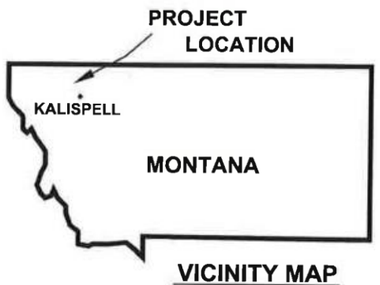
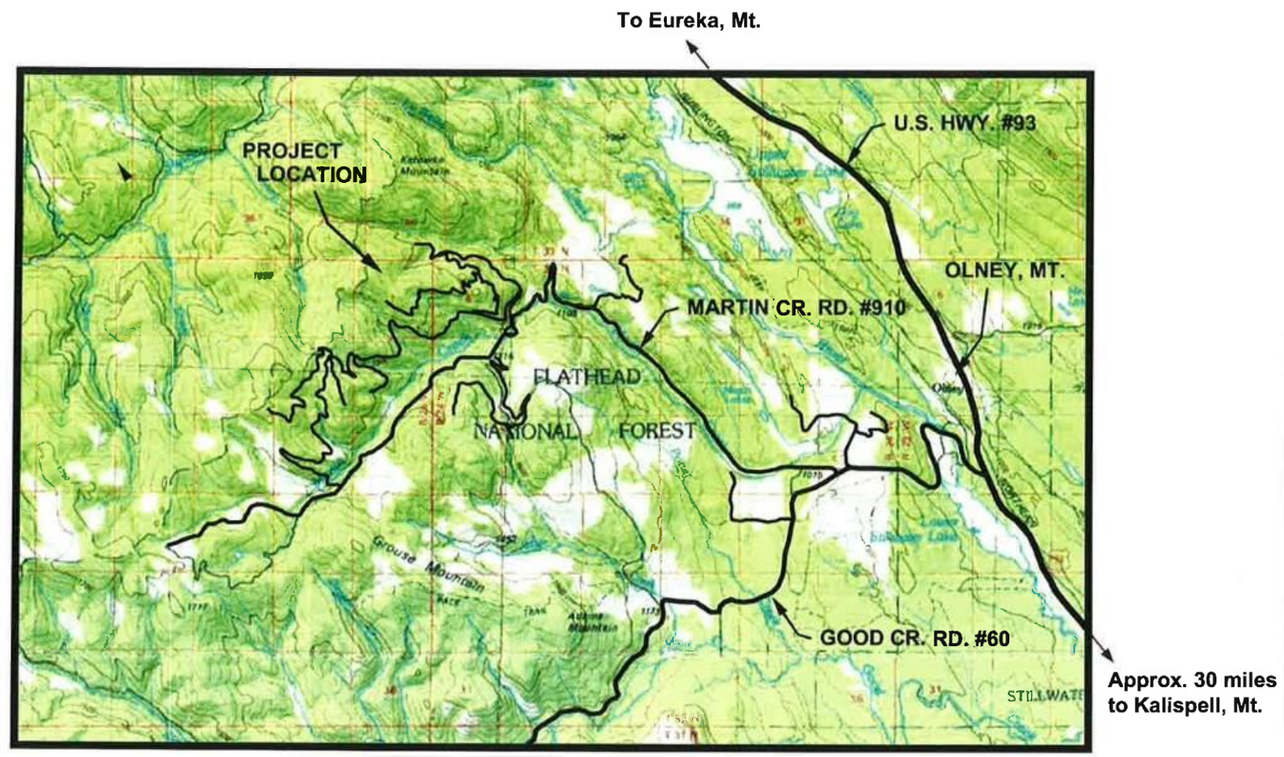
FLATHEAD NATIONAL FOREST

CONSTRUCTION DRAWINGS FOR:

MARTIN RADNOR TIMBER SALE ROADS



VICINITY MAP



N

0 0.5 1 2 3 4 5 Miles

SCALE

INDEX TO SHEETS

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45	STANDARD LIVESTOCK GATE DETAILS

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-1
NORTHERN REGION

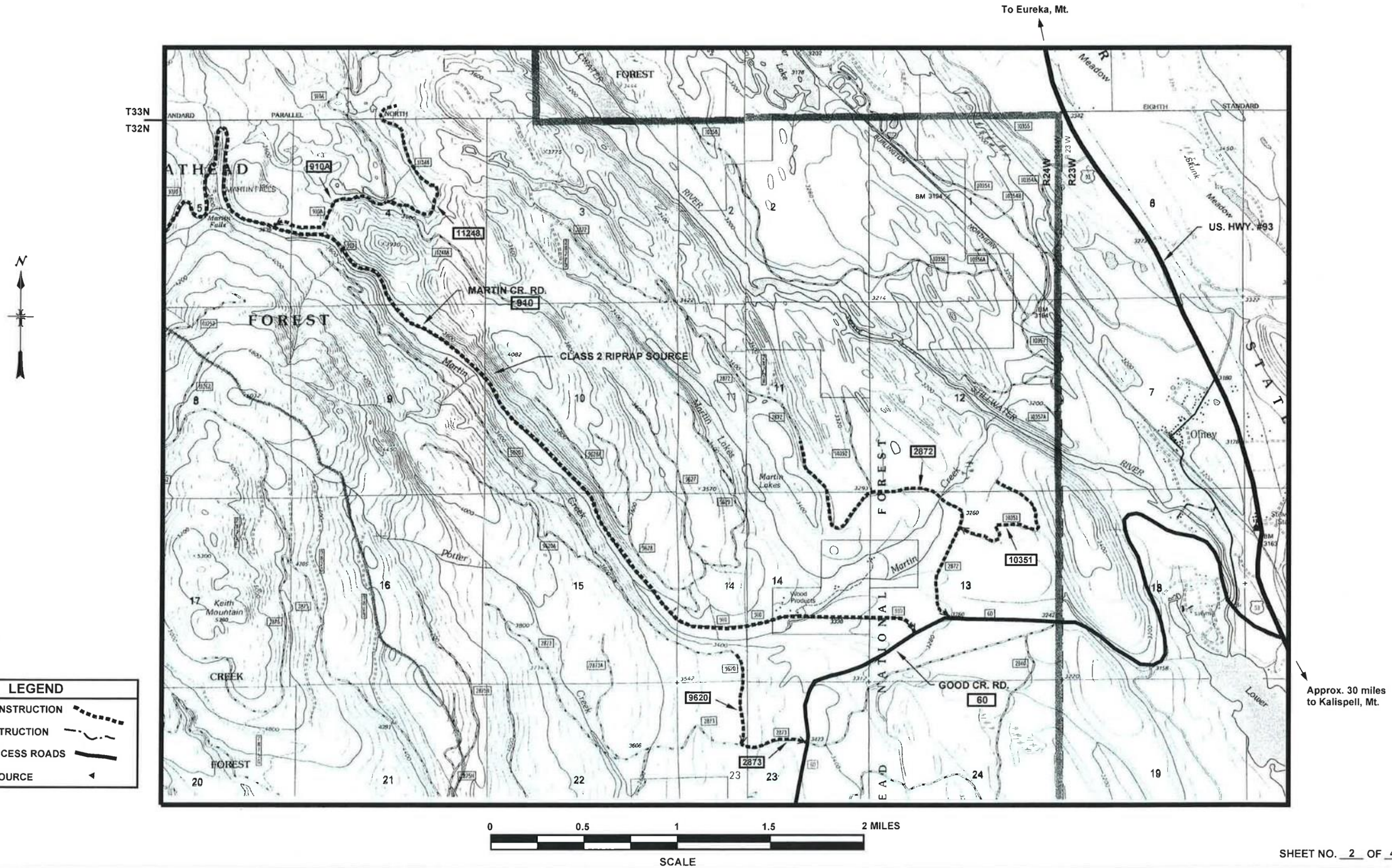
Submitted By: Brad Russell 4/21/16
Project Engineer — Date

Recommended By: 5-2-16
Tally Lake District Ranger — Date

Reviewed By: 4/26/16
Forest Engineer — Date

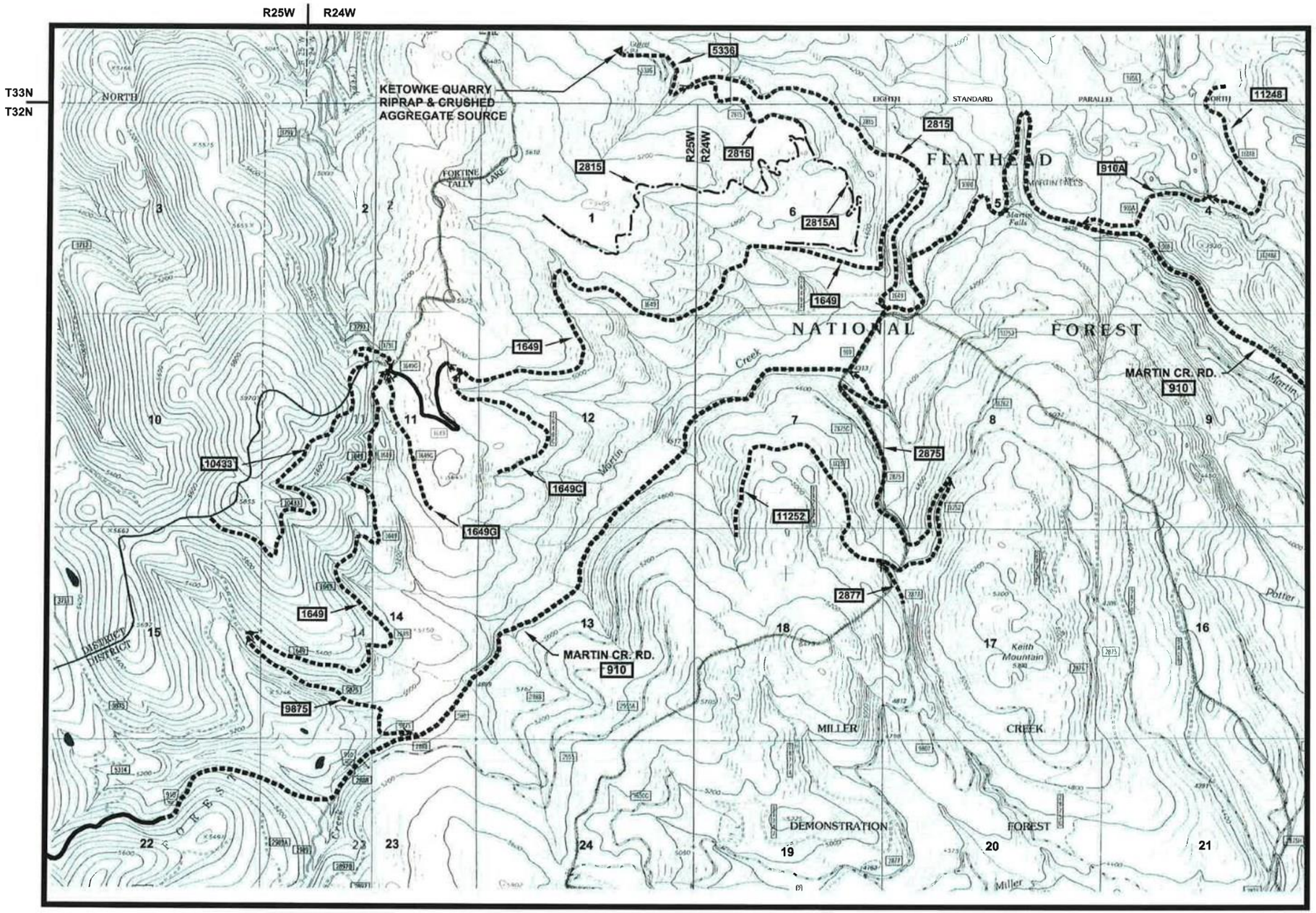
Approved By: 4/28/16
Forest Supervisor — Date

MARTIN RADNOR TIMBER SALE ROADS



SHEET NO. 2 OF 45

MARTIN RADNOR TIMBER SALE ROADS



LEGEND

- ROAD RECONSTRUCTION
- ROAD CONSTRUCTION
- EXISTING ACCESS ROADS
- MATERIAL SOURCE

0 0.5 1 1.5 2 MILES

SCALE

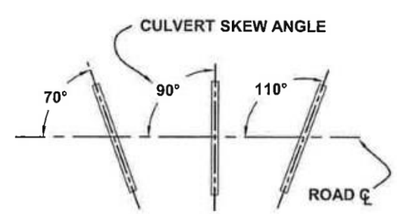
SHEET NO. 3 OF 45

SUMMARY OF ESTIMATED QUANTITIES

MARTIN RADNOR TIMBER SALE ROAD PROJECT		ROAD NO.		910	910A	1649	1649C	1649G	2815	2815	2815A	2872	2873	2875	2877	5336
CONSTRUCTION OR RECONSTRUCTION ROAD LENGTH IN MILES				11.41	1.69	6.77	0.85	0.70	2.01	2.20	1.21	1.95	0.38	1.76	0.20	0.65
ITEM NO.	ITEM DESCRIPTION	MEASUREMENT METHOD	MEASUREMENT UNIT	Reconst.	Reconst.	Reconst.	Reconst.	Reconst.	Reconst.	Const.	Const.	Reconst.	Reconst.	Reconst.	Reconst.	Reconst.
201(01)	CLEARING & GRUBBING	DQ	ACRE							10.60	5.40					
202(02)	REMOVAL OF EXISTING CMP	AQ	EACH	4		1										1
202(03)	REMOVAL OF EARTH BERM	AQ	EACH					1								
203(01)	EXCAVATION & EMBANKMENT, PLACEMENT METHOD 1	DQ	C.Y.							13,650	7,289					
203(17)CB	RECONSTRUCT CATCH BASIN	AQ	EACH			14			2							
203(17)DD	CONSTRUCT OR RECONSTRUCT DRAIN DIP	AQ	EACH	26	3	18	2	6	6	1				11		3
204(09)	SEDIMENT BASIN	AQ	EACH				2									
210(01)	BRUSHING / CLEARING & GRUBBING	DQ	MILE	11.41	1.69	4.30	0.85	0.70	2.01				0.38	1.76	0.20	0.65
251(01)	PLACED RIPRAP, CLASS 2	VQ	C.Y.	40												
304(13)	PLACING AGGREGATE, GOV'T.-FURNISHED, (LOOSE C.Y.)	VQ	C.Y.	300		20			955					110		40
306(01)	RECONDITIONING OF ROADBED, COMPACTION A	DQ	MILE	11.41	1.69	6.77	0.85	0.70	2.01			1.95	0.38	1.76	0.20	0.65
601(01)	MOBILIZATION	LSQ	L.S.	1	1	1	1	1	1	1	1	1	1	1	1	1
603(01)18	18-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.	66		36				380	120					
603(01)24	24-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.	48						42						50
603(01)36	36-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.	38												
625(01)	SEEDING, DRY METHOD (WITHOUT MULCH)	LSQ	L.S.	1	1	1	1	1	1					1		1
625(02)	SEEDING, DRY METHOD (WITHOUT MULCH)	DQ	ACRE							3.95	1.95					
640(01)	FURNISH & INSTALL 12 FT. STANDARD LIVESTOCK GATE	AQ	EACH					1								

CULVERT LISTING (ALL RECONSTRUCTION ROADS)

ROAD NO.	STATION	LENGTH FEET	STEEL --- 2-⅔" X ½" CORRUGATIONS SIZE	STEEL --- 2-⅔" X ½" CORRUGATIONS THICKNESS	SKEW	CATCH BASIN	DITCH BLOCK	REMARKS
910	M.P. 4.916	28'	18"	0.064"				Pipe Replacement - (18")
	M.P. 7.983	48'	24"	0.064"				Pipe Replacement - (18")
	M.P. 10.433	38'	36"	0.064"				Pipe Replacement - (18" Twins)
	M.P. 10.449	38'	18"	0.064"	110°	X	X	Ditch Relief
1649	M.P. 5.766	32'	18"	0.064"	70°	X	X	Ditch Relief
	M.P. 7.417	4'	18"	0.064"				Replace Crushed Inlet
5336	M.P. 0.096	50'	24"	0.064"				Pipe Replacement - (18")
9875	M.P. 0.273	64'	36"	0.064"				Pipe Replacement - (24")



FOR ALL PIPE INSTALLATIONS, CONSERVE ROCK FROM THE PIPE AND/OR CATCH BASIN EXCAVATION AND PLACE AS RIPRAP AT PIPE INLETS & OUTLETS. ARMOR CATCH BASINS WHEN SHOWN ON THE DRAWINGS. (CONSERVING & PLACING RIPRAP IS CONSIDERED INCIDENTAL TO PIPE INSTALLATION).

SUMMARY OF ESTIMATED QUANTITIES

MARTIN RADNOR TIMBER SALE ROAD PROJECT		ROAD NO.		9620	9875	10351	10433	11248	11252						TOTALS
CONSTRUCTION OR RECONSTRUCTION ROAD LENGTH IN MILES				0.39	1.04	0.92	2.13	0.83	2.10						
ITEM NO.	ITEM DESCRIPTION	MEASUREMENT METHOD	MEASUREMENT UNIT	Reconst.	Reconst.	Reconst.	Reconst.	Reconst.	Reconst.						Reconst. = 35.78 Mi. Const. = 3.41 Mi.
201(01)	CLEARING & GRUBBING	DQ	ACRE												16.00 ACRES
202(02)	REMOVAL OF EXISTING CMP	AQ	EACH		1										7 EACH
202(03)	REMOVAL OF EARTH BERM	AQ	EACH												1 EACH
203(01)	EXCAVATION & EMBANKMENT, PLACEMENT METHOD 1	DQ	C.Y.												20,939 C.Y.
203(17)CB	RECONSTRUCT CATCH BASIN	AQ	EACH		3										19 EACH
203(17)DD	CONSTRUCT OR RECONSTRUCT DRAIN DIP	AQ	EACH		3				3						82 EACH
204(09)	SEDIMENT BASIN	AQ	EACH		2										4 EACH
210(01)	BRUSHING / CLEARING & GRUBBING	DQ	MILE	0.39		0.92	2.13	0.83	2.10						30.32 MILE
251(01)	PLACED RIPRAP, CLASS 2	VQ	C.Y.												40 C.Y.
304(13)	PLACING AGGREGATE, GOV'T.-FURNISHED, (LOOSE C.Y.)	VQ	C.Y.												1425 C.Y.
306(01)	RECONDITIONING OF ROADBED, COMPACTION A	DQ	MILE	0.39	1.04	0.92	2.13	0.83	2.10						35.78 MILE
601(01)	MOBILIZATION	LSQ	L.S.	1	1	1	1	1	1						ALL REQ'D
603(01)18	18-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.												602 L.F.
603(01)24	24-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.												140 L.F.
603(01)36	36-INCH CORRUGATED STEEL PIPE, 0.064-INCH THICKNESS	AQ	L.F.		64										102 L.F.
625(01)	SEEDING, DRY METHOD (WITHOUT MULCH)	LSQ	L.S.		1				1						ALL REQ'D
625(02)	SEEDING, DRY METHOD (WITHOUT MULCH)	DQ	ACRE												5.90 ACRES
640(01)	FURNISH & INSTALL 12 FT. STANDARD LIVESTOCK GATE	AQ	EACH												1 EACH

CULVERT LISTING (NEW CONSTRUCTION ROAD #2815)

ROAD NO.	STATION	LENGTH FEET	STEEL --- 2-⅔" X ½" CORRUGATIONS SIZE	STEEL --- 2-⅔" X ½" CORRUGATIONS THICKNESS	SKEW	CATCH BASIN	DITCH BLOCK	REMARKS
2815	19+59	32'	18"	0.064"	90°	X		Ditch Relief --- 10' Outlet Ditch
2815	22+34	30'	18"	0.064"	90°	X		Ditch Relief
2815	23+35	40'	18"	0.064"	90°	X		Ditch Relief
2815	27+58	36'	18"	0.064"	90°	X		
2815	38+05	38'	18"	0.064"	120°	X		
2815	57+18	42'	24"	0.064"	75°			Thru Fill
2815	73+75	30'	18"	0.064"	90°	X		
2815	75+09	36'	18"	0.064"	110°	X		
2815	77+96	40'	18"	0.064"	90°	X	X	Ditch Relief
2815	81+19	32'	18"	0.064"	100°	X		Ditch Relief --- 20' Outlet Ditch
2815	86+99	32'	18"	0.064"	90°	X		Ditch Relief
2815	91+31	34'	18"	0.064"	90°	X		

CULVERT LISTING (NEW CONSTRUCTION ROAD #2815A)

ROAD NO.	STATION	LENGTH FEET	STEEL --- 2-⅔" X ½" CORRUGATIONS SIZE	STEEL --- 2-⅔" X ½" CORRUGATIONS THICKNESS	SKEW	CATCH BASIN	DITCH BLOCK	REMARKS
2815A	14+80	30'	18"	0.064"	70°	X		Ditch Relief
2815A	27+25	48'	18"	0.064"	90°			Thru Fill
2815A	34+30	42'	18"	0.064"	110°	X		Ditch Relief

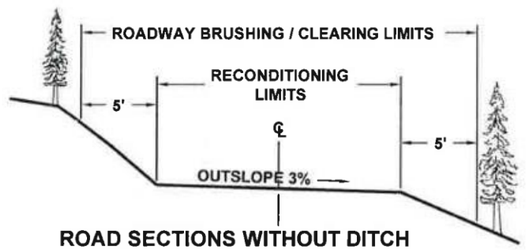
RECONSTRUCTION TYPICAL SECTIONS & GENERAL NOTES

ALL RECONSTRUCTION ROADS

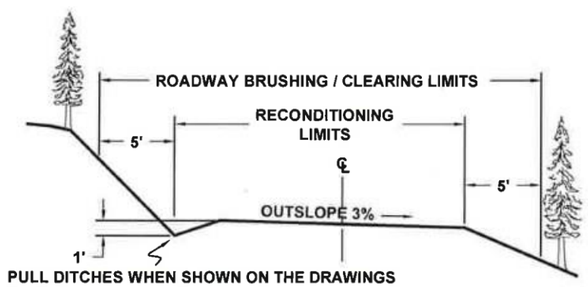
TYPICAL BRUSHING / CLEARING & RECONDITIONING LIMITS

Not to Scale

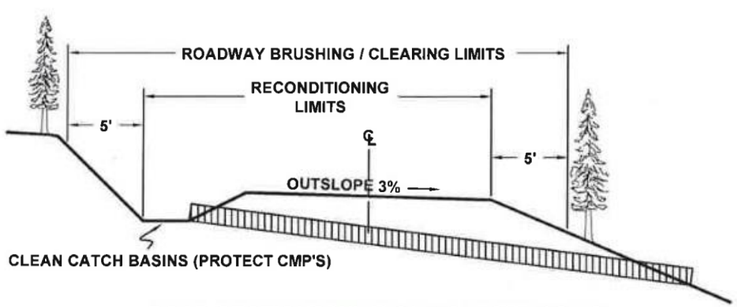
(SEE SECTION 210 PROJECT SPECIFICATION & GENERAL NOTES)



ROAD SECTIONS WITHOUT DITCH



ROAD SECTIONS WITH DITCH



ROAD SECTIONS WITH CMP CATCH BASINS

GENERAL NOTES --- RECONSTRUCTION

1. ITEM 210(01) --- BRUSHING / CLEARING & GRUBBING --- THE QUANTITY OF BRUSH AND SMALL TREES TO BE REMOVED VARIES FROM BEGINNING TO END OF EACH INDIVIDUAL ROAD AND FROM ROAD TO ROAD. LIKEWISE, THE METHODS REQUIRED TO MEET THE INTENT OF THE BRUSHING / CLEARING & GRUBBING SPECIFICATION WILL ALSO VARY. A SUBJECTIVE COMPARISON OF THE OVERALL QUANTITY OF BRUSH AND SMALL TREES ON EACH ROAD IS SHOWN ON THE RECONSTRUCTION ROAD LOGS AND AS FOLLOWS:

   LIGHT ---------- #910, #2873, #2875, & #9620
   LIGHT - MEDIUM ---------- #1649
   MEDIUM ---------- #910A, #1649C, #1649G & #10433
   MEDIUM - HEAVY ---------- #11248 & #11252
   HEAVY ---------- #2815, #2877, #5336, #10351

   (SEE SECTION 210 PROJECT SPECIFICATION FOR REQUIREMENTS)

   NO BRUSHING IS REQUIRED ON THE FOLLOWING ROADS: #2872, #9875, & #1649 FROM M.P. 4.30 TO M.P. 7.68.

2. ITEM 202(02) --- ALL CORRUGATED METAL PIPE DESIGNATED FOR REMOVAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM NATIONAL FOREST LANDS.

3. ITEM 204(09) & 251(04) --- CLASS 2 RIPRAP FOR SEDIMENT BASINS AND FILL SLOPE SHOULDER ARMORING MAY BE OBTAINED FROM THE KETOWKE QUARRY (T.33N., R.24W., SECTION 32) LOCATED AT THE END OF ROAD #5336 OR FROM THE RIPRAP SOURCE LOCATED AT M.P. 2.984 ADJACENT TO MARTIN CREEK ROAD #910.

4. ITEM 304(13) --- CRUSHED AGGREGATE SURFACING SHALL BE OBTAINED FROM THE KETOWKE QUARRY (T.33N., R.24W., SECTION 32) LOCATED AT THE END OF ROAD #5336.

5. ITEM 306(01) --- RECONDITIONING OF ROADBED --- WITH THE EXCEPTION OF GRUBBING TO REMOVE BRUSH AND STUMPS (AS MUCH AS PRACTICAL), SCARIFICATION OF THE ROADBED IS NOT REQUIRED. CUT SOD OFF THE ROADBED AND THE ROAD SHOULDERS FOR DRAINAGE. CLEAN & PULL EXISTING DITCHES WHEN SHOWN ON THE ROAD LOGS. CLEAN CATCH BASINS AND CULVERTS TO DRAIN. RESHAPE AND GRADE ALL EXISTING DRAIN DIPS AND SAG VERTICAL CURVES TO EFFECTIVELY DRAIN WATER FROM THE ROAD SURFACE (OUTSLOPE 5% TO 8%). DISPOSE OF WASTE, OVERSIZE, AND UNSUITABLE MATERIAL ALONG ADJACENT FILL SLOPES. ON AGGREGATE SURFACED ROADS TAKE CARE TO CONSERVE AS MUCH OF THE CRUSHED AGGREGATE AS POSSIBLE.

6. ITEM 625(01) --- SEEDING w/o MULCH --- APPLY SEED AND FERTILIZER AT THE RATES SPECIFIED TO ALL DISTURBED AREAS OUTSIDE OF THE ROAD SHOULDERS (INCLUDES FILL SLOPES, CUT SLOPES, CATCH BASINS, ETC.).

7. ITEM 640(01) --- 12' STANDARD LIVESTOCK GATE --- INSTALL AT DESIGNATED LOCATIONS AS SOON AS PRACTICAL AFTER BRUSHING / CLEARING AND ROADBED RECONDITIONING IS COMPLETE AT THE INSTALLATION SITE. AFTER INSTALLATION, ENSURE VEHICLE ACCESS IS BLOCKED ON BOTH SIDES OF THE GATE BY PLACING ROCKS, STUMPS, ETC., AS DIRECTED.

NEW CONSTRUCTION TYPICAL SECTIONS & GENERAL NOTES

NEW CONSTRUCTION ROADS #2815 & #2815A

GENERAL NOTES --- NEW CONSTRUCTION

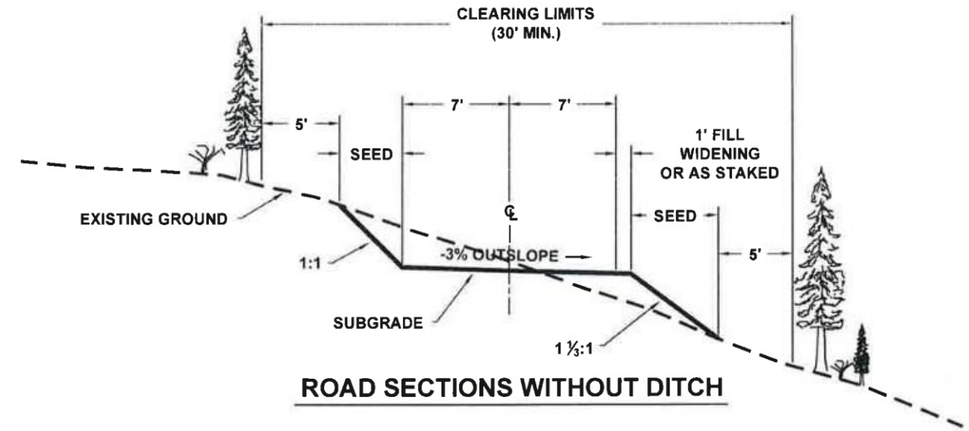
1. INITIAL CLEARING LIMITS AND CONSTRUCTION STAKES WILL BE SET BY THE GOVERNMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND PRESERVE ALL STAKES AND OTHER MARKS SET BY THE GOVERNMENT.

2. ITEM 201(01) --- CLEARING & GRUBBING
UTILIZATION OF TIMBER --- METHOD (1) --- DISPOSE OF MERCHANTABLE TIMBER IN ACCORDANCE WITH THE PROVISIONS OF THE TIMBER SALE CONTRACT.
SLASH TREATMENT --- METHOD (11), PILING --- ALL TOPS & LIMBS, STUMPS, CULL LOGS, AND OTHER VEGETATIVE MATERIAL WITHIN THE CLEARING LIMITS SHALL BE CLEARED, GRUBBED, REMOVED, AND PILED IN CLEAN PILES ADJACENT TO THE CLEARING LIMITS AT DESIGNATED LOCATIONS FOR LATER BURNING BY THE FOREST SERVICE. SLASH PILES SHALL BE CONSTRUCTED USING AN EXCAVATOR AND MATERIAL IN PILES SHALL BE ORIENTED PARALLEL AS MUCH AS PRACTICABLE IN ORDER TO FACILITATE BURNING. THE PILES SHALL BE COMPACT, FREE OF SOIL AND OF SUFFICIENT SIZE TO FACILITATE BURNING. PILES SHALL BE A MINIMUM HEIGHT OF 8 FEET. ALL MATERIAL EXTENDING MORE THAN 5 FEET BEYOND THE OUTSIDE PERIMETER OF THE PILE SHALL BE SEVERED AND RETURNED TO THE PILE. CLEARING REQUIRED FOR BURNING BAYS IS CONSIDERED INCIDENTAL TO THIS PAY ITEM. PLACE AND CONSTRUCT PILES SO FUTURE BURNING WILL NOT DAMAGE REMAINING TREES.

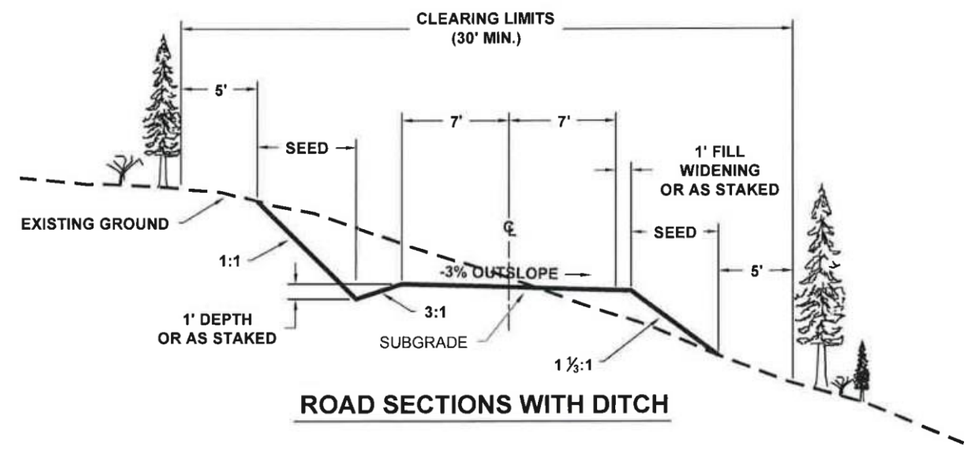
3. ITEM 203(01) --- EXCAVATION, EMBANKMENT & HAUL --- TOLERANCE CLASS "J" --- EMBANKMENT PLACEMENT METHOD (1) - SIDE CASTING & END DUMPING --- ROADBED FINISHING METHOD A (SHAPE AND FINISH THE ROADBED TO A "MOTOR GRADER FINISH"). ROCK PROTRUSIONS LESS THAN 1.5" ABOVE THE FINISHED ROAD SURFACE WILL BE ALLOWED.

CONSIDERABLE ROCK EXCAVATION IS ANTICIPATED ON THE NEW CONSTRUCTION ROADS. SEE THE PLAN VIEWS FOR SYMBOLS INDICATING VISIBLE ROCK LOCATIONS IDENTIFIED IN THE INITIAL ROAD SURVEYS. EVEN THOUGH TOLERANCE CLASS "J" ALLOWS MORE VARIATION THAN USUAL FOR BOTH HORIZONTAL AND VERTICAL ALIGNMENTS, THE ROADBEDS SHALL BE CONSTRUCTED TO UNIFORM LINES AND GRADES WITHIN THE CLEARING LIMITS AND THE CONSTRUCTION TOLERANCES. WHEN STABLE ROCK IS ENCOUNTERED, CUT SLOPES MAY BE EXCAVATED TO STEEPER SLOPES WITH APPROVAL OF THE ENGINEER.

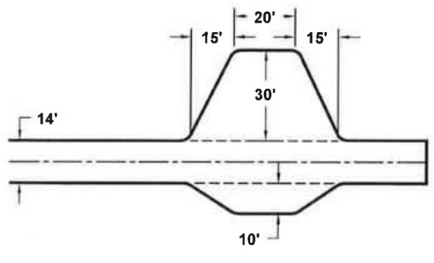
4. ITEM 625(02) --- SEEDING w/o MULCH --- APPLY SEED AND FERTILIZER AT THE RATES SPECIFIED TO ALL DISTURBED AREAS OUTSIDE OF THE ROAD SHOULDERS (INCLUDES FILL SLOPES, CUT SLOPES, CATCH BASINS, ETC.).



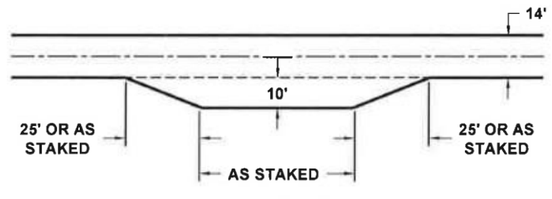
ROAD SECTIONS WITHOUT DITCH



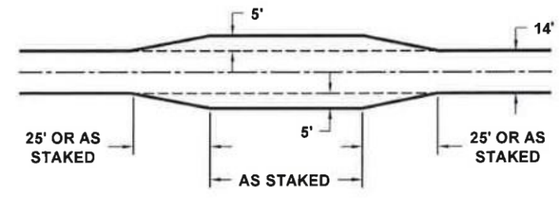
ROAD SECTIONS WITH DITCH



TURN-A-ROUND



TURNOUT RIGHT OR LEFT



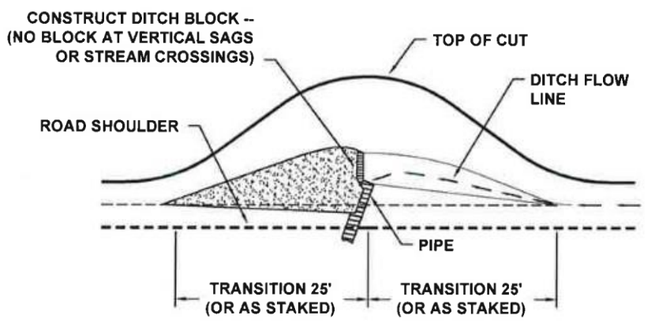
SPLIT TURNOUT

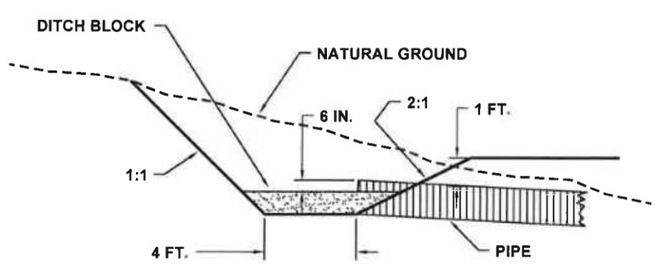
TYPICAL SECTIONS

TYPICALS APPLY TO ALL ROADS WHEN CALLED FOR

CATCH BASIN & DITCH BLOCK TYPICAL

Not to Scale

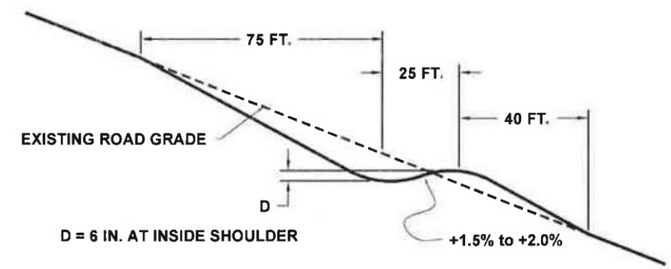




FOR ALL PIPE INSTALLATIONS, CONSERVE ROCK FROM THE PIPE AND/OR CATCH BASIN EXCAVATION AND PLACE AS RIPRAP AT PIPE INLETS & OUTLETS. ARMOR CATCH BASINS WHEN SHOWN ON THE DRAWINGS. (CONSERVING & PLACING RIPRAP IS CONSIDERED INCIDENTAL TO PIPE INSTALLATION).

DRAIN DIP

Not to Scale



1. CONSTRUCTED DRAIN DIPS SHALL NOT HAVE PROTRUSIONS OR DEPRESSIONS GREATER THAN 2 IN. FROM THE TYPICAL SECTION --- (MOTOR GRADER FINISH).

2. SKEW TROUGH AND CREST OF THE DIP 10 DEGREES FROM PERPENDICULAR TO THE ROAD CENTERLINE.

3. CROSS DRAIN SLOPE OF THE DIP SHALL BE OUTSLOPED 5% TO 8%.

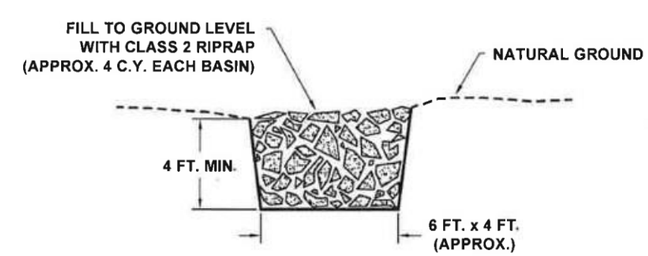
4. ALL DIP TRANSITIONS SHALL BE SHAPED SMOOTH AND UNIFORM AS DIRECTED.

5. CONSERVE ROCK FROM DIP EXCAVATION AND PLACE AT DIP OUTFALL TO SERVE AS ENERGY DISSIPATER.

6. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ON DITCHED ROADS DO NOT INTERCEPT THE DITCH LINE WITH THE DRAIN DIPS.

SEDIMENT BASIN

Not to Scale



CLASS 2 RIPRAP FOR THE SEDIMENT BASINS MAY BE OBTAINED FROM THE KETOWKE QUARRY (T.33N., R.24W., SECTION 32) LOCATED AT THE END OF ROAD #5336 OR FROM THE RIPRAP SOURCE LOCATED AT M.P. 2.984 ADJACENT TO MARTIN CREEK ROAD #910.

ROAD #910

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	251(01) Riprap	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	603(01)24 24" CSP	603(01)36 36" CSP	625(01) Seeding
0.000	Junct. w/ Good Creek Road #60 --- Begin Light Brushing / Clearing & Roadbed Reconditioning --- Aggregate Surfaced Rd.			Road Brushing / Clearing			Road Reconditioning				Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
0.478	Junct. w/ Private Access Road Left										
0.623	Junct. w/ Private Access Road Left										
0.642	Existing Twin 48" CMP's --- Martin Creek										
0.661	Junct. w/ Private Access Road Right										
0.685	Junct. w/ Private Access Road Right										
0.686	Reshape Existing Drain Dip										
0.783	Existing 18" CMP --- Ditch Relief										
1.342	Junct. w/ Road #9627 Right										
1.520	Existing 18" CMP --- Ditch Relief										
1.785	Existing 18" CMP --- Ditch Relief										
2.043	Existing 18" CMP --- Ditch Relief										
2.984	Riprap Source Right for Fill Slope Road Shoulder Armoring Ahead										
3.704	Armor Fill Slope Road Shoulder with 10 C.Y. Riprap (Class 2)				10						
3.768	Armor Fill Slope Road Shoulder with 10 C.Y. Riprap (Class 2)				10						
3.810	Armor Fill Slope Road Shoulder with 20 C.Y. Riprap (Class 2)				20						
4.083	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
4.261	Reshape Existing Drain Dip										
4.387	Junct. w/ Road #910A Right										
4.916	Remove Existing 18" CMP --- Install 18" x 28' CSP --- Place 10 C.Y. Crushed Aggregate --- Pull Existing Ditch for 50 ft. Ahead (Incidental)	1				10		28'			
5.045	Reshape Existing Drain Dip										
5.128	Existing 18" CMP --- Ditch Relief										
5.214	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
5.336	Existing 24" CMP --- Small Stream										
5.345	Existing 18" CMP --- Ditch Relief										
5.356	Reshape Existing Drain Dip										
5.553	Existing 18" CMP --- Ditch Relief										

ROAD #910

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	251(01) Riprap	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	603(01)24 24" CSP	603(01)36 36" CSP	625(01) Seeding
5.668	Reshape Existing Drain Dip										
5.719	Reshape Existing Drain Dip										
5.945	Existing 18" CMP --- Ditch Relief										
5.967	Reshape Existing Drain Dip										
6.127	Reshape Existing Drain Dip										
6.133	Existing 24" CMP --- Ditch Relief										
6.142	Existing 18" CMP --- Ditch Relief										
6.168	Existing 24" CMP --- Ditch Relief										
6.207	Junct. w/ Road # 5310 Right										
6.231	Existing 24" CMP --- Ditch Relief										
6.271	Existing 18" CMP --- Ditch Relief										
6.290	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1	Road Brushing / Clearing		10	Road Reconditioning				Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
6.301	Existing 18" CMP --- Ditch Relief										
6.431	Existing 18" CMP --- Ditch Relief										
6.533	Existing 18" CMP --- Ditch Relief										
6.655	Existing 18" CMP --- Ditch Relief										
6.659	Junct. w/ Road #1649 Right										
6.677	Existing 16' Span x 8'-3" Rise Structural Plate Arch Pipe --- Martin Creek										
6.702	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
6.973	Existing 24" CMP --- Ditch Relief										
7.011	Junct. w/ Road #2875 Left										
7.045	Existing 18" CMP --- Ditch Relief										
7.082	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
7.292	Existing 18" CMP --- Ditch Relief										
7.549	Existing 24" CMP --- Ditch Relief										
7.591	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
7.657	Existing 18" CMP --- Ditch Relief										

ROAD #910

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	251(01) Riprap	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	603(01)24 24" CSP	603(01)36 36" CSP	625(01) Seeding
7.760	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
7.807	Existing 18" CMP --- Ditch Relief										
7.924	Existing 18" CMP --- Ditch Relief										
7.983	Remove Existing 18" CMP --- Install 24" x 48' CSP --- Place 10 C.Y. Crushed Aggregate	1				10			48'		
8.007	Existing 18" CMP --- Ditch Relief										
8.022	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
8.091	Existing 18" CMP --- Ditch Relief										
8.137	Existing 18" CMP --- Ditch Relief										
8.194	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
8.274	Existing 18" CMP --- Ditch Relief										
8.284	Existing 24" CMP --- Small Stream										
8.291	Existing 24" CMP --- Ditch Relief										
8.312	Existing 18" CMP --- Ditch Relief										
8.330	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
8.349	Existing 18" CMP --- Ditch Relief										
8.523	Existing 18" CMP --- Ditch Relief										
8.777	Existing 18" CMP --- Ditch Relief										
8.841	Existing 18" CMP --- Ditch Relief										
8.913	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
8.981	Existing 18" CMP --- Ditch Relief										
9.020	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.051	Existing 18" CMP --- Ditch Relief										
9.094	Existing 18" CMP --- Ditch Relief										
9.212	Existing 18" CMP --- Ditch Relief --- Clean Outlet with Shovel (Not Machine Accessible)										
9.230	Existing 18" CMP --- Ditch Relief										
9.239	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.349	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					

Road Brushing / Clearing

Road Reconditioning

Seed & Fertilize (All Disturbed Areas Outside the Roadbed)

ROAD #910

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	251(01) Riprap	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	603(01)24 24" CSP	603(01)36 36" CSP	625(01) Seeding
9.373	Existing 18" CMP w/ Downspout --- Ditch Relief			Road Brushing / Clearing			Road Reconditioning				Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
9.421	Existing 18" CMP --- Ditch Relief										
9.580	Existing 18" CMP --- Intermittent Stream										
9.589	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.614	Existing 18" CMP --- Ditch Relief										
9.640	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.668	Existing 18" CMP --- Ditch Relief										
9.743	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.813	Existing 18" CMP --- Ditch Relief										
9.845	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
9.880	Existing 18" CMP --- Ditch Relief										
9.889	Junct. w/ Road #9875 Right										
9.958	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
10.012	Existing 18" CMP --- Ditch Relief										
10.207	Existing 18" CMP --- Ditch Relief										
10.272	Existing 18" CMP --- Ditch Relief										
10.291	Junct. w/ Road #2888 Left										
10.305	Existing 24" CMP --- Ditch Relief										
10.364	Existing 18" CMP --- Ditch Relief										
10.391	Reshape Sag Vertical Curve										
10.412	Existing 18" CMP --- Ditch Relief										
10.419	Junct. w/ Road #2989 Left										
10.432	Existing 18" CMP --- Ditch Relief										
10.433	Remove Existing Twin 18" CMP's --- Install 36" x 38' CSP --- Install @ 1/2% Grade --- Place 10 C.Y. Crushed Aggregate	2				10				38'	
10.449	Install 18" x 38' CSP --- Construct Catch Basin & Ditch Block (Incidental) --- 110° Skew --- Place 10 C.Y. Crushed Aggregate					10		38'			
10.453	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
10.536	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					

ROAD #910

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	251(01) Riprap	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	603(01)24 24" CSP	603(01)36 36" CSP	625(01) Seeding
10.612	Existing 18" CMP --- Ditch Relief										
10.642	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
10.698	Existing 18" CMP --- Ditch Relief										
10.767	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
10.799	Cutting Unit #43B Boundary										
10.854	Existing 18" CMP --- Ditch Relief										
10.948	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1	Road Brushing / Clearing		10	Road Reconditioning				Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
10.954	Existing 18" CMP --- Ditch Relief										
10.968	Existing 18" CMP --- Ditch Relief										
11.101	Existing 18" CMP --- Ditch Relief										
11.189	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
11.216	Existing 18" CMP --- Ditch Relief										
11.302	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1			10					
11.372	Existing 18" CMP --- Ditch Relief										
11.410	Cutting Unit #43B Boundary										
	End Light Brushing / Clearing & Roadbed Reconditioning --- Aggregate Surfaced Rd.										

ESTIMATED QUANTITIES FOR ROAD #910

202(02) CMP REMOVAL	4 EA.
203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS	26 EA.
210(01) BRUSHING / CLEARING	11.41 Mi.
251(01) PLACED RIPRAP (CLASS 2)	40 C.Y.
304(13) PLACING CRUSHED AGGREGATE (TRUCK MEASURE)	300 C.Y.
306(01) ROAD RECONDITIONING	11.41 Mi.
603(01)18 18" CORRUGATED STEEL PIPE	66 L.F.
603(01)24 24" CORRUGATED STEEL PIPE	48 L.F.
603(01)36 36" CORRUGATED STEEL PIPE	38 L.F.
625(01) SEED & FERTILIZE	1 L.S.

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
0.000	Junct. w/ Martin Creek Road #910 --- Begin Light Brushing / Clearing & Roadbed Reconditioning				Road Brushing / Clearing		Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)		
0.025	Existing Gate (Preserve)										
0.057	Reconstruct Drain Dip			1							
0.101	Existing 18" CMP --- Ditch Relief										
0.128	Reconstruct Ditch on Left to Drain --- Remove Rock from Ditch (Incidental)										
0.130	Reconstruct Drain Dip			1							
0.257	Construct Drain Dip --- (Place 10 C.Y. Crushed Aggregate --- Rocky Site)			1		10					
0.262	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.376	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.433	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.495	Reshape Sag Vertical Curve										
0.510	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.592	Reconstruct Drain Dip			1							
0.613	Existing 18" CMP --- Ditch Relief										
0.660	Reshape Existing Drain Dip										
0.710	Junct. w/ Road #2815 Right Switchback Left										
0.769	Reshape Existing Drain Dip										
0.790	Existing 18" CMP --- Ditch Relief										
0.804	Reshape Existing Drain Dip										
0.856	Reconstruct Drain Dip			1							
0.906	Existing 18" CMP --- Ditch Relief										
0.934	Reshape Existing Drain Dip										
0.989	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.992	Reshape Sag Vertical Curve										
1.096	Remove 3' x 4' x 2' Rock on Right (Incidental)										
1.110	Reshape Existing Drain Dip										
1.112	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
1.253	Reshape Existing Drain Dip				Road Brushing / Clearing		Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)		
1.272	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
1.372	Reshape Existing Drain Dip										
1.472	Reconstruct Drain Dip			1							
1.567	Existing 18" CMP w/ Downspout --- Ditch Relief --- Reconstruct Catch Basin		1								
1.691	Existing 18" CMP --- Ditch Relief										
1.745	Reshape Existing Drain Dip										
1.786	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
1.850	Existing 24" CMP --- Ephemeral Draw										
1.869	Reconstruct 20' of Ditch (Incidental)										
1.880	Existing 18" CMP --- Ditch Relief										
1.885	Reshape Existing Drain Dip										
1.927	Crest Vertical Curve										
1.963	Existing 18" CMP --- Ditch Relief										
1.988	Reshape Existing Drain Dip										
2.055	Reshape Sag Vertical Curve										
2.133	Existing 18" CMP --- Ditch Relief										
2.164	Reshape Existing Drain Dip										
2.207	Reshape Existing Drain Dip										
2.295	Reshape Existing Drain Dip										
2.300	Existing 18" CMP --- Ditch Relief										
2.392	Reconstruct Drain Dip			1							
2.429	Existing 18" CMP --- Ditch Relief										
2.544	Reconstruct Drain Dip			1							
2.637	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
2.666	Reshape Sag Vertical Curve										
2.819	Reshape Existing Drain Dip										

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
2.876	Existing 18" CMP --- Ditch Relief										
2.984	Reshape Existing Drain Dip										
3.050	Existing 24" CMP --- Intermittent Stream										
	End Light Brushing / Clearing & Begin Medium Brushing / Clearing										
3.060	Reshape Existing Drain Dip										
3.077	Existing 18" CMP --- Ditch Relief										
3.096	Reshape Existing Drain Dip										
3.156	Existing 18" CMP --- Ditch Relief										
3.167	Reshape Existing Drain Dip										
3.215	Reconstruct Drain Dip			1							
3.258	Existing 18" CMP --- Ephemeral Draw										
3.283	Reshape Existing Drain Dip				Road Brushing / Clearing		Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)		
3.370	Existing 18" CMP w/ Downspout --- Ditch Relief										
3.379	Reshape Existing Drain Dip										
3.430	Reshape Sag Vertical Curve										
3.519	Existing 18" CMP --- Ditch Relief										
3.539	Reshape Existing Drain Dip										
3.582	Existing 18" CMP --- Ephemeral Draw										
3.585	Reshape Existing Drain Dip										
3.637	Reshape Existing Drain Dip										
3.724	Existing 18" CMP --- Ditch Relief										
3.740	Reconstruct Drain Dip			1							
3.811	Reshape Sag Vertical Curve										
3.864	Existing 18" CMP --- Ditch Relief										
3.879	Reshape Existing Drain Dip										
3.956	Existing 18" CMP --- Ditch Relief										
3.988	Reshape Existing Drain Dip										

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(03) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
4.057	Junct. w/ Road #1649C Left										
	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
4.109	Reshape Existing Drain Dip										
4.176	Existing 18" CMP --- Ditch Relief										
4.248	Existing 18" CMP --- Ditch Relief --- Cutting Unit #24A										
4.271	Reshape Sag Vertical Curve										
4.300	Reshape Sag Vertical Curve --- Cutting Unit #24A										
	End Medium Brushing / Clearing & Road Reconditioning for this Segment of Road #1649										
	No Work Ahead from M.P. 4.300 to M.P. 5.210										
5.108	Existing Gate (Preserve) (This Segment of Road #1649 Not Used as a Haul Road)										
5.123	Junct. w/ Road #10433 Right										
5.210	Junct. w/ Road #1649G Left										
	Begin Road Reconditioning for this Segment of Road #1649 --- No Brushing / Clearing Ahead										
5.255	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
5.368	Reconstruct Drain Dip			1							
5.379	Existing 18" CMP --- Ephemeral Draw										
5.485	Reconstruct Drain Dip			1							
5.515	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
5.662	Reshape Sag Vertical Curve										
5.694	Existing 18" CMP --- Ditch Relief										
5.703	Reshape Existing Drain Dip										
5.754	Existing 18" CMP --- Intermittent Stream										
5.766	Install 18" x 32' CSP --- Construct Catch Basin & Ditch Block (Incidental) --- 70° Skew							32'			
5.795	Existing 18" CMP --- Ditch Relief										
5.849	Existing 18" CMP --- Ditch Relief										
5.891	Reconstruct Drain Dip			1							
5.954	Reshape Sag Vertical Curve										
6.070	Existing 18" CMP --- Ditch Relief										
6.084	Reshape Sag Vertical Curve										

Brushing / Clearing

Road Reconditioning

Seed & Fertilize (All Disturbed Areas Outside the Roadbed)

Road Reconditioning

Seed & Fertilize (All Disturbed Areas Outside the Roadbed)

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
6.171	Place 10 C.Y. Crushed Aggregate to Fill Large Pothole					10	Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)		
6.194	Reconstruct Drain Dip			1							
6.219	Existing 18" CMP --- Ditch Relief										
6.311	Reshape Sag Vertical Curve										
6.344	Reconstruct Drain Dip			1							
6.356	Existing 18" CMP --- Ditch Relief										
6.398	Reconstruct Drain Dip			1							
6.414	Existing 18" CMP --- Ditch Relief										
6.443	Existing 18" CMP --- Ditch Relief										
6.477	Reshape Sag Vertical Curve										
6.574	Reconstruct Drain Dip			1							
6.587	Existing 18" CMP --- Ditch Relief										
6.682	Existing 18" CMP --- Ditch Relief										
6.708	Reshape Existing Drain Dip										
6.813	Reshape Existing Drain Dip										
6.921	Reshape Existing Drain Dip										
6.938	Existing 18" CMP --- Ditch Relief										
7.004	Reshape Sag Vertical Curve										
7.097	Reshape Sag Vertical Curve										
7.099	Existing 18" CMP --- Ditch Relief										
7.212	Existing 18" CMP --- Ditch Relief --- Reshape Sag Vertical Curve										
7.271	Reshape Existing Drain Dip										
7.417	Existing 18" CMP w/ Crushed Inlet --- Remove & Replace 4' Section @ Inlet --- Reconstruct Catch Basin	1	1					4'			
7.487	Reconstruct Drain Dip			1							
7.503	Existing 18" CMP --- Ditch Relief										
7.555	Existing 18" CMP --- Ditch Relief --- Reshape Sag Vertical Curve										
7.591	Reshape Existing Drain Dip										
7.680	Junct. w/ Road #9875 --- End Road Reconditioning									SHEET NO. 18 OF 45	

ROAD #1649

STATION OR MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Reconditioning	603(01)18 18" CSP	625(01) Seeding		
	ESTIMATED QUANTITIES FOR ROAD #1649										
	202(02) CMP REMOVAL	1 EA.									
	203(17)CB RECONSTRUCT CATCH BASIN		14 EA.								
	203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS			18 EA.							
	210(01) BRUSHING / CLEARING				4.30 Mi.						
	304(13) PLACING CRUSHED AGGREGATE (TRUCK MEASURE)					20 C.Y.					
	306(01) ROAD RECONDITIONING						6.77 Mi.				
	603(01)18 18" CORRUGATED STEEL PIPE							36 L.F.			
	625(01) SEED & FERTILIZE								1 L.S.		

ROAD #910A

MILE POST	WORK DESCRIPTION	203(17)DD Drain Dip	210(01) Brushing / Clearing	306(01) Roadbed Recond.	625(01) Seeding
0.000	Junct. w/ Martin Creek Road #910 --- Begin Medium Brushing / Clearing & Roadbed Reconditioning		Road Brushing / Clearing	Road Reconditioning	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
0.040	Existing Gate				
0.119	Reshape Sag Vertical Curve				
0.172	Reconstruct Drain Dip	1			
0.381	Reconstruct Drain Dip	1			
0.444	Reshape Existing Drain Dip				
0.461	Reshape Existing Drain Dip				
0.510	Reshape Existing Drain Dip				
1.656	Reconstruct Drain Dip	1			
1.690	Junct. w/ Road #11248 Right End Brushing / Clearing & Road Reconditioning				

ESTIMATED QUANTITIES FOR ROAD #910A

203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS	3 EA.
210(01) BRUSHING / CLEARING	1.69 Mi.
306(01) ROAD RECONDITIONING	1.69 Mi.
625(01) SEED & FERTILIZE	1 L.S.

ROAD #1649C

MILE POST	WORK DESCRIPTION	203(17)DD Drain Dip	204(09) Sediment Basin	210(01) Brushing / Clearing	306(01) Roadbed Recond.	625(01) Seeding
0.000	Junct. w/ Road #1649 --- Begin Medium Brushing / Clearing & Roadbed Reconditioning			Road Brushing / Clearing	Road Reconditioning	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
0.051	Reshape Existing Drain Dip					
0.089	Reshape Existing Drain Dip					
0.130	Reshape Existing Drain Dip --- Drain Left into Sediment Basin Construct Sediment Basins in Left & Right Ditches		2			
0.140	Existing 18" CMP --- Intermittent Stream					
0.180	Reshape Existing Drain Dip					
0.220	Reshape Sag Vertical Curve					
0.235	Pull Ditch to CMP Ahead (Incidental)					
0.239	Existing 18" CMP --- Ditch Relief					
0.284	Reshape Existing Drain Dip					
0.321	Reconstruct Drain Dip	1				
0.373	Reshape Existing Drain Dip					
0.676	Reconstruct Drain Dip	1				
0.737	Cutting Unit #27 Boundary					
0.805	Reshape Existing Drain Dip					
0.850	Cutting Unit #27 Boundary End Brushing / Clearing & Road Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #1649C

203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS	2 EA.
204(09) CONSTRUCT SEDIMENT BASIN	2 EA.
210(01) BRUSHING / CLEARING	0.85 Mi
306(01) ROAD RECONDITIONING	0.85 Mi
625(01) SEED & FERTILIZE	1 L.S.

ROAD #1649G

MILE POST	STA.	WORK DESCRIPTION	202(03) Earth Berm Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	306(01) Roadbed Recond.	625(01) Seeding	640(01) Livestock Gate
0.000	0+00	Junct. w/ Road #1649 --- Begin Medium Brushing / Clearing & Roadbed Reconditioning			Road Brushing / Clearing	Road Reconditioning	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)	
0.025	1+33	Existing 18" CMP --- Ditch Relief						
0.048	2+53	Reconstruct Drain Dip		1				
0.058	3+07	Remove Existing Earth Berm	1					
		Furnish & Install 12' Standard Livestock Gate						1
0.100	5+26	Reconstruct Drain Dip		1				
0.170	8+97	Reconstruct Drain Dip		1				
0.197	10+39	Reshape Existing Drain Dip						
0.233	12+28	Reshape Sag Vertical Curve						
0.270	14+27	Crest Vertical Curve						
0.328	17+32	Reshape Sag Vertical Curve						
0.389	20+52	Construct Drain Dip		1				
0.468	24+73	Crest Vertical Curve						
0.548	28+94	Construct Drain Dip		1				
0.608	32+09	Cutting Unit #28 Boundary						
0.623	32+90	Construct Drain Dip		1				
0.672	35+47	Reshape Sag Vertical Curve						
0.690	36+44	Existing Turn-A-Round						
0.700	36+96	End of Road						
		End Brushing / Clearing & Road Reconditioning						

ESTIMATED QUANTITIES FOR ROAD #1649G

202(03) EARTH BERM REMOVAL	1 EA.
203(17)DD CONST. OR RECONST. DRAIN DIPS	6 EA.
210(01) BRUSHING / CLEARING	0.70 Mi.
306(01) ROAD RECONDITIONING	0.70 Mi.
625(01) SEED & FERTILIZE	1 L.S.
640(01) FURNISH & INSTALL LIVESTOCK GATE	1 EA.

ROAD #2872

MILE POST	WORK DESCRIPTION		306(01) Roadbed Recond.			
0.000	Junct. w/ Good Creek Road #60 -- Begin Roadbed Reconditioning		Road Reconditioning			
	No Brushing / Clearing Required					
0.534	Junct. w/ Road #10351 Right					
0.592	Reshape Existing Drain Dip					
0.625	Reshape Sag Vertical Curve					
0.638	Existing 48" CMP --- Stream Crossing					
0.652	Reshape Sag Vertical Curve					
0.774	Reshape Existing Drain Dip					
1.131	Junct. w/ Road #10352 Right					
1.320	Reshape Sag Vertical Curve					
1.543	Reshape Existing Drain Dip					
1.634	Reshape Existing Drain Dip					
1.673	Cutting Unit #67 Boundary					
1.754	Reshape Sag Vertical Curve					
1.763	Existing 18" CMP --- Cross Drain					
1.950	Cutting Unit #67 Boundary					
	End Road Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #2872

306(01) ROAD RECONDITIONING	1.95 Mi.

ROAD #2815

MILE POST	WORK DESCRIPTION	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Recond.	625(01) Seeding
0.000	Junct. w/ Road #1649 --- Begin Medium-Heavy Brushing / Clearing & Roadbed Reconditioning (Aggregate Surfaced) Existing 1' Ditch Left						
0.007	Existing 18" CMP --- Ditch Relief						
0.120	Reshape Sag Vertical Curve						
0.285	Reshape Sag Vertical Curve						
0.336	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin	1					
0.475	Construct Drain Dip --- (Place 10 C.Y. Crushed Aggregate)		1		10		
0.483	Existing 18" CMP --- Ditch Relief						
0.603	Existing 18" CMP --- Ditch Relief						
0.618	Reshape Sag Vertical Curve						
0.678	Existing 18" CMP --- Ditch Relief						
0.761	Existing 18" CMP --- Ditch Relief						
0.767	Reshape Sag Vertical Curve						
0.828	Construct Drain Dip --- (Place 10 C.Y. Crushed Aggregate)		1		10		
0.835	Existing 18" CMP --- Ditch Relief						
0.912	Existing 18" CMP --- Ditch Relief						
0.974	Existing 18" CMP --- Dry Draw						
1.000	Reshape Sag Vertical Curve						
1.075	Existing 18" CMP --- Ditch Relief						
1.110	Place 10 C.Y. Crushed Agg. to Fill Potholes & Level Roadbed				10		
1.142	Existing 18" CMP --- Ditch Relief						
1.209	Existing 18" CMP --- Ditch Relief						
1.220	Place 10 C.Y. Crushed Agg. to Fill Potholes & Level Roadbed Reshape Sag Vertical Curve				10		
1.330	Junct. w/ Road #5336 Right --- End Existing Agg. Surfaced Rd. Switchback Left --- Begin Heavy Brushing / Clearing & Roadbed Reconditioning (Native Surface) --- Begin Placing Crushed Agg. Surface --- (14' Finished Top, 4" Comp. Depth)						
1.381	Existing 18" CMP --- Ditch Relief --- Begin Ditch Right						

Road Brushing / Clearing

Place Crushed Aggregate

Road Reconditioning

Seed & Fertilize (All Disturbed Areas Outside the Roadbed)

ROAD #2815

MILE POST	WORK DESCRIPTION	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Recond.	625(01) Seeding
1.480	End Ditch Right						
1.525	Construct Drain Dip		1				
1.618	Construct Drain Dip		1				
1.621	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin Begin Existing Ditch Right	1					
1.685	End Ditch Right						
1.712	Construct Drain Dip		1				
1.887	Construct Drain Dip		1				
1.916	Existing 18" CMP --- Ephemeral Stream						
2.010	End Existing Road --- End Brushing / Clearing & Road Reconditioning --- End Placing Crushed Aggregate Surface --- (14' Finished Top, 4" Compacted Depth)						

Road Brushing / Clearing

Place Crushed Aggregate (915 C.Y.)

Road Reconditioning

Seed & Fertilize (All Disturbed Areas Outside the Roadbed)

ESTIMATED QUANTITIES FOR ROAD #2815

203(17)CB RECONSTRUCT CATCH BASIN	2 EA.
203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS	6 EA.
210(01) BRUSHING / CLEARING	2.01 Mi.
304(13) PLACING CRUSHED AGGREGATE (TRUCK MEASURE)	955 C.Y.
306(01) ROAD RECONDITIONING	2.01 Mi.
625(01) SEED & FERTILIZE	1 L.S.

NFSR #2815

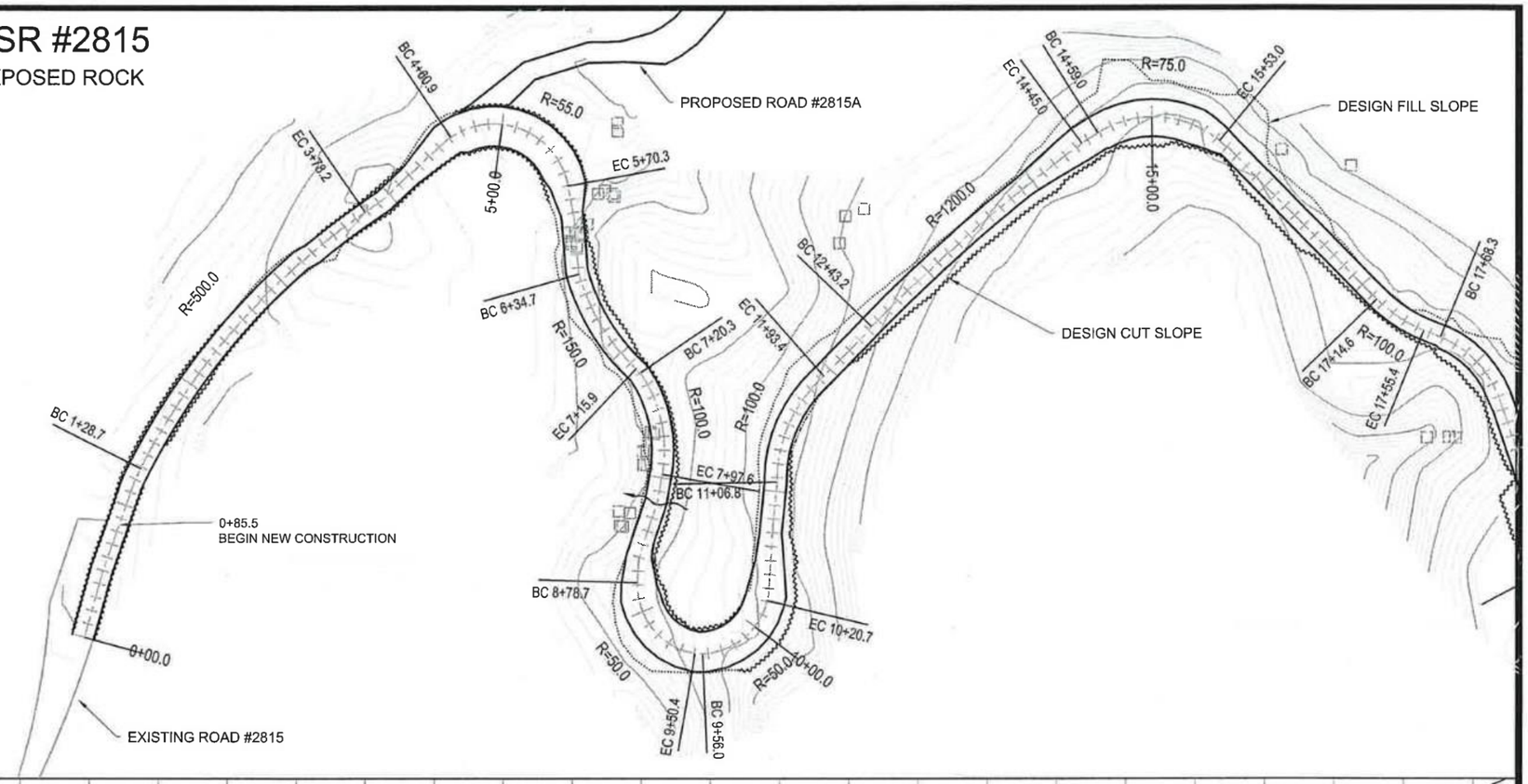
□ EXPOSED ROCK

PLAN VIEW

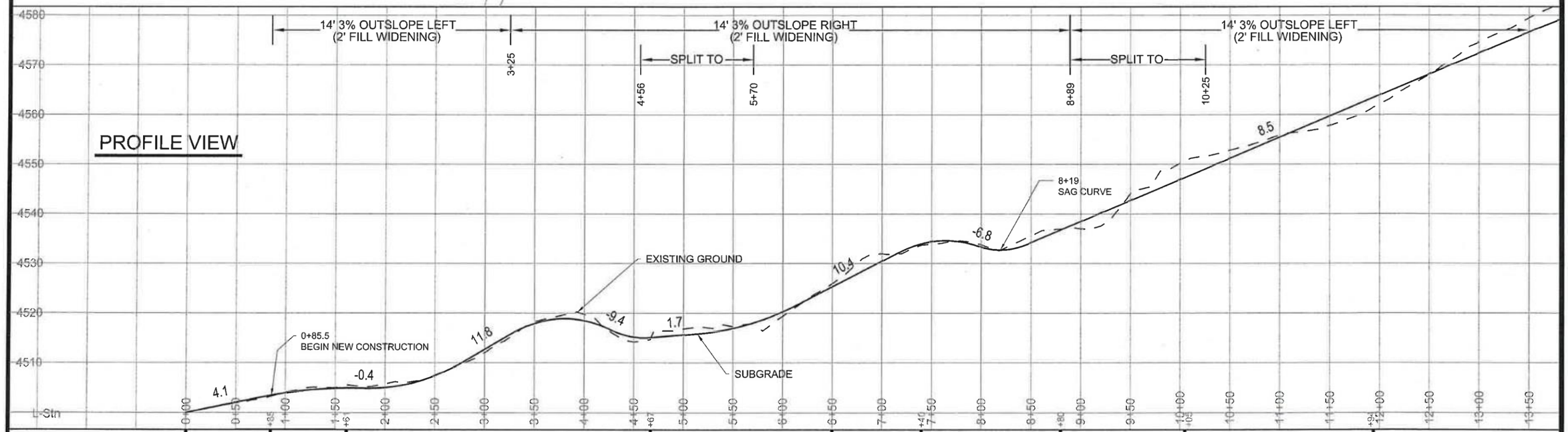
0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N



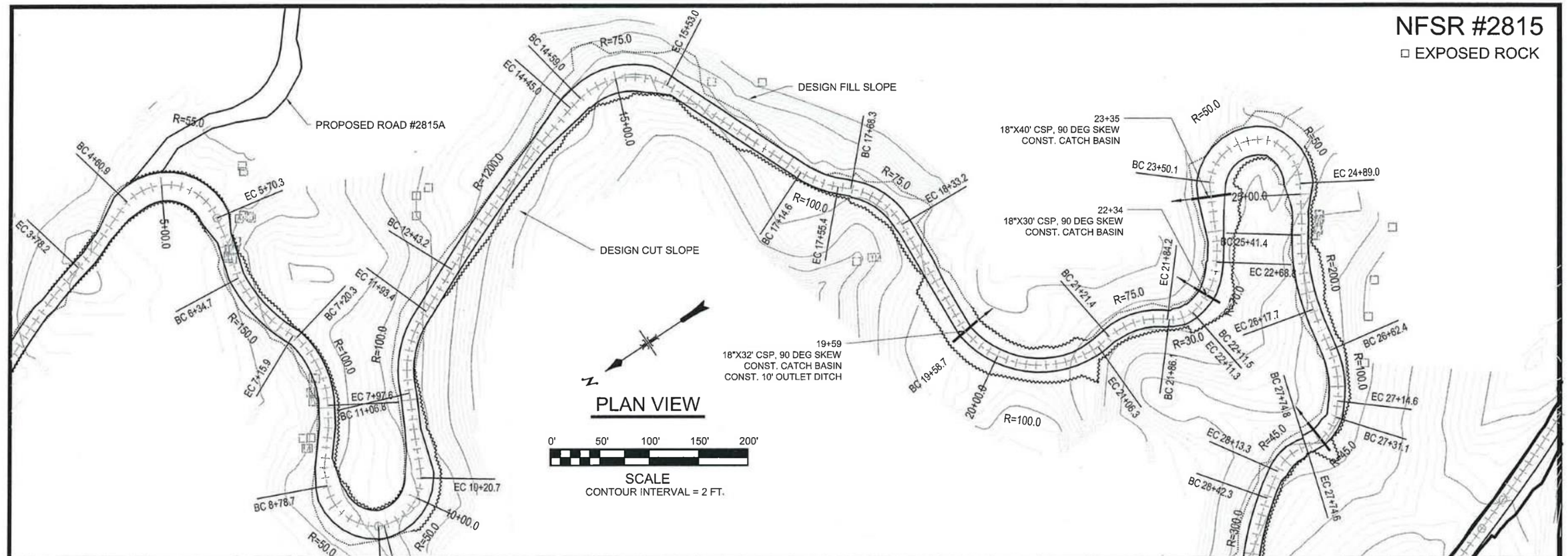
PROFILE VIEW

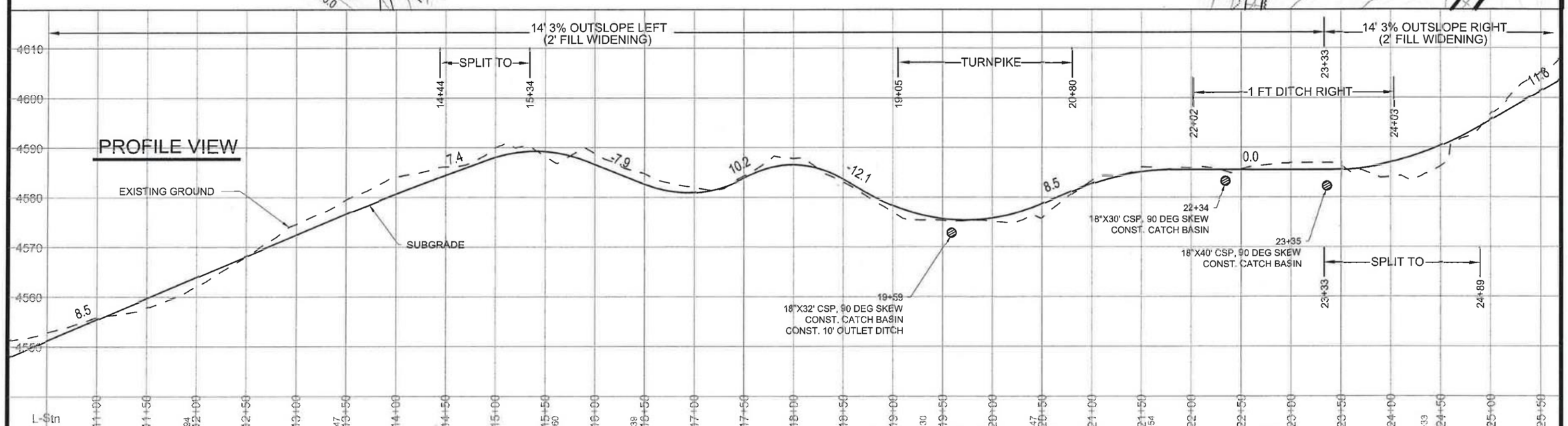


SHEET NO. 23 OF 45

NFSR #2815

□ EXPOSED ROCK





SHEET NO. 24 OF 45

NFSR #2815

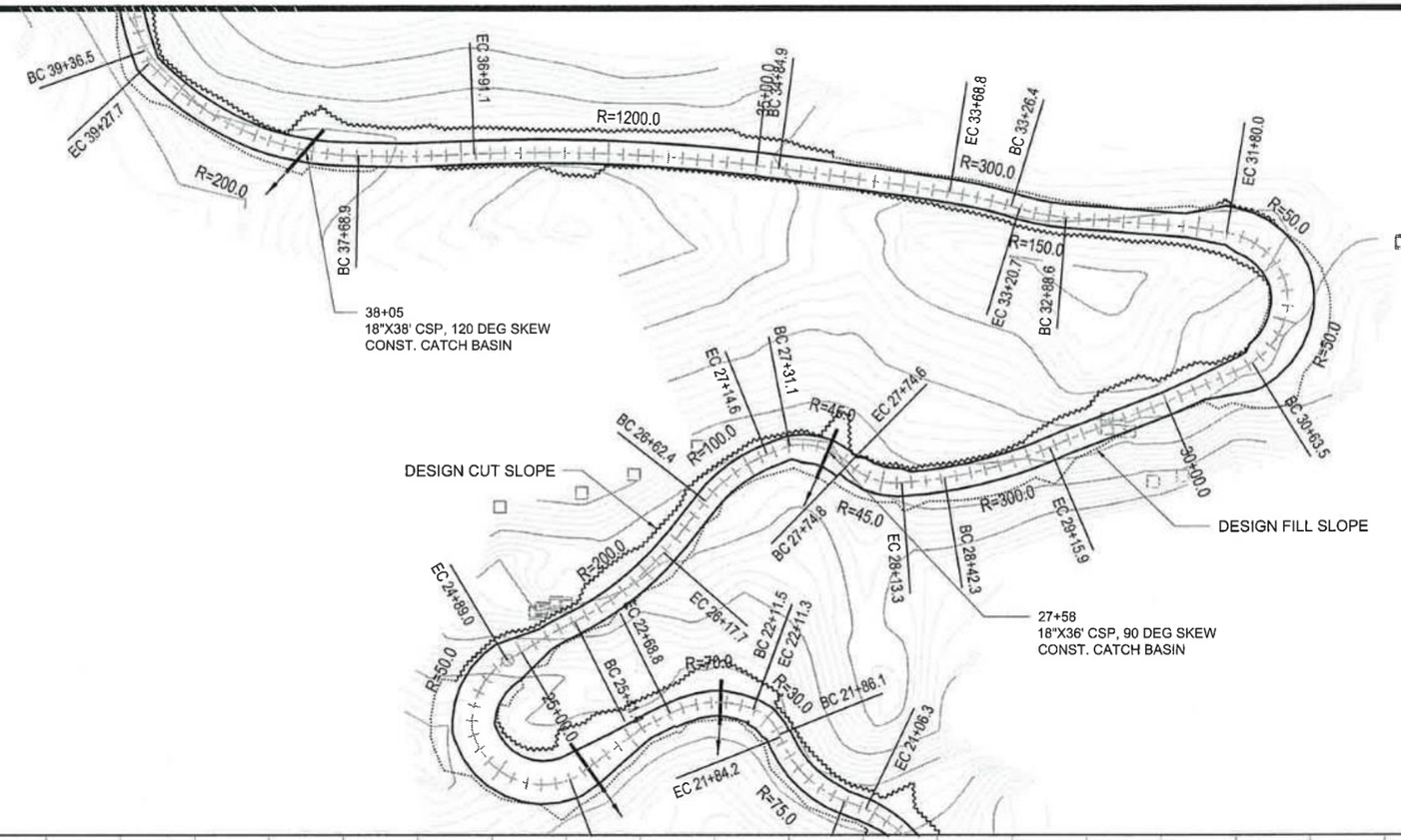
□ EXPOSED ROCK

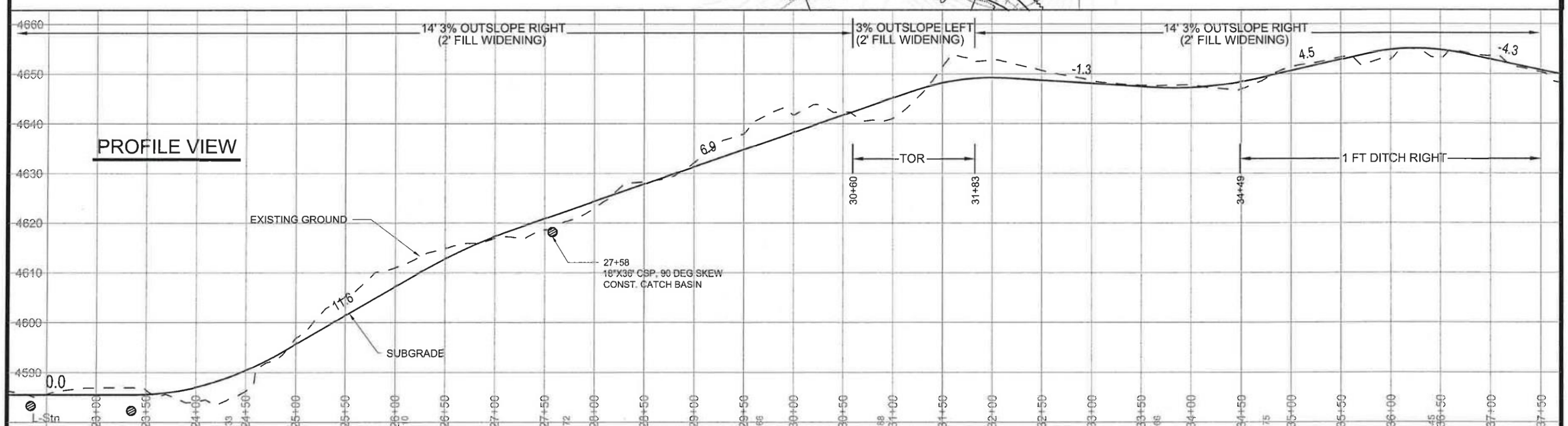
PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N



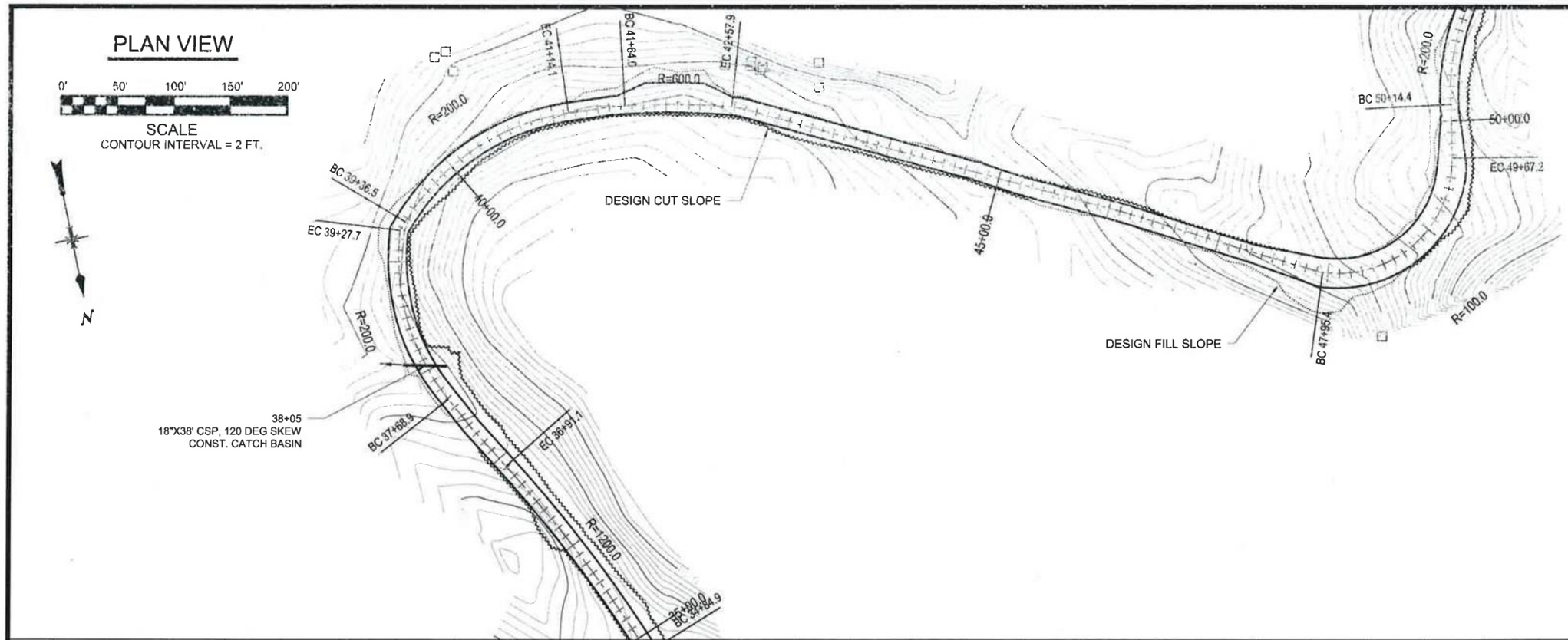


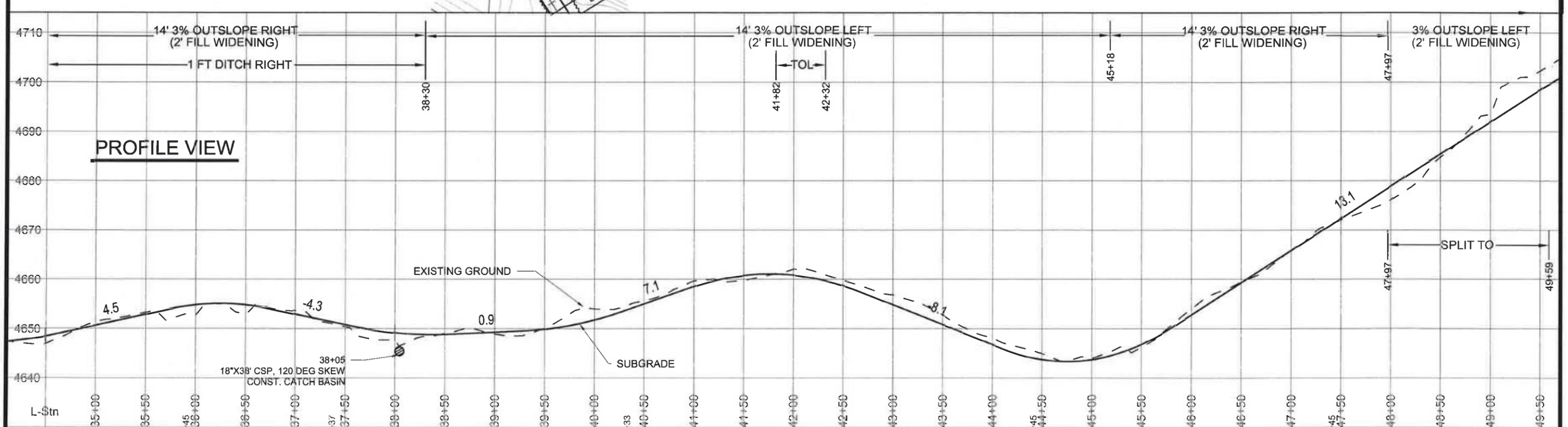
EXC. Cu.Yds.	335	178	231	278	393	86	102

NFSR #2815

□ EXPOSED ROCK

PLAN VIEW





EXC. Cu.Yds.		40	254	43	253	98	

NFSR #2815

□ EXPOSED ROCK

PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N

DESIGN FILL SLOPE

DESIGN CUT SLOPE

R=200.0

BC 51+50.1

EC 53+81.9

EC 50+97.3

BC 50+14.4

R=200.0

50+00.0

EC 49+67.2

BC 47+95.1

R=100.0

55+00.6

BC 55+97.8

R=200.0

EC 56+72.1

57+18
24"X42' CSP, 75 DEG SKEW

BC 57+43.1

EC 57+70.4

BC 57+71.2

R=50.0

R=100.0

EC 58+48.4

BC 57+00.8

R=60.0

EC 57+37.1

59+50
CONST. DRAIN DIP

BC 59+69.1

60+00 R=200.0

EC 60+35.5

BC 61+04.2

R=200.0

EC 61+53.8

PROFILE VIEW

14' 3% OUTSLOPE RIGHT
(2' FILL WIDENING)

3% OUTSLOPE LEFT
(2' FILL WIDENING)

SPLIT TO

47+97

49+59

14' 3% OUTSLOPE LEFT
(2' FILL WIDENING)

TOL

57+49

57+98

4730
4720
4710
4700
4690
4680
4670

4790
4780
4770
4760
4750
4740
4730

EXISTING GROUND

SUBGRADE

13.1

4.4

5.9

12.5

3.4

5.8

59+50
CONST. DRAIN DIP

57+18
24"X42' CSP, 75 DEG SKEW

L-Stn

47+00 +45 47+50 48+00 48+50 49+00 49+50 50+00 +15 50+50 51+00 51+50 52+00 52+50 +80 53+00 53+50 54+00 +15 55+00 55+50 56+00 56+50 57+00 +10 57+50 58+00 58+50 59+00 59+50 +90 60+00 60+50 61+00 61+50

EXC. Cu.Yds.	542	508	246	602	521

NFSR #2815

□ EXPOSED ROCK

PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N

59+50
CONST. DRAIN DIP

DESIGN FILL SLOPE

DESIGN CUT SLOPE

BC 59+69.1 | 60+00.9 | EC 60+35.5 | BC 61+04.2 | EC 61+58.8 | BC 63+20.2 | EC 63+70.7 | BC 64+23.1 | 65+00.0 | EC 65+72.2 | BC 65+77.0 | EC 66+48.6 | BC 66+77.4 | BC 67+98.8 | EC 67+37.0 | EC 68+32.6 | BC 68+53.3 | BC 69+08.9 | EC 68+99.5 | EC 69+60.4 | 70+00.0 | BC 70+69.9 | EC 71+26.9 | BC 71+44.8 | EC 71+85.5 | BC 72+10.9 | EC 72+42.0 | BC 72+53.4 | EC 73+04.7 | BC 73+14.7 | EC 73+48.1 | BC 73+51.3 | EC 73+94.1 | BC 74+05.2 | BC 75+65.2 | EC 75+56.1

R=200.0 R=200.0 R=500.0 R=100.0 R=200.0 R=200.0 R=200.0 R=50.0 R=50.0 R=100.0 R=150.0 R=200.0 R=150.0 R=120.0 R=100.0 R=60.0 R=60.0

PROFILE VIEW

14' 3% OUTSLOPE LEFT
(2' FILL WIDENING)

EXISTING GROUND

SUBGRADE

59+50
CONST. DRAIN DIP

5.8 7.3 9.8 4.1 11.7 -4.0 13.3 -3.8

TOL
69+36
69+96

4840 4830 4820 4810 4800 4790 4780 4770

4880 4870 4860 4850 4840 4830 4820 4810

L-Sta. 59+00 59+50 +90 60+00 60+50 61+00 61+50 +35 62+00 62+50 63+00 +25 63+50 64+00 64+50 65+00 65+50 +85 66+00 66+50 67+00 67+50 68+00 +20 68+50 69+00 69+50 70+00 70+50 71+00 +30 72+00 72+50 73+00 73+50

EXC. Cu.Yds.	366	307	689	323	316

SHEET NO. 28 OF 45

NFSR #2815

□ EXPOSED ROCK

PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N

70+00.9
BC 70+99.9
EC 71+26.9
R=100.0
BC 71+44.3
R=150.0
EC 71+85.5
BC 72+10.9
EC 72+42.0
R=200.0
BC 72+53.4
R=150.0
EC 73+04.7
BC 73+14.7
R=200.0
EC 73+49.1
BC 73+51.3
R=150.0
EC 73+94.1
BC 74+05.2
R=60.0
EC 74+45.2
BC 74+54.9
R=60.0
BC 75+65.2
EC 75+56.1
BC 77+19.5
75+00.0
R=75.0
R=60.0
DESIGN FILL SLOPE
EC 76+89.1
R=60.0
BC 79+55.8
80+00.0
BC 80+99.4
EC 80+83.9
R=75.0
R=150.0
EC 81+59.9
EC 79+20.9
R=200.0
BC 79+59.5
EC 78+19.2
81+19
18"X32' CSP, 100 DEG SKEW
CONST. CATCH BASIN
CONST. 20' OUTLET DITCH
BC 83+99.0
R=100.0
EC 84+42.0
85+00.0
R=75.0
EC 83+94.5
BC 83+38.7
DESIGN CUT SLOPE
73+75
18"X30' CSP, 90 DEG SKEW
CONST. CATCH BASIN
75+09
18"X36' CSP, 110 DEG SKEW
CONST. CATCH BASIN
77+96
18"X40' CSP, 90 DEG SKEW
CONST. CATCH BASIN

PROFILE VIEW

14' 3% OUTSLOPE LEFT
(2' FILL WIDENING)

TOR 75+89 76+39

1 FT DITCH RIGHT 77+59 77+98

TURNPIKE 80+39 82+19

TURNPIKE 84+59

4870 4860 4850 4840 4830 4820 4810

EXISTING GROUND

SUBGRADE

13.3 -3.8 -3.8 1.8 1.5 -1.2 -5.1 1.5 -6.6 1.3 -2.9

73+75
18"X30' CSP, 90 DEG SKEW
CONST. CATCH BASIN

75+09
18"X36' CSP, 110 DEG SKEW
CONST. CATCH BASIN

77+96
18"X40' CSP, 90 DEG SKEW
CONST. CATCH BASIN

81+19
18"X32' CSP, 100 DEG SKEW
CONST. CATCH BASIN
CONST. 20' OUTLET DITCH

L-Stn 71+00 +30 71+50 72+00 72+50 73+00 73+50 74+00 +25 74+50 75+00 75+50 76+00 76+50 77+00 77+50 78+00 78+50 79+00 +25 79+50 80+00 80+50 81+00 81+50 +65 82+00 82+50 83+00 +35 83+50 84+00 84+50 85+00 85+50

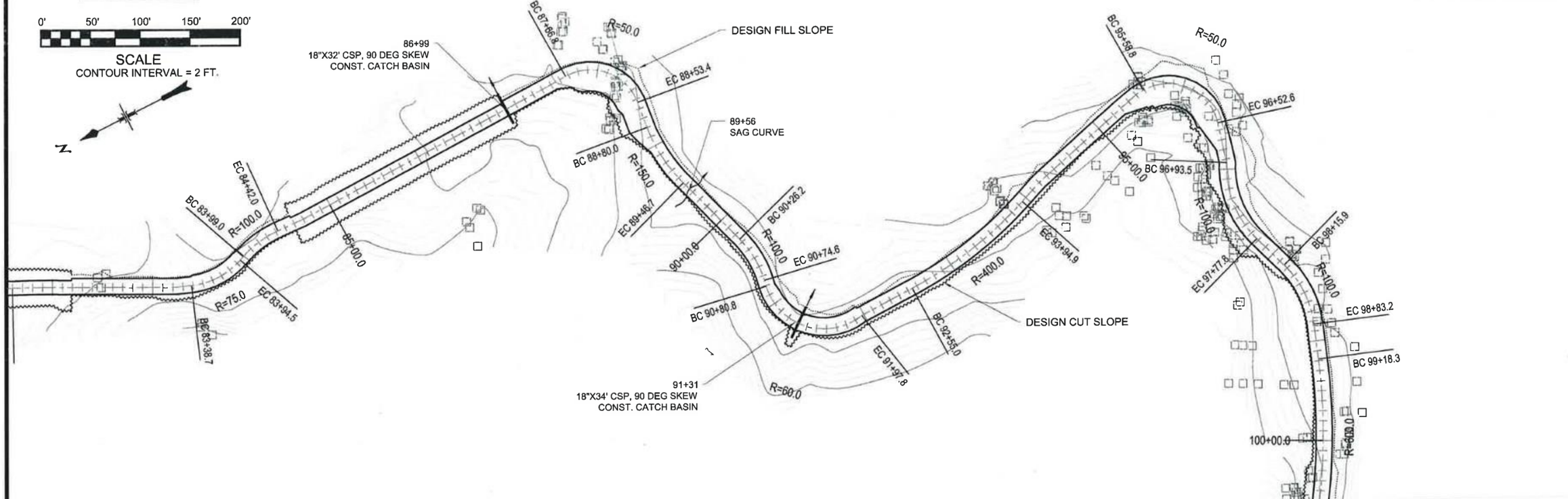
EXC. Cu.Yds.	287	270	178	312	238	123

SHEET NO. 29 OF 45

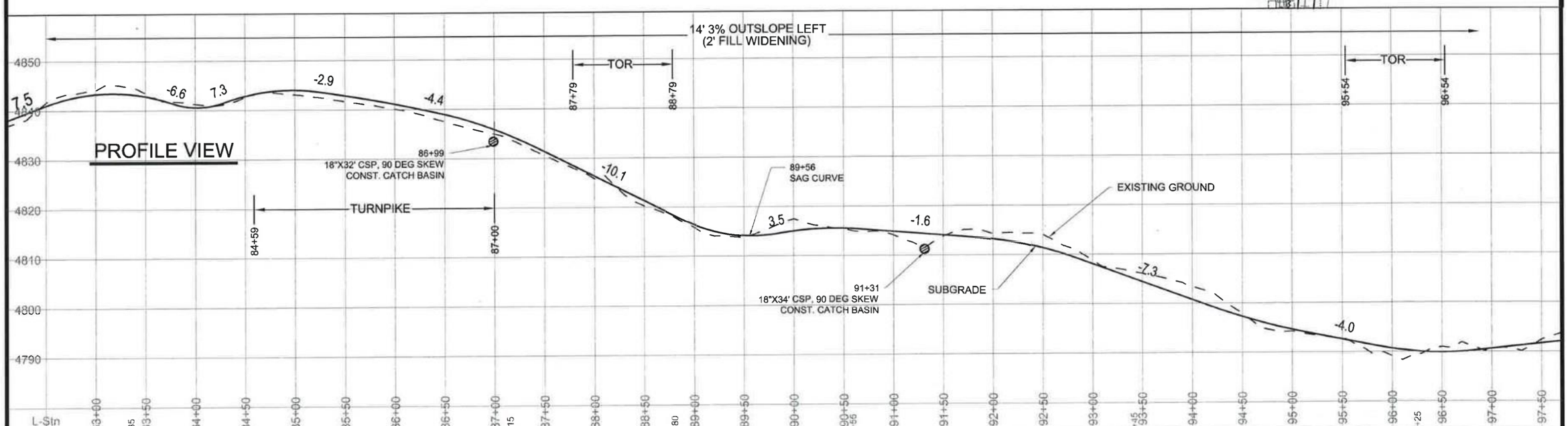
NFSR #2815

□ EXPOSED ROCK

PLAN VIEW



PROFILE VIEW



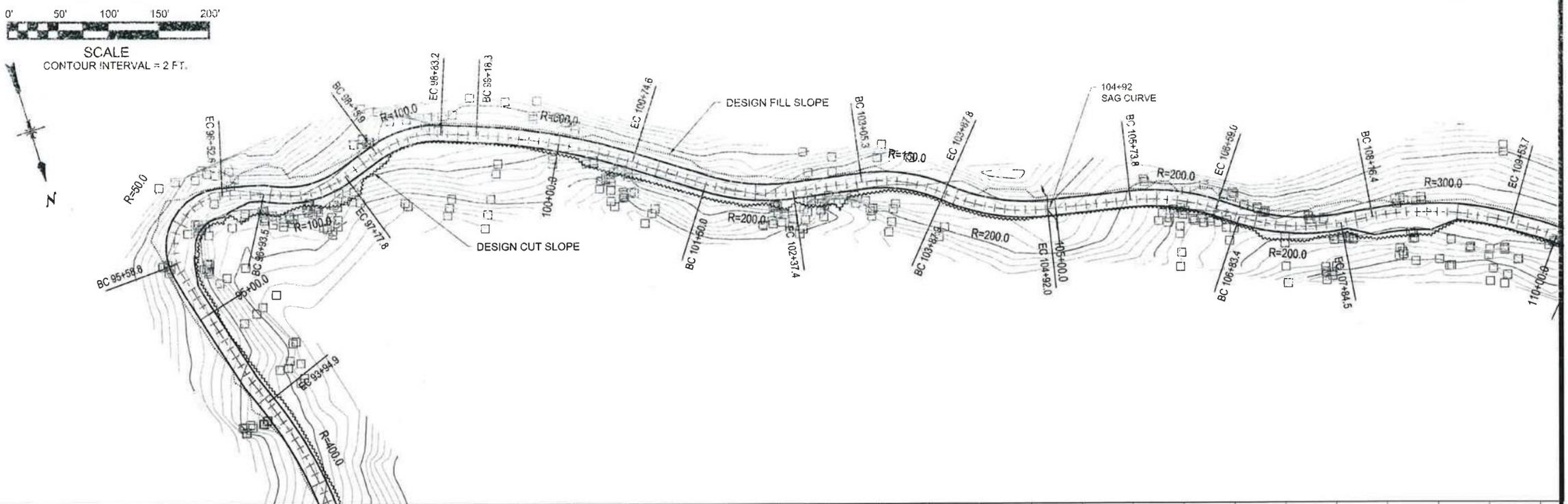
EXC. Cu.Yds.	260	178	77	210	309

SHEET NO. 30 OF 45

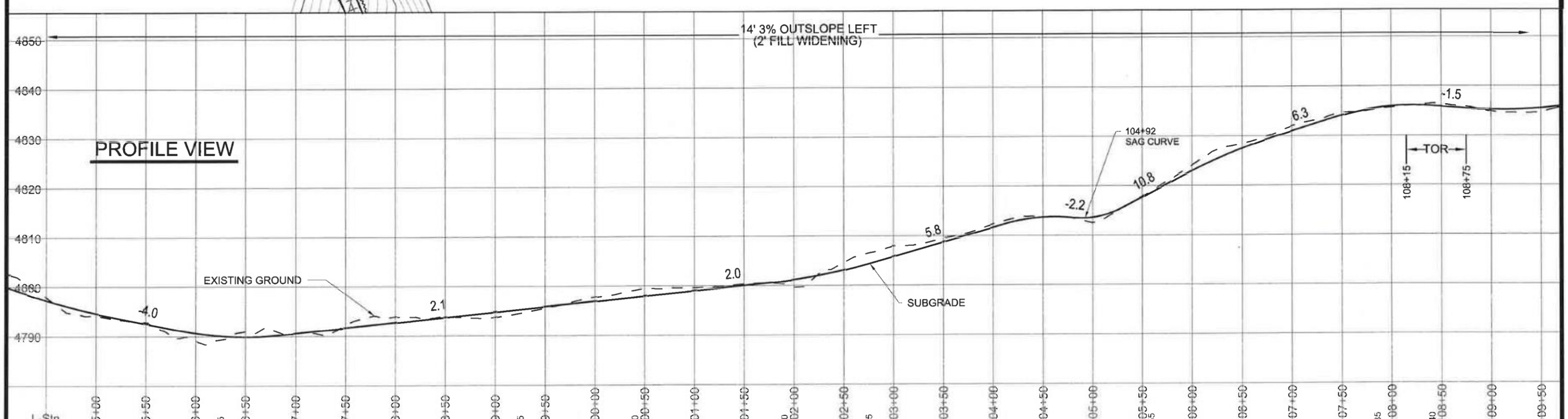
NFSR #2815

□ EXPOSED ROCK

PLAN VIEW



PROFILE VIEW



SHEET NO. 31 OF 45

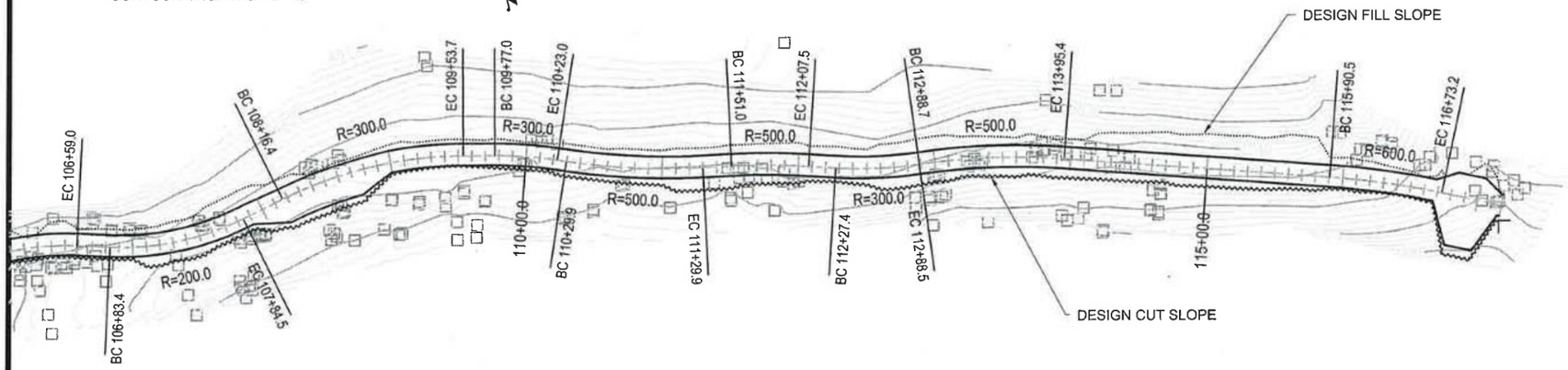
NFSR #2815

□ EXPOSED ROCK

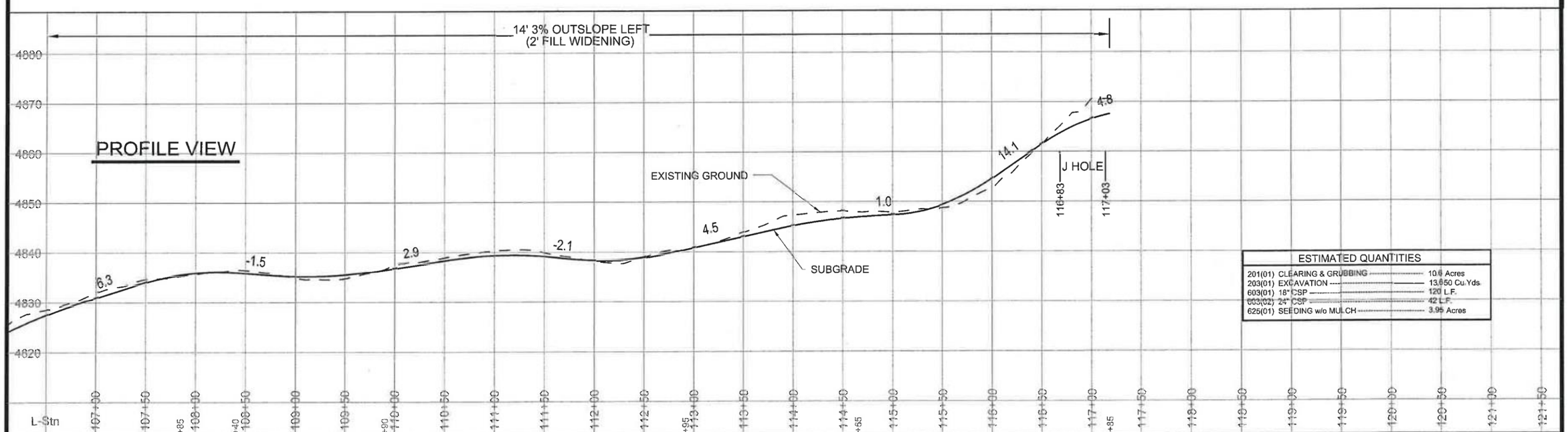
PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.



PROFILE VIEW



EXC. Cu.Yds.	74	94	295	112	93	467

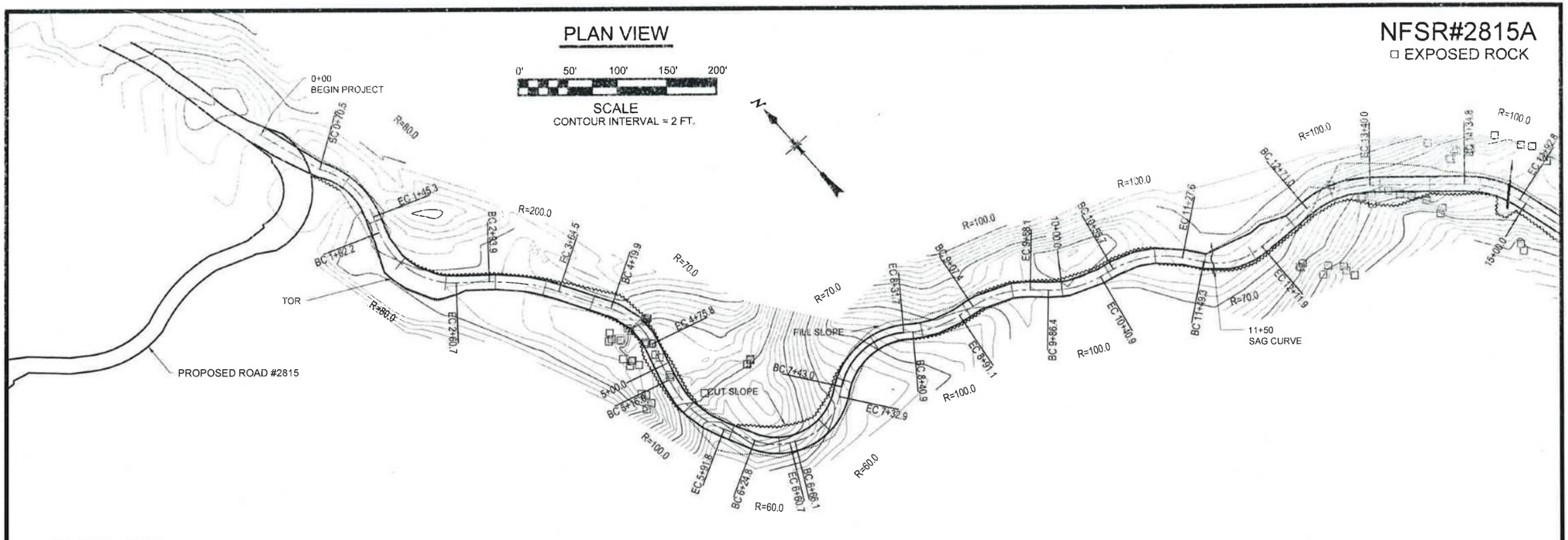
ESTIMATED QUANTITIES

201(01) CLEARING & GRUBBING	10.6 Acres
203(01) EXCAVATION	13,650 Cu.Yds.
603(01) 18" CSP	120 L.F.
603(02) 24" CSP	42 L.F.
625(01) SEEDING w/o MULCH	3.95 Acres

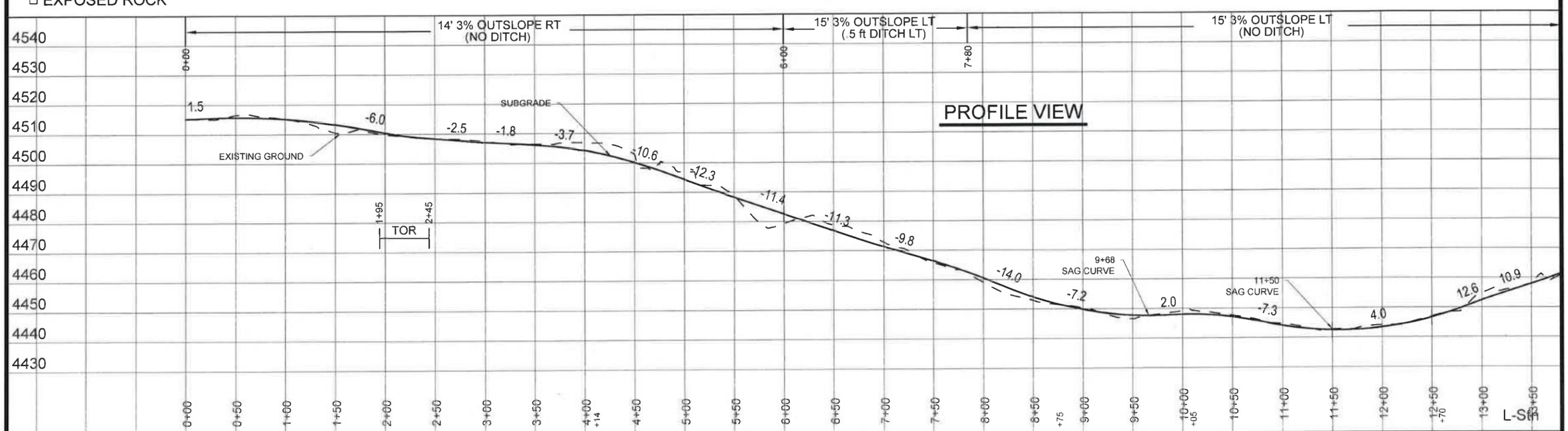
NFSR#2815A

□ EXPOSED ROCK

PLAN VIEW



□ EXPOSED ROCK



EXC. Cu.Yds.	144	220	250	75	73

SHEET NO. 33 OF 45

NFSR#2815A

□ EXPOSED ROCK

PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N

14+80 - 18"x30' CSP
SKEW 70°, CONST.
CATCH BASIN

R=100.0
BC 14+34.8
EC 14+92.8
BC 15+40.3
EC 15+81.1
R=100.0
EC 13+40.0
R=100.0
BC 12+71.0
TOL
15+00.0
R=100.0
EC 11+27.6
EC 12+11.9
BC 10+55.7
BC 11+49.3
R=70.0
R=100.0
10+00.0
EC 9+88.1
EC 10+40.9
BC 9+07.4
BC 9+86.4
R=100.0
EC 8+31.7
R=70.0
BC 17+17.0
R=200.0
EC 18+03.7
18+00
VERTICAL CREST
20+00.0
BC 19+97.6
R=200.0
EC 20+71.6
R=50.0
BC 31+76.6
BC 32+85.0
EC 32+01.6
R=50.0
EC 33+57.3
BC 34+02.
EC 30+63.9
EC 34+58.0
35+00.0
R=200.0
30+00.0
EC 29+61.4
BC 22+40.7
R=200.0
EC 23+10.4
EC 24+33.6
R=200.0

PROFILE VIEW

15' 3% OUTSLOPE LT
(NO DITCH)

14' 3% OUTSLOPE LT
(1 FT DITCH RT)

14' 3% OUTSLOPE LT
(NO DITCH)

14+70

18+10

24+00

4530
4520
4510
4500
4490
4480
4470
4460
4450
4440
4430
4420

11+75 12+25
TOL

-7.3
4.0
12.6
10.9
14.6
9.5
11.3
13.0
-1.1
-10.1
-7.8
-12.0
-4.5
-1.2
-3.8

18"X30' CSP, 70 DEG SKEW
CONST. CATCH BASIN

CULVERT 18 DIA

10+50 11+00 11+50 12+00 12+50 +70 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+50 +60 17+00 17+50 18+00 18+50 19+00 19+50 20+00 20+50 21+00 +45 21+50 22+00 22+50 23+00 23+50 +60 24+00 24+50 L-Stn

EXC. Cu.Yds.		391	462	262	SHEET NO. 34 OF 45

NFSR#2815A

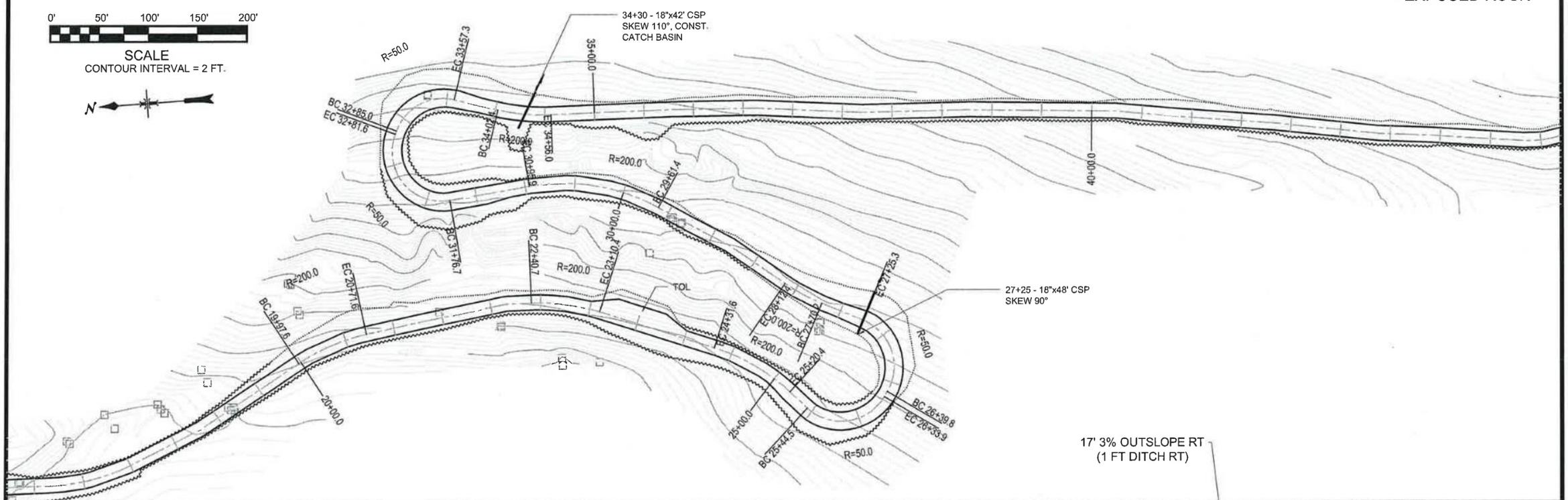
□ EXPOSED ROCK

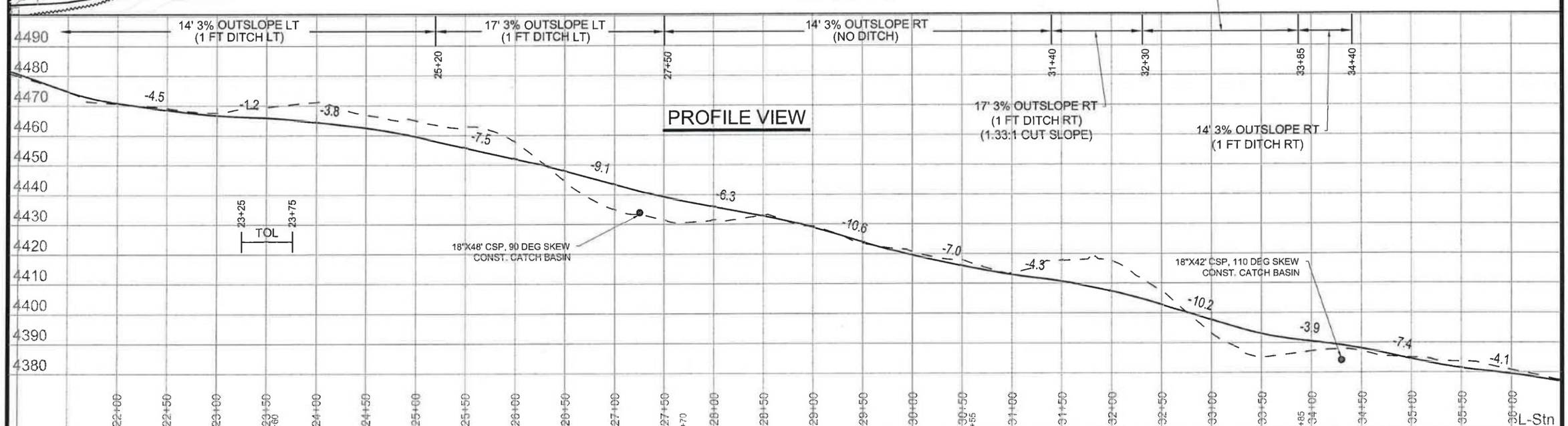
PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N





EXC. Cu.Yds.		1443	458	1111	

SHEET NO. 35 OF 45

NFSR#2815A

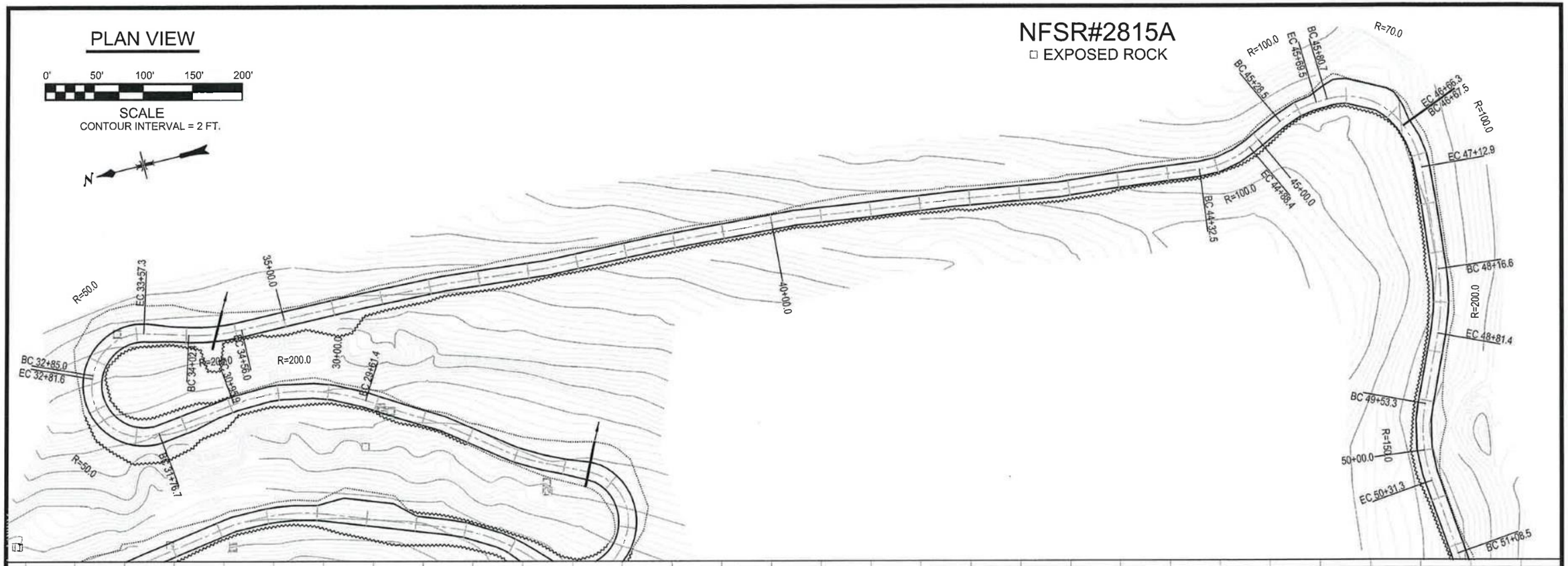
□ EXPOSED ROCK

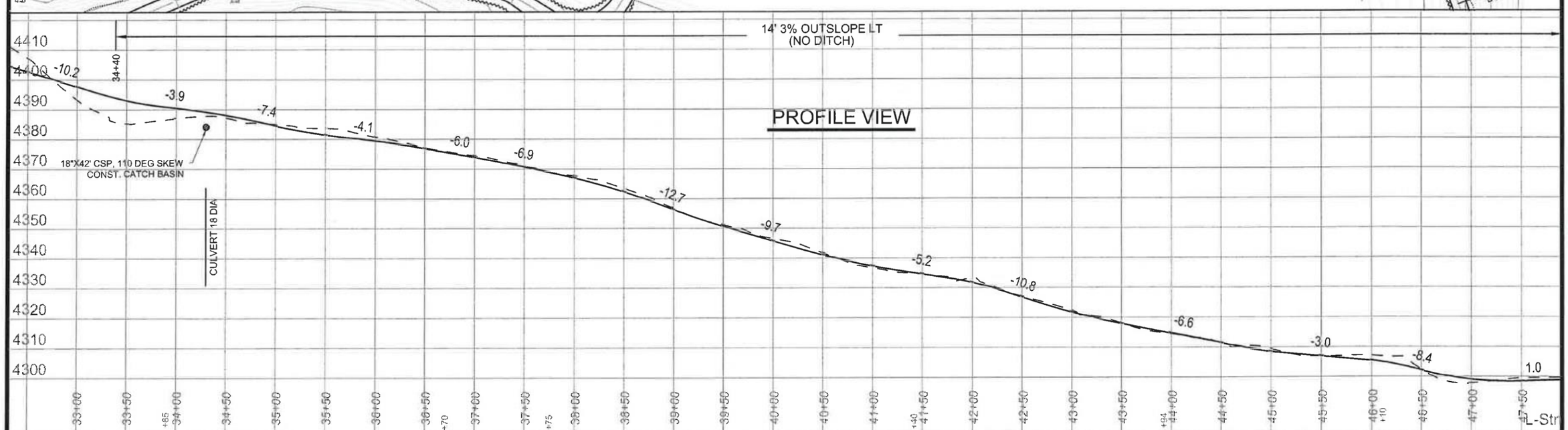
PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N





EXC. Cu.Yds.		398	71	205	144	89	

SHEET NO. 36 OF 45

NFSR#2815A

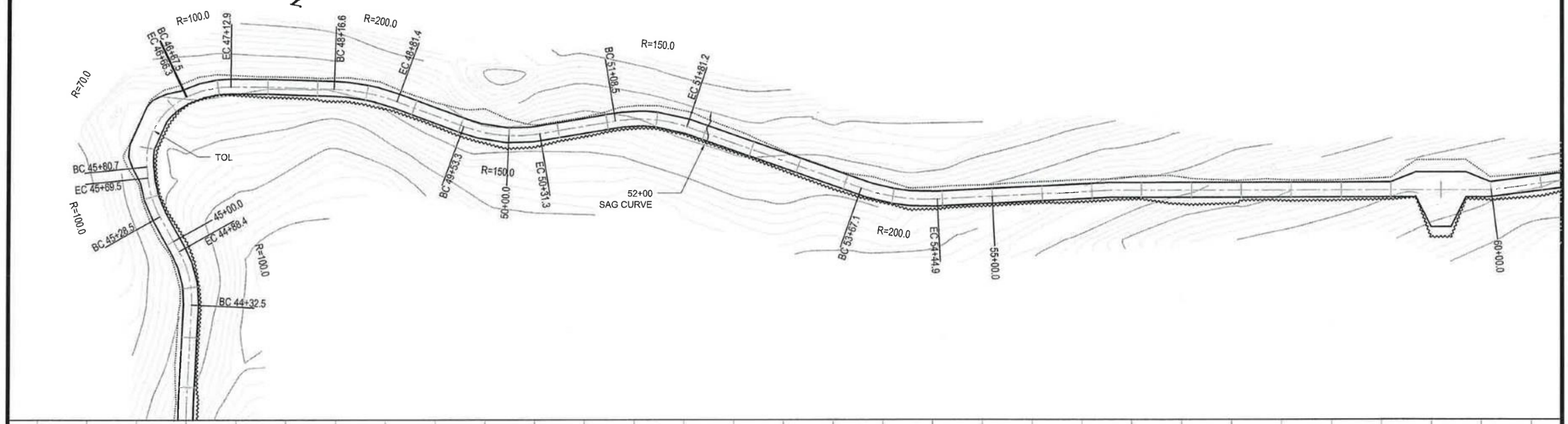
□ EXPOSED ROCK

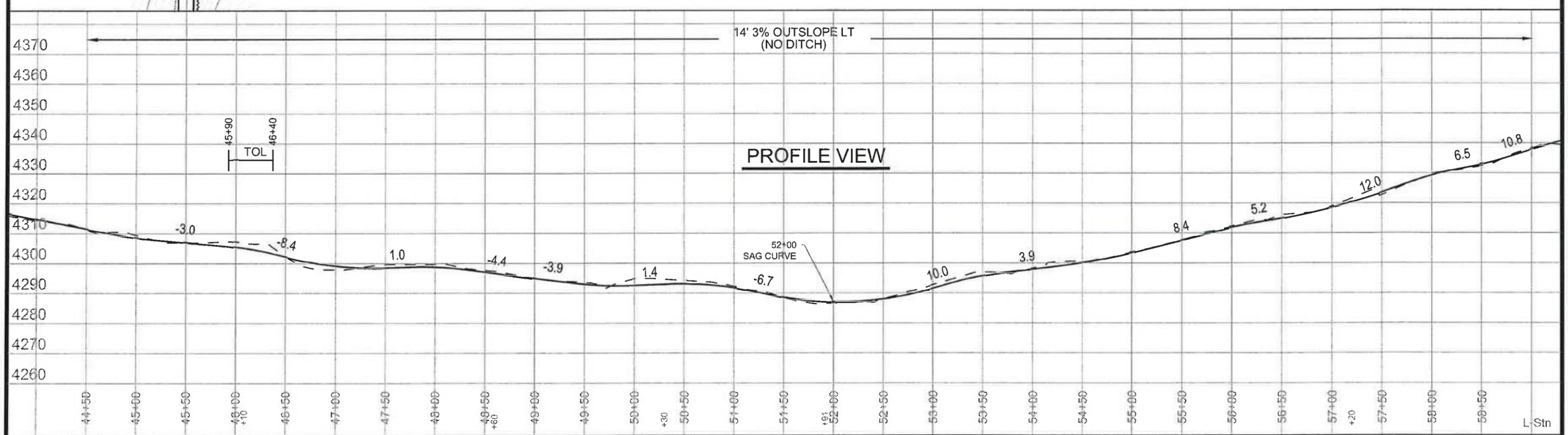
PLAN VIEW

0' 50' 100' 150' 200'

SCALE
CONTOUR INTERVAL = 2 FT.

N





EXC. Cu.Yds.		159	137	75	100	182	

NFSR#2815A

□ EXPOSED ROCK

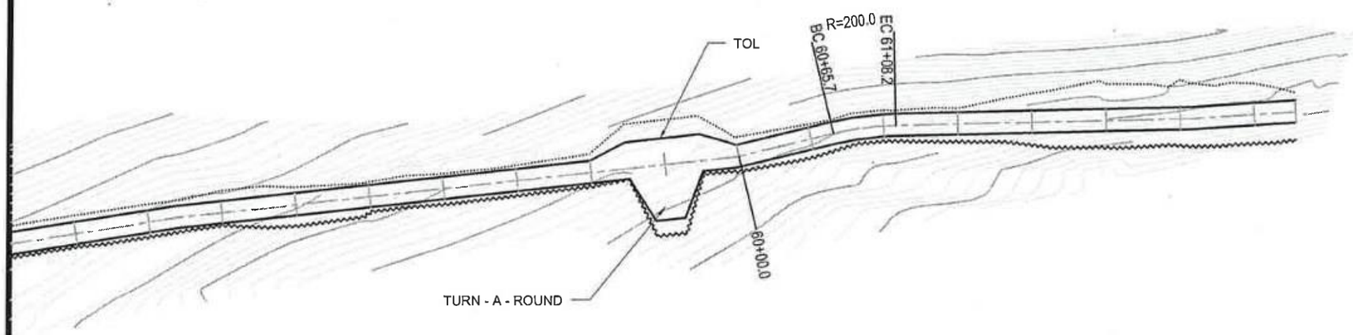
PLAN VIEW

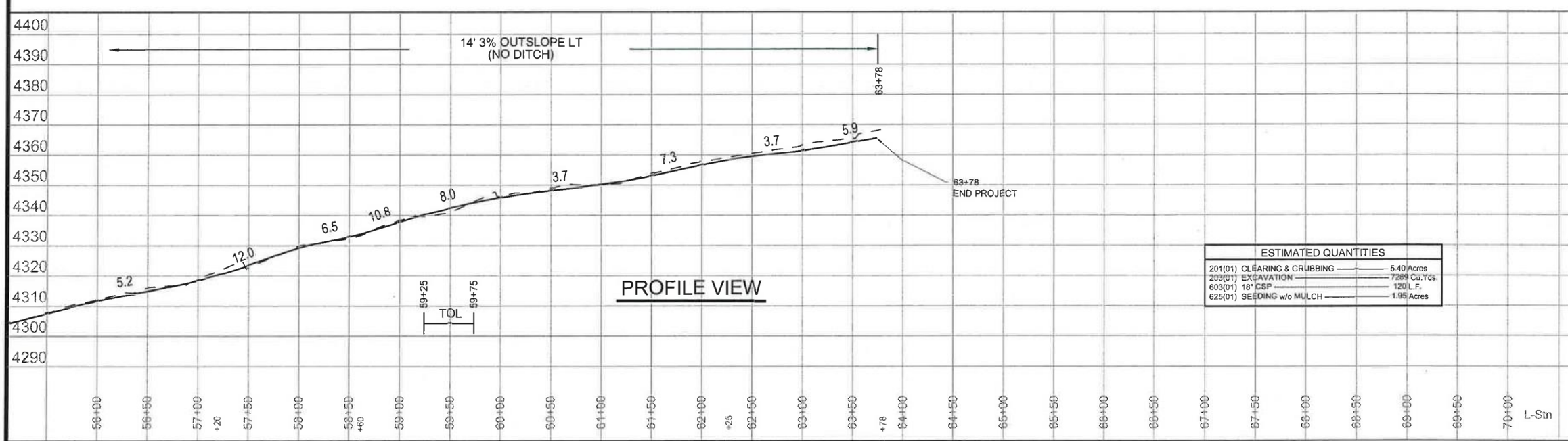
0' 50' 100' 150' 200'

SCALE

CONTOUR INTERVAL = 2 FT.

N





PROFILE VIEW

ESTIMATED QUANTITIES		
201(01)	CLEARING & GRUBBING	5.40 Acres
203(01)	EXCAVATION	7289 Cu.Yds.
603(01)	18" CSP	120 L.F.
625(01)	SEEDING w/o MULCH	1.95 Acres

EXC. Cu.Yds.		44	364	432	

ROAD #2873, #9620 & #2877

MILE POST	WORK DESCRIPTION	210(01) Brushing / Clearing	306(01) Roadbed Recond.
	#2873		
0.000	Junct. w/ Good Creek Road #60 --- Begin Light Brushing / Clearing & Roadbed Reconditioning	Road Brushing / Clearing	Roadbed Recond.
0.260	Buried Telephone Cable Left		
0.380	Junct. w/ Road #9620 Right End Brushing / Clearing & Road Reconditioning		
	ESTIMATED QUANTITIES FOR ROAD #2873		
	210(01) BRUSHING / CLEARING	0.38 Mi.	
	306(01) ROAD RECONDITIONING		0.38 Mi.
	#9620		
0.000	Junct. w/ Road #2873 --- Begin Light Brushing / Clearing & Roadbed Reconditioning	Road Brushing / Clearing	Roadbed Recond.
0.126	Reshape Sag Vertical Curve		
0.289	Reshape Sag Vertical Curve		
0.352	Existing 18" CMP --- Ephemeral Draw		
0.390	Cutting Unit #60 Boundary End Brushing / Clearing & Road Reconditioning		
	ESTIMATED QUANTITIES FOR ROAD #2873		
	210(01) BRUSHING / CLEARING	0.39 Mi.	
	306(01) ROAD RECONDITIONING		0.39 Mi.
	#2877		
0.000	Junct. w/ Road #11252 --- Begin Heavy Brushing / Clearing & Roadbed Reconditioning	Road Brushing / Clearing	Roadbed Recond.
0.053	Cutting Unit #55 Boundary		
0.20	Cutting Unit #55 Boundary End Brushing / Clearing & Road Reconditioning		
	ESTIMATED QUANTITIES FOR ROAD #2877		
	210(01) BRUSHING / CLEARING	0.20 Mi.	
	306(01) ROAD RECONDITIONING		0.20 Mi.

ROAD #5336

MILE POST	STAKED MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Recond.	603(01)24 24" CSP	625(01) Seeding
0.000	1.330	Junct. w/ Road #2815 --- Begin Heavy Brushing / Clearing & Roadbed Reconditioning --- Aggregate Surface Road			Road Brushing / Clearing		Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
0.052	1.382	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1		10			
0.096	1.426	Remove Existing 18" CMP --- Install 24" x 50' CSP Place 10 C.Y. Crushed Aggregate	1			10		50'	
0.125	1.455	Reshape Existing Drain Dip							
0.260	1.590	Reshape Existing Drain Dip							
0.335	1.665	Reshape Sag Vertical Curve							
0.385	1.715	Reconstruct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1		10			
0.415	1.745	Reshape Existing Drain Dip							
0.485	1.815	Reshape Existing Drain Dip							
0.540	1.870	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate		1		10			
0.637	1.967	Reshape Existing Drain Dip							
0.650	1.980	End Road #5336 --- Entering Quarry Site (Crushed Agg. Source) End Brushing / Clearing & Road Reconditioning							
		ESTIMATED QUANTITIES FOR ROAD #5336							
		202(02) CMP REMOVAL	1 EA.						
		203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS		3 EA.					
		210(01) BRUSHING / CLEARING			0.65 Mi.				
		304(13) PLACING CRUSHED AGGREGATE (TRUCK MEASURE)				40 C.Y.			
		306(01) ROAD RECONDITIONING					0.65 Mi.		
		603(01)24 24" CORRUGATED STEEL PIPE						50 L.F.	
		625(01) SEED & FERTILIZE							1 L.S.

ROAD #2875

MILE POST	STAKED MILE POST	WORK DESCRIPTION	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Recond.	625(01) Seeding
0.000	6.035	Junct. w/ Road #910 --- Begin Light Brushing / Clearing & Roadbed Reconditioning (Aggregate Surfaced)		Road Brushing / Clearing		Road Reconditioning	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
0.013	6.022	Existing 18" CMP --- Ditch Relief					
0.074	5.961	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.128	5.907	Existing 18" CMP --- Ditch Relief					
0.194	5.841	Existing 18" CMP --- Ditch Relief					
0.224	5.811	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.257	5.778	Junct. w/ Road #11253 Left					
0.304	5.731	Existing 18" CMP --- Ditch Relief					
0.321	5.714	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.448	5.587	Existing 18" CMP --- Ditch Relief					
0.470	5.565	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.596	5.439	Existing 18" CMP --- Ditch Relief					
0.610	5.425	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.742	5.293	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
0.762	5.273	Existing 18" CMP --- Ditch Relief					
0.922	5.113	Junct. w/ Road #2875C Right					
0.930	5.105	Existing 18" CMP --- Ditch Relief					
0.943	5.092	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
1.088	4.947	Existing 18" CMP --- Ditch Relief					
1.160	4.875	Existing 18" CMP --- Ditch Relief					
1.186	4.849	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
1.272	4.763	Existing 18" CMP --- Ditch Relief					
1.315	4.720	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
1.360	4.675	Existing 18" CMP --- Ditch Relief					
1.400	4.635	Existing 18" CMP --- Ditch Relief					
1.483	4.552	Existing 18" CMP --- Ditch Relief					

ROAD #2875

MILE POST	STAKED MILE POST	WORK DESCRIPTION	203(17)DD Drain Dip	210(01) Brushing / Clearing	304(13) Crushed Aggregate	306(01) Roadbed Recond.	625(01) Seeding
1.518	4.517	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1	Road Brushing / Clearing	10	Road Reconditioning	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)
1.596	4.439	Existing 18" CMP --- Ditch Relief					
1.642	4.393	Construct Drain Dip --- Place 10 C.Y. Crushed Aggregate	1		10		
1.690	4.345	Existing 18" CMP --- Ditch Relief					
1.760	4.271	Junct. w/ Road #11252 Right End Brushing / Clearing & Road Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #2875

203(17)DD CONST. OR RECONST. DRAIN DIPS	11 EA.
210(01) BRUSHING / CLEARING	1.76 Mi.
304(13) PLACING CRUSHED AGGREGATE (TRUCK MEASURE)	110 C.Y.
306(01) ROAD RECONDITIONING	1.76 Mi.
625(01) SEED & FERTILIZE	1 L.S.

ROAD #9875

MILE POST	STAKED MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	204(09) Sediment Basin	306(01) Roadbed Reconditioning	603(01)36 36" CSP	625(01) Seeding			
0.000	8.717	Junct. w/ Martin Creek Road #910 --- Begin Roadbed Reconditioning --- No Brushing / Clearing Required --- Ditched Road										
0.122	8.595	Existing 18" CMP --- Ditch Relief --- Reshape Sag Vertical Curve										
0.155	8.562	Reconstruct Drain Dip			1							
0.165	8.552	Existing 18" CMP --- Ditch Relief										
0.180	8.537	Existing 48" CMP --- Perennial Stream --- Reshape Sag Vertical Curve										
0.193	8.524	Existing 18" CMP --- Ditch Relief										
0.200	8.517	Reshape Existing Drain Dip										
0.218	8.499	Existing 18" CMP --- Ditch Relief										
0.242	8.475	Existing 18" CMP --- Ditch Relief										
0.261	8.456	Reshape Sag Vertical Curve										
0.273	8.444	Remove Existing 24" CMP --- Install 36" x 64' CSP --- Intermittent Stream	1				Road Reconditioning	64'	Seed & Fertilize (All Disturbed Areas Outside the Roadbed)			
0.280	8.437	Construct Sediment Basins in the Left & Right Ditches				2						
0.286	8.431	Construct Drain Dip --- Intercept Road Surface Water and drain into the Left Sediment Basin			1							
0.302	8.415	Junct. w/ Spur Road Right										
0.331	8.386	Reshape Existing Drain Dip										
0.336	8.381	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.371	8.346	Reshape Existing Drain Dip										
0.443	8.274	Reshape Existing Drain Dip										
0.452	8.265	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.573	8.144	Existing 18" CMP w/ Downspout --- Ditch Relief										
0.609	8.108	Reshape Existing Drain Dip										
0.626	8.091	Existing 18" CMP --- Ditch Relief										
0.704	8.013	Reshape Existing Drain Dip										
0.714	8.003	Existing 18" CMP --- Ditch Relief --- Reconstruct Catch Basin		1								
0.765	7.952	Existing 18" CMP w/ Downspout --- Ditch Relief										
0.780	7.937	Reshape Sag Vertical Curve										

ROAD #9875

MILE POST	STAKED MILE POST	WORK DESCRIPTION	202(02) CMP Removal	203(17)CB Reconstruct Catch Basin	203(17)DD Drain Dip	204(09) Sediment Basin	306(01) Roadbed Reconditioning	603(01)36 36" CSP	625(01) Seeding			
0.823	7.894	Junct. w/ Spur Road Left					Road Reconditioning		Seed & Fertilize (All Disturbed Areas Outside the Roadbed)			
0.851	7.866	Existing 18" CMP --- Ditch Relief										
0.876	7.841	Reconstruct Drain Dip			1							
0.959	7.758	Existing 18" CMP --- Ditch Relief										
1.040	7.677	Junct. w/ Road #1649 Right										
		End Roadbed Reconditioning										
		ESTIMATED QUANTITIES FOR ROAD #9875										
		202(02) CMP REMOVAL	1 EA.									
		203(17)CB RECONSTRUCT CATCH BASIN		3 EA.								
		203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS			3 EA.							
		204(09) SEDIMENT BASIN				2 EA.						
		306(01) ROAD RECONDITIONING					1.04 Mi.					
		603(01)36 36" CORRUGATED STEEL PIPE						64 L.F.				
		625(01) SEED & FERTILIZE							1 L.S.			

ROAD #10433

MILE POST	WORK DESCRIPTION		210(01) Brushing / Clearing	306(01) Roadbed Recond.		
0.000	Junct. w/ Road #1649 --- Begin Medium Brushing / Clearing & Roadbed Reconditioning		Road Brushing / Clearing	Road Reconditioning		
0.021	Existing Gate					
0.030	Reshape Sag Vertical Curve					
0.056	Reshape Existing Drain Dip					
0.153	Reshape Sag Vertical Curve					
0.163	Switchback Left					
0.187	Reshape Existing Drain Dip					
0.270	Reshape Sag Vertical Curve					
0.301	Switchback Right					
0.324	Reshape Existing Drain Dip					
0.356	Reshape Existing Drain Dip					
0.405	Reshape Existing Drain Dip					
0.456	Reshape Existing Drain Dip					
0.520	Reshape Existing Drain Dip					
0.597	Reshape Existing Drain Dip					
0.651	Reshape Existing Drain Dip					
0.729	Reshape Existing Drain Dip					
0.739	Existing 18" CMP --- Dry Draw					
0.793	Reshape Existing Drain Dip					
0.841	Reshape Existing Drain Dip					
0.897	Reshape Existing Drain Dip					
0.997	Reshape Existing Drain Dip					
1.084	Reshape Existing Drain Dip					
1.210	Reshape Existing Drain Dip					
1.255	Cutting Unit #37 Boundary					
1.289	Reshape Existing Drain Dip					

ROAD #10433 & #10351

MILE POST	WORK DESCRIPTION		210(01) Brushing / Clearing	306(01) Roadbed Recond.		
1.436	Reshape Existing Drain Dip		Road Brushing / Clearing	Road Reconditioning		
1.477	Cutting Unit #37 Boundary					
1.540	Reshape Sag Vertical Curve					
1.741	Cutting Unit #38 Boundary					
1.822	Reshape Existing Drain Dip					
1.926	Reshape Existing Drain Dip					
1.944	Cutting Unit Boundary					
2.055	Cutting Unit Boundary					
2.116	Existing Turn-A-Round					
2.130	End of Road					
	End Brushing / Clearing & Roadbed Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #10433

210(01) BRUSHING / CLEARING ---------- 2.13 Mi.
306(01) ROAD RECONDITIONING ---------- 2.13 Mi.

#10351

MILE POST	WORK DESCRIPTION		210(01) Brushing / Clearing	306(01) Roadbed Recond.		
0.000	Junct. w/ Road #2872 --- Begin Heavy Brushing / Clearing & Roadbed Reconditioning --- Sections of Narrow Road on Flat Ground Through Old Cutting Unit --- (Some 6" to 8" Stems)		Road Brushing / Clearing	Roadbed Recond.		
0.560	Junct. w/ Spur Road Right					
0.920	End of Road					
	End Brushing / Clearing & Road Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #10351

210(01) BRUSHING / CLEARING ---------- 0.92 Mi.
306(01) ROAD RECONDITIONING ---------- 0.92 Mi.

ROAD #11248

MILE POST	WORK DESCRIPTION		210(01) Brushing / Clearing	306(01) Roadbed Recond.		
0.000	Junct. w/ Road #910A --- Begin Medium - Heavy Brushing / Clearing & Roadbed Reconditioning		Road Brushing / Clearing	Road Reconditioning		
0.023	Reshape Existing Drain Dip					
0.064	Reshape Sag Vertical Curve					
0.083	Junct. w/ #11248A Right					
0.099	Reshape Existing Drain Dip					
0.146	Reshape Existing Drain Dip					
0.188	Existing 18" CMP					
0.263	Existing 18" CMP					
0.339	Reshape Sag Vertical Curve					
0.382	Reshape Existing Drain Dip					
0.394	Reshape Sag Vertical Curve					
0.415	Crest Vertical Curve					
0.471	Reshape Sag Vertical Curve					
0.485	Crest Vertical Curve					
0.519	Reshape Existing Drain Dip					
0.528	Crest Vertical Curve					
0.550	Reshape Sag Vertical Curve					
0.607	Begin Heavy Brushing / Clearing					
0.622	Reshape Sag Vertical Curve					
0.646	Reshape Sag Vertical Curve					
0.658	Crest Vertical Curve					
0.705	Reshape Sag Vertical Curve					
0.800	Cutting Unit Boundary					
0.830	End Brushing / Clearing & Roadbed Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #11248

210(01) BRUSHING / CLEARING	0.83 Mi.	
306(01) ROAD RECONDITIONING		0.83 Mi.

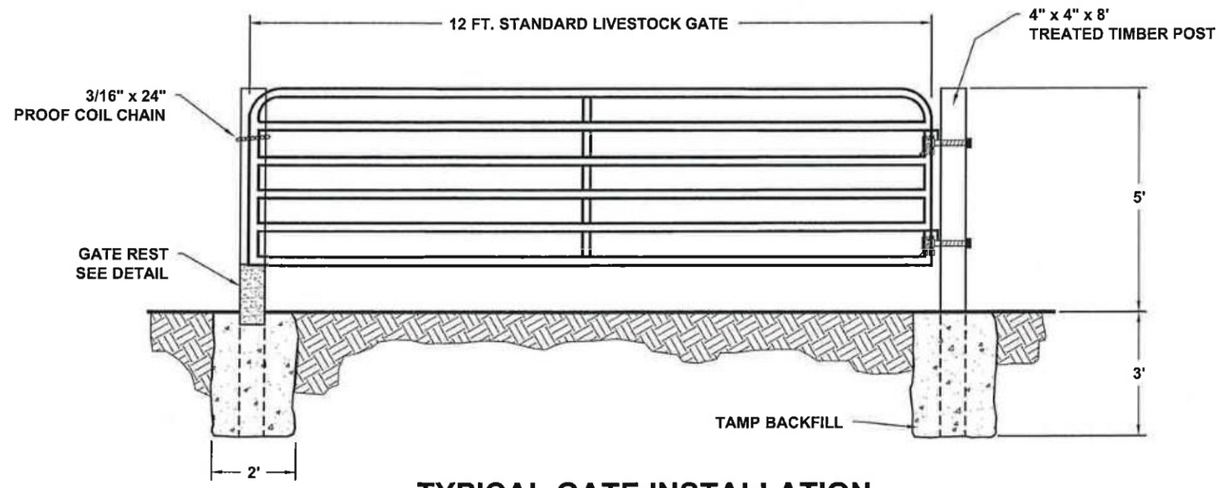
ROAD #11252

MILE POST	WORK DESCRIPTION	203(17)DD Drain Dip	210(01) Brushing / Clearing	306(01) Roadbed Recond.		
0.000	Junct. w/ Road #2875 --- Begin Medium - Heavy Brushing / Clearing & Roadbed Reconditioning --- Ditched Road to M.P. 0.780		Road Brushing / Clearing	Road Reconditioning		
0.091	Existing Gate					
0.227	Existing 18" CMP --- Ditch Relief					
0.284	Existing 18" CMP --- Ditch Relief					
0.414	Existing 18" CMP --- Ditch Relief					
0.449	Construct Drain Dip	1				
0.544	Construct Drain Dip --- Intercept Ditch	1				
0.560	Existing 24" CMP --- Dry Draw					
0.574	Construct Drain Dip --- Intercept Ditch	1				
0.683	Existing 18" CMP --- Ditch Relief					
0.706	Reshape Existing Drain Dip					
0.780	Existing 18" CMP --- Ditch Relief --- End Ditch					
0.786	Junct. w/ Road #2877 Left					
0.994	Existing 18" CMP --- Reshape Sag Vertical Curve					
1.153	Reshape Sag Vertical Curve					
1.315	Reshape Sag Vertical Curve					
1.364	Reshape Sag Vertical Curve					
1.505	Reshape Sag Vertical Curve					
1.592	Reshape Sag Vertical Curve					
1.683	Existing Turn-A-Round					
1.719	Reshape Sag Vertical Curve					
1.744	Cutting Unit Boundary --- Remove Rocks Blocking Road (Incidental) Begin Heavy Brushing / Clearing to E.O.P.					
2.100	Cutting Unit Boundary End Brushing / Clearing & Roadbed Reconditioning					

ESTIMATED QUANTITIES FOR ROAD #11252

203(17)DD CONSTRUCT OR RECONSTRUCT DRAIN DIPS	3 EA.		
210(01) BRUSHING / CLEARING		2.10 Mi.	
306(01) ROAD RECONDITIONING			2.10 Mi.

STANDARD LIVESTOCK GATE



TYPICAL GATE INSTALLATION

NO SCALE

MATERIAL LIST FOR GATE		
ITEM	DESCRIPTION	QUANTITY
CHAIN	3/16" PROOF COIL CHAIN 24" LONG	1 EA.
GATE	PREIFERT ECONOMY R-GATE "RG12"	1 EA.
TREATED POST	4" x 4" x 8' TREATED POST	2 EA.
NAILS	60 PENNY -- FOR GATE REST	5 EA.
TREATED POST	4" x 4" x 12" TREATED POST	1 EA.

NOTES

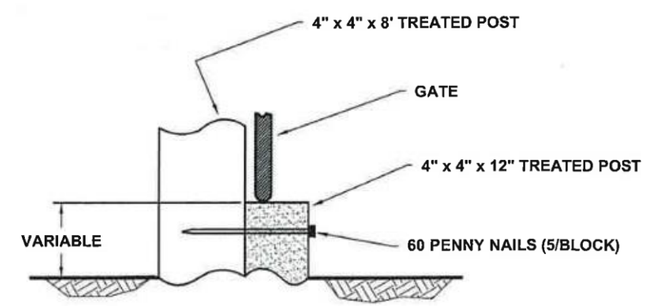
PROVIDE AN "ECONOMY 6 RAIL" GATE, MANUFACTURED BY PRIEFERT, PRODUCT NO. "RG12" (WWW.PRIEFERT.COM) OR EQUIVALENT. FABRICATE THE GATE FROM STEEL TUBING.
- FRAME CONSTRUCTED FROM 1.66" OD 20 GAUGE TUBING.
- RAILS CONSTRUCTED FROM 1.66" OD 22 GAUGE TUBING.
- SINGLE PIECE VERTICAL STAY CONSTRUCTED FROM 1.05" OD 22 GAUGE TUBING FITTED THROUGH DRILLED RAILS.

POWDER COAT "FOREST GREEN".

PROVIDE WASHERS AND NUTS FOR ALL BOLTS AND LAG BOLTS SHOWN.

TREAT WOODEN POSTS AND GATE REST WITH PENTACHLOROPHENAL, MINIMUM NET RETENTION OF 0.5# PER CUBIC FOOT (DRY CRYSTAL).

FURNISH AND INSTALL LAG SCREWS FOR HOLDING GATE AND CHAIN.



GATE REST DETAIL

NO SCALE