.	-	25'-1 5/8"	5'-5 3/8"
85 FT.	-	25'-10 3/8"	6'-1 7/8"
90 FT.	-	26'-7 3/4"	6'-10 7/8"
95 FT.	-	27'-5 5/8"	7'-8 3/8"
100 FT.	-	28'-5 3/4"	8'-6 3/8"

X, Y, AND Z ARE MEASURED PERPENDICULAR TO TANGENT EXTENSION

RAIL AND CURB NOTES

A. ITEM 563.22, BRIDGE RAIL T2
SEE BR SHT 38 FOR DETAILS
A1 = 160'-0 1/2"
A2 = 170'-1 1/2"
TOTAL ITEM PAY LENGTH = 331 LF

B. ITEM 565.222, BRIDGE APPROACH RAIL T2 (STEEL POSTS)
SEE BR SHT 39 FOR DETAILS
B = 29'-2"/UNIT
TOTAL ITEM PAY LENGTH = 2 U

C. ITEM 565.2229, BRIDGE APPROACH RAIL T2 (STEEL POSTS) (MODIFIED)
SEE BR SHT 40 FOR DETAILS
C = 29'-2"/UNIT
TOTAL ITEM PAY LENGTH = 2 U

D. ITEM 609.01, STRAIGHT GRANITE CURB
D = 32'-6"/APPROACH RAIL
SHEET TOTAL PAY LENGTH = 98 LF
(NOT AN ITEM TOTAL, SEE ROADWAY SUMMARY SHEETS)

E. ITEM 609.02, CURVED GRANITE CURB
RADIUS = 570.5'
E = 32'-6"
SHEET TOTAL PAY LENGTH = 33 LF
(NOT AN ITEM TOTAL, SEE ROADWAY SUMMARY SHEETS)

F. BEAM GUARDRAIL AND END UNITS
ROADWAY ITEMS

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

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LOCATION NH ROUTE 9 over OTTER BROOK

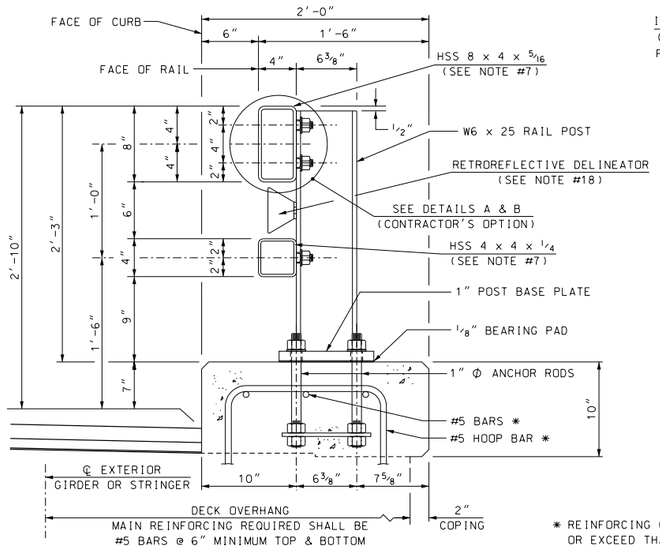
RAIL AND BRIDGE APPROACH CURB LAYOUT

BRIDGE SHEET 37 OF 50

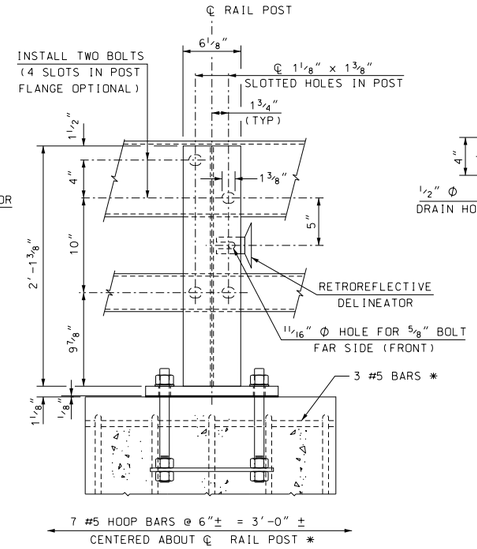
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	10/16	CHECKED	WPS	8/17
	DRAWN	SMG	10/16	CHECKED	KFD	8/17
	QUANTITIES	KFD	8/17	CHECKED	ABH	8/17

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\BRSITE	10439 RClayout	AS NOTED	REV. DATE	----------	76	294



SECTION VIEW

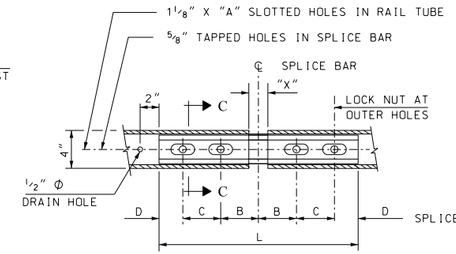


* REINFORCING CAPACITY SHALL MEET
OR EXCEED THAT SHOWN

BACK ELEVATION VIEW

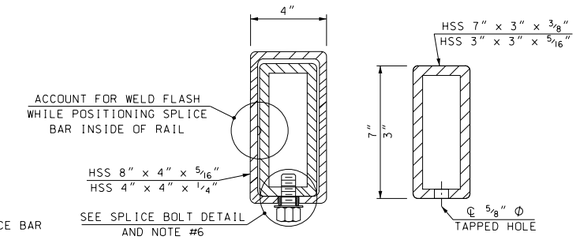
POST ASSEMBLY

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



RAIL SPLICE (BOTTOM VIEW)

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

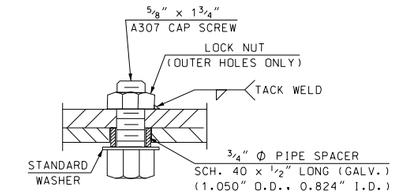


SECTION C-C

SPLICE BAR SECTION

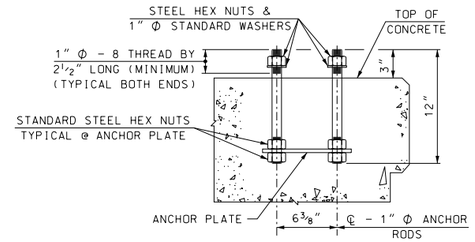
RAIL SPLICE DETAILS

SCALE: 3" = 1'-0"



SPLICE BOLT DETAIL

SCALE: 6" = 1'-0"



POST ANCHOR ASSEMBLY

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

RAIL NOTES

(1) ITEM 563.22, BRIDGE RAIL T2, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR RODS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STUDS, STRUCTURAL TUBING, SPLICE BARS, PIPE SPACERS, ALL APPURTENANCES, AND GALVANIZING.

(2) BRIDGE RAIL POSTS SHALL BE SET NORMAL (90 DEGREES) TO THE PROFILE GRADE, EXCEPT ON GRADES OVER 5% WHERE POSTS SHALL BE SET VERTICAL.

(3) ENDS OF RAIL TUBE SECTIONS SHALL BE SAWED OR MILLED AND SHALL BE TRUE AND SMOOTH. ALL CUT EDGES OF ALL MATERIAL SHALL BE GROUND SMOOTH.

(4) EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.

(5) BOLT HOLES SHALL BE DRILLED OR PUNCHED. FLAME CUTTING MAY BE USED TO FINISH SLOTTED HOLES IF MECHANICALLY GUIDED.

(6) AT INTERIOR SPLICES, PIPE SPACERS SHALL BE USED ON ONLY ONE SIDE OF THE SPLICE TO ALLOW MOVEMENT ON THAT SIDE. THE TOP AND BOTTOM RAIL SHALL RECEIVE THE SAME TREATMENT. AT END SPLICES PIPE SPACERS SHALL BE USED ON BOTH SIDES OF THE SPLICE TO ALLOW MOVEMENT ON EACH SIDE.

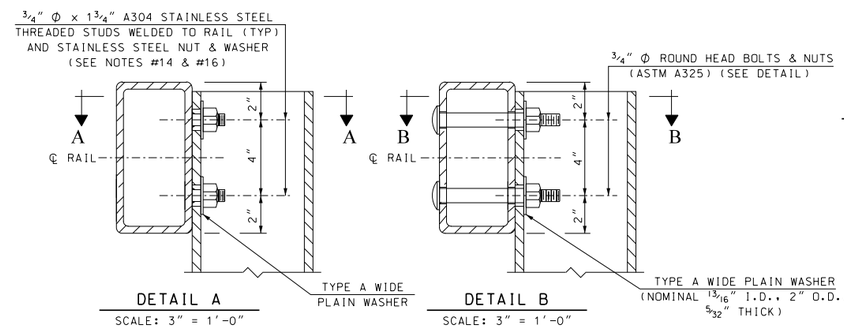
(7) MILL OR SHOP TRANSVERSE WELDS SHALL NOT BE PERMITTED ON ANY RAIL ELEMENT. RAIL ELEMENTS USED ON CURVES SHALL USE 3/8" WALL TUBES AND SHALL BE SHOP FORMED TO THE REQUIRED CURVATURE (SEE SECTION 563.3.2.1).

(8) NO PUNCHING, DRILLING, CUTTING OR WELDING SHALL BE PERMITTED AFTER GALVANIZING, EXCEPT AS ALLOWED IN DETAILS A AND B, AND FOR INSTALLATION OF DELINEATORS. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING A MINIMUM 92% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING, ACCORDING TO SECTION 550.2.9.1 AND ASTM A780.

(9) NUTS FOR 1" Φ THREADED ANCHOR RODS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

(10) THREADS FOR ANCHOR RODS MAY BE ROLLED OR CUT. IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, ROD DIAMETER SHALL NOT BE LESS THAN ROOT DIAMETER OF THREADS.

(11) THIS BRIDGE RAIL SYSTEM WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-4 PER FHWA LETTER HMHS-B50, MARCH 11, 1999.

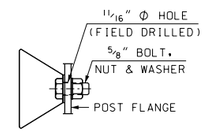


DETAIL A

SCALE: 3" = 1'-0"

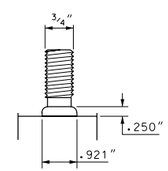
DETAIL B

SCALE: 3" = 1'-0"



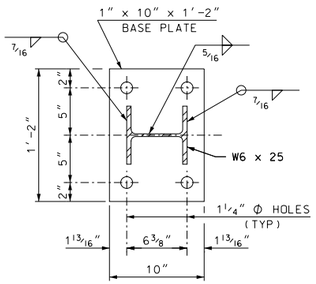
DELINEATOR MOUNTING

NOT TO SCALE



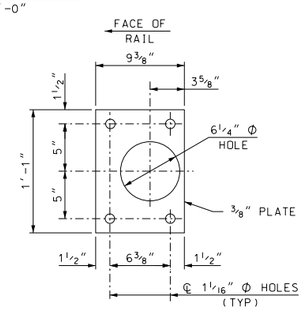
STUD WELD DETAIL

SCALE: 6" = 1'-0"



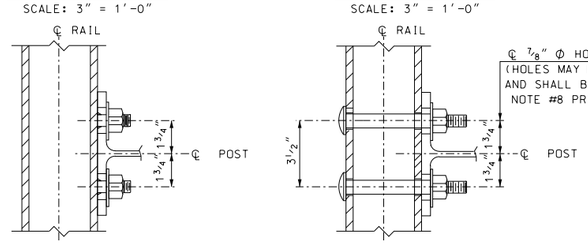
POST BASE PLATE

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



ANCHOR PLATE

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

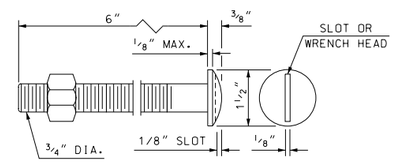


SECTION A-A

SCALE: 3" = 1'-0"

SECTION B-B

SCALE: 3" = 1'-0"



A325 ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"

MATERIAL NOTES

(12) STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B. STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH REQUIREMENTS OF 15 FT. LBS. AT 0°F. FOR ASTM A500, GRADE B, THE TEST SAMPLES SHALL BE TAKEN AFTER FORMING THE TUBES. CHARPY V-NOTCH IS NOT REQUIRED FOR SPLICE TUBES.

(13) RAIL POSTS AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50, EXCEPT ANCHOR PLATES MAY BE ASTM A36.

(14) THREADED STUDS AND MATCHING NUTS FOR RAIL-TO-POST ATTACHMENT (DETAIL A) SHALL CONFORM TO ASTM A276 TYPE 304, STAINLESS STEEL, AND SHALL BE TORQUE TESTED PER AWS D1.5, 7.7.1. DETAIL B BOLTS SHALL BE ASTM A325 OR A449. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND ASTM 563 GRADE A RESPECTIVELY OR BETTER, EXCEPT THAT ASTM A307 NUTS MAY BE USED ON THE BOTTOM OF ANCHOR ASSEMBLY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.22. ANCHOR RODS SHALL CONFORM TO ASTM A449.

(15) ALL STEEL COMPONENTS (EXCEPT STAINLESS) SHALL BE GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). THE GALVANIZING KETTLE SHALL HAVE 0.05 TO 0.09 PERCENT NICKEL. GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED. IF PAINTING IS REQUIRED SEE SPECIAL PROVISIONS FOR 708.

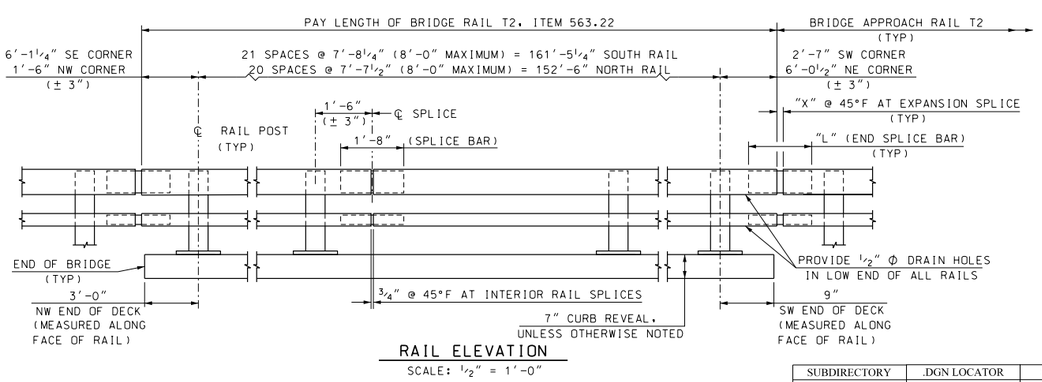
(16) DETAIL A STUDS SHALL BE WELDED ON AFTER TUBES ARE GALVANIZED BY SPOT GRINDING OFF GALVANIZING, WELDING ON STUDS, THEN TOUCH UP GALVANING PER NOTE #8 ABOVE.

(17) PREFORMED BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.

(18) RETROREFLECTIVE DELINEATORS, BOLTS, NUTS, WASHERS AND FIELD DRILLING OF POSTS, INCLUDING GALVANIZING TOUCH-UP, SHALL BE SUBSIDIARY TO ITEM 563.22. SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (DL-1) FOR ADDITIONAL DETAILS AND SPACING.

SPLICE BAR DIMENSION TABLE							
	T	A	B	C	D	X	L
	INTERIOR	2 1/2"	4"	4"	2"	3/4"	1'-8"
**	≤ 3 1/4"	2 1/2"	4"	4"	2"	2"	1'-8"
**	3 1/4" < T ≤ 5 1/4"	3 1/2"	5"	5"	2 1/2"	3"	2'-1"

T = TOTAL MOVEMENT OF BRIDGE
** = END SPLICE BAR



RAIL ELEVATION

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

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

T2 STEEL BRIDGE RAIL

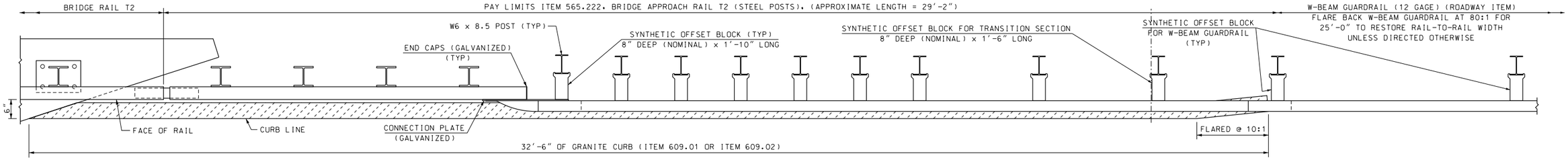
REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
DRAWN	PJP	10/05	CHECKED	JSZ	10/05
QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE	3/12/16	----------		77	

BRIDGE SHEET 38 OF 50

FILE NUMBER 132-3-1

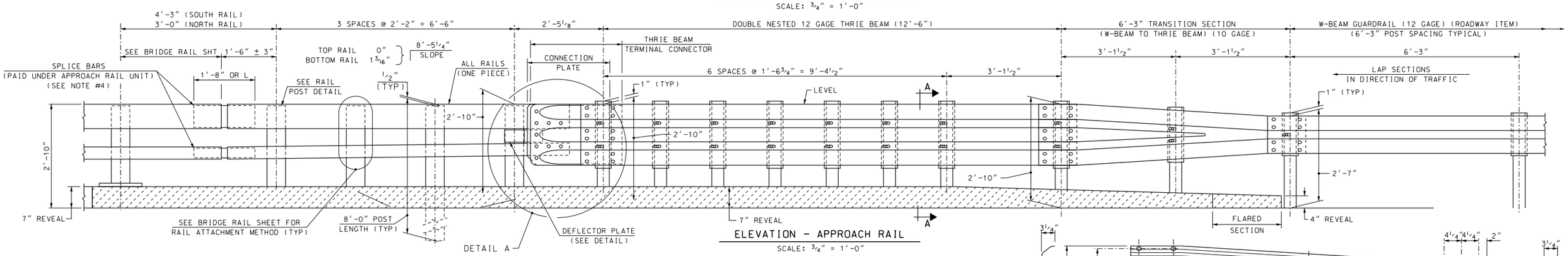
TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	T2_BR-RAIL	AS NOTED



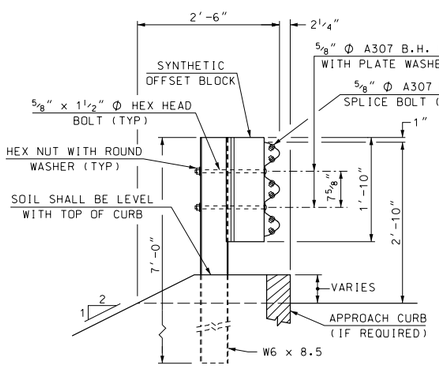
PLAN VIEW - APPROACH RAIL

SCALE: 3/4" = 1'-0"



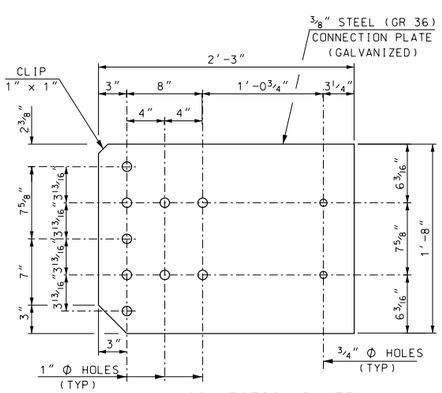
ELEVATION - APPROACH RAIL

SCALE: 3/4" = 1'-0"



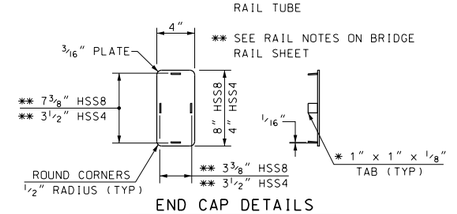
SECTION A-A (POST RAIL ASSEMBLY)

SCALE: 3/4" = 1'-0"



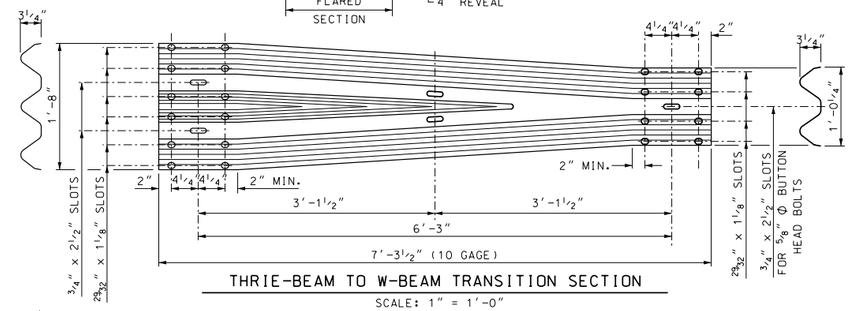
CONNECTION PLATE

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



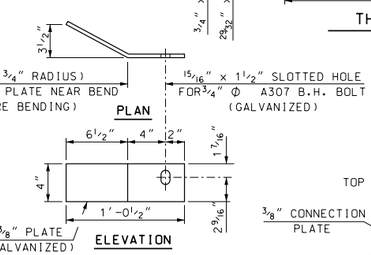
END CAP DETAILS

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



THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE: 1" = 1'-0"



DEFLECTOR PLATE DETAIL

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

NOTES:

(1) ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSIONS, SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED. SEE BRIDGE RAIL SHEET FOR NOTES AND ADDITIONAL INFORMATION.

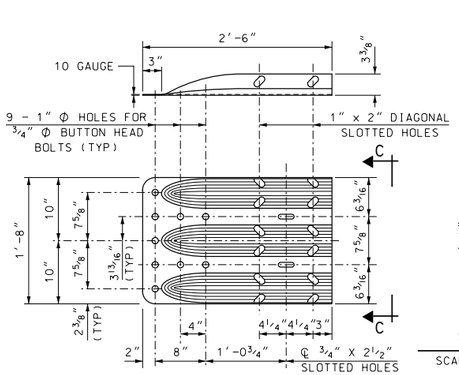
(2) W6 x 25 POSTS SHALL BE THE SAME MATERIAL AS THE BRIDGE RAIL POSTS. W6 x 8.5 POSTS SHALL BE THE SAME AS W-BEAM GUARDRAIL POSTS.

(3) CARRIAGE BOLTS SHALL BE ASTM A307, AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).

(4) WELD BARS ADJUSTED FOR SLOPE & BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

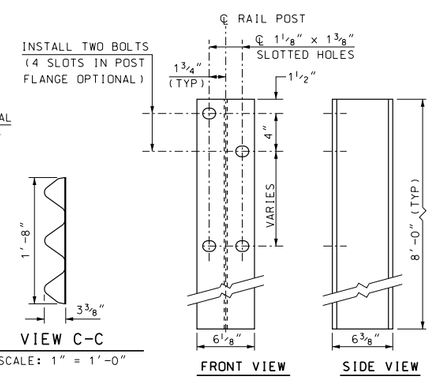
(5) THIS BRIDGE RAIL TRANSITION SYSTEM WAS SUCCESSFULLY CRASH TESTED IN APRIL 2005 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-3 PER FHWA LETTER HSSD/B-146.

(6) ALL COMPONENTS, EXCEPT TUBULAR RAIL, SHALL CONFORM TO SECTION 606 OF NHDOT SPECIFICATIONS.



THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"

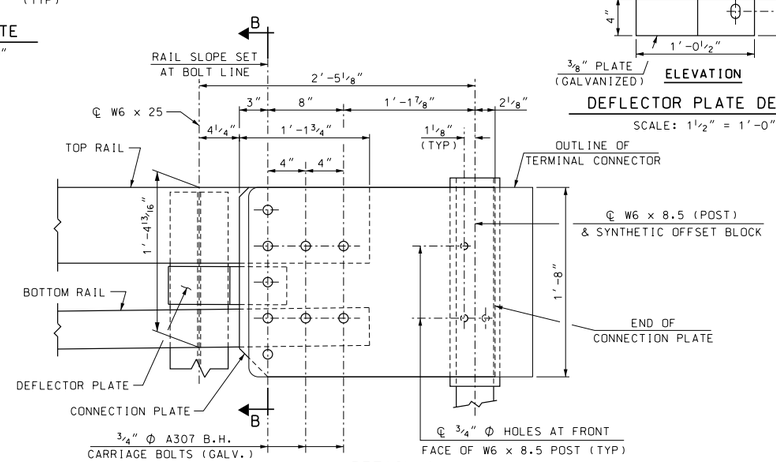


VIEW C-C

SCALE: 1" = 1'-0"

RAIL POST (W6 x 25)

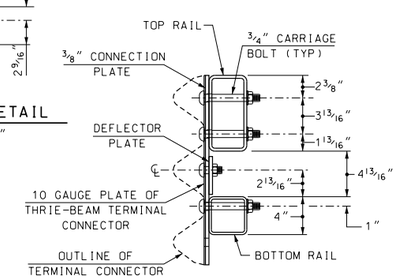
SCALE: 1 1/2" = 1'-0"



DETAIL A

OVERLAPPING OF DOUBLE NESTED THRIE-BEAM NOT SHOWN FOR CLARITY

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



SECTION B-B (CONNECTION PLATE)

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

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	
BRC\SUPER	T2SP_APPRAIL	AS NOTED	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN — BRIDGE NO. 093\060 — STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

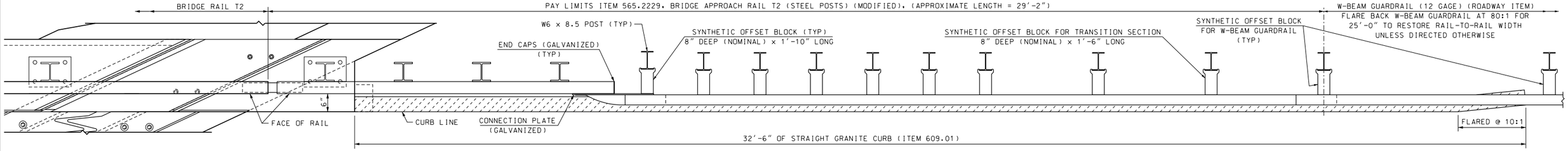
T2 STEEL BRIDGE APPROACH RAIL (STEEL POSTS)

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
DRAWN	PJP	5/08	CHECKED	JSZ	10/05
QUANTITIES	KFD	8/17	CHECKED	ABH	8/17
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE	3/12/16	----------		78	

BRIDGE SHEET 39 OF 50

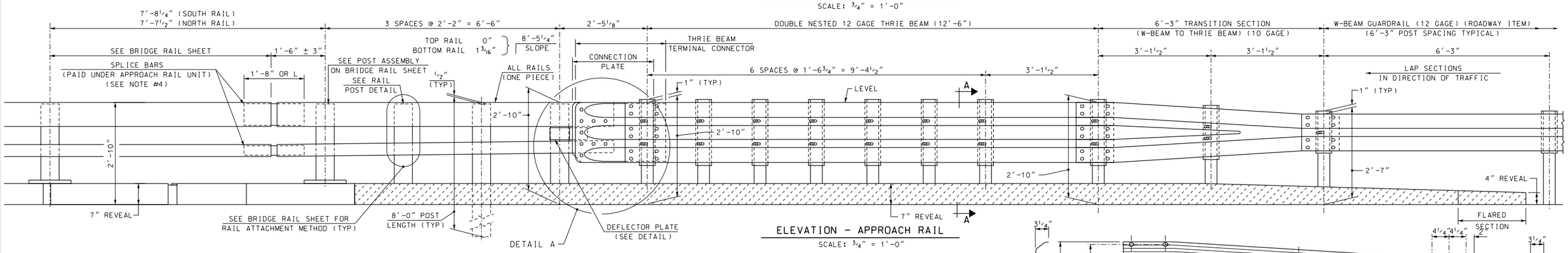
FILE NUMBER 132-3-1

TOTAL SHEETS 294



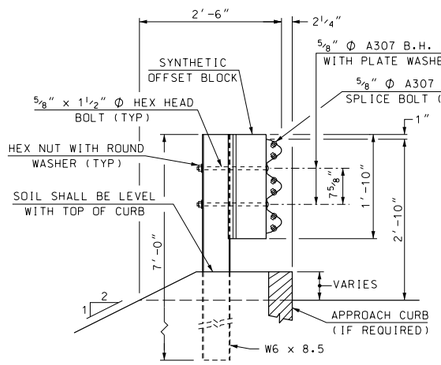
PLAN VIEW - APPROACH RAIL

SCALE: 3/4" = 1'-0"



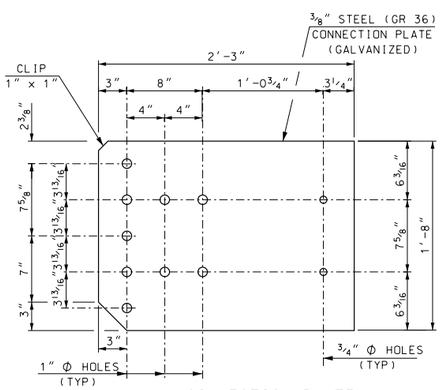
ELEVATION - APPROACH RAIL

SCALE: 3/4" = 1'-0"



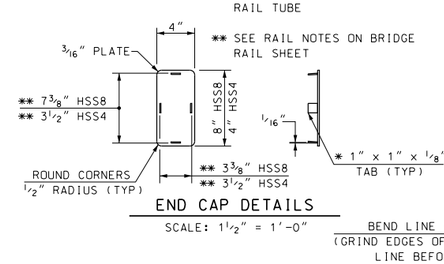
SECTION A-A (POST RAIL ASSEMBLY)

SCALE: 3/4" = 1'-0"



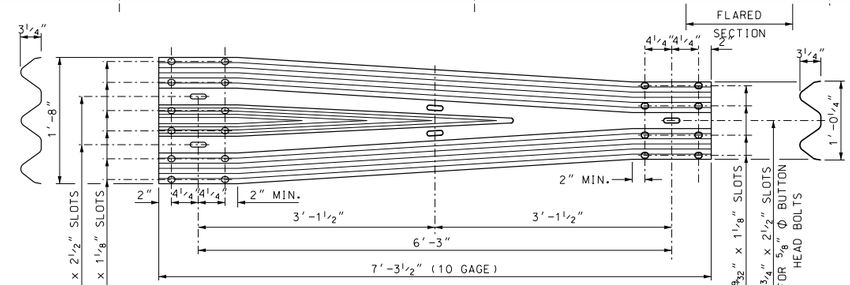
CONNECTION PLATE

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



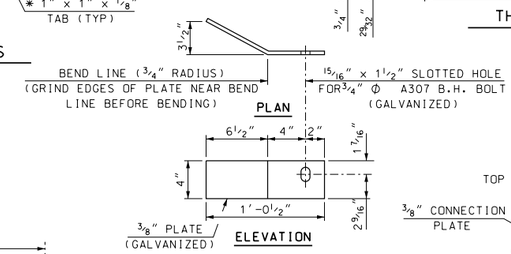
END CAP DETAILS

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



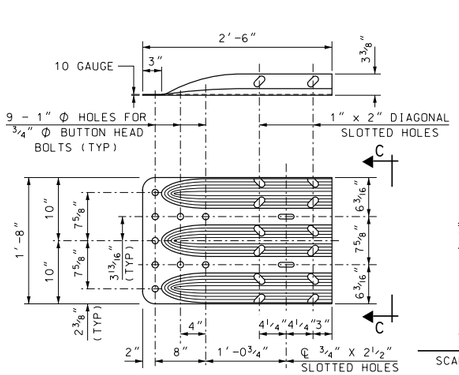
THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE: 1" = 1'-0"



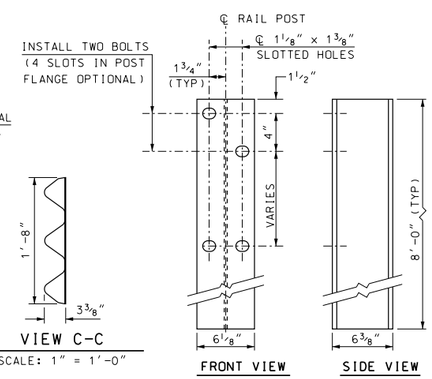
DEFLECTOR PLATE DETAIL

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



THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"

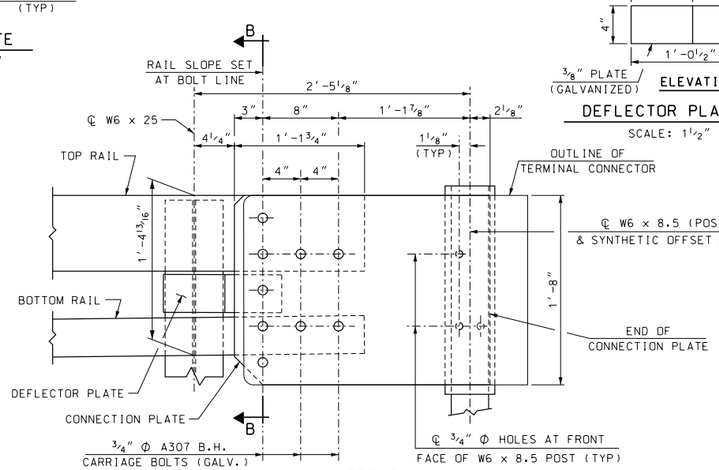


VIEW C-C

SCALE: 1" = 1'-0"

RAIL POST (W6 x 25)

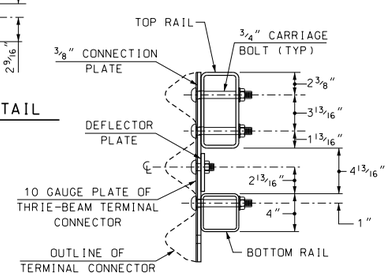
SCALE: 1 1/2" = 1'-0"



DETAIL A

OVERLAPPING OF DOUBLE NESTED THRIE-BEAM NOT SHOWN FOR CLARITY

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



SECTION B-B (CONNECTION PLATE)

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

NOTES:

(1) ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSIONS, SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED. SEE BRIDGE RAIL SHEET FOR NOTES AND ADDITIONAL INFORMATION.

(2) W6 x 25 POSTS SHALL BE THE SAME MATERIAL AS THE BRIDGE RAIL POSTS. W6 x 8.5 POSTS SHALL BE THE SAME AS W-BEAM GUARDRAIL POSTS.

(3) CARRIAGE BOLTS SHALL BE ASTM A307, AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).

(4) WELD BARS ADJUSTED FOR SLOPE & BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

(5) THIS BRIDGE RAIL TRANSITION SYSTEM WAS SUCCESSFULLY CRASH TESTED IN APRIL 2005 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-3 PER FHWA LETTER HSSD/B-146.

(6) ALL COMPONENTS, EXCEPT TUBULAR RAIL, SHALL CONFORM TO SECTION 606 OF NHDOT SPECIFICATIONS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 093\060 | STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

MODIFIED T2 STEEL BR APP RAIL (STEEL POSTS)

REVISIONS AFTER PROPOSAL	BY	DATE			BY	DATE
			DESIGNED NETC/JSZ	3/02	CHECKED NHDOT	
			DRAWN PJP	5/08	CHECKED JSZ	10/05
			QUANTITIES KFD	8/17	CHECKED ABH	8/17
			ISSUE DATE 11/15/05		FEDERAL PROJECT NO. ----------	SHEET NO. 79
			REV. DATE 3/12/16			

BRIDGE SHEET 40 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\SUPER	T2SP_APPRAIL_MOD	AS NOTED

	SUMMARY OF BRIDGE QUANTITIES BR NO 094/064		
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
** 304.301	CRUSHED GRAVEL	7	CY
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	3	TON
** 403.61	PAVEMENT JOINT ADHESIVE (BRIDGE BASE)	528	LF
** 403.911	HOT BITUMINOUS BRIDGE PAVEMENT 1" BASE COURSE	15	TON
502.103	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
** 504.1	COMMON BRIDGE EXCAVATION (F)	7	CY
511.00	CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F)	263	SY
511.02	PREPARATION FOR PARTIAL DEPTH CONCRETE BRIDGE DECK REPAIRS	52	SY
511.03	PREPARATION FOR FULL DEPTH CONCRETE BRIDGE DECK REPAIRS	6	SY
512.02	PREPARATION FOR CONCRETE REPAIRS, CLASS II	5	SY
520.01	CONCRETE CLASS AA	7	CY
520.0201	CONCRETE CLASS AA, ABOVE FOOTINGS	9	CY
** 534.3	WATER REPELLENT (SILANE-SILOXANE)	6	GAL
** 538.2	BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F)	8	SY
** 538.5	BARRIER MEMBRANE, HEAT WELDED (F)	259	SY
** 541.5	PVC WATERSTOPS, NH TYPE 5 (F)	33	LF
** 544.	REINFORCING STEEL (F)	878	LB
** 559.41	ASPHALTIC PLUG FOR CRACK CONTROL (F)	28.5	LF
560.1001	PREFABRICATED COMPRESSION SEAL EXPANSION JOINT (F)	32.2	LF
** 562.1	SILICONE JOINT SEALANT (F)	8	LF
563.8	RESETTING BRIDGE RAIL	2	LF
609.5	RESET GRANITE CURB	10	LF
609.55	RESET GRANITE CURB (BRIDGE)	40	LF
** 628.22	SAWED BITUMINOUS PAVEMENT (BRIDGE)	57	LF
** 692.	MOBILIZATION	0.05	U
** 1002.1	REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES	*	$

* NOT A BID ITEM
** NOT AN ITEM TOTAL

SULLIVAN - BR NO 094/064 NOTES

CENTRE STREET OVER OTTER BROOK

SCOPE OF WORK

- REMOVE AND REPLACE DECK PAVEMENT AND MEMBRANE
- PARTIAL AND FULL DEPTH CONCRETE DECK REPAIRS
- RESET GRANITE BRIDGE CURB
- REMOVE AND REPLACE COMPRESSION SEAL EXPANSION JOINT AT ABUTMENT A

MATERIALS AND SPECIFICATIONS

1. SPECIFICATIONS: NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED
2. REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
3. CONCRETE:
   PARTIAL DEPTH DECK REPAIRS:
   ITEM 520.01, CONCRETE CLASS AA
   4000 psi

   FULL DEPTH DECK REPAIRS, BRUSH CURBS, ABUTMENT BACKWALL AND DECK EXPANSION JOINT BLOCKOUT:
   ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS
   4000 psi

GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT DIG SAFE TO SURVEY AND TAG ALL BRIDGE COPING AND UNDERGROUND LOCATIONS NEAR THE BRIDGE FOR POSSIBLE UTILITIES.
2. EXISTING BRIDGE PLANS (SULLIVAN BR. NO. 094/064 FILE NO. 4-9-3-1) ARE AVAILABLE ON-LINE ON THE INVITATION TO BID WEB PAGE IN THE PROJECT'S PROPOSAL PACKING DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN AWARDED, A SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.
3. THE CONTRACTOR SHOULD BE AWARE THAT EXISTING STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN IN THESE PLANS WERE TAKEN (AND/OR CALCULATED) FROM EXISTING BRIDGE PLANS AND DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSIONS AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURE AND SHALL BE PREPARED TO MAKE ADJUSTMENTS REQUIRED TO PROPERLY COMPLETE PROPOSED CONSTRUCTION. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF EXISTING FEATURES, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK.

REMOVAL NOTES

1. ITEM 502.103 REMOVAL OF EXISTING BRIDGE STRUCTURE SHALL INCLUDE THE PERMANENT REMOVAL OF THE EXISTING END OF BRIDGE DECK, BRIDGE COPINGS, ABUTMENT A BACKWALL AND EXISTING EXPANSION JOINT TO THE LIMITS SHOWN ON THE PLANS AND THE TEMPORARY REMOVAL, HANDLING AND STORAGE OF BRIDGE RAIL AND POSTS NECESSARY TO FACILITATE THE REPLACEMENT OF THE BRIDGE EXPANSION JOINT.
2. THE CONTRACTOR'S METHOD FOR REMOVAL OF THE EXISTING BRIDGE COMPONENTS SHALL BE SUBMITTED FOR DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02 PRIOR TO THE COMMENCEMENT OF ANY REMOVAL OPERATIONS.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW THE EXISTING, TEMPORARY, AND PROPOSED STRUCTURES. ALL COSTS, INCLUDING ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES, OR OTHER SUCH APPROVED METHODS, SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS OF WORK BEING PERFORMED.
4. EXISTING DECK PAVEMENT AND MEMBRANE SHALL BE REMOVED UNDER ITEM 511.00, CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F).
5. AFTER REMOVAL OF EXISTING PAVEMENT AND MEMBRANE, THE EXISTING CONCRETE BRIDGE DECK SHALL BE "SOUNDED" TO DETERMINE AREAS REQUIRING PARTIAL AND FULL DEPTH DECK REPAIRS. DETERIORATED CONCRETE SHALL BE REMOVED AND REMAINING CONCRETE SURFACES AND EXPOSED REINFORCEMENT CLEANED AS SPECIFIED IN SECTION 511. ALL COSTS TO BE INCLUDED IN ITEM 511.02 OR ITEM 511.03.
6. CONCRETE SURFACES DESIGNATED FOR REMOVAL SHALL BE SAWCUT 1" DEEP TO PROVIDE CLEAN REMOVAL LINES. ALL COSTS TO BE INCLUDED IN THE REMOVAL ITEM.
7. DURING ALL REMOVAL AND REPAIR OPERATIONS, EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING STRUCTURAL STEEL, SHEAR CONNECTORS AND REINFORCEMENT TO REMAIN IN PLACE. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE CONTRACT ADMINISTRATOR AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION NOTES

1. PRIOR TO PLACEMENT OF ALL NEW CONCRETE FOR REPAIRS AND RECONSTRUCTION, EXISTING CONCRETE SURFACES EXPOSED BY REMOVAL OPERATIONS SHALL BE BLAST CLEAN AND PREPARED TO A SATURATED, SURFACE-DRY CONDTION. EXPOSED REBAR SHALL BE FREE OF DIRT, RUST AND DEBRIS. ALL COSTS INCLUDED IN ITEM 520.01 AND ITEM 520.0201.
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED $^3/_4$", UNLESS NOTED OTHERWISE.
3. APPLY PAVEMENT JOINT ADHESIVE ALONG ALL LONGITUDINAL JOINTS BETWEEN PAVEMENT PASSES AND ALONG BRIDGE CURB LINES AND EXPANSION JOINT ARMORING PRIOR TO PLACING ALL PAVEMENT COURSES. FOR BRIDGE BASE COURSE APPLY ITEM 403.61, PAVEMENT JOINT ADHESIVE (BRIDGE BASE) AND FOR WEARING COURSE APPLY ITEM 403.6, PAVEMENT JOINT ADHESIVE (ROADWAY ITEM).
4. ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO ALL NEW EXPOSED CONCRETE SURFACES AS SHOWN IN THE PLANS OR AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
5. EXISTING DECK COPING, ABUTMENTS, WINGS, BACKWALLS, AND BRIDGE SEATS SHALL BE POWER WASHED (SUBSIDIARY TO ITEM 534.3), IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITME 534.3, WATER REPELLENT (SILANE-SILOXANE). APPLICATION RATE = 150 SF/GAL.
6. ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), SHALL BE PLACED OVER THE BACKWALL CONSTRUCTION JOINT (ABUTMENT A) AS OUTLINED IN THE PLANS.
7. ITEM 538.5, BARRIER MEMBRANE, HEAT WELDED (F), SHALL BE LAPPED PER THE MANUFACTURER'S REQUIREMENTS. AT DECK ENDS, A SEALANT/REPAIR MASTIC COMPATIBLE WITH ITEM 538.5 SHALL BRIDGE ANY GAP BETWEEN THE MEMBRANE AND THE END OF DECK WHEN THERE IS NO MEMBRANE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 538.5.
8. WHERE EXISTING GRANITE BRIDGE CURB HAS SEPARATED OR BEEN DISPLACED FROM THE BRUSH CURB CONCRETE, GRANITE CURBING SHALL BE RESET AS DIRECTED BY THE ENGINEER. ALL COSTS INCLUDED IN ITEM 609.55.
9. EXISTING GRANITE APPROACH CURB SHALL BE RETAINED AND RESET (ITEM 609.5) AS REQUIRED OR DIRECTED.

REINFORCEMENT NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A615), GRADE 60.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. REINFORCING TO REMAIN IN PLACE SHALL BE INSPECTED FOR DAMAGE OR CORROSION JOINTLY BY THE ENGINEER AND CONTRACTOR AFTER REMOVAL OF EXISTING CONCRETE. REINFORCING STEEL REQUIRED TO REPAIR OR REPLACE THE EXISTING REINFORCEMENT SHALL BE PAID UNDER ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES.
4. EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE REMOVAL AREAS SHALL BE CUT AS REQUIRED TO PROVIDE $2^1/_2$" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. ALL COSTS INCLUDED IN ITEM 502.103. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF $2^1/_2$" FROM PROPOSED CONCRETE SURFACES.
5. ALL EXISTING REINFORCING THAT PASSES THROUGH A REMOVAL LIMIT PLANE SHALL BE RETAINED. ALL EXISTING REINFORCING COMPLETELY ENCASED IN CONCRETE WITHIN THE REMOVAL LIMITS SHALL BE REMOVED AS PART OF ITEM 502.103. ANY REINFORCING TO REMAIN THAT IS DAMAGED DURING REMOVAL OPERATIONS AND DETERMINED TO BE UNSERVICABLE BY THE ENGINEER SHALL BE REPLACED IN KIND AT THE EXPENSE OF THE CONTRACTOR.
6. FOR REINFORCING SCHEDULE SEE BRIDGE SHEET 50.

UTILITY NOTES

1. THE FOLLOWING UTILITIES ARE CARRIED ACROSS THE BRIDGE:
   - TELEPHONE DUCTS

ASBESTOS

1. ASBESTOS CONTAINING MATERIALS (ACM) EXIST BETWEEN THE BOTTOM OF THE DECK AND TOP OF BACKWALL AT ABUTMENT B. IT IS NOT ANTICIPATED THAT THIS MATERIAL WILL BE DISTURBED DURING THE EXECUTION OF THE WORK SHOWN ON THE PLANS. HOWEVER, IF THE JOINT CONTRACTOR/ENGINEER SURVEY OF THE DECK DETERMINES THAT FULL DEPTH DECK REPAIRS ARE REQUIRED IN THE VICINITY OF THE DECK OVER BACKWALL AT ABUTMENT B, WORK WILL STOP IN THIS AREA, NHDOT BUREAU OF ENVIRONMENT SHALL BE CONTACTED AND ARRANGEMENTS TO HIRE AN ABATEMENT SUBCONTRACTOR SHALL BE MADE. IF ENCOUNTERED, COSTS ASSOCIATED WITH ABATEMENT OF THE ACM SHALL BE PAID AS ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES. ARRANGEMENTS FOR OVERSIGHT OF THE ACM ABATEMENT, IF ENCOUNTERED, SHALL BE THE RESPONSIBILITY OF THE ENGINEER. IF ENCOUNTERED, ALL ACM WORK REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 502 OF THE STANDARD SPECIFICATION AND THE ITEM 502.10121, REMOVAL AND DISPOSAL OF EXISTING BRIDGE STRUCTURE (ACM - BACKWALL) SPECIAL PROVISION.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

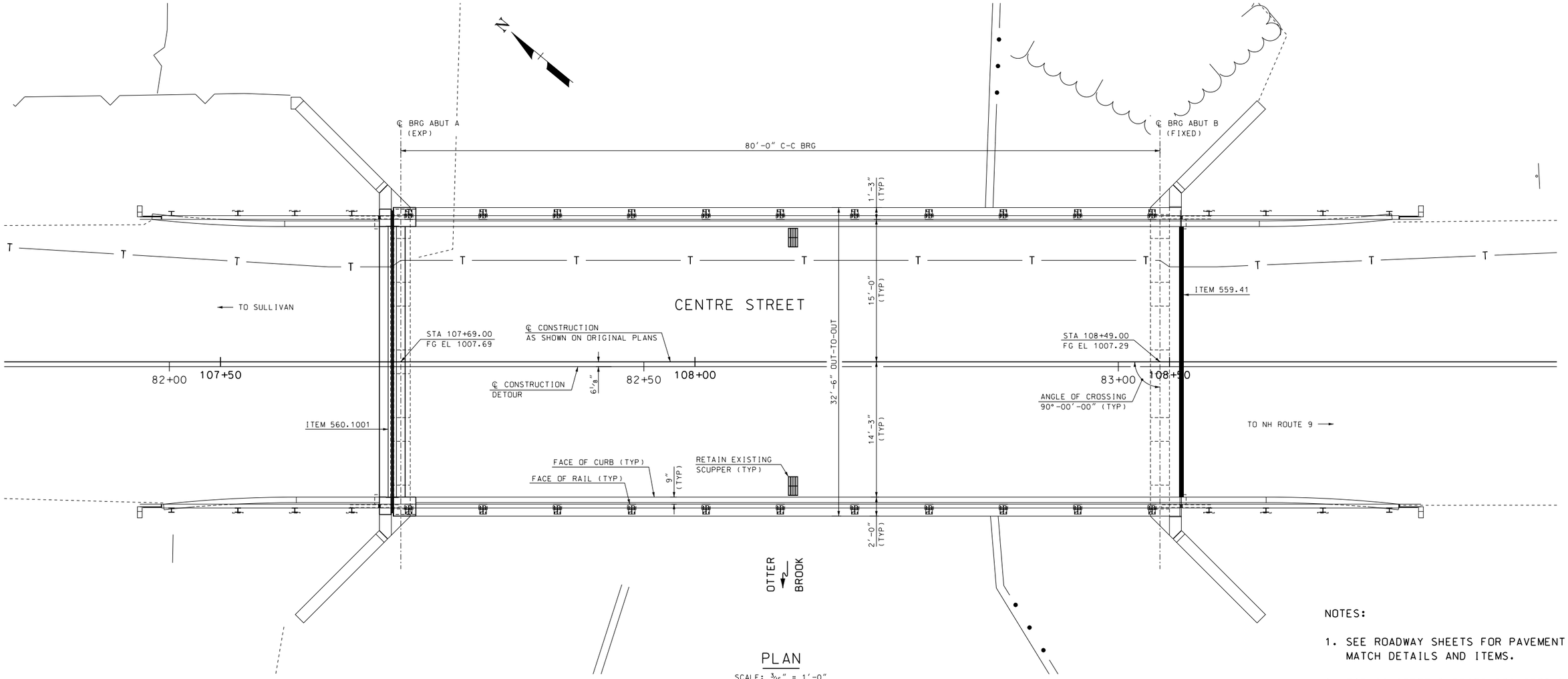
TOWN SULLIVAN | BRIDGE NO. 094/064 | STATE PROJECT 10439
LOCATION CENTRE STREET over OTTER BROOK

BR NO 094/064 NOTES AND QUANTITY BOX

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	WPS	8/17	CHECKED	KFD	8/17
	DRAWN	SMG	8/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	8/17	CHECKED	ABH	8/17

BRIDGE SHEET 41 OF 50
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\BRSITE	10439 Notes	AS NOTED	REV. DATE	----------	80	294



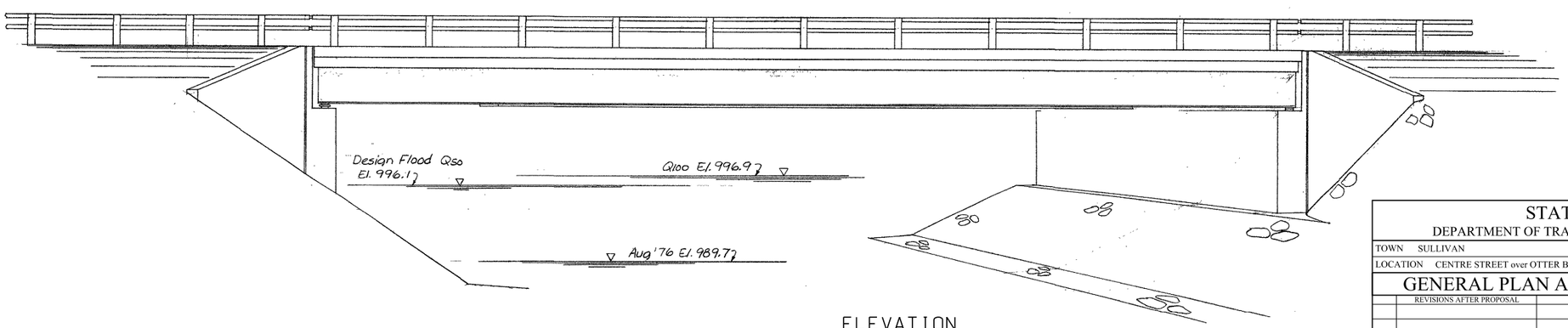
PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. SEE ROADWAY SHEETS FOR PAVEMENT MATCH DETAILS AND ITEMS.

2. FOR CONCRETE BARRIER REQUIRED FOR ROAD CLOSURE, SEE ROADWAY ITEMS.



ELEVATION

SCALE: 3/16" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brc\Centre Rd bridge	094-064 genplan	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 094/064 STATE PROJECT 10439

LOCATION CENTRE STREET over OTTER BROOK

GENERAL PLAN AND ELEVATION BR NO 094/064

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	SMG	5/17	CHECKED	WPS	8/17
DRAWN	SMG	5/17	CHECKED	WPS	8/17
QUANTITIES	WPS	8/17	CHECKED	ABH	8/17

ISSUE DATE

REV. DATE

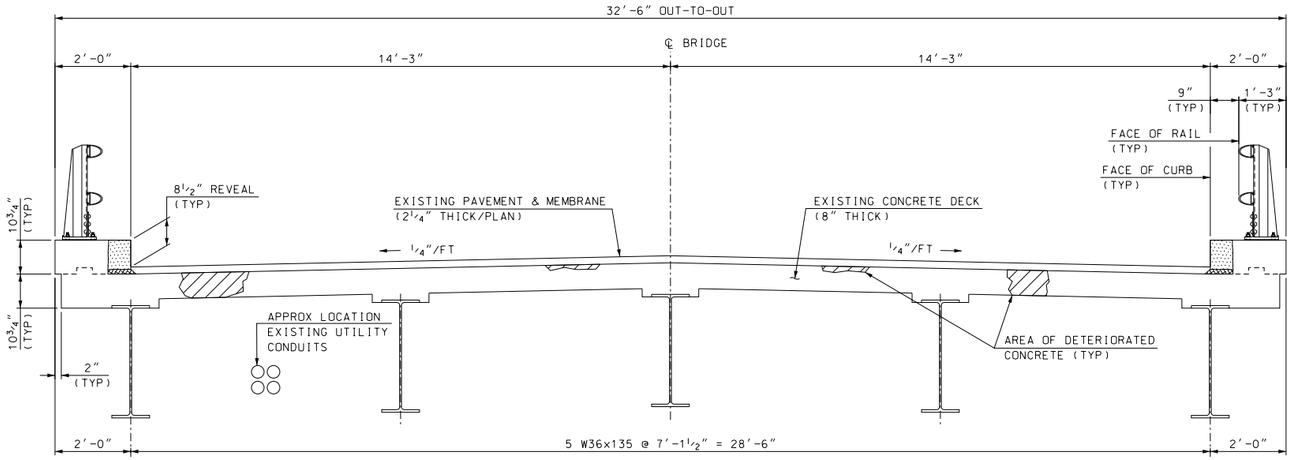
FEDERAL PROJECT NO. ----------

SHEET NO. 81

BRIDGE SHEET 42 OF 50

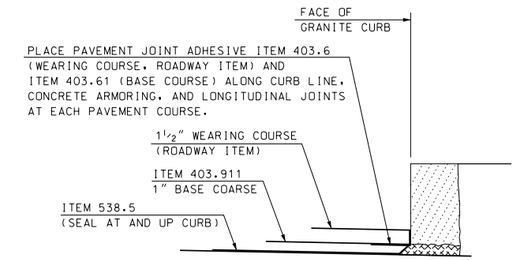
FILE NUMBER 132-3-1

TOTAL SHEETS 294



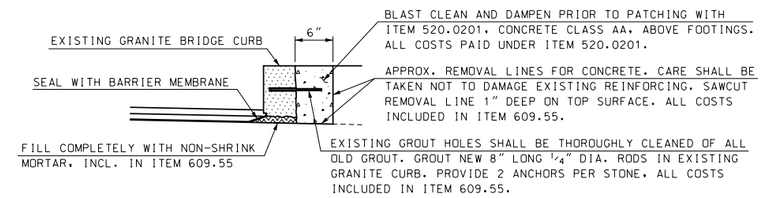
EXISTING DECK SECTION

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



CURB DETAIL

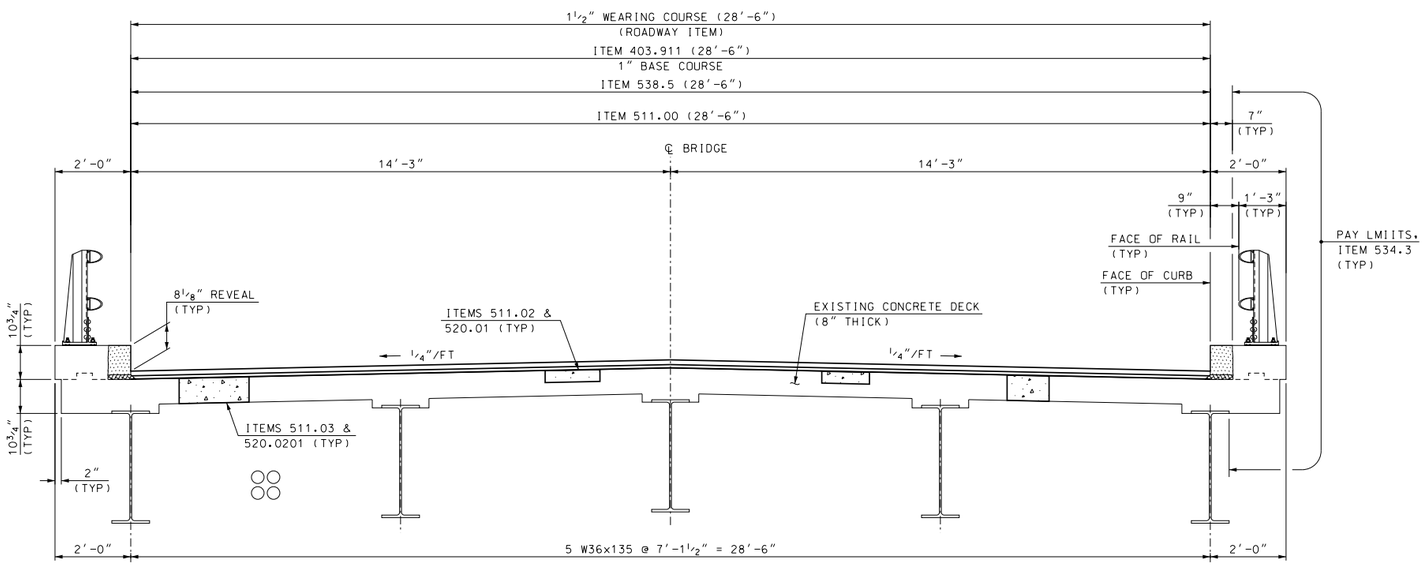
SCALE: 1 1/2" = 1'-0"



** RESETTING GRANITE BRIDGE CURB DETAIL

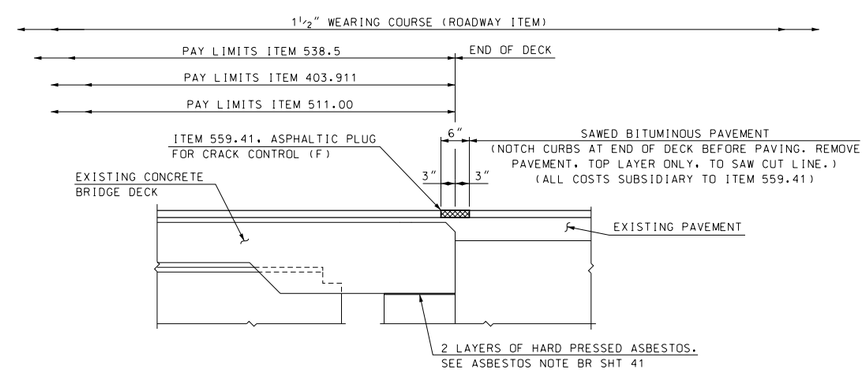
SCALE: 1" = 1'-0"

** WHERE EXISTING GRANITE BRIDGE CURB HAS PULLED AWAY FROM THE CONCRETE BRUSH CURB, THE GRANITE CURB SHALL BE REMOVED AND RESET AS DIRECTED BY THE ENGINEER. ALL COSTS INCLUDED IN ITEM 609.55, RESET GRANITE CURB (BRIDGE).



PROPOSED DECK SECTION

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



ASPHALTIC PLUG FOR CRACK CONTROL (NO APPROACH SLAB - ABUT B)

NTS

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 094/064 | STATE PROJECT 10439

LOCATION CENTRE STREET over OTTER BROOK

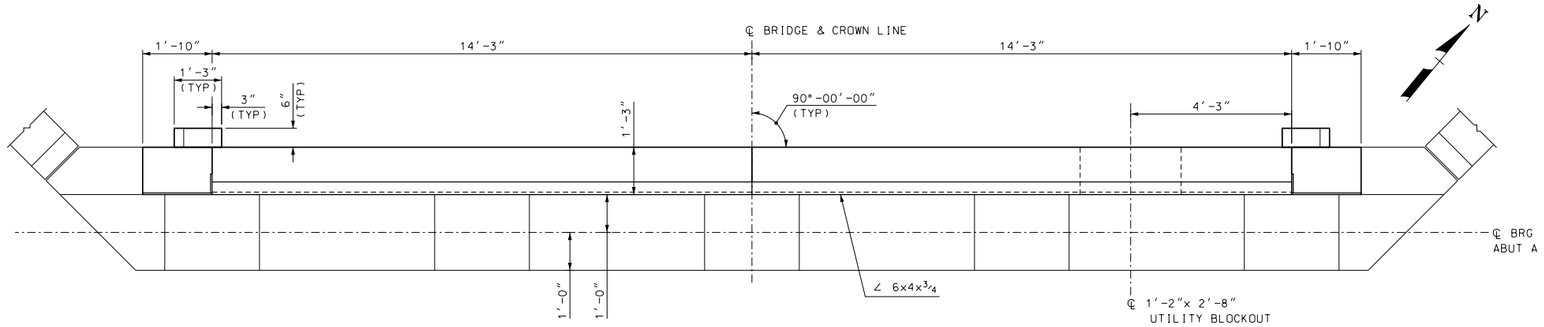
DECK SECTIONS BR NO 094/064

BRIDGE SHEET 43 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	5/17	CHECKED	WPS	8/17
	DRAWN	SMG	5/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	8/17	CHECKED	ABH	8/17

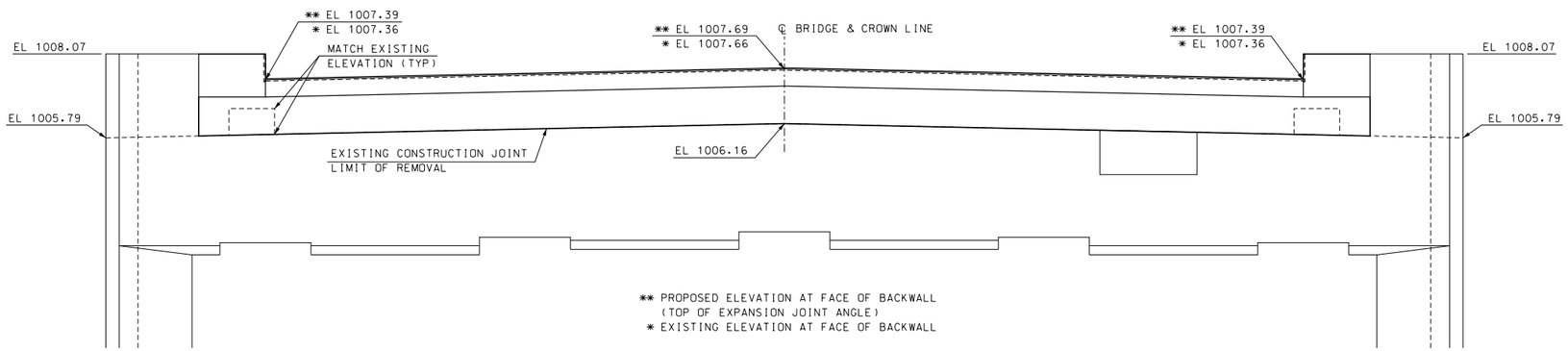
FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
Brc\Centre Rd bridge	094-064 phasing	AS NOTED	REV. DATE	----------	82	294



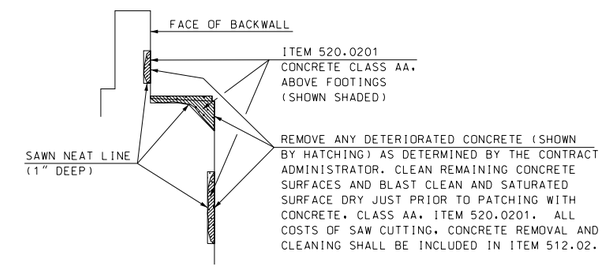
ABUTMENT A PLAN VIEW

(REMOVAL AND PROPOSED CONCRETE LIMITS)
SCALE: 1/2" = 1'-0"



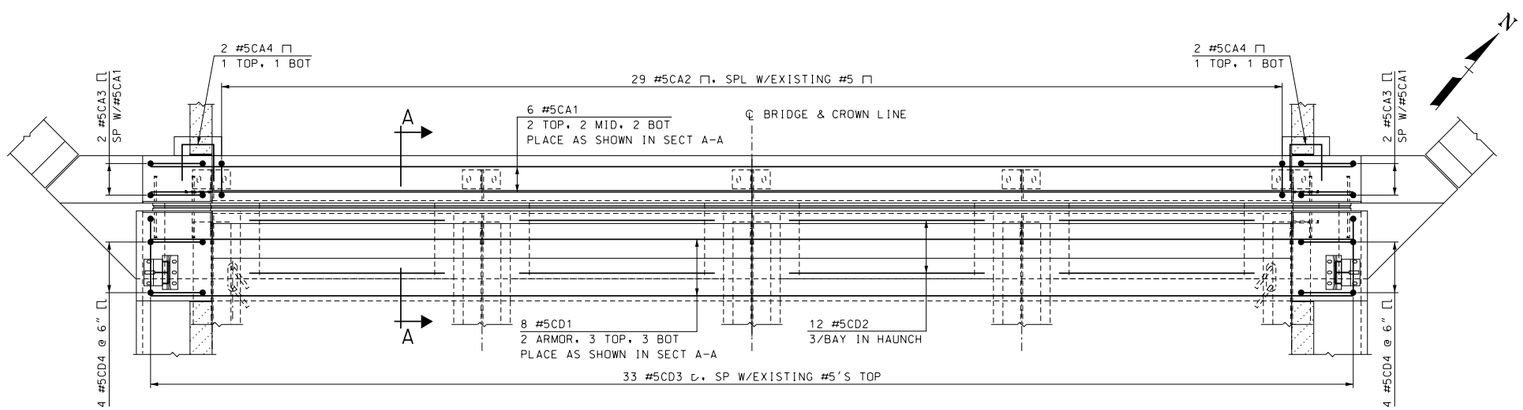
ABUTMENT A ELEVATION VIEW

(REMOVAL AND PROPOSED CONCRETE LIMITS)
SCALE: 1/2" = 1'-0"



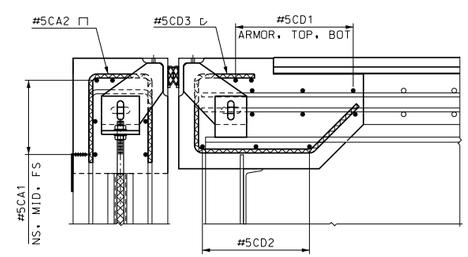
TYPICAL ABUTMENT AND WING CONCRETE REPAIRS

(ABUTMENT SHOWN. WINGS SIMILAR)
SCALE: 3/8" = 1'-0"



ABUTMENT A & END DECK REINFORCEMENT PLAN VIEW

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



SECTION A-A

SCALE: 1" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 094/064 | STATE PROJECT 10439

LOCATION CENTRE STREET over OTTER BROOK

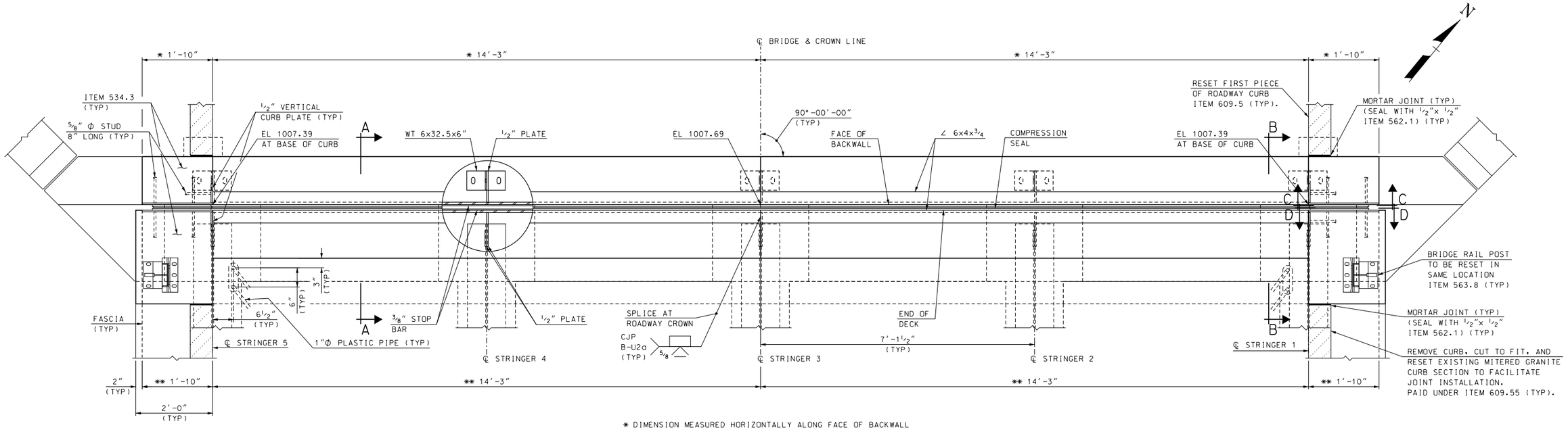
ABUTMENT DETAILS BR NO 094/064

BRIDGE SHEET 44 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	7/17	CHECKED	WPS	8/17
	DRAWN	SMG	7/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	8/17	CHECKED	ABH	8/17

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
Brc\Centre Rd bridge	094-064 abut	AS NOTED	REV. DATE	----------	83	294



* DIMENSION MEASURED HORIZONTALLY ALONG FACE OF BACKWALL
** DIMENSION MEASURED HORIZONTALLY ALONG END OF DECK

EXPANSION JOINT PLAN BR NO 094/064

SCALE: 3/4" = 1'-0"

EXPANSION JOINT NOTES

(1) ALL EXPANSION JOINT STEEL, INCLUDING ANCHORS, SHALL BE GALVANIZED. STEEL ANGLES SHALL BE AASHTO M223 (ASTM A572) GRADE 50. MINOR STEEL PLATES MAY CONFORM TO AASHTO M183 (ASTM A36). THE ENTIRE ASSEMBLY, INCLUDING COMPRESSION SEAL, SHALL BE PAID FOR AS ITEM 560.1001, PREFABRICATED COMPRESSION SEAL EXPANSION JOINT (F).

(2) SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.

(3) THE EXPANSION JOINT OPENING SHALL BE PRESET TO TEMPERATURE ANTICIPATED PRIOR TO POURING DECK BLOCKOUT. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR. SEE TEMPERATURE ADJUSTMENT TABLE & NOTES ON BRIDGE SHEET 46.

(4) THE COMPRESSION SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED. SEAL SHALL BE INSTALLED IN THE FIELD BY THE CONTRACTOR, IN ACCORDANCE WITH THE MANUFACTURER OF THE SEAL, USING AN APPROVED TOOL THAT WILL NOT DAMAGE THE SEAL.

(5) JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE NORMAL TO GRADE AFTER JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE. STEEL ANGLES SHALL BE ASSEMBLED WITH A CONSTANT JOINT OPENING TO ENSURE PROPER PERFORMANCE AND WATER TIGHTNESS.

(6) IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES AND GRIND SMOOTH ANY WELDS ON EXPOSED SURFACES. REPAIR ANY DAMAGE TO GALVANIZED SURFACES IN ACCORDANCE WITH SECTION 550.

(7) PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.

(8) THE COMPRESSION SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 0.94 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE A WA-300 SEAL BY WATSON BOWMAN OR CV-3000 BY D.S. BROWN.

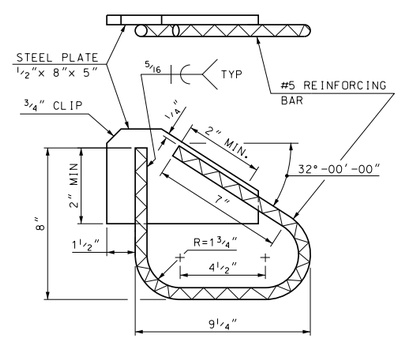
(9) ELEVATIONS SHOWN AT TOP OF ANGLES ARE 1/8" LOWER THAN PROPOSED FINISHED ROADWAY GRADE.

(10) ANGLES 6"x 4"x 3/4" SHALL BE UTILIZED FOR SEALS LESS THAN 5" (HEIGHT). FOR SEALS GREATER THAN OR EQUAL TO 5" (HEIGHT) STEEL ANGLES SHALL BE 8"x 4"x 3/4".

(11) STEEL ANGLES AND STOP BARS SHALL BE MAINTAINED FREE FROM DIRT, WATER AND ANY OTHER LOOSE DEBRIS, WITH THE USE OF COMPRESSED AIR, TO ENSURE PROPER FIT OF THE SEAL. CARE SHALL BE TAKEN NOT TO DAMAGE GALVANIZED SURFACES.

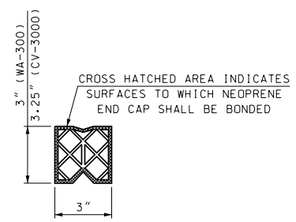
(12) A TEMPORARY SEAL(S) SHALL BE INSTALLED PRIOR TO THE START OF THE WINTER MAINTENANCE PERIOD FOR ALL JOINT ASSEMBLIES OR PORTIONS THEREOF THAT WILL BE IN PLACE THROUGHOUT THE WINTER. ALL TEMPORARY SEALS SHALL BE REMOVED AND JOINT OPENINGS AND SUBSTRUCTURE SHALL BE CLEANED PRIOR TO INSTALLING THE FINAL SEAL. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 560.1001.

(13) FOR SECTIONS A-A THROUGH D-D SEE BRIDGE SHEET 45.



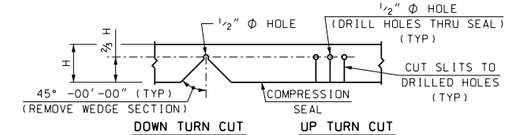
ANCHORAGE DETAIL

SCALE: 3" = 1'-0"



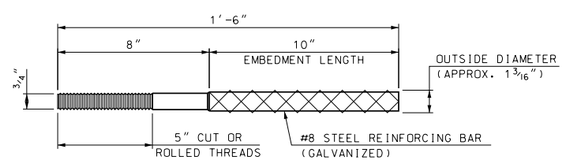
UNCOMPRESSED SEAL

NOT TO SCALE



RELIEF CUT DETAILS

NOT TO SCALE



ANCHOR ROD DETAIL

(10 REQUIRED)
SCALE: NTS

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brc\Centre Rd bridge	094-064 exp jt	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

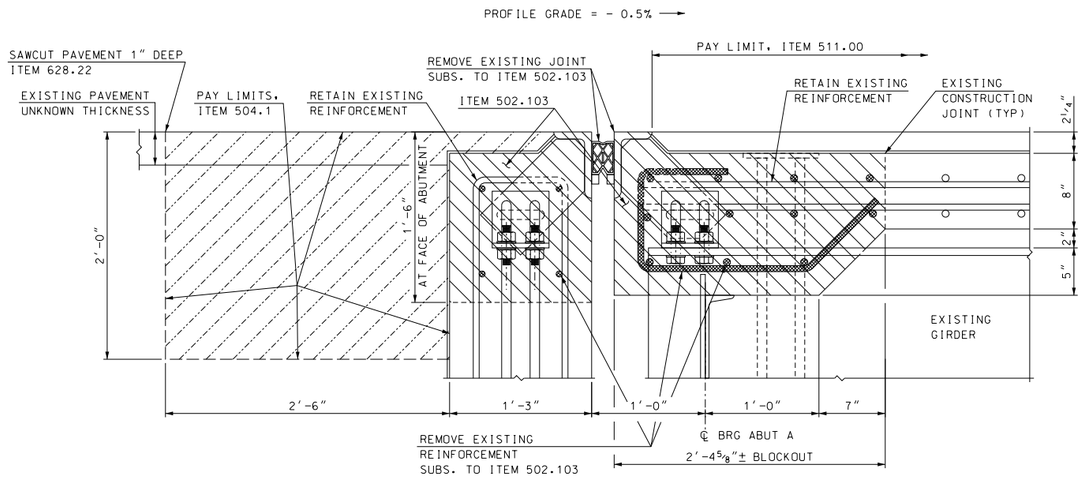
TOWN SULLIVAN — BRIDGE NO. 094/064 — STATE PROJECT 10439

LOCATION CENTRE STREET over OTTER BROOK

EXPANSION JOINT BR NO 094/064

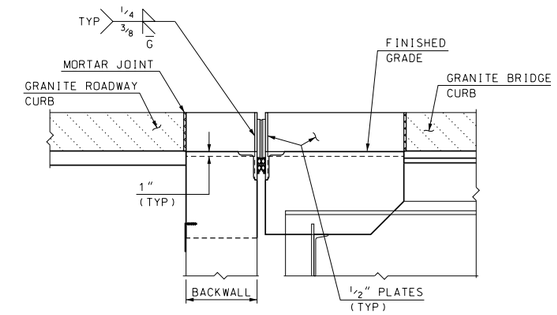
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	5/17	CHECKED	WPS	8/17
	DRAWN	SMG	5/17	CHECKED	WPS	8/17
	QUANTITIES	WPS	8/17	CHECKED	ABH	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		84	

BRIDGE SHEET 45 OF 50
FILE NUMBER 132-3-1
TOTAL SHEETS 294



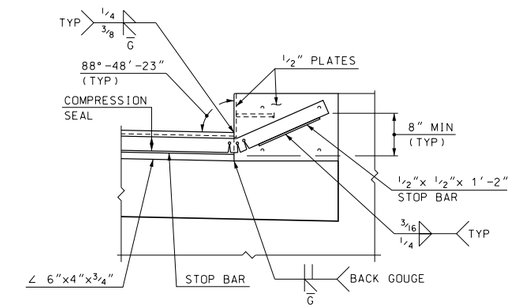
SECTION A-A REMOVAL

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



SECTION B-B

SCALE: 3/4" = 1'-0"



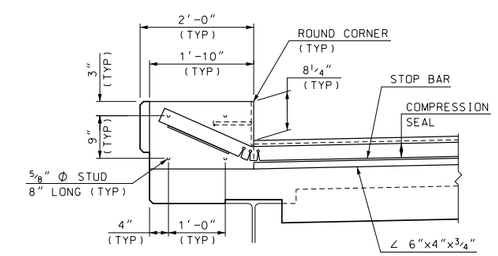
SECTION C-C

SCALE: 3/4" = 1'-0"

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	2 1/16"
35°F	2"
50°F	1 7/8"
65°F	1 13/16"
80°F	1 11/16"
95°F	1 5/8"

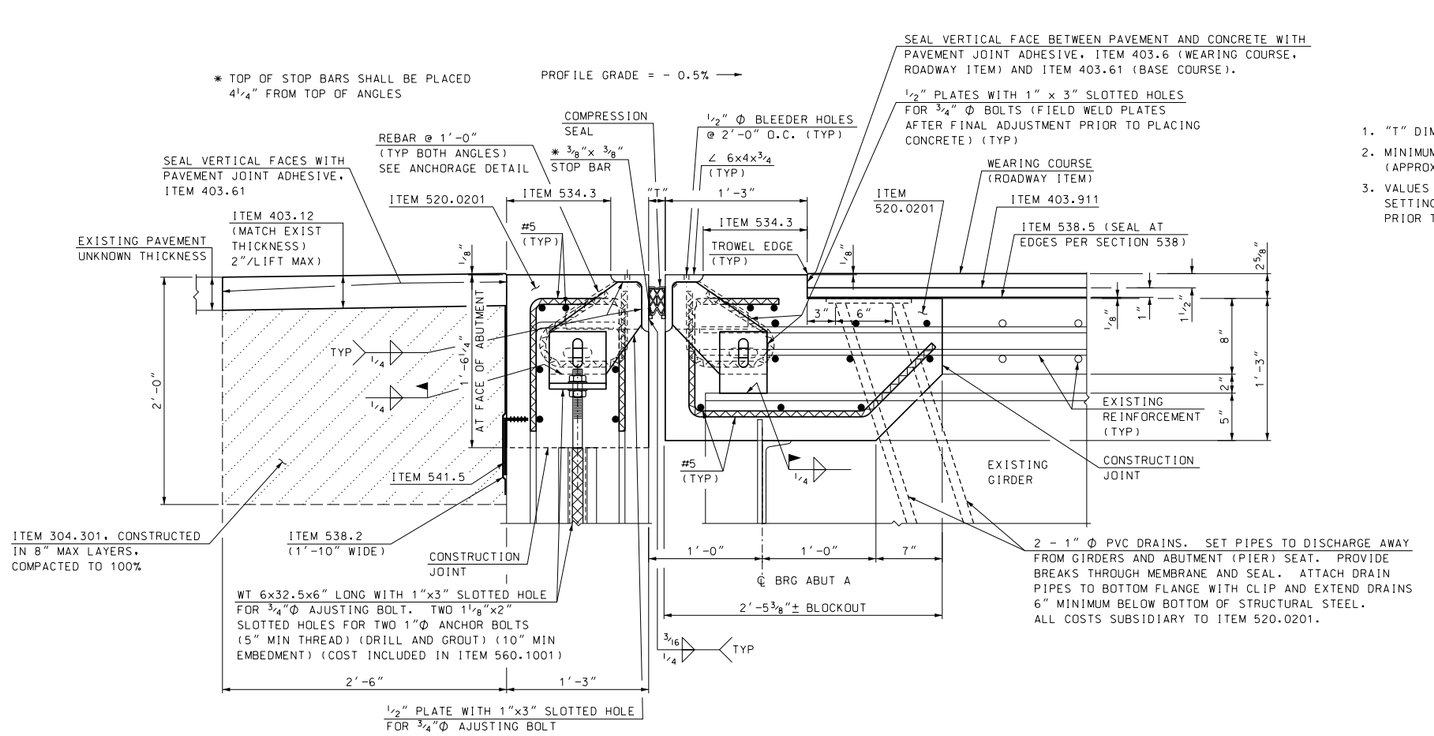
TEMPERATURE ADJUSTMENT NOTES

1. "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
2. MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1 13/16" (APPROXIMATELY 65°F OR LESS).
3. VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING CONCRETE BLOCKOUTS.



SECTION D-D

SCALE: 3/4" = 1'-0"



SECTION A-A CONSTRUCTION

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

FOR LOCATION OF SECTIONS A-A THROUGH D-D SEE BRIDGE SHEET 44.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN | BRIDGE NO. 094/064 | STATE PROJECT 10439

LOCATION CENTRE STREET over OTTER BROOK

EXPANSION JOINT BR NO 094/064

BRIDGE SHEET 46 OF 50

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	SMG	5/17	CHECKED	WPS	8/17
DRAWN	SMG	5/17	CHECKED	WPS	8/17
QUANTITIES	WPS	8/17	CHECKED	ABH	8/17

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
Brc\Centre Rd bridge	094-064 exp jt	AS NOTED	REV. DATE	----------	85	294

ABUTMENT A FOOTING

BRIDGE SHEET 15 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
AF1	#6	43.50	76	—													
AF2	#6	42.17	2	—													
AF3	#6	40.00	2	—													
AF4	#6	37.83	2	—													
AF5	#6	35.67	2	—													
AF6	#6	15.42	2	—													
AF7	#6	12.83	2	—													
AF8	#6	10.25	2	—													
AF9	#6	7.58	2	—													
AF10	#6	5.00	2	—													
AF11	#6	2.42	2	—													
AF12	#6	13.00	208	—													
AF13	#6	13.58	2	—													
AF14	#6	14.58	2	—													
AF15	#6	15.67	2	—													
AF16	#6	16.75	2	—													
AF17	#6	17.83	2	—													
AF18	#6	18.92	2	—													
AF19	#6	19.83	2	—													
AF20	#6	19.67	2	—													
AF21	#6	19.42	2	—													
AF22	#6	19.17	2	—													
AF23	#6	18.92	2	—													
AF24	#6	18.67	2	—													
AF25	#6	18.50	2	—													
AF26	#6	18.25	2	—													
AF27	#6	18.00	2	—													
AF28	#6	17.75	2	—													
AF29	#6	17.50	2	—													
AF30	#6	17.33	2	—													
AF31	#6	17.08	2	—													
AF32	#6	16.83	2	—													
AF33	#6	16.58	2	—													
AF34	#6	16.33	2	—													
AF35	#6	16.17	2	—													
AF36	#6	15.92	2	—													
AF37	#6	15.67	2	—													
AF38	#6	15.42	2	—													
AF39	#6	15.25	2	—													
AF40	#6	15.00	2	—													
AF41	#6	14.75	2	—													
AF42	#6	14.50	2	—													
AF43	#6	14.25	2	—													
AF44	#6	14.08	2	—													
AF45	#6	13.83	2	—													
AF46	#6	13.58	2	—													
AF47	#6	13.33	2	—													
AF48	#6	13.08	2	—													
AF49	#6	12.92	2	—													
AF50	#6	12.67	2	—													
AF51	#6	12.42	2	—													
AF52	#6	12.17	2	—													
AF53	#6	11.92	2	—													
AF54	#6	11.75	2	—													
AF55	#6	11.50	2	—													
AF56	#6	11.25	2	—													
AF57	#6	11.00	2	—													
AF58	#6	10.75	2	—													
AF59	#6	10.58	2	—													
AF60	#6	10.33	2	—													
AF61	#6	10.08	2	—													
AF62	#6	9.83	2	—													
AF63	#6	9.58	2	—													
AF64	#6	9.42	2	—													
AF65	#6	24.83	2	—													
AF66	#6	8.00	2	—													
AF67	#5	7.00	513	N3		0.83	1.05	5.12						0.00	0.67		
AF68	#6	9.67	35	N3		1.00	1.08	7.58						0.42	0.67		

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	3745	12576	0	0	0	0	0	0	0	16321
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT A

BRIDGE SHEET 17 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
A1	#5	13.75	155	—													
A2	#5	13.83	60	—													
A3	#5	14.42	60	—													
A4	#5	15.08	60	—													
A5	#5	15.33	60	—													
A6	#5	15.75	100	—													
A7	#5	7.58	208	17		1.50	4.58	1.50									
A8	#5	6.83	19	17		1.50	3.83	1.50									
A9	#5	7.42	1	17		1.50	4.42	1.50									
A10	#5	7.25	1	17		1.50	4.25	1.50									
A11	#5	7.08	1	17		1.50	4.08	1.50									
A12	#5	6.92	1	17		1.50	3.92	1.50									
A13	#5	6.00	1	17		1.50	3.00	1.50									
A14	#5	5.83	1	17		1.50	2.83	1.50									
A15	#5	5.58	1	17		1.50	2.58	1.50									
A16	#5	4.92	1	17		1.50	1.92	1.50									
A17	#5	4.75	1	17		1.50	1.75	1.50									
A18	#5	4.58	1	17		1.50	1.58	1.50									
A19	#5	4.42	1	17		1.50	1.42	1.50									
A20	#5	4.17	1	17		1.50	1.17	1.50									
A21	#5	3.83	1	17		1.50	0.83	1.50									
A22	#5	7.50	56	17		2.52	2.46	2.52									
A23	#5	8.00	106	N8		6.42	1.58										
A24	#5	10.83	110	17		2.00	0.83	8.00									
A25	#5	6.50	24	—													
A26E	#5	5.25	6	—													EPOXY
A27E	#5	13.42	3	17		5.25	2.92	5.25									EPOXY
A28E	#5	12.92	1	17		5.25	2.42	5.25									EPOXY
A29E	#5	11.33	3	17		5.25	0.83	5.25									EPOXY
A30E	#5	11.17	1	17		5.27	0.63	5.27									EPOXY
A31E	#5	10.75	1	S11								5.28				0.31	EPOXY
A32E	#5	4.00	98	N7			2.00	2.00				1.41		1.41			EPOXY
A33	#5	23.25	30	—													
A34	#5	25.25	43	—													
A35	#5	29.58	152	—													
A36	#5	20.17	37	—													
A37	#5	30.00	44	—													
A38	#5	12.17	33	N10		4.29	4.88	3.00				3.92	3.00	1.83	0.00		
A39	#5	10.42	36	N7			2.75	7.67				2.50		1.17			
A40	#5	9.17	4	N10		4.29	1.88	3.00				3.92	3.00	1.83	0.00		
A41	#5	5.00	1	N8		2.75	2.25										
A42E	#5	9.17	3	N10		4.29	1.88	3.00				3.92	3.00	1.83	0.00		EPOXY
A43E	#5	5.00	3	N8		2.75	2.25										EPOXY
A44	#5	10.08	29	N7			7.08	3.00				2.44		6.71			
A45	#5	8.33	33	20		3.04	0.54	4.75									
A46	#5	8.50	4	20		4.96	0.54	3.00									
A47E	#5	5.67	3	N8		4.92	0.75										EPOXY
A48E	#5	5.00	3	N7			2.25	2.75				0.69		2.19			EPOXY
A49	#5	11.33	7	T2	0.50	2.58	2.58	2.58	2.58		0.50						

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	22388	0	0	0	0	0	0	0	0	22388
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	633	0	0	0	0	0	0	0	0	633
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUT A NW WING

BRIDGE SHEET 18 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
NW1	#5	22.42	9	—													
NW2	#5	19.92	17	—													
NW3	#5	21.75	9	—													
NW4	#5	19.25	18	—													
NW5	#5	17.00	46	—													
NW6	#5	11.42	2	—													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1969	0	0	0	0	0	0	0	0	1969
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT B FOOTING

BRIDGE SHEET 20 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
BF1	#6	46.50	56	—													
BF2	#6	13.00	202	—													
BF3	#5	7.00	454	N3		0.83	1.05	5.12						0.00	0.67		
BF4	#6	11.75	28	—													
BF5	#5	12.00	28	—													
BF6	#5	27.92	26	—													
BF7	#7	12.00	28	—													
BF8	#8	11.50	17	N3		1.33	1.10	9.07						0.75	0.67		

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	4422	8350	687	522	0	0	0	0	0	13981
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES

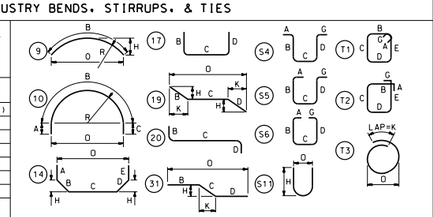
RECOMMENDED END HOOKS ALL GRADES (IN)

BAR SIZE	D Ø	180° HOOKS A+G	180° HOOKS J	90° HOOKS A+G
#3	2¼	5	3	6
#4	3	6	4	8
#5	3¾	7	5	10
#6	4½	8	6	12
#7	5¼	10	7	14
#8	6	11	8	16
#9	9½	15	11¾	19
#10	10¾	17	13¼	22
#11	12	19	14¾	24
#14	18¼	27	21¾	31

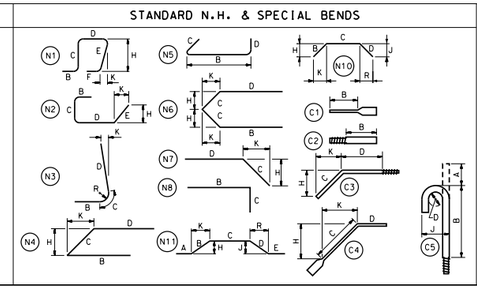
STIRRUP & TOE HOOK DIMENSIONS ALL GRADES (IN)

BAR SIZE	D Ø	90° HOOKS A+G	135° HOOKS A+G	135° HOOKS H (appr)
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	4½	12	7¾	4½
#7	5¼	14	9	5¼
#8	6	16	10¼	6

NOTE: D = finished inside bend d of hook. For additional data on standard bar bends not shown on this sheet see current CRSI Manual.



STANDARD N.H. & SPECIAL BENDS



NOTES:
1. FIGURES IN CIRCLE SHOW TYPE OF BEND.
2. UNLESS OTHERWISE DESIGNATED. ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT".AASHTO M 31-94 (ASTM A615).
3. FOR TYPICAL BENDING DETAILS. RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE REFER TO THE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD. AS REQUIRED.
Δ DENOTES BARS TO BE BENT IN FIELD.

ASTM STANDARD REINFORCING BARS

BAR SIZE	WEIGHT LBS/FT	DIAM IN	CROSS SECT AREA IN²
#3	0.376	0.375	0.11
#4	0.668	0.500	0.20
#5	1.043	0.625	0.31
#6	1.502	0.750	0.44
#7	2.044	0.875	0.60
#8	2.670	1.000	0.79
#9	3.400	1.128	1.00
#10	4.303	1.270	1.27
#11	5.313	1.410	1.56
#14	7.650	1.693	2.25
#18	13.600	2.257	4.00

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Rebar	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

REINFORCING SCHEDULE (1 OF 4)

BRIDGE SHEET 47 OF 50

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	KFD	7/17	CHECKED	WPS	8/17
DRAWN	KFD	7/17	CHECKED	WPS	8/17
QUANTITIES	KFD	8/17	CHECKED	WPS	8/17

FILE NUMBER 132-3-1

ISSUE DATE | REV. DATE | FEDERAL PROJECT NO. | SHEET NO. 86 | TOTAL SHEETS 294

ABUTMENT B

BRIDGE SHEET 22 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
B1	#5	17.75	122	—													
B2	#5	16.83	60	—													
B3	#5	16.42	60	—													
B4	#5	15.92	120	—													
B5	#5	15.42	75	—													
B6	#5	7.58	177	17		1.50	4.58	1.50									
B7	#5	7.33	1	17		1.50	4.33	1.50									
B8	#5	7.25	1	17		1.50	4.25	1.50									
B9	#5	7.08	1	17		1.50	4.08	1.50									
B10	#5	6.92	1	17		1.50	3.92	1.50									
B11	#5	6.83	1	17		1.50	3.83	1.50									
B12	#5	6.67	1	17		1.50	3.67	1.50									
B13	#5	6.58	1	17		1.50	3.58	1.50									
B14	#5	6.42	1	17		1.50	3.42	1.50									
B15	#5	6.25	1	17		1.50	3.25	1.50									
B16	#5	6.17	1	17		1.50	3.17	1.50									
B17	#5	5.25	1	17		1.50	2.25	1.50									
B18	#5	5.17	1	17		1.50	2.17	1.50									
B19	#5	5.00	1	17		1.50	2.00	1.50									
B20	#5	4.83	1	17		1.50	1.83	1.50									
B21	#5	4.75	1	17		1.50	1.75	1.50									
B22	#5	4.58	1	17		1.50	1.58	1.50									
B23	#5	4.50	1	17		1.50	1.50	1.50									
B24	#5	4.33	1	17		1.50	1.33	1.50									
B25	#5	4.17	1	17		1.50	1.17	1.50									
B26	#5	4.08	1	17		1.50	1.08	1.50									
B27	#5	3.92	1	17		1.50	0.92	1.50									
B28	#5	6.83	12	17		1.50	3.83	1.50									
B29	#5	6.67	1	17		1.50	3.67	1.50									
B30	#5	6.25	1	17		1.50	3.25	1.50									
B31	#5	5.83	1	17		1.50	2.83	1.50									
B32	#5	5.42	1	17		1.50	2.42	1.50									
B33	#5	5.00	1	17		1.50	2.00	1.50									
B34	#5	4.58	1	17		1.50	1.58	1.50									
B35	#5	14.00	94	17		6.21	1.58	6.21									
B36	#5	13.25	15	17		6.21	0.83	6.21									
B37E	#5	8.41	94	17		4.58	0.83	3.00									EPOXY
B38E	#5	9.25	8	17		5.17	0.50	3.58									EPOXY
B39E	#5	9.58	6	17		5.17	0.83	3.58									EPOXY
B40E	#8	11.50	1	17		5.00	1.50	5.00									EPOXY
B41E	#8	11.25	1	17		5.00	1.25	5.00									EPOXY
B42E	#8	11.00	1	17		5.00	1.00	5.00									EPOXY
B43E	#8	11.50	1	17		5.00	1.50	5.00									EPOXY
B44E	#8	11.25	1	17		5.00	1.25	5.00									EPOXY
B45E	#8	11.00	1	17		5.00	1.00	5.00									EPOXY
B46E	#5	4.00	89	N7			2.00	2.00				1.41		1.41			EPOXY
B47	#5	7.50	56	17		2.52	2.46	2.52									
B48	#5	13.41	37	—													
B49	#5	18.33	42	—													
B50	#5	29.58	168	—													
B51	#5	21.00	33	—													
B52	#5	14.92	38	—													
B53	#5	14.33	37	N7			11.33	3.00				2.93		10.95			
B54	#5	8.67	41	—													
B55	#5	7.42	33	N7			4.42	3.00				2.85		3.39			
B56	#5	12.25	37	—													
B57	#5	15.33	1	—													
B58	#5	17.25	1	—													
B59	#5	19.25	1	—													
B60	#5	21.25	1	—													
B61	#5	23.92	6	—													
B62	#5	21.83	1	—													
B63	#5	22.42	1	—													
B64	#5	23.08	1	—													
B65	#5	23.67	1	—													
B66	#5	24.17	6	—													
B67E	#5	23.92	3	—													EPOXY
B68E	#5	29.58	6	—													EPOXY
B69E	#5	24.08	3	—													EPOXY
B70E	#5	8.33	1	20		4.00	0.37	3.96									EPOXY
B71E	#5	7.00	1	—													EPOXY
B72E	#5	7.33	1	31		4.66	0.67	2.00				0.34		0.61		7.33	EPOXY
B73E	#5	7.92	1	—													EPOXY
B74E	#5	6.00	6	N8		3.83	2.17										EPOXY
B75E	#5	5.08	3	17		2.25	0.58	2.25									EPOXY
B76E	#5	5.67	2	N2		0.00	2.25	0.67	2.75			1.94		1.94			EPOXY
B77E	#5	5.00	6	N8		3.50	1.50										EPOXY
B78	#5	11.33	7	T2	0.50	2.58	2.58	2.58	2.58		0.50						

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	21224	0	0	0	0	0	0	0	0	21224
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	1797	0	0	180	0	0	0	0	0	1977
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUT B SE WING

BRIDGE SHEET 23 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
SE1	#5	21.42	1	—													
SE2	#5	21.08	1	—													
SE3	#5	20.67	1	—													
SE4	#5	20.25	1	—													
SE5	#5	19.83	1	—													
SE6	#5	19.42	1	—													
SE7	#5	19.00	1	—													
SE8	#5	18.58	1	—													
SE9	#5	18.17	1	—													
SE10	#5	17.75	1	—													
SE11	#5	17.33	1	—													
SE12	#5	16.92	1	—													
SE13	#5	16.50	1	—													
SE14	#5	16.08	1	—													
SE15	#5	15.67	1	—													
SE16	#5	15.25	1	—													
SE17	#5	14.83	1	—													
SE18	#6	17.92	1	—													
SE19	#6	17.58	1	—													
SE20	#6	17.17	1	—													
SE21	#6	16.75	1	—													
SE22	#6	16.42	1	—													
SE23	#6	16.00	1	—													
SE24	#6	15.58	1	—													
SE25	#6	15.17	1	—													
SE26	#6	14.75	1	—													
SE27	#6	14.33	1	—													
SE28	#6	13.92	1	—													
SE29	#6	13.50	1	—													
SE30	#6	13.08	1	—													
SE31	#6	12.67	1	—													
SE32	#6	12.25	1	—													
SE33	#6	11.83	1	—													
SE34	#6	11.42	1	—													
SE35	#5	16.00	32	—													
SE36	#5	14.50	2	—													
SE37	#5	12.08	2	—													
SE38	#5	9.67	2	—													
SE39	#5	7.25	2	—													
SE40	#5	4.83	2	—													
SE41	#5	2.42	2	—													
SE42	#5	17.08	2	—													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	998	376	0	0	0	0	0	0	0	1374
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

DECK

BRIDGE SHEET 31 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D1E	#5	40.83	385	—													EPOXY
D2E	#5	32.00	2	—													EPOXY
D3E	#5	19.75	2	—													EPOXY
D4E	#5	11.08	2	—													EPOXY
D5E	#5	4.08	2	—													EPOXY
D6E	#5	50.25	3	—													EPOXY
D7E	#5	42.25	262	—													EPOXY
D8E	#5	42.00	4	—													EPOXY
D9E	#5	41.75	4	—													EPOXY
D10E	#5	41.58	4	—													EPOXY
D11E	#5	41.33	4	—													EPOXY
D12E	#5	41.08	4	—													EPOXY
D13E	#5	40.83	4	—													EPOXY
D14E	#5	40.58	4	—													EPOXY
D15E	#5	40.42	4	—													EPOXY
D16E	#5	40.17	4	—													EPOXY
D17E	#5	39.92	4	—													EPOXY
D18E	#5	39.67	4	—													EPOXY
D19E	#5	39.42	4	—													EPOXY
D20E	#5	39.25	4	—													EPOXY
D21E	#5	39.00	4	—													EPOXY
D22E	#5	38.75	4	—													EPOXY
D23E	#5	38.50	4	—													EPOXY
D24E	#5	38.25	4	—													EPOXY
D25E	#5	38.08	4	—													EPOXY
D26E	#5	37.83	4	—													EPOXY
D27E	#5	37.58	4	—													EPOXY
D28E	#5	37.33	4	—													EPOXY
D29E	#5	37.08	4	—													EPOXY
D30E	#5	36.92	4	—													EPOXY
D31E	#5	36.67	4	—													EPOXY
D32E	#5	36.42	4	—													EPOXY
D33E	#5	36.17	4	—													EPOXY
D34E	#5	35.92	4	—													EPOXY
D35E	#5	35.75	4	—													EPOXY
D36E	#5	35.50	4	—													EPOXY
D37E	#5	35.25	4	—													EPOXY
D38E	#5	35.00	4	—													EPOXY
D39E	#5	34.75	4	—													EPOXY
D40E	#5	34.58	4	—													EPOXY
D41E	#5	34.33	4	—													EPOXY
D42E	#5	34.08	4	—													EPOXY
D43E	#5	33.83	4	—													EPOXY
D44E	#5	33.67	4	—													EPOXY
D45E	#5	33.42	4	—													EPOXY
D46E	#5	33.17	4	—													EPOXY
D47E	#5	32.92	4	—													EPOXY
D48E	#5	32.67	4	—													EPOXY
D49E	#5	32.50	4	—													EPOXY
D50E	#5	32.25	4	—													EPOXY
D51E	#5	32.00	4	—													EPOXY
D52E	#5	31.75	4	—													EPOXY
D53E	#5	31.50	4	—													EPOXY
D54E	#5	31.33	4	—													EPOXY
D55E	#5	31.08	4	—													EPOXY
D56E	#5	30.83	4	—													EPOXY
D57E	#5	30.58	4	—													EPOXY
D58E	#5	30.33	4	—													EPOXY
D59E	#5	30.17	4	—													EPOXY
D60E	#5	29.92	4	—													EPOXY
D61E	#5	29.67	4	—													EPOXY
D62E	#5	29.42	4	—													EPOXY
D63E	#5	29.17	4	—													EPOXY
D64E	#5	29.00	4	—													EPOXY
D65E	#5	28.75	4	—													EPOXY
D66E	#5	28.50	2	—													EPOXY
D67E	#5	28.25	2	—													EPOXY
D68E	#5	28.00	2	—													EPOXY
D69E	#5	27.83	2	—													EPOXY
D70E	#5	27.58	2	—													EPOXY
D71E	#5	27.33	2	—													EPOXY
D72E	#5	27.08	2	—													EPOXY
D73E	#5	26.83	2	—													EPOXY
D74E	#5	26.67	2	—													EPOXY
D75E	#5	26.42	2	—													EPOXY
D76E	#5	26.17	2	—													EPOXY
D77E	#5	25.92	2	—													EPOXY
D78E	#5	25.67	2	—													EPOXY

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

REINFORCING SCHEDULE (2 OF 4)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	7/17	CHECKED	WPS	8/17
	DRAWN	KFD	7/17	CHECKED	WPS	8/17
	QUANTITIES	KFD	8/17	CHECKED	WPS	8/17
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		87	

BRIDGE SHEET 48 OF 50

FILE NUMBER 132-3-1

TOTAL SHEETS 294

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Rebar	AS NOTED

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D79E	#5	25.50	2	—													EPOXY
D80E	#5	25.25	2	—													EPOXY
D81E	#5	25.00	2	—													EPOXY
D82E	#5	24.75	2	—													EPOXY
D83E	#5	24.50	2	—													EPOXY
D84E	#5	24.33	2	—													EPOXY
D85E	#5	24.08	2	—													EPOXY
D86E	#5	23.83	2	—													EPOXY
D87E	#5	23.58	2	—													EPOXY
D88E	#5	23.33	2	—													EPOXY
D89E	#5	23.17	2	—													EPOXY
D90E	#5	22.92	2	—													EPOXY
D91E	#5	22.67	2	—													EPOXY
D92E	#5	22.42	2	—													EPOXY
D93E	#5	22.25	2	—													EPOXY
D94E	#5	22.00	2	—													EPOXY
D95E	#5	21.75	2	—													EPOXY
D96E	#5	21.50	2	—													EPOXY
D97E	#5	21.25	2	—													EPOXY
D98E	#5	21.08	2	—													EPOXY
D99E	#5	20.83	2	—													EPOXY
D100E	#5	20.58	2	—													EPOXY
D101E	#5	20.33	2	—													EPOXY
D102E	#5	20.08	2	—													EPOXY
D103E	#5	19.92	2	—													EPOXY
D104E	#5	19.67	2	—													EPOXY
D105E	#5	19.42	2	—													EPOXY
D106E	#5	19.17	2	—													EPOXY
D107E	#5	18.92	2	—													EPOXY
D108E	#5	18.75	2	—													EPOXY
D109E	#5	18.50	2	—													EPOXY
D110E	#5	18.25	2	—													EPOXY
D111E	#5	18.00	2	—													EPOXY
D112E	#5	17.75	2	—													EPOXY
D113E	#5	17.58	2	—													EPOXY
D114E	#5	17.33	2	—													EPOXY
D115E	#5	17.08	2	—													EPOXY
D116E	#5	16.83	2	—													EPOXY
D117E	#5	16.58	2	—													EPOXY
D118E	#5	16.42	2	—													EPOXY
D119E	#5	16.17	2	—													EPOXY
D120E	#5	15.92	2	—													EPOXY
D121E	#5	15.67	2	—													EPOXY
D122E	#5	15.42	2	—													EPOXY
D123E	#5	15.25	2	—													EPOXY
D124E	#5	15.00	2	—													EPOXY
D125E	#5	14.75	2	—													EPOXY
D126E	#5	14.50	2	—													EPOXY
D127E	#5	14.25	2	—													EPOXY
D128E	#5	14.08	2	—													EPOXY
D129E	#5	13.83	2	—													EPOXY
D130E	#5	13.58	2	—													EPOXY
D131E	#5	13.33	2	—													EPOXY
D132E	#5	13.08	2	—													EPOXY
D133E	#5	12.92	2	—													EPOXY
D134E	#5	12.67	2	—													EPOXY
D135E	#5	12.42	2	—													EPOXY
D136E	#5	12.17	2	—													EPOXY
D137E	#5	11.92	2	—													EPOXY
D138E	#5	11.75	2	—													EPOXY
D139E	#5	11.50	2	—													EPOXY
D140E	#5	11.25	2	—													EPOXY
D141E	#5	11.00	2	—													EPOXY
D142E	#5	10.75	2	—													EPOXY
D143E	#5	10.58	2	—													EPOXY
D144E	#5	10.33	2	—													EPOXY
D145E	#5	10.08	2	—													EPOXY
D146E	#5	9.83	2	—													EPOXY
D147E	#5	9.58	2	—													EPOXY
D148E	#5	9.42	2	—													EPOXY
D149E	#5	9.17	2	—													EPOXY
D150E	#5	8.92	2	—													EPOXY
D151E	#5	8.67	2	—													EPOXY
D152E	#5	8.42	2	—													EPOXY
D153E	#5	8.25	2	—													EPOXY
D154E	#5	8.00	2	—													EPOXY
D155E	#5	7.75	2	—													EPOXY
D156E	#5	7.50	2	—													EPOXY
D157E	#5	7.25	2	—													EPOXY
D158E	#5	7.08	2	—													EPOXY
D159E	#5	6.83	2	—													EPOXY
D160E	#5	6.58	2	—													EPOXY
D161E	#5	6.33	2	—													EPOXY
D162E	#5	6.08	2	—													EPOXY
D163E	#5	5.92	2	—													EPOXY
D164E	#5	5.67	2	—													EPOXY
D165E	#5	5.42	2	—													EPOXY
D166E	#5	5.17	2	—													EPOXY
D167E	#5	4.92	2	—													EPOXY
D168E	#5	4.75	2	—													EPOXY
D169E	#5	4.50	2	—													EPOXY
D170E	#5	4.25	2	—													EPOXY
D171E	#5	4.00	2	—													EPOXY
D172E	#5	3.75	2	—													EPOXY
D173E	#5	3.58	2	—													EPOXY
D174E	#5	3.33	2	—													EPOXY
D175E	#5	3.08	2	—													EPOXY
D176E	#5	2.83	2	—													EPOXY

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D177E	#5	2.58	2	—													EPOXY
D178E	#5	2.42	2	—													EPOXY
D179E	#5	2.17	2	—													EPOXY
D180E	#5	1.92	2	—													EPOXY
D181E	#5	1.67	2	—													EPOXY
D182E	#5	1.42	2	—													EPOXY
D183E	#5	28.50	2	—													EPOXY
D184E	#5	28.25	2	—													EPOXY
D185E	#5	28.00	2	—													EPOXY
D186E	#5	27.83	2	—													EPOXY
D187E	#5	27.58	2	—													EPOXY
D188E	#5	27.33	2	—													EPOXY
D189E	#5	27.08	2	—													EPOXY
D190E	#5	26.92	2	—													EPOXY
D191E	#5	26.67	2	—													EPOXY
D192E	#5	26.42	2	—													EPOXY
D193E	#5	26.17	2	—													EPOXY
D194E	#5	26.00	2	—													EPOXY
D195E	#5	25.75	2	—													EPOXY
D196E	#5	25.50	2	—													EPOXY
D197E	#5	25.33	2	—													EPOXY
D198E	#5	25.08	2	—													EPOXY
D199E	#5	24.83	2	—													EPOXY
D200E	#5	24.58	2	—													EPOXY
D201E	#5	24.42	2	—													EPOXY
D202E	#5	24.17	2	—													EPOXY
D203E	#5	23.92	2	—													EPOXY
D204E	#5	23.75	2	—													EPOXY
D205E	#5	23.50	2	—													EPOXY
D206E	#5	23.25	2	—													EPOXY
D207E	#5	23.08	2	—													EPOXY
D208E	#5	22.83	2	—													EPOXY
D209E	#5	22.58	2	—													EPOXY
D210E	#5	22.42	2	—													EPOXY
D211E	#5	22.17	2	—													EPOXY
D212E	#5	21.92	2	—													EPOXY
D213E	#5	21.75	2	—													EPOXY
D214E	#5	21.50	2	—													EPOXY
D215E	#5	21.25	2	—													EPOXY
D216E	#5	21.08	2	—													EPOXY
D217E	#5	20.83	2	—													EPOXY
D218E	#5	20.67	2	—													EPOXY
D219E	#5	20.42	2	—													EPOXY
D220E	#5	20.25	2	—													EPOXY
D221E	#5	20.00	2	—													EPOXY
D222E	#5	19.75	2	—													EPOXY
D223E	#5	19.58	2	—													EPOXY
D224E	#5	19.33	2	—													EPOXY
D225E	#5	19.17	2	—													EPOXY
D226E	#5	18.92	2	—													EPOXY
D227E	#5	18.75	2	—													EPOXY
D228E	#5	18.50	2	—													EPOXY
D229E	#5	18.33	2	—													EPOXY
D230E	#5	18.08	2	—													EPOXY
D231E	#5	17.83	2	—													EPOXY
D232E	#5	17.67	2	—													EPOXY
D233E	#5	17.42	2	—													EPOXY
D234E	#5	17.25	2	—													EPOXY
D235E	#5	17.00	2	—													EPOXY
D236E	#5	16.83	2	—													EPOXY
D237E	#5	16.58	2	—													EPOXY
D238E	#5	16.42	2	—													EPOXY
D239E	#5	16.17	2	—													EPOXY
D240E	#5	16.00	2	—													EPOXY
D241E	#5	15.75	2	—													EPOXY
D242E	#5	15.58	2	—													EPOXY
D243E	#5	15.33	2	—													EPOXY
D244E	#5	15.17	2	—													EPOXY
D245E	#5	15.00	2	—													EPOXY
D246E	#5	14.75	2	—													EPOXY
D247E	#5	14.58	2	—													EPOXY
D248E	#5	14.33	2	—													EPOXY
D249E	#5	14.17	2	—													EPOXY
D250E	#5	13.92	2	—													EPOXY
D251E	#5	13.75	2	—													EPOXY
D252E	#5	13.50	2	—													EPOXY
D253E	#5	13.33	2	—													EPOXY
D254E	#5	13.17	2	—													EPOXY
D255E	#5	12.92	2	—													EPOXY
D256E	#5	12.75	2	—													EPOXY
D257E	#5	12.50	2	—													EPOXY
D258E	#5	12.33	2	—													EPOXY
D259E	#5	12.17	2	—													EPOXY
D260E	#5	11.92	2	—													EPOXY
D261E	#5	11.75	2	—													EPOXY
D262E	#5	11.58	2	—													EPOXY
D263E	#5	11.33	2	—													EPOXY
D264E	#5	11.17	2	—													EPOXY
D265E	#5	10.92	2	—													EPOXY
D266E	#5	10.75	2	—													EPOXY
D267E	#5	10.58	2	—													EPOXY
D268E	#5	10.33	2	—													EPOXY
D269E	#5	10.17	2	—													EPOXY
D270E	#5	10.00	2	—													EPOXY
D271E	#5	9.75	2	—													EPOXY
D272E	#5	9.58	2	—													EPOXY
D273E	#5	9.42	2	—													EPOXY
D274E	#5	9.17	2	—													EPOXY

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D275E	#5	9.00	2	—													EPOXY
D276E	#5	8.83	2	—													EPOXY
D277E	#5	8.67	2	—													EPOXY
D278E	#5	8.42	2	—													EPOXY
D279E	#5	8.25	2	—													EPOXY
D280E	#5	8.08	2	—													EPOXY
D281E	#5	7.92	2	—													EPOXY
D282E	#5	7.67	2	—													EPOXY
D283E	#5	7.50	2	—													EPOXY
D284E	#5	7.33	2	—													EPOXY
D285E	#5	7.08	2	—													EPOXY
D286E	#5	6.92	2	—													EPOXY
D287E	#5	6.75	2	—													EPOXY
D288E	#5	6.58	2	—													EPOXY
D289E	#5	6.42	2	—													EPOXY
D290E	#5	6.17	2	—													EPOXY
D291E	#5	6.00	2	—													EPOXY
D292E	#5	5.83	2	—													EPOXY
D293E	#5	5.67	2	—													EPOXY
D294E	#5	5.50	2	—													EPOXY
D295E	#5	5.25	2	—													EPOXY
D296E	#5	5.08	2	—													EPOXY
D297E	#5	4.92	2	—													EPOXY
D298E	#5	4.75	2	—													EPOXY
D299E	#5	4.58	2	—													EPOXY
D300E	#5	4.33	2	—													EPOXY
D301E	#5	4.17	2	—													EPOXY
D302E	#5	4.00	2	—													EPOXY
D303E	#5	3.83	2	—													EPOXY
D304E	#5	3.67	2	—													EPOXY
D305E	#5	3.50	2	—													EPOXY
D306E	#5	3.33	2	—													EPOXY
D307E	#5	3.08	2	—													EPOXY
D308E	#5	2.92	2	—													EPOXY
D309E	#5	2.75	2	—													EPOXY
D310E	#5	2.58	2	—													EPOXY
D311E	#5	2.42	2	—													EPOXY
D312E	#5	2.25	2	—													EPOXY
D313E	#5	2.08	2	—													EPOXY
D314E	#5	1.92	2	—													EPOXY
D315E	#5	1.75	2	—													EPOXY
D316E	#5	1.50	2	—													EPOXY
D317E	#5	1.33	2	—													EPOXY
D318E	#5	1.17	2	—													EPOXY
D319E	#5	5.83	430	S5	0.83	1.46	1.38	1.33			0.83						EPOXY
D320E	#5	5.83	5	S6	0.83	1.46	1.38	1.33			0.83						EPOXY
D321E	#5	5.00	1	S6	0.83	1.46	1.42	0.46			0.83						EPOXY
D322E	#5	4.83	1	S6	0.83	1.46	1.25	0.46			0.83						EPOXY
D323E	#5	4.58	1	S6	0.83	1.46	1.00	0.46			0.83						EPOXY
D324E	#5	4.42	1	S6	0.83	1.46	0.83	0.46			0.83						EPOXY
D325E	#5	5.33	1	S6	0.83	1.46	0.83	1.38			0.83						EPOXY
D326E	#5	5.50	1	S6	0.83	1.46	1.00	1.38			0.83						EPOXY
D327E	#5	5.67	1	S6	0.83	1.46	1.17	1.38			0.83						EPOXY
D328E	#5	5.83	1	S6	0.83	1.46	1.33	1.38			0.83						EPOXY
D329E	#5	5.58	1	S5	0.83	1.46	1.13	1.33			0.83						EPOXY
D330E	#5	5.33	1	S5	0.83	1.46	0.88	1.33			0.83						EPOXY
D331E	#5	4.83	1	S5	0.83	0.46	1.38	1.33			0.83						EPOXY
D332E	#5	4.67	1	S5	0.83	0.46	1.21	1.33			0.83						EPOXY
D333E	#5	4.32	1	S5	0.83	0.46	0.86	1.33			0.83						EPOXY
D334E	#5	4.17	1	S5	0.83	0.46	0.71	1.33			0.83						EPOXY
D335E	#5	38.42	18	—													EPOXY
D336E	#5	34.83	12	—													EPOXY
D337E	#5	9.58	18	—													EPOXY
D338E	#5	6.83	36	N2		1.00	0.92	3.08	1.83			0.75		1.67			EPOXY
D339E	#5	5.00	46	S5	0.83	0.71	1.92	0.71			0.83						EPOXY
D340E	#5	25.00	24	—													EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	49653	0	0	0	0	0	0	0	0	49653
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BRSITE	10439 Rebar	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

REINFORCING SCHEDULE (3 OF 4)

BRIDGE SHEET 49 OF 50

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	KFD	7/17	CHECKED	WPS	8/17
DRAWN	KFD	7/17	CHECKED	WPS	8/17
QUANTITIES	KFD	8/17	CHECKED	WPS	8/17

FILE NUMBER 132-3-1

ISSUE DATE

REV. DATE

FEDERAL PROJECT NO. ----------

SHEET NO. 88

TOTAL SHEETS 294

ABUT A APPROACH SLAB

BRIDGE SHEET 32 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
AS1E	#5	35.08	57	—													EPOXY
AS2E	#5	7.75	1	—													EPOXY
AS3E	#5	9.92	1	—													EPOXY
AS4E	#5	12.08	1	—													EPOXY
AS5E	#5	13.67	1	—													EPOXY
AS6E	#5	12.67	1	—													EPOXY
AS7E	#5	11.58	1	—													EPOXY
AS8E	#5	10.58	1	—													EPOXY
AS9E	#5	9.58	1	—													EPOXY
AS10E	#5	8.50	1	—													EPOXY
AS11E	#5	7.50	1	—													EPOXY
AS12E	#5	6.50	1	—													EPOXY
AS13E	#5	5.50	1	—													EPOXY
AS14E	#5	9.42	1	N8		3.75	5.67										EPOXY
AS15E	#5	34.58	1	—													EPOXY
AS16E	#7	34.25	83	—													EPOXY
AS17E	#7	33.92	1	—													EPOXY
AS18E	#7	31.17	1	—													EPOXY
AS19E	#7	27.67	1	—													EPOXY
AS20E	#7	23.67	1	—													EPOXY
AS21E	#7	19.58	1	—													EPOXY
AS22E	#7	15.58	1	—													EPOXY
AS23E	#7	11.50	1	—													EPOXY
AS24E	#7	7.42	1	—													EPOXY
AS25E	#5	9.08	84	N2		2.00	1.50	3.58	2.00			0.83		1.83			EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	3048	0	6159	0	0	0	0	0	0	9207
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUT B APPROACH SLAB

BRIDGE SHEET 32 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
BS1E	#5	31.92	57	—													EPOXY
BS2E	#7	34.25	76	—													EPOXY
BS3E	#5	9.08	76	N2		2.00	1.50	3.58	2.00			0.83		1.83			EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	2617	0	5321	0	0	0	0	0	0	7938
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

CENTER ST. REHAB (Br. # 094/064)

BRIDGE SHEET 44 OF 50

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
CA1	#5	31.75	6	—													
CA2	#5	3.17	37	17		1.17	0.83	1.17									
CA3	#5	5.67	4	S5	0.83	1.38	1.42	1.21			0.83						
CA4	#5	2.83	4	17		1.00	0.83	1.00									
CD1	#5	31.75	8	—													
CD2	#5	5.17	12	—													
CD3	#5	4.21	33	N2		0.79	1.04	1.54	0.83			0.58		0.58			
CD4	#5	5.67	8	S5	0.83	1.38	1.42	1.21			0.83						

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	878	0	0	0	0	0	0	0	0	878
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

GRAND SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	55624	21302	687	522	0	0	0	0	0	78135
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	57748	0	11480	180	0	0	0	0	0	69408
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN SULLIVAN BRIDGE NO. 093\060 STATE PROJECT 10439

LOCATION NH ROUTE 9 over OTTER BROOK

REINFORCING SCHEDULE (4 OF 4)

BRIDGE SHEET 50 OF 50

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KFD	7/17	CHECKED	WPS	8/17
	DRAWN	KFD	7/17	CHECKED	WPS	8/17
	QUANTITIES	KFD	8/17	CHECKED	WPS	8/17

FILE NUMBER 132-3-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\BRSITE	10439 Rebar	AS NOTED	REV. DATE	----------	89	294

D1 STA. 63+46.4, LT. 9.1′ TO STA. 63+25.2, LT. 7.4′
REMOVE 18.5′ x 15″ C.M.P.
CONST. CB-B @ +46.4, LT. 9.1′

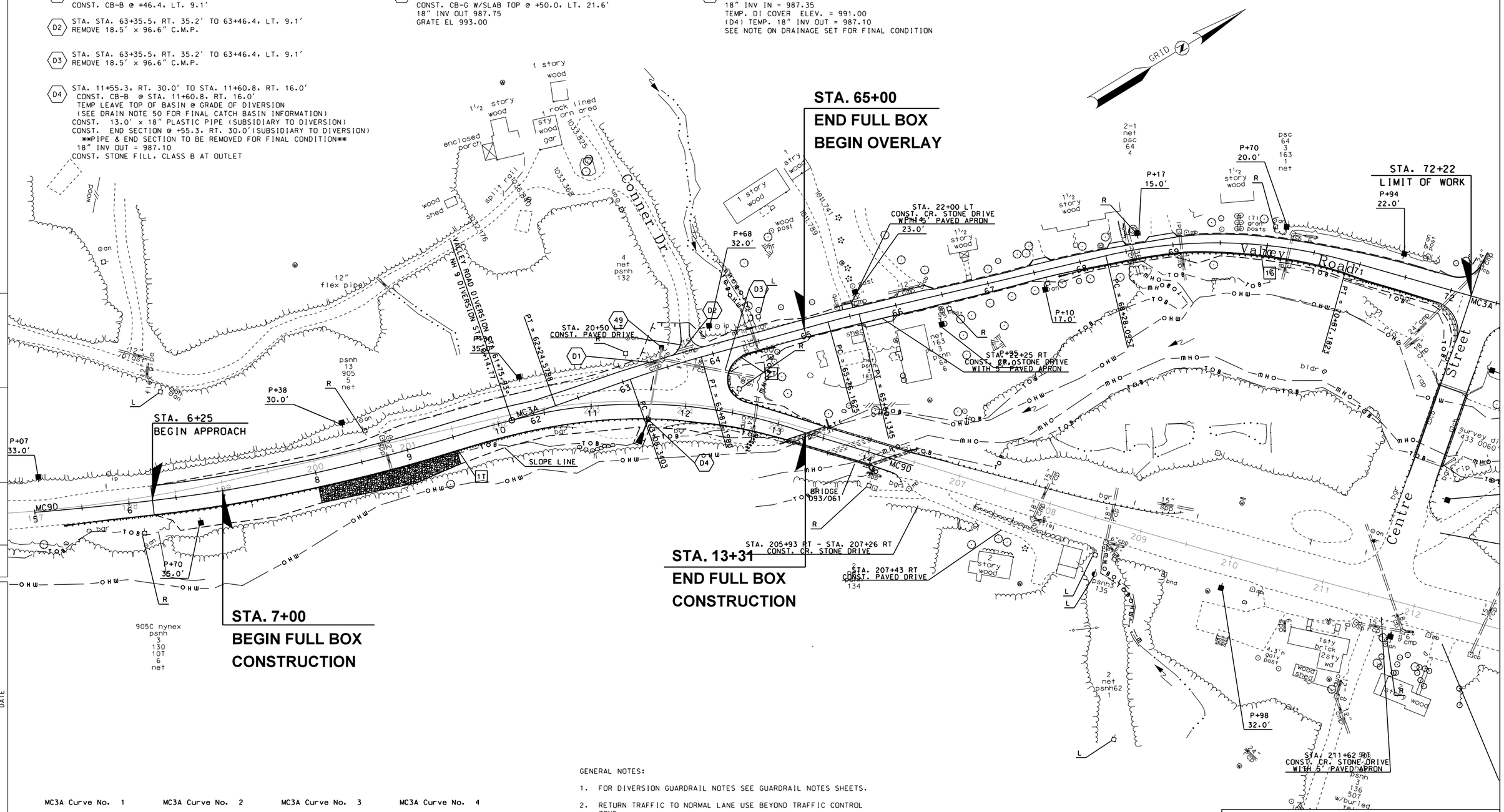
D2 STA. STA. 63+35.5, RT. 35.2′ TO 63+46.4, LT. 9.1′
REMOVE 18.5′ x 96.6″ C.M.P.

D3 STA. STA. 63+35.5, RT. 35.2′ TO 63+46.4, LT. 9.1′
REMOVE 18.5′ x 96.6″ C.M.P.

D4 STA. 11+55.3, RT. 30.0′ TO STA. 11+60.8, RT. 16.0′
CONST. CB-B @ STA. 11+60.8, RT. 16.0′
TEMP LEAVE TOP OF BASIN @ GRADE OF DIVERSION
(SEE DRAIN NOTE 50 FOR FINAL CATCH BASIN INFORMATION)
CONST. 13.0′ x 18″ PLASTIC PIPE (SUBSIDIARY TO DIVERSION)
CONST. END SECTION @ +55.3, RT. 30.0′(SUBSIDIARY TO DIVERSION)
PIPE & END SECTION TO BE REMOVED FOR FINAL CONDITION
18″ INV OUT = 987.10
CONST. STONE FILL, CLASS B AT OUTLET

49 STA. 11+60.8, RT. 19.0′ TO STA. 63+50.0, LT. 21.6′
CONST. 73.5′ x 18″ RCP
CONST. CB-G W/SLAB TOP @ +50.0, LT. 21.6′
18″ INV OUT 987.75
GRATE EL 993.00

50 STA. 11+60.8, RT. 19.0′
CONST. DI-B @ +60.8, RT. 19.0′
18″ INV IN = 987.35
TEMP. DI COVER ELEV. = 991.00
(D4) TEMP. 18″ INV OUT = 987.10
SEE NOTE ON DRAINAGE SET FOR FINAL CONDITION



MC3A Curve No. 1	MC3A Curve No. 2	MC3A Curve No. 3	MC3A Curve No. 4
PI= 61+65.1512	PI= 63+47.7851	PI= 65+43.1505	PI= 69+60.5003
N = 179487.87	N = 179666.63	N = 179854.54	N = 180251.30
E = 842482.87	E = 842520.59	E = 842574.16	E = 842703.65
Δ = 4°32′32.597″ Left	Δ = 3°59′29.756″ Right	Δ = 2°09′59.742″ Right	Δ = 29°06′52.092″ Right
T = 59.49′	T = 39.45′	T = 16.99′	T = 132.41′
R = 1500.00′	R = 1131.93′	R = 898.39′	R = 509.87′
L = 118.92′	L = 78.86′	L = 33.97′	L = 259.09′
E = 1.18′	E = 0.69′	E = 0.16′	E = 16.91′

GENERAL NOTES:

1. FOR DIVERSION GUARDRAIL NOTES SEE GUARDRAIL NOTES SHEETS.
2. RETURN TRAFFIC TO NORMAL LANE USE BEYOND TRAFFIC CONTROL ZONE.
3. FOR ADDITIONAL DIVERSION LAYOUT INFORMATION, SEE ASSOCIATED CROSS SECTION AND PROFILE DRAWINGS.
4. TEMPORARY TRAFFIC DIVERSION WILL BE PAID FOR UNDER ITEM 670.04501 - CONSTRUCT AND REMOVE DIVERSION. SEE SPECIAL PROVISION FOR EXPLANATION OF WORK THAT IS INCLUDED UNDER THIS ITEM.
5. SEE TRAFFIC CONTROL PLANS IN THE PROPOSAL FOR DIVERSION SIGNING AND PAVEMENT MARKING INFORMATION.

50 0 50 100
SCALE IN FEET

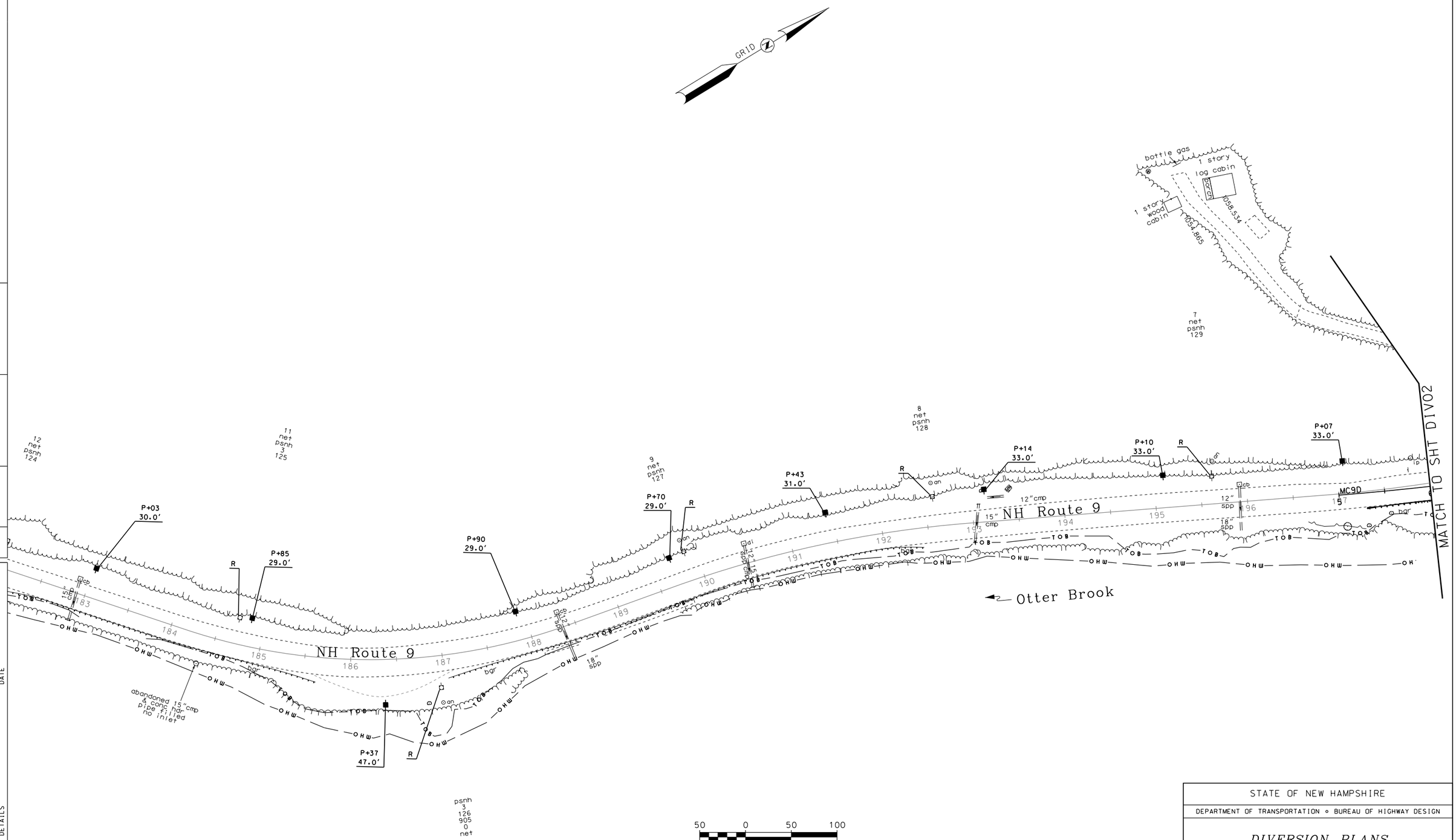
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

DIVERSION PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 DivPlan	10439	90	294

REVISIONS AFTER PROPOSAL	STATION	DATE	NUMBER	DESCRIPTION

SDR PROCESSED	JAA	DATE	08/17
NEW DESIGN		DATE	XXX
SHEET CHECKED	XXX		
AS BUILT DETAILS		DATE	



REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	XXX	DATE	XXX
SHEET CHECKED	XXX	DATE	XXX

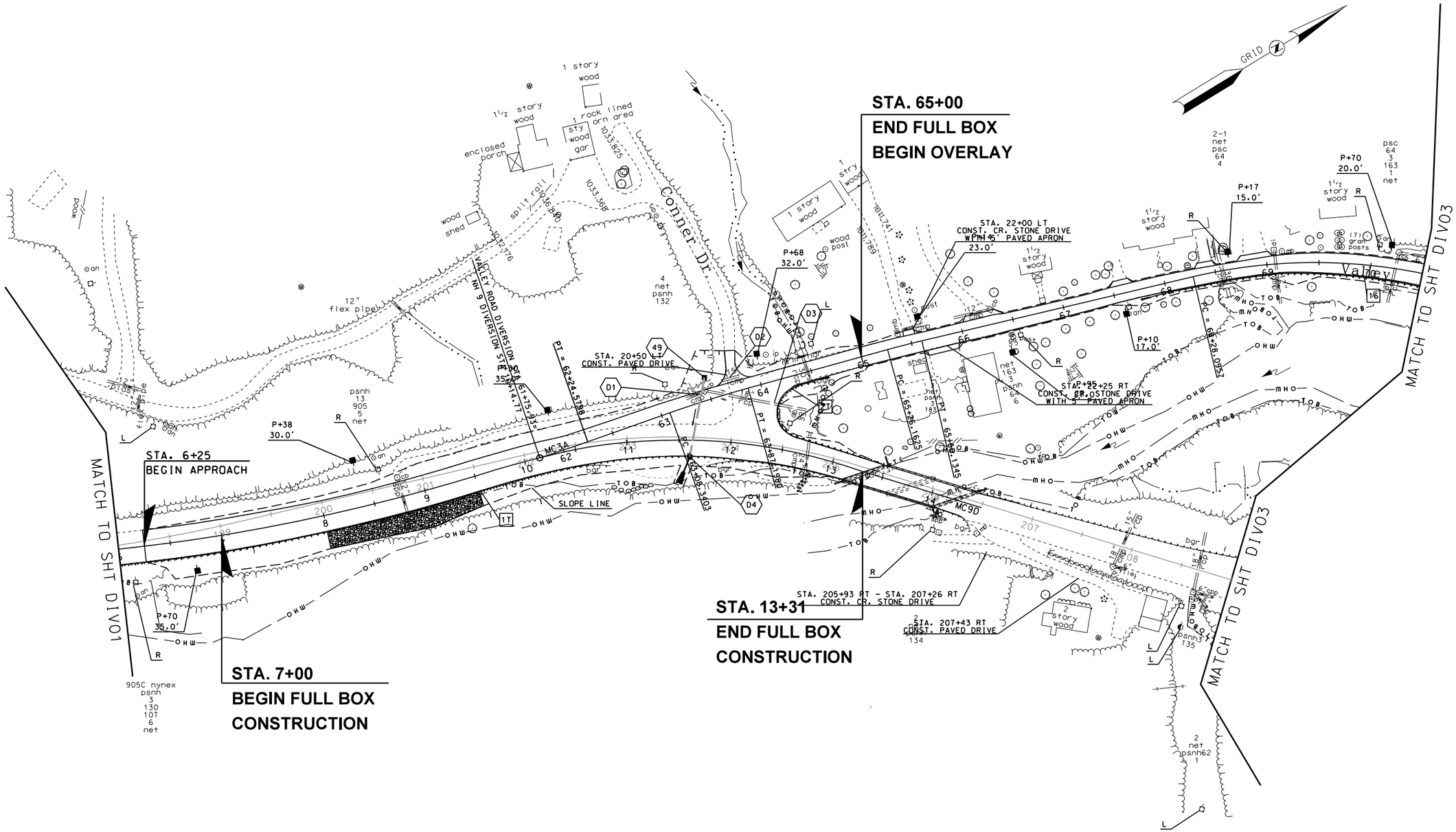
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Diversion 1	10439 DivPlan	10439	91	294



MC3A Curve No. 1	MC3A Curve No. 2	MC3A Curve No. 3	MC3A Curve No. 4
PI= 61+65.1512	PI= 63+47.7851	PI= 65+43.1505	PI= 69+60.5003
N = 179487.87	N = 179666.63	N = 179854.54	N = 180251.30
E = 842482.87	E = 842520.59	E = 842574.16	E = 842703.65
Δ = 4°32′32.597″ Left	Δ = 3°59′29.756″ Right	Δ = 2°09′59.742″ Right	Δ = 29°06′52.092″ Right
T = 59.49′	T = 39.45′	T = 16.99′	T = 132.41′
R = 1500.00′	R = 1131.93′	R = 898.39′	R = 509.87′
L = 118.92′	L = 78.86′	L = 33.97′	L = 259.09′
E = 1.18′	E = 0.69′	E = 0.16′	E = 16.91′

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

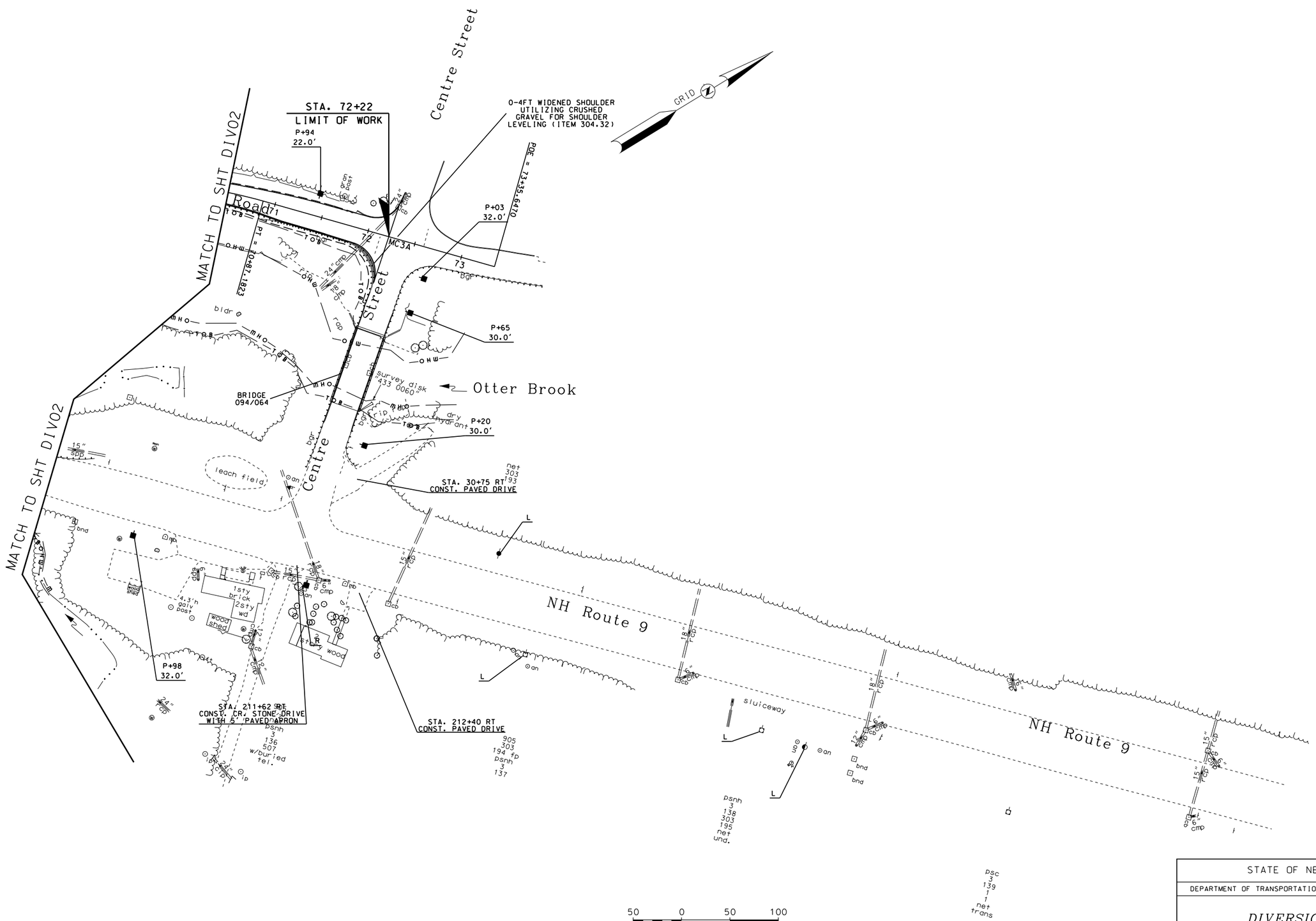
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	XXX	DATE	XXX
SHEET CHECKED	XXX	DATE	XXX
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Diversion 2	10439 DivPlan	10439	92	294



REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION

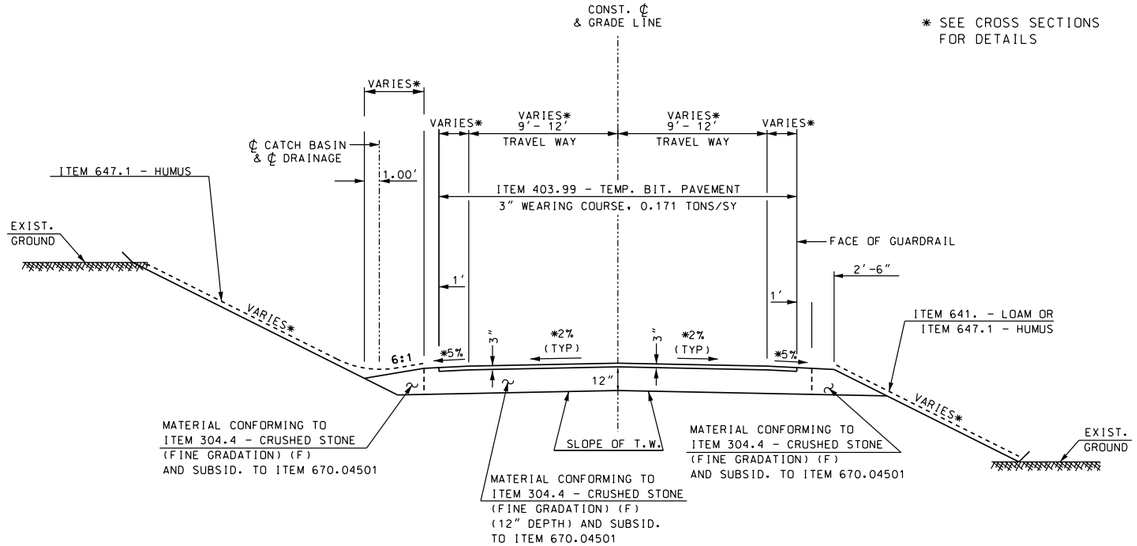
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	XXX	DATE	XXX
SHEET CHECKED	XXX	DATE	XXX
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Diversion 3	10439 DivPlan	10439	93	294

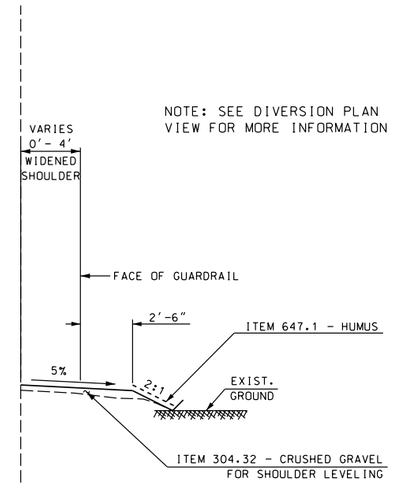


STA. 61+76 - 65+00

VALLEY RD
FULL BOX TYPICAL

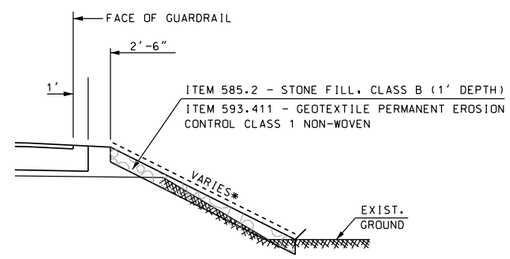
GENERAL NOTES

1. SEE PAVEMENT MATCH DETAILS FOR ADDITIONAL INFORMATION.
2. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
3. TEMPORARY TRAFFIC DIVERSION WILL BE PAID FOR UNDER ITEM 670.04501 - CONSTRUCT AND REMOVE DIVERSION. SEE SPECIAL PROVISION FOR EXPLANATION OF WORK THAT IS INCLUDED UNDER THIS ITEM.
4. ALL EXCAVATION OF TOPSOIL SHALL BE PAID FOR UNDER ITEM 203.11 - COMMON EXCAVATION LRS.
5. EXCAVATION FOR STONE FILL, CLASS B, SHALL BE PAID FOR UNDER ITEM 670.04501 - CONSTRUCT AND REMOVE DIVERSION.



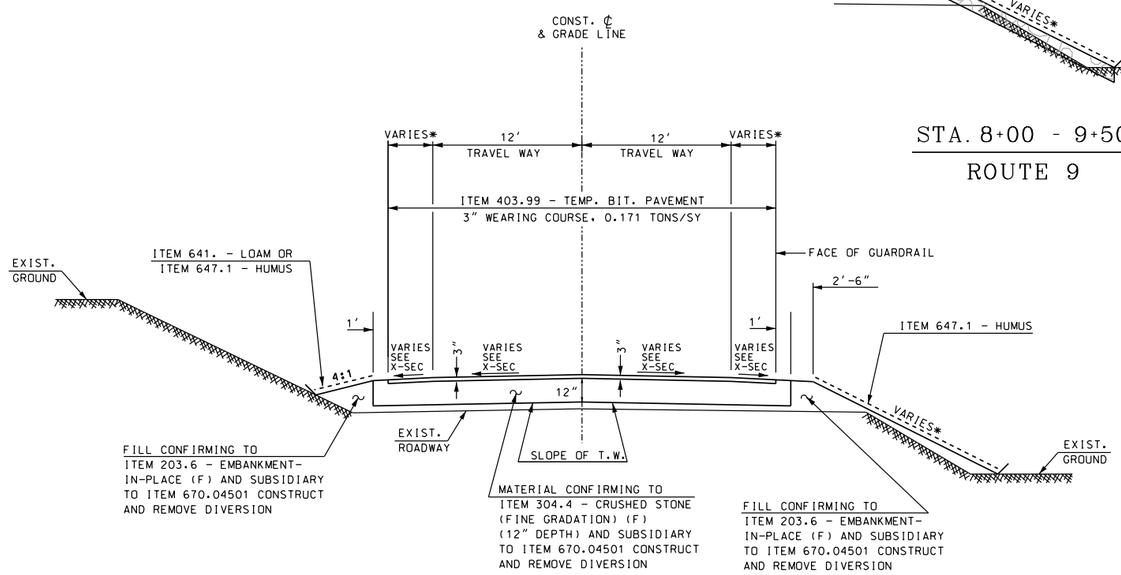
STA. 71+80 - 72+22 RT.

SHOULDER WIDENING WITH
CRUSHED GRAVEL



STA. 8+00 - 9+50

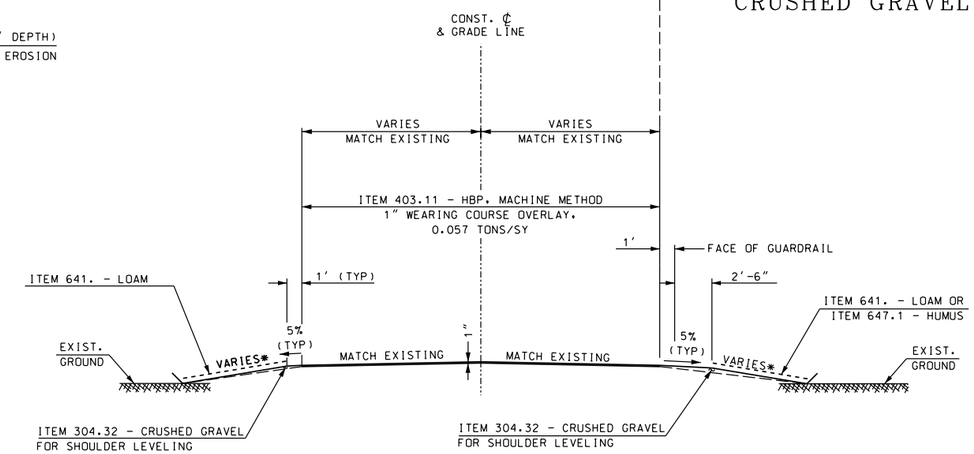
ROUTE 9



* SEE CROSS SECTIONS
FOR DETAILS

STA. 7+00 - 13+31

ROUTE 9 FULL BOX TYPICAL



STA. 65+00 - 71+72

VALLEY RD
OVERLAY TYPICAL

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

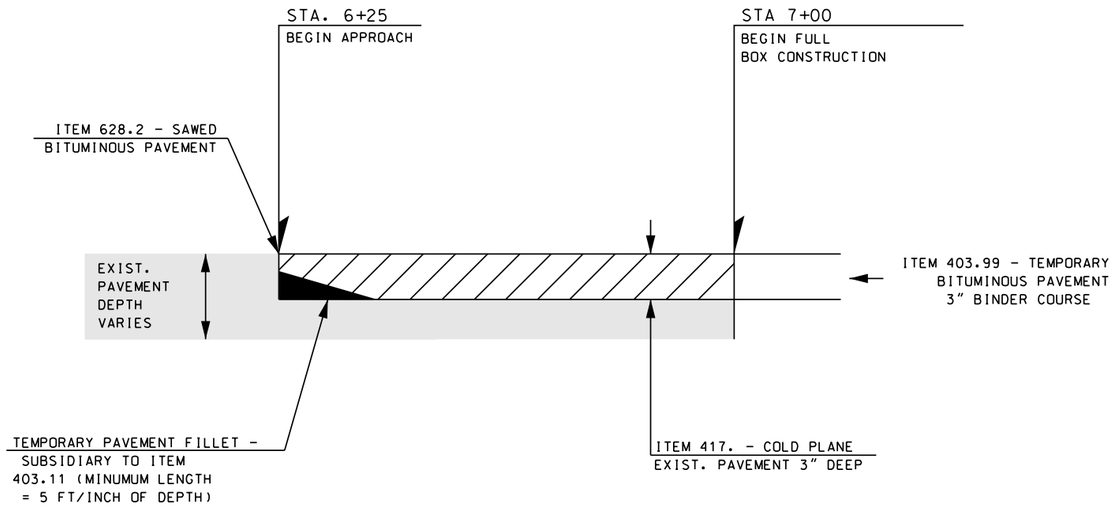
SDR PROCESSED		DATE	DATE
NEW DESIGN	T. RUSSO	DATE 7/2017	DATE
SHEET CHECKED	XX	DATE XX	
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

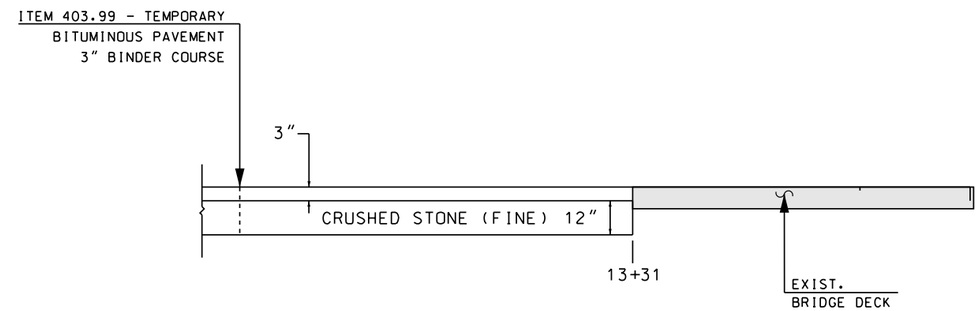
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION
TYPICAL SECTIONS

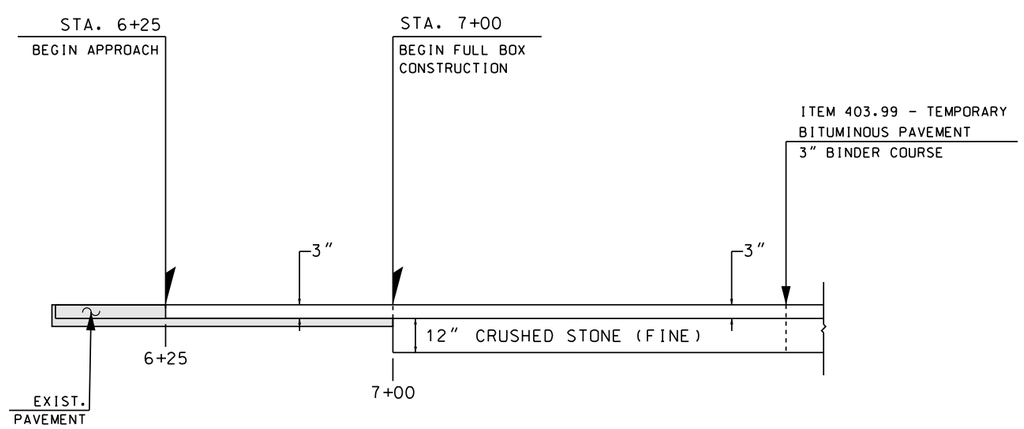
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 Diversion_TYP	10439	94	294



DIVERSION
COLD PLANING DETAIL
ROUTE 9
EXISTING FULL BOX



DIVERSION
PAVEMENT MATCH
ROUTE 9
FULL BOX TO EXIST. BRIDGE NO. 093/061



ROUTE 9
DIVERSION

NOT TO SCALE

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION	DESCRIPTION

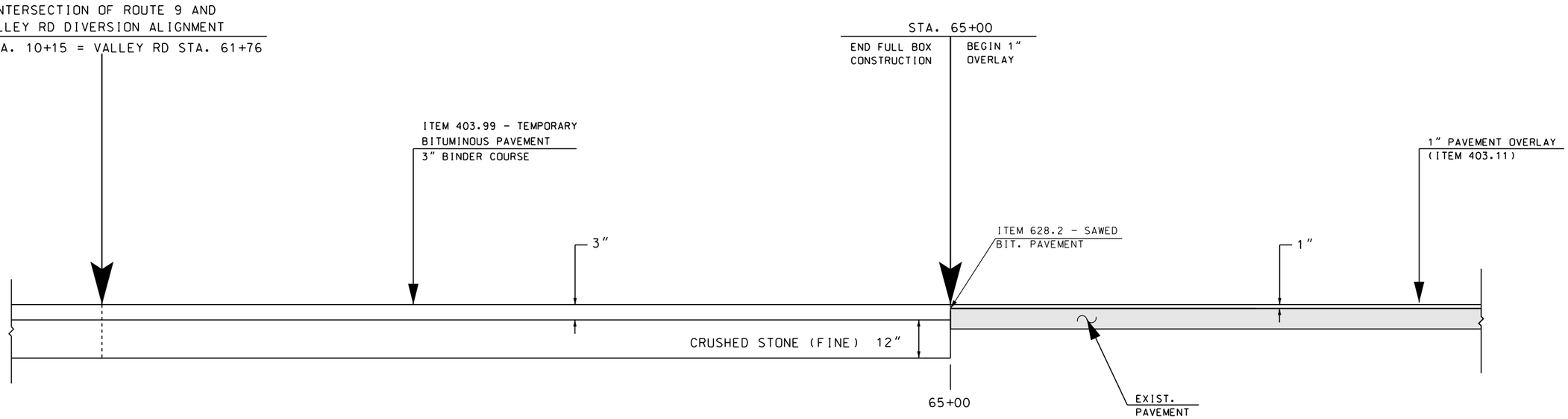
SDR PROCESSED		DATE	
NEW DESIGN	T. RUSSO	DATE	05/2017
SHEET CHECKED	XX	DATE	XX
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

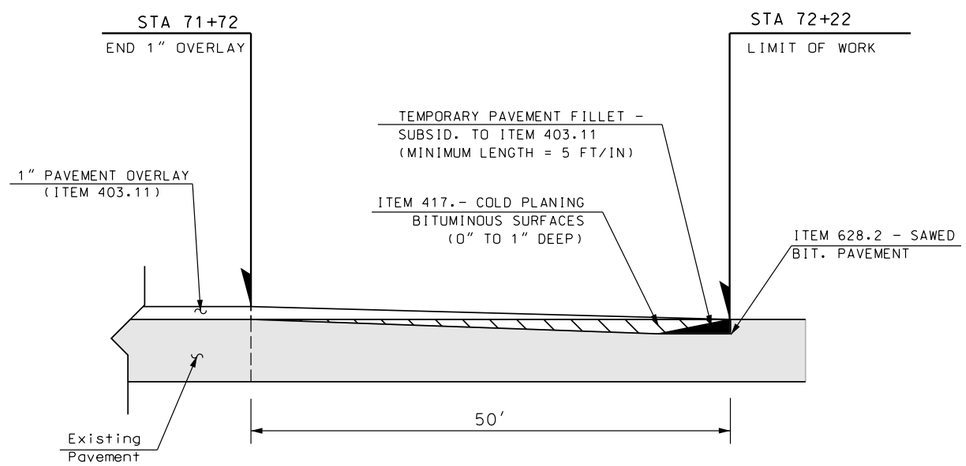
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION
PAVEMENT MATCH DETAILS

PAGE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
1 OF 2	DIV_PVT_MTH	10439	95	294



DIVERSION PAVEMENT MATCH
VALLEY RD FULL BOX TO OVERLAY



DIVERSION PAVEMENT MATCH
VALLEY RD OVERLAY TO EXISTING

NOT TO SCALE

NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	T. RUSSO	DATE	DATE 07/2017
NEW DESIGN		DATE	DATE XX
SHEET CHECKED	XX		
AS BUILT DETAILS		DATE	

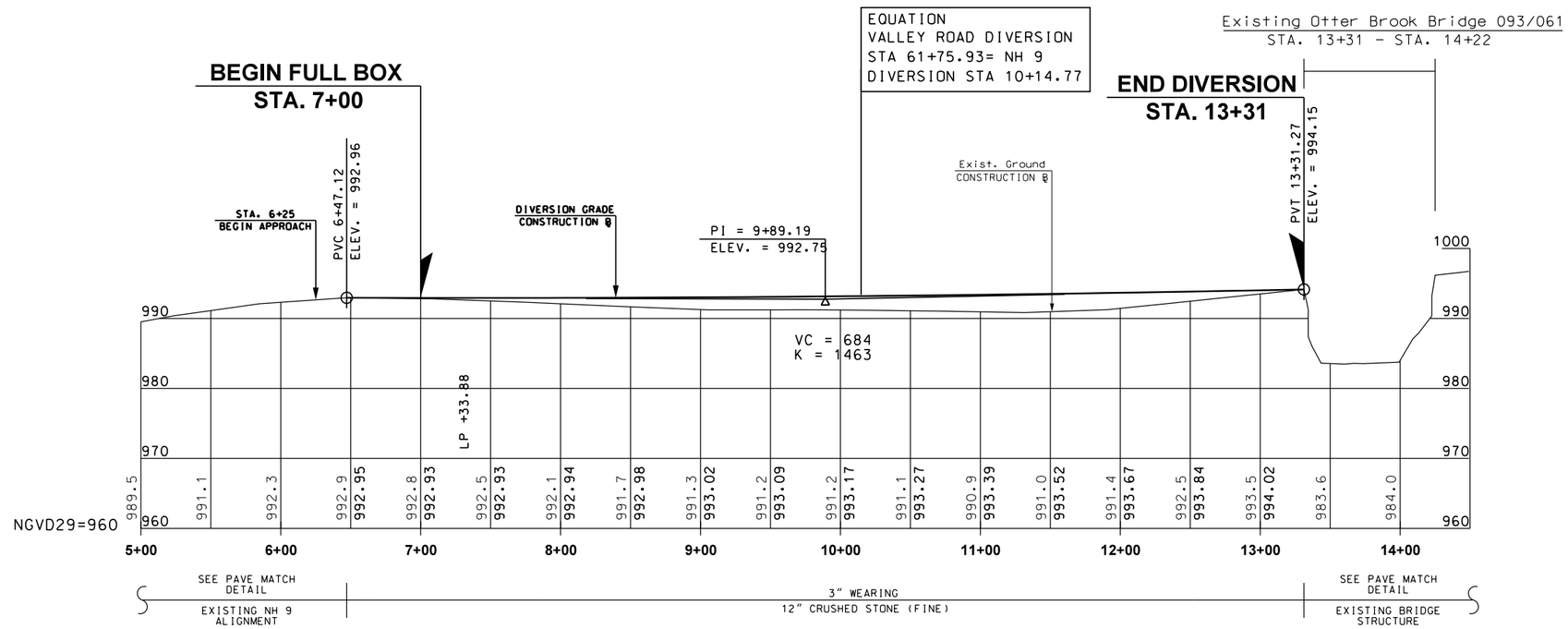
STATE OF NEW HAMPSHIRE

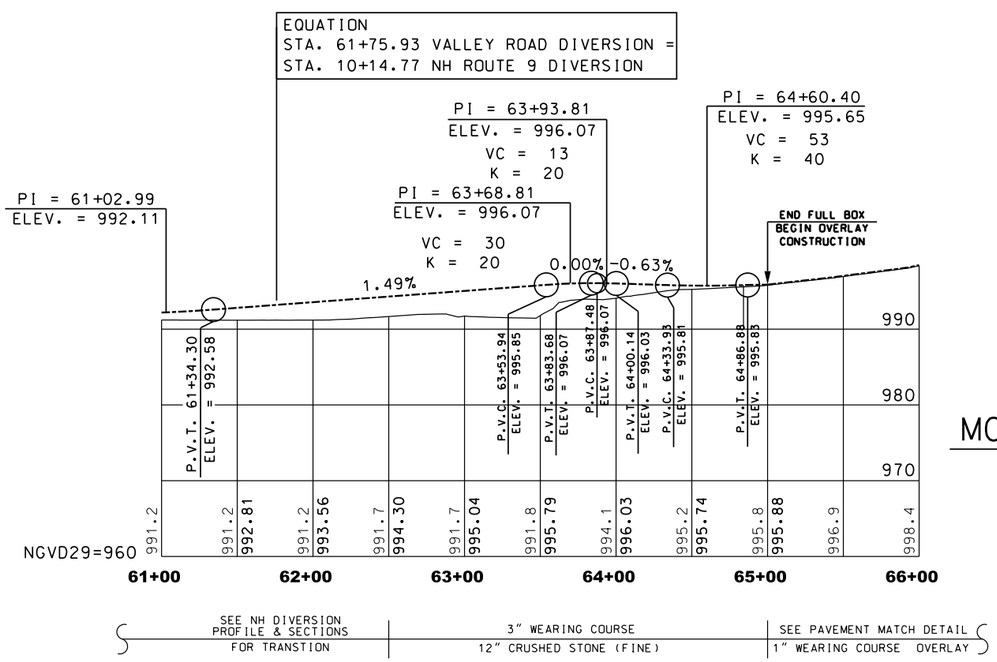
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DIVERSION PAVEMENT MATCH DETAILS

PAGE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
2 OF 2	10439 Div_PVT-MTH	10439	96	294

MC9D NH Rte 9





MC3A VALLEY ROAD

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE	
NEW DESIGN	T. CUTTER	DATE	05/2017
SHEET CHECKED	JAA	DATE	08/2017
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

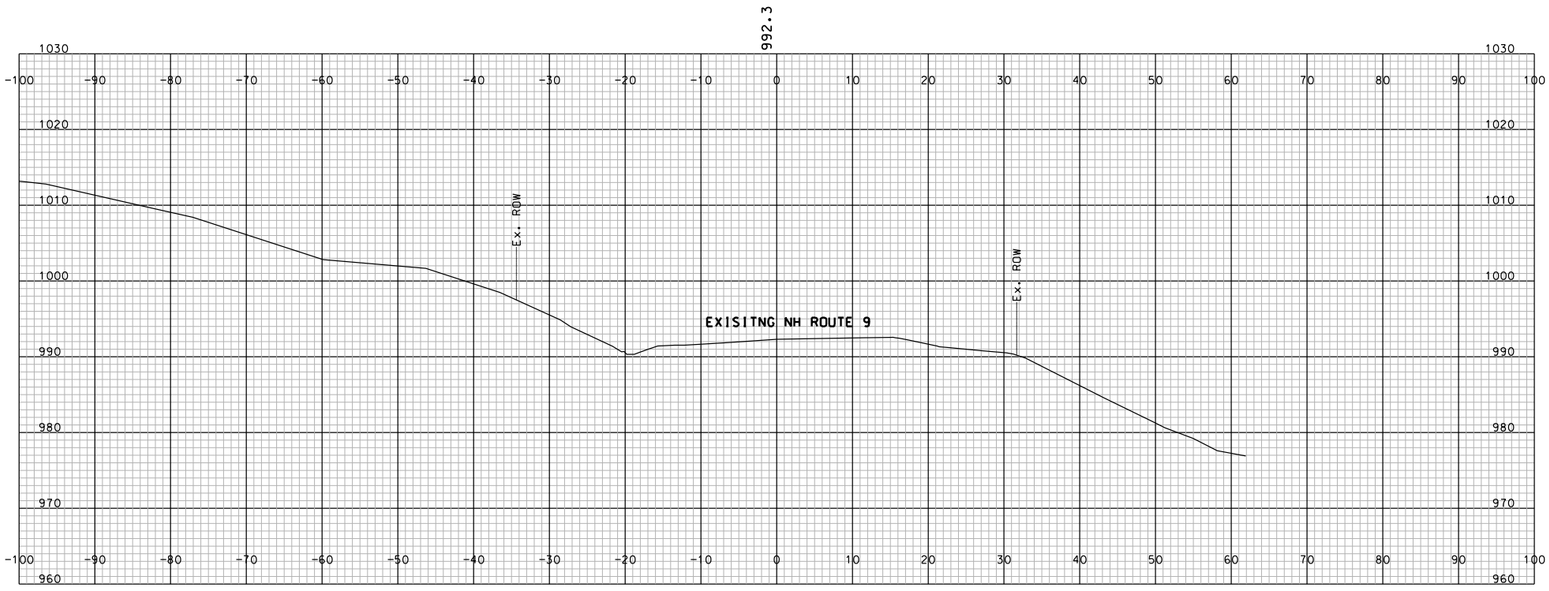
DIVERSION PROFILE

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439pro-mc9d	10439	97	294

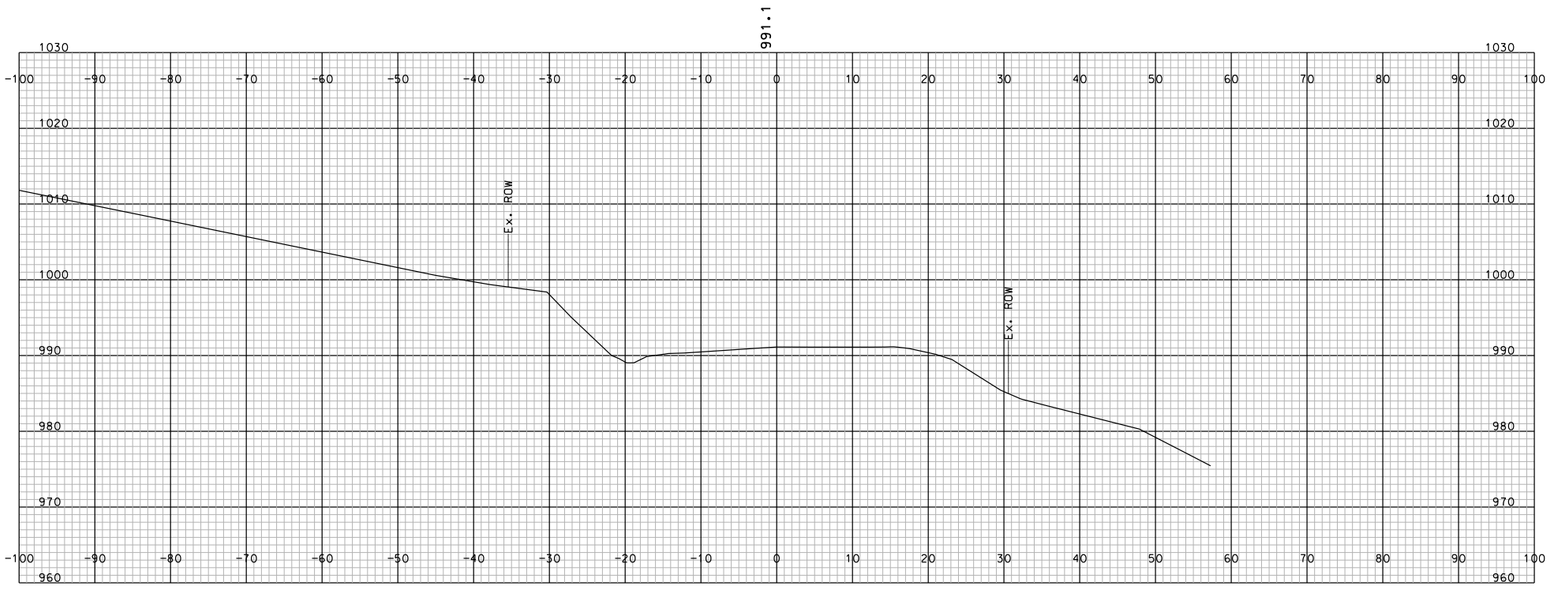
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

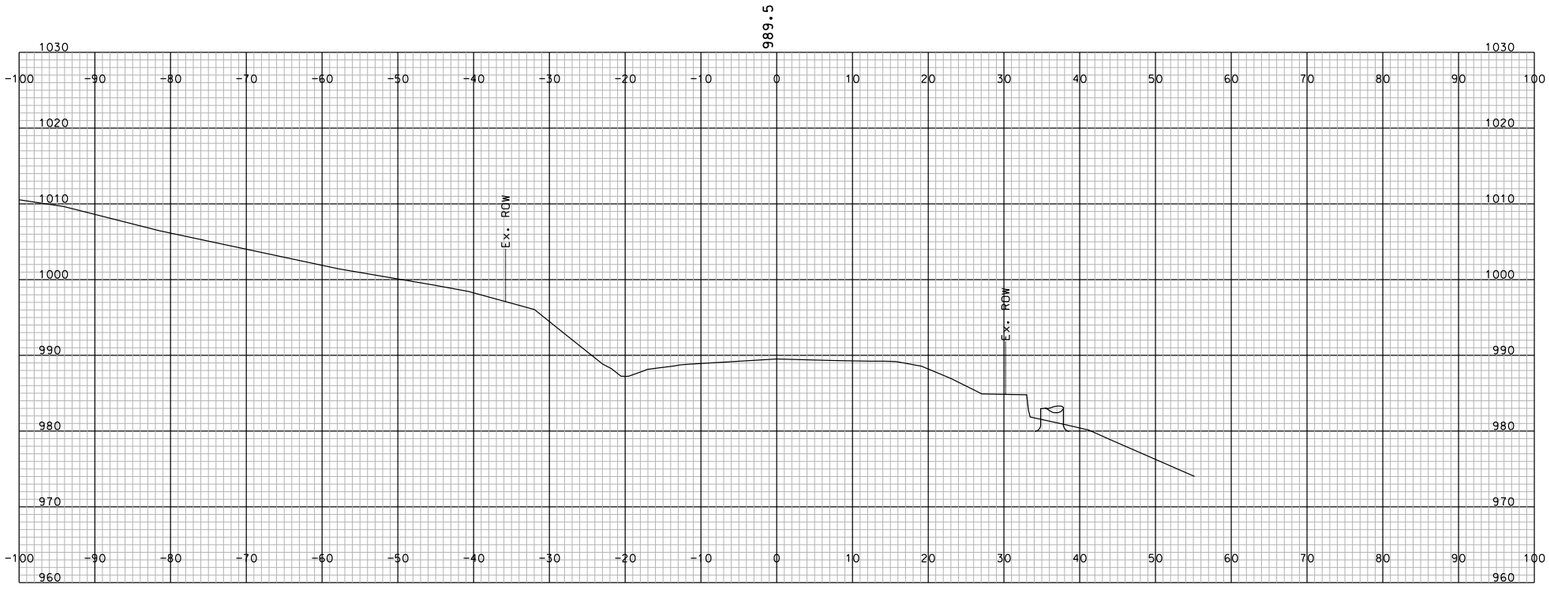
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 6+00.000



STA. 5+50.000



STA. 5+00.000

DIVERSION CROSS SECTIONS
NH ROUTE 9

SHEET TOTALS

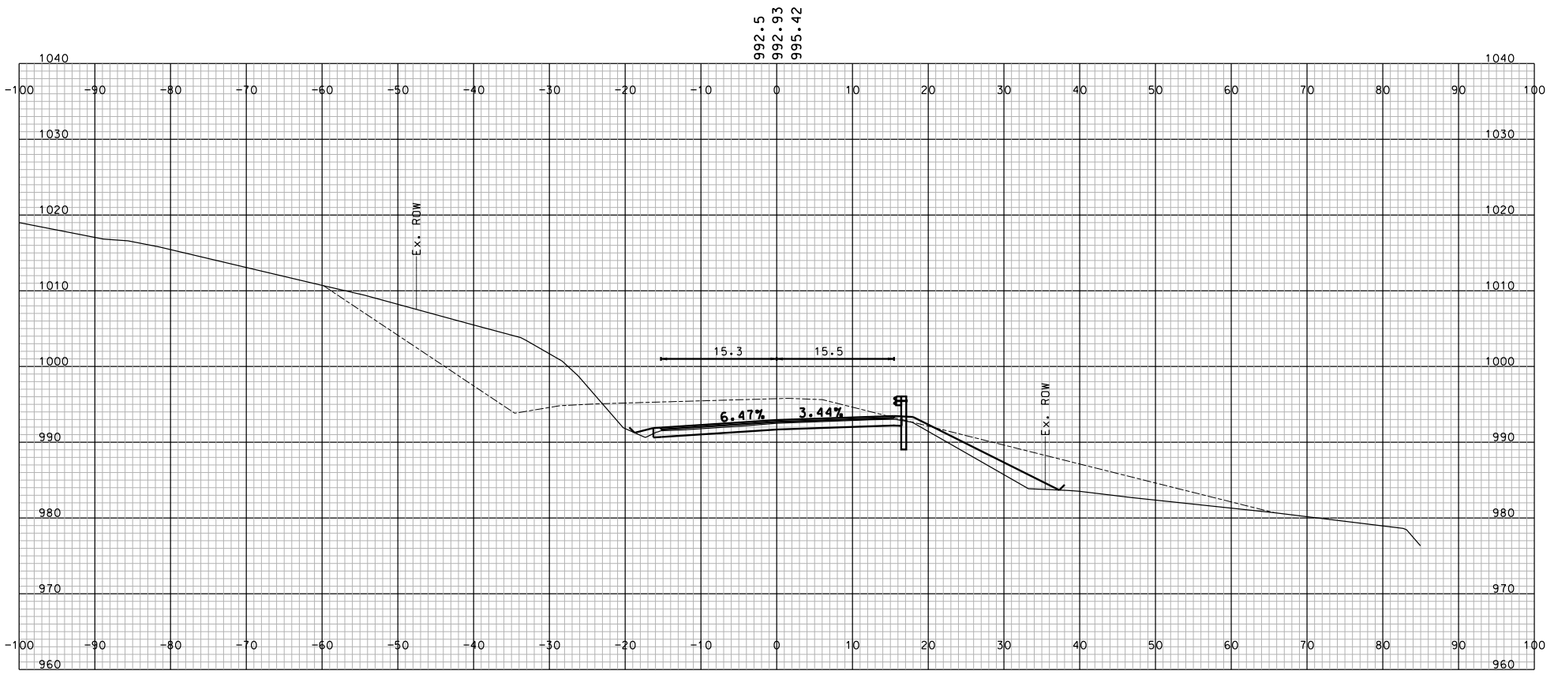
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	98	294

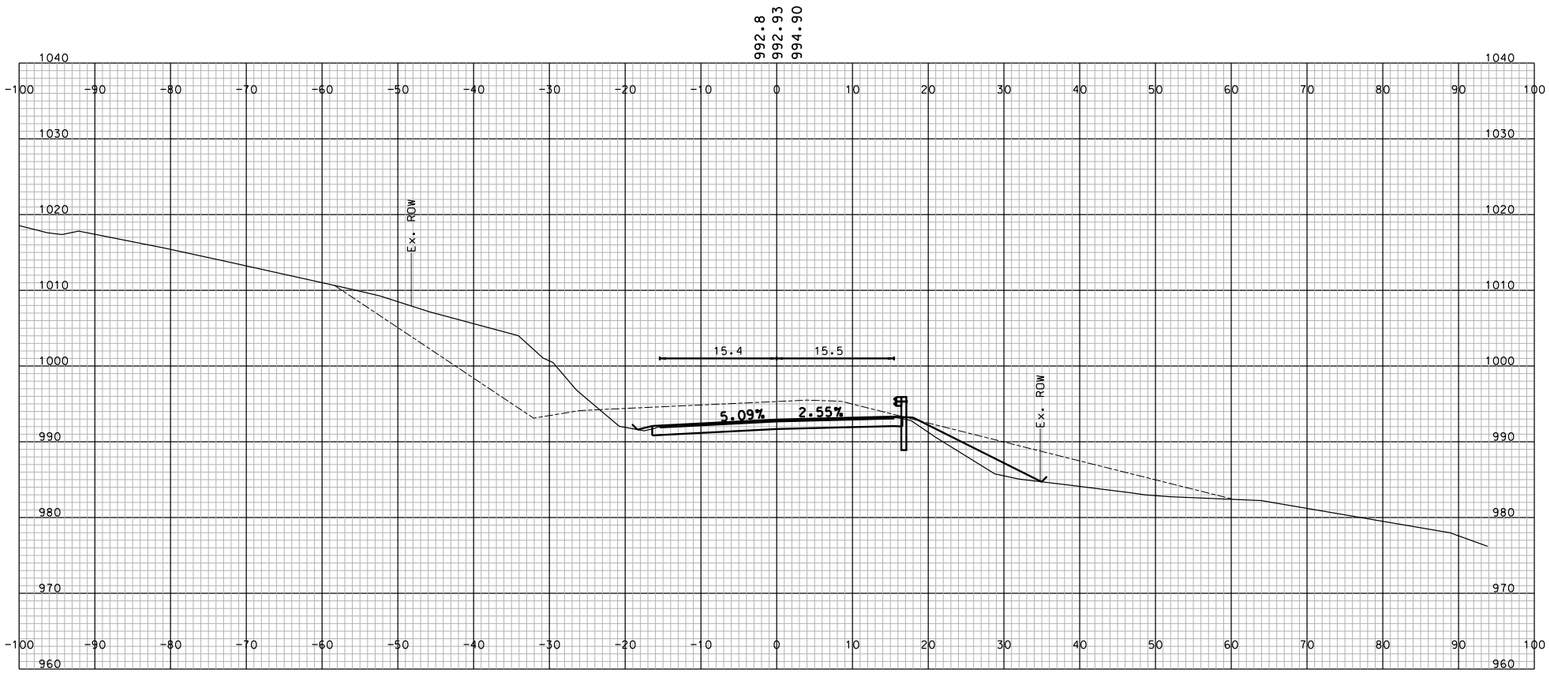
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

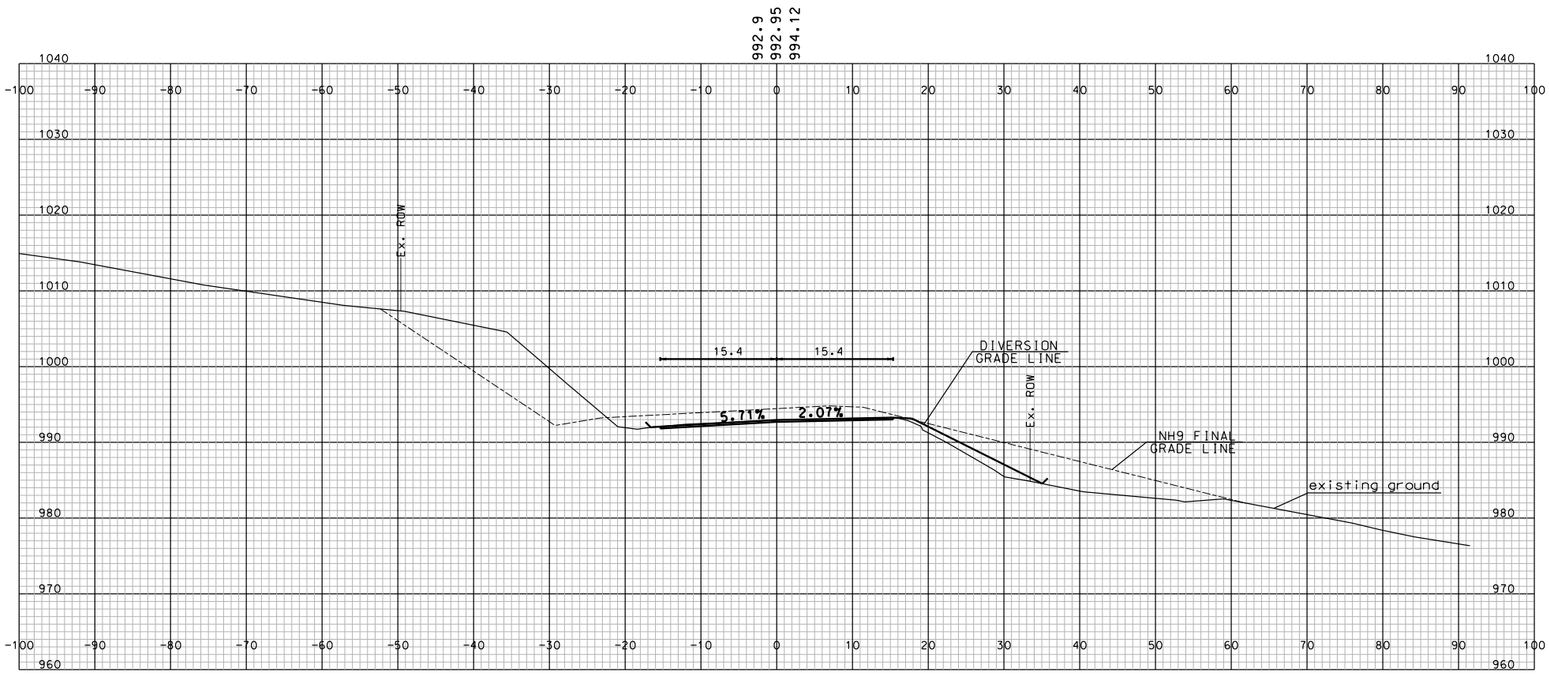
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 7+50.000



STA. 7+00.000



STA. 6+50.000

DIVERSION CROSS SECTIONS
NH ROUTE 9

SHEET TOTALS

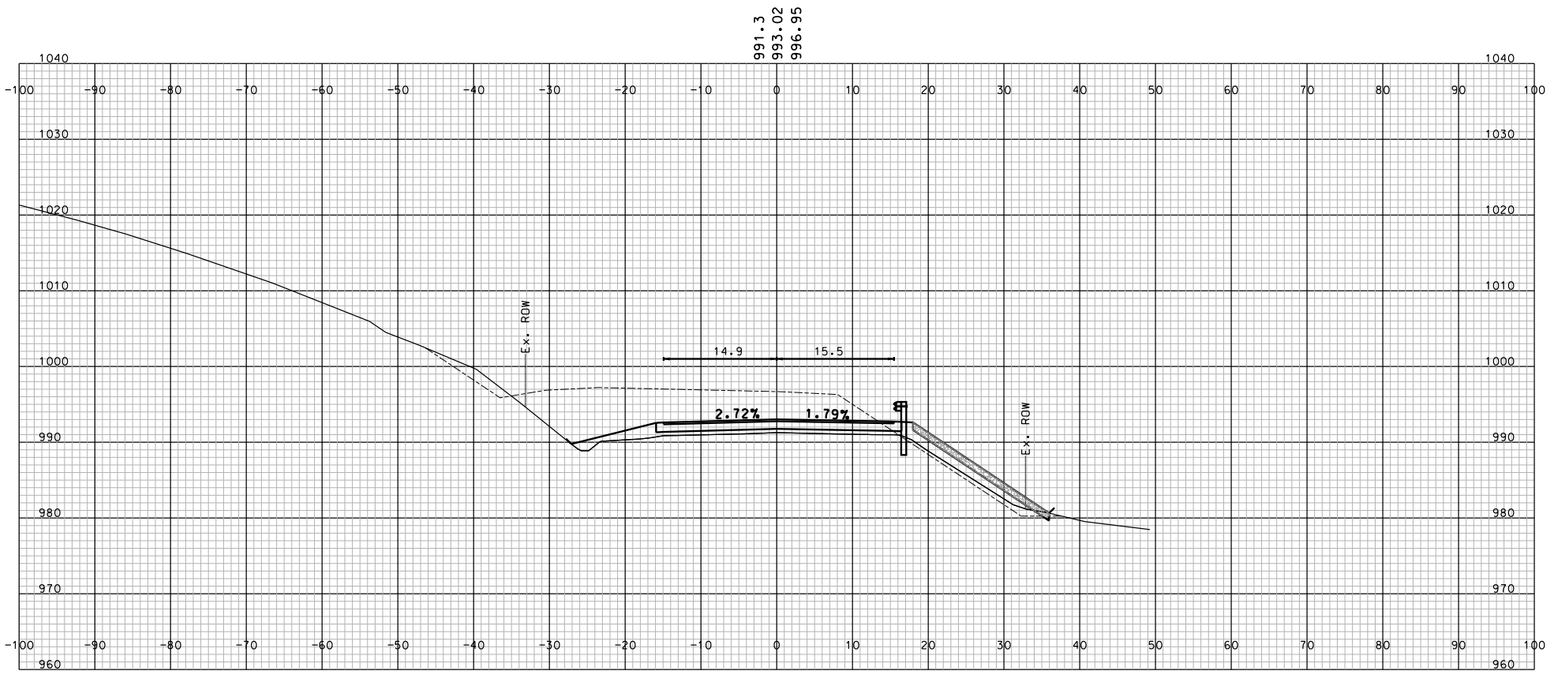
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	99	294

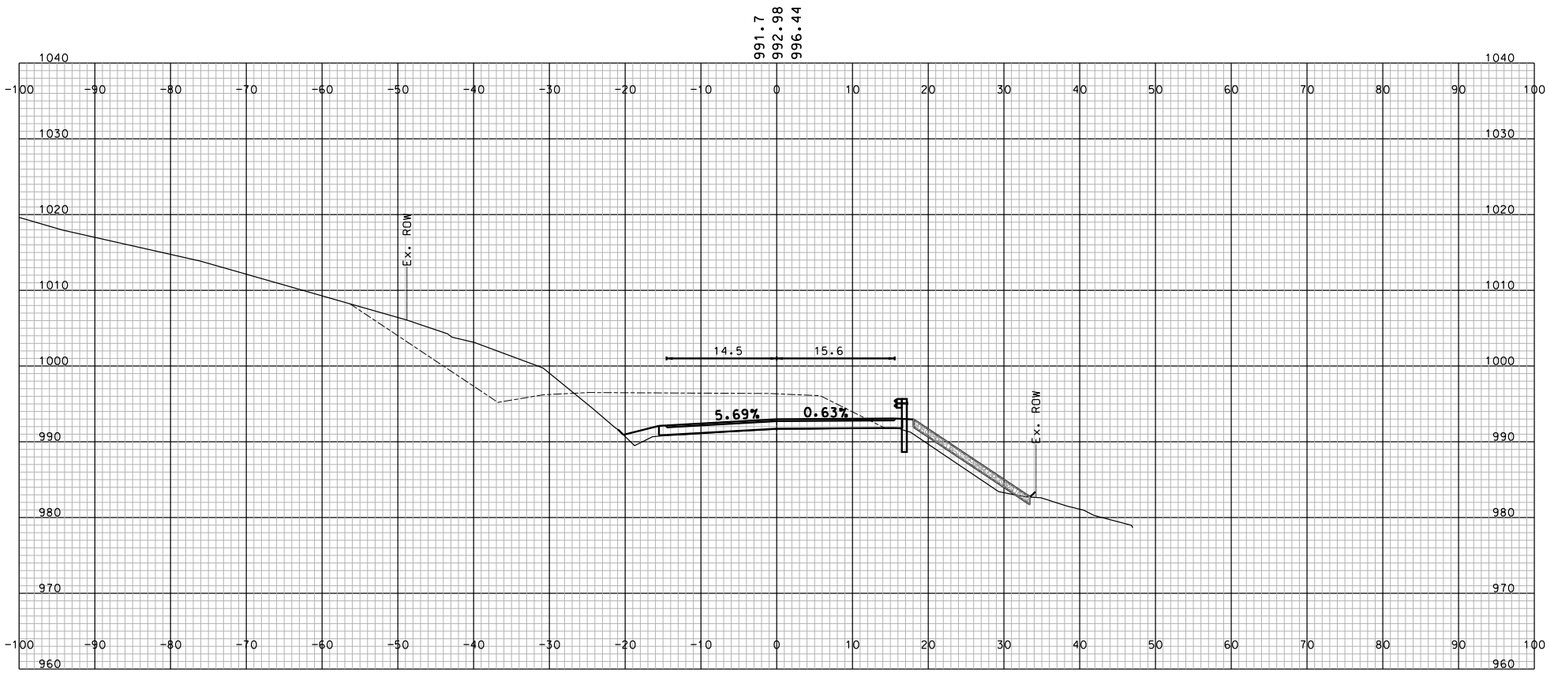
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

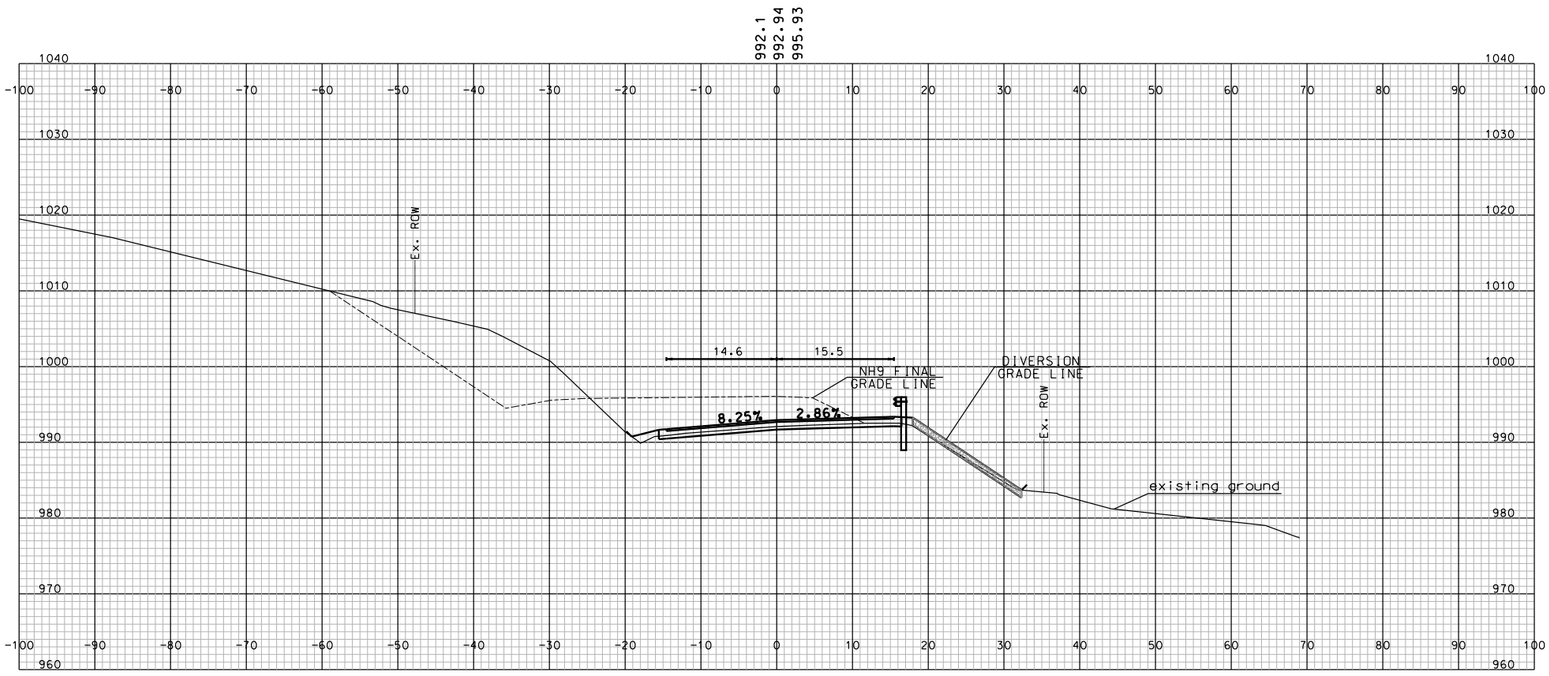
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 9+00.000



STA. 8+50.000



STA. 8+00.000

DIVERSION CROSS SECTIONS
NH ROUTE 9

SHEET TOTALS

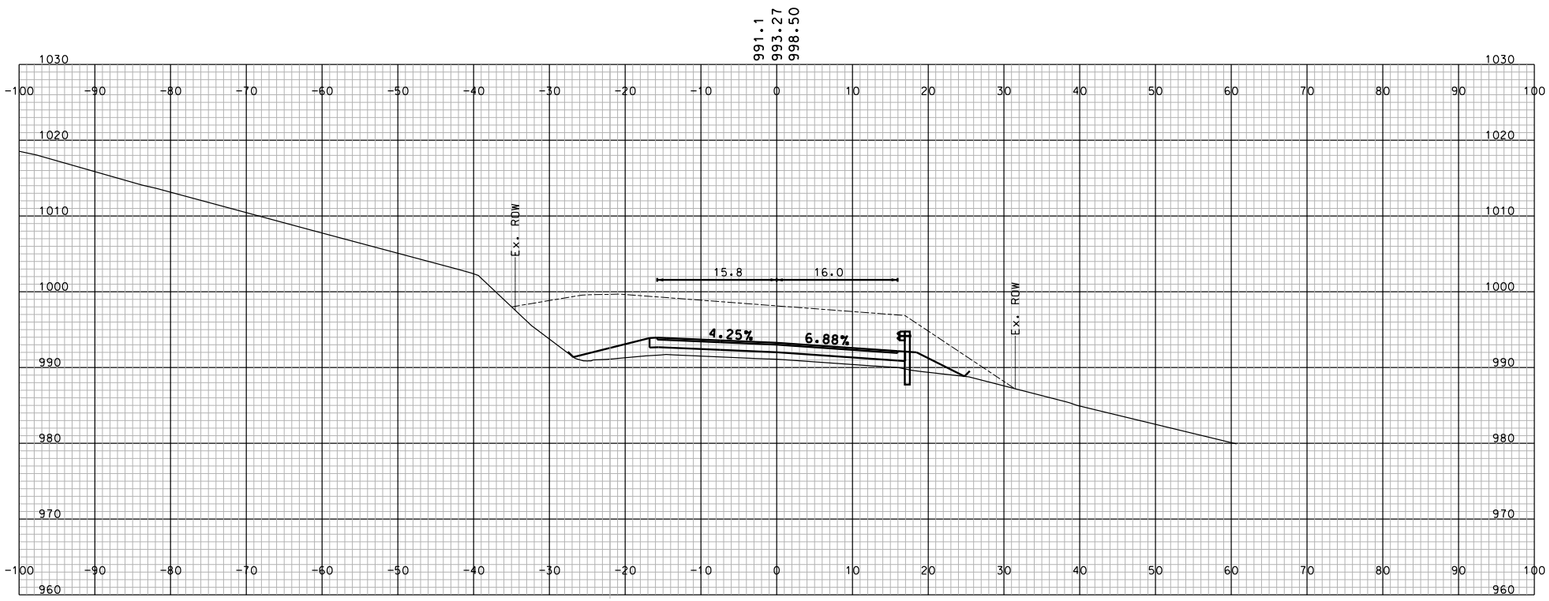
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	100	294

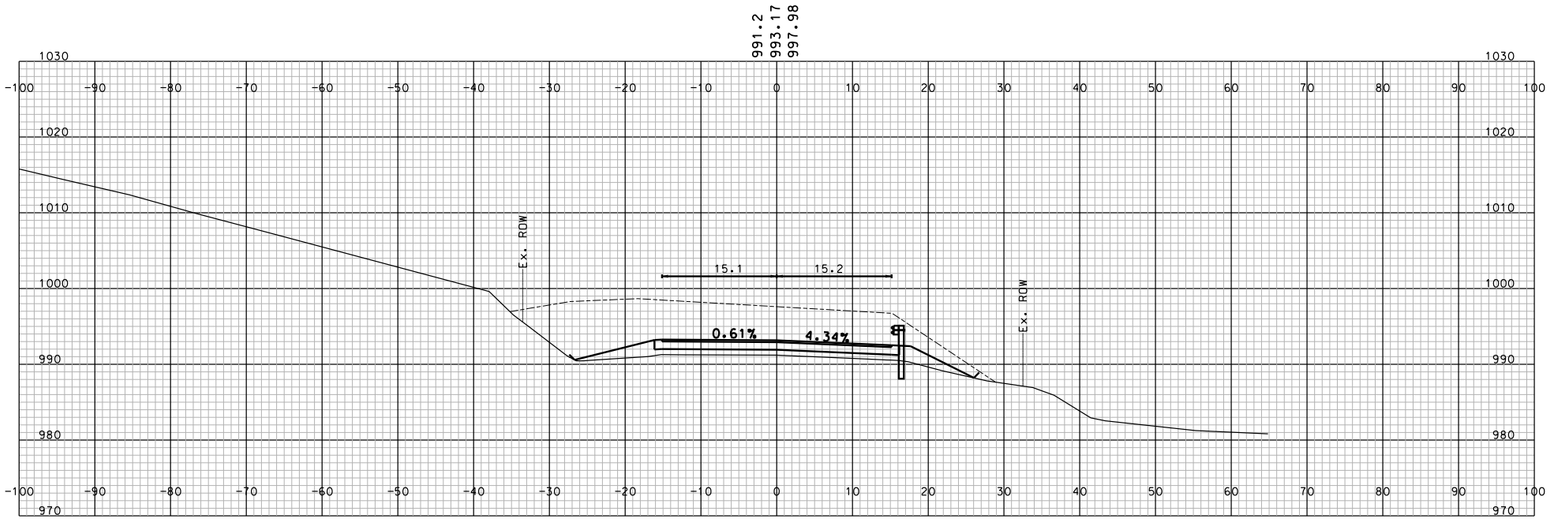
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

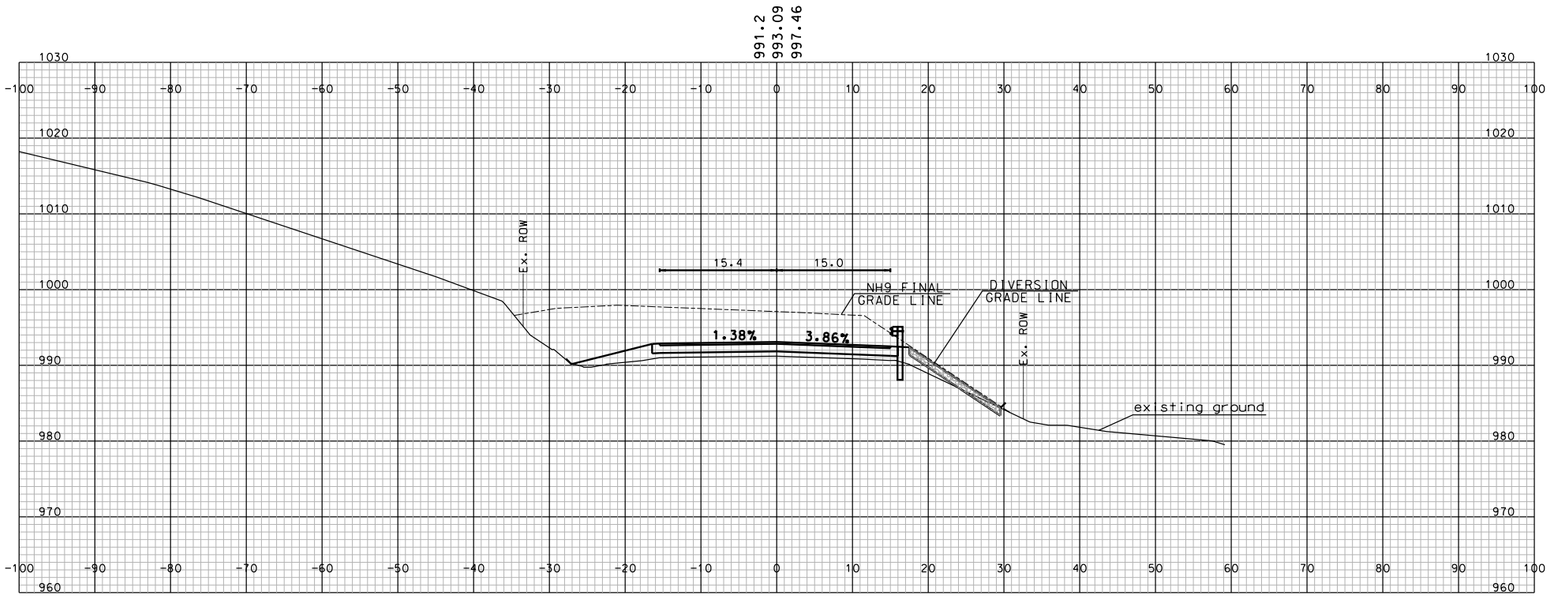
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 10+50.000



STA. 10+00.000



STA. 9+50.000

DIVERSION CROSS SECTIONS
NH ROUTE 9

SHEET TOTALS

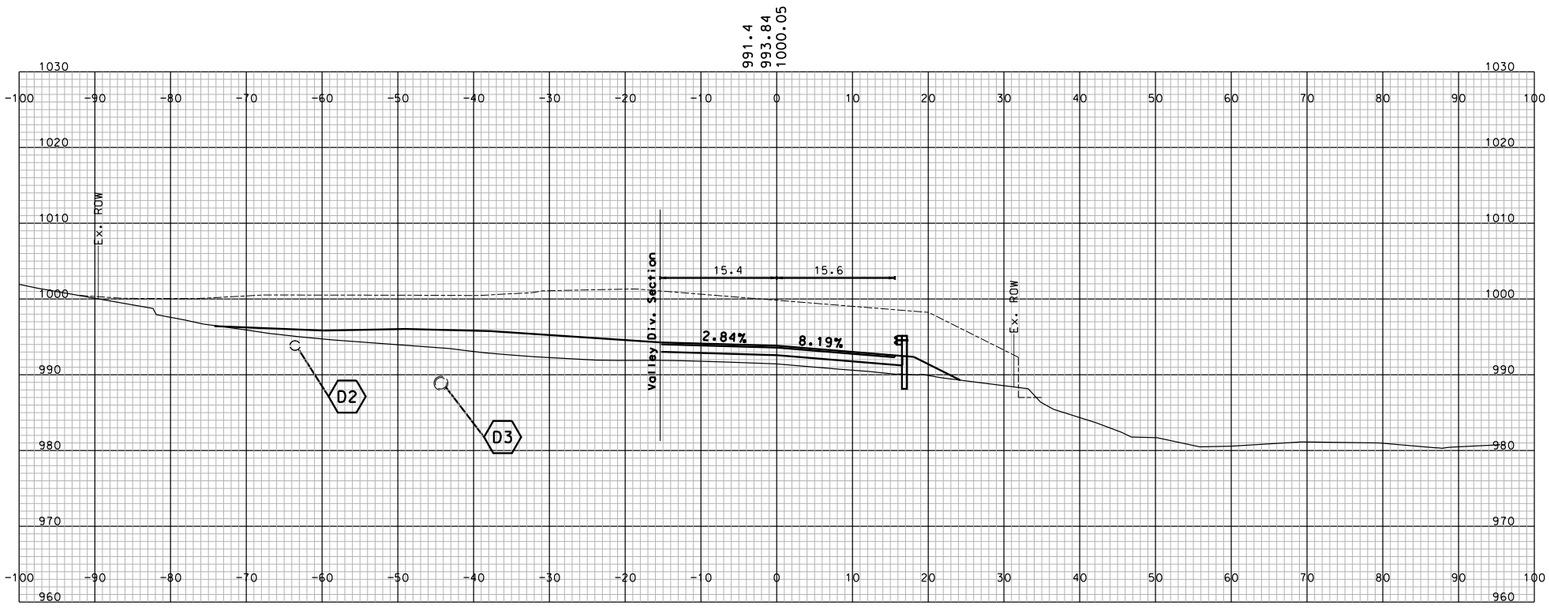
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	101	294

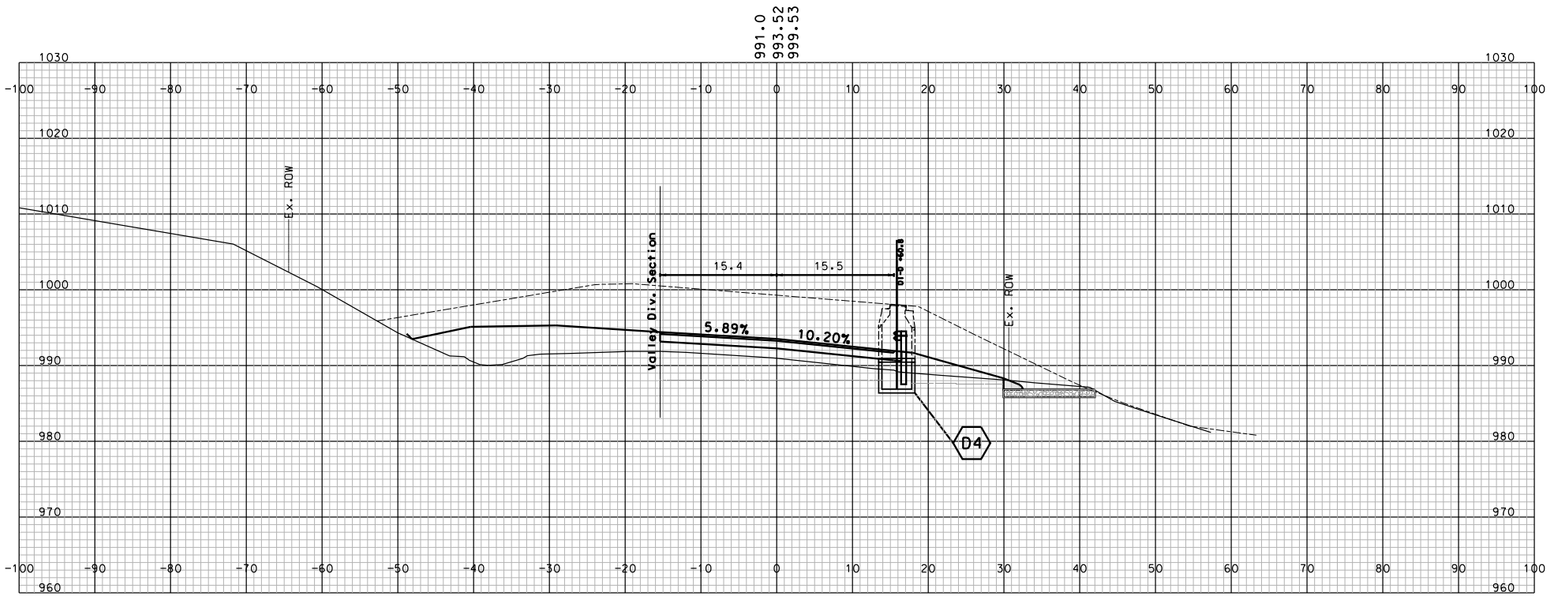
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

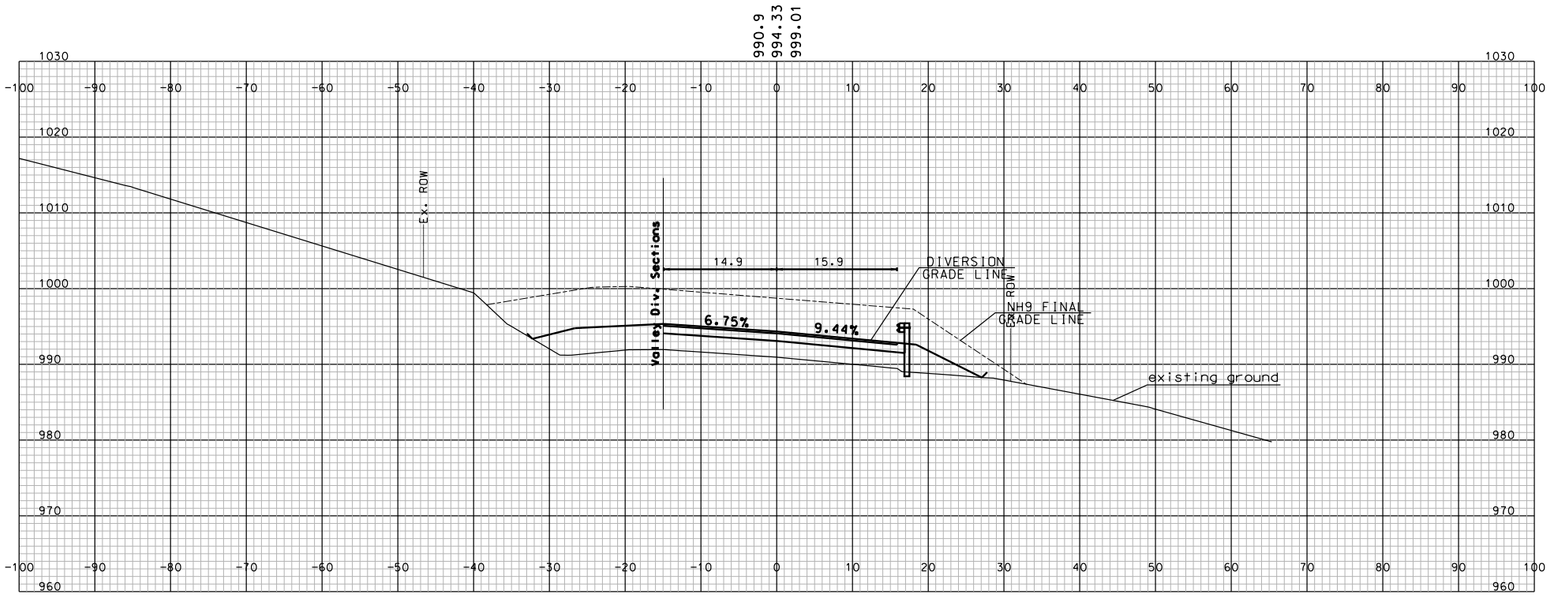
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 12+00.000



STA. 11+50.000



STA. 11+00.000

DIVERSION CROSS SECTIONS
NH ROUTE 9

SHEET TOTALS

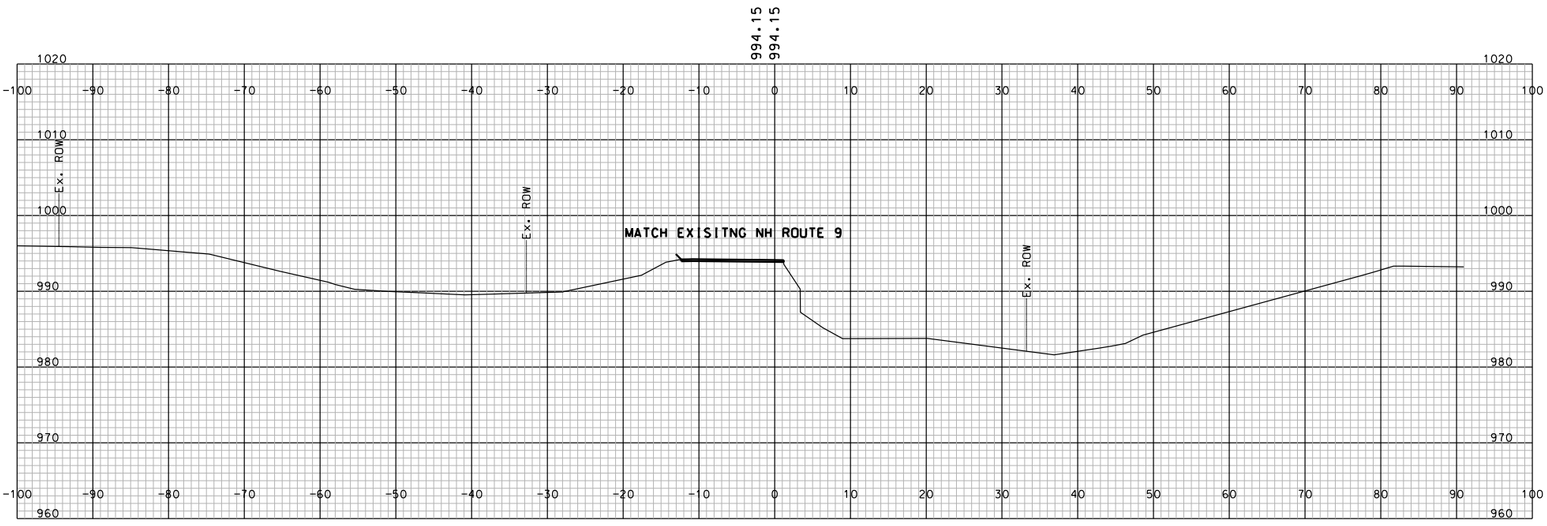
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	102	294

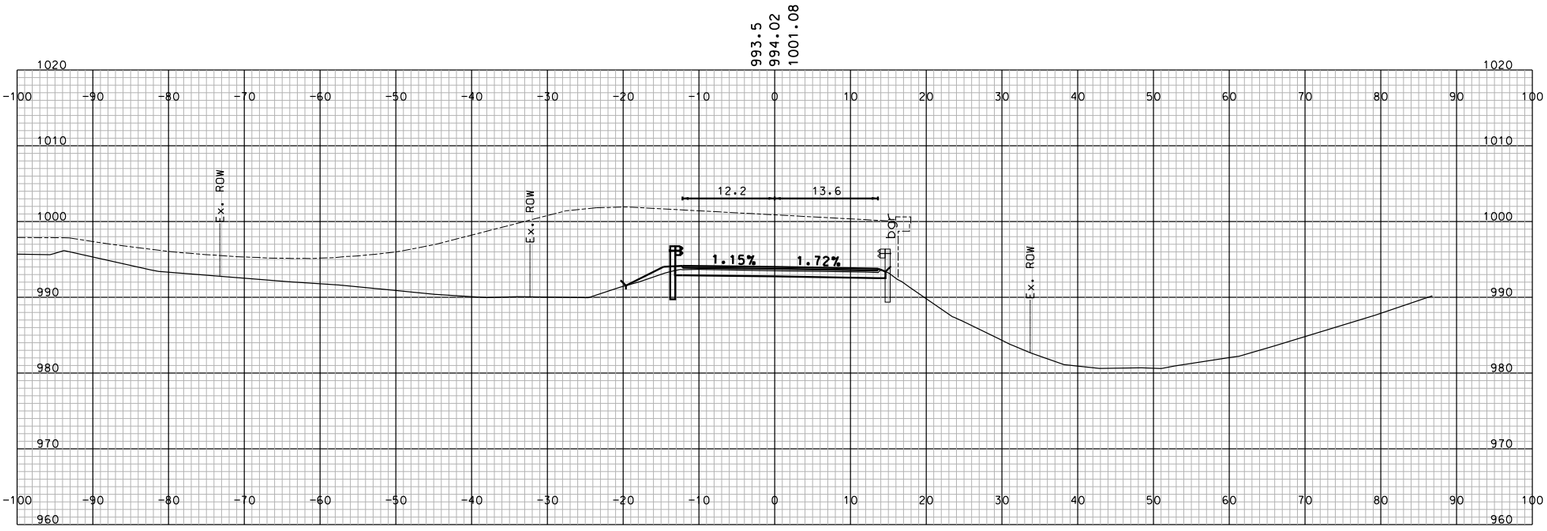
SDR PROCESSED		DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

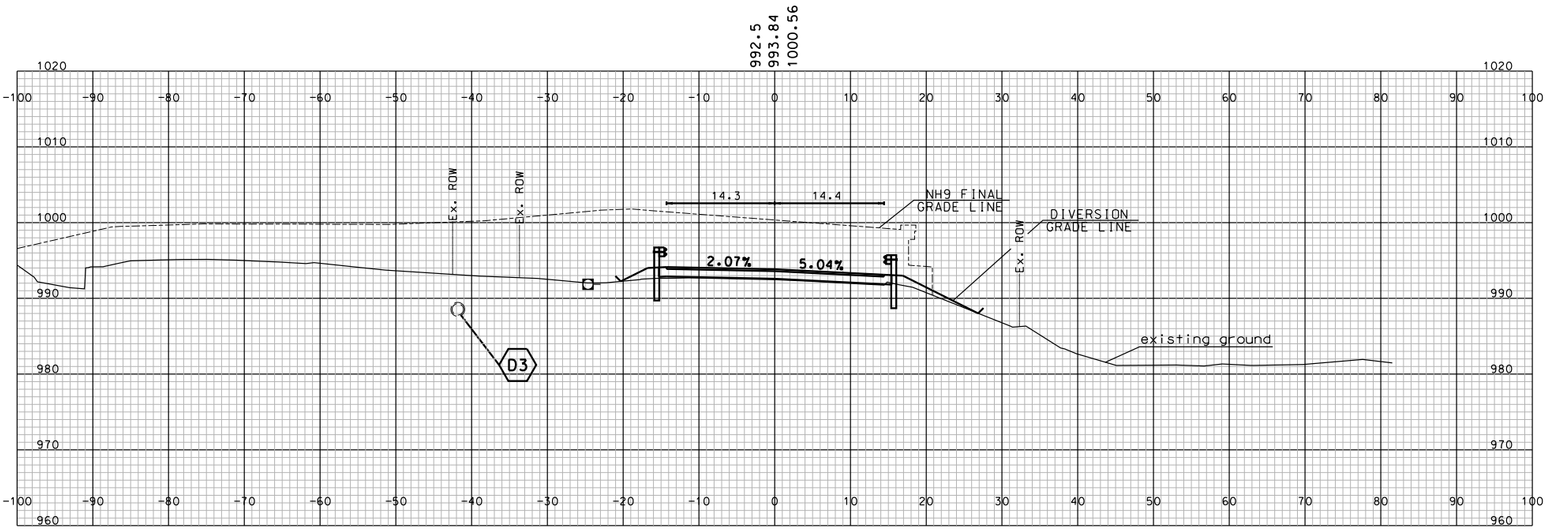
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 13+31.0 (BRIDGE SKEWED)



STA. 13+00.000



STA. 12+50.000

DIVERSION CROSS SECTIONS NH ROUTE 9

SHEET TOTALS

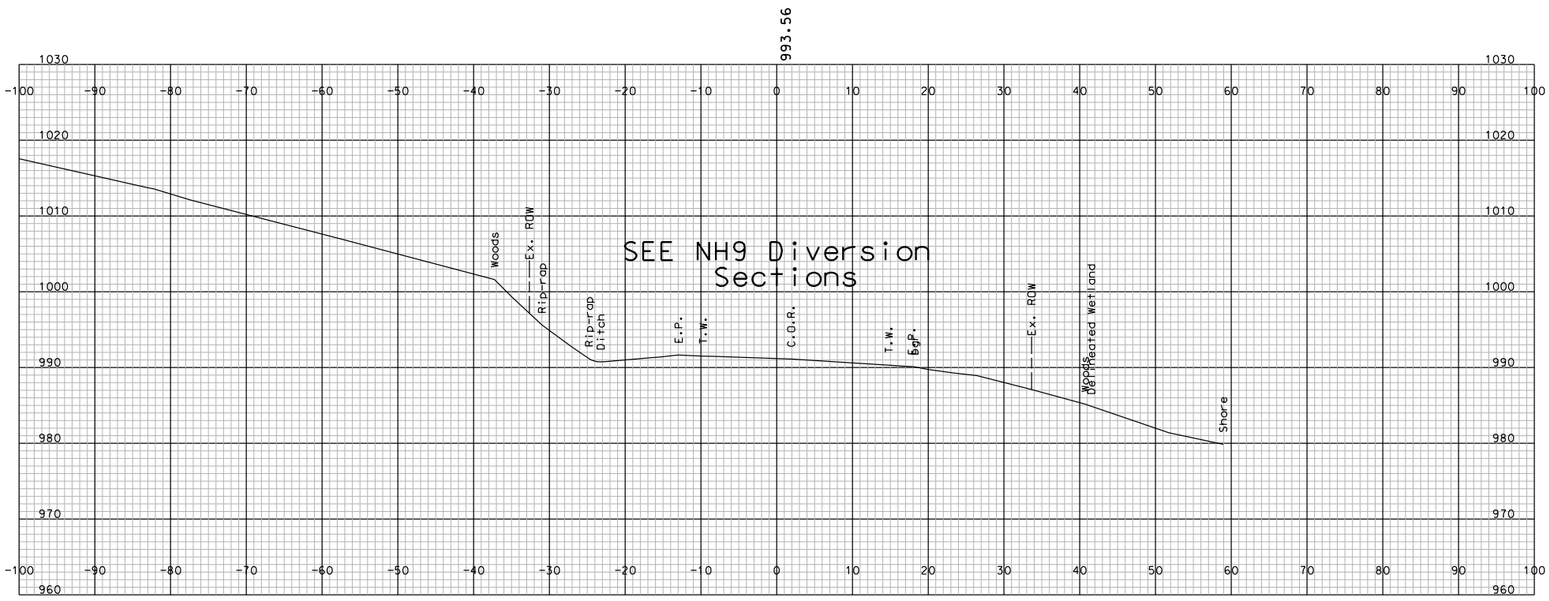
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439nh9div	10439	103	294

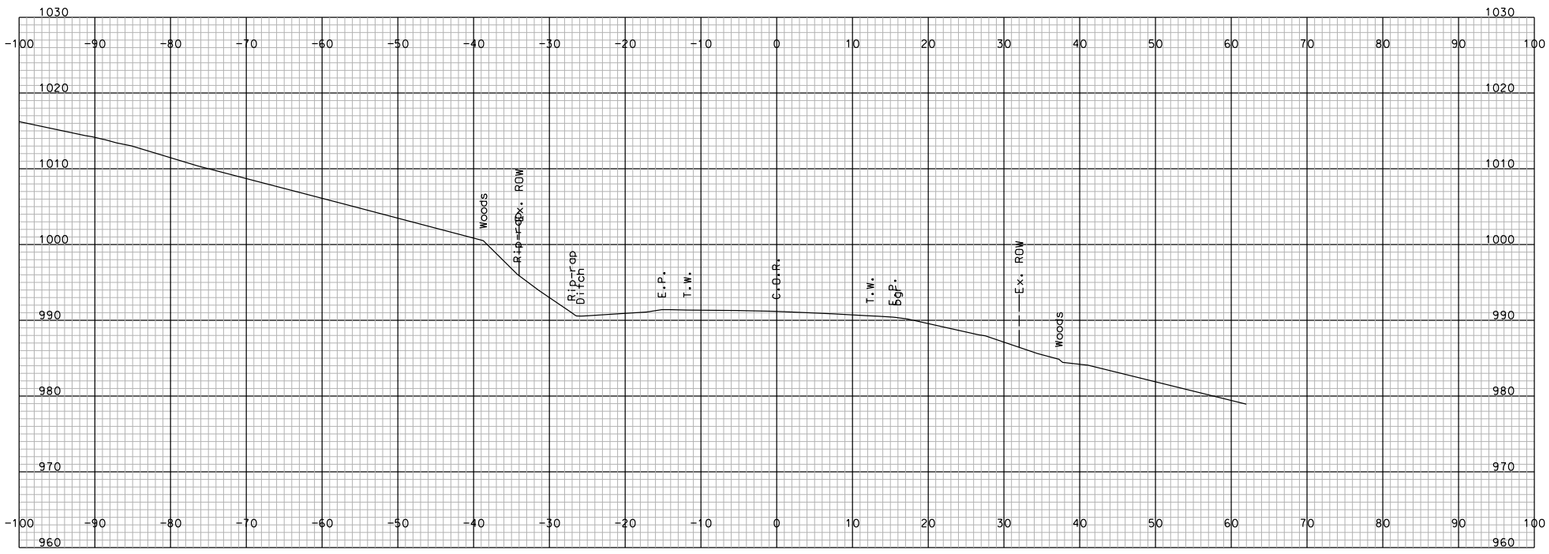
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

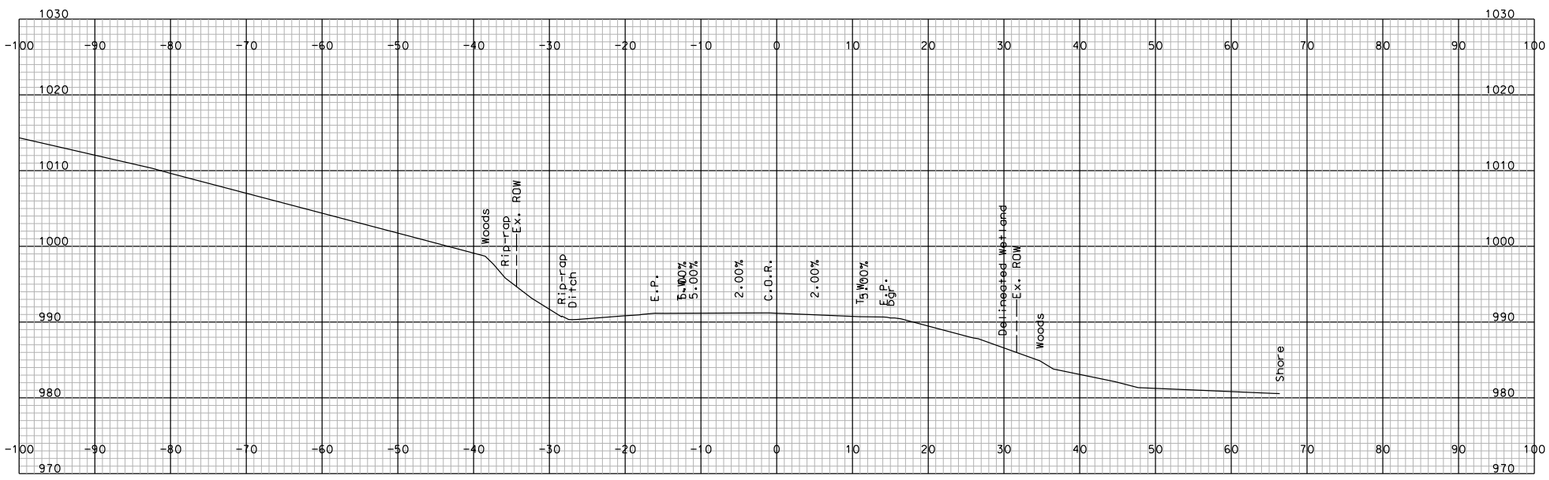
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 62+00.000



STA. 61+75.000



STA. 61+50.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

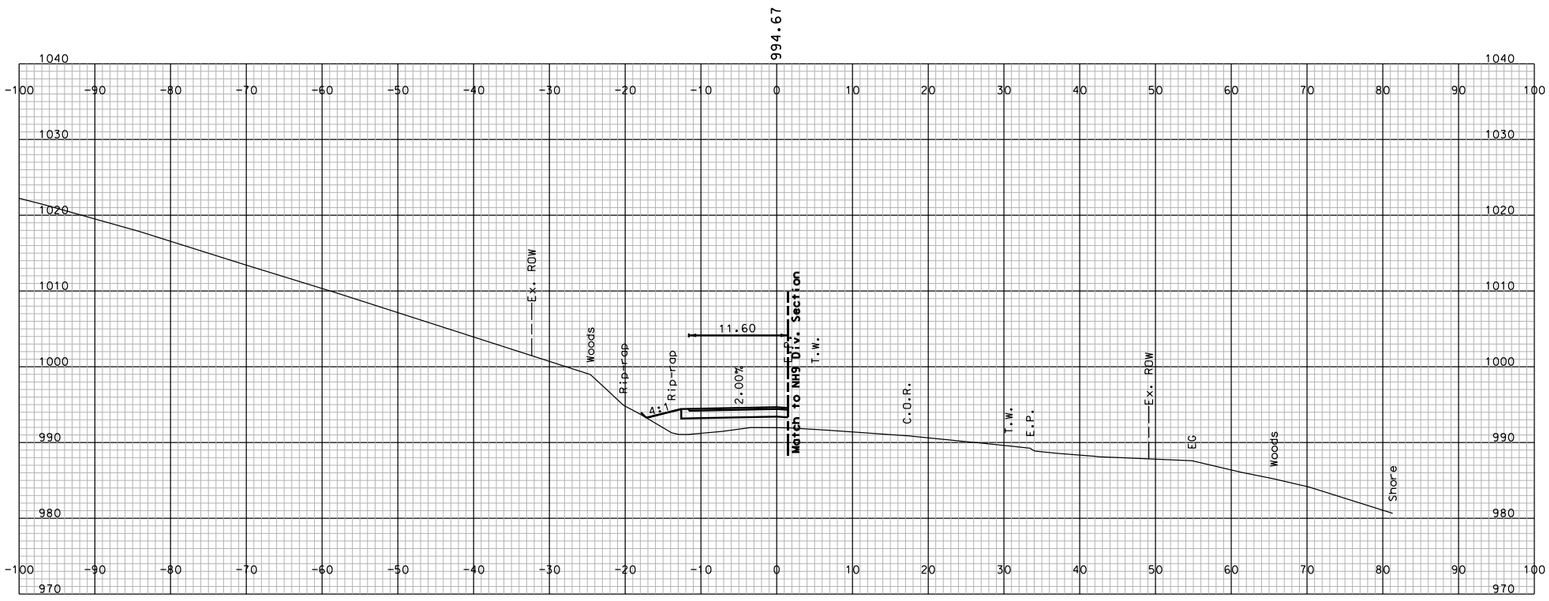
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	104	294

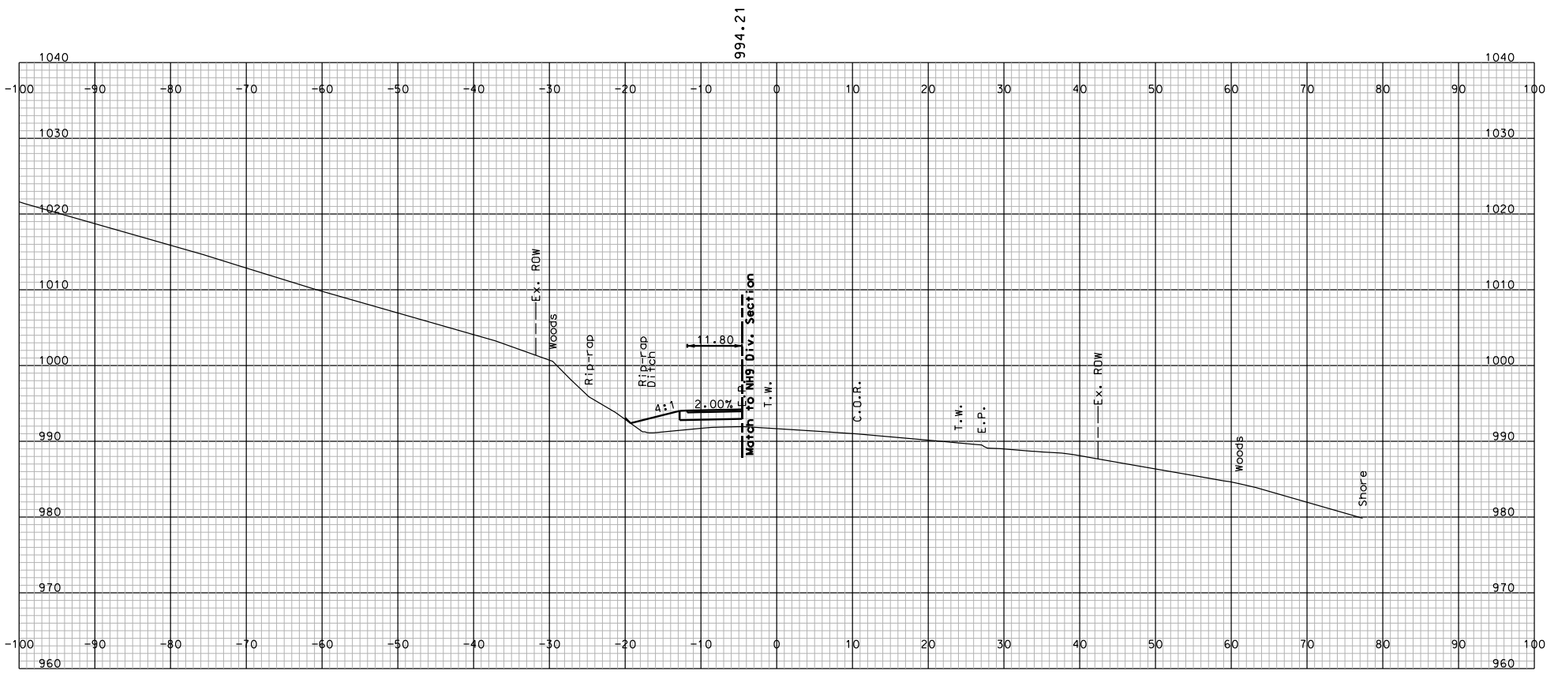
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

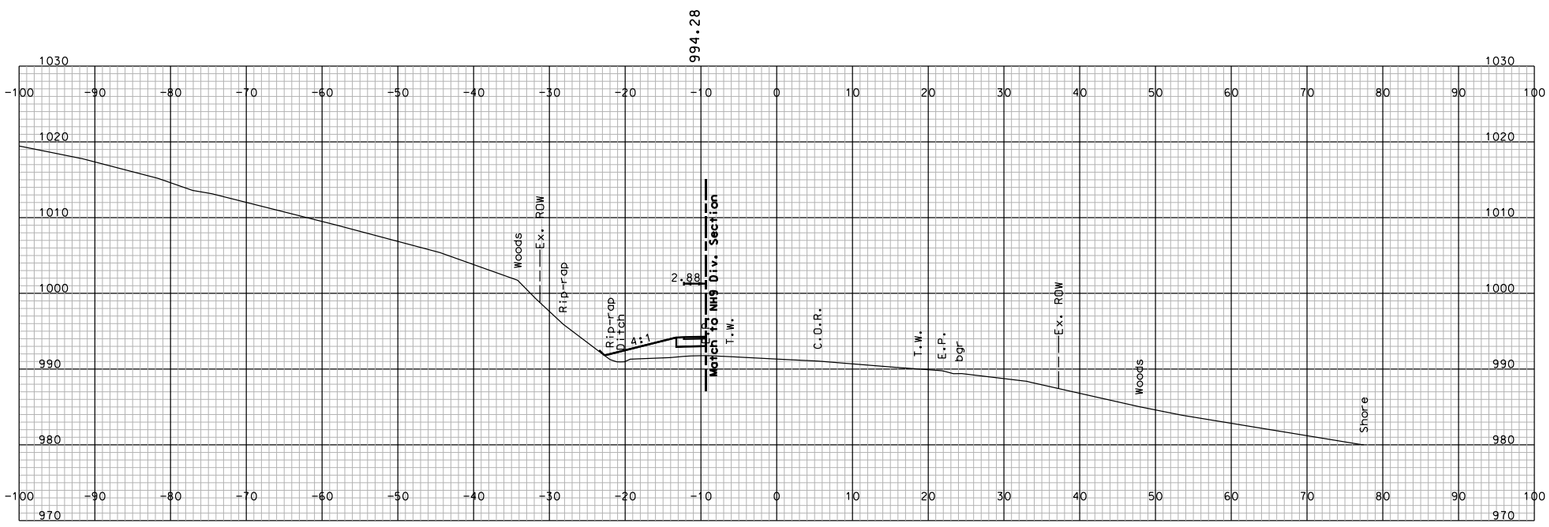
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 62+75.000



STA. 62+50.000



STA. 62+25.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

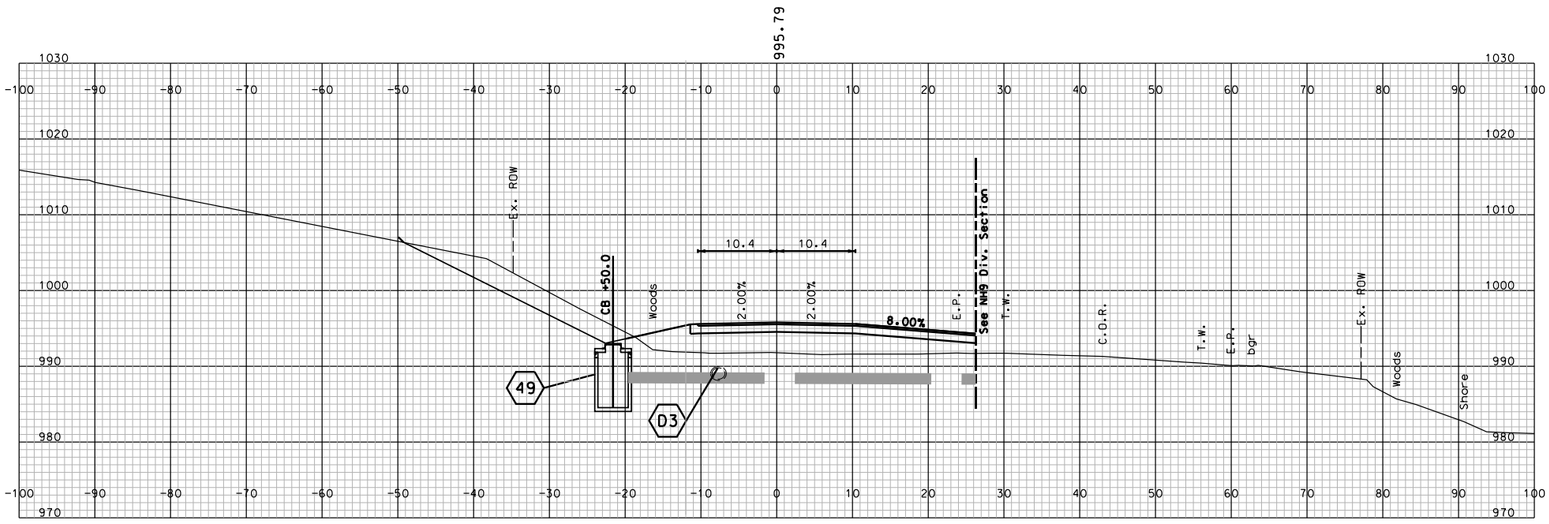
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	105	294

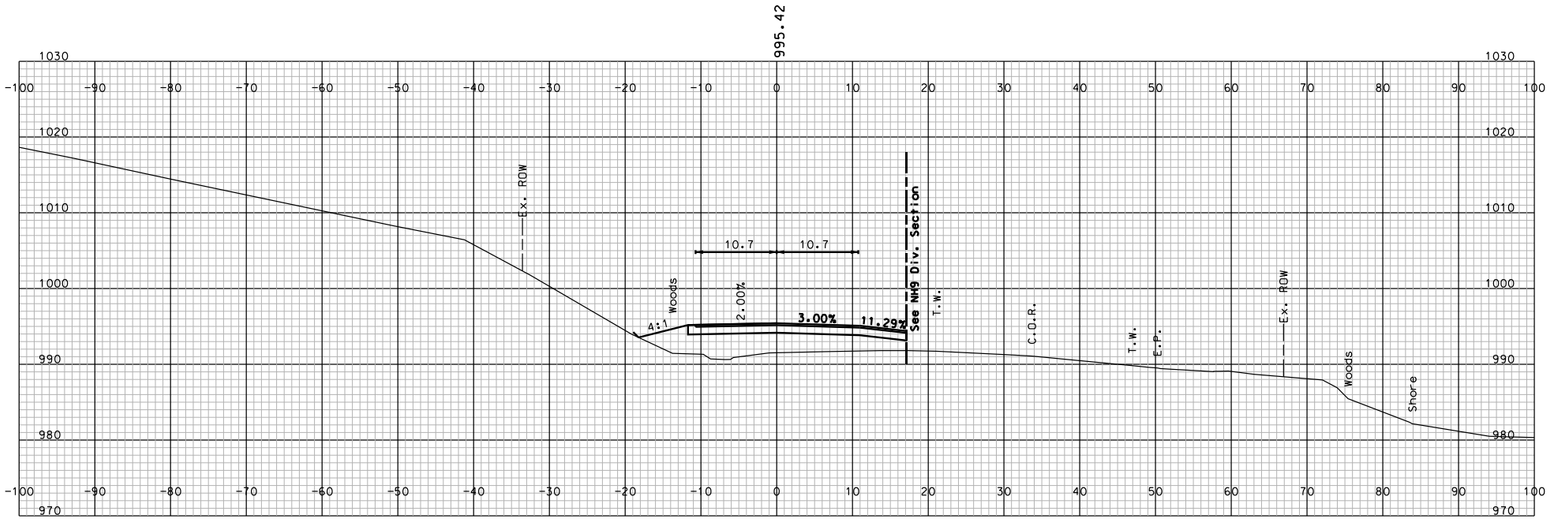
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

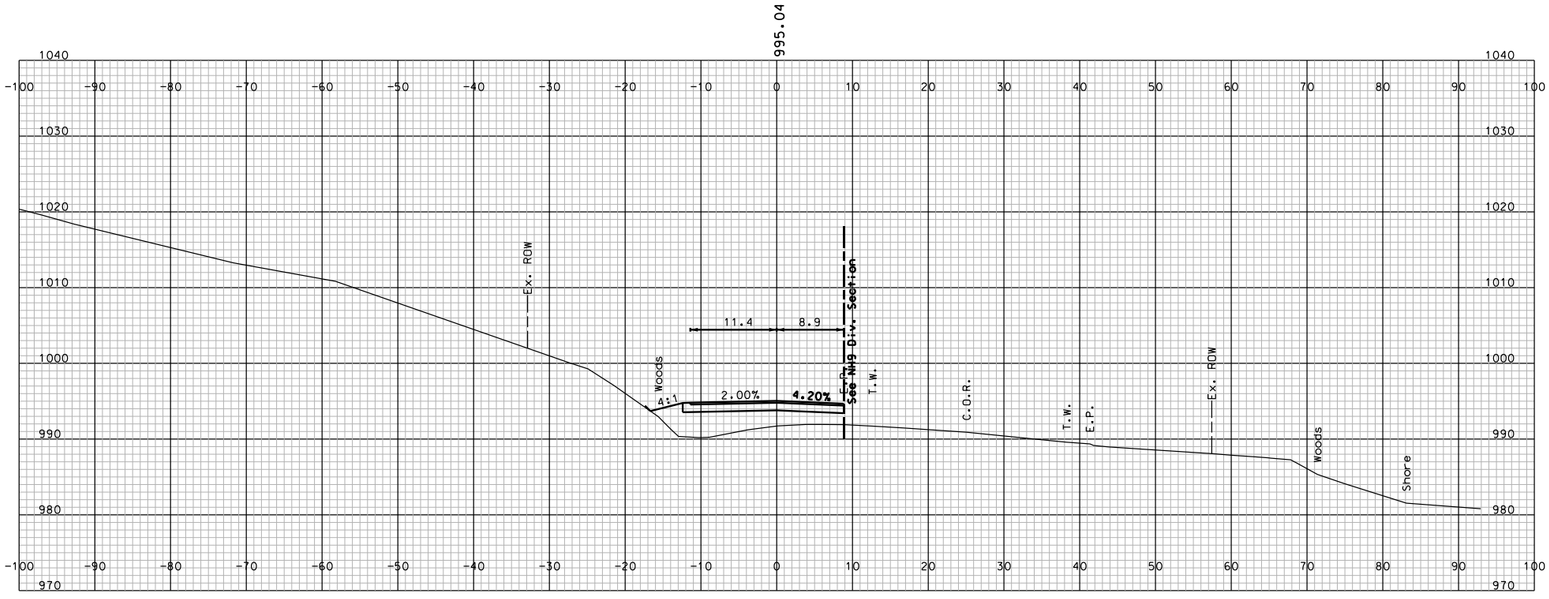
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 63+50.000



STA. 63+25.000



STA. 63+00.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

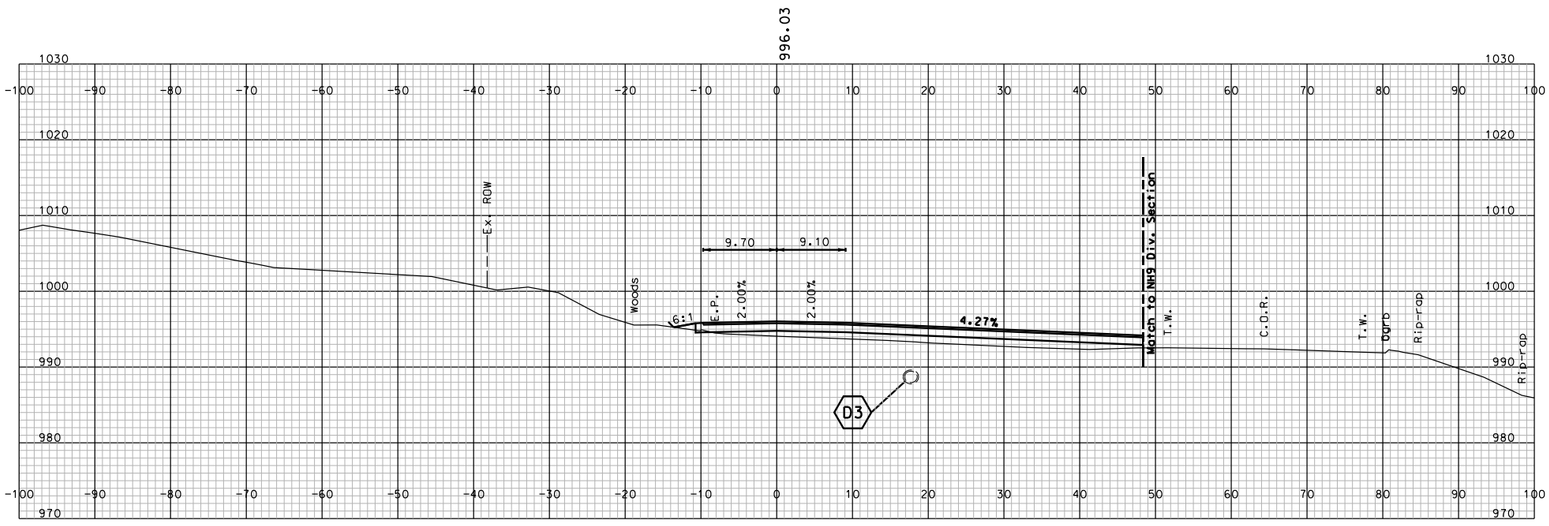
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	106	294

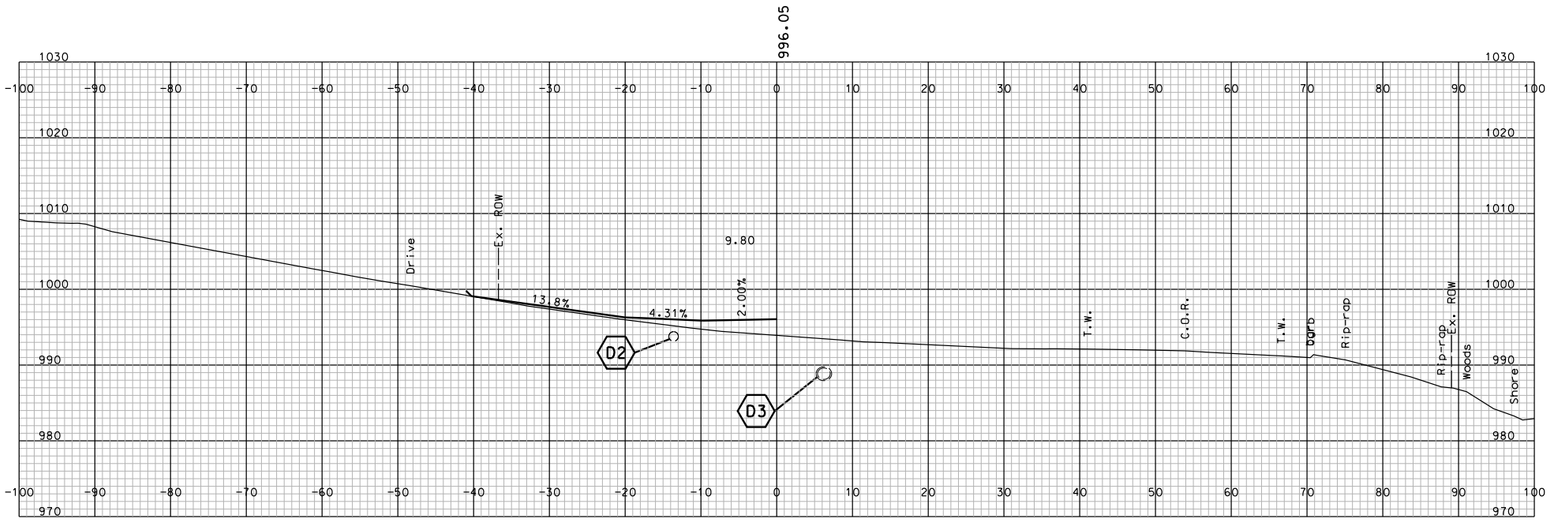
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

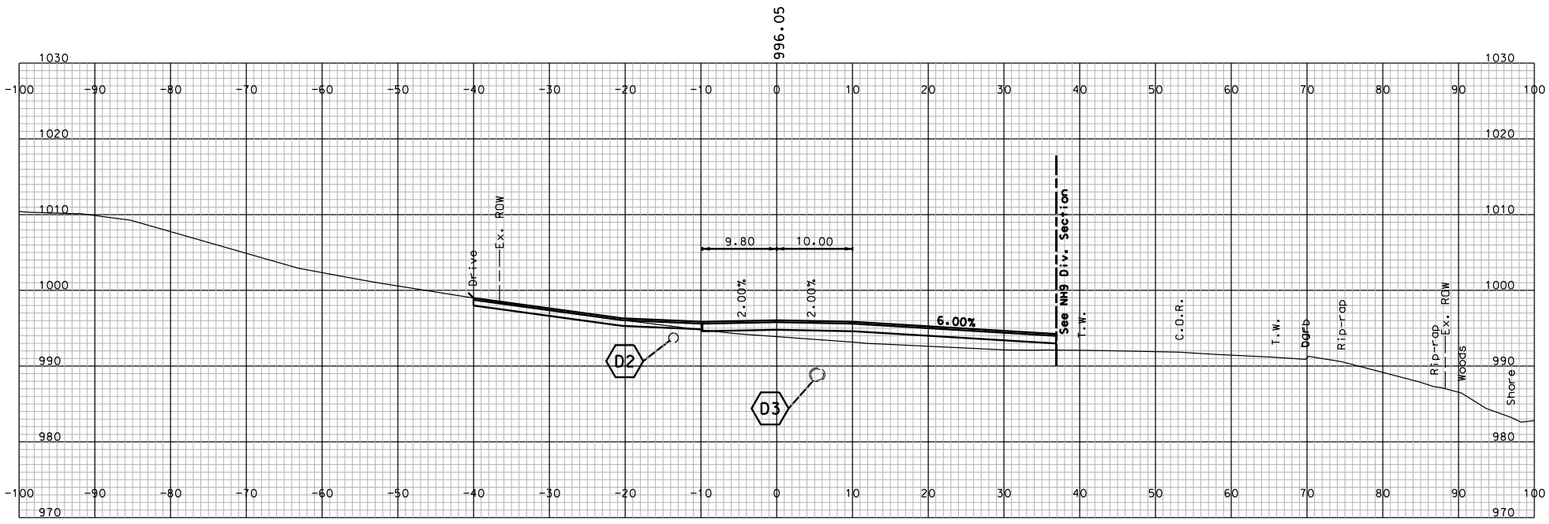
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 64+00.000



STA. 63+76(DRIVE LEFT)



STA. 63+75.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

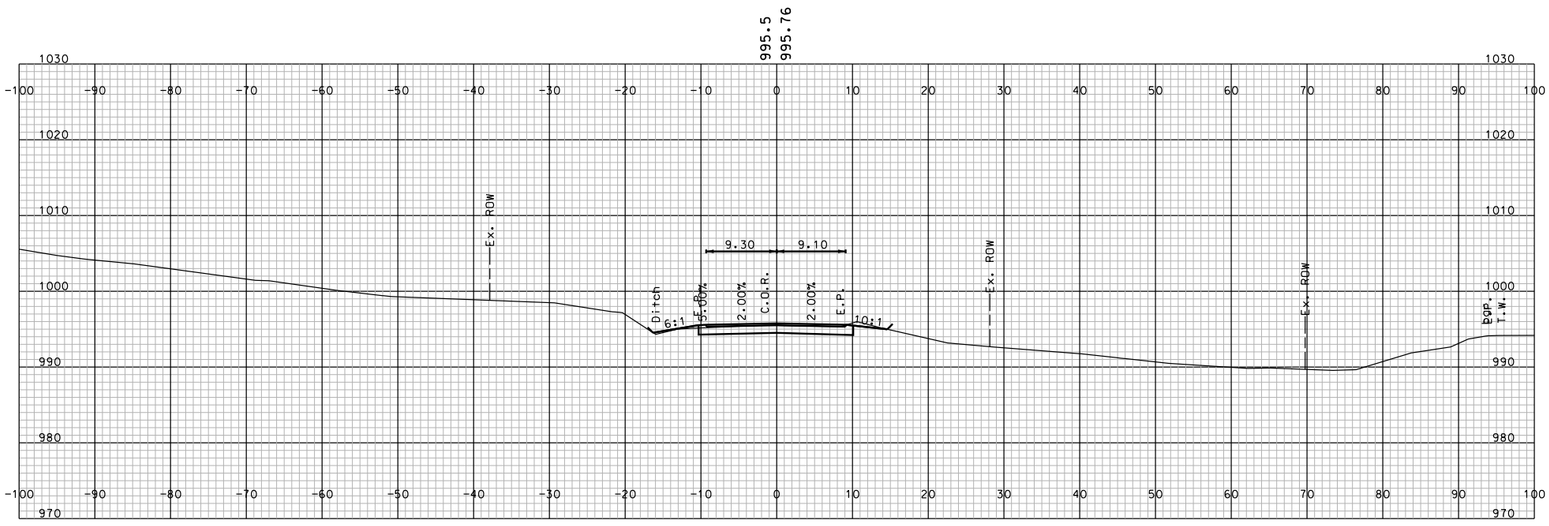
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	107	294

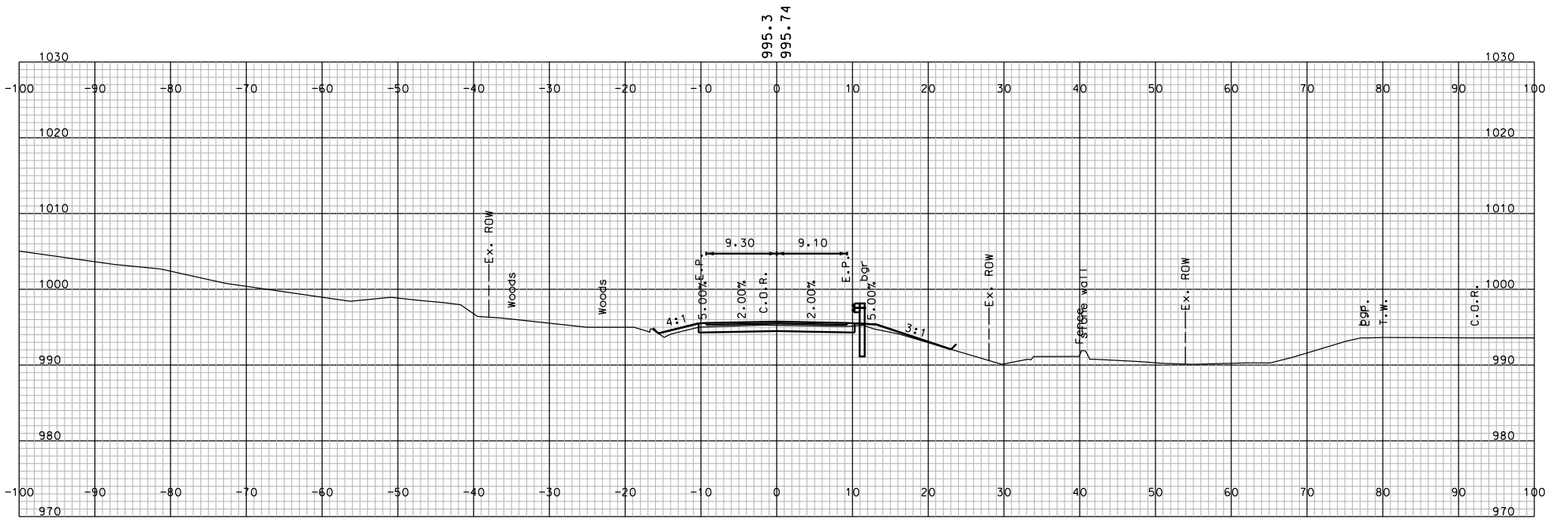
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

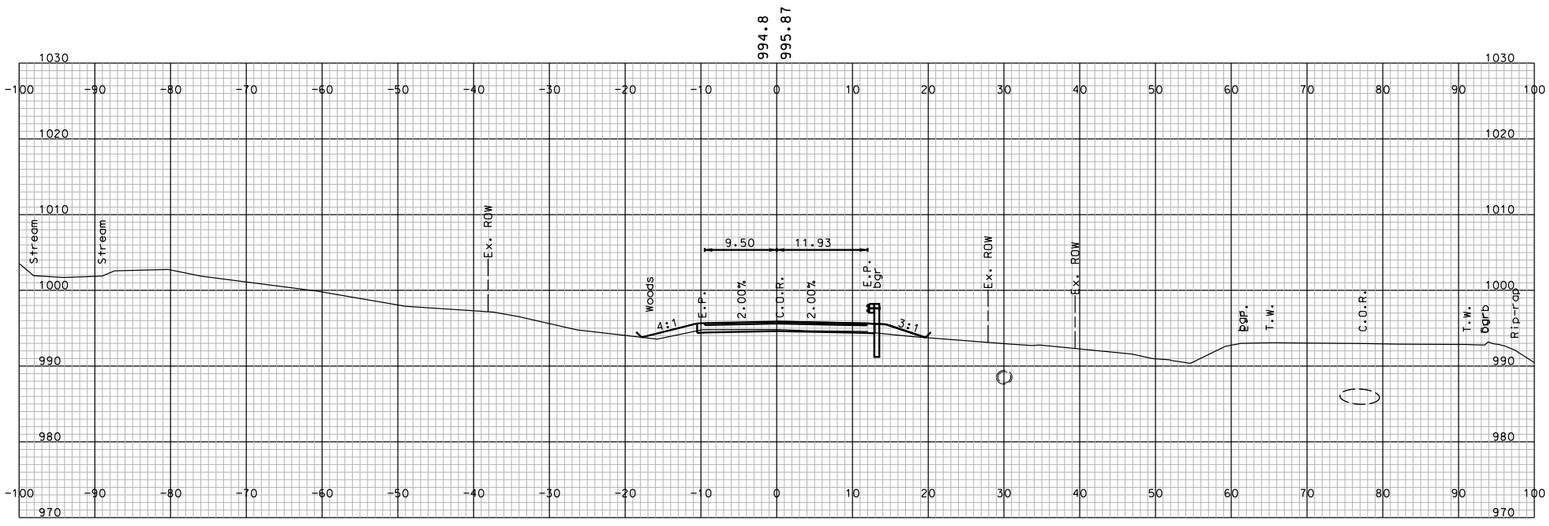
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 64+75.000



STA. 64+50.000



STA. 64+25.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

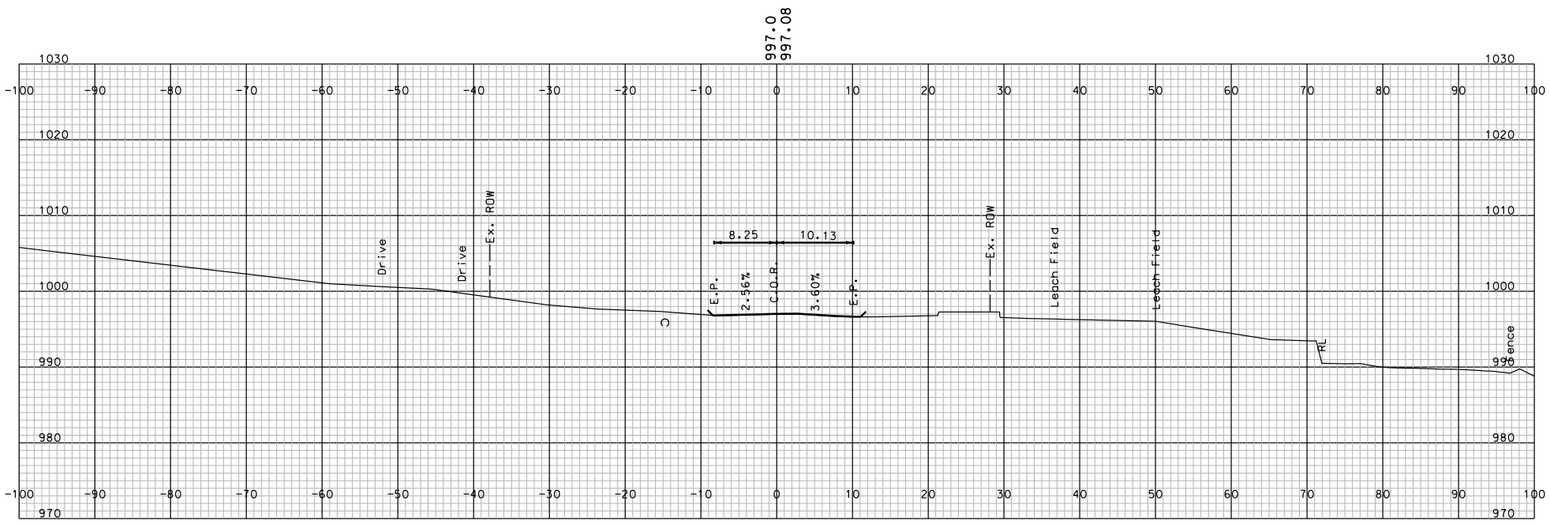
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	108	294

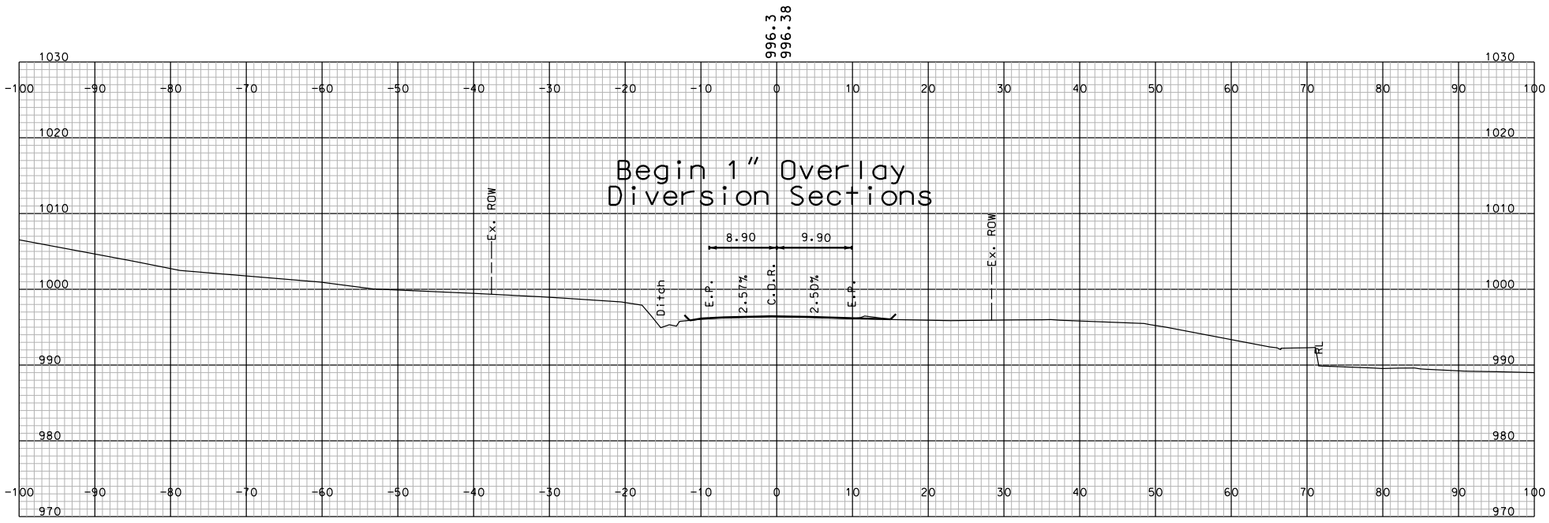
SDR PROCESSED	NAME1	DATE	
NEW DESIGN	JAA	DATE	08/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

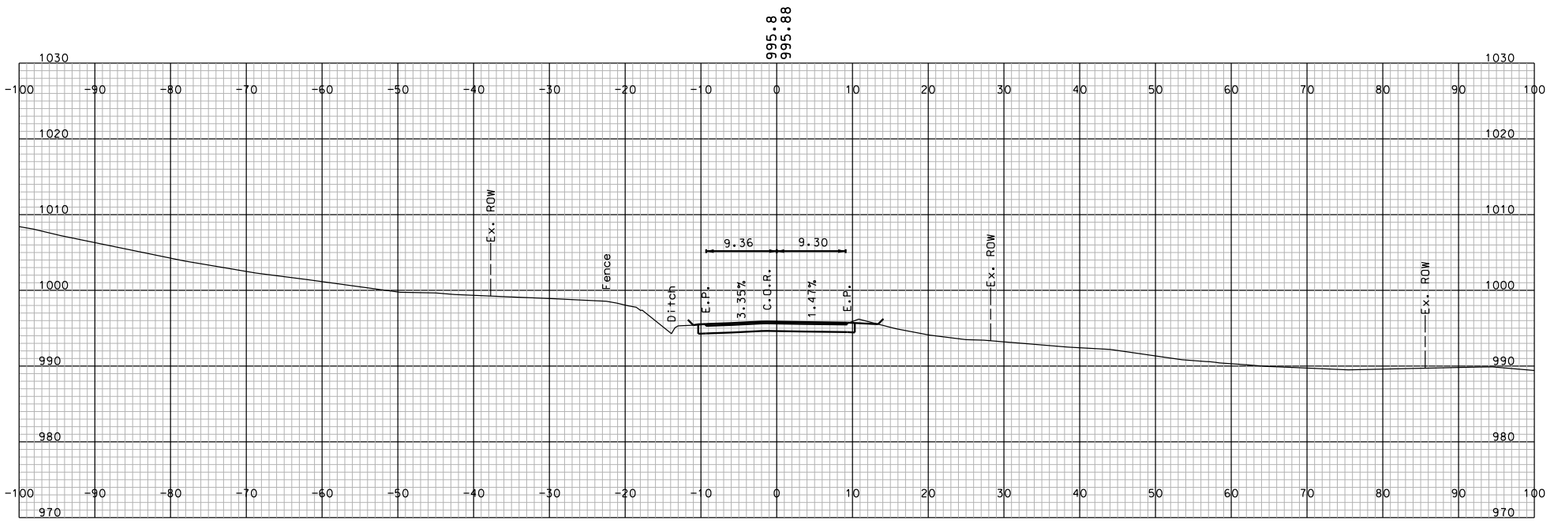
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 65+50.000



STA. 65+25.000



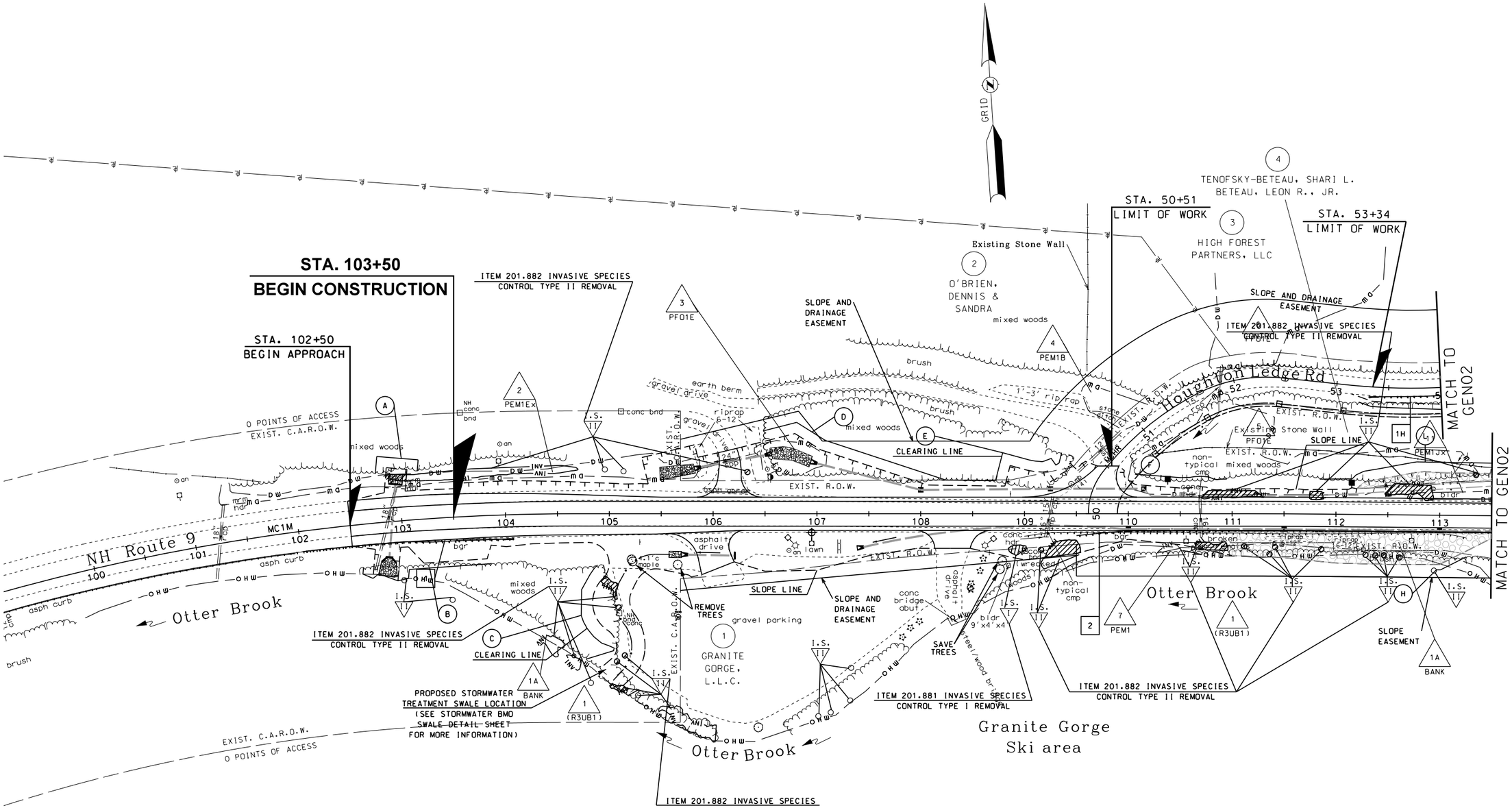
STA. 65+00.000

DIVERSION CROSS SECTIONS
VALLEY ROAD

SHEET TOTALS

COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
DIV_VALLEY_XS	10439	109	294



NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439genplans	10439	110	294

STA. 54+00
BEGIN CONSTRUCTION

STA. 60+00
END CONSTRUCTION

MATCH TO GEN01

MATCH TO GEN03

CLEARING LINE

SLOPE AND DRAINAGE EASEMENT

SLOPE LINE

ITEM 201.881 INVASIVE SPECIES
CONTROL TYPE II REMOVAL

ITEM 201.882 INVASIVE SPECIES
CONTROL TYPE II REMOVAL

ITEM 572.1 - RECONSTRUCTING STONE WALL, ONE STONE WIDE.
INCORPORATE INDIVIDUAL STONES FROM IMPACTED PORTION OF STONEWALL INTO THE EXISTING NON-IMPACTED STONEWALL (ALONG PARCEL 4 PROPERTY LINE / ROW LINE)

SAVE TREE
(LARGE OAK
LOCATION APPROX.)

REMOVE TREE

Existing Stone Wall

Stone Wall

Houghton Ledge Rd

NH Route 9

Otter Brook

GRID

n/f
BETEAU, SHIRLEY

3
HIGH FOREST PARTNERS, LLC

4
TENOFSKY-BETEAU, SHARI L.
BETEAU, LEON R., JR.

5
SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS

1
GRANITE GORGE, L.L.C.

DRAINAGE EASEMENT

mixed woods

EXIST. R.O.W.

gravel dr

pressure treated wood deck

2 story wood frame

wood steps

stone lined planters

private road

dirt logging rd

Rodeo Ridge Rd

woods rd

stone abut remnants

pipe end destroyed & buried

3-5' boulders

1-3' bldrs

SCALE IN FEET

50 0 50 100

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
GENERAL PLANS			
MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN02	10439genplans	10439	111	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

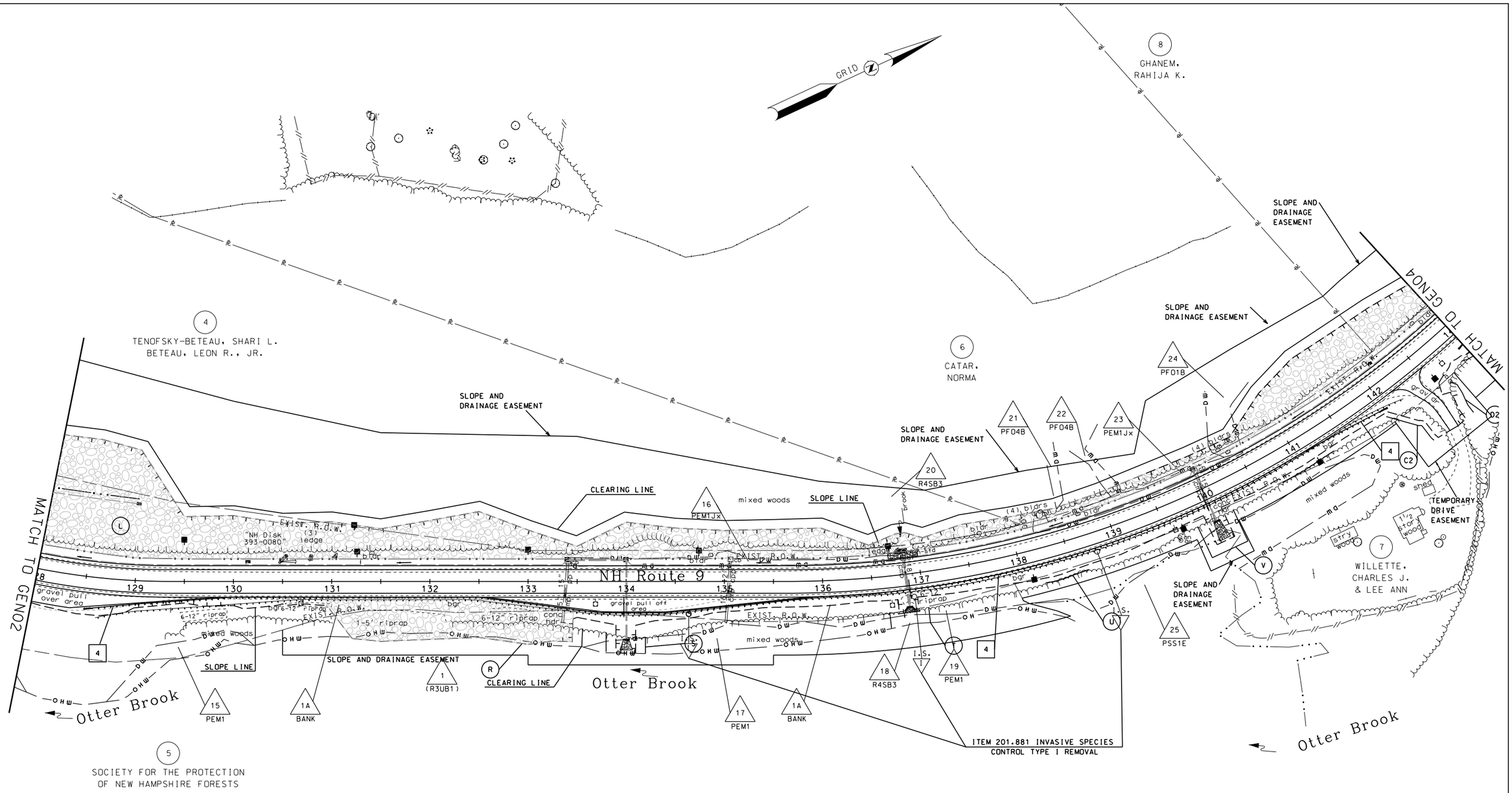
SDR PROCESSED	NAME1	DATE	DATE1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3	DATE	DATE3

AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



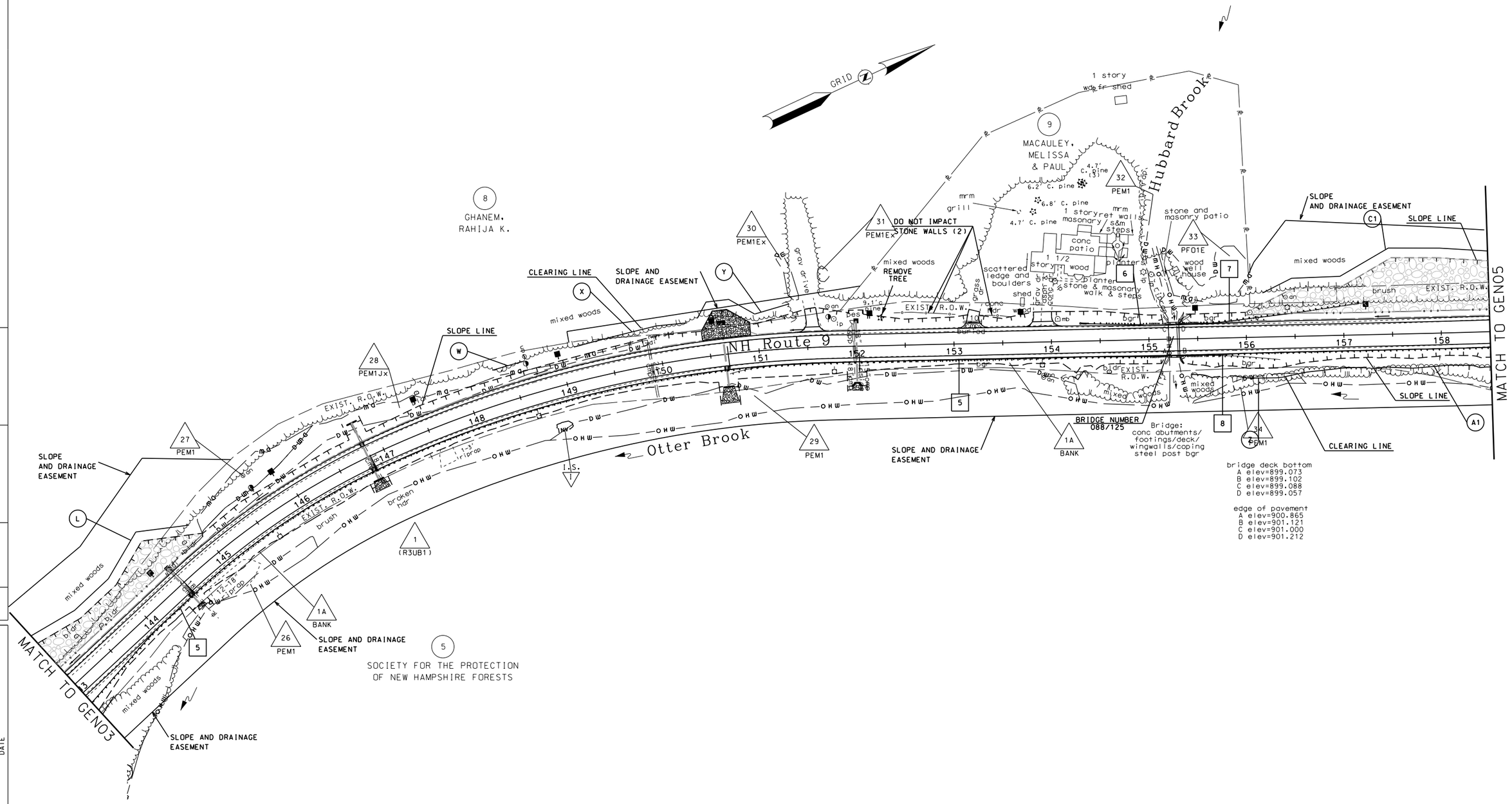
50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN03	10439genplans	10439	112	294



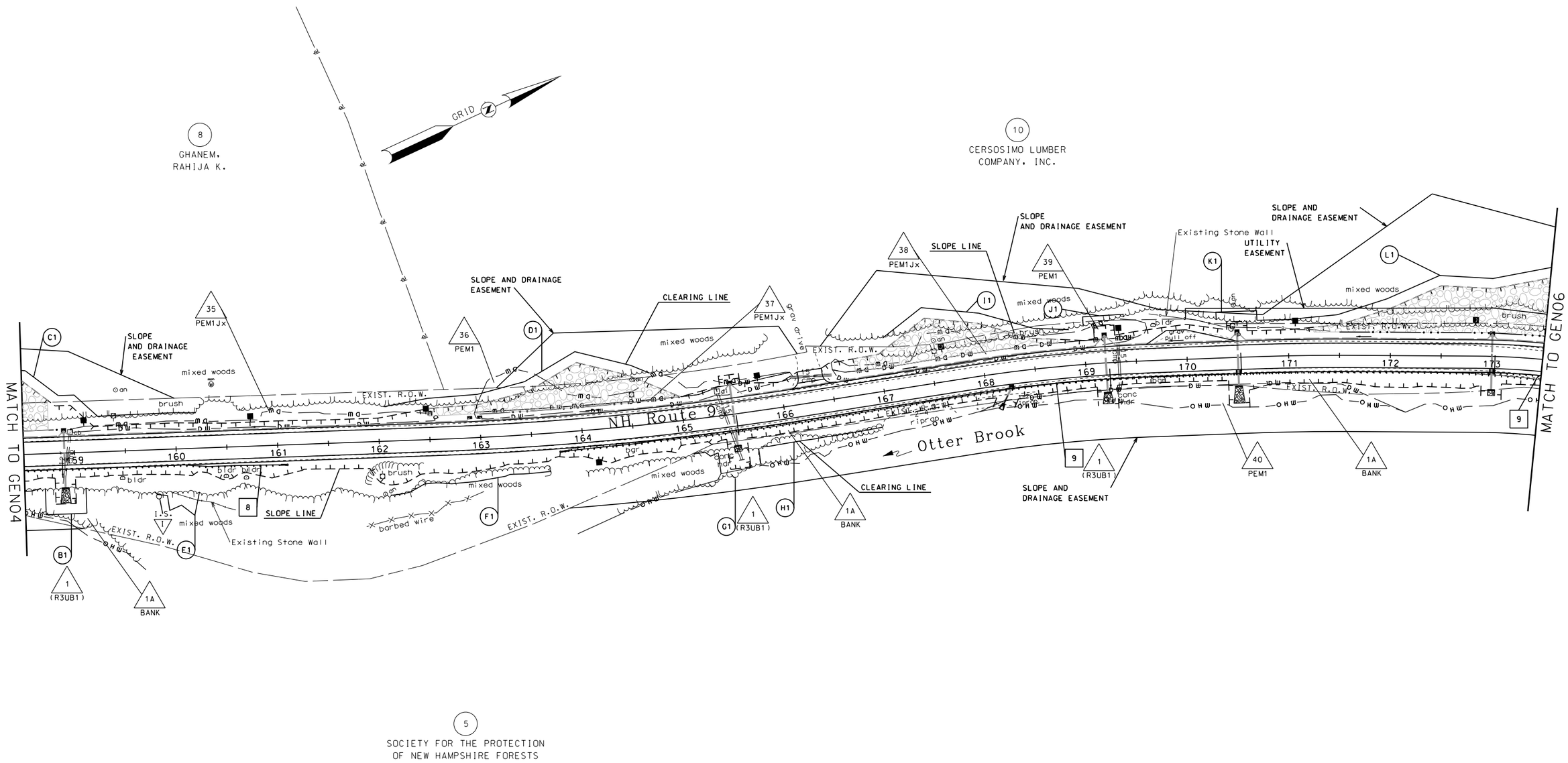
STATE OF NEW HAMPSHIRE				
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN				
GENERAL PLANS				
MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN04	10439genplans	10439	113	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE



SCALE IN FEET: 50 0 50 100

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

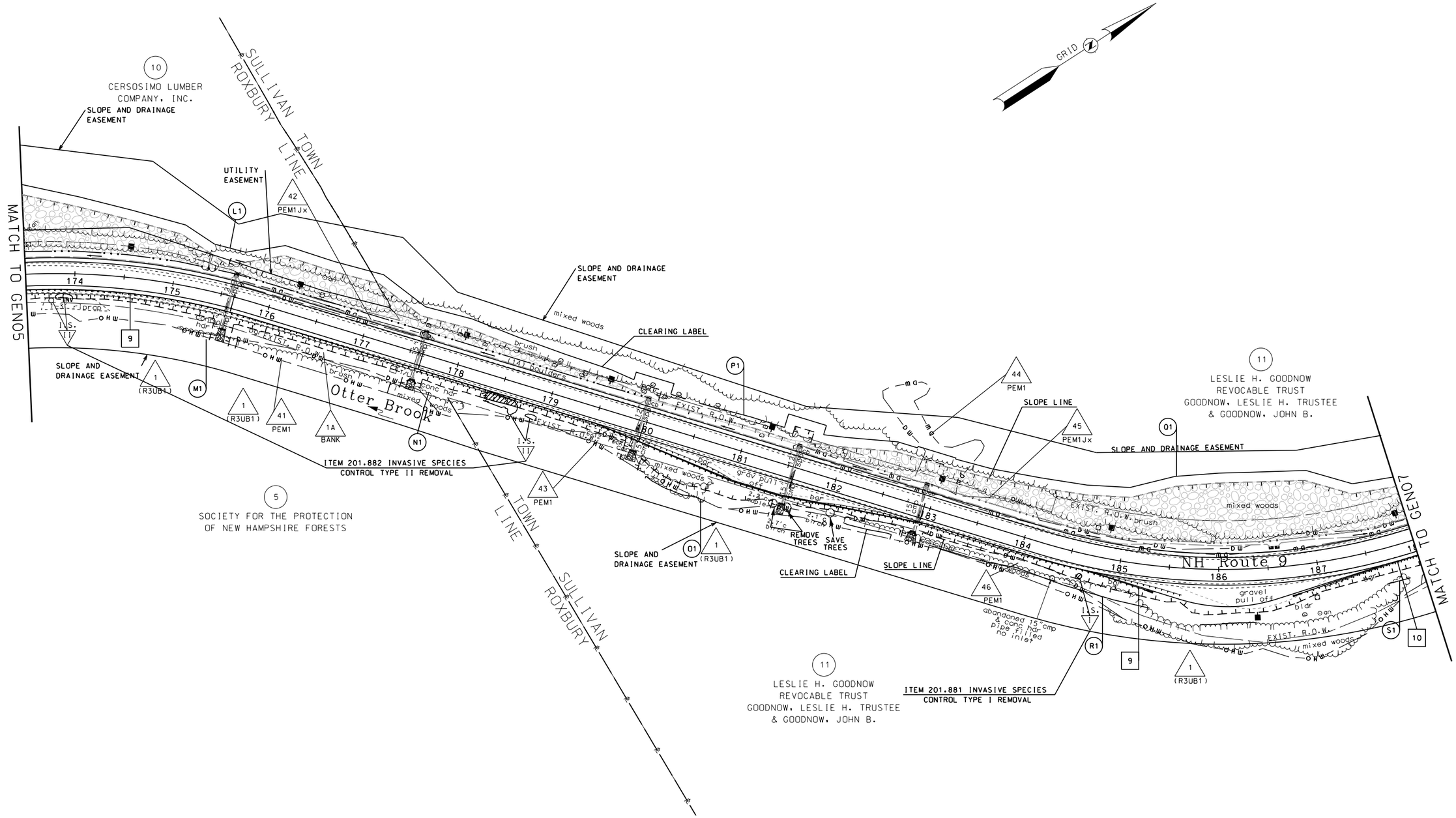
MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN05	10439genplans	10439	114	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE



NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1		
NEW DESIGN	NAME2	DATE	DATE2		
SHEET CHECKED	NAME3	DATE	DATE3		
AS BUILT DETAILS		DATE			

STATE OF NEW HAMPSHIRE

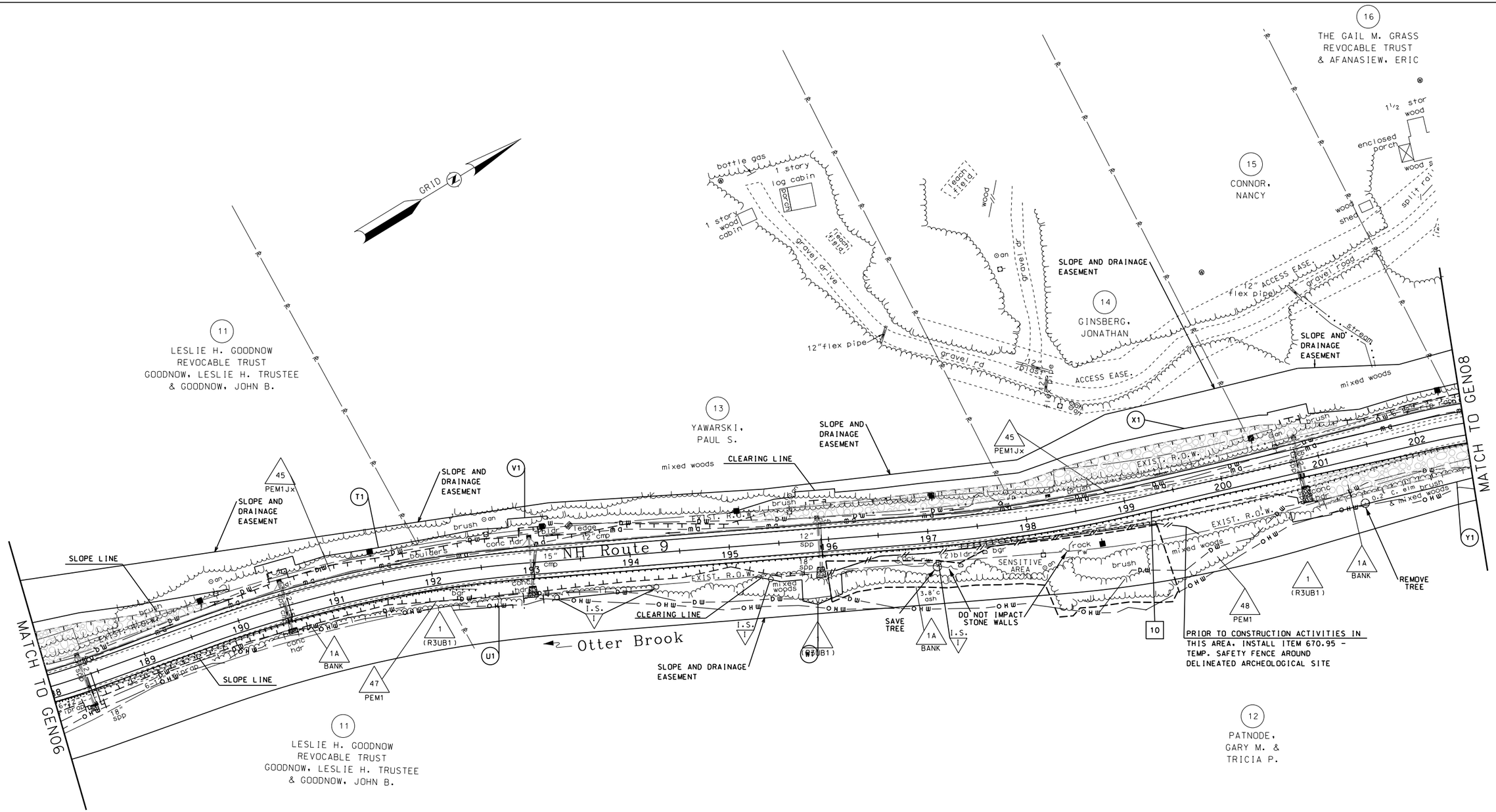
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN06	10439genplans	10439	115	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



50 0 50 100
SCALE IN FEET

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

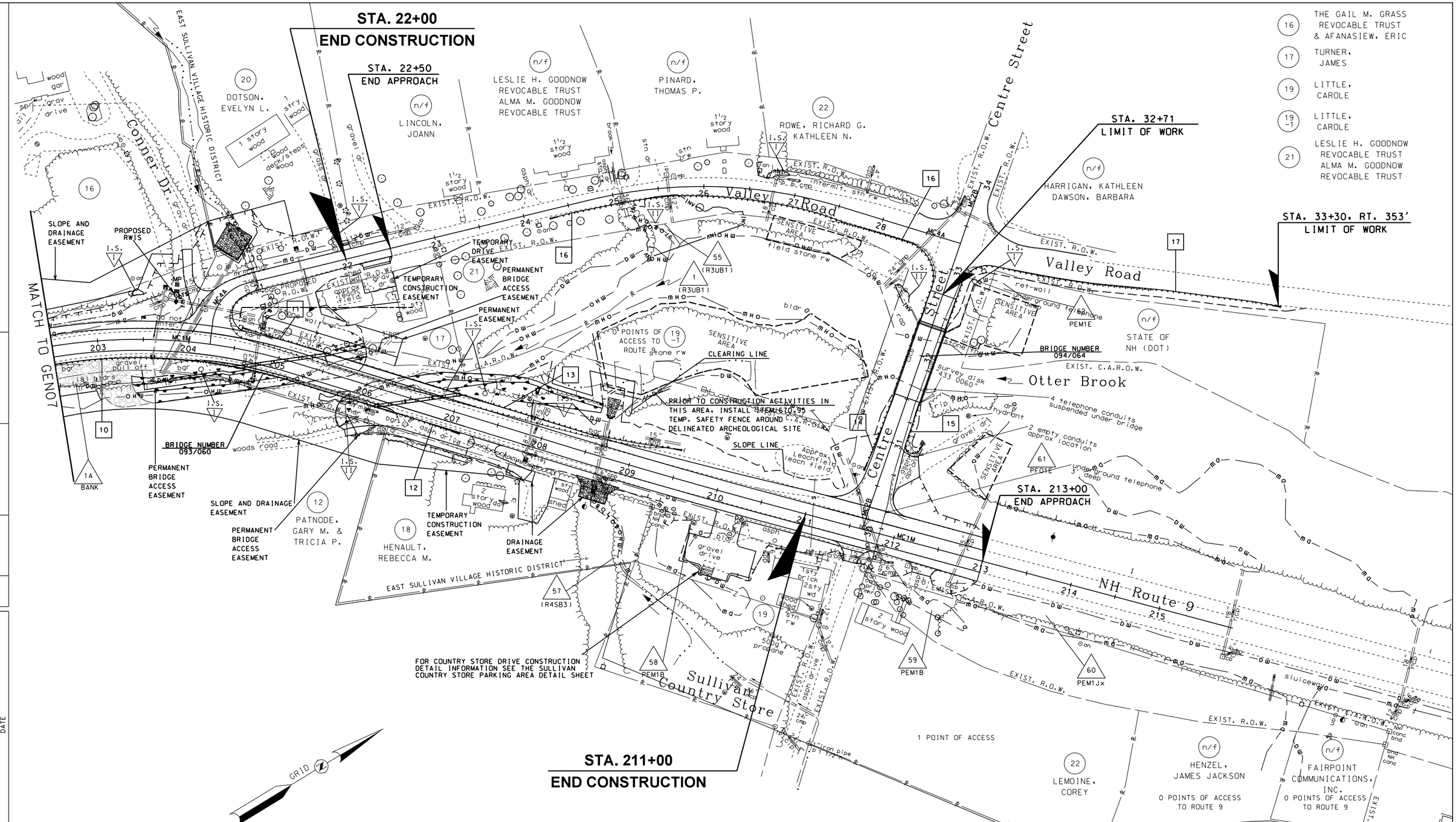
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN07	10439genplans	10439	116	294



STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

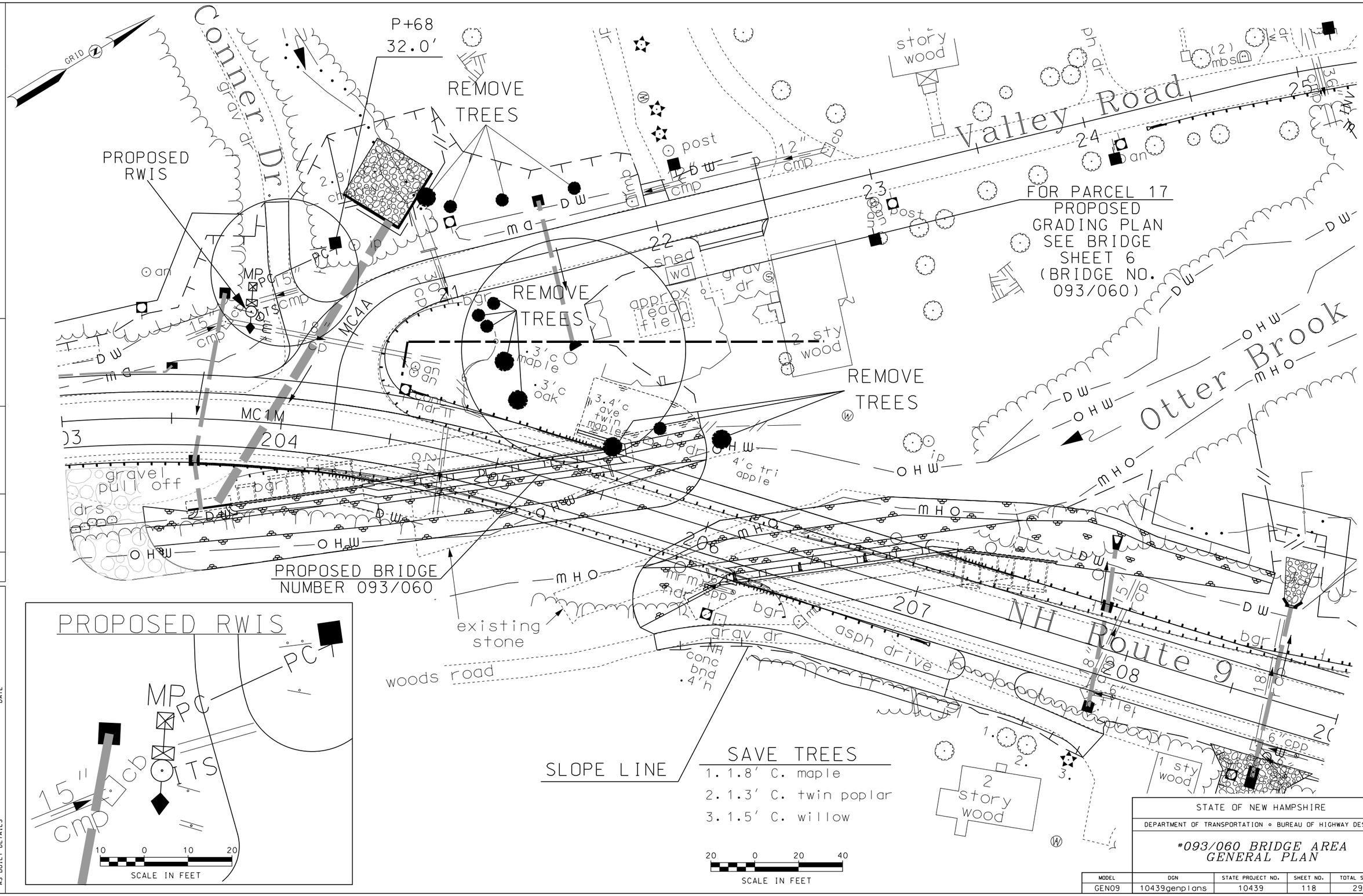
MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN08	10439genplans	10439	117	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE



REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

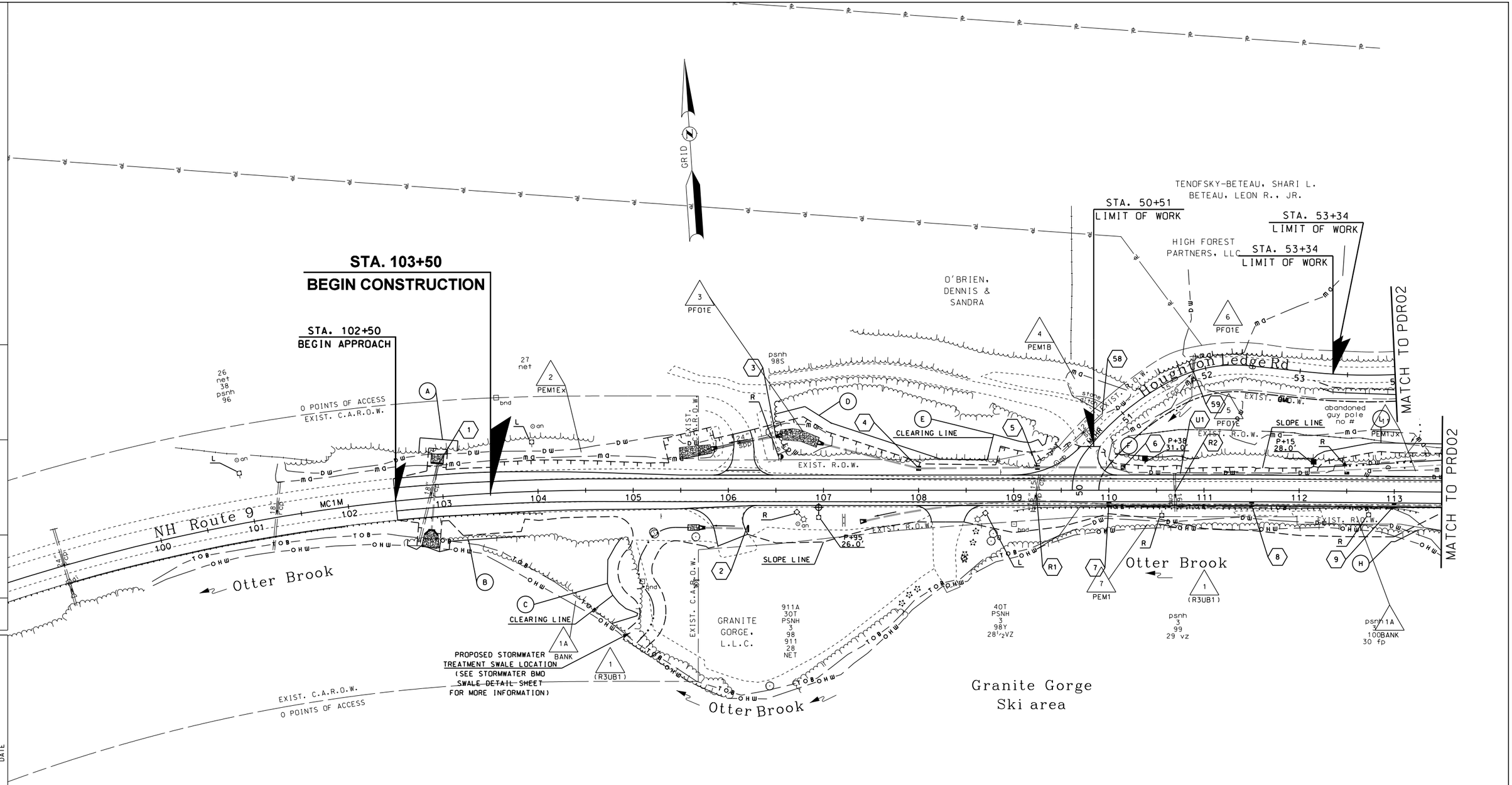
SDR PROCESSED	DATE		
NEW DESIGN	TWC	DATE	8/2017
SHEET CHECKED	XX	DATE	XX
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

#093/060 BRIDGE AREA GENERAL PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
GEN09	10439genplans	10439	118	294



NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

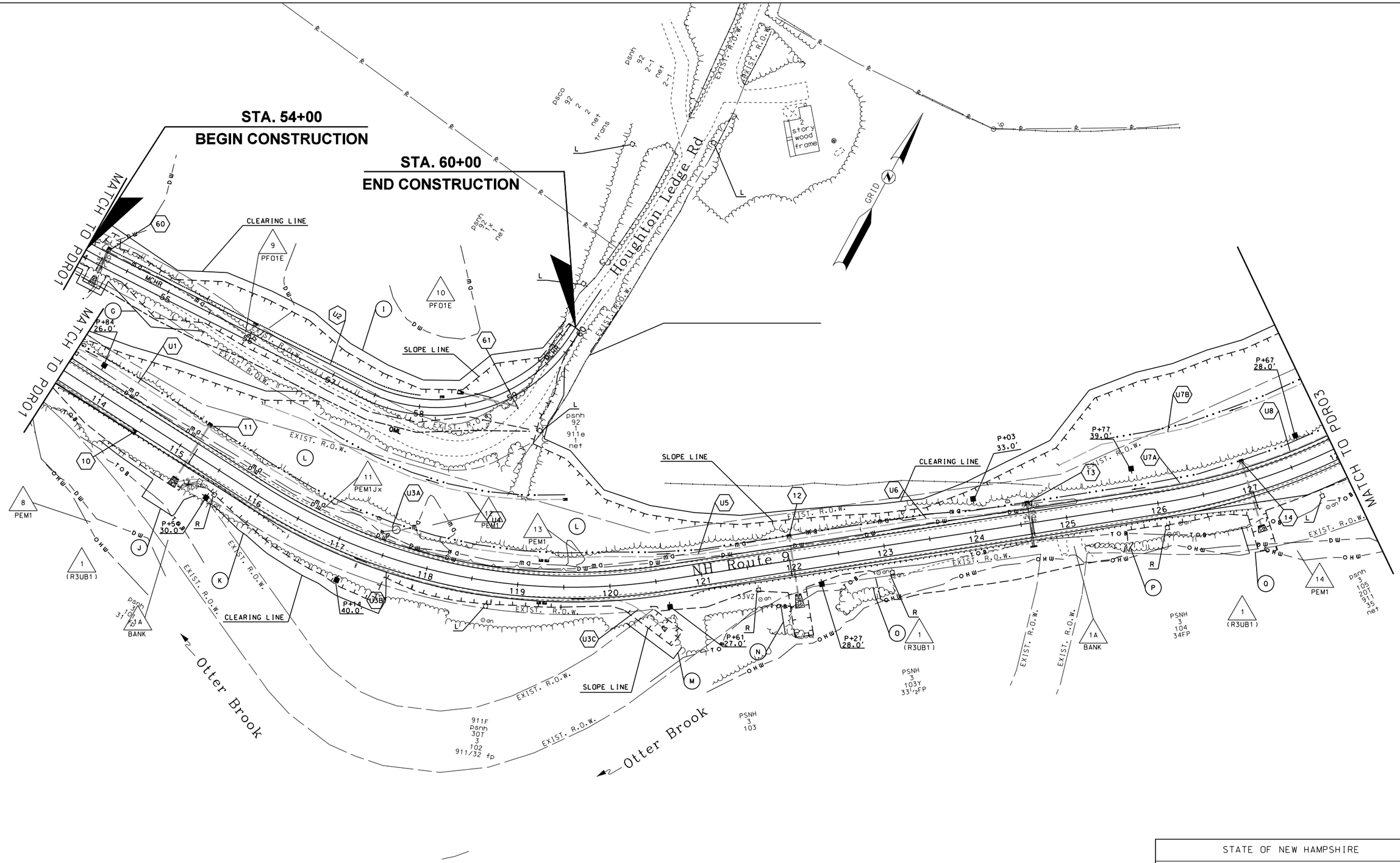
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR01	10439pdrplans	10439	119	294



NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3	DATE	DATE3

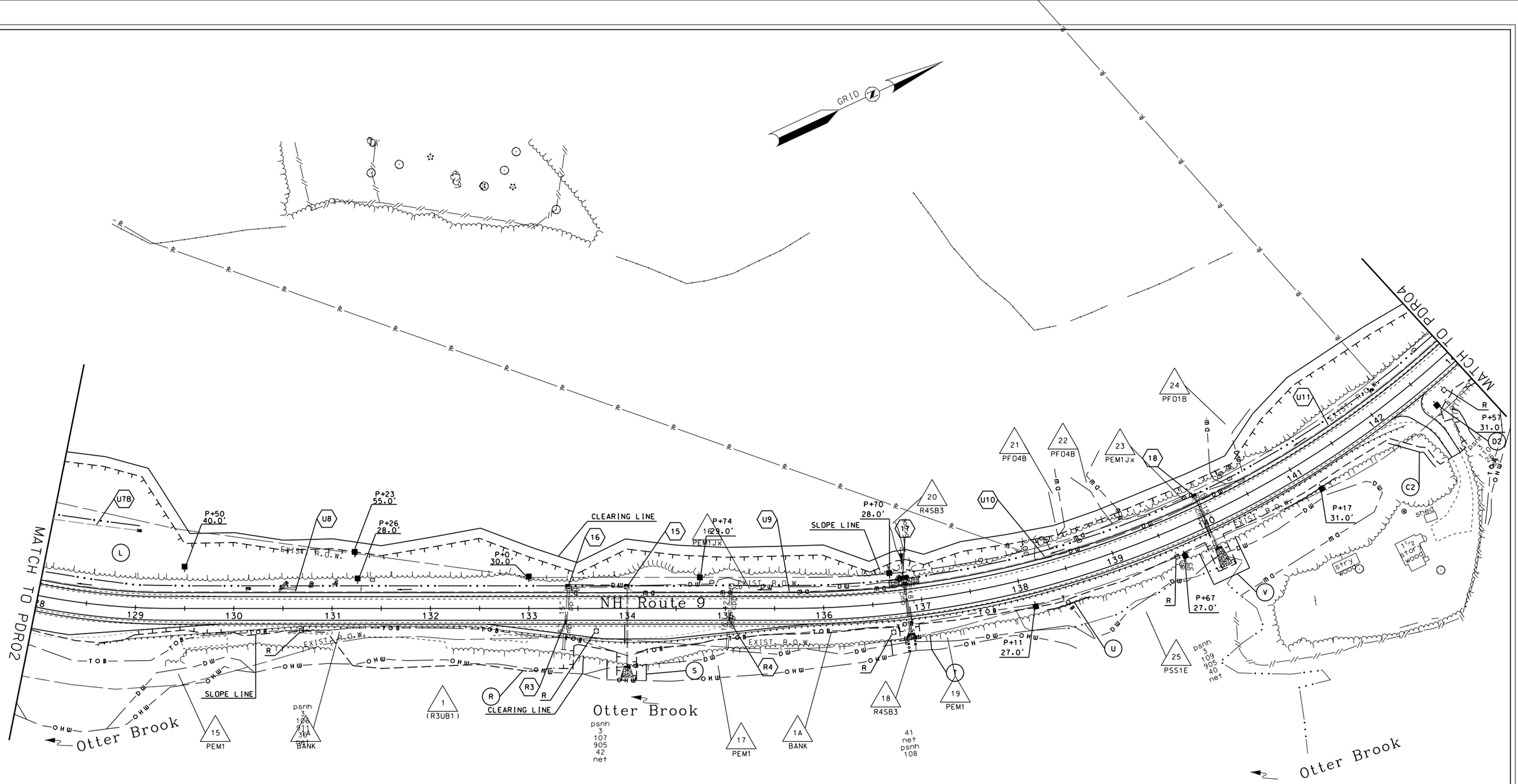
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR02	10439pdrplans	10439	120	294



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

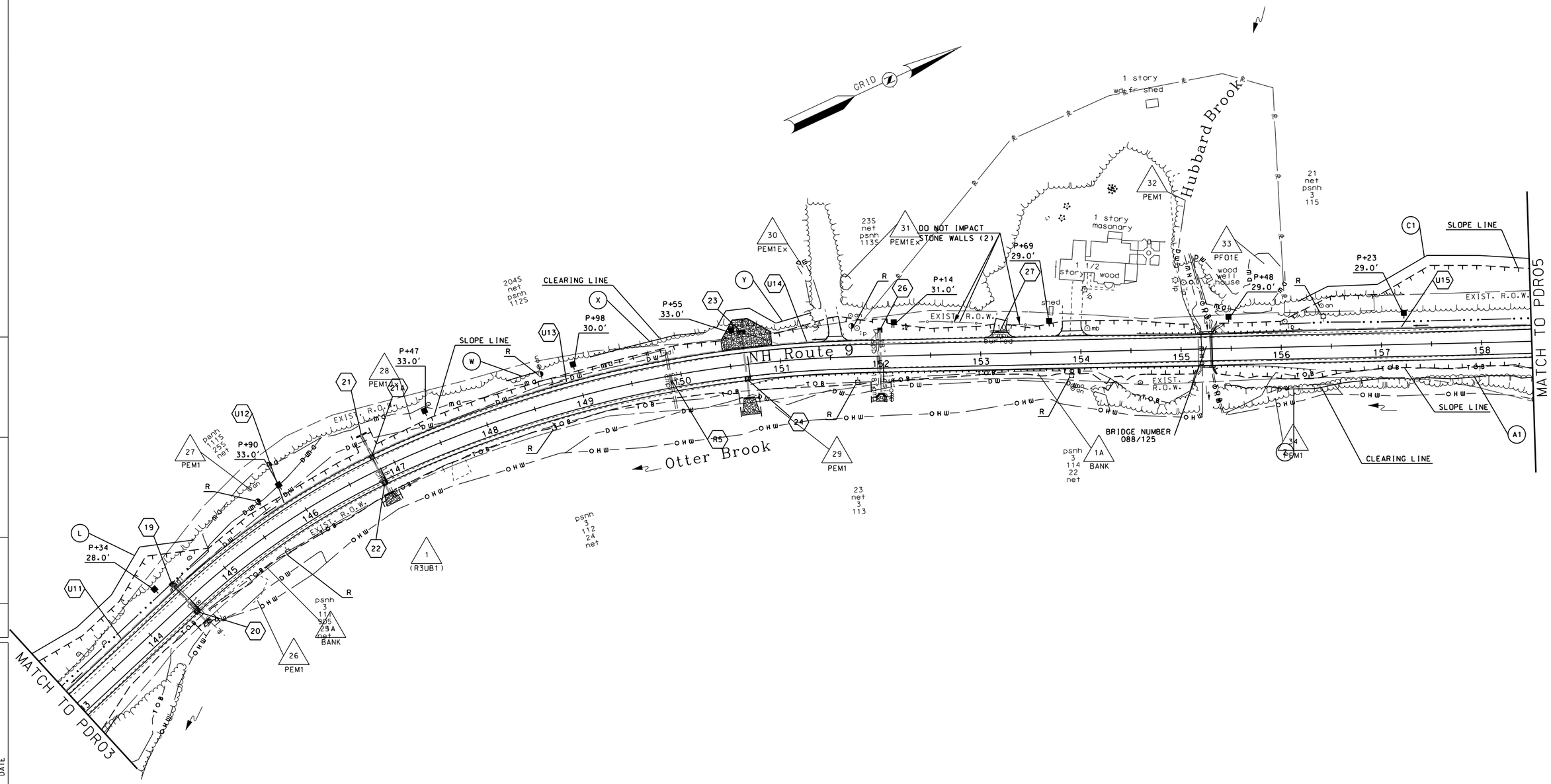
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR03	10439pdrplans	10439	121	294



NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

50 0 50 100

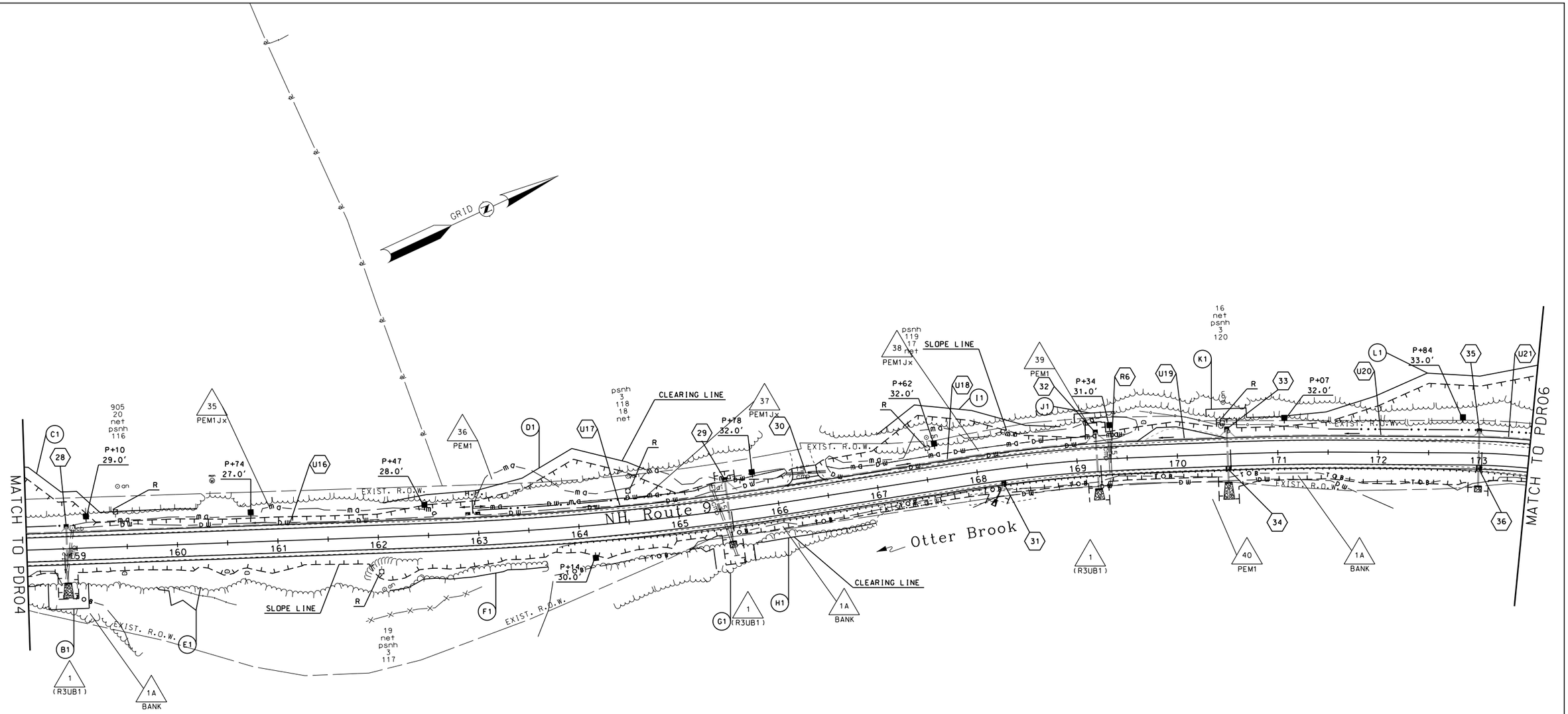
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR04	10439pdrplans	10439	122	294



50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR05	10439pdrplans	10439	123	294

REVISIONS AFTER PROPOSAL

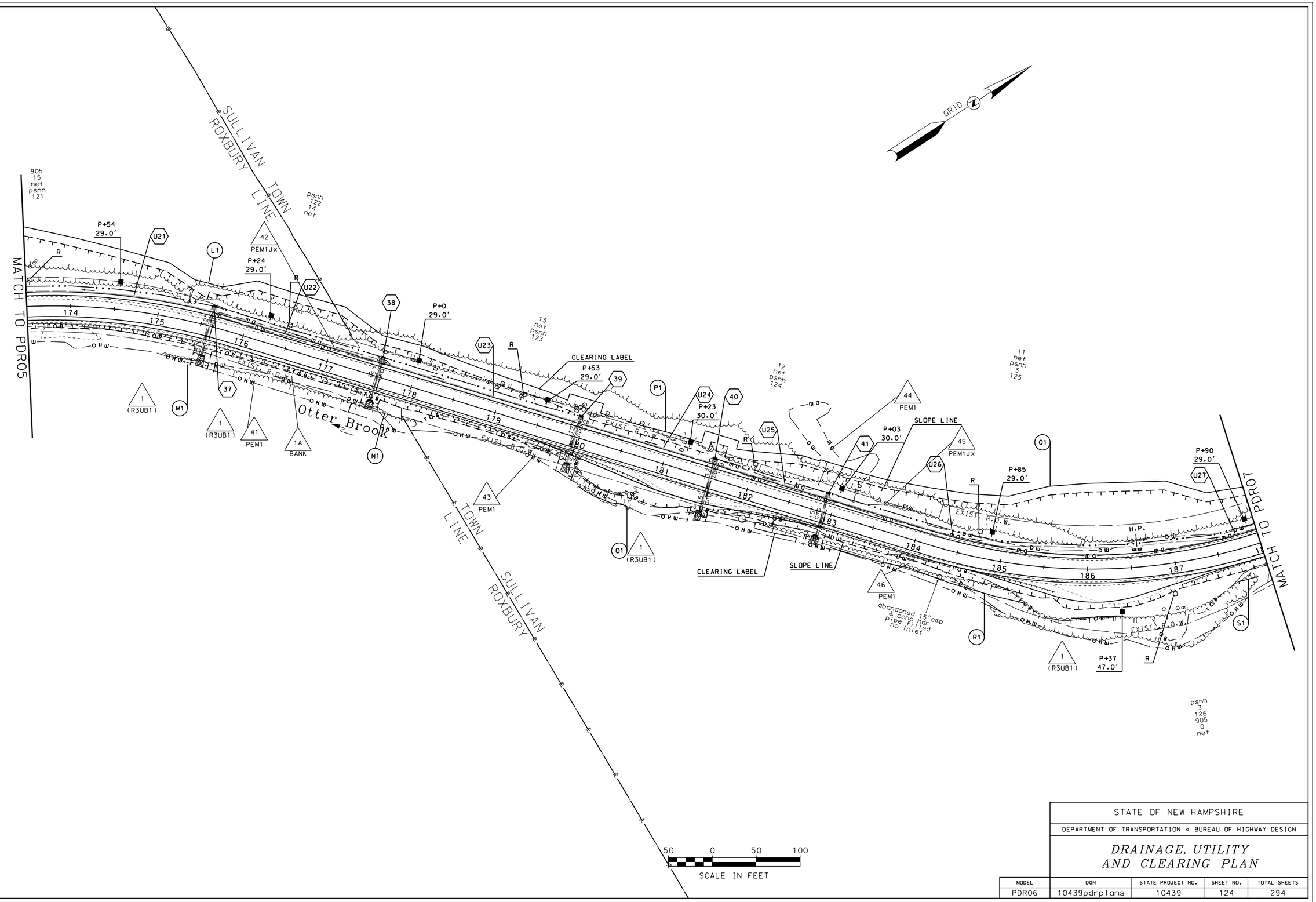
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1

NEW DESIGN NAME2 DATE DATE2

SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE



SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL

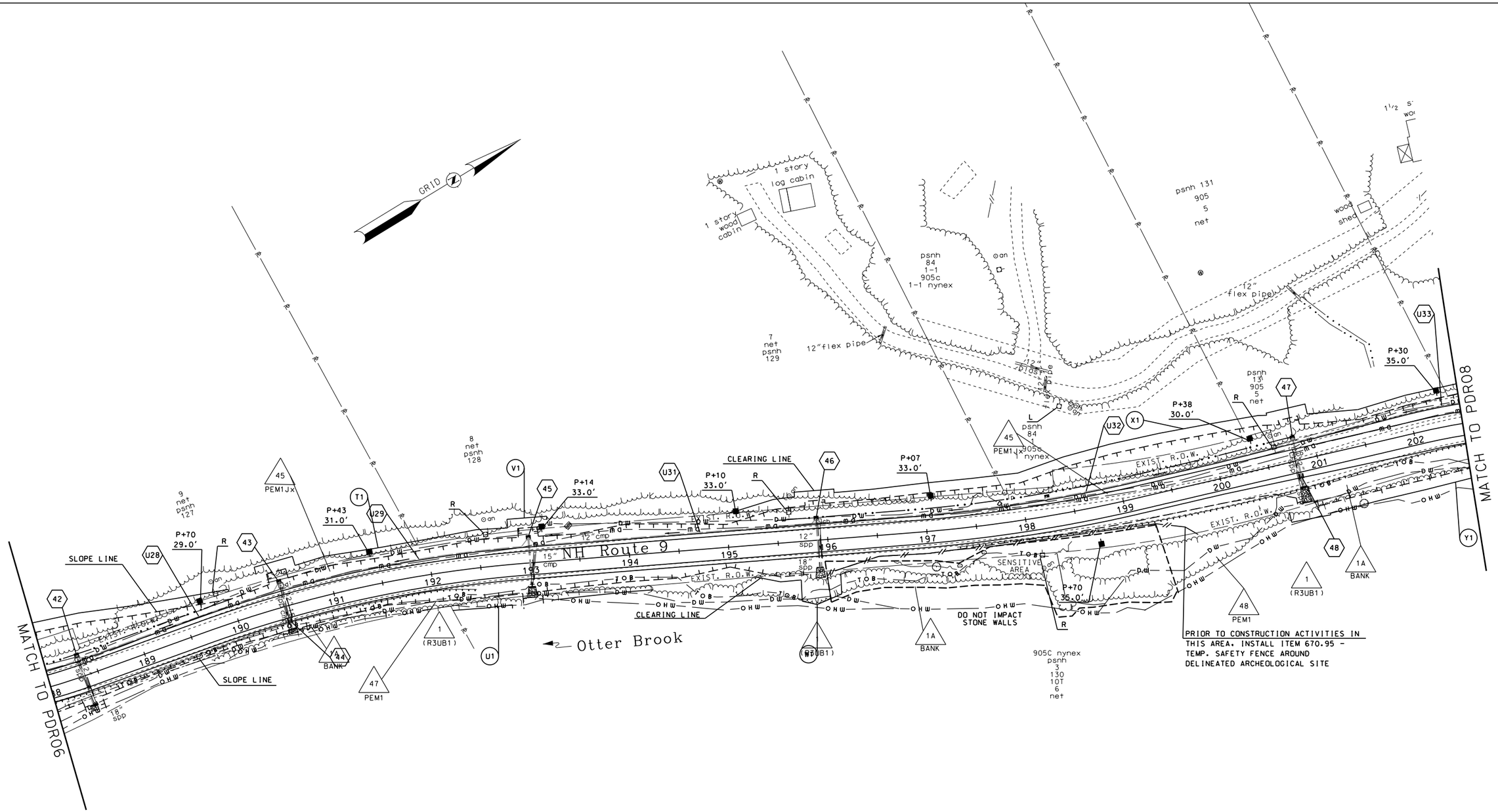
NUMBER	DATE	STATION	STATION	DESCRIPTION

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR06	10439pdrplans	10439	124	294



NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITY AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR07	10439pdrplans	10439	125	294

STA. 22+00
END CONSTRUCTION

STA. 22+50
END APPROACH

STA. 32+71
LIMIT OF WORK

STA. 33+30. RT. 353'
LIMIT OF WORK

STA. 213+00
END APPROACH

STA. 211+00
END CONSTRUCTION

Conner Dr.

Valley Road

Centre Street

Otter Brook

NH Route 9

Sullivan Country Store

MATCH TO PDR07

BRIDGE NUMBER 093/060

BRIDGE NUMBER 094/064

CLEARING LINE

SLOPE LINE

PRIOR TO CONSTRUCTION ACTIVITIES IN THIS AREA. INSTALL ITEM 670.95 TMP. SAFETY FENCE AROUND DELINEATED ARCHEOLOGICAL SITE

ITEM 202.851 - REMOVAL OF FLASHING BEACON

FOR COUNTRY STORE DRIVE CONSTRUCTION DETAIL INFORMATION SEE THE SULLIVAN COUNTRY STORE PARKING AREA DETAIL SHEET

P+68 32.0'
P+14 23.0'
P+17 15.0'
P+70 20.0'
P+94 22.0'
P+03 32.0'
P+10 17.0'
P+95 27.0'
P+65 30.0'
P+20 30.0'
P+98 32.0'

GRID

50 0 50 100
SCALE IN FEET

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE, UTILITIES, AND CLEARING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PDR08	10439pdrplans	10439	126	294

PAVEMENT MARKING NOTE:

1. ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES AND ALL OTHER MARKINGS NOTED WITH A (T) SHALL BE THERMOPLASTIC.
2. CONTACT BUREAU OF TRAFFIC TO REVIEW ALL PASSING ZONES PRIOR TO STRIPING OR INSTALLING W14-3 SIGNS.
3. THE CONTRACTOR SHALL CONTACT JULIE MATHEW AT THE NHDOT BUREAU OF TRAFFIC AT 603-271-8011 ONE WEEK PRIOR TO PAVEMENT MARKING.
4. REPLACE WORDS/SYMBOLS PER LATEST NHDOT STANDARD PLAN SHEETS.
5. PAVEMENT MARKINGS SHALL EXTEND BEYOND PROJECT PAVING LIMITS TO OVERLAP EXISTING MARKINGS DISTURBED BY CONSTRUCTION ACTIVITIES.

MCHR Curve No. 1

PI= 50+22.3736
N = 172354.61
E = 838147.13
Δ = 37°59'16.126" Right
T = 22.37'
R = 65.00'
L = 43.10'
E = 3.74'

MCHR Curve No. 2

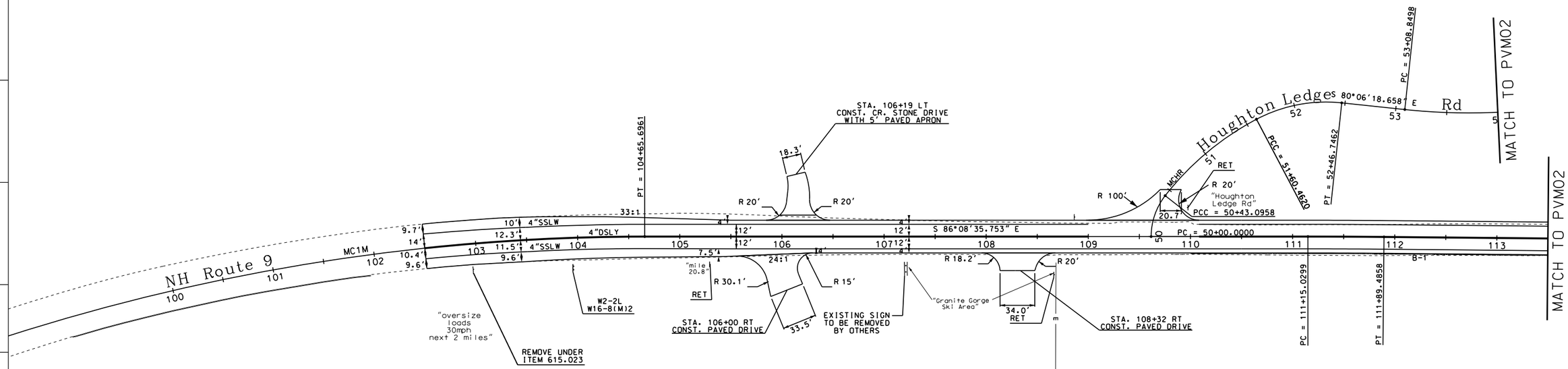
PI= 51+02.6663
N = 172415.66
E = 838201.80
Δ = 24°11'20.987" Right
T = 59.57'
R = 278.00'
L = 117.37'
E = 6.31'

MCHR Curve No. 3

PI= 52+04.9052
N = 172457.91
E = 838296.84
Δ = 33°51'39.977" Right
T = 44.44'
R = 146.00'
L = 86.28'
E = 6.62'

MCHR Curve No. 4

PI= 53+69.6220
N = 172429.16
E = 838461.67
Δ = 11°34'01.855" Left
T = 60.77'
R = 600.00'
L = 121.13'
E = 3.07'



MC1M Curve No. 1

PI= 99+79.2787
N = 172399.70
E = 837145.71
Δ = 27°48'57.288" Right
T = 506.39'
R = 2045.00'
L = 992.81'
E = 61.76'

MC1M Curve No. 2

PI= 111+52.2581
N = 172319.46
E = 838335.96
Δ = 0°31'59.705" Right
T = 37.23'
R = 8000.00'
L = 74.46'
E = 0.09'

GENERAL NOTES:

1. USE ROADWAY SELECT MATERIALS FOR CONSTRUCTION OF PULL OFF AREAS. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

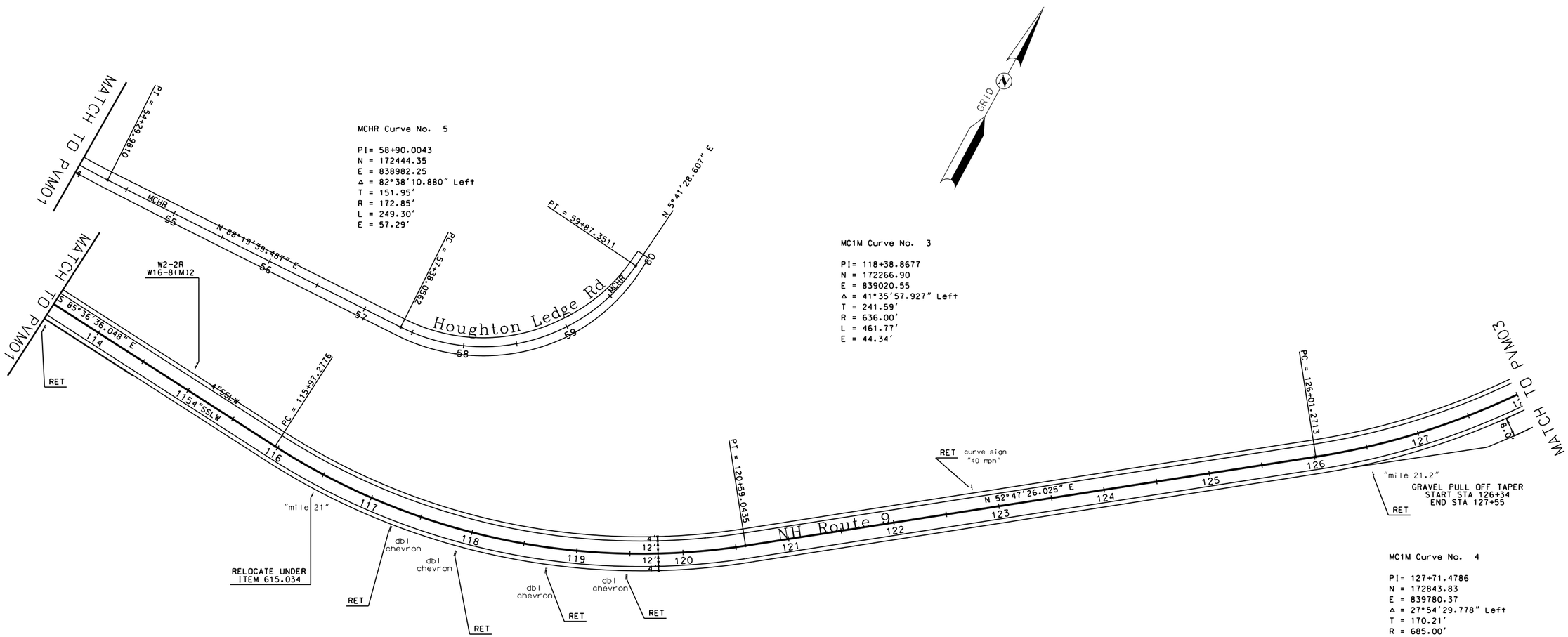
REVISIONS AFTER PROPOSAL

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM01	10439pvmplans	10439	127	294



MCHR Curve No. 5

PI= 58+90.0043
N = 172444.35
E = 838982.25
Δ = 82°38'10.880" Left
T = 151.95'
R = 172.85'
L = 249.30'
E = 57.29'

MC1M Curve No. 3

PI= 118+38.8677
N = 172266.90
E = 839020.55
Δ = 41°35'57.927" Left
T = 241.59'
R = 636.00'
L = 461.77'
E = 44.34'

MC1M Curve No. 4

PI= 127+71.4786
N = 172843.83
E = 839780.37
Δ = 27°54'29.778" Left
T = 170.21'
R = 685.00'
L = 333.66'
E = 20.83'

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

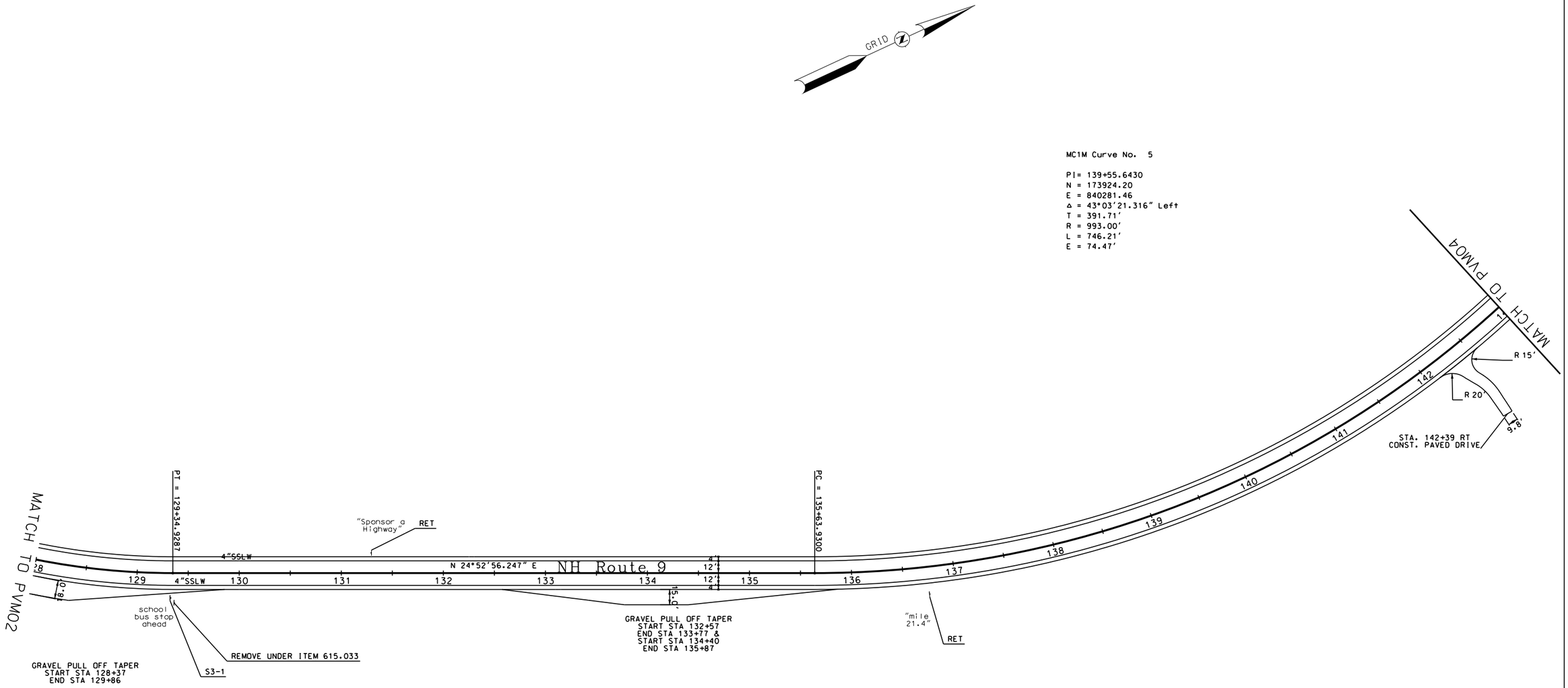
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM02	10439pvmplans	10439	128	294



MC1M Curve No. 5

PI= 139+55.6430
N = 173924.20
E = 840281.46
Δ = 43°03'21.316" Left
T = 391.71'
R = 993.00'
L = 746.21'
E = 74.47'

MC1M Curve No. 4

PI= 127+71.4786
N = 172843.83
E = 839780.37
Δ = 27°54'29.778" Left
T = 170.21'
R = 685.00'
L = 333.66'
E = 20.83'

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

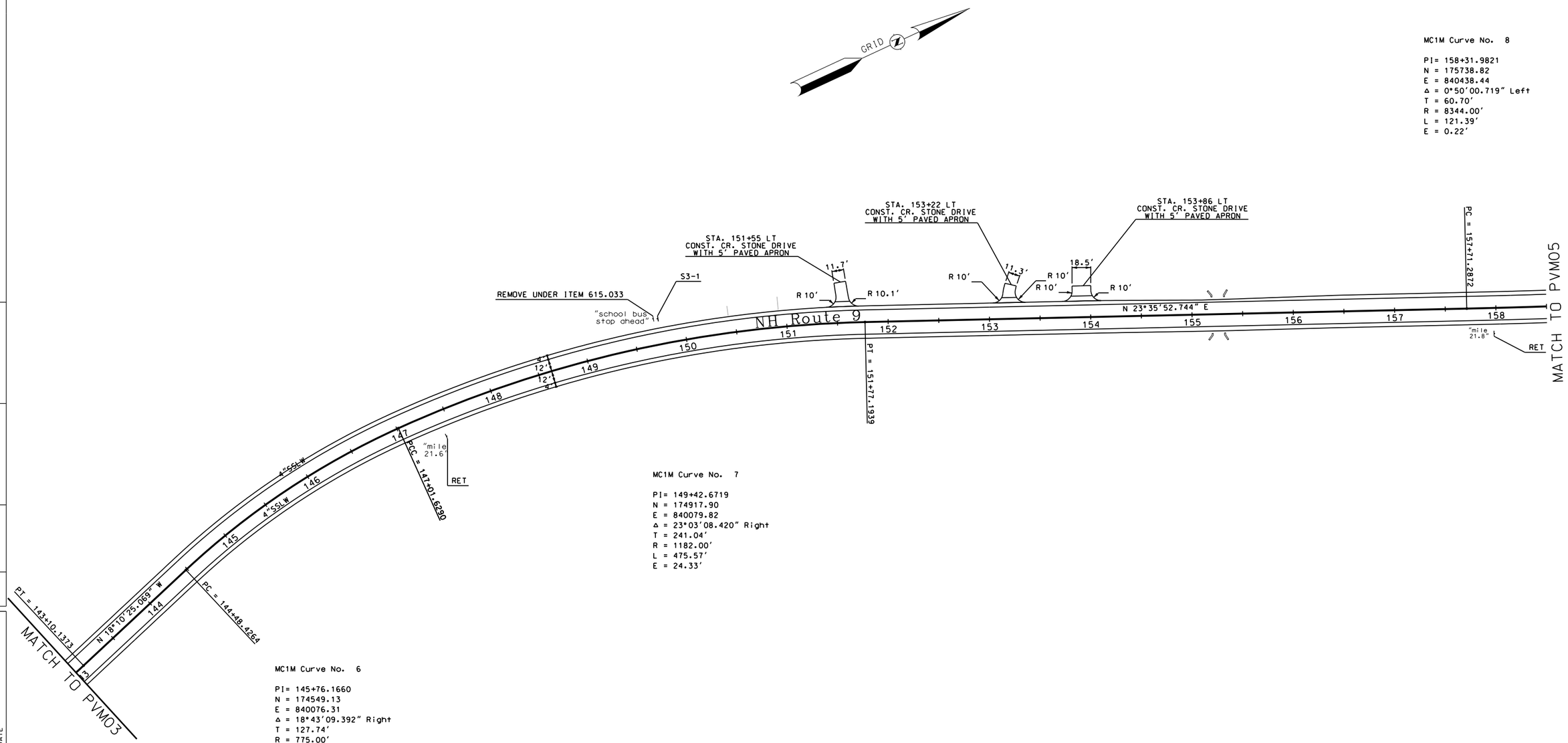
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM03	10439pvmplans	10439	129	294



REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

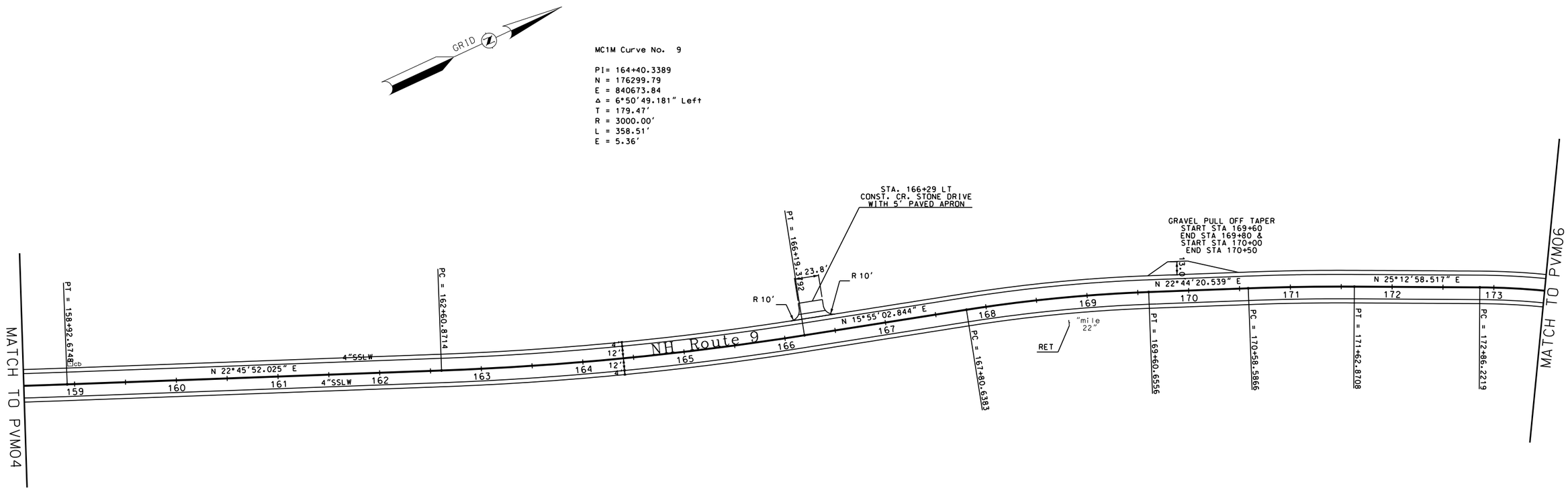
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM04	10439pvmplans	10439	130	294



MC1M Curve No. 9

PI= 164+40.3389
N = 176299.79
E = 840673.84
Δ = 6°50'49.181" Left
T = 179.47'
R = 3000.00'
L = 358.51'
E = 5.36'

MC1M Curve No. 10

PI= 168+70.7534
N = 176714.11
E = 840792.00
Δ = 6°49'17.695" Right
T = 90.12'
R = 1512.00'
L = 180.02'
E = 2.68'

MC1M Curve No. 11

PI= 171+10.7368
N = 176935.64
E = 840884.84
Δ = 2°28'37.977" Right
T = 52.15'
R = 2412.00'
L = 104.28'
E = 0.56'

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

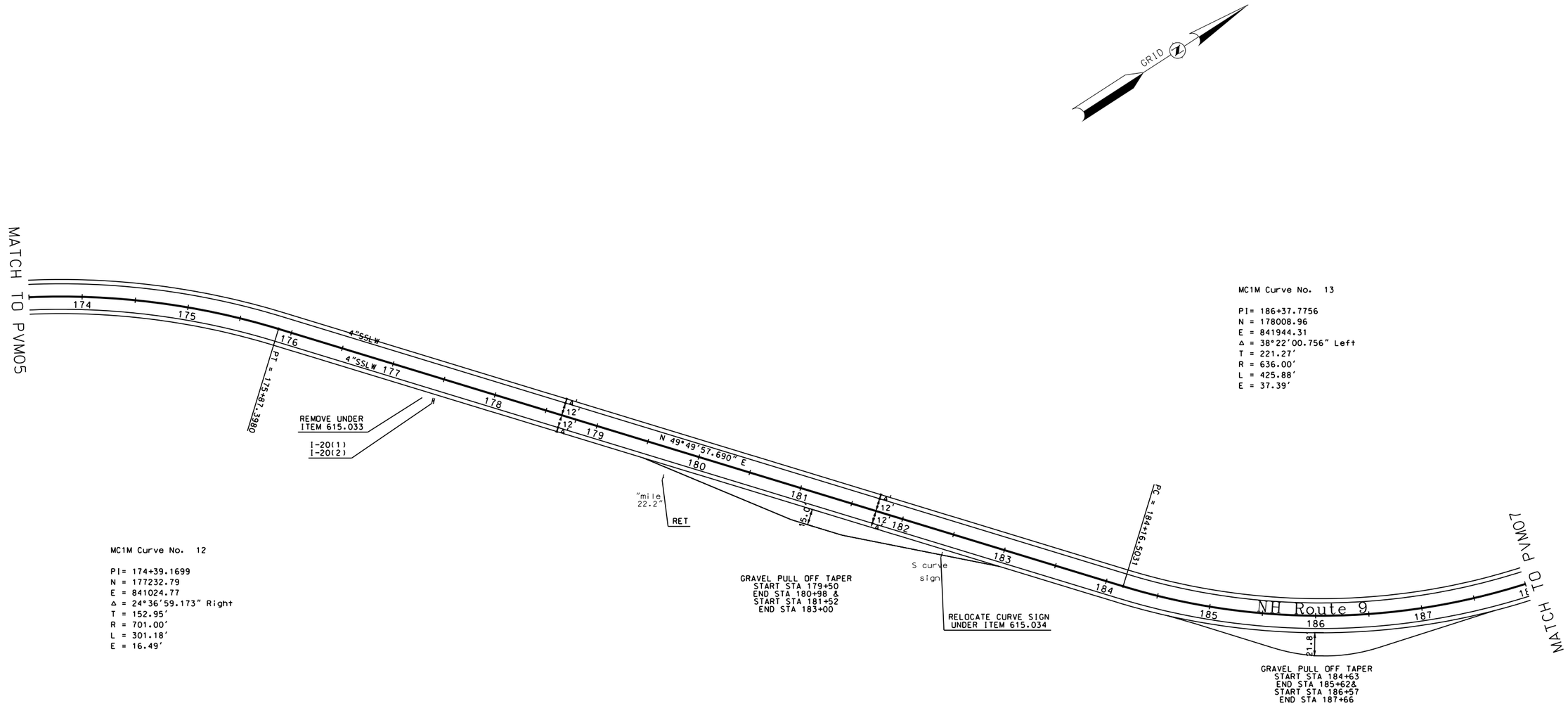
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM05	10439pvmplans	10439	131	294



MC1M Curve No. 12

PI= 174+39.1699
N = 177232.79
E = 841024.77
Δ = 24°36'59.173" Right
T = 152.95'
R = 701.00'
L = 301.18'
E = 16.49'

MC1M Curve No. 13

PI= 186+37.7756
N = 178008.96
E = 841944.31
Δ = 38°22'00.756" Left
T = 221.27'
R = 636.00'
L = 425.88'
E = 37.39'

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM06	10439pvmplans	10439	132	294

REVISIONS AFTER PROPOSAL

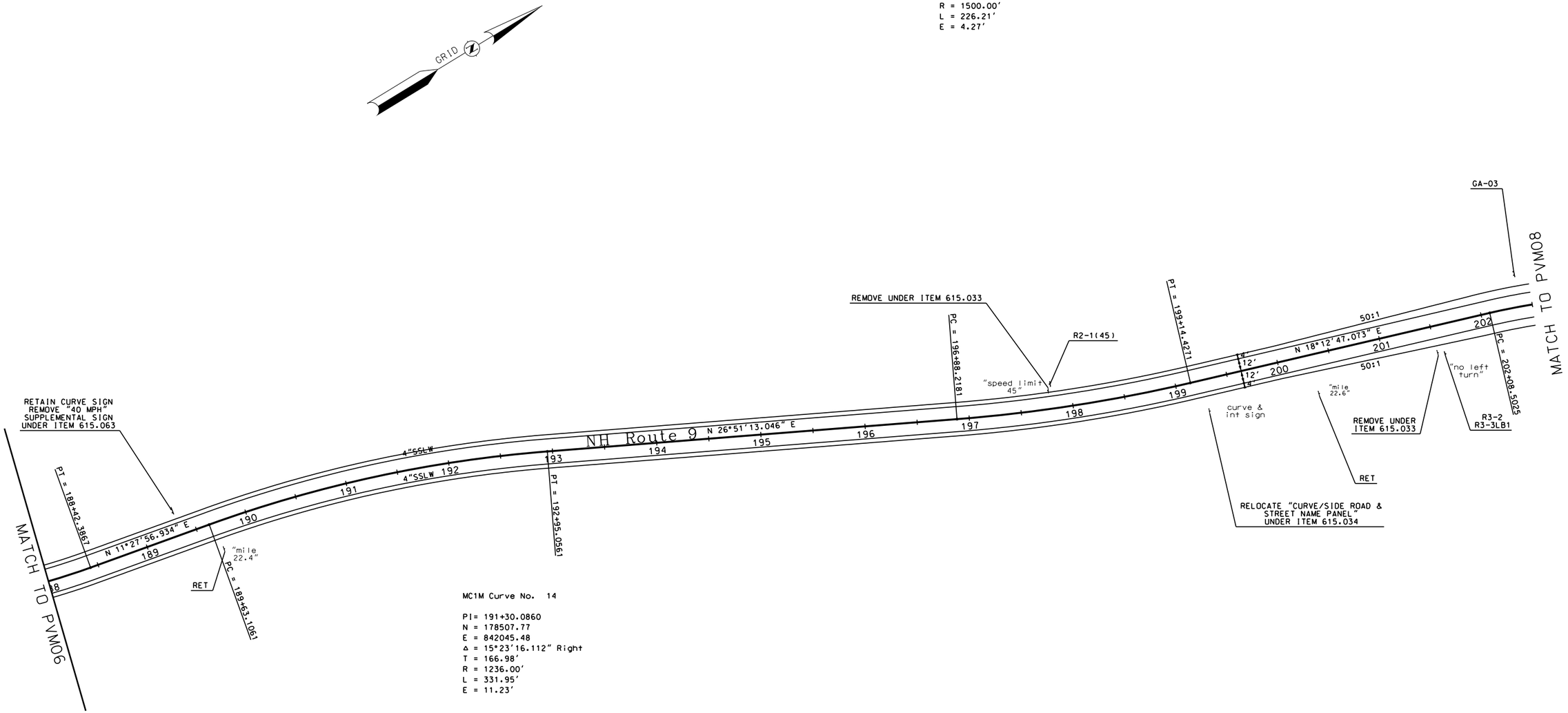
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE

MC1M Curve No. 15

PI= 198+01.5374
N = 179108.61
E = 842349.70
Δ = 8°38'25.973" Left
T = 113.32'
R = 1500.00'
L = 226.21'
E = 4.27'



MC1M Curve No. 14

PI= 191+30.0860
N = 178507.77
E = 842045.48
Δ = 15°23'16.112" Right
T = 166.98'
R = 1236.00'
L = 331.95'
E = 11.23'

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

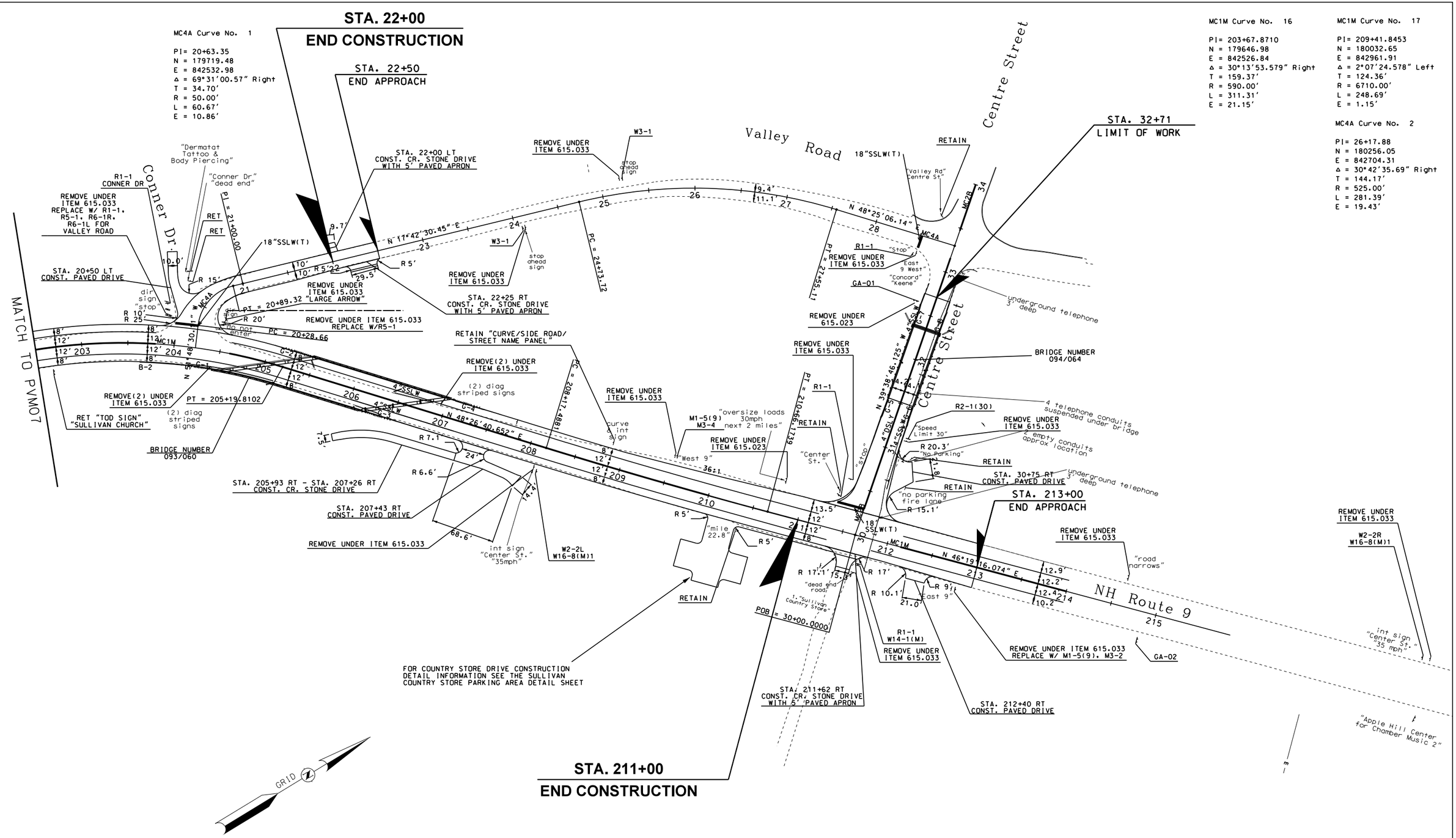
MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM07	10439pvmplans	10439	133	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3

AS BUILT DETAILS DATE



MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
PVM08	10439pvmplans	10439	134	294

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

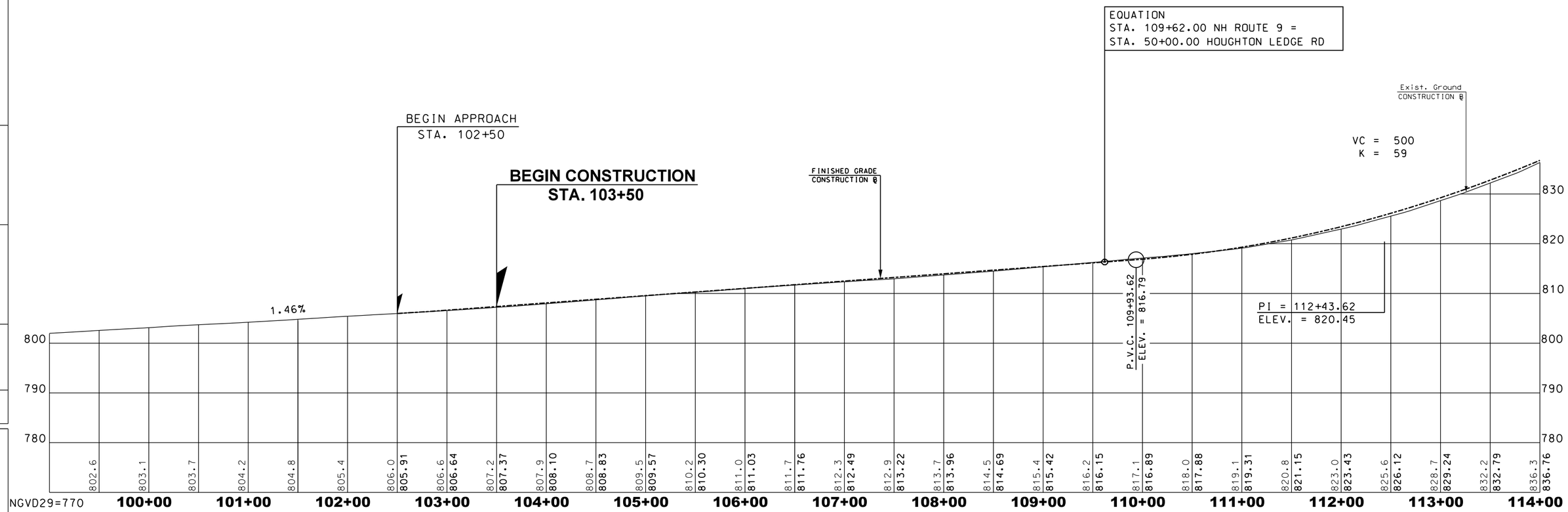
PAVEMENT MARKING, PAVEMENT LAYOUT, CURBING AND SIGNING PLAN

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE



SEE NH ROUTE 9 SUPERELEVATIONS
AND TYPICAL SECTION FOR
SUPERELEVATION INFORMATION

SEE PAVE MATCH
DETAIL

FOR INLAY
MATCH/BOX STEPS

2" WEARING COURSE
5" BINDER
(2 LIFTS = 2½PER LIFT)
18" CRUSHED STONE (FINE)
12" GRAVEL

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED — DATE
NEW DESIGN — T. CUTTER — DATE 5/2017
SHEET CHECKED — NAME3 — DATE DATE3
AS BUILT DETAILS — DATE

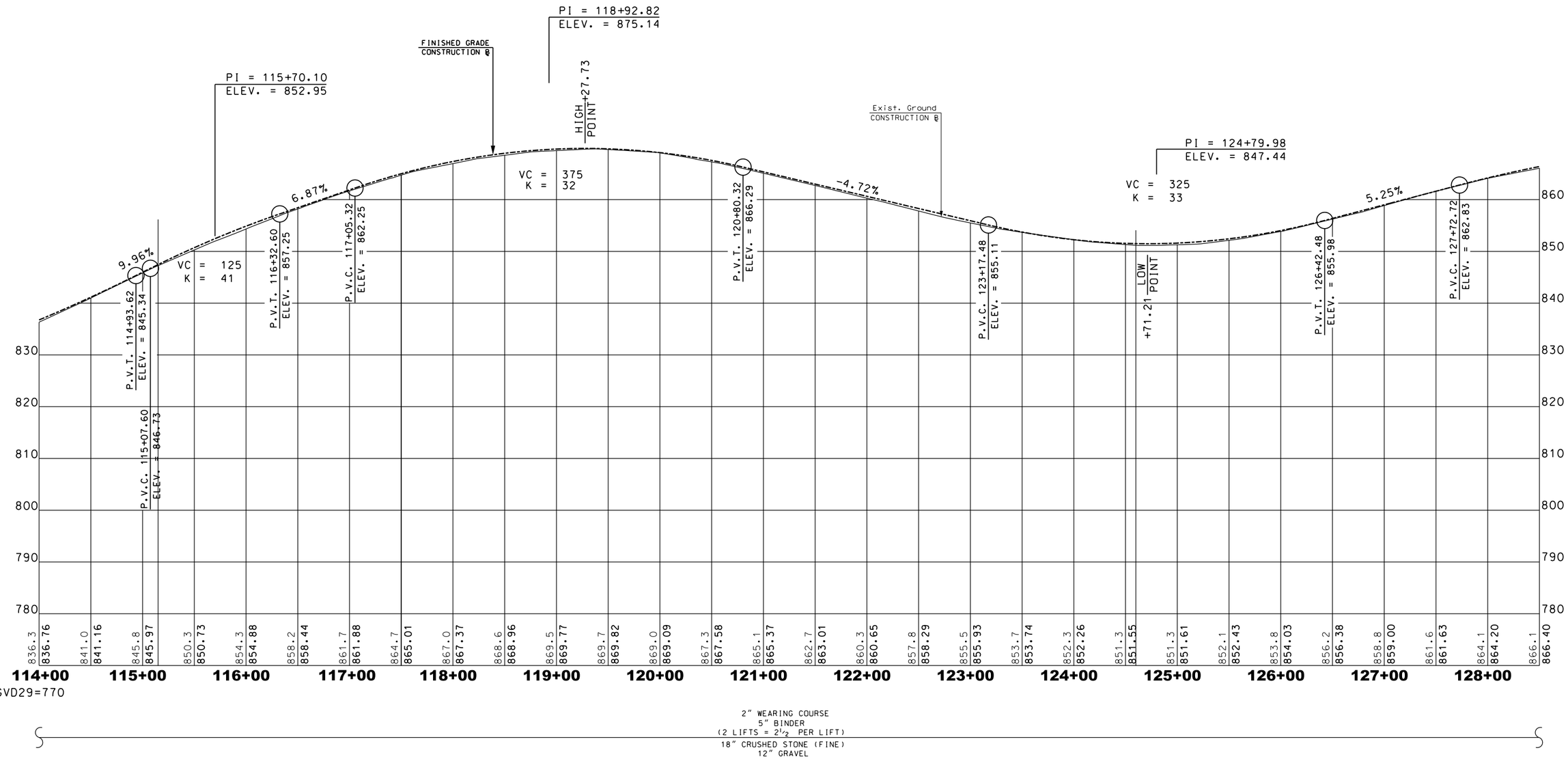
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_9_PRO	10439	135	294

1 OF 8



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

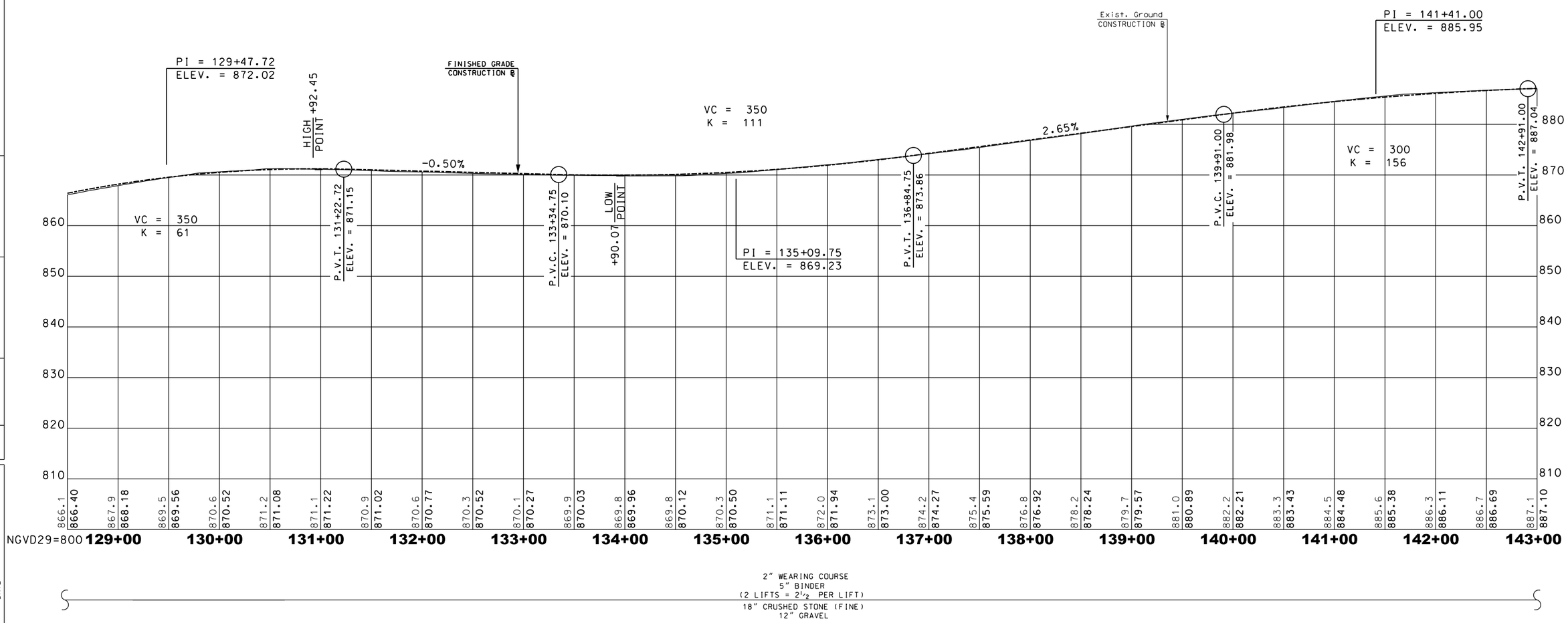
SDR PROCESSED		DATE	
NEW DESIGN	T. CUTTER	DATE	5/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
2 OF 8	10439_9_PRO	10439	136	294



2" WEARING COURSE
5" BINDER
(2 LIFTS = 2½ PER LIFT)
18" CRUSHED STONE (FINE)
12" GRAVEL

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	STATION	STATION	DESCRIPTION
				REVISIONS AFTER PROPOSAL

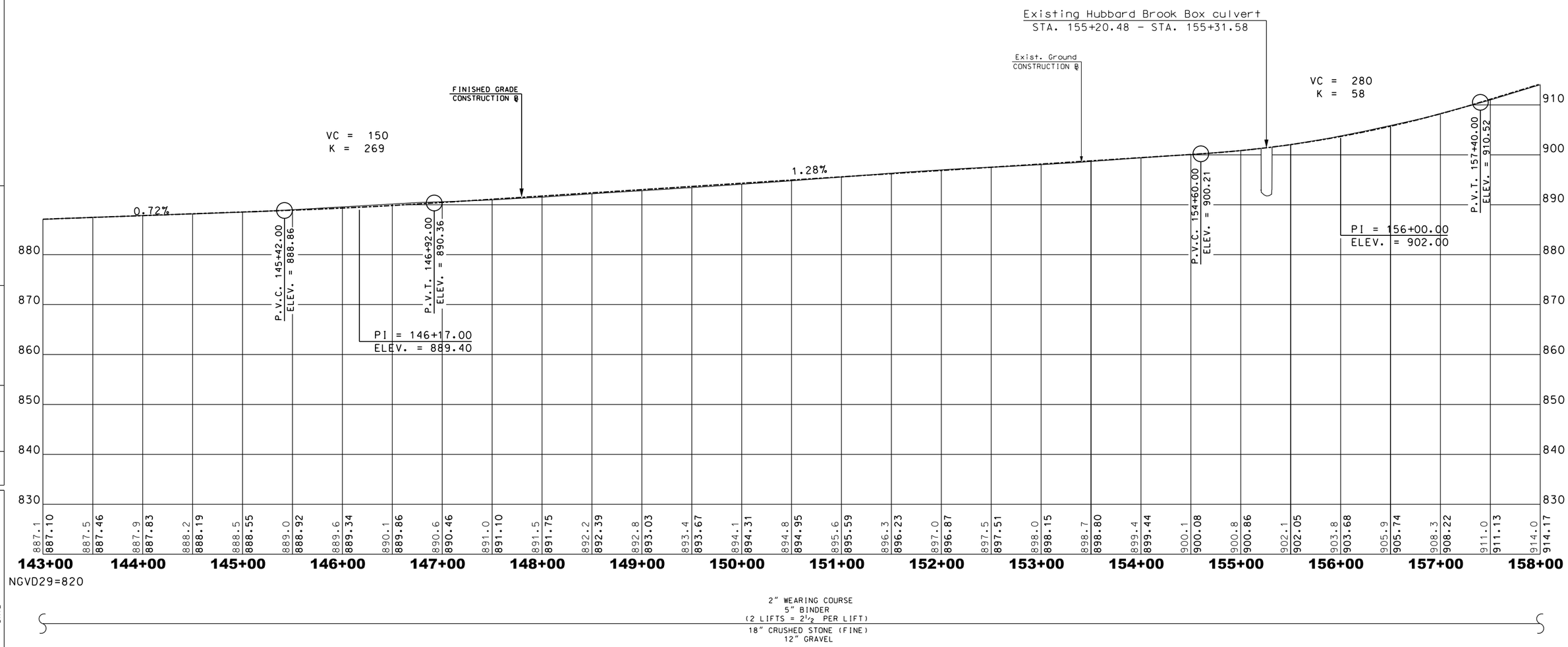
SDR PROCESSED		DATE	
NEW DESIGN	T. CUTTER	DATE	5/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_9_PRO	10439	137	294



2" WEARING COURSE
5" BINDER
(2 LIFTS = 2½ PER LIFT)
18" CRUSHED STONE (FINE)
12" GRAVEL

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

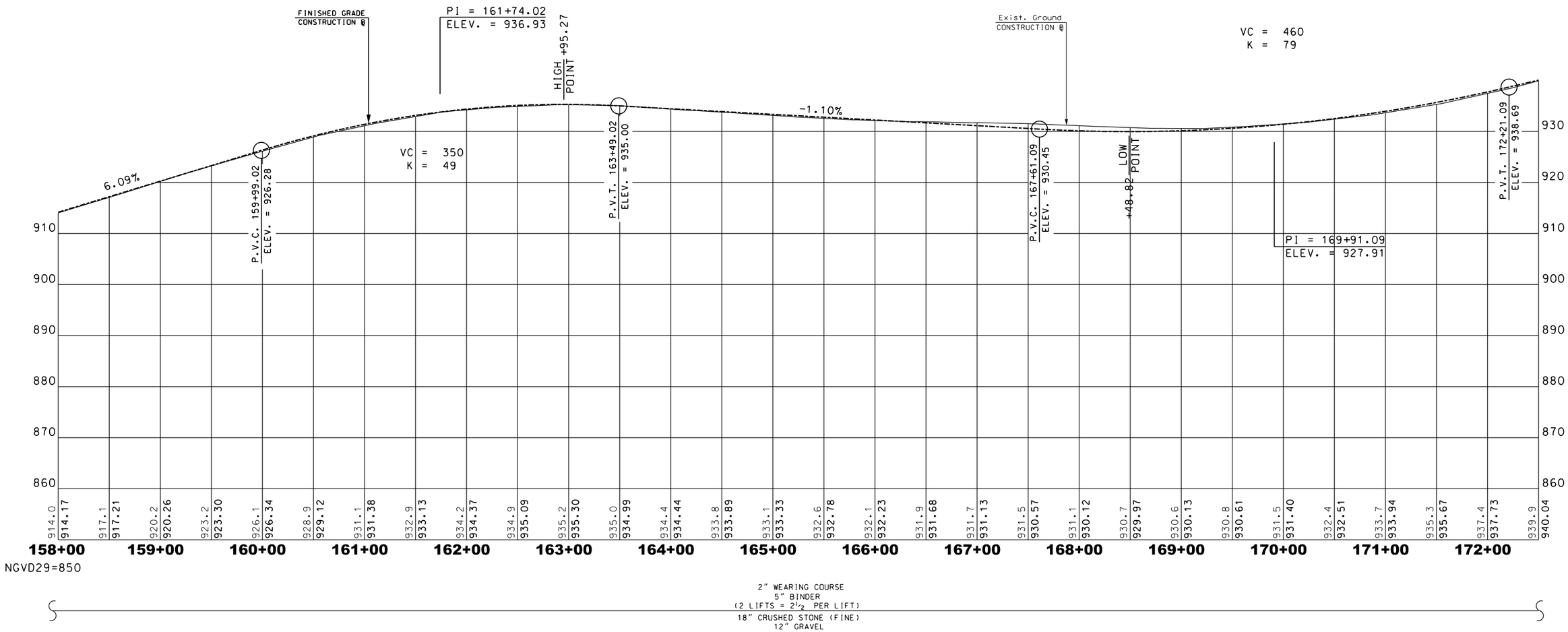
SDR PROCESSED	T. CUTTER	DATE 5/2017
NEW DESIGN	NAME3	DATE DATE3
SHEET CHECKED		DATE
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4 OF 8	10439_9_PRO	10439	138	294



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	STATION	STATION	DESCRIPTION
				REVISIONS AFTER PROPOSAL

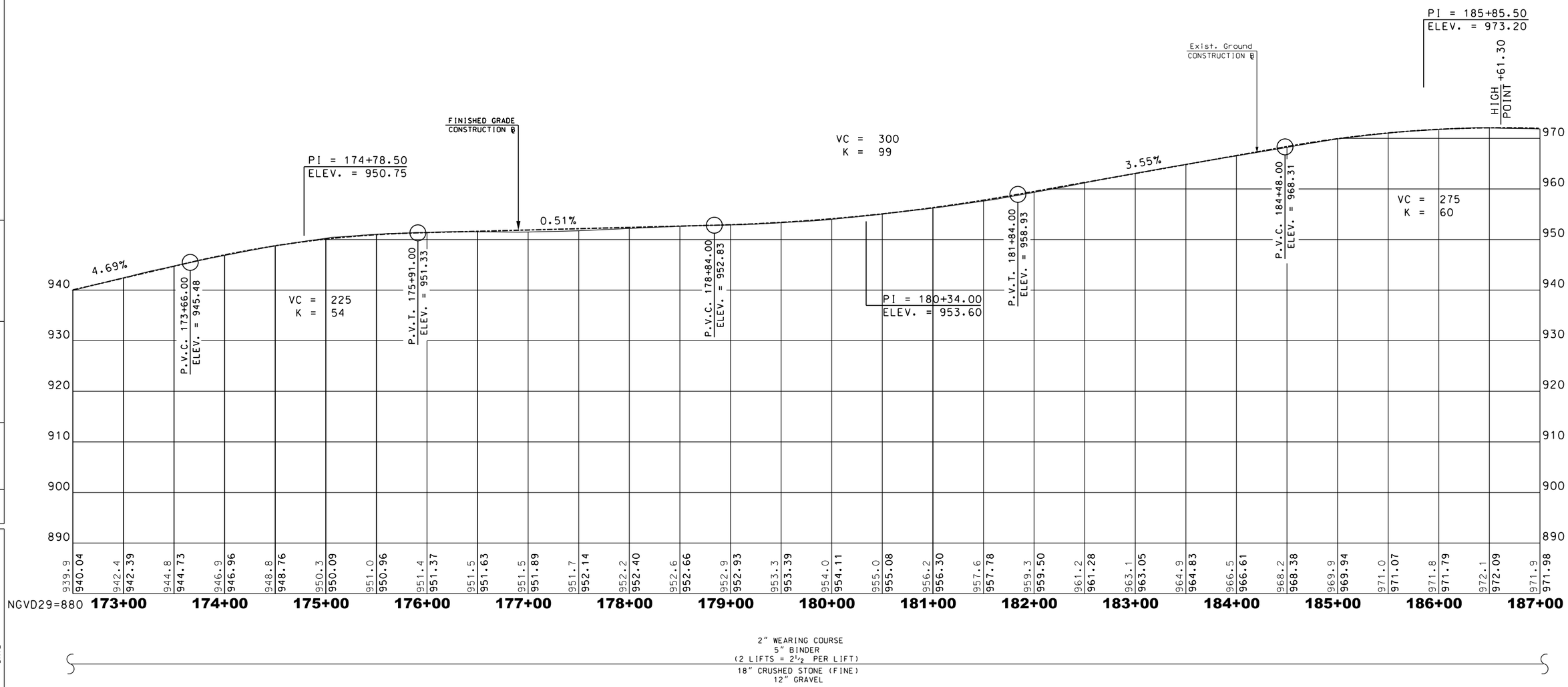
SDR PROCESSED		DATE	
NEW DESIGN	T. CUTTER	DATE	5/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_9_PRO	10439	139	294



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	STATION	STATION	REVISIONS AFTER PROPOSAL DESCRIPTION

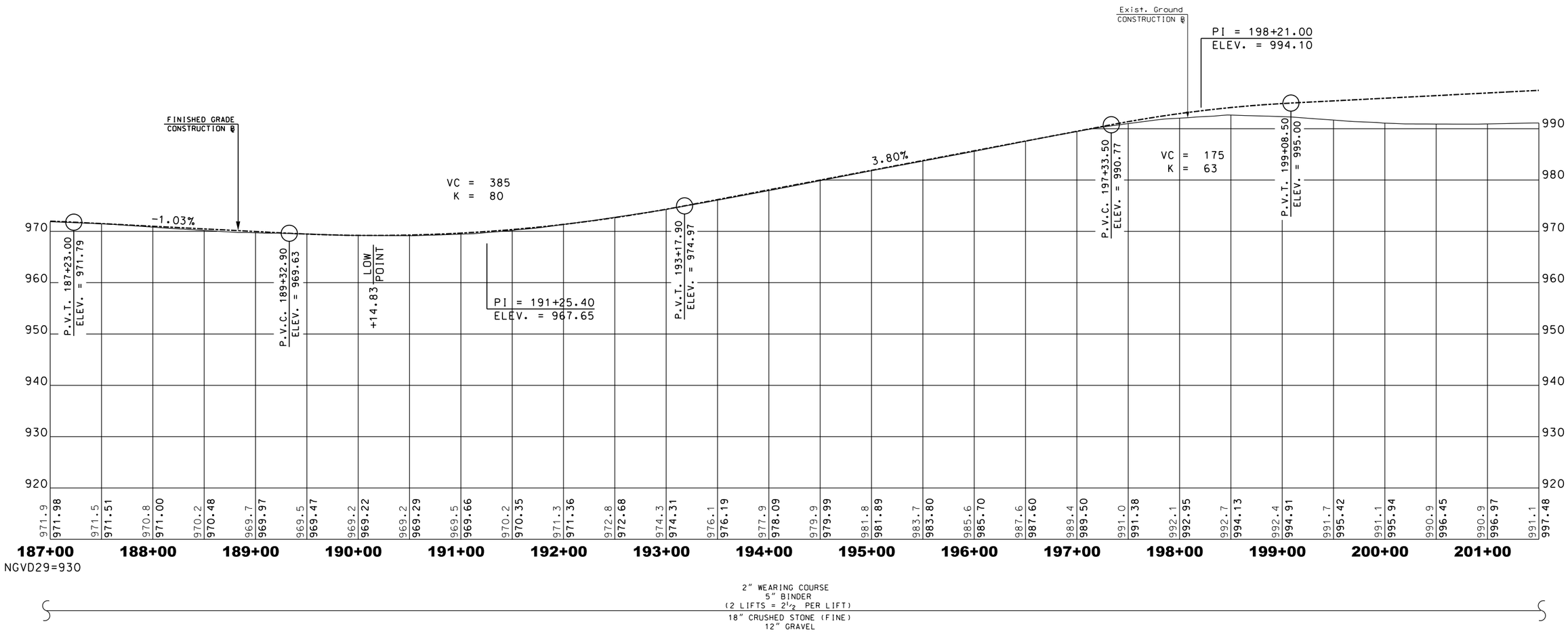
SDR PROCESSED DATE
NEW DESIGN T. CUTTER DATE 5/2017
SHEET CHECKED NAME3 DATE DATE3
AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_9_PRO	10439	140	294

6 OF 8



2" WEARING COURSE
5" BINDER
(2 LIFTS = 2½ PER LIFT)
18" CRUSHED STONE (FINE)
12" GRAVEL

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

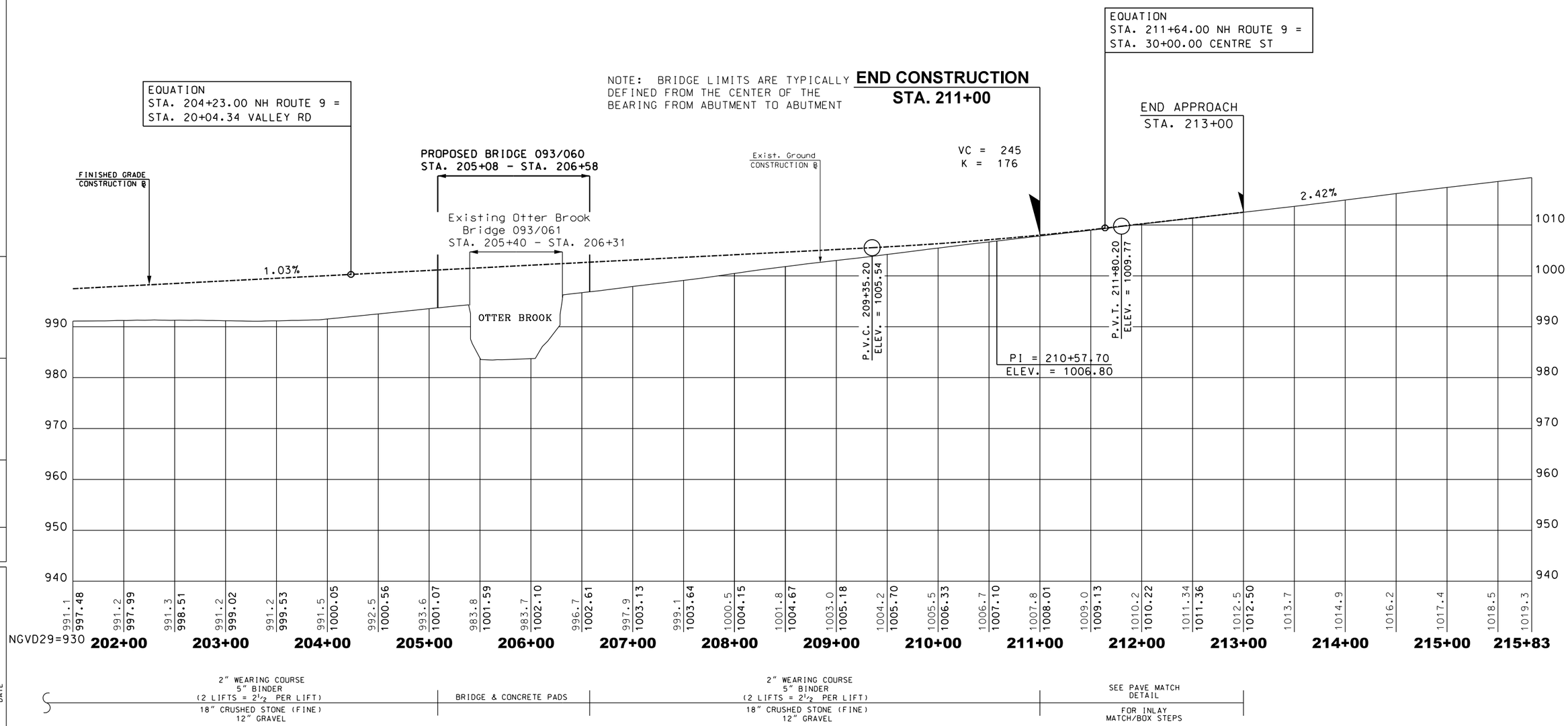
SDR PROCESSED	DATE	
NEW DESIGN	T. CUTTER	DATE 5/2017
SHEET CHECKED	NAME3	DATE DATE3
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
7 OF 8	10439_9_PRO	10439	141	294



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE	
NEW DESIGN	T. CUTTER	DATE	5/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

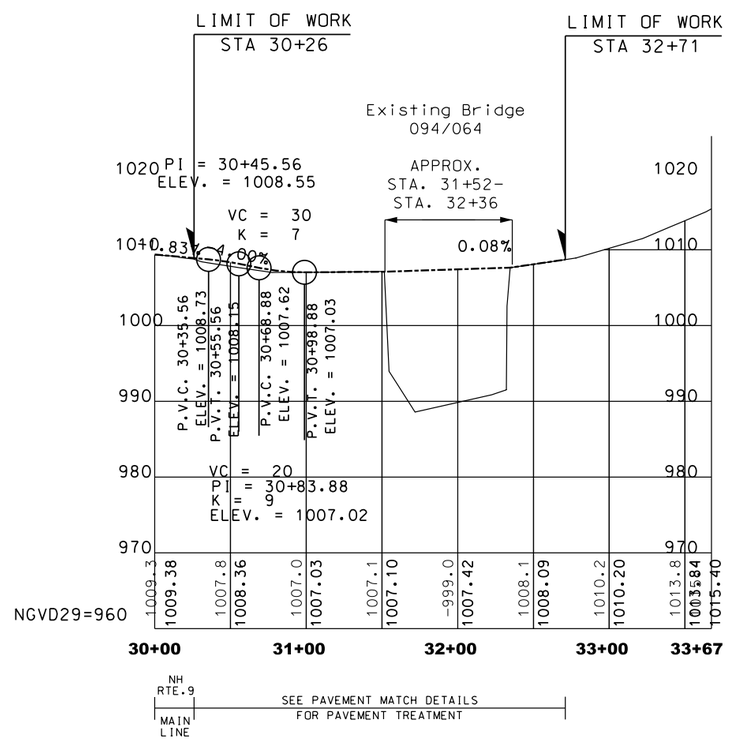
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE NH ROUTE 9

	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
8 OF 8	10439_9_PRO	10439	142	294

CENTRE STREET



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3	DATE	DATE3

AS BUILT DETAILS DATE

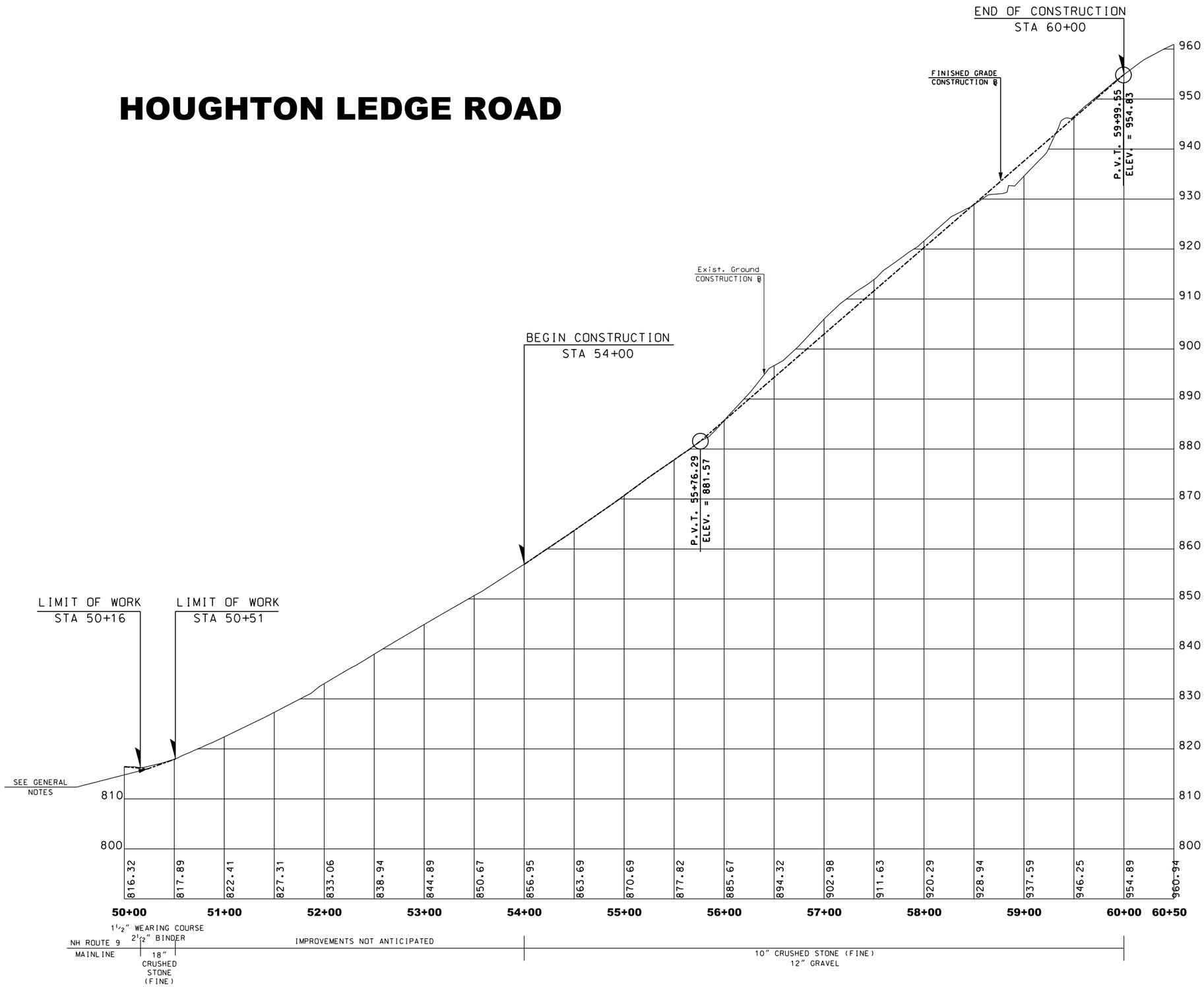
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

PROFILE CENTRE STREET

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_CENTER_PRO	10439	143	294

HOUGHTON LEDGE ROAD



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

GENERAL NOTES:

1. SEE "PAVEMENT MATCH DETAILS" FOR PAVEMENT AND SELECTS MATERIAL TREATMENTS.

2. SEE CROSS SECTIONS FOR SLOPE INFORMATION.

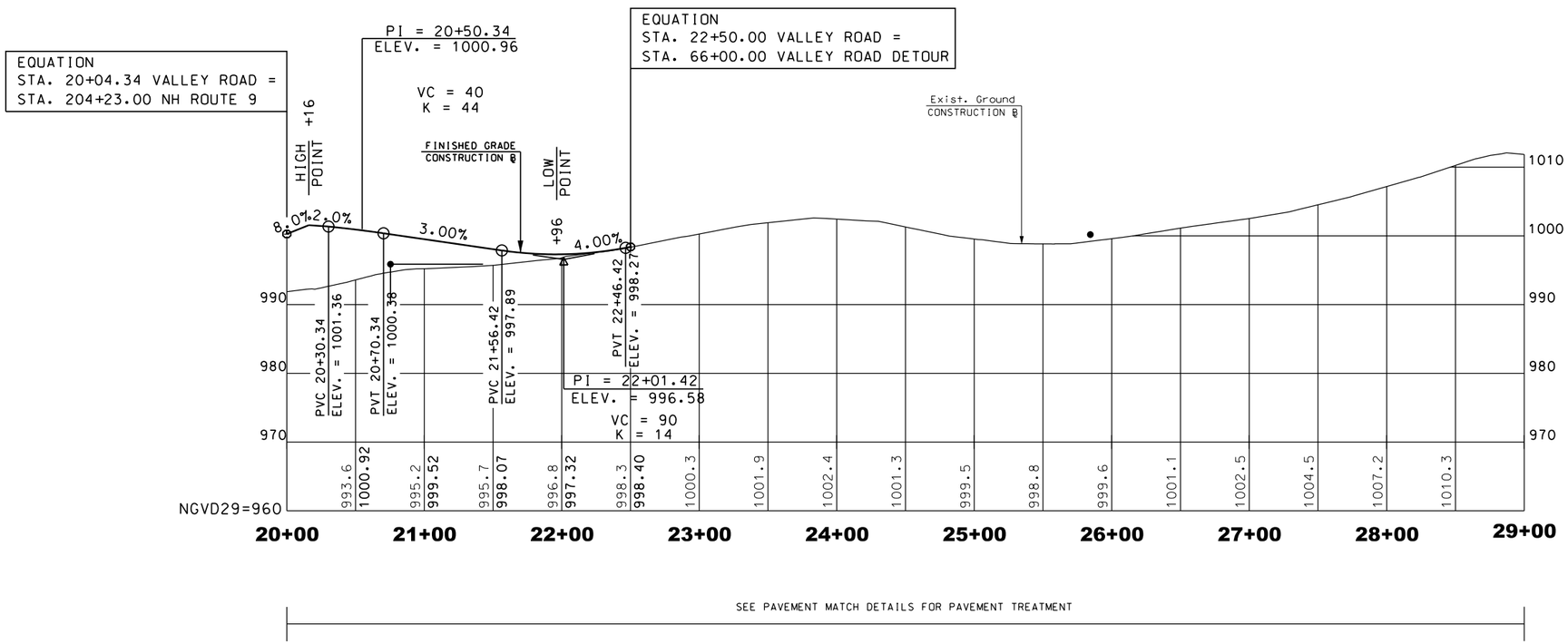
REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED		DATE	
NEW DESIGN	TEAM MICUCCI	DATE	6/2017
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE

PROFILE HOUGHTON LEDGE ROAD

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_HLR_PRO	10439	144	294



SEE PAVEMENT MATCH DETAILS FOR PAVEMENT TREATMENT

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE

STATE OF NEW HAMPSHIRE

PROFILE VALLEY ROAD

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_VALLEY_PRO	10439	145	294

1 **STA. 102+86, RT. 29' TO STA. 102+97, LT. 37'**
REMOVE MRM HEADWALL (SUBSIDIARY)
REMOVE 83' x 18" R.C.P. (28' SUBSIDIARY)
CONST. 72' x 36" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA. 102+86, RT. 29'
36" INV. OUT = 800.65'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. P.C.-3 CONC. HEADWALL @ STA 102+97, LT. 37'
36" INV. IN = 801.40'

2 **STA. 105+76, RT. 39' TO STA. 106+21, RT 40'**
CONST. 46' x 18" R.C.P.
CONST. STEEL END SECTION @ STA. 105+76, RT. 39'
18" INV. OUT = 805.50'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. P.C.-4 MRM HEADWALL @ STA. 106+21, RT 40'
18" INV. IN = 805.75'

3 **STA. 105+88, LT. 45' TO STA. 106+50, LT. 56'**
CONST. 63' x 36" R.C.P.
CONST. CONCRETE END SECTION @ STA. 105+88, LT. 45'
36" INV. OUT = 804.90'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CONCRETE END SECTION @ STA. 106+50, LT. 56'
36" INV. IN = 805.20'

4 **STA. 107+00, LT. 49' TO STA. 108+00, LT. 23'**
CONST. 101' x 36" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. CONCRETE END SECTION @ STA. 107+00, LT. 49'
36" INV. OUT = 805.70'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (5 FT.) @ STA. 108+00, LT 23'
GRATE ELEV. = 812.25'
36" INV. IN = 806.45' (FROM DN 5)
36" INV. OUT = 806.20'

5 **STA. 108+00, LT. 23' TO STA. 109+25, LT. 24'**
CONST. 121' x 36" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. SPECIAL CB TYPE G (5 FT.) @ STA. 109+25, LT. 24'
GRATE ELEV. = 814.95'
30" INV. IN = 807.40' (FROM DN 6)
36" INV. OUT = 807.15'

6 **STA. 109+25, LT. 24' TO STA. 110+15, LT. 24'**
CONST. 86' x 30" R.C.P.
CONST. SPECIAL CB TYPE G (5 FT.) @ STA. 110+15, LT. 24'
GRATE ELEV. = 815.65'
30" INV. OUT = 808.10'
12" INV. IN = 810.70' (UD. NOTE U1)

7 **STA. 107+45, RT. 32' TO STA. 110+00, RT. 15'**
CONST. 257' x 15" PLASTIC PIPE (SMOOTH INTERIOR) @ 800' RADIUS

15" INV. OUT = 807.00'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA. 110+00, RT 15'
GRATE ELEV. = 816.45'
15" INV. IN = 811.25' (FROM DN 8)
15" INV. OUT = 811.00'
CONST. POLYETHYLENE LINER

8 **STA. 110+00, RT. 15' TO STA. 111+50, RT. 15'**
CONST. 150' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. CB-B (4 FT.) @ STA. 111+50, RT 15'
GRATE ELEV. = 820.70'
15" INV. IN = 815.50' (FROM DN 9)
15" INV. OUT = 815.25'
CONST. POLYETHYLENE LINER

9 **STA. 111+50, RT. 15' TO STA. 113+00, RT. 15'**
CONST. 150' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. CB-B (4 FT.) @ STA. 113+00, RT 15'
GRATE ELEV. = 828.80'
15" INV. IN = 823.60' (FROM DN 10)
15" INV. OUT = 823.35'
CONST. POLYETHYLENE LINER

10 **STA. 113+00, RT. 15' TO STA. 114+50, RT. 15'**
CONST. 150' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. DI-B (4 FT.) @ STA. 114+50, RT 15'
GRATE ELEV. = 840.85'
15" INV. OUT = 835.45'
CONST. POLYETHYLENE LINER

11 **STA. 115+15, RT. 33' TO STA. 115+15, LT. 36'**
CONST. 69' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 115+15, RT. 33'
18" INV. OUT = 838.05'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 115+15, LT 36'
GRATE ELEV. = 845.95'
18" INV. OUT = 839.15'
12" INV. IN = 839.65 (UD. NOTE U3B)
12" INV. OUT = 840.65 (CLEANOUT UD. NOTE U1)

12 **STA. 122+00, RT. 38' TO STA. 122+00, LT. 26'**
CONST. 63' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 122+00, RT. 38'
18" INV. OUT = 853.05'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 122+00, LT. 26'
GRATE ELEV. = 858.50'
18" INV. OUT = 853.55'
12" INV. IN = 853.65 (UD. NOTE U5)
12" INV. OUT = 854.65 (CLEANOUT UD. NOTE U6)

13 **STA. 124+60, RT. 29' TO STA. 124+60, LT. 22'**
REMOVE 44' x 15" S.P.P. & EXISTING CB (SUBSIDIARY)
CONST. 46' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 124+60, RT. 29'
18" INV. OUT = 844.85'
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 124+60, LT. 22'
GRATE ELEV. = 850.00'
18" INV. OUT = 845.10'
12" INV. IN = 845.15' (UD. NOTE 6)
12" INV. IN = 845.20' (UD. NOTE 7A)

14 **STA. 127+00, RT. 50' TO STA. 127+00, LT. 24'**
CONST. 72' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 127+00, RT. 50'
18" INV. OUT = 850.00'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 127+00, LT. 24'
GRATE ELEV. = 856.30'
18" INV. OUT = 851.05'
12" INV. IN = 851.55' (UD. NOTE 8)
12" INV. OUT = 852.55 (CLEANOUT UD. NOTE U7A)

15 **STA. 134+00, RT. 60' TO STA. 134+00, LT. 22'**
CONST. 80' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 134+00, RT. 60'
18" INV. OUT = 865.25'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 134+00, LT. 22'
GRATE ELEV.=856.30'
18" INV. IN = 863.00' (FROM DN 16)
18" INV. OUT = 862.75'
12" INV. IN = 863.55' (UD. NOTE 9)

16 **STA. 134+00, LT. 22' TO STA. 133+40, LT. 22'**
REMOVE 61' x 15" C.M.P. & EXISTING CB (4' & CB SUBSIDIARY)
REMOVE CONC. HEADWALL
CONST. 56' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 133+40, LT. 22'
GRATE ELEV. = 868.60'
15" INV. OUT = 863.30'
12" INV. OUT = 864.30 (CLEANOUT UD. NOTE U8)

17 **STA. 136+85, RT. 34' TO STA. 136+85, LT. 22'**
REMOVE 46' x 18" C.M.P. & EXISTING DI (SUBSIDIARY)
CONST. 56' x 36" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA 136+85, RT. 30'
36" INV. OUT = 863.30'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CATCH BASIN, DOUBLE GRATE
(SEE DETAIL) @ STA. 136+85, LT 22'
GRATE ELEV. = 871.50'
36" INV. OUT = 864.10'
12" INV. IN = 866.55' (UD. NOTE 10)
12" INV. OUT = 867.55 (CLEANOUT UD. NOTE U9)

18 **STA. 140+00, RT. 37' TO STA. 140+00, LT. 22'**
REMOVE 53' x 15" C.M.P. & EXISTING CB (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 57' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 140+00, RT. 37'
18" INV. OUT = 874.30'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 140+00, LT. 22'
GRATE ELEV. = 880.00'
18" INV. OUT = 874.90'
12" INV. IN = 875.50' (UD. NOTE 11)
12" INV. OUT = 876.50' CLEANOUT (UD. NOTE 10)

19 **STA. 144+50, RT. 15' TO STA. 144+50, LT. 22'**
REMOVE 16' x 18" C.M.P. & EXISTING DI (SUBSIDIARY)
CONST. 33' x 18" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 144+50, LT. 22'
GRATE ELEV. = 887.50'
18" INV. OUT = 881.50'
12" INV. IN = 882.60' (UD. NOTE 12)
12" INV. OUT = 883.60' CLEANOUT (UD. NOTE 19)

20 **STA. 144+50, RT. 28' TO STA. 144+50, RT. 15'**
REMOVE 36' x 18" C.M.P. (SUBSIDIARY)
CONST. 11' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 144+50, RT. 28'
18" INV. OUT = 880.00'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA. 144+50, RT. 15'
GRATE ELEV. = 887.50'
18" INV. IN = 880.80' (FROM DN 19)
18" INV. OUT = 880.35'
CONST. POLYETHYLENE LINER

21 **STA. 146+82, LT. 15' TO STA. 146+82, LT. 39'**
REMOVE 23' x 18" C.M.P. (SUBSIDIARY)
CONST. 22' x 30" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 146+82, LT. 39'
30" INV. OUT = 886.05'

21A **STA. 146+82, RT. 15' TO STA. 146+82, LT. 15'**
REMOVE 31' x 18" C.M.P. (SUBSIDIARY)
CONST. 26' x 30" R.C.P.
CONST. CB-B (5 FT.) @ STA. 146+82, LT. 15'
CONST. POLYETHYLENE LINER
GRATE ELEV. = 891.10'
30" INV. IN = 885.00' (FROM DN 21)
30" INV. OUT = 883.65'
12" INV. IN = 885.25' (UD. NOTE 13)
12" INV. OUT = 886.25' CLEANOUT (UD. NOTE 12)

22 **STA. 146+82, RT.26' TO STA. 146+82, RT. 15'**
REMOVE 31' x 18" C.M.P. (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 8' x 30" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 146+82, RT. 26'
30" INV. OUT = 882.80'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (5 FT.) @ STA. 146+82, RT 15'
GRATE ELEV. = 889.10'
30" INV. IN = 883.50' (FROM DN 21A)
30" INV. OUT = 883.00'
CONST. POLYETHYLENE LINER

23 **STA. 150+65, RT. 15' TO STA. 150+65, LT. 32'**
CONST. 43' x 30" R.C.P.
CONST. SPECIAL CATCH BASIN, DOUBLE GRATE
(SEE DETAIL) @ STA. 150+65, LT. 32'
GRATE ELEV. = 894.10'
30" INV. OUT = 889.00'
12" INV. IN = 890.25' (UD. NOTE 14)
12" INV. OUT = 891.25' CLEANOUT (UD. NOTE 13)

24 **STA. 150+65, RT. 34' TO STA. 150+65, RT. 15'**
CONST. 17' x 30" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 150+65, RT. 34'
30" INV. OUT = 886.60'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (5 FT.) @ STA. 150+65, RT 15'
GRATE ELEV. = 894.15'
30" INV. IN = 887.30' (FROM DN 23)
30" INV. OUT = 887.05'
CONST. POLYETHYLENE LINER

25 **INTENTIONALLY LEFT BLANK**

26 **STA. 152+00, RT. 38' TO STA. 152+00, LT. 26'**
REMOVE 52' x 18" C.M.P. /18" S.P.P. (SUBSIDIARY)
CONST. 62' x 30" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA 152+00, RT. 38'
30" INV. OUT = 887.65'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (5 FT.) @ STA. 152+00, LT. 26'
GRATE ELEV. = 894.65'
30" INV. OUT = 889.35'
12" INV. OUT = 890.85' CLEANOUT (UD. NOTE 14)

27 **STA. 153+09, LT. 22' TO STA. 153+28, LT. 22'**
CONST. 19' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
REPLACE IN-KIND

28 **STA. 158+90, RT. 35' TO STA. 158+90, LT. 22'**
REMOVE 50' x 12" C.M.P. & EXISTING CB (22' & CB SUBSIDIARY)
CONST. 55' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 158+90, RT. 35'
18" INV. OUT = 912.45'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 158+90, RT. 35'
GRATE ELEV. = 918.15'
18" INV. OUT = 912.85'
12" INV. IN = 913.70' (DRAIN NOTE 16)
12" INV. IN = 914.70' CLEANOUT (UD.NOTE 15)

29 **STA. 165+50, RT. 32' TO STA. 165+50, LT. 30'**
REMOVE 70' x 15" C.M.P. & EXISTING DI (20' SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 58' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 165+50, RT. 32'
18" INV. OUT = 925.00'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 165+50, LT. 30'
GRATE ELEV. = 929.85'
18" INV. OUT = 925.75'
12" INV. IN = 925.90' (UD. NOTE 17)
12" INV. OUT = 926.90' CLEANOUT (UD.NOTE 18)

30 **STA. 166+11, LT. 26' TO STA. 166+51, LT. 24'**
CONST. 40' x 15" PLASTIC PIPE (SMOOTH INTERIOR)
REPLACE IN-KIND

31 **STA. 168+15, RT. 30' TO STA. 168+25, RT. 15'**
CONST. 16' x 15" R.C.P.
CONST. STEEL END SECTION @ STA 168+15, RT. 30'
15" INV. OUT = 921.00'
CONST. CB-B (4 FT.) @ STA. 168+25, RT 15'
GRATE ELEV. = 929.20'
15" INV. OUT = 924.00'
CONST. POLYETHYLENE LINER

32 **STA. 169+20, RT. 28' TO STA. 169+20, LT. 27'**
CONST. 55' x 24" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 169+20, RT. 28'
24" INV. OUT = 922.90'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 169+20, RT. 28'
GRATE ELEV. = 928.95'
24" INV. OUT = 923.25'
12" INV. IN = 924.50' (UD. NOTE 18)
- FLATTEN FROM LOW PT. @ 168+50
12" INV. IN = 925.10' (UD. NOTE 19)

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Drainage Notes	10439	146	294

33 **STA. 170+50, RT. 15' TO STA. 170+50, LT. 25'**
CONST. 36' x 18" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 170+50, LT. 25'
GRATE ELEV. = 931.60'
18" INV. OUT = 926.30'
12" INV. IN = 927.00' (UD.NOTE 20)
12" INV. OUT = 928.00' CLEANOUT (UD. NOTE 19)

34 **STA. 170+50, RT. 29' TO STA. 170+50, RT. 15'**
CONST. 12' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 170+50, RT. 29'
18" INV. OUT = 925.50'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA 170+50, RT. 15'
GRATE ELEV. = 931.55'
18" INV. IN = 926.05' (FROM DN 33)
18" INV. OUT = 925.75'
CONST. POLYETHYLENE LINER

35 **STA. 173+00, RT. 15' TO STA. 173+00, LT. 22'**
CONST. 33' x 18" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 173+00, LT. 22'
GRATE ELEV. = 942.10'
18" INV. OUT = 936.70'
12" INV. IN = 937.00' (UD. NOTE 21)
12" INV. OUT = 938.00' CLEANOUT (UD. NOTE 20)

36 **STA. 173+00, RT. 34' TO STA. 173+00, RT. 15'**
CONST. 17' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 173+00, RT. 34'
18" INV. OUT = 935.20'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA 173+00, RT. 15'
GRATE ELEV. = 941.30'
18" INV. IN = 936.30' (FROM DN 35)
18" INV. OUT = 935.85'
CONST. POLYETHYLENE LINER

37 **STA. 175+60, RT. 35' TO STA. 175+60, LT. 22'**
REMOVE 49' x 12" S.P.P./15" C.M.P. & EXISTING CB (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 55' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 175+60, RT. 35'
18" INV. OUT = 940.75'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 175+60, LT. 22'
GRATE ELEV. = 950.85'
18" INV. OUT = 945.55'
12" INV. IN = 945.70' (UD. NOTE 22)
12" INV. OUT = 946.70' CLEANOUT (UD. NOTE 21)

38 **STA. 177+60, RT. 29' TO STA. 177+60, LT. 22'**
REMOVE 43' x 15" C.M.P. & EXISTING CB (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 48' x 24" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA. 177+60, RT. 29'
24" INV. OUT = 943.70'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 177+60, LT. 22'
GRATE ELEV. = 950.70'
24" INV. OUT = 944.20'
12" INV. IN = 945.75' (UD. NOTE 23)
12" INV. OUT = 946.75' CLEANOUT (UD. NOTE 22)

39 **STA. 179+95, RT. 32' TO STA. 179+95, LT. 23'**
REMOVE 59' x 12" S.P.P./15" C.M.P. & EXISTING CB (SUBSIDIARY)
CONST. 54' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 179+95, RT. 32'
18" INV. OUT = 946.26'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 179+95, LT. 23'
GRATE ELEV. = 952.30'
18" INV. OUT = 946.75'
12" INV. IN = 947.70' (UD. NOTE 24)
12" INV. OUT = 948.70' CLEANOUT (UD. NOTE 23)

40 **STA. 181+55, RT. 40' TO STA. 181+55, LT. 22'**
REMOVE 43' x 15" C.M.P. & EXISTING CB (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 60' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 181+55, RT. 40'
18" INV. OUT = 949.95'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 181+55, LT. 22'
GRATE ELEV. = 956.45'
18" INV. OUT = 950.25'
12" INV. IN = 951.40' (UD. NOTE 25)
12" INV. OUT = 952.40' CLEANOUT (UD. NOTE 24)

41 **STA. 182+90, RT. 28' TO STA. 182+90, LT. 22'**
REMOVE 47' x 15" C.M.P. & EXISTING CB (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 48' x 24" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA. 182+90, RT. 28'
24" INV. OUT = 954.75'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 182+90, LT. 22'
GRATE ELEV. = 961.20'
24" INV. OUT = 955.00'
12" INV. IN = 956.60' (UD.NOTE 26)
12" INV. OUT = 957.60' CLEANOUT (UD. NOTE 25)

42 **STA. 188+35, RT. 31' TO STA. 188+35, LT. 22'**
REMOVE 51' x 12" S.P.P./18" S.P.P. & EXISTING CB (SUBSIDIARY)
CONST. 51' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA. 188+35, RT. 31'
18" INV. OUT = 962.00'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 188+35, LT. 22'
GRATE ELEV. = 969.00'
18" INV. OUT = 962.40'
12" INV. IN = 964.00' (UD.NOTE 27)
12" INV. OUT = 965.00' CLEANOUT (UD. NOTE 28)

43 **STA. 190+50, RT. 15' TO STA. 190+50, LT. 26'**
REMOVE 34' x 15" C.M.P. & EXISTING DI (SUBSIDIARY)
CONST. 41' x 24" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 190+50, LT. 25'
GRATE ELEV. = 968.40'
24" INV. OUT=962.95'
12" INV. IN = 963.65' (UD. NOTE 29)
12" INV. IN = 963.40' (UD. NOTE 28)

44 **STA. 190+50, RT. 29' TO STA. 190+50, RT. 15'**
REMOVE 13' x 12" S.P.P./15" C.M.P. (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 8' x 24" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 190+50, RT. 29'
24" INV. OUT = 962.45'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA. 190+50, RT. 15'
GRATE ELEV. = 968.40'
24" INV. IN = 962.60' (FROM DN 43)
24" INV. OUT = 962.55'
CONST. POLYETHYLENE LINER

45 **STA. 193+00, RT. 25' TO STA. 193+00, LT. 26'**
REMOVE CONC. HEADWALL
REMOVE 43' x 15" C.M.P. & EXISTING CB (16' & CB SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 50' x 24" R.C.P.
CONST. P.C.-7 CONC. HEADWALL @ STA 193+00, RT. 25'
24" INV. OUT = 967.70'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (SLAB TOP) (4 FT.)
@ STA. 193+00, LT. 26'
GRATE ELEV. = 973.10'
24" INV. OUT = 969.00'
12" INV. IN = 969.80' (UD NOTE 31)
12" INV. OUT = 970.80' CLEANOUT (UD. NOTE 29)

46 **STA. 195+90, RT. 31' TO STA. 195+90, LT. 22'**
REMOVE 49' x 12" S.P.P./18 S.P.P. & EXISTING DI (SUBSIDIARY)
CONST. 48' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 195+90, RT. 31'
18" INV. OUT = 978.10'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 190+50, RT. 15'
GRATE ELEV. = 983.80'
18" INV. OUT = 978.55'
12" INV. IN = 979.00' (UD. NOTE 32)
12" INV. OUT = 980.00' CLEANOUT (UD. NOTE 31)

47 **STA. 200+80, RT. 16' TO STA. 200+80, LT. 24'**
REMOVE 43' x 12" S.P.P./18" S.P.P. & EXISTING CB
CONST. 36' x 18" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 200+80, LT. 24'
GRATE ELEV. = 995.65'
18" INV. OUT = 990.20'
12" INV. IN = 990.80' (UD. NOTE 33)
12" INV. OUT = 991.80' CLEANOUT (UD. NOTE 32)

48 **STA. 200+80, RT. 28' TO STA. 200+80, RT. 16'**
REMOVE 29' x 12" S.P.P./18" S.P.P. (SUBSIDIARY)
REMOVE CONC. HEADWALL (SUBSIDIARY)
CONST. 10' x 18" R.C.P.
CONST. P.C.-3 CONC. HEADWALL @ STA 200+80, RT. 28'
18" INV. OUT = 989.45'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. CB-B (4 FT.) @ STA. 200+80, RT. 16'
GRATE ELEV. = 996.35'
18" INV. IN = 989.80' (FROM DN 47)
18" INV. OUT = 989.55'
CONST. POLYETHYLENE LINER

49 **STA. 203+61, RT. 19' TO STA. 203+72, LT. 58'**
CONST. 78' x 18" R.C.P.
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 203+72, LT. 58'
GRATE ELEV. = 993.00'
18" INV. OUT = 987.55'

50 **STA. 203+65, RT. 41' TO STA. 203+61, RT. 19'**
CONST. 23' x 18" R.C.P.
CONST. SPECIAL HEADWALL (SEE SPECIAL HEADWALL DETAILS) @ STA. 203+65, RT. 41'
18" INV. OUT = 986.50'
CONST. CB-B (4 FT) @ STA. 203+61, RT. 19' FROM CB ELEV. OF 'D4' UP TO FINAL GRADE
GRATE ELEV. = 997.90'
18" INV. IN = 987.35' (FROM DN 49)
18" INV. OUT = 987.10'
CONST. POLYETHYLENE LINER

51 **STA. 203+71, RT. 40' TO STA. 204+35, LT. 98'**
CONST. 152' x 48" R.C.P.
CONST. SPECIAL HEADWALL (SEE DRAINAGE NOTE 51 DETAILS) @ STA. 203+71, RT. 40'
48" INV. OUT = 986.50'
CONST. SPECIAL HEADWALL (SEE DRAINAGE NOTE 51 DETAILS) @ STA. 204+35, LT. 98'
48" INV. IN = 990.50'

52 **STA. 207+85, LT.19' TO STA. 207+90, RT. 27'**
REMOVE 43' x 18" C.M.P./15" R.C.P. & EXISTING CB (15' & CB SUBSIDIARY)
CONST. 47' x 30" R.C.P.
CONST. SPECIAL DROP INLET (5 FT.) @ STA. 207+90, RT. 27'
GRATE ELEV. = 1002.50'
30" INV. OUT = 997.10'

53 **STA. 207+81, LT. 45' TO STA. 207+85, LT. 19'**
REMOVE 10' x 18" C.M.P./15" R.C.P.
CONST. 26' x 30" R.C.P.
CONST.CONCRETE END SECTION @ STA 207+81, LT. 45'
30" INV. OUT = 991.70'
CONST. DI-B (5 FT.) @ STA. 207+85, LT.19'
GRATE ELEV.=1004.05'
30" INV. IN = 994.55' (FROM DN 52)
30" INV. OUT = 993.40'
CONST. POLYETHYLENE LINER

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Drainage Notes	10439	147	294

54 **STA. 208+66, LT. 35' TO STA. 208+71, RT. 37'**
REMOVE 58' x 18" R.C.P. (SUBSIDIARY)
CONST. 71' x 30" R.C.P.
CONST. P.C.-8 MRM HEADWALL @ STA 200+80, RT. 28'
30" INV. OUT=994.15'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL DROP INLET, DOUBLE GRATE (SEE DETAILS) @ STA. 207+90, RT. 27'
GRATE ELEV. = 1000.10'
30" INV. OUT = 996.35'

55 **STA. 211+95, RT. 28' TO STA. 211+45, RT. 33'**
IMPROVEMENTS ARE NOT ANTICIPATED
PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION

56 **STA. 211+28, LT. 71' TO STA. 211+95, RT. 28'**
IMPROVEMENTS ARE NOT ANTICIPATED
PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION

57 **STA. 212+88, LT. 75' TO STA. 212+71, RT. 34'**
IMPROVEMENTS ARE NOT ANTICIPATED
PIPE CLEARING BY DISTRICT PRIOR TO CONSTRUCTION

58 **STA. 50+32, LT. 20' TO STA. 50+83, LT. 13'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

59 **STA. 51+80, RT. 14' TO STA. 51+92, LT. 16'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

60 **STA. 54+22, RT. 21.0' TO STA. 54+22, LT. 12.5'**
REMOVE 29.5' x 15" R.C.P. (SUBSIDIARY)
CONST. 33.5' x 18" R.C.P.
CONST. P.C.-4 MRM. HEADWAL @ STA. 54+22, RT. 21.0'
18" INV. OUT = 852.65'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. SPECIAL CB TYPE G (4 FT.) @ STA. 54+22, LT. 12.5'
GRATE ELEV. = 858.65'
18" INV. OUT = 853.15'

61 **STA. 58+50, LT. 13' TO STA. 59+00, RT. 20'**
CONST. 60' x 15" R.C.P.
CONST. STEEL END SECTION @ STA. 58+50, LT 13'
15" INV. OUT = 926.50'
CONST. STONE FILL, CLASS B AT OUTLET (SEE DETAIL)
CONST. P.C.-4 MRM. HEADWALL @ STA. 59+00, RT. 20'
15" INV. IN = 935.0'

62 **STA. 21+84, LT. 17' TO STA. 22+10, LT. 17'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

63 **STA. 22+43, LT. 15' TO STA. 22+79, LT. 16'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

64 **STA. 25+08, RT. 27' TO STA. 25+03, LT. 17'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

65 **STA. 25+59, RT. 38' TO STA. 25+56, LT. 13'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

66 **STA. 26+98, LT. 17' TO STA. 26+73, LT. 15'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

67 **STA. 26+69, LT. 33' TO STA. 26+73, RT. 15'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

68 **STA. 33+65, LT. 14' TO STA. 33+80, LT. 12'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

69 **STA. 32+61, LT. 66' TO STA. 33+65, LT. 14'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

70 **STA. 33+59, RT. 22'**
IMPROVEMENTS AND/OR ALTERATIONS ARE NOT ANTICIPATED

71 **STA. 21+50, RT. 42' TO STA. 21+50, LT. 24'**
CONST. 58' x 18" R.C.P.
CONST. CB TYPE B (4 FT.) @ STA. 21+50, LT. 24'
GRATE ELEV. = 994.50'
18" INV. OUT = 991.50'
CONST. STEEL END SECTION @ STA. 21+50, RT 42'
18" INV. OUT = 991.20'

R1 **STA. 109+20, RT. 22' TO STA. 109+27, LT 17'**
REMOVE 40' x 16" C.M.P./15" C.M.P.
REMOVE CONC. HEADWALL

R2 **STA. 110+71, RT. 24' TO STA. 110+69, LT 18'**
REMOVE CONC. HEADWALL
REMOVE 42' x 16" C.M.P./15" C.M.P.
REMOVE CONC. HEADWALL

R3 **INTENTIONALLY LEFT BLANK**

R4 **STA. 135+01, RT. 45' TO STA. 135+06, LT 22'**
REMOVE CB
REMOVE 66' x 15" C.M.P.

R5 **STA. 149+90, RT. 33' TO STA. 149+89, LT 24'**
REMOVE DI
REMOVE 58' x 24" C.M.P.

R6 **STA. 169+33, RT. 27' TO STA. 169+33, LT 19'**
REMOVE 46' x 15" C.M.P.
REMOVE CONC. HEADWALL

R7 **STA. 204+78, RT. 30' TO STA. 204+73, LT 19'**
REMOVE CONC. HEADWALL
REMOVE 49' x 24" C.M.P.

R8 **STA. 21+00, RT. 12' TO STA. 21+98, LT 14'**
REMOVE M.R.M. HEADWALL
REMOVE 26' x 30" R.C.P.

R9 **STA. 209+48, LT. 37' TO STA. 209+08 LT. 34'**
REMOVE 40' x 15" S.P.P.

R10 **STA. 206+06, RT. 24.9' TO STA. 206+20, RT 25.0'**
REMOVE 15' x 6" S.P.P.

U1 **STA. 110+15, LT. 24' TO STA. 115+15, LT 36'**
CONST. 505' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 112+50, LT. 19'
CONNECT TO PROPOSED CB @ STA. 115+15, LT 36'
12" INV. OUT = CLEANOUT (DRAIN NOTE 11)
CONNECT TO PROPOSED CB @ STA. 110+15, LT. 24'
12" INV. IN = 810.70' (DRAIN NOTE 6)

U2 **STA. 54+22, LT. 12.5' TO STA. 58+25, LT. 11.5'**
CONST. 401.0' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 56+00, LT. 11.5'
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 58+25, LT. 11.5'
CONNECT TO PROPOSED CB @ STA. 54+22, LT. 12.5' (DRAIN NOTE 60)
12" INV. OUT = 853.65'

U3A **STA. 115+15, LT. 36' TO STA. 119+23.8, LT 28'**
CONST. 396' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 119+23.8, LT 28'
CONNECT TO PROPOSED CB @ STA. 115+00, LT. 36'
12" INV. IN = 839.65 (DRAIN NOTE 11)

U3B **STA. 115+18.7, RT. 35' TO STA. 119+24, RT 18'**
CONST. 420.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 119+24, RT 18'
OUTLET @ HEADWALL (DRAIN NOTE 11) @ STA. 115+18.7, RT. 35'
12" INV. OUT = 838.00'

U3C **STA. 120+50, RT. 50' TO STA. 119+30, RT 18'**
CONST. 137.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 119+30, RT 18'
CONSTRUCT UL-2 HEADWALL @ STA. 120+50, RT. 50'
12" INV. OUT = 859.00'

U4 **STA. 115+50, LT. 85.7' TO STA. 119+50, LT 95.1'**
CONST. 350.2' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 119+50, LT 95.1'
CONSTRUCT UL-2 HEADWALL @ STA. 115+50, LT. 85.7'
12" INV. OUT = 879.75'

U5 **STA. 122+00, LT. 26' TO STA. 119+30, LT 28'**
CONST. 267.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 119+30, LT 28'
CONNECT TO PROPOSED CB @ STA. 122+00, LT. 26
12" INV. IN = 853.65 (DRAIN NOTE 12)

U6 **STA. 124+60, LT. 22' TO STA. 122+00, LT 26'**
CONST. 264' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 122+00, LT. 26'
12" INV. OUT = 854.65 CLEANOUT (DRAIN NOTE 12)
CONNECT TO PROPOSED CB @ STA. 124+60, LT. 22'
12" INV. IN = 845.15' (DRAIN NOTE 13)

U7A **STA. 124+60, LT. 22' TO STA. 127+00, LT 24'**
CONST. 242.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 127+00, LT 24'
12" INV. OUT = CLEANOUT (DRAIN NOTE 14)
CONNECT TO PROPOSED CB @ STA. 124+60, LT. 22'
12" INV. IN = 845.20' (DRAIN NOTE 13)

U7B **STA. 125+00, LT. 56.9' TO STA. 129+00, LT 78.3'**
CONST. 368.7' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 129+00, LT 78.3'
CONSTRUCT UL-2 HEADWALL @ STA. 125+00, LT. 56.9
12" INV. OUT = 871.60'

U8 **STA. 127+00, LT 24' TO STA. 133+40, LT 22'**
CONST. 639.1' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 130+15, LT 20.1'
CONNECT TO PROPOSED CB @ STA. 133+40, LT 22'
12" INV. OUT = CLEANOUT (DRAIN NOTE 16)
CONNECT TO PROPOSED CB @ STA. 127+00, LT 24'
12" INV. IN = 851.55' (DRAIN NOTE 14)

U9 **STA. 134+00, LT 22' TO STA. 136+81.6, LT 24'**
CONST. 285.4' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 136+81.6, LT 24'
12" INV. OUT = 867.55 CLEANOUT (DRAIN NOTE 17)
CONNECT TO PROPOSED CB @ STA. 134+00, LT 22'
12" INV. IN = 863.55' (DRAIN NOTE 15)

U10 **STA. 136+85.7, LT 24' TO STA. 140+00, LT 22'**
CONST. 315.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA 140+00, LT 22'
12" INV. OUT = 876.50' CLEANOUT (DRAIN NOTE 18)
CONNECT TO PROPOSED CB @ STA. 136+85.7, LT 24'
12" INV. IN = 866.55' (DRAIN NOTE 17)

U11 **STA. 140+00, LT 22' TO STA. 144+50, LT 22'**
CONST. 448.9' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 142+15, LT 20.0'
CONNECT TO PROPOSED CB @ STA. 144+50, LT 22'
12" INV. OUT = 883.60' CLEANOUT (DRAIN NOTE 19)
CONNECT TO PROPOSED CB @ STA. 140+00, LT 22'
12" INV. IN = 875.50' (DRAIN NOTE 18)

U12 **STA. 144+50, LT 22' TO STA. 146+82, LT 15.0'**
CONST. 240.0' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 146+82, LT 15.'
12" INV. OUT = 886.25' CLEANOUT (DRAIN NOTE 21A)
CONNECT TO PROPOSED CB @ STA. 144+50, LT 22
12" INV. IN = 882.60' (DRAIN NOTE 19)

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DRAINAGE NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Drainage Notes	10439	148	294

U13 **STA. 146+82, LT 15.0' TO STA. 150+62.6, LT 32.5'**
CONST. 393.0' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 150+62.6, LT 32.5'
12" INV. OUT = 891.25' CLEANOUT (DRAIN NOTE 23)
CONNECT TO PROPOSED CB @ STA. 146+82, LT 15.0'
12" INV. IN = 885.25' (DRAIN NOTE 21A)

U14 **STA. 150+66.5, LT 32.5' TO STA. 152+00, LT 26'**
CONST. 141.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 152+00, LT 26'
12" INV. OUT = 890.85' CLEANOUT (DRAIN NOTE 26)
CONNECT TO PROPOSED CB @ STA. 150+66.5, LT 32.5'
12" INV. IN = 890.25' (DRAIN NOTE 23)

U15 **STA. 155+35, LT. 25.9' TO STA. 158+90, LT 22'**
CONST. 360.7' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONSTRUCT UL-2 HEADWALL @ STA. 155+35, LT. 25.9'
12" INV. OUT = 895.00
CONNECT TO PROPOSED CB @ STA. 158+90, LT 22'
12" INV. IN = 914.70' CLEANOUT (DRAIN NOTE 28)
CAP OR FILL IN PLACE EXISTING 6" UNDERDRAIN @ WINGWALL (SUBSIDIARY)

U16 **STA. 158+90, LT 22' TO STA. 162+90, LT 20'**
CONST. 360.7' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 162+90, LT 20'
CONNECT TO PROPOSED CB @ STA. 158+90, LT 22'
12" INV. IN = 913.70' (DRAIN NOTE 28)

U17 **STA. 165+50, LT 30.6' TO STA. 163+00, LT 20'**
CONST. 255.8' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 163+00, LT 20'
CONNECT TO PROPOSED CB @ STA. 165+50, LT 30.6'
12" INV. IN = 925.90' (DRAIN NOTE 29)

U18 **STA. 169+20, LT 27.4' TO STA. 165+50, LT 30.6'**
CONST. 381.4' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 165+50, LT 30.6'
12" INV. OUT = 926.90' CLEANOUT (DRAIN NOTE 29)
CONNECT TO PROPOSED CB @ STA. 169+20, LT 27.4'
12" INV. IN = 924.50' (DRAIN NOTE 32) - FLATTEN FROM LOW PT. @ 168+50

U19 **STA. 169+20, LT 27.4' TO STA. 170+50, LT 25.0'**
CONST. 138.1' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 170+50, LT 25.0'
12" INV. OUT = 928.00' CLEANOUT (DRAIN NOTE 33)
CONNECT TO PROPOSED CB @ STA. 169+20, LT 27.4'
12" INV. IN = 925.10' (DRAIN NOTE 32)

U20 **STA. 170+50, LT 25.0' TO STA. 173+00, LT 22.0'**
CONST. 256.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 173+00, LT 22.0'
12" INV. OUT = 938.00' CLEANOUT (DRAIN NOTE 35)
CONNECT TO PROPOSED CB @ STA. 170+50, LT 25.0'
12" INV. IN = 927.00' (DRAIN NOTE 33)

U21 **STA. 173+00, LT 22.0' TO STA. 175+60, LT 22.0'**
CONST. 270.5' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 175+60, LT 22.0'
12" INV. OUT = 946.70' CLEANOUT (DRAIN NOTE 37)
CONNECT TO PROPOSED CB @ STA. 173+00, LT 22.0'
12" INV. IN = 937.00' (DRAIN NOTE 35)

U22 **STA. 175+60, LT 22.0' TO STA. 177+60, LT 22.0'**
CONST. 204.8' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 177+60, LT 22.0'
12" INV. OUT = 946.75' CLEANOUT (DRAIN NOTE 38)
CONNECT TO PROPOSED CB @ STA. 175+60, LT 22.0'
12" INV. IN = 945.70' (DRAIN NOTE 37)

U23 **STA. 177+60, LT 22.0' TO STA. 179+95, LT 23.4'**
CONST. 239.7' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 179+95, LT 23.4'
12" INV. OUT = 948.70' CLEANOUT (DRAIN NOTE 39)
CONNECT TO PROPOSED CB @ STA. 177+60, LT 22.0'
12" INV. IN = 945.75' (DRAIN NOTE 38)

U24 **STA. 179+95, LT 23.4.0' TO STA. 181+55, LT 22.0'**
CONST. 164.7' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 181+55, LT 22.0'
12" INV. OUT = 952.40' CLEANOUT (DRAIN NOTE 40)
CONNECT TO PROPOSED CB @ STA. 179+95, LT 23.4.0'
12" INV. IN = 947.70' (DRAIN NOTE 39)

U25 **STA. 181+55, LT 22.0" TO STA. 182+90, LT 22.0'**
CONST. 139.1' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 182+90, LT 22.0'
12" INV. OUT = 957.60' CLEANOUT (DRAIN NOTE 41)
CONNECT TO PROPOSED CB @ STA. 181+55, LT 22.0'
12" INV. IN = 951.40' (DRAIN NOTE 40)

U26 **STA. 182+90, LT 22.0' TO STA. 186+54.8, LT 20.0'**
CONST. 361.0' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 186+54.8, LT 20.0'
CONNECT TO PROPOSED CB @ STA. 182+90, LT 22.0'
12" INV. IN = 956.60' (DRAIN NOTE 41)

U27 **STA. 188+35, LT 22.0' TO STA. 186+61, LT 20.0'**
CONST. 172.8' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 186+61, LT 20.0'
CONNECT TO PROPOSED CB @ STA. 188+35, LT 22.0
12" INV. IN = 964.00' (DRAIN NOTE 42)

U28 **STA. 190+50, LT 25.6' TO STA. 188+35, LT 22.0'**
CONST. 221.6' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 188+35, LT 22.0'
12" INV. OUT = 965.00' CLEANOUT (DRAIN NOTE 42)
CONNECT TO PROPOSED CB @ STA. 190+50, LT 25.6'
12" INV. IN = 963.40' (DRAIN NOTE 43)

U29 **STA. 190+50, LT 25.6' TO STA. 193+00, LT 25.5'**
CONST. 260.8' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 193+00, LT 25.5'
12" INV. OUT = 970.80' CLEANOUT (DRAIN NOTE 45)
CONNECT TO PROPOSED CB @ STA. 190+50, LT 25.6'
12" INV. IN = 963.65' (DRAIN NOTE 43)

U30 **INTENTIONALLY LEFT BLANK**

U31 **STA. 193+00, LT 25.5' TO STA. 195+90, LT 22.0'**
CONST. 295.9' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 195+90, LT 22.0'
12" INV. OUT = 980.00' CLEANOUT (DRAIN NOTE 46)
CONNECT TO PROPOSED CB @ STA. 193+00, LT 25.5'
12" INV. IN = 969.80' (DRAIN NOTE 45)

U32 **STA. 195+90, LT 22.0' TO STA. 200+80, LT 23.6'**
CONST. 491.6' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONNECT TO PROPOSED CB @ STA. 200+80, LT 23.6'
12" INV. OUT = 991.80' CLEANOUT (DRAIN NOTE 47)
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 198+25, LT 20'
CONNECT TO PROPOSED CB @ STA. 195+90, LT 22.0'
12" INV. IN = 979.00' (DRAIN NOTE 46)

U33 **STA. 200+80, LT 23.6' TO STA. 203+50, LT 24.0'**
CONST. 278.3' x 12" PERF. CORR. POLYETHYL PIPE UNDERDRAIN
CONST. UNDERDRAIN FLUSHING BASIN @ STA. 203+50, LT 24.0'
CONNECT TO PROPOSED CB @ STA. 200+80, LT 23.6'
12" INV. IN = 990.80' (DRAIN NOTE 47)

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DRAINAGE NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Drainage Notes	10439	149	294

NH ROUTE 9

1 ***Sta. 102+50 RT to Sta. 104+00 RT:***
Reset 150' of existing W-beam rail (approximate)
Remove 50' of existing rail (terminal unit Sta 104+05 approximately)
Construct TL-3 EAGRT Unit (Sta 104+05 approximately)
Construct TL-3 offset platform, Alternate (Item 203.55542)

2 ***Sta. 109+00 RT to Sta. 117+33 RT:***
Remove 425' of existing rail (Sta. 109+00 to Sta. 113+25)
Remove 300' of existing rail (Sta. 113+50 to Sta. 116+50)
Construct TL-3 EAGRT Unit @ 10:1 Taper (Sta. 109+00)
(End unit should be installed at 10' offset from the EP)
Construct TL-3 NON-offset platform (Item 203.5554)
Construct 50' of W-beam rail @ 10:1 Taper (Item 606.18001)
Construct 550' of W-beam rail at the EP (Item 606.18001)
Construct 189.5' E-2 Unit & Platform

3 ***Sta. 120+50 RT to Sta. 126+83 RT:***
Remove 625' of existing rail (Sta. 120+85 to Sta. 127+10)
Construct TL-3 EAGRT Unit (Sta. 120+50) & 50' W-beam rail
Construct TL-3 offset platform (Item 203.55543)
Construct 450' of W-beam rail at the EP (Item 606.15805)
Construct 37.5' of W-beam rail (Item 606.15805)
(Taper rail to 1' offset from the EP)
Construct TL-3 EAGRT Unit at 7' offset from the EP (Sta. 126+83)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)

4 ***Sta. 128+54 RT to Sta. 142+00 RT:***
Remove 1375' of existing rail (Sta. 128+63 to Sta. 142+20)
Construct TL-3 EAGRT Unit at a 16' offset from the EP (Sta. 128+54)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)
Construct 100' of W-beam rail at 8' offset from the EP (Item 606.15805)
(Taper rail from 8' offset from EP to 0' offset)
Construct 250' of W-beam rail at the EP (Item 606.15805)
Construct W-beam rail behind the pull off (Item 606.15805):
Construct 125' of W-beam rail *(Taper from 0' offset from the EP to 16' offset)*
Construct 62.5' of W-beam rail at a 16' offset from the EP
Construct 162.5' of W-beam rail *(Taper from 16' offset from EP to 0' offset)*
Construct 512.5' of W-beam rail at the EP (Item 606.15805)
Construct 50' of W-beam rail (Item 606.15805)
(Taper rail to 3' offset from the EP)
Construct TL-3 EAGRT Unit at 10' offset from the EP (Sta. 142+00)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)

5 ***Sta. 143+00 RT to Sta. 155+20 RT:***
Remove 450' of existing rail (Sta. 150+68 to Sta. 155+20)
Construct TL-3 EAGRT Unit @ 10:1 Taper (Sta. 143+00)
(End unit should be installed at 10' offset from the EP)
Construct TL-3 NON-offset platform (Item 203.5554)
Construct 50' of W-beam rail @ 10:1 Taper (Item 606.15805)
Construct 1050' of W-beam rail at the EP (Item 606.15805)
Construct 25' of W-beam rail (Item 606.15805)
(Taper rail to 1' offset from the EP)
Construct 12.5' of W-beam rail at 1' offset from the EP (Item 603.18001)
Construct T-101 Bridge Approach Unit (Sta. 155+20)
(Attach to existing bridge rail)

6 ***Sta. 154+32 LT to Sta. 155+20 LT:***
Remove 62.5' of existing rail (Sta. 154+57 to Sta. 155+20)
Construct TL-3 EAGRT Unit at 2' offset from the EP (Sta. 154+32)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541).
Construct 12.5' of W-beam at 1' offset from the EP (Item 603.18001)
Construct T-101 Bridge Approach Unit (Sta. 155+20)
(Attach to existing bridge rail)

7 ***Sta. 155+32 LT to Sta. 157+19 LT:***
Remove 87.5' of existing rail (Sta. 155+32 to Sta. 156+20)
Construct T-101 Bridge Approach Unit (Sta. 155+32)
(Attach to existing bridge rail)
Construct 12.5' of W-beam at 1' offset from the EP (Item 603.18001)
Construct 152' E-2 Unit (Modified 45) & Platform

8 ***Sta. 155+32 RT to Sta. 161+07 RT:***
Remove 100' of existing rail (Sta. 155+32 to Sta. 156+34)
Construct T-101 Bridge Approach Unit (Sta. 155+32)
(Attach to existing bridge rail)
Construct 12.5' of W-beam rail at 1' offset from the EP (Item 603.18001)
Construct 25' of W-beam rail (Item 606.15805)
(Taper rail to from 1' offset from EP to 0' offset)
Construct 412.5' of W-beam rail at the EP (Item 606.15805)
Construct 50' of W-beam rail & TL-3 EAGRT Unit (Sta. 161+07)
Construct TL-3 offset platform (Item 203.55543)

GENERAL NOTES:

1. See *"Summary of Roadway Quantities"* for additional information.
2. For Item 203.5554, see *"Preferred Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
3. For Item 203.55541, see *"Alternative Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
4. For Item 203.55543, see *"Preferred Platform for Offset Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
5. For new guardrail installations, face of rail shall be installed at the Edge of Pavement (EP), unless otherwise noted.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

GUARDRAIL NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Guardrail Notes	10439	150	294

NH ROUTE 9

9 ***Sta. 163+80 RT to Sta. 185+31 RT:***
Remove 1712.5' of existing rail (Sta. 163+80 to Sta. 181+00)
Remove 387.5' of existing rail (Sta. 181+74 to Sta. 185+64)
Construct TL-3 EAGRT Unit (Sta. 163+80) & 50' of W-beam rail
Construct TL-3 Offset platform, Alternate (Item 203.55542)
Construct 1462.5' of W-beam rail at the EP (Item 606.15805)
Construct W-beam rail behind the pull off (Item 606.15805):
Construct 150' of W-beam rail *(Taper from 0' offset from the EP to 16' offset)*
Construct 50' of W-beam rail at a 16' offset from the EP
Construct 150' of W-beam rail *(Taper from 16' offset from EP to 0' offset)*
Construct 162.5' of W-beam rail at the EP (Item 606.15805)
Construct 25' of W-beam rail (Item 606.15805)
(Taper rail to 2' offset from the EP)
Construct TL-3 EAGRT Unit at a 10' offset from the EP (Sta. 185+31)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)

10 ***Sta. 186+75 RT to Sta. 204+15 RT:***
Remove 537.5' of existing rail (Sta. 187+04 to Sta. 192+43)
Remove 750' of temporary rail (Sta. 197+29 to Sta. 204+88) *(Subsidiary)*
Construct TL-3 EAGRT Unit at 14' offset from the EP (Sta. 186+75)
(Taper to 5' offset from the EP)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)
Construct 50' of W-beam rail at 5' offset from the EP (Item 606.15805)
(Taper to 0' offset from the EP)
Construct 1587.5' of W-beam rail at the EP (Item 606.15805)
Construct 50' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach unit)

11 ***Sta. 204+57 LT to Sta. 205+18 LT:***
Remove 150' of existing rail (Sta. 205+27 LT to Sta. 21+06 RT *(Valley Rd))*
Construct TL-3 EAGRT Unit (Sta. 204+57)
Construct TL-3 NON-offset platform (Item 203.5554)
Construct 12.5' of W-beam rail (Item 603.18001)
(Attach to bridge approach unit)

12 ***Sta. 206+47 RT to Sta. 207+11 RT:***
Remove 25' of existing rail (Sta. 206+23 to Sta. 206+46)
Construct 12.5' of W-beam rail (Item 603.18001)
(Attach to bridge approach unit)
Construct TL-3 EAGRT Unit (Sta. 207+11)
Construct TL-3 NON-offset platform (Item 203.5554)

13 ***Sta. 207+36 LT to Sta. 209+48 LT:***
Remove 275' of existing rail (Sta. 206+67 to Sta. 209+38)
Construct 112.5' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach unit)
Construct 50' of W-beam rail @ 10:1 Taper (Item 603.18001)
Construct TL-3 EAGRT Unit @ 10:1 Taper (Sta. 209+48)
Construct TL-3 NON-offset platform (Item 203.5554)

HOUGHTON LEDGE RD.

1H ***Sta. 53+34 RT to Sta. 59+48 RT:***
Construct TL-2 EAGRT Unit (Sta. 53+34 RT)
Construct TL-2 NON-offset platform, Alternate (Item 203.55551)
Construct 575' of W-beam rail at the EP (Item 606.18001)
Construct TL-2 EAGRT Unit (Sta. 59+48 RT)

Construct TL-2 NON-offset platform, Alternate (Item 203.55551)

GENERAL NOTES:

1. See *"Summary of Roadway Quantities"* for additional information.
2. For Item 203.5554, see *"Preferred Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
3. For Items 203.55541 & 203.55551, see *"Alternative Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
4. For Item 203.55542, see *"Alternate Platform for Offset Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
5. For new guardrail installations, face of rail shall be installed at the Edge of Pavement (EP), unless otherwise noted.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN
GUARDRAIL NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Guardrail Notes	10439	151	294

CENTRE ST.

14 ***Sta. 30+64 LT to Sta. 31+26 LT:***
Remove 50' of existing W-beam rail (Sta. 30+79 to Sta. 31+26)
Construct TL-2 EAGRT Unit (Sta. 30+64 LT) & 25' of W-beam rail
Construct TL-2 Offset platform (Item 203.55555)
Construct 12.5' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach rail)
Adjust existing bridge approach unit (Item 565.802)

15 ***Sta. 30+96 RT to Sta. 31+26 RT:***
Remove 37.5' of existing W-beam rail (Sta. 30+97 to Sta. 31+26)
Construct CRT special anchor at 18' offset from the EP (Sta. 31+09 RT)
Construct 25' x 8.5' Radius CRT rail
Construct 25' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach rail)
Adjust existing bridge approach unit (Item 565.802)

16 ***Sta. 32+59 LT (Centre St) to Sta. 24+30 RT (Valley Rd)***
See Diversion Guardrail Notes
Rail will be installed prior to construction of diversion
and will remain in place as its final condition.

17 ***Sta. 32+59 RT to Sta. 33+30 RT, 353' (Valley Rd)***
Remove 250' of existing W-beam rail (Sta. 32+59 RT to Sta. 33+30 RT, 215')
Adjust existing bridge approach unit (Item 565.802)
Construct 362.5' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach rail)
Construct TL-2 EAGRT Unit (Sta. 33+30 RT, 353')
Construct TL-2 NON-offset platform, Alternate (Item 203.55551)

GENERAL NOTES:

1. See *"Summary of Roadway Quantities"* for additional information.
2. For Item 203.55551, see *"Alternative Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
3. For Item 203.55555, see *"Preferred Platform for Offset Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
4. For installation of radial sections of guardrail, field verify proposed radii prior to shop bending.
5. For new guardrail installations, face of rail shall be installed at the Edge of Pavement (EP), unless otherwise noted.
6. For Item 565.802, existing bridge approach unit should be adjusted for height to match new guardrail installations. See Special Provision.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

GUARDRAIL NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Guardrail Notes	10439	152	294

DIVERSION

1T ***Sta. 5+33 RT to Sta. 12+88 RT (NH Rte. 9):***
Remove 550' of existing W-beam rail (Sta. 5+33 to Sta. 10+82)
Remove 112.5' of existing W-beam rail (Sta. 11+78 to Sta. 12+88)
Construct Temporary TL-3 EAGRT Unit (Sta. 5+33 RT)
Construct TL-3 NON-offset platform, Alternate (Item 203.55541)
Construct 700' of Temporary W-beam rail at the EP
(Attach to existing bridge approach rail at Sta. 12+88 RT)

2T ***Sta. 13+26 LT (NH Rte. 9) to Sta. 64+62 RT (Valley Rd):***
Remove 150' of existing W-beam rail (Sta. 13+26 LT to Sta. 64+52 RT)
Construct 137.5' of Temporary W-beam rail at the EP
(Attach to existing bridge approach rail at Sta. 13+26 LT)
Construct Temporary TL-2 EAGRT Unit (Sta. 64+62 RT)
Construct TL-2 NON-offset platform, Alternate (Item 203.55551)

16 ***Sta. 32+59 LT (Centre St) to Sta. 24+30 RT (Valley Rd) =***
Sta. 32+59 LT to Sta. 67+78 RT (Valley Rd - Diversion alignment)
Remove 175' of existing W-beam rail (Sta. 32+59 LT to Sta. 27+42 RT)
Adjust existing bridge approach unit (Item 565.802)
Construct 12.5' of W-beam rail at the EP (Item 603.18001)
(Attach to bridge approach rail)
Construct 62.5' x 40' radius W-beam rail (Item 603.18001)
Construct 375' of W-beam rail at 1' offset from the EP (Item 603.18001)
Construct TL-2 EAGRT Unit (Sta. 24+30 RT)
Construct TL-2 NON-offset platform (Item 203.5555)

GENERAL NOTES:

1. See *"Summary of Roadway Quantities"* for additional information.
2. For Items 203.55541 & 203.55551, see *"Alternative Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
3. For Item 203.5555, see *"Preferred Platform for Energy Absorbing Guardrail Terminal (EAGRT)"* detail sheet.
4. For installation of radial sections of guardrail, field verify proposed radii prior to shop bending.
5. For new guardrail installations, face of rail shall be installed at the Edge of Pavement (EP), unless otherwise noted.
6. For Item 565.802, existing bridge approach unit should be adjusted for height to match new guardrail installations. See Special Provision.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

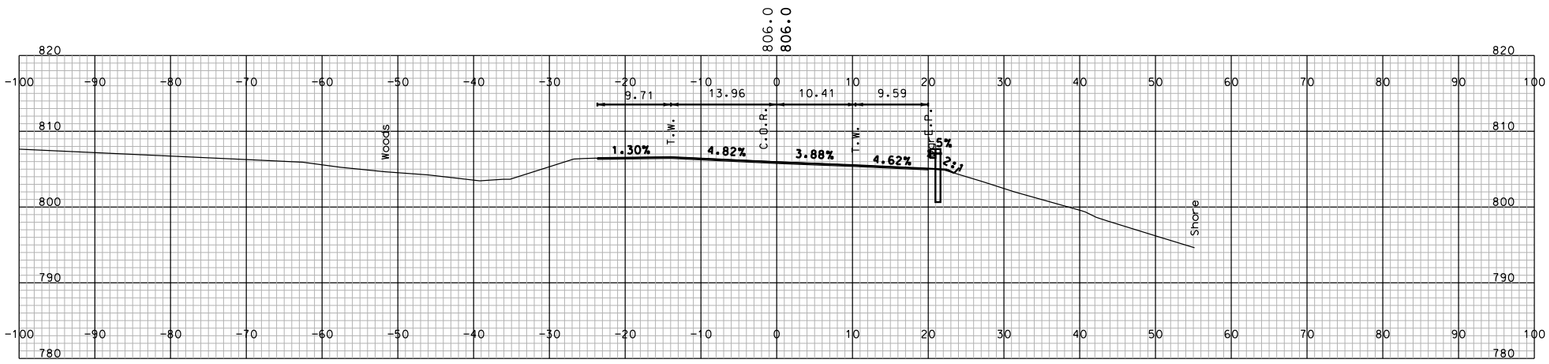
DIVERSION
GUARDRAIL NOTES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Guardrail Notes	10439	153	294

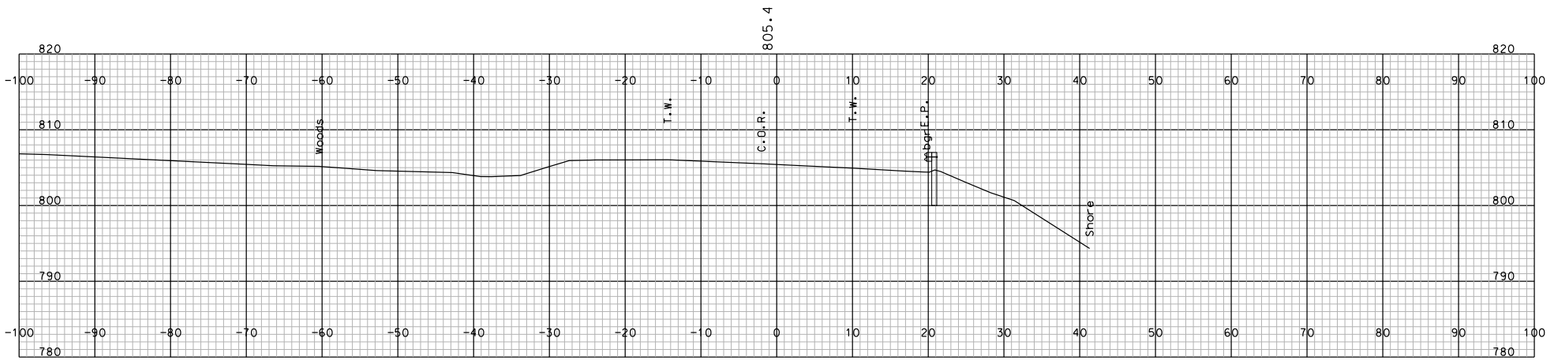
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

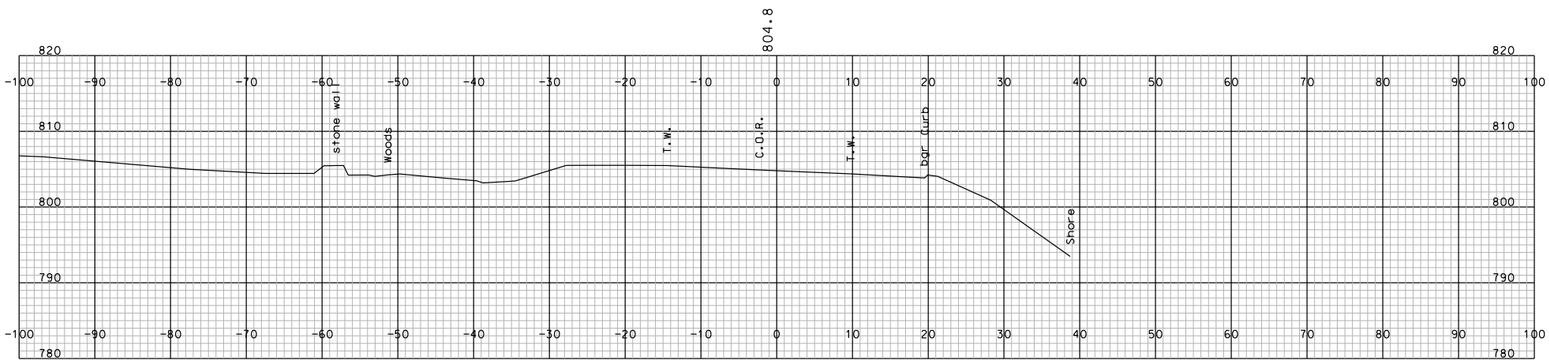
NUMBER	DATE	STATION	STATION	DESCRIPTION



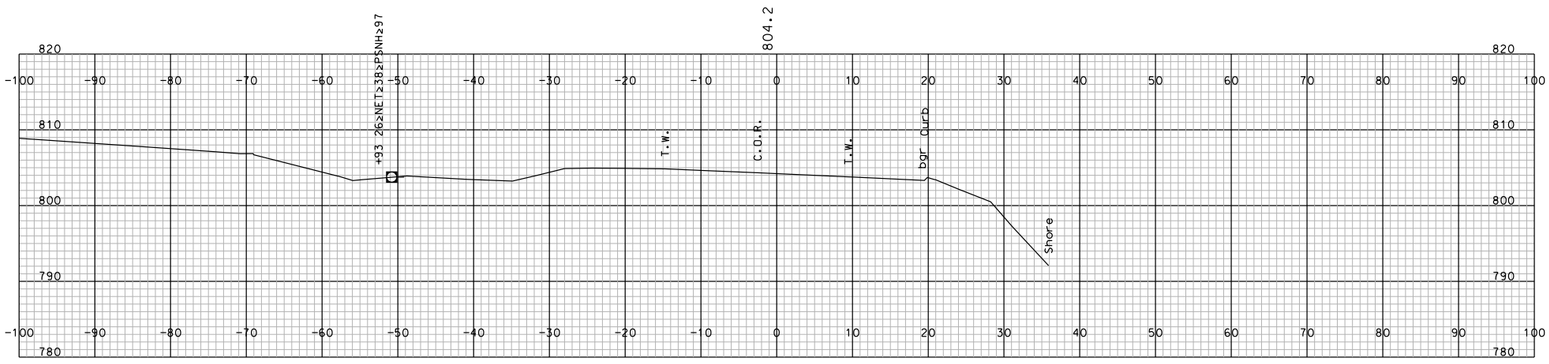
STA. 102+50.000



STA. 102+00.000



STA. 101+50.000



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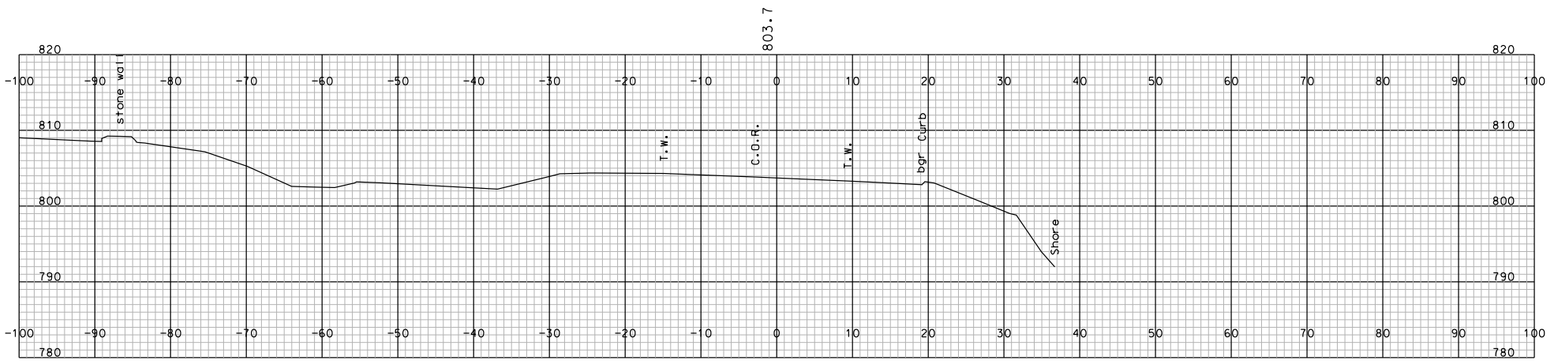


STA. 100+50.000

SHEET TOTALS

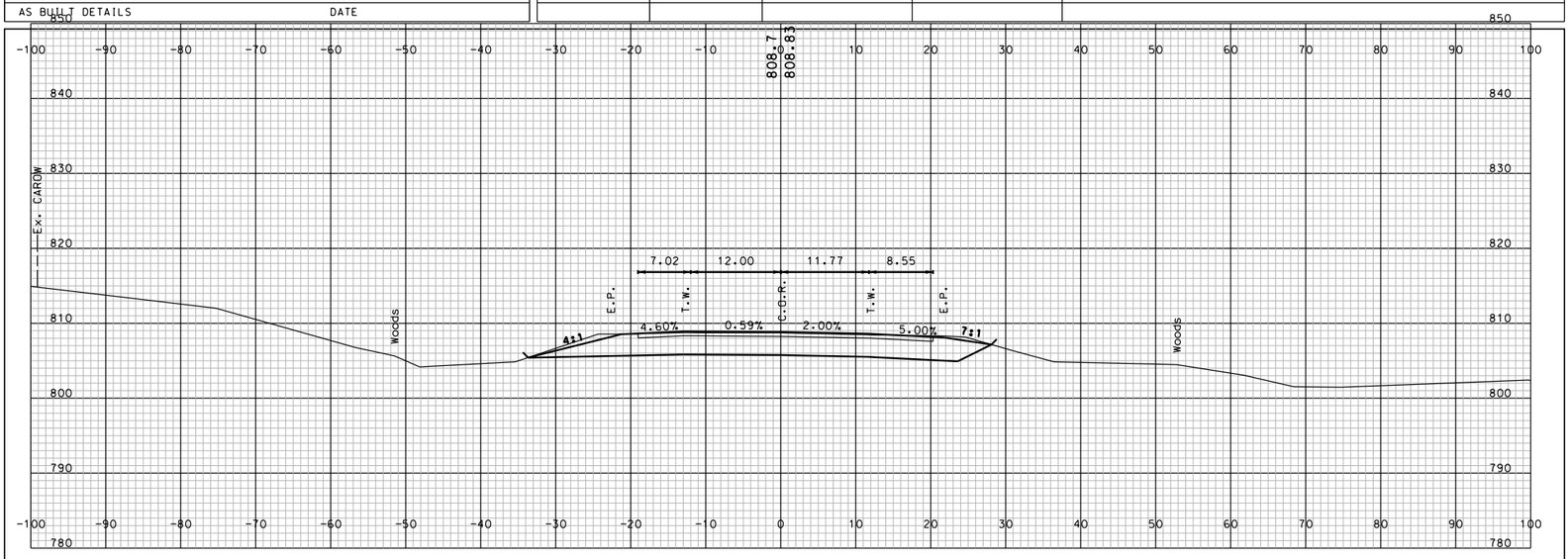
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	154	294

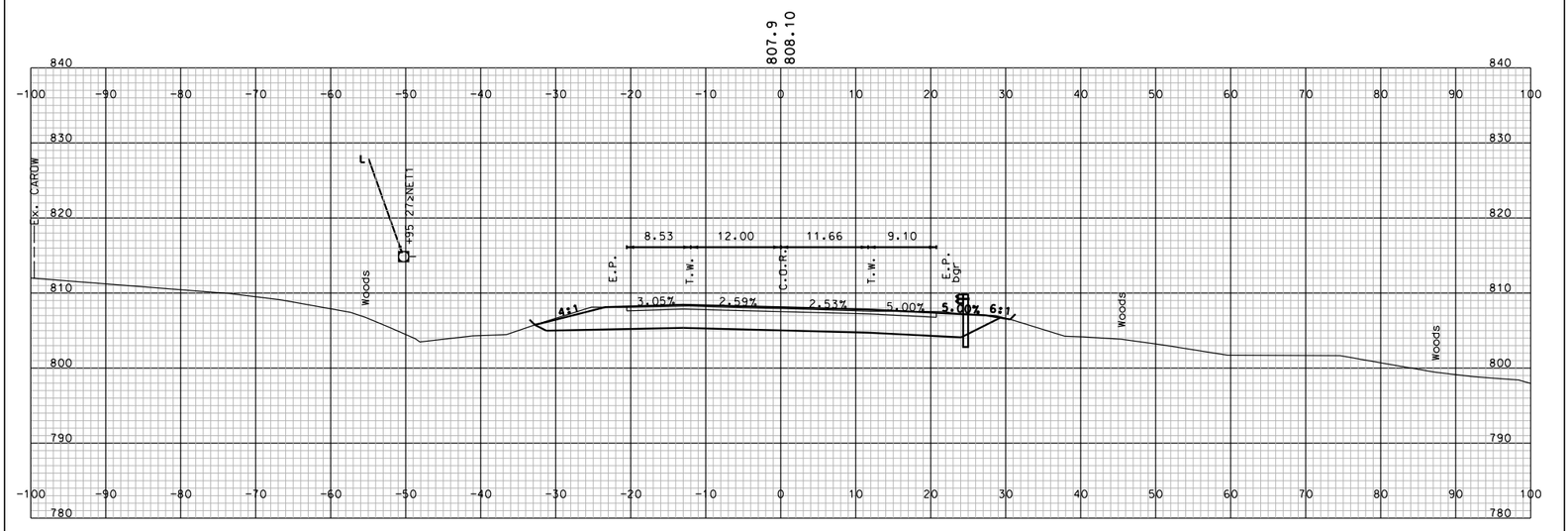
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 104+50.000



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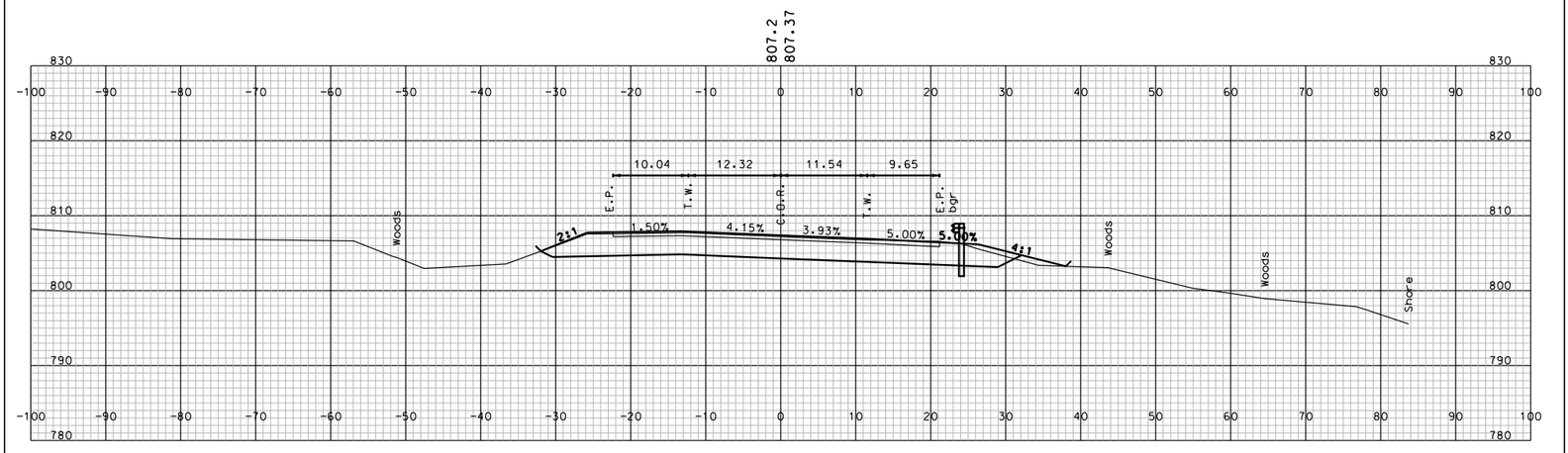

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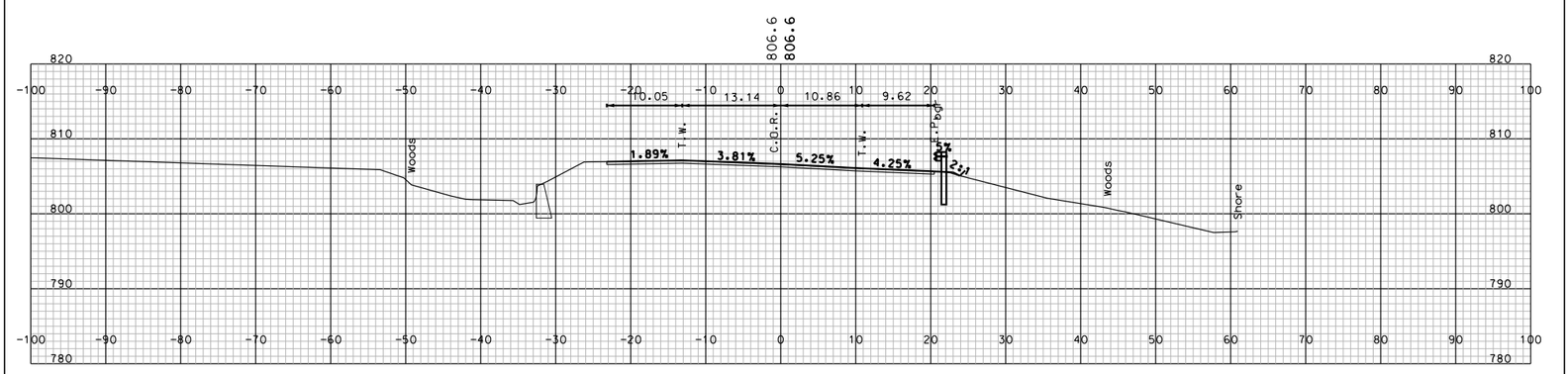


STA. 103+00.000

SHEET TOTALS

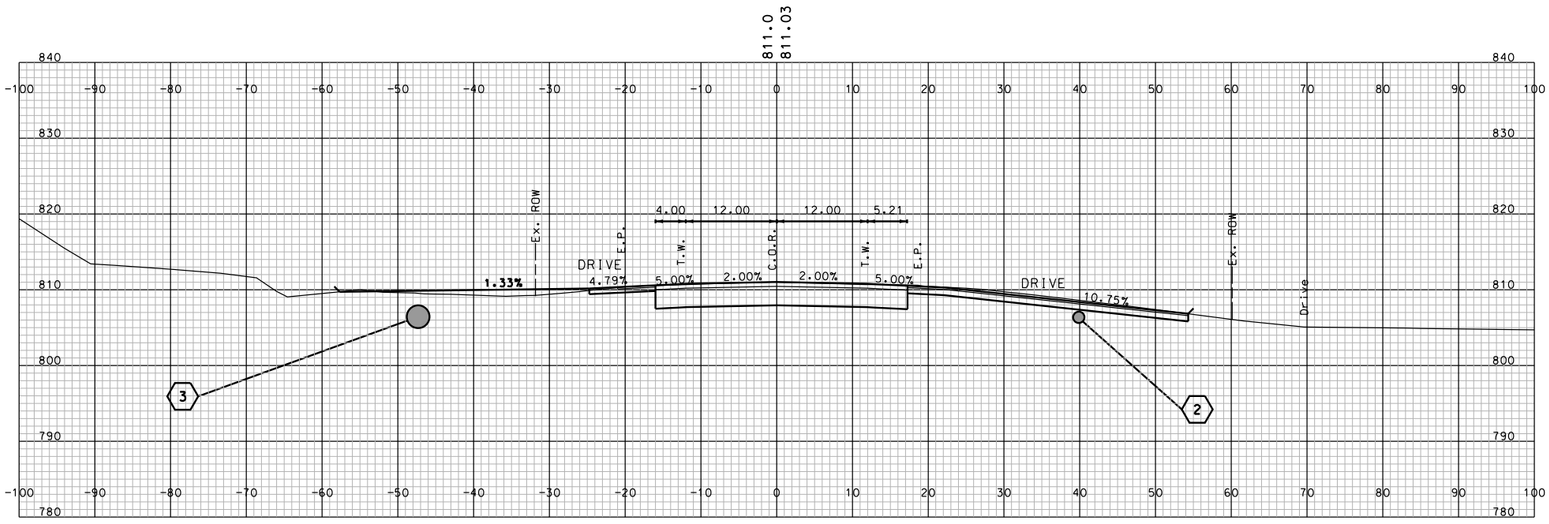
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	155	294

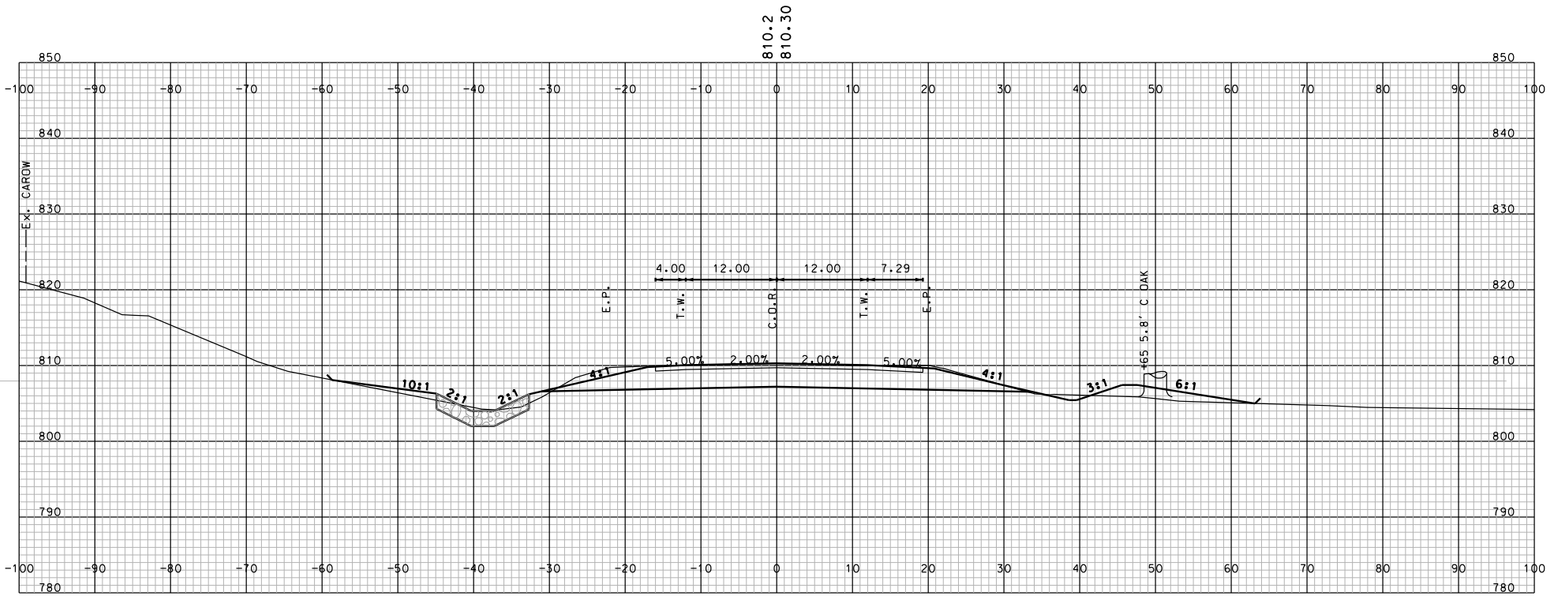
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

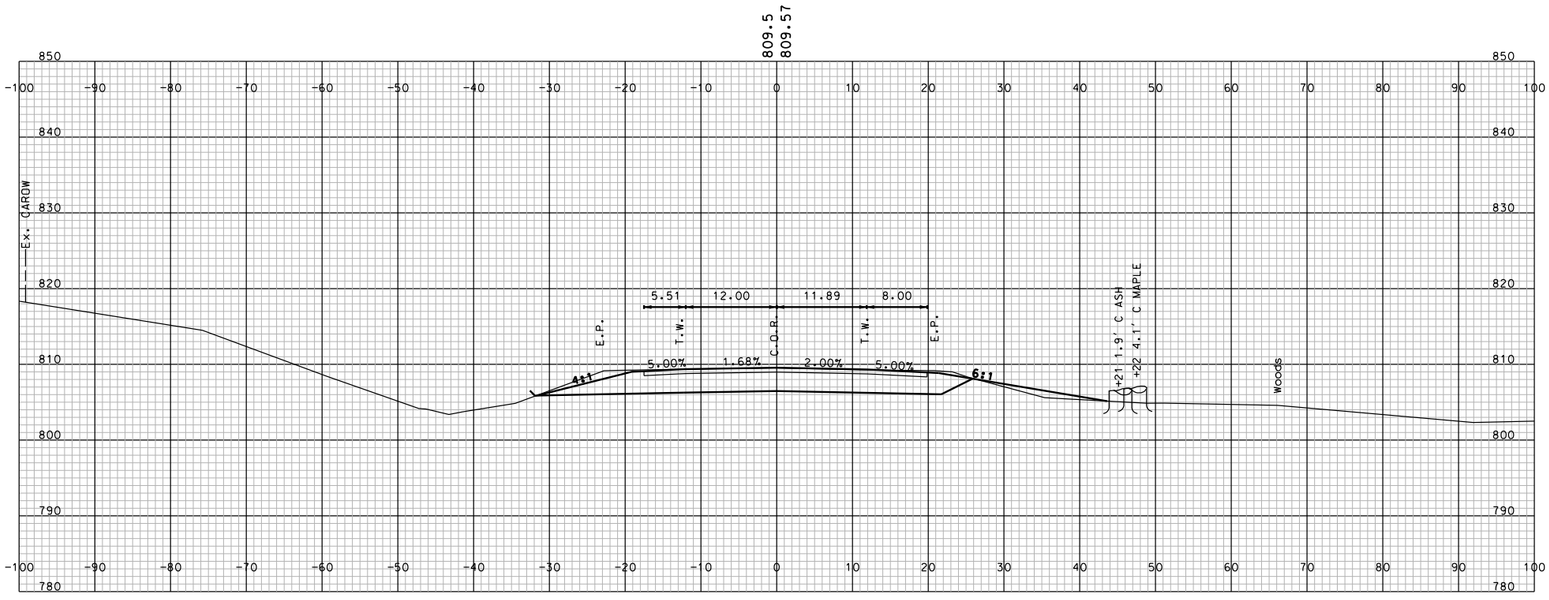
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 106+00.000



STA. 105+50.000



STA. 105+00.000

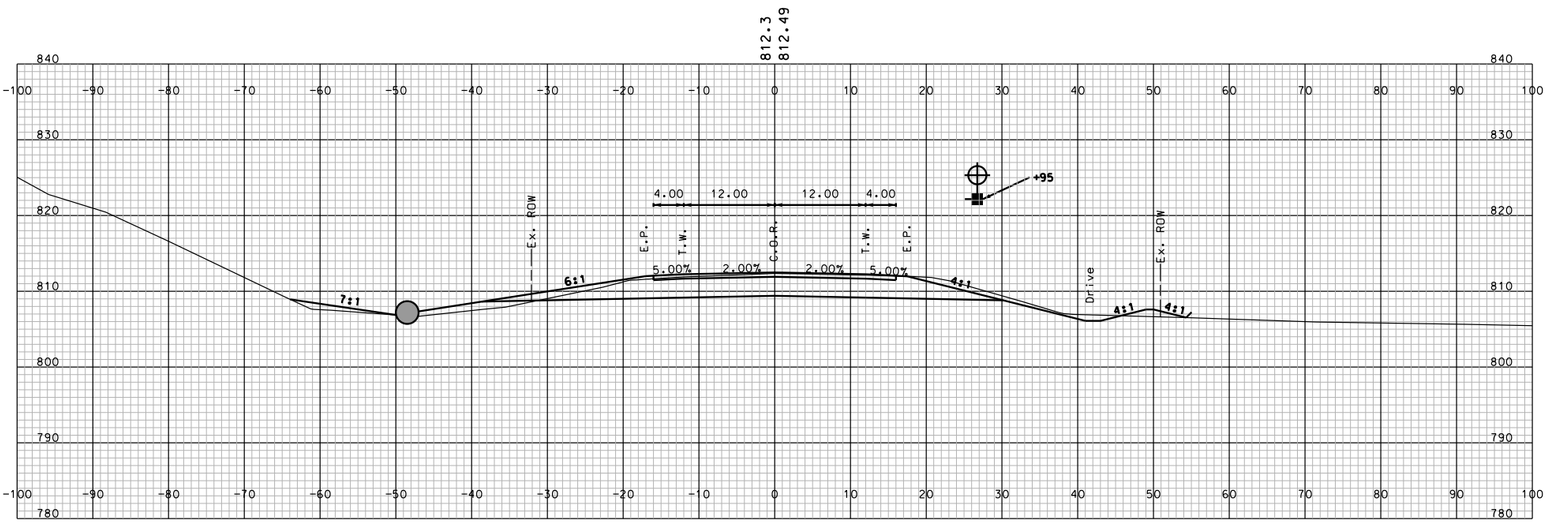
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	156	294

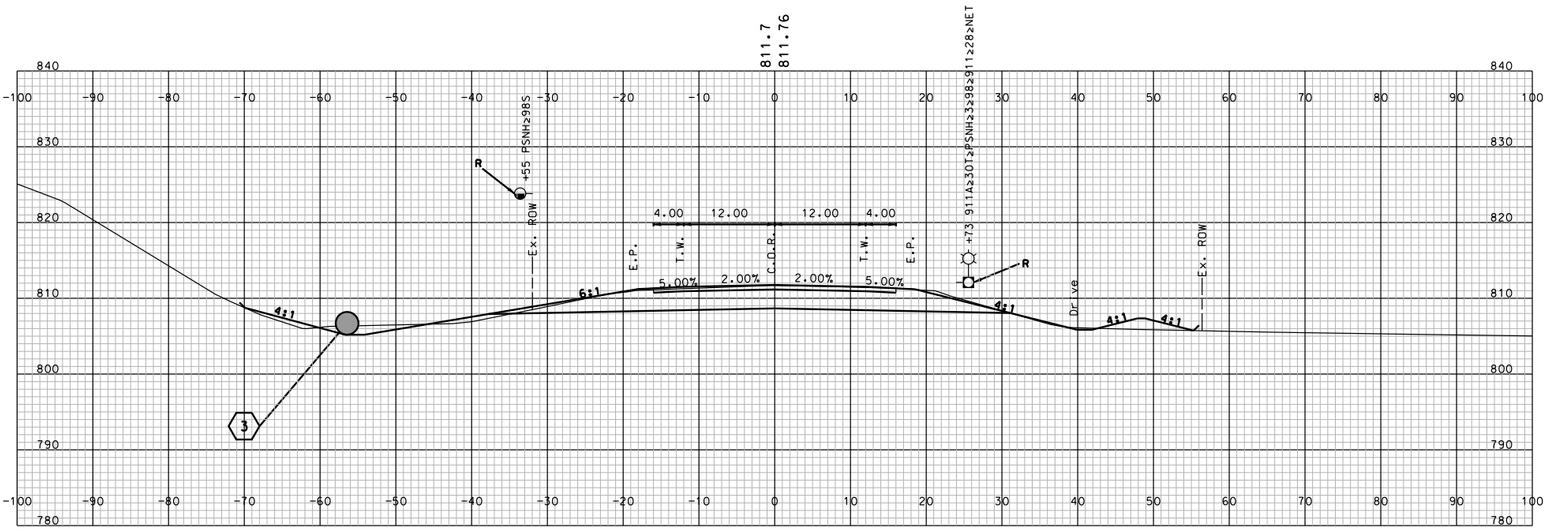
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

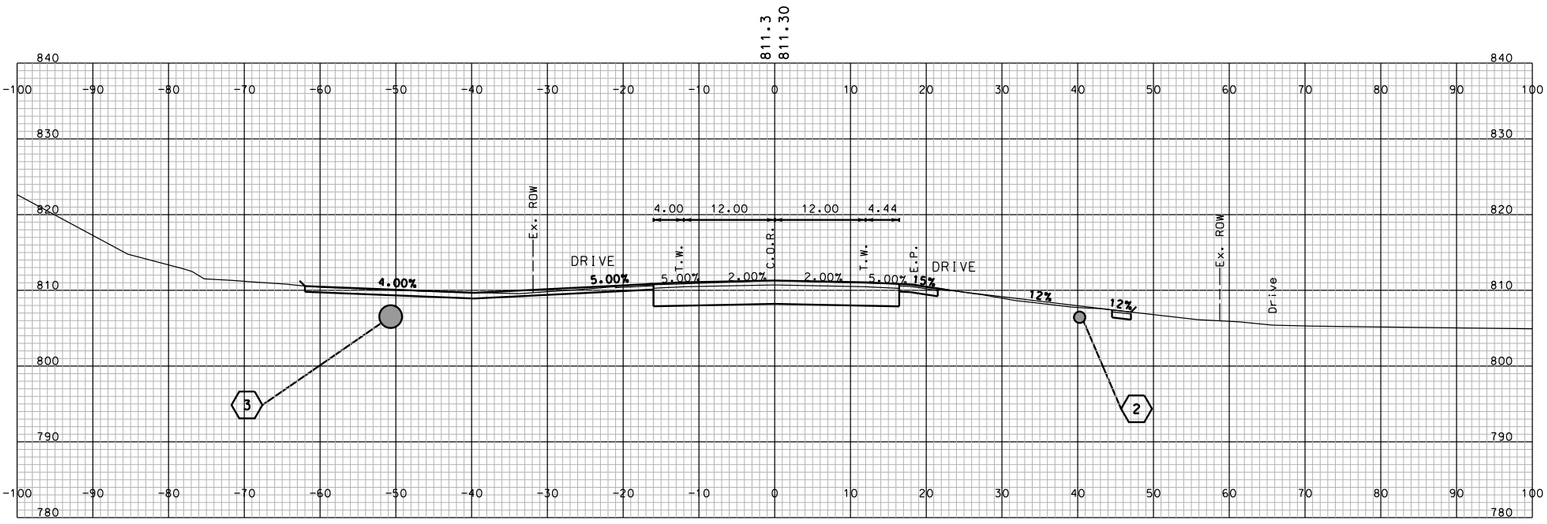
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 107+00.000



STA. 106+50.000



STA. 106+18.545

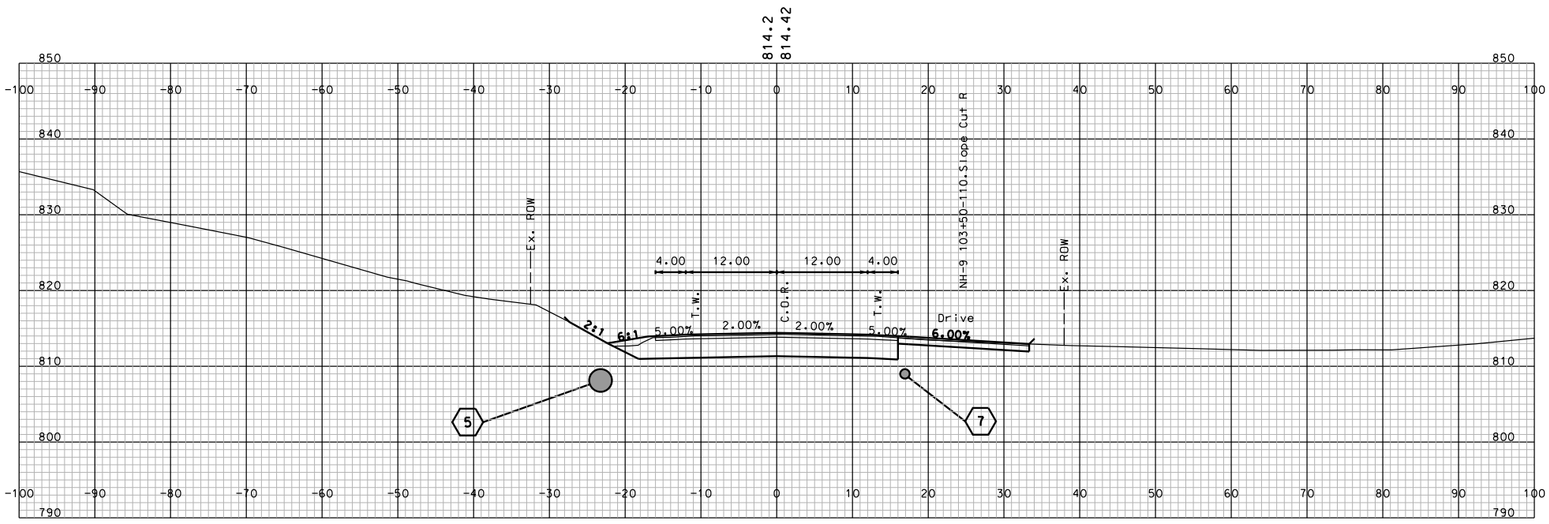
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	157	294

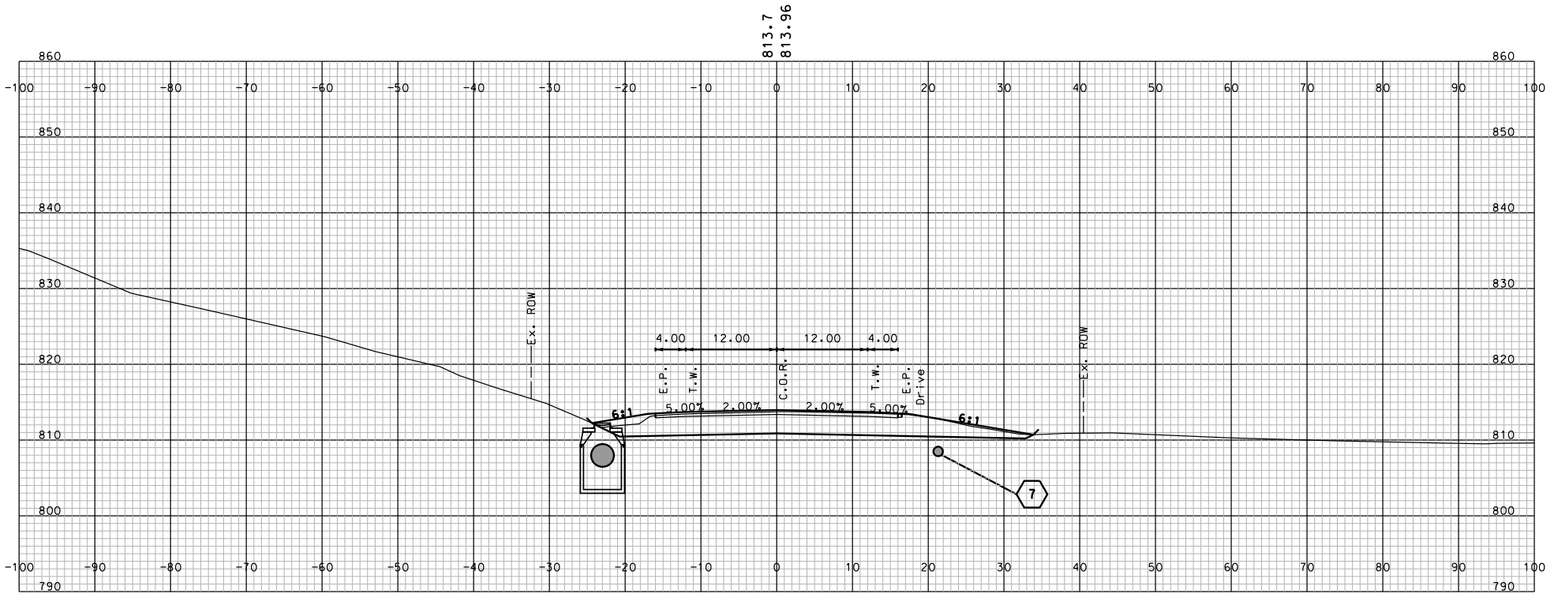
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

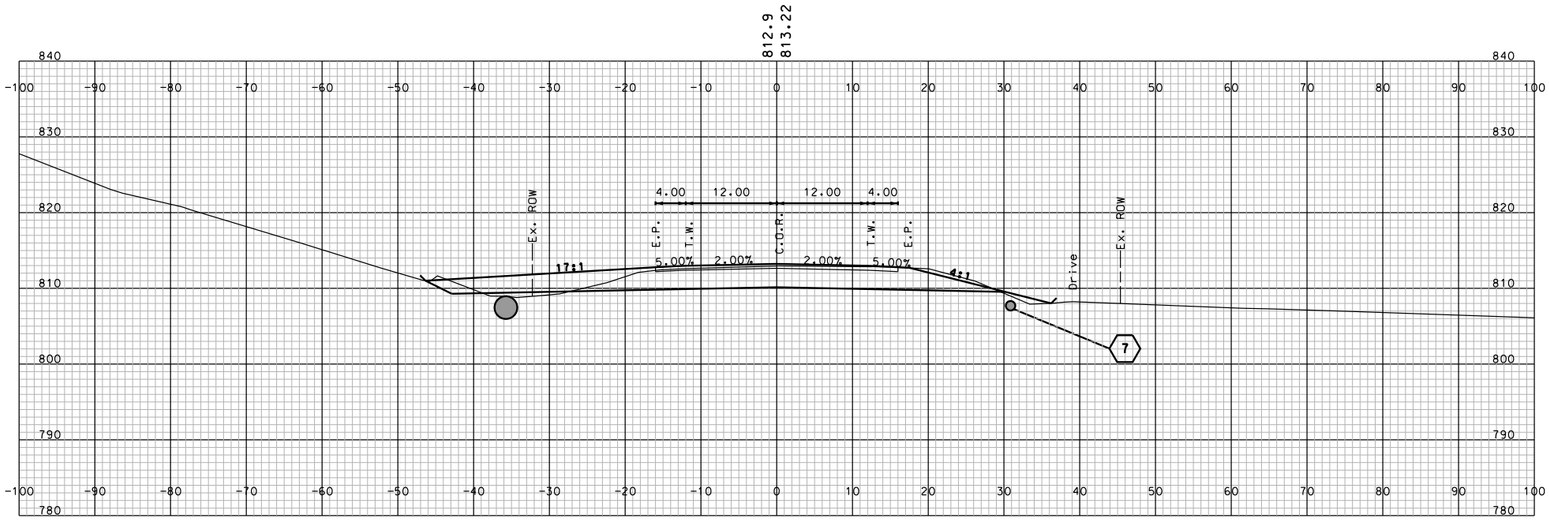
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 108+31.862



STA. 108+00.000



STA. 107+50.000

SHEET TOTALS

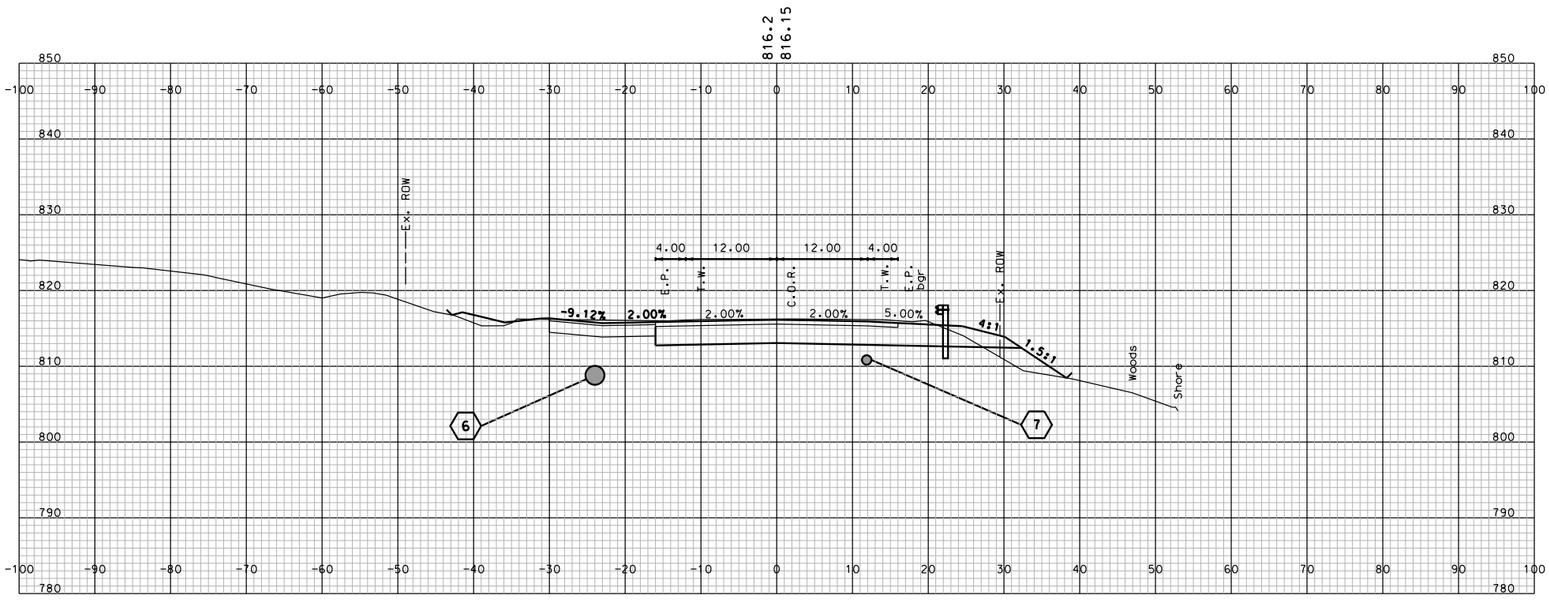
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	158	294

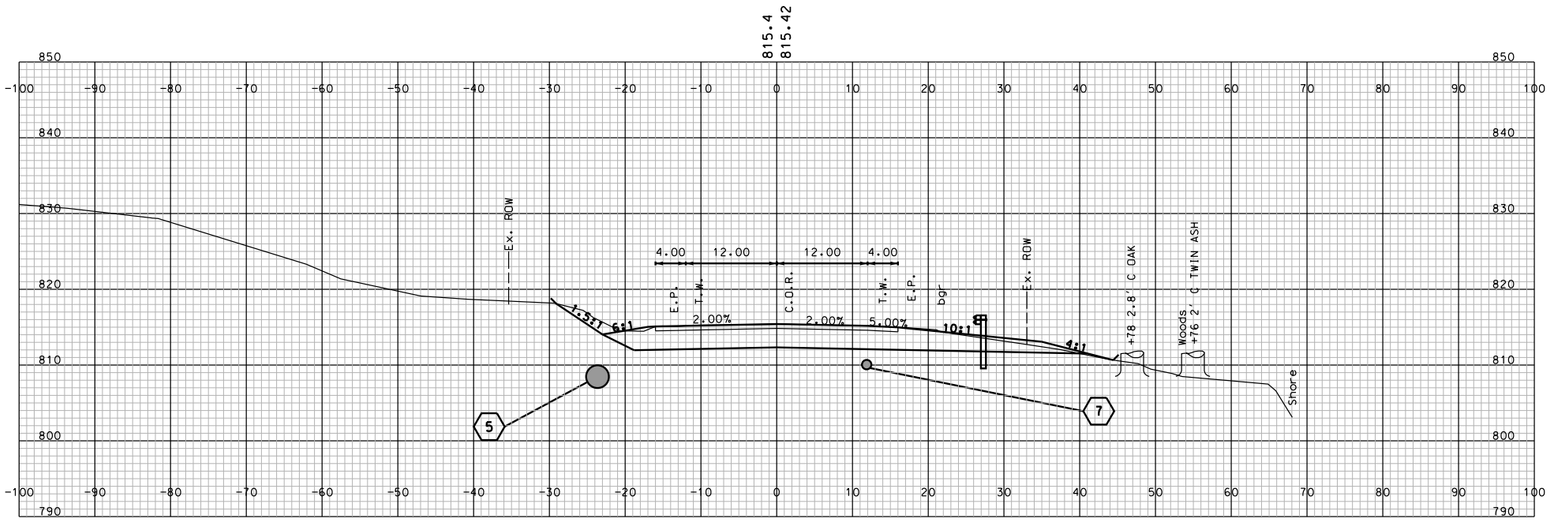
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

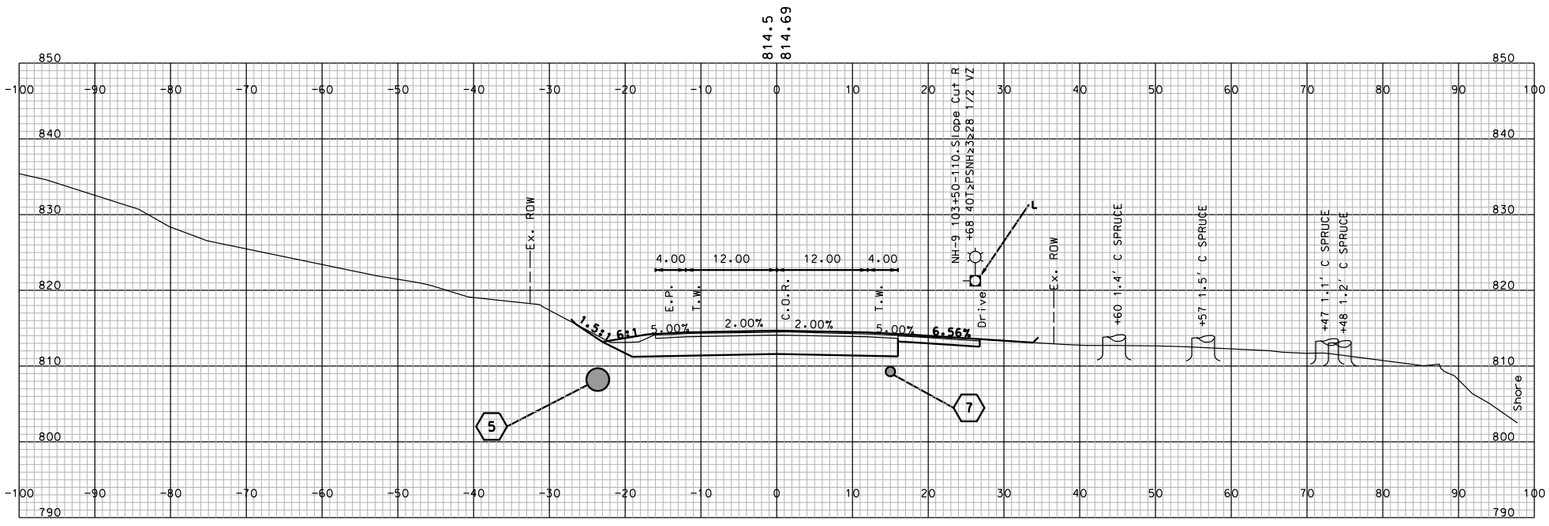
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 109+50.000



STA. 109+00.000



STA. 108+50.000

SHEET TOTALS

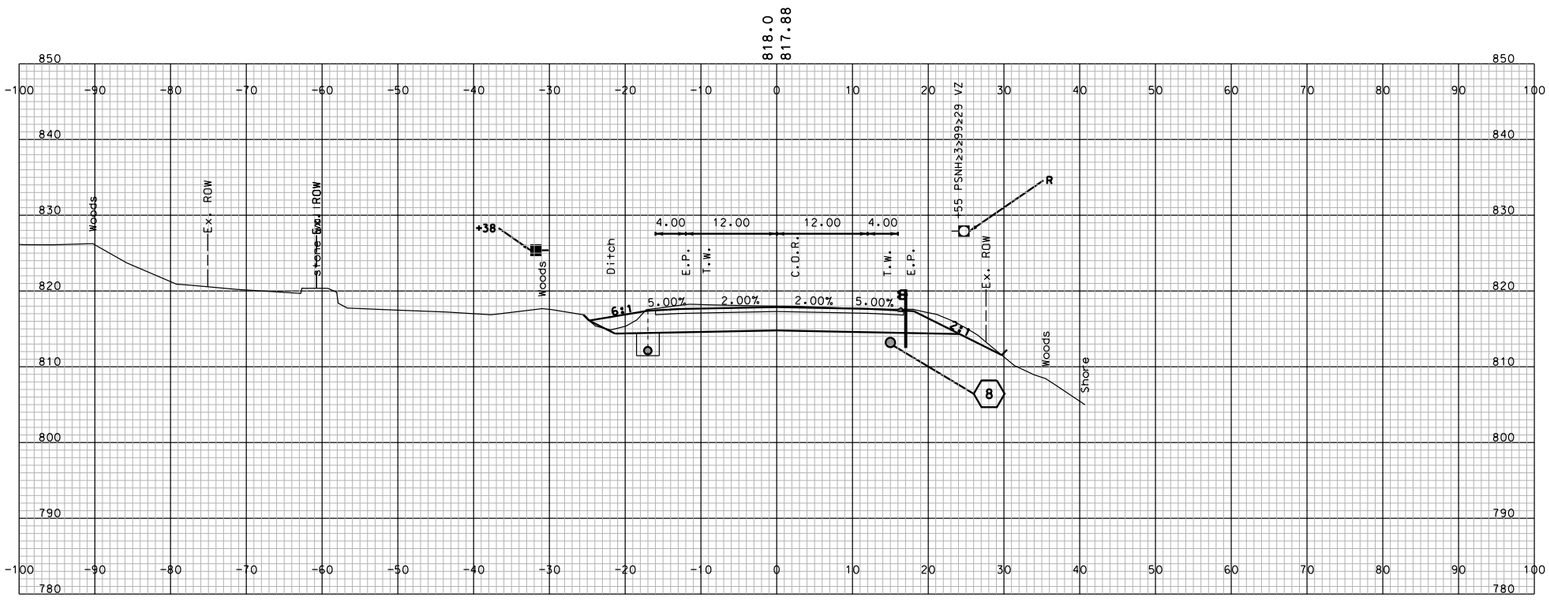
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	159	294

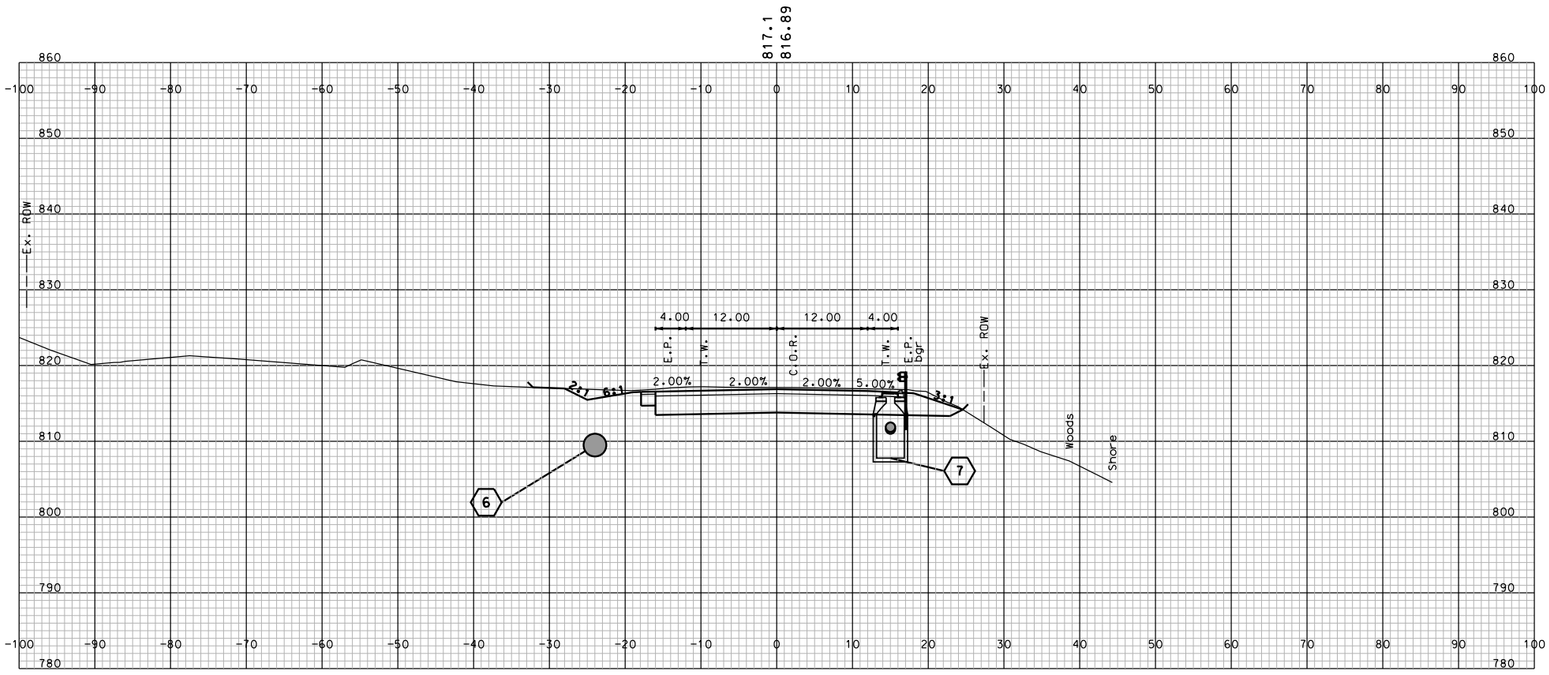
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 110+50.000



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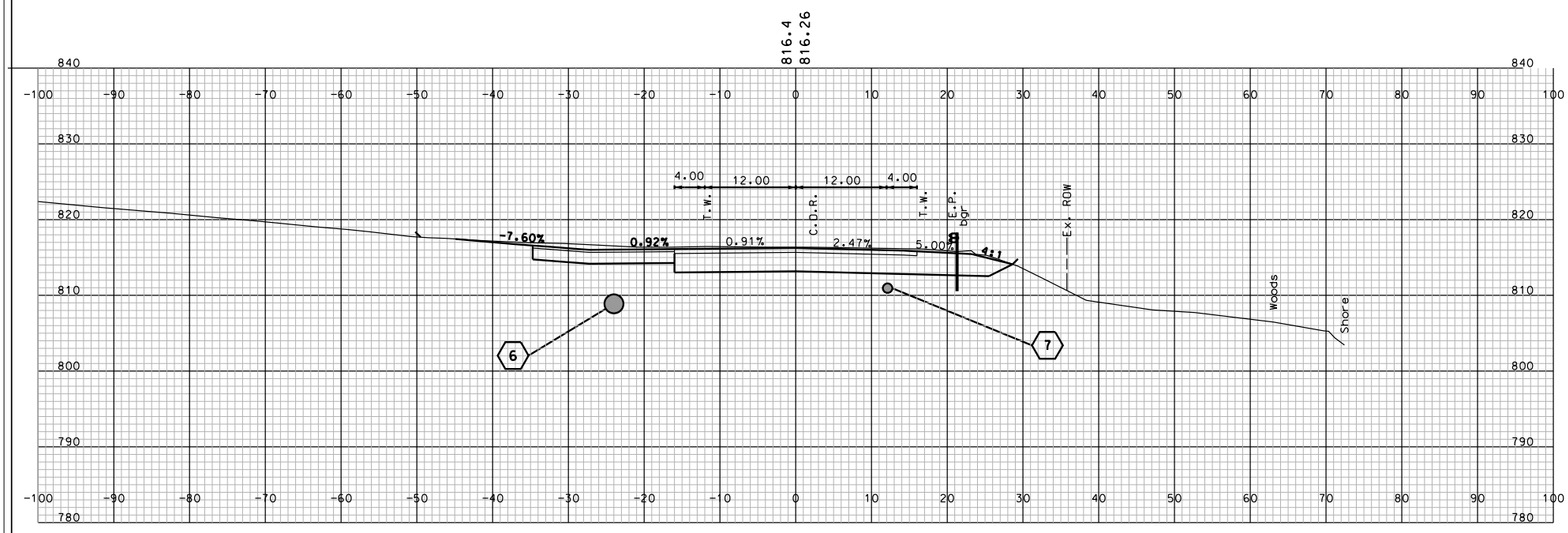


STA. 109+57.204

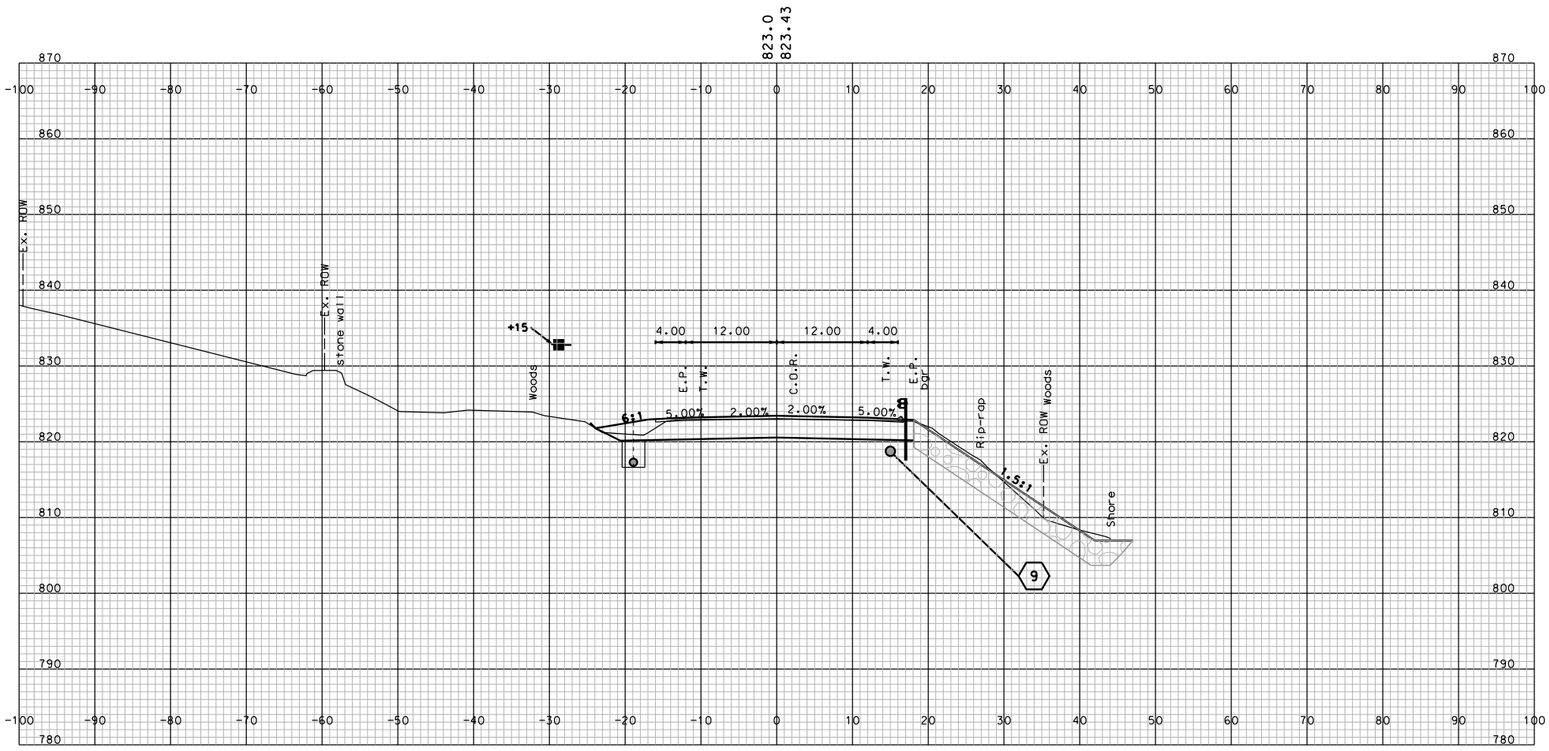
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	160	294

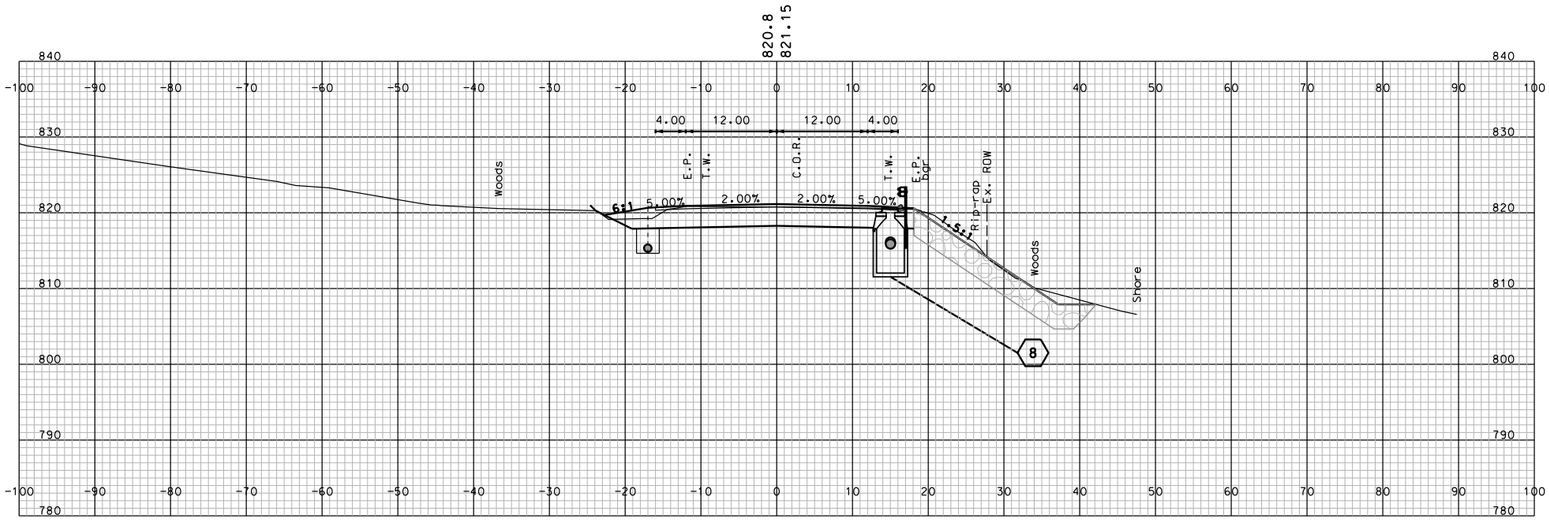
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

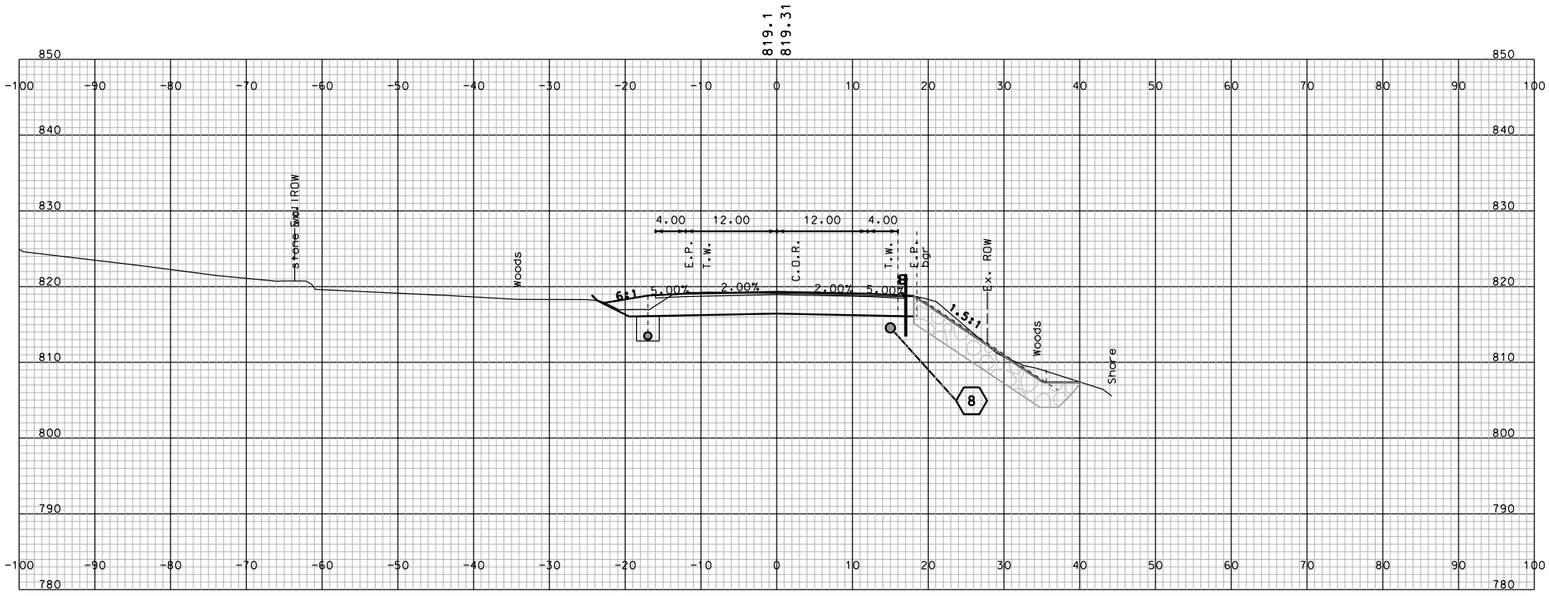
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 112+00.000



STA. 111+50.000



STA. 111+00.000

SHEET TOTALS

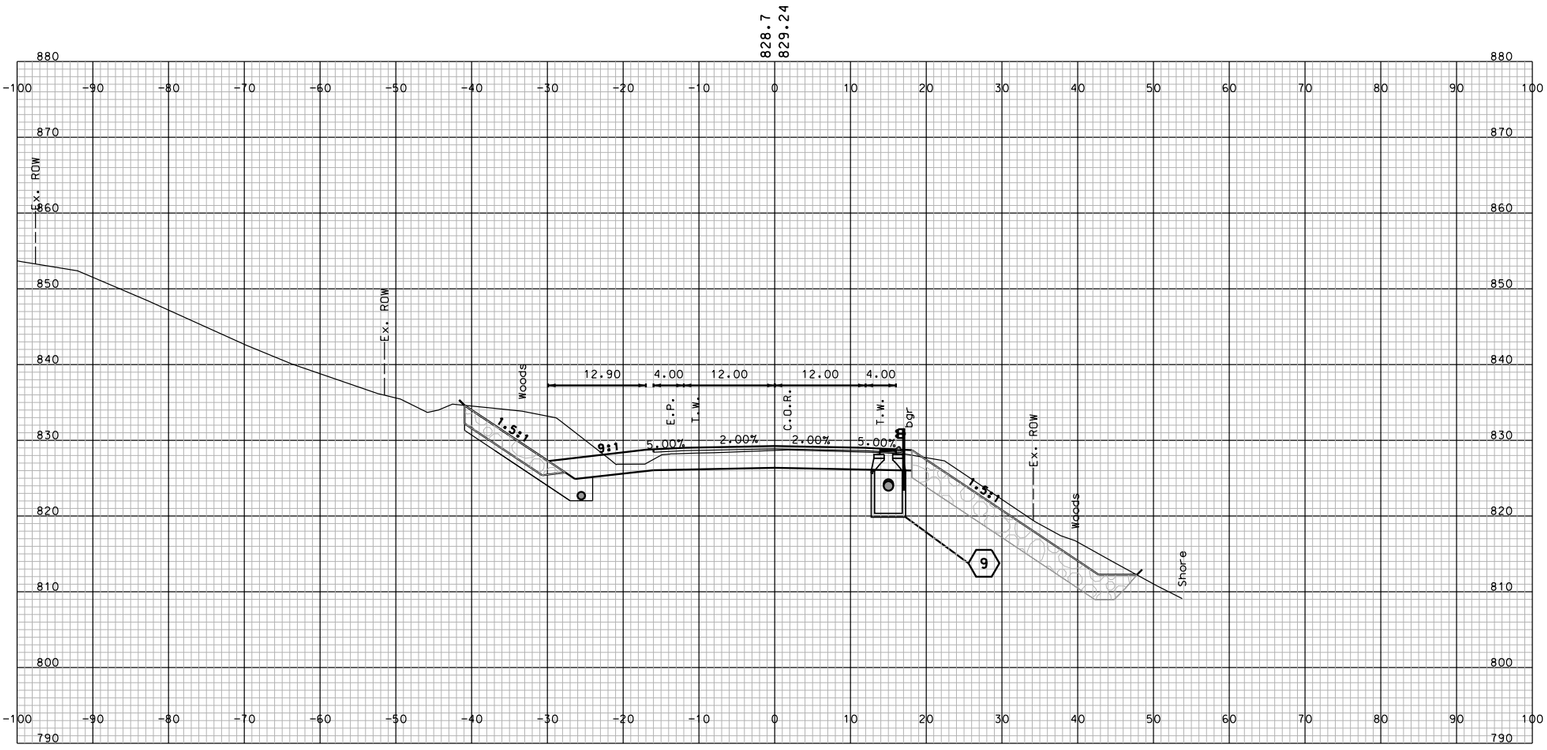
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439_STA_10350-11450_XS	10439	161	294

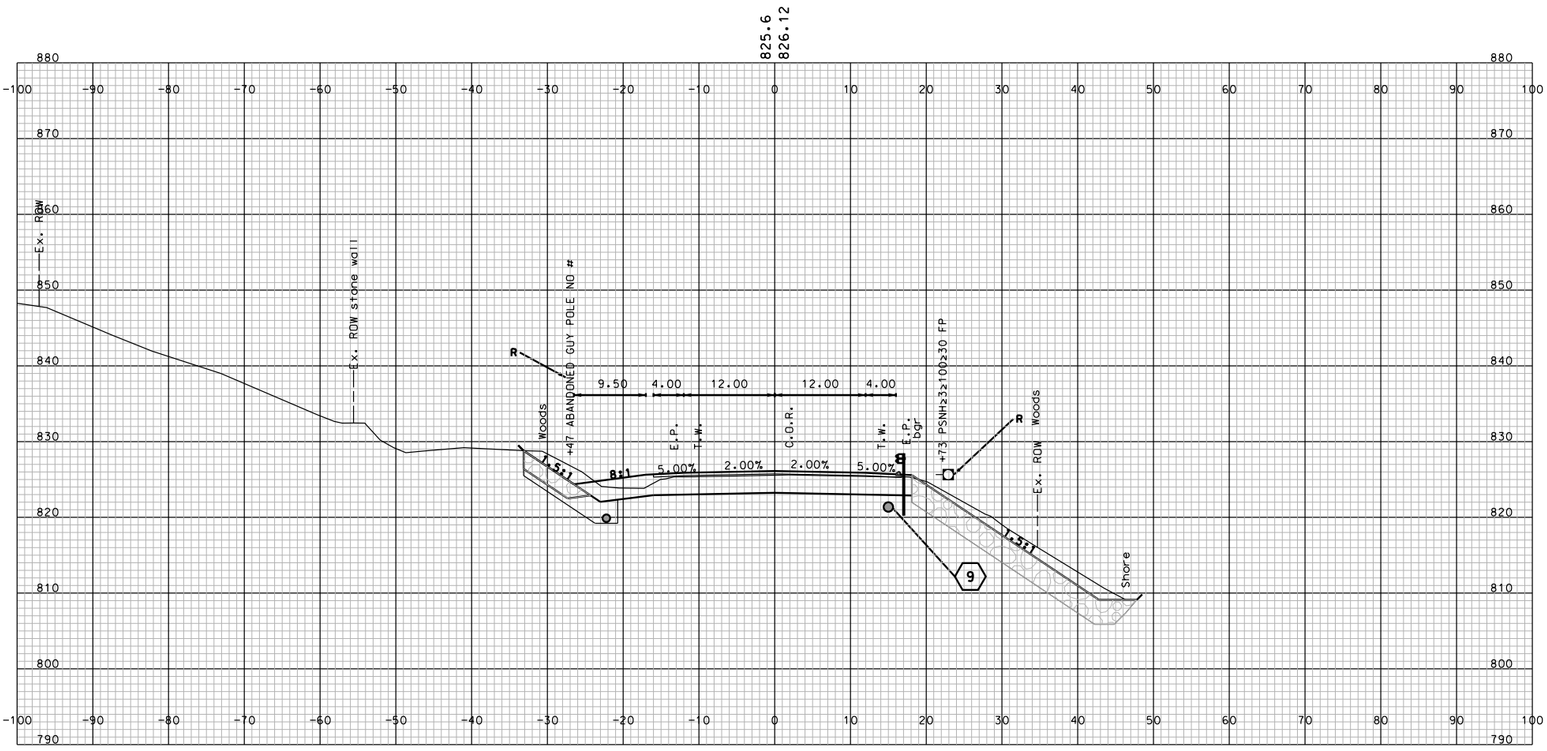
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 113+00.000



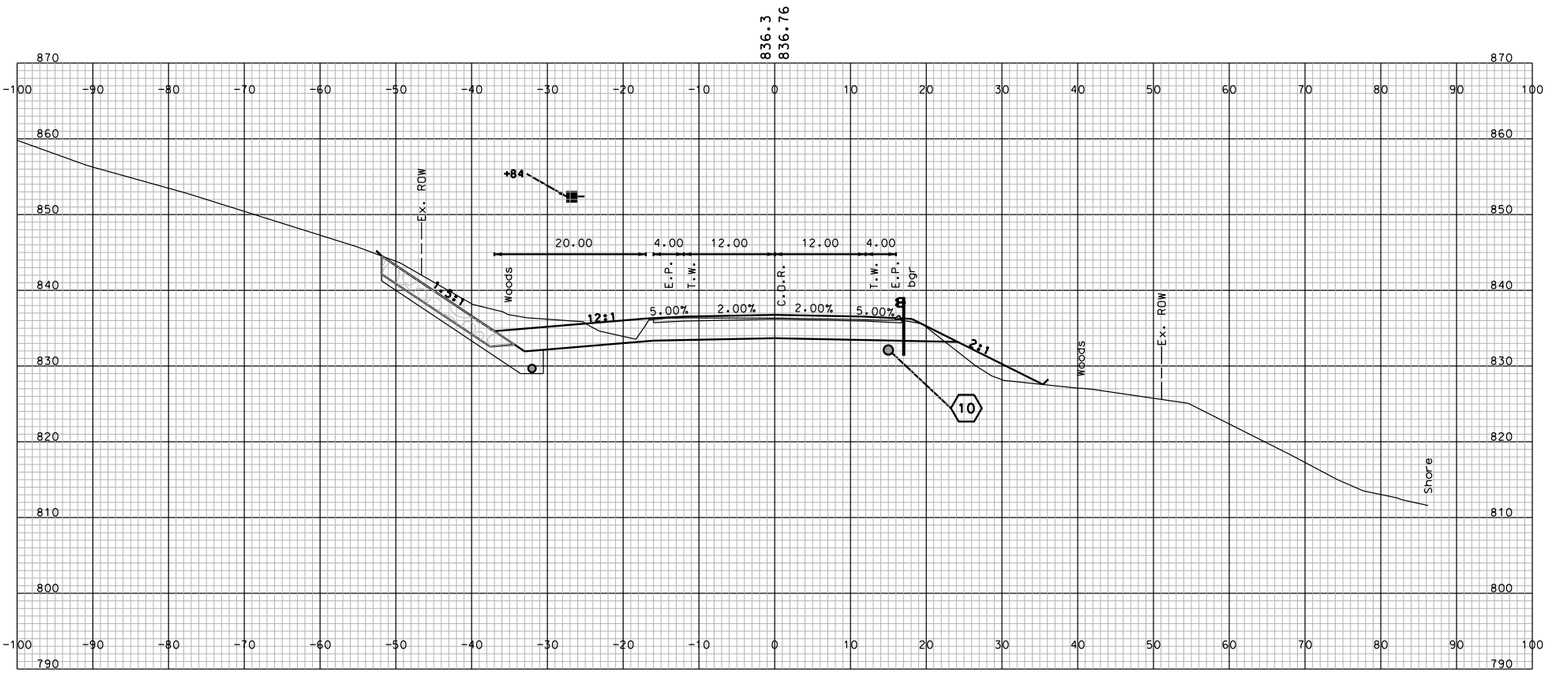
STA. 112+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	162	294

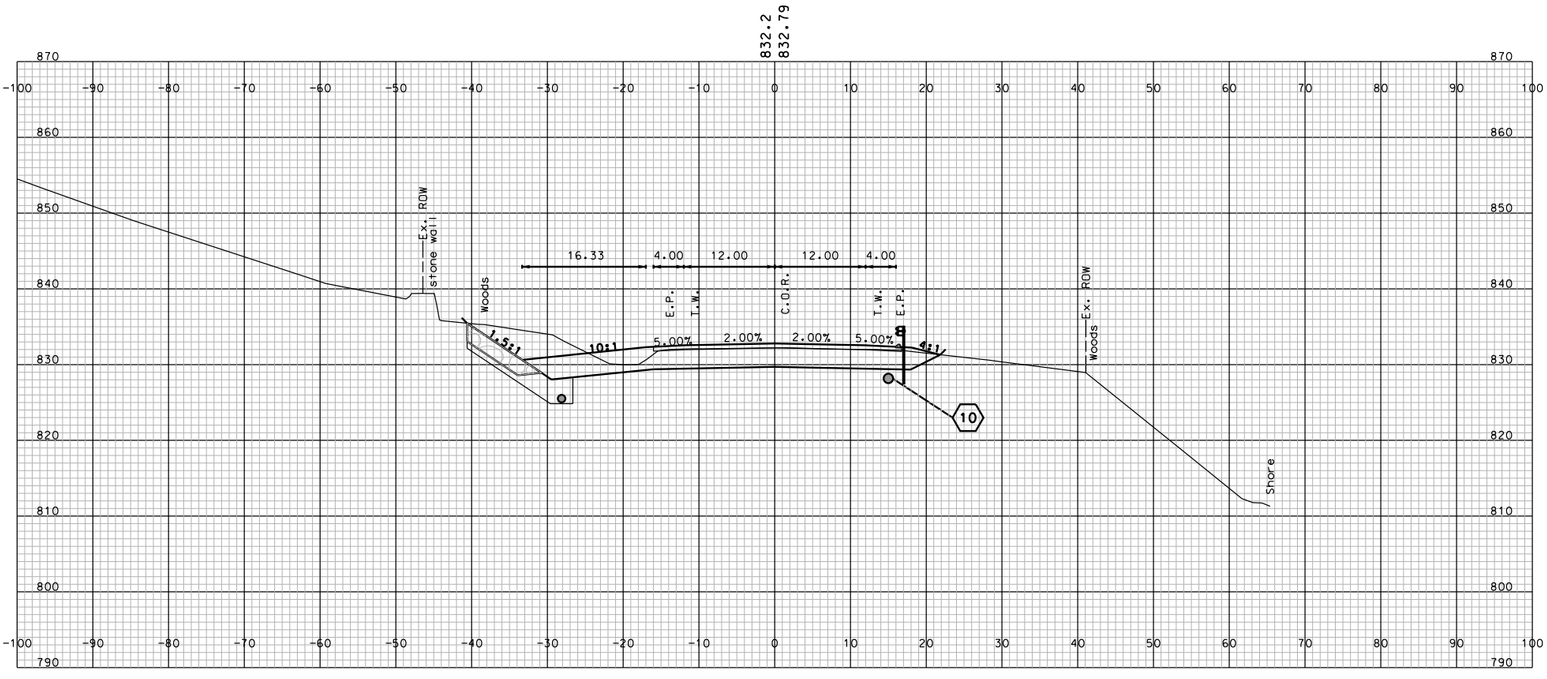
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 114+00.000



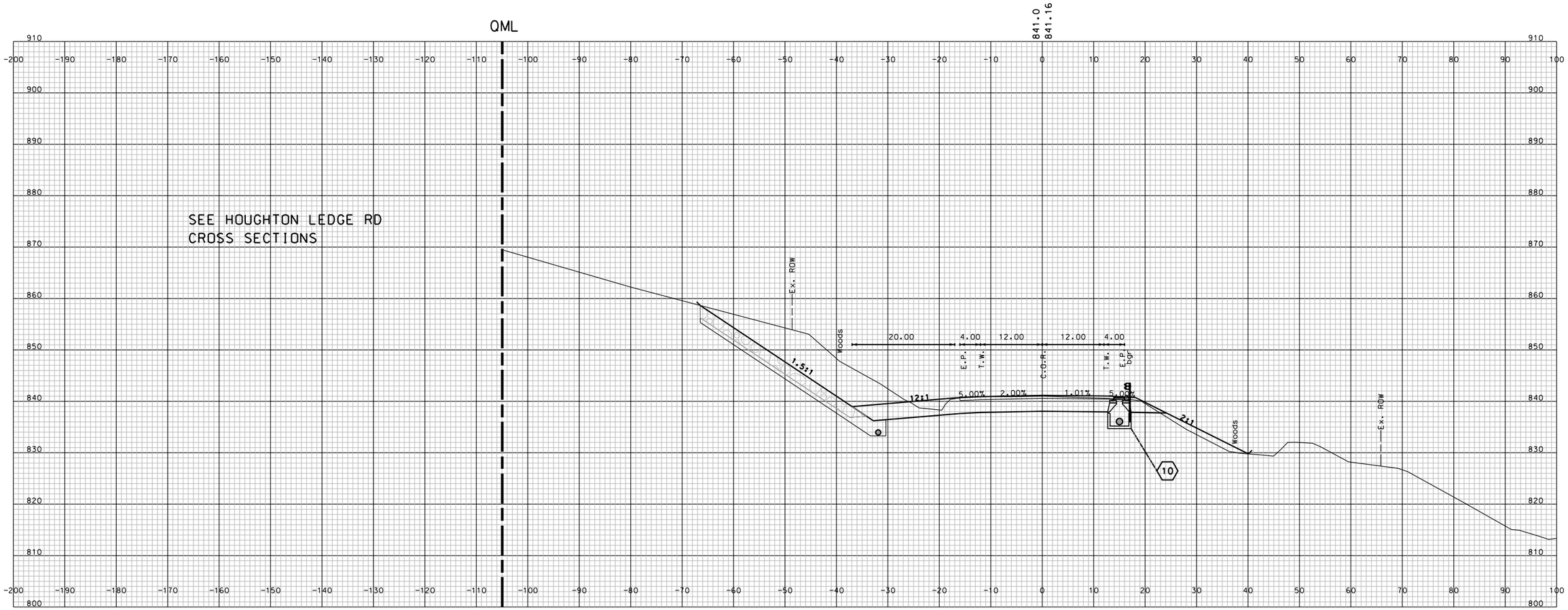
STA. 113+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_10350-11450_XS	10439	163	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

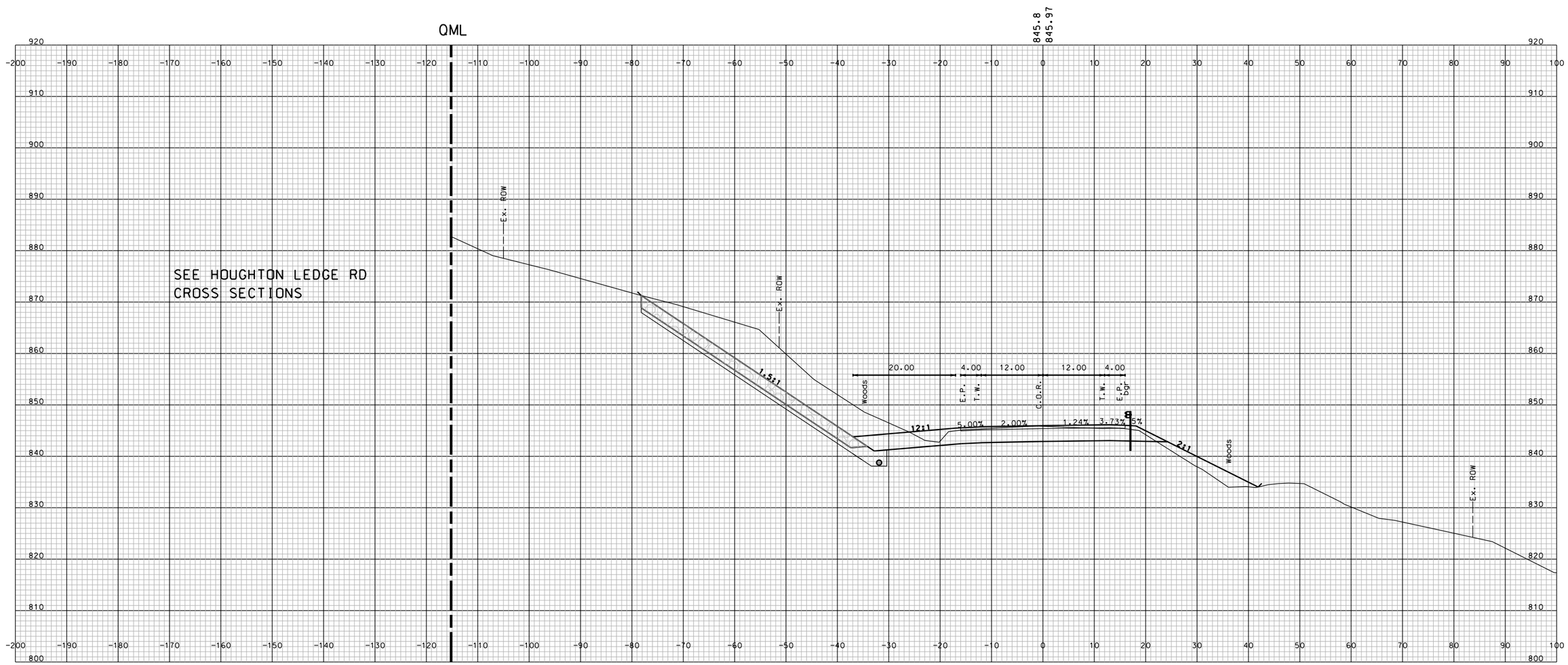
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 114+50.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	164	294



STA. 115+00.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	165	294

REVISIONS AFTER PROPOSAL

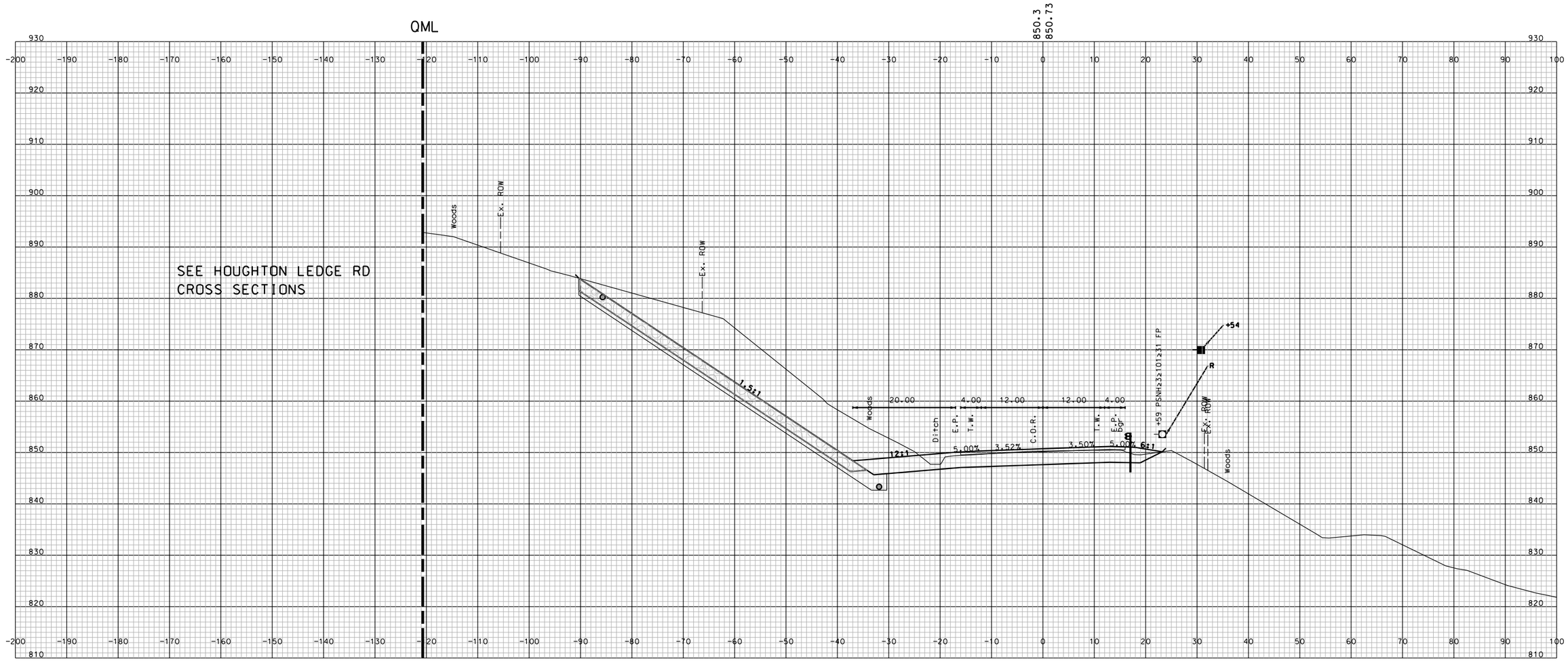
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 115+50.000

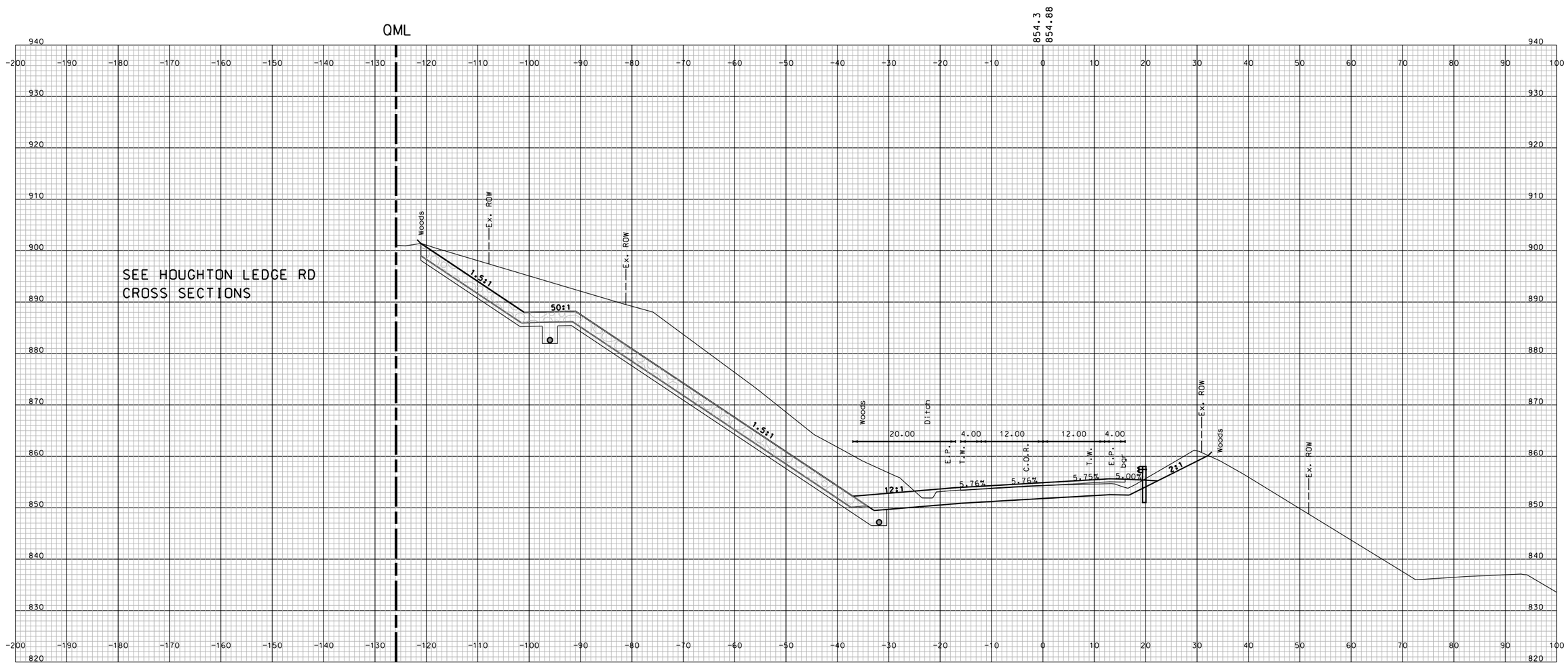
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	166	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

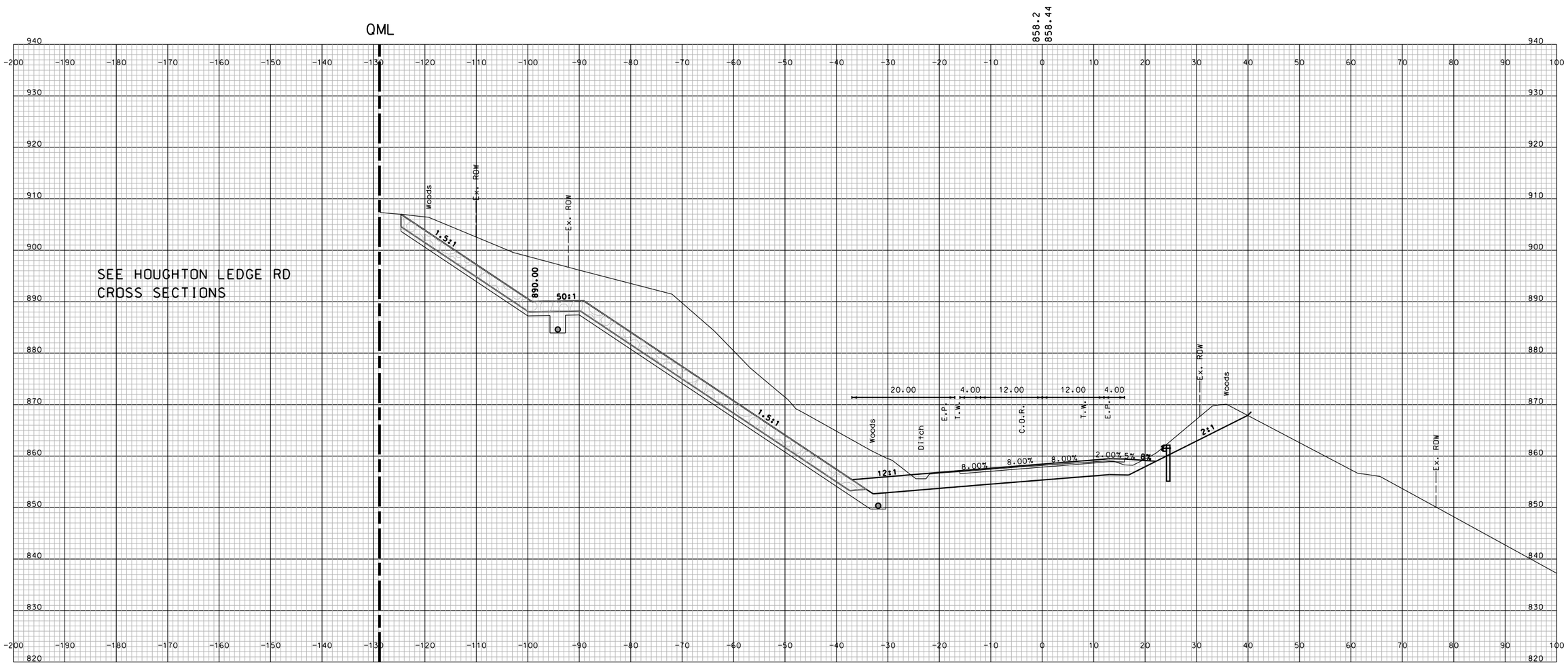
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 116+00.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	167	294



STA. 116+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	168	294

REVISIONS AFTER PROPOSAL

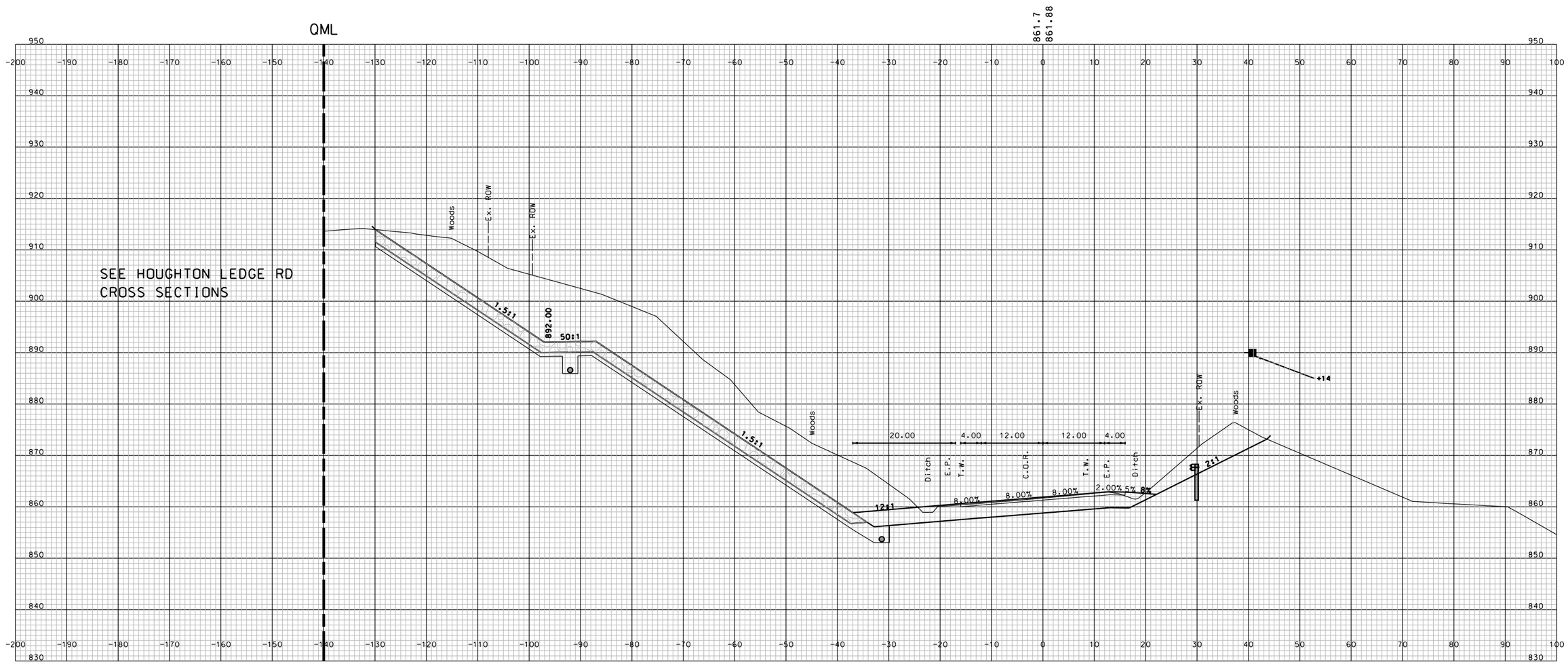
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



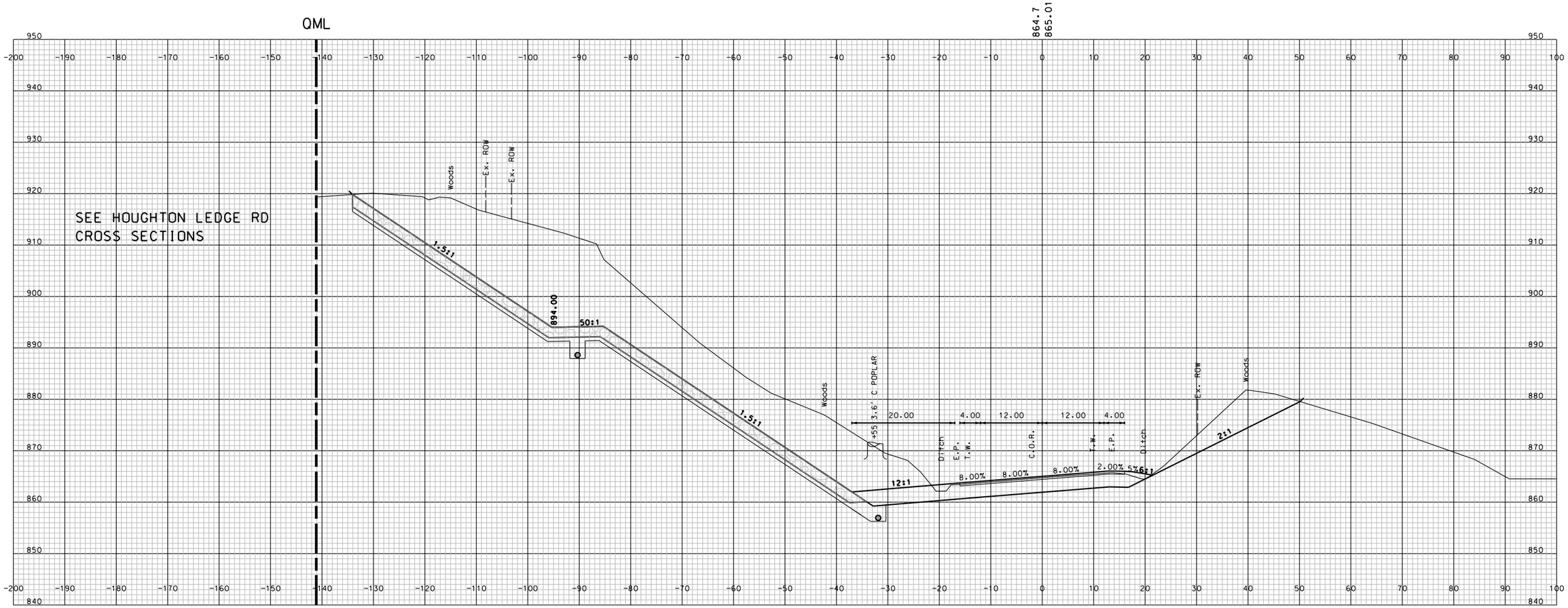
STA. 117+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	169	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



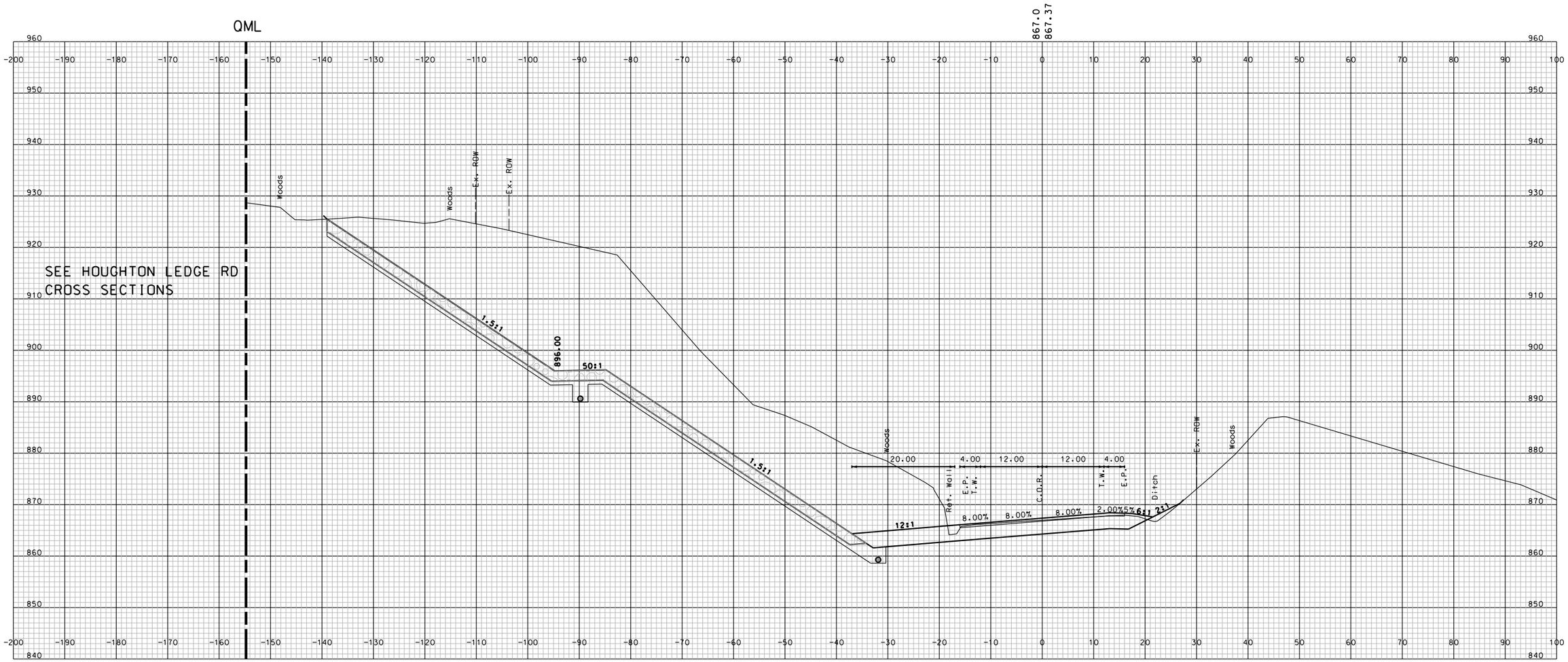
STA. 117+50.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	170	294

REVISIONS AFTER PROPOSAL

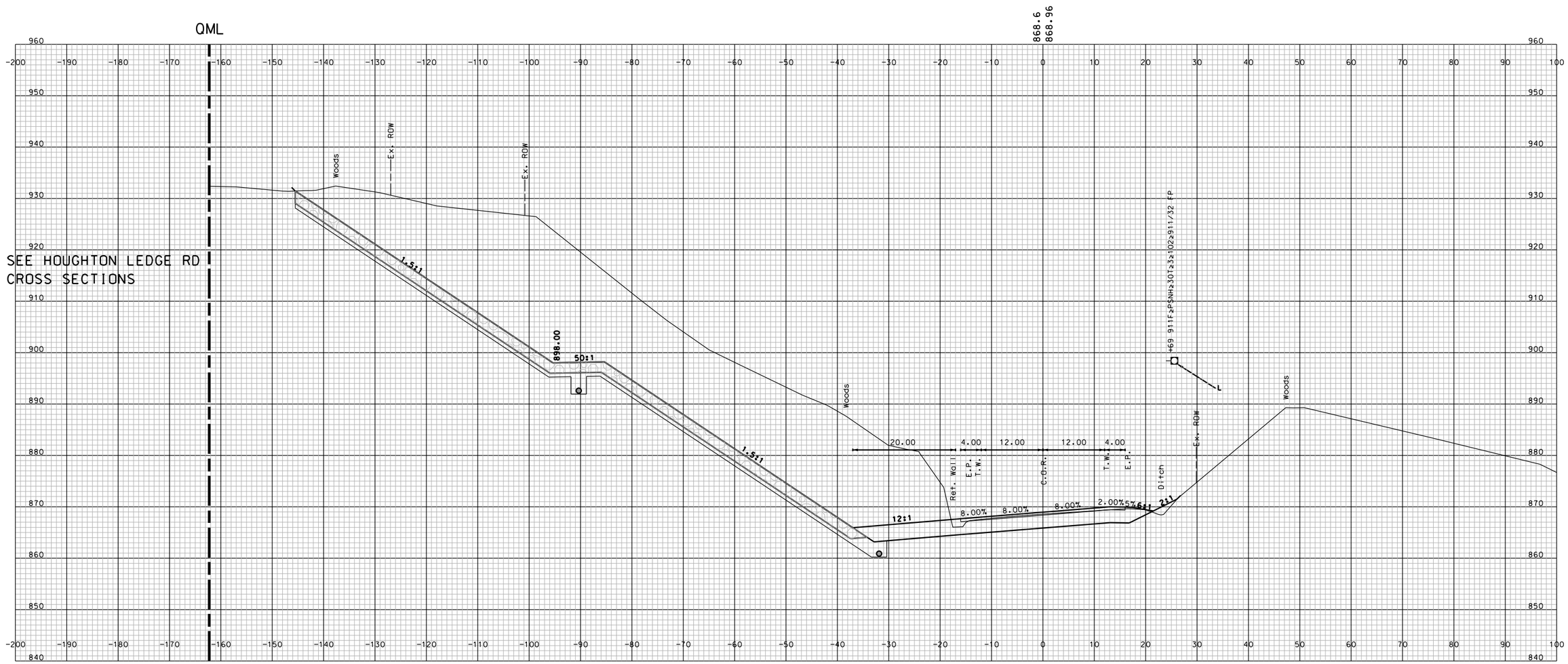
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 118+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	171	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 118+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	172	294

REVISIONS AFTER PROPOSAL

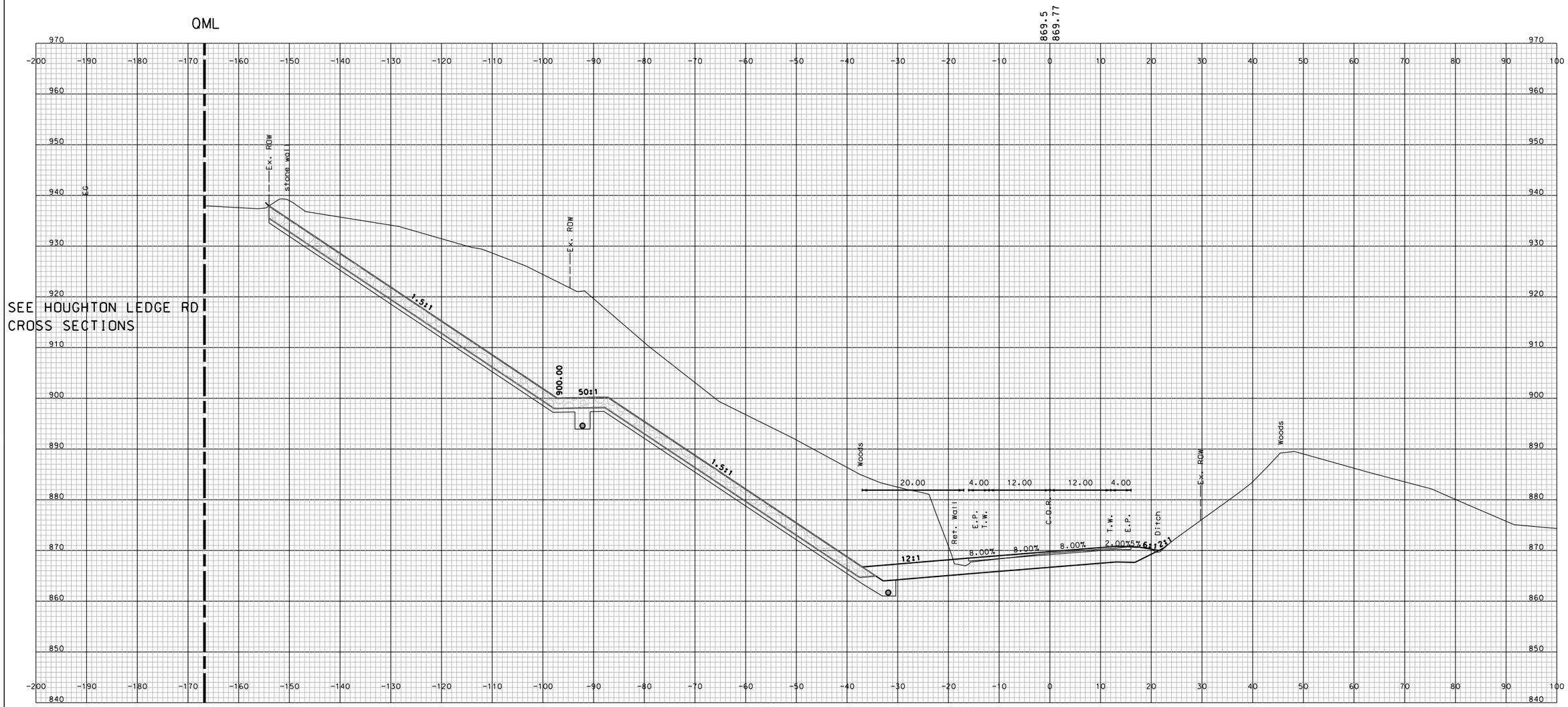
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1	
NEW DESIGN	NAME2	DATE	DATE2	
SHEET CHECKED	NAME3	DATE	DATE3	
AS BUILT DETAILS		DATE		

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



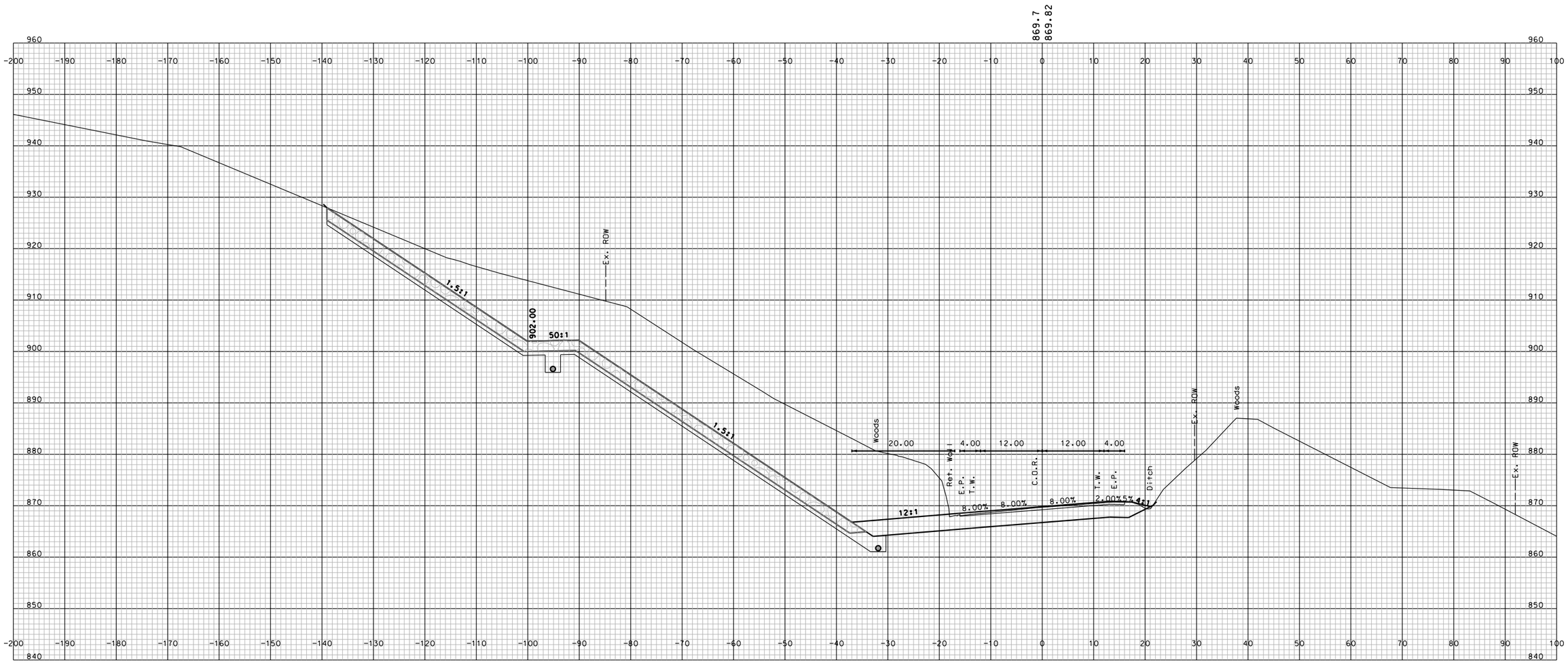
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	173	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 119+50.000

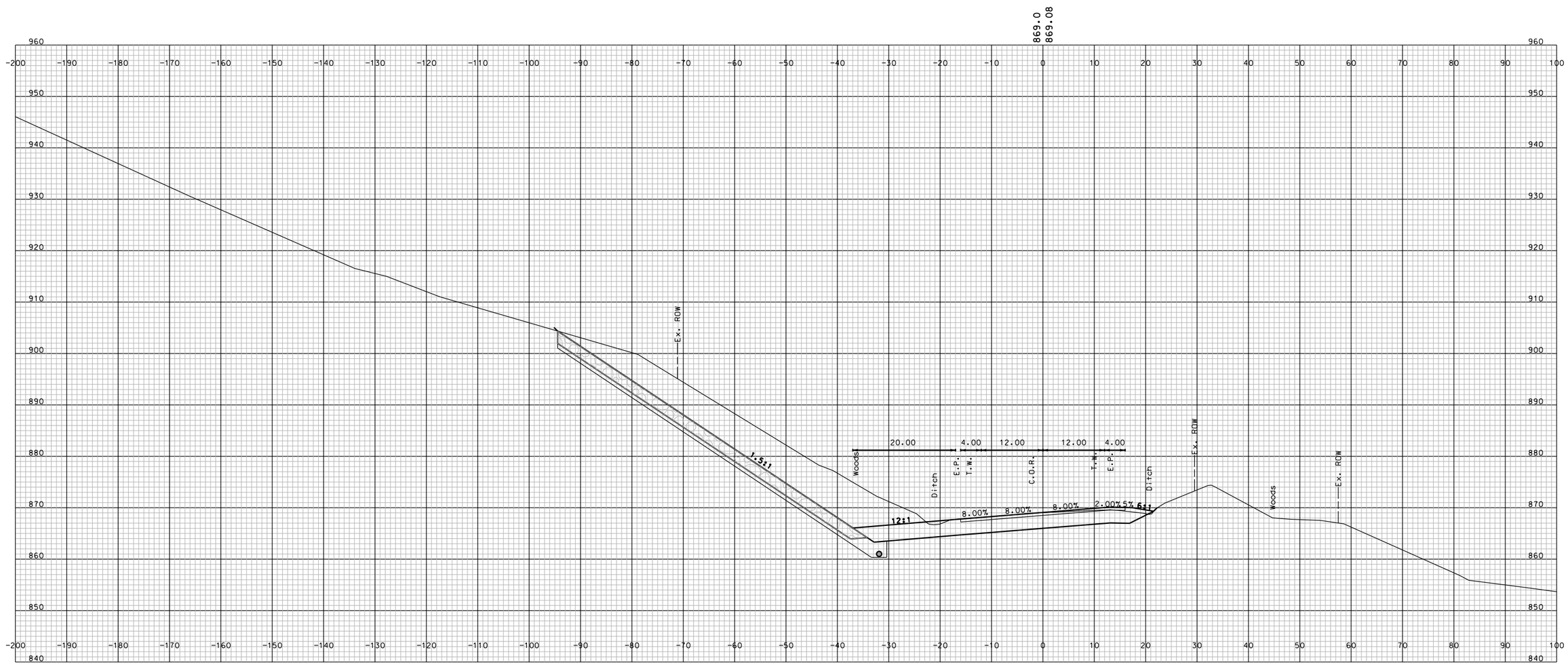
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	174	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 120+00.000

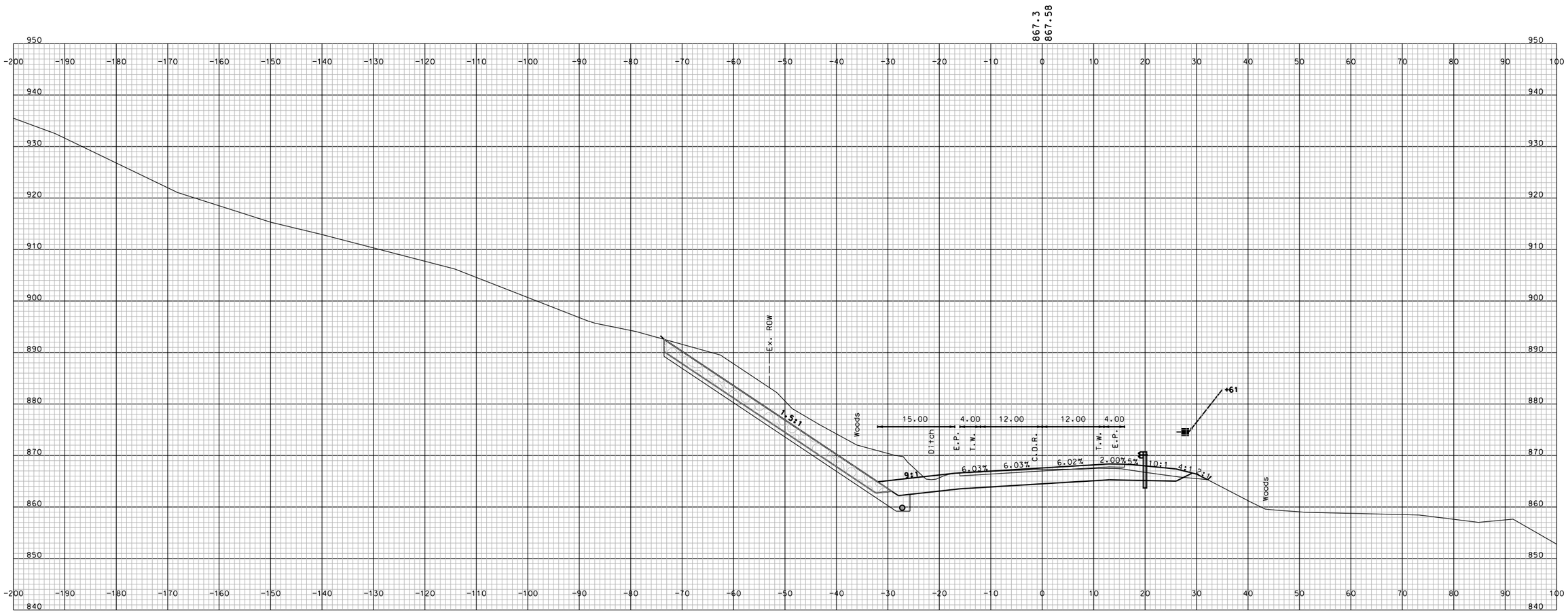
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	175	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 120+50.000

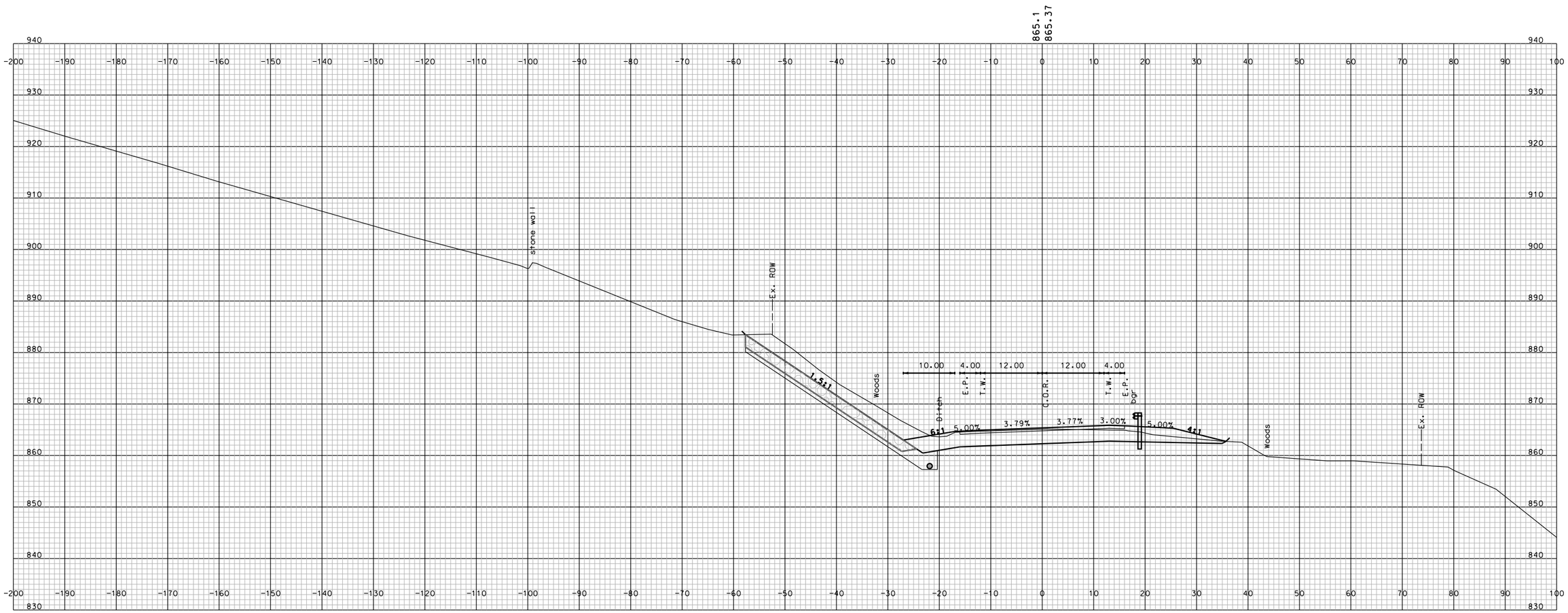
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	176	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 121+00.000

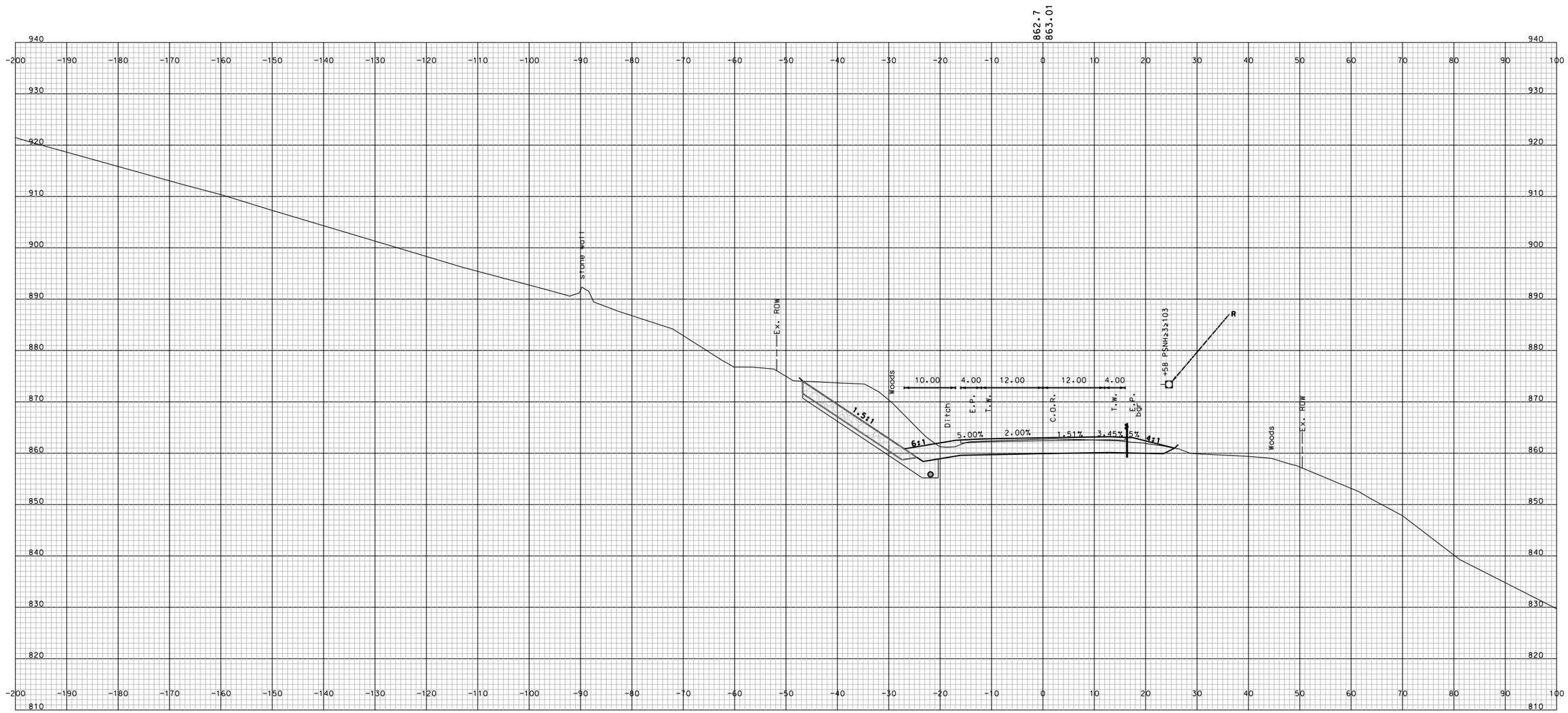
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS 10439		177	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 121+50.000

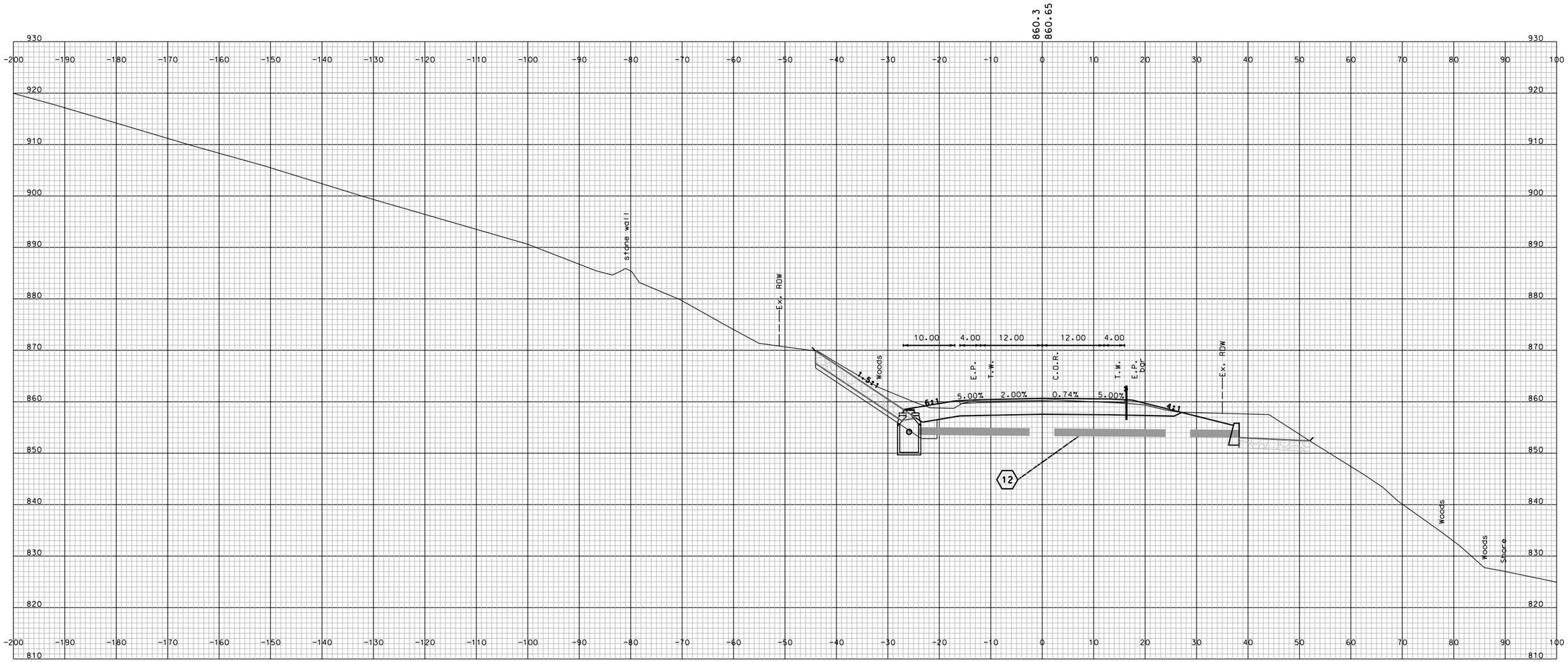
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	178	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 122+00.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	179	294

STA. 122+50.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	180	294

REVISIONS AFTER PROPOSAL

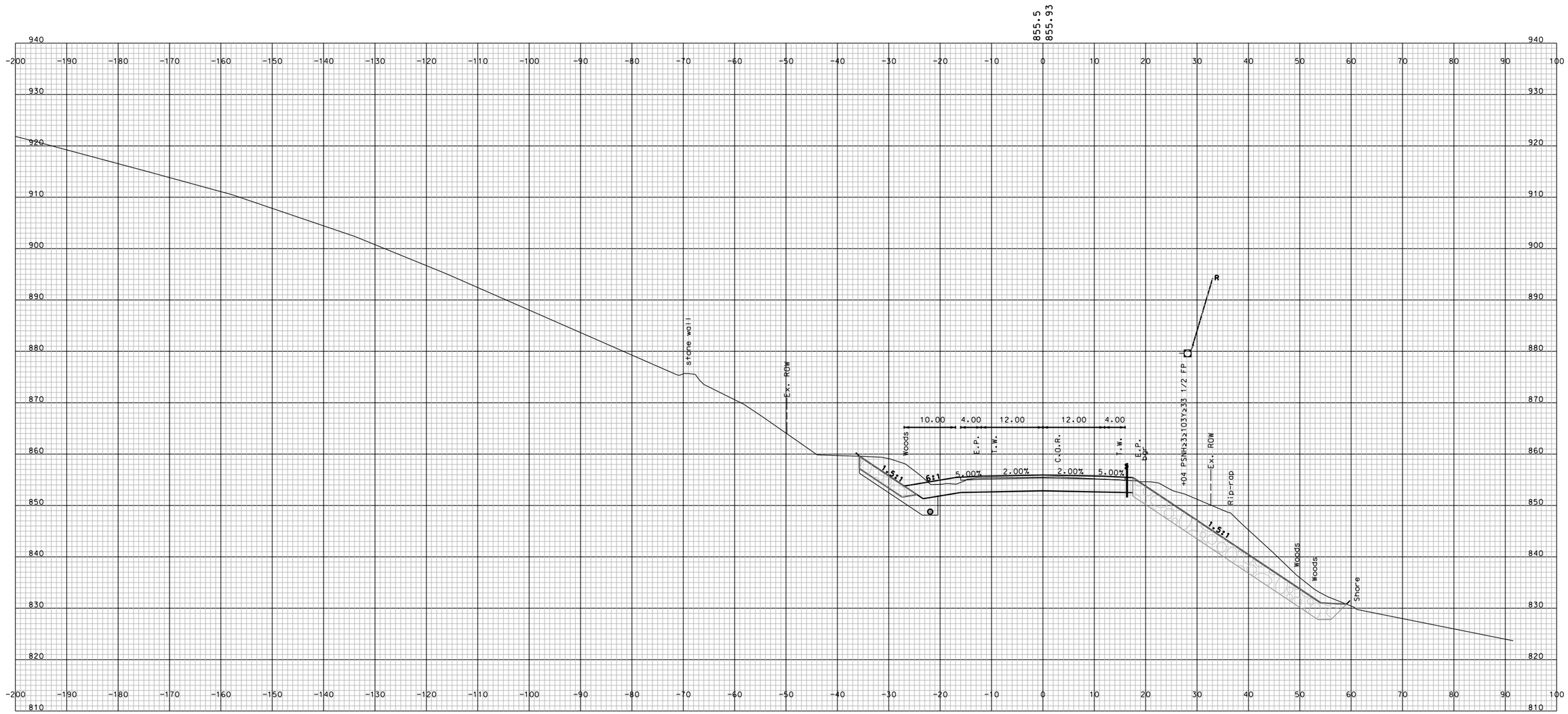
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 123+00.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	181	294

STA. 123+50.000

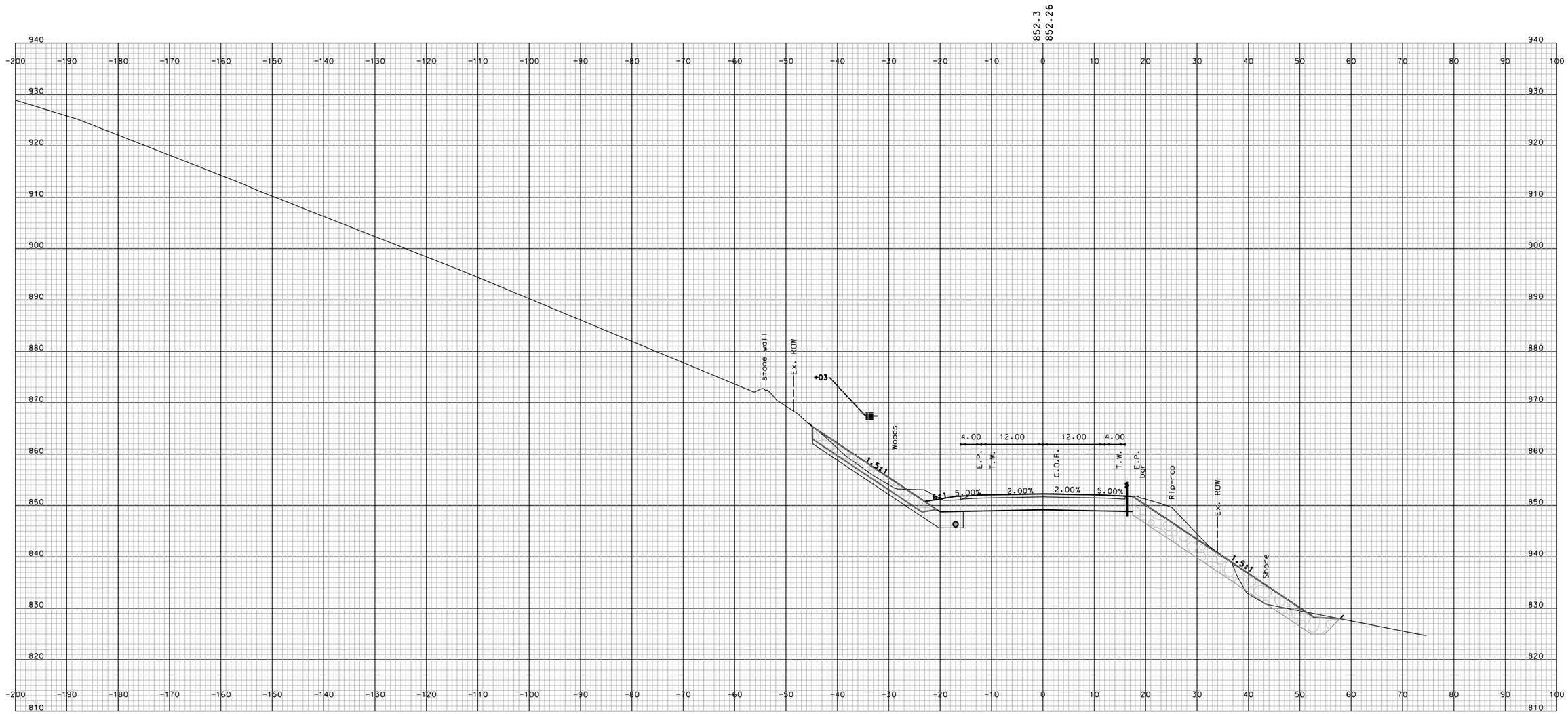
SHEET TOTALS			
COMMON EXCAV.	- C.Y.	ROCK EXCAV.	- C.Y.
FILL	- C.Y.	MUCK EXCAV.	- C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	182	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 124+00.000

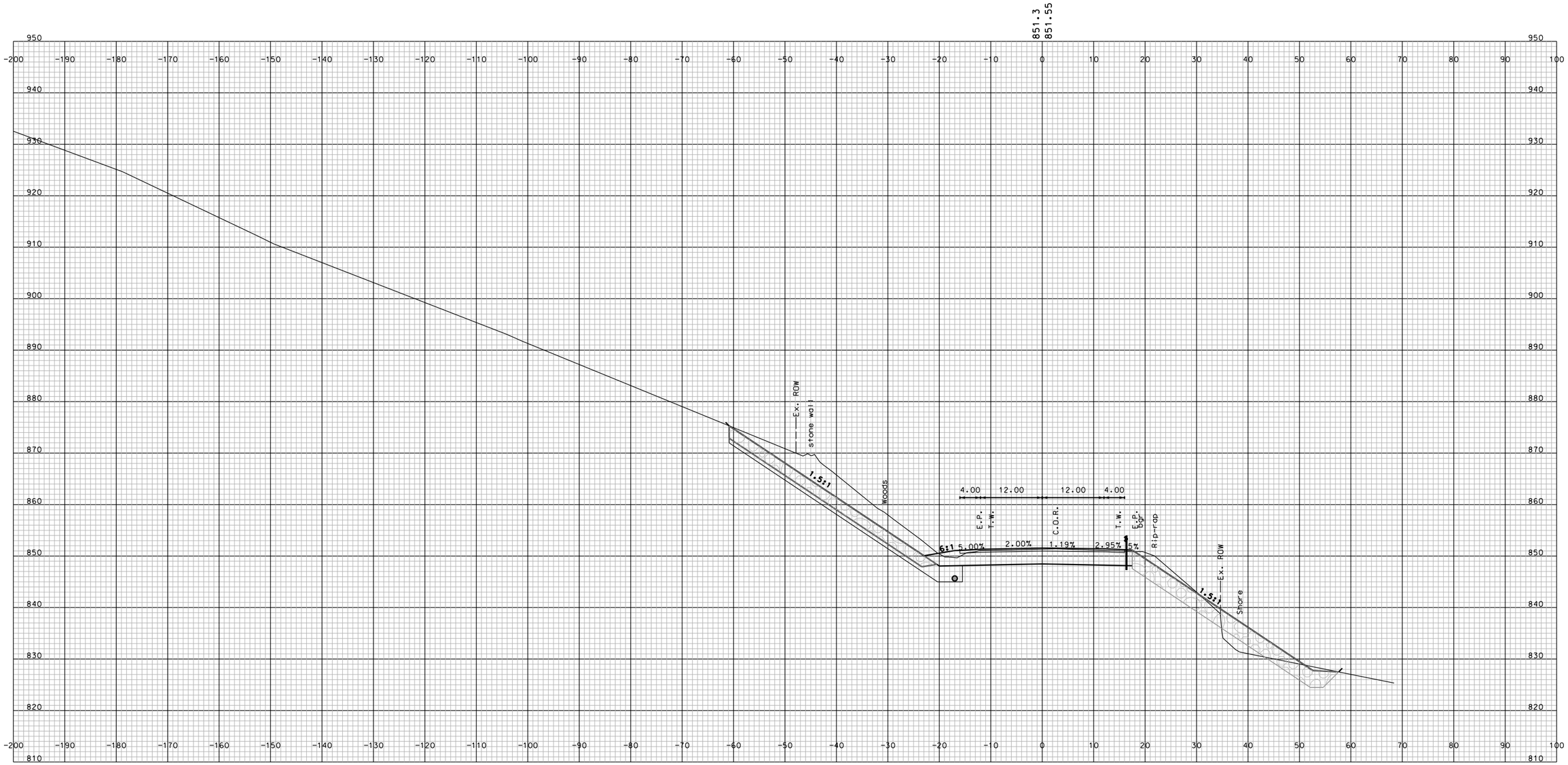
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	183	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



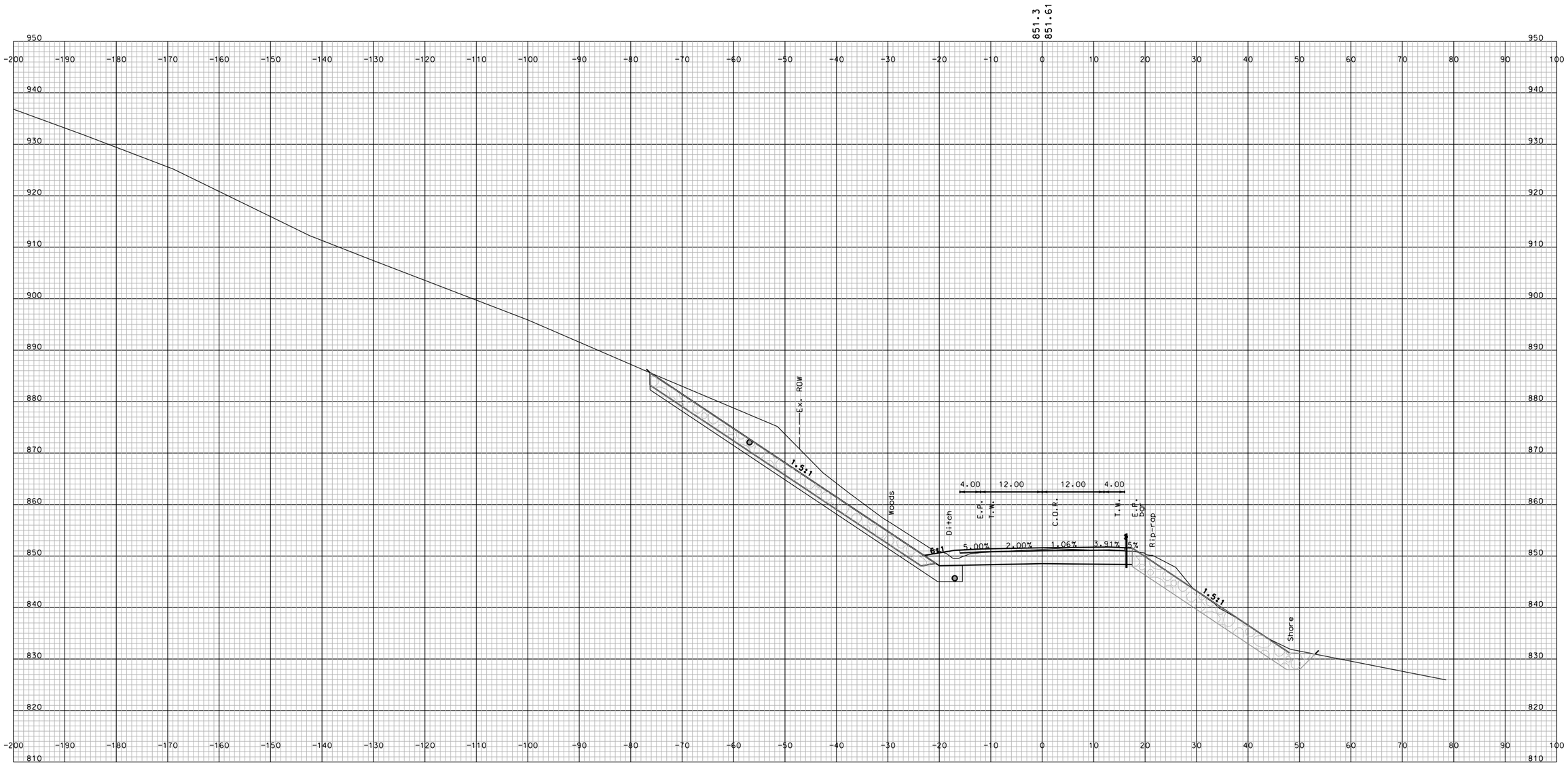
STA. 124+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	184	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



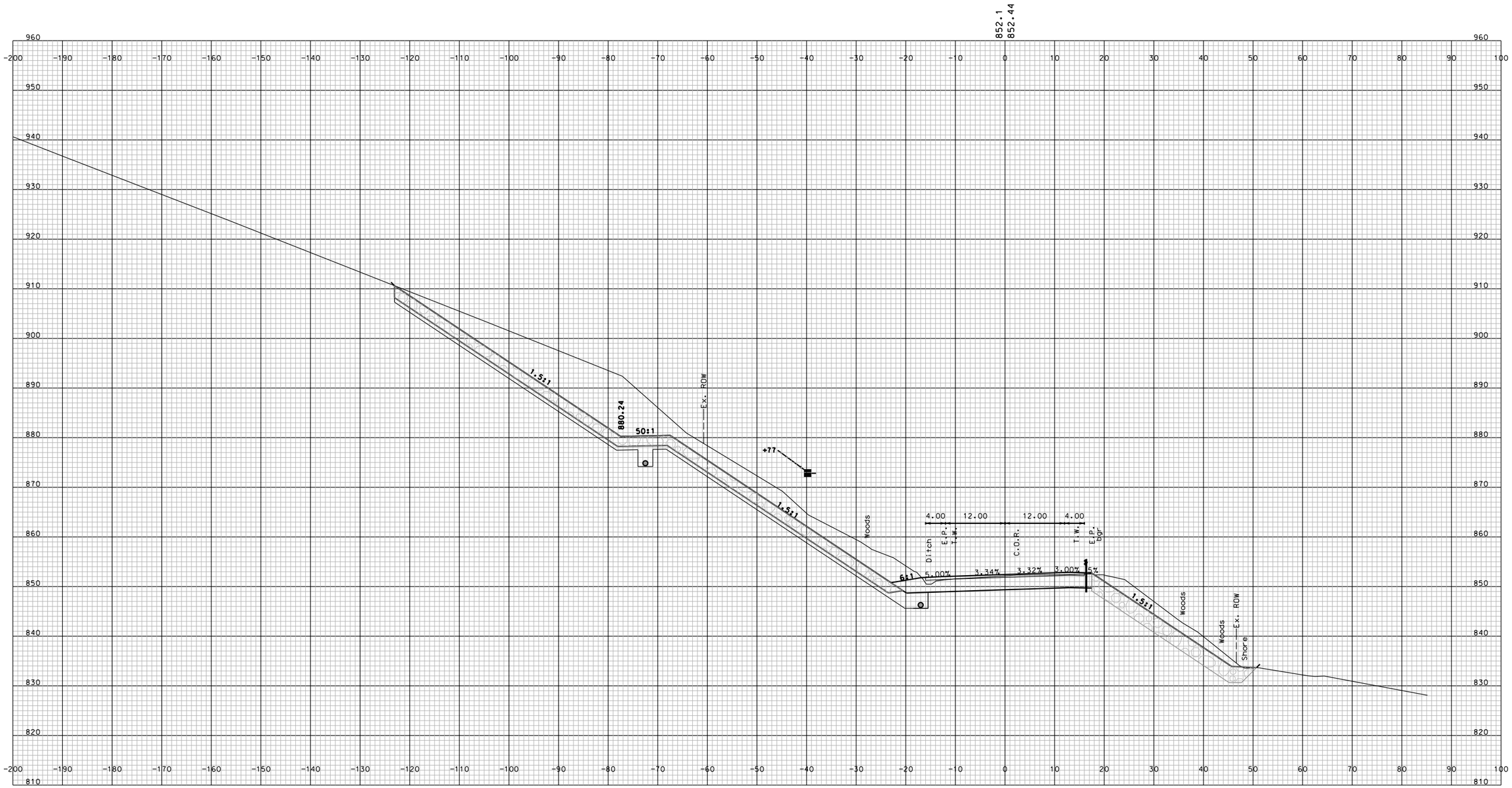
STA. 125+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	185	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



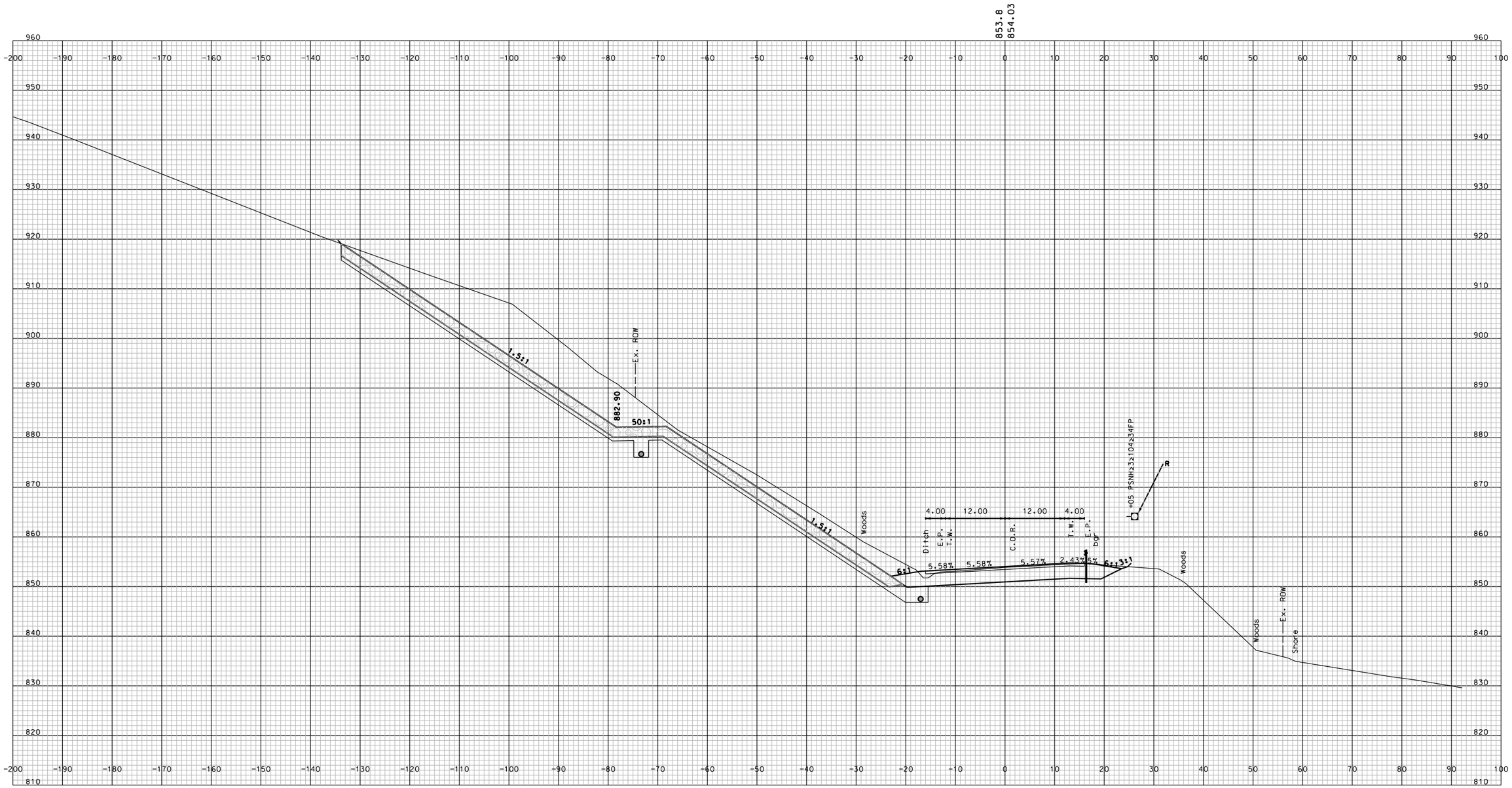
STA. 125+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	186	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



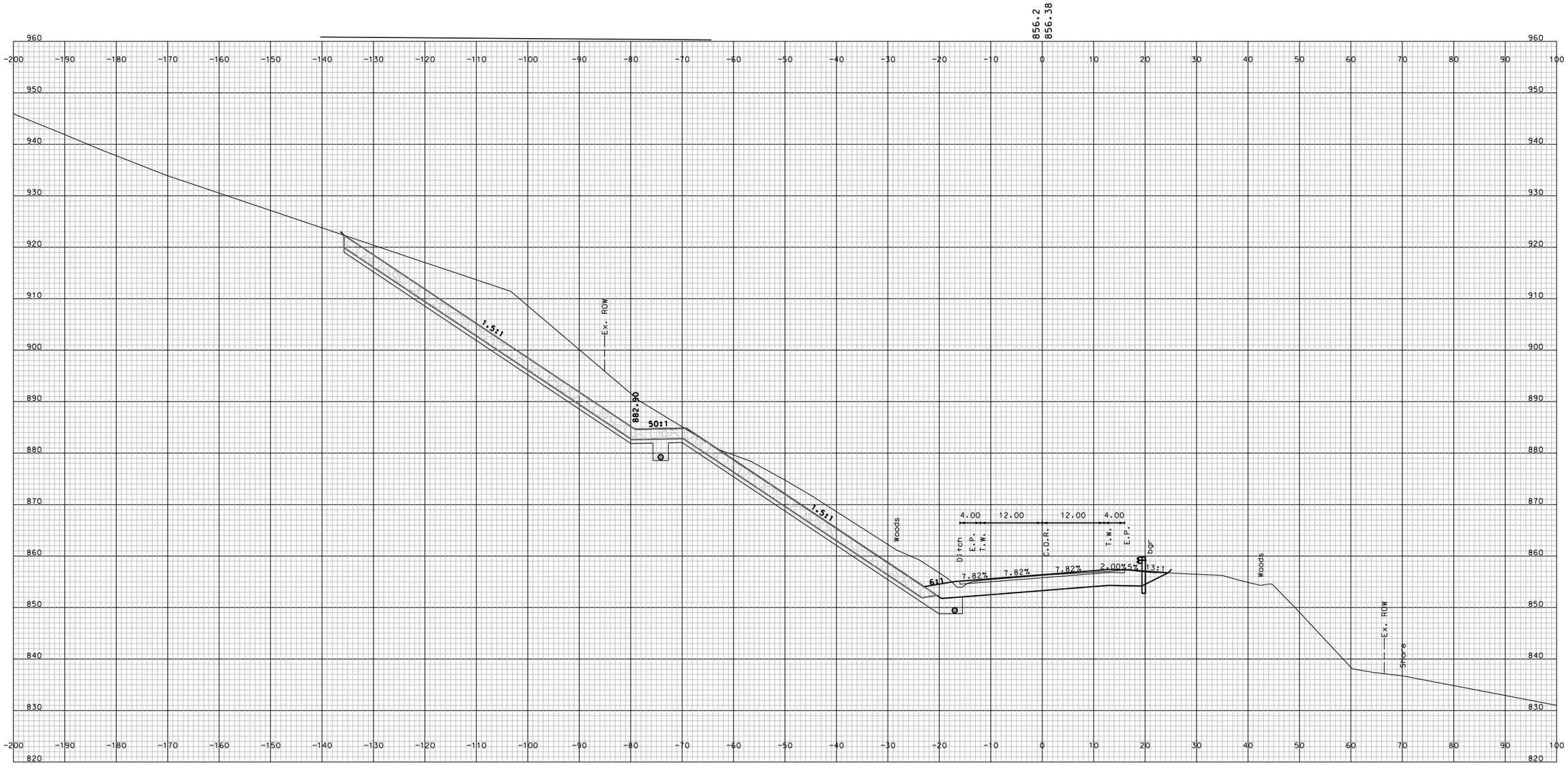
STA. 126+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	187	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



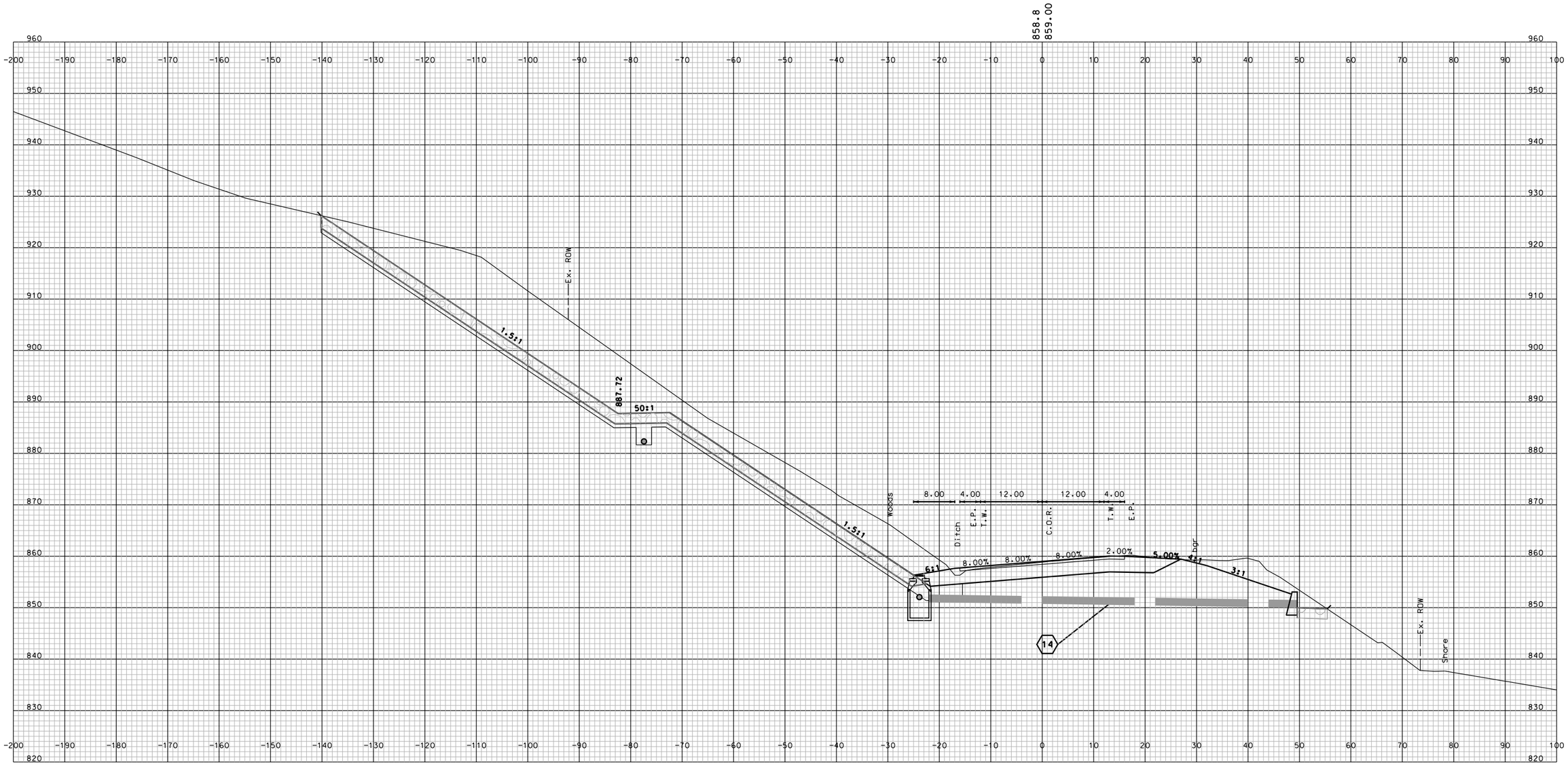
STA. 126+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	188	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



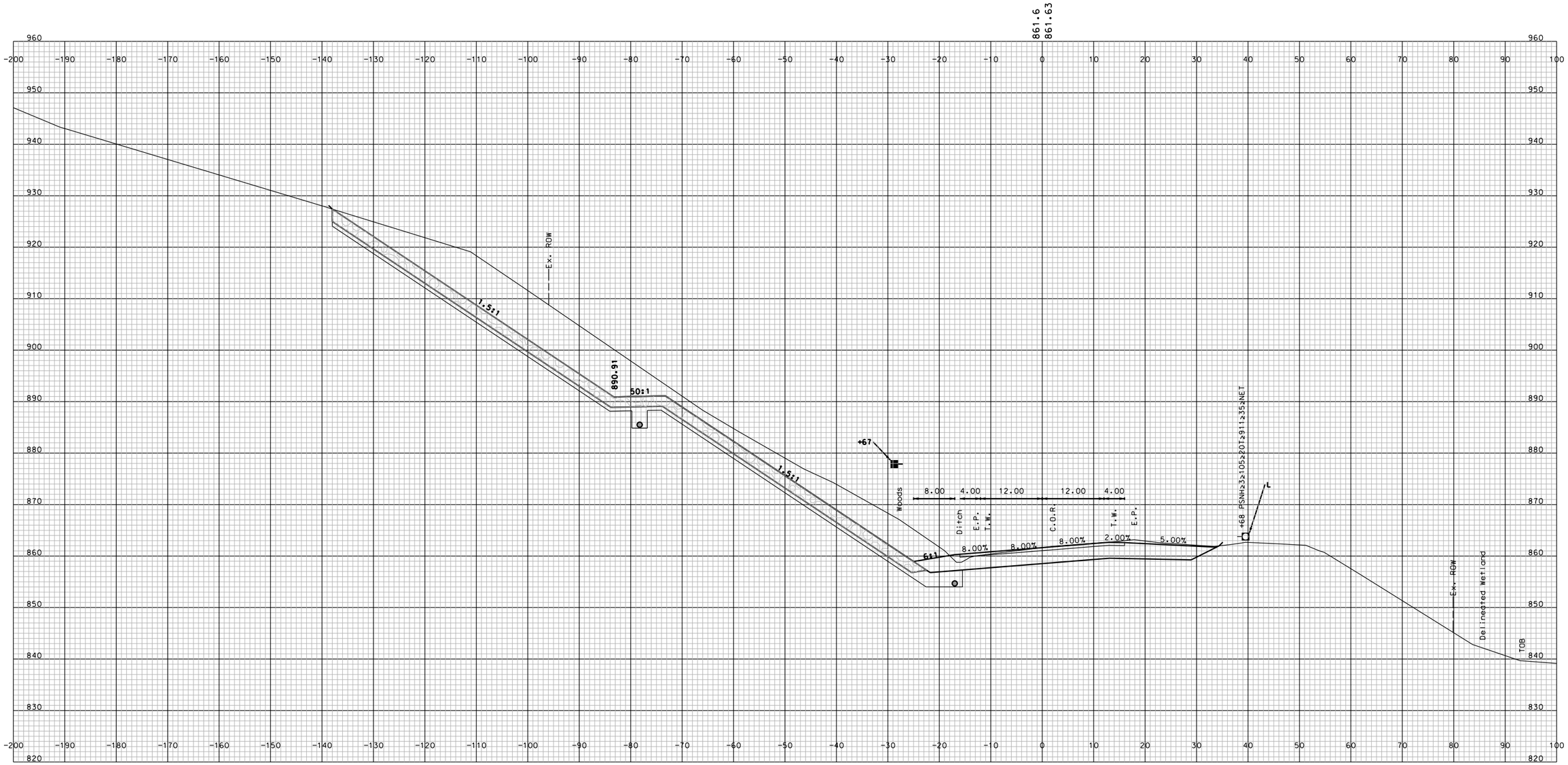
STA. 127+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	189	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 127+50.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	190	294

REVISIONS AFTER PROPOSAL

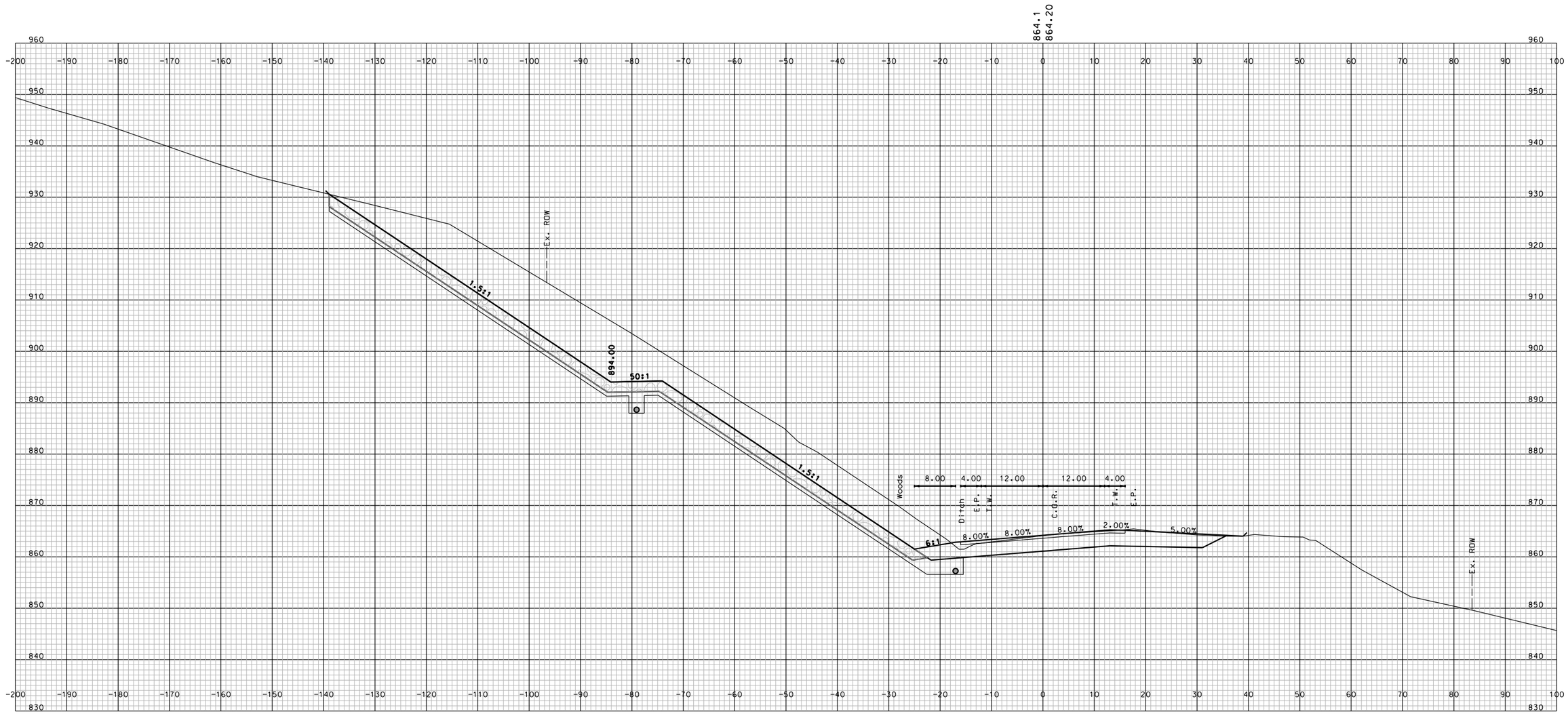
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

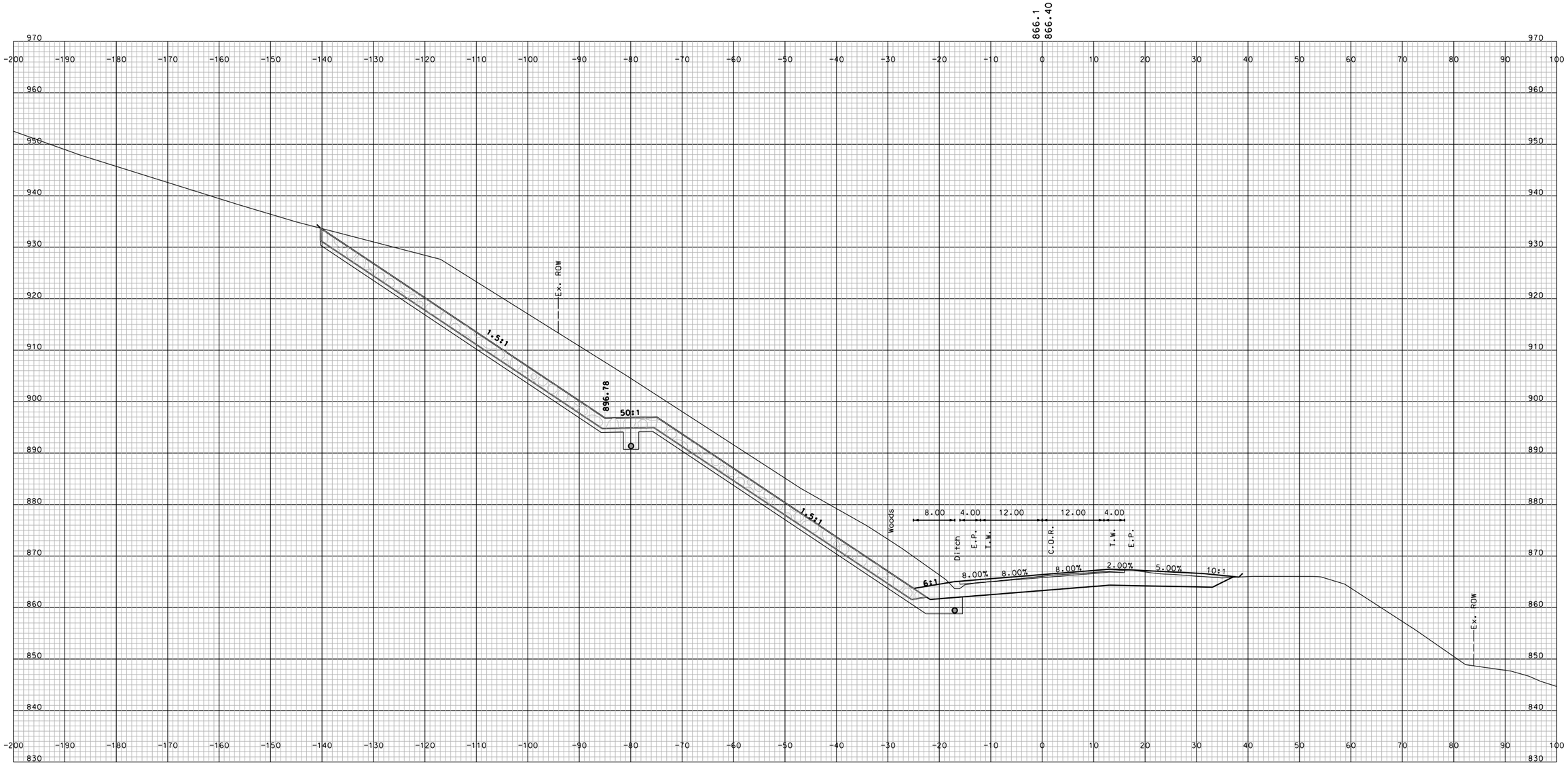


STA. 128+00.000

SHEET TOTALS

COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	191	294



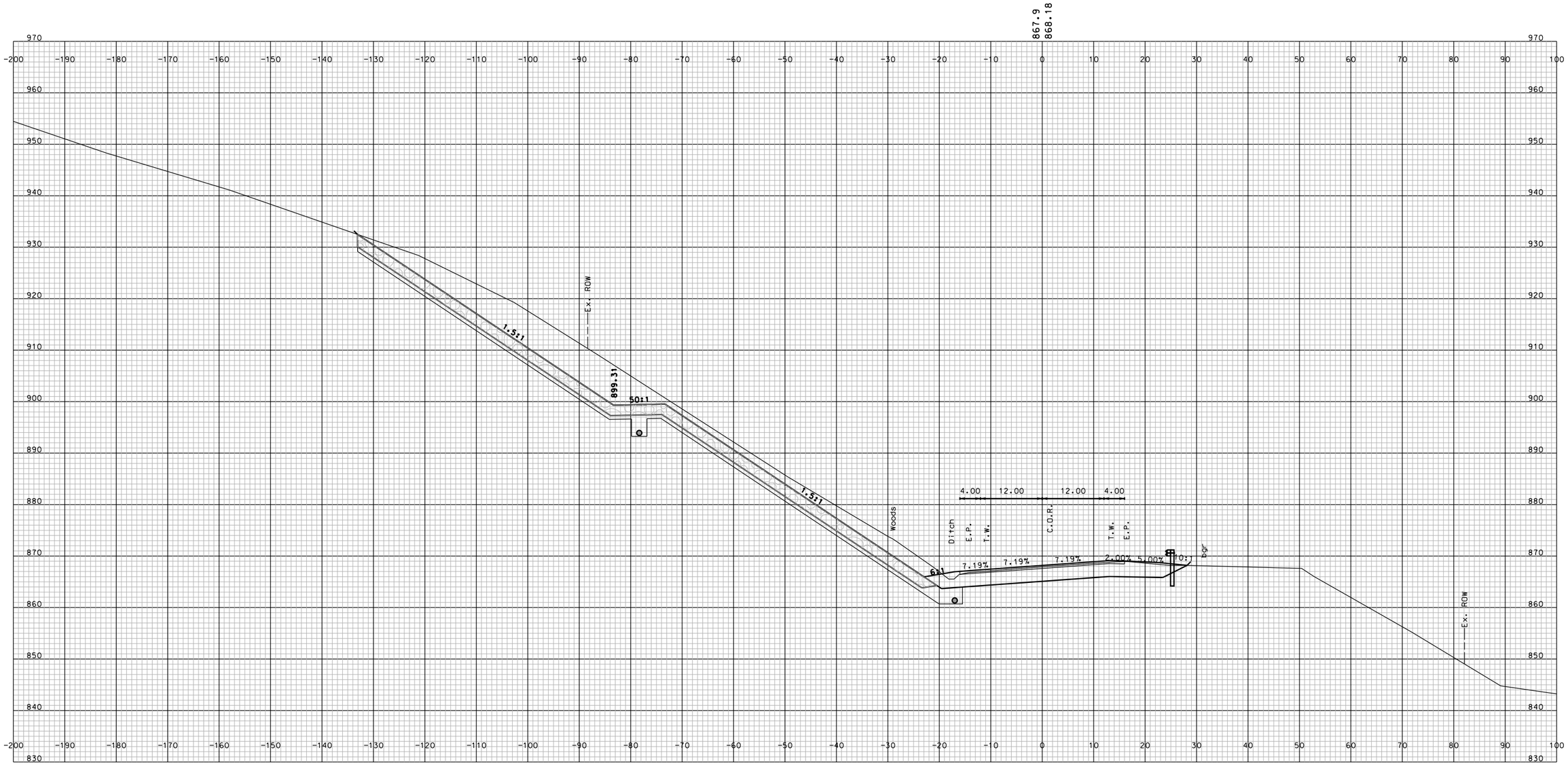
STA. 128+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	192	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



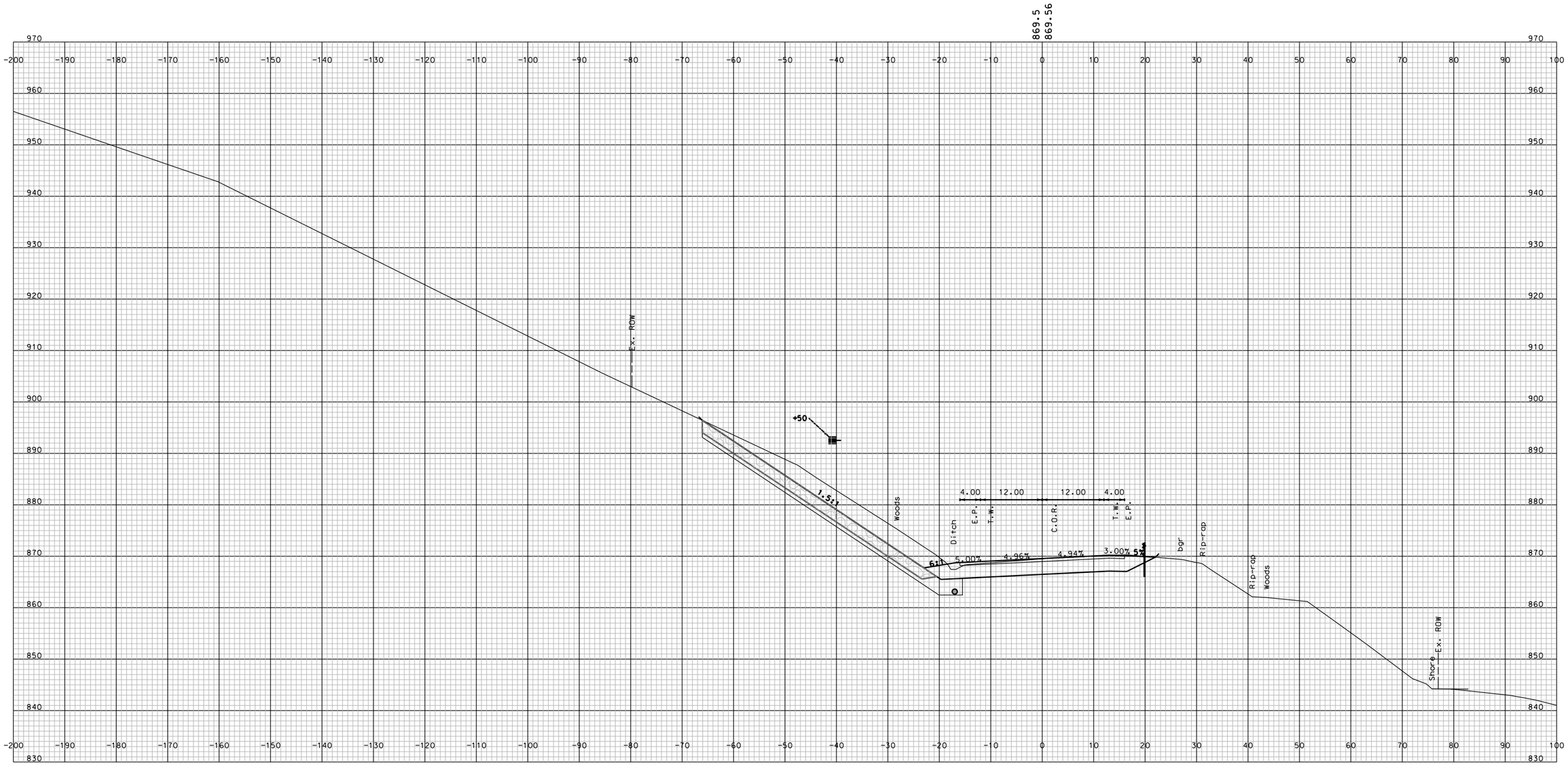
STA. 129+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	193	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 129+50.000

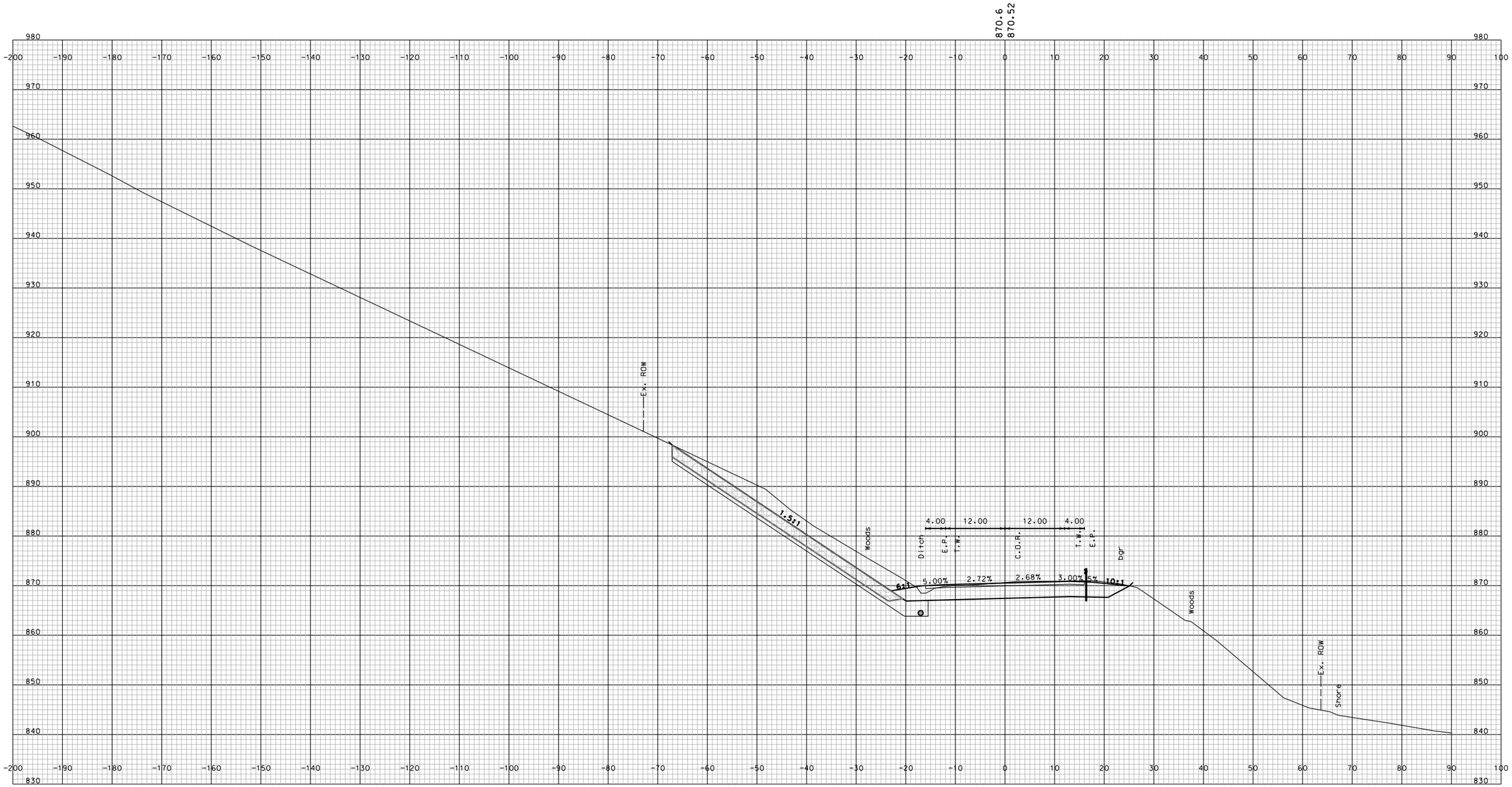
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	194	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



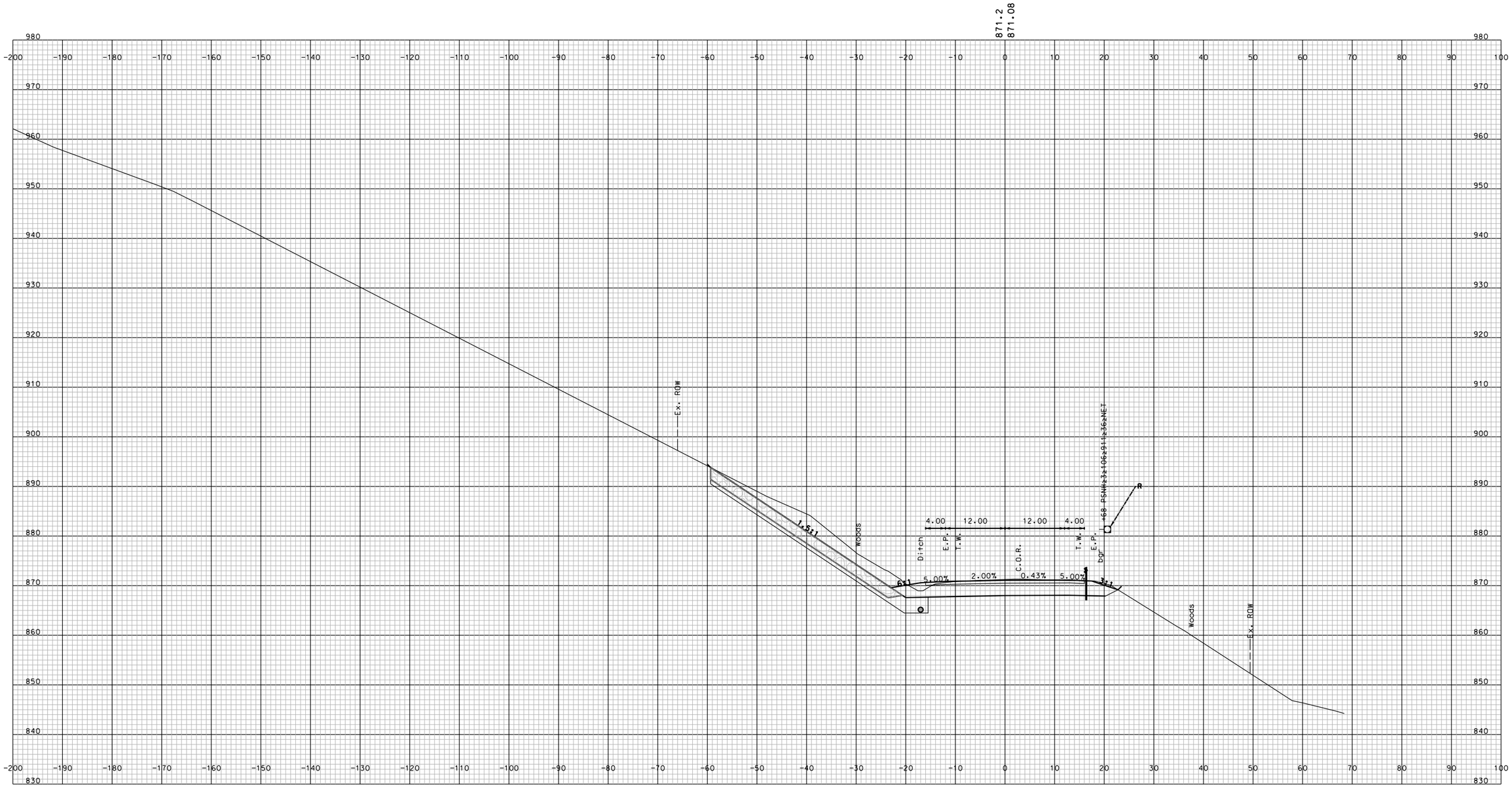
STA. 130+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	195	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	



STA. 130+50.000

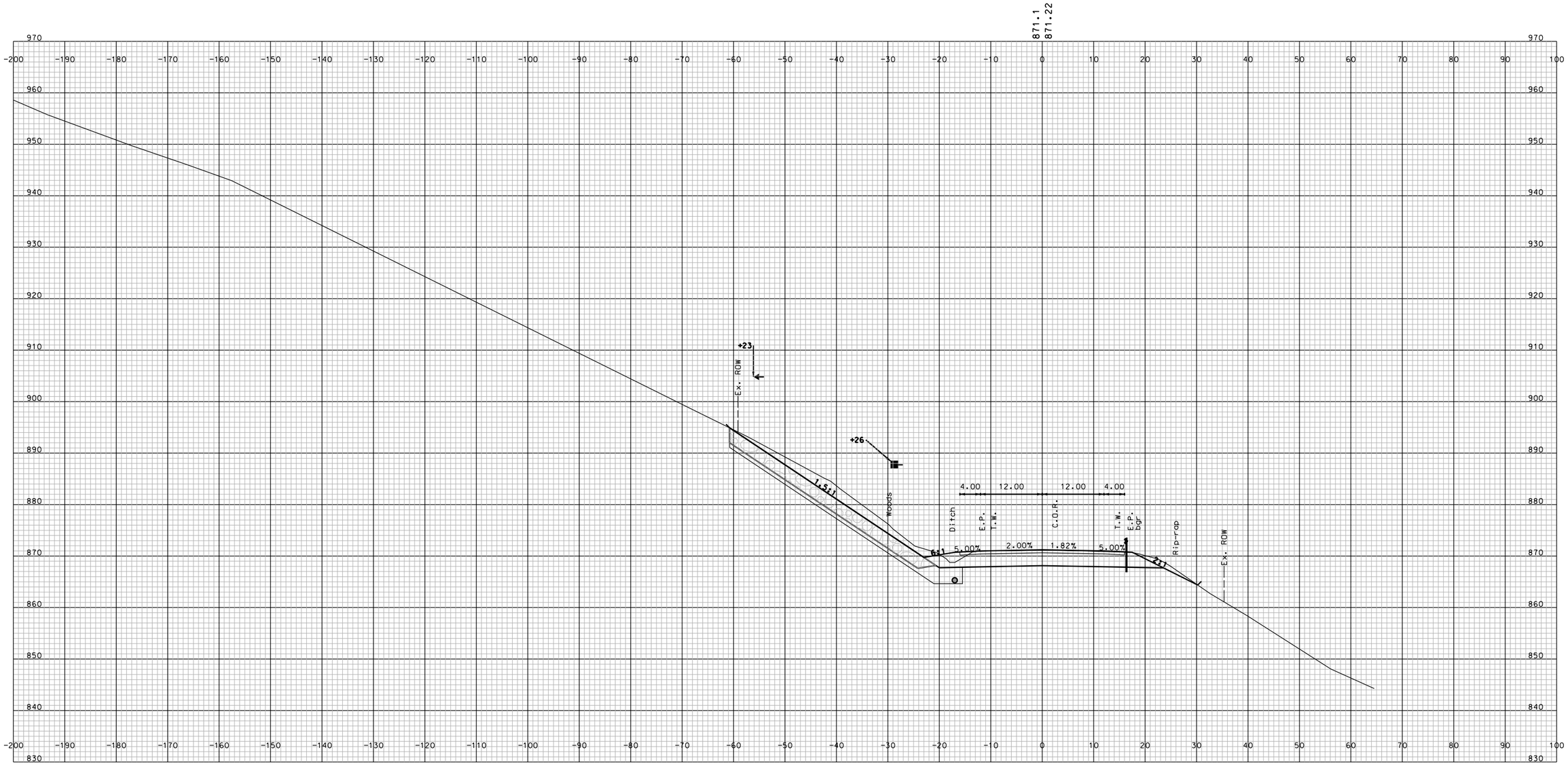
SHEET TOTALS			
COMMON EXCAV.	- C.Y.	ROCK EXCAV.	- C.Y.
FILL	- C.Y.	MUCK EXCAV.	- C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-13100_XS	10439	196	294

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1		
NEW DESIGN	NAME2	DATE	DATE2		
SHEET CHECKED	NAME3	DATE	DATE3		
AS BUILT DETAILS		DATE			



STA. 131+00.000

SHEET TOTALS			
COMMON EXCAV.	- C.Y.	ROCK EXCAV.	- C.Y.
FILL	- C.Y.	MUCK EXCAV.	- C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_11450-1310D_XS	10439	197	294

REVISIONS AFTER PROPOSAL

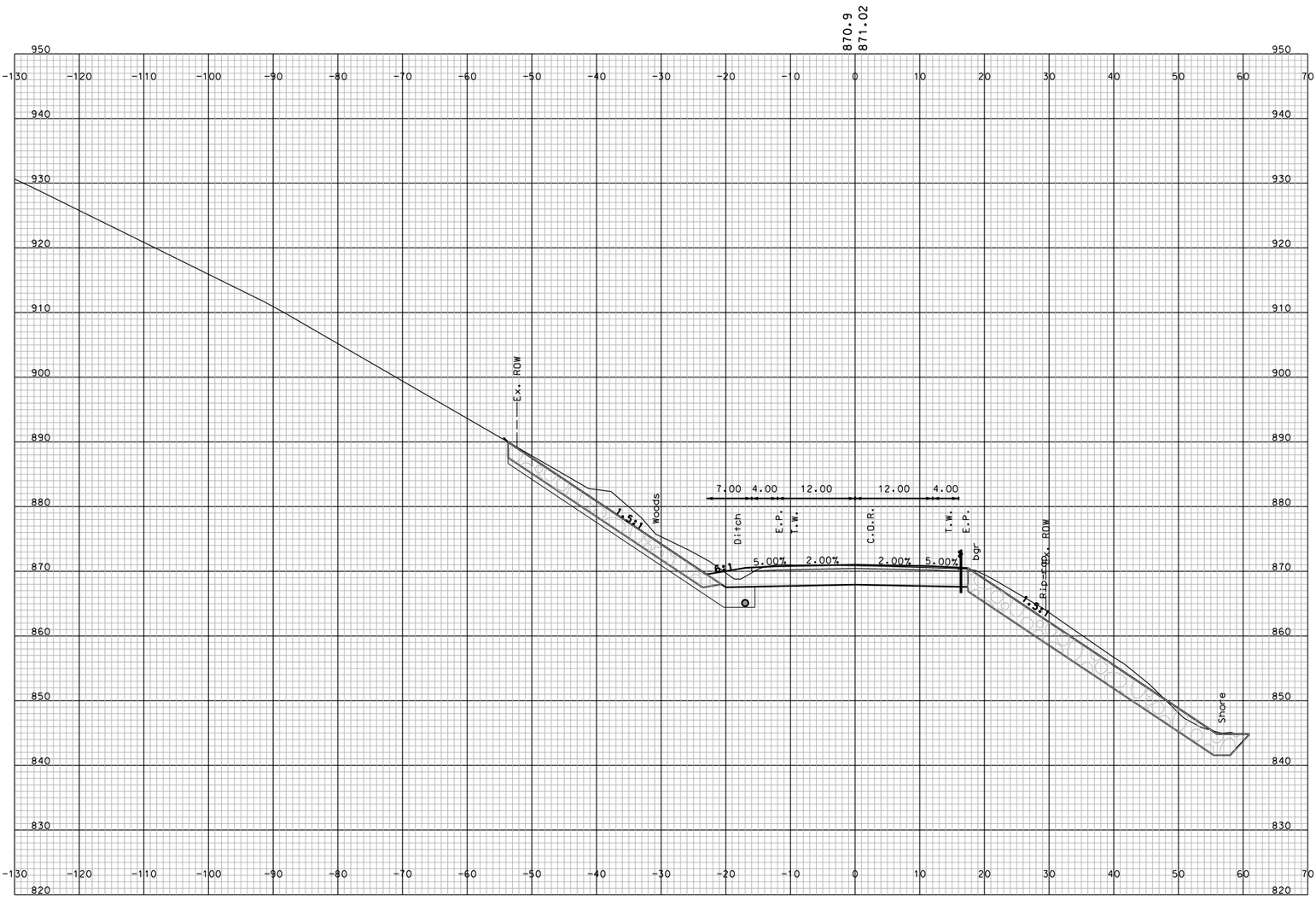
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 131+50.000

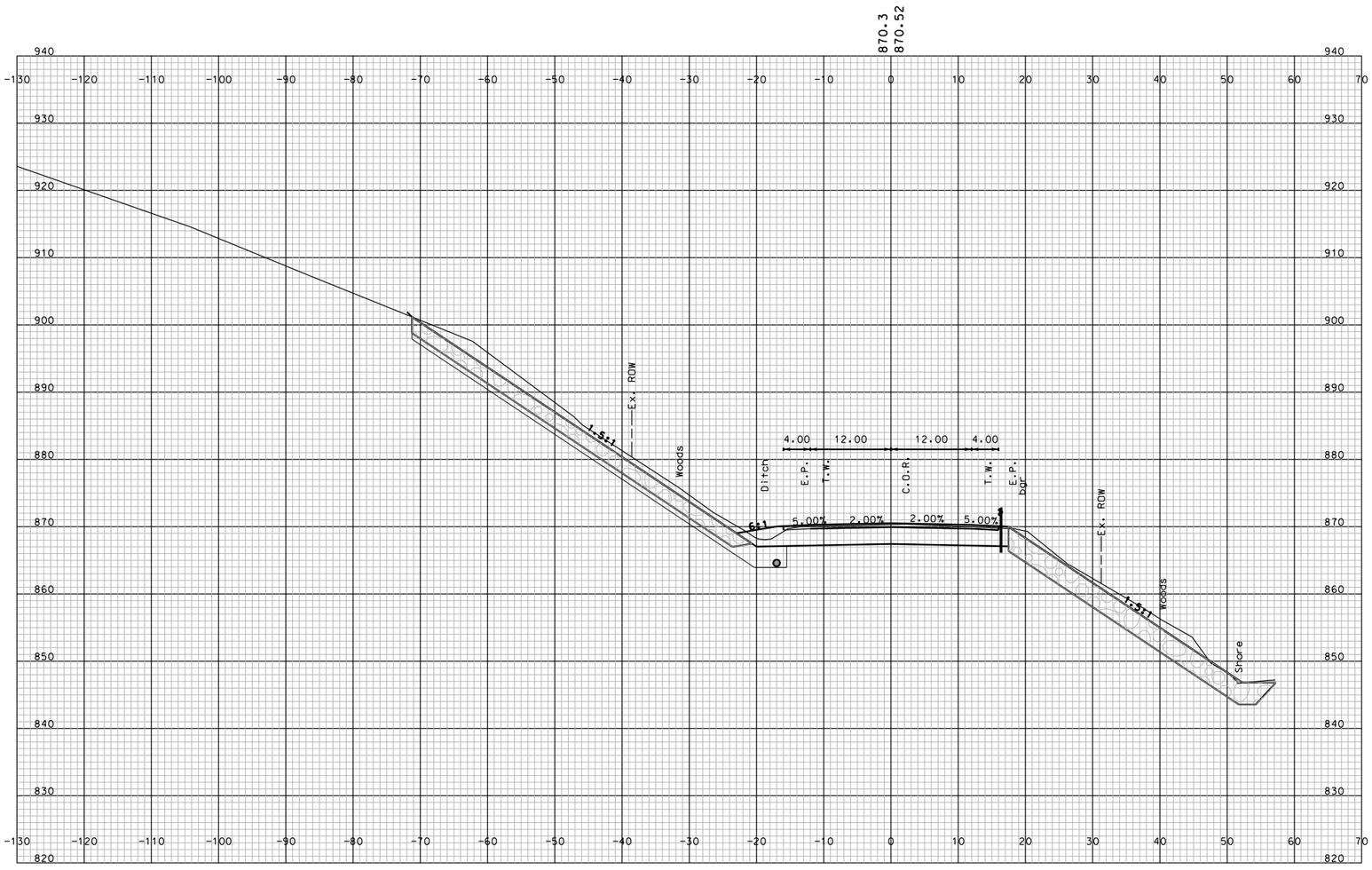
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	198	294

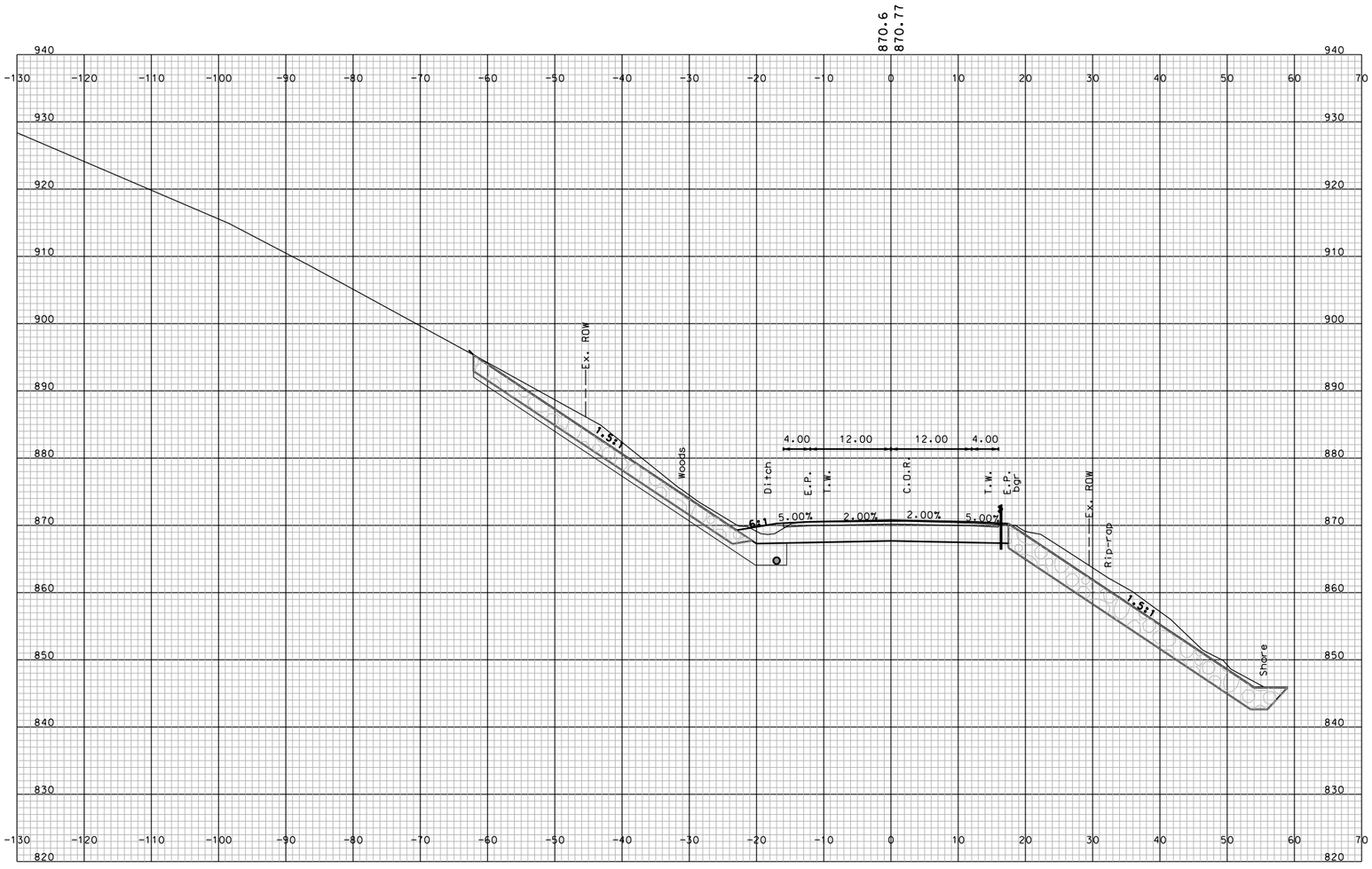
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 132+50.000



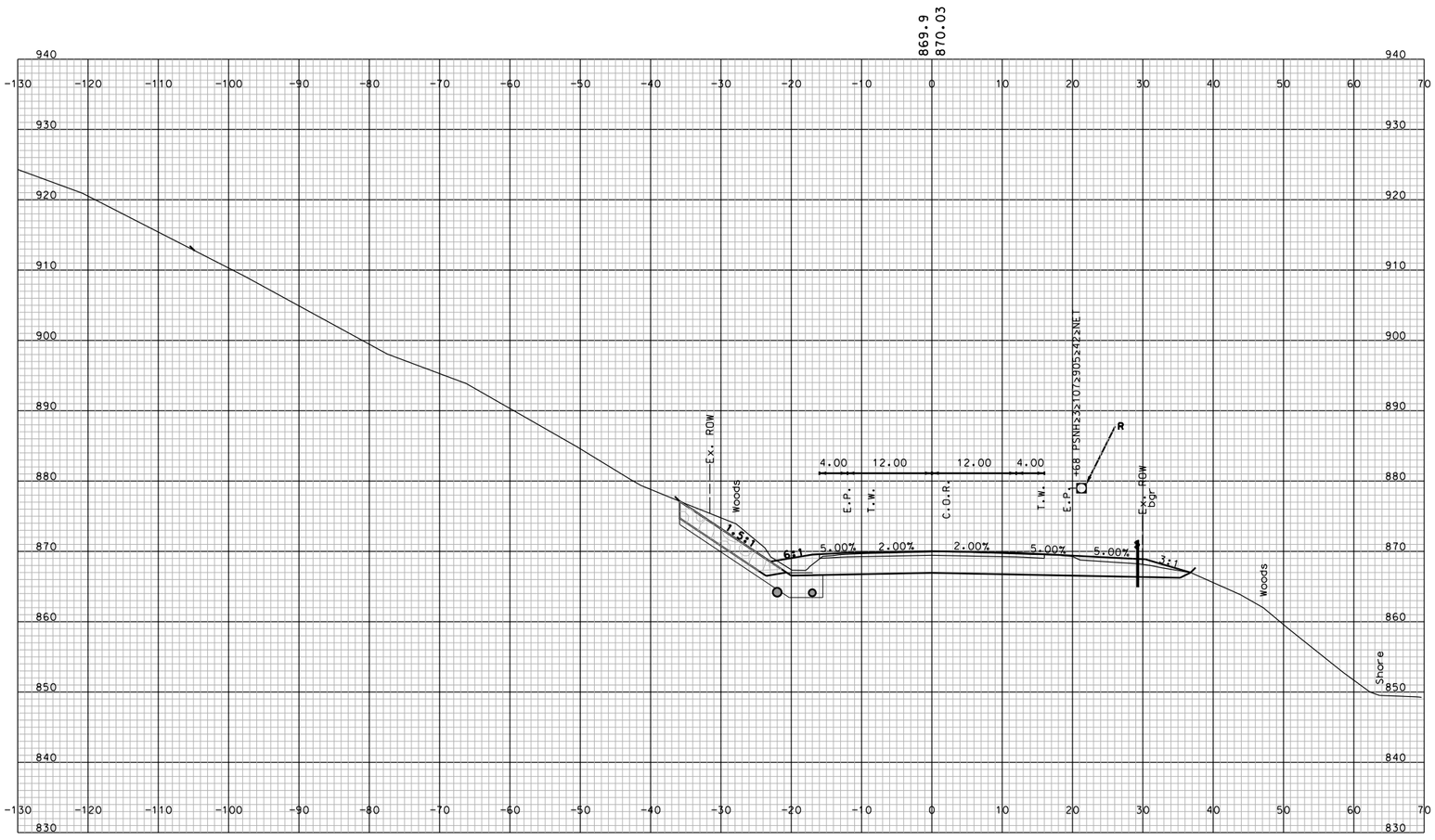
STA. 132+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	199	294

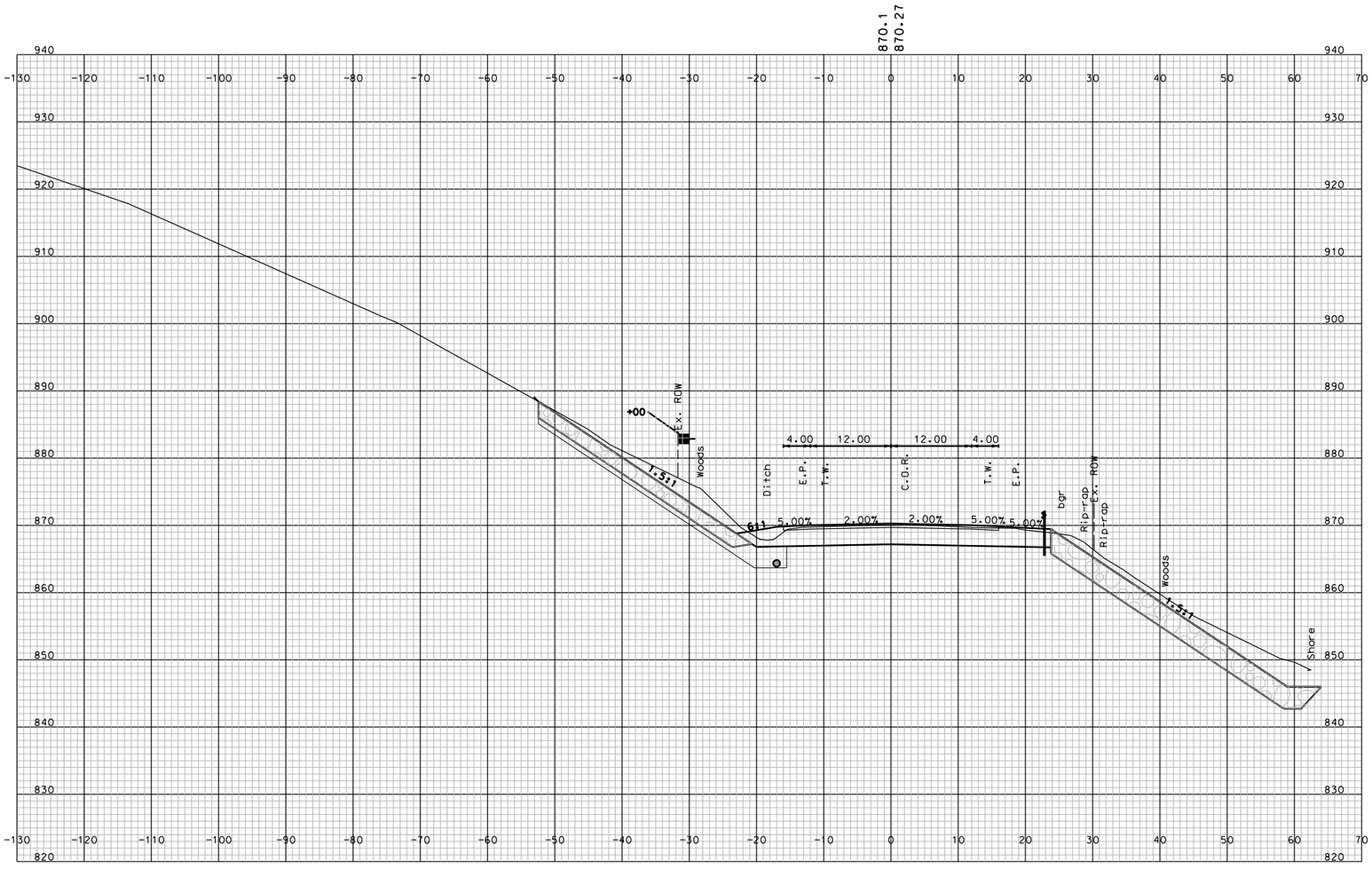
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 133+50.000



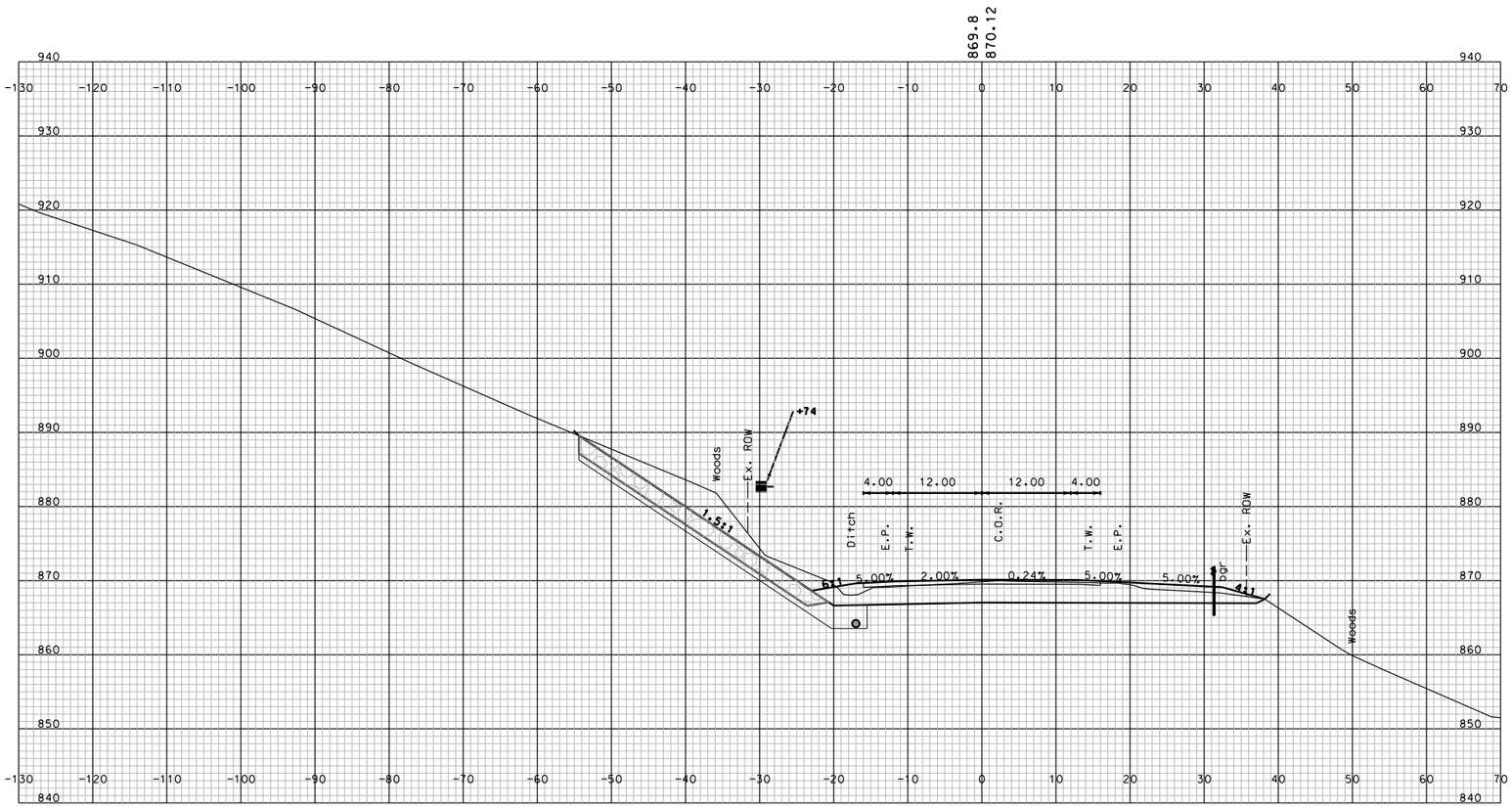
STA. 133+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	200	294

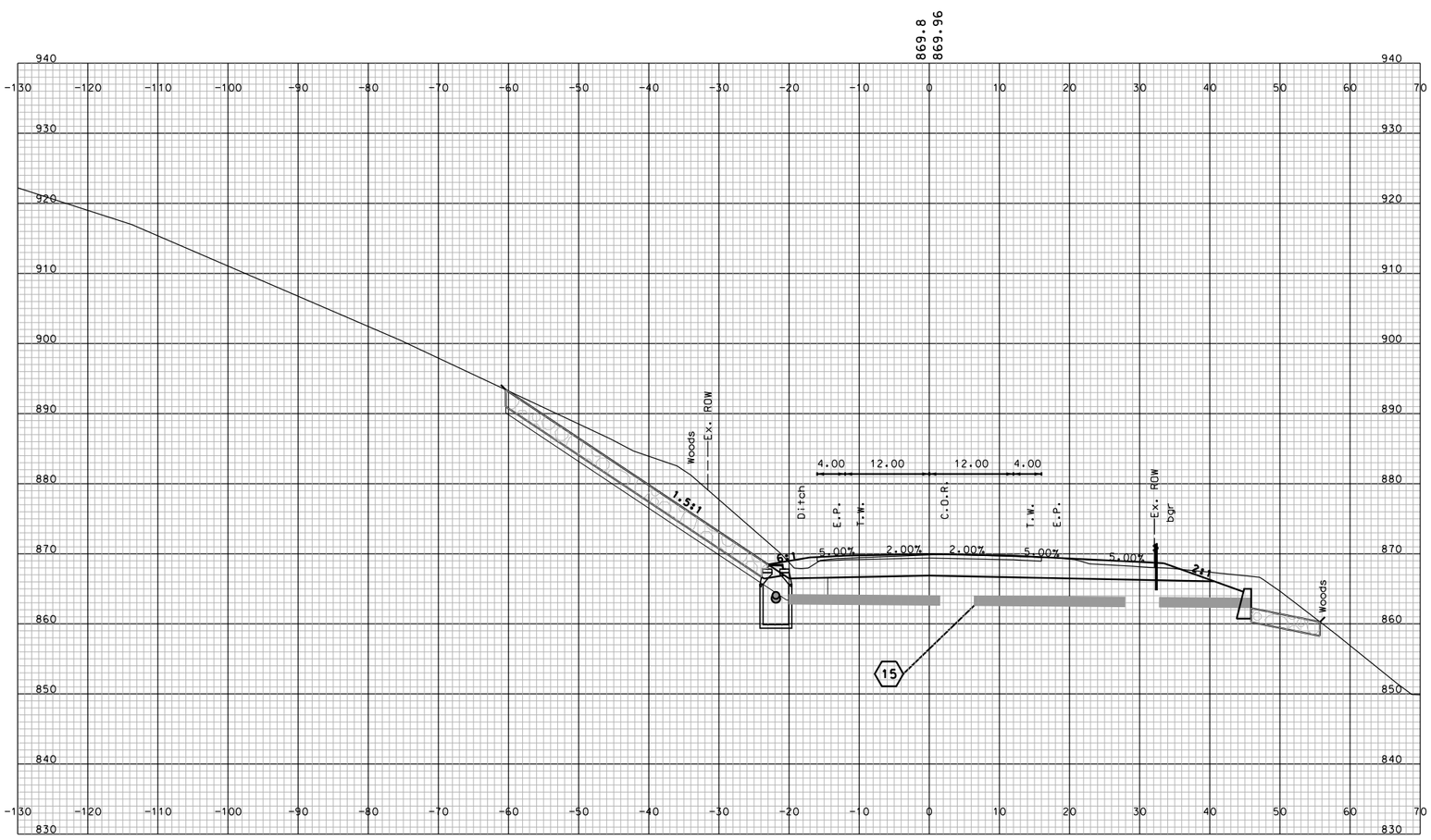
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 134+50.000



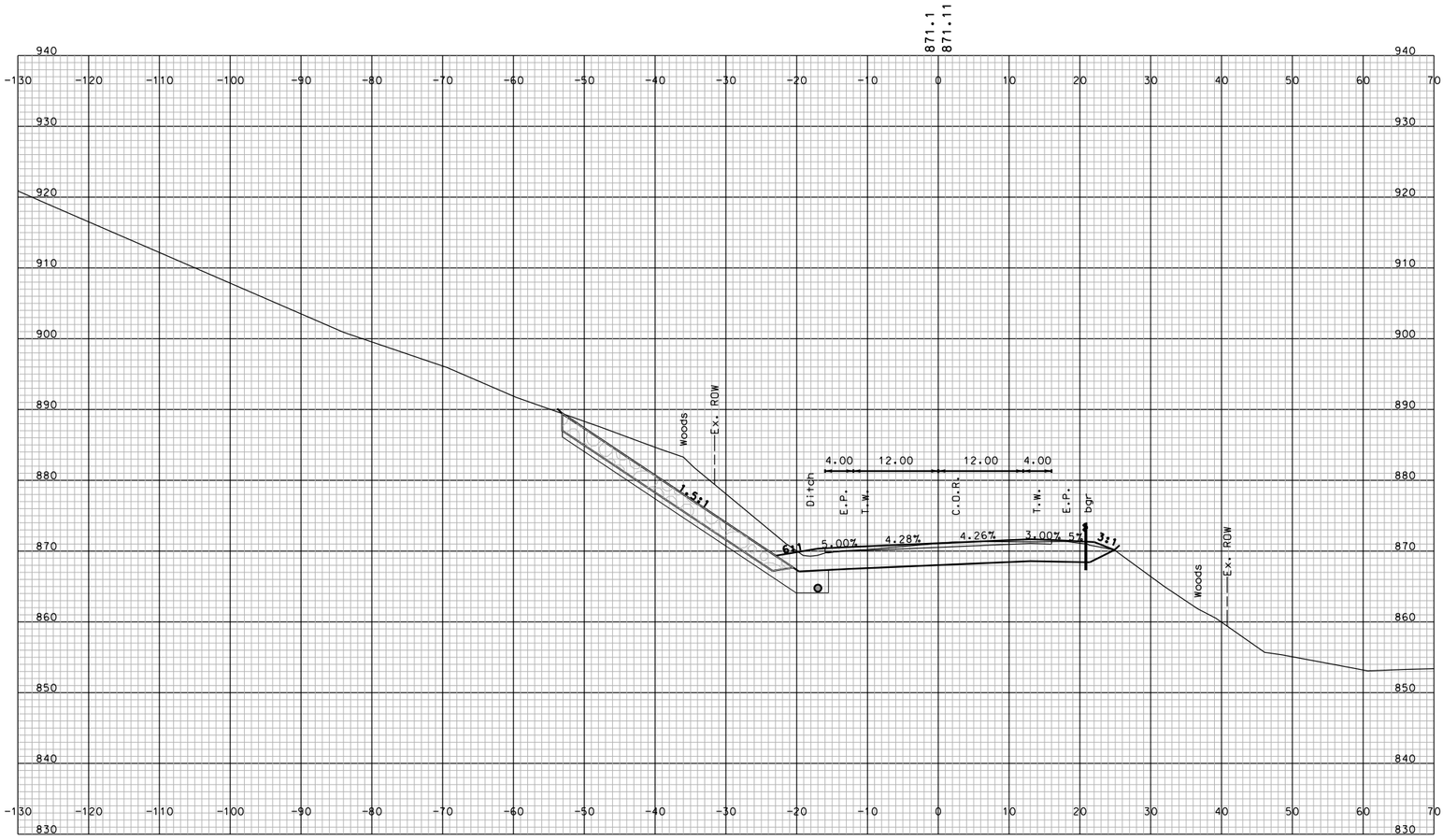
STA. 134+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	201	294

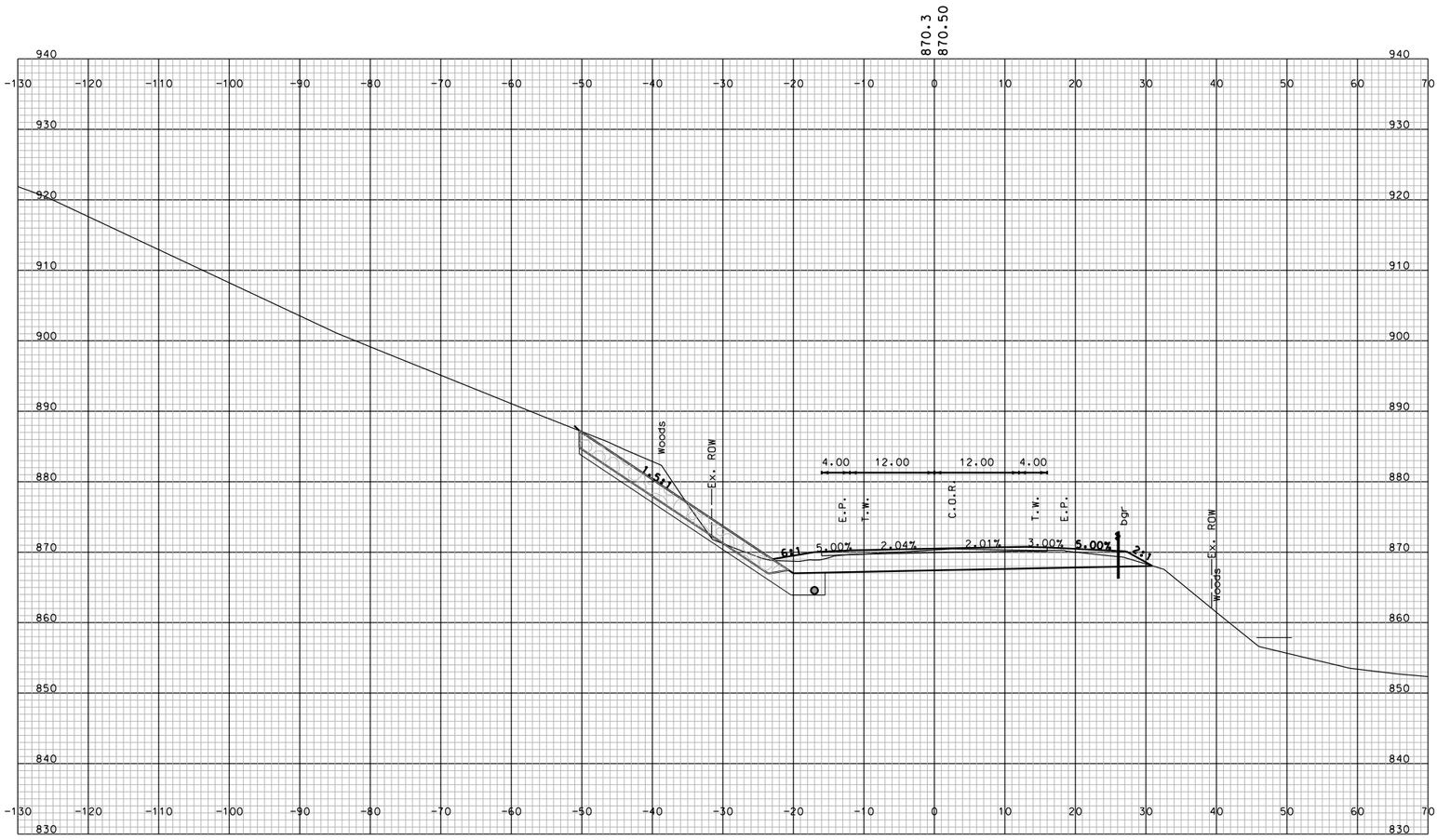
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 135+50.000



STA. 135+00.000

SHEET TOTALS

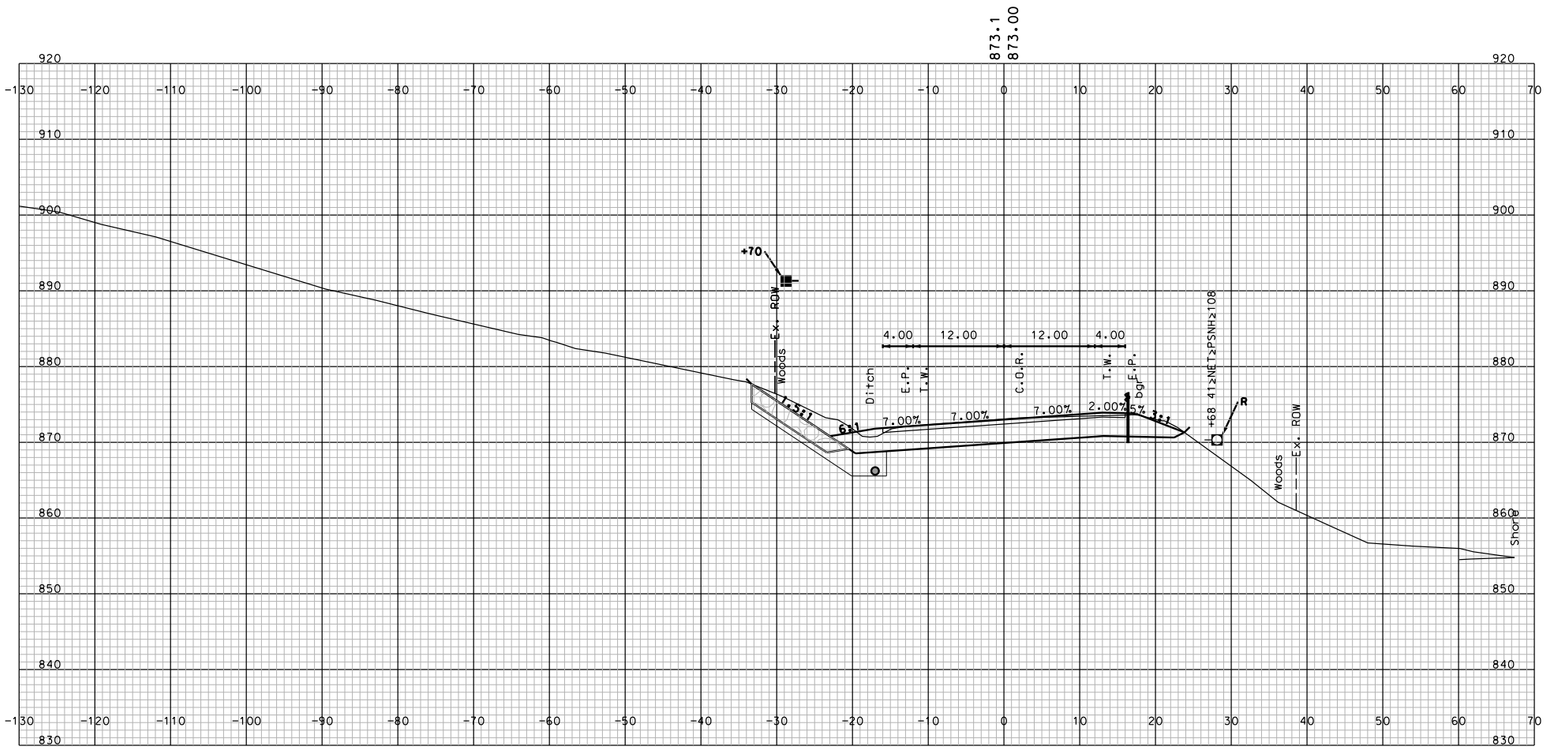
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	202	294

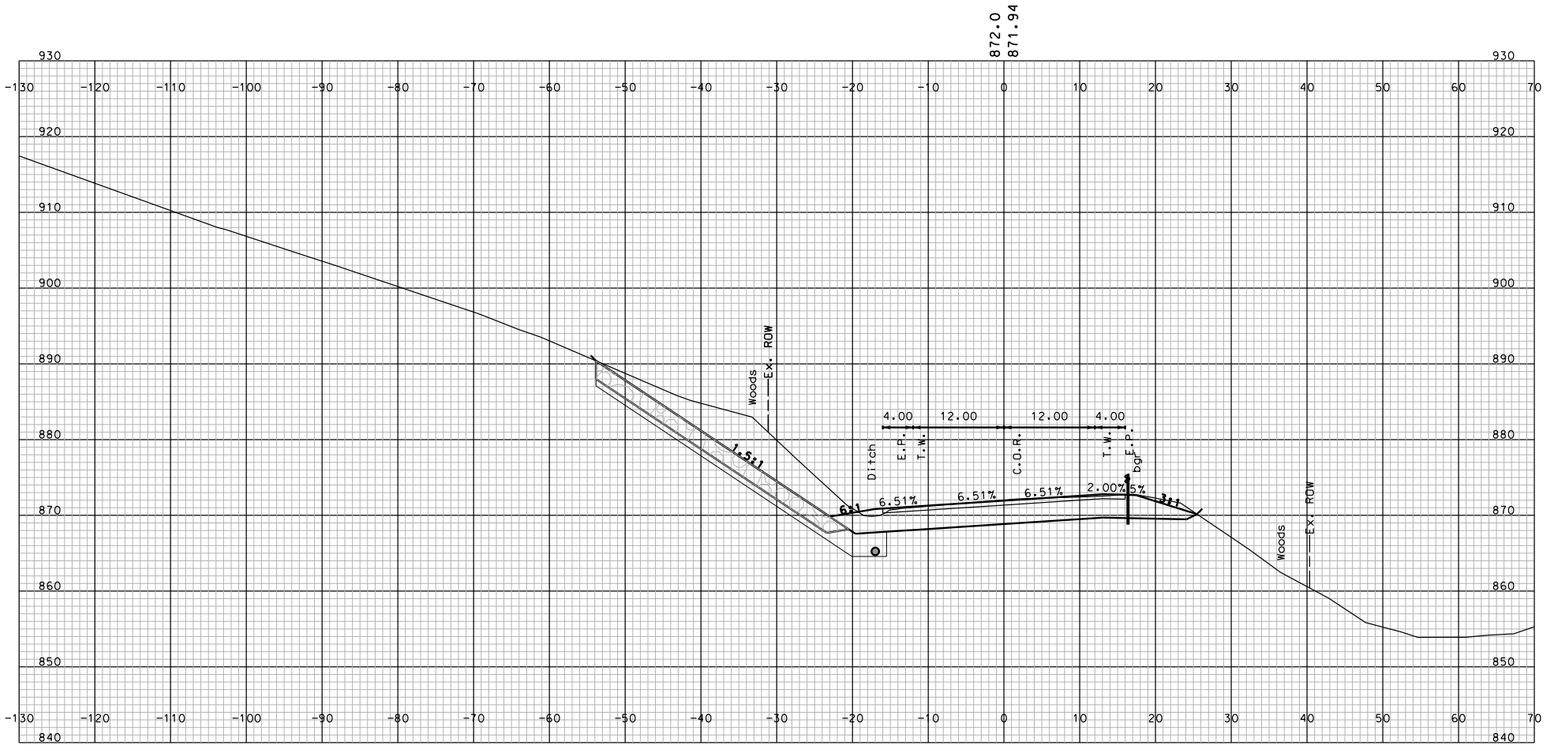
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 136+50.000



STA. 136+00.000

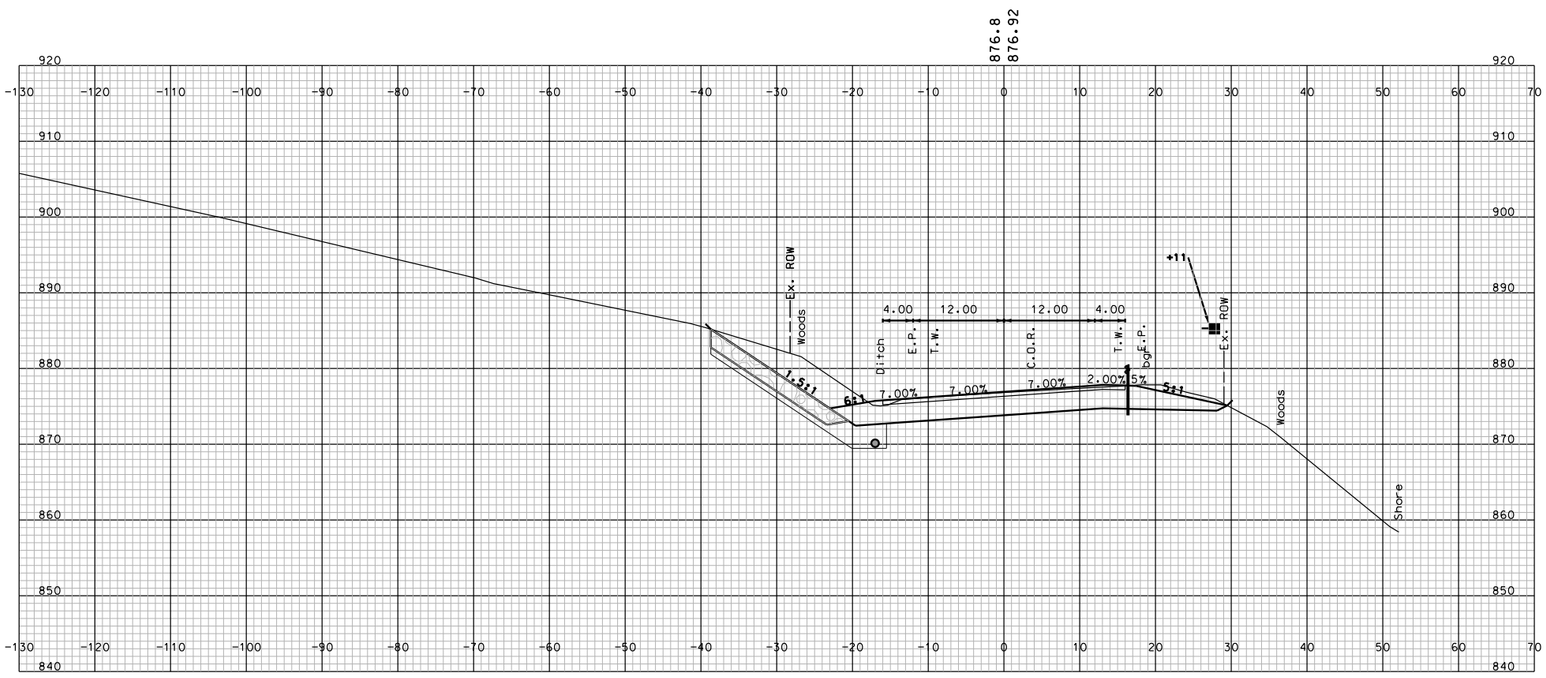
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	203	294

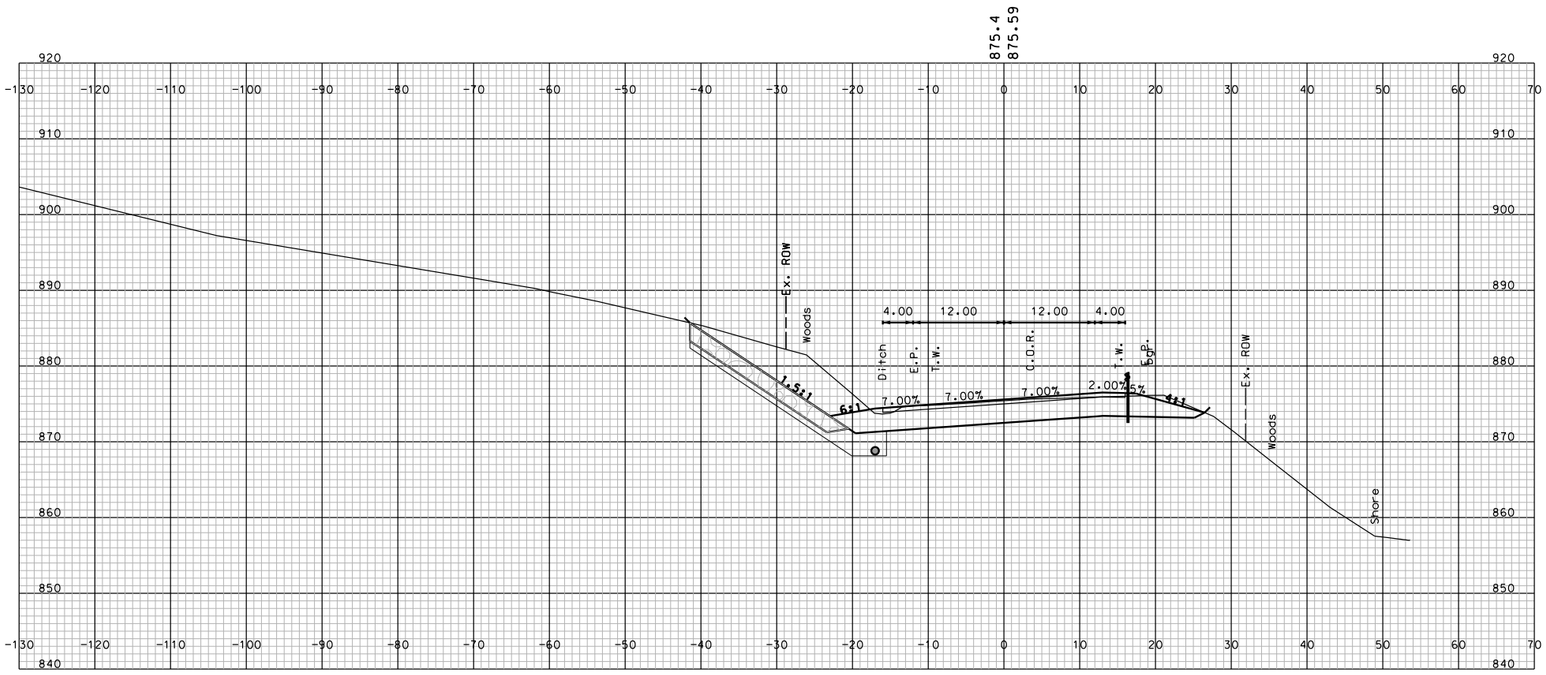
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

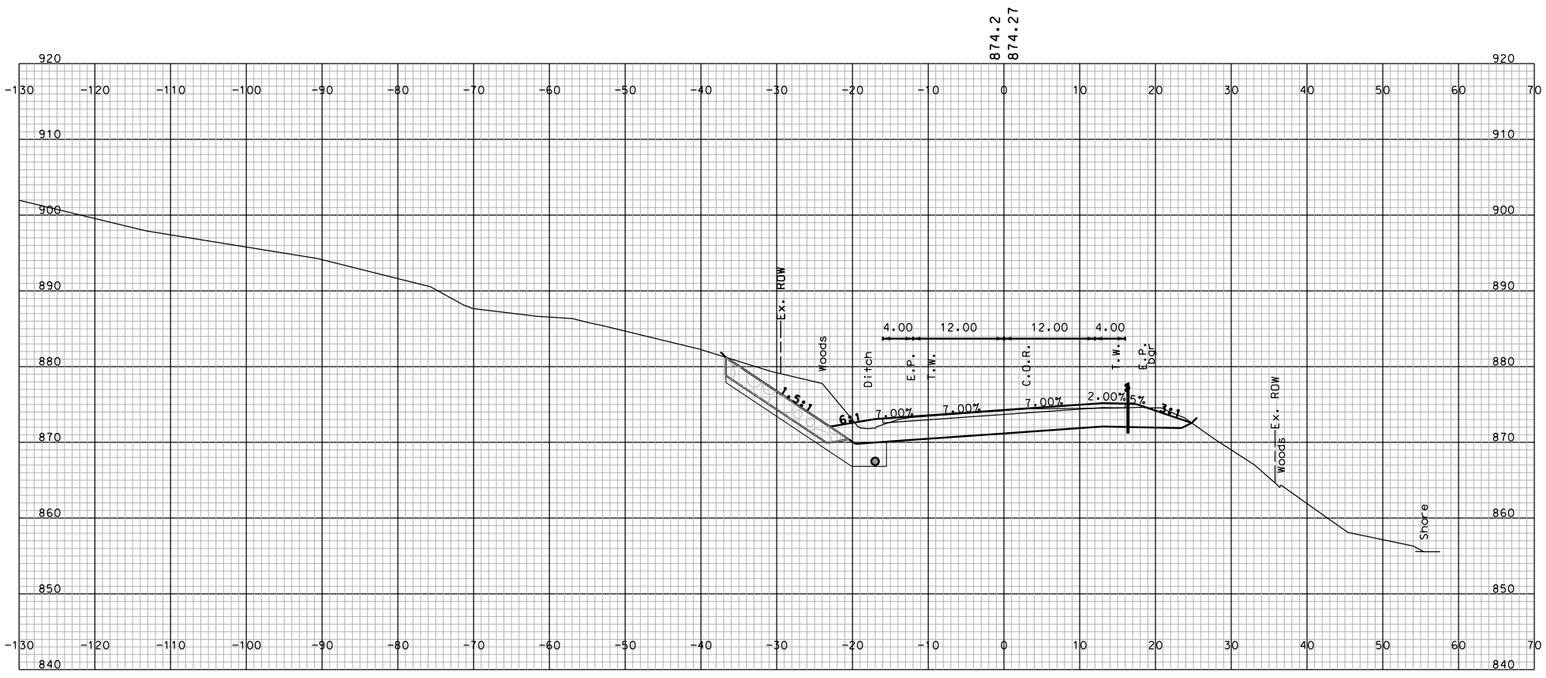
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 138+00.000



STA. 137+50.000



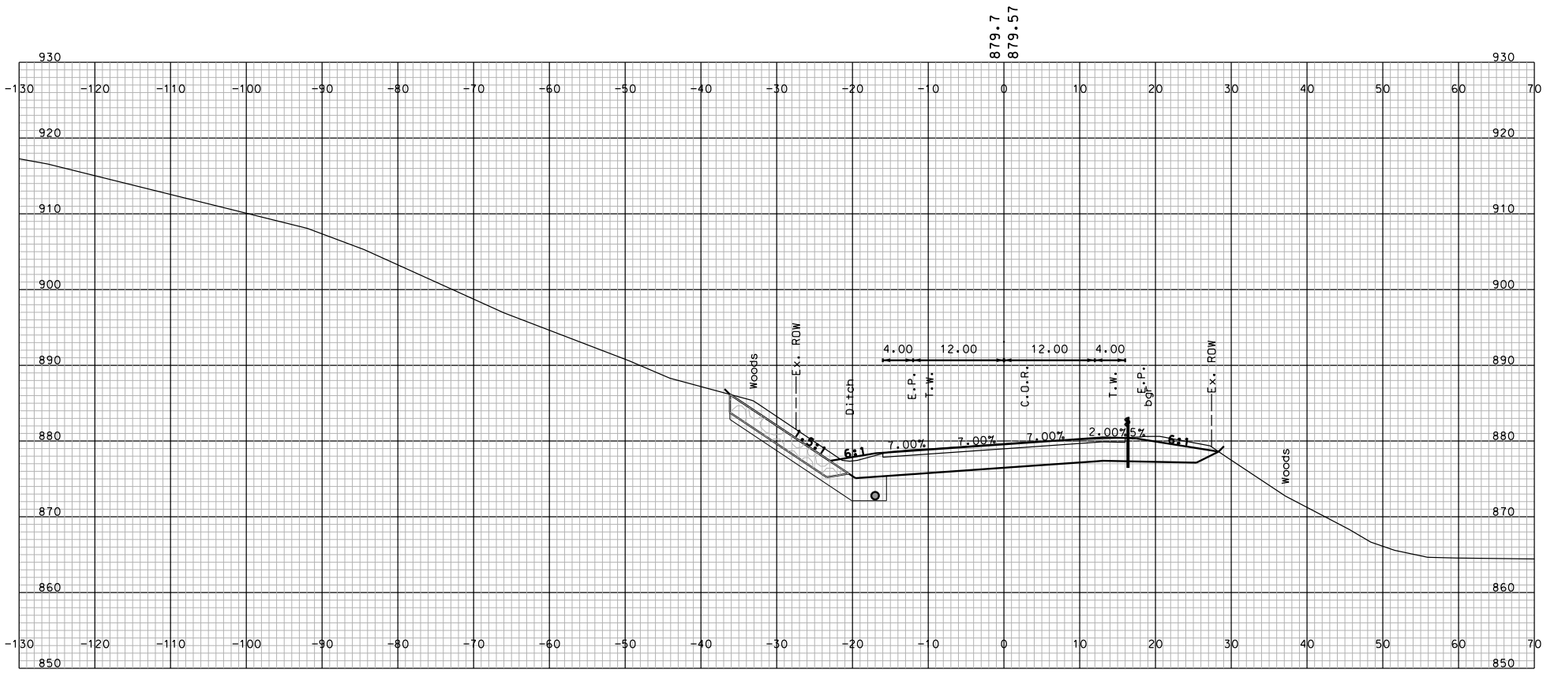
STA. 137+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	204	294

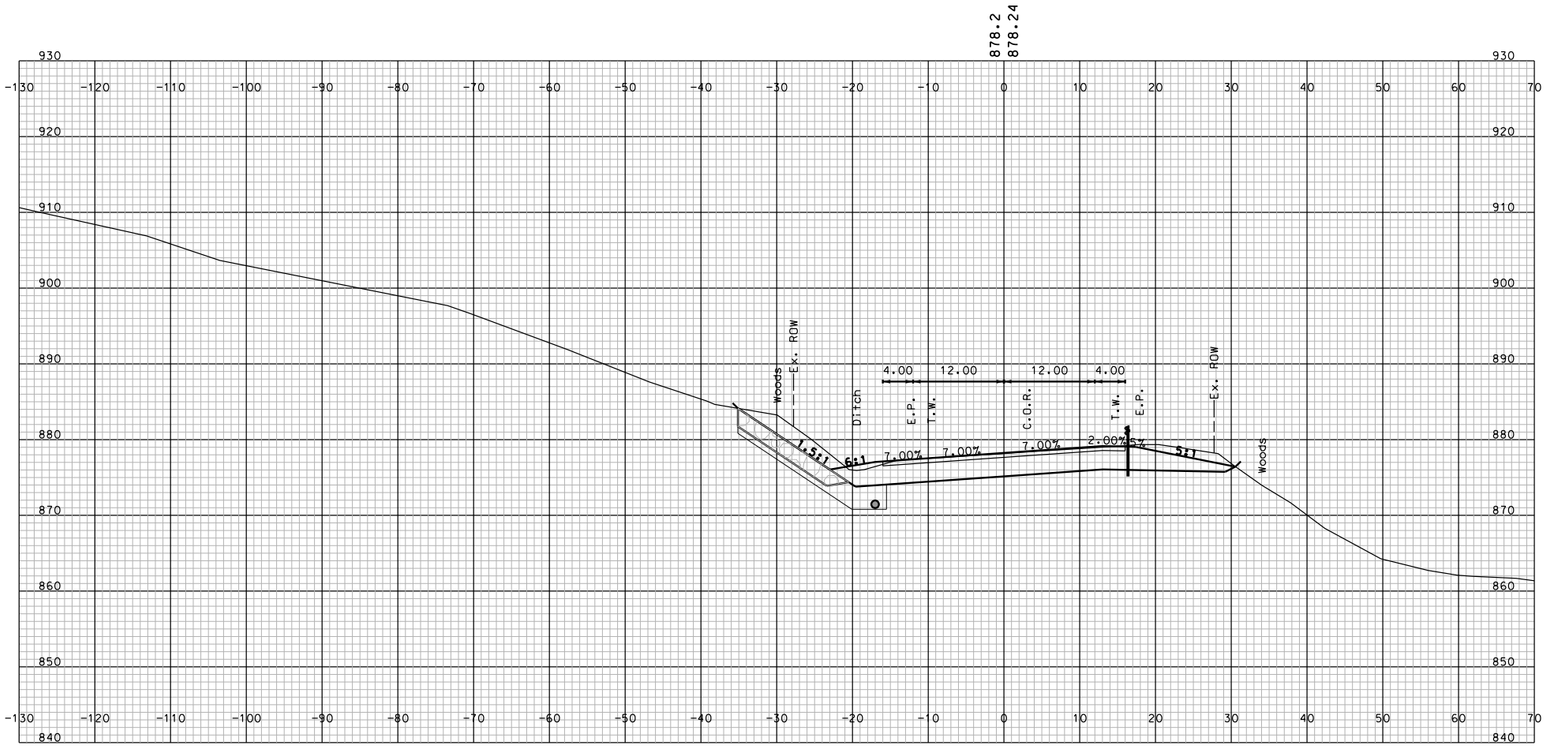
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 139+00.000



STA. 138+50.000

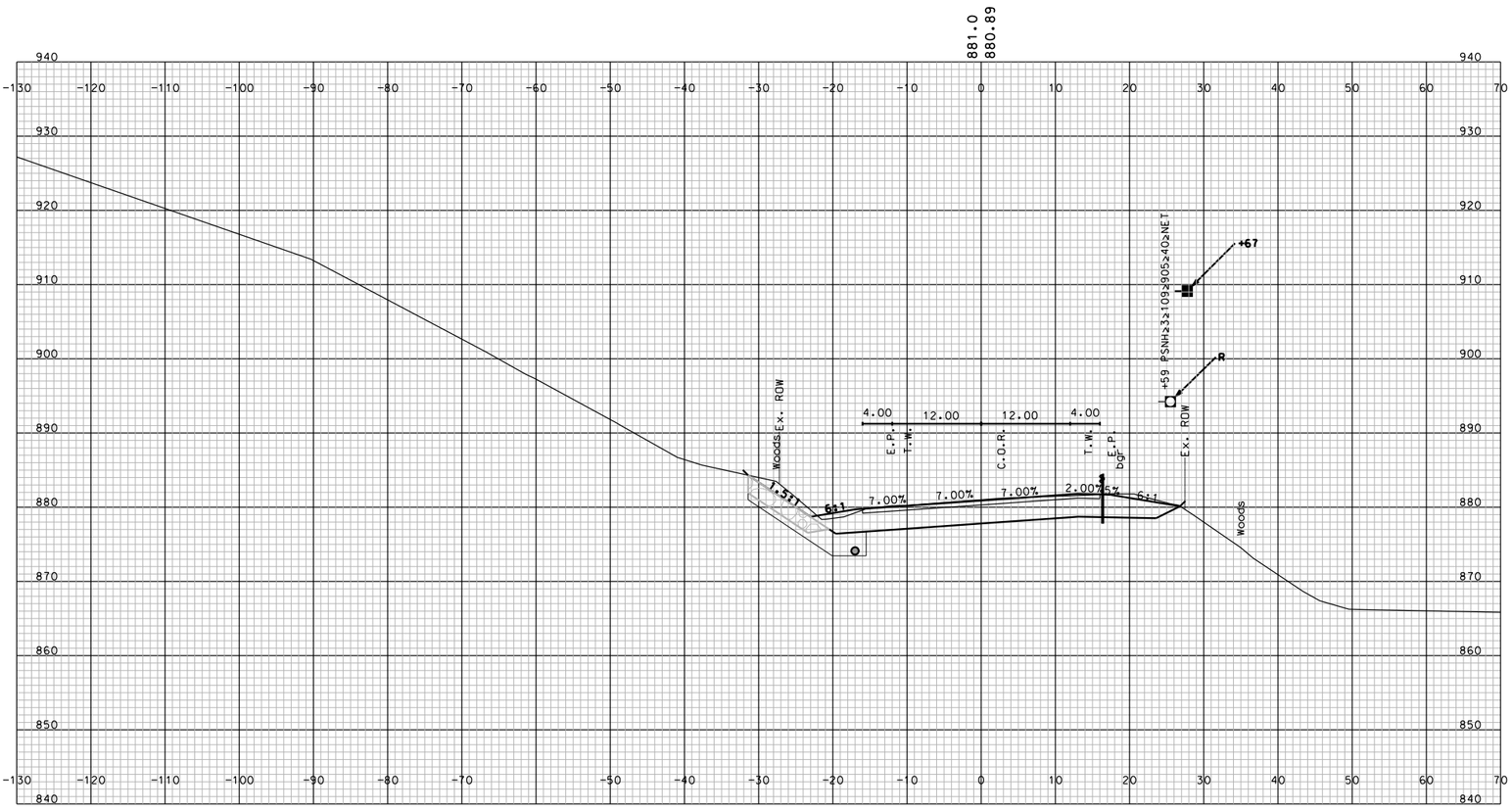
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13100-13900_XS	10439	205	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 139+50.000

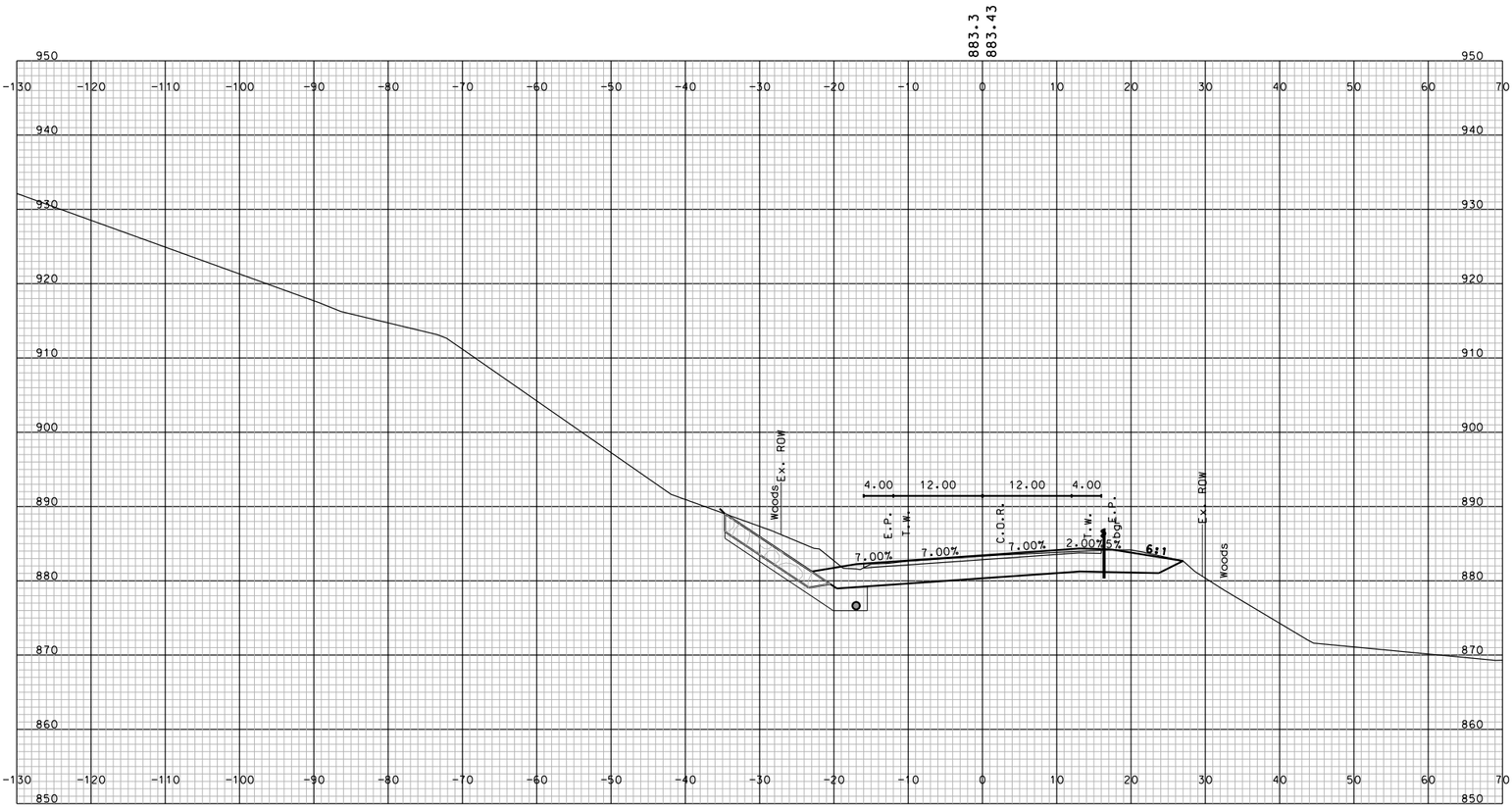
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	206	294

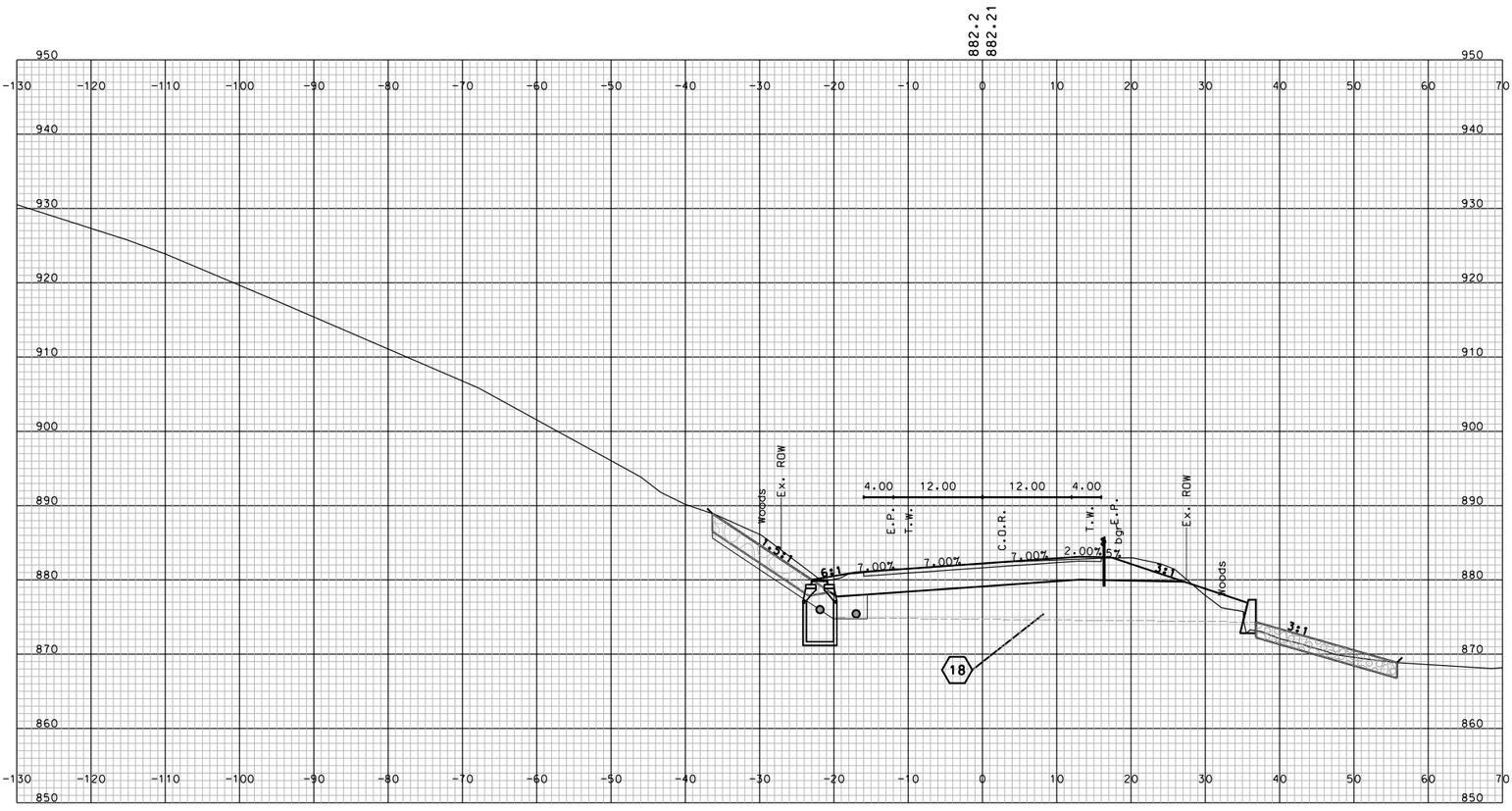
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 140+50.000



STA. 140+00.000

SHEET TOTALS

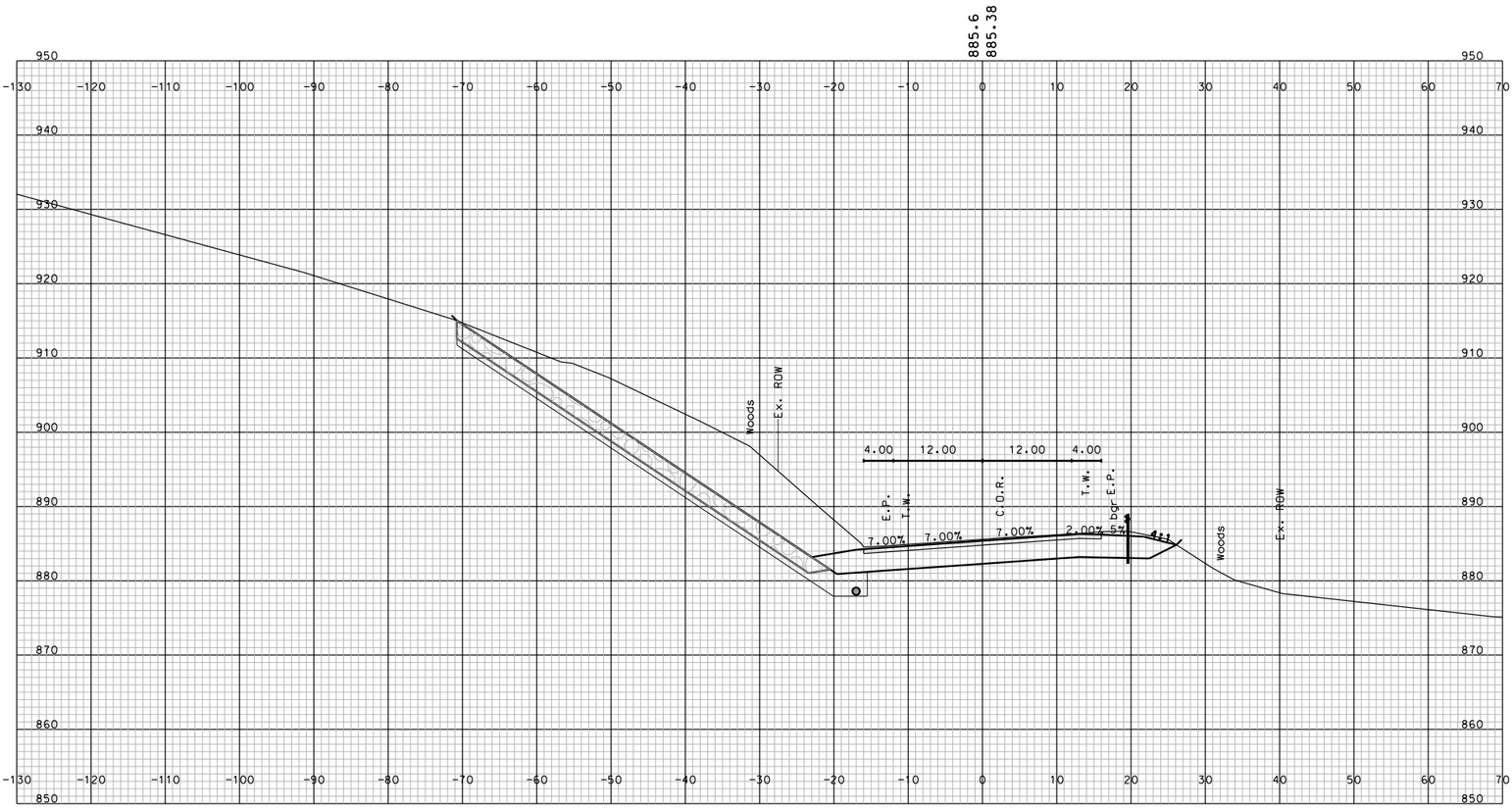
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	207	294

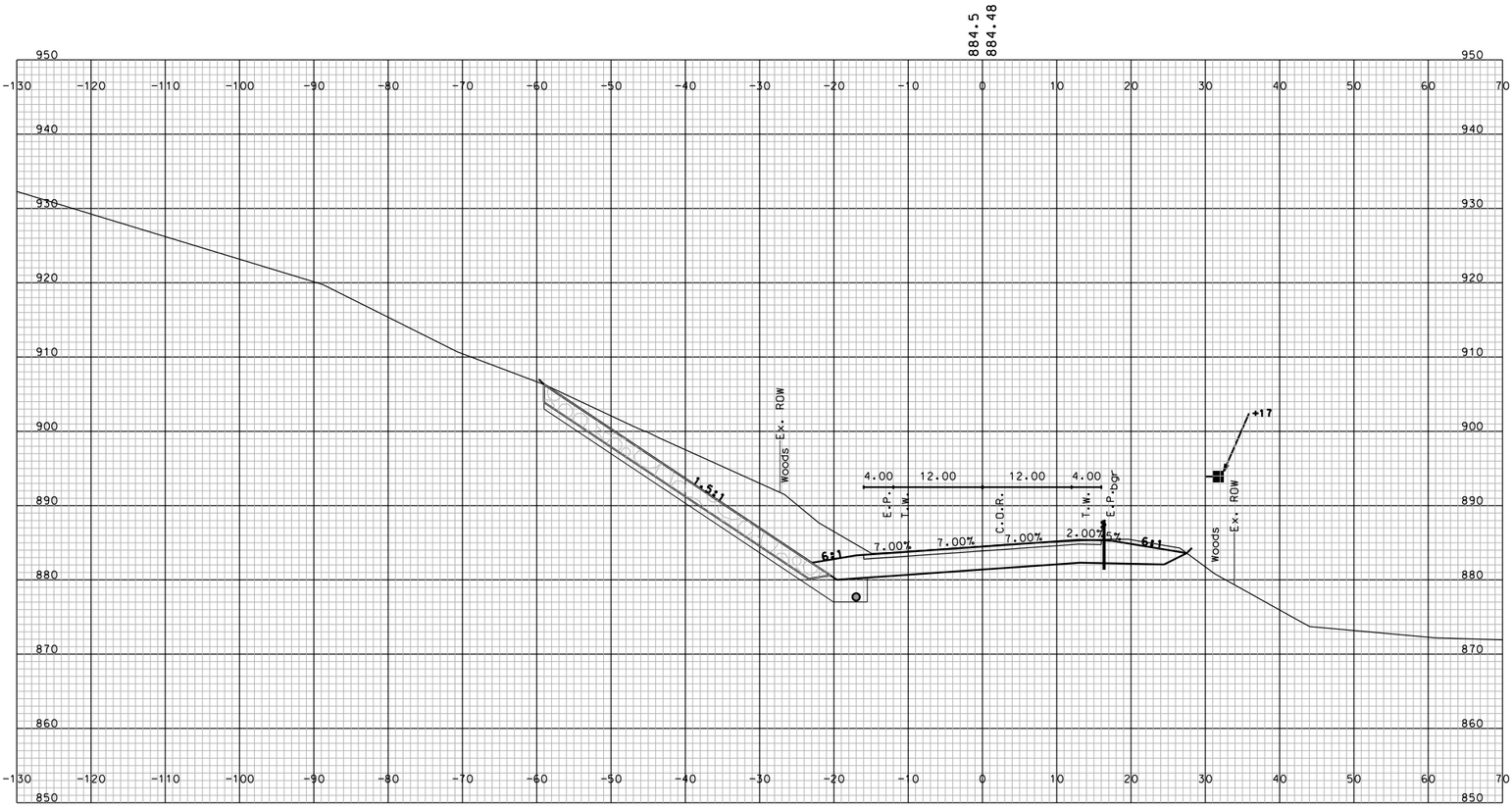
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 141+50.000



STA. 141+00.000

SHEET TOTALS

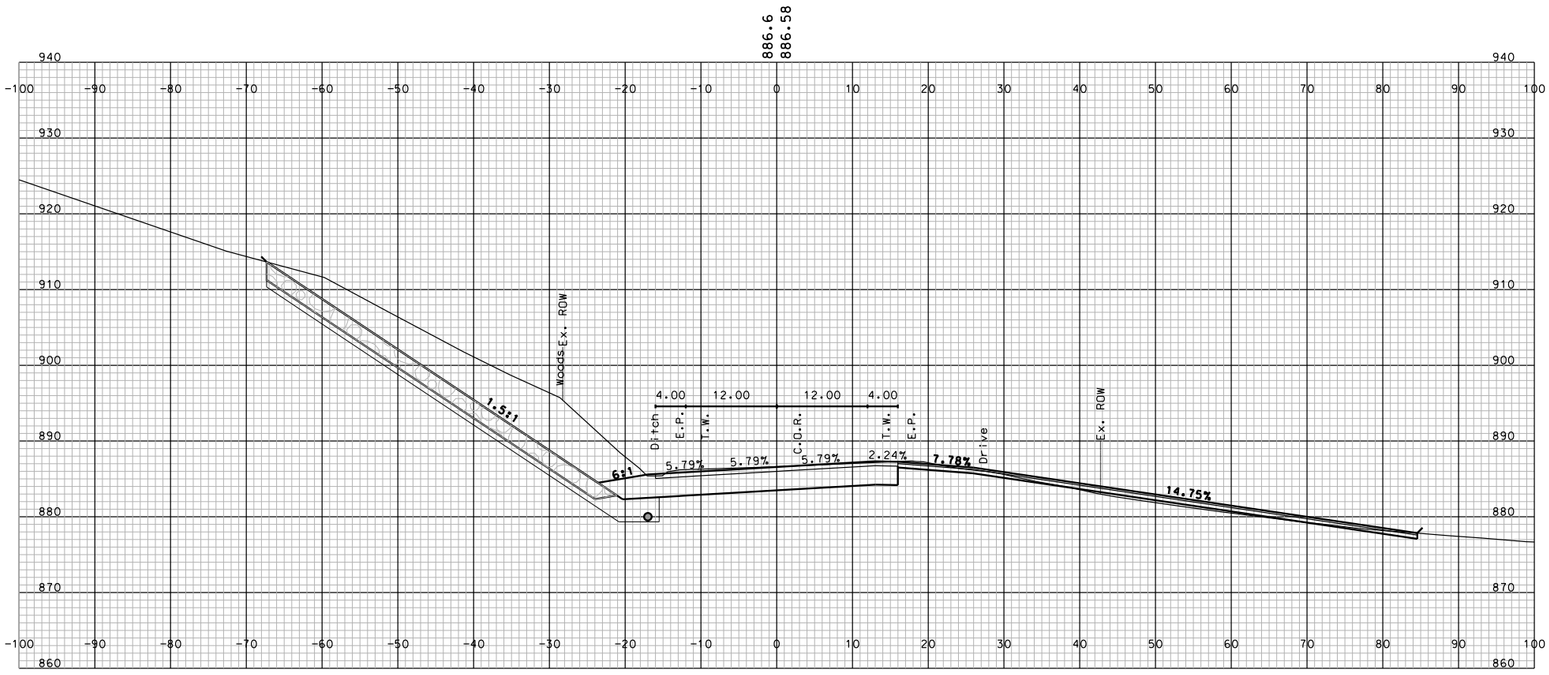
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	208	294

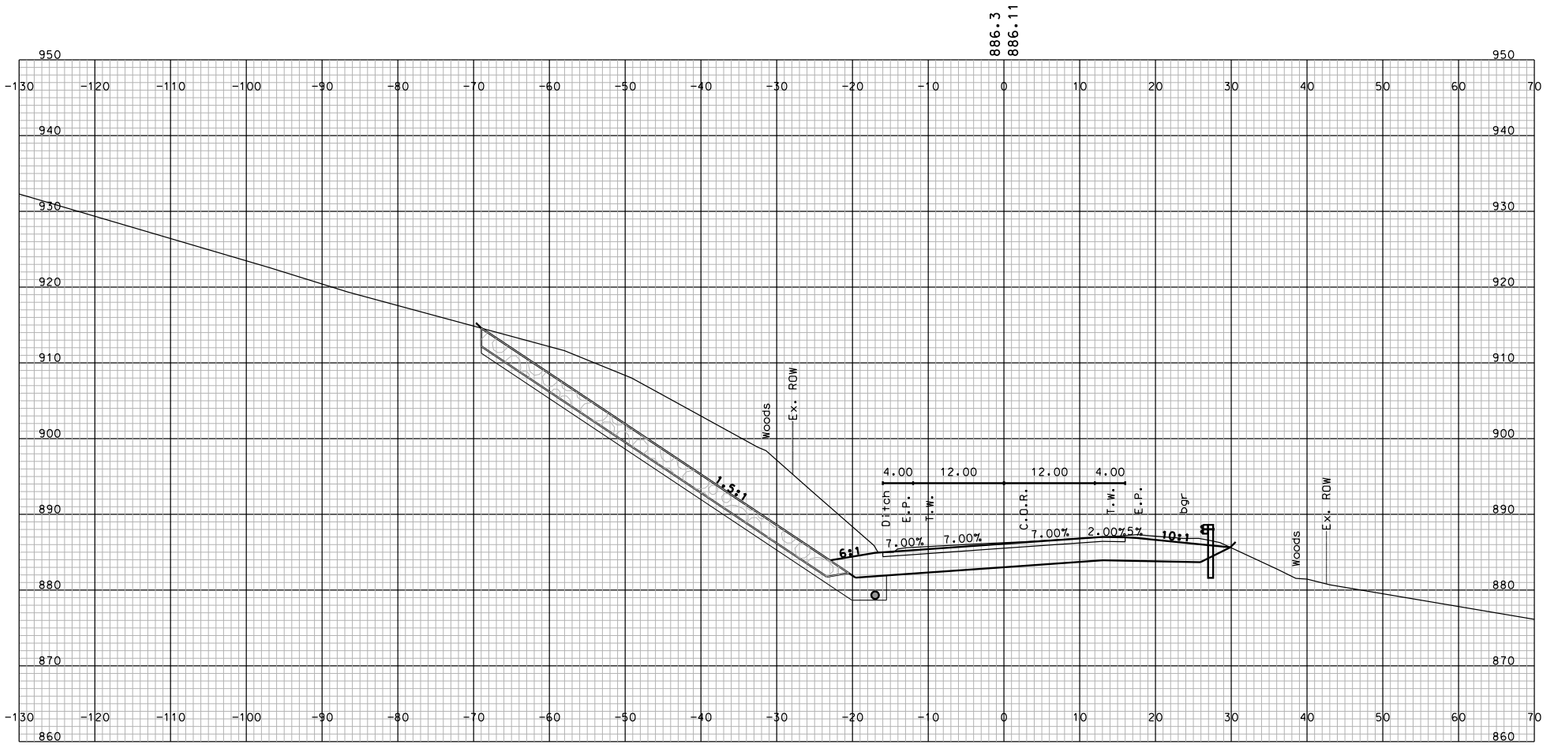
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 142+39.486



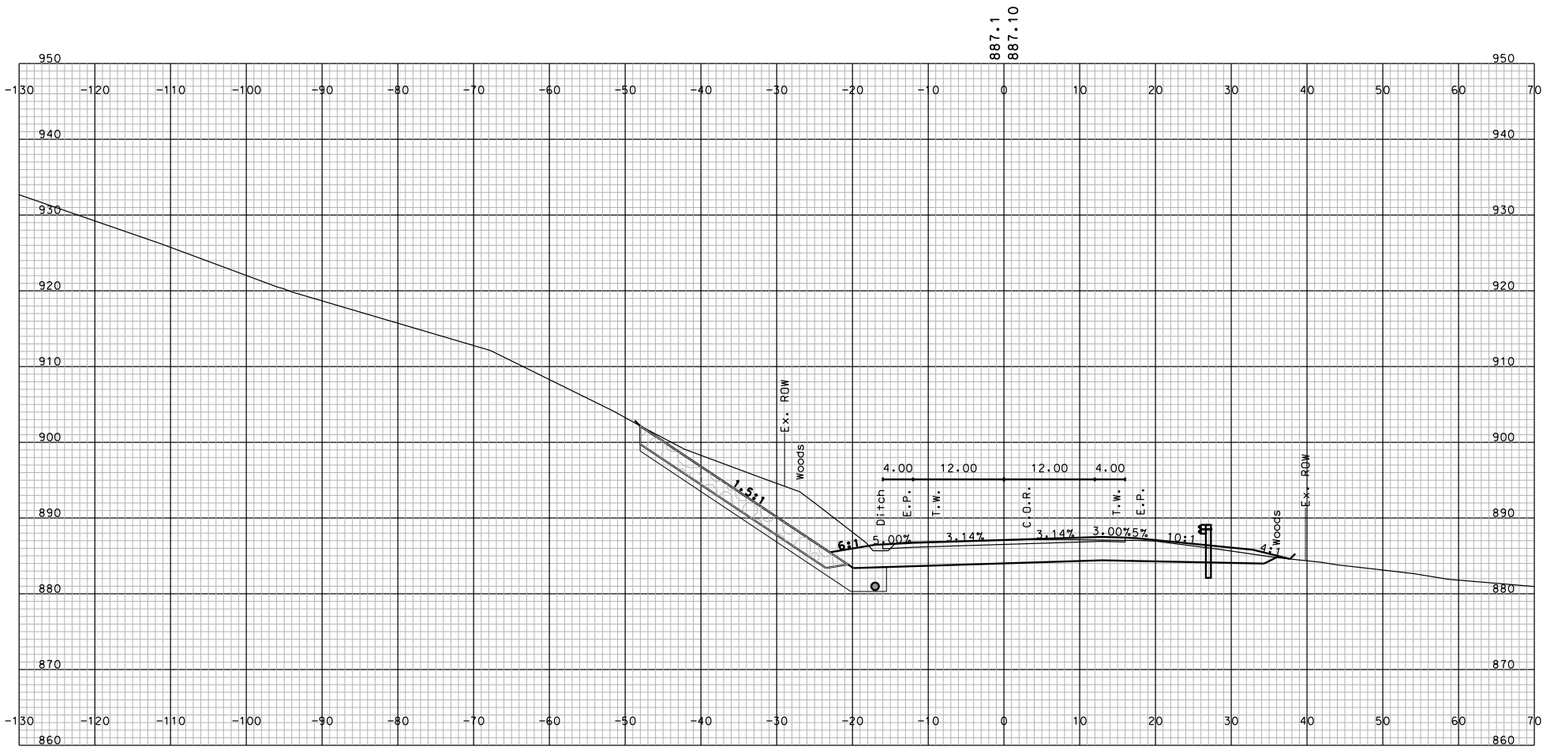
STA. 142+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	209	294

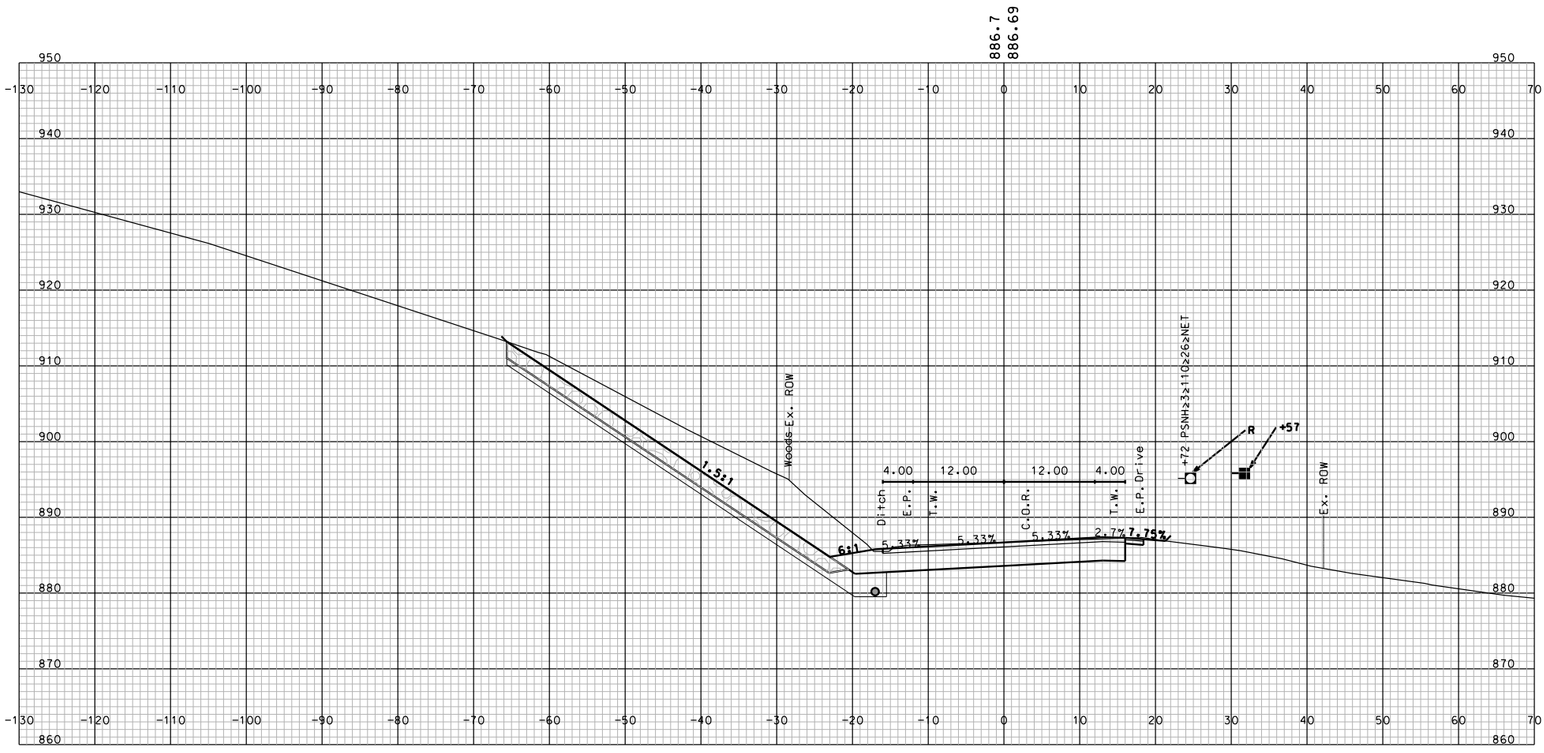
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 143+00.000



STA. 142+50.000

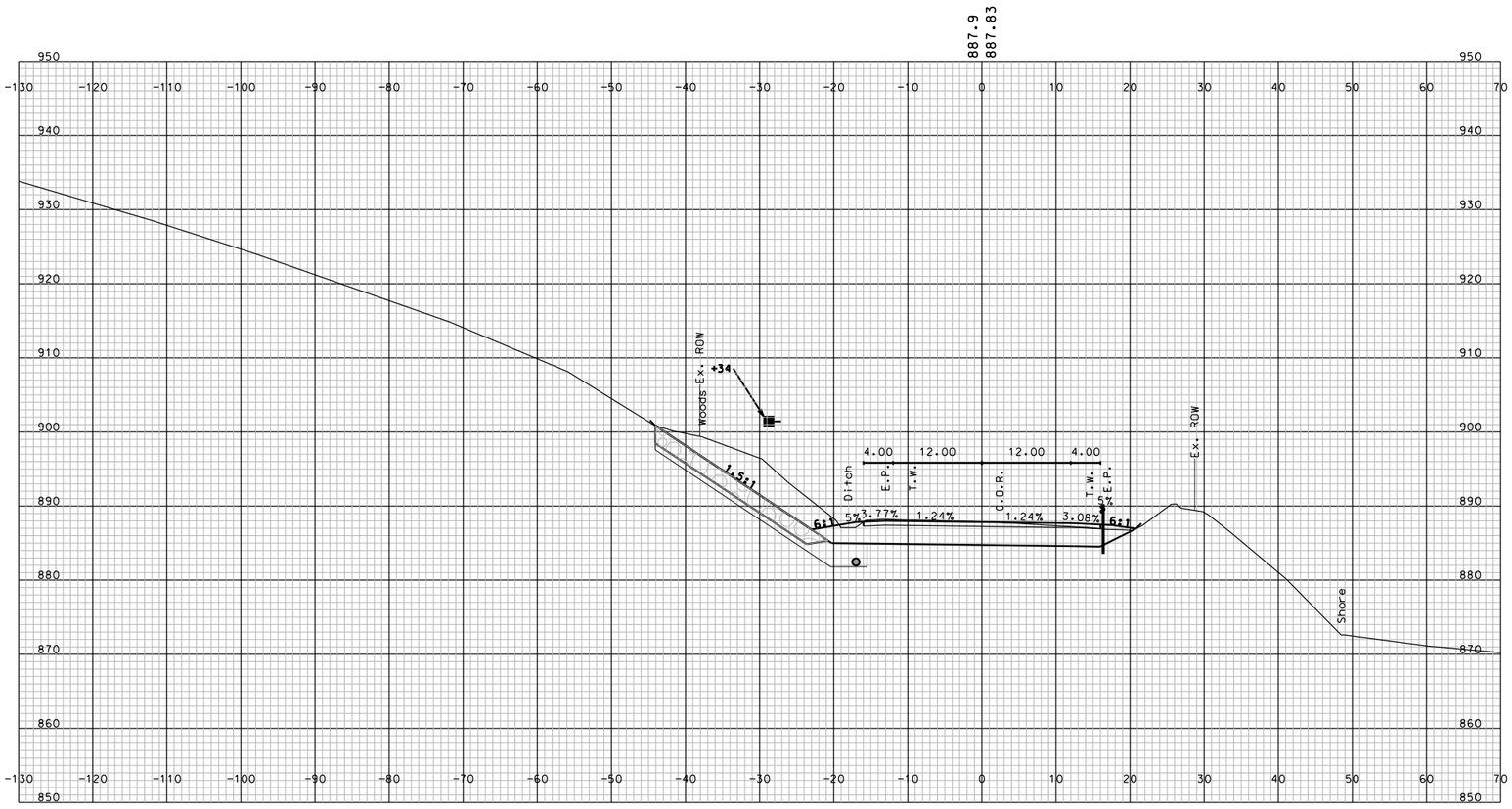
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	210	294

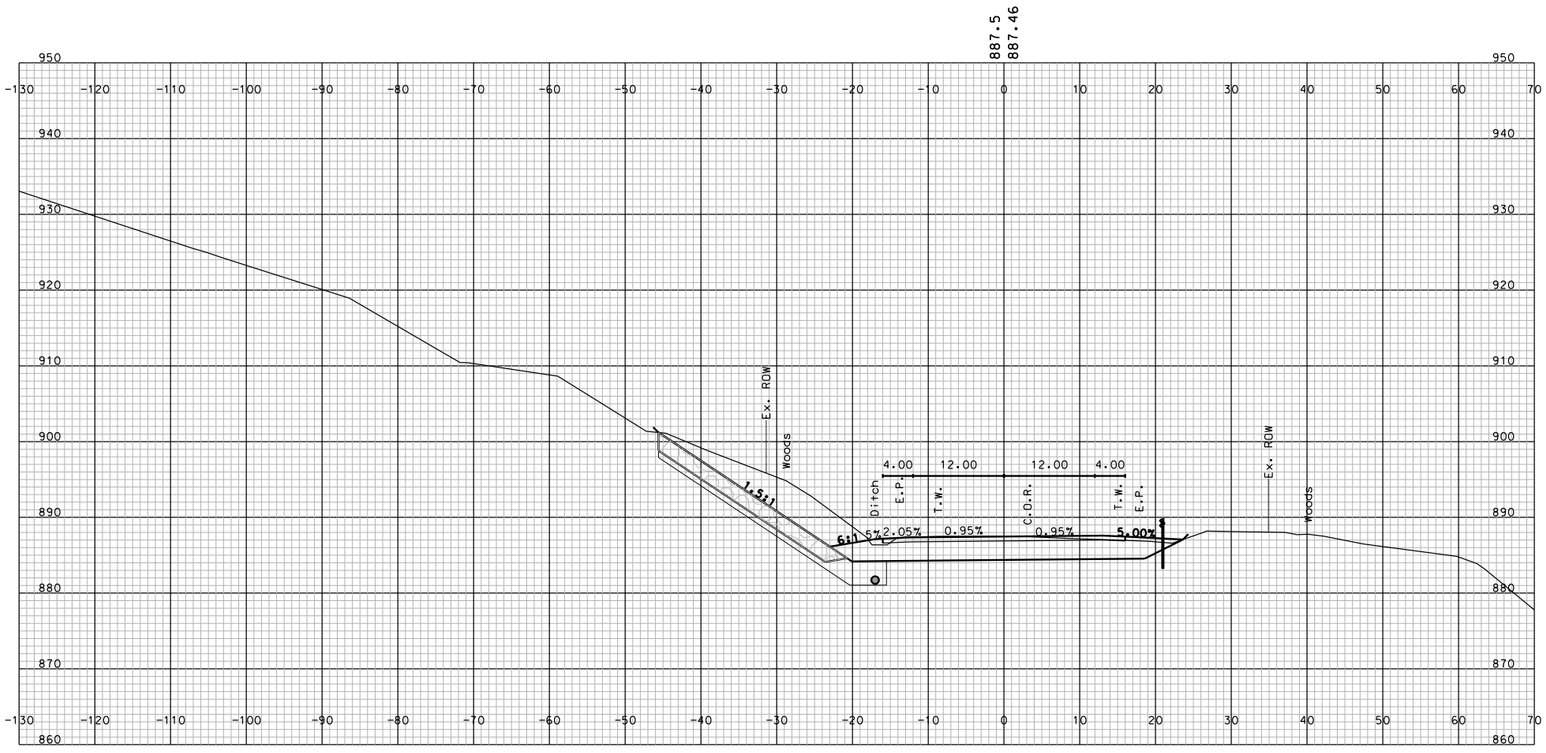
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 144+00.000



STA. 143+50.000

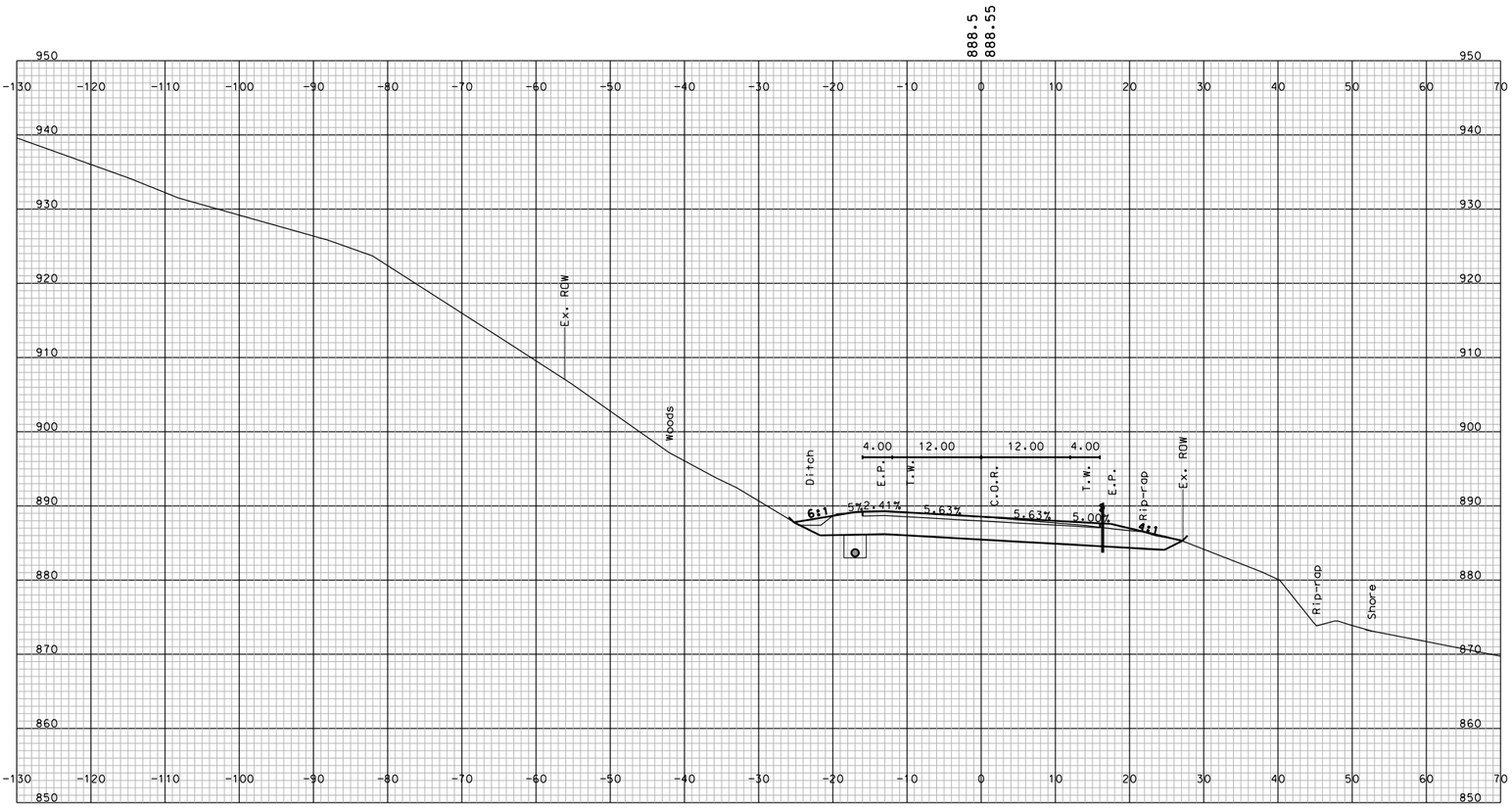
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	211	294

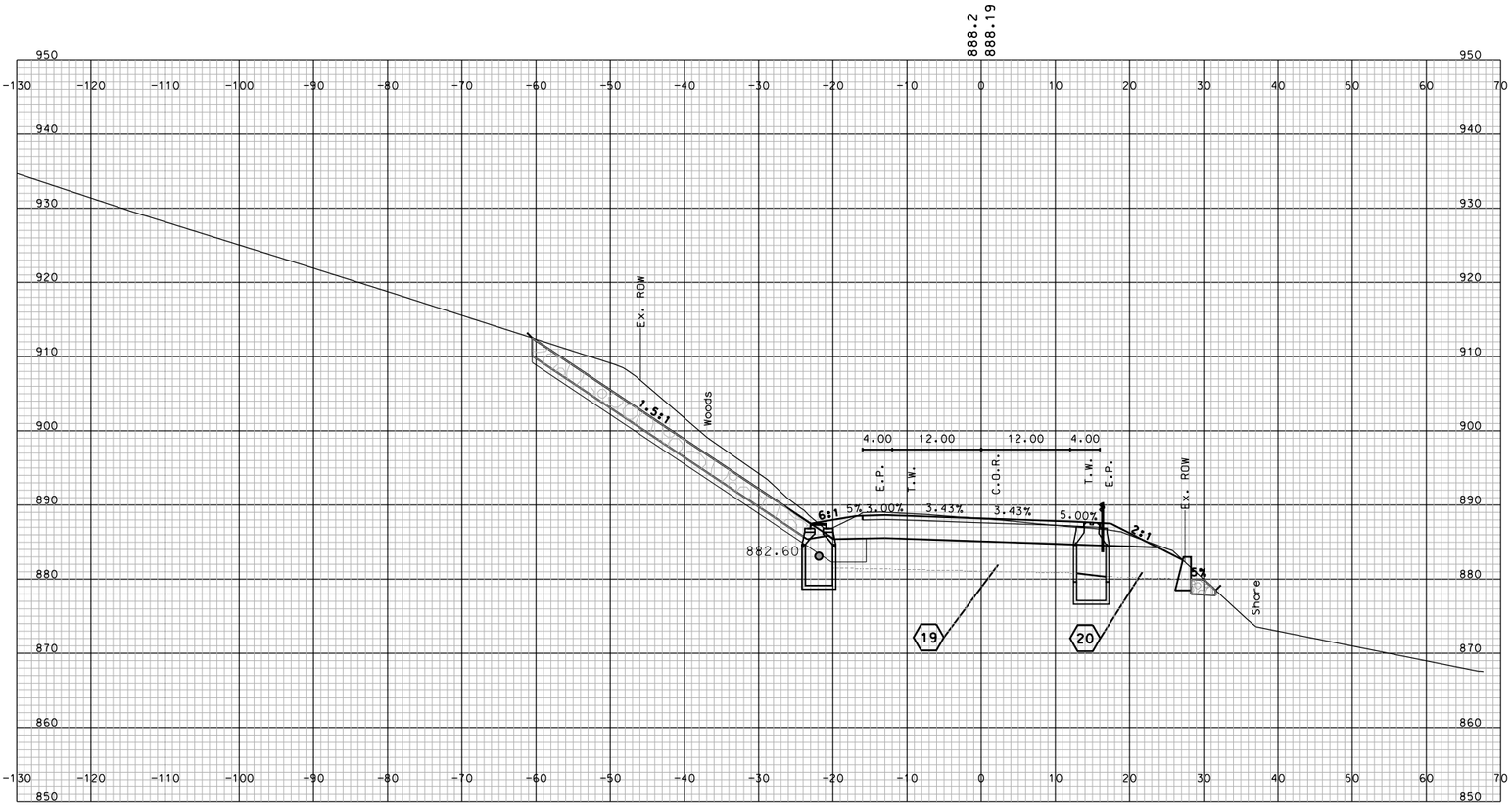
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 145+00.000



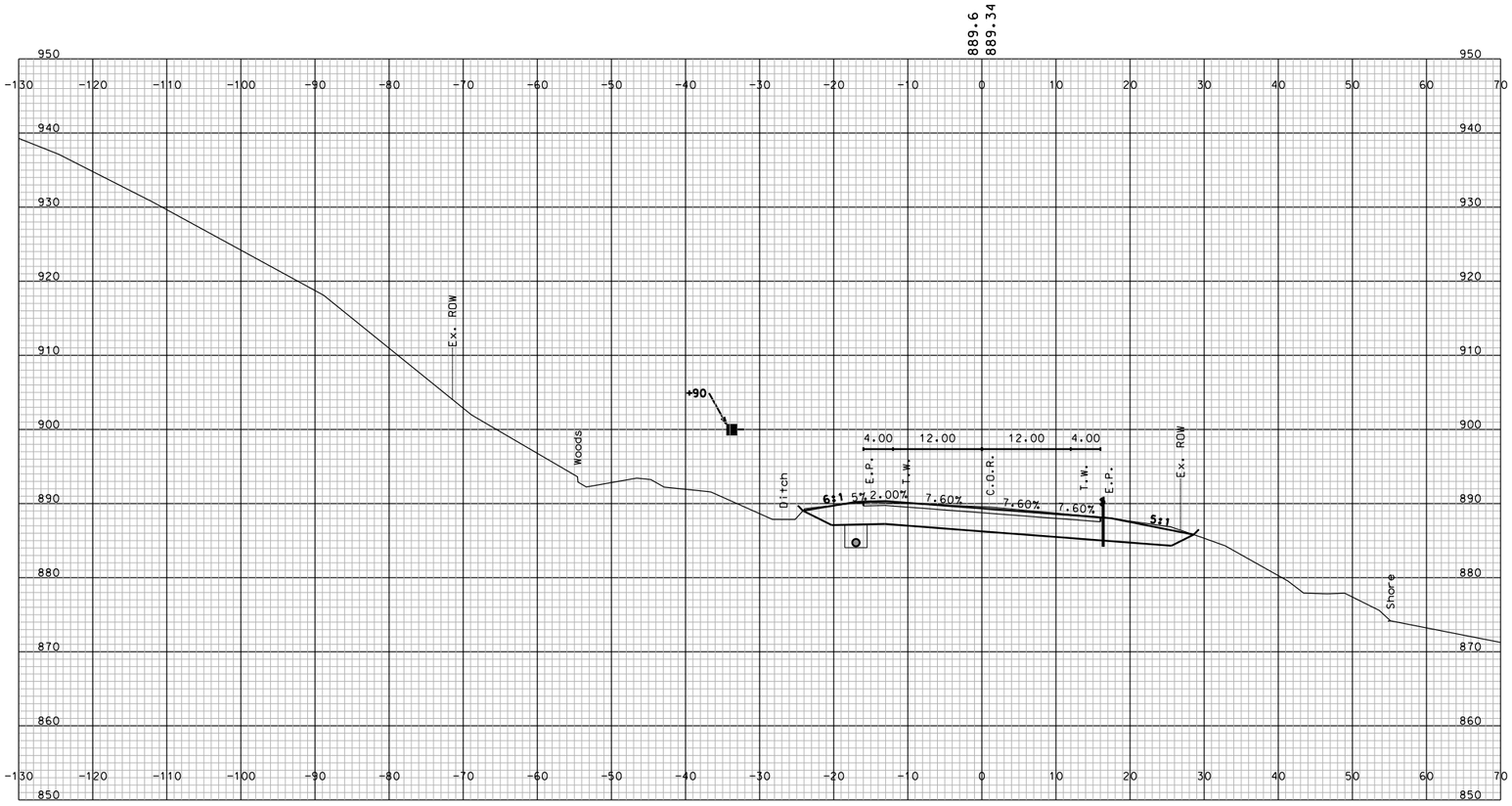
STA. 144+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	212	294

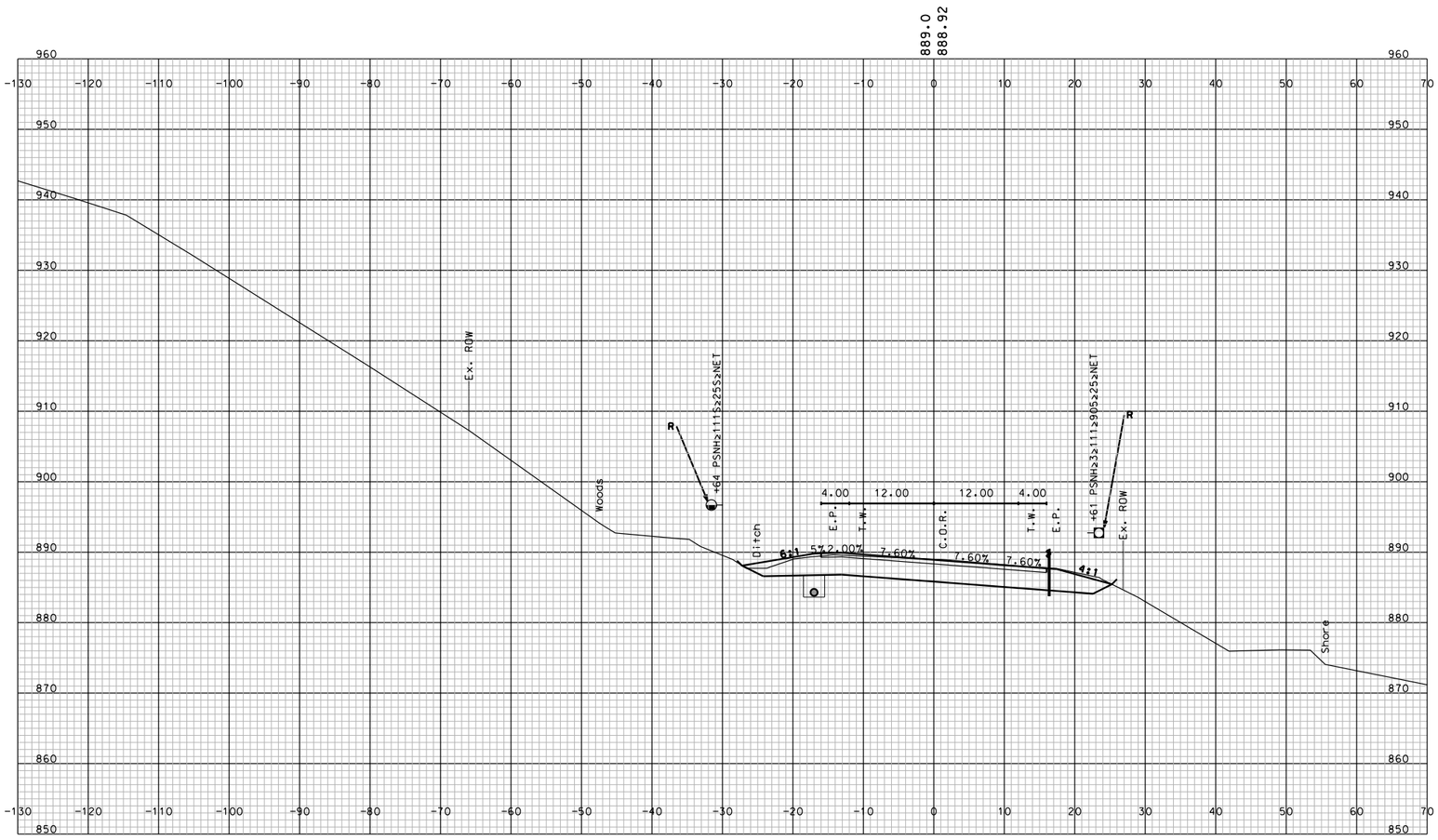
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 146+00.000



STA. 145+50.000

SHEET TOTALS

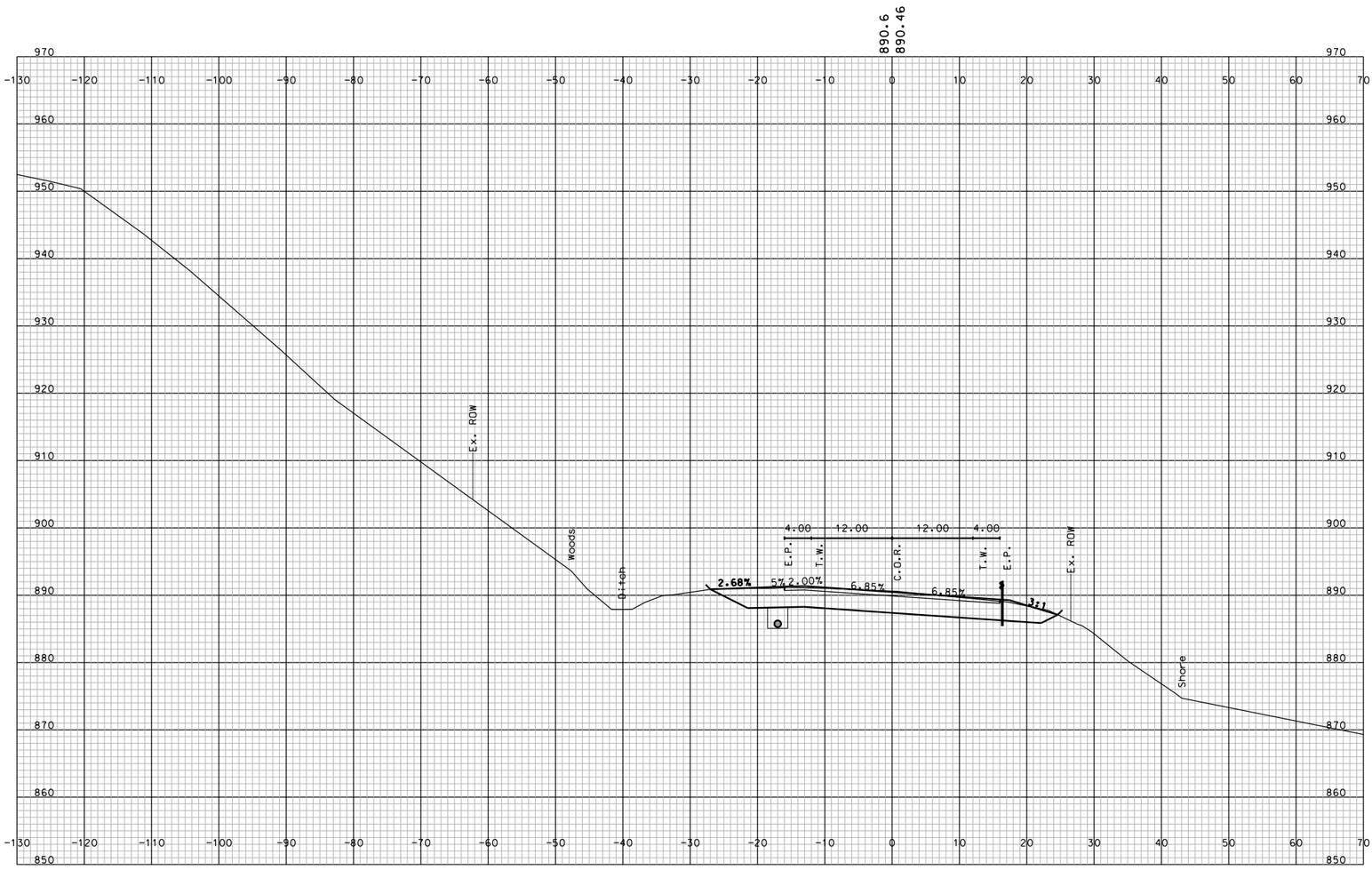
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	213	294

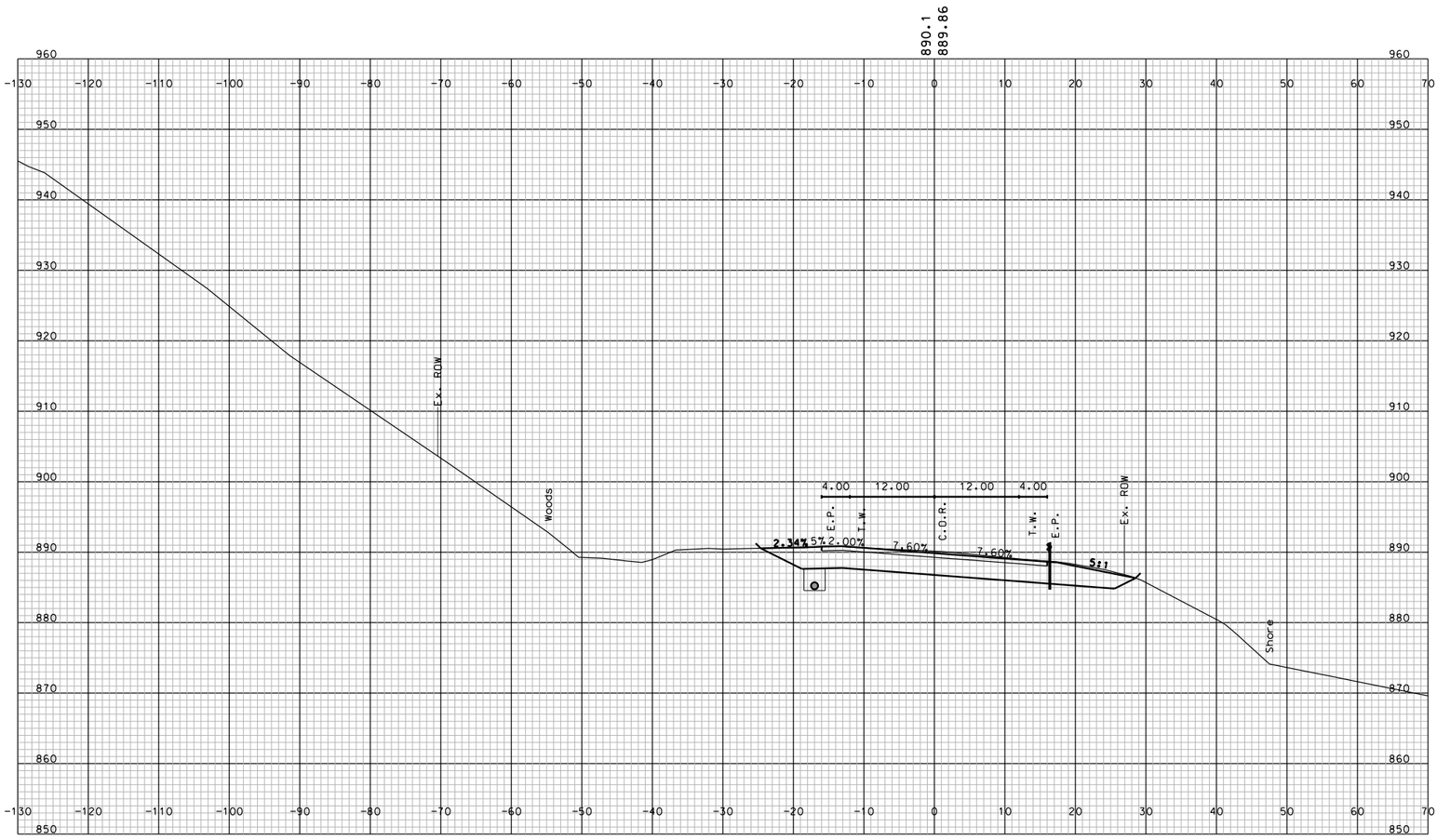
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 147+00.000



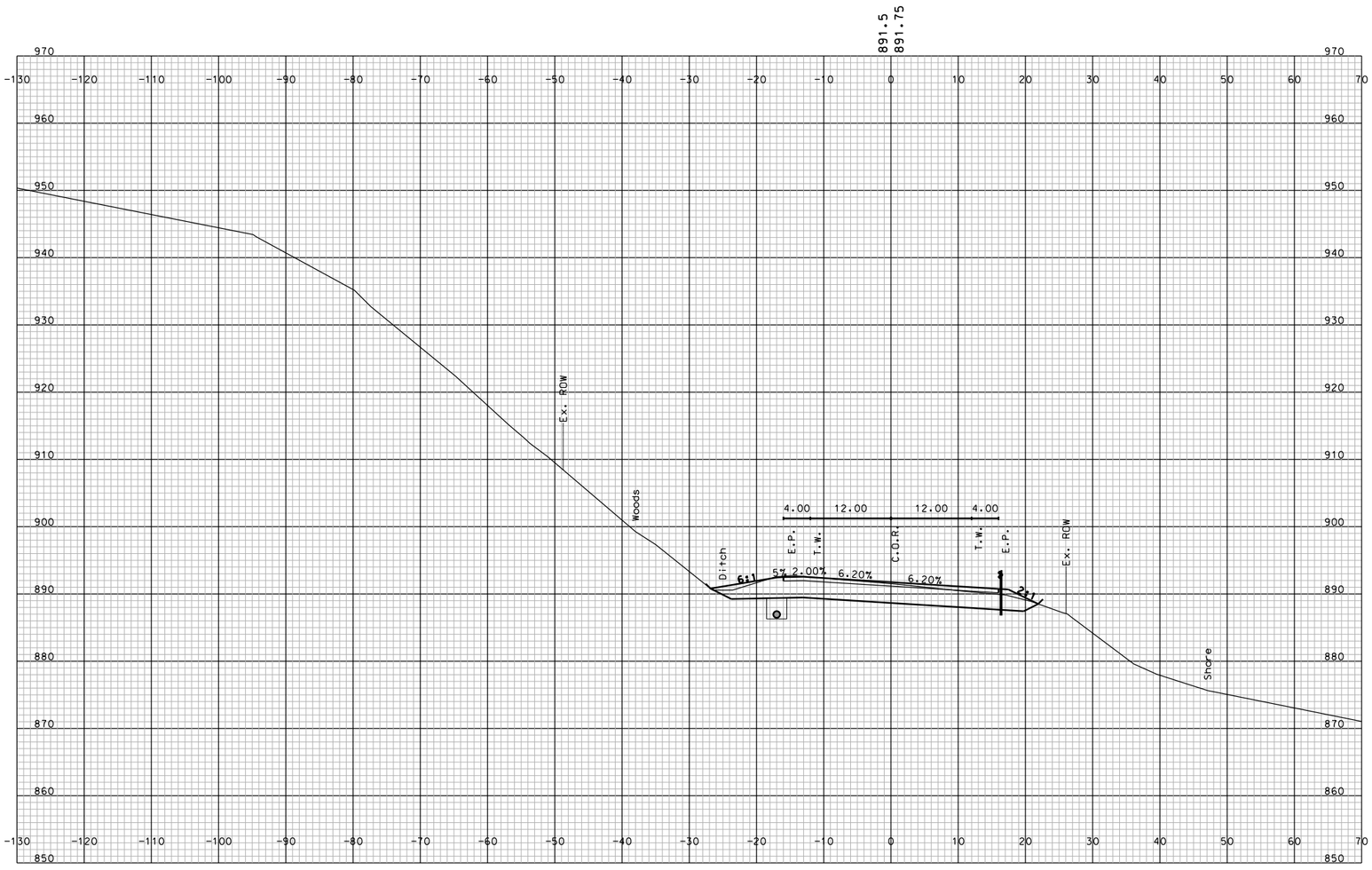
STA. 146+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	214	294

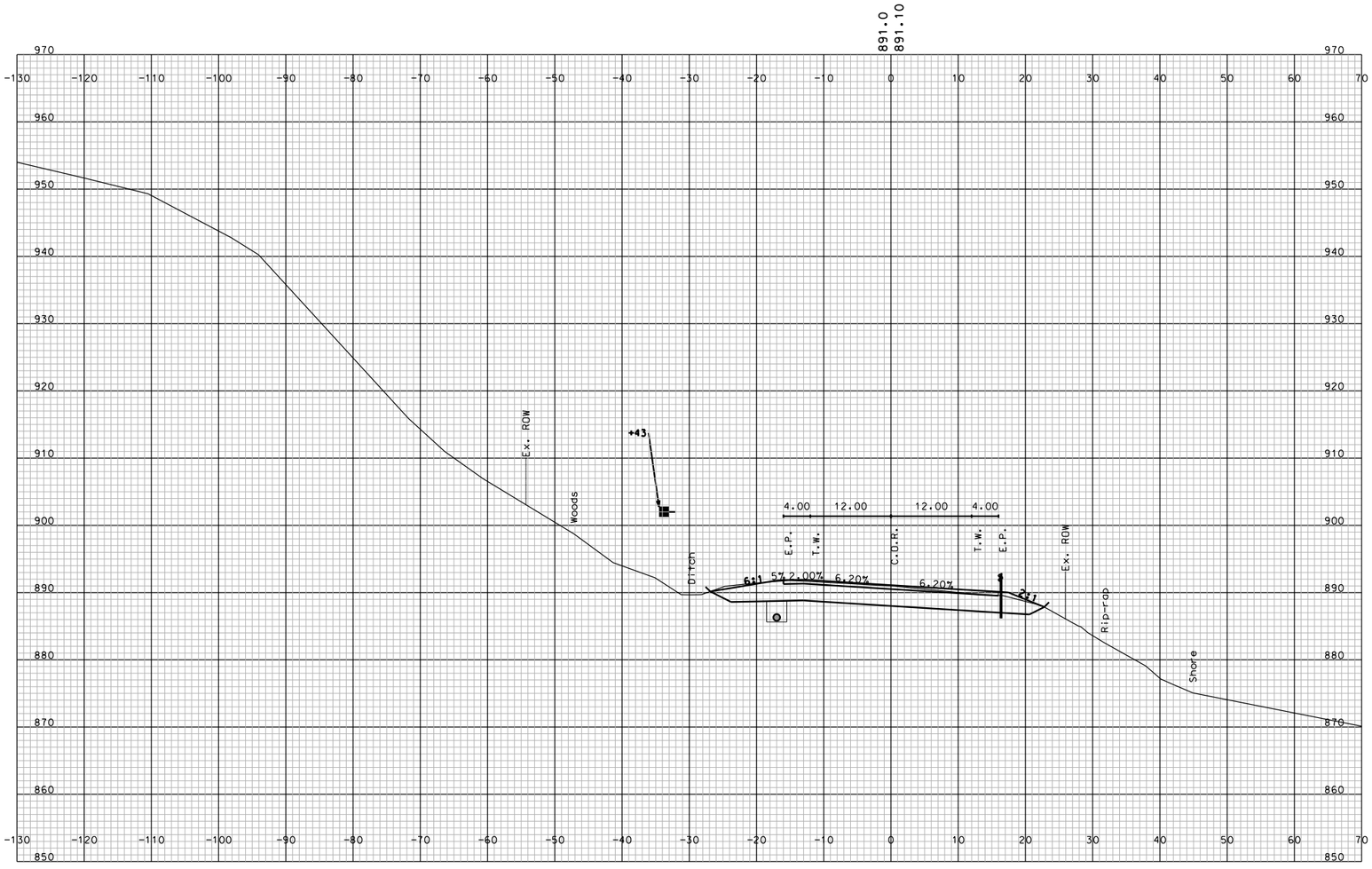
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 148+00.000



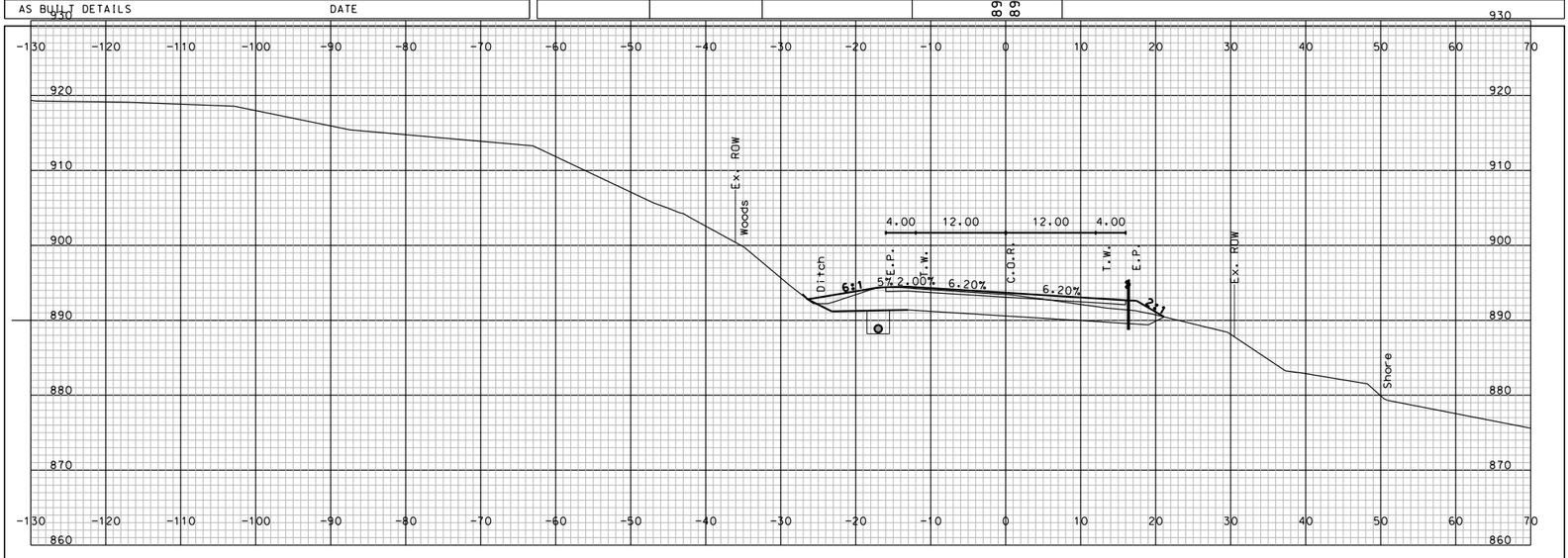
STA. 147+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	215	294

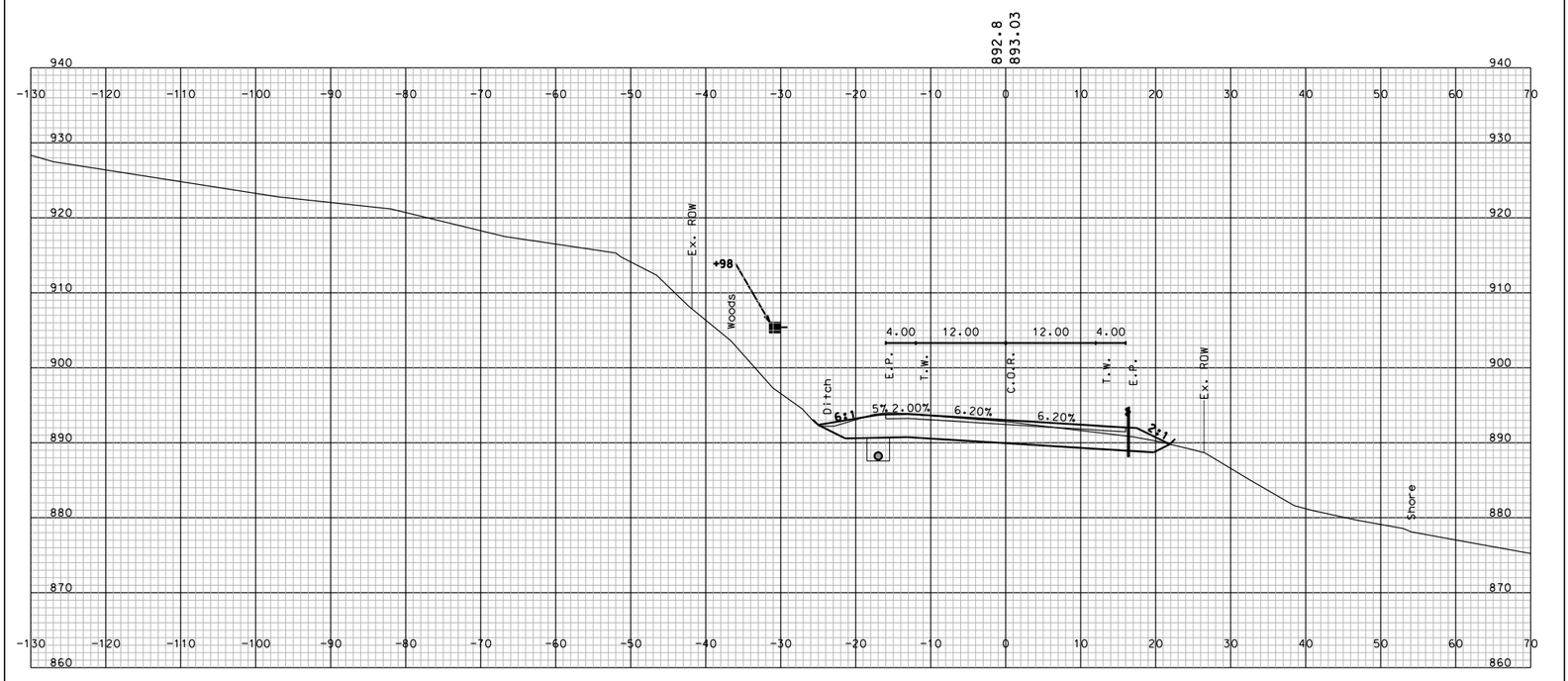
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

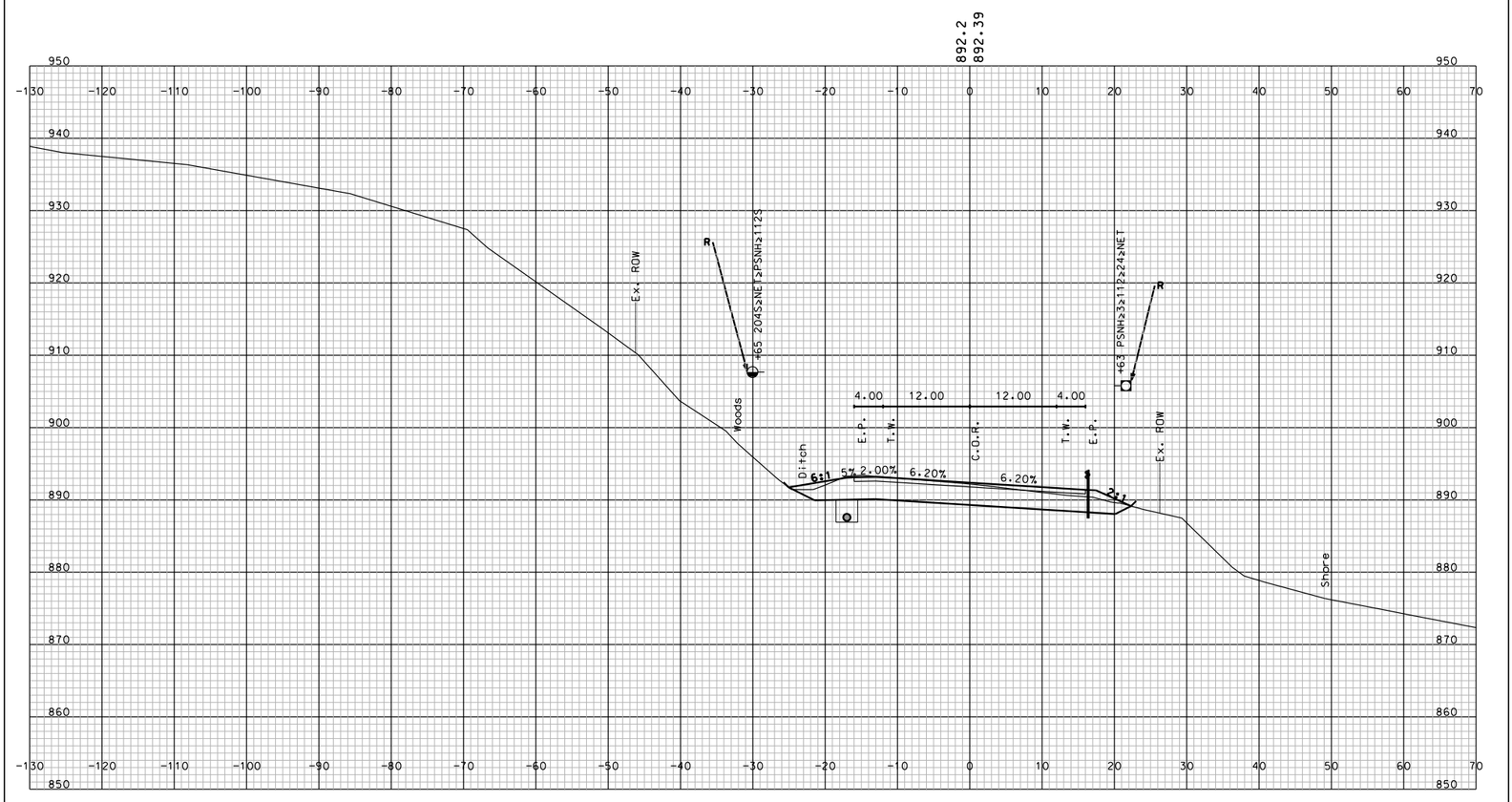
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 149+50.000



STA. 149+00.000



STA. 148+50.000

SHEET TOTALS

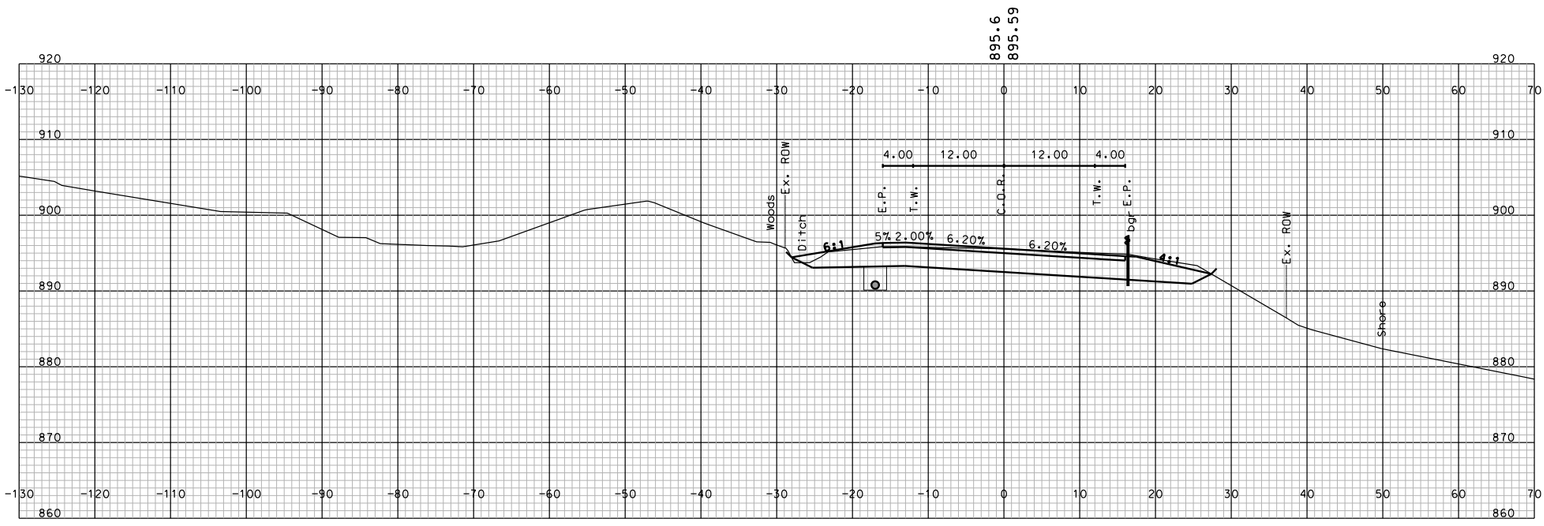
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	216	294

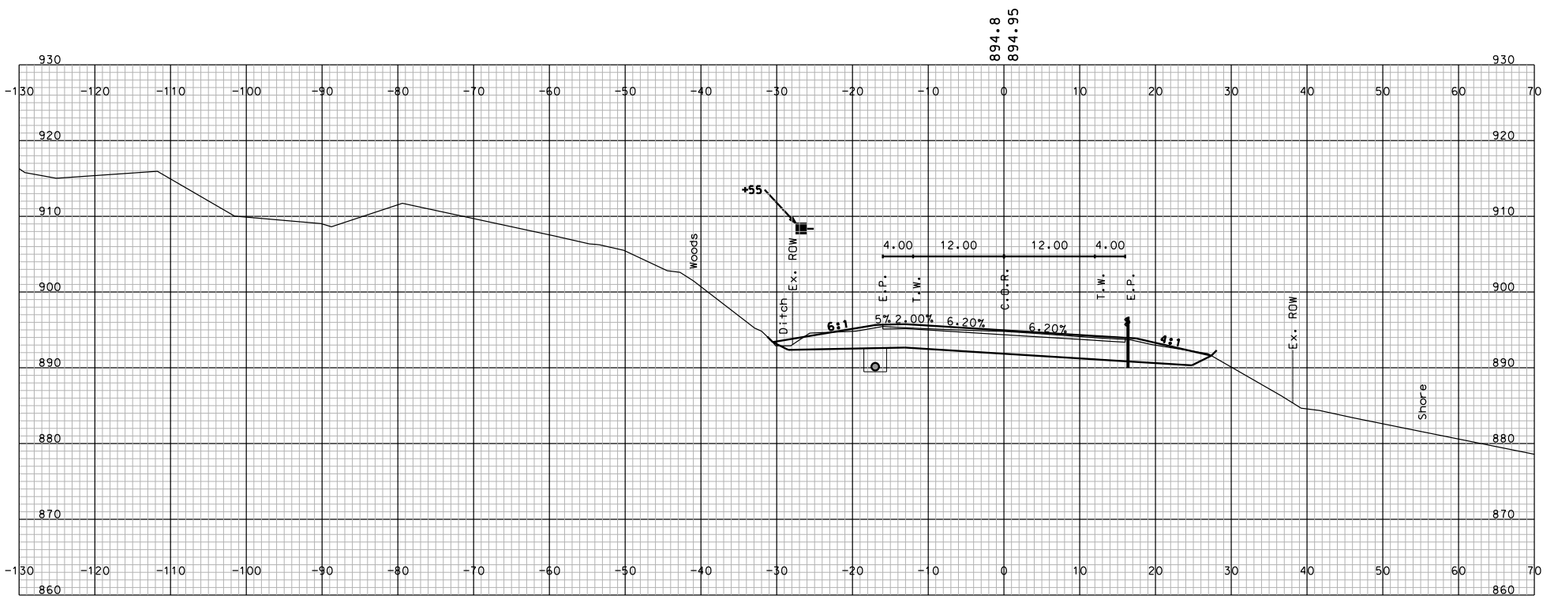
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

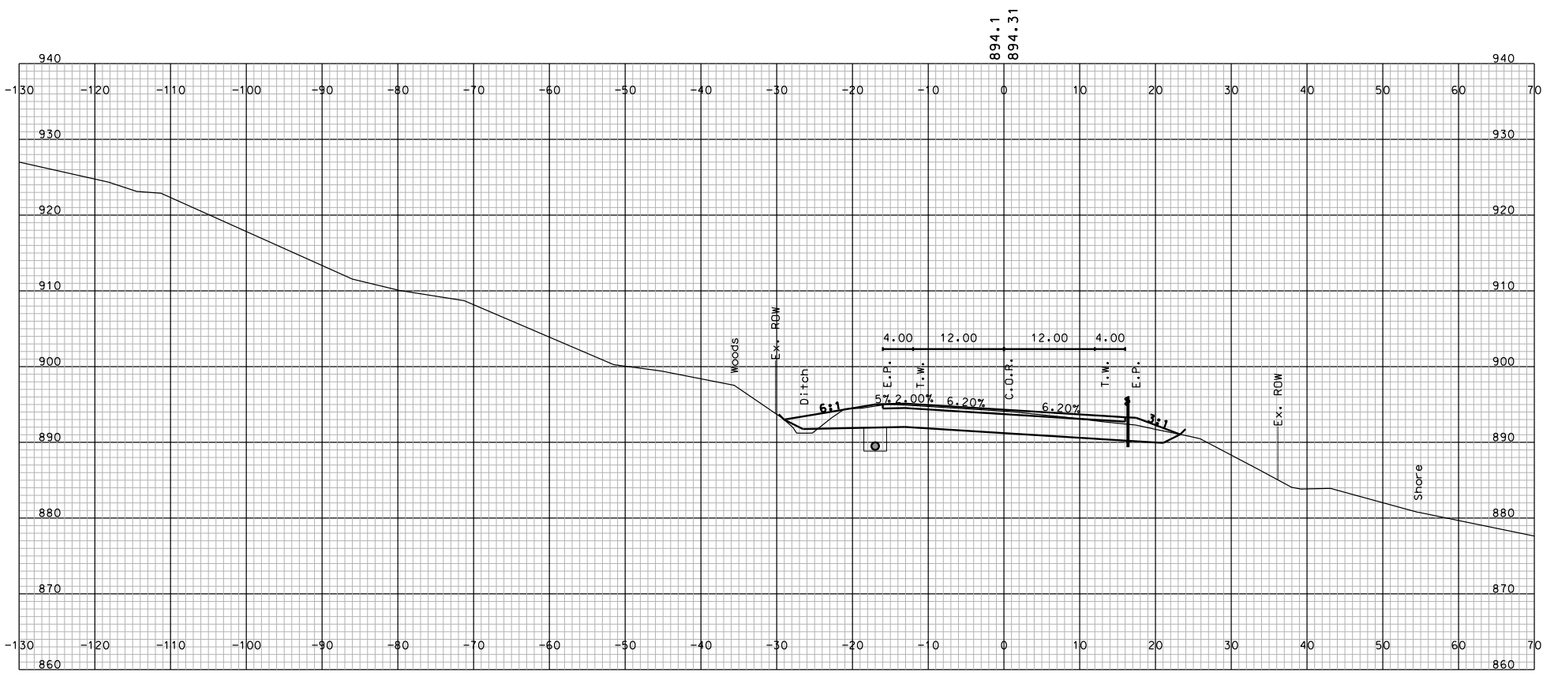
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 151+00.000



STA. 150+50.000



STA. 150+00.000

SHEET TOTALS

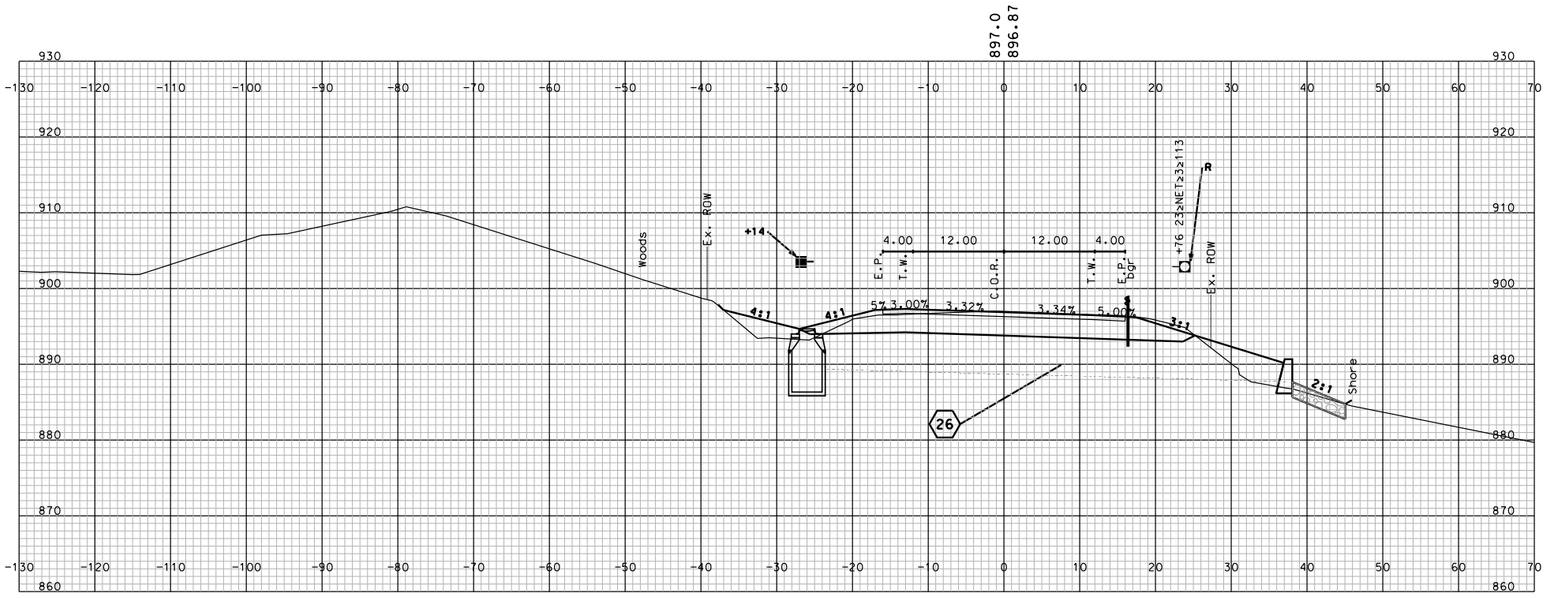
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	217	294

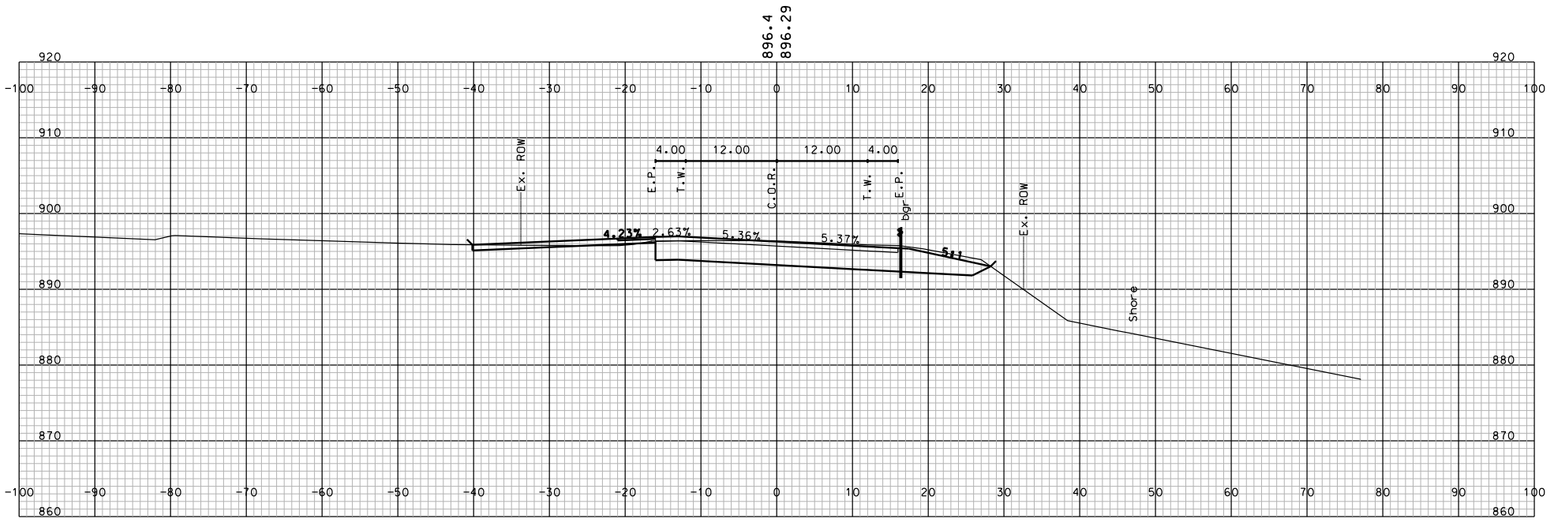
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

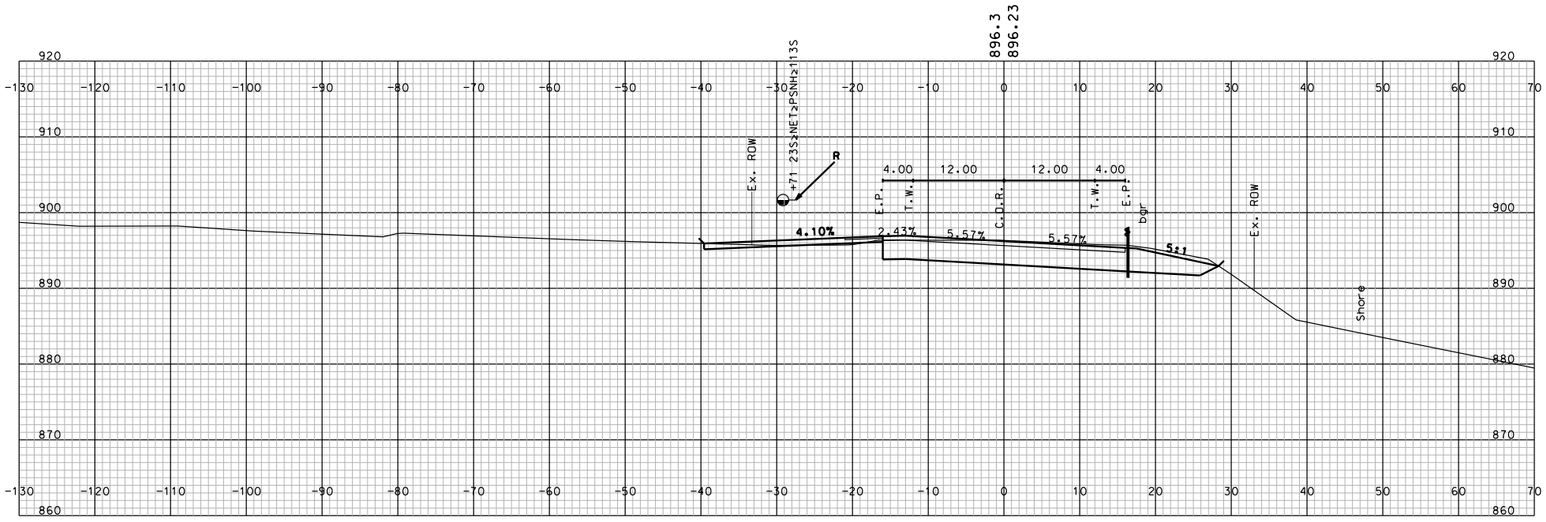
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 152+00.000



STA. 151+54.601



STA. 151+50.000

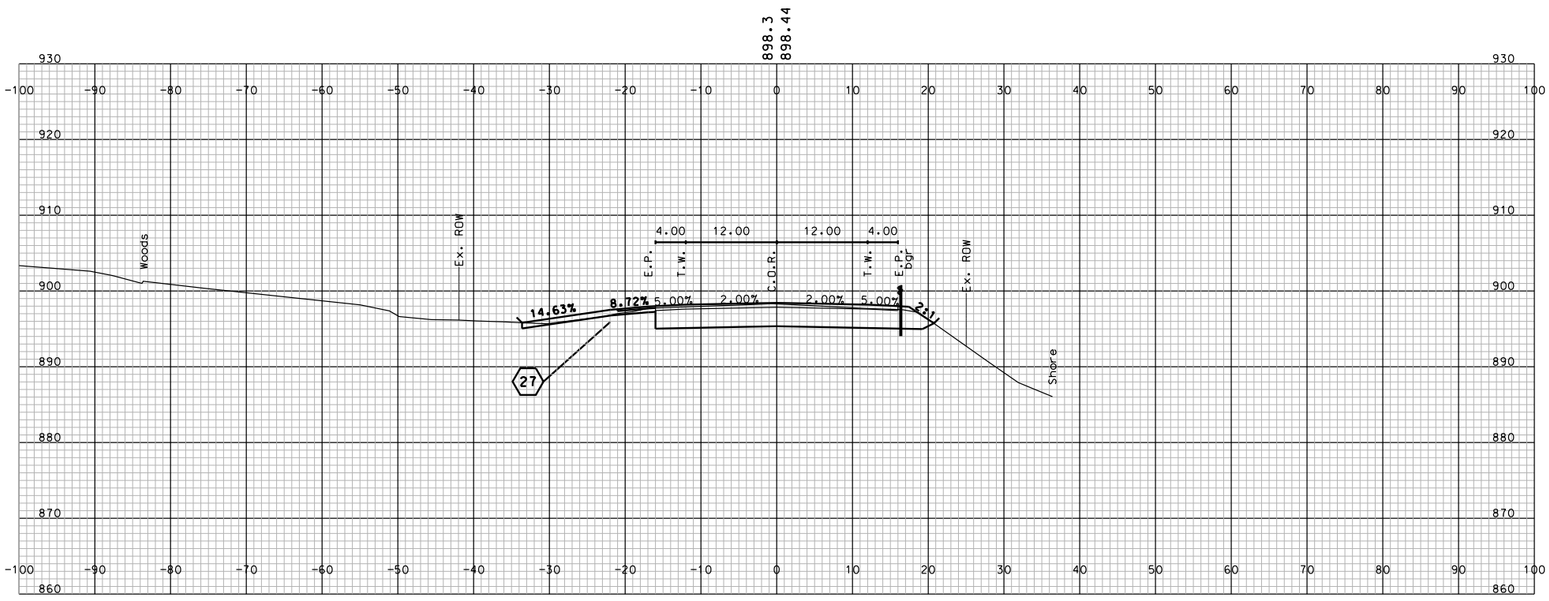
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	218	294

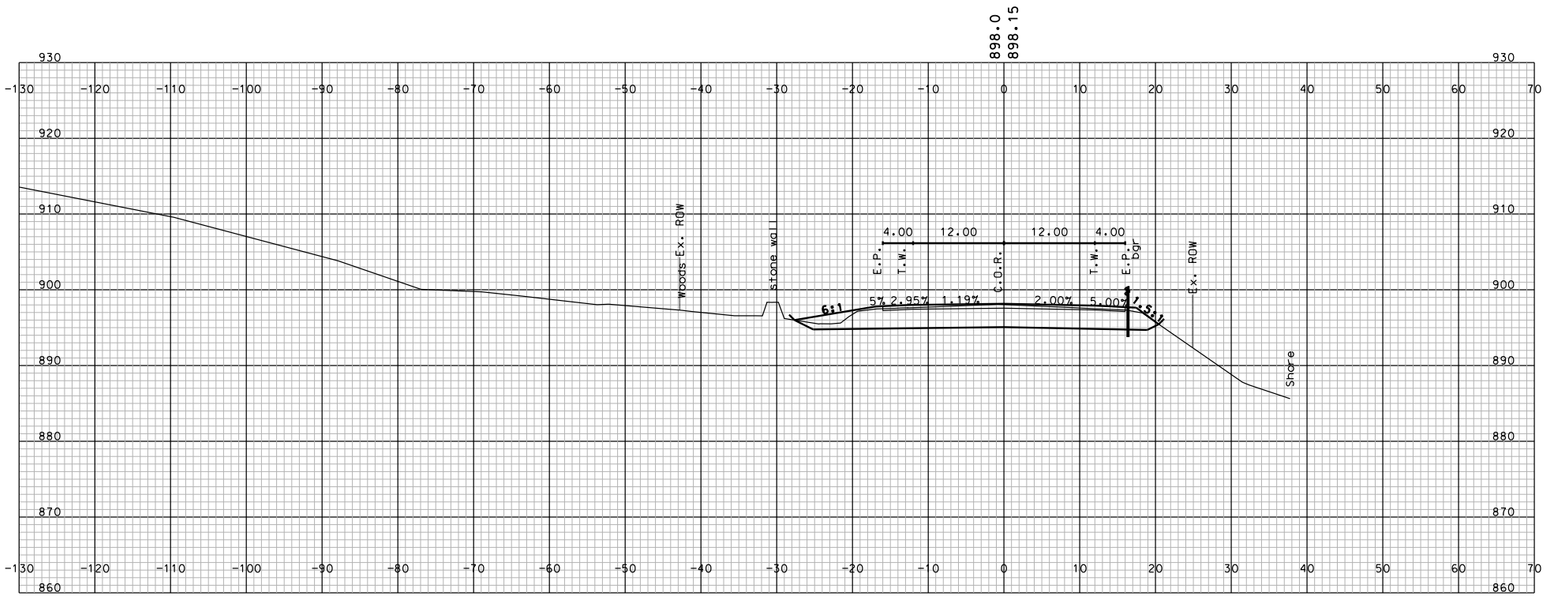
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

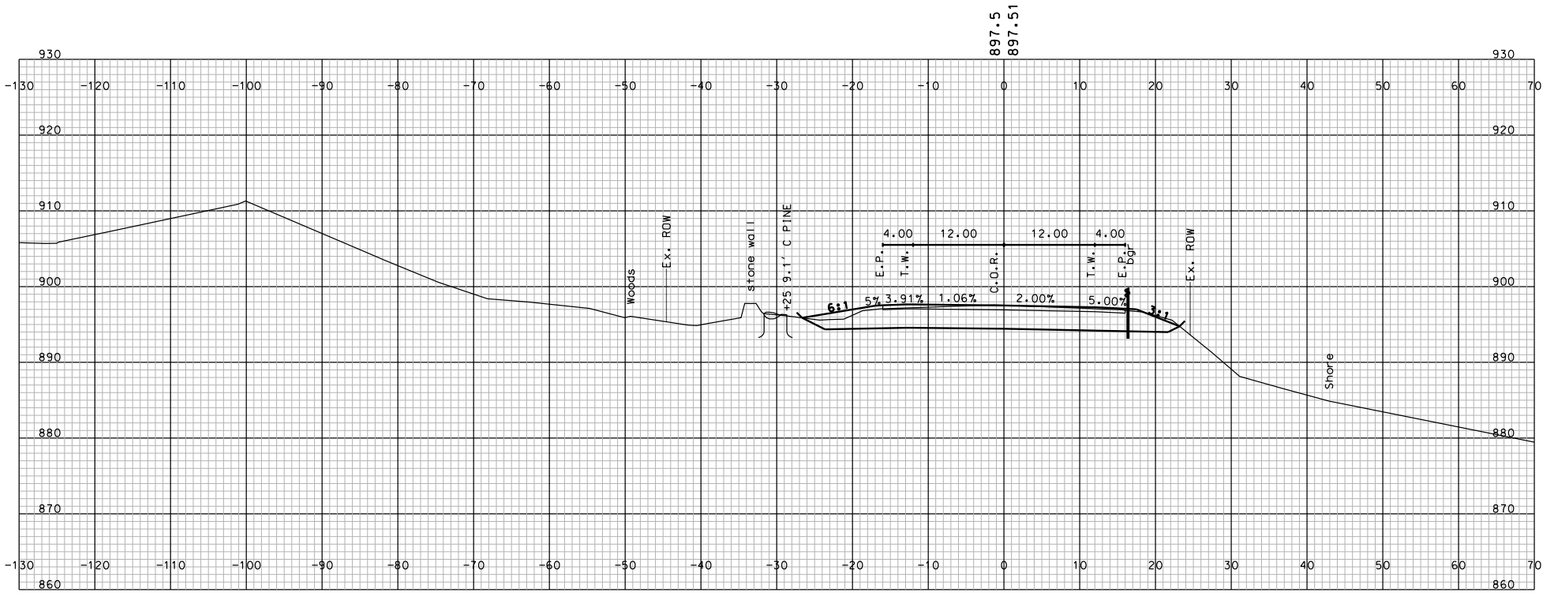
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 153+22.194



STA. 153+00.000



STA. 152+50.000

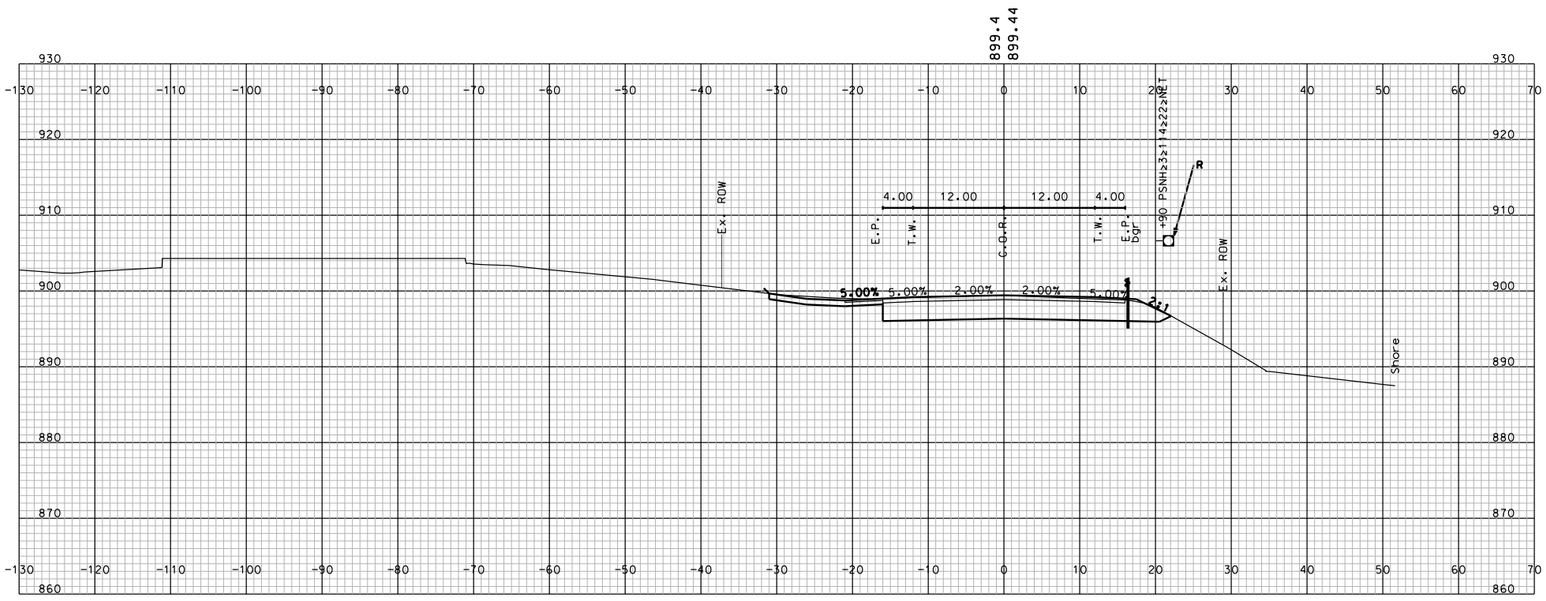
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	219	294

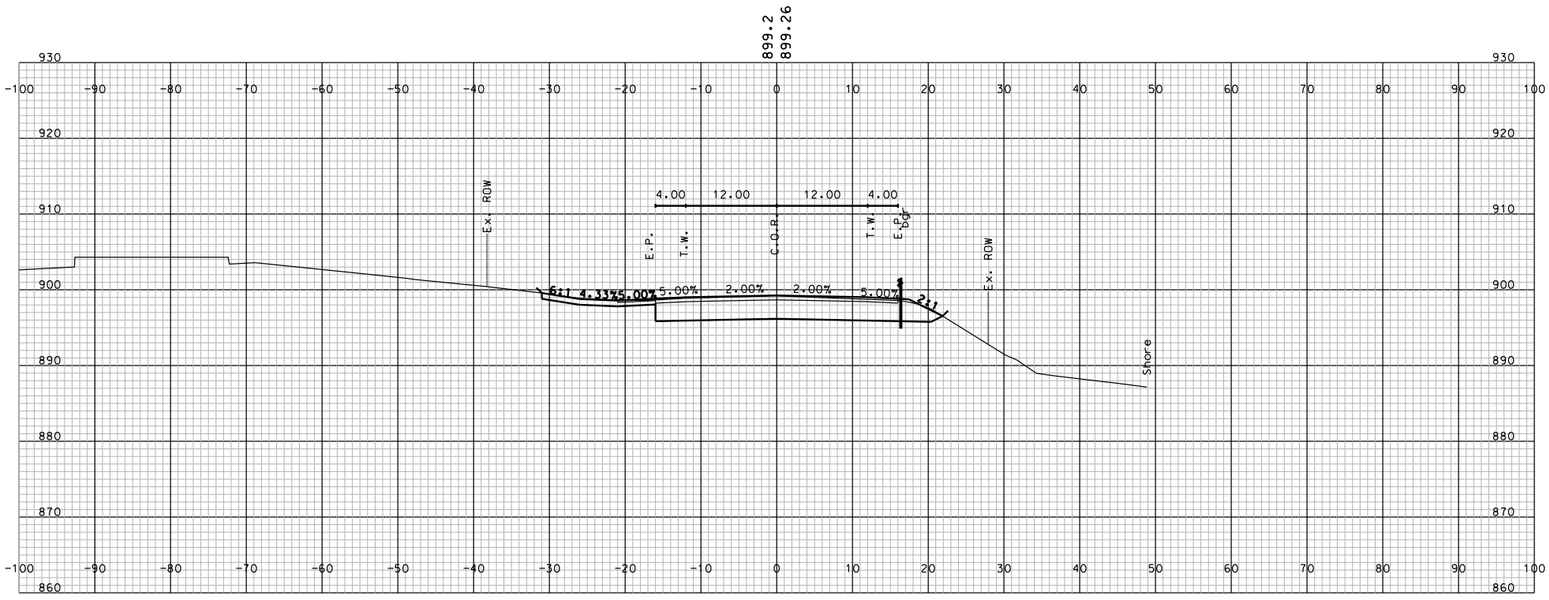
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

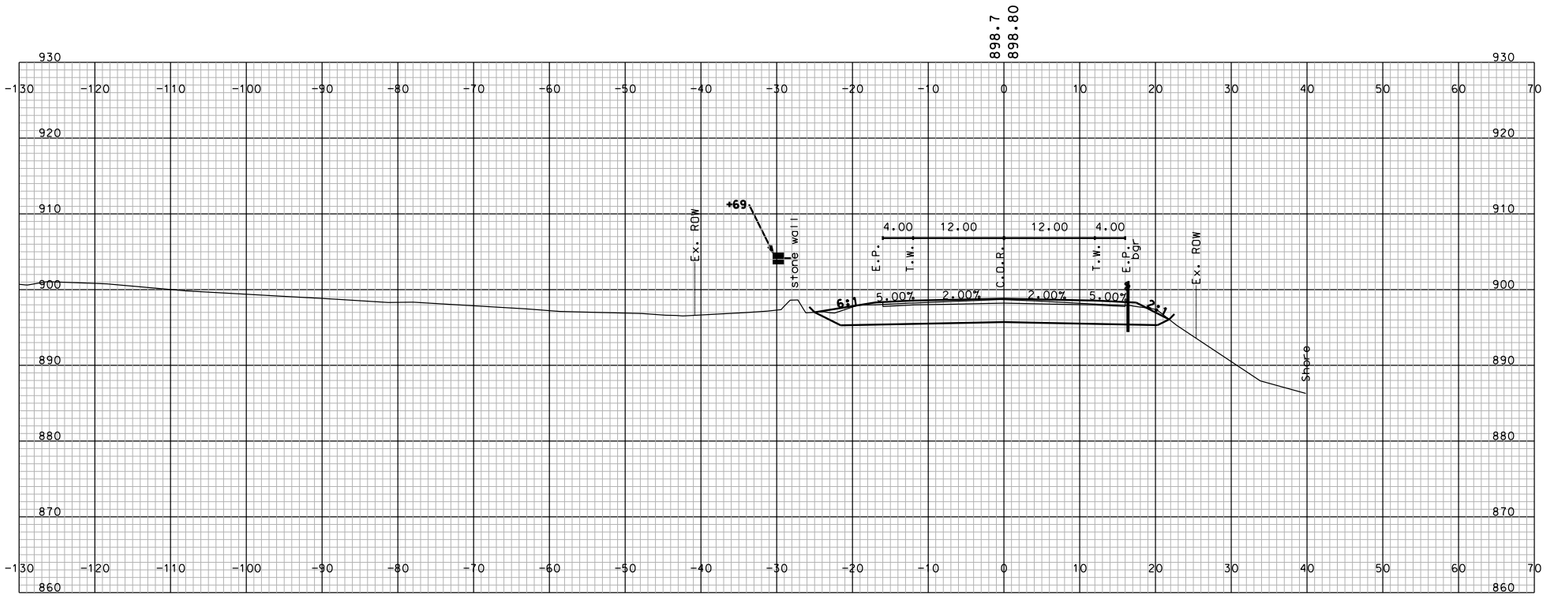
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 154+00.000



STA. 153+86.098



STA. 153+50.000

SHEET TOTALS

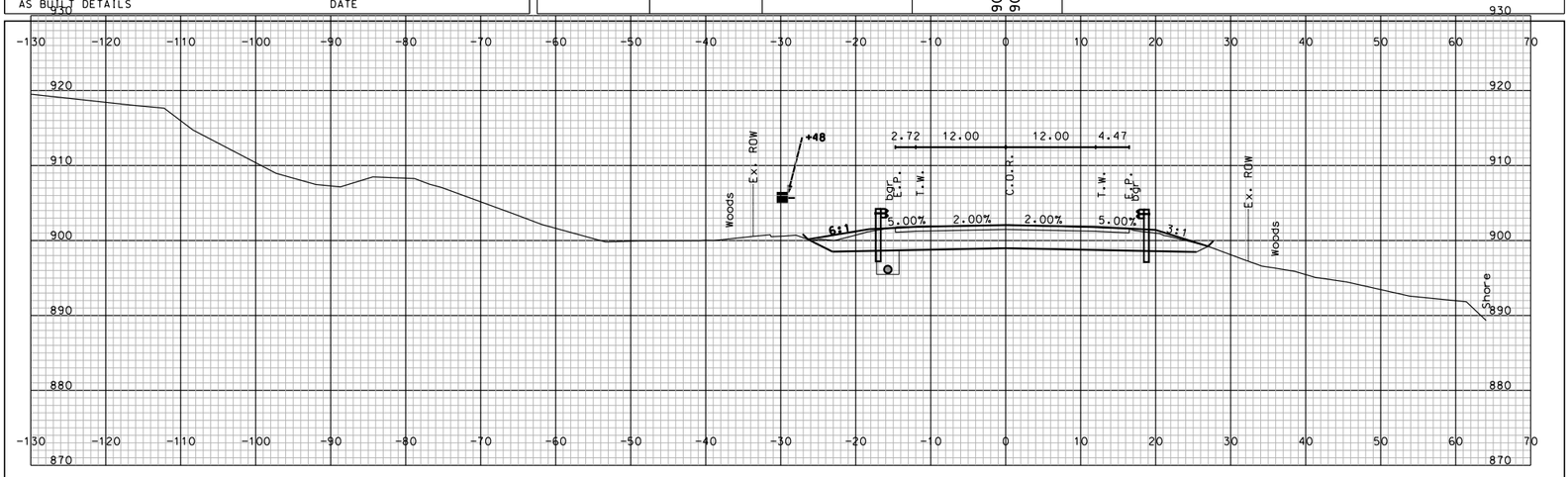
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	220	294

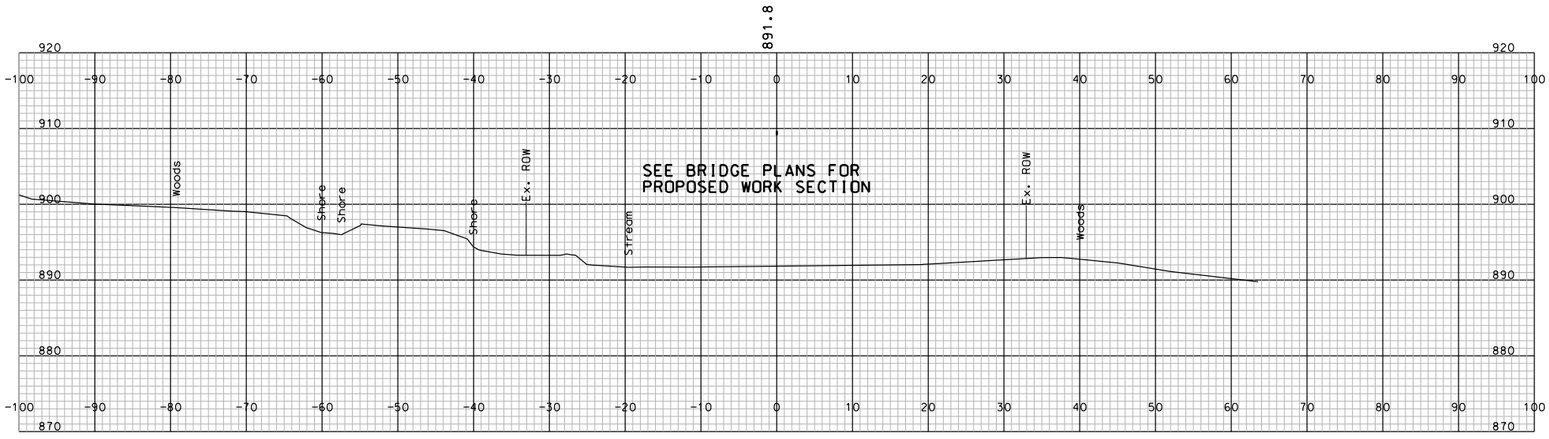
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

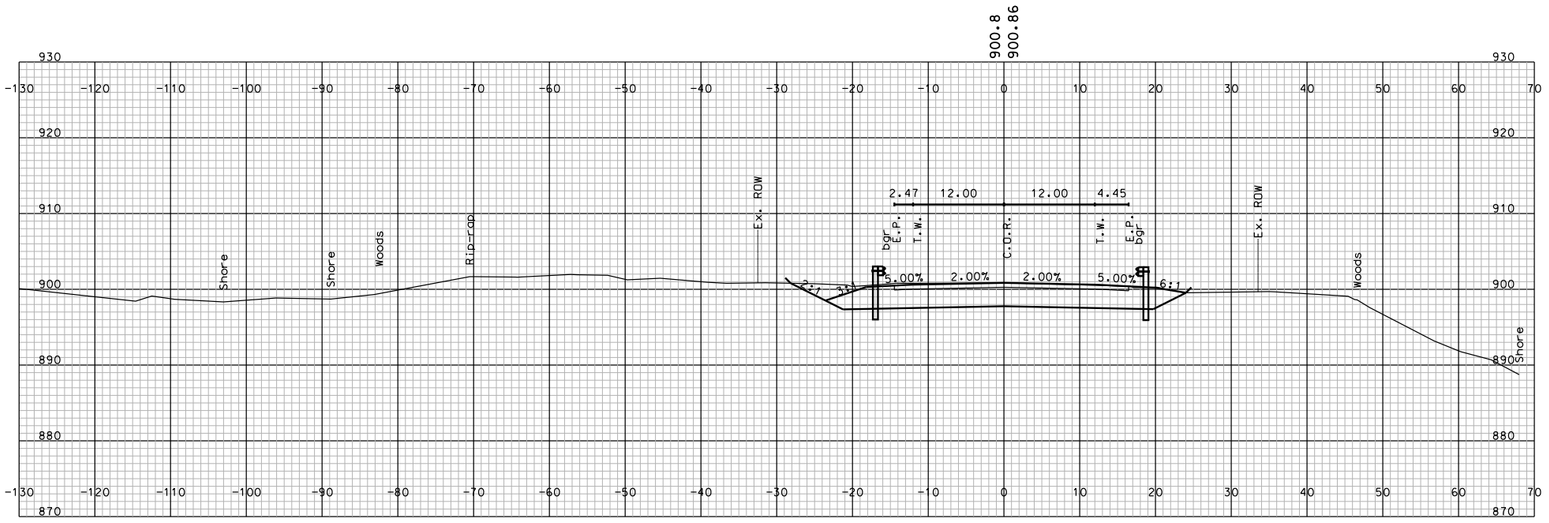
NUMBER	DATE	STATION	STATION	DESCRIPTION
			902.1 902.05	



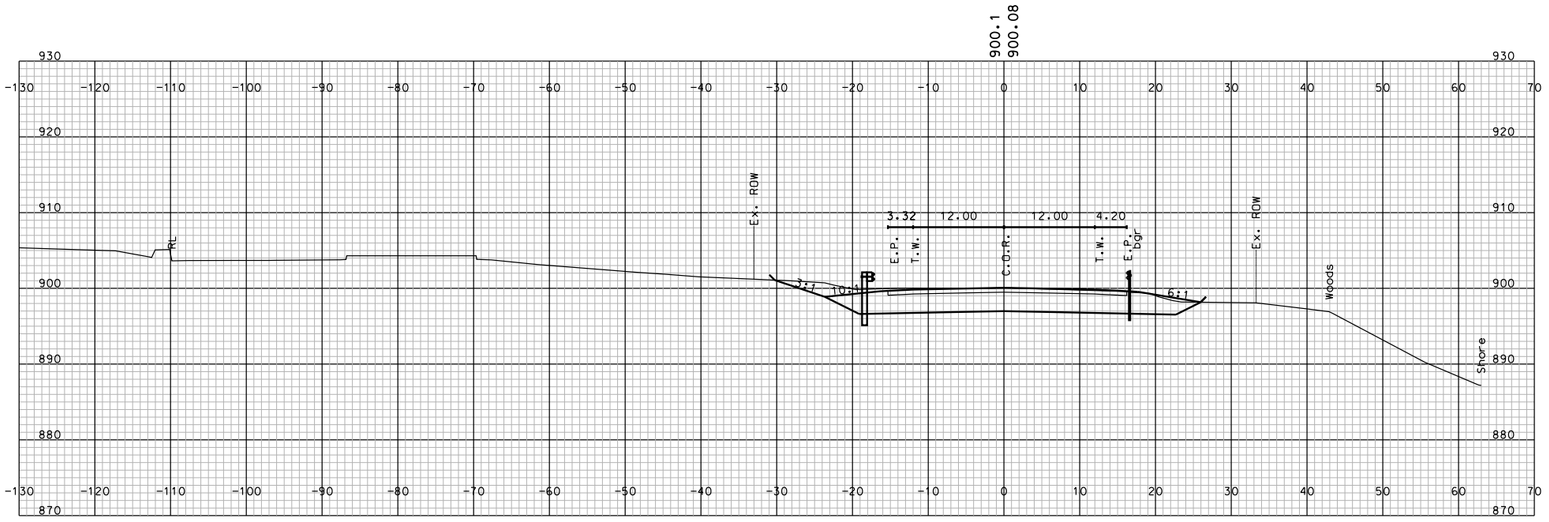
STA. 155+50.000



STA. 155+25.000



STA. 155+00.000



STA. 154+50.000

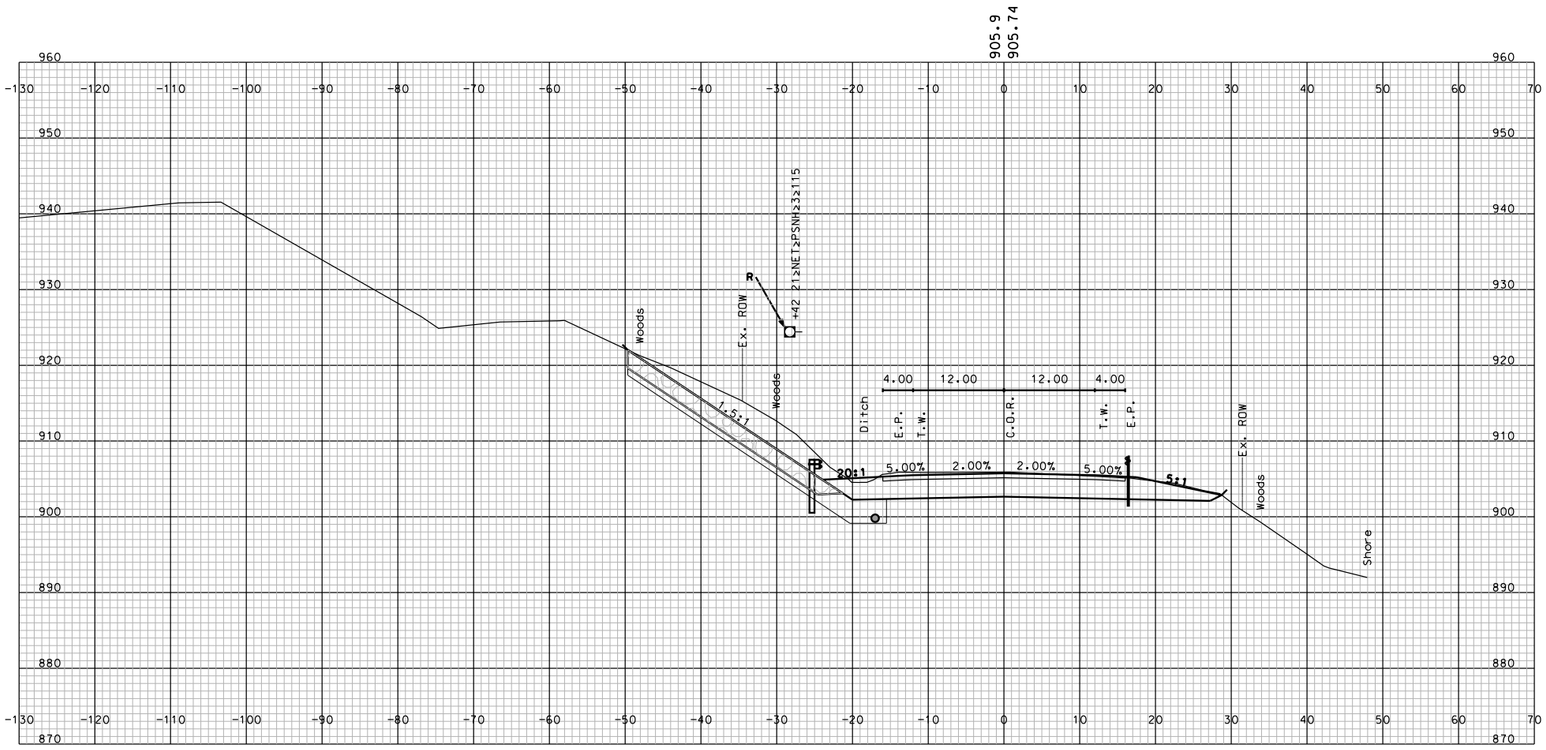
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	221	294

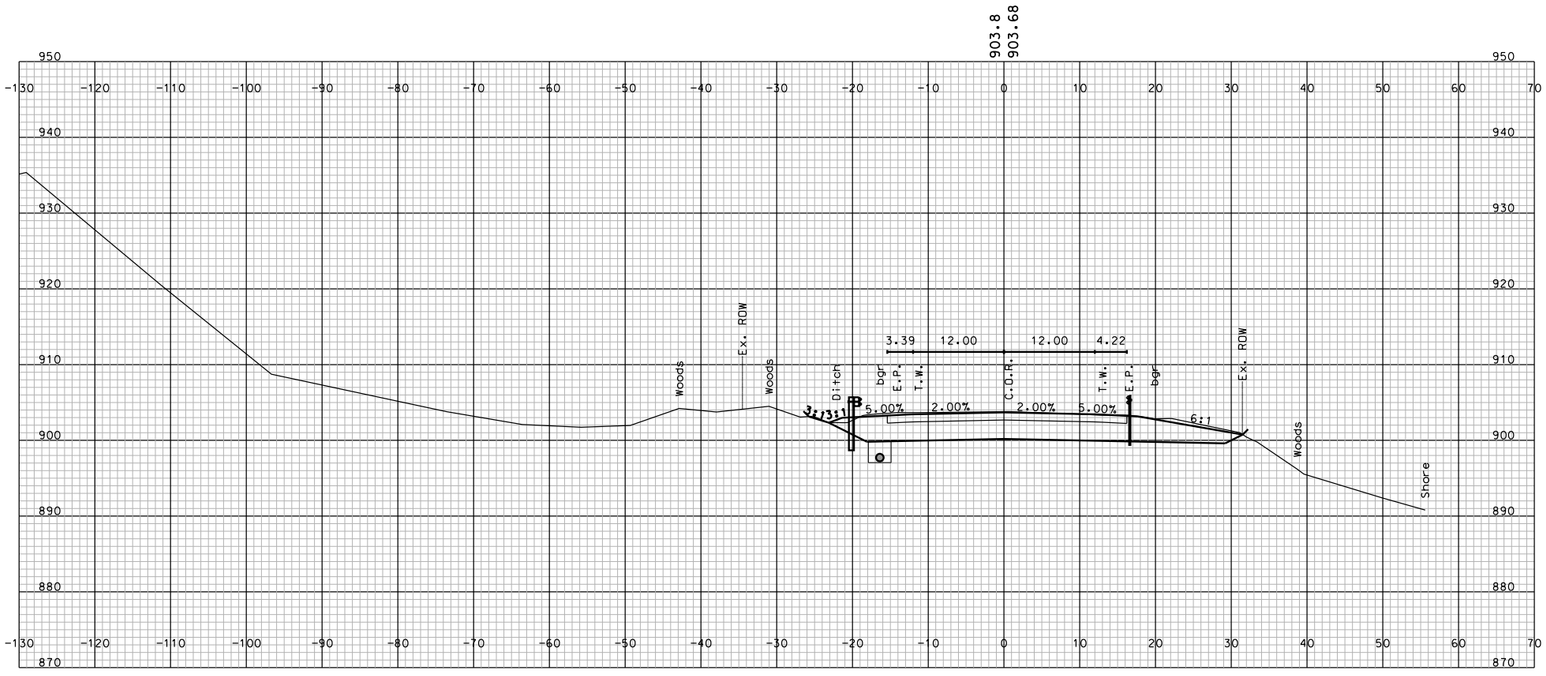
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 156+50.000



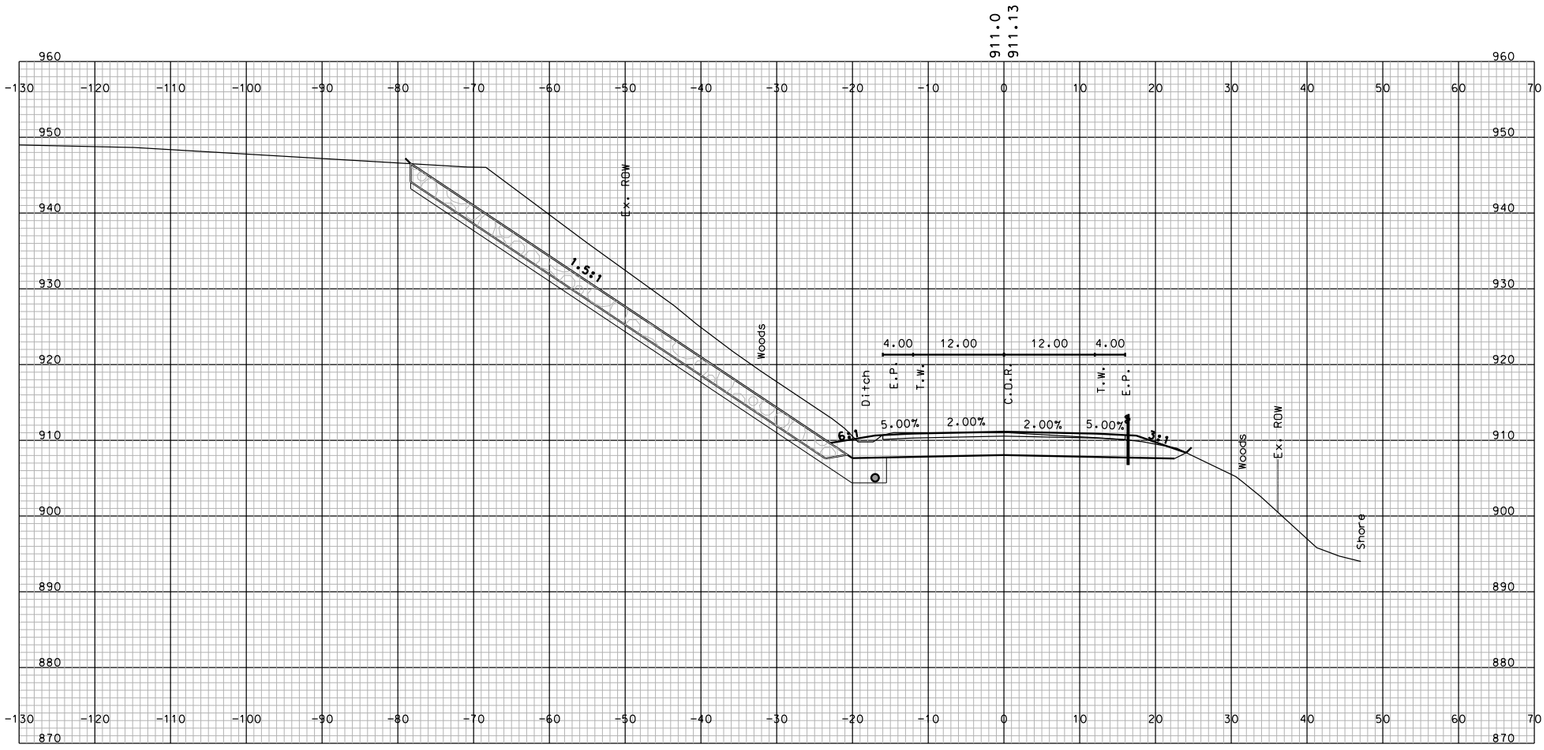
STA. 156+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	222	294

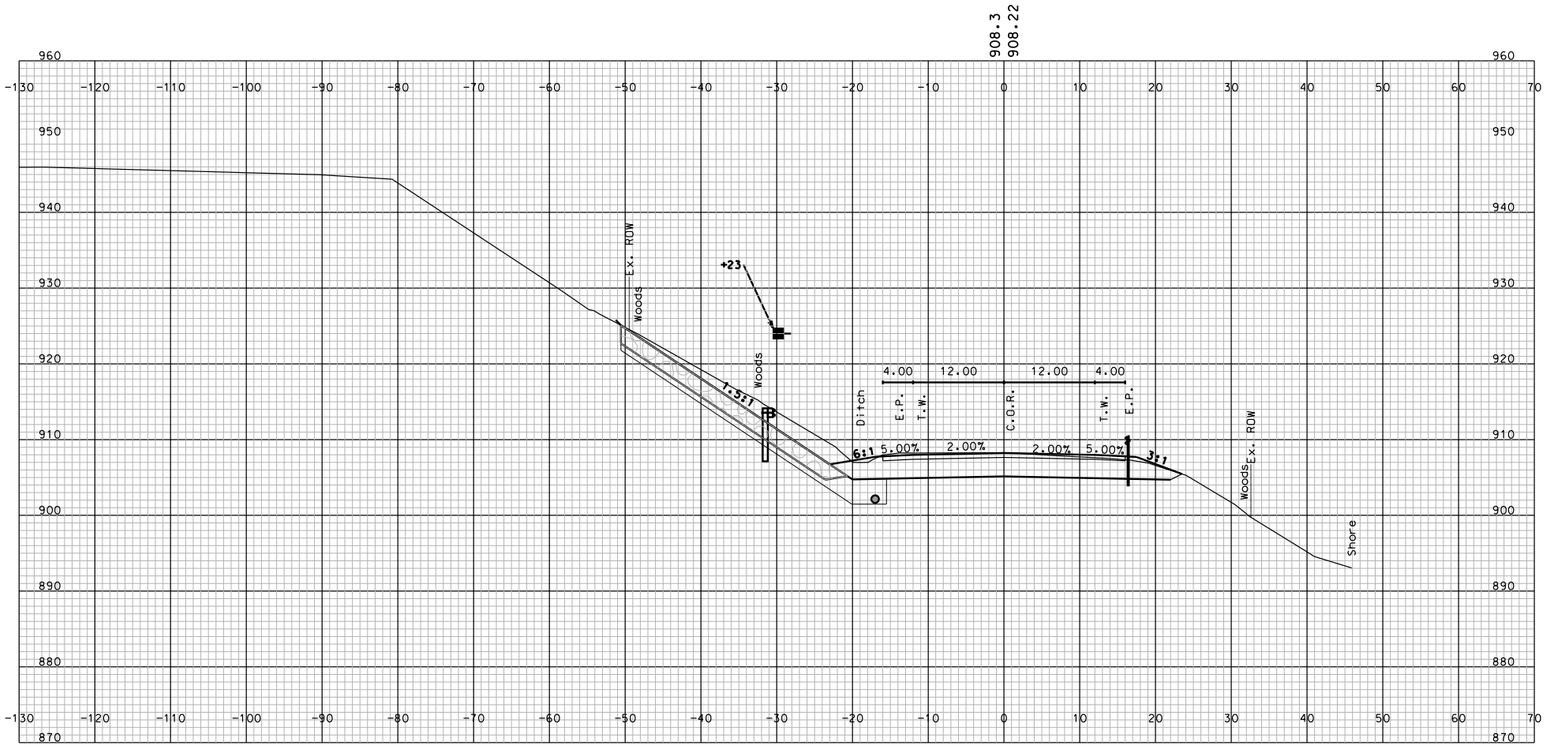
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 157+50.000



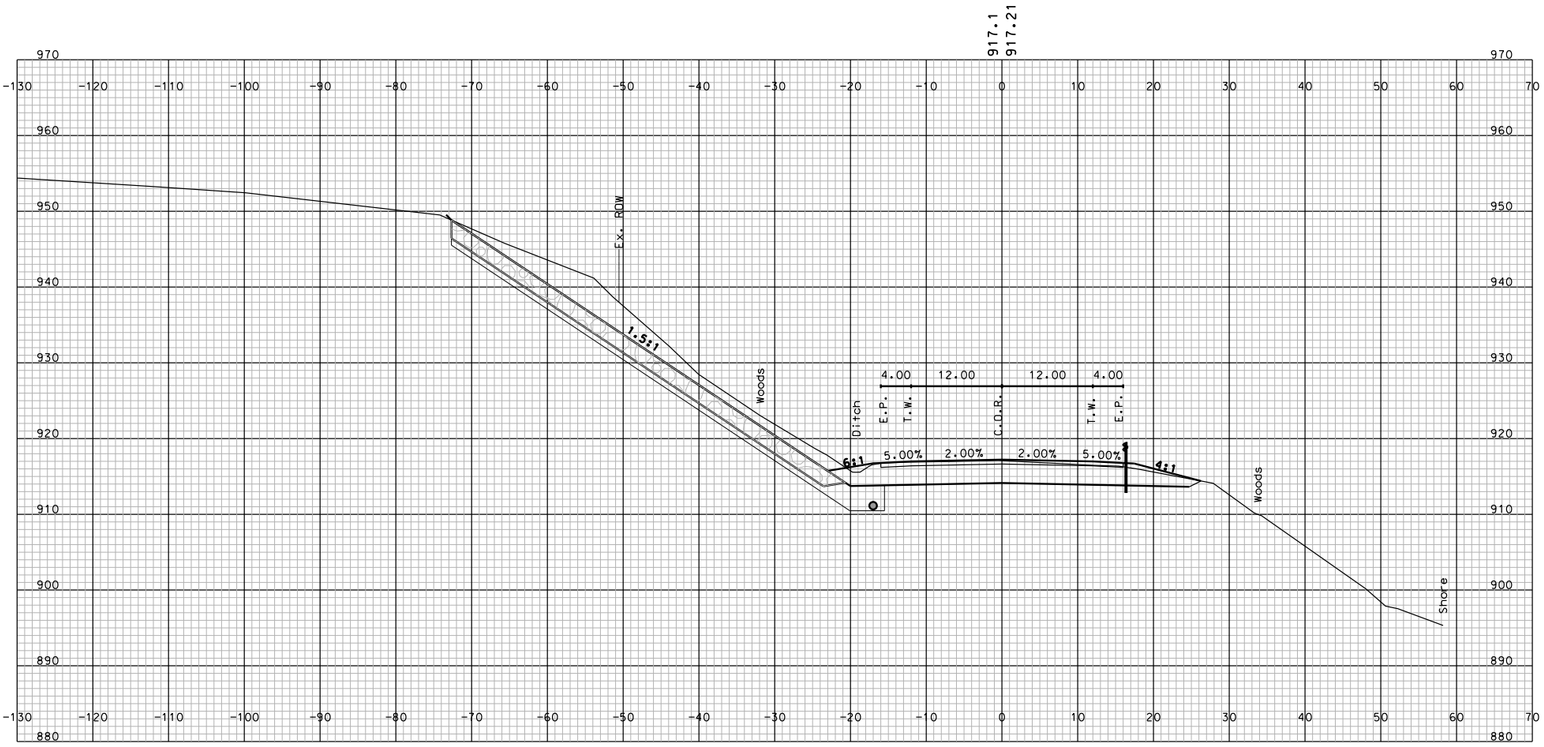
STA. 157+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	223	294

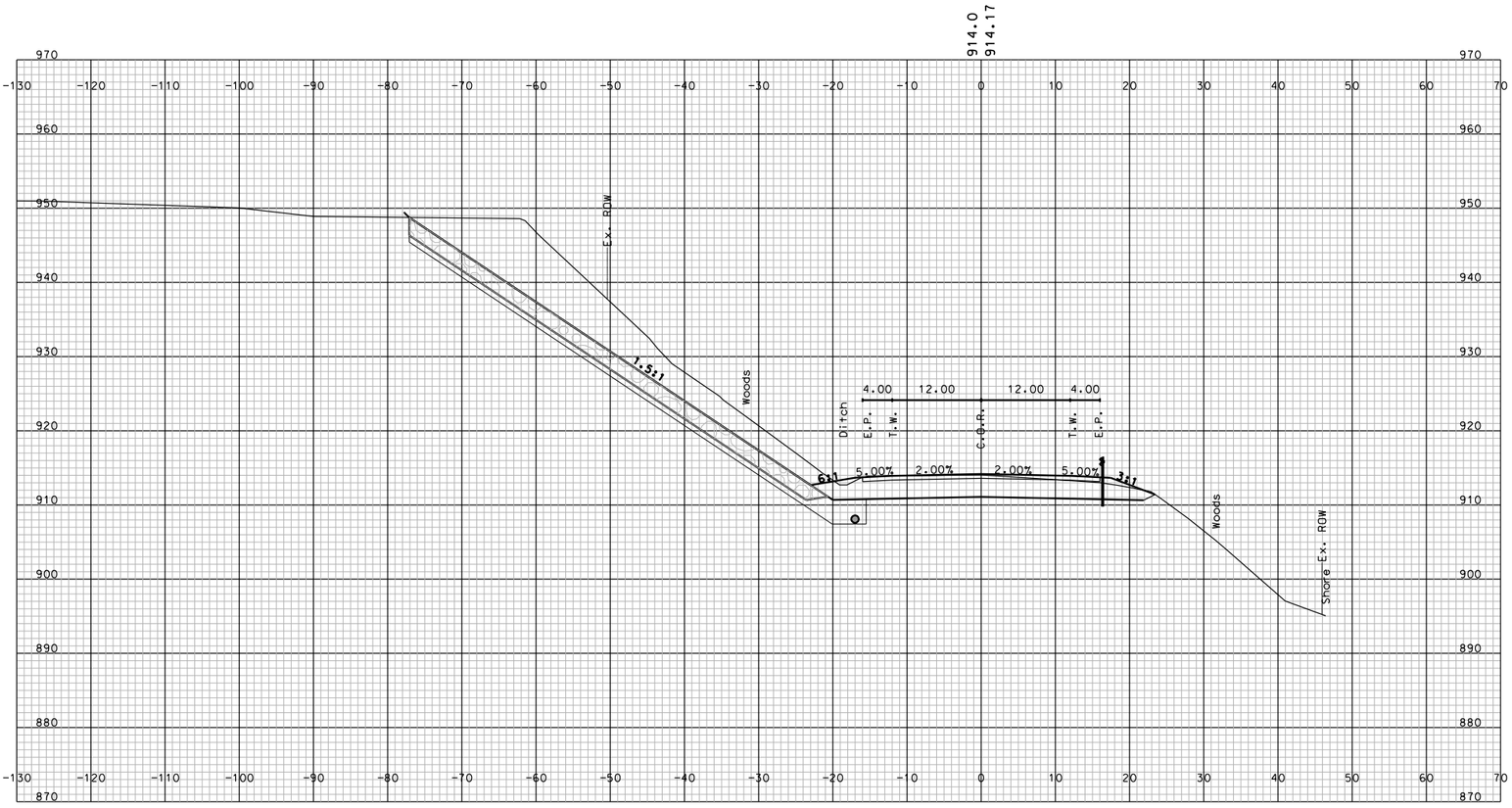
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 158+50.000



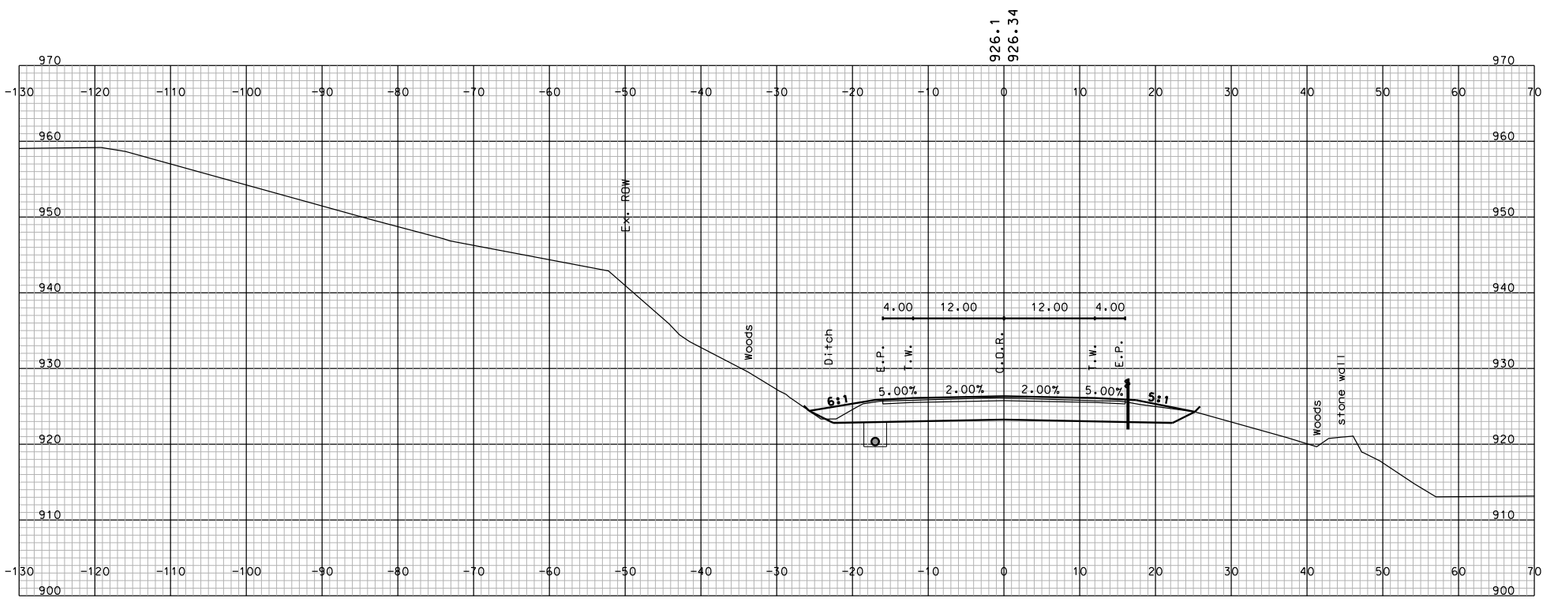
STA. 158+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	224	294

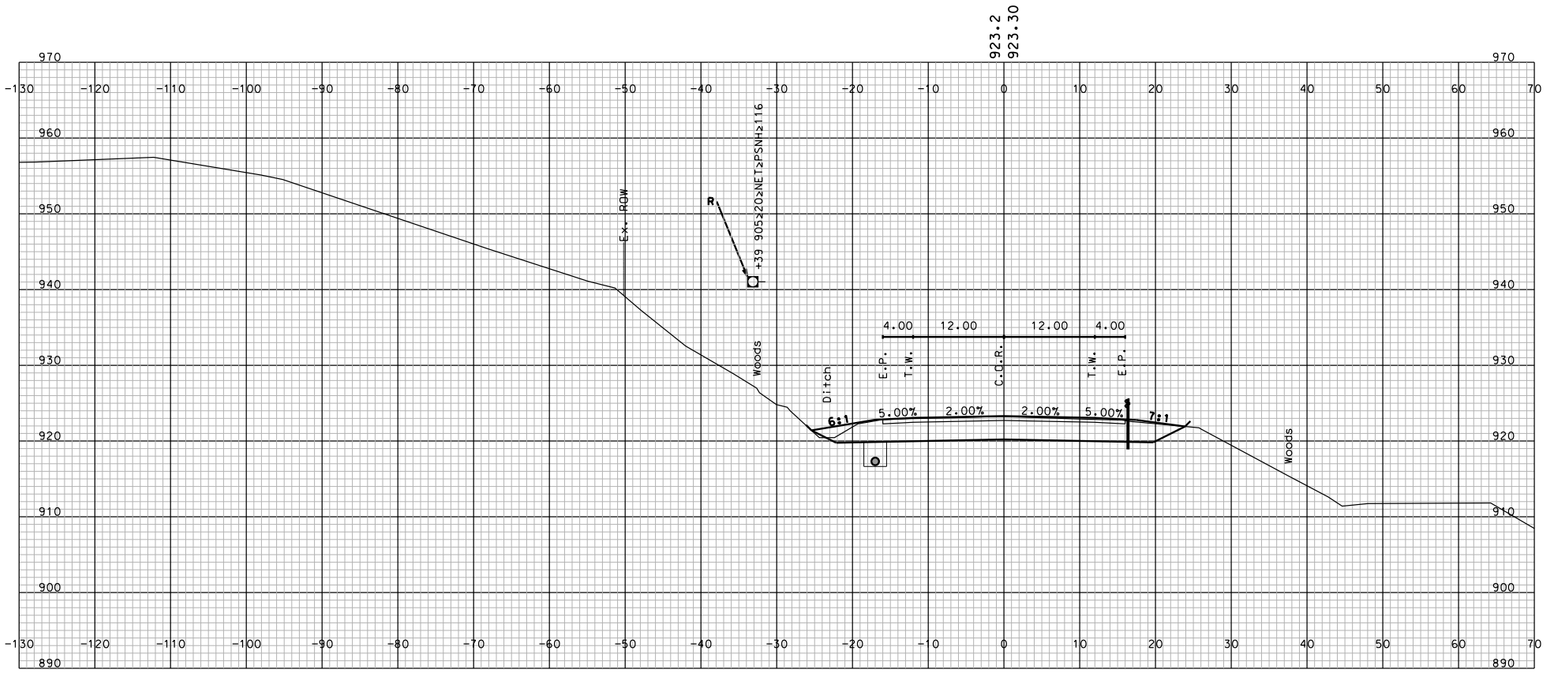
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

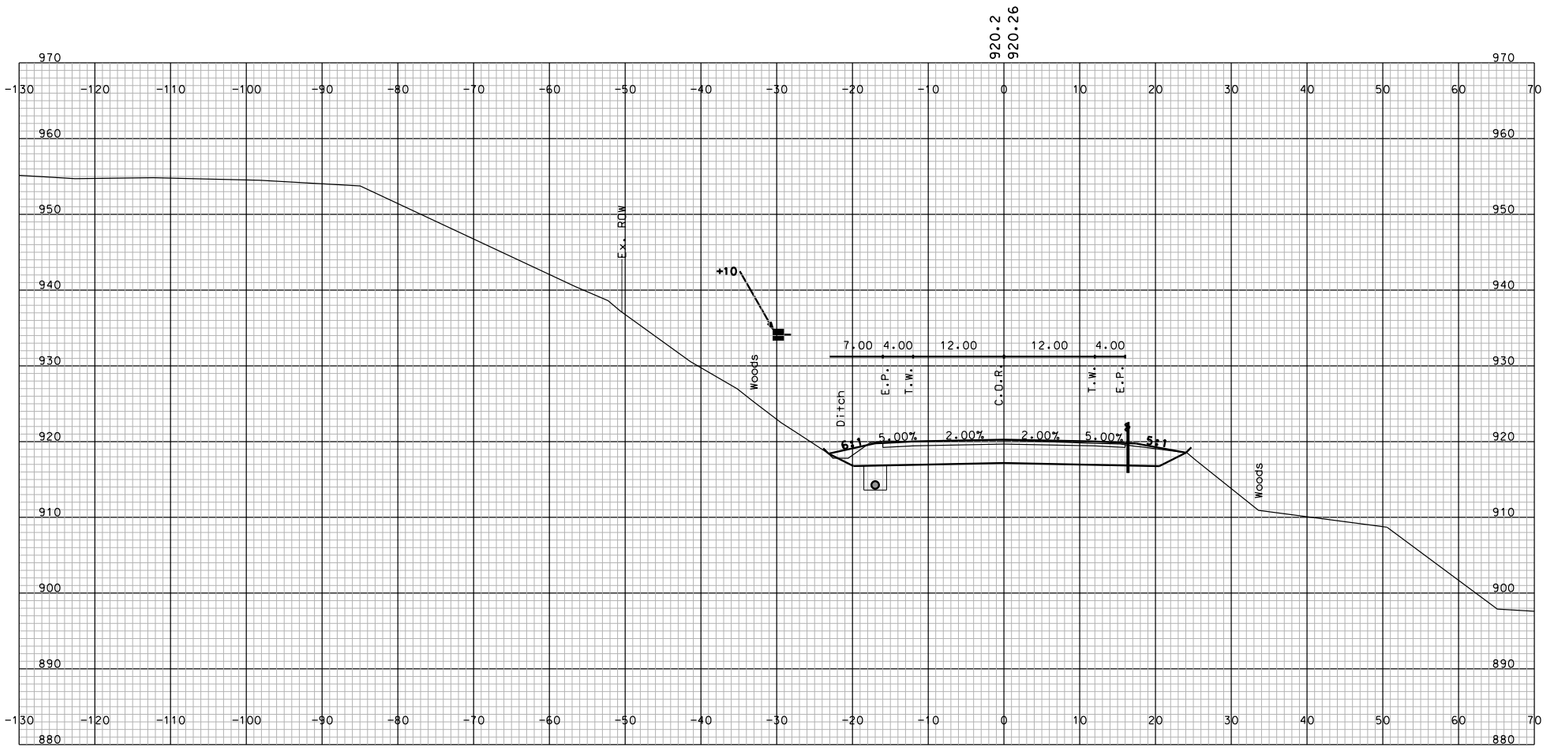
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 160+00.000



STA. 159+50.000



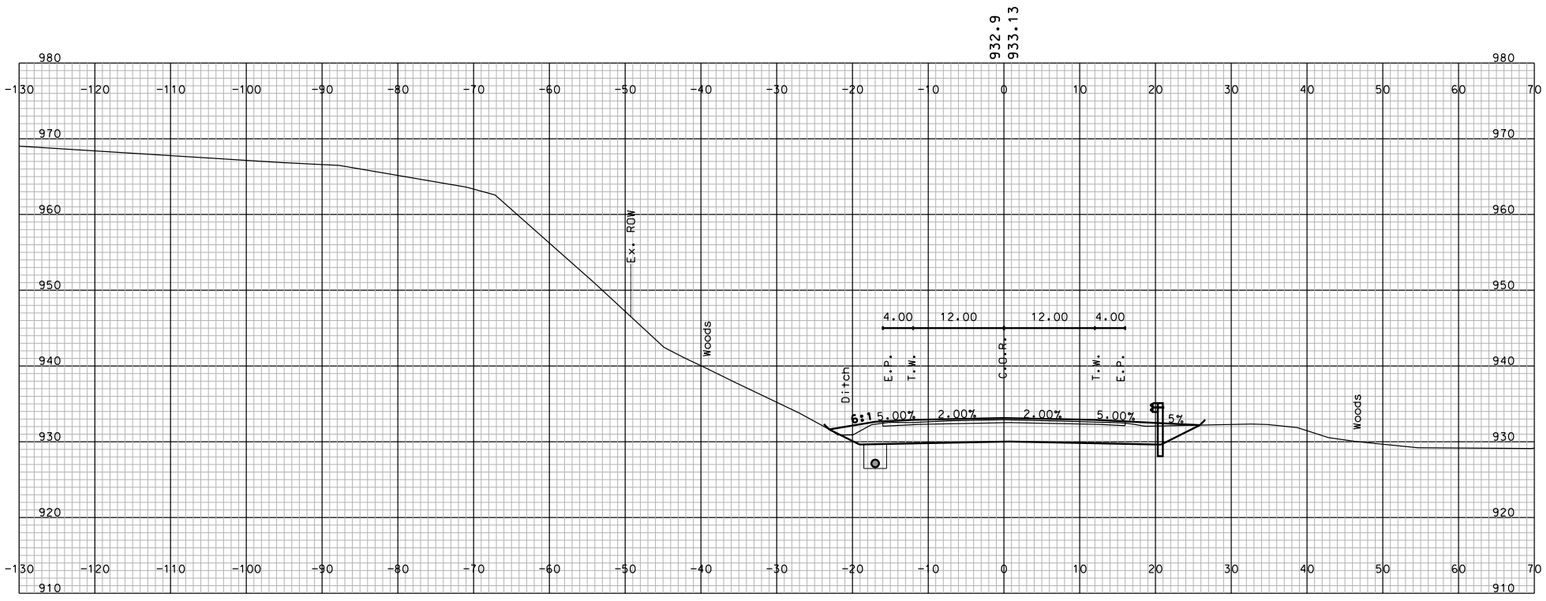
STA. 159+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	225	294

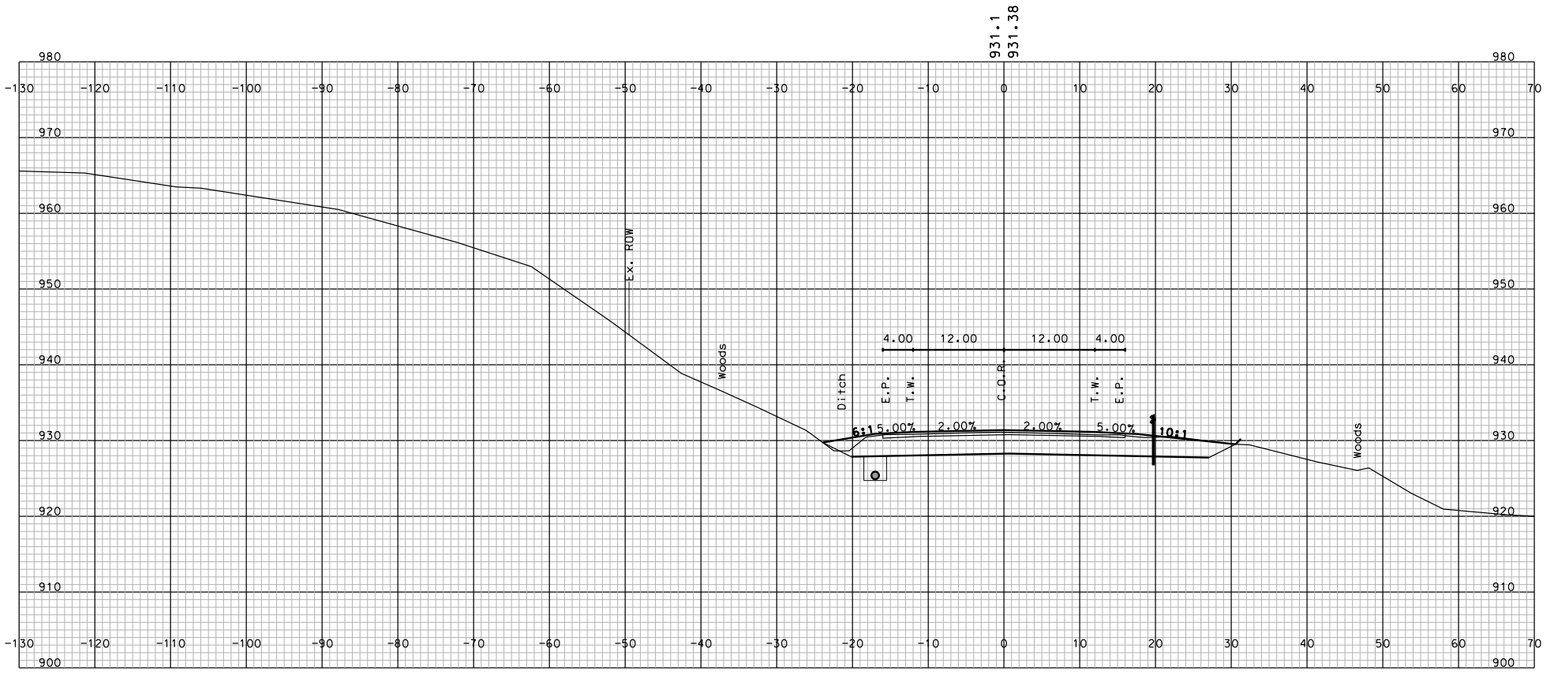
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

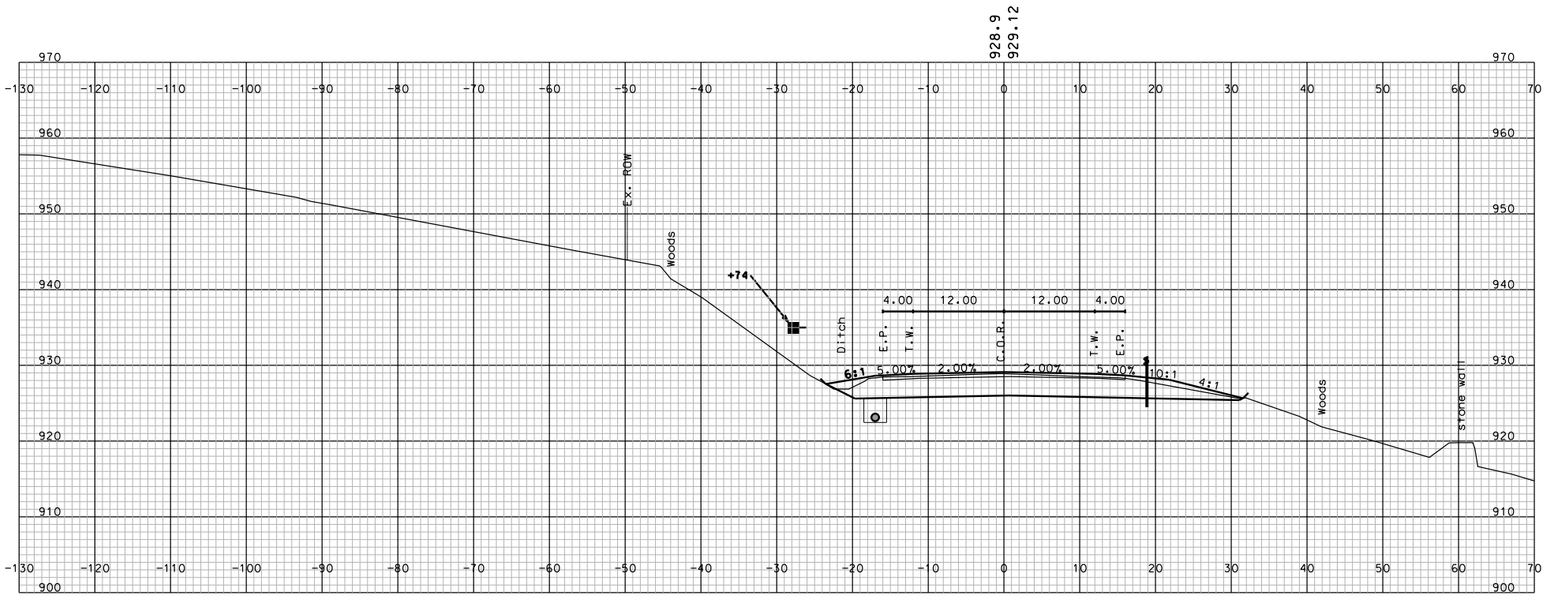
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 161+50.000



STA. 161+00.000



STA. 160+50.000

SHEET TOTALS

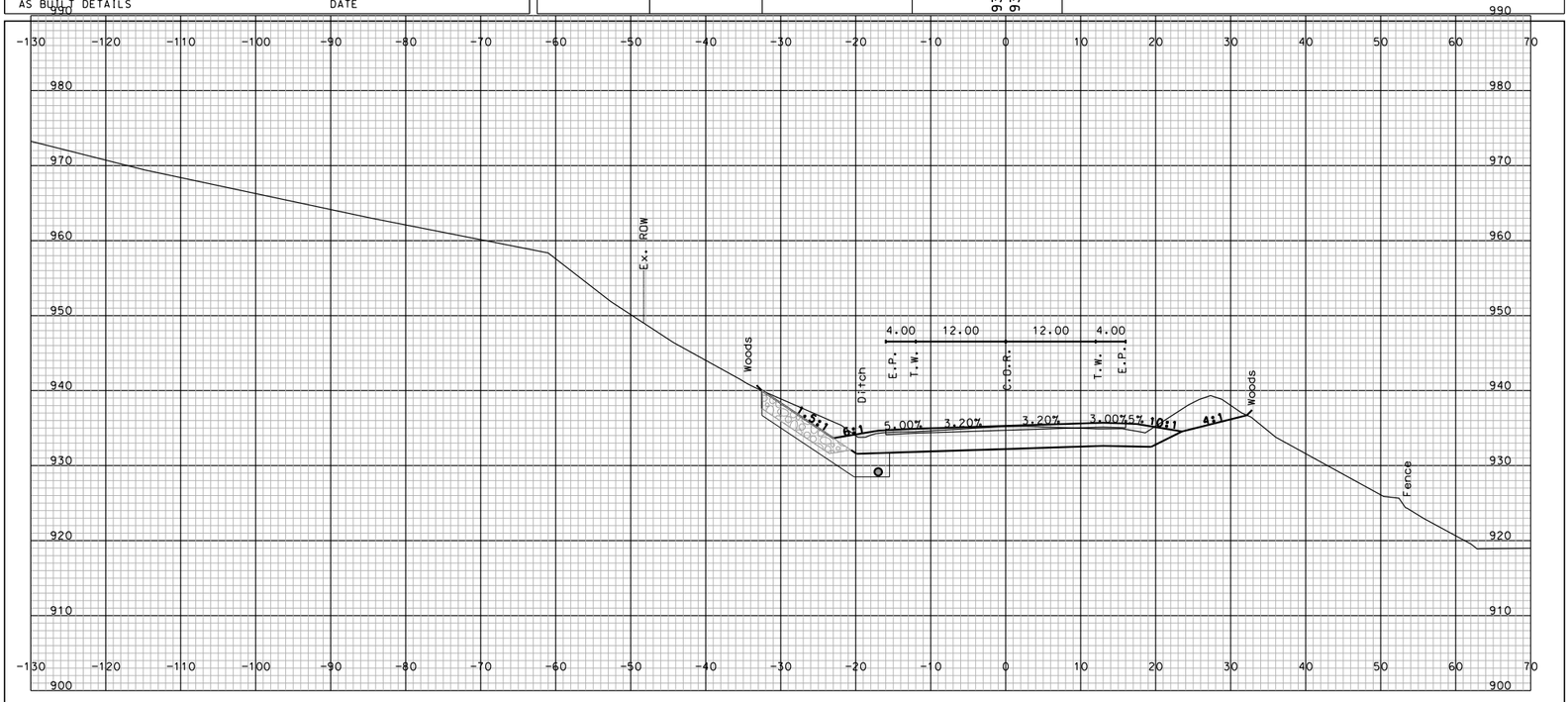
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	226	294

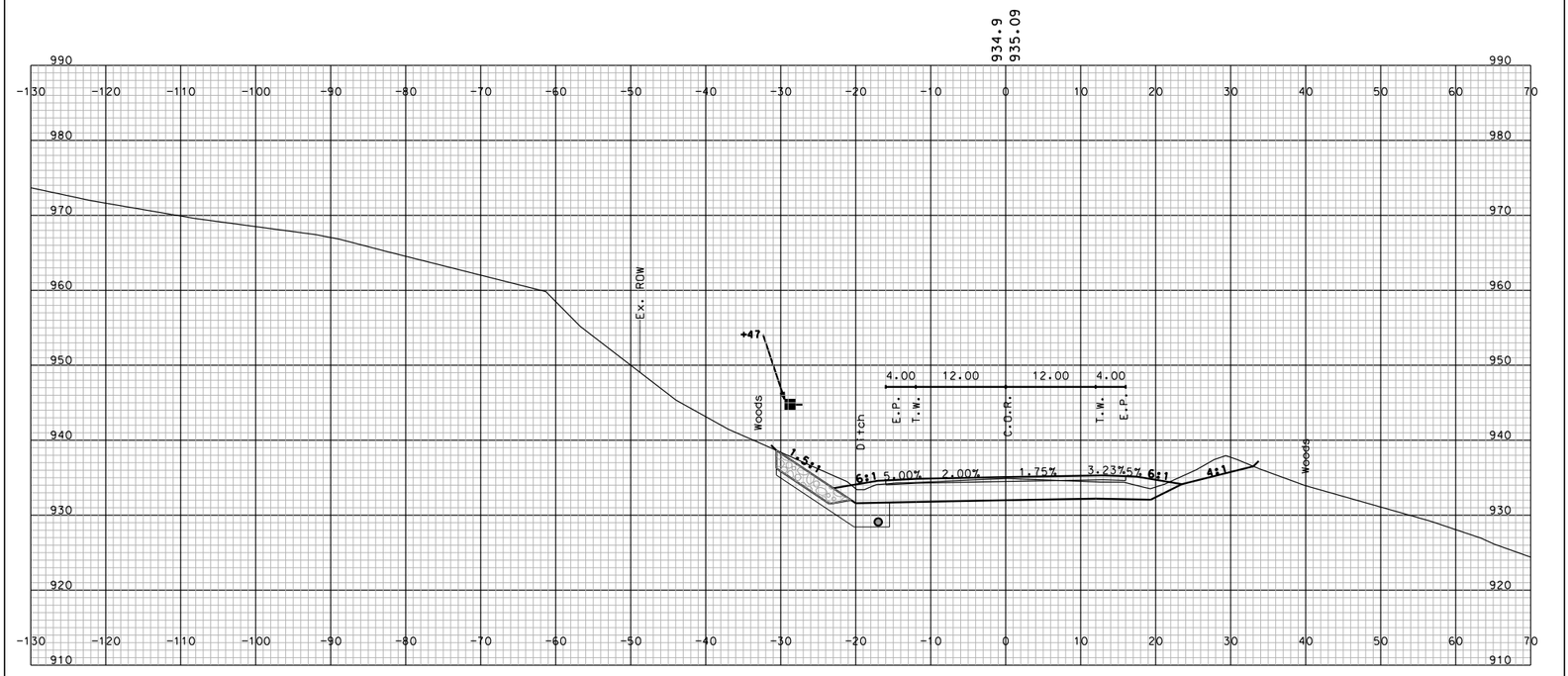
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

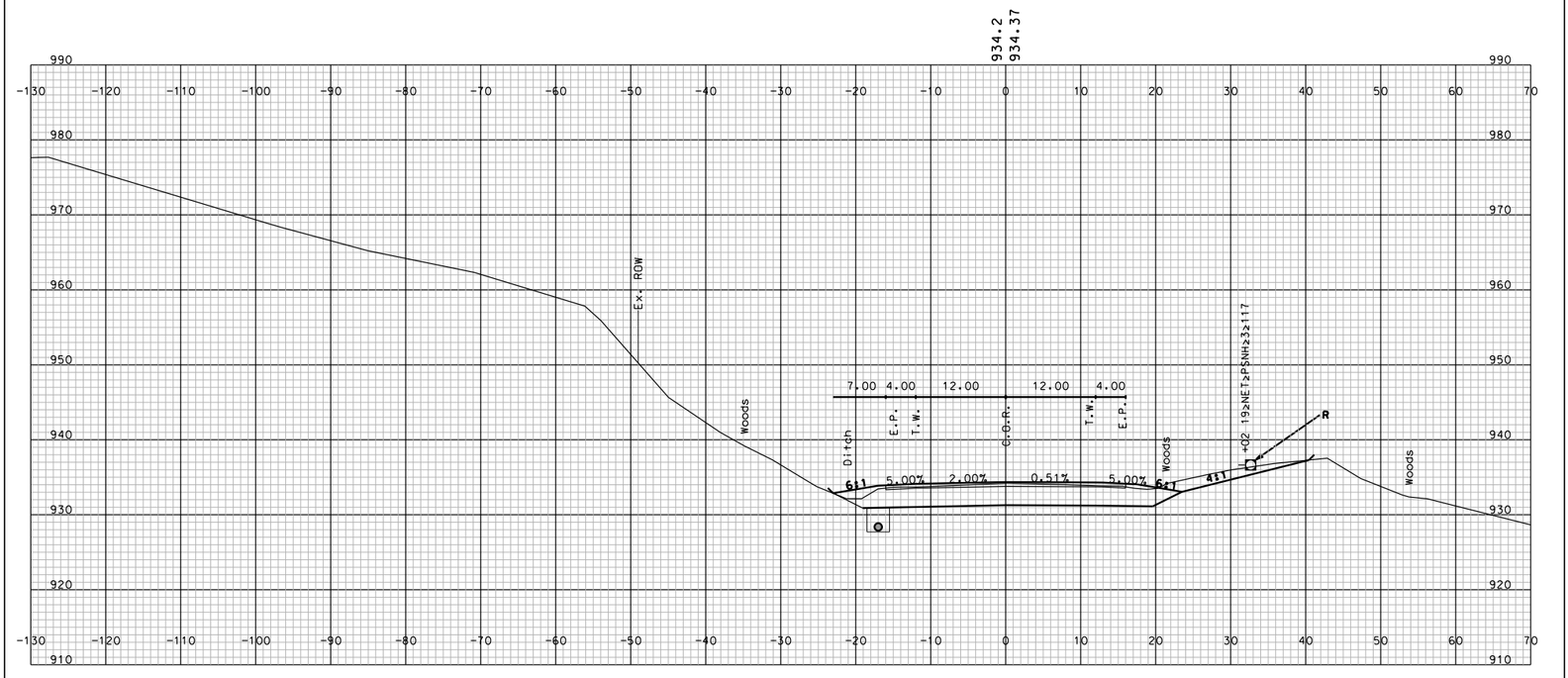
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 163+00.000



STA. 162+50.000



STA. 162+00.000

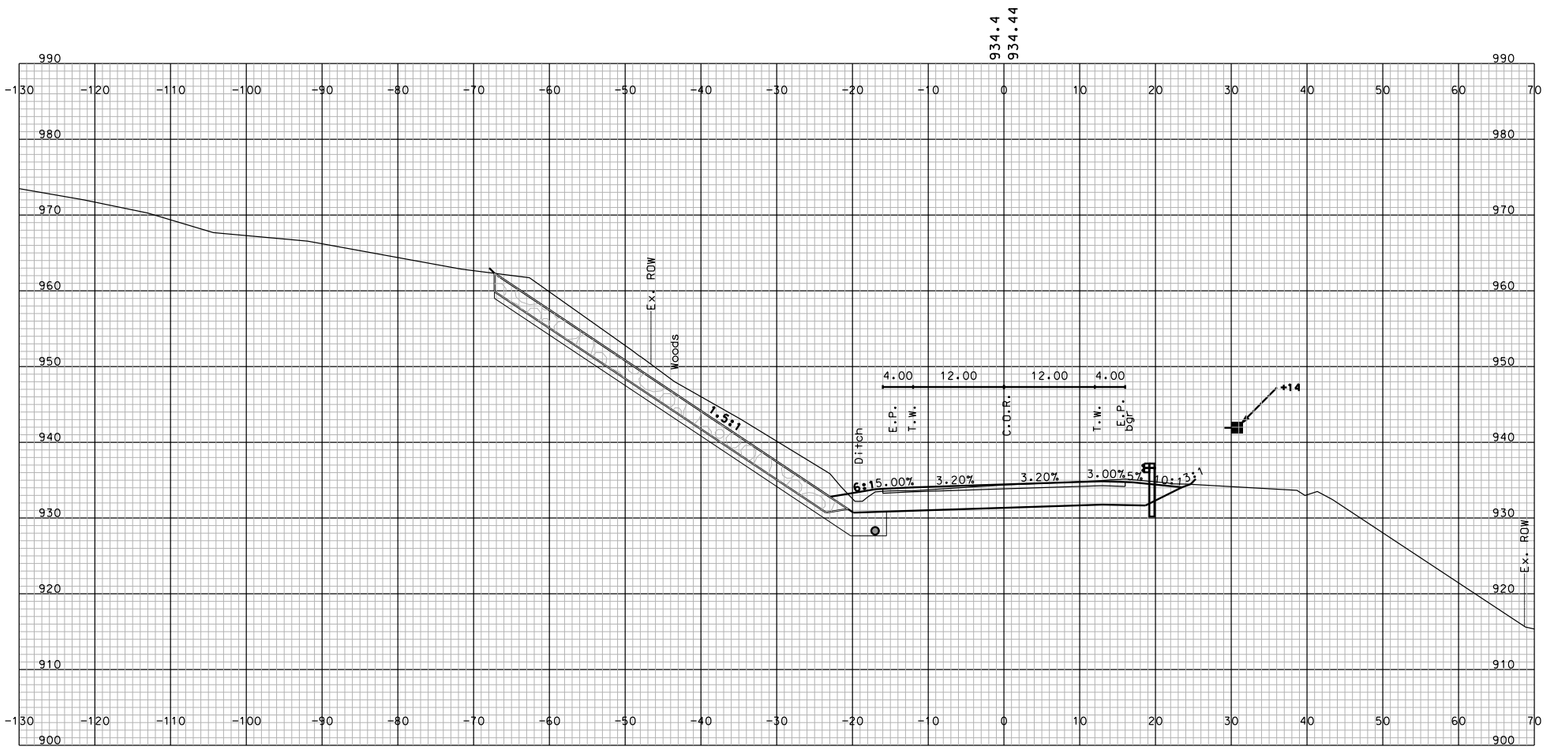
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	227	294

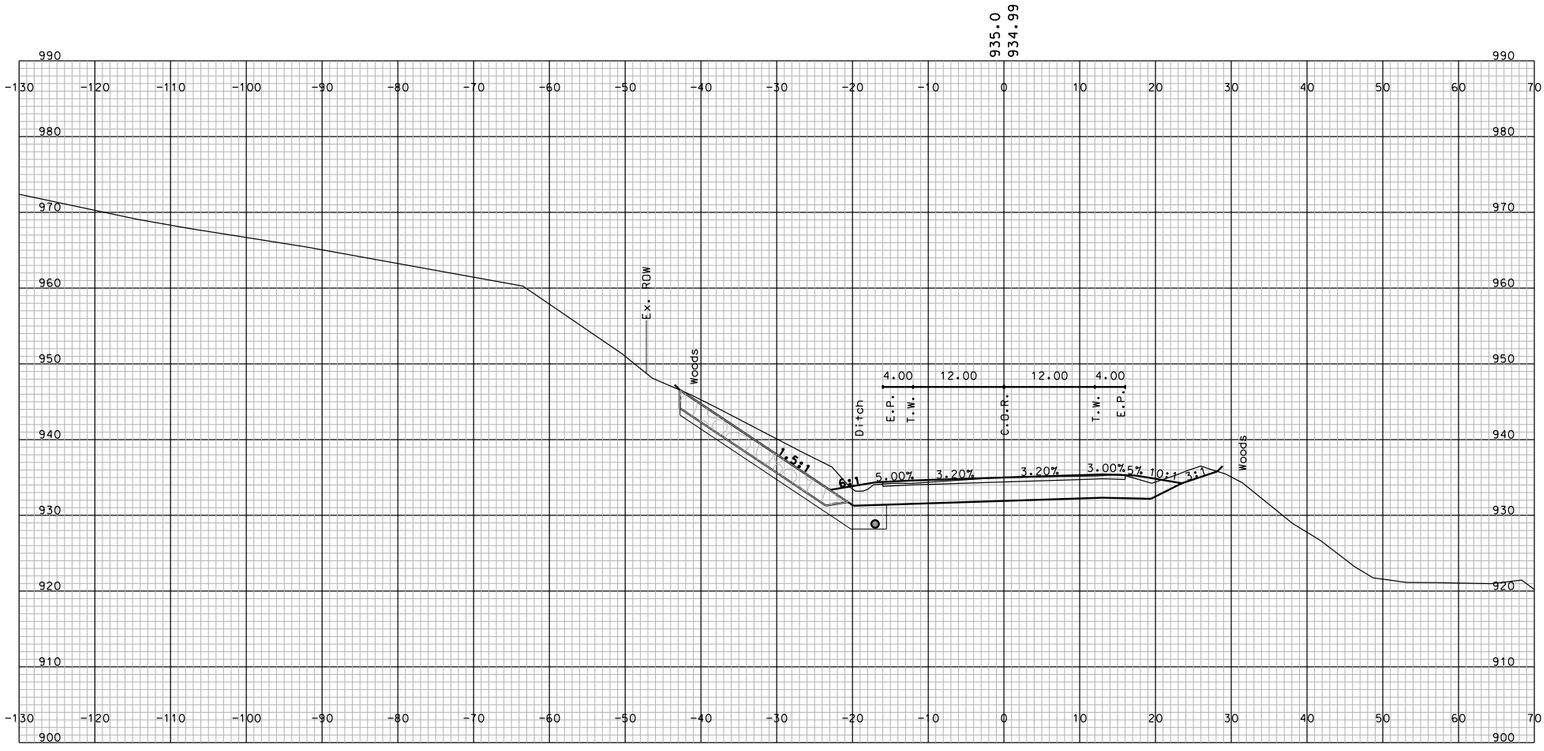
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 164+00.000



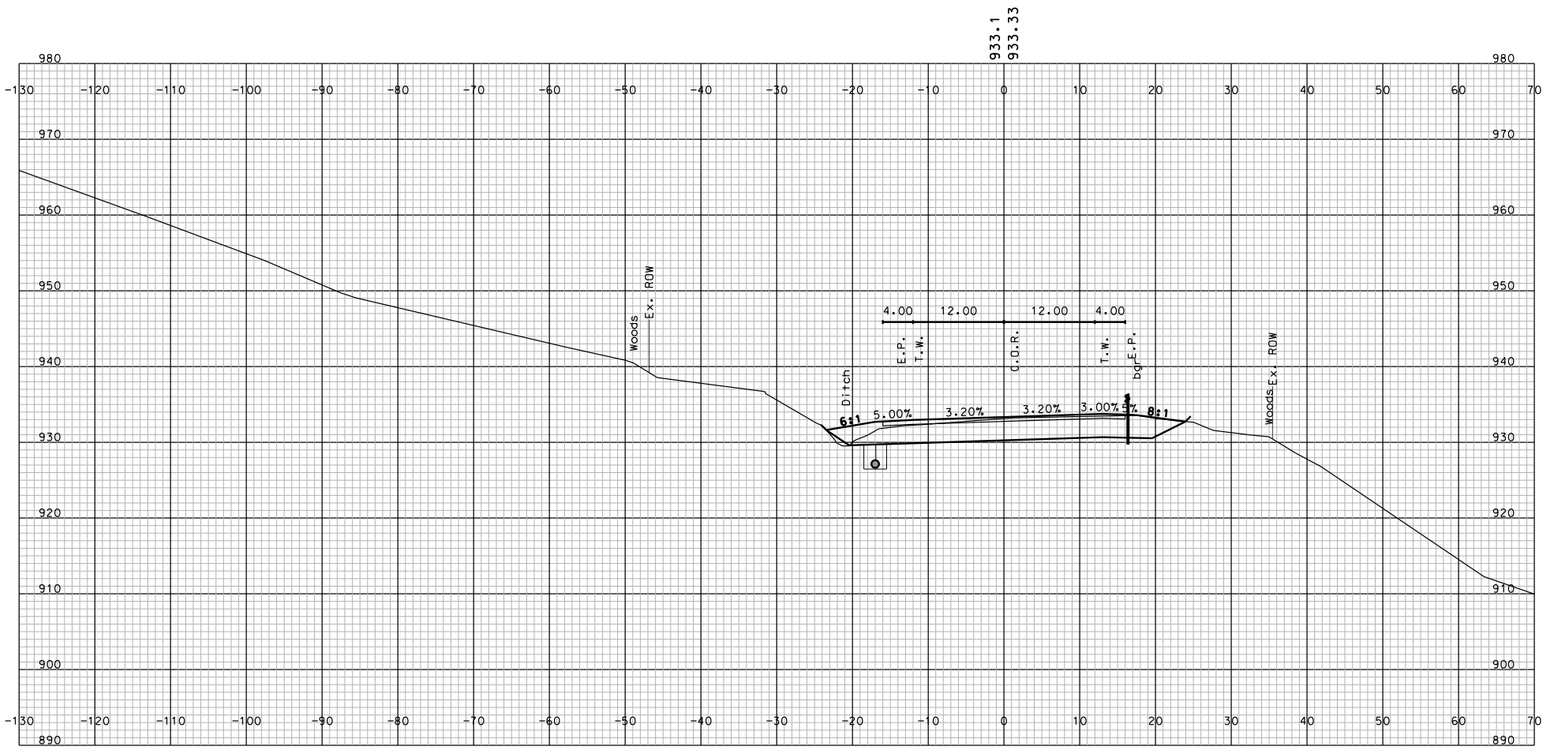
STA. 163+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	228	294

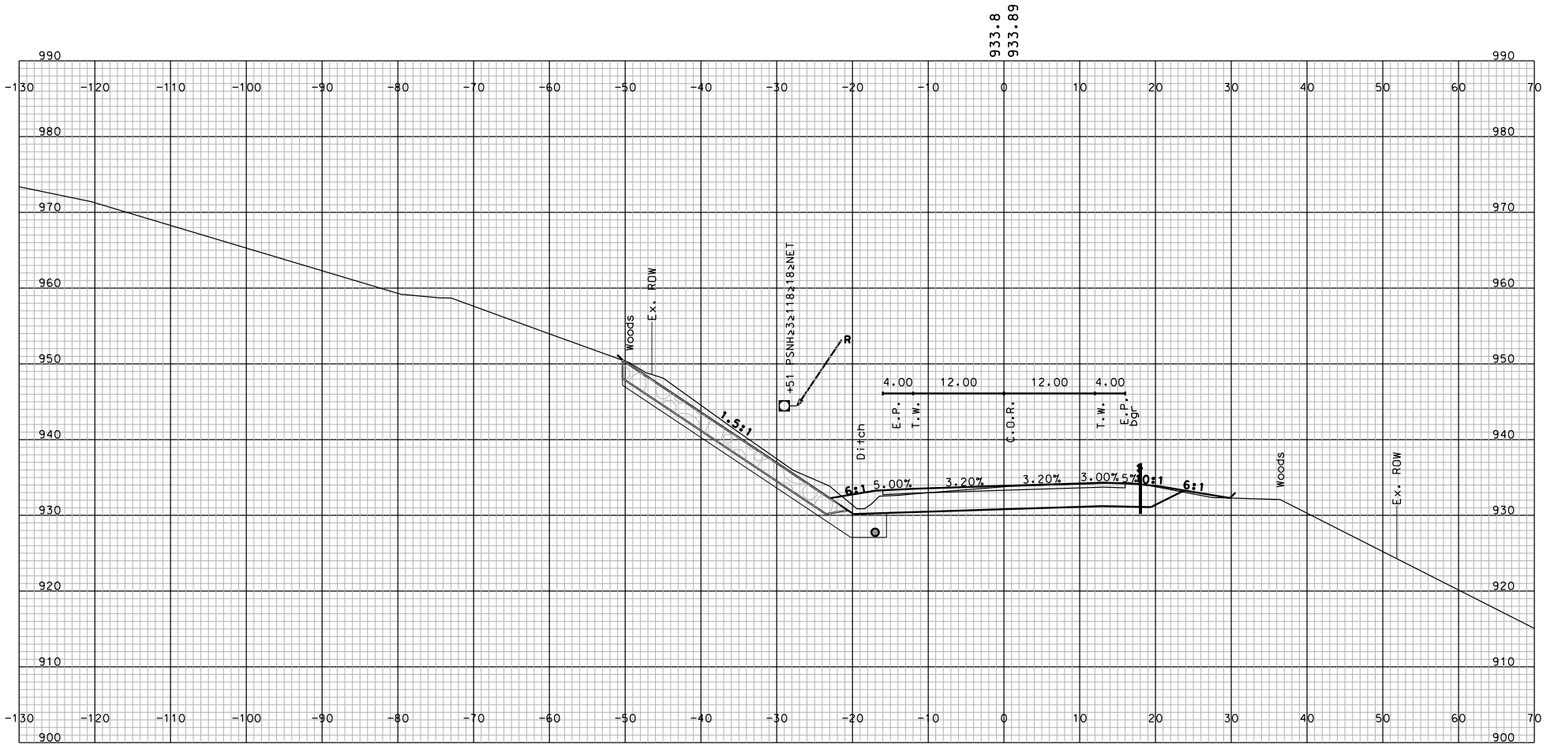
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 165+00.000



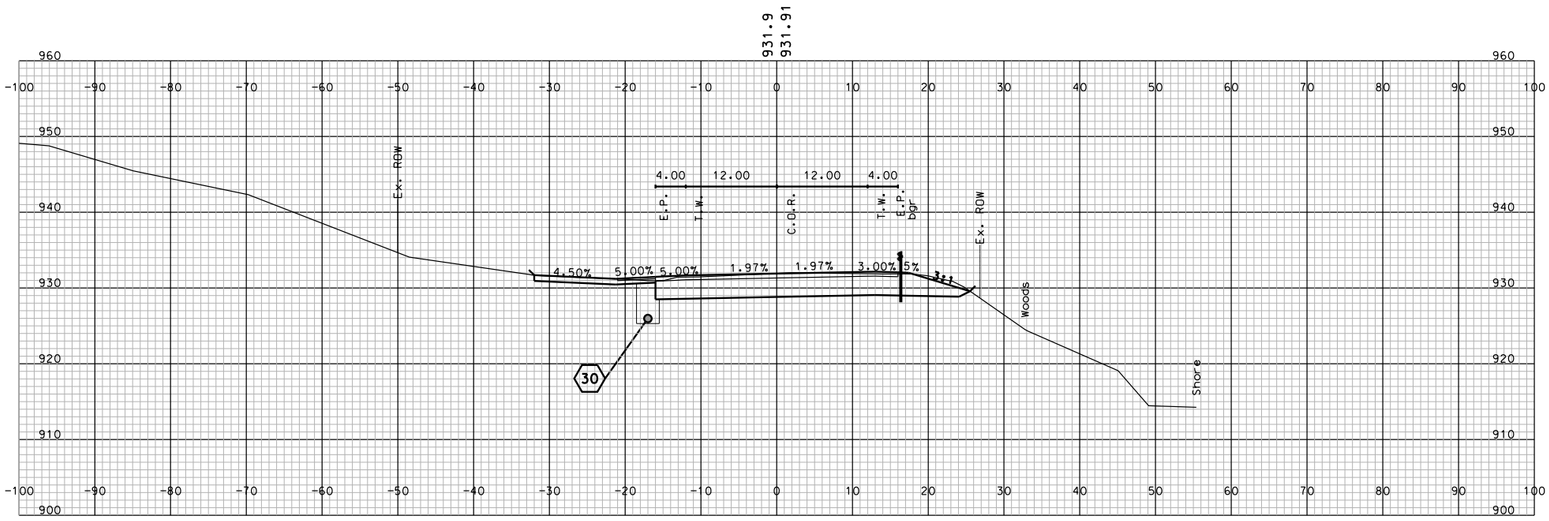
STA. 164+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	229	294

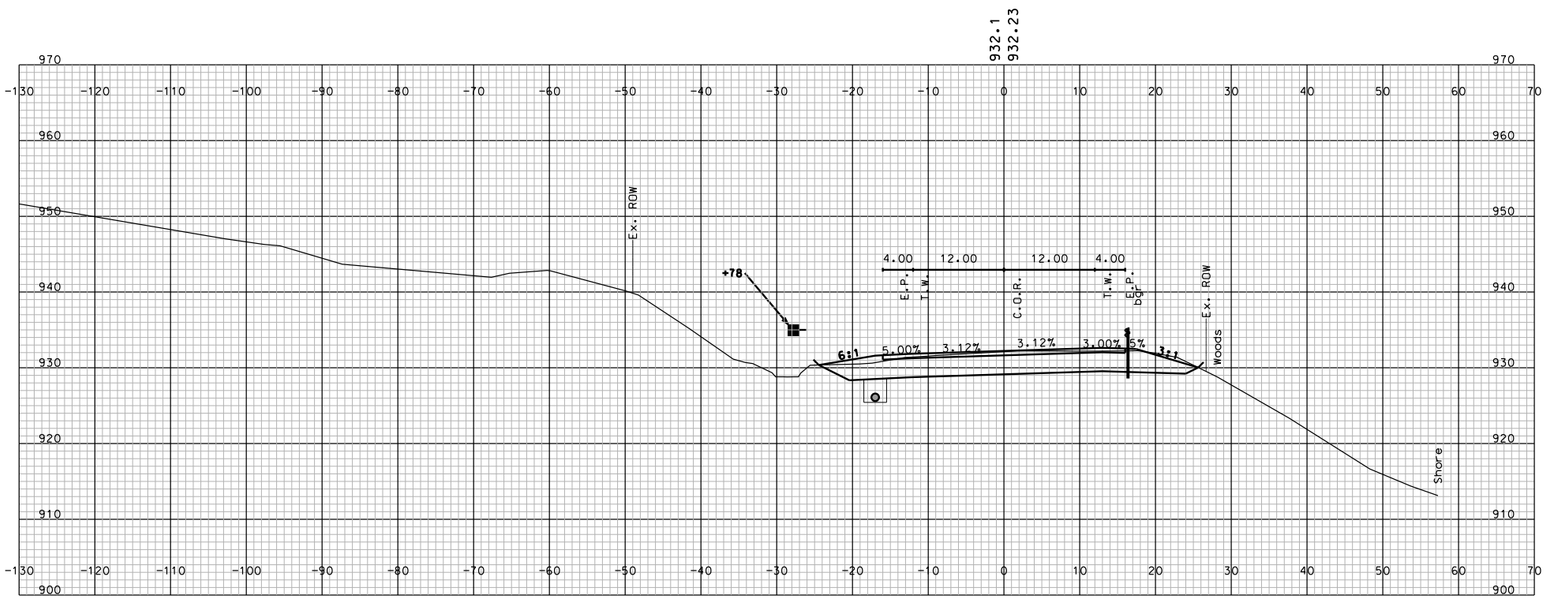
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

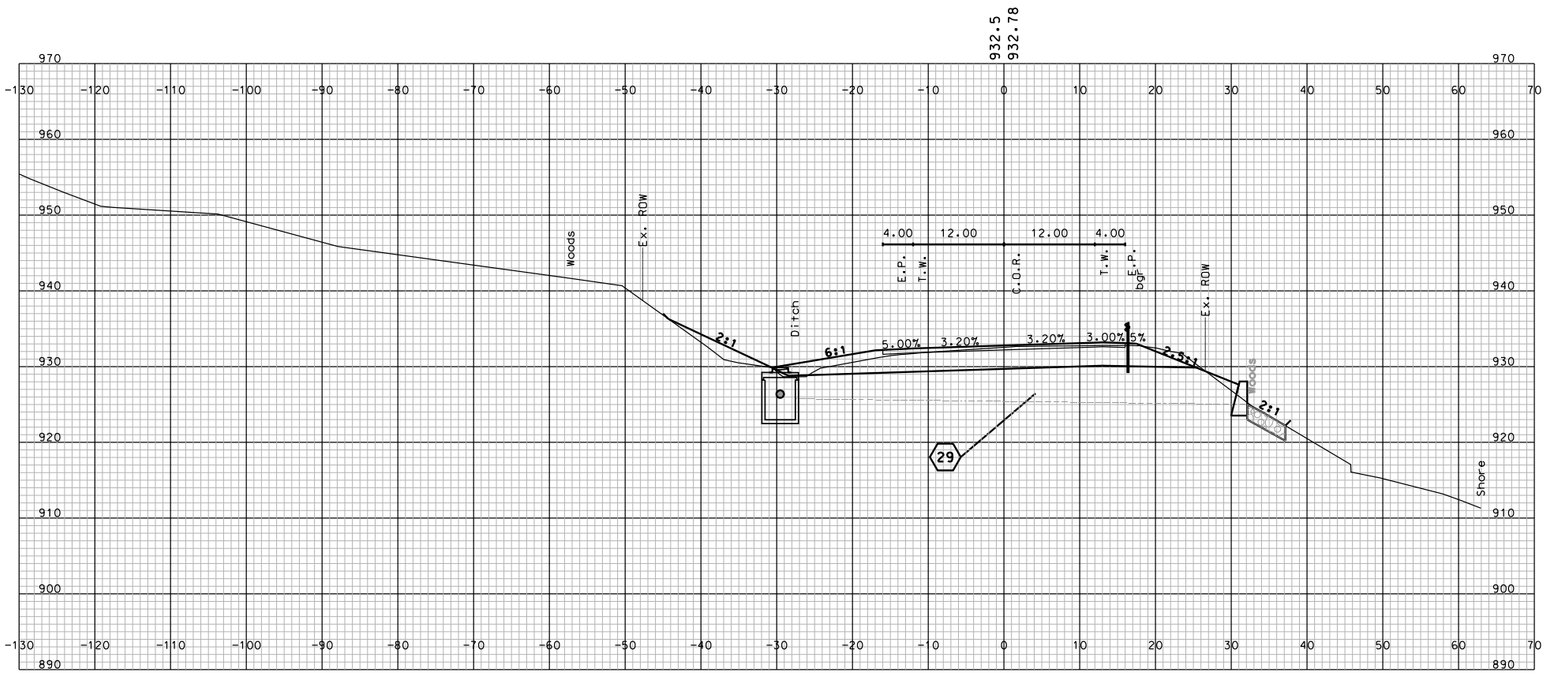
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 166+29.369



STA. 166+00.000



STA. 165+50.000

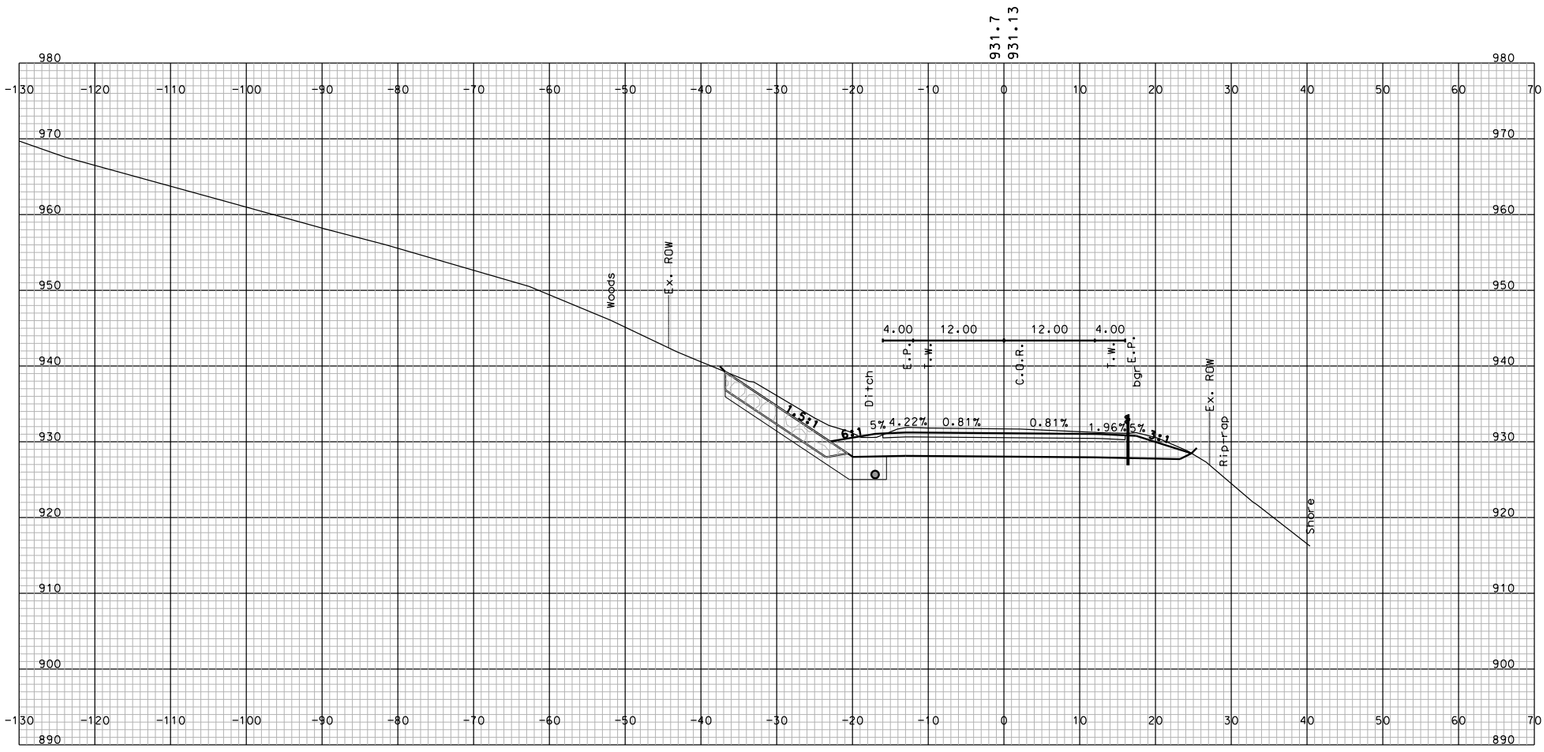
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	230	294

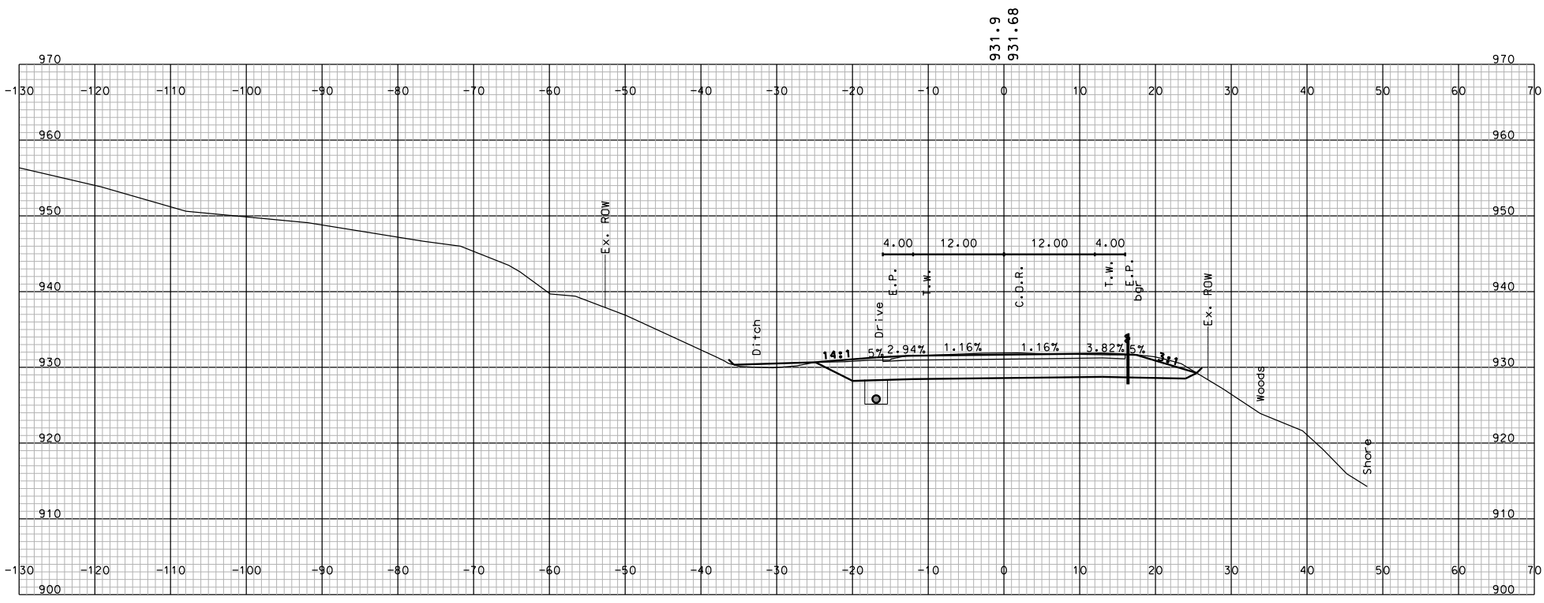
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 167+00.000



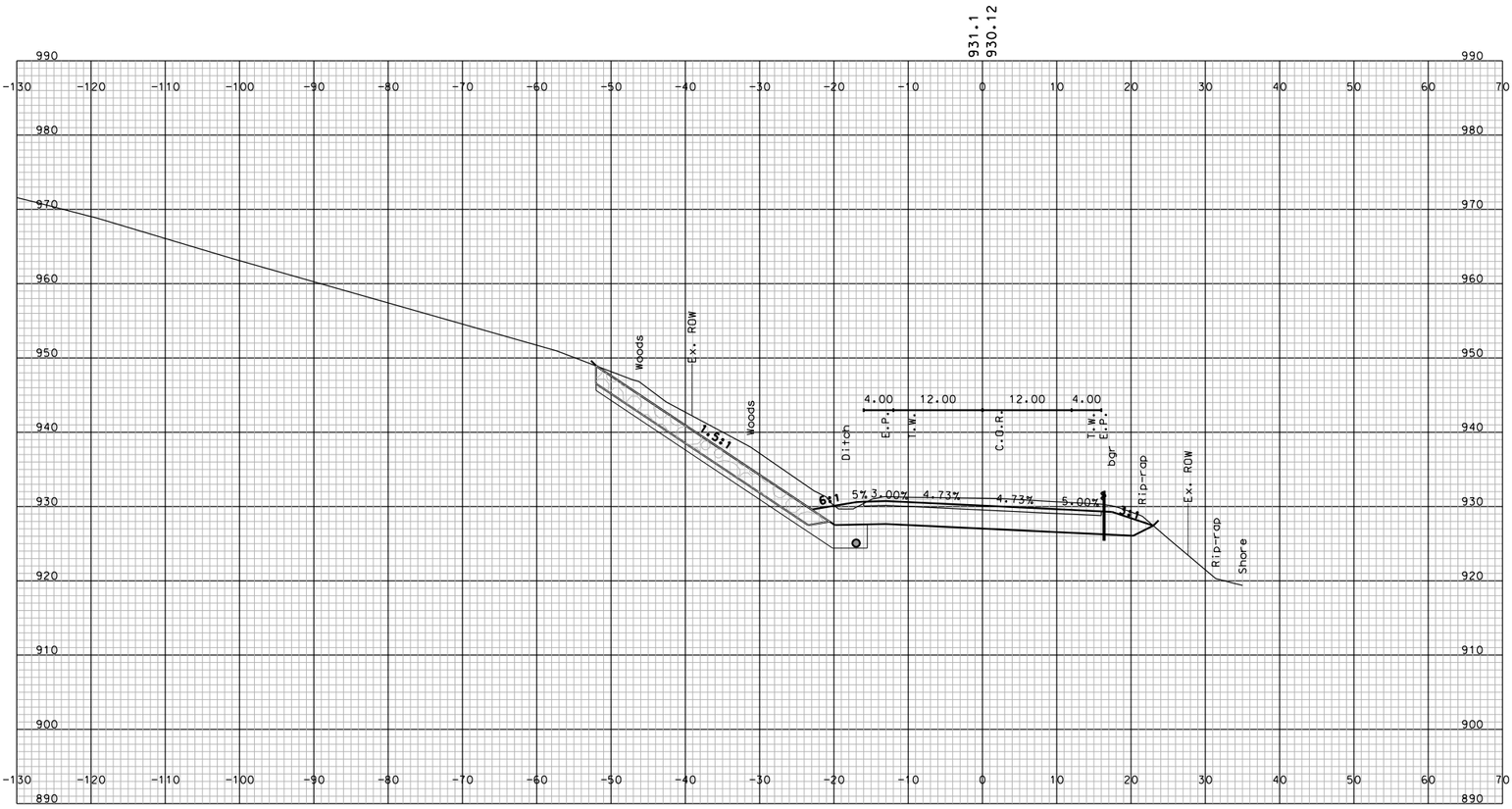
STA. 166+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	231	294

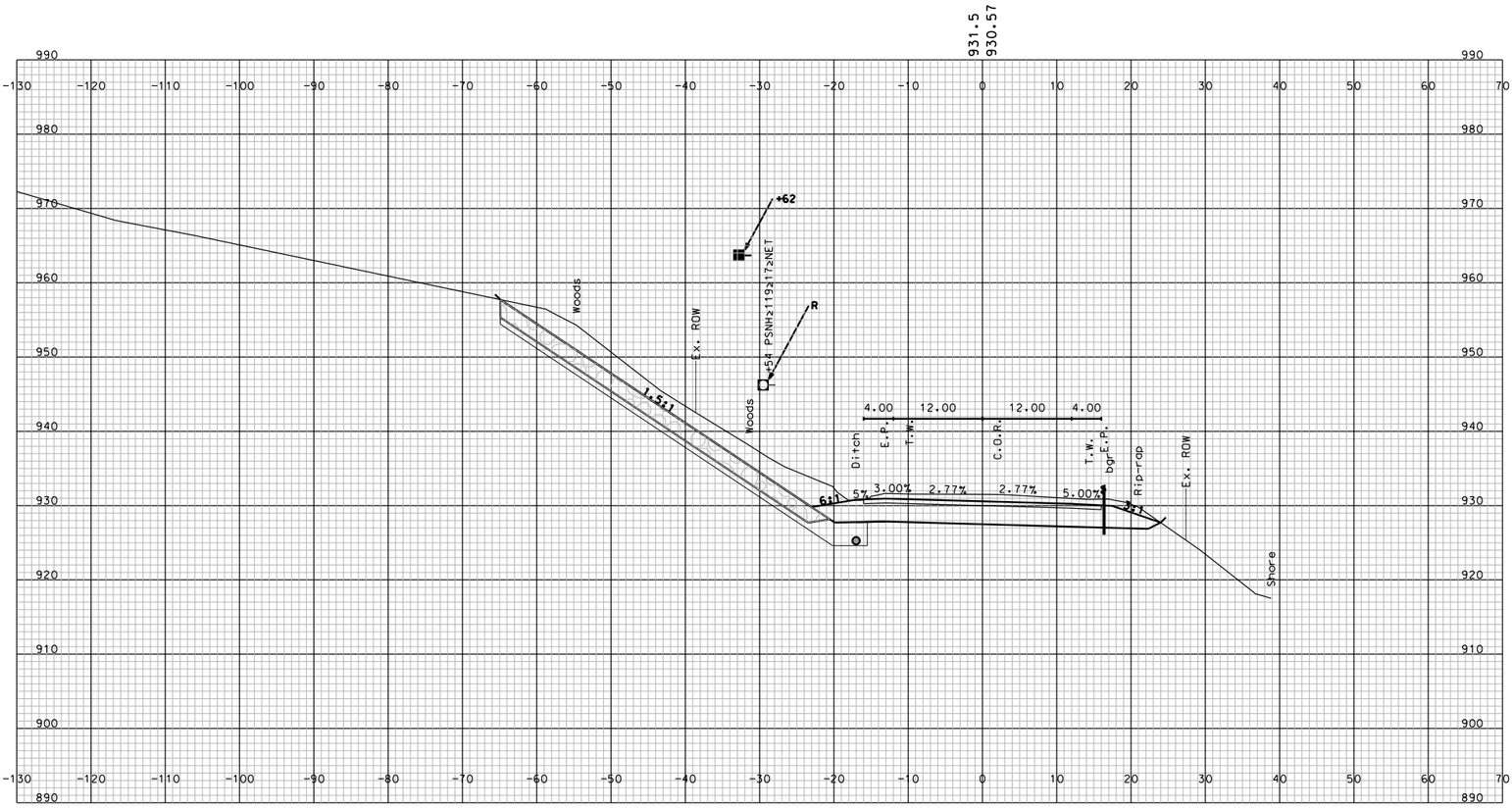
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 168+00.000



STA. 167+50.000

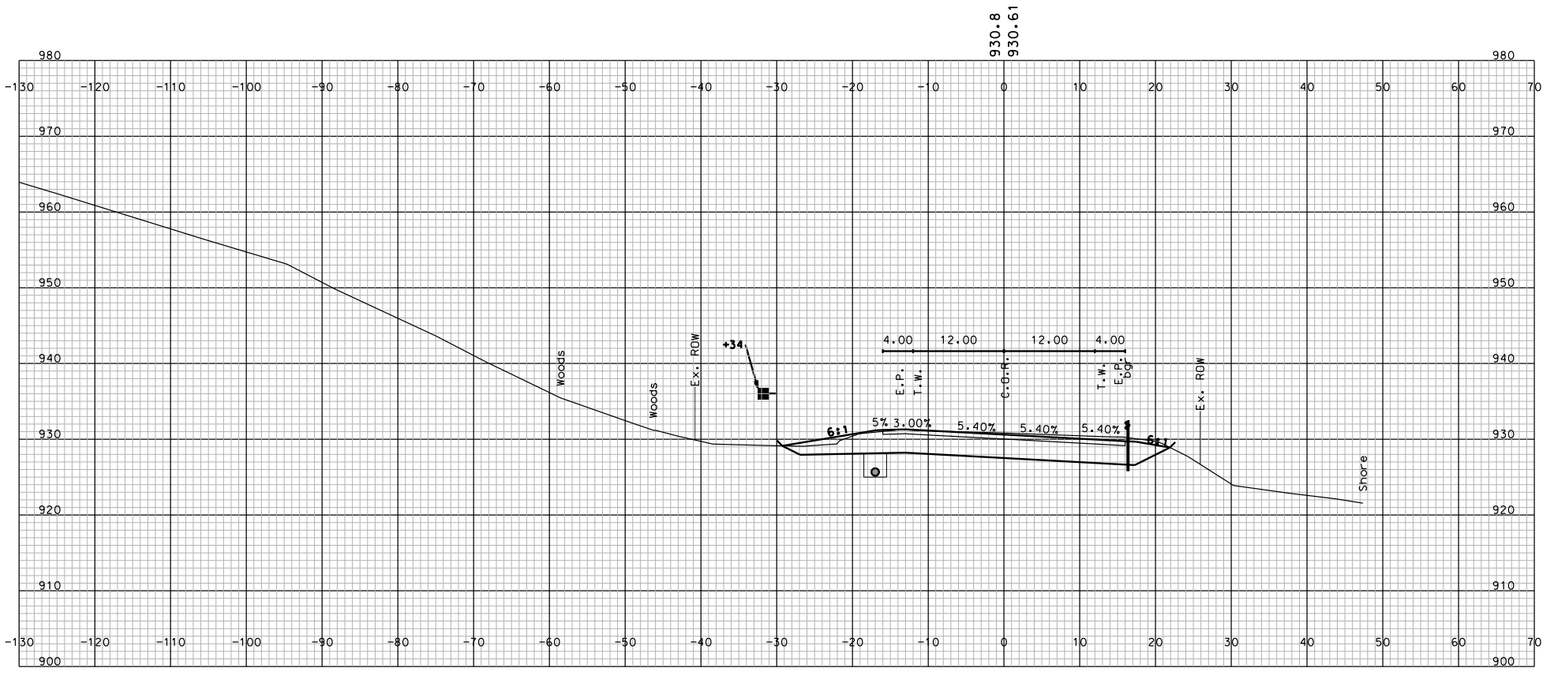
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	232	294

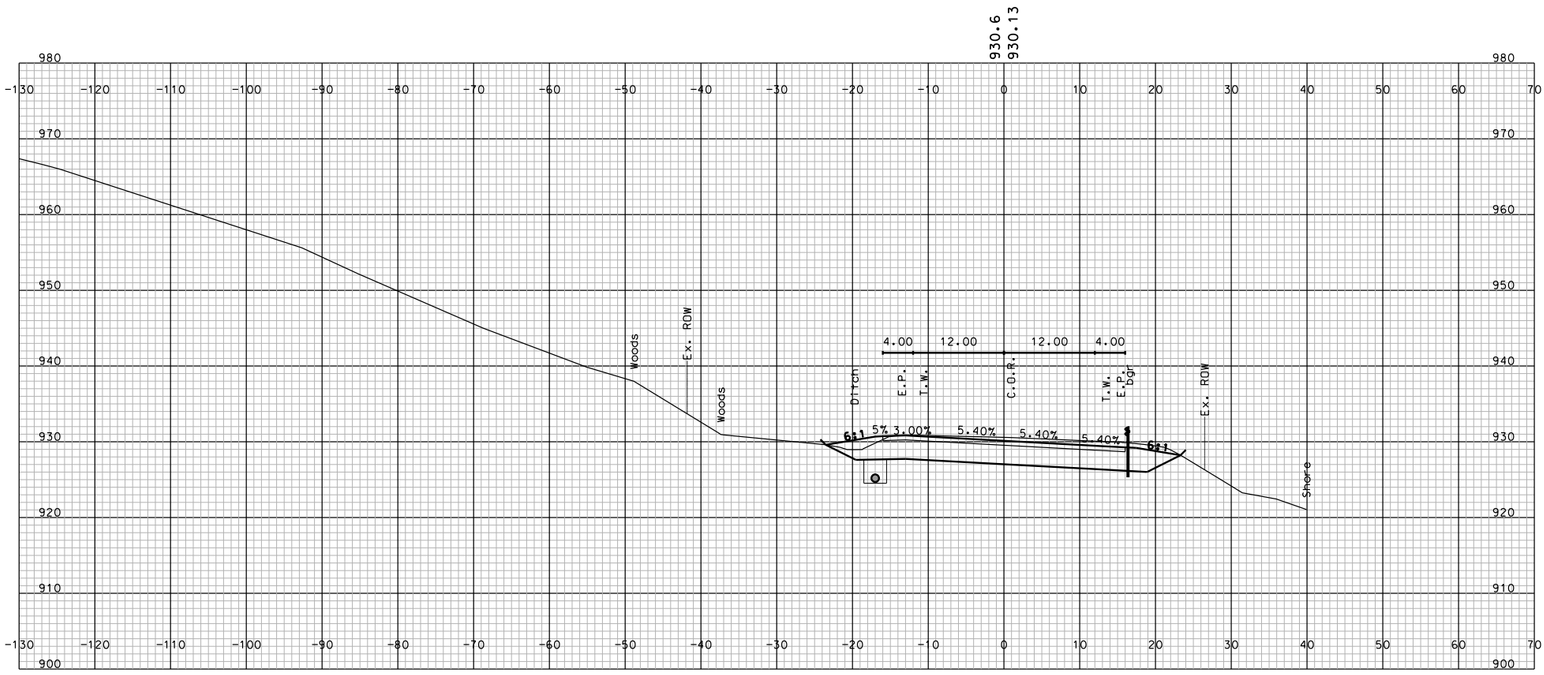
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

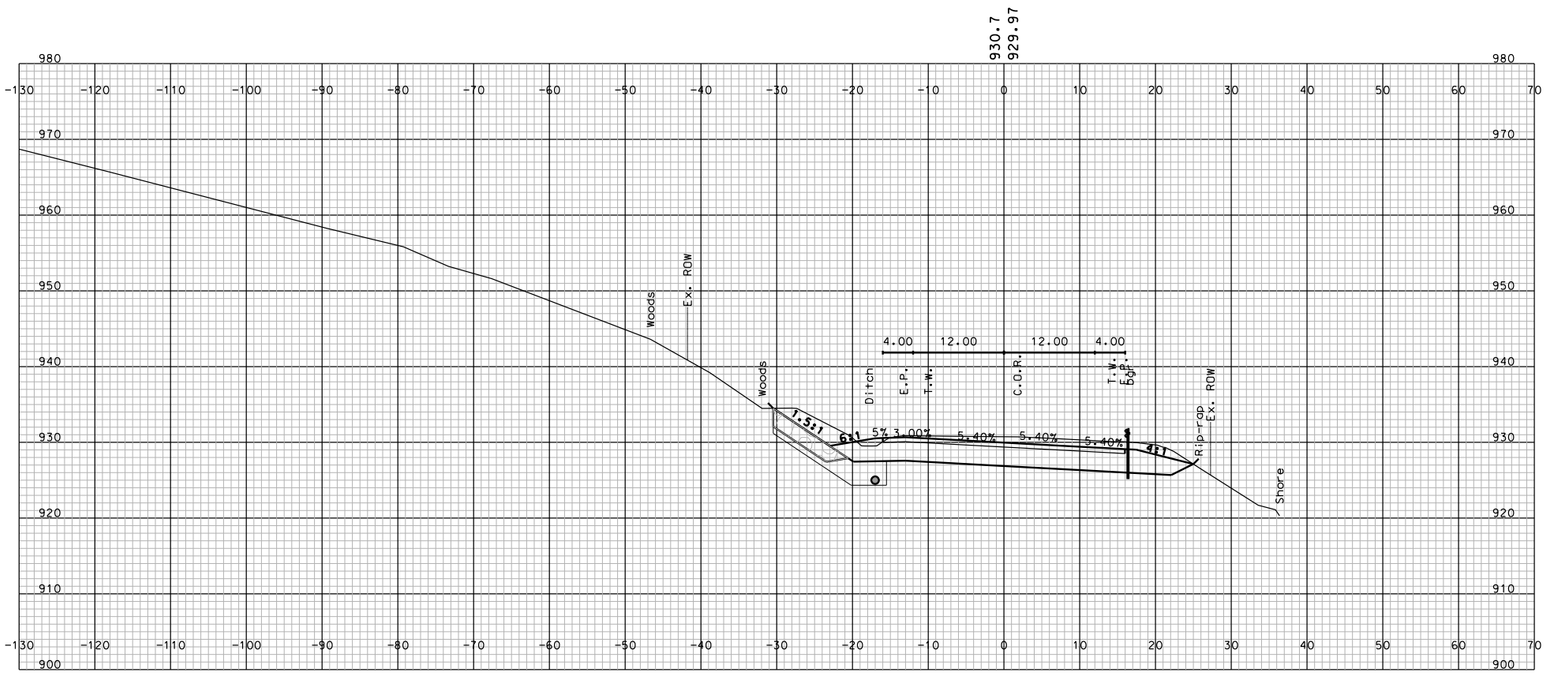
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 169+50.000



STA. 169+00.000



STA. 168+50.000

SHEET TOTALS

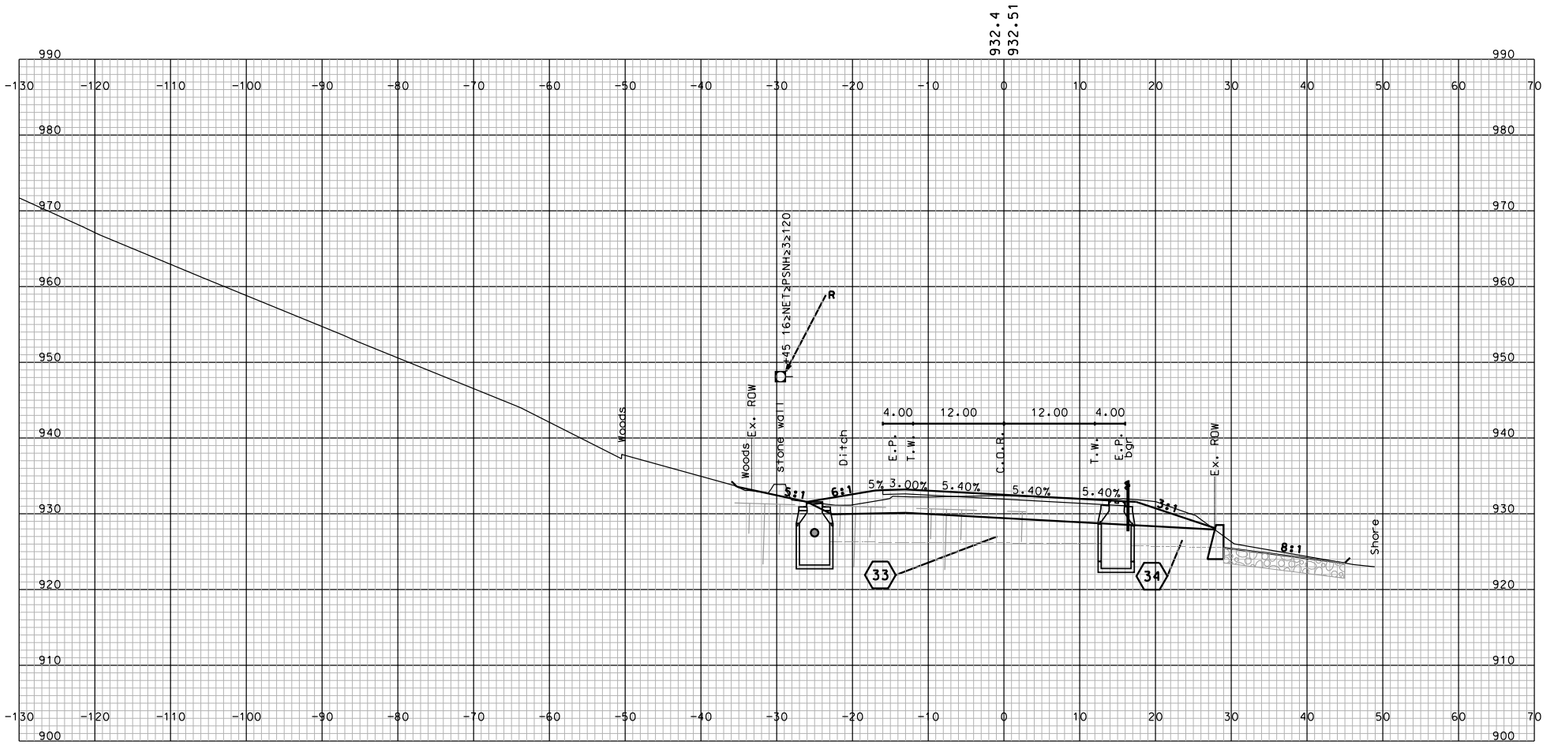
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	233	294

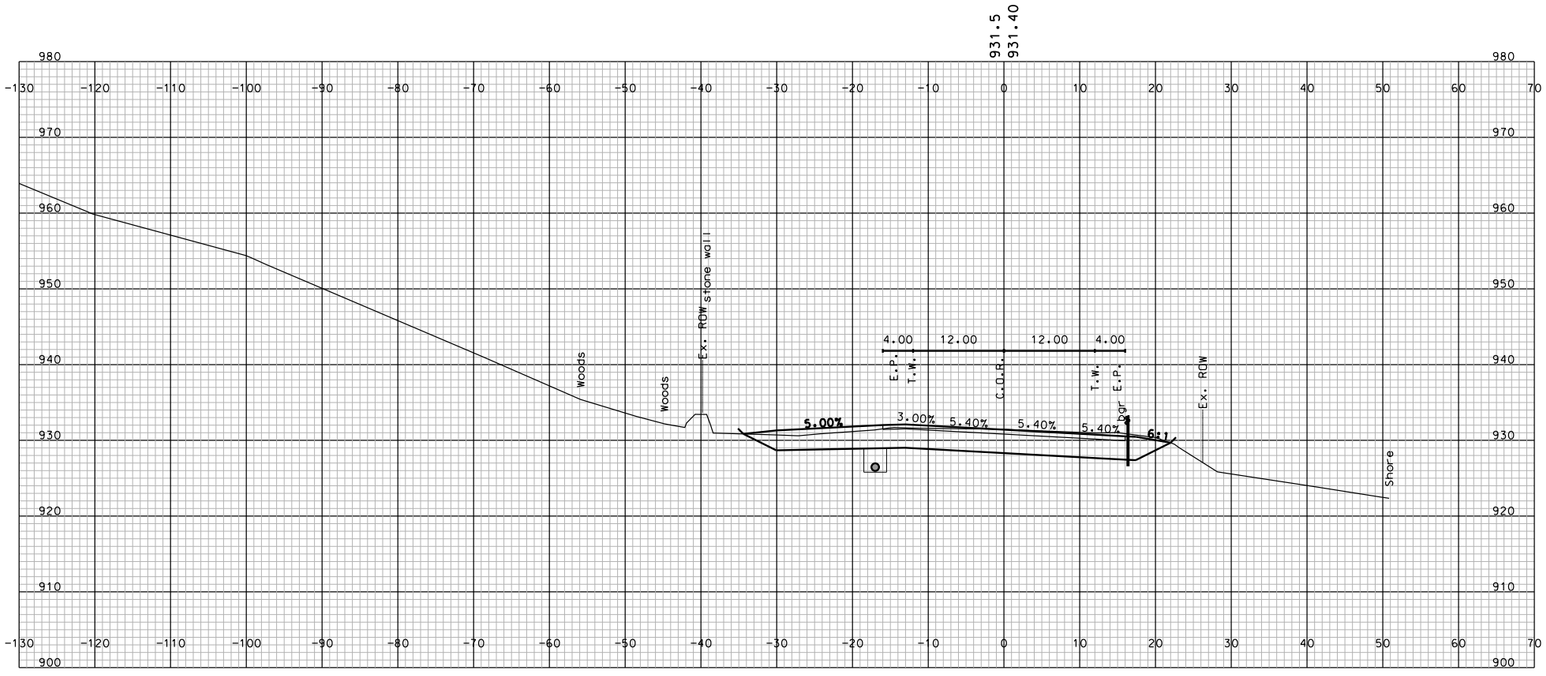
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 170+50.000



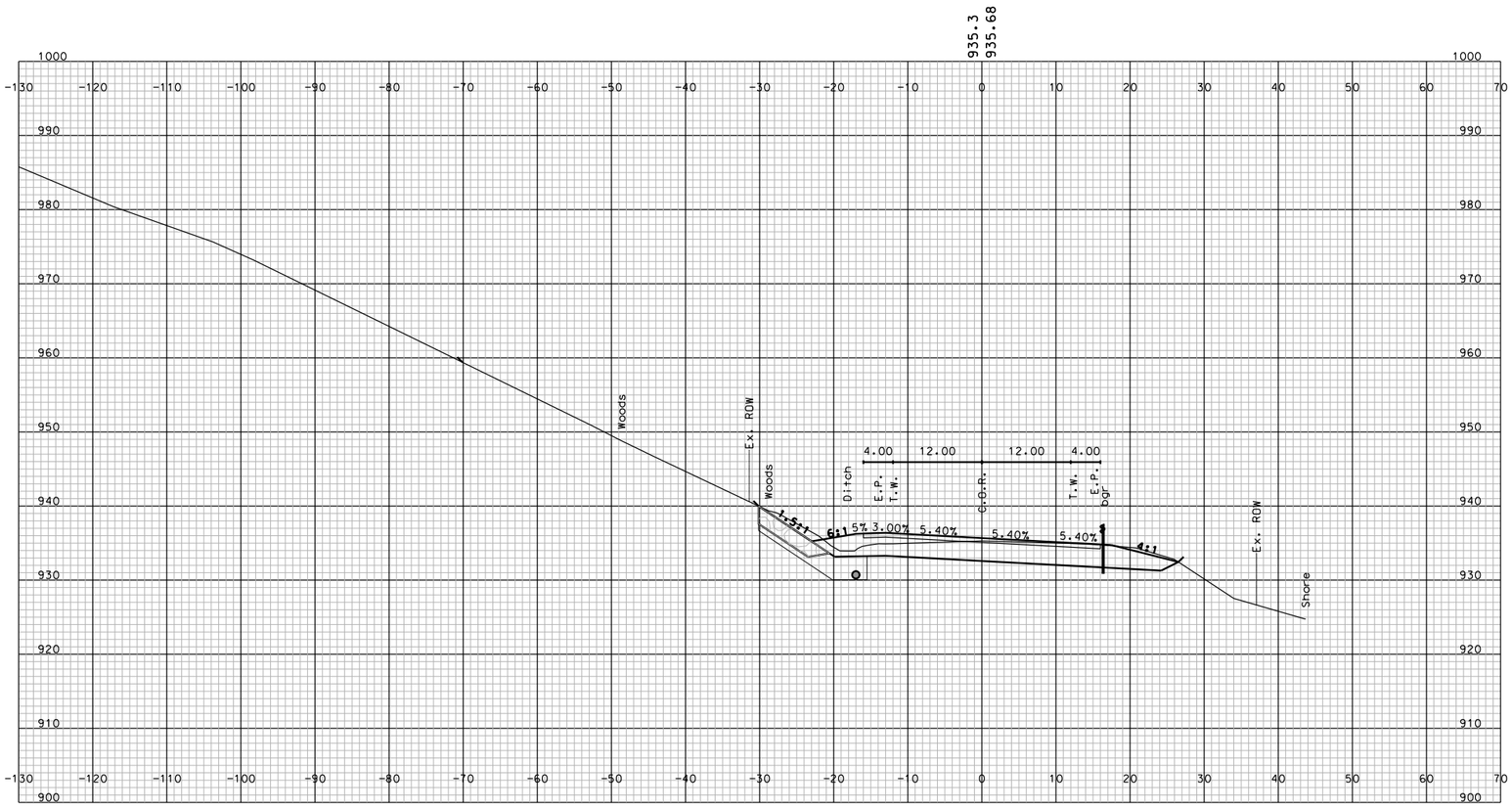
STA. 170+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	234	294

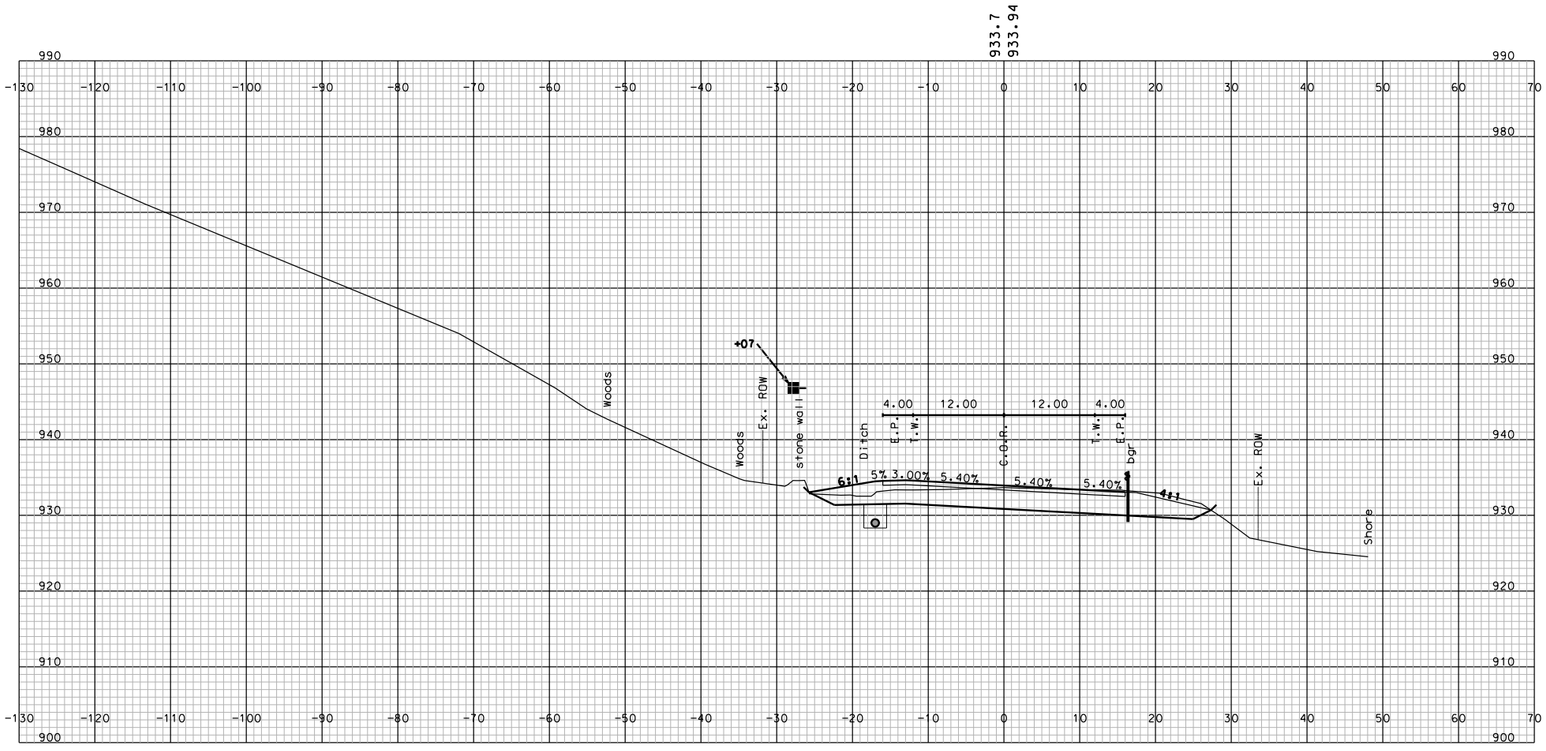
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 171+50.000



STA. 171+00.000

SHEET TOTALS

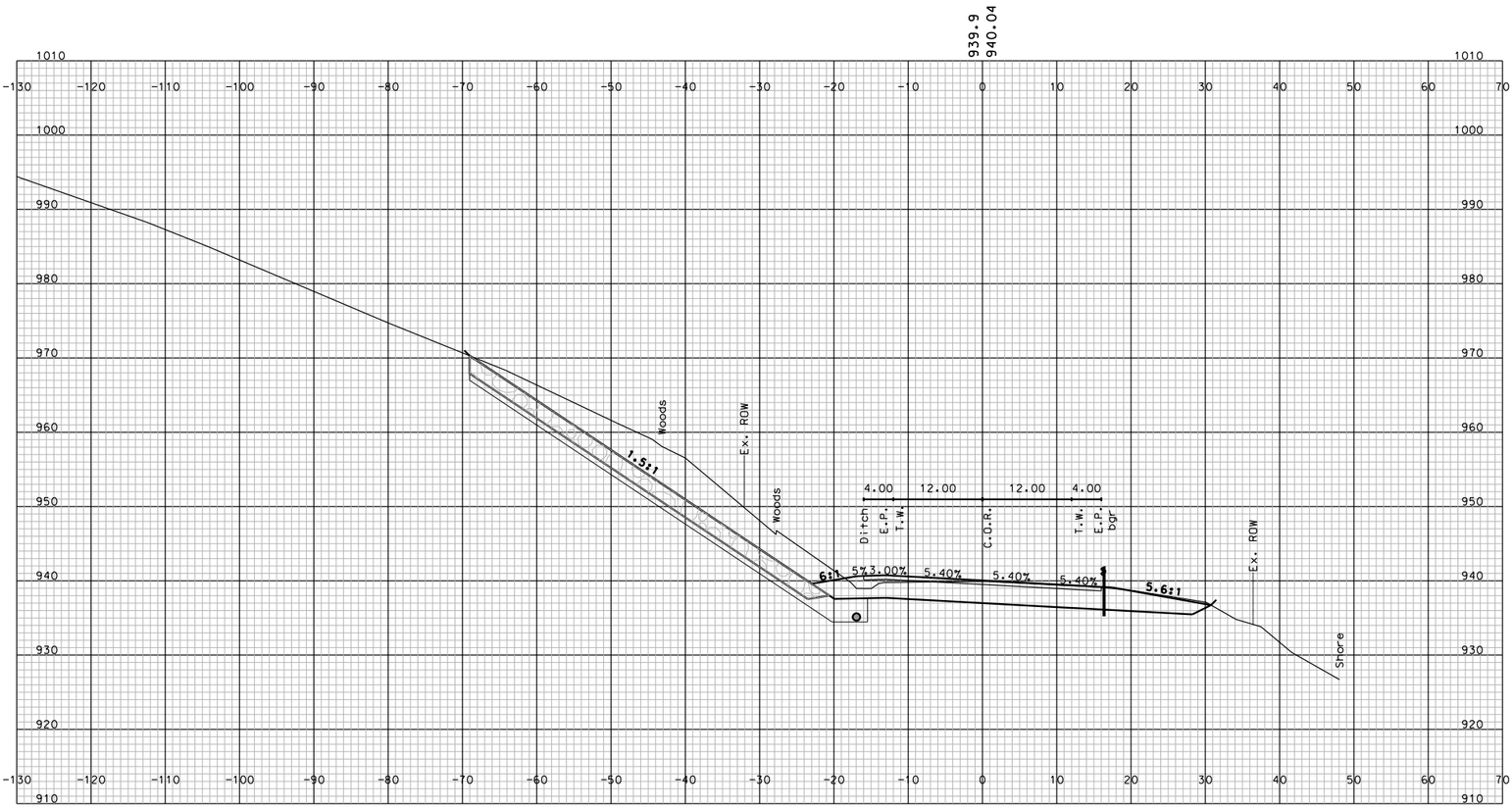
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	235	294

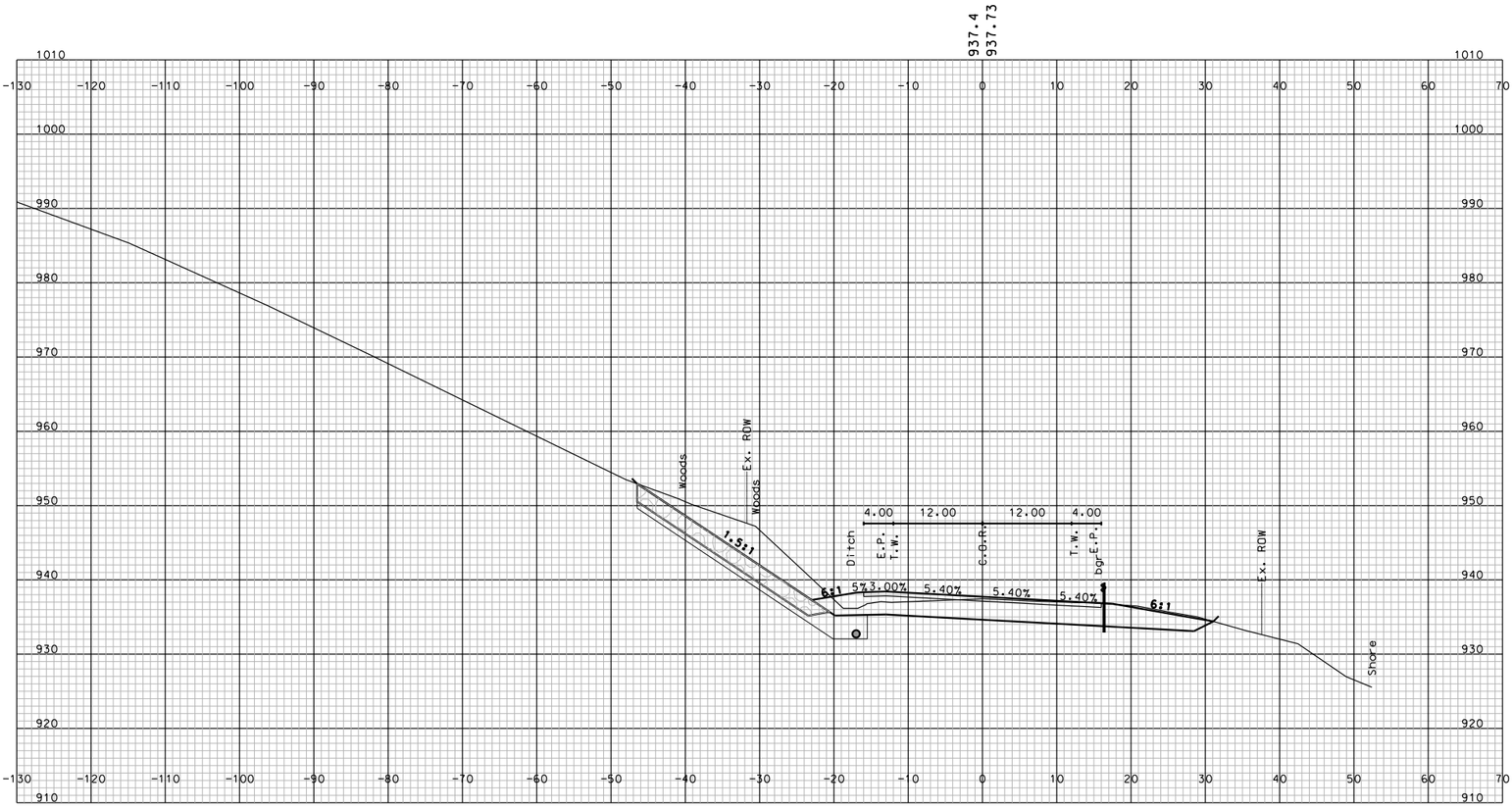
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 172+50.000



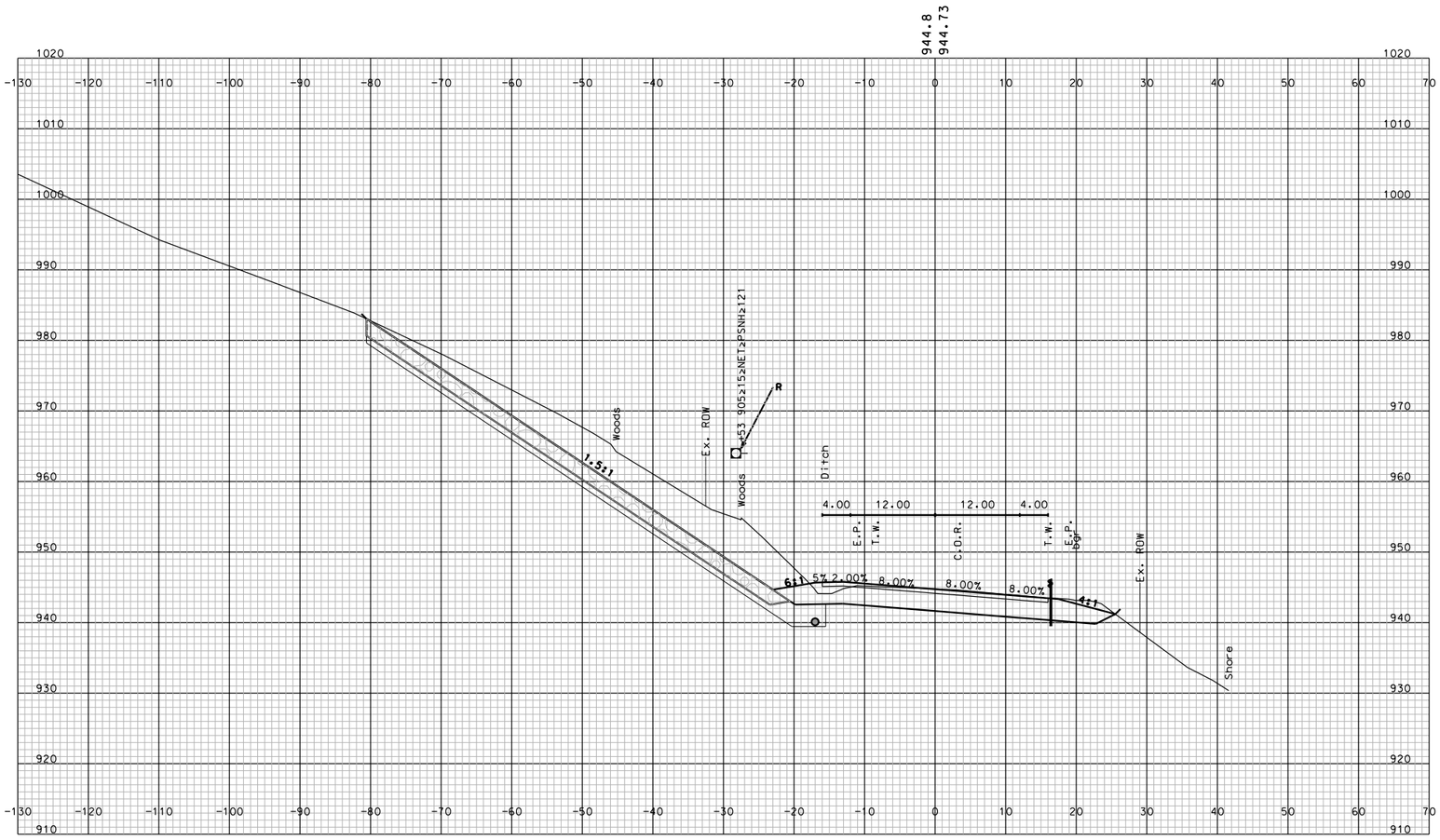
STA. 172+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	236	294

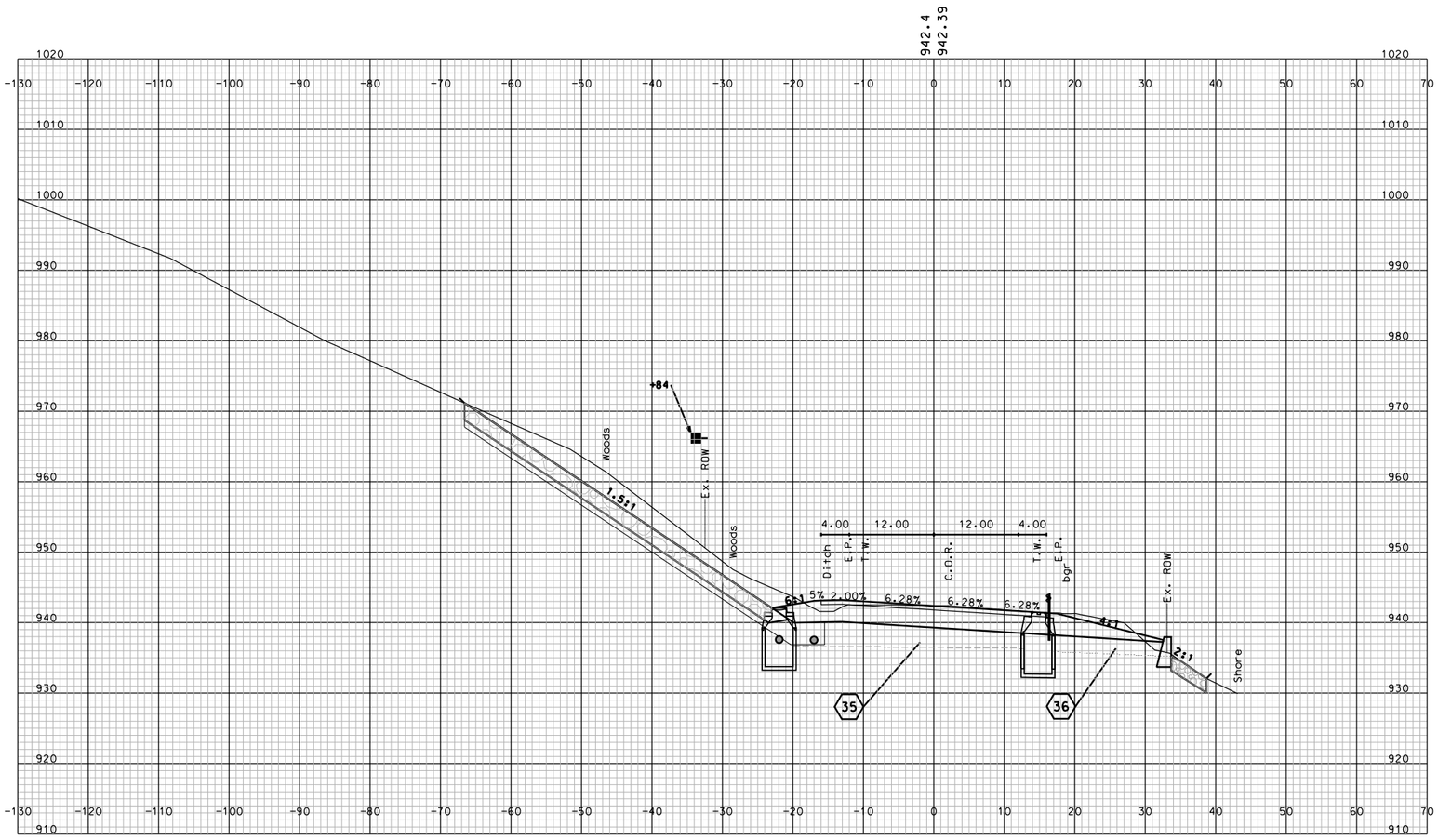
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 173+50.000



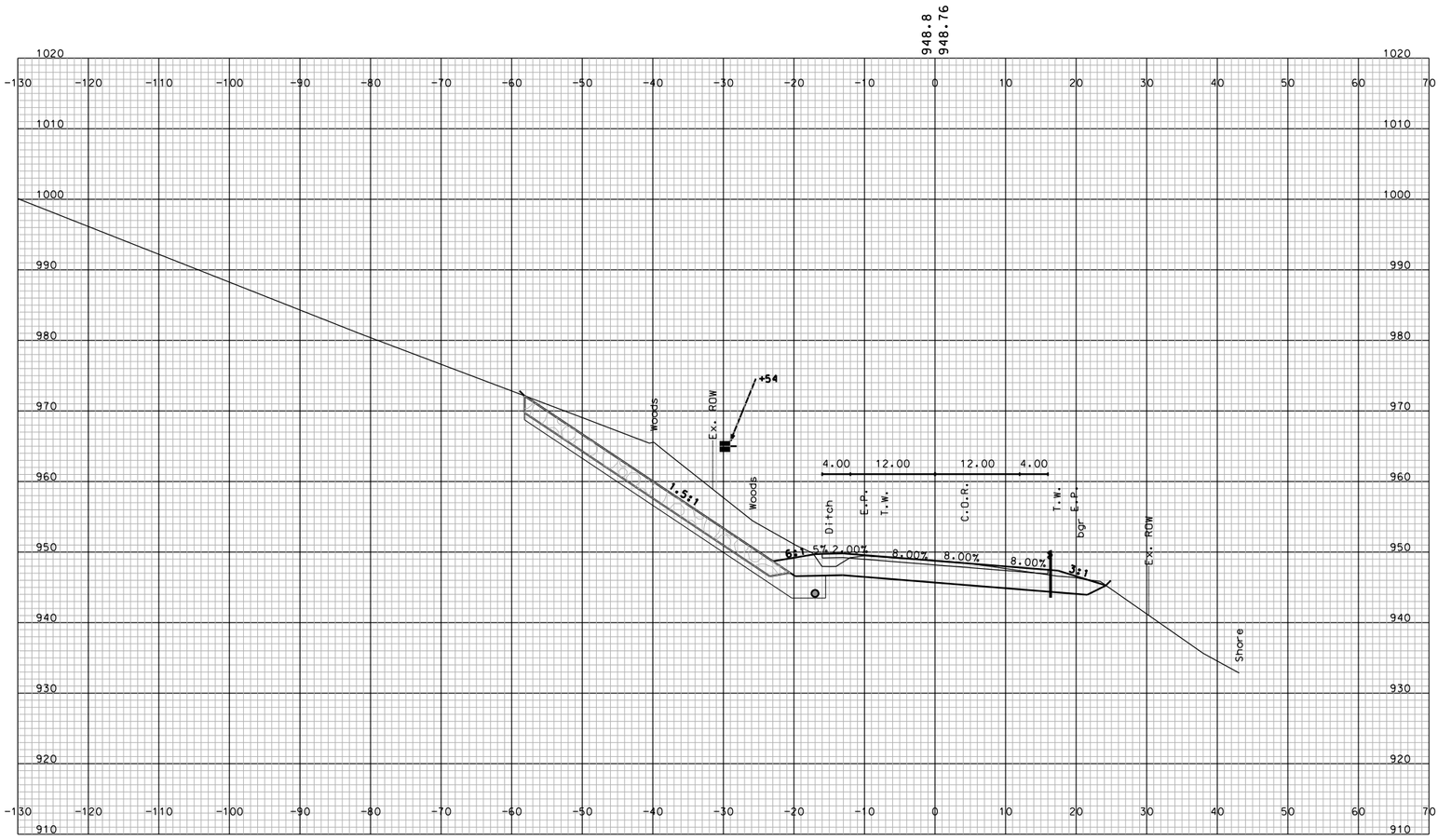
STA. 173+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	237	294

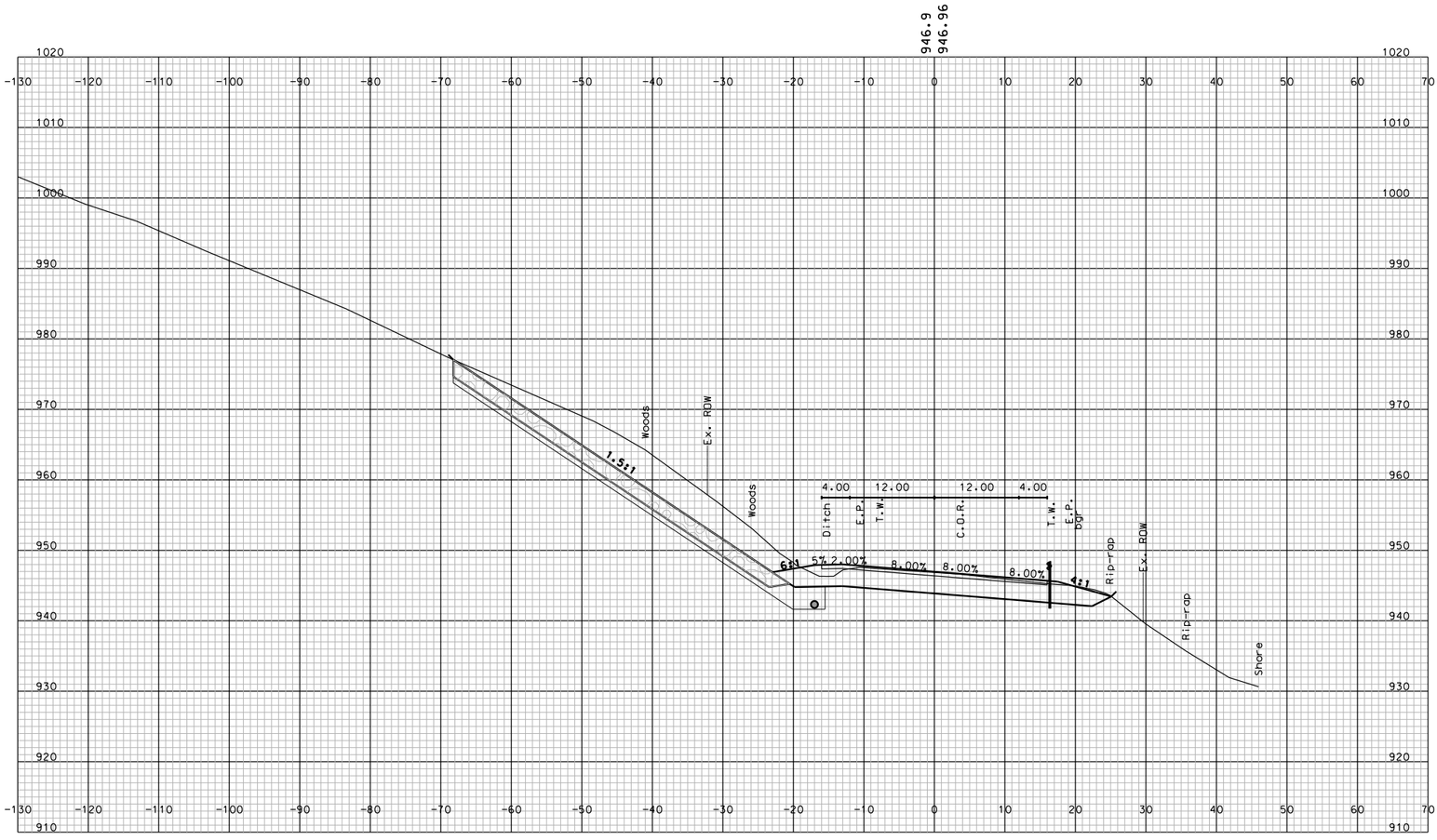
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 174+50.000



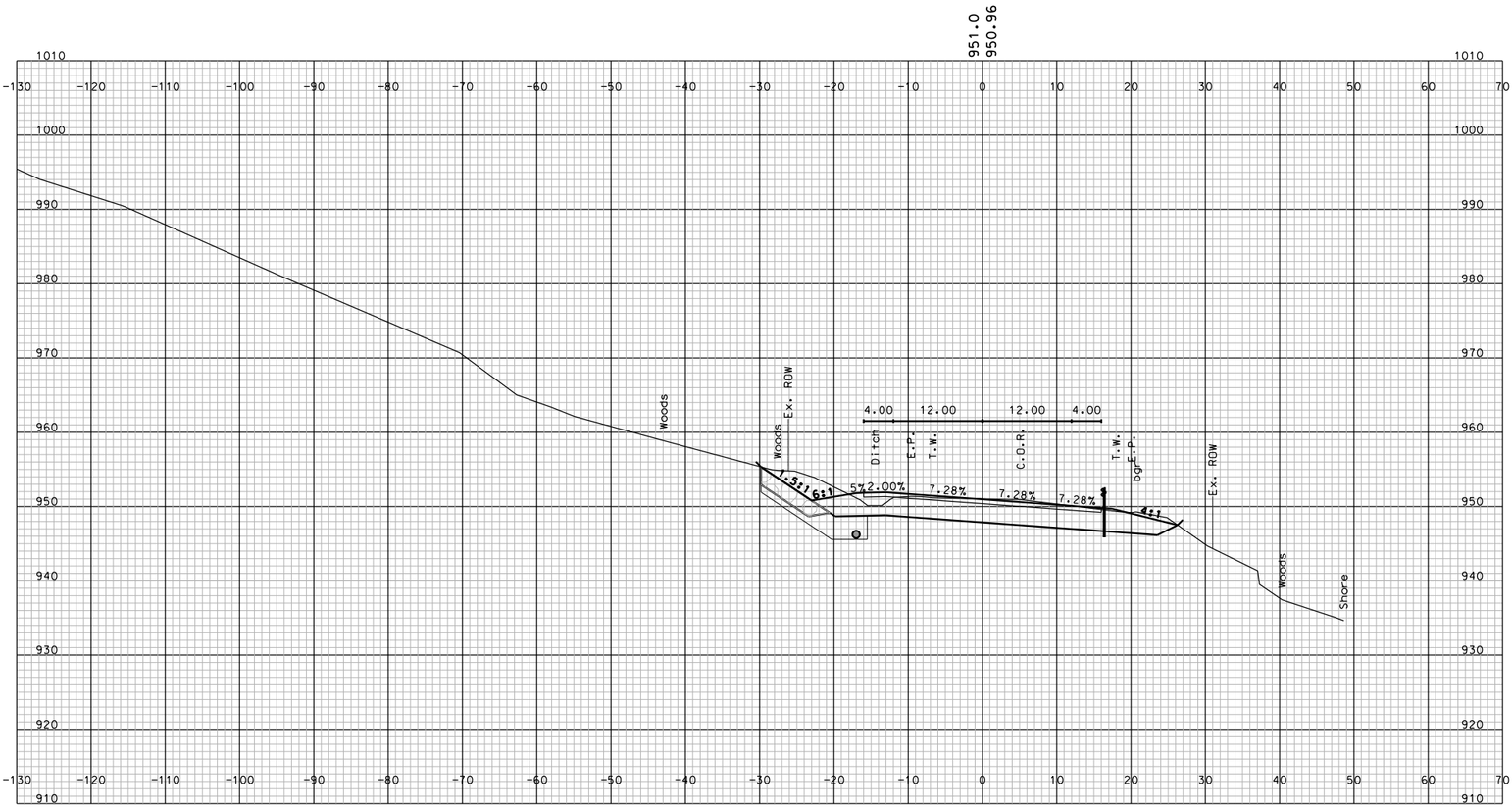
STA. 174+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	238	294

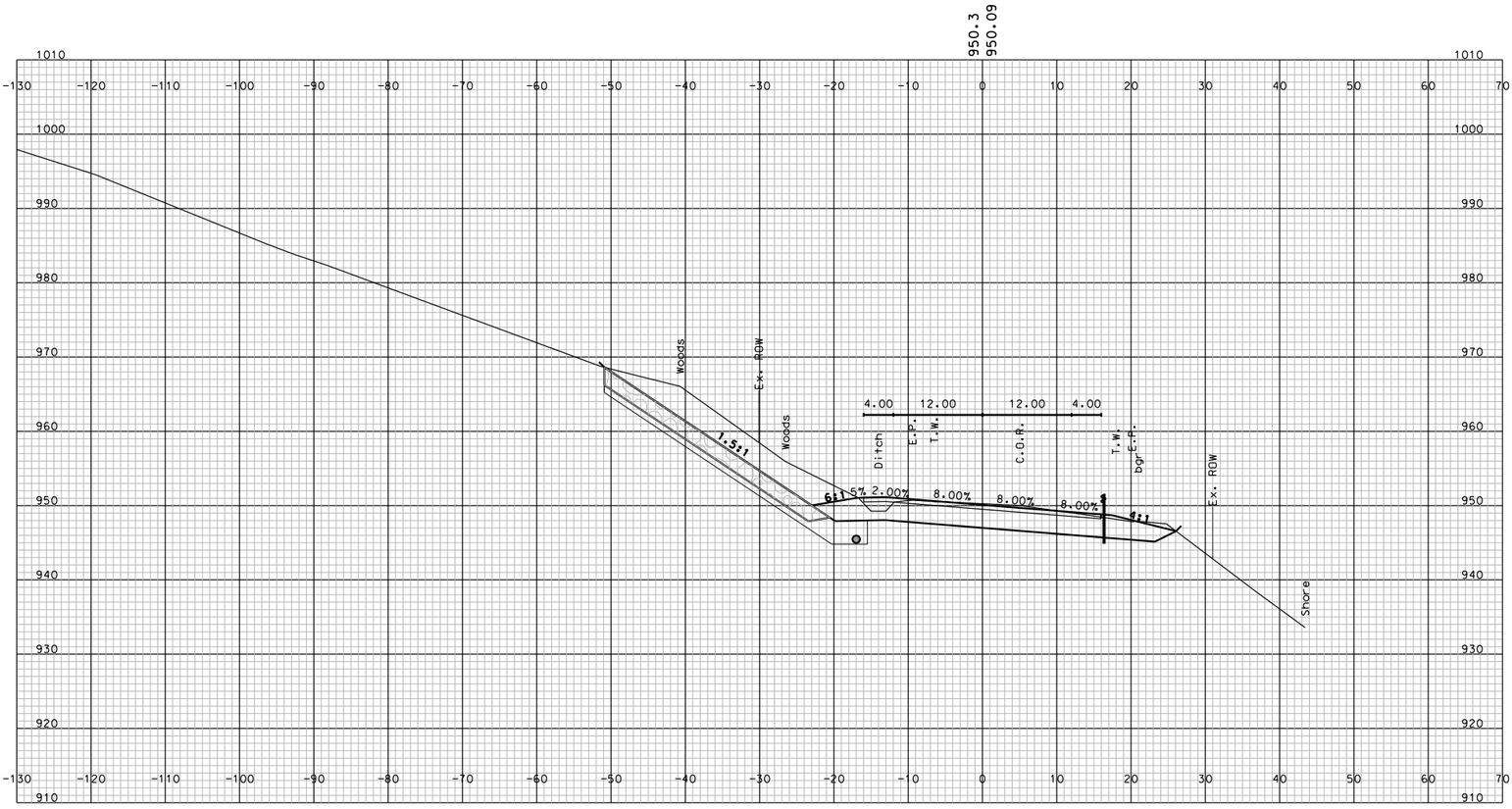
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 175+50.000



STA. 175+00.000

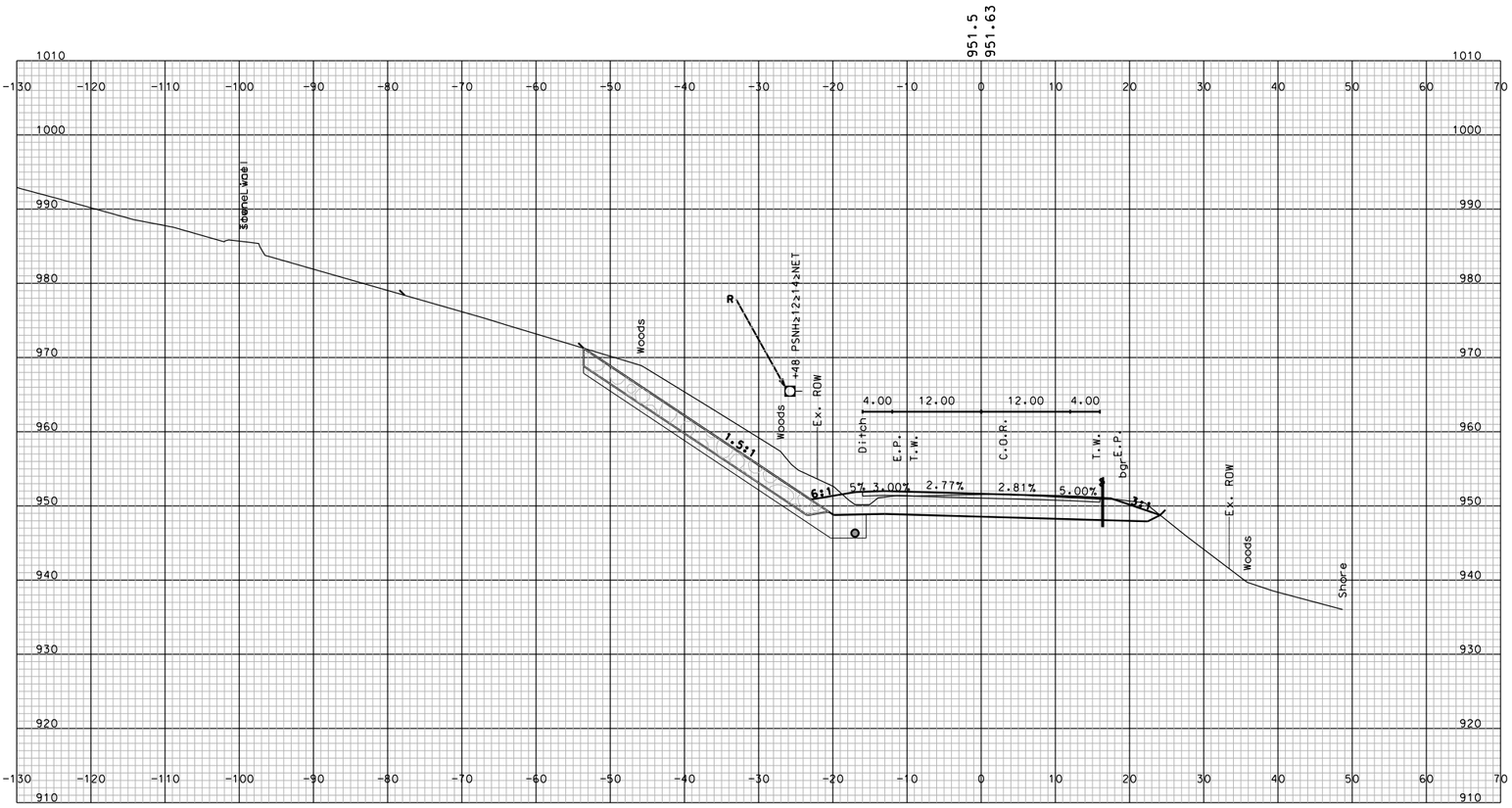
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	239	294

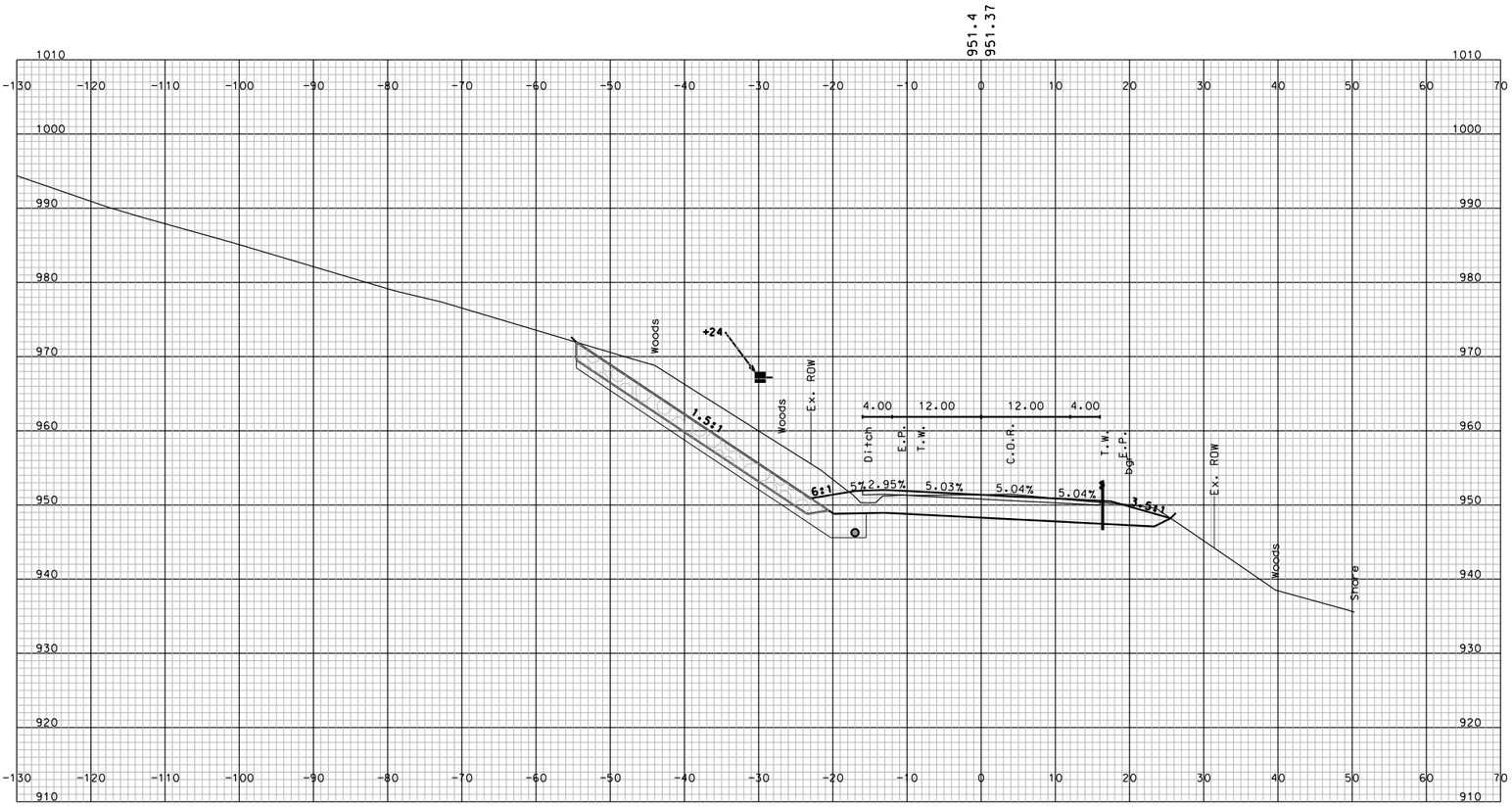
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 176+50.000



STA. 176+00.000

SHEET TOTALS

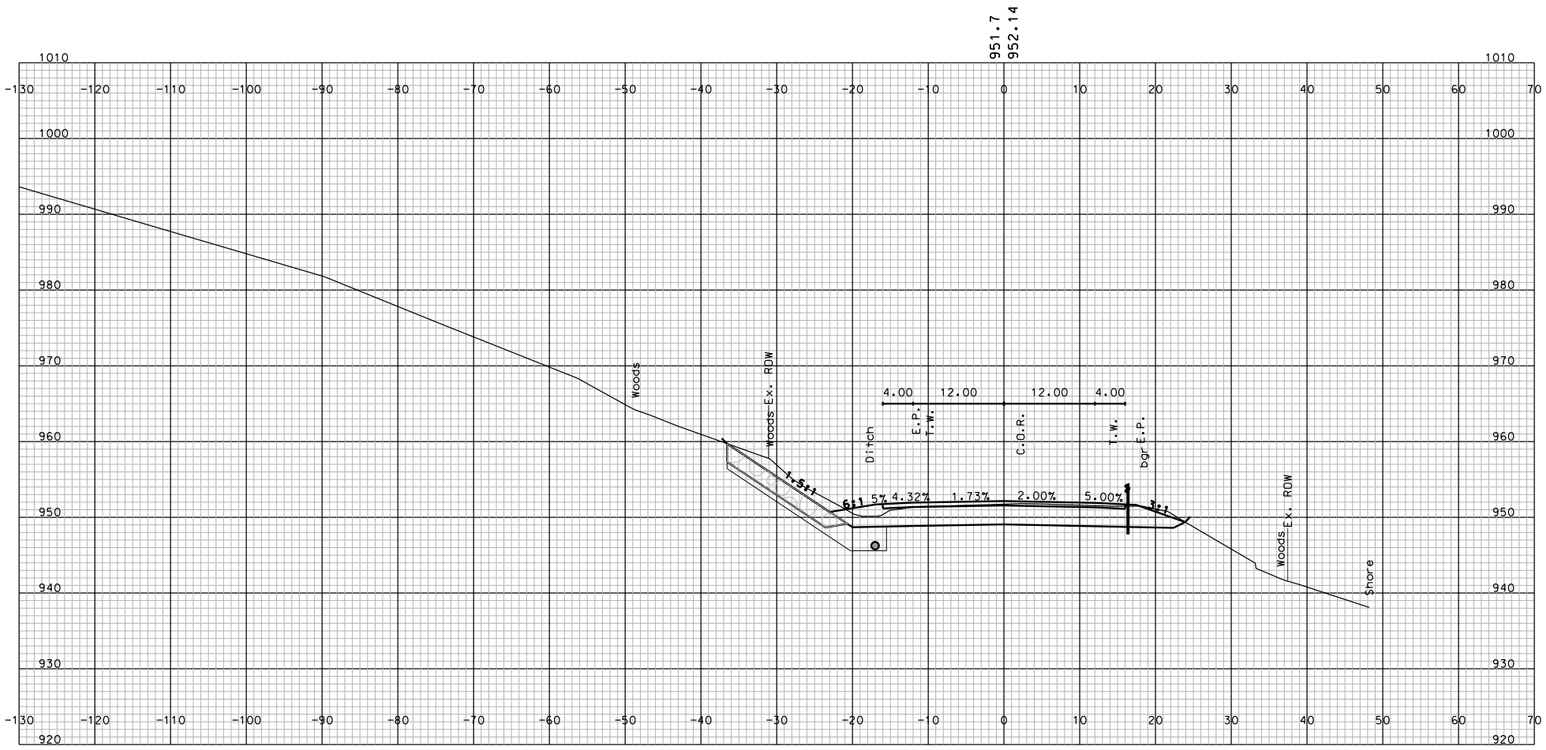
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	240	294

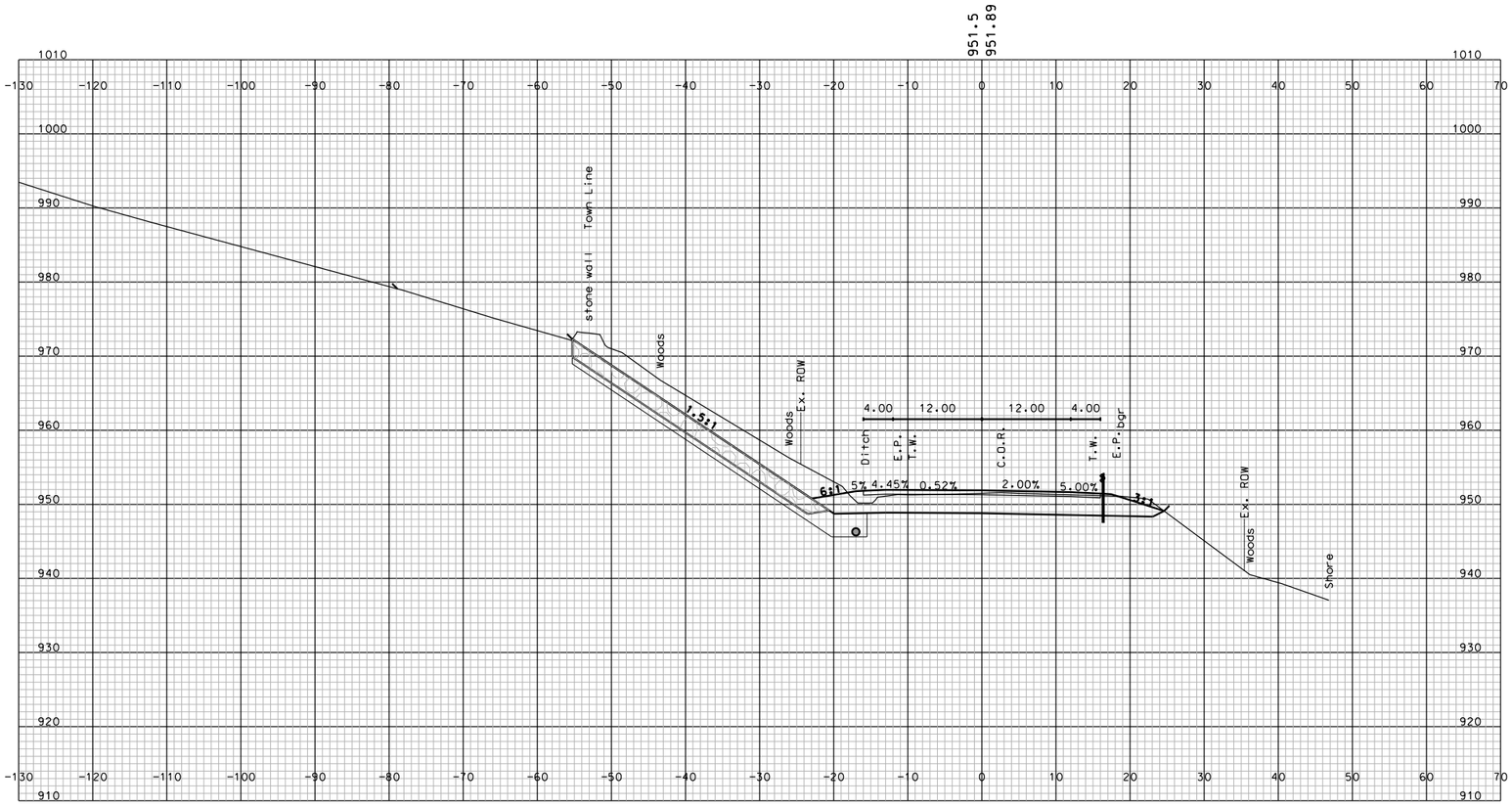
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 177+50.000



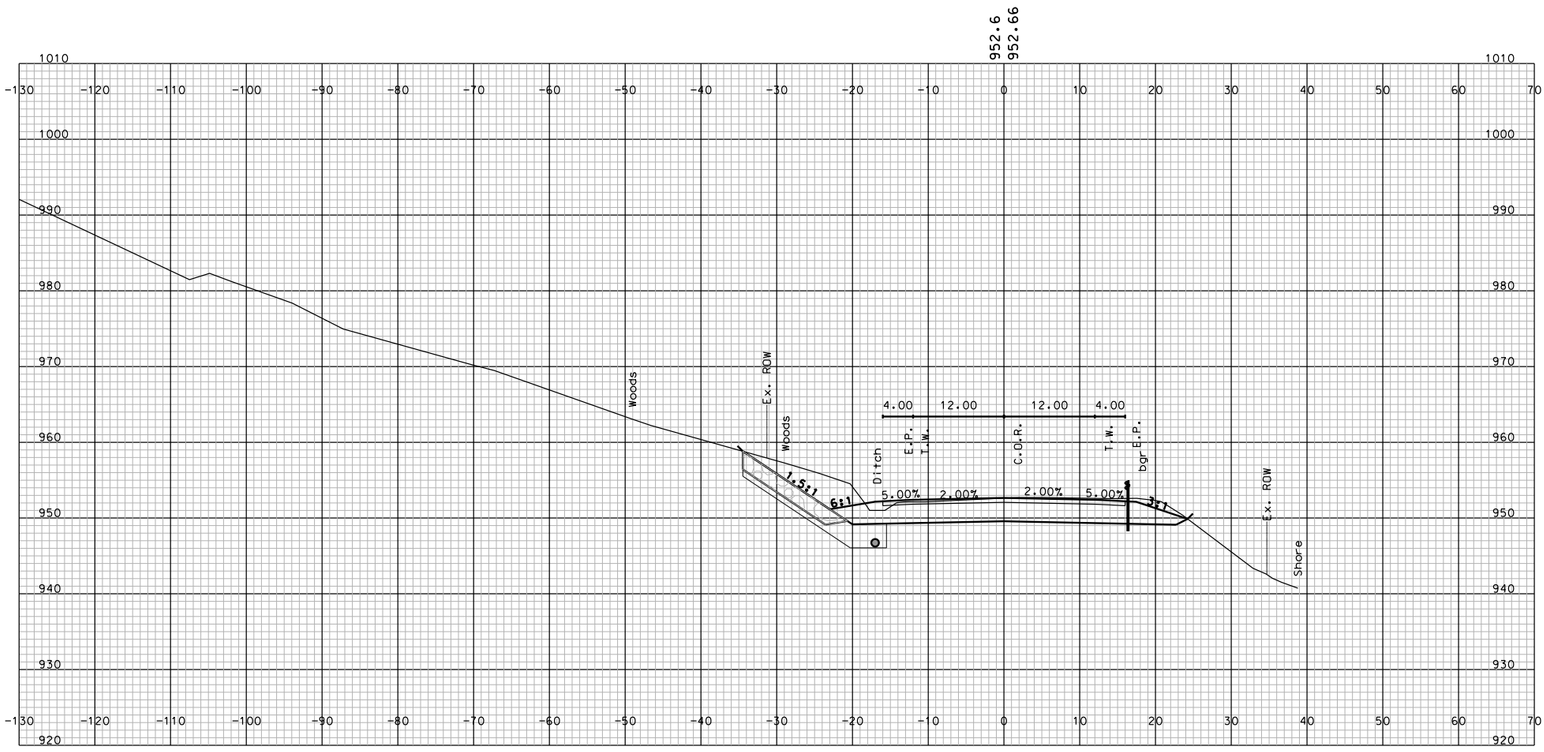
STA. 177+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	241	294

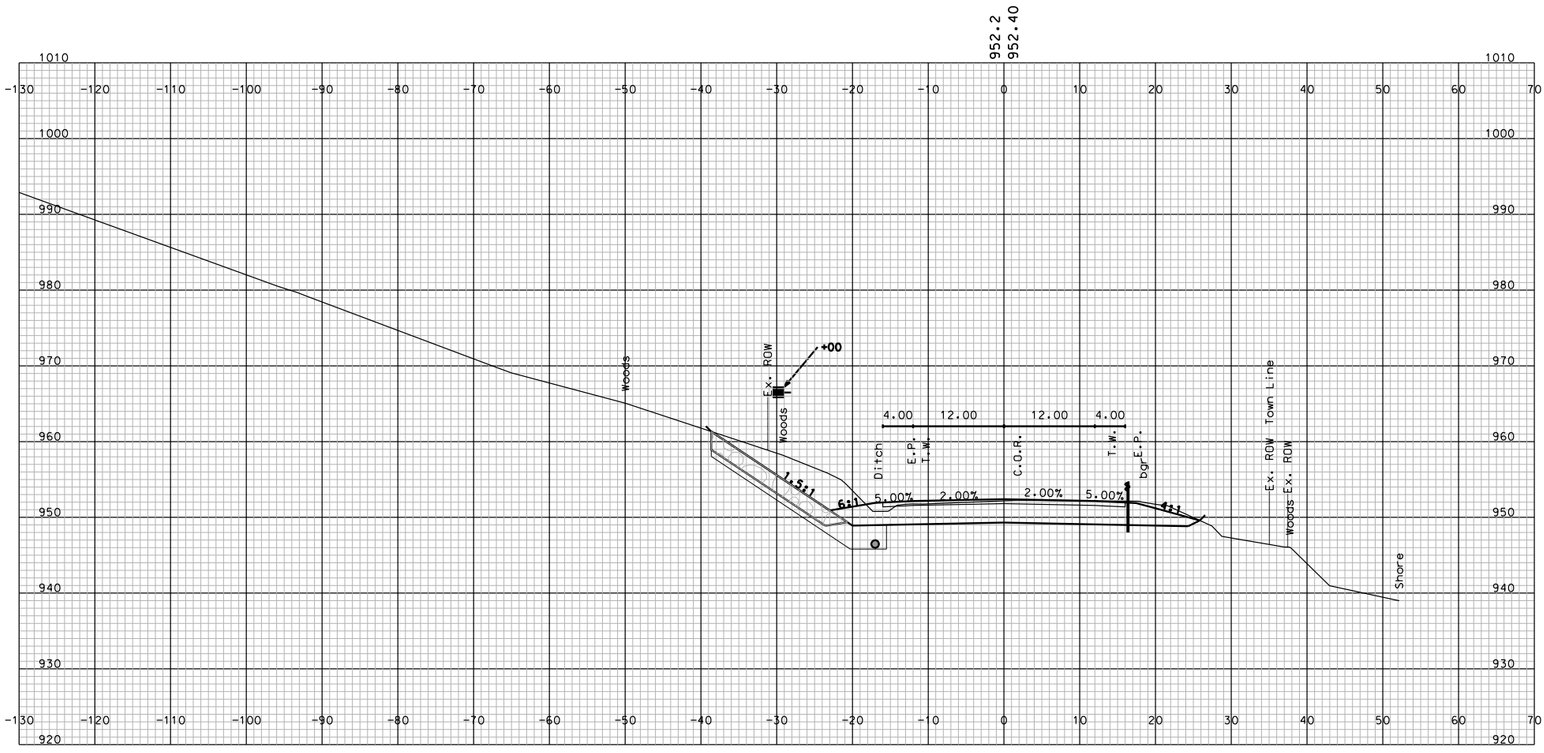
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 178+50.000



STA. 178+00.000

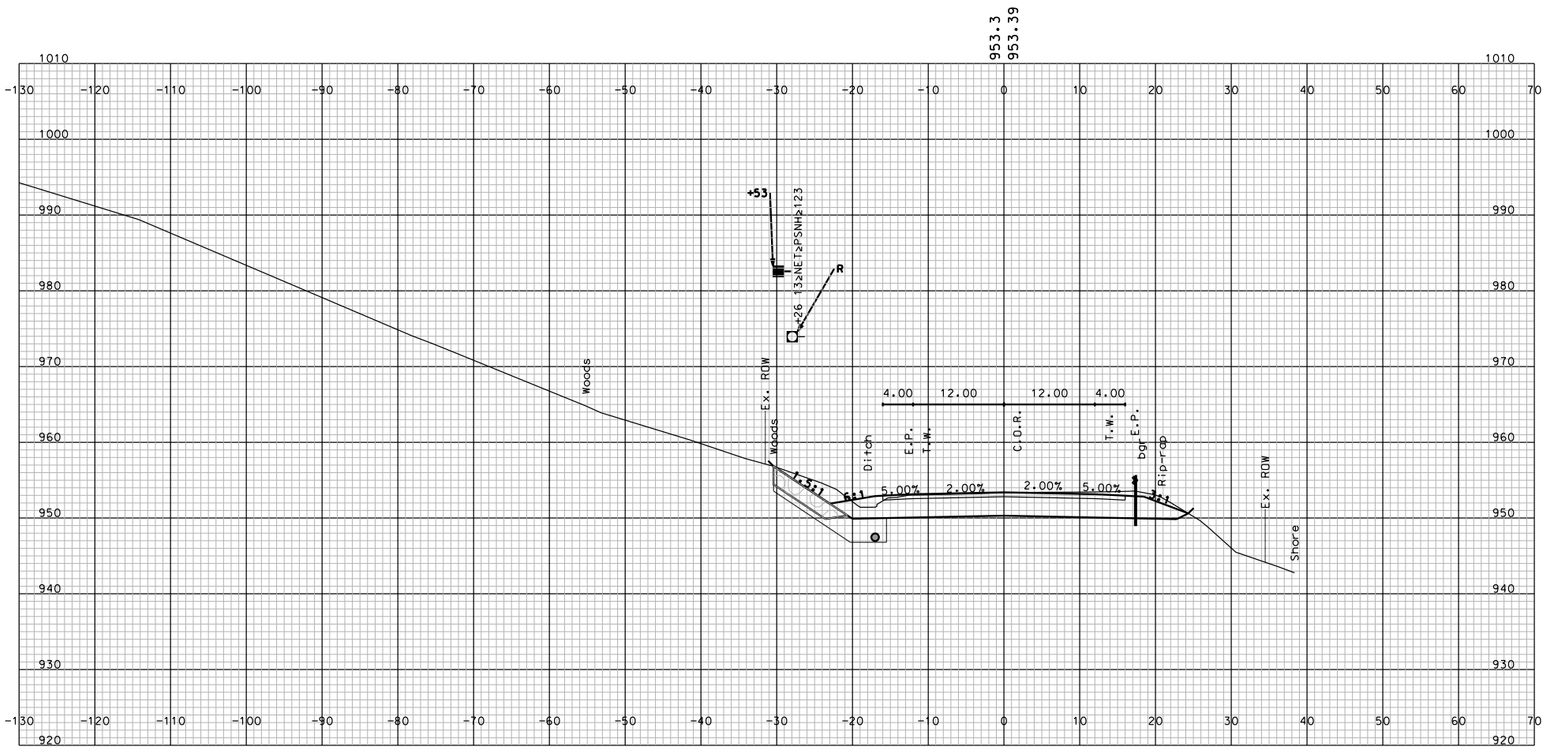
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	242	294

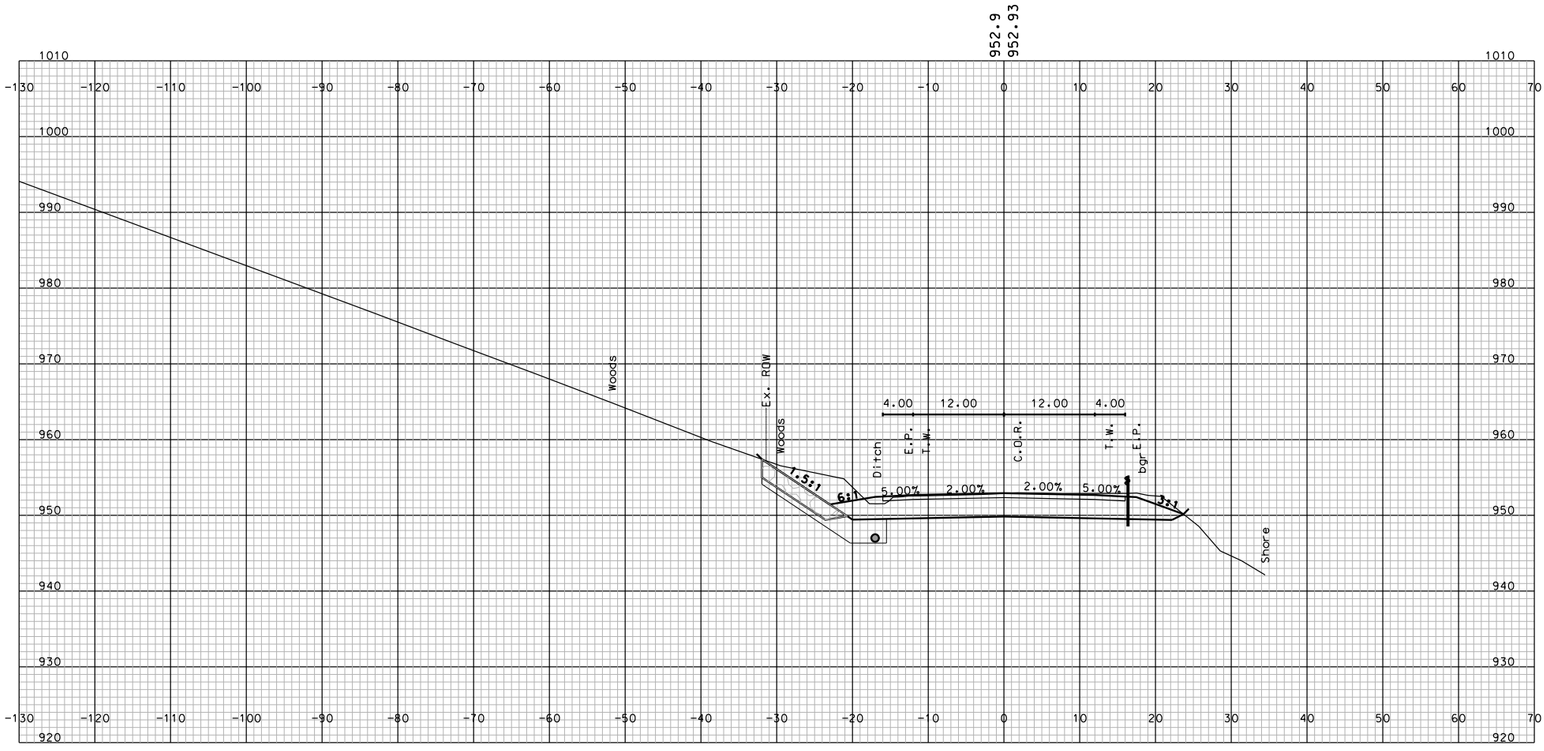
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 179+50.000



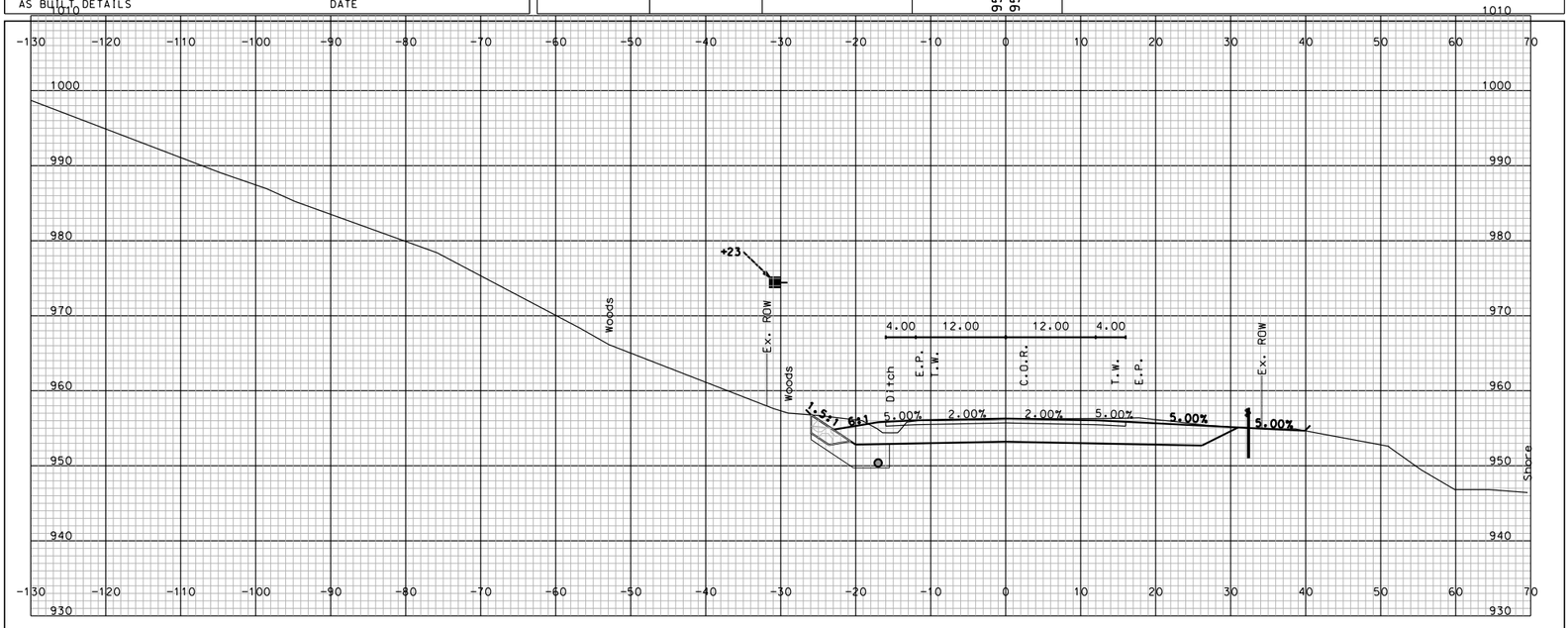
STA. 179+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	243	294

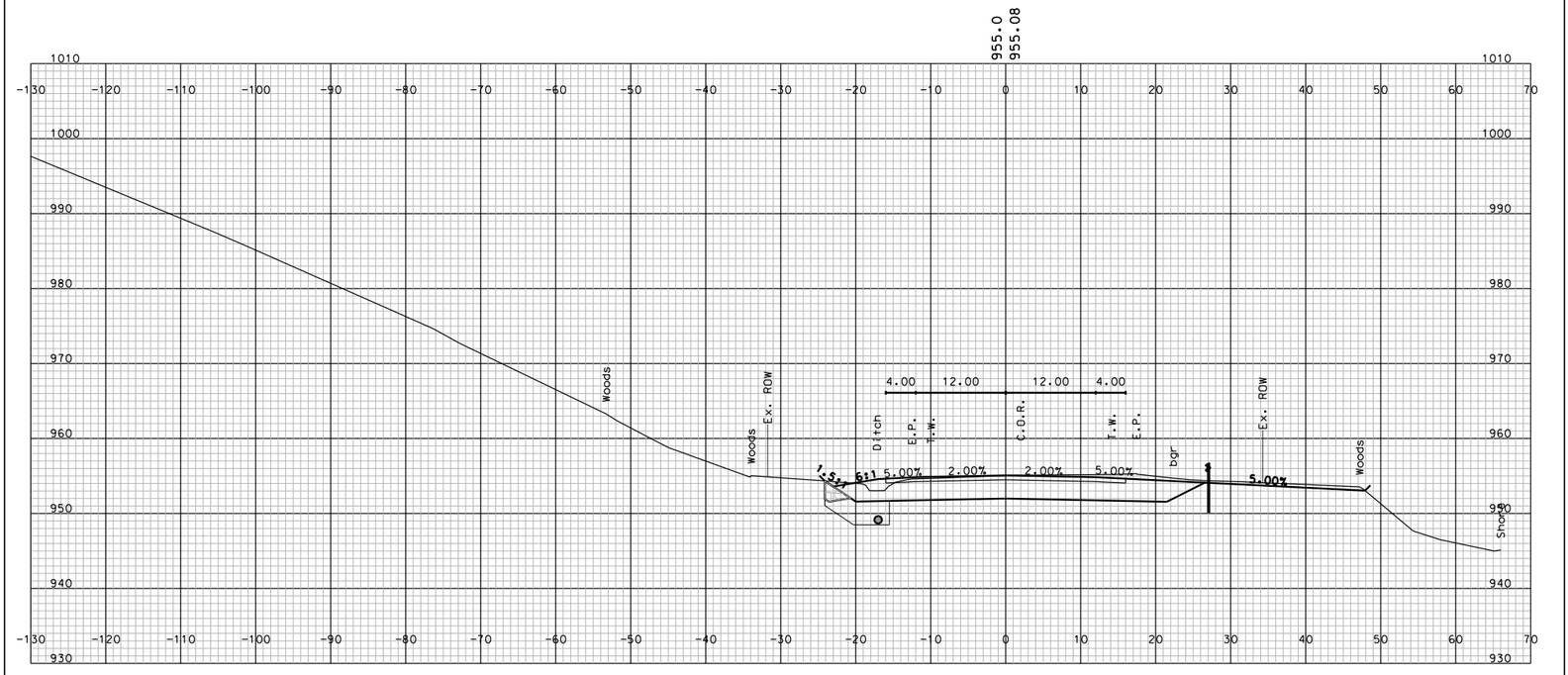
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

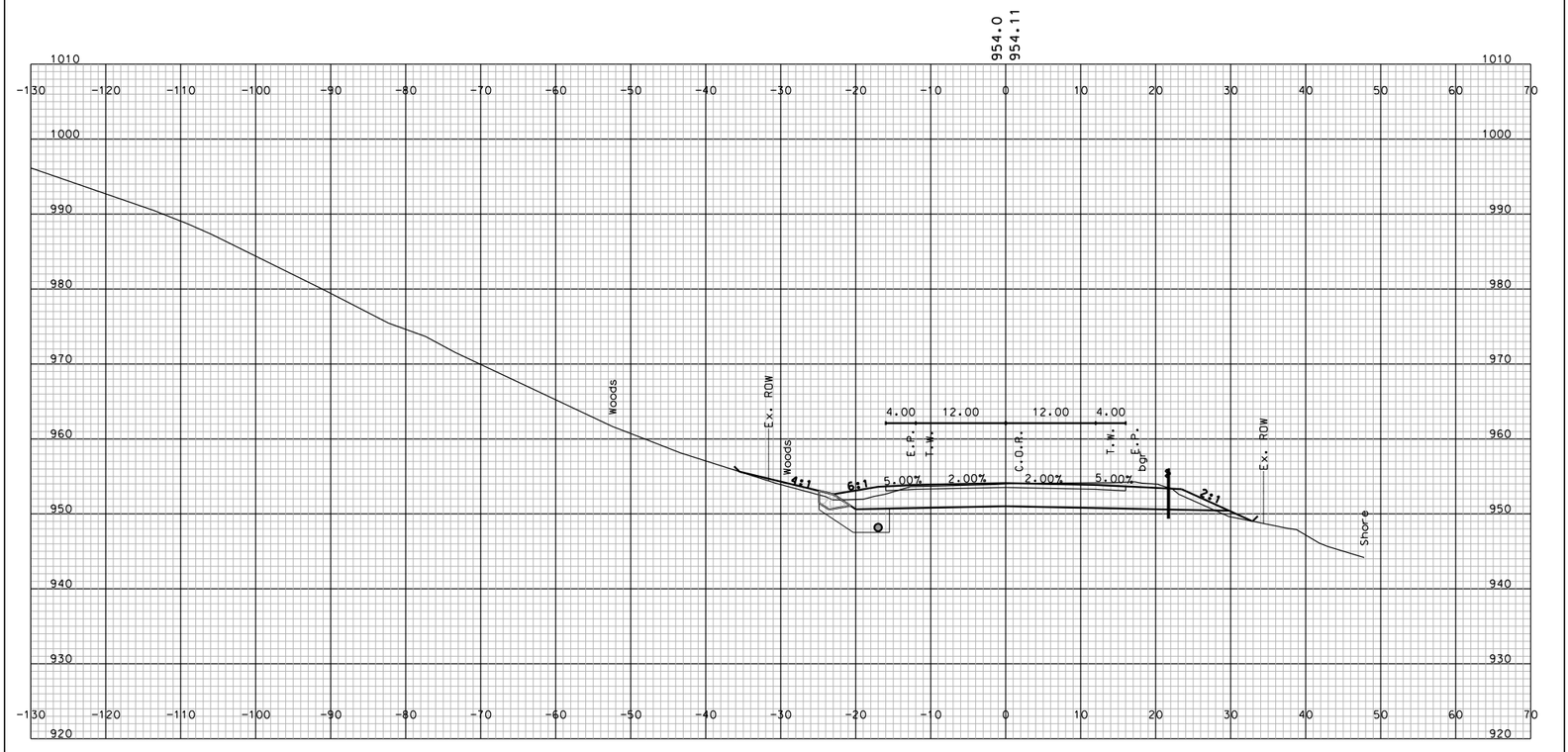
NUMBER	DATE	STATION	STATION	DESCRIPTION
			956.2 956.30	



STA. 181+00.000



STA. 180+50.000



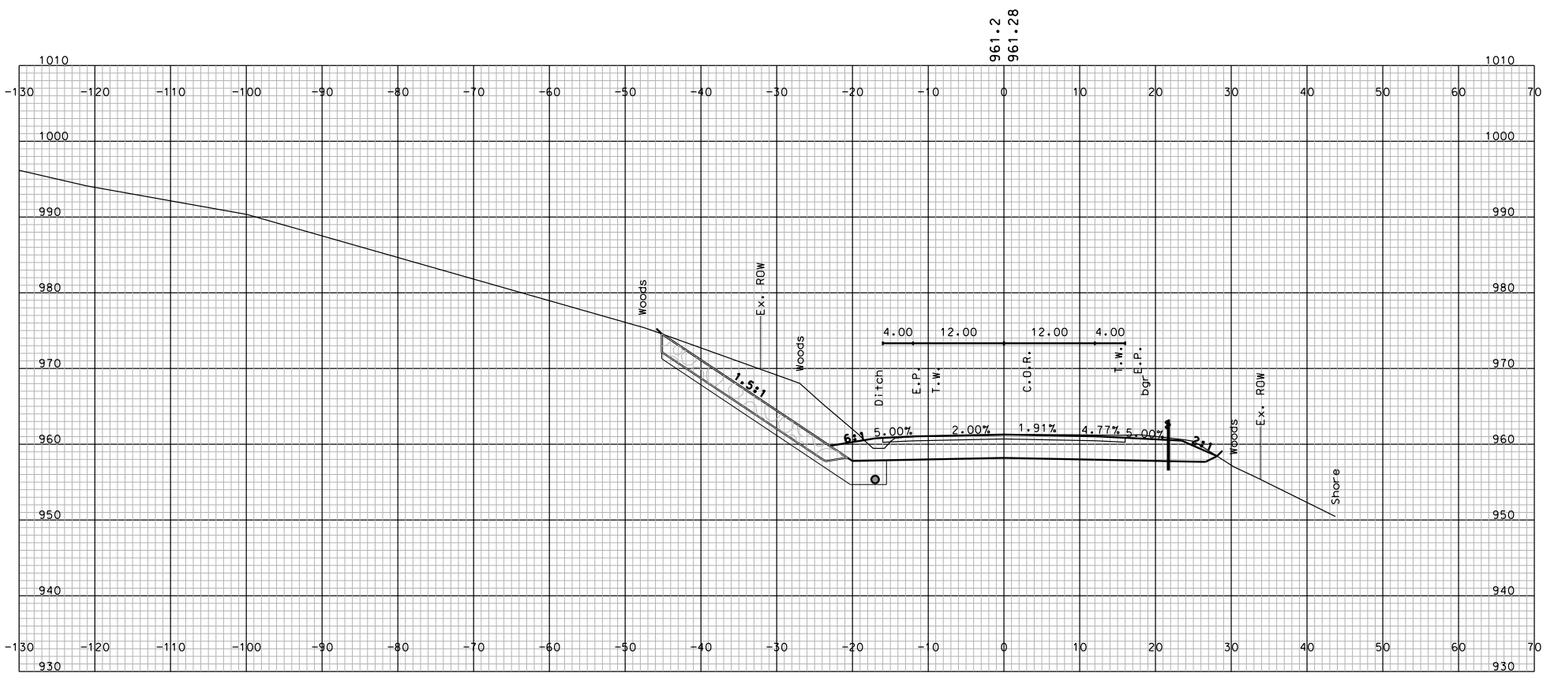
STA. 180+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	244	294

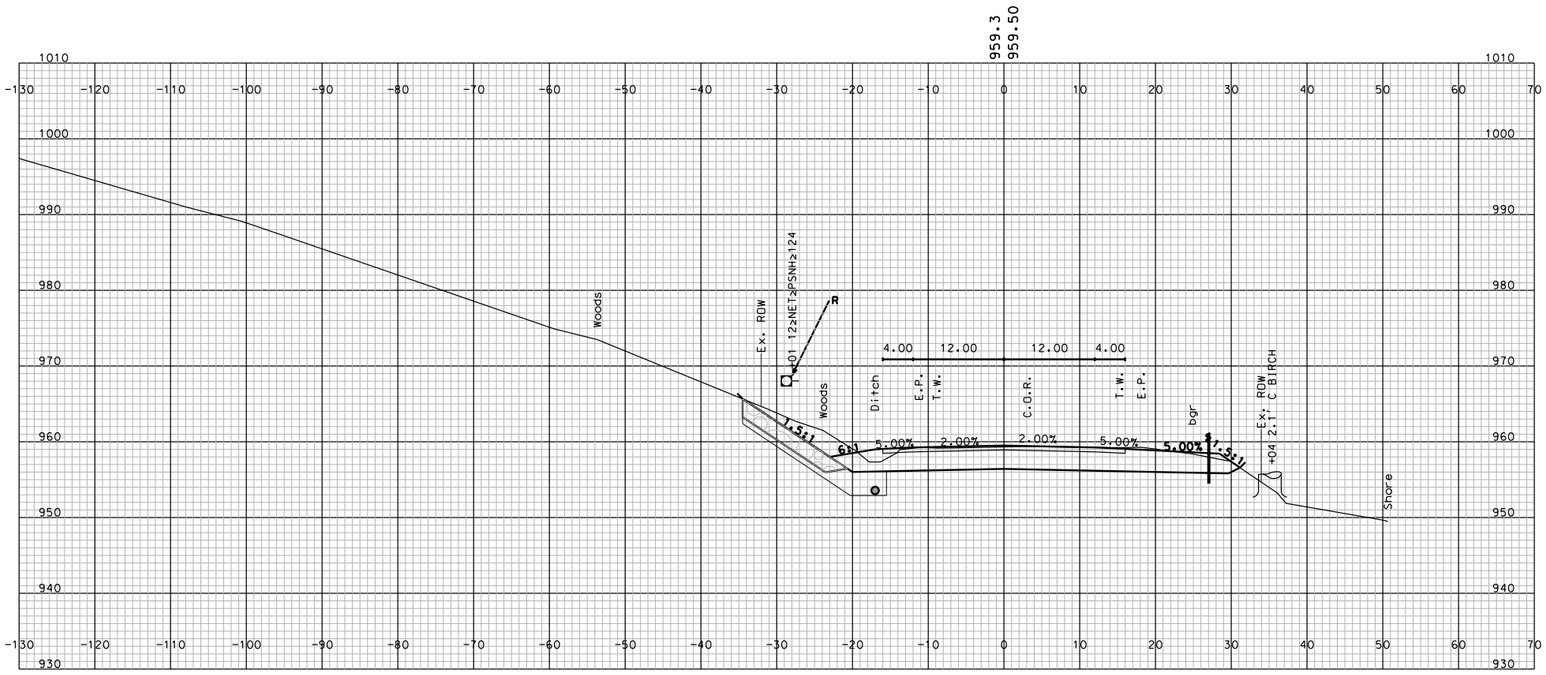
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

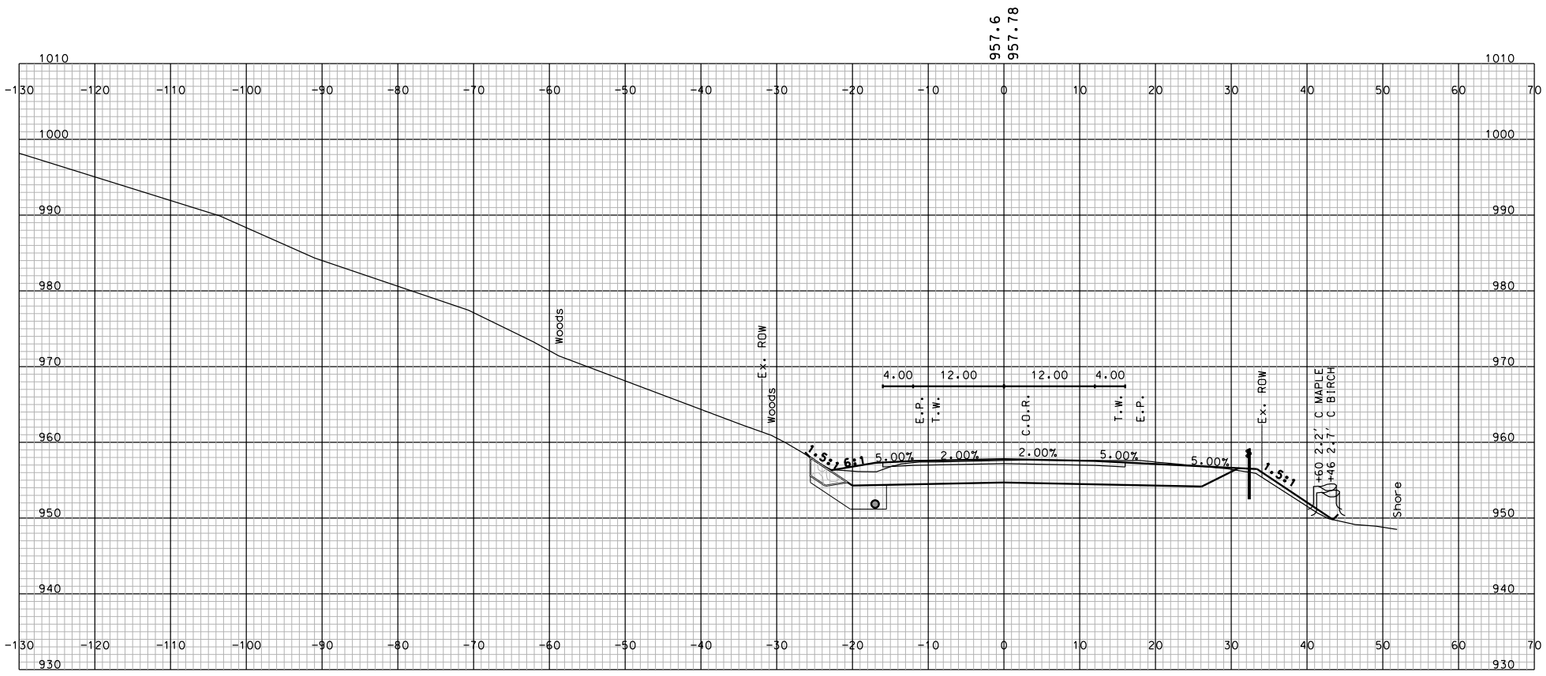
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 182+50.000



STA. 182+00.000



STA. 181+50.000

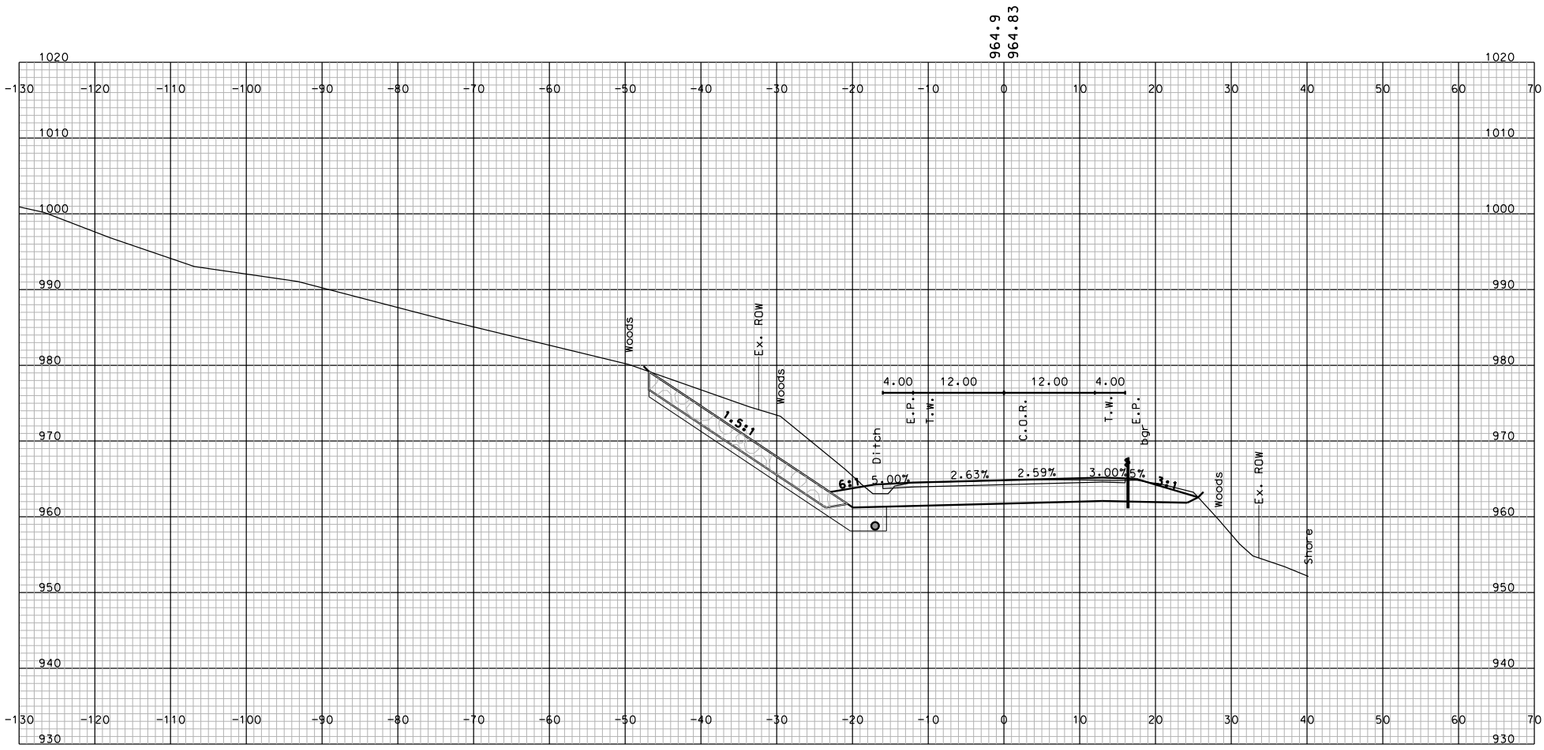
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	245	294

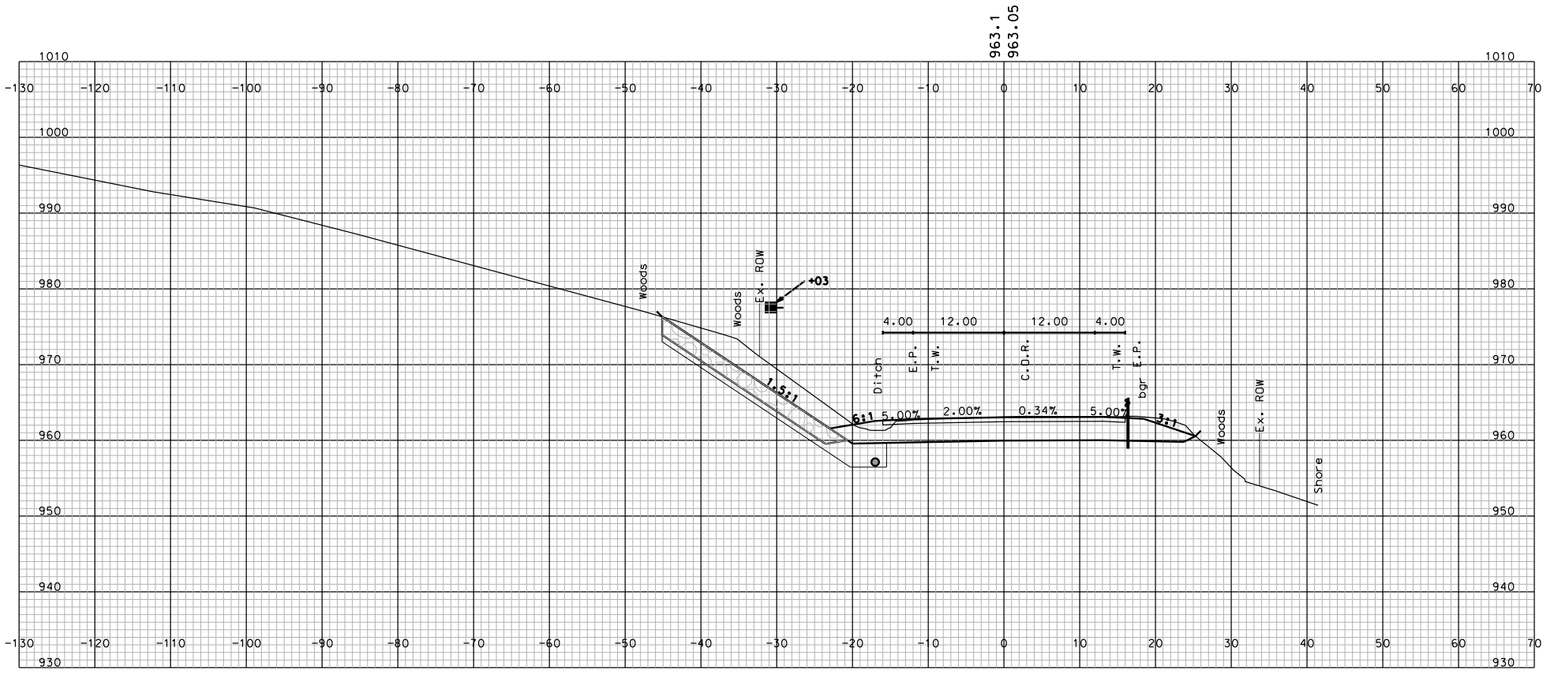
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 183+50.000



STA. 183+00.000

SHEET TOTALS

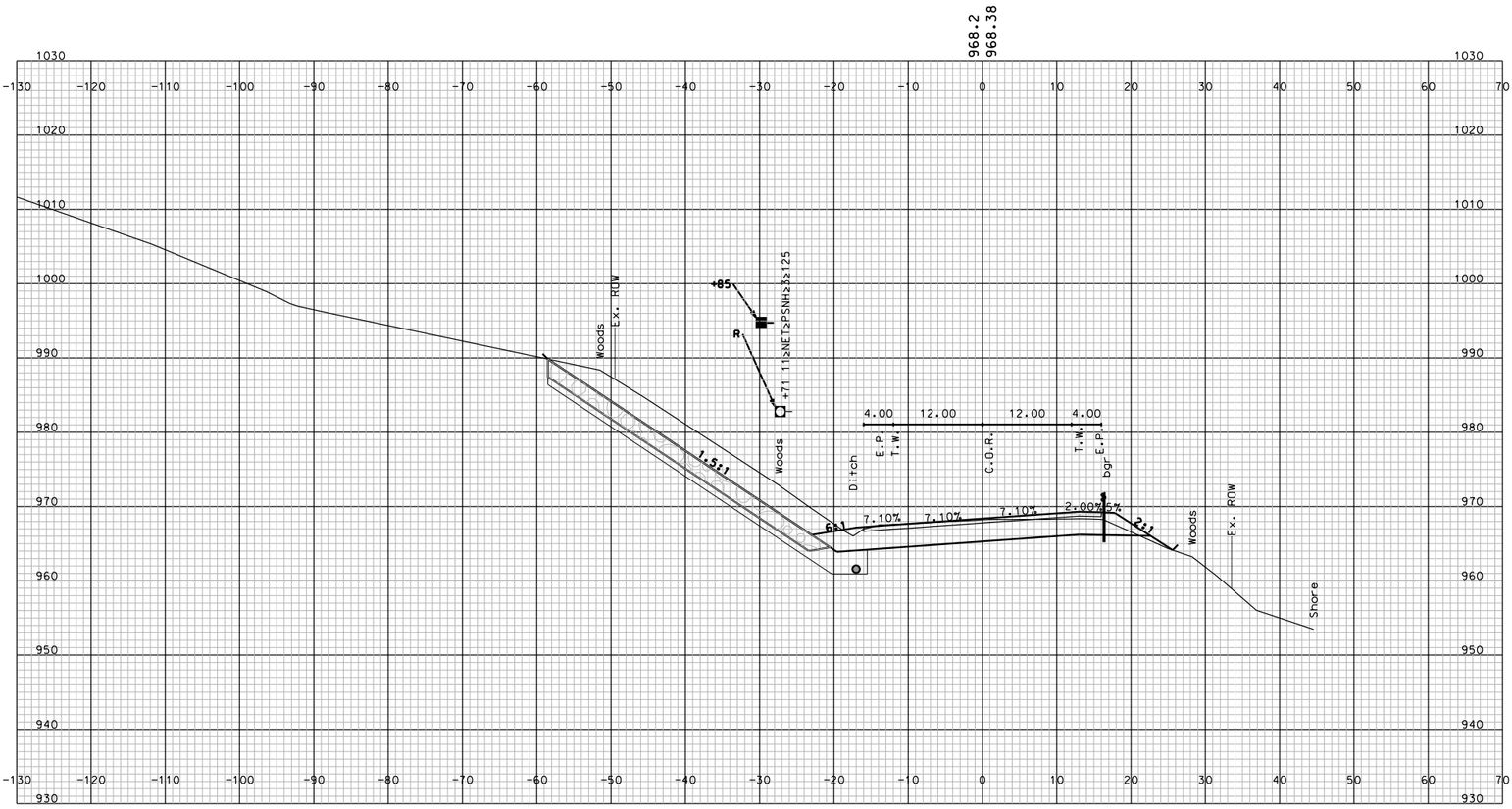
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	246	294

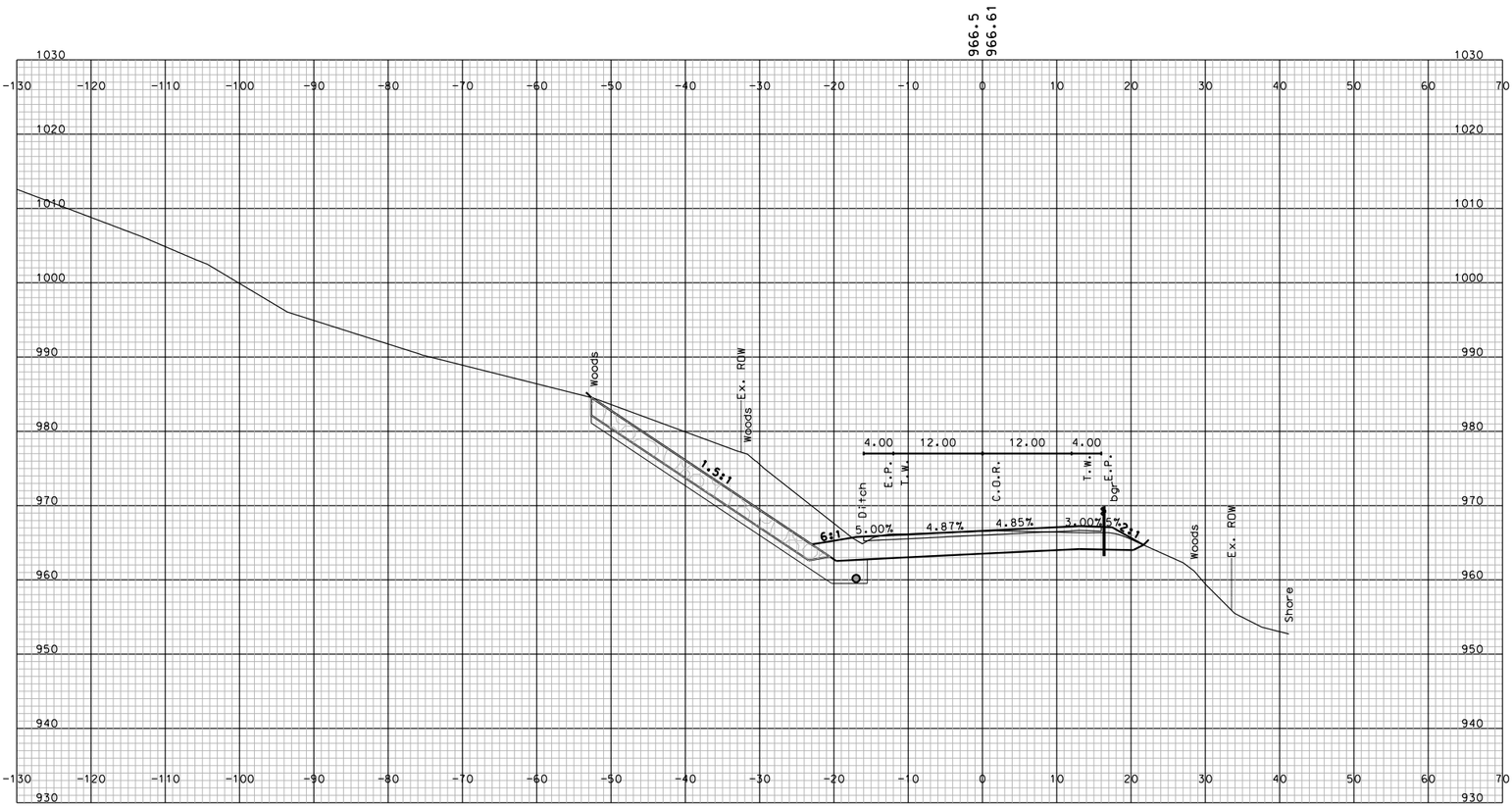
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 184+50.000



STA. 184+00.000

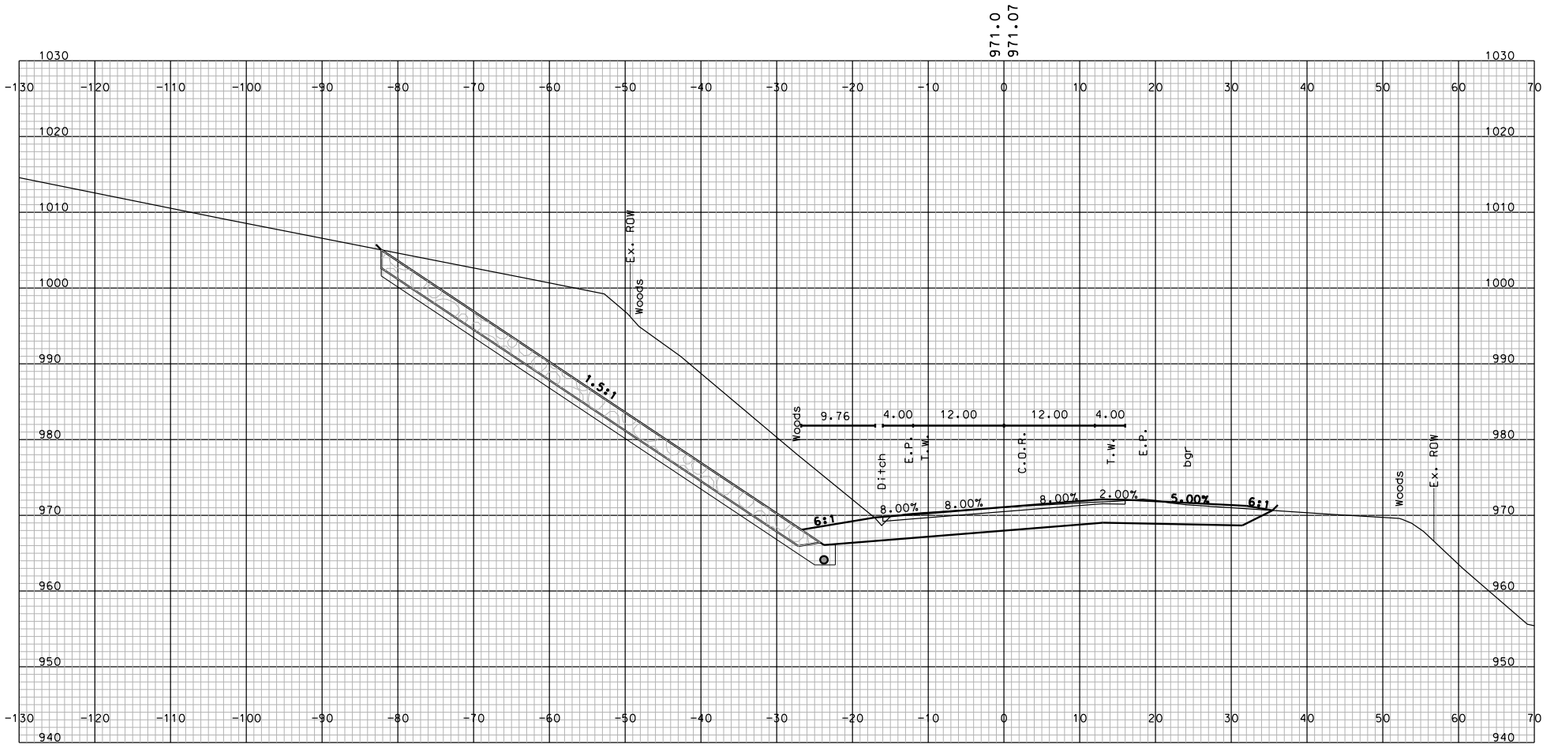
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	247	294

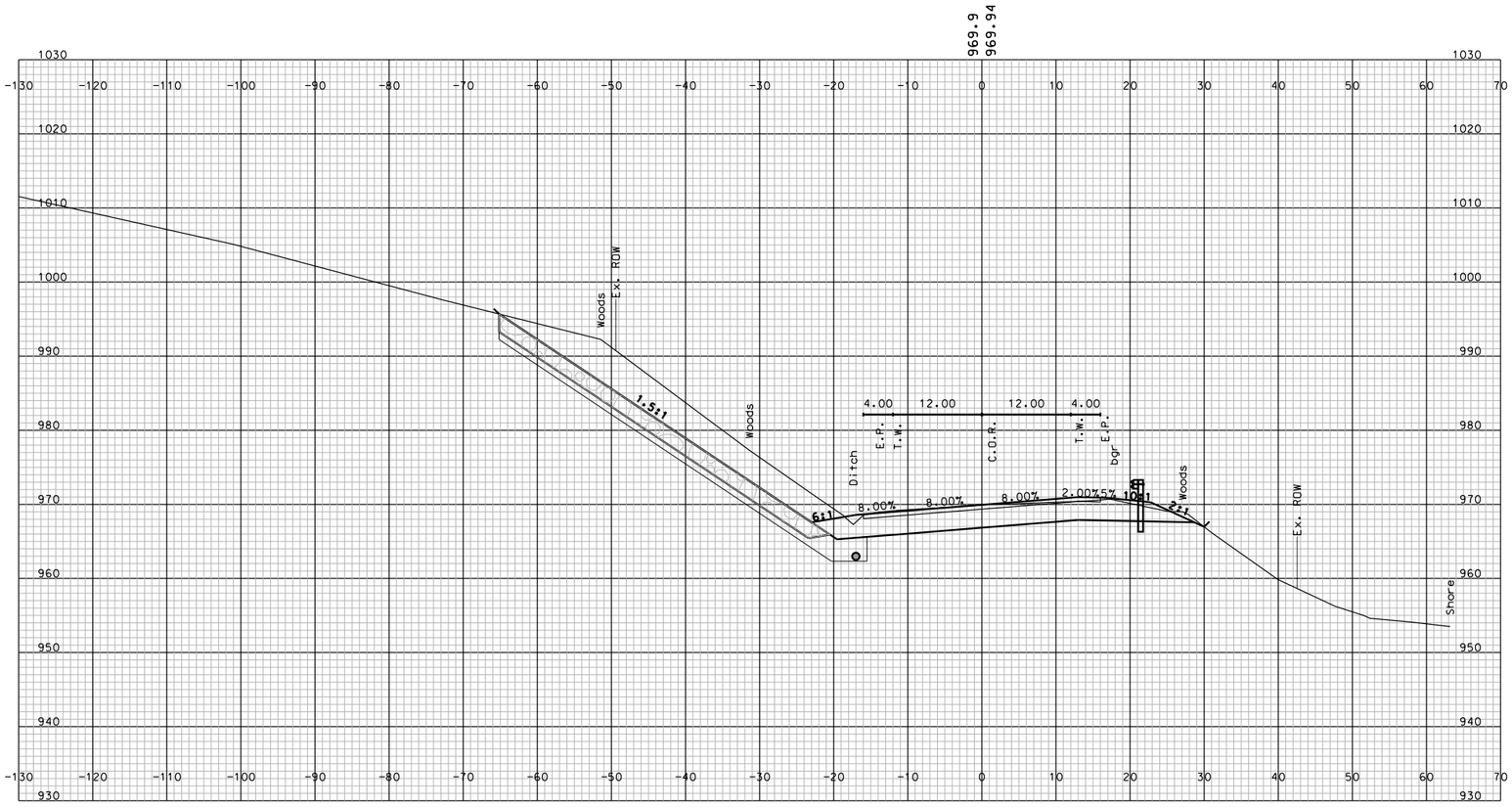
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 185+50.000



STA. 185+00.000

SHEET TOTALS

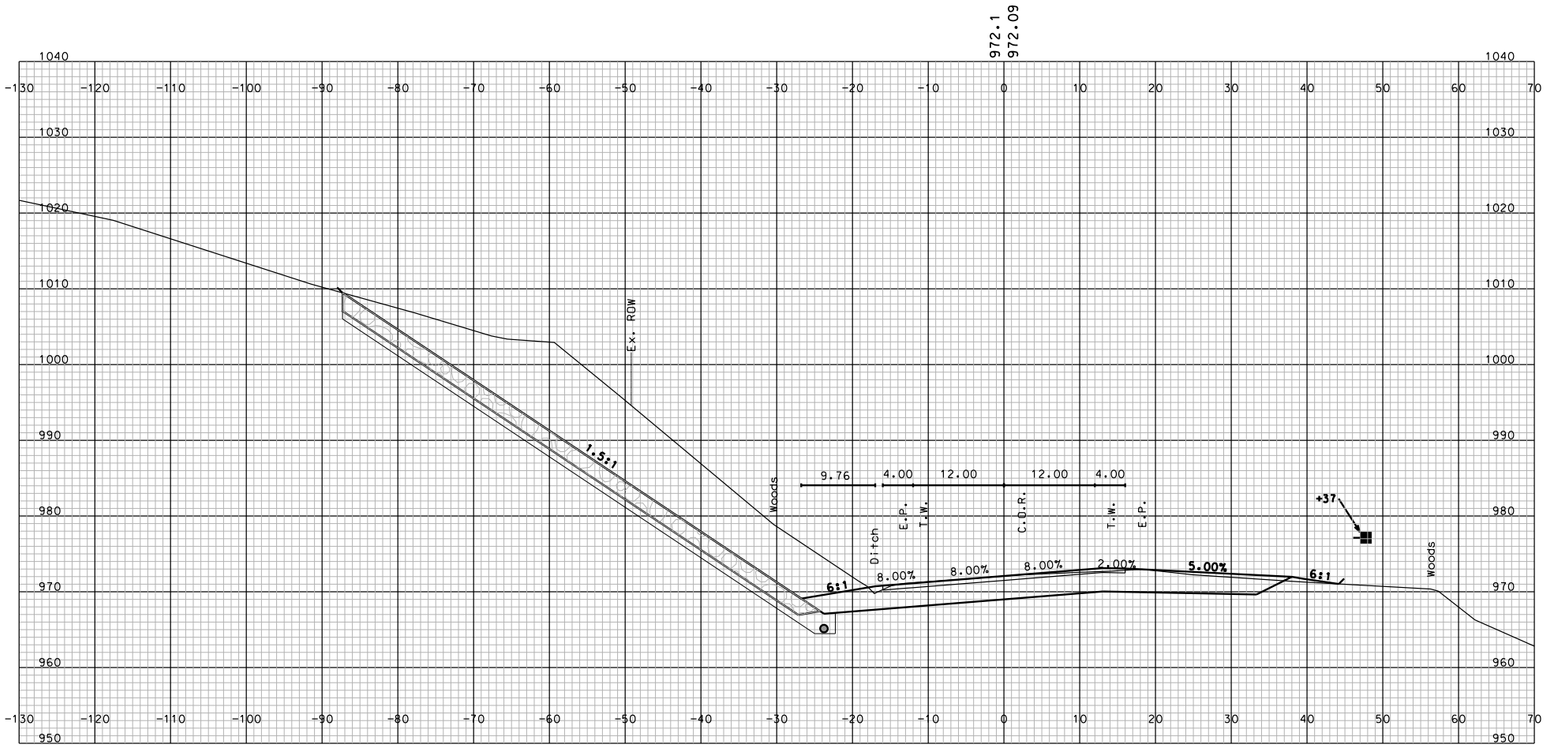
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	248	294

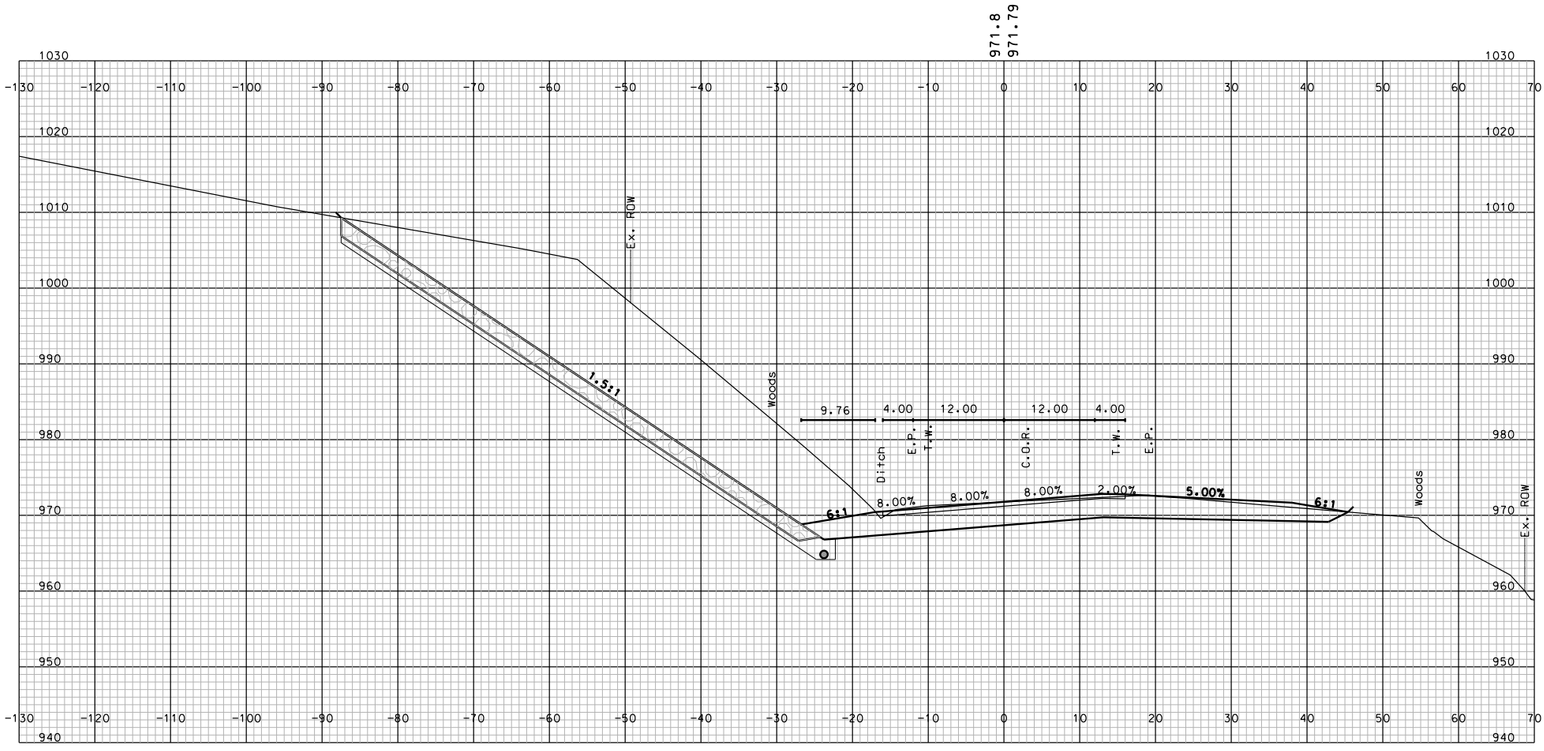
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 186+50.000



STA. 186+00.000

SHEET TOTALS

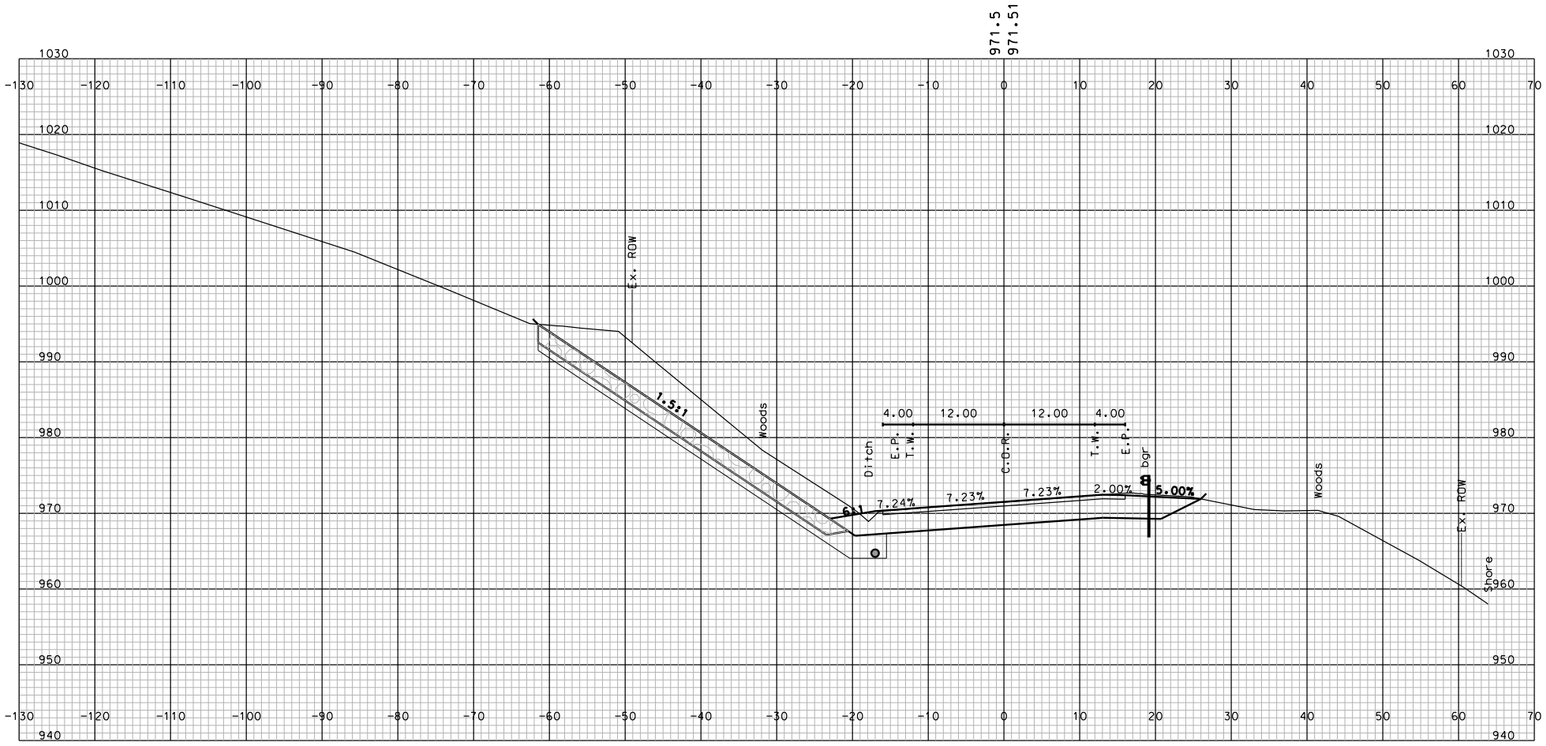
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	249	294

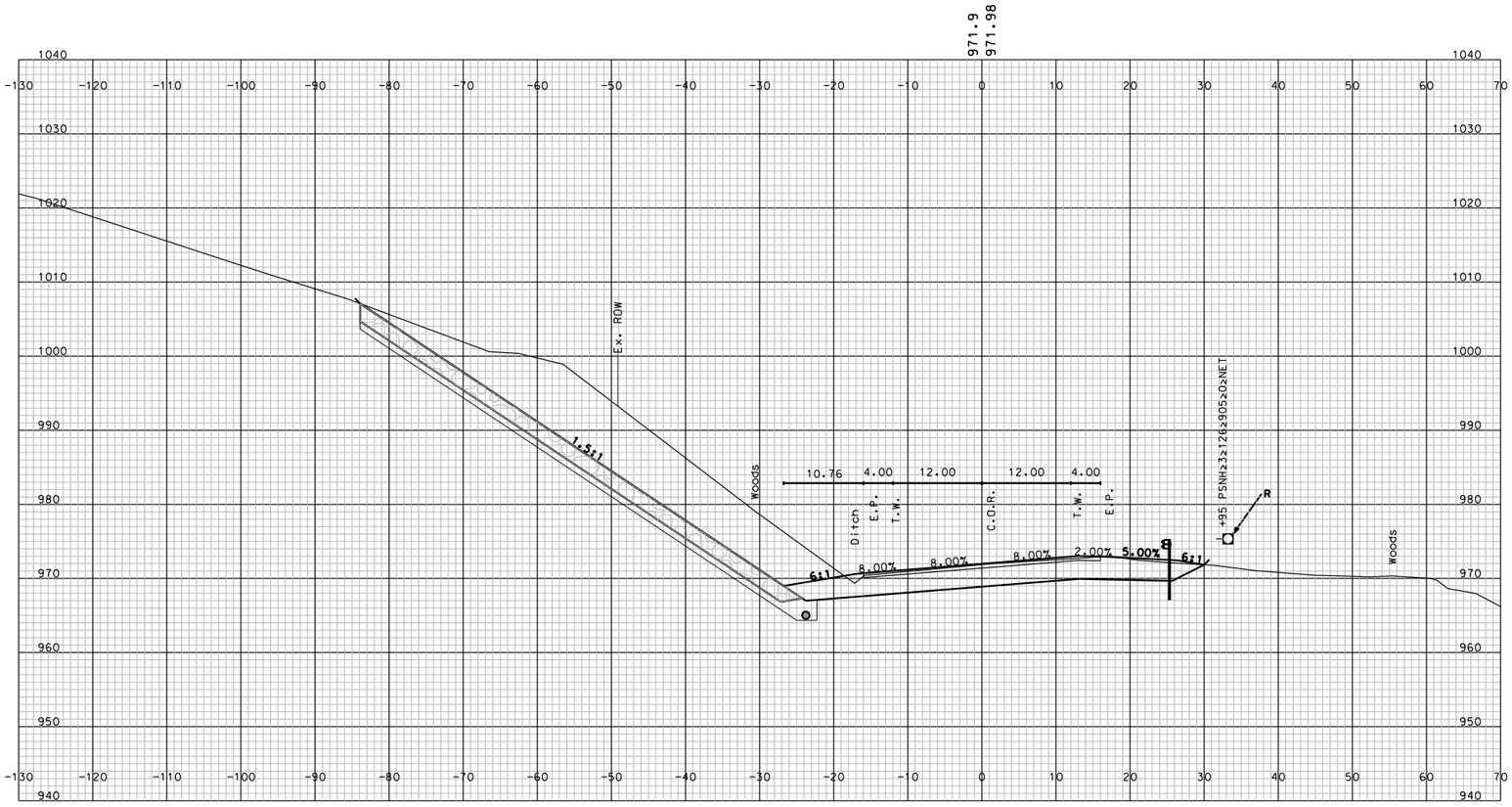
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 187+50.000



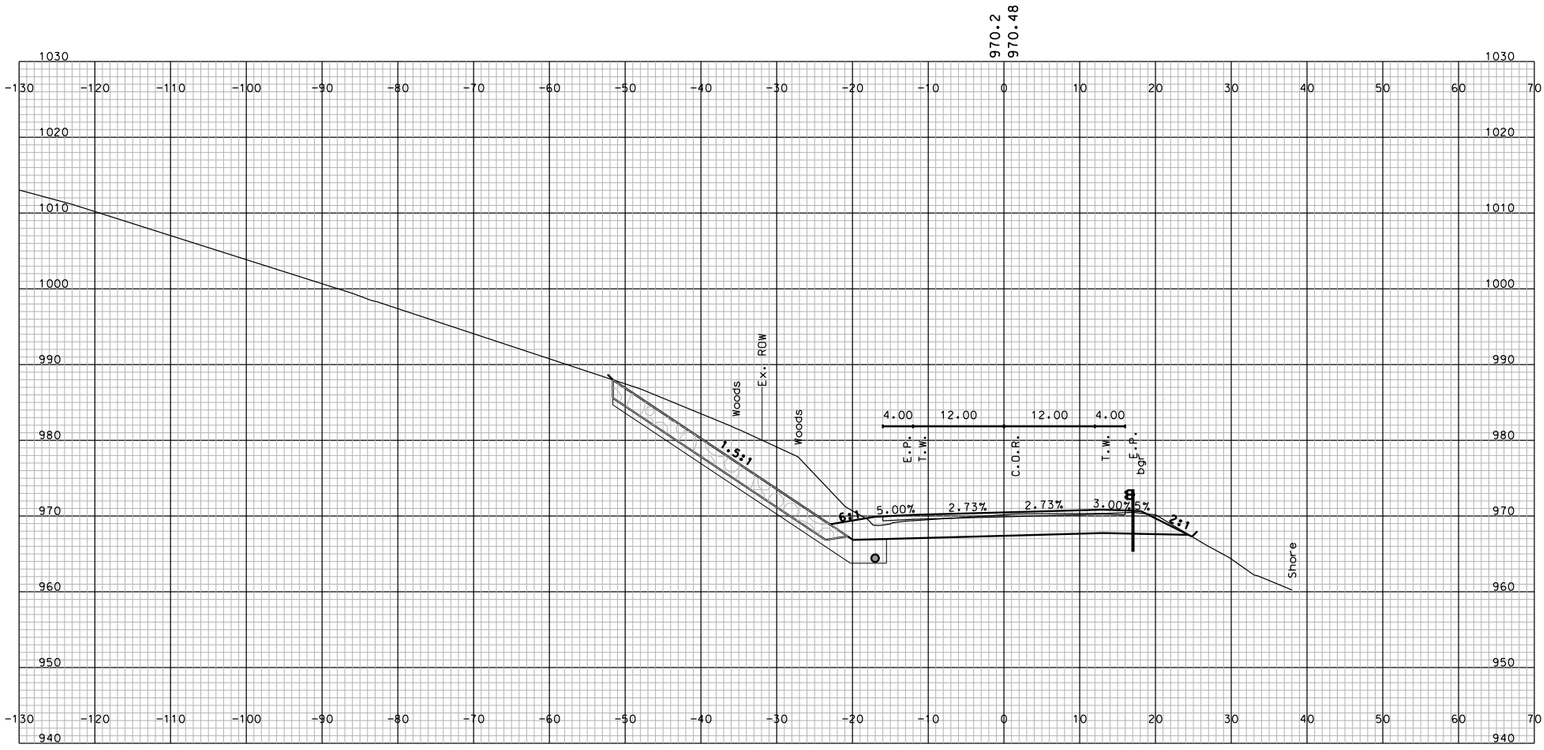
STA. 187+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	250	294

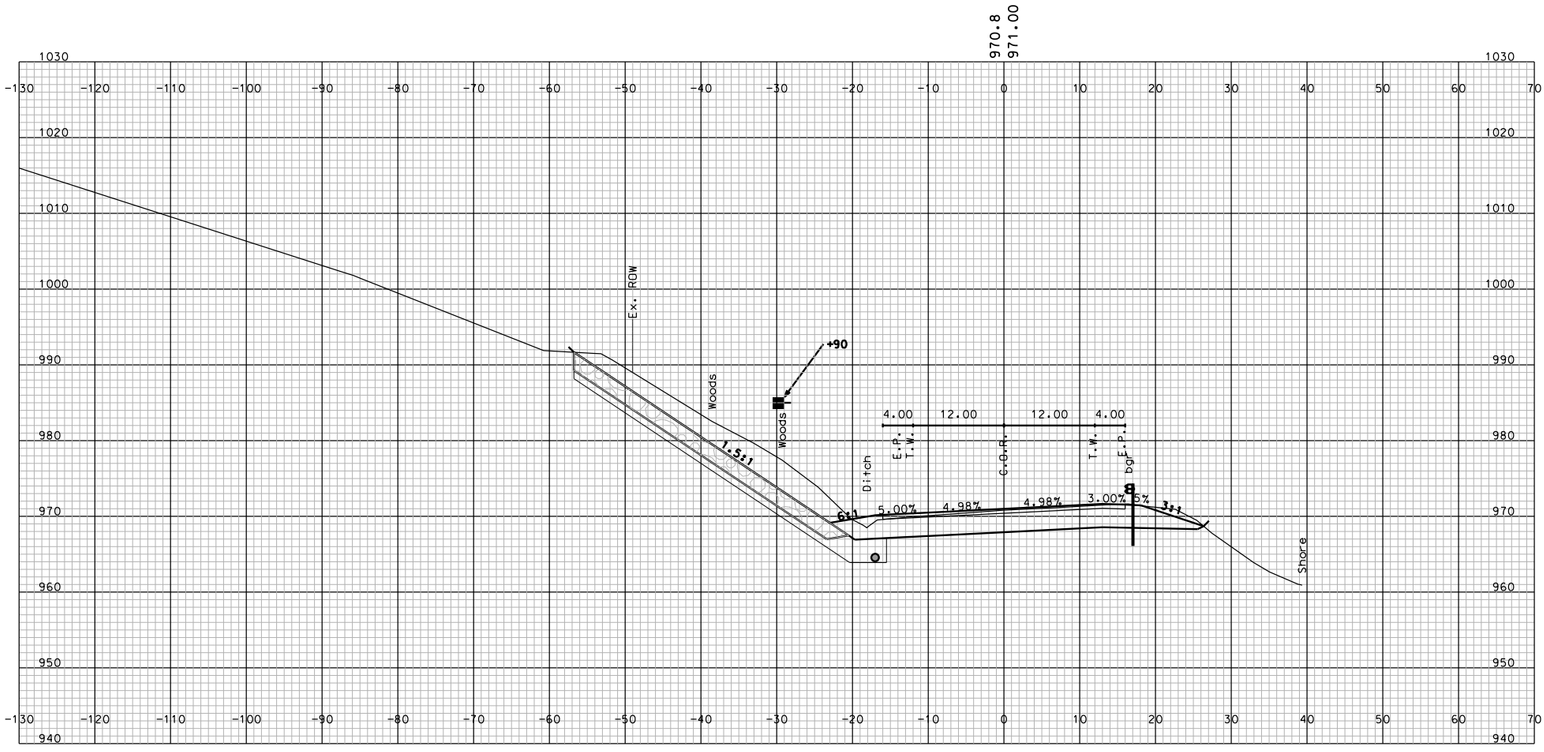
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 188+50.000



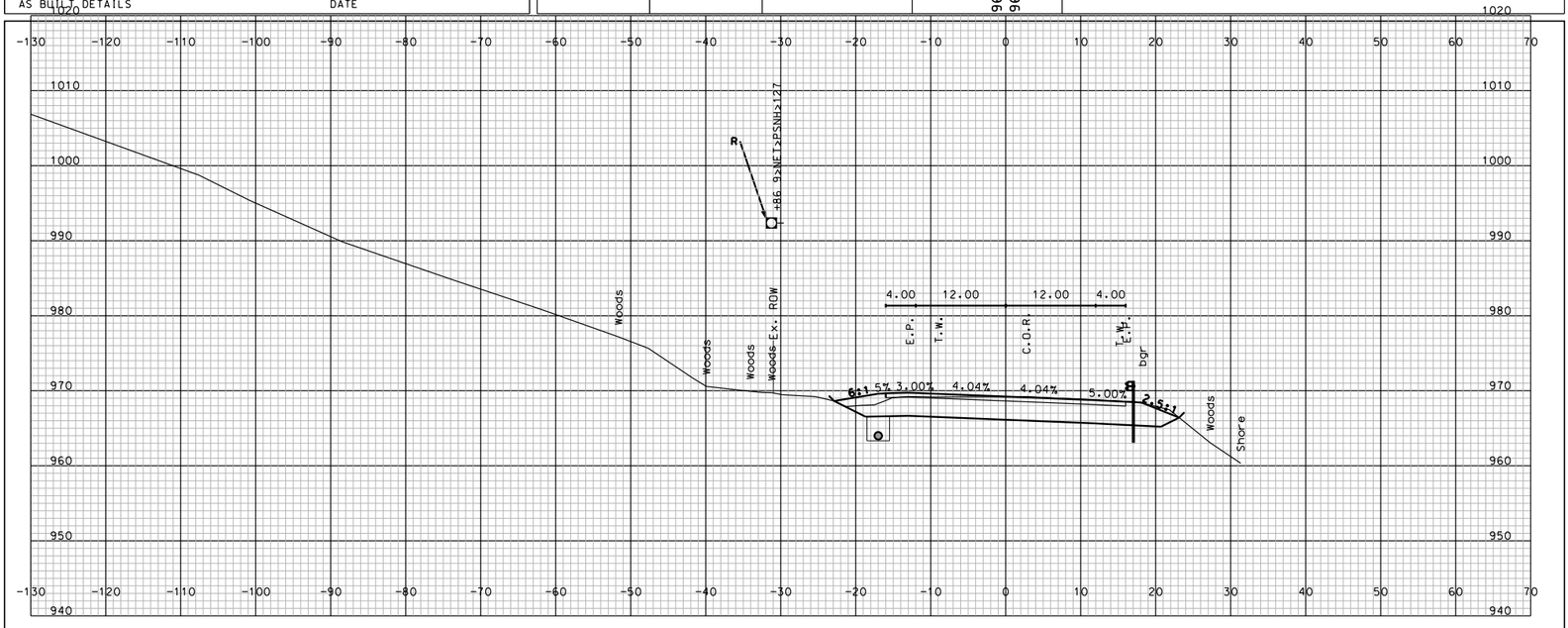
STA. 188+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	251	294

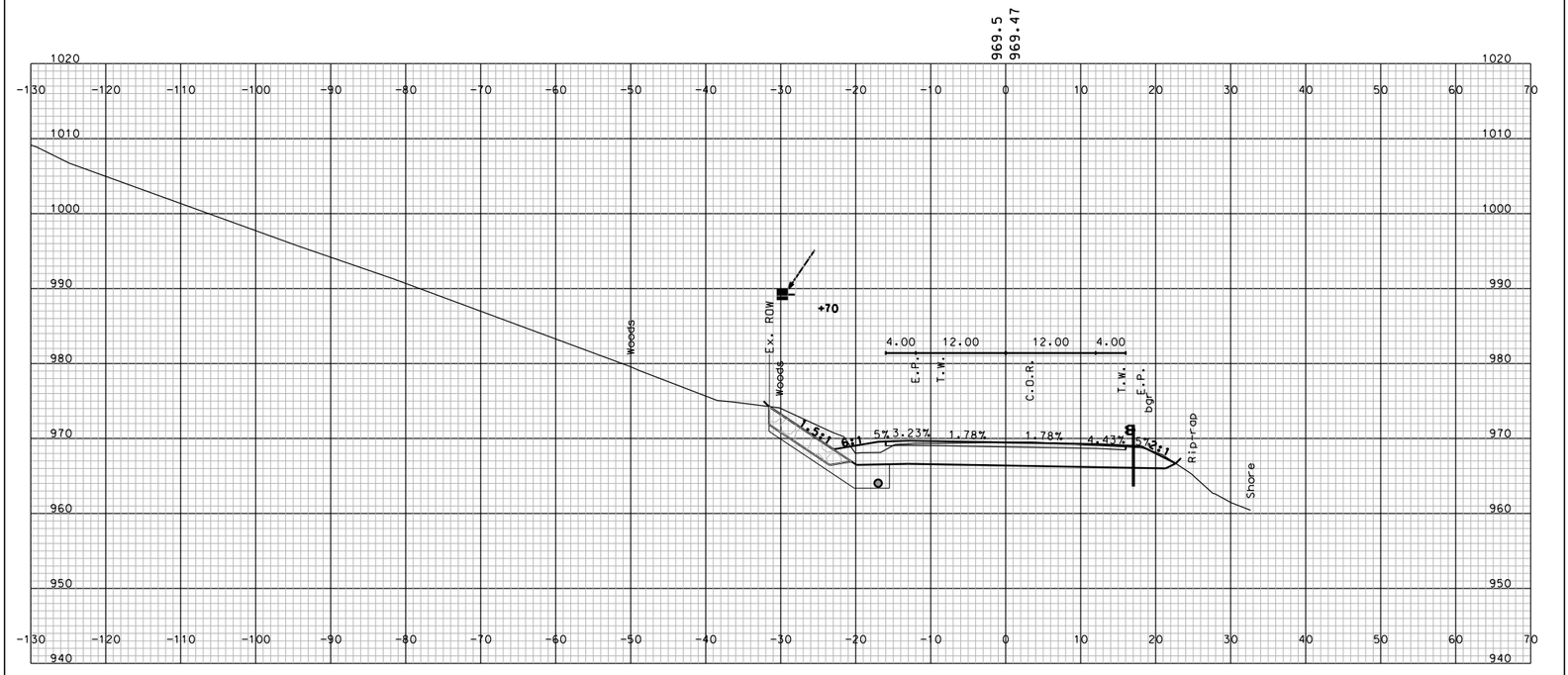
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

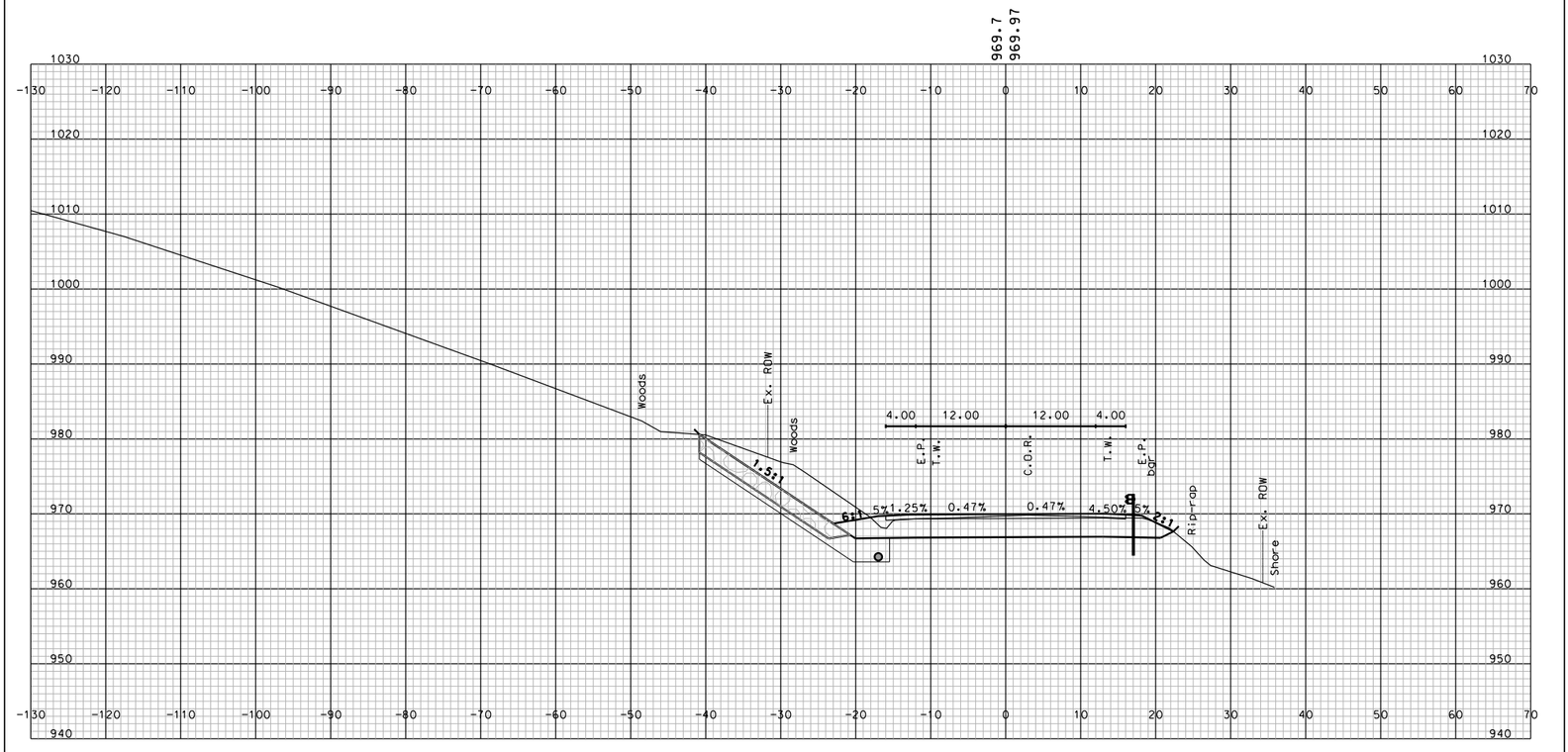
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 190+00.000



STA. 189+50.000



STA. 189+00.000

SHEET TOTALS

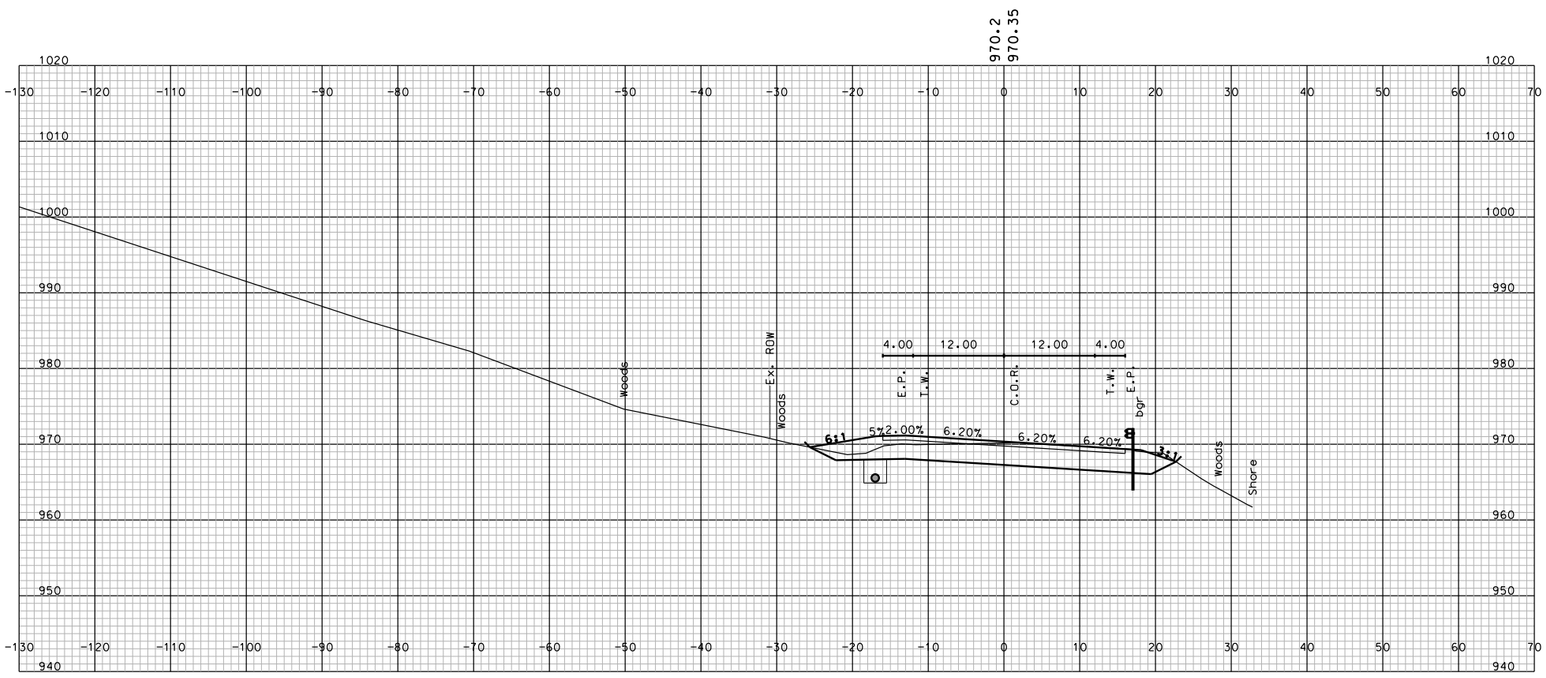
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	252	294

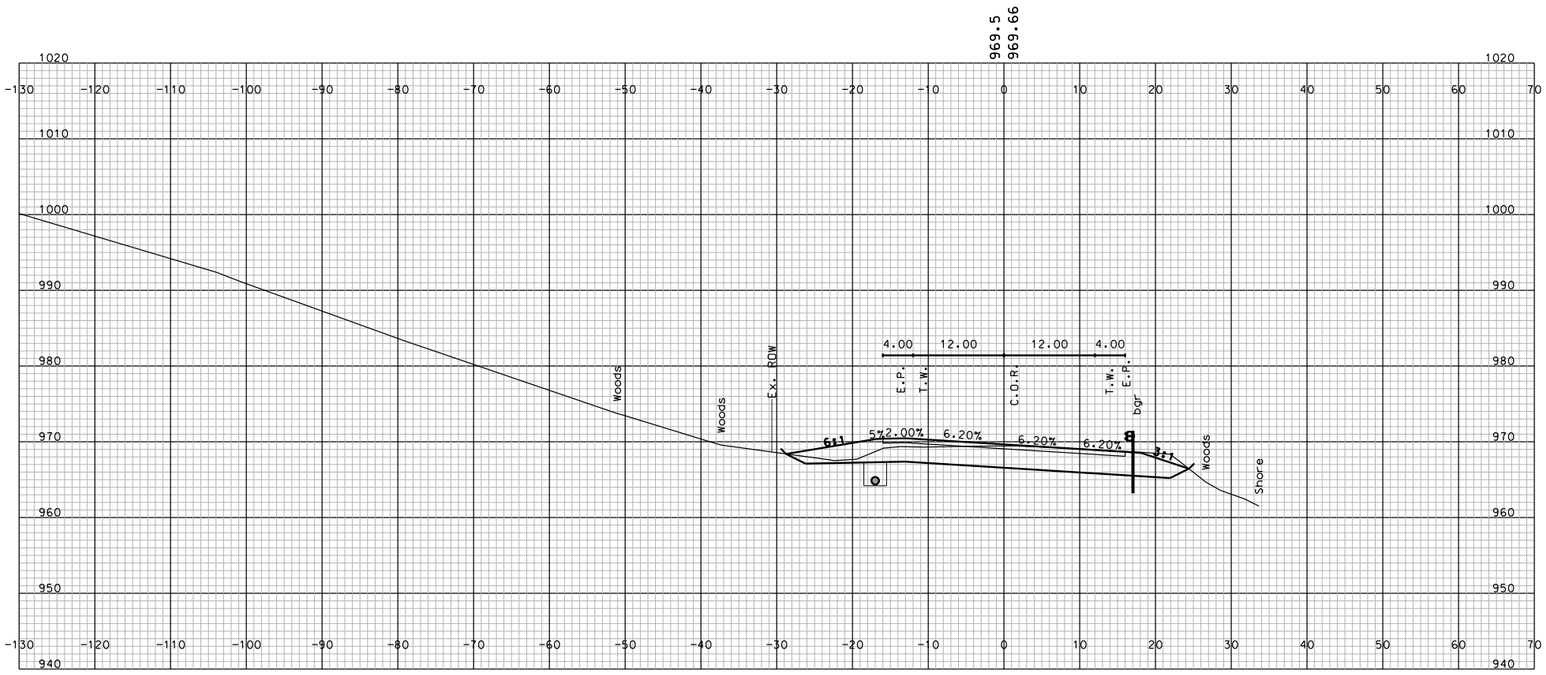
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

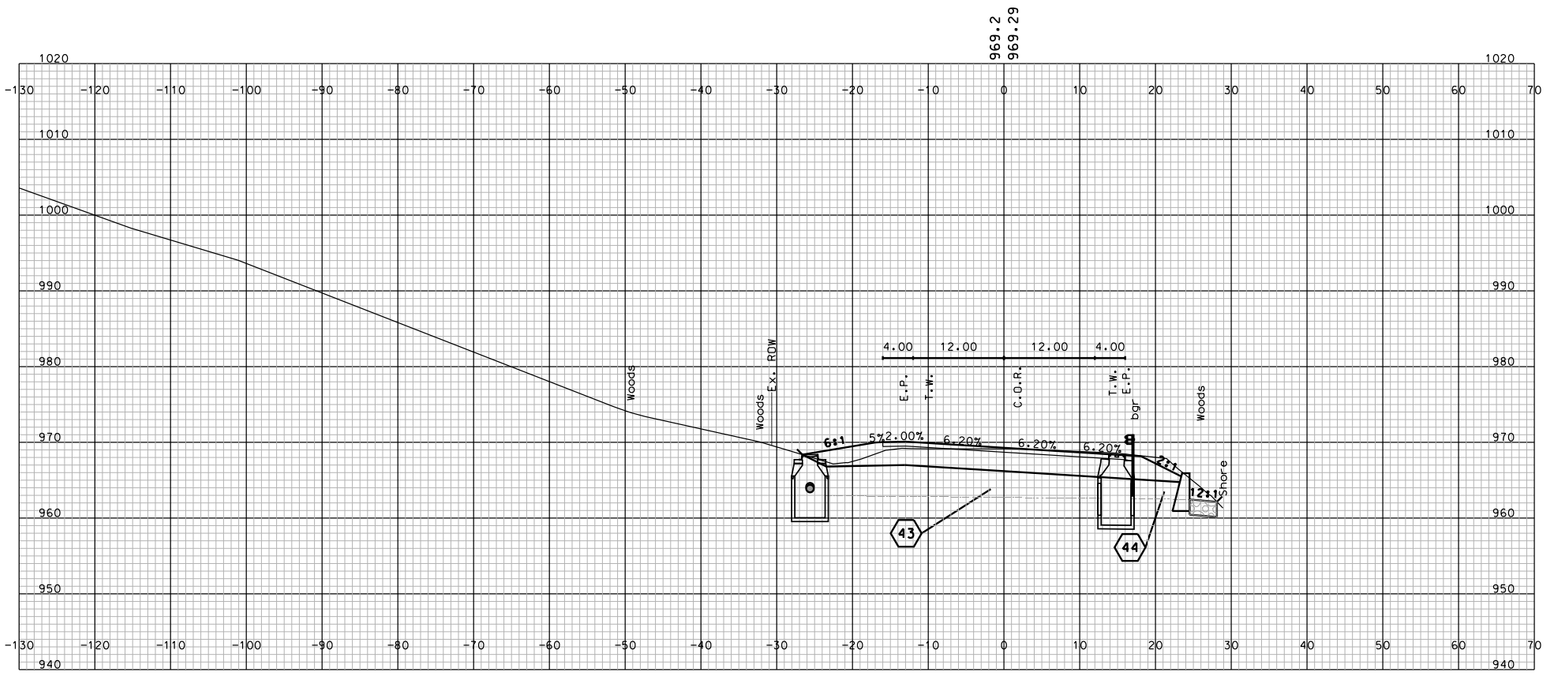
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 191+50.000



STA. 191+00.000



STA. 190+50.000

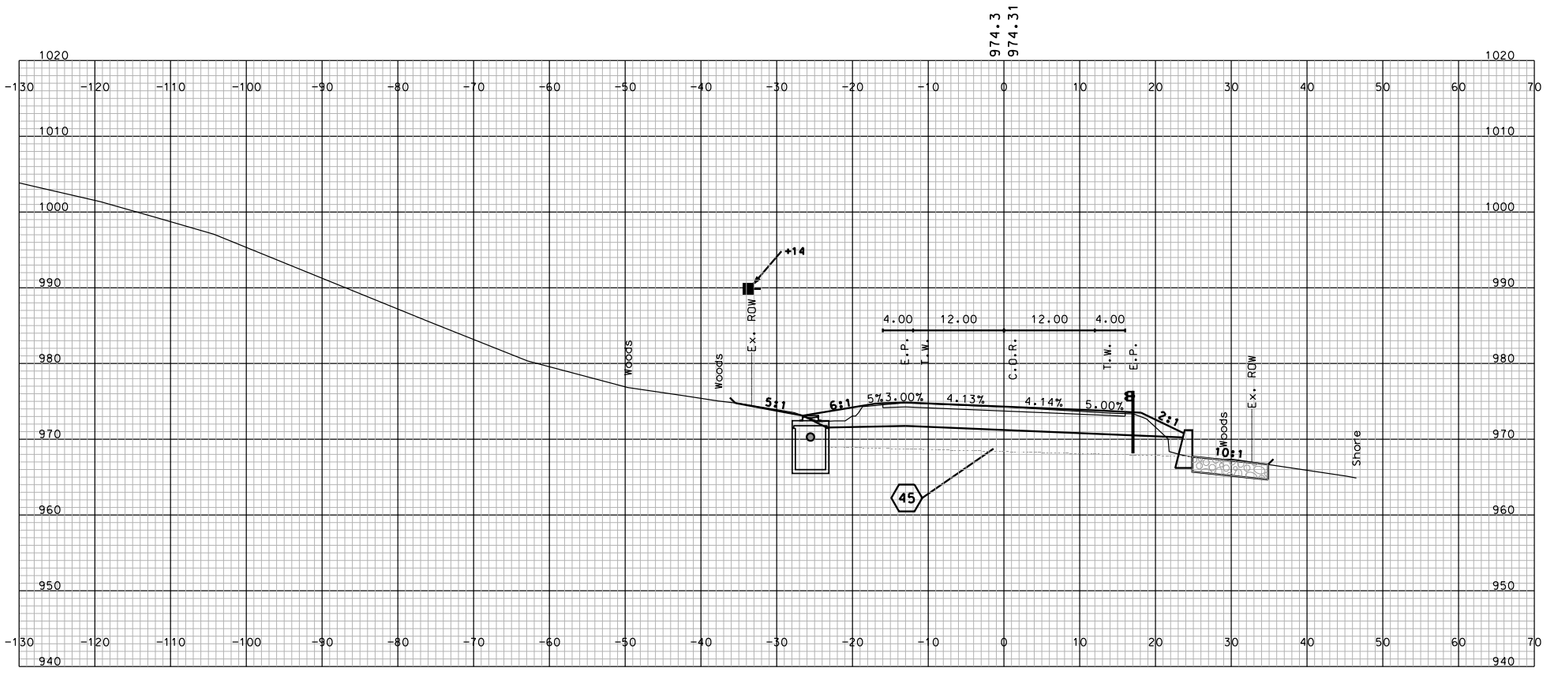
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	253	294

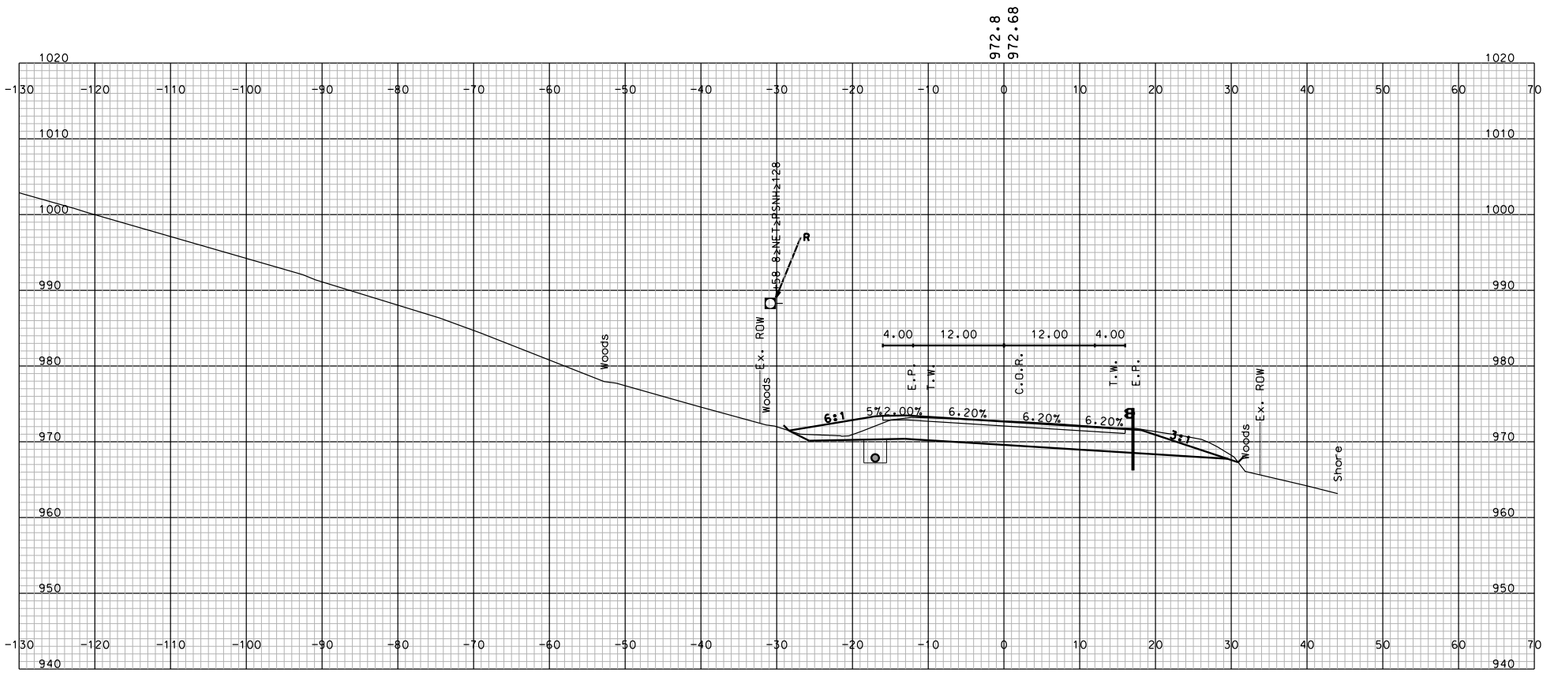
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

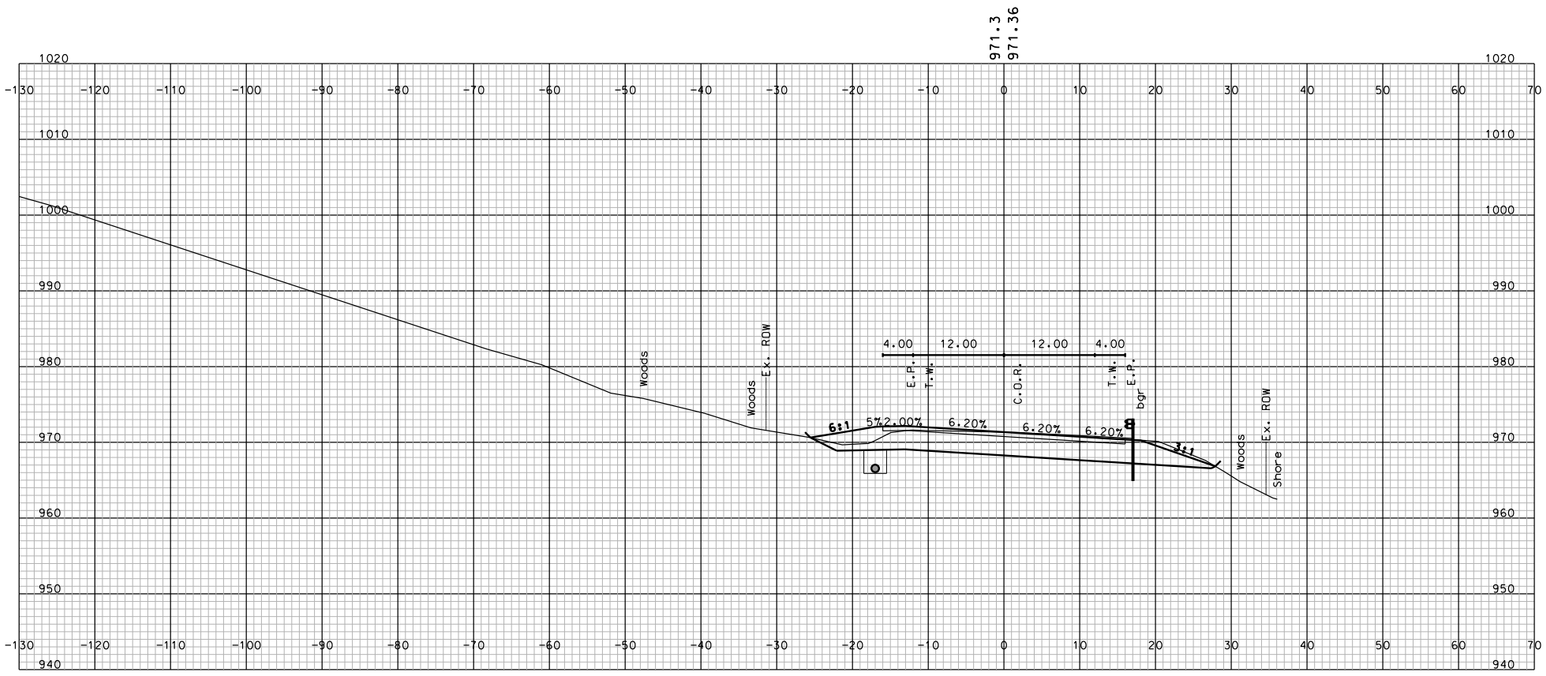
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 193+00.000



STA. 192+50.000



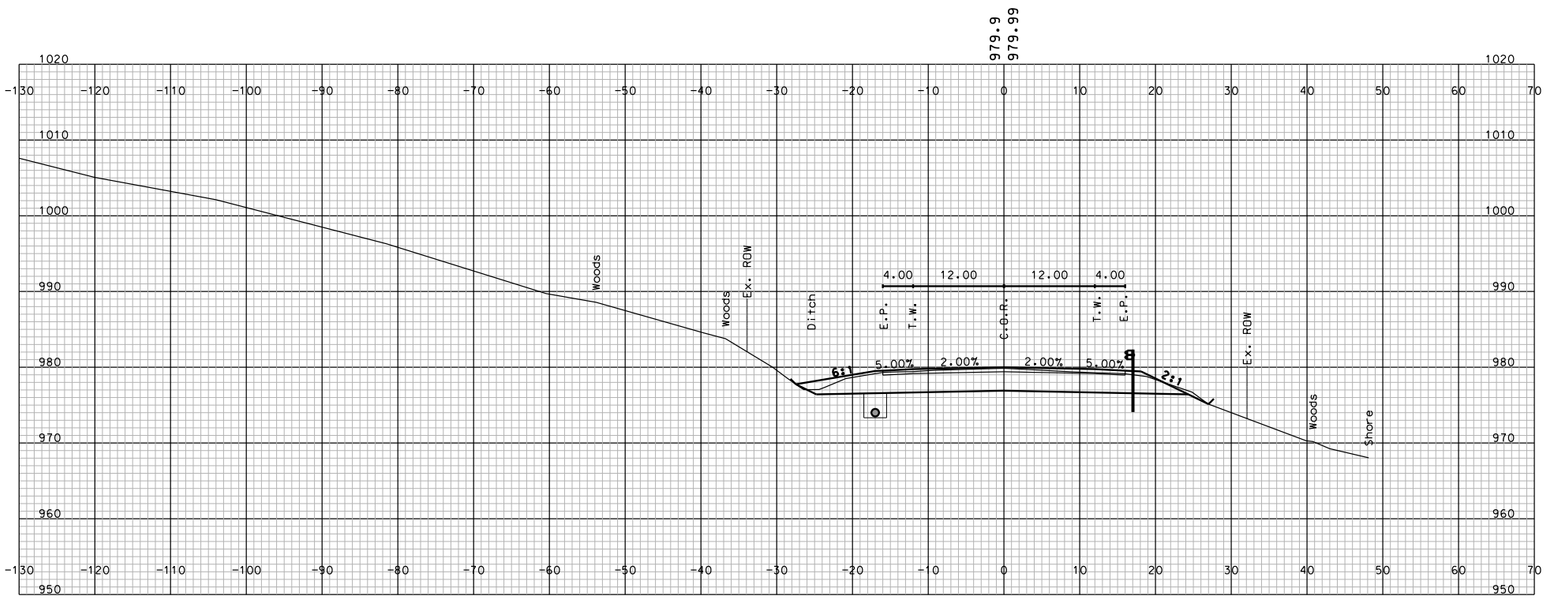
STA. 192+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	254	294

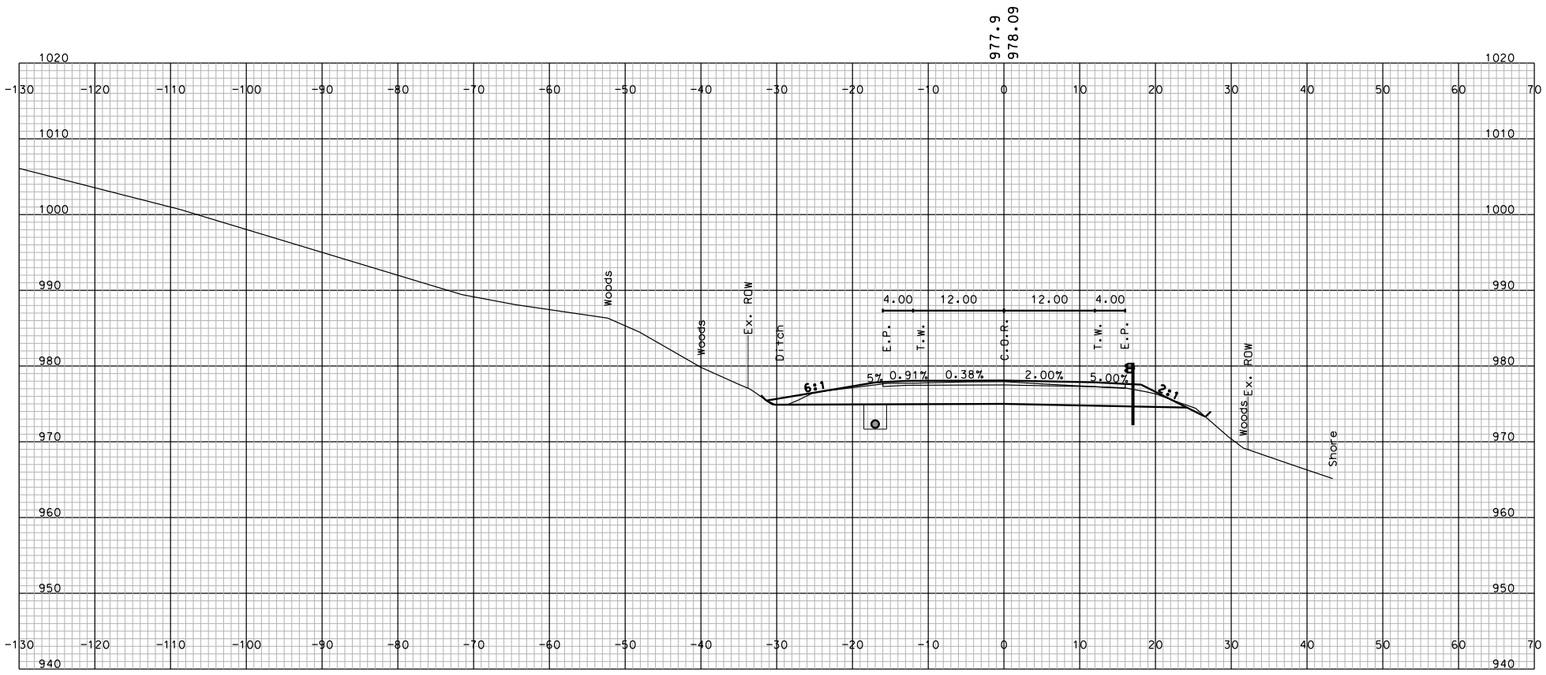
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

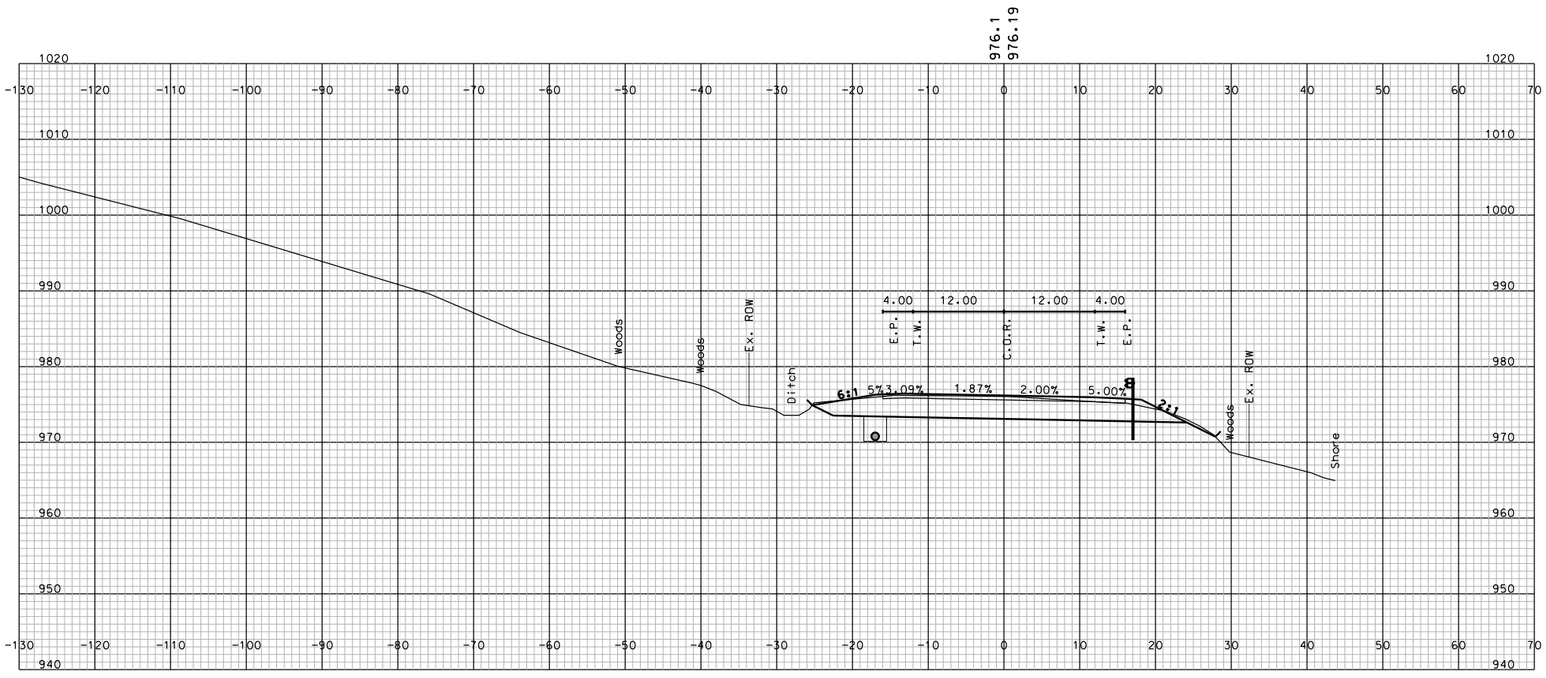
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 194+50.000



STA. 194+00.000



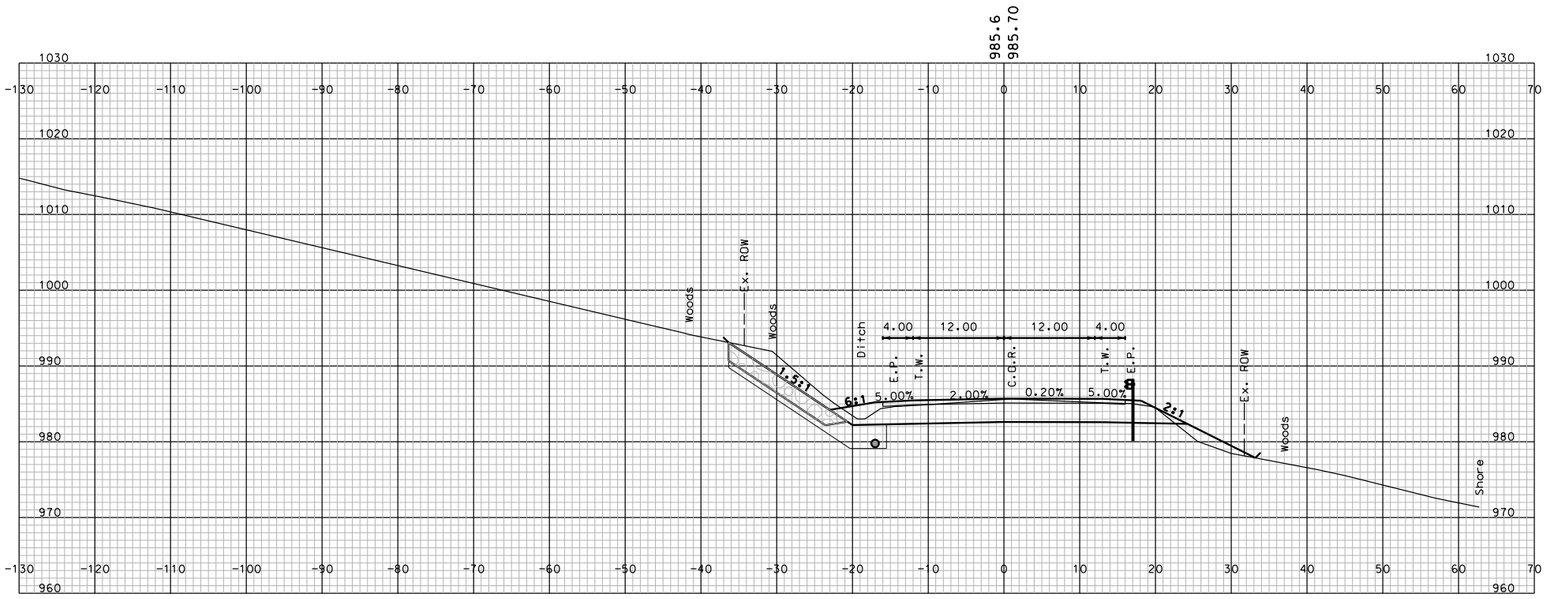
STA. 193+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_13900-19500_XS	10439	255	294

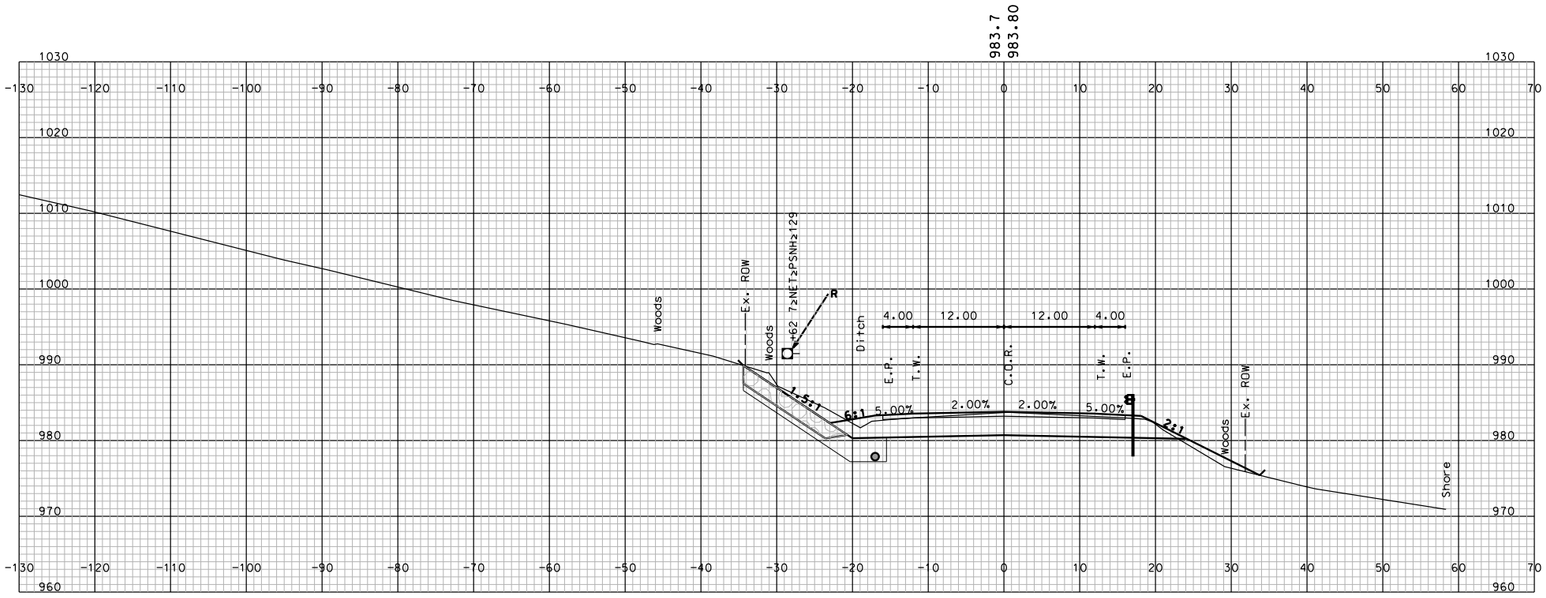
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

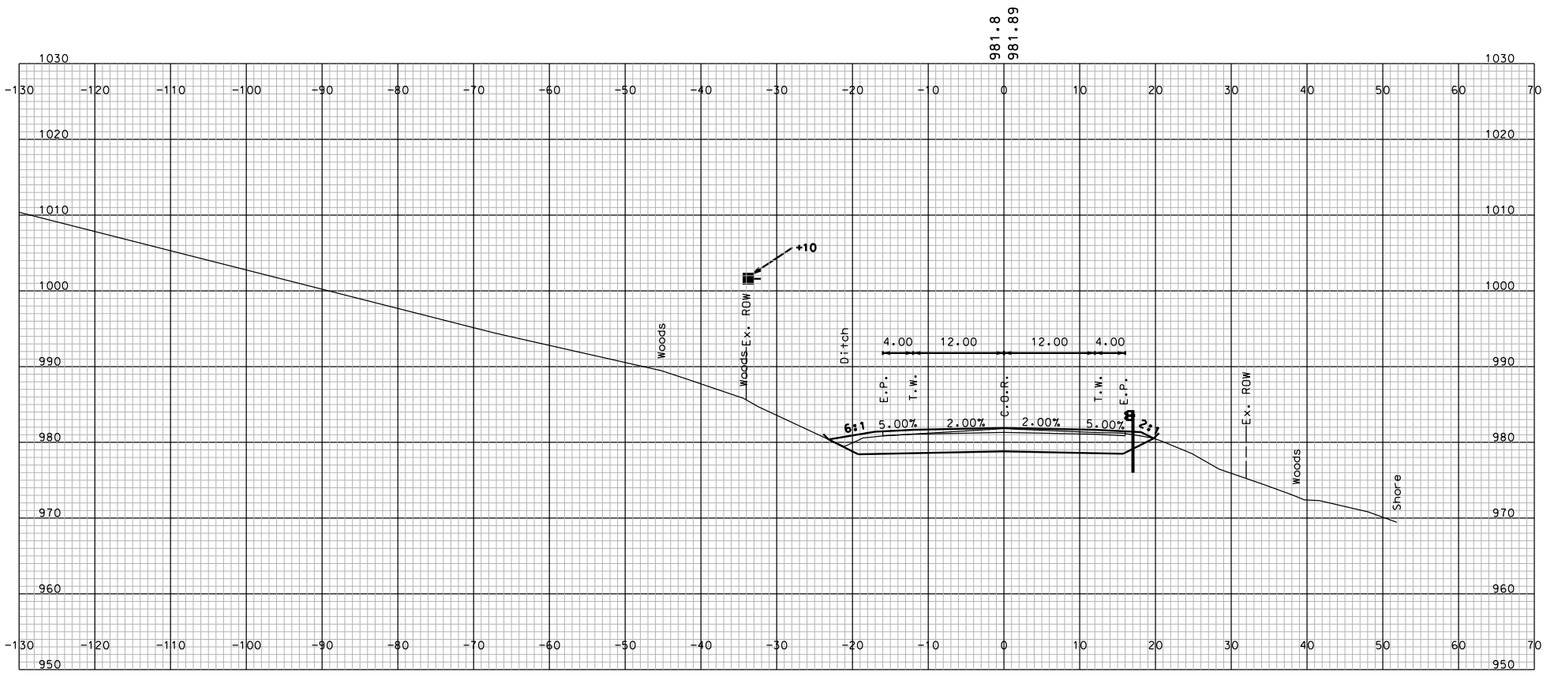
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 196+00.000



STA. 195+50.000



STA. 195+00.000

SHEET TOTALS

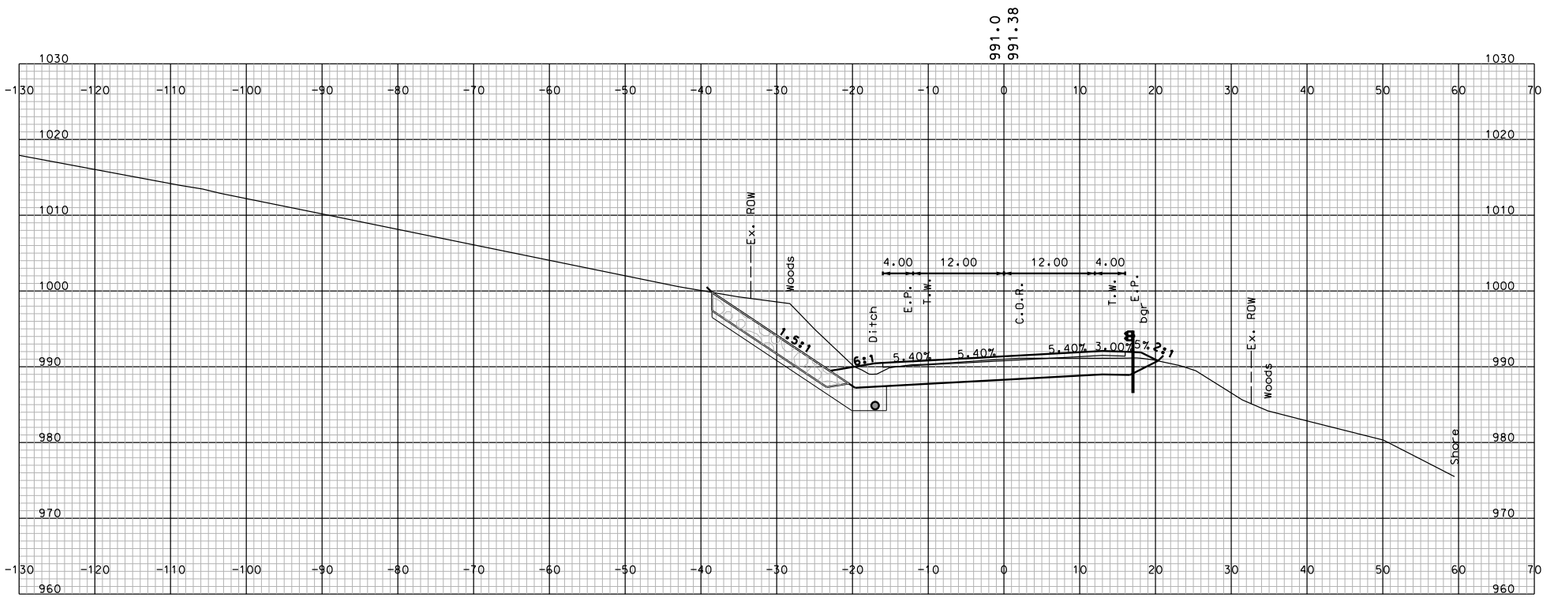
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-20350_XS	10439	256	294

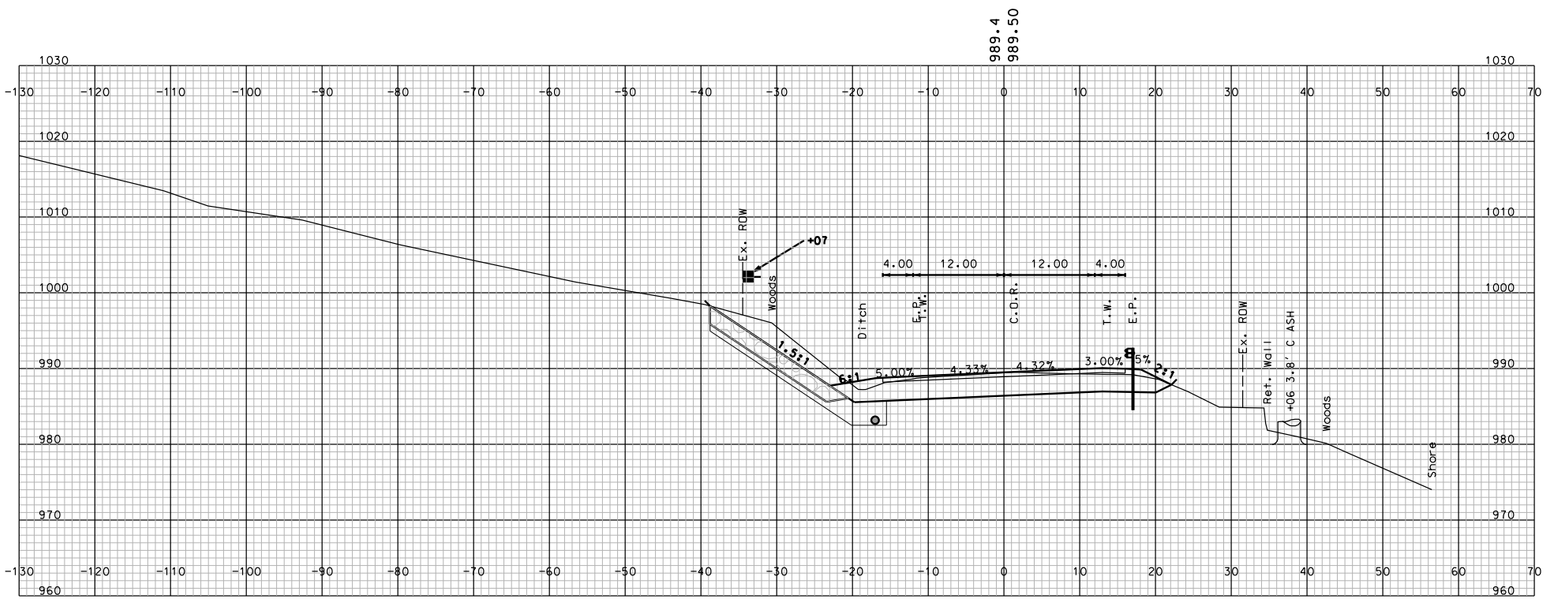
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

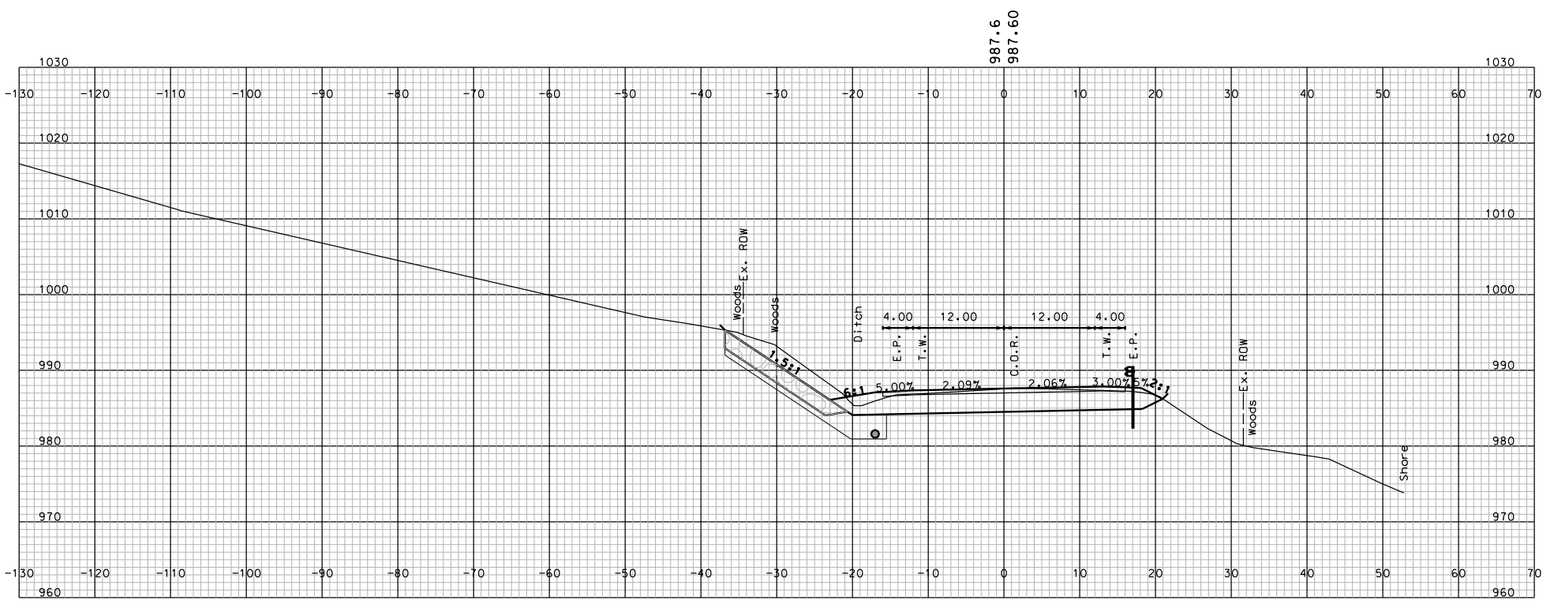
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 197+50.000



STA. 197+00.000



STA. 196+50.000

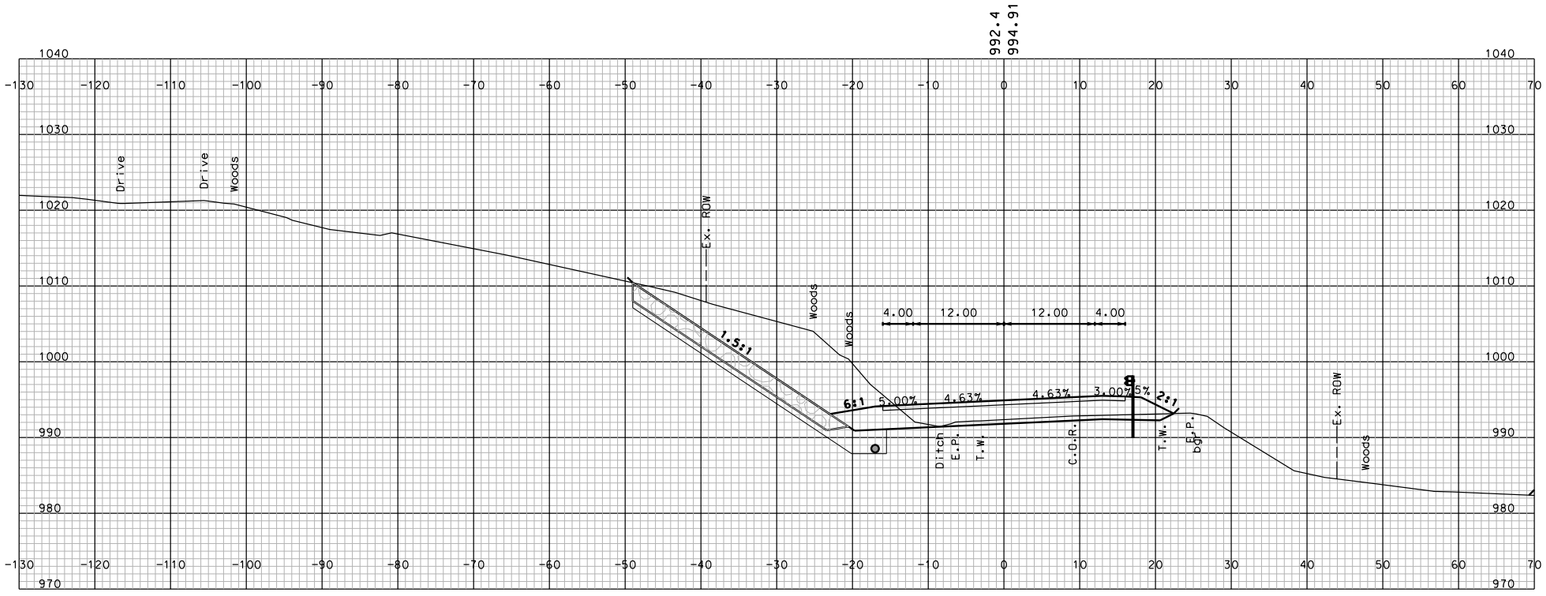
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-2035D_XS	10439	257	294

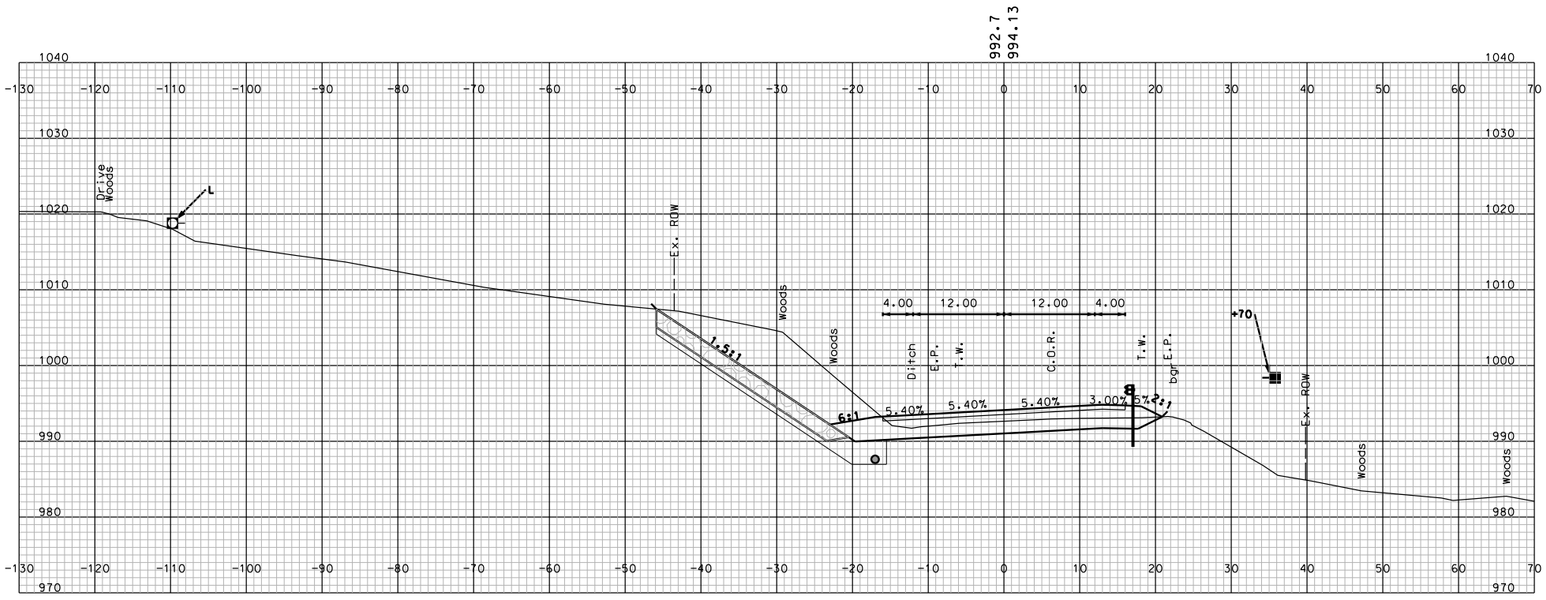
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

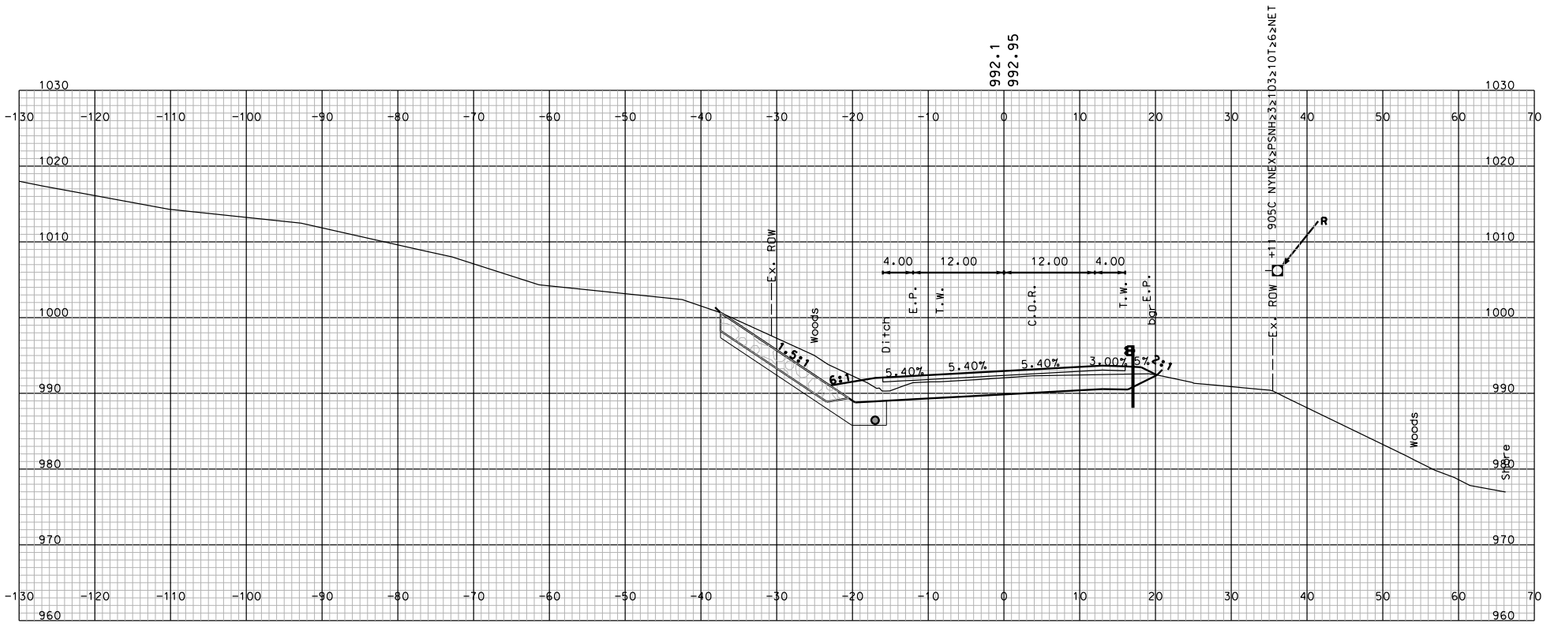
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 199+00.000



STA. 198+50.000



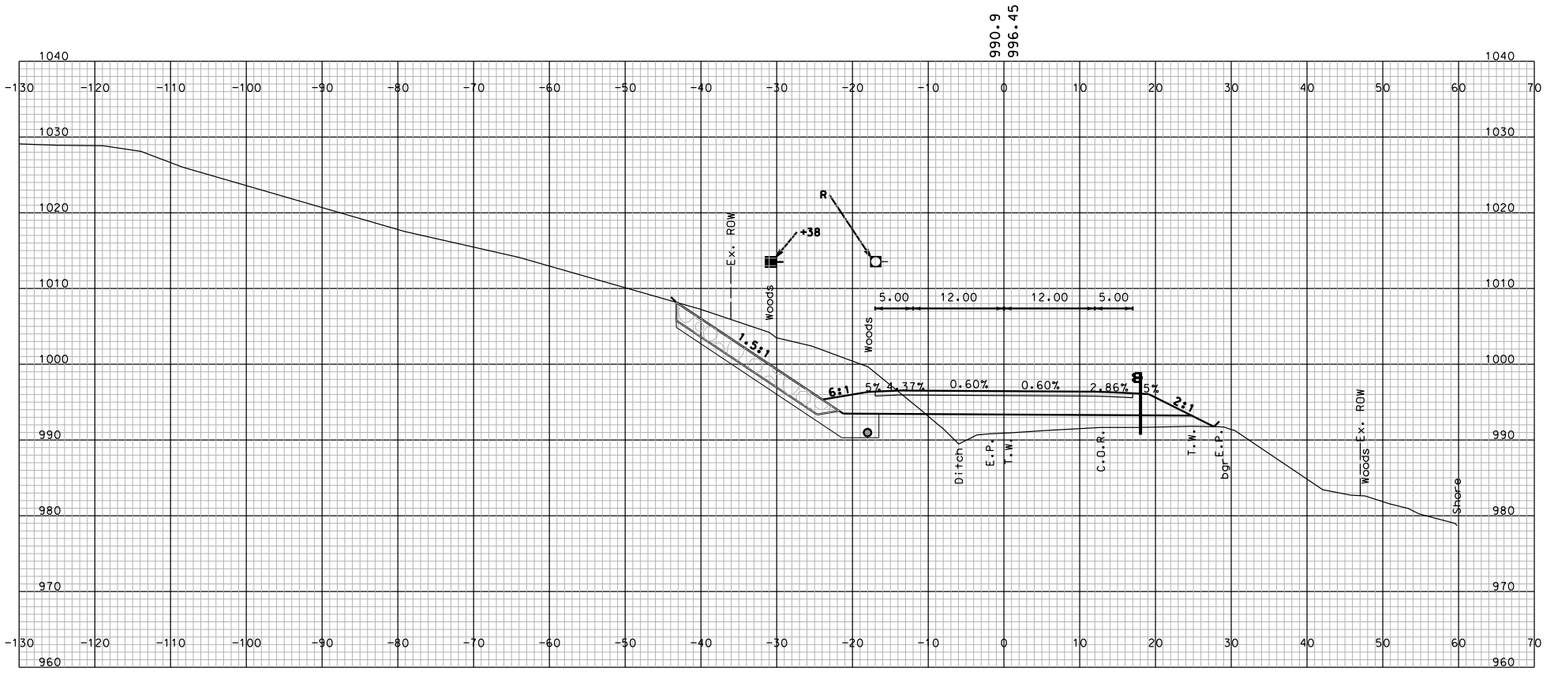
STA. 198+00.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-20350_XS	10439	258	294

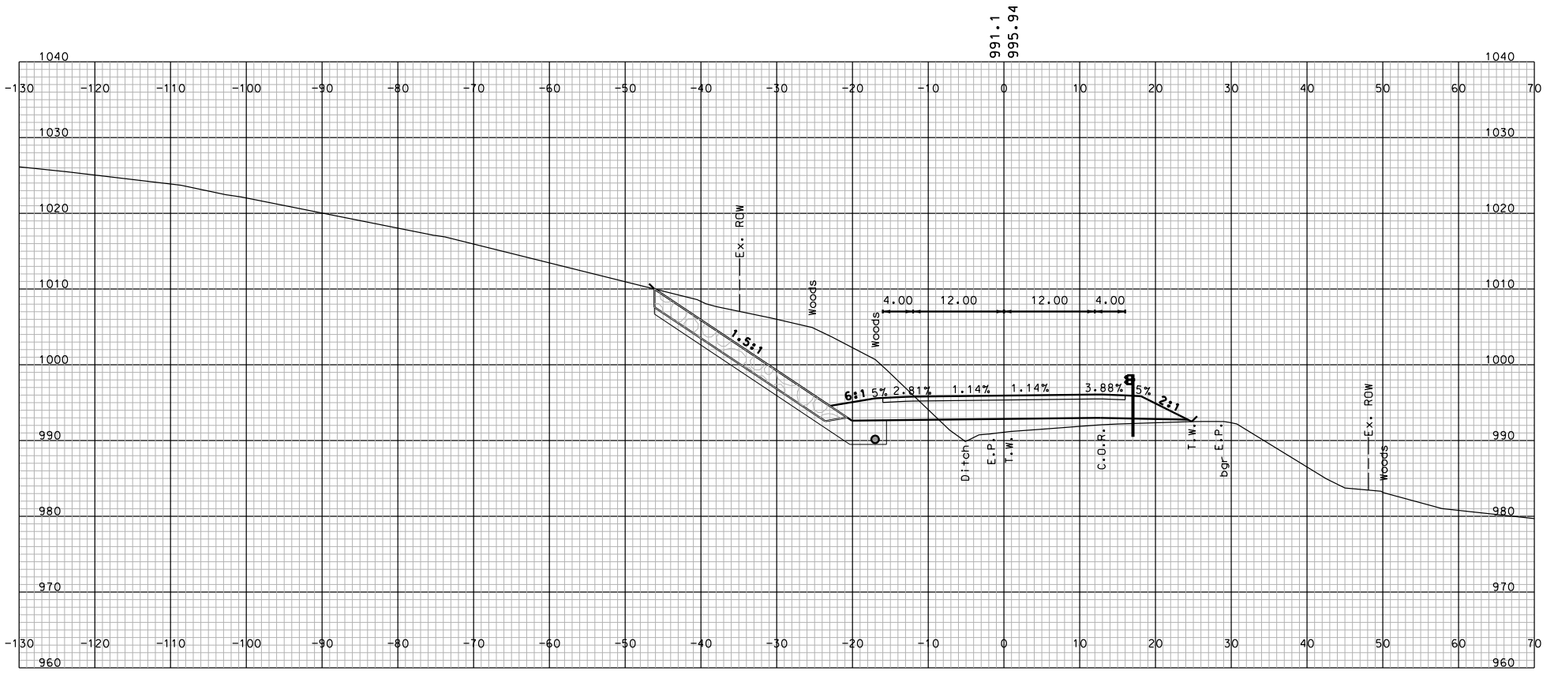
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

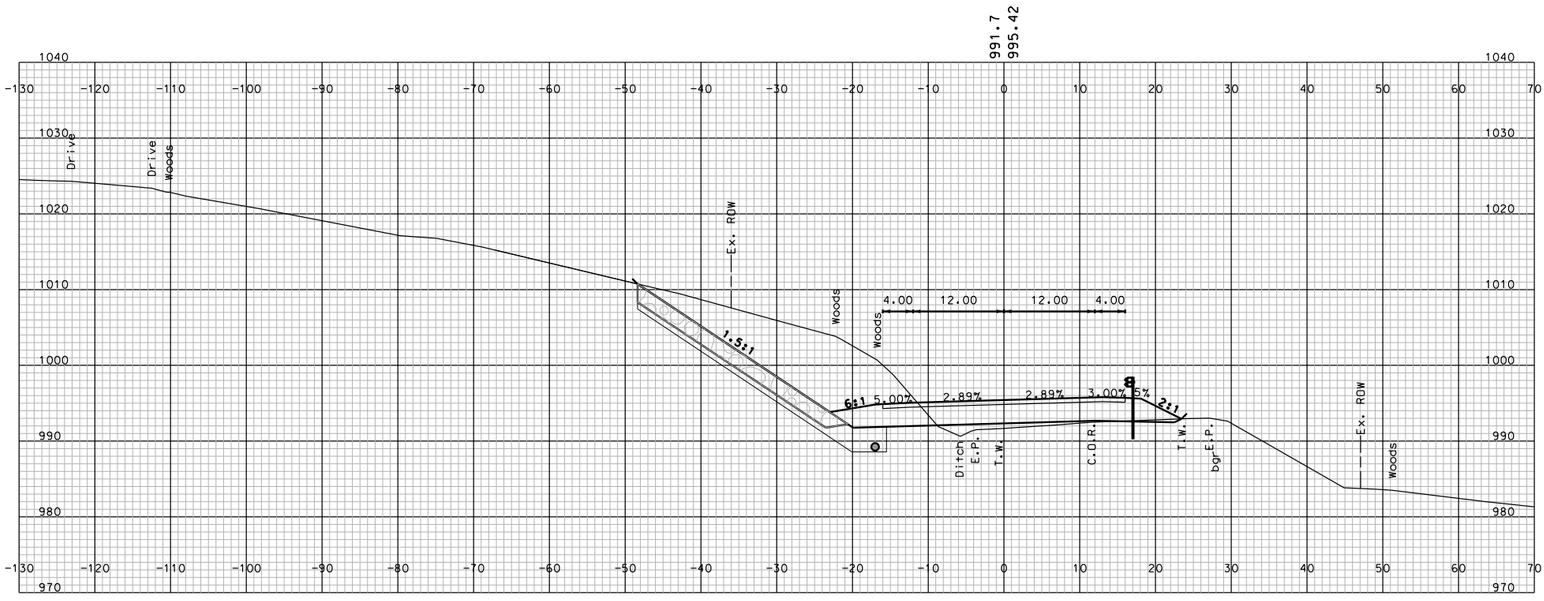
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 200+50.000



STA. 200+00.000



STA. 199+50.000

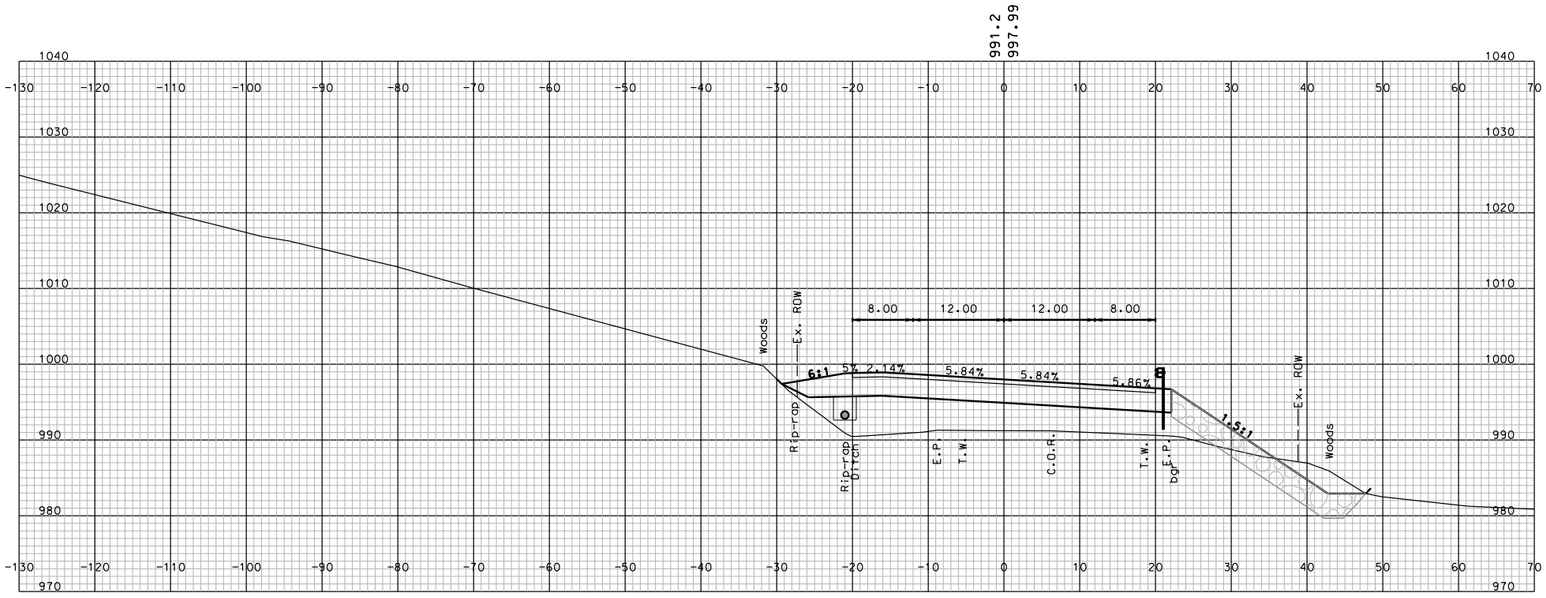
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-20350_XS	10439	259	294

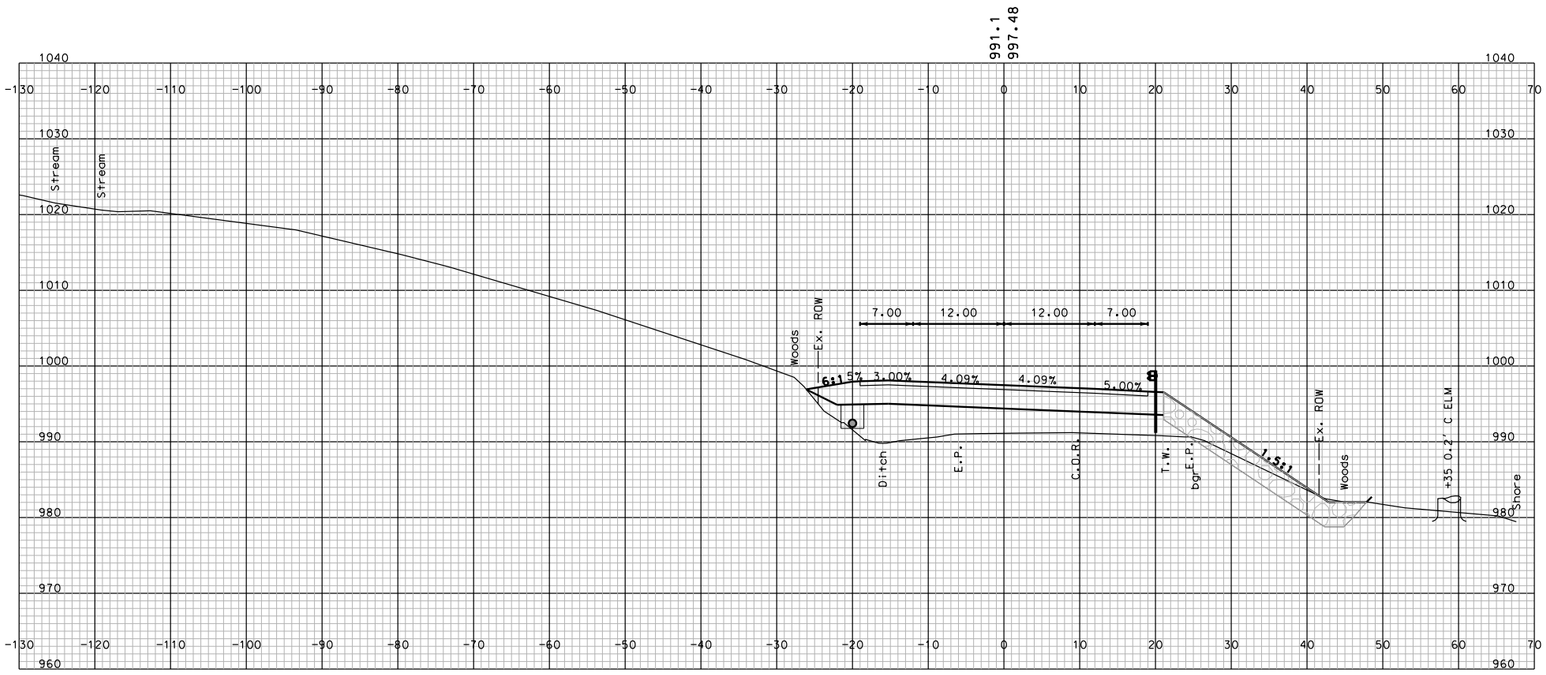
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

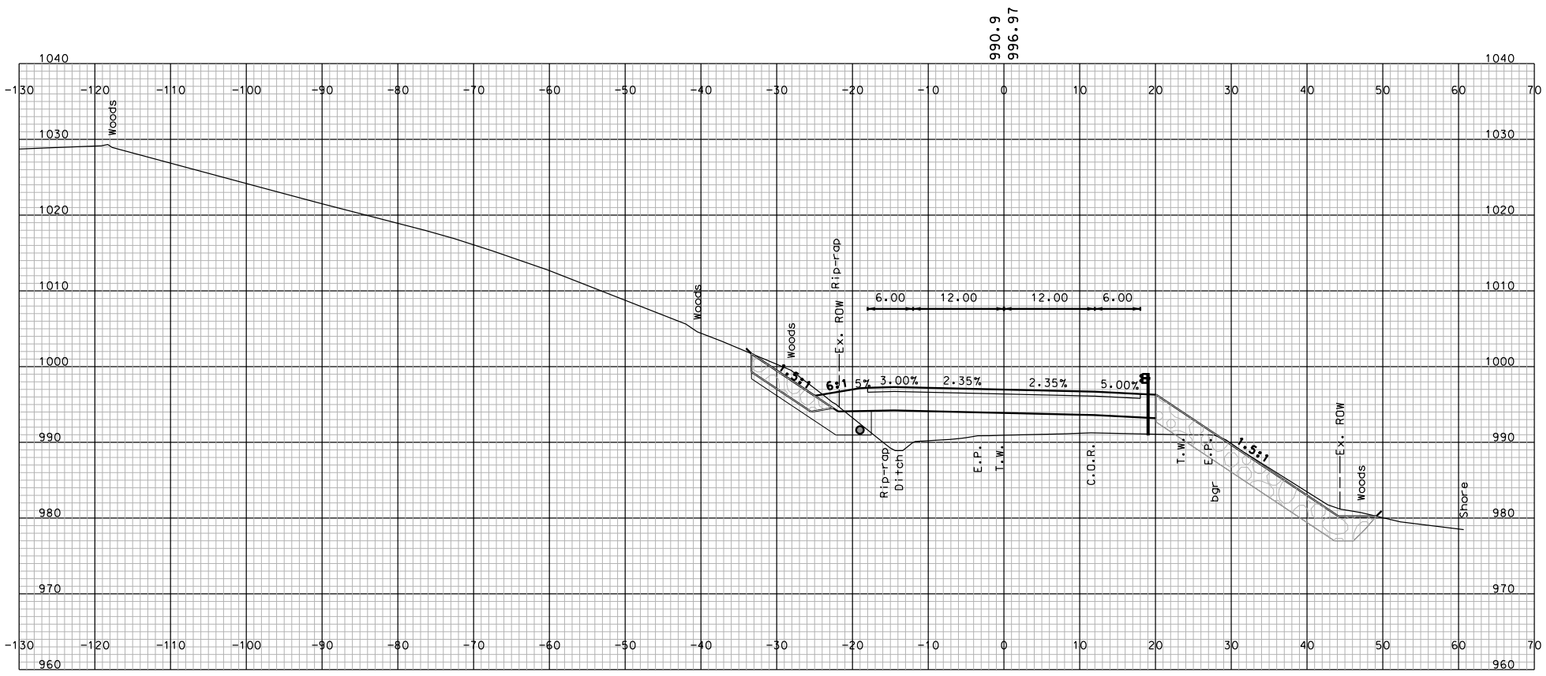
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 202+00.000



STA. 201+50.000



STA. 201+00.000

SHEET TOTALS

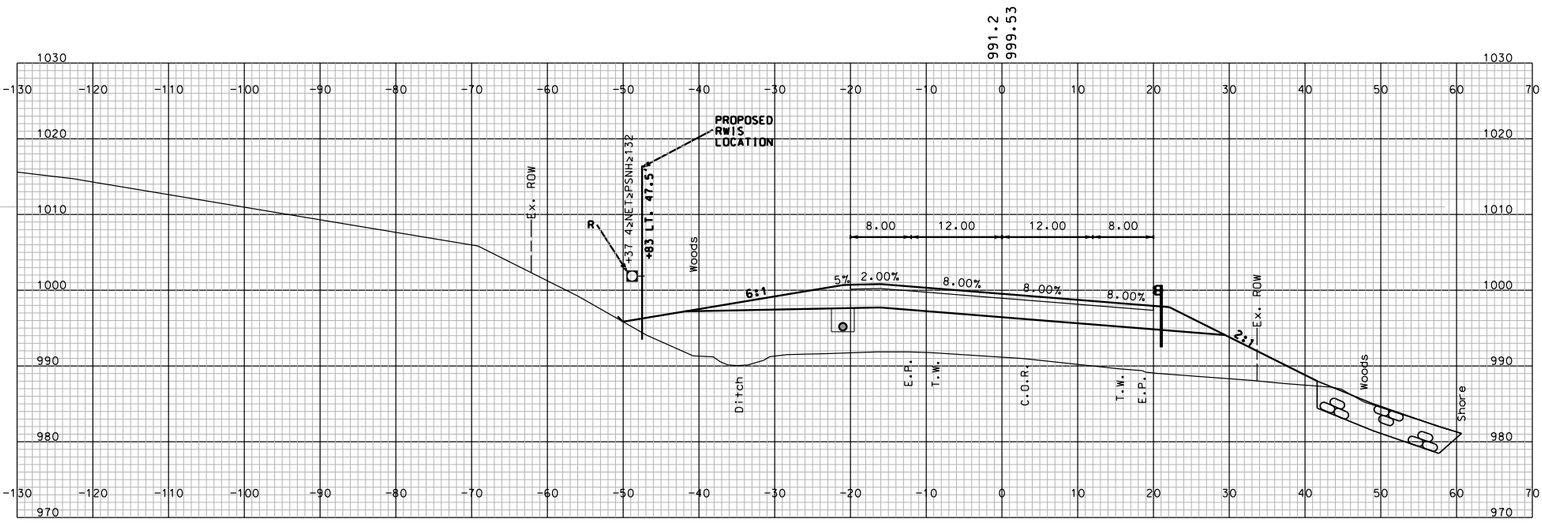
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-20350_XS	10439	260	294

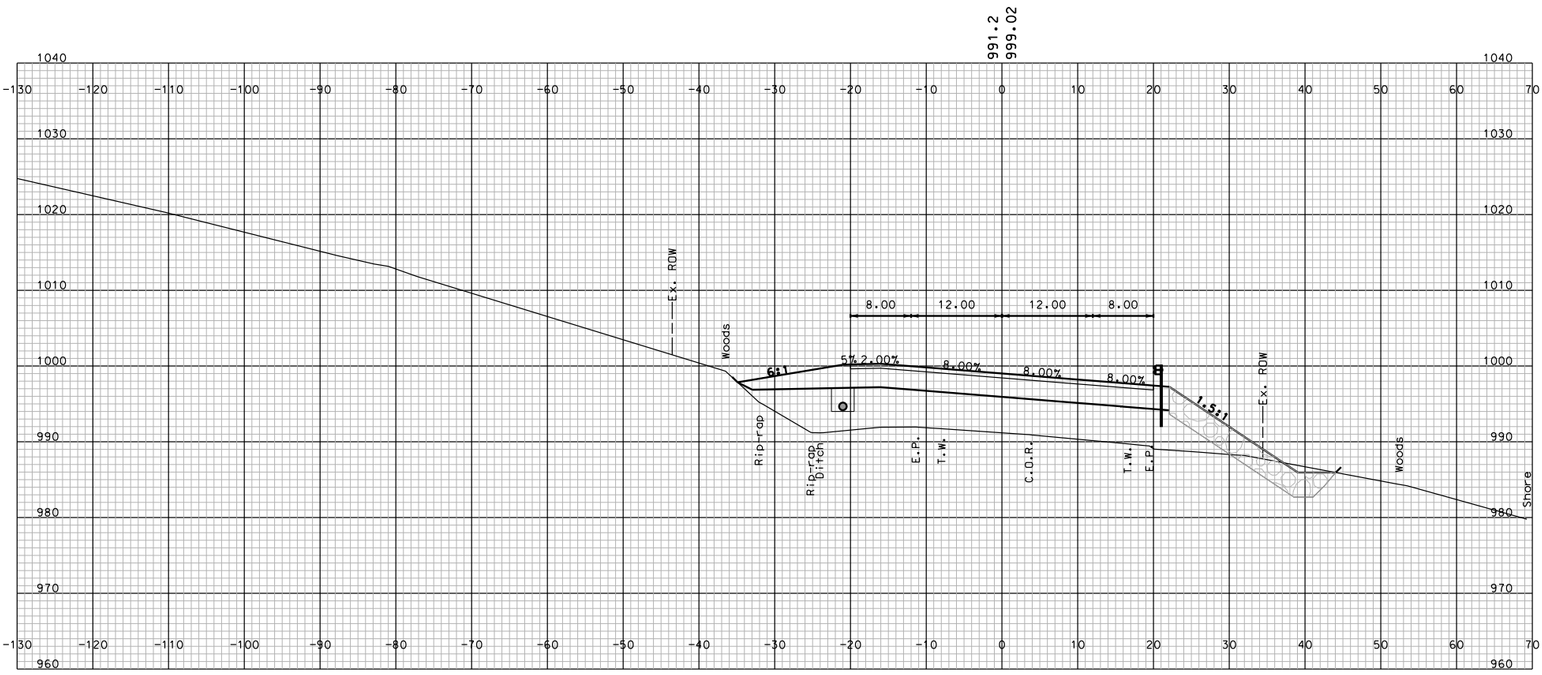
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

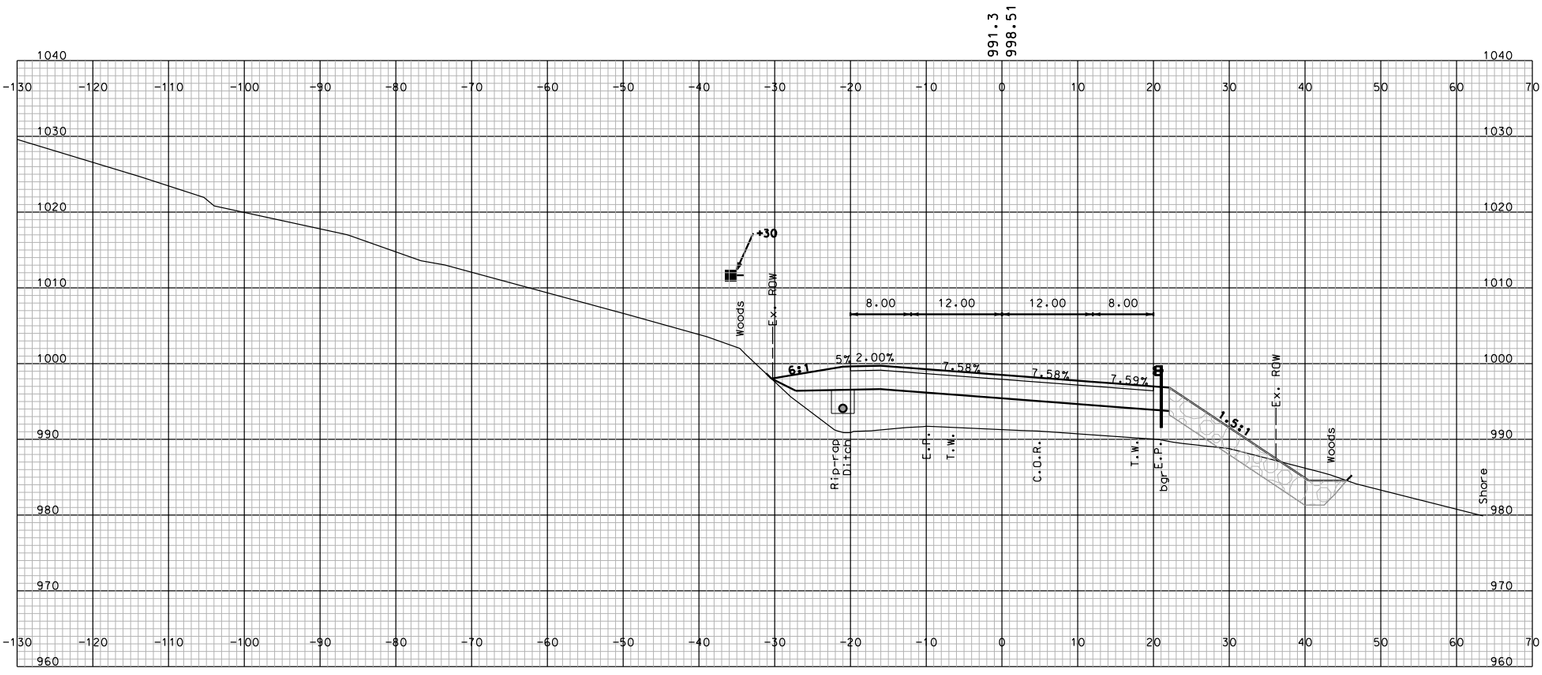
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 203+50.000



STA. 203+00.000



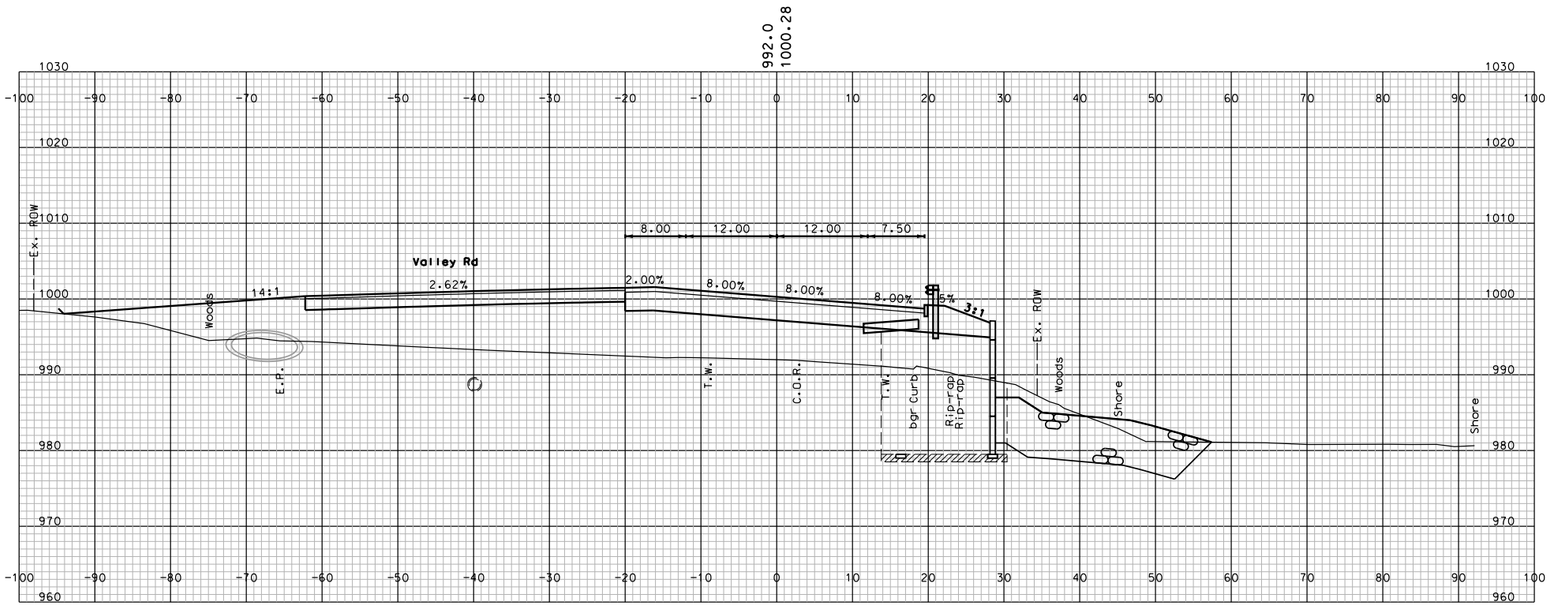
STA. 202+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_19500-2035D_XS	10439	261	294

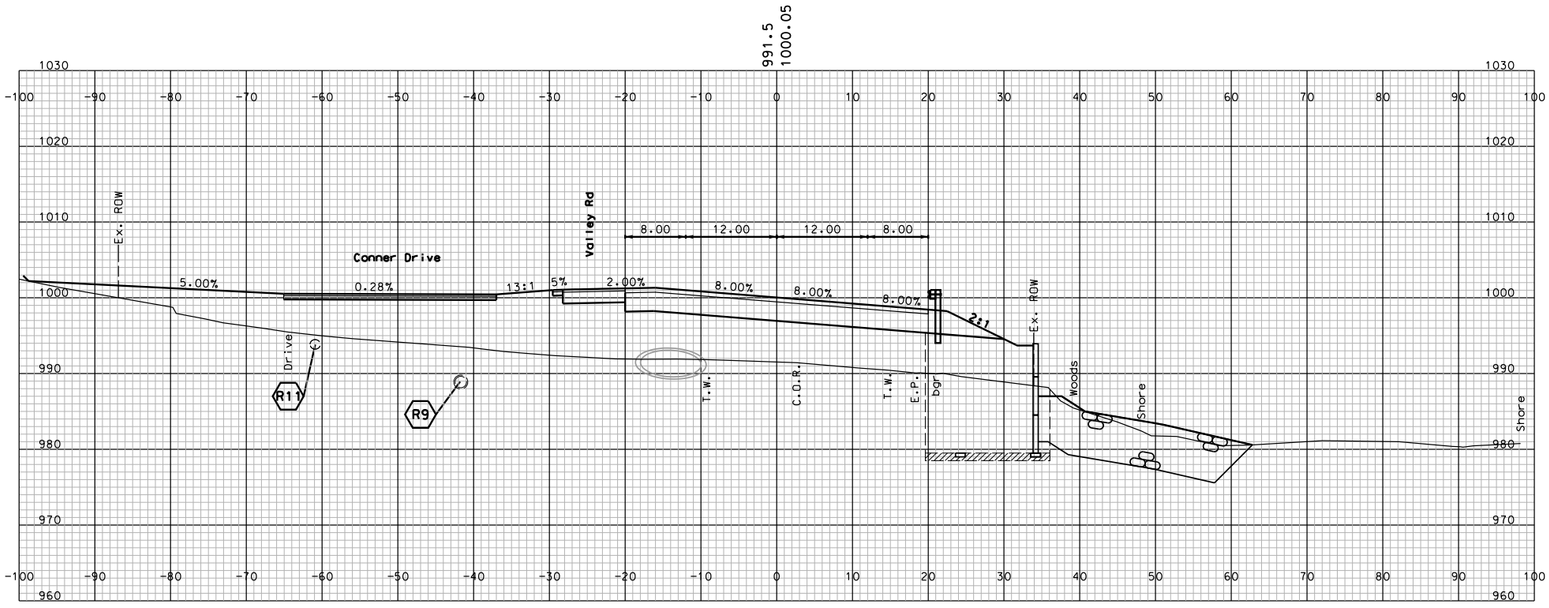
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

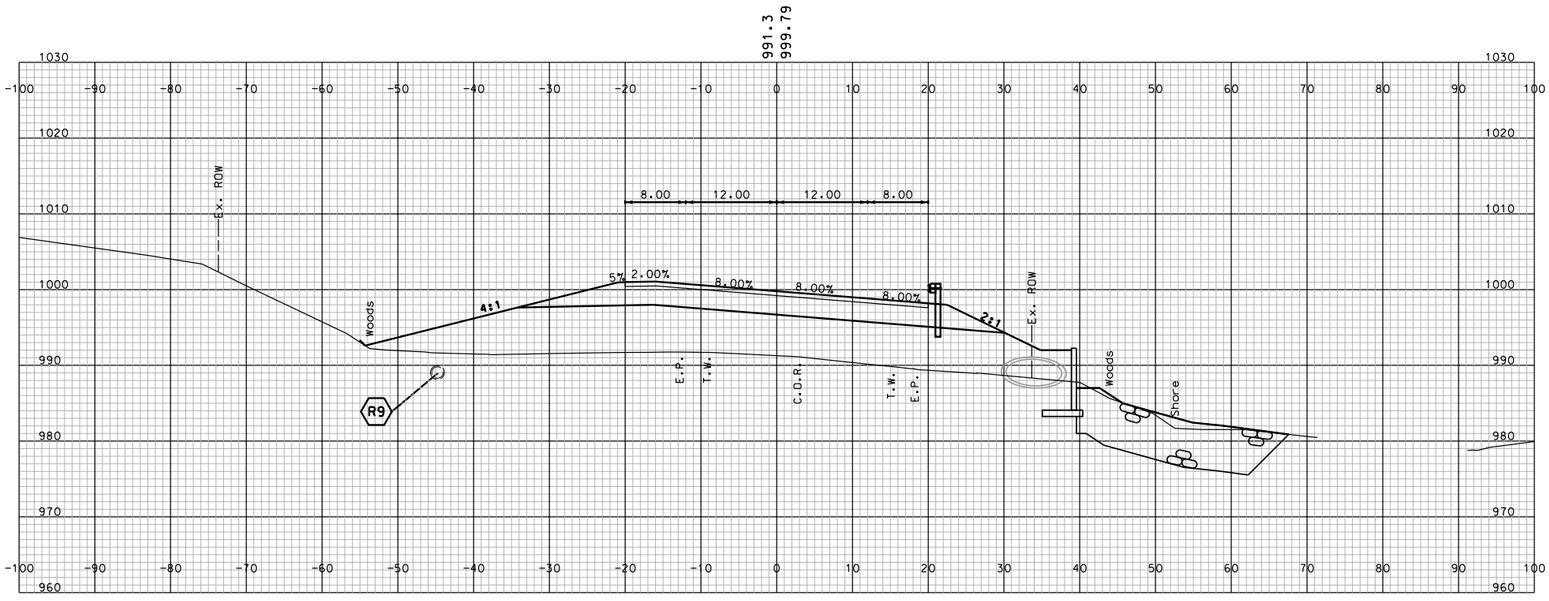
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 204+23.201



STA. 204+00.000



STA. 203+75.000

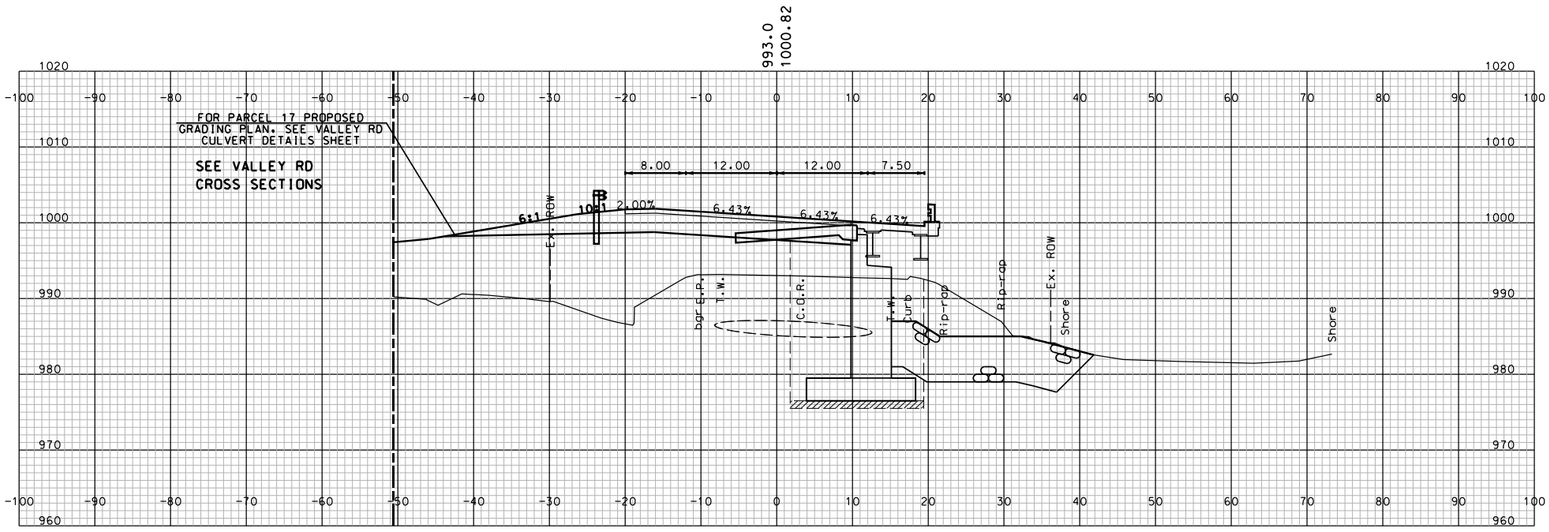
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	262	294

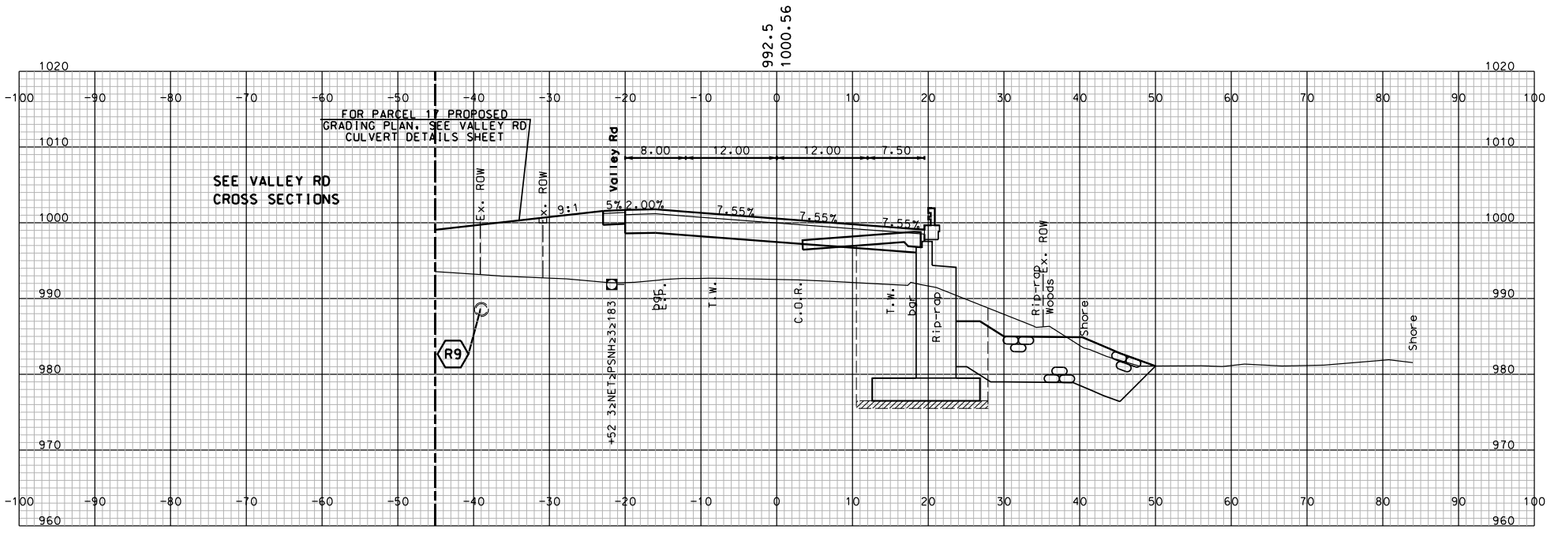
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

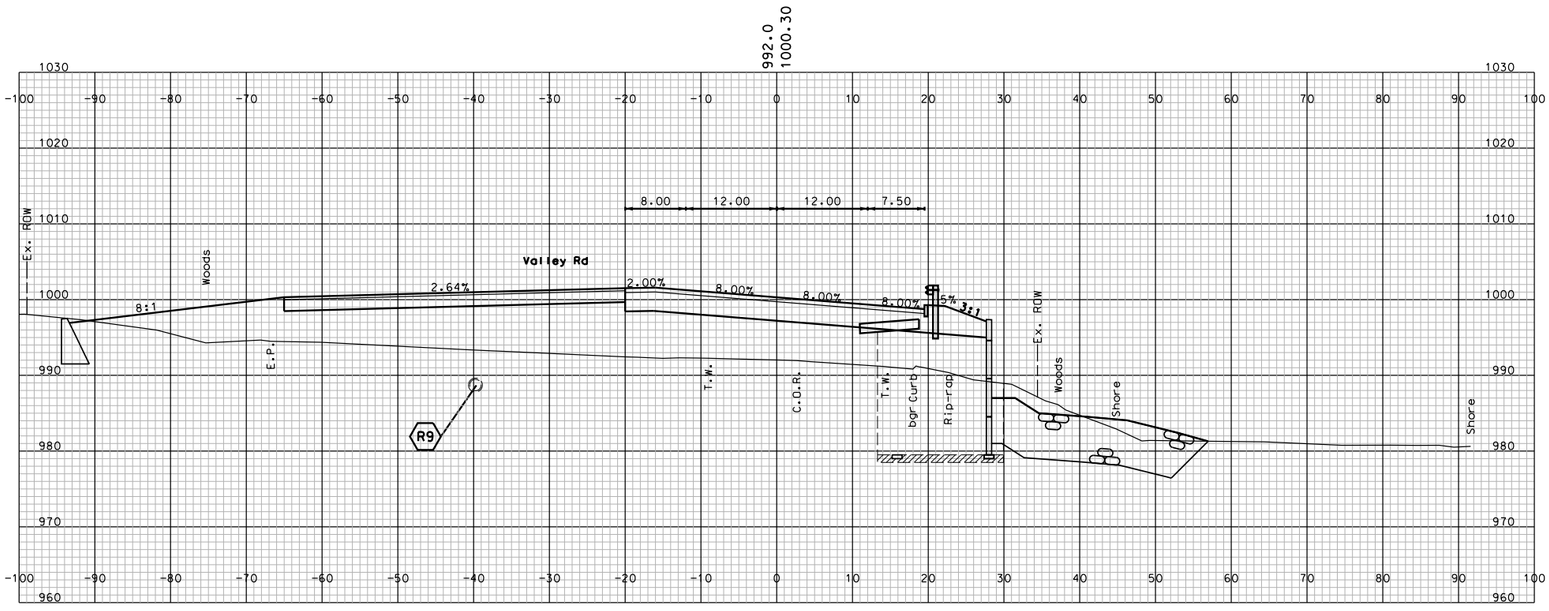
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 204+75.000



STA. 204+50.000



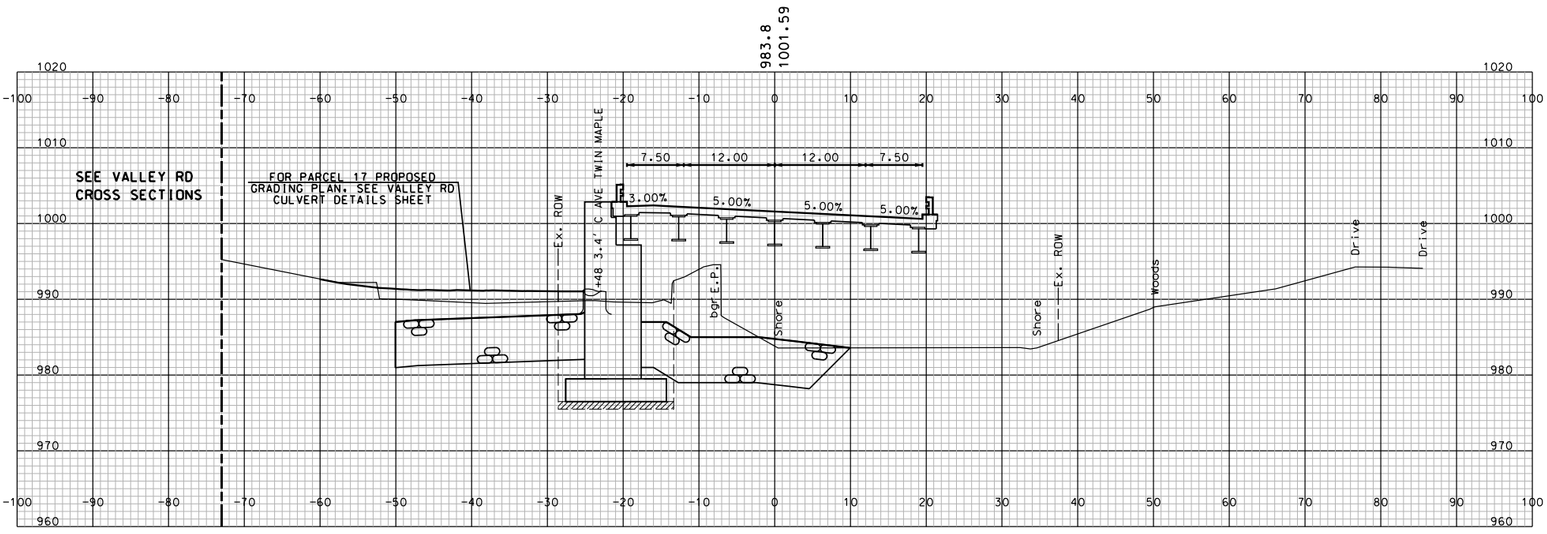
STA. 204+25.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	263	294

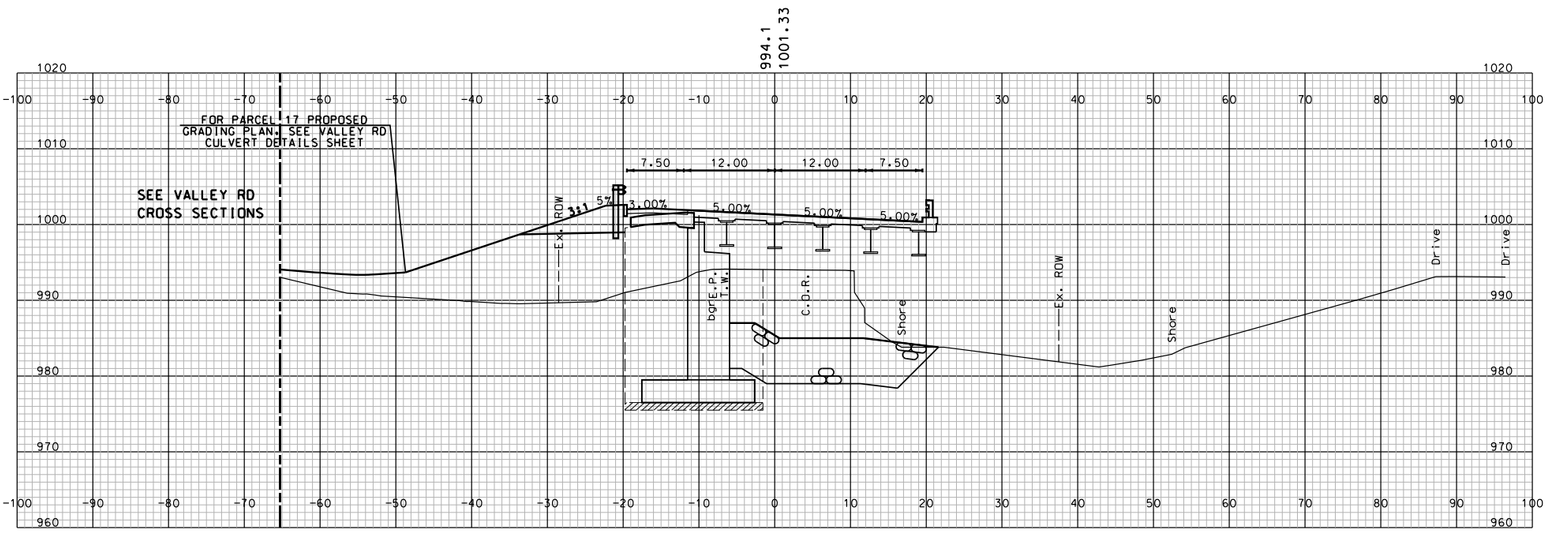
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

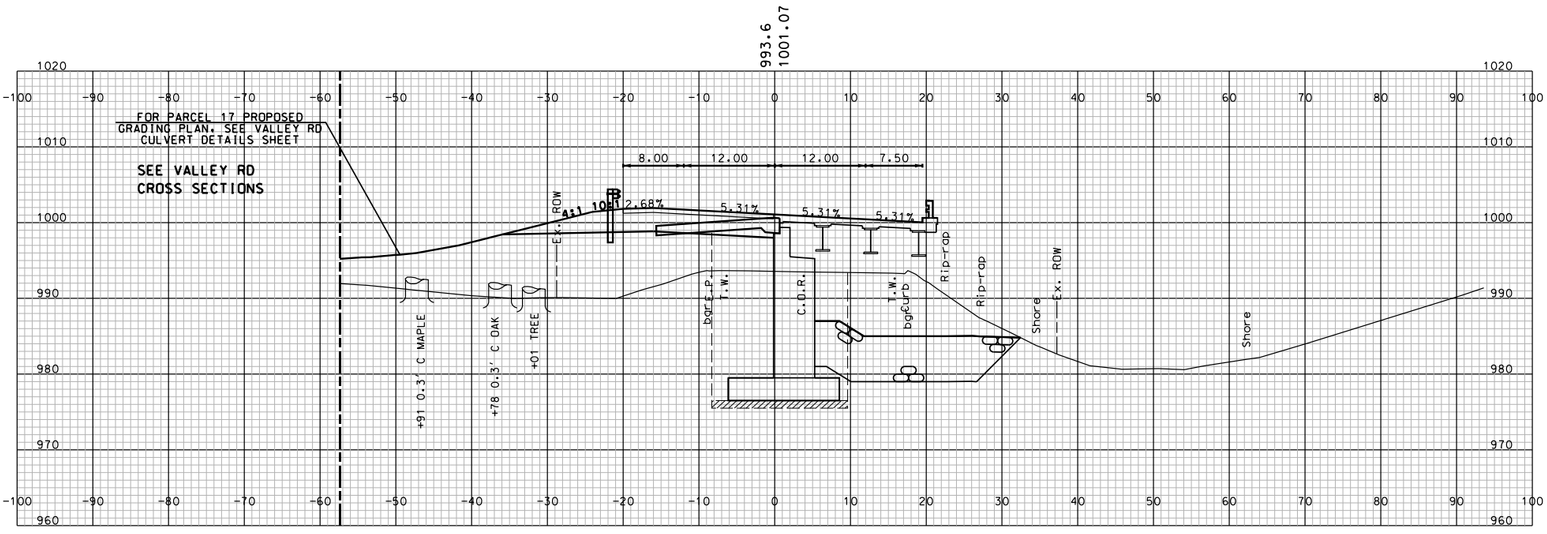
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 205+50.000



STA. 205+25.000



STA. 205+00.000

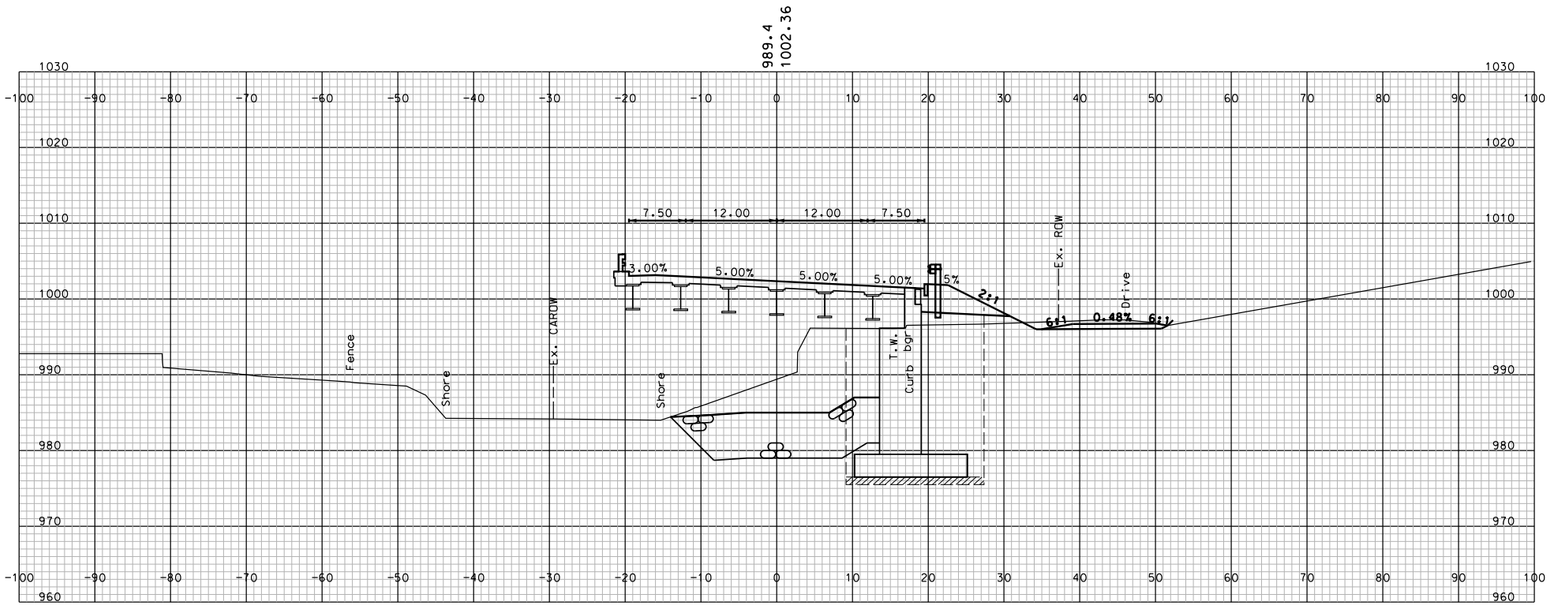
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	264	294

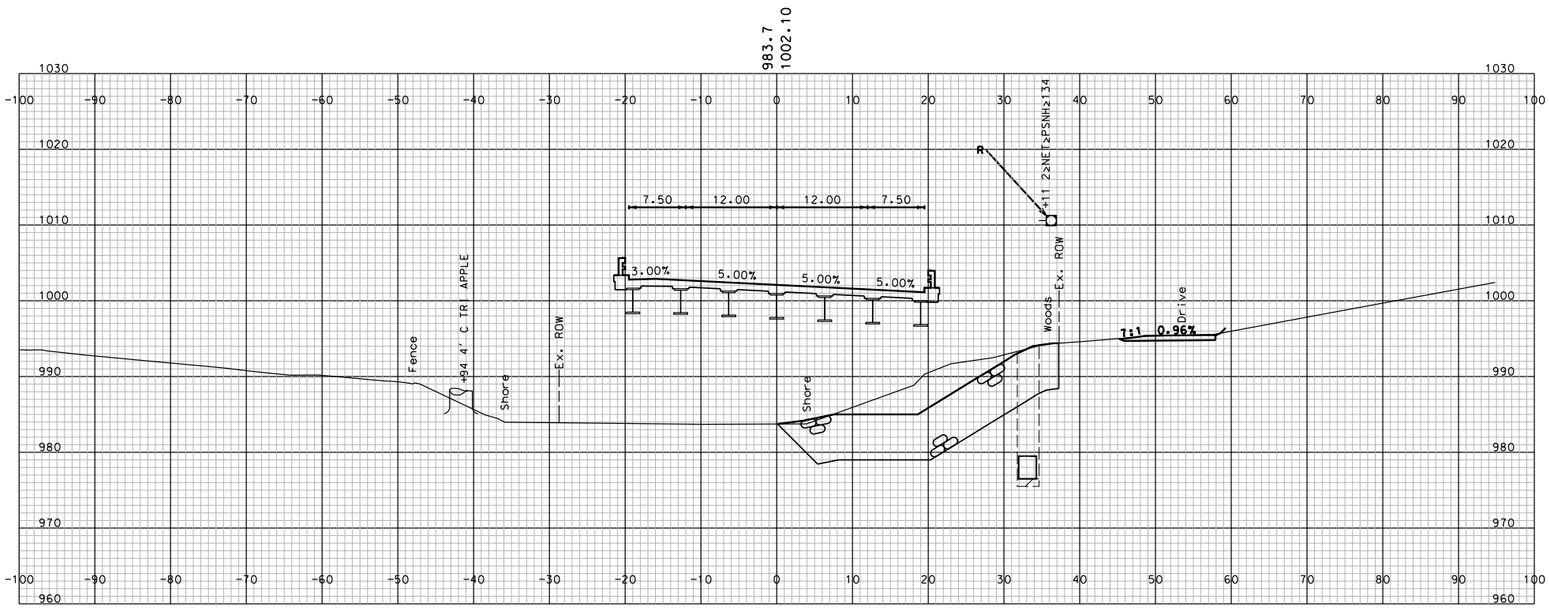
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

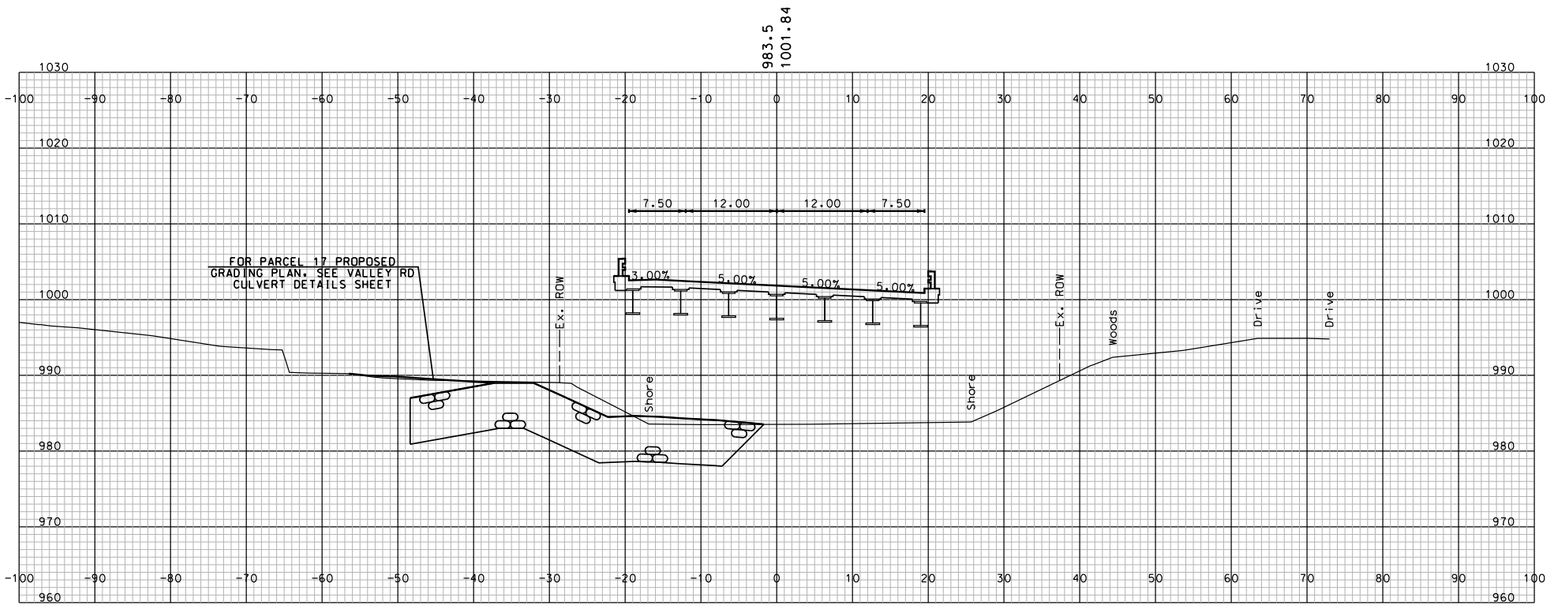
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 206+25.000



STA. 206+00.000



STA. 205+75.000

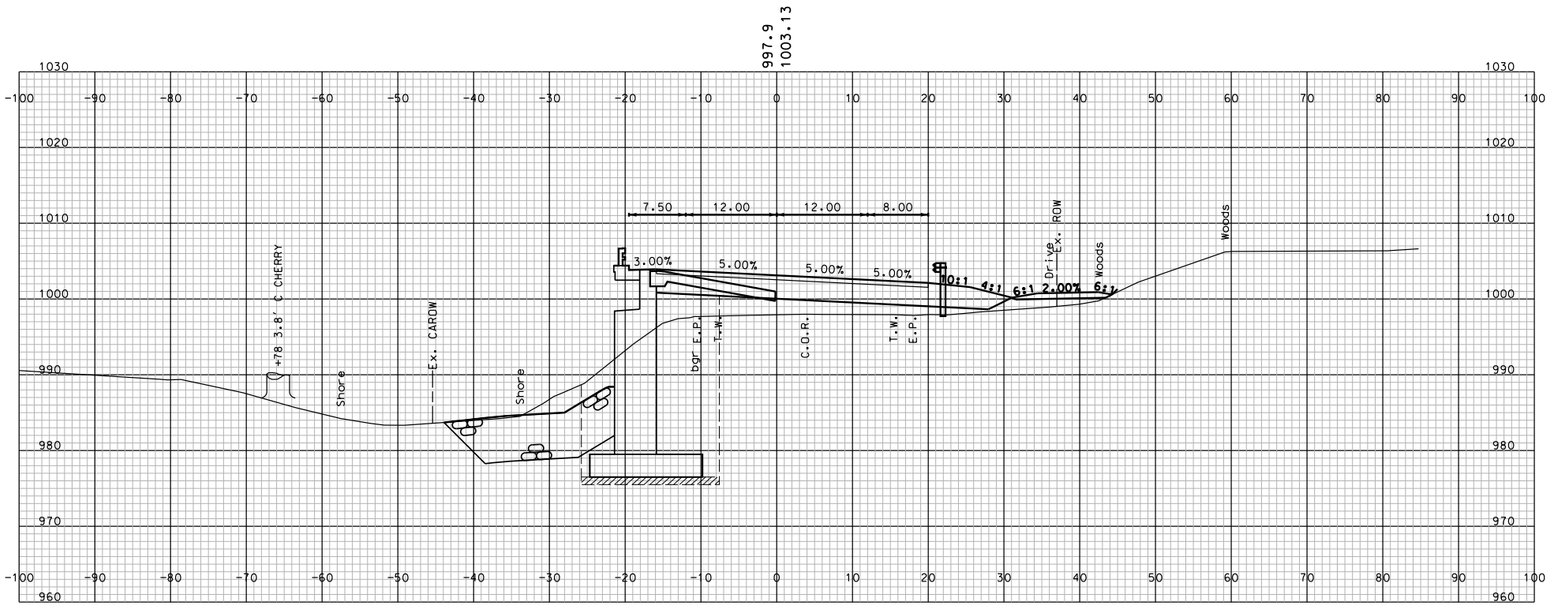
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	265	294

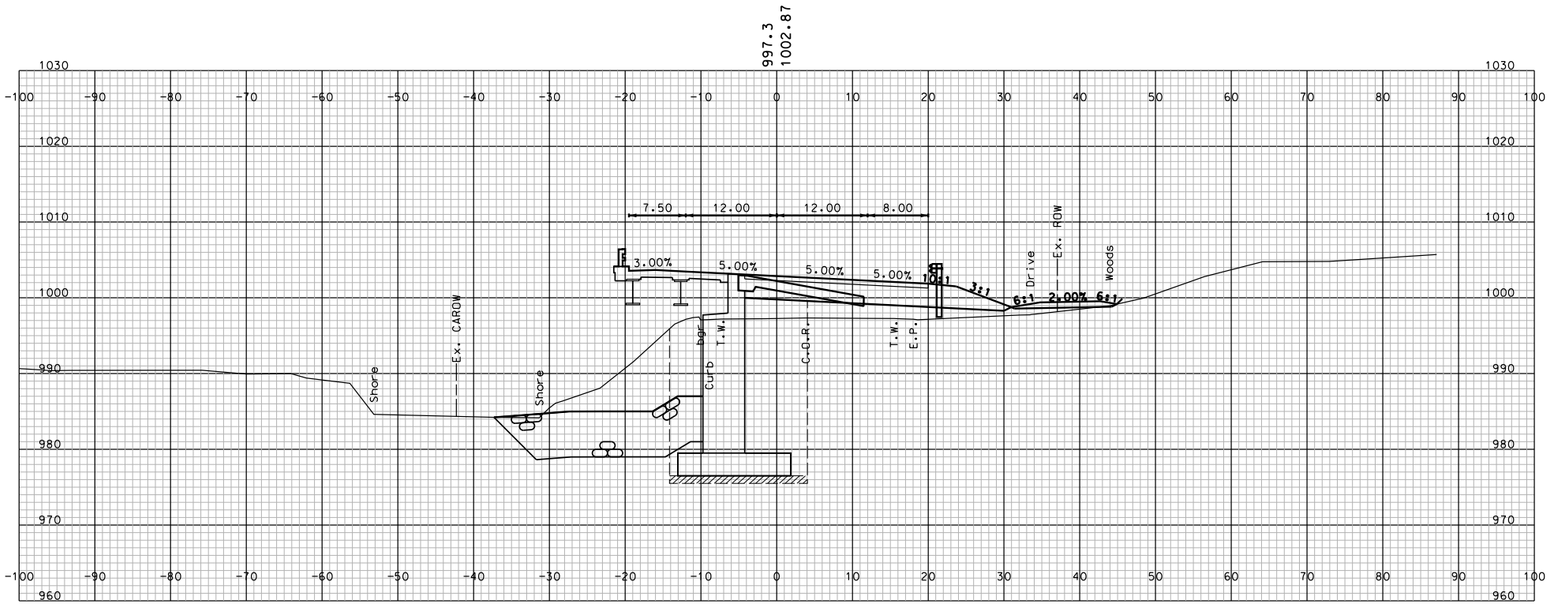
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

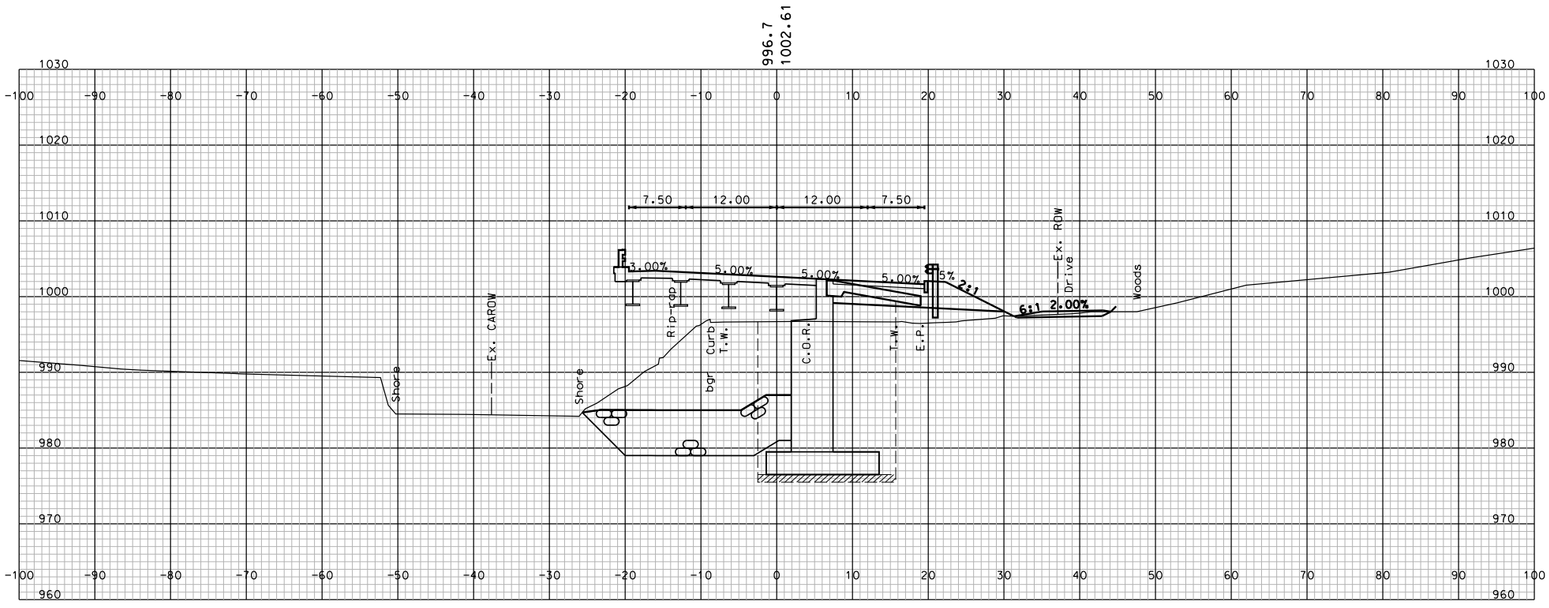
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 207+00.000



STA. 206+75.000



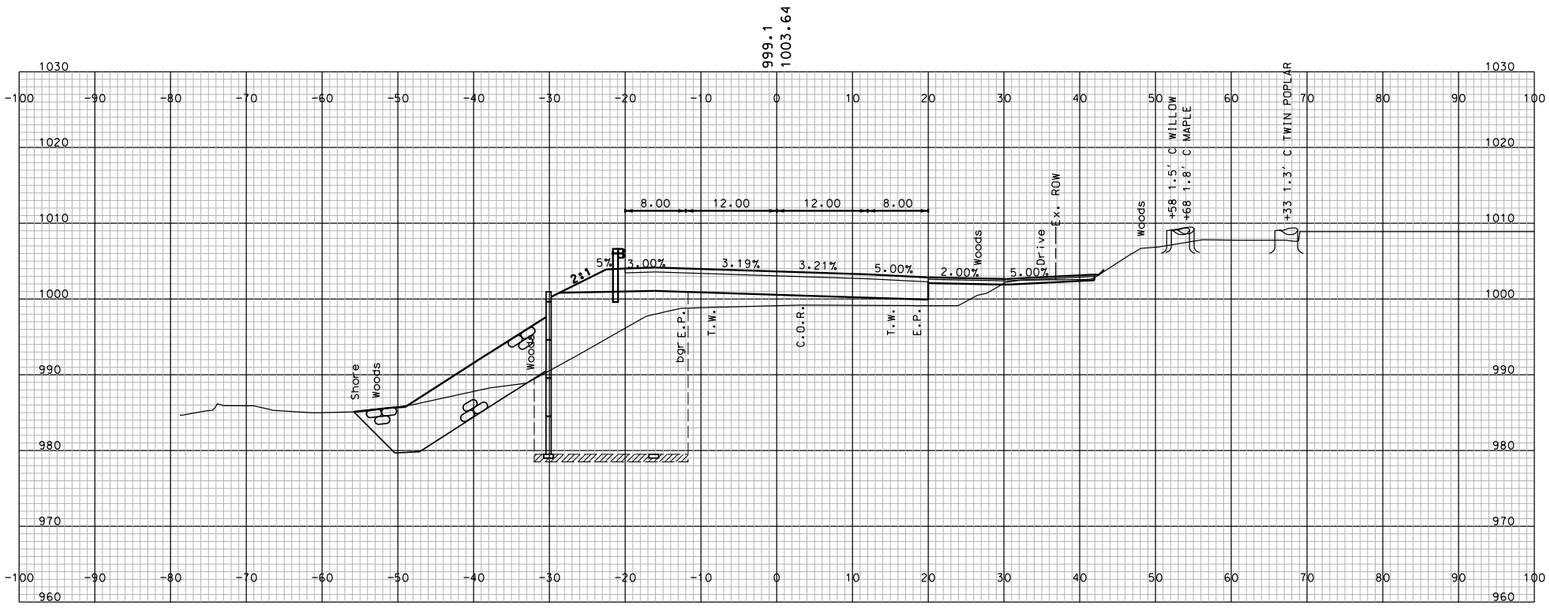
STA. 206+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	266	294

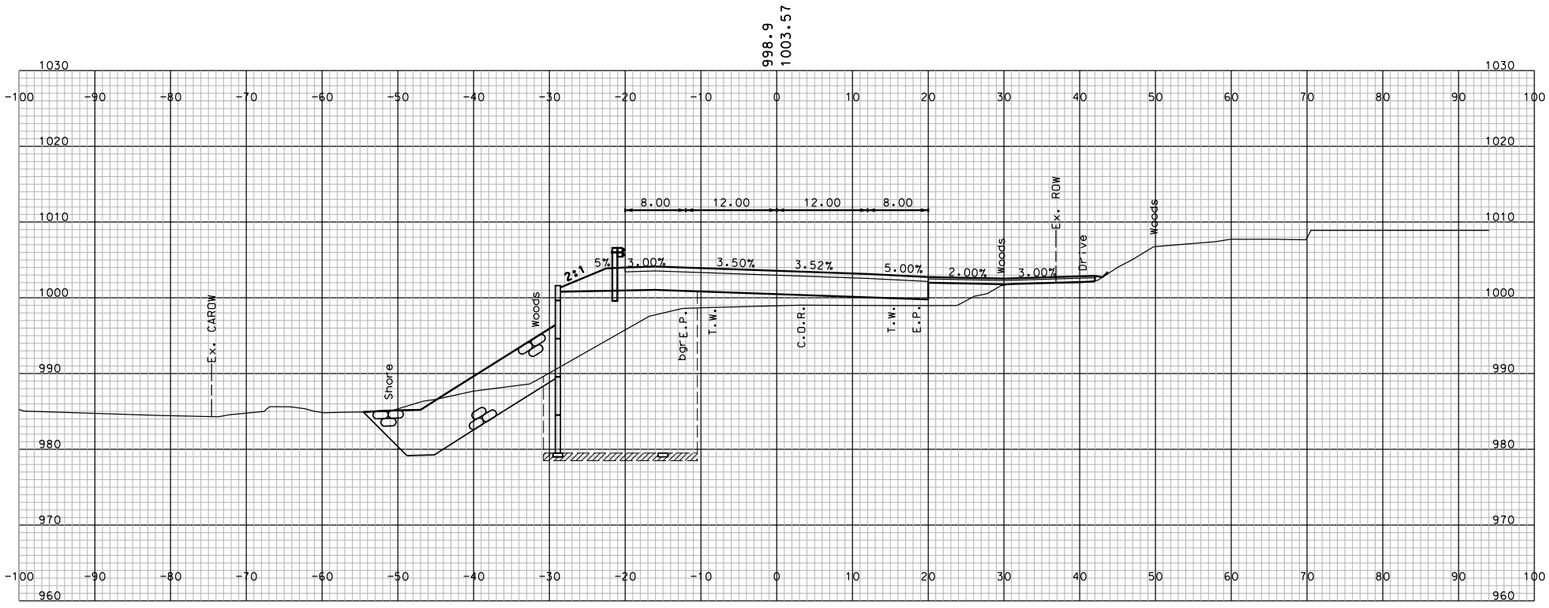
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

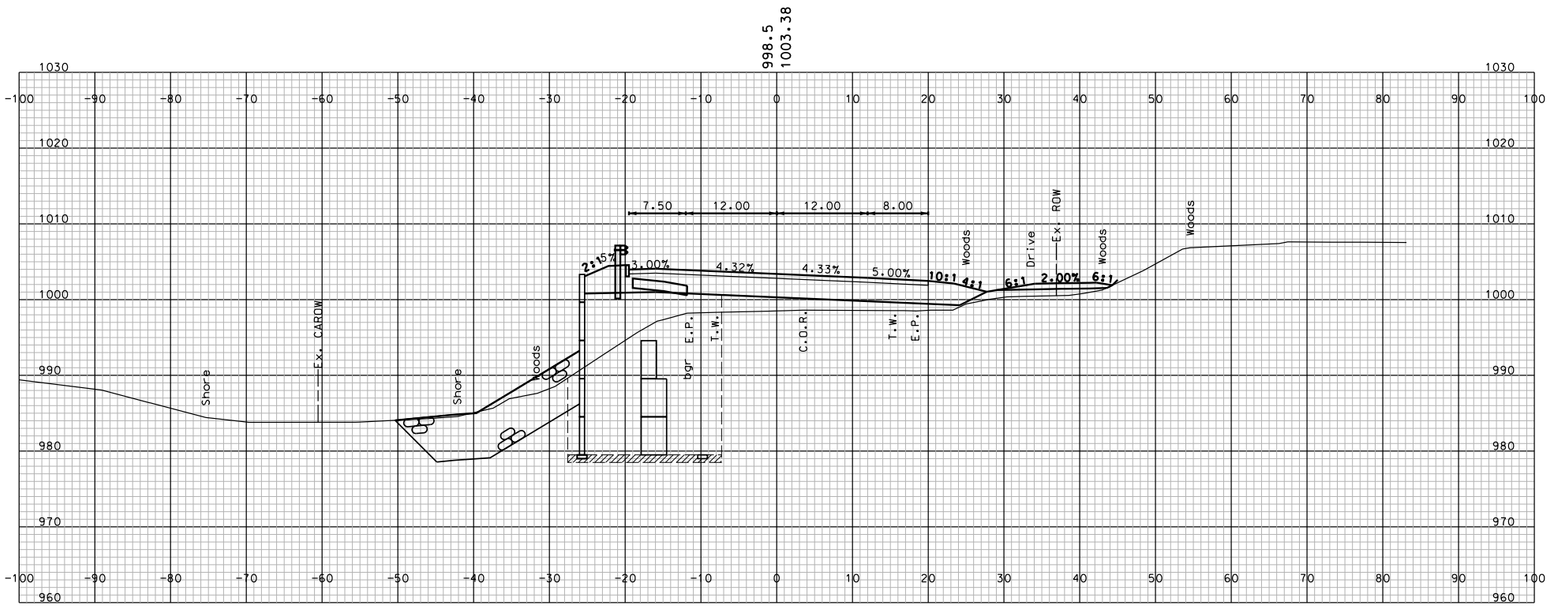
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 207+50.000



STA. 207+43.109



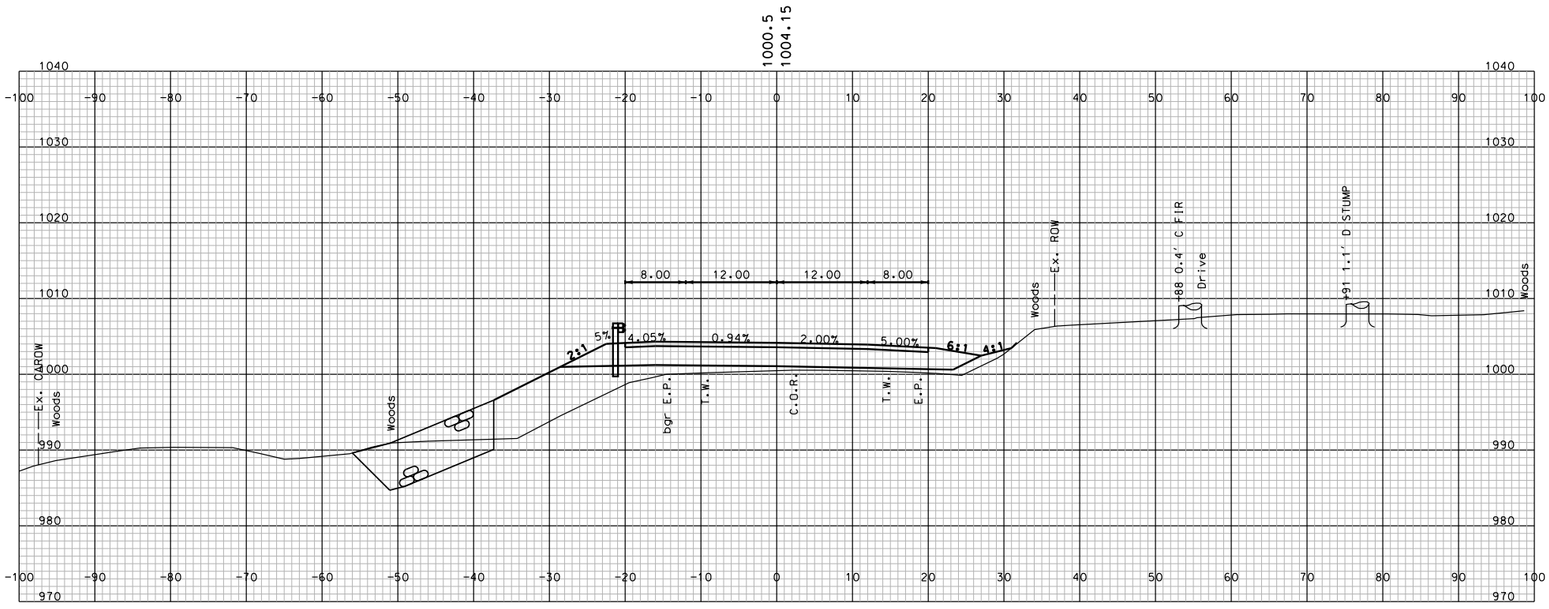
STA. 207+25.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	267	294

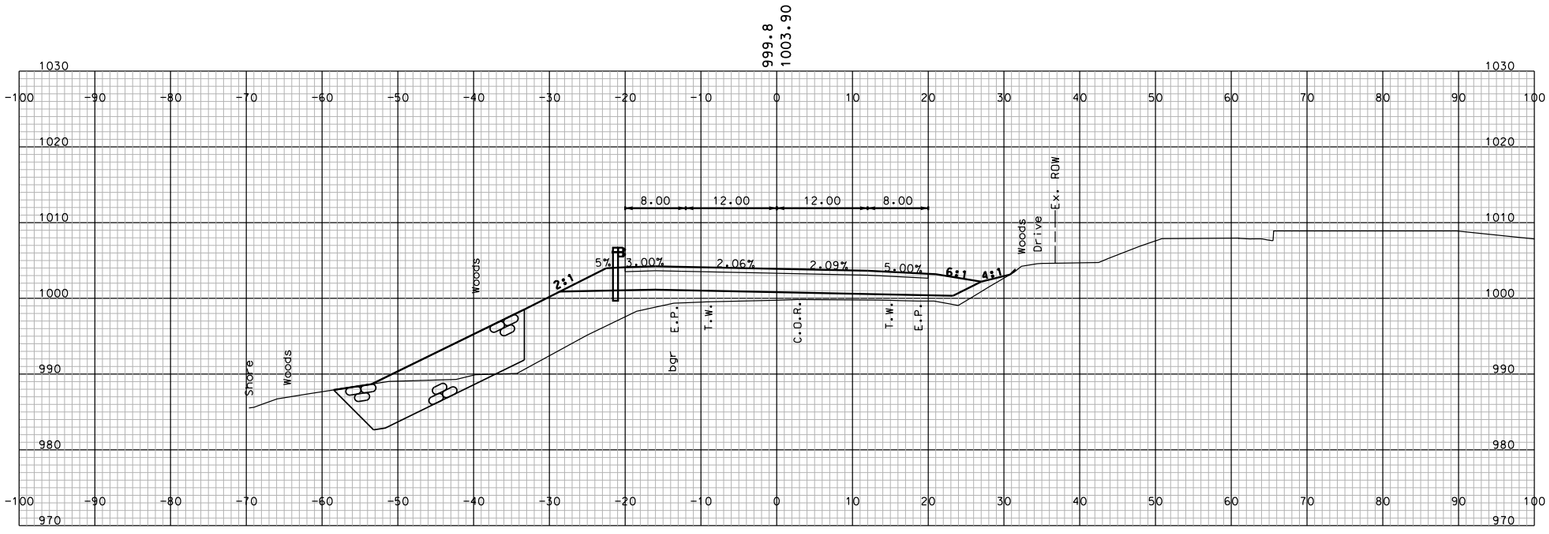
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 208+00.000



STA. 207+75.000

SHEET TOTALS

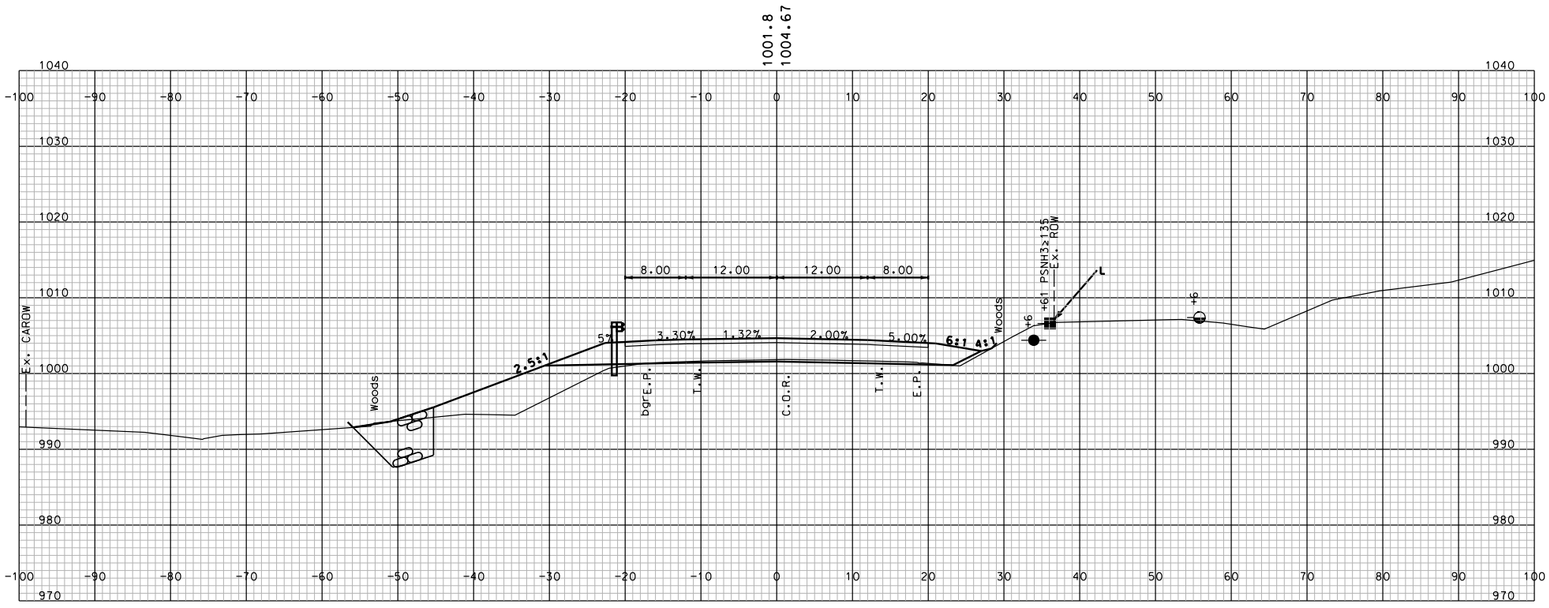
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	268	294

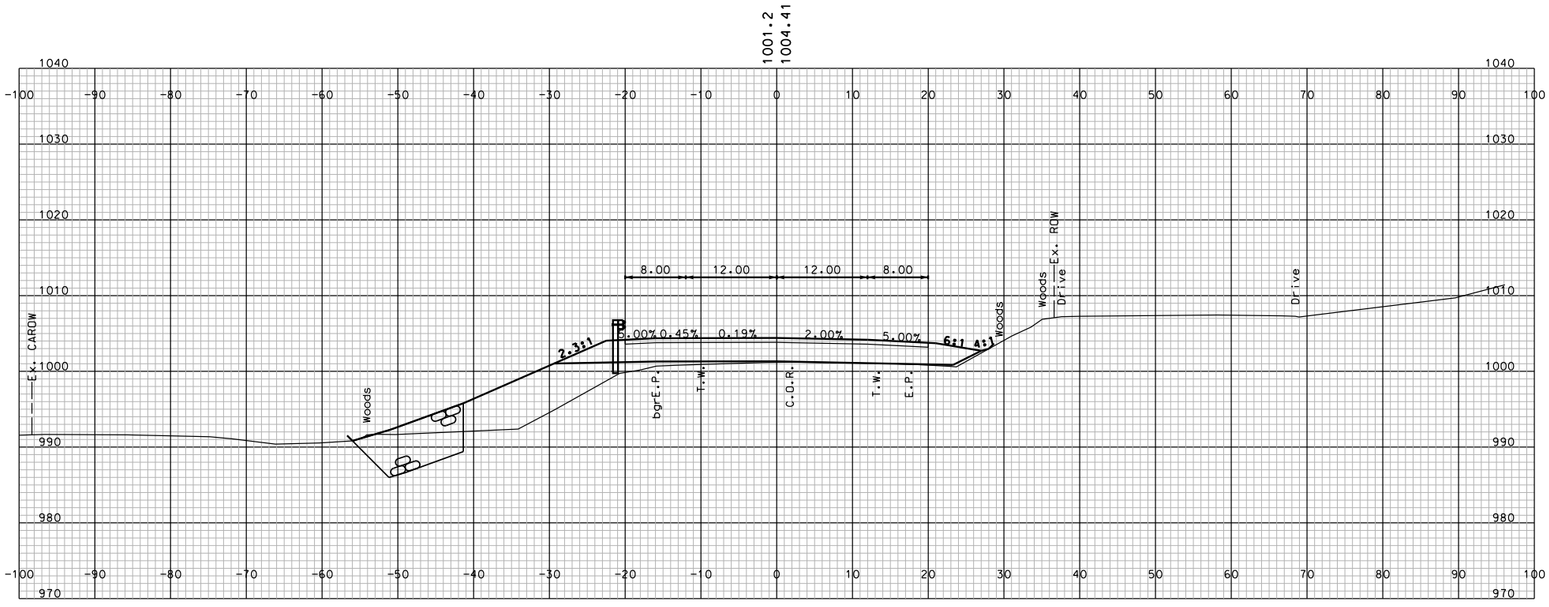
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 208+50.000



STA. 208+25.000

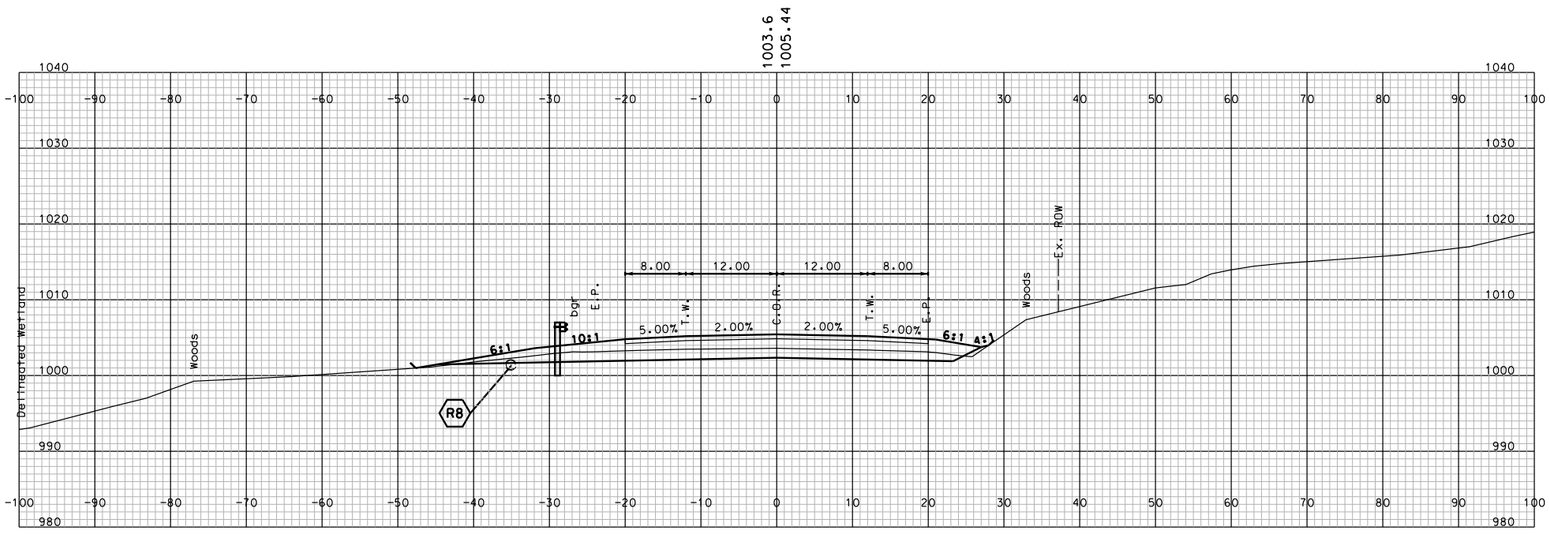
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	269	294

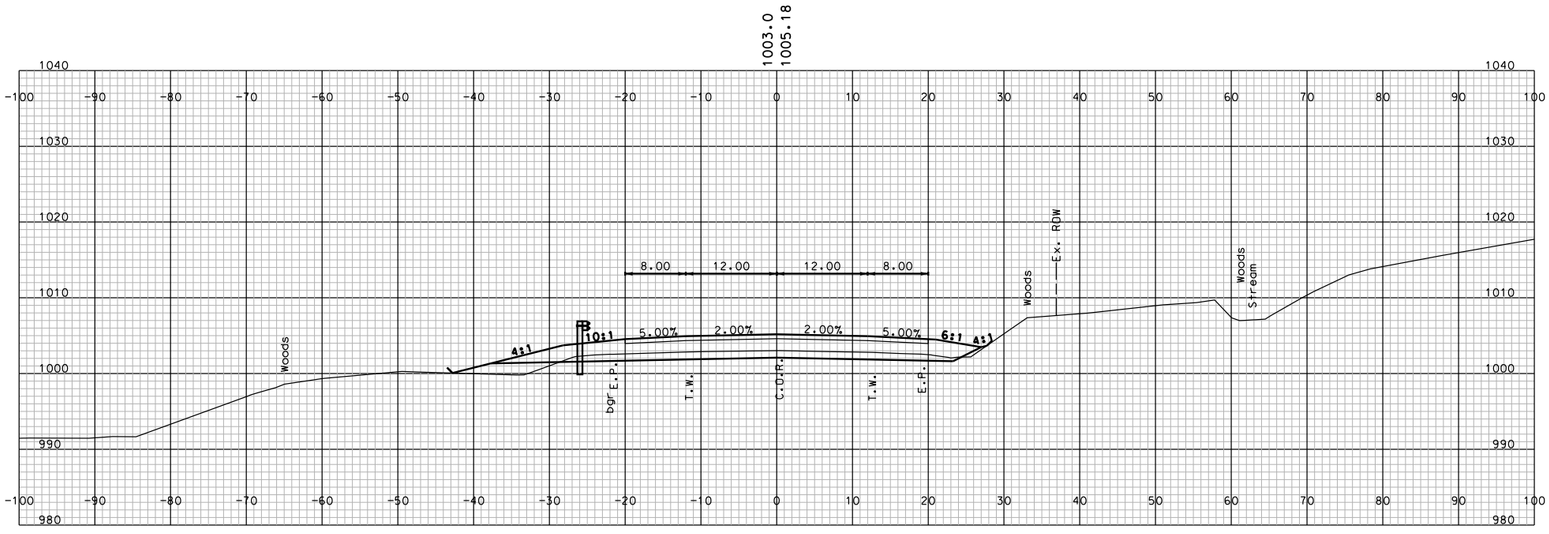
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

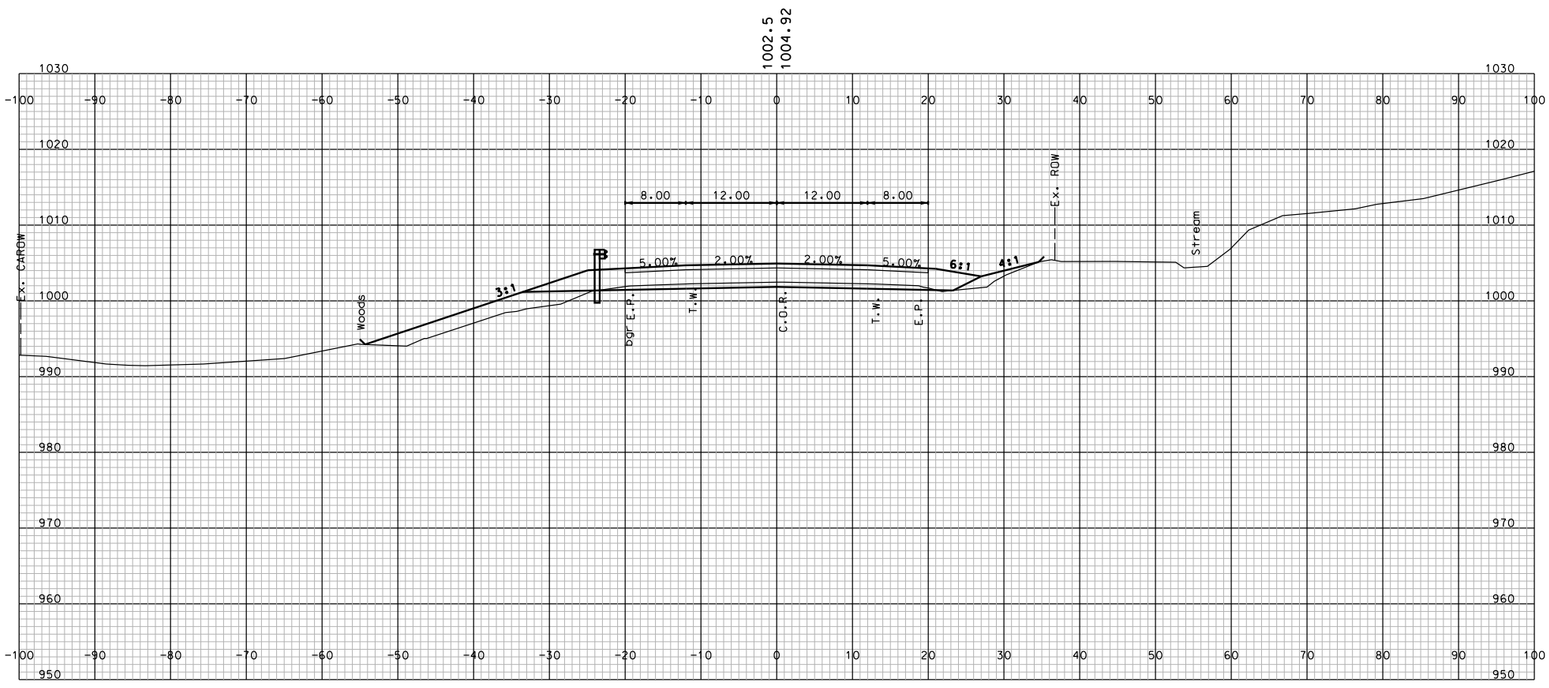
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 209+25.000



STA. 209+00.000



STA. 208+75.000

SHEET TOTALS

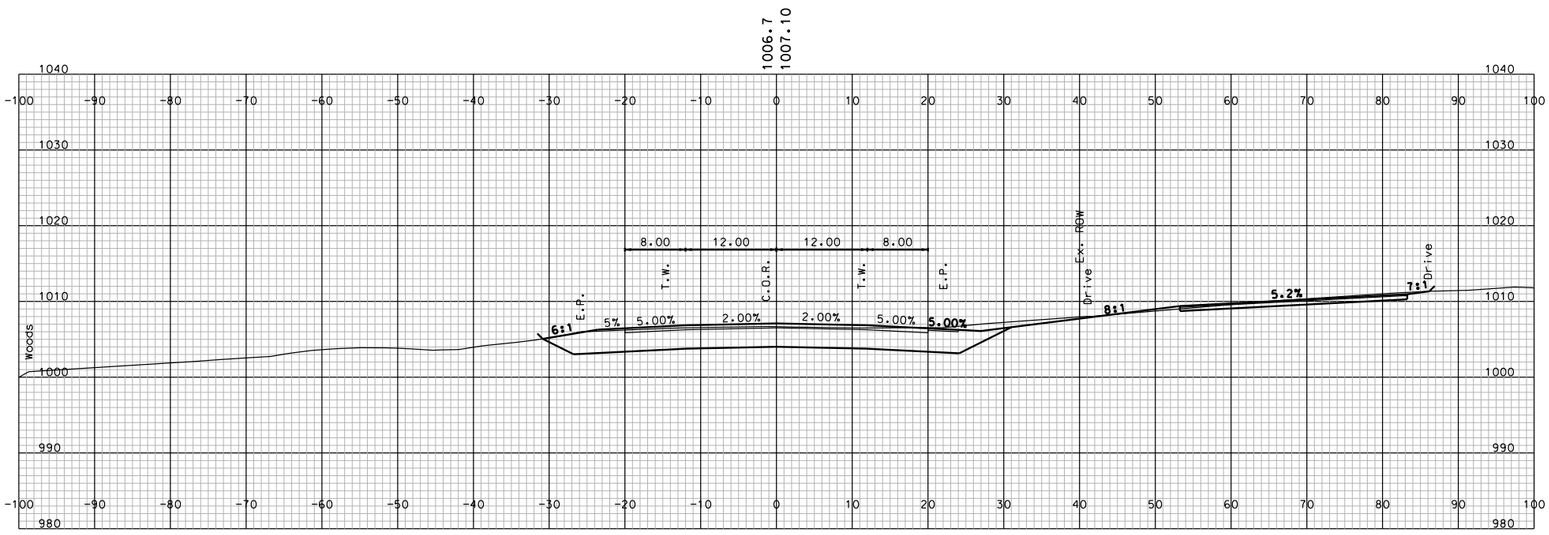
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20350-20950	10439	270	294

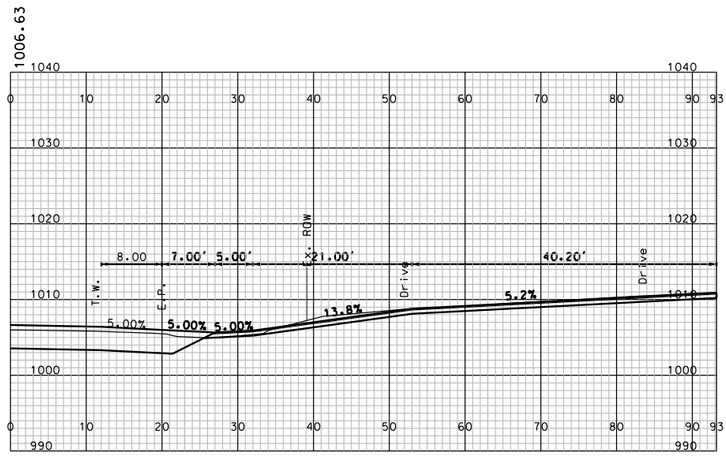
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

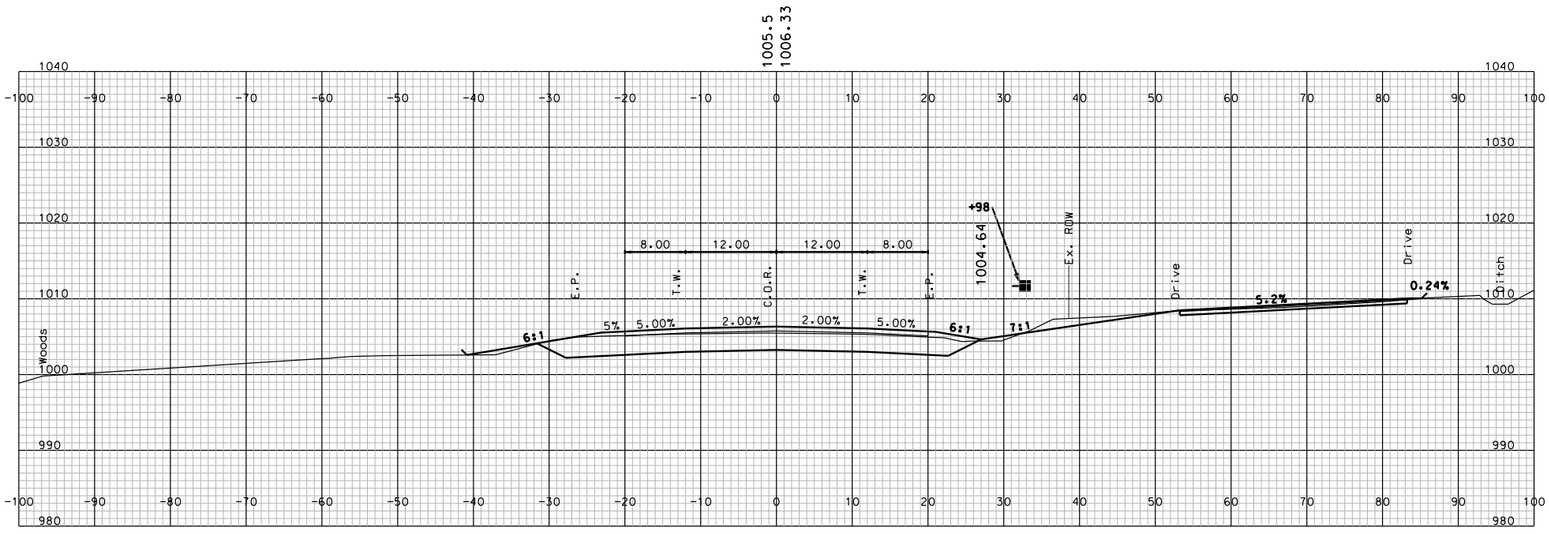
NUMBER	DATE	STATION	STATION	DESCRIPTION



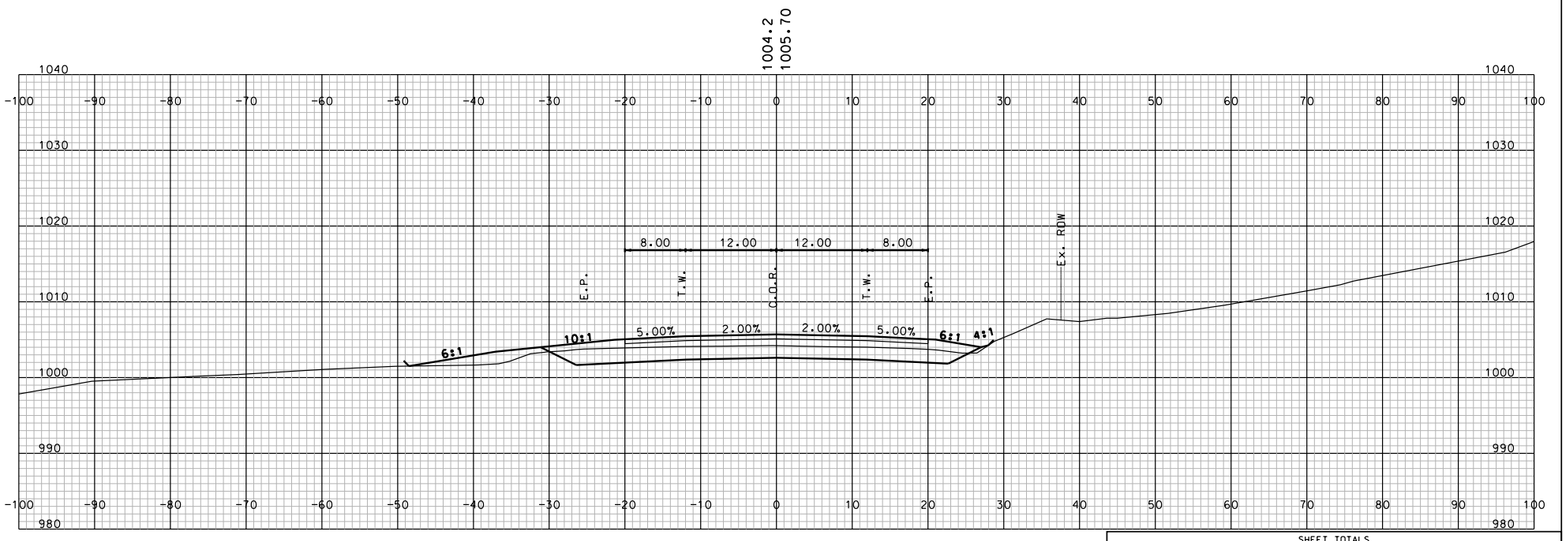
STA. 210+50.000



STA. 210+20.899



STA. 210+00.000



STA. 209+50.000

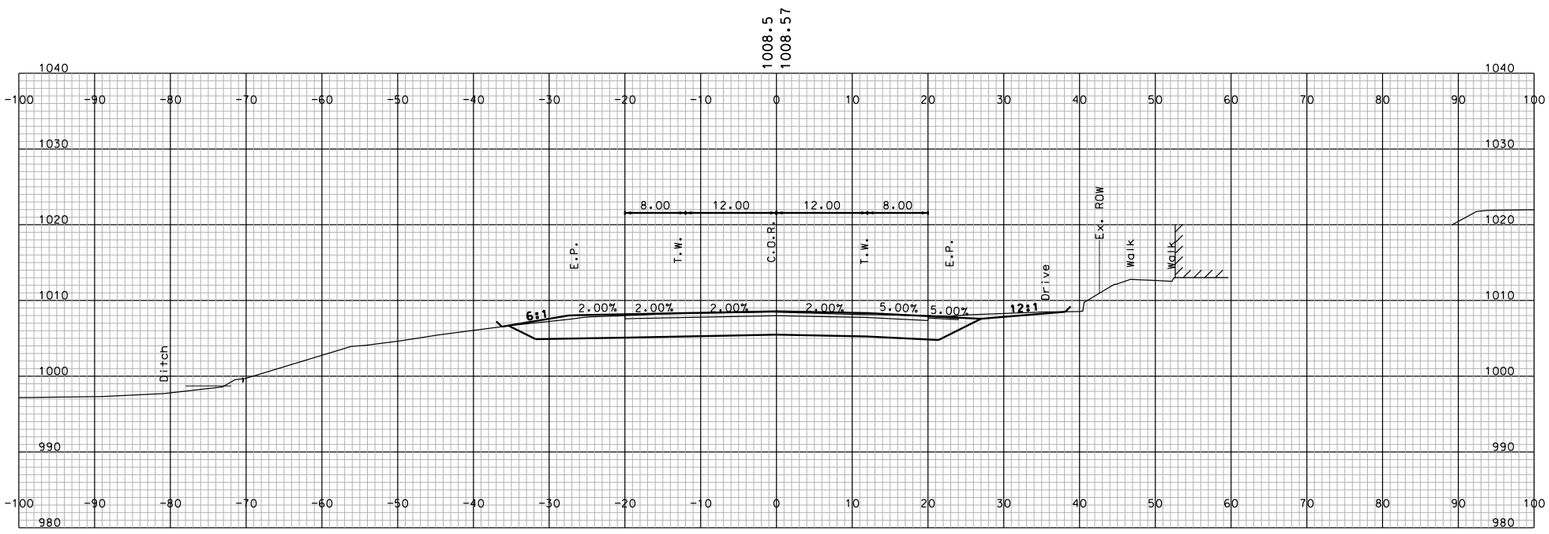
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20950-21500_XS	10439	271	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

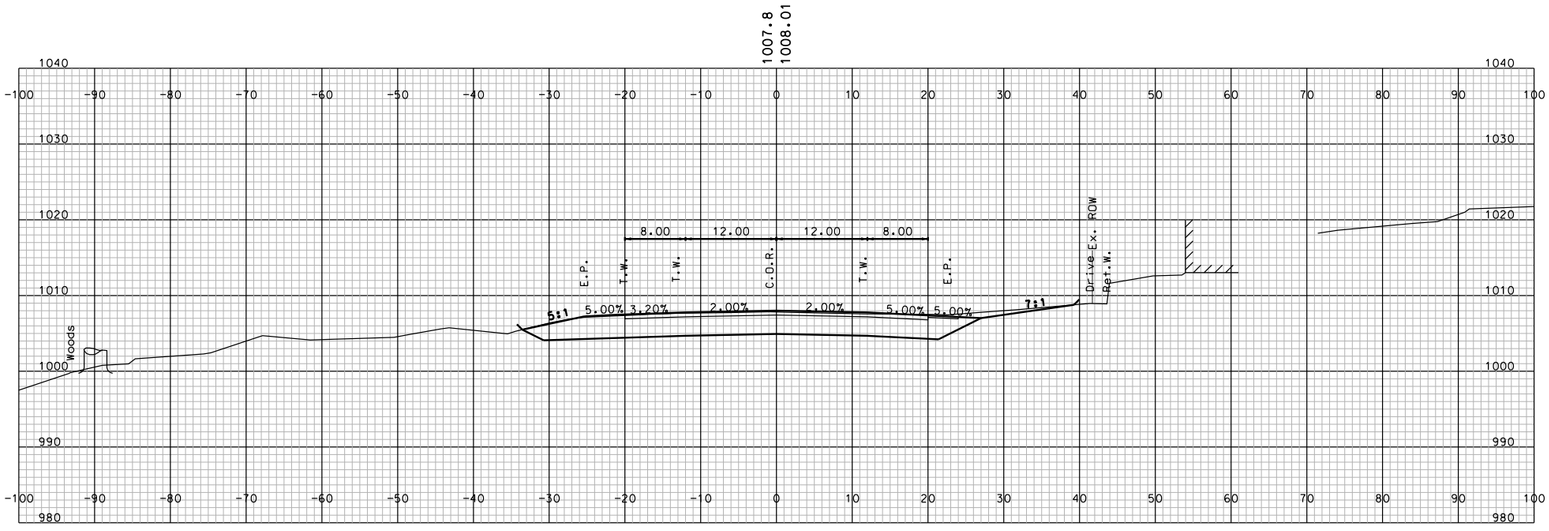
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

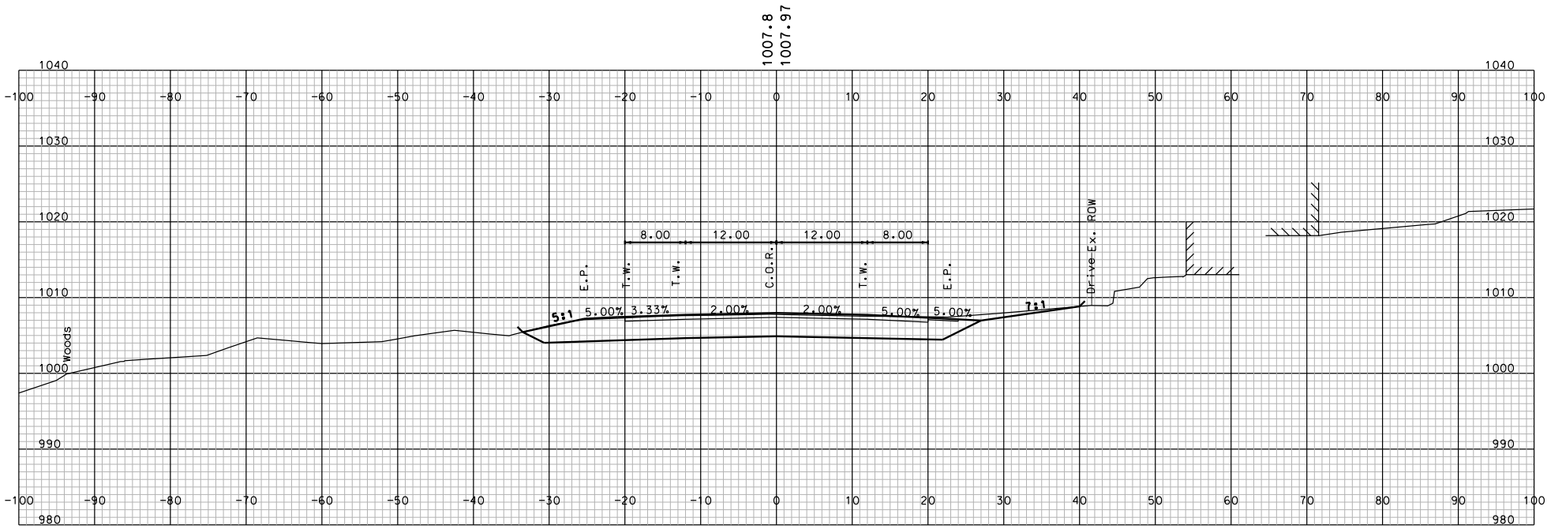


STA. 211+27.629

WalkWay/Steps RT



STA. 211+00.000



STA. 210+97.819

WalkWay/Steps RT

SHEET TOTALS

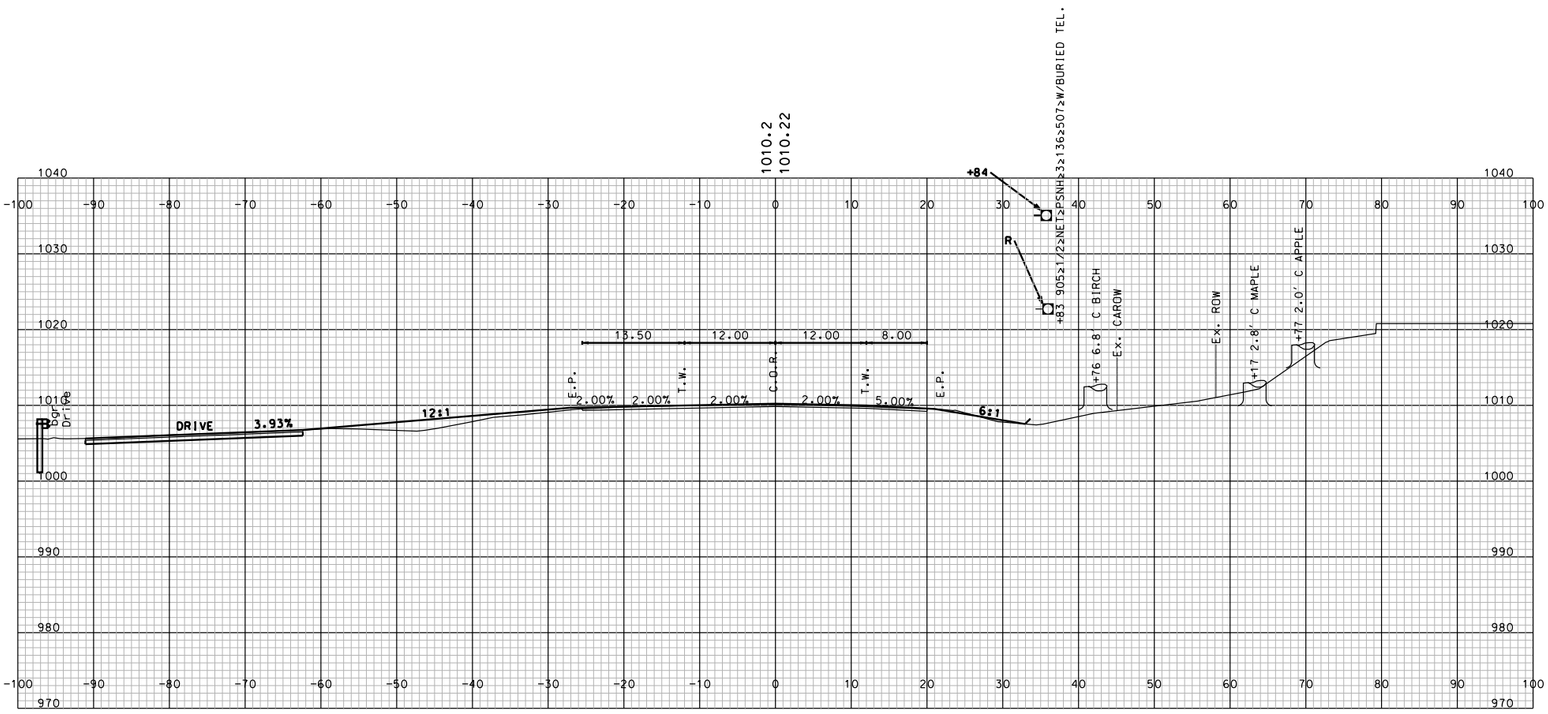
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20950-2150D_XS	10439	272	294

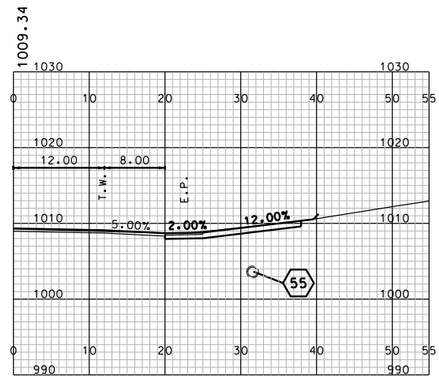
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

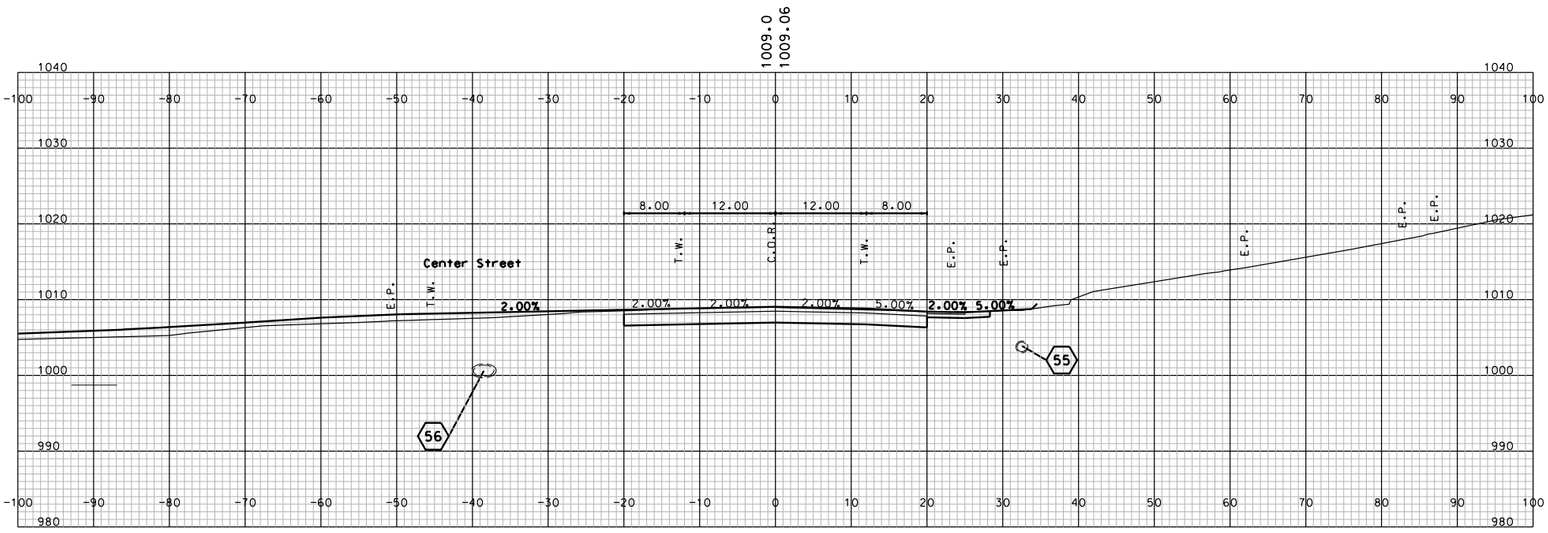
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 212+00.000



STA. 211+62.0



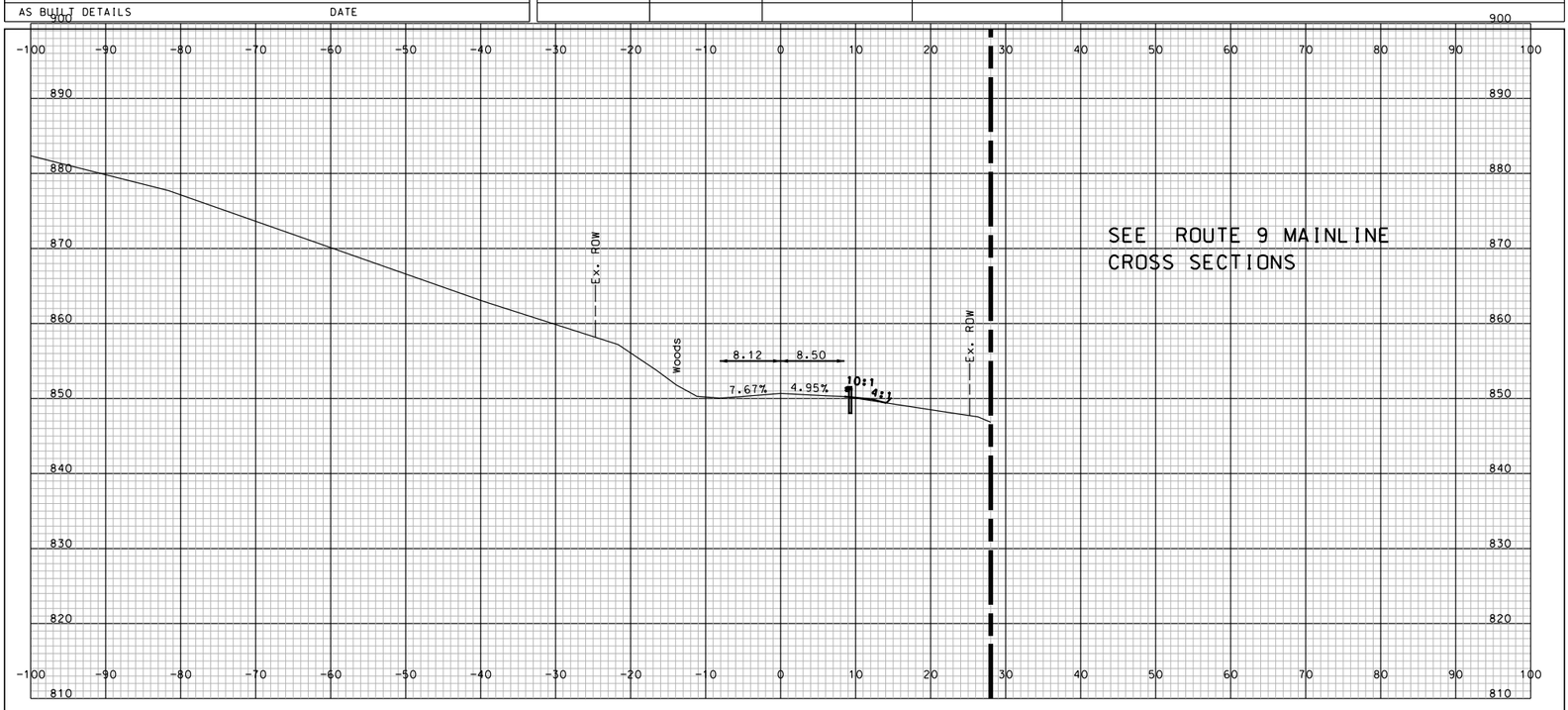
STA. 211+50.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 STA_20950-2150D_XS	10439	273	294

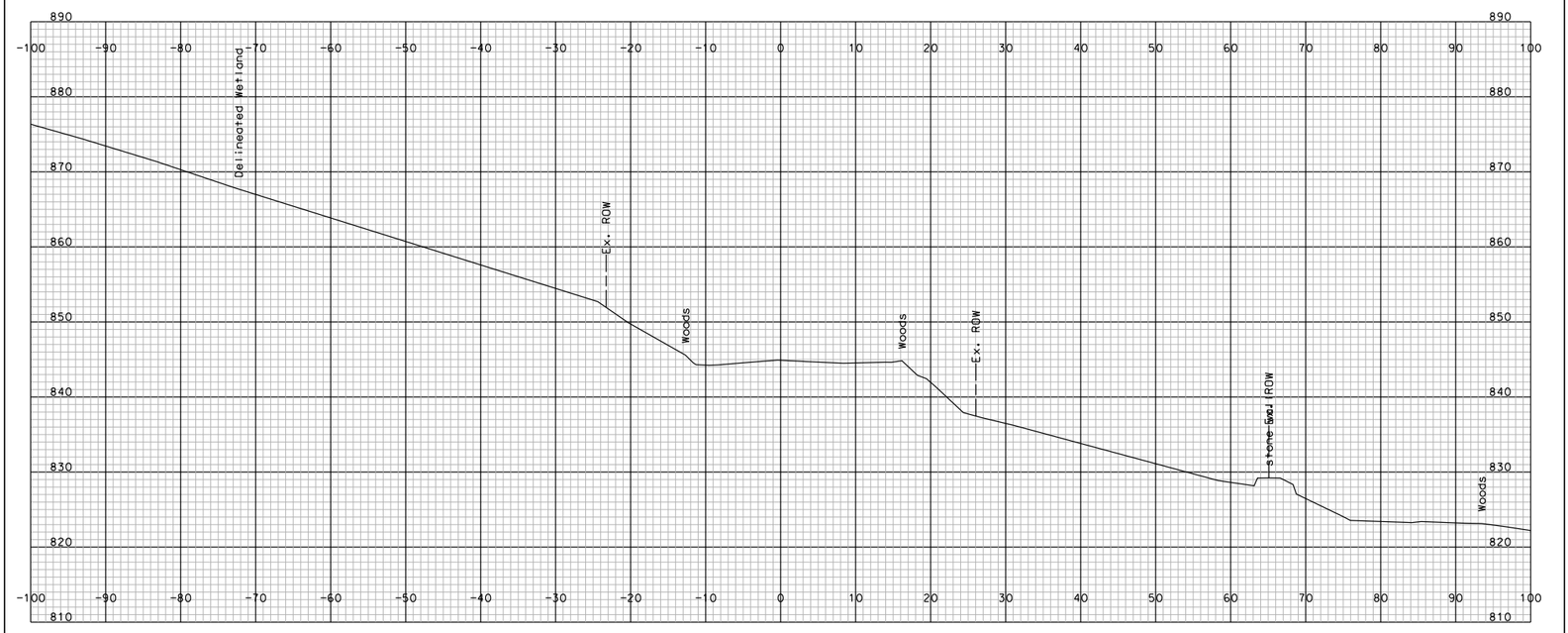
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

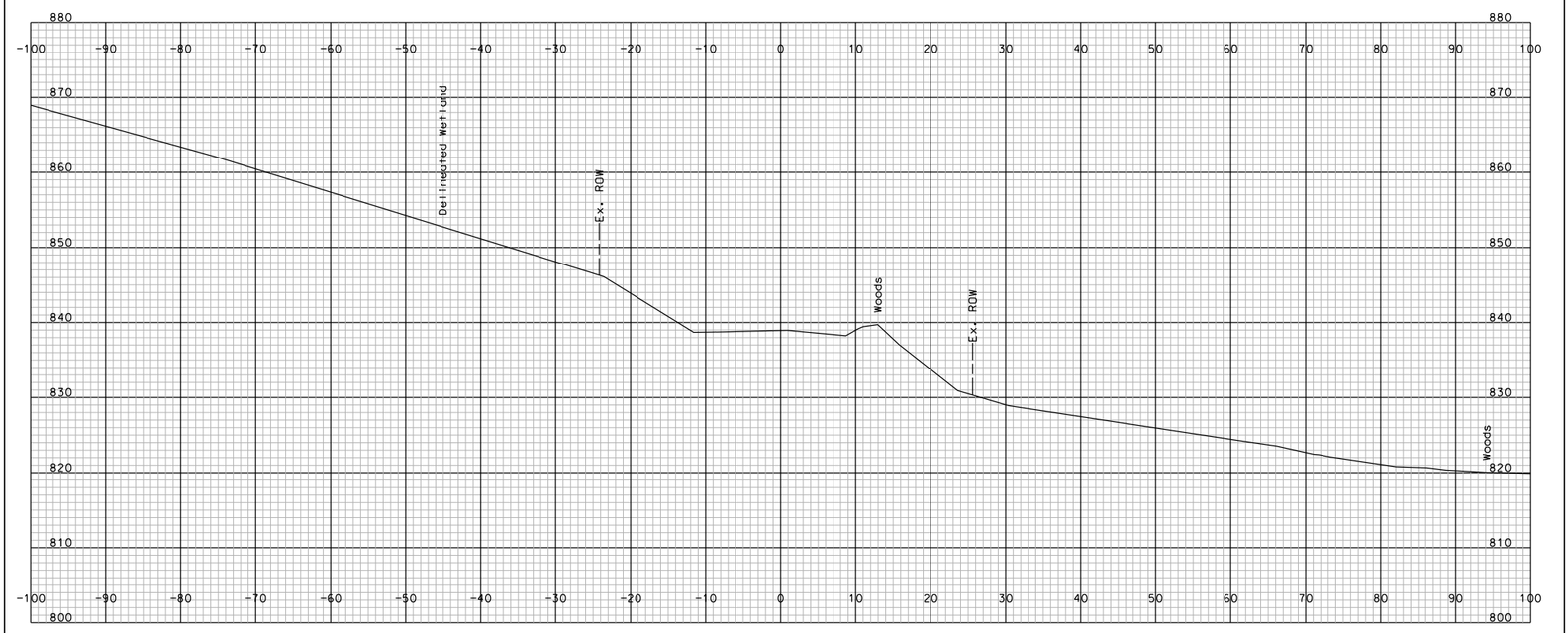
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 53+50.000



STA. 53+00.000



STA. 52+50.000

HOUGHTON LEDGE RD CROSS SECTIONS

SHEET TOTALS

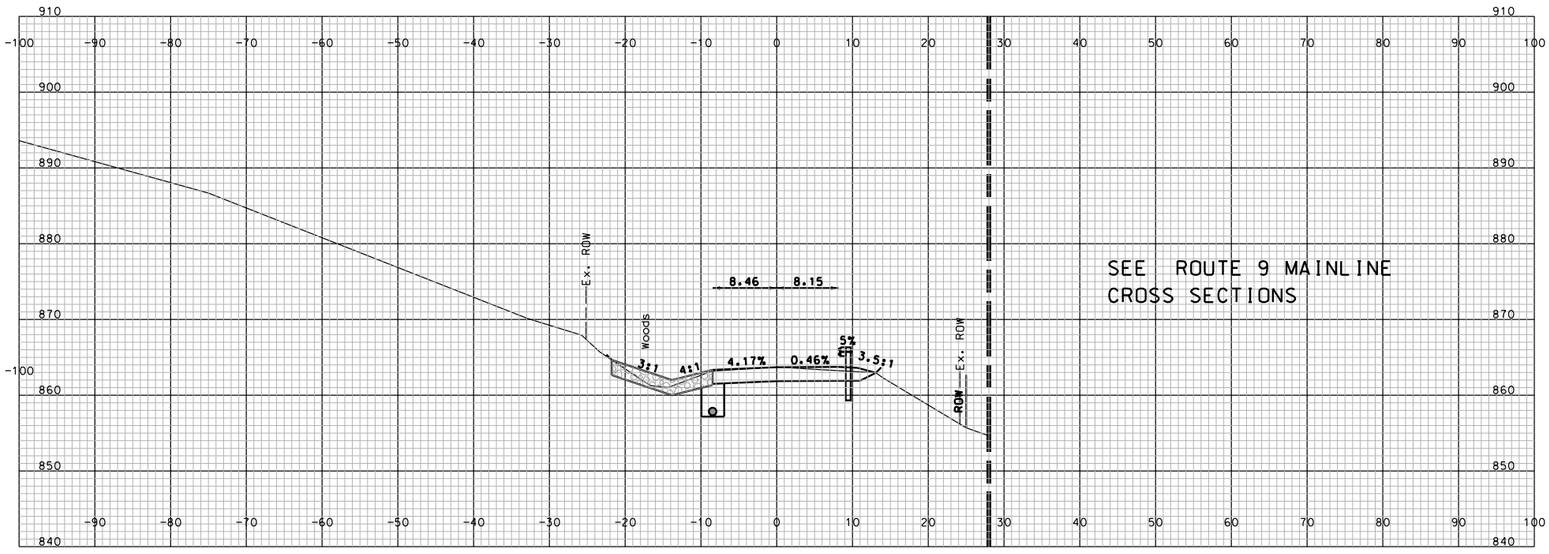
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	274	294

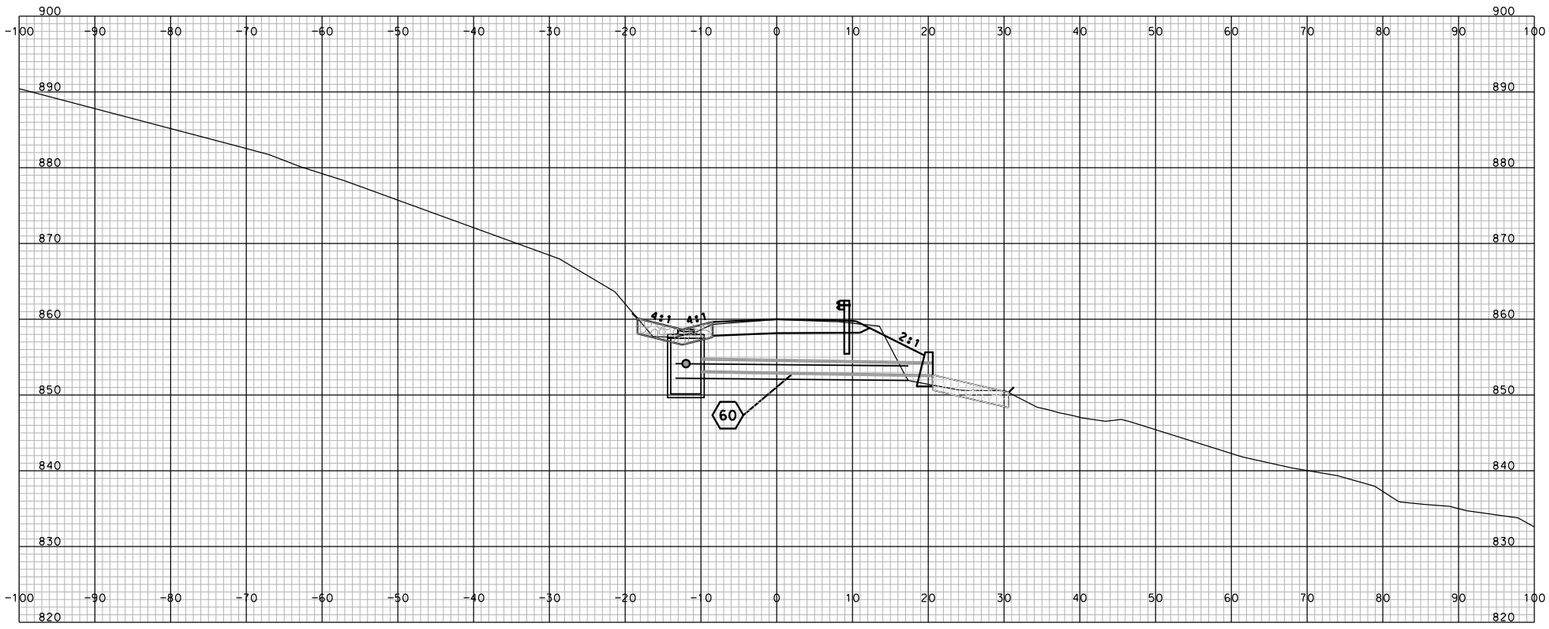
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

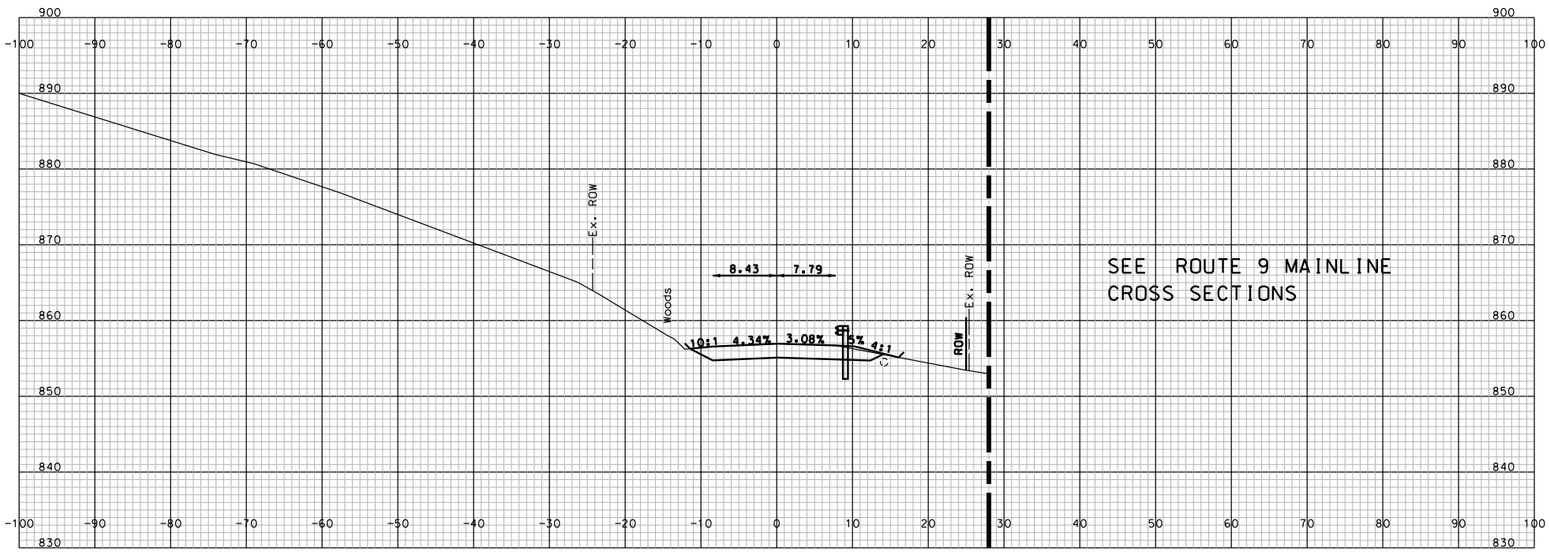
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 54+50.000



STA. 54+22.4 (SKEWED ALONG PIPE)



STA. 54+00.000

SHEET TOTALS

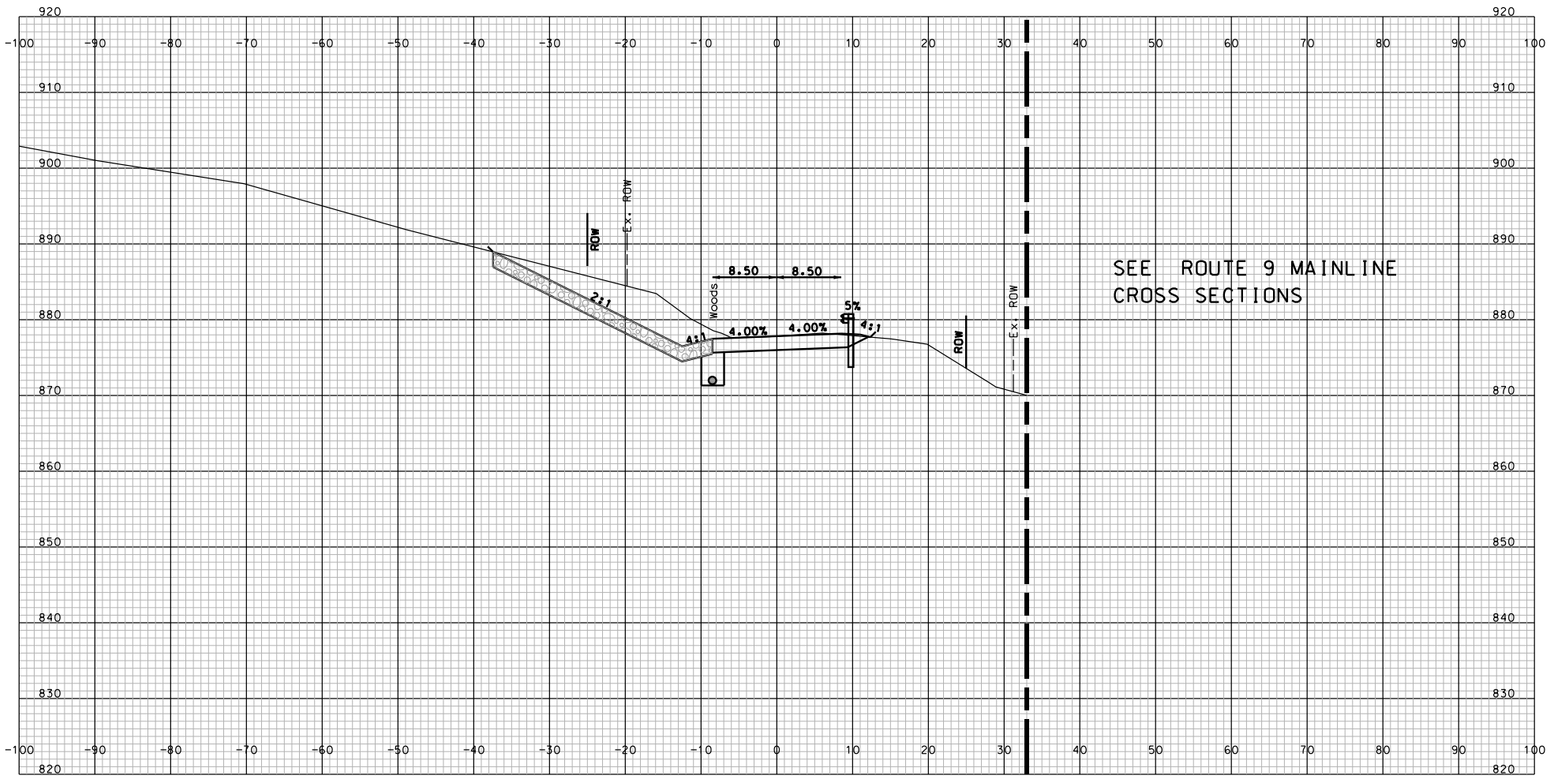
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	275	294

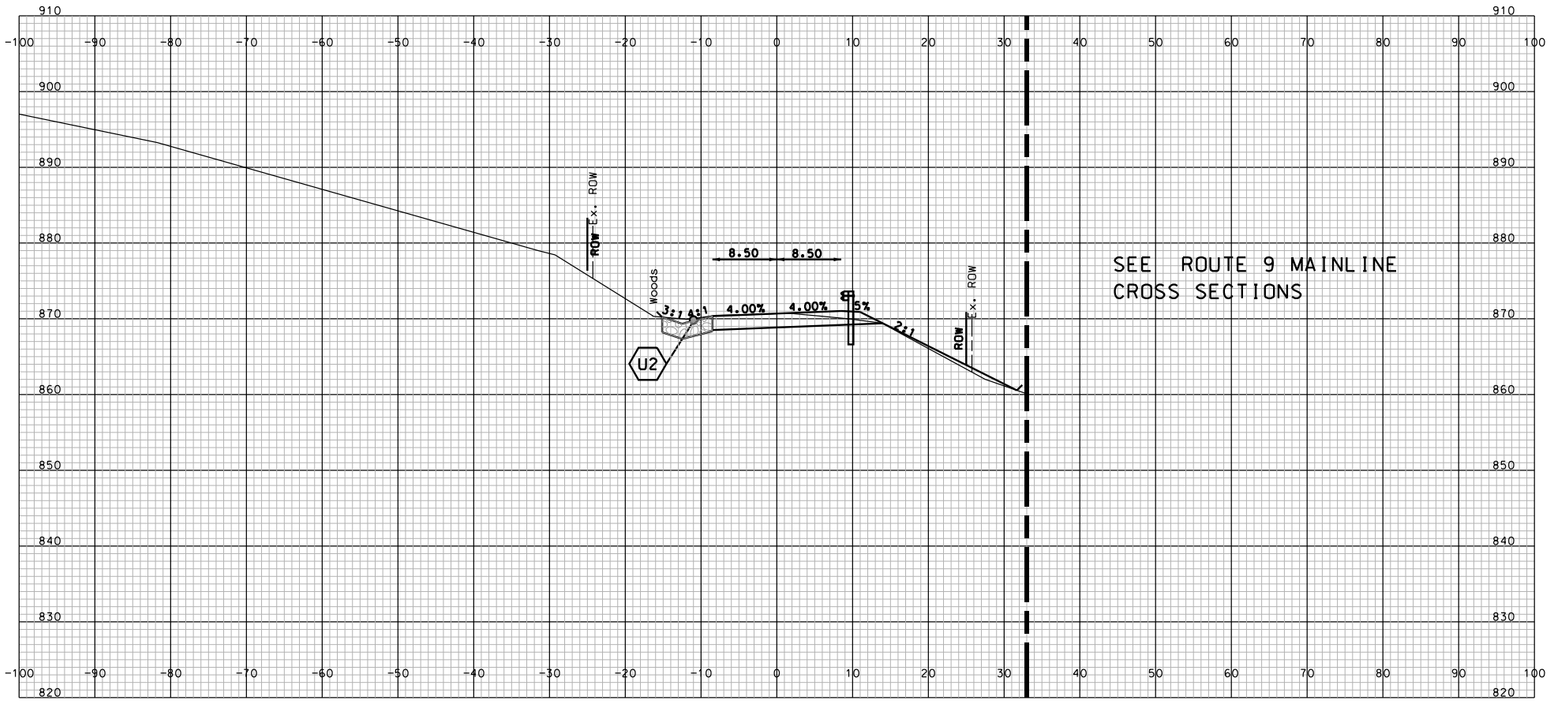
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 55+50.000



STA. 55+00.000

SHEET TOTALS

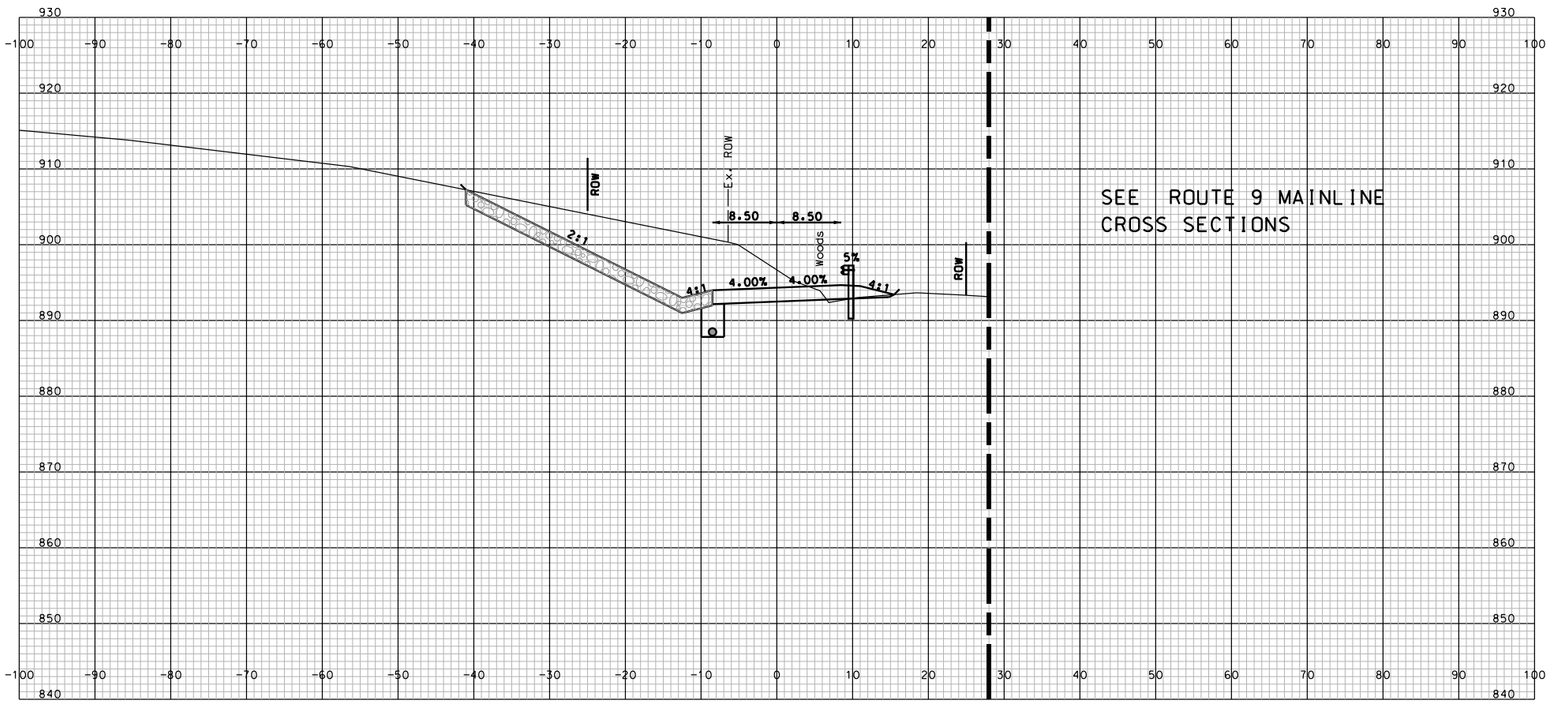
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	276	294

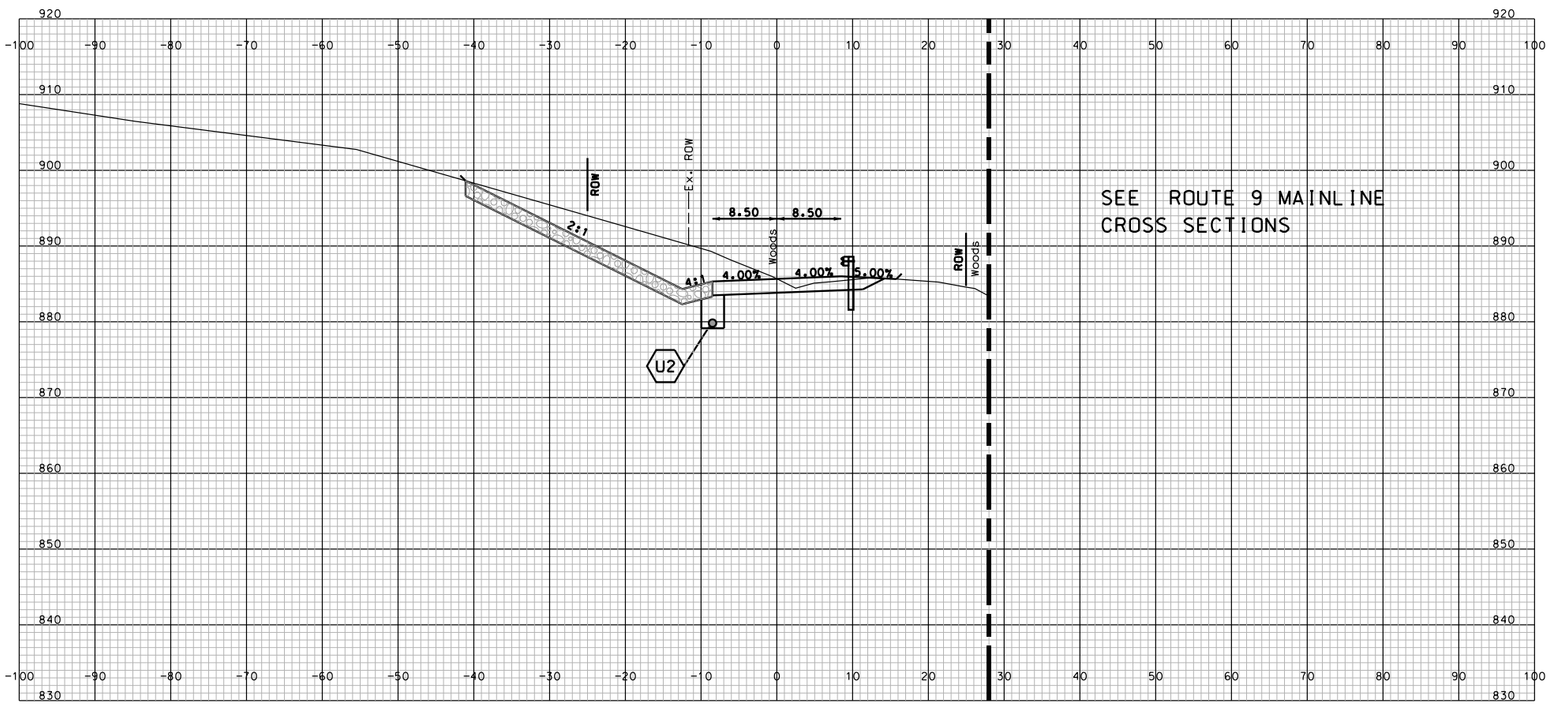
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 56+50.000



STA. 56+00.000

SHEET TOTALS

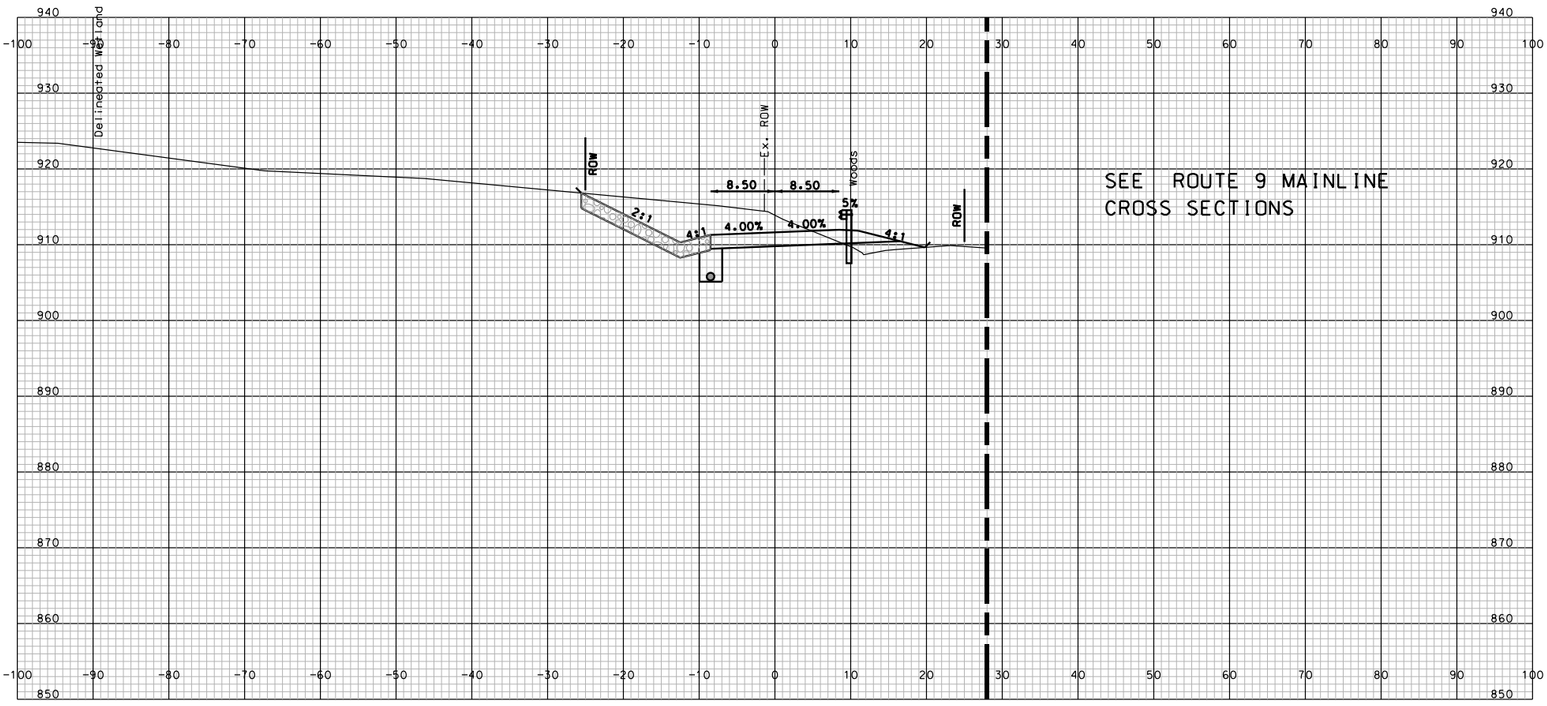
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	277	294

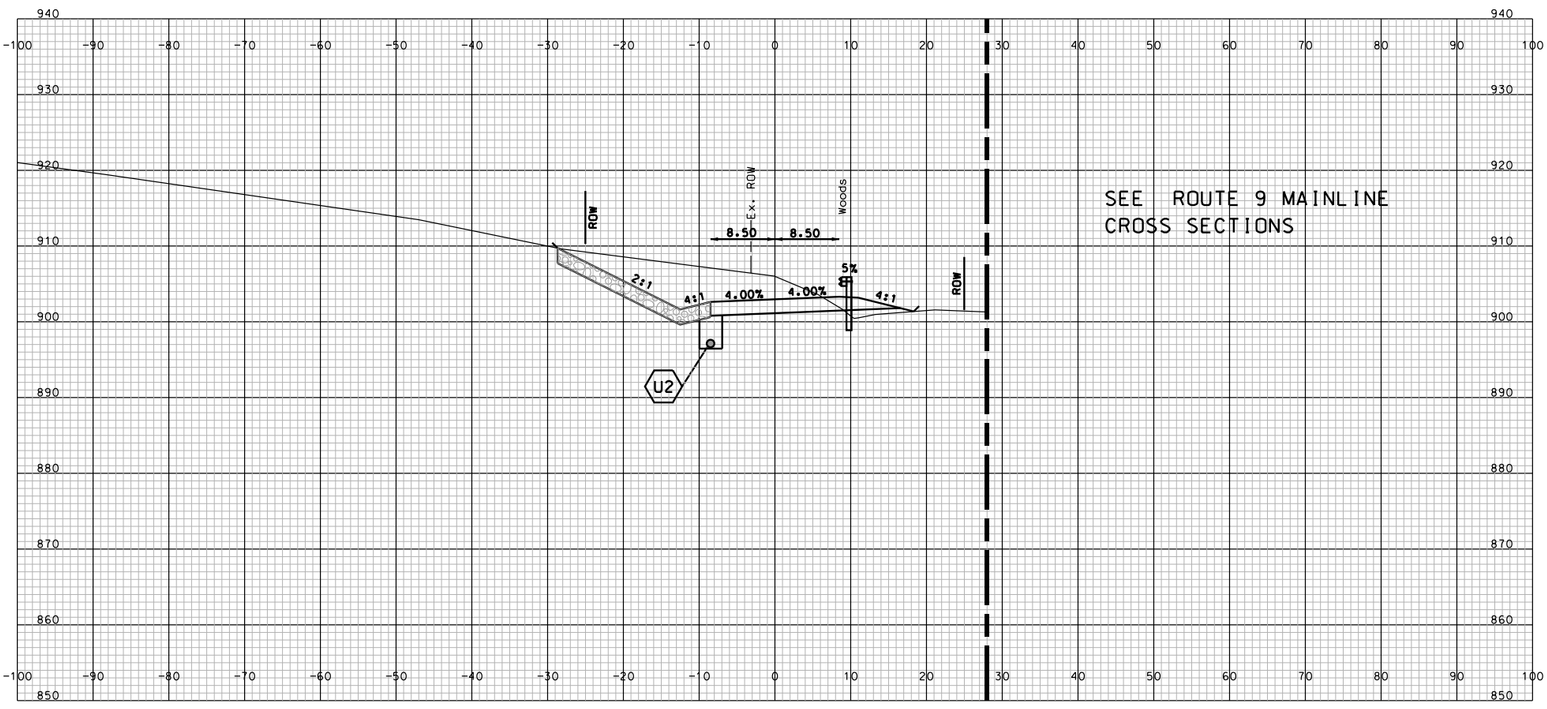
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 57+50.000



STA. 57+00.000

SHEET TOTALS

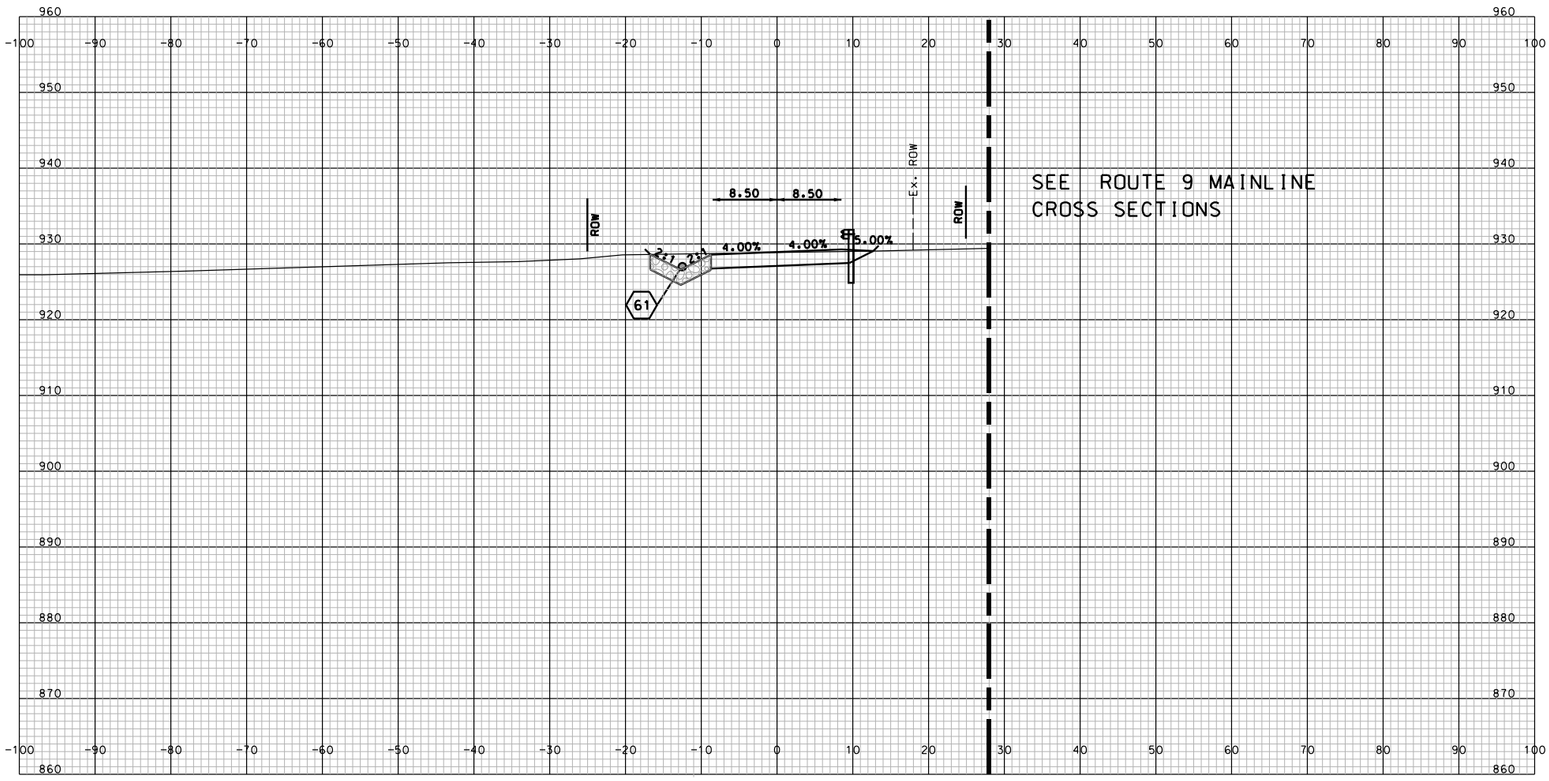
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	278	294

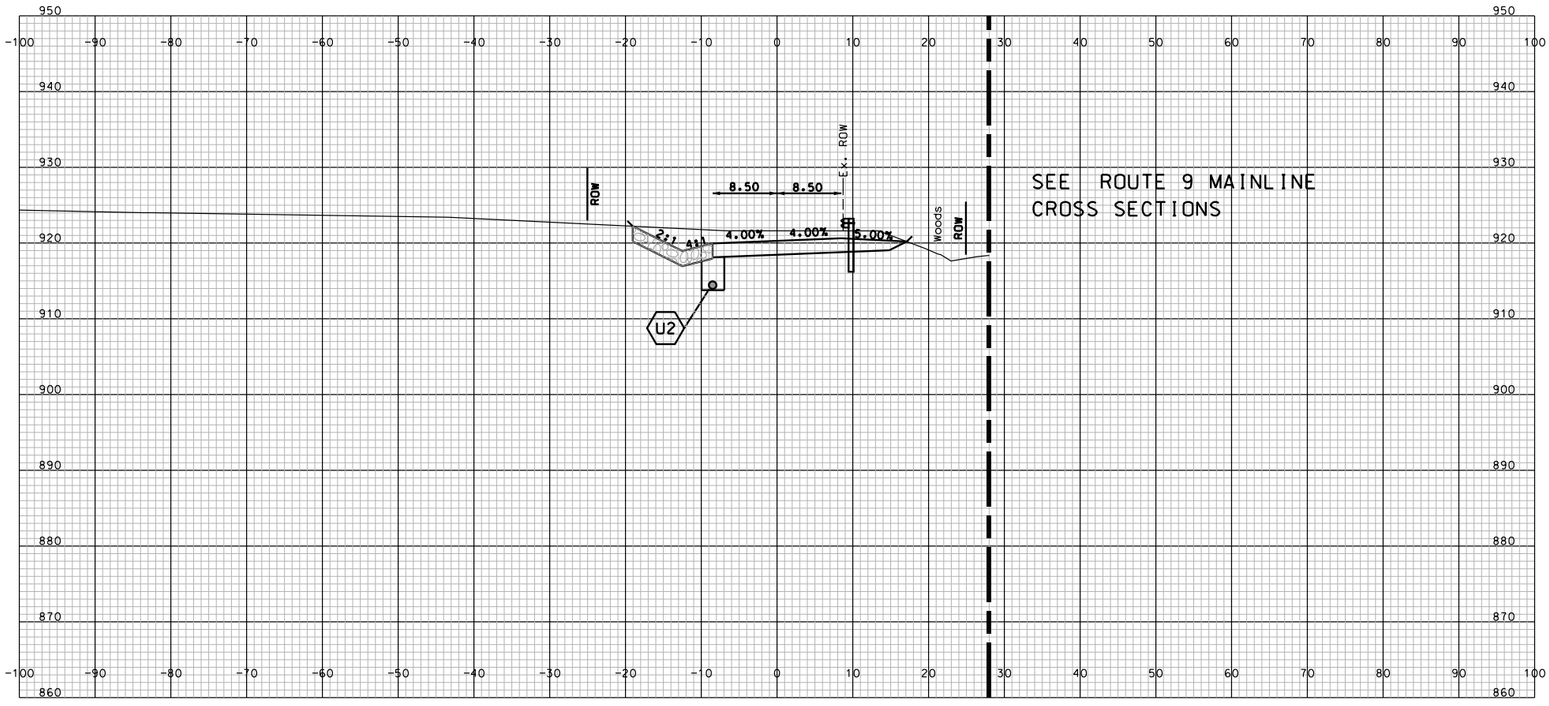
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 58+50.000



STA. 58+00.000

SHEET TOTALS

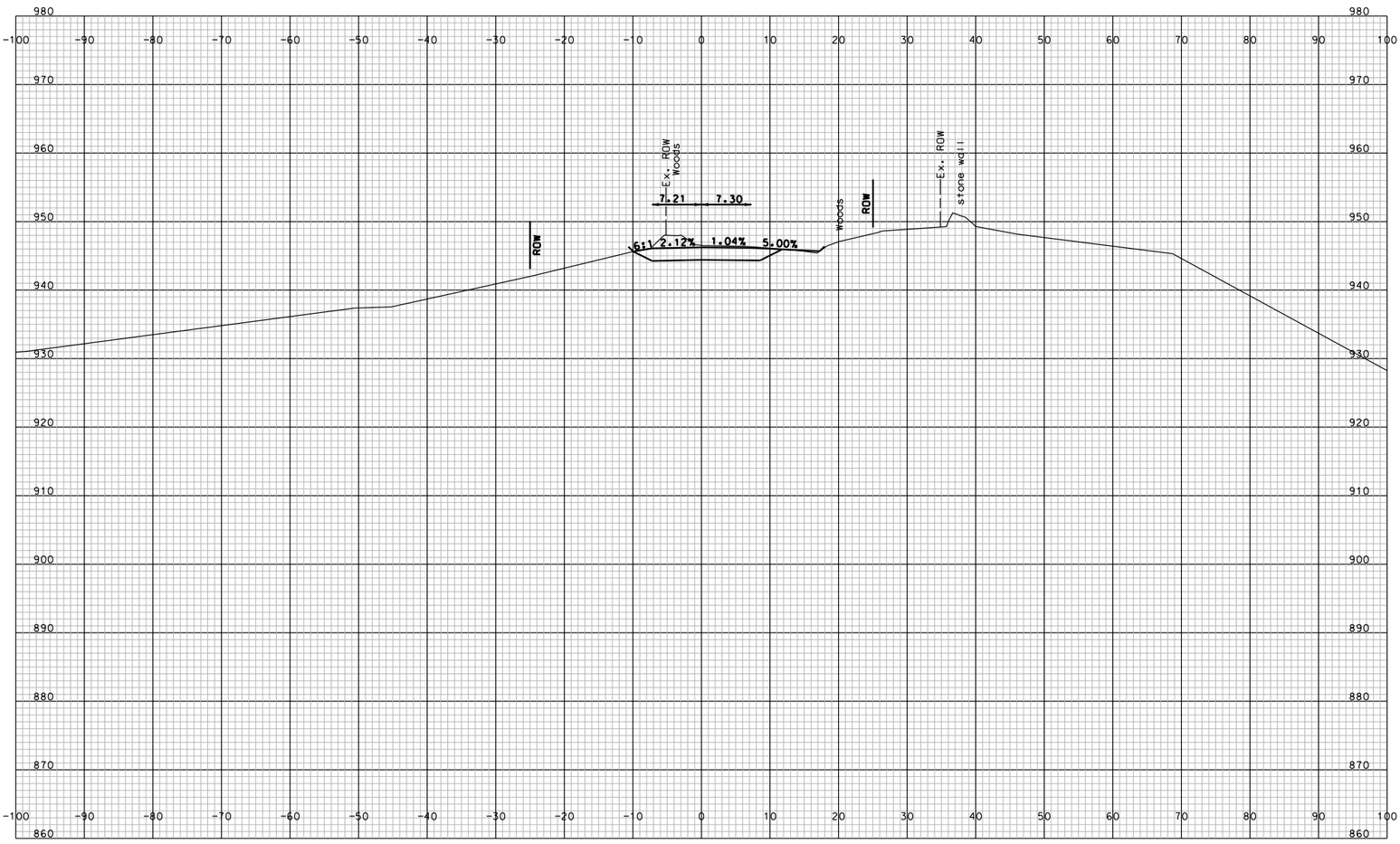
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	279	294

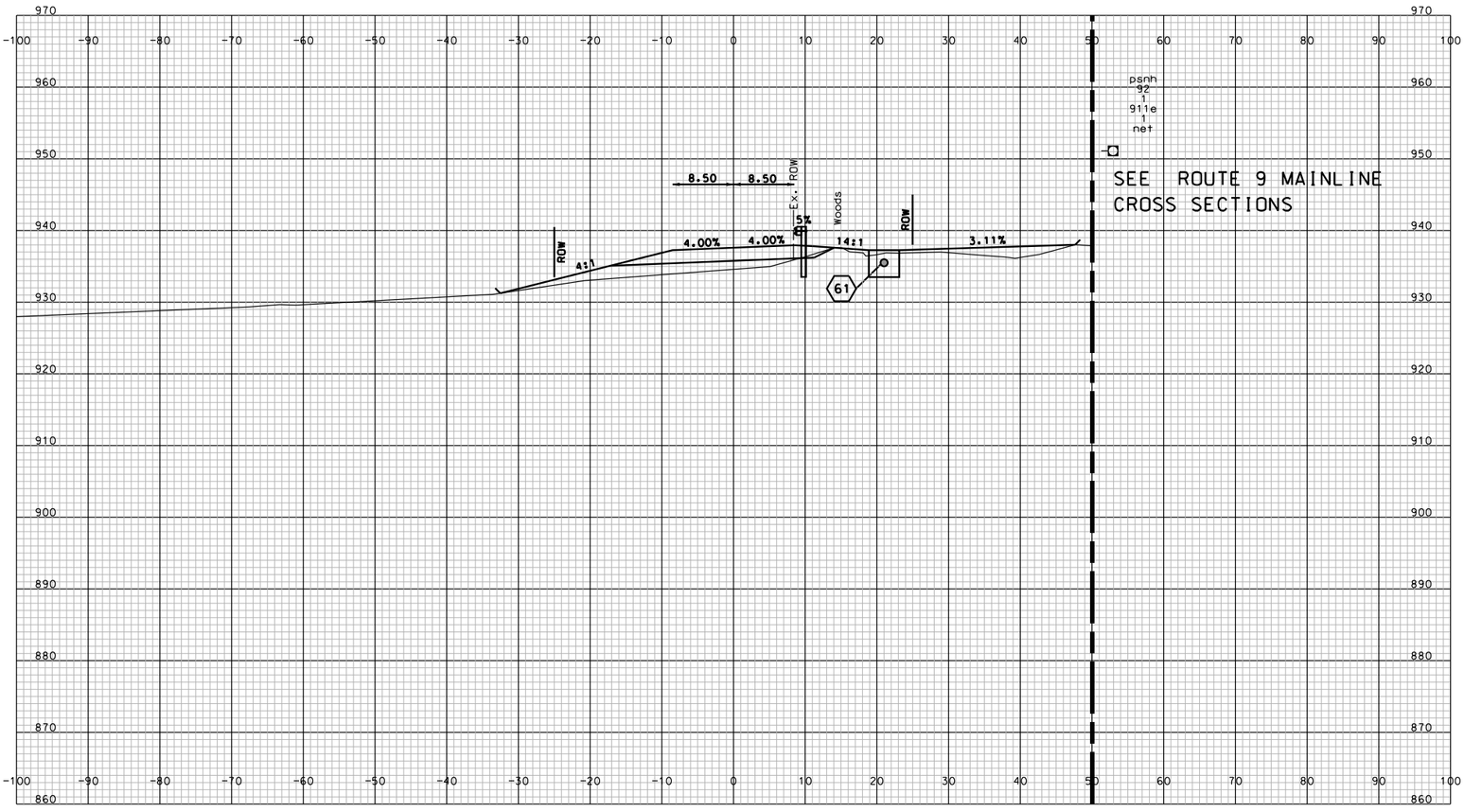
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 59+50.000



STA. 59+00.000

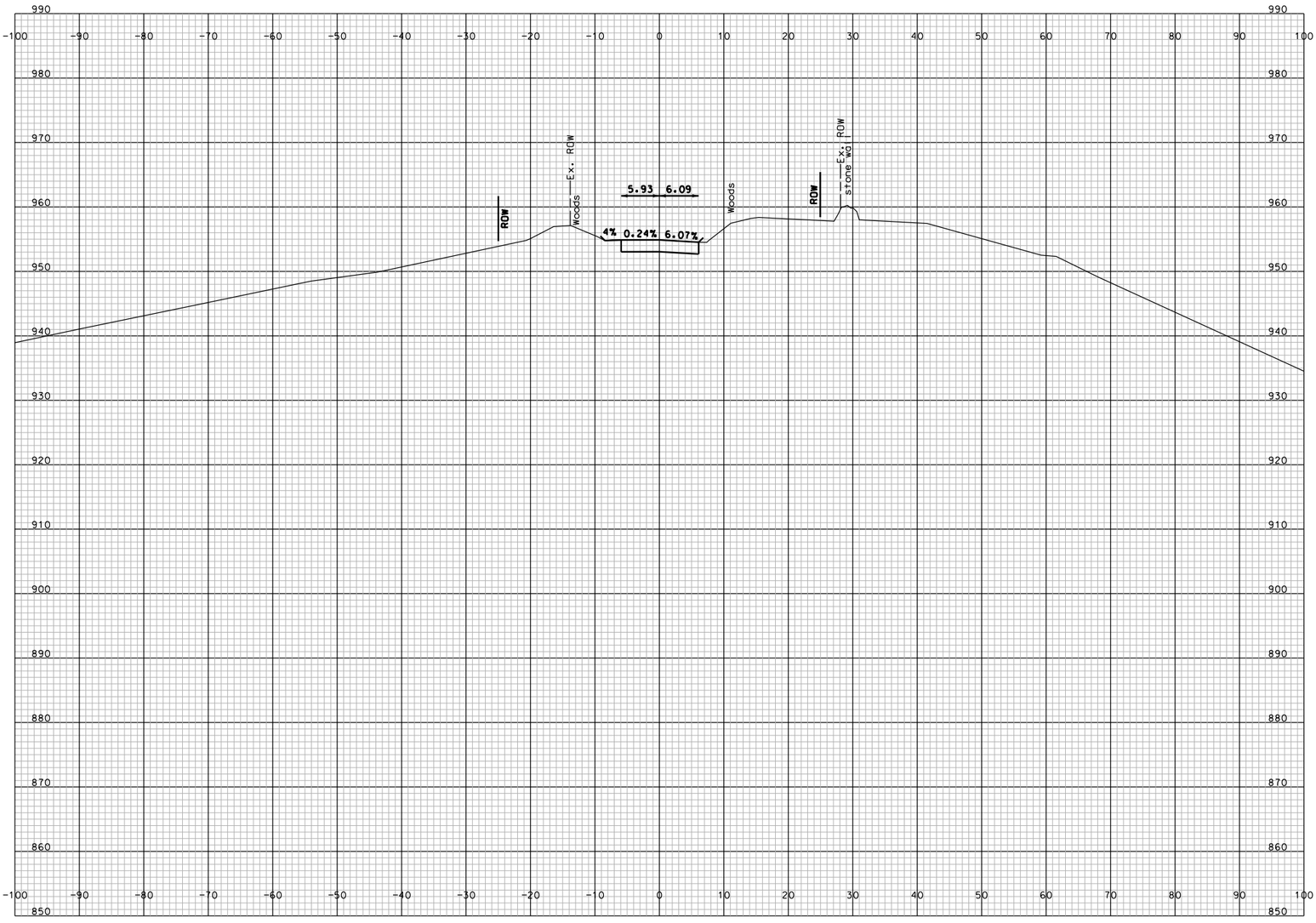
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	280	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 60+00.000

SHEET TOTALS

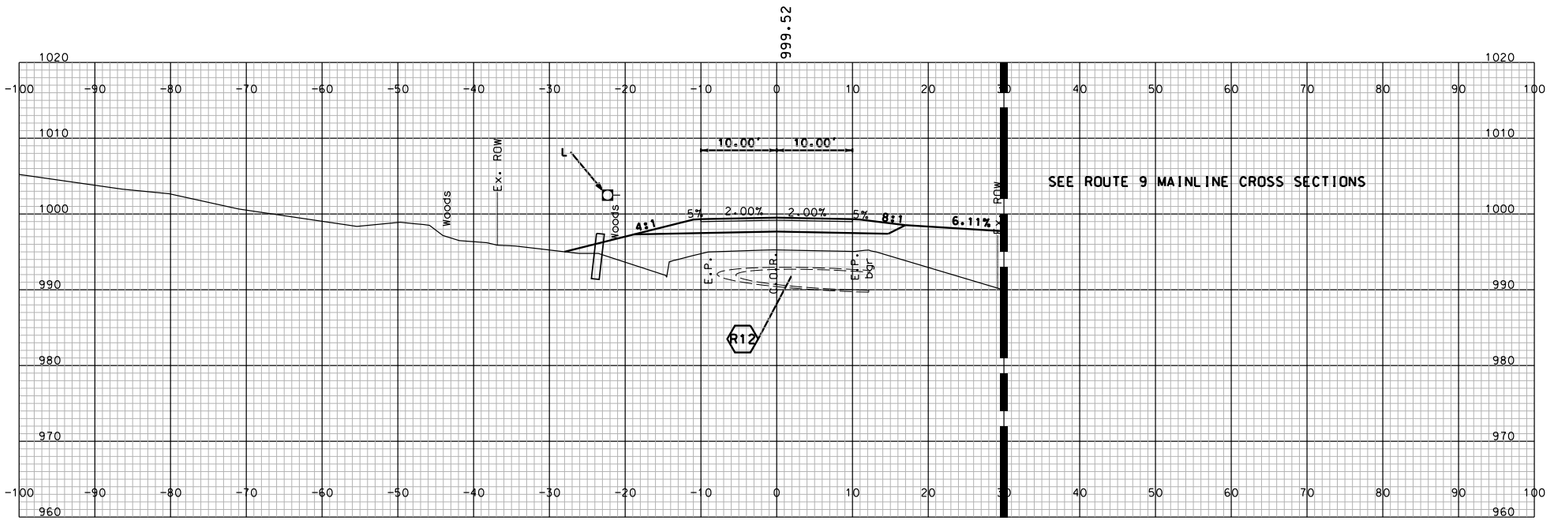
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 HLR	10439	281	294

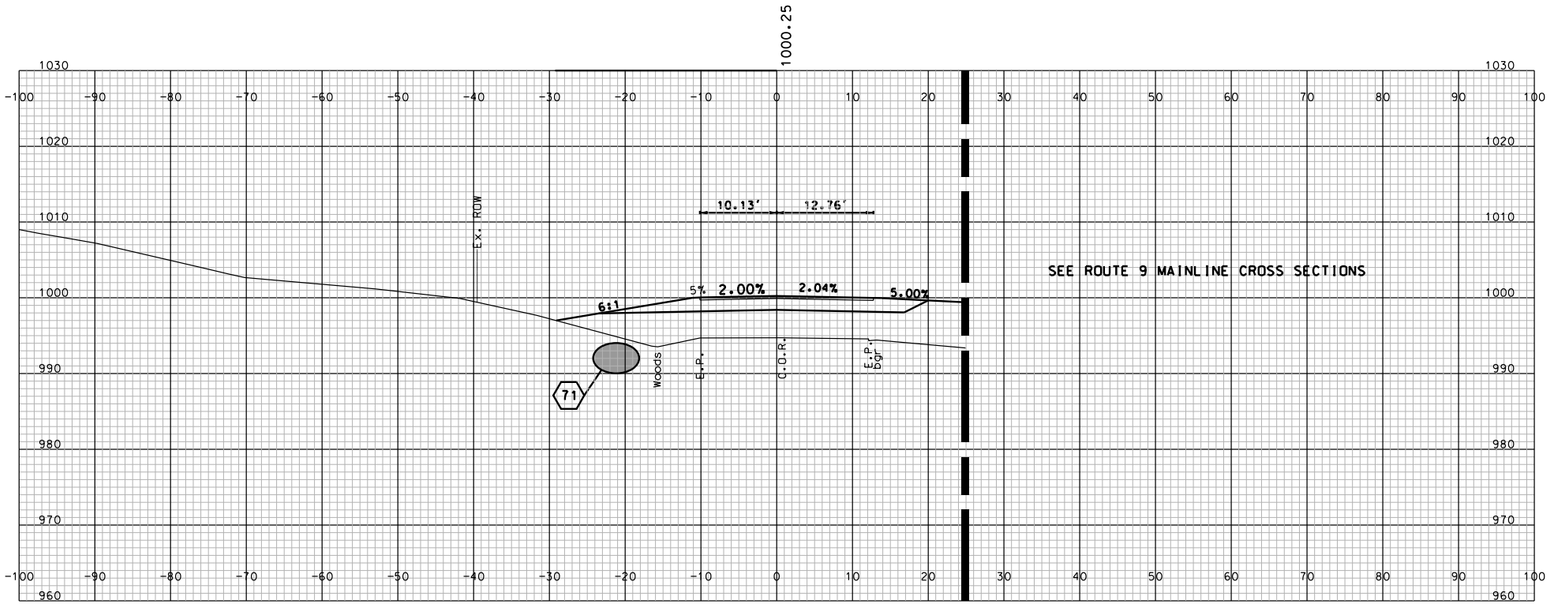
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

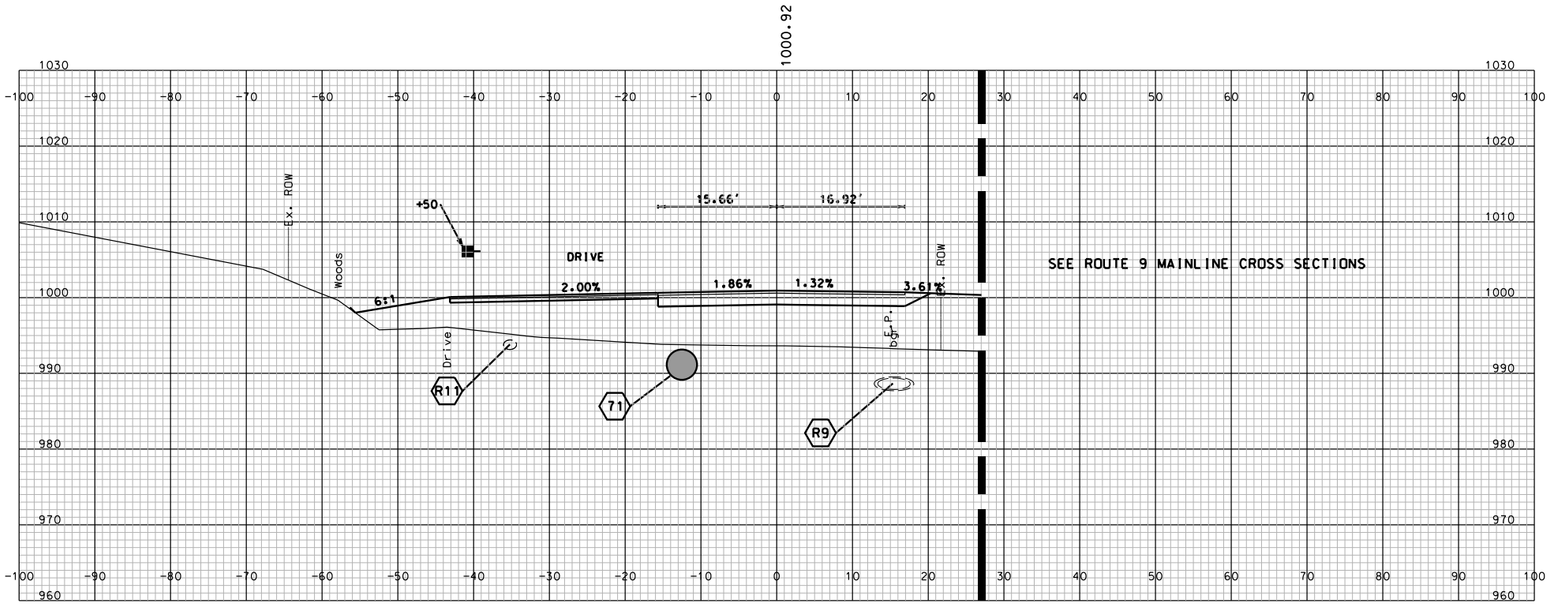
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 21+00.000



STA. 20+75.000



STA. 20+50.000

VALLEY RD CROSS SECTIONS

SHEET TOTALS

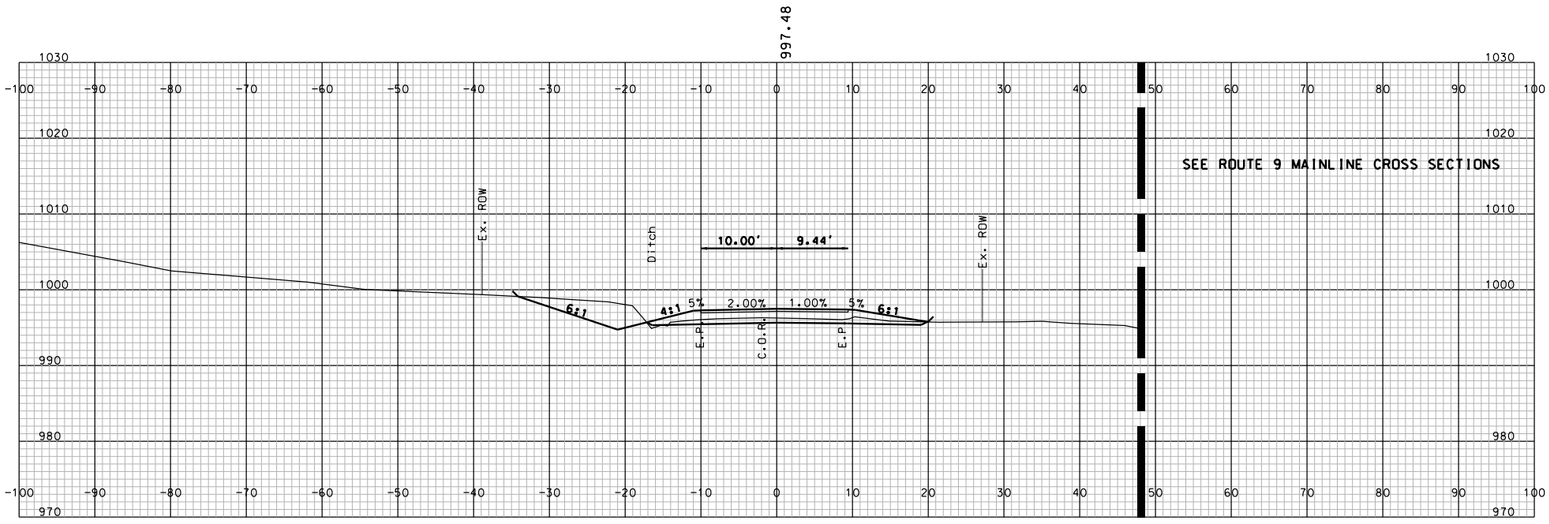
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 ValleyXS	10439	282	294

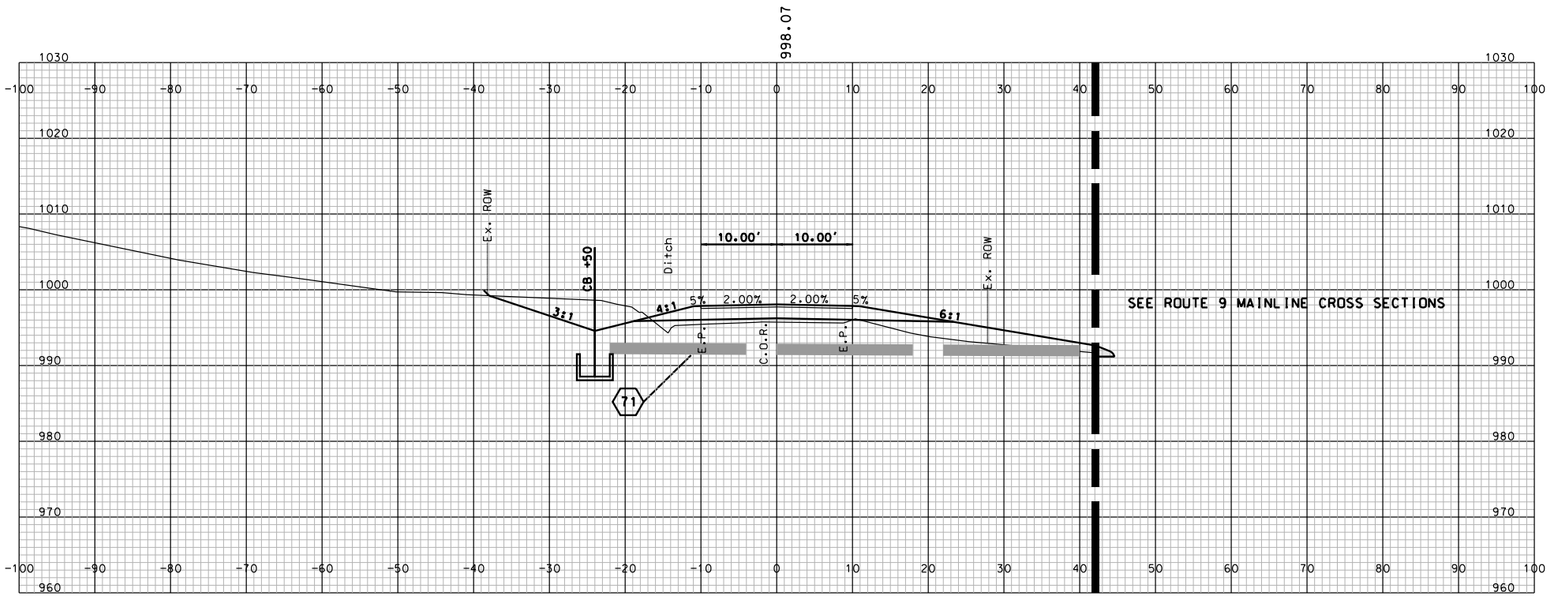
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

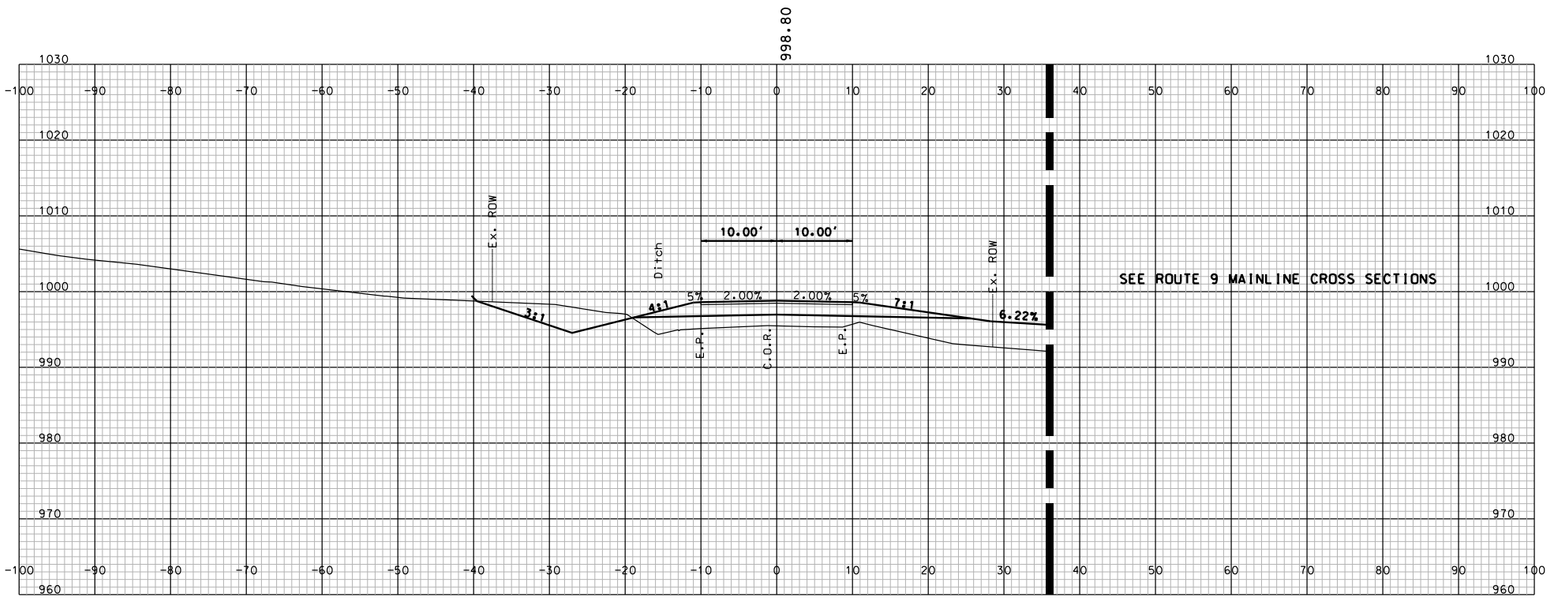
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 21+75.000



STA. 21+50.000



STA. 21+25.000

SHEET TOTALS

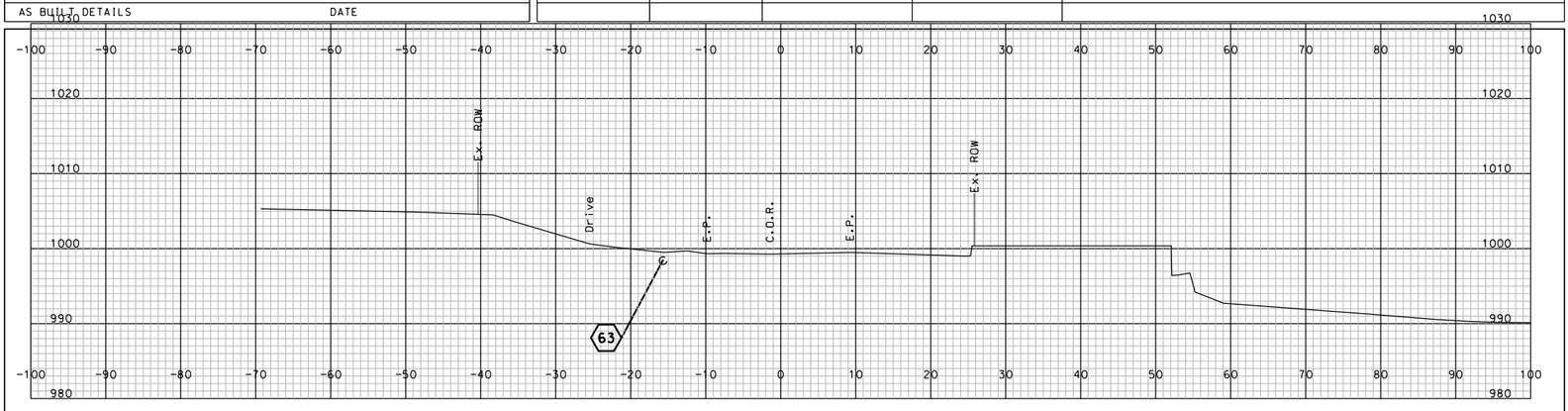
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 ValleyXS	10439	283	294

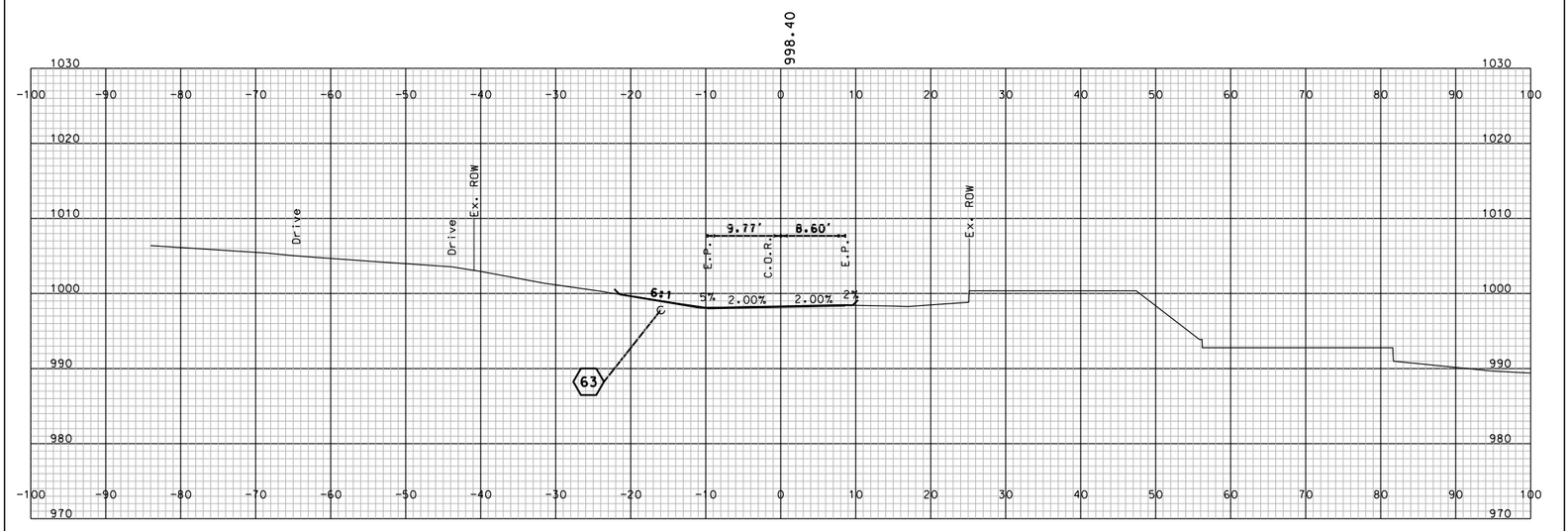
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

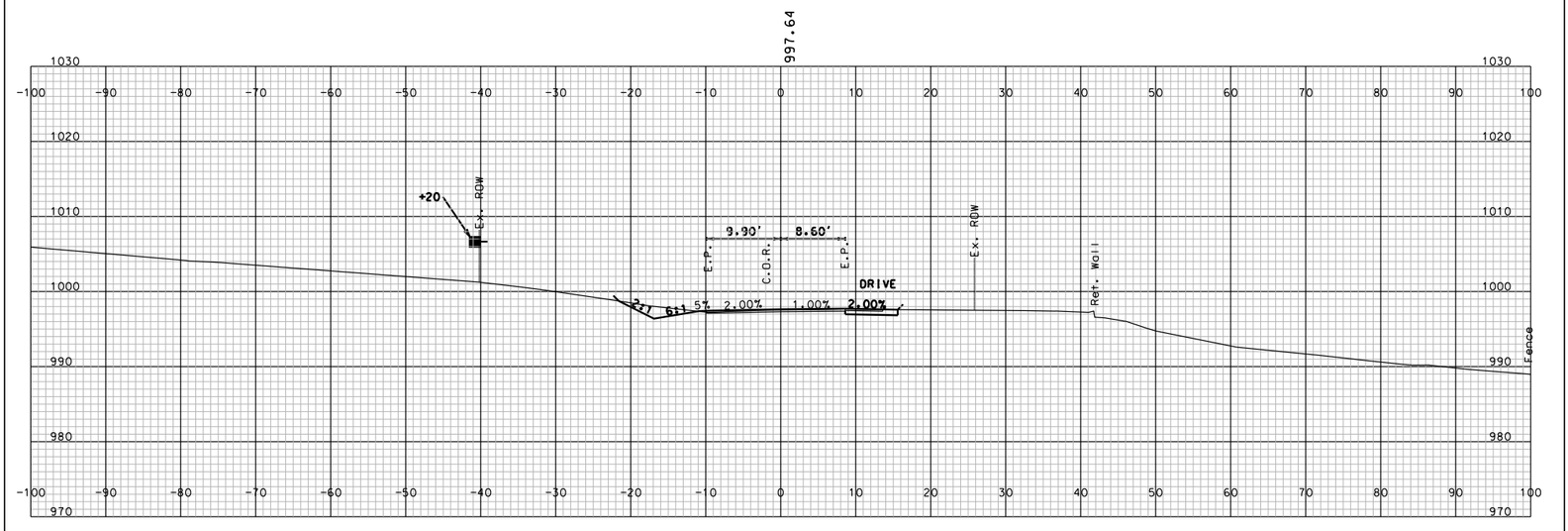
NUMBER	DATE	STATION	STATION	DESCRIPTION



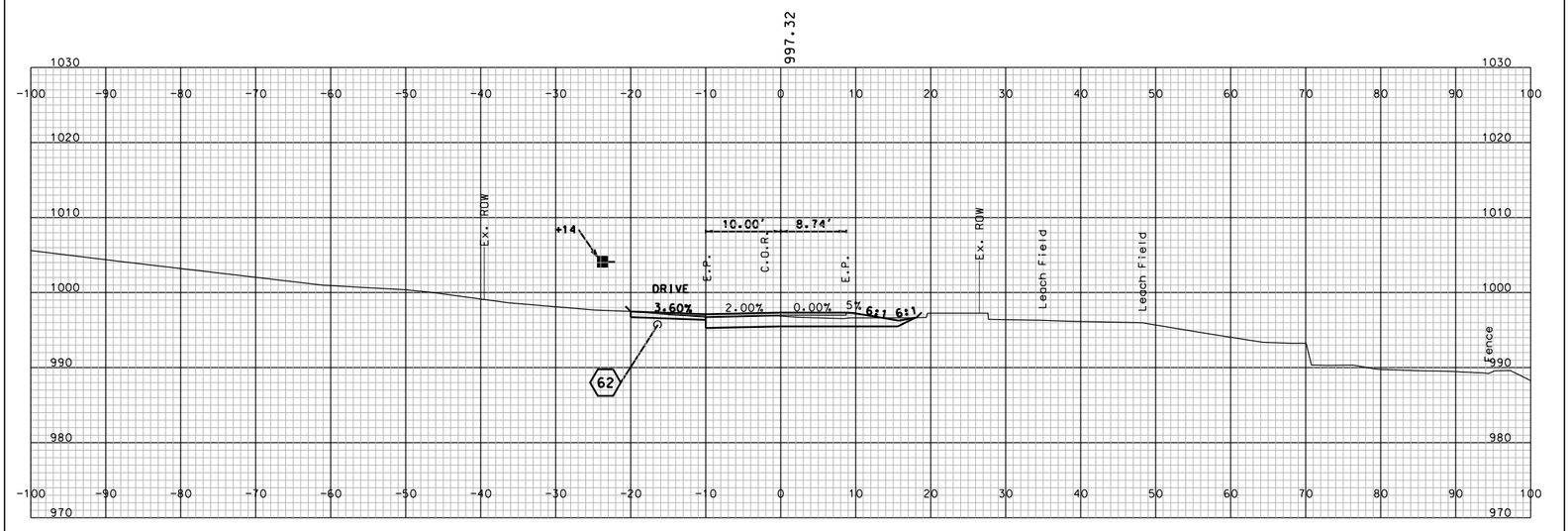
STA. 22+75.000



STA. 22+50.000



STA. 22+25.000



STA. 22+00.000

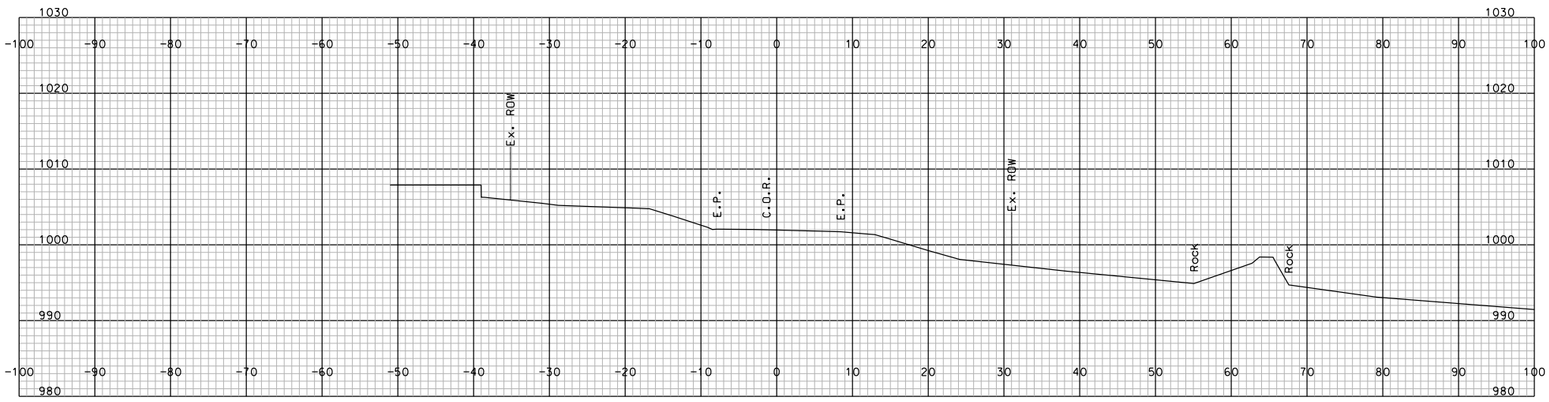
SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 ValleyXS	10439	284	294

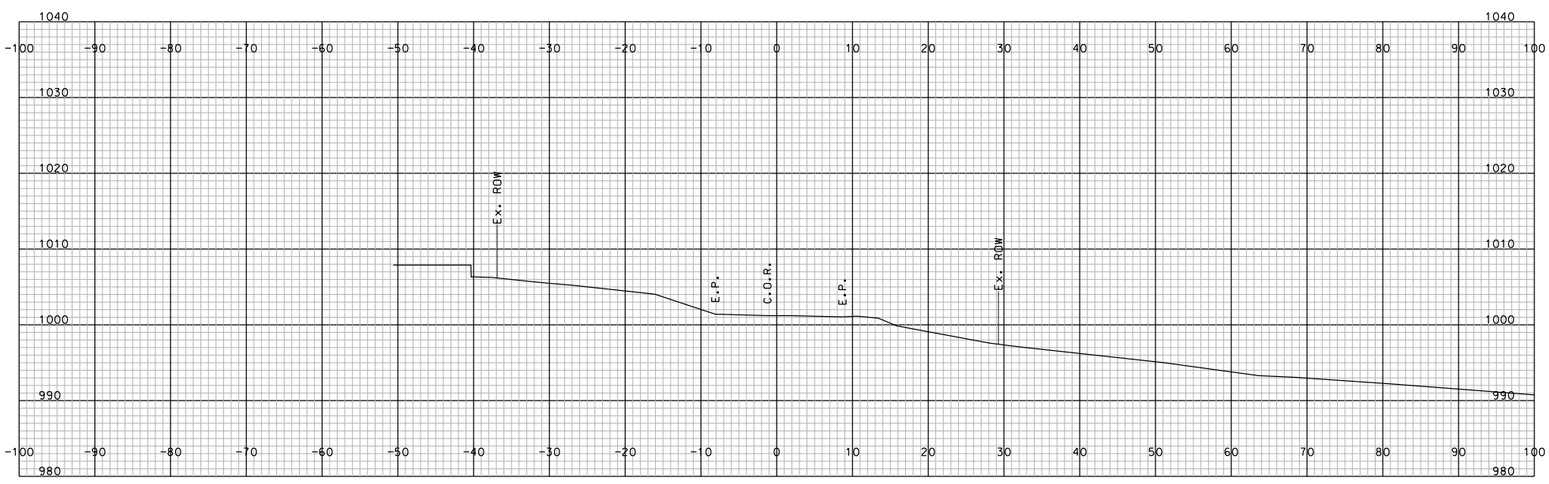
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

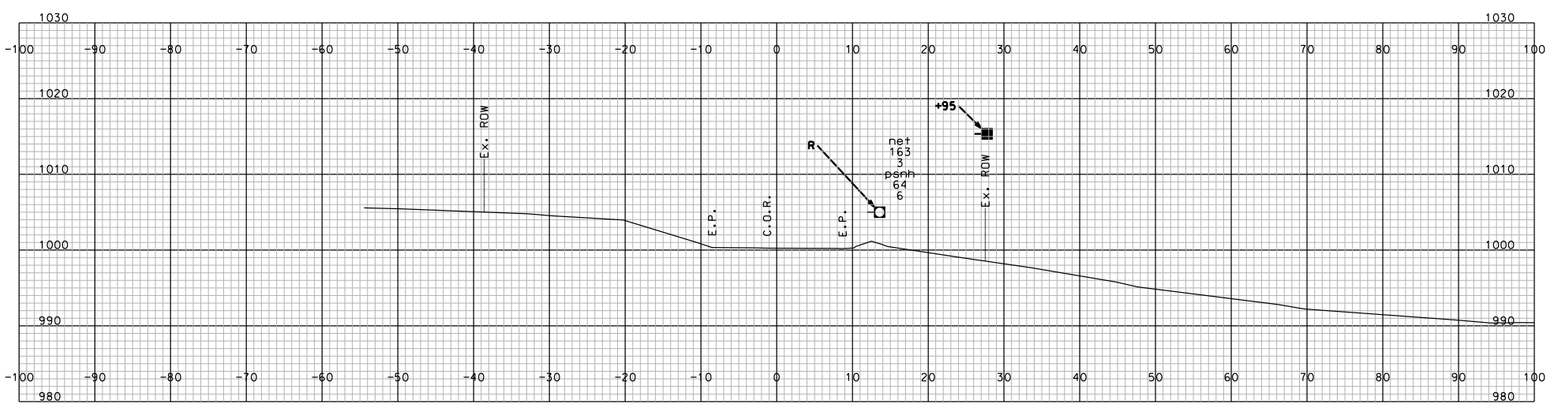
NUMBER	DATE	STATION	STATION	DESCRIPTION



STA. 23+50.000



STA. 23+25.000



STA. 23+00.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439 ValleyXS	10439	285	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

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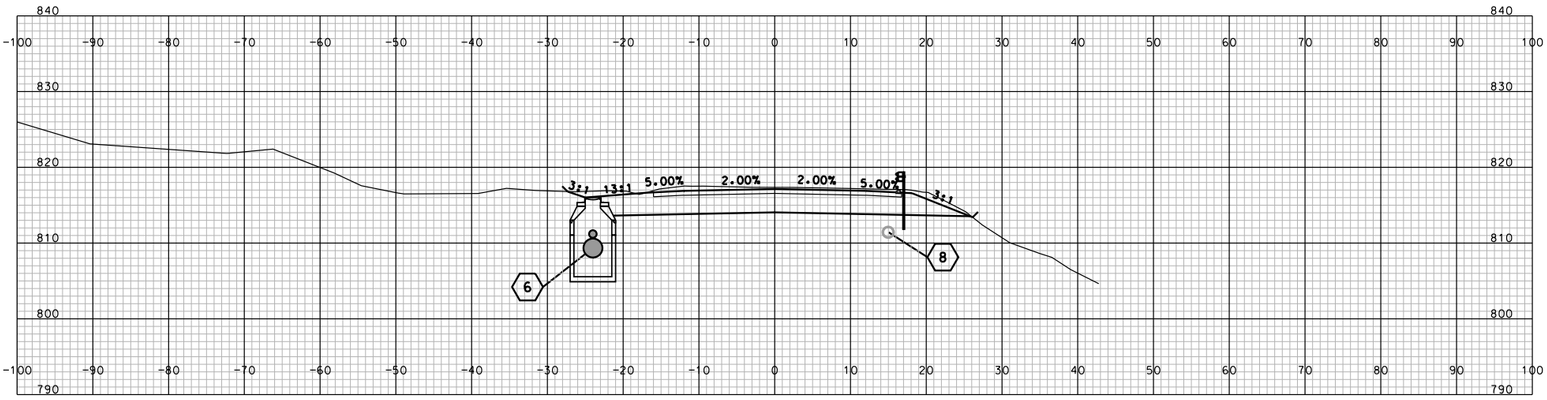
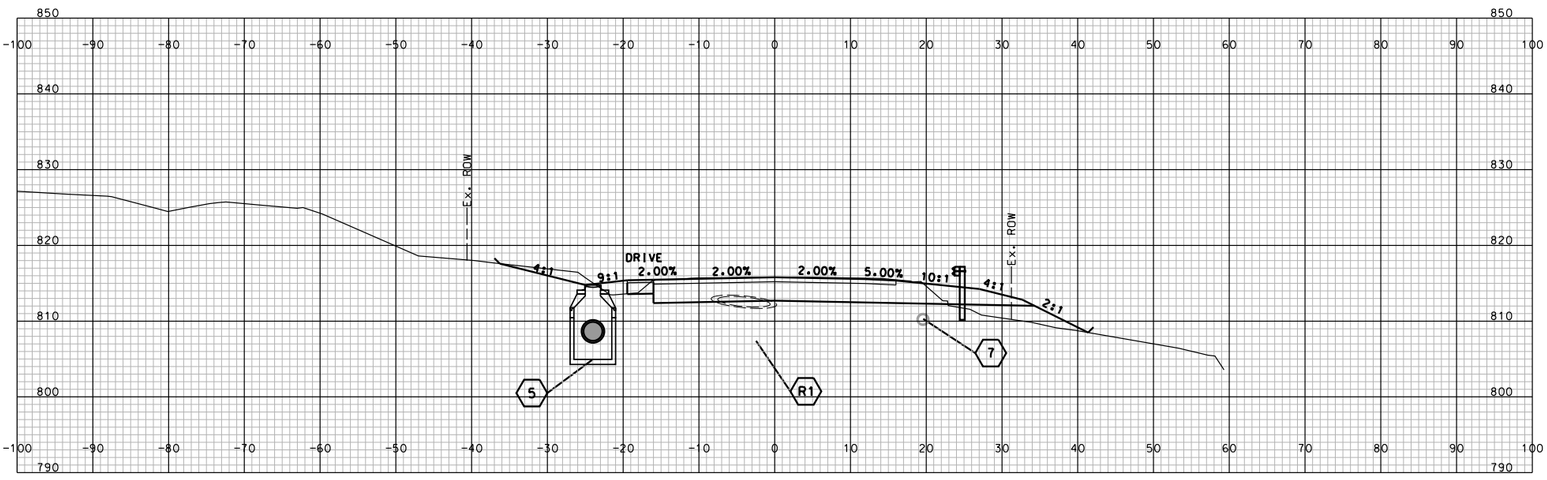
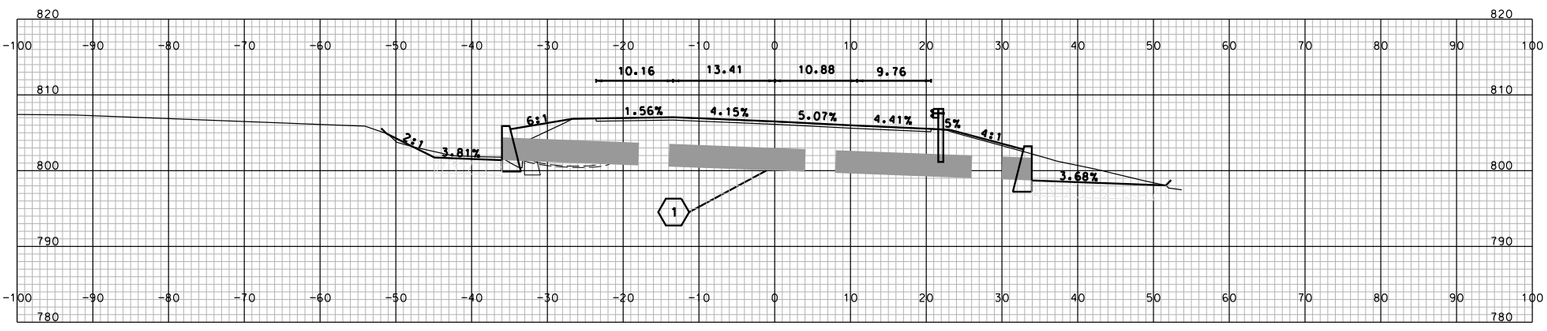


STA. 110+15.000



STA. 109+25.000



STA. 102+90.768

NH ROUTE 9
DRAINAGE
CROSS SECTIONS

SHEET TOTALS

COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	286	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

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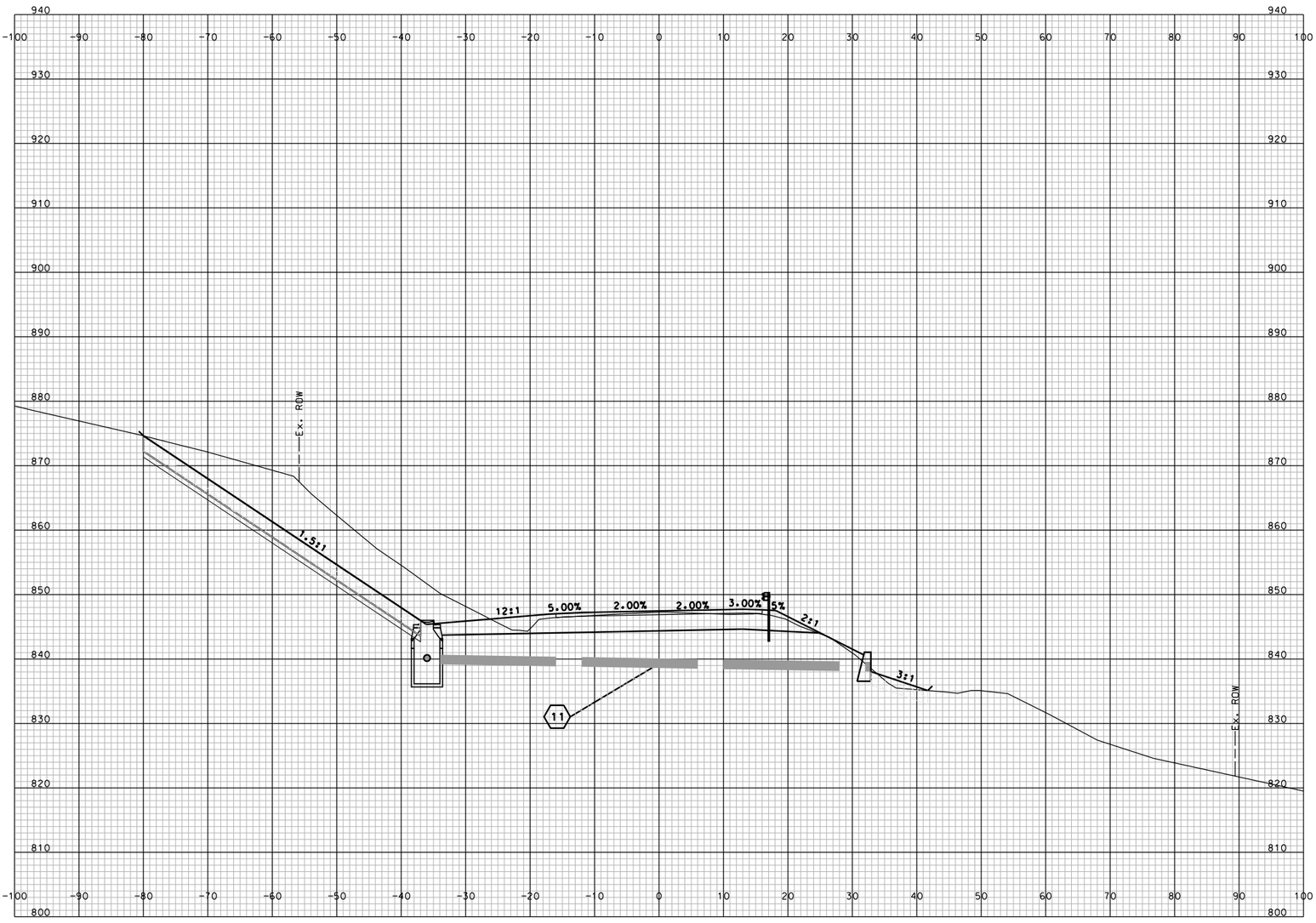

STA. 115+15.000

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	287	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

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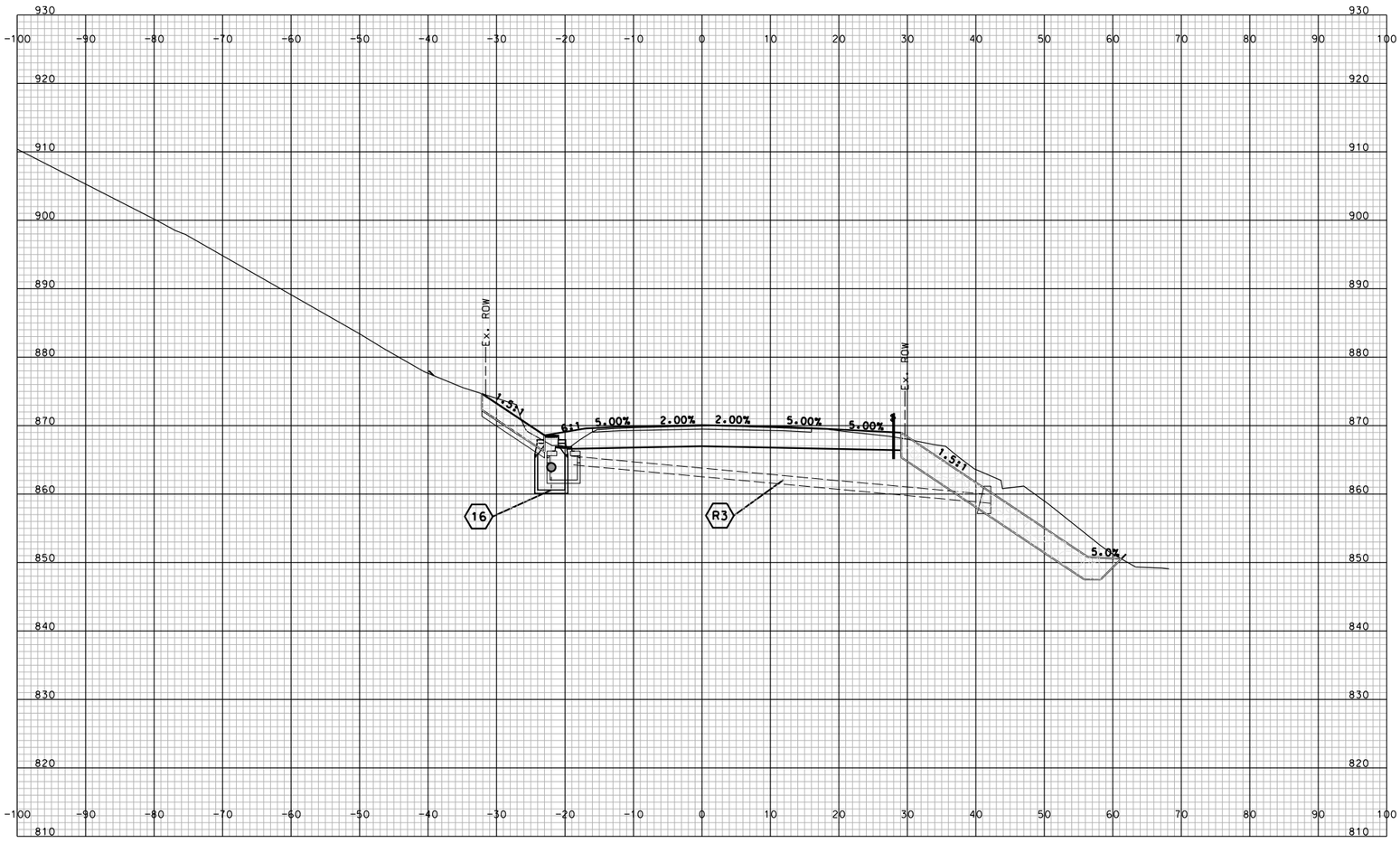
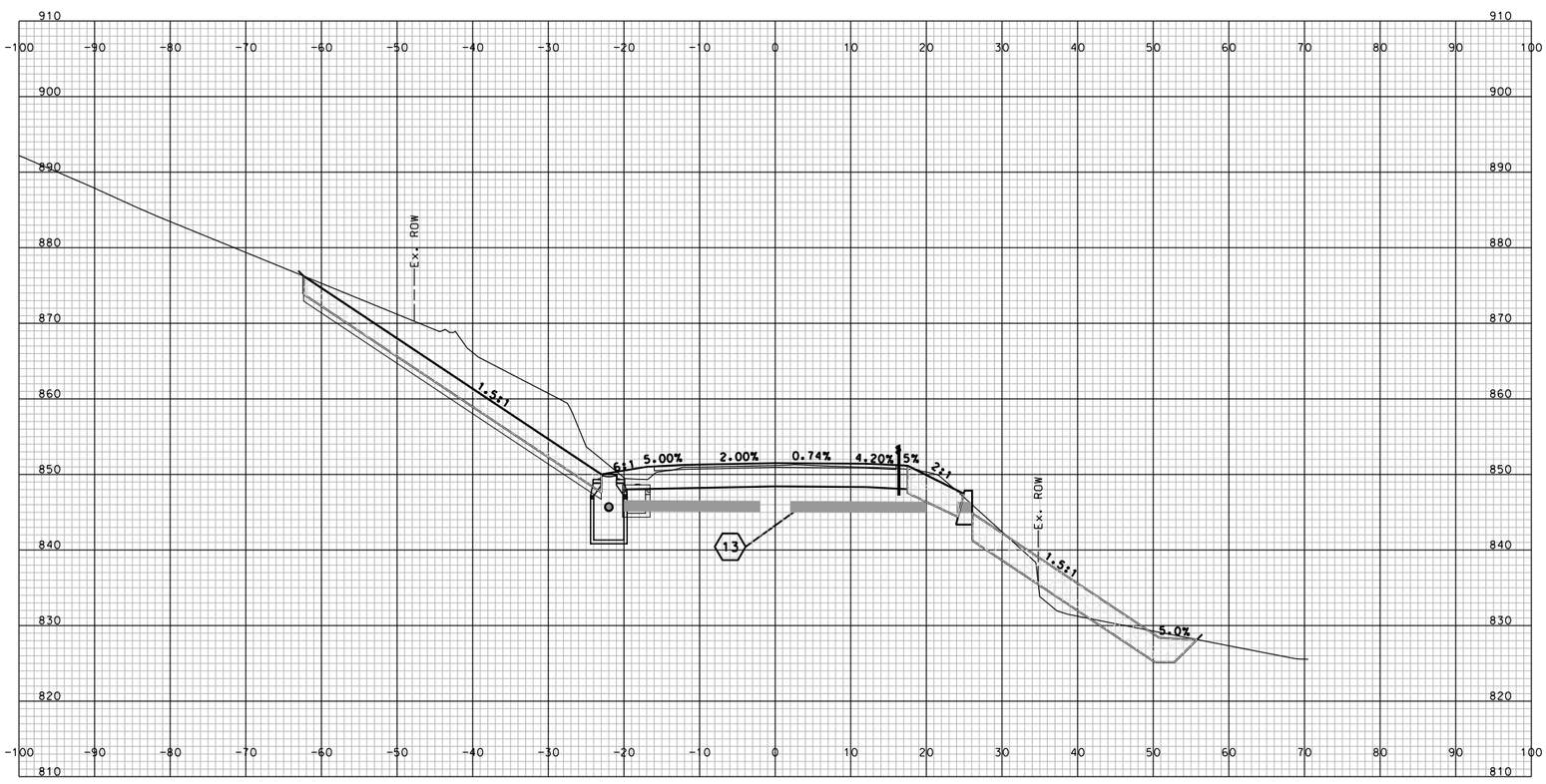


STA. 133+40.000



STA. 124+60.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	288	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

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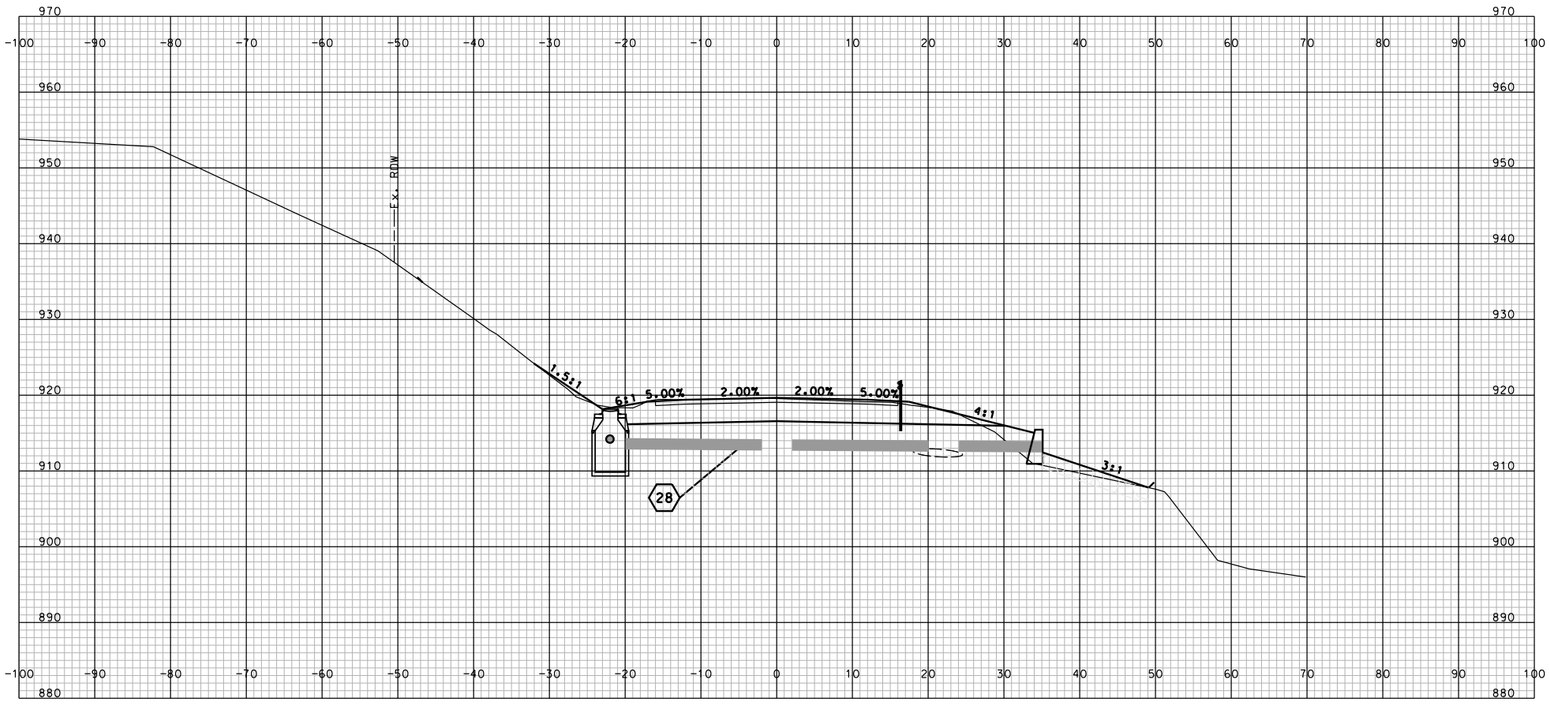
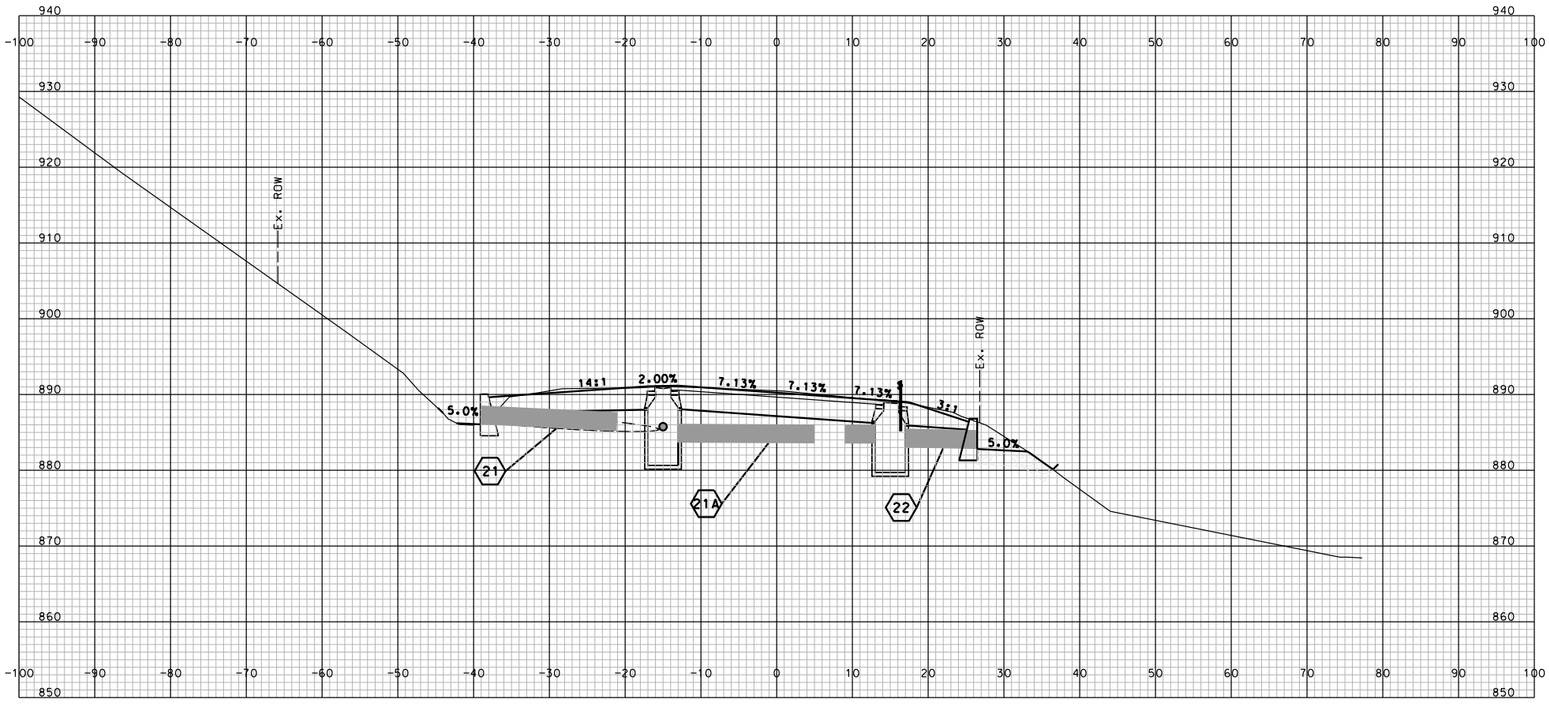


STA. 158+90.000



STA. 146+82.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	289	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

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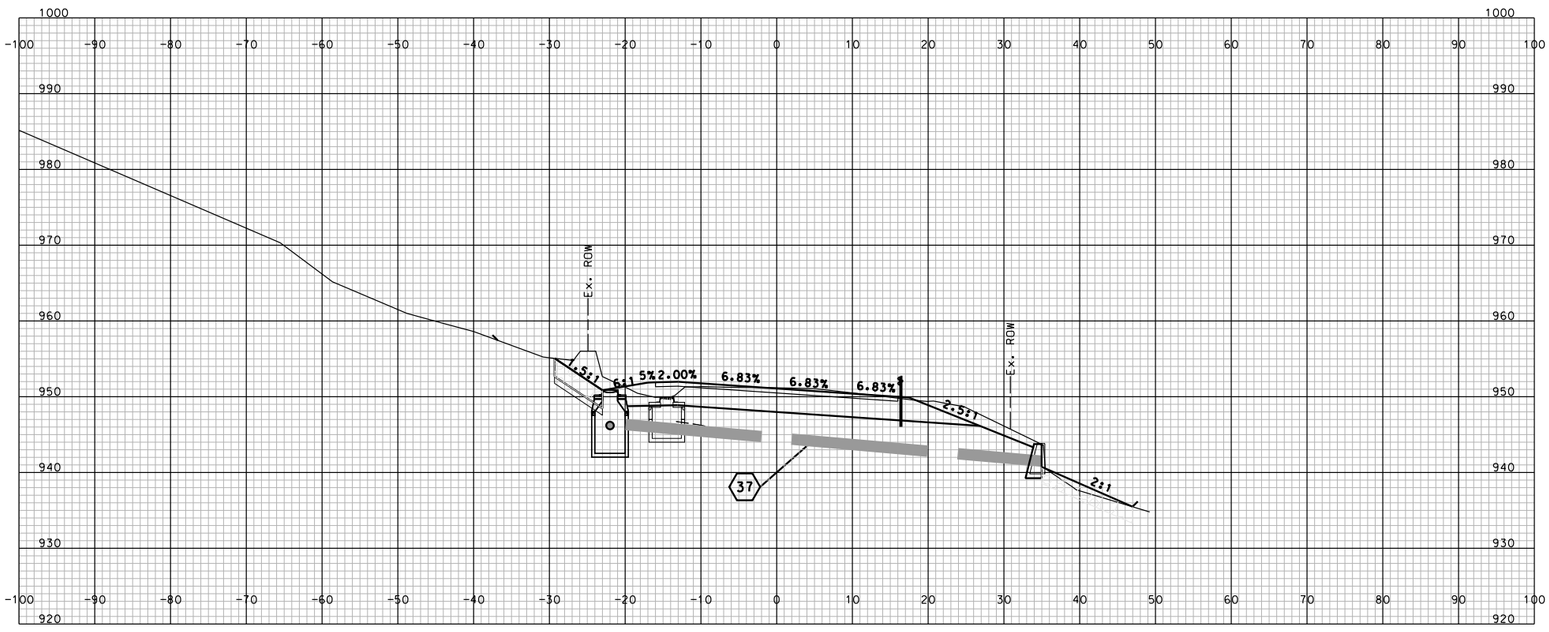
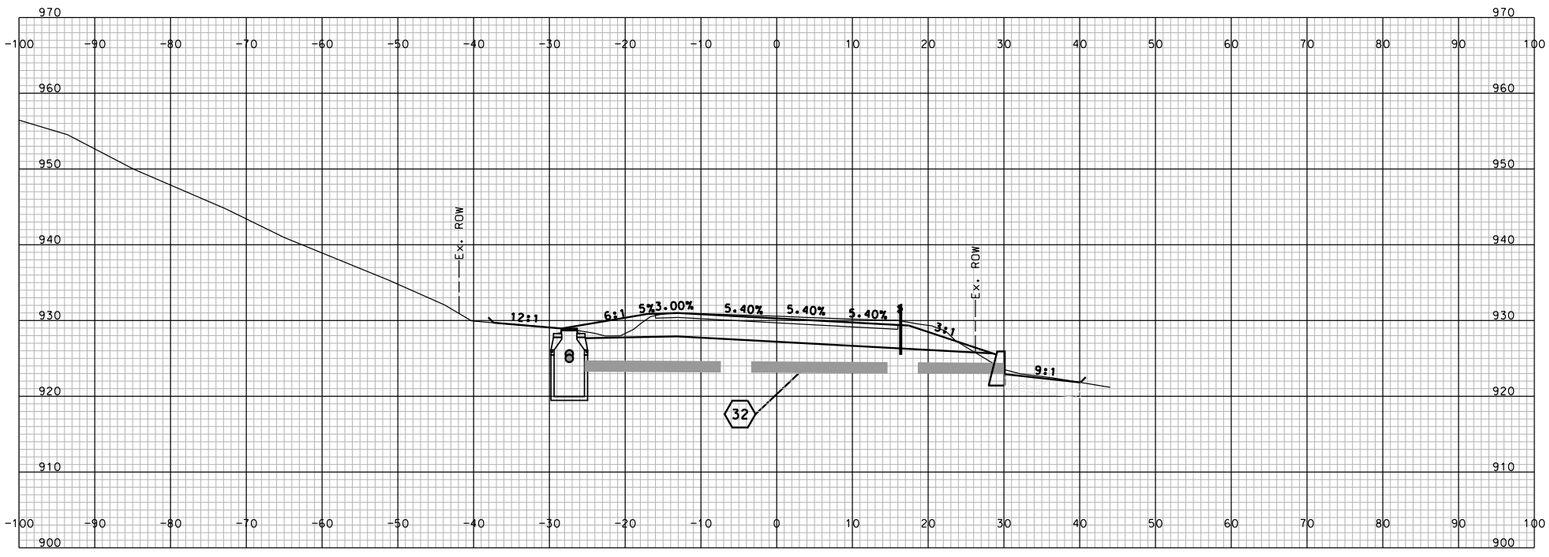


STA. 175+60.000



STA. 169+20.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	290	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

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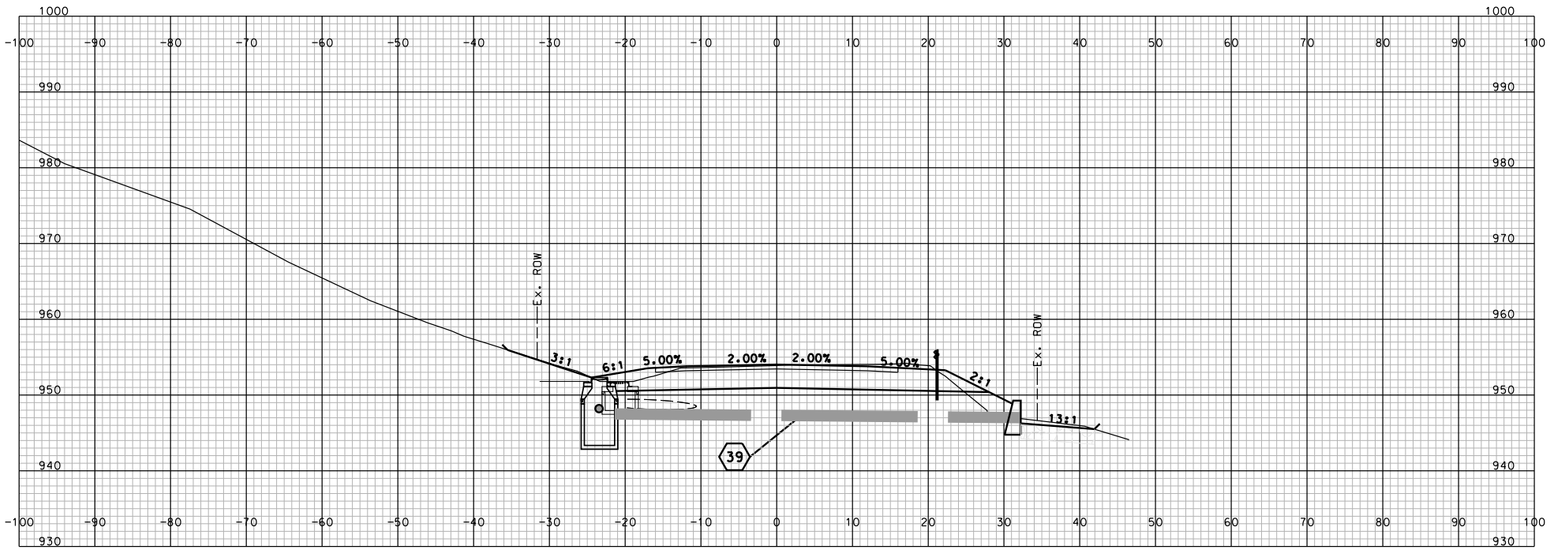
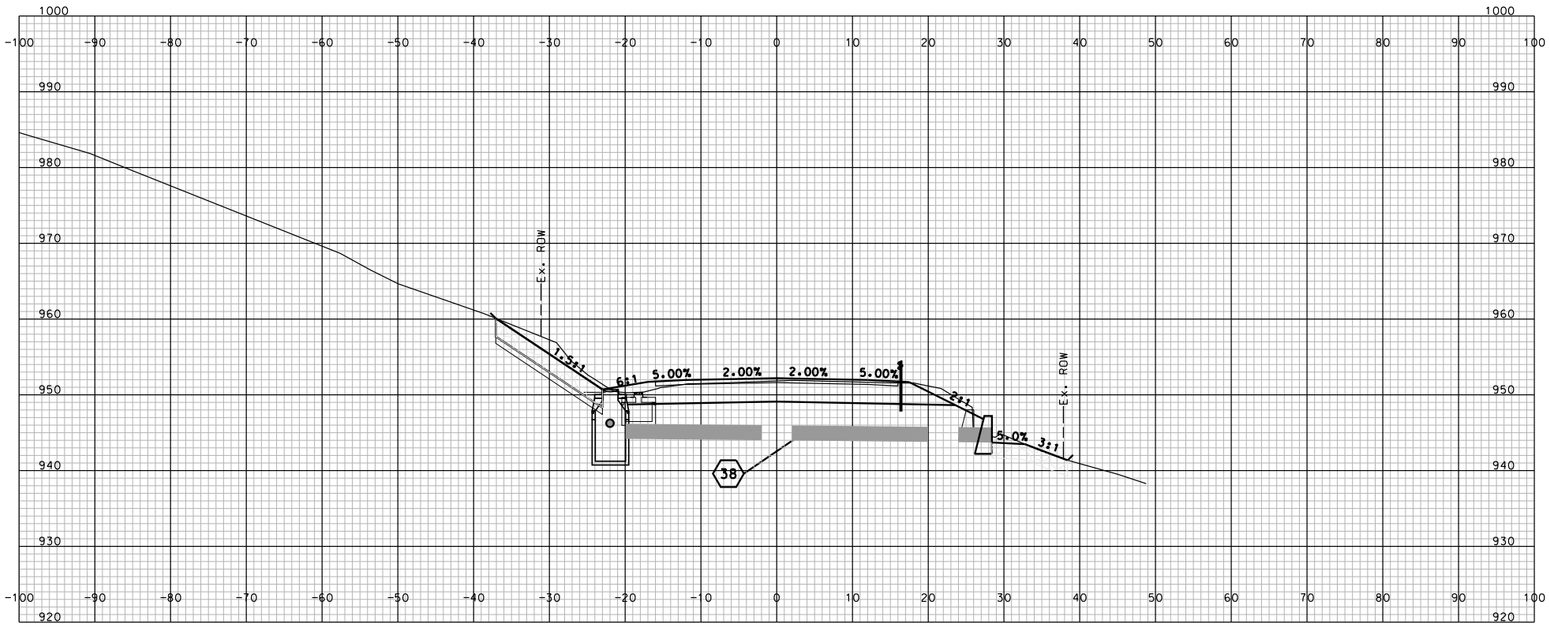


STA. 179+95.000



STA. 177+60.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	291	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

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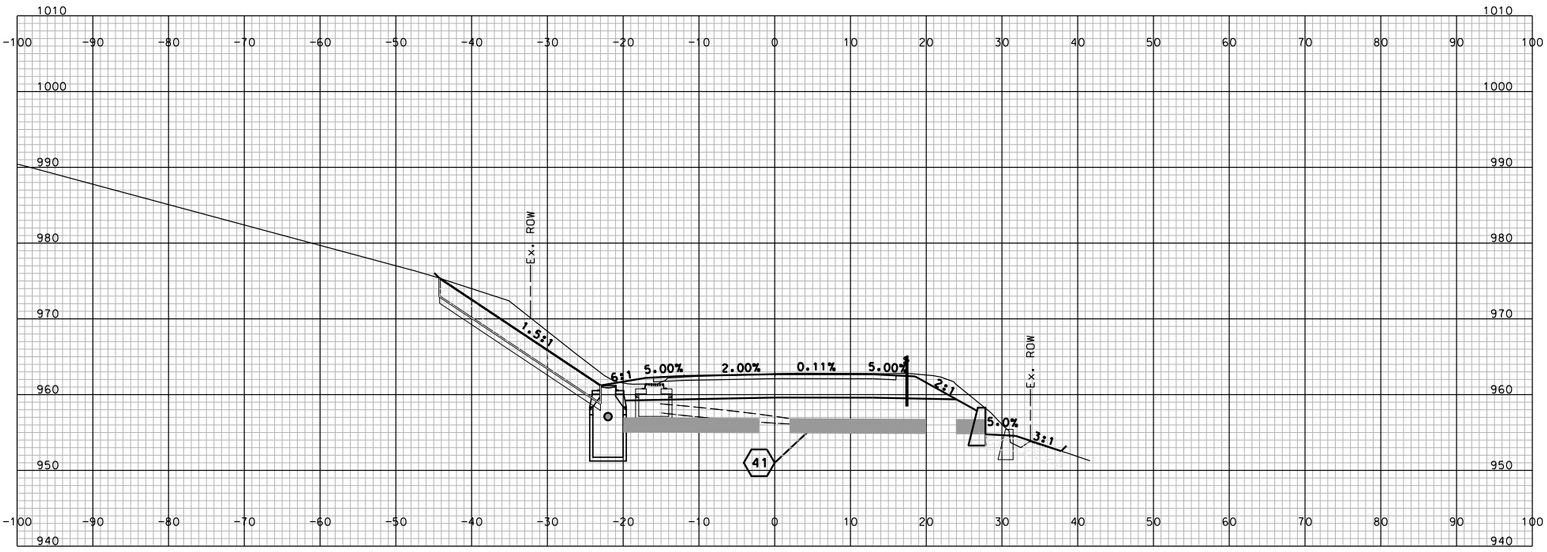
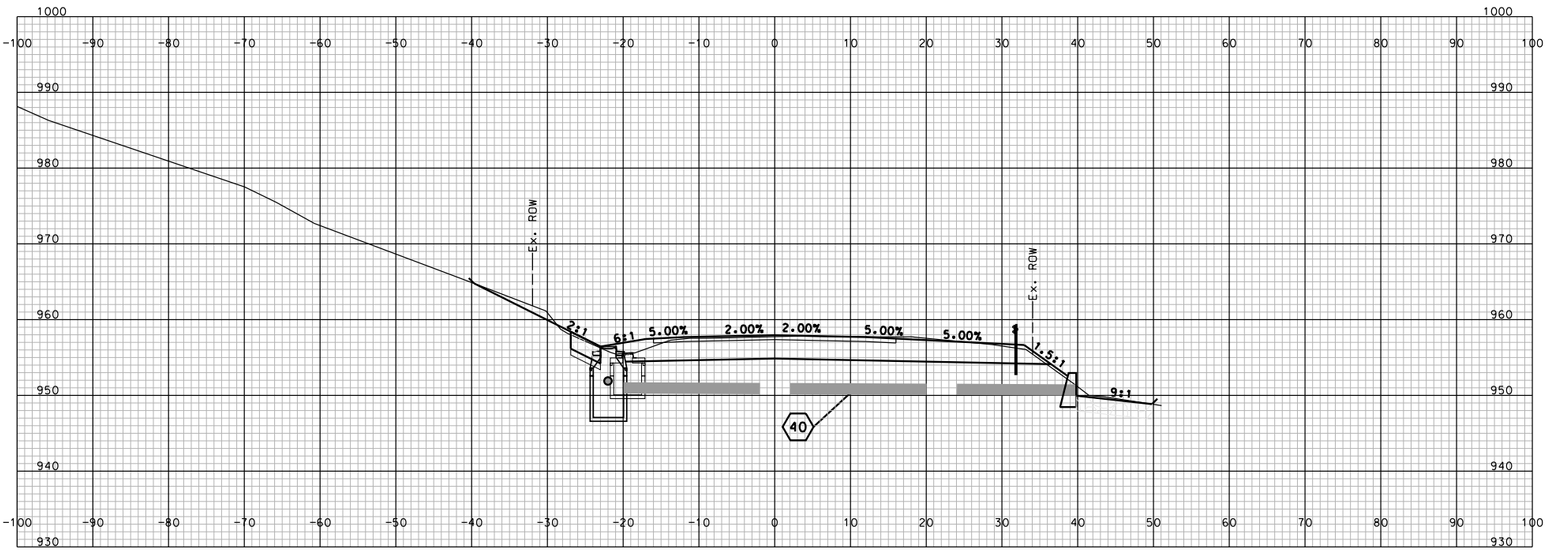


STA. 182+90.000



STA. 181+55.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	292	294

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

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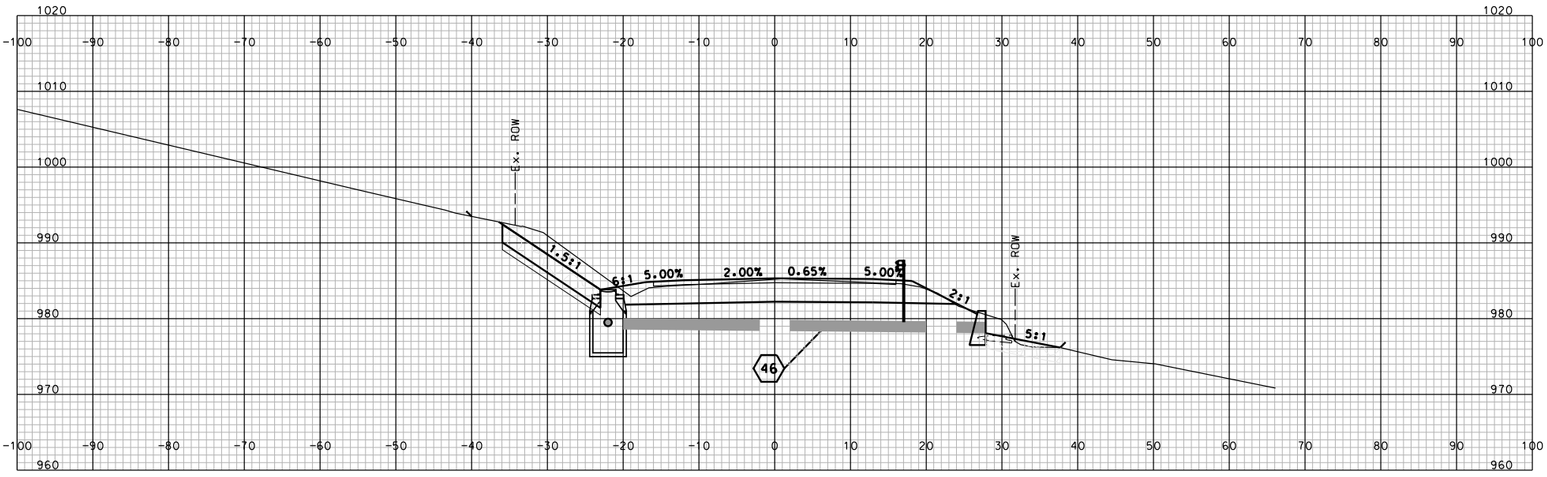
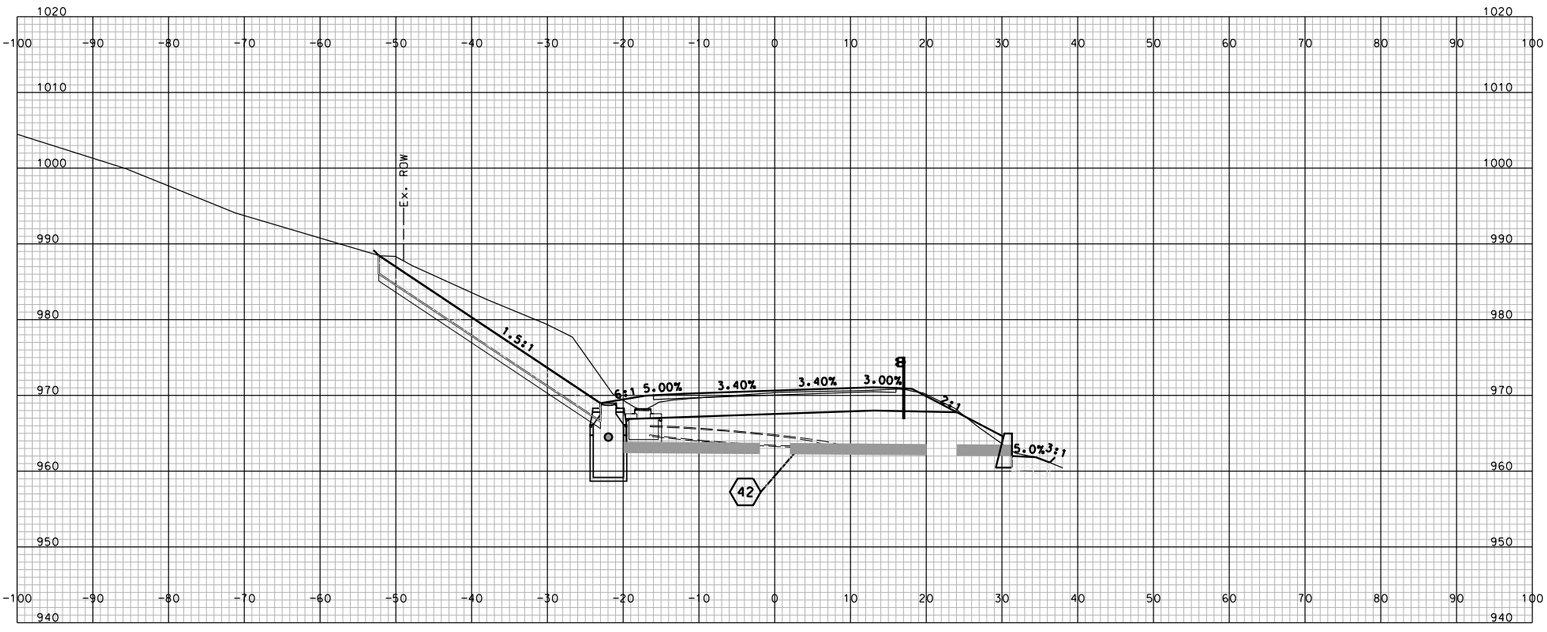


STA. 195+90.000



STA. 188+35.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	293	294

SDR PROCESSED	NAME1	DATE	DATE1
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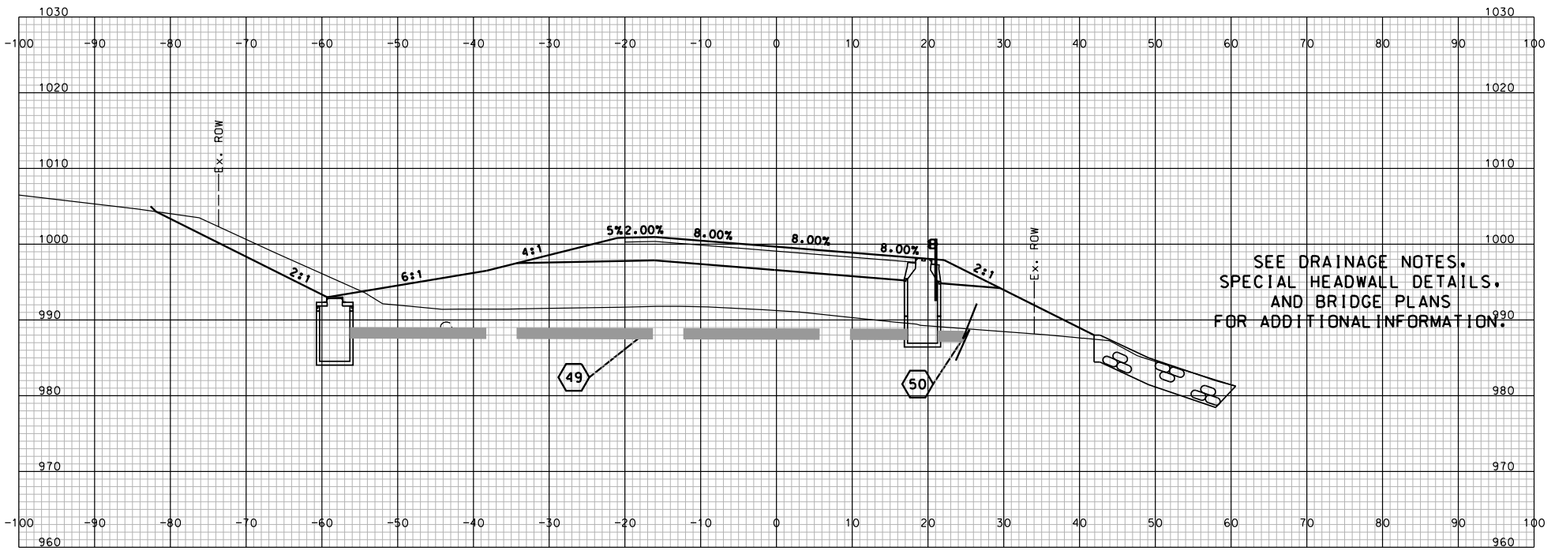
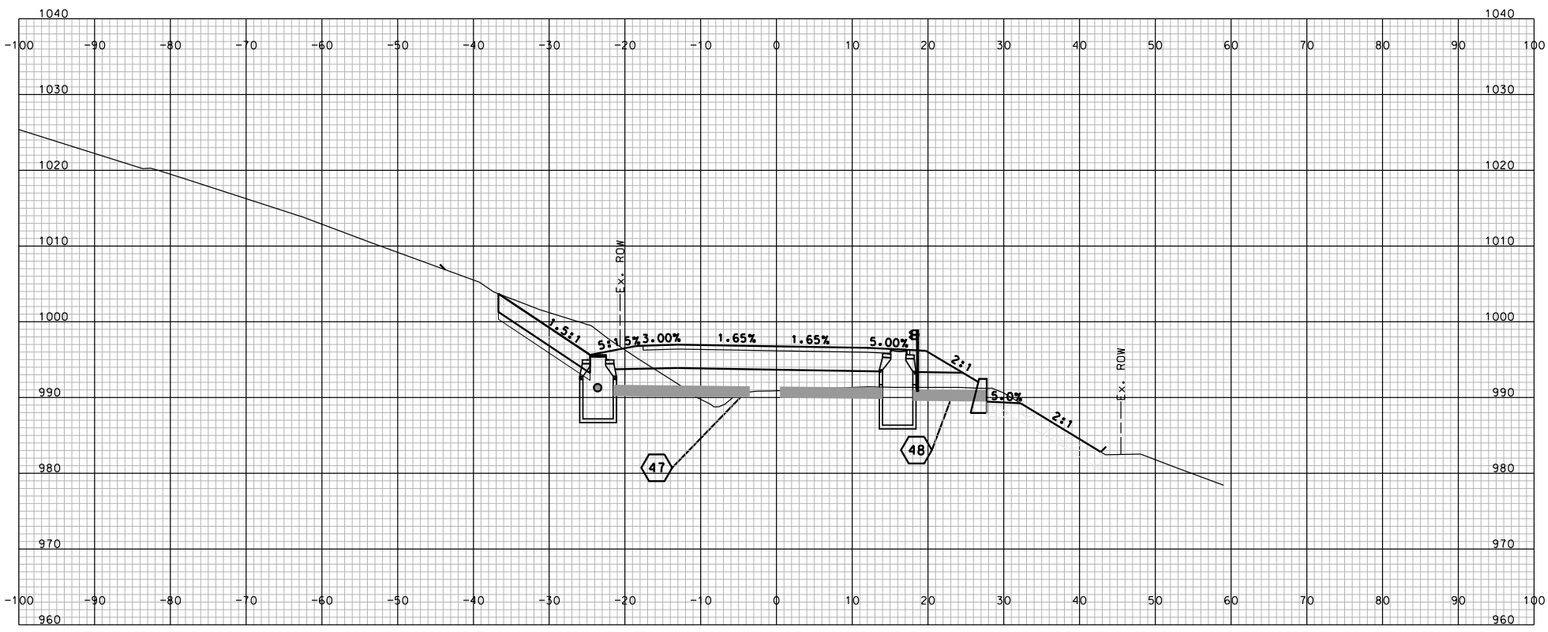


STA. 203+63.770



STA. 200+80.000

SHEET TOTALS			
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
10439drnxs	10439	294	294