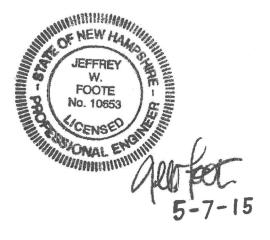
ROADWAY RECONSTRUCTION PLANS OLD BEDFORD ROAD AND HOLBROOK ROAD

BEDFORD, NEW HAMPSHIRE





BEDFORD PUBLIC WORKS 24 NORTH AMHERST ROAD BEDFORD, NH 03110



MAY 7, 2015 PROJECT NO. 77-2015

SHEET NO. DESCRIPTION

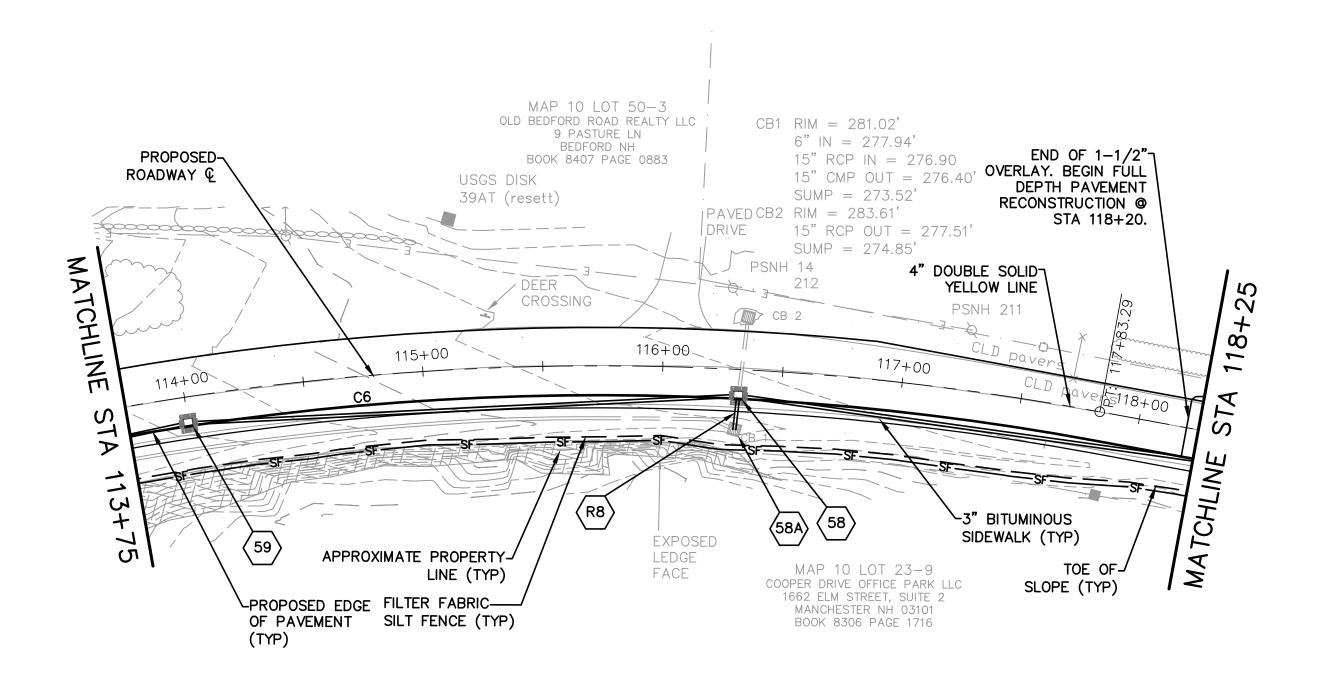
	COVER SHEET
1 - 5	OLD BEDFORD ROAD PLAN AND PROFILES
6 - 8	HOLBROOK ROAD PLAN AND PROFILES
9 - 11	HICKORY LANE PLAN AND PROFILES
12	GRANDVIEW LANE PLAN AND PROFILE
13 - 15	TIMBERLANE DRIVE PLAN AND PROFILES
16 - 17	DRAINAGE NOTES
18 - 19	TYPICAL SECTIONS
20	ROADWAY DETAILS
21 -23	DRAINAGE DETAILS
24	DRIVEWAY DETAILS
25	EROSION CONTROL DETAILS
26	EROSION CONTROL NOTES
27 - 37	OLD BEDFORD ROAD CROSS SECTIONS
38 - 46	HOLBROOK ROAD CROSS SECTIONS
47 - 54	HICKORY LANE CROSS SECTIONS
55	GRANDVIEW LANE CROSS SECTIONS
56 - 62	TIMBERLANE DRIVE CROSS SECTIONS
	TURF REINFORCEMENT MAT DETAIL

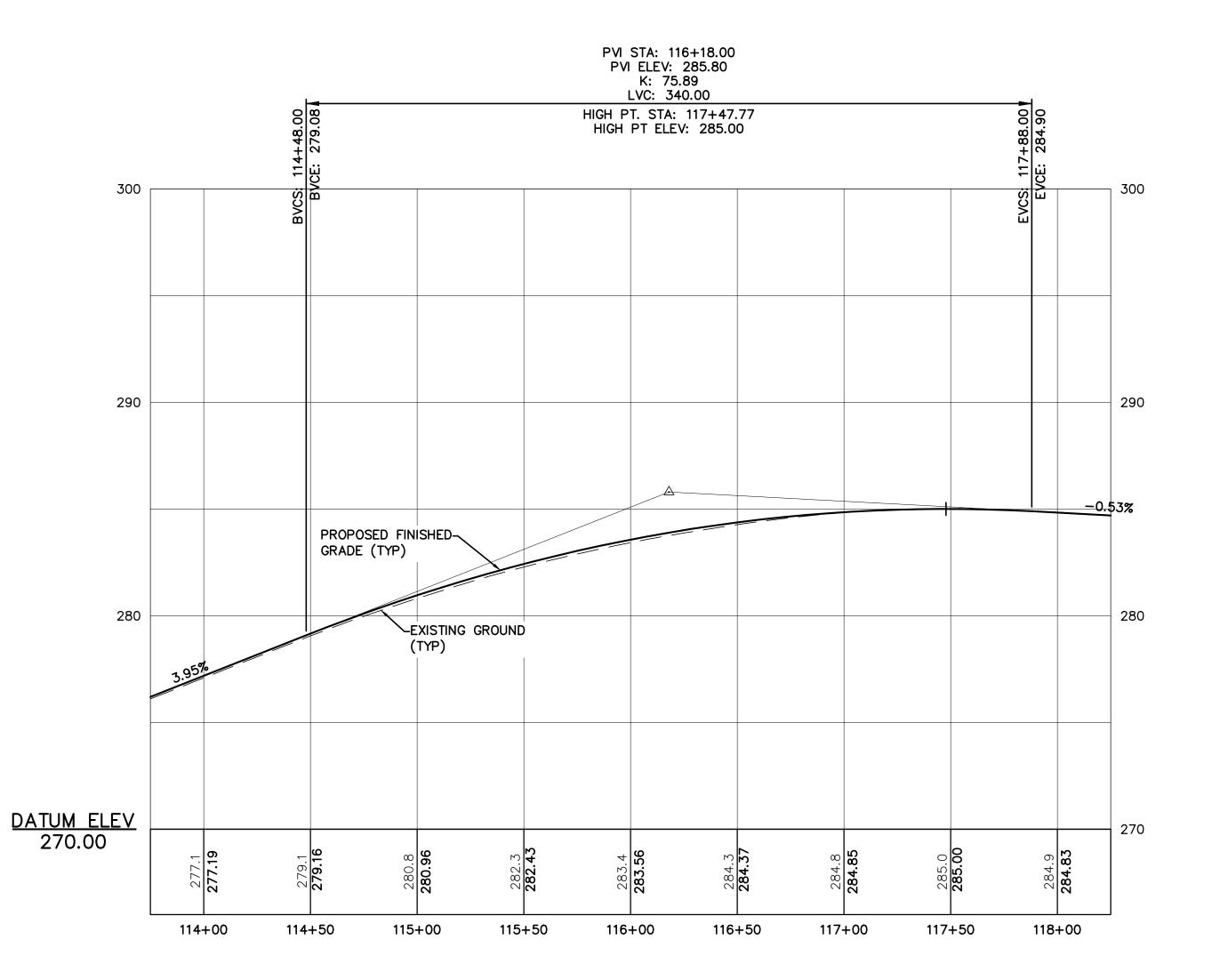
PLAN SET NO.

CURB TABLE		7	CURVE TABLE			_	
CURB ID TYPE START STATION START OFFSET END STATIO	ON END OFFSET RADIUS LENGTH	- +	CURVE # PI \(\triangle \)	RTL	PSC 214 REBAR 5/8"X 4"	OPTIO .	
C1 STRAIGHT 105+78.00 RT, 22.23' 105+95.09	9 RT, 16.06' 30.00 18.46		CURVE 1 STA 114+70.98 31° 58' 39" 1°	150.00 329.51 641.83	_WETLAND EDGE	(2)	
C2 STRAIGHT 105+95.09 RT, 16.06' 107+00.00	0 RT, 12.00' – 104.99		<u> </u>			RA BENZOIN	
C3 STRAIGHT 107+00.00 RT, 12.00' 110+40.91		ROADWAY ((SPICE (TYP)	EBUSH)	
C4 STRAIGHT 110+40.91 RT, 12.00' 110+63.71 C5 STRAIGHT 111+53.68 RT, 17.50' 111+77.30		-			(61)	-CLASS C STONE FILL (TYP)	
C5 STRAIGHT 111+53.68 RT, 17.50' 111+77.30		4" DOUBLE SOLID-\ YELLOW LINE				PSNH 14 BASIN (SEE DETAIL	_)
GENERAL CONSTRUCTION NOTES	BEGIN 1-1/2"- OVERLAY @ STA 105+78 LIMIT OF WORK- PROPOSED-	PROPOSED EDGE OF- PAVEMENT (TYP)			CURVE SIGN 261×	CONCRETE BOUND	
THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2010 AND "CONTRACT SPECIFICATIONS OF BEDFORD, NH — DEPARTMENT OF PUBLIC WORKS" OF	CROSSWALK (TYP) 6" SOLID WHITE- LINE (TYP)			STOP SIGN/	STREET 261- O LAMP WITH 264.5 PULL BOX 265 + BURIED ELECTRIC±	INTERSECT	TION 2
WHICH THESE PLANS ARE A PART. IN THE EVENT ANY DISCREPANCIES EXIST BETWEEN THESE PLANS AND WRITTEN PORTIONS OF THE CONTRACT SPECIFICATIONS, THE CONTENT OF THE WRITTEN SPECIFICATIONS SHALL PREVAIL.	105+00	106+00 107+00	108+00 109+00	110+00	PSNH 14 270- 214-1A	113+00	134
2. ALL WORK SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY UNLESS SPECIFIED BY THE PLANS OR THE TOWN ENGINEER.	50	C2	C3	C4	C5	113+00	1 ×
ANY WORK REQUIRED ON PRIVATE PROPERTY SHALL BE COORDINATED WITH THE HOMEOWNER AND THE TOWN ENGINEER TO MINIMIZE INCONVENIENCE AND PROVIDE ACCESS	CB 15	SF S	SF SF SF SF	SF SF	CB 3 7		Ш
TO THE HOMEOWNER. CONTRACTOR SHALL CONTACT TOWN OF BEDFORD, TOWN ENGINEER, FOR LIMITS OF ALL PROPOSED	INV 12" HDDP CB 144	CB 13 STOP SDEED LIMIT -22	CATCH BASIN WITH INLET PROTECTION (TYP) INTERSECTION	51		S	
EASEMENTS PRIOR TO CONSTRUCTION.	CONCRÉTE HEADER		MAP 10 LOT 23-8 RPORATE DRIVE BEDFORD LLC	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	STOP SIGN CB3A		5
3. CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES PRIOR TO COMMENCEMENT OF THIS WORK.	CONCRETE / WALK	SIGN ON A CONCRETE CONCRETE SIDEWALK 53	4500 DORR STREET TOLEDO, OH 43615 BOOK 8626 PAGE 0353 MH6 RIM = 267.03' 12" RCP N 261.34' (/	ASPHALT 55 S4 RIM = 281.16 CB3 R		ROAD
4. NO EXISTING MONUMENTS, BOUNDS OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.		RAMP (TYP) 257.27' DDP INV OUT = 253.77' = 250.58'	12" RCP IN 262.41' 12" CP OUT = 261.4 (SUMP FULL) MH7 RIM = 267.05	12" RCP OUT = 262.37' (SUMP FULL) CB9 RIM = 266.72'	CB11 RIM = 265.86' 1 12"CMP OUT = 262.80' 1 SUMP = 262.40' S	2" CMP IN = 264.2 ' (E) 8" CMP OUT = 263.51 '(S) SUMP = 260.54 '	ROF PROF
5. UNSUITABLE MATERIAL, ROOTS AND STUMPS WITHIN THE LIMITS OF ROADBED SHALL BE REMOVED AS ORDERED.	CB14RIM = 3		12" RCP IN = 261.3° 15" RCP IN = 261.7°	5' (E) (NO SUMP) APPROX	18" CMP IN = 256.42'	IM = 266.25' $2'' RCP OUT = 262.56'$	0.0 1 0
6. DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATIONS AND SURVEY AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY PROJECT WORK. ANY	12" HDE (NO SUI CB15 RIM = 12"HDDF	DDP OUT = 253.24 ' UMP) TOF OF	12" RCP IN = 267.6 18" RCP OUT = 258 (SUMP FULL)	18" INV IN = 259.67' 18" INV OUT = 259.67'	(TYP) (NO SUMP) CB5 R	SUMP FULL) IM = 266.79 2" CMP = 261.03 SUMP FULL)	BEDFORD AN AND PRO
DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK. SHOP DRAWINGS REQUIRED FOR VARIOUS ITEMS OF THE WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.	(NO SUI		3+22.00 265.46		LVC: 420.00	274.90	280
7. REMOVE TOPSOIL FOR ITS TOTAL DEPTH WITHIN THE LIMITS OF THE SLOPE LINES. UNLESS OTHERWISE DIRECTED, STOCKPILE TOPSOIL AND USE IT ON THIS PROJECT AS NEEDED UNDER SECTION 646.		PVI STA: 107+42.00 PVI ELEV: 264.48 K: 132.68 LVC: 310.00	32 BVCS: 109 BVCE:			EVCS: 113 EVCE:	3110
8. THE CONTRACTOR SHALL CONTACT DIGSAFE AT 811 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION.		260.02	265.7.0				ORD ROAL RE 0.
9. SHOULD ANY ALTERING, ADJUSTING, OR RELOCATING OF UTILITIES BE REQUIRED, THIS WORK SHALL BE COMPLETED BY THE APPROPRIATE UTILITY COMPANY AND IS NOT PART OF THIS CONTRACT. HOWEVER, THE CONTRACTOR SHALL FACILITATE THE UTILITY COMPANY IN THEIR PERFORMANCE OF THIS WORK.	270	BVCE: 10E	EVCS: 106	PROPOSED FINISHED			RED FOR: AMHERST FHAMPSHIRI
10. ANY DITCHLINES THAT EXCEED 6 PERCENT IN GRADE SHALL BE LINED WITH RIP—RAP OR TURF REINFORCEMENT MATTING AS SPECIFIED ON THE PLANS.	STA = 10			GRADE (TYP)	A		PREPAI N OF NEW
11. ALL SIGNS, MAILBOXES, PROPERTY BOUNDS, ETC. DISTURBED BY THE CONSTRUCTION ACTIVITIES SHALL BE RESET BY THE CONTRACTOR OR HIS AGENT.	E BRE	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	EXISTING GROUND				TOW 24 NC DFORD,
12. SAWCUT ALL EXISTING PAVEMENT AT LIMITS OF WORK. 13. CONTRACTOR SHALL COORDINATE WITH THE FIELD ENGINEER	GRADI		(TYP)				B K
AND REMOVE TREES AS NECESSARY TO COMPLETE THE WORK AND/OR AS DIRECTED BY THE TOWN ENGINEER.	260						260
14. CONSTRUCT PAVED DRIVE APRON FOR ALL EXISTING DRIVEWAYS AS DIRECTED.		_2.88%					
15. ALL NEW EMBANKMENT SLOPES SHALL BE LOAMED AND SEEDED. MULCH AS DIRECTED.							
16. CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR TRAFFIC CONTROL AND ASSOCIATED SIGNAGE AND WARNING DEVICES DURING EXECUTION OF THIS CONTRACT.							JAD AD TION PSHIRE
17. CATCH BASIN RIM ELEVATIONS SHALL BE SET TO ASPHALT BINDER GRADE. FUTURE WEARING COURSE SHALL TAPER INTO THE GRATE.	DATUM ELEV						B S S S S S S S S S S S S S S S S S S S
18. GROUND SURVEY AND BASE PLAN PROVIDED BY J.E. BELANGER LAND SURVEYING, PLLC, DUNBARTON, NH AND SANDFORD SURVEYING AND ENGINEERING, INC, BEDFORD, NH.	250.00	62.7 62.7 52.79 63.6 63.6	64.44 64.8 64.98 65.2 55.34 55.64	66.7 66.7 66.7 66.8 67.6	68.7 69.9 70.10	73.2 73.31 75.1 75.21	V: 1"=4"
19. TYPICAL SECTIONS AND DETAILS PROVIDED BY TOWN OF BEDFORD, NH.		5	5 5 5 5 5 5 5 5 5 5	5 5 6 6 7 6 7 7 7 7 7 7 7 7 7 7	2 C	7 7 7 7	EDFC CON CON SRD, L
20. EXPOSED SOILS IN DELINEATED WETLANDS AT OUTFALLS AND ALONG SWALES WILL BE SEEDED WITH ERNMX—183, NATIVE DETENTION AREA SEED MIX, OR EQUIVALENT.		106+00 106+50 107+00 107+50	108+00 108+50 109+00 109+5	50 110+00 110+50 111+0	0 111+50 112+00 112+	50 113+00 113+50	- BEDFG

H: 1"=40'

21. CONTRACTOR TO MAINTAIN EXISTING DRIVE PIPES UNLESS OTHERWISE NOTED.







CURB TABLE

CURB ID TYPE START STATION START OFFSET END STATION END OFFSET RADIUS LENGTH

117+83.29

RT, 12.00'

111+77.30

RT, 12.00' | 1138.00 | 599.67

ORID NORTH

STRAIGHT

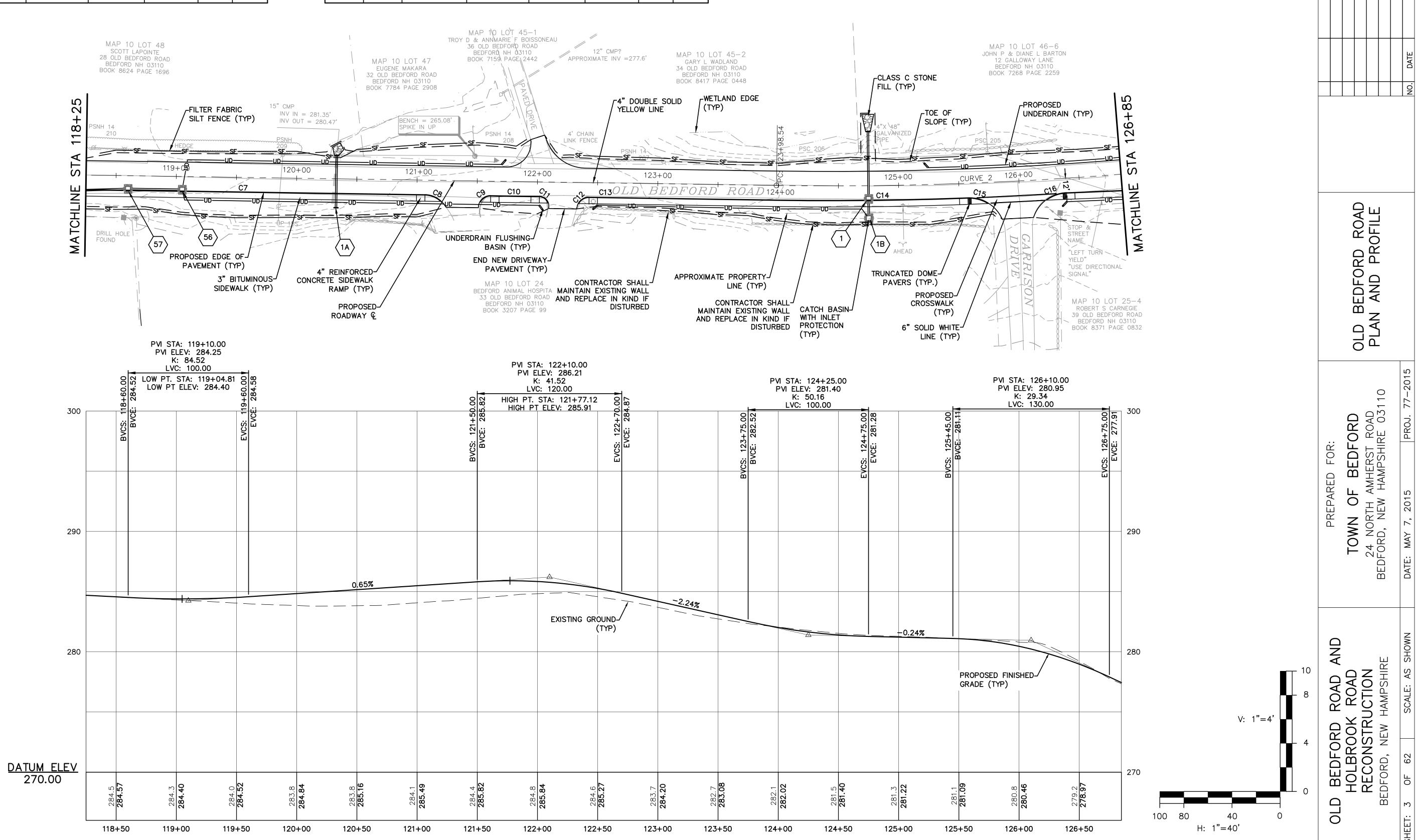
SHEET: 2 OF 62 SCALE: AS SHOWN DATE: MA		PREPARED FOR: TOWN OF BEDFORD 24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110	DATE: MAY 7, 2015 PROJ. 77–20
SEDFORD, NEW HAMPS 2 OF 62 SCALE:		TO 24 BEDFOR	DATE: MA
	V: 1"=4' 4 0 0 0	OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE	2 OF 62 SCALE:

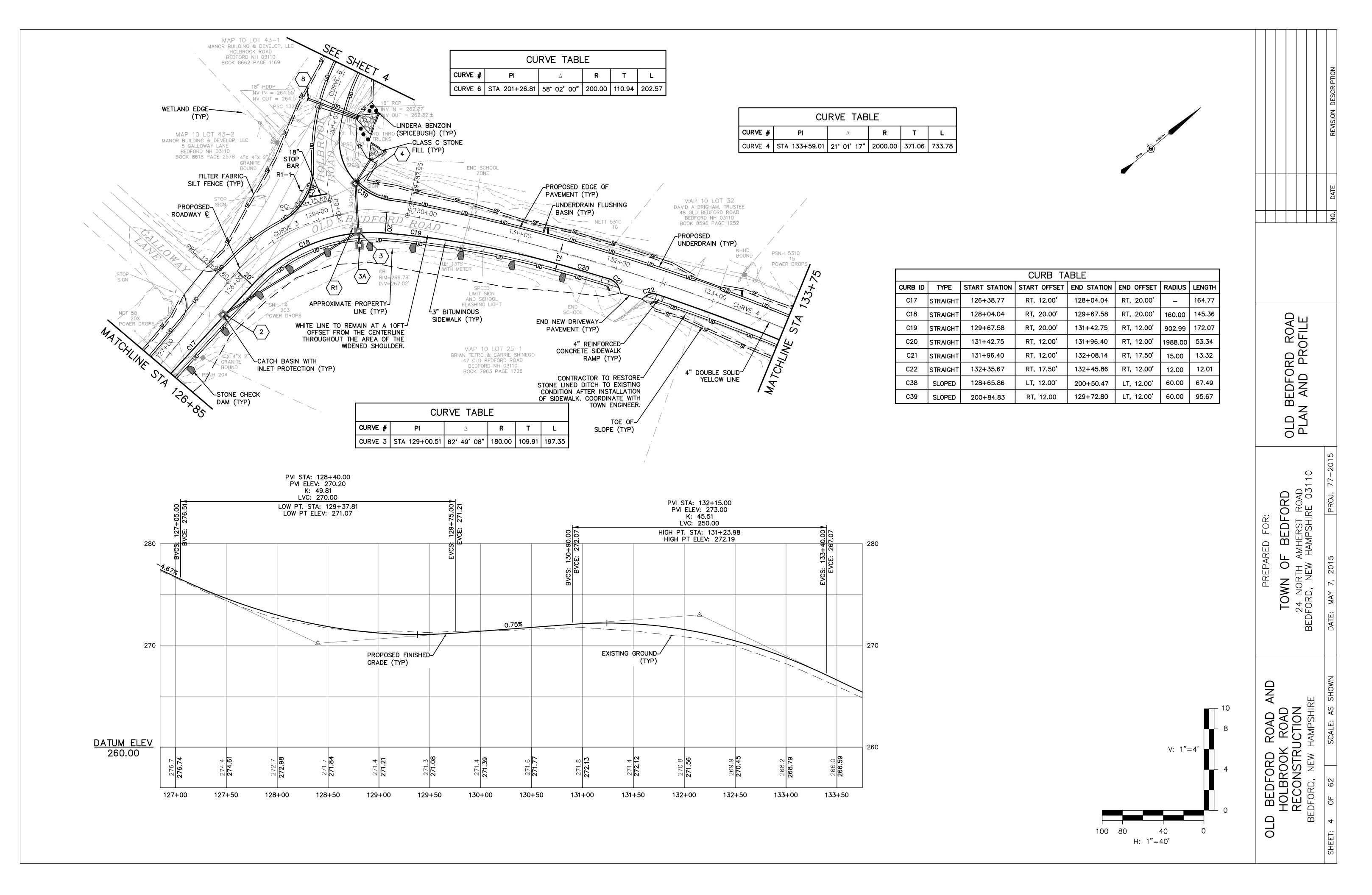
OLD BEDFORD ROAD PLAN AND PROFILE

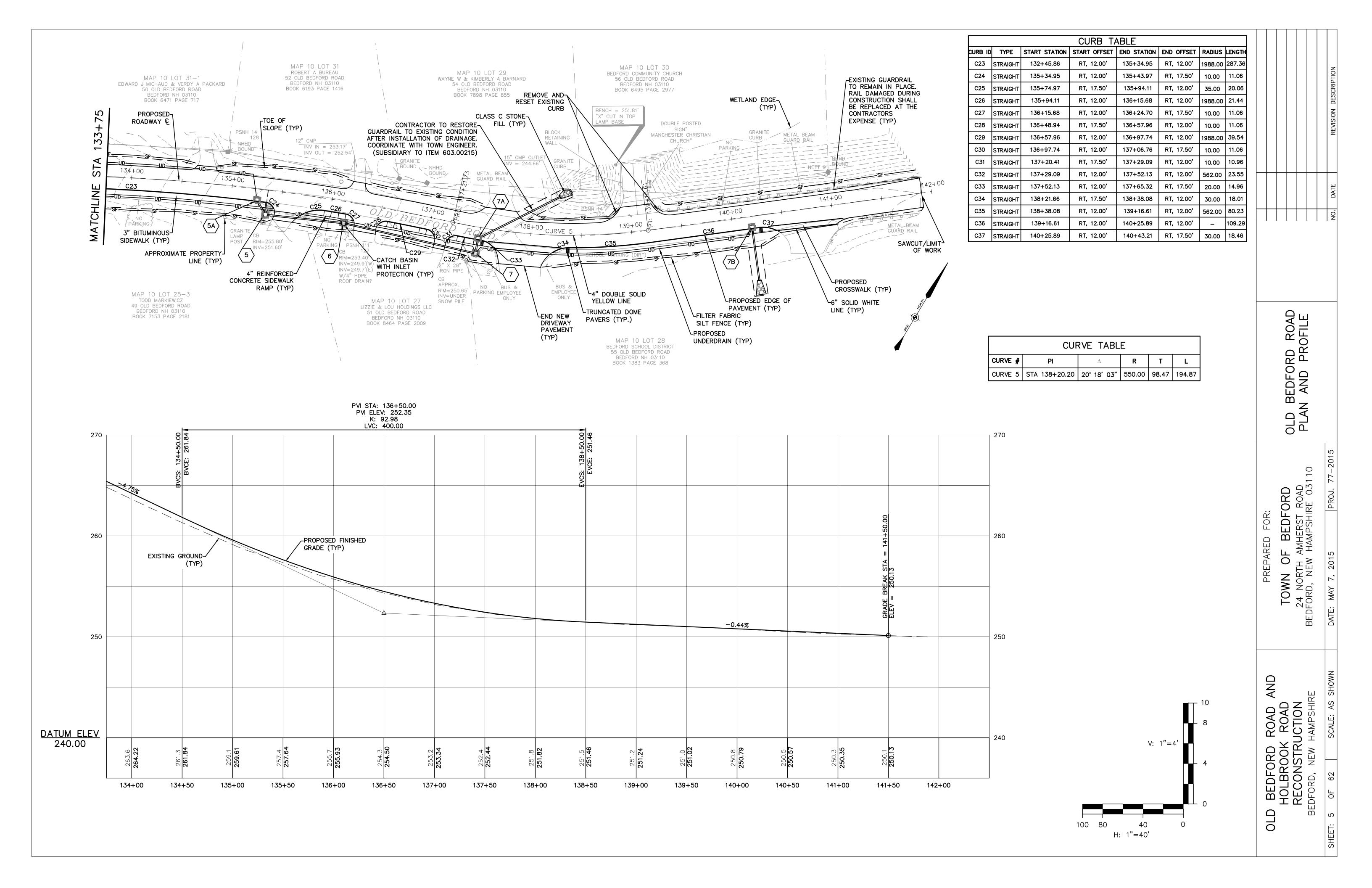
	CURB TABLE											
CURB ID	TYPE	START STATION	START OFFSET	END STATION	END OFFSET	RADIUS	LENGTH					
С7	STRAIGHT	117+83.29	RT, 12.00'	121+06.75	RT, 12.00'	-	323.46					
С8	STRAIGHT	121+06.75	RT, 12.00'	121+20.52	RT, 17.50'	20.00	15.20					
С9	STRAIGHT	121+52.39	RT, 17.50'	121+61.32	RT, 12.00'	10.00	11.04					
C10	STRAIGHT	121+61.32	RT, 12.00'	122+01.80	RT, 12.00'	_	40.48					
C11	STRAIGHT	122+01.80	RT, 12.00'	122+09.40	RT, 17.50'	8.00	10.02					

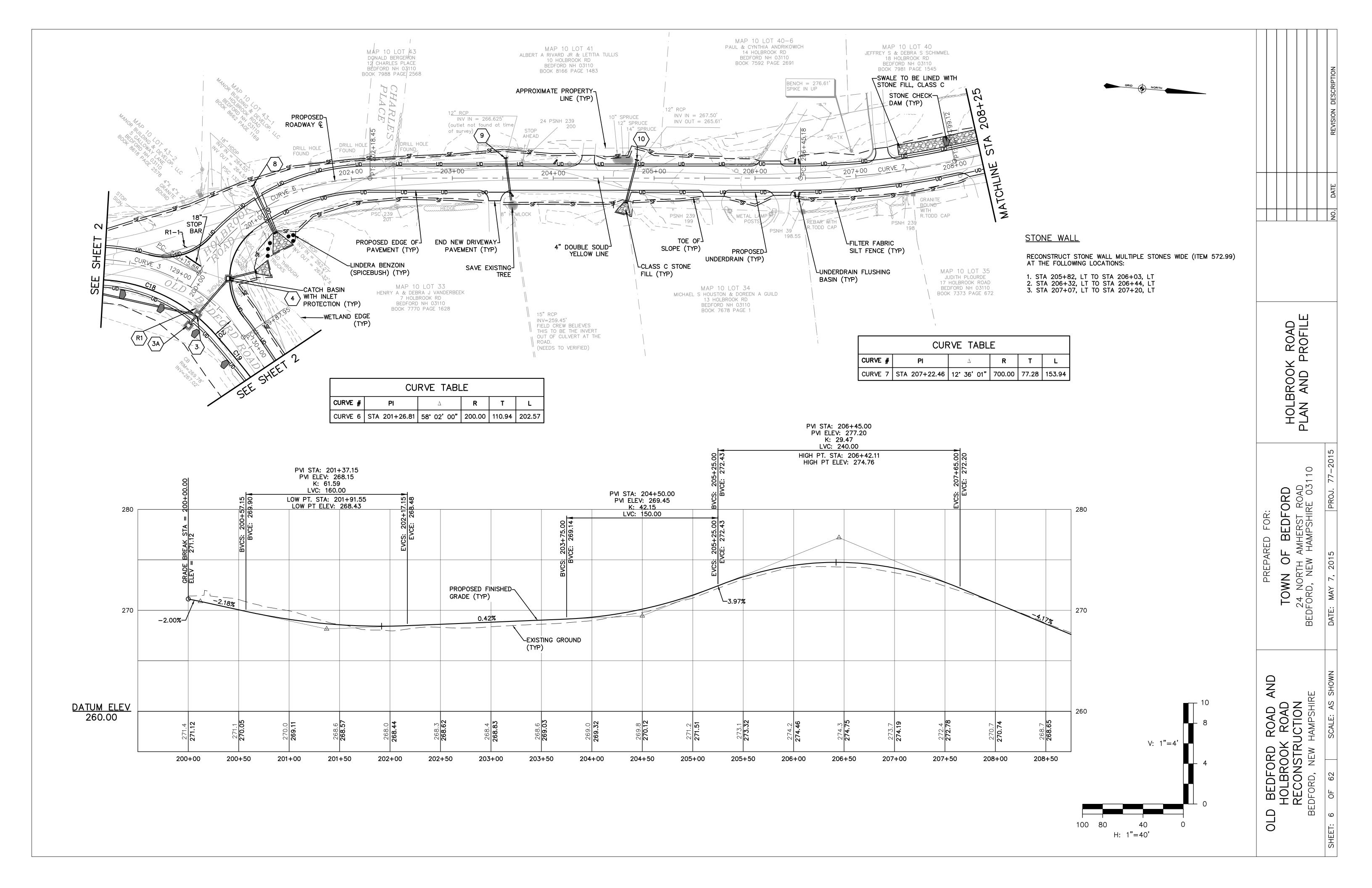
	CURB TABLE										
CURB ID	TYPE	START STATION	START OFFSET	END STATION	END OFFSET	RADIUS	LENGTH				
C12	STRAIGHT	122+34.15	RT, 17.50'	122+43.08	RT, 12.00'	10.00	11.04				
C13	STRAIGHT	122+43.08	RT, 12.00'	123+98.54	RT, 12.00'	-	155.46				
C14	STRAIGHT	123+98.54	RT, 12.00'	125+57.10	RT, 12.00'	3012.00	159.19				
C15	STRAIGHT	125+57.10	RT, 12.00'	125+74.24	RT, 17.50'	30.00	18.37				
C16	STRAIGHT	126+21.43	RT, 17.14'	126+38.77	RT, 12.00'	30.00	18.46				

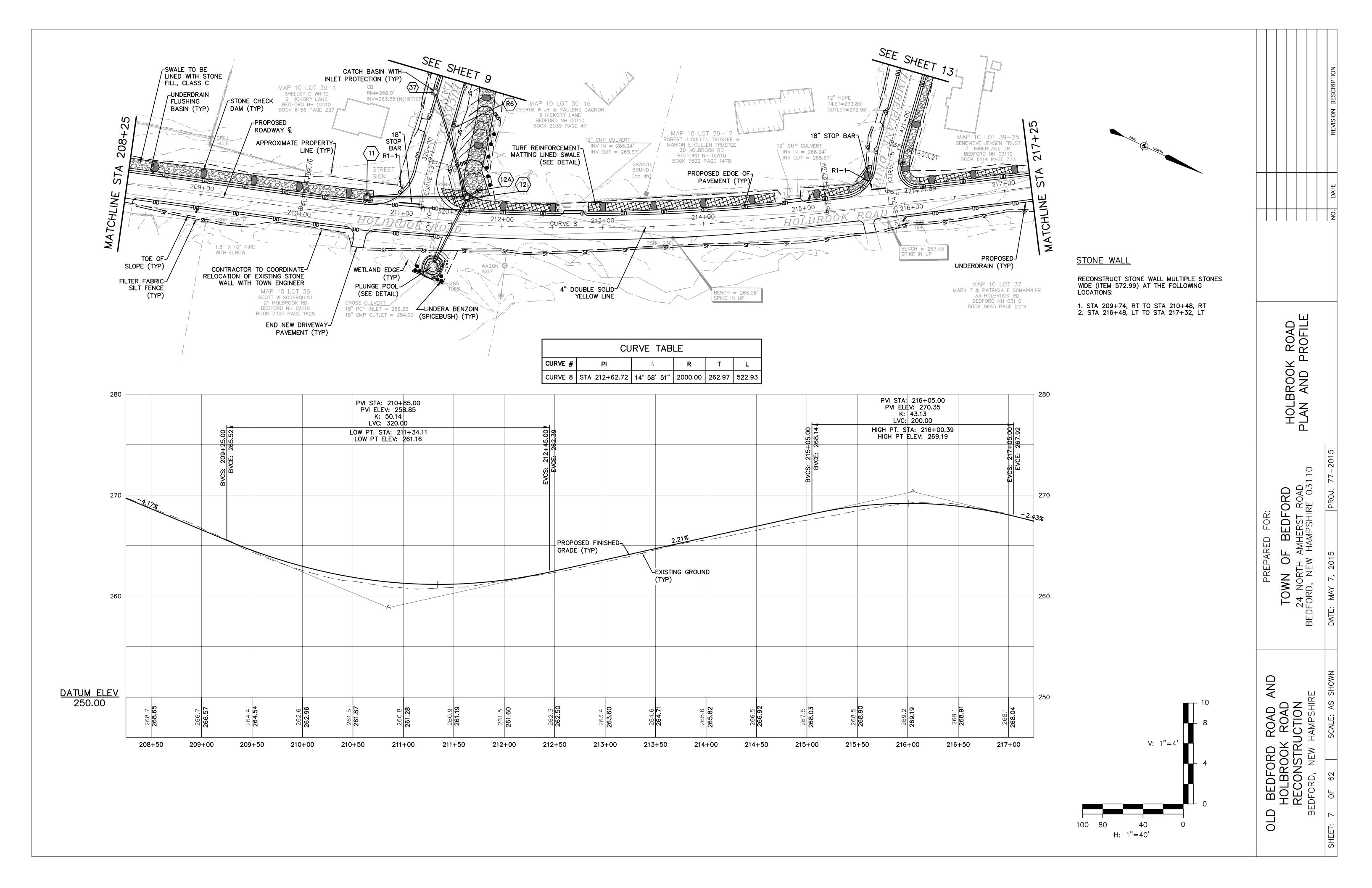
CURVE TABLE								
CURVE #	PI	PI 🛮 🗘		Т	L			
CURVE 2	STA 125+94.85	7° 29' 16"	3000.00	196.31	392.06			

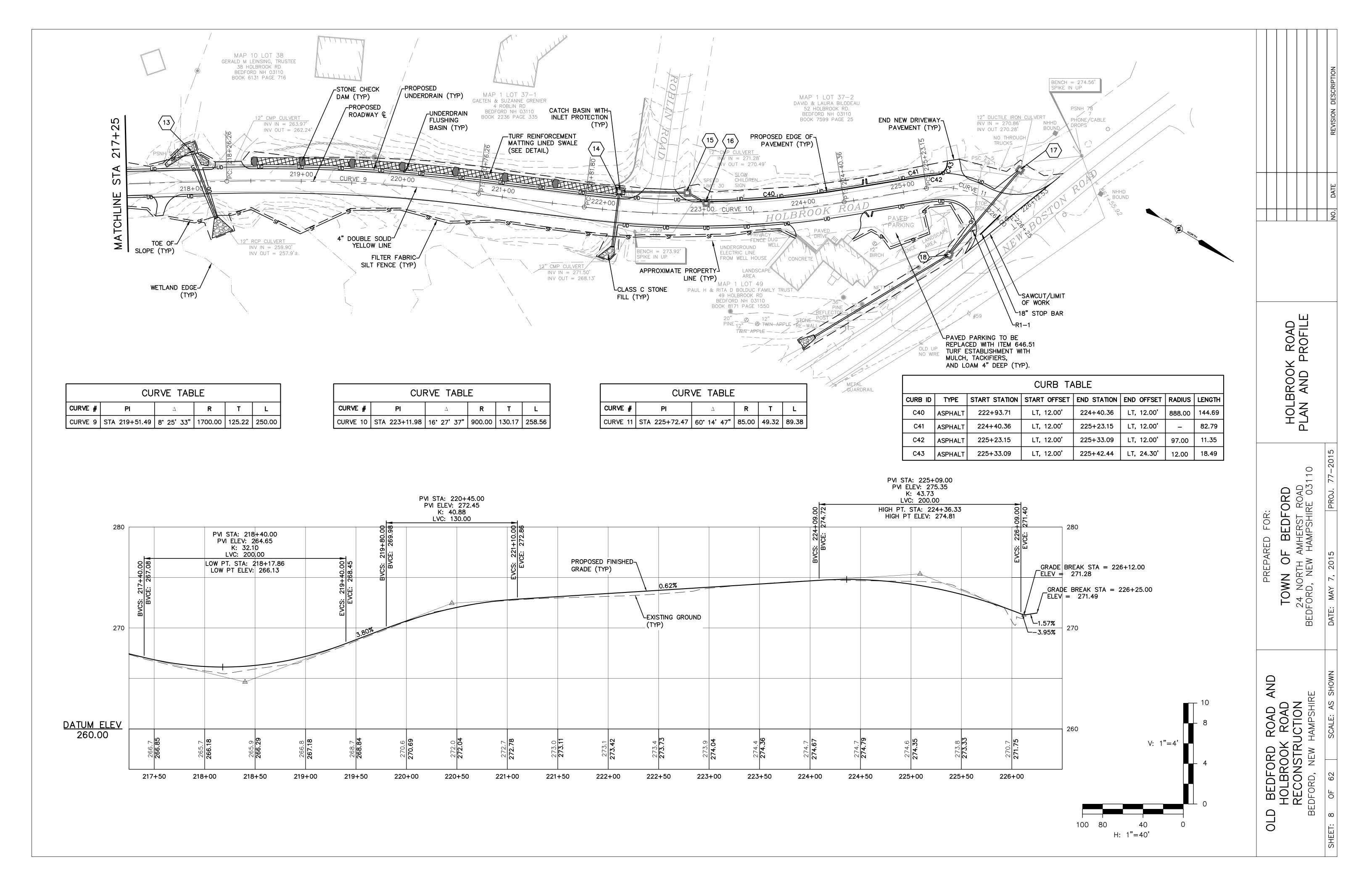


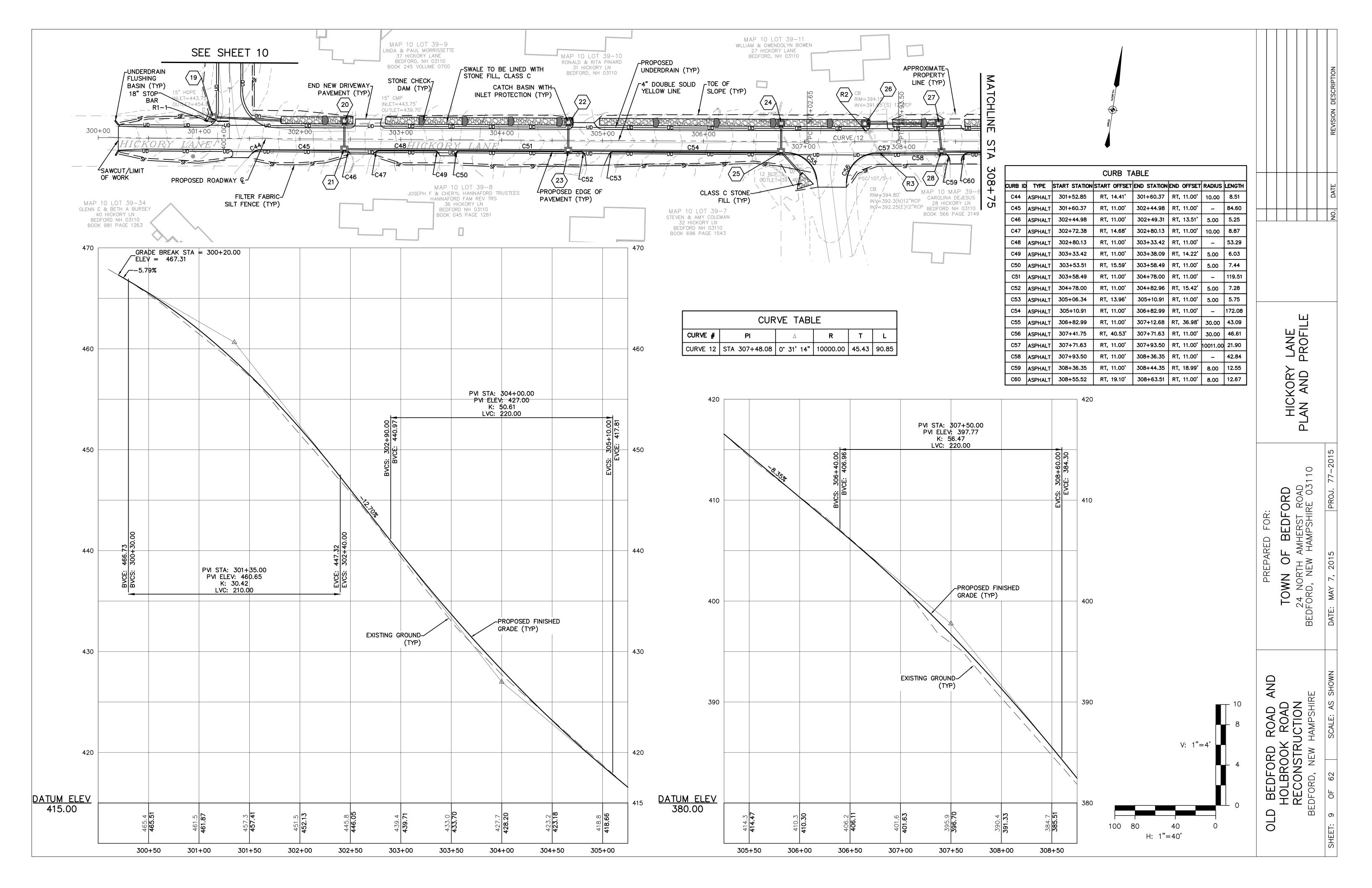


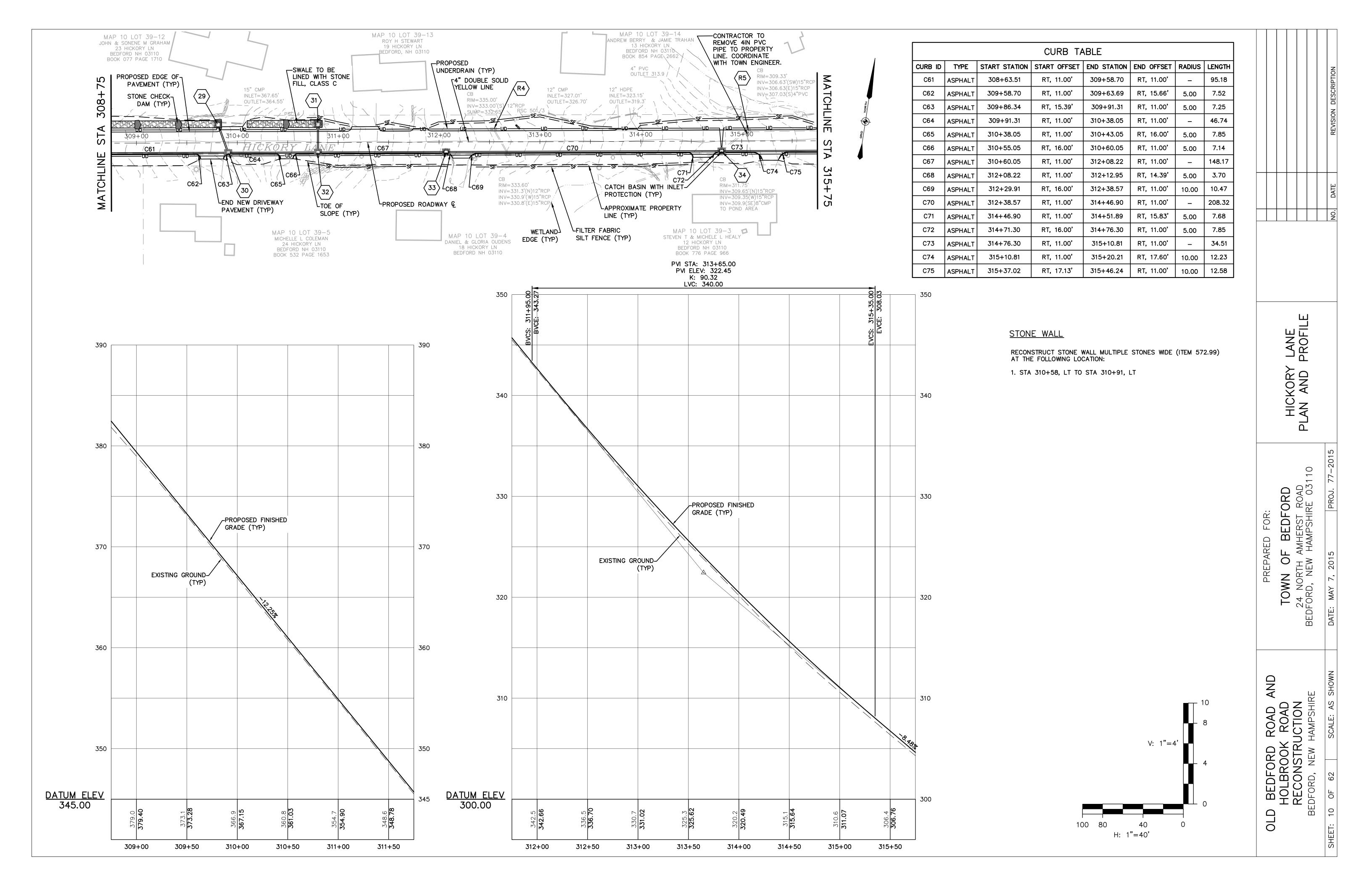


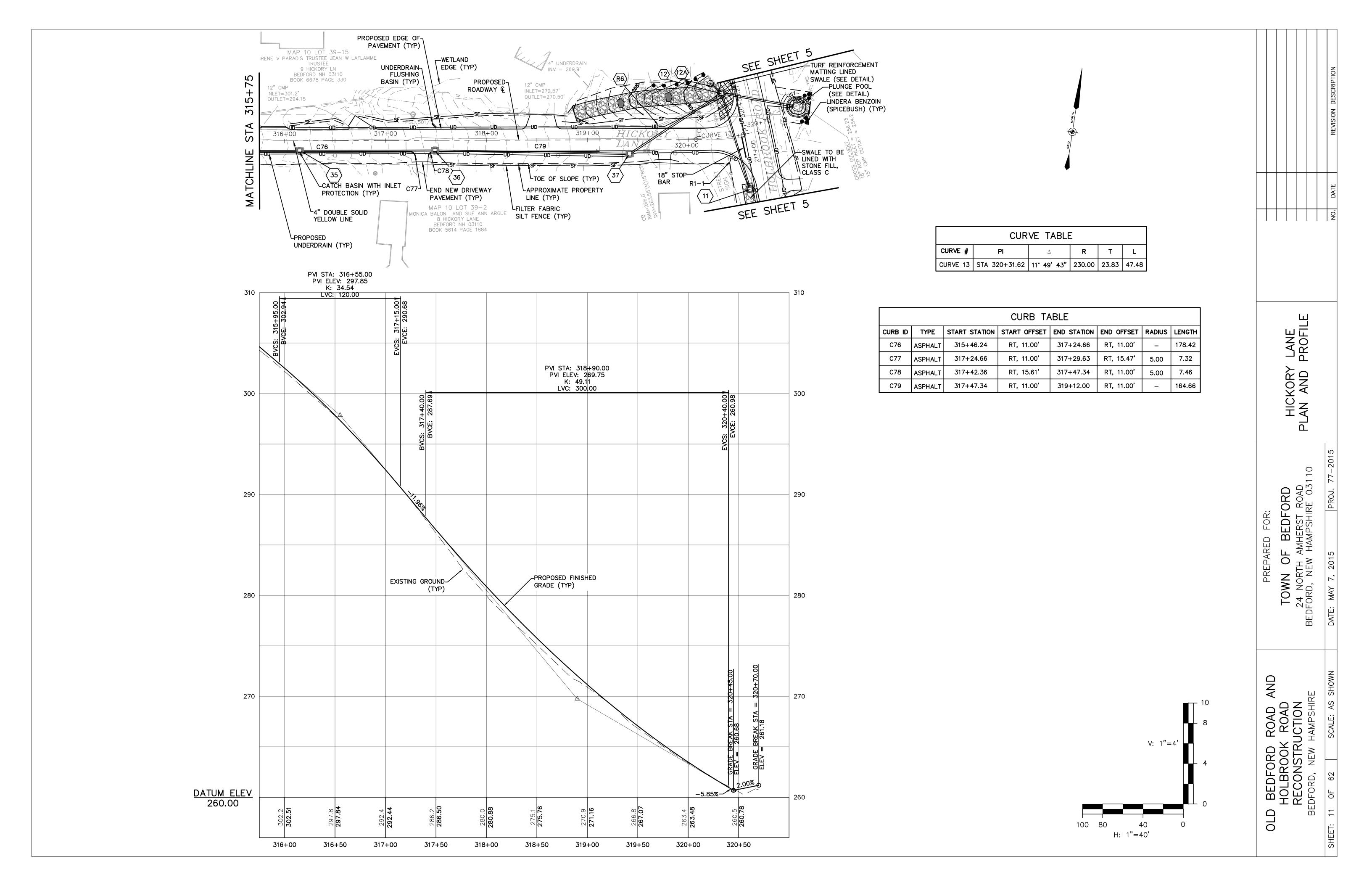


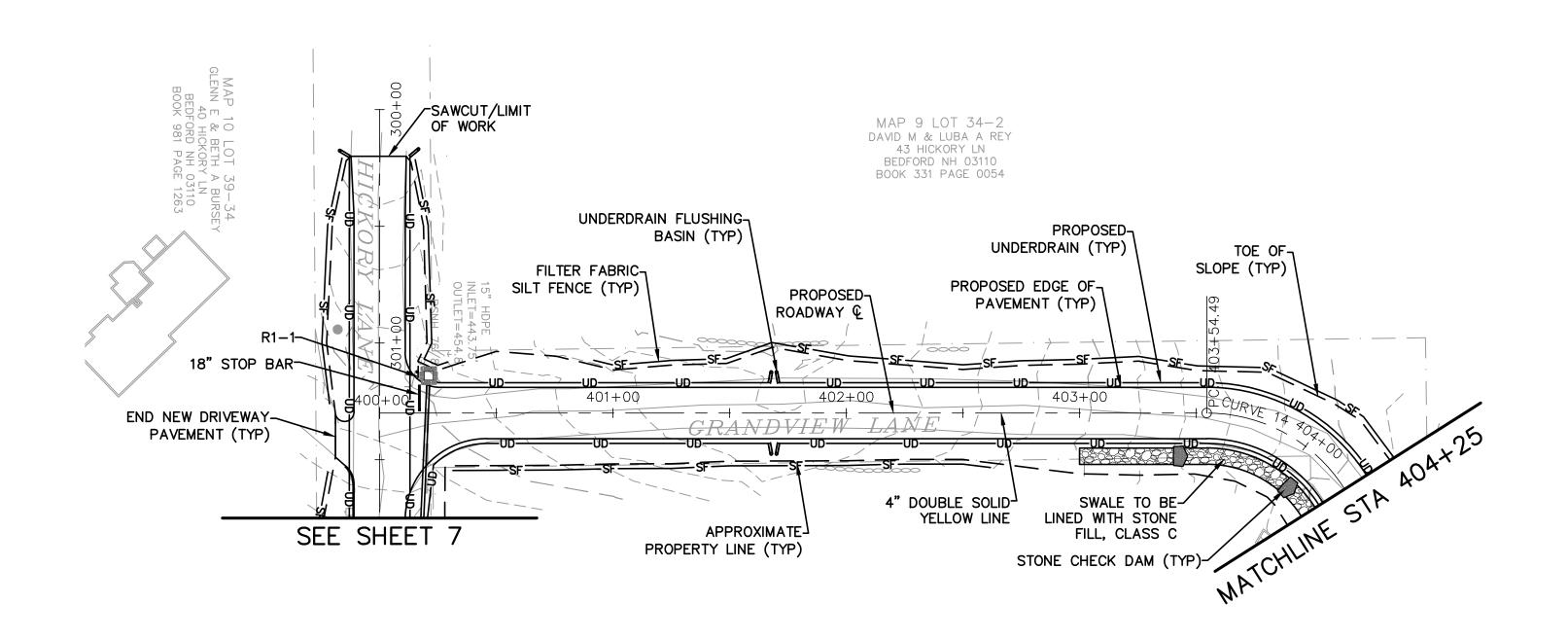


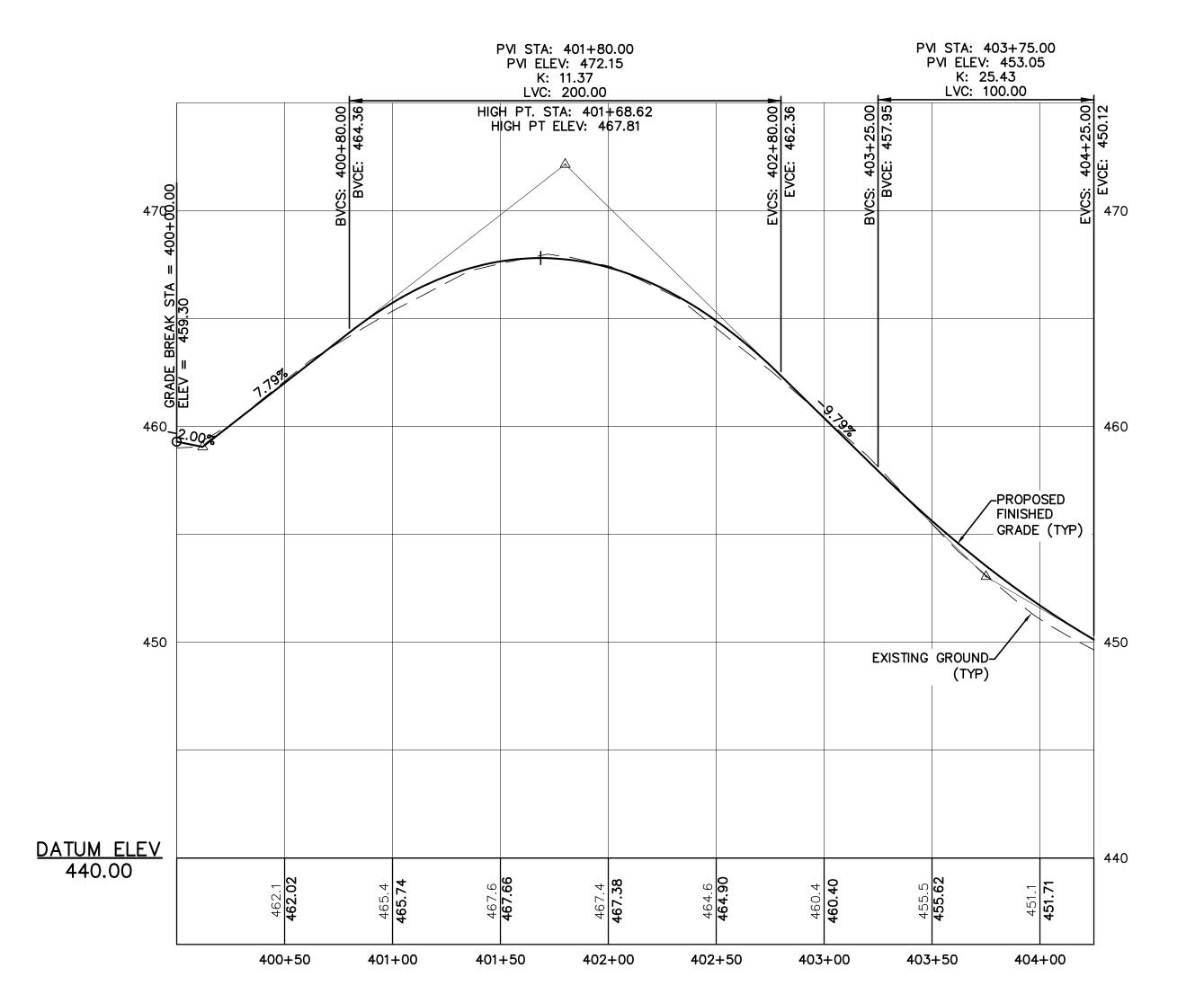


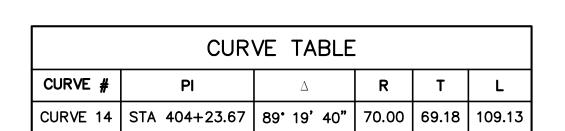






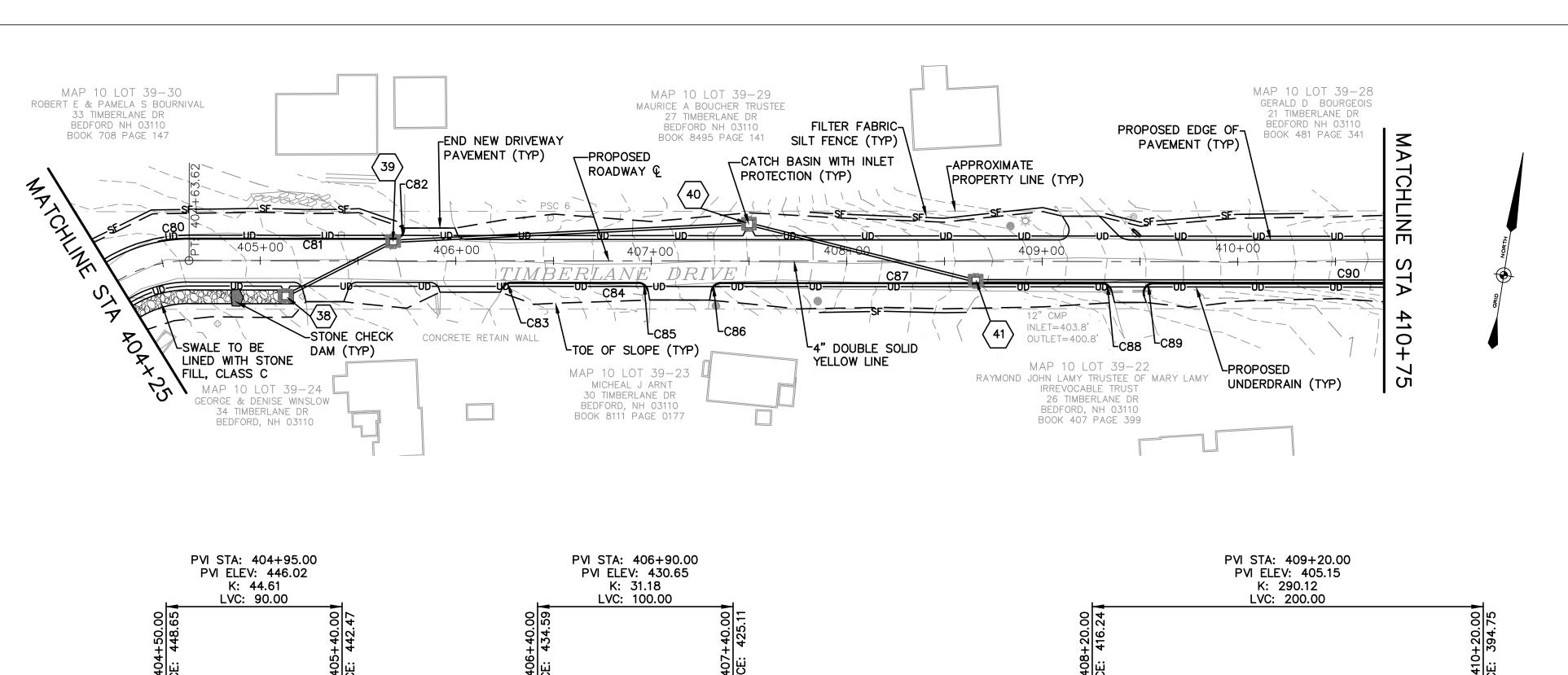




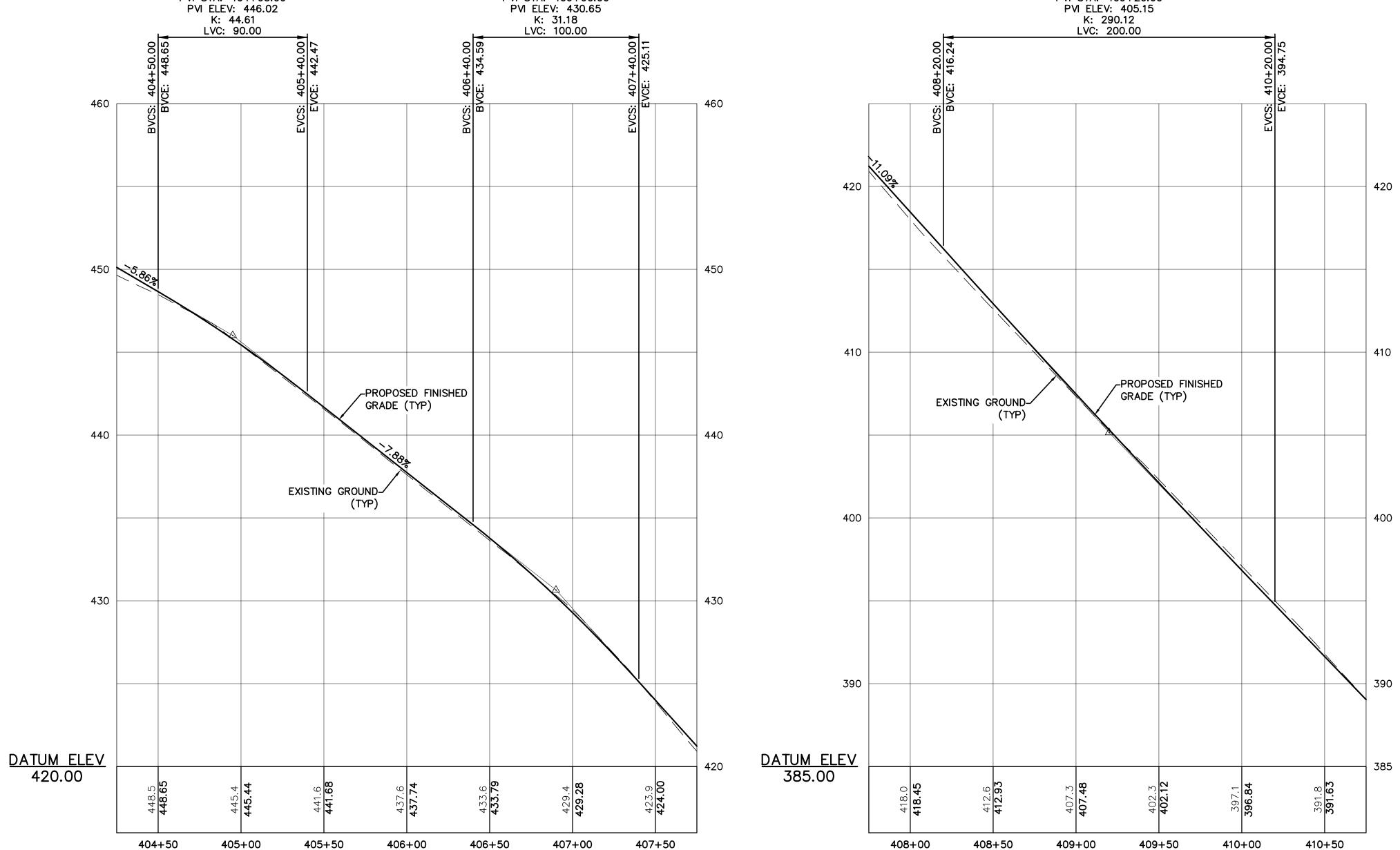


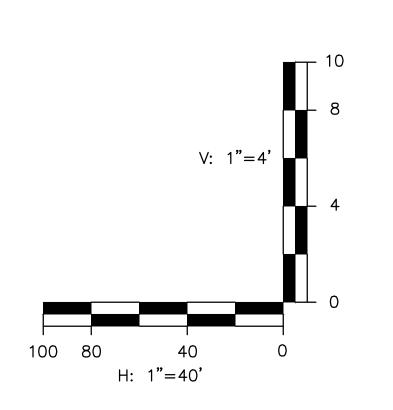
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V: 1"=4' - 4
100 80 40 0 H: 1"=40'

				ÖZ
	CBANDVIEW LANE	DI AN AND DROFILE		
-0R:	DFORD	KST ROAD	SHIRE 03110	PROJ. 77-2015
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSHIRE 03110	DATE: MAY 7, 2015
ROAD AND	HOLBROOK ROAD	NOI 001	BEDFORD, NEW HAMPSHIRE	SCALE: AS SHOWN
OLD BEDFORD ROAD A	HOLBRO	NNO JUNE	BEDFORD, NE	SHEET: 12 OF 62



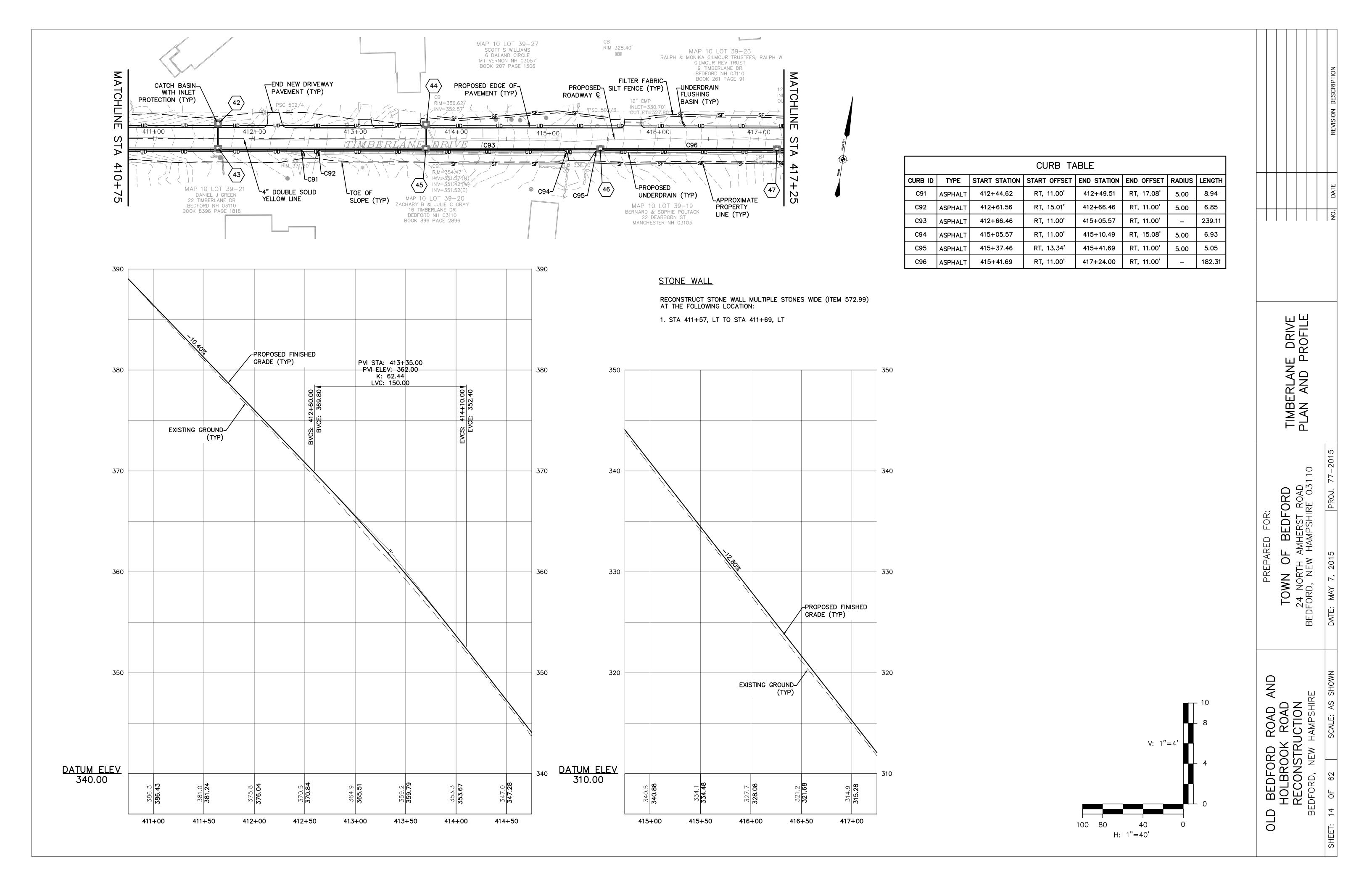
	CURB TABLE										
CURB ID	TYPE	START STATION	START OFFSET	END STATION	END OFFSET	RADIUS	LENGTH				
C80	ASPHALT	404+50.00	LT, 11.00'	404+63.62	LT, 11.00'	81.00	15.76				
C81	ASPHALT	404+63.62	LT, 11.00'	405+68.72	LT, 11.00'	_	105.10				
C82	ASPHALT	405+68.72	LT, 11.00'	405+73.72	LT, 15.89'	5.00	7.74				
C83	ASPHALT	406+23.93	RT, 13.81'	406+28.43	RT, 11.00'	5.00	5.59				
C84	ASPHALT	406+28.43	RT, 11.00'	406+93.50	RT, 11.00'	_	65.08				
C85	ASPHALT	406+93.50	RT, 11.00'	406+98.44	RT, 15.18'	5.00	7.03				
C86	ASPHALT	407+30.73	RT, 15.15'	407+35.66	RT, 11.00'	5.00	7.00				
C87	ASPHALT	407+35.66	RT, 11.00'	409+30.67	RT, 11.00'	-	195.01				
C88	ASPHALT	409+30.67	RT, 11.00'	409+35.53	RT, 14.82'	5.00	6.67				
C89	ASPHALT	409+52.04	RT, 17.74'	409+56.72	RT, 11.00'	5.00	9.63				
C90	ASPHALT	409+56.72	RT, 11.00'	412+44.62	RT, 11.00'	_	287.90				

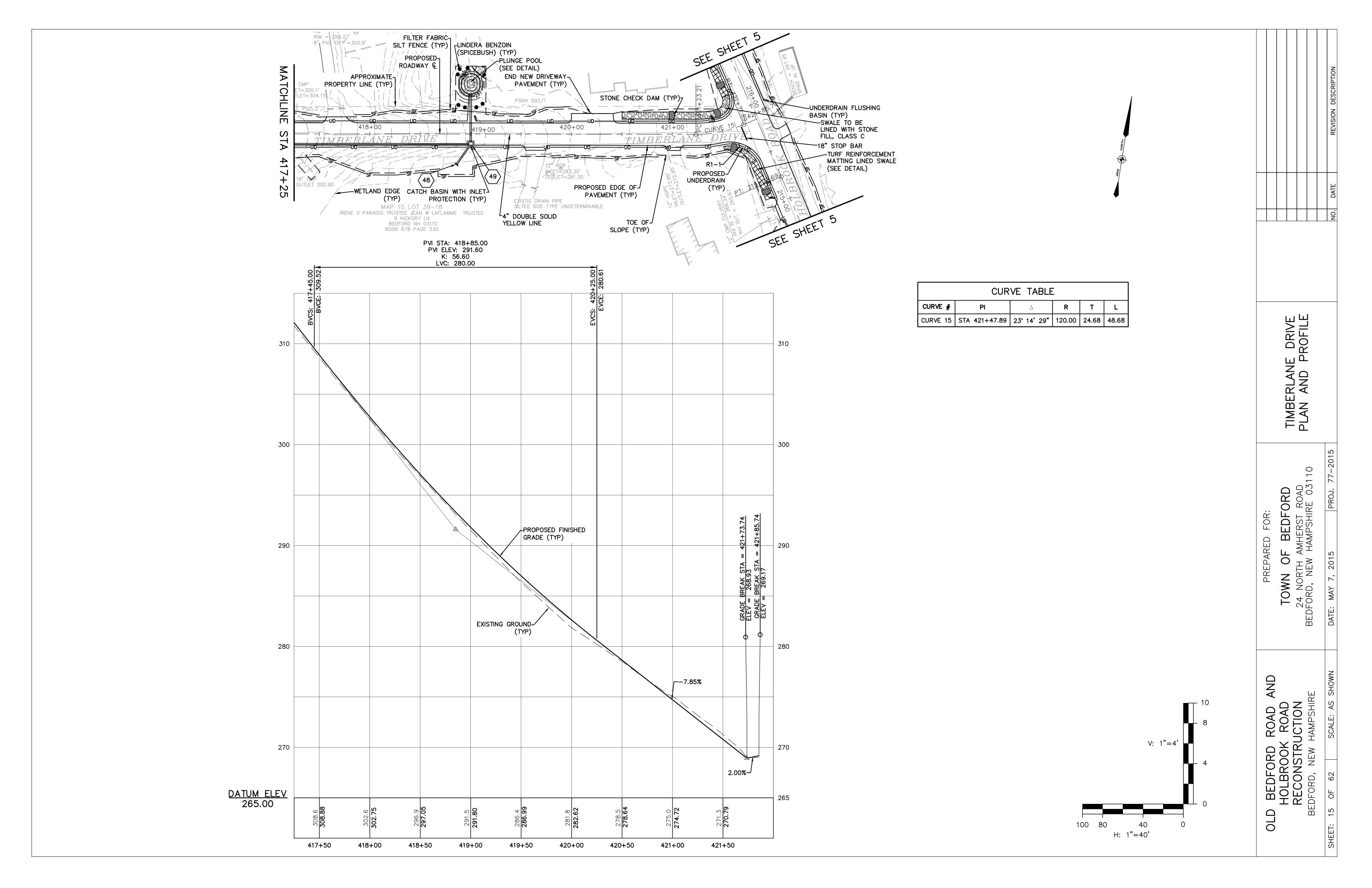




	TIMBERI ANF DRIVE	DIAN AND PROFILE		
FOR:	EDFORD	AMHERST ROAD	PSHIRE 03110	77_7018
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHE	BEDFORD, NEW HAMI	DATE: MAY 7 201E
BEDFORD ROAD AND	HOLBROOK ROAD	RECONSTRUCTION	EDFORD, NEW HAMPSHIRE	N/MUHO OV 19 IVOO
D BEDFO	HOLBRC	RECONS	BEDFORD, N	13 OF 62

OLD





- (1A) STA 120+33.0, LT 19.5' TO STA 120+33.0, RT 24.0' CONSTRUCT 44 FT X 15 IN RCP, 3750D 15 IN INV. @ INLET = 281.80 15 IN INV. @ OUTLET = 280.50 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET AND OUTLET REMOVE HEADWALL @ STA 120+30.2, RT 20.7' (SUBSIDIARY) REMOVE EXISTING 40 FT X 15 IN CMP @ STA 120+33.1, LT 18.9' TO STA 120+30.2, RT 20.7' (SUBSIDIARY) REMOVE HEADWALL @ STA 120+33.1, LT 18.9' (SUBSIDIARY)
- (1B) STA 124+75.0, RT 11.0' TO STA 124+75.0, RT 27.0' CONSTRUCT 16 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 124+75.0, RT 27.0' 15 IN INV. OUT = 274.50TOP OF SLAB ELEV. = 278.00 CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 124+75.0, LT 45.0' TO STA 124+75.0, RT 11.0' CONSTRUCT 56 FT X 15 IN RCP CONSTRUCT CB-B @ STA 124+75.0, RT 11.0' 15 IN INV. IN = 274.2515 IN INV. OUT = 274.0015 IN INV. @ OUTLET = 272.90 GRATE ELEV. = 280.90CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET
- STA 129+38.0, RT 19.0' TO STA 127+62.0, RT 16.5' CONSTRUCT 156 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB-F @ STA 127+62.0, RT 16.5' 15 IN INV. OUT = 268.20TOP OF SLAB ELEV. = 273.70
- $\langle 3A \rangle$ STA 129+38.0, RT 19.0' TO STA 129+38.0, RT 32.5' CONSTRUCT 14 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 129+38.0, RT 32.5' 15 IN INV. OUT = 265.95TOP OF SLAB ELEV. = 270.00 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 129+39.0, LT 28.7' TO STA 129+38.0, RT 19.0' CONSTRUCT 48 FT X 15 IN RCP CONSTRUCT CB-B @ STA 129+38.0, RT 19.0' 15 IN INV. IN (S) = 265.6515 IN INV. IN (E) = 265.6515 IN INV. OUT = 265.40GRATE ELEV. = 270.55
- STA 129+52.0, LT 52.0' TO STA 129+39.0, LT 28.7' CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT CB-B @ STA 129+39.0, LT 28.7' 15 IN INV. IN = 265.0015 IN INV. OUT = 264.9015 IN INV. @ OUTLET = 264.50 GRATE ELEV. = 270.05CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 135+36.0, RT 24.5' TO STA 135+26.0, RT 11.0' CONSTRUCT 17 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB-F @ STA 135+26.0, RT 11.0' 15 IN INV. OUT = 253.70GRATE ELEV. = 258.20CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 136+15.0, RT 21.5' TO STA 135+36.0, RT 24.5' CONSTRUCT 78 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 135+36.0, RT 24.5' 15 IN INV. IN = 252.4515 IN INV. OUT = 252.20TOP OF SLAB ELEV. = 256.95CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING CB @ STA 135+36.1, RT 20.0' (SUBSIDIARY) REMOVE EXISTING 78 FT X 12 IN CMP @ STA 136+15.0, RT 21.7'

TO STA 135+36.1, RT 20.0' (SUBSIDIARY)

TO STA 136+15.0, RT 21.7' (SUBSIDIARY)

STA 137+49.0, RT 26.0' TO STA 136+15.0, RT 21.5' CONSTRUCT 134 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 136+15.0, RT 21.5' 15 IN INV. IN = 248.8015 IN INV. OUT = 248.55TOP OF SLAB ELEV. = 253.30CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) INTERCEPT EXISTING 4" HDPE (SUBSIDIARY) REMOVE EXISTING CB @ STA 136+15.0, RT 21.7' (SUBSIDIARY) REMOVE EXISTING 134 FT X 12 IN CMP @ STA 137+49.0, RT 26.0'

- STA 137+49.0, RT 11.0' TO STA 137+49.0, RT 26.0' CONSTRUCT 15 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 137+49.0, RT 26.0' 15 IN INV. IN = 247.1515 IN INV. OUT = 246.90TOP OF SLAB ELEV. = 250.65CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING CB @ STA 137+49.0, RT 26.0' (SUBSIDIARY) REMOVE EXISTING 100 FT X 15 IN CMP @ STA 138+27.9, LT 37.6' TO STA 137+49.0, RT 26.0' (SUBSIDIARY)
- (7A) STA 138+28.0. LT 38.0' TO STA 137+49.0. RT 11.0' CONSTRUCT 91 FT X 15 IN RCP CONSTRUCT CB-B @ STA 137+49.0, RT 11.0' 15 IN INV. IN = 246.6015 IN INV. OUT = 246.3515 IN INV. @ OUTLET = 244.70 GRATE ELEV. = 252.10CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET REMOVE HEADWALL @ STA 138+27.9, LT 37.6' (SUBSIDIARY)
- ⟨7B⟩ STA 140+19.0, RT 64.0' TO STA 140+19.0, RT 11.0' CONSTRUCT 53 FT X 15 IN RCP CONSTRUCT SLAB TOP CB-B @ STA 140+19.0, RT 11.0' 15 IN INV. OUT = TBD IN FIELD WITH ENGINEER 15 IN INV. @ OUTLET = TBD IN FIELD WITH ENGINEER GRATE ELEV. = 250.35CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET COORDINATE OUTLET LOCATION AND INVERTS IN FIELD WITH ENGINEER
 - STA 201+04.0, RT 27.0' TO STA 201+10.0, LT 25.0' CONSTRUCT 52 FT X 18 IN RCP 18 IN INV. @ INLET = 263.00 18 IN INV. @ OUTLET = 262.50 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET AND OUTLET CONNECT (2)-6 IN UNDERDRAIN PIPES @ DOWNSTREAM HEADWALL REMOVE HEADWALL @ STA 201+09.8, LT 18.7' (SUBSIDIARY) REMOVE EXISTING 42 FT X 18 IN HDDP @ STA 201+03.9, RT 23.4' TO STA 201+09.8, LT 18.7' (SUBSIDIARY) REMOVE HEADWALL @ STA 201+03.9, RT 23.4' (SUBSIDIARY)
- STA 203+58.3, RT 22.0' TO STA 203+53.0, LT 20.0' CONSTRUCT 42 FT X 15 IN RCP, 3750D 15 IN INV. @ INLET = $266.5\pm$ CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET CONNECT TO EXISTING 15 IN RCP (SUBSIDIARY) CONTRACTOR TO FIELD VERIFY EXISTING PIPE PRIOR TO INSTALLATION REMOVE HEADWALL @ STA 203+52.7, LT 16.2' (SUBSIDIARY) REMOVE EXISTING 39 FT X 15 IN RCP @ STA 203+58.3, RT 22.0' TO STA 203+52.7, LT 16.2' (SUBSIDIARY)
- (10) STA 204+72.0, RT 24.0' TO STA 204+83.0, LT 18.0' CONSTRUCT 43 FT X 15 IN RCP, 3750D 15 IN INV. @ INLET = 267.50 15 IN INV. @ OUTLET = 265.70 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET AND OUTLET CONNECT 6 IN UNDERDRAIN PIPE @ DOWNSTREAM HEADWALL REMOVE HEADWALL @ STA 204+81.5, LT 13.2' (SUBSIDIARY) REMOVE EXISTING 38 FT X 12 IN RCP @ STA 204+72.6. RT 23.9' TO STA 204+81.5, LT 13.2' (SUBSIDIARY) REMOVE HEADWALL @ STA 204+72.6, RT 23.9' (SUBSIDIARY)
- STA 211+64.0, LT 27.0' TO STA 210+64.0, LT 19.0' CONSTRUCT 99 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 210+64.0, LT 19.0' 15 IN INV. OUT = 255.65TOP OF SLAB ELEV. = 260.15CONNECT (3)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- CONSTRUCT 5' DIA. CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 211+64.0, LT 27.0' 18 IN INV. IN = 254.4515 IN INV. IN = 254.7015 IN INV. IN = 254.7018 IN INV. OUT = 254.4518 IN INV. @ OUTLET = 253.80 TOP OF SLAB ELEV. = 257.60CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT (3)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 18 IN INV. OUT) CONNECT 6 IN UNDERDRAIN PIPE @ DOWNSTREAM HEADWALL REMOVE HEADWALL @ STA 211+62.2, LT 18.8' (SUBSIDIARY) REMOVE EXISTING 81 FT X 18 IN RCP @ STA 211+30.2, RT 55.0' TO STA 211+62.2, LT 18.8' (SUBSIDIARY)

REMOVE HEADWALL @ STA 211+30.2, RT 55.0' (SUBSIDIARY)

STA 211+36.0, RT 39.0' TO STA 211+64.0, LT 27.0'

CONSTRUCT 72 FT X 18 IN RCP

(12A) STA 211+64.0, LT 27.0' TO STA 211+74.0, LT 34.0' CONSTRUCT 12 FT X 15 IN RCP 15 IN INV. @ INLET = 256.50 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET

- 〈13〉 STA 218+15.0, RT 36.0' TO STA 217+92.0, LT 30.0' CONSTRUCT 70 FT X 18 IN RCP 18 IN INV. @ INLET = 260.00 18 IN INV. @ OUTLET = 257.30 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET AND OUTLET CONNECT (2)-6 IN UNDERDRAIN PIPES @ DOWNSTREAM HEADWALL REMOVE HEADWALL @ STA 217+94.9, LT 21.1' (SUBSIDIARY) REMOVE EXISTING 46 FT X 12 IN RCP @ STA 218+10.4, RT 22.6' TO STA 217+94.9, LT 21.1' (SUBSIDIARY) REMOVE HEADWALL @ STA 218+10.4, RT 22.6' (SUBSIDIARY)
- STA 222+13.0, RT 36.0' TO STA 222+15.0, LT 19.0' CONSTRUCT 55 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 222+15.0, LT 19.0' 15 IN INV. IN = 267.0515 IN INV. OUT = 266.8015 IN INV. @ OUTLET = 266.00 TOP OF SLAB ELEV. = 272.00 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) CONNECT 6 IN UNDERDRAIN PIPE @ DOWNSTREAM HEADWALL REMOVE HEADWALL @ STA 222+16.4, LT 13.3' (SUBSIDIARY) REMOVE EXISTING 37 FT X 12 IN CMP @ STA 222+16.0, RT 24.3' TO STA 222+16.4, LT 13.3' (SUBSIDIARY) REMOVE HEADWALL @ STA 222+16.0, RT 24.3' (SUBSIDIARY)
- (15) STA 222+15.0, LT 19.0' TO STA 222+84.0, LT 21.0' CONSTRUCT 67 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 222+84.0, LT 21.0' 15 IN INV. IN = 267.7515 IN INV. OUT = 267.50TOP OF SLAB ELEV. = 272.25REMOVE HEADWALL @ STA 222+81.3, LT 18.1' (SUBSIDIARY) REMOVE EXISTING 59 FT X 12 IN CMP @ STA 222+21.1, LT 14.2' TO STA 222+81.3, LT 18.1' (SUBSIDIARY) REMOVE HEADWALL @ STA 222+21.1, LT 14.2' (SUBSIDIARY)
- (16) STA 222+84.0, LT 21.0' TO STA 223+03.0, LT 11.0' CONSTRUCT 21 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB-B @ STA 223+03.0, LT 11.0' 15 IN INV. OUT = 269.20GRATE ELEV. = 273.70CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 225+75.0, RT 65.0' TO STA 225+93.0, LT 44.0' CONSTRUCT 110 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 225+93.0, LT 44.0' 15 IN INV. OUT = 266.75TOP OF SLAB ELEV. = 270.75CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING 41 FT X 12 IN DUCTILE IRON PIPE @ STA 226+03.9, LT 3.1'
- (18) STA 223+96.0, RT 128.0' TO STA 225+75.0, RT 65.0' CONSTRUCT 156 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 225+75.0, RT 65.0' 15 IN INV. IN = 265.5015 IN INV. OUT = 265.2515 IN INV. @ OUTLET = 263.60 TOP OF SLAB ELEV. = 269.50CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

TO STA 225+93.2, LT 42.4' (SUBSIDIARY)

- STA 301+81.0, LT 18.0' TO STA 301+14.0, LT 21.0' CONSTRUCT 67 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB-E @ STA 301+14.0. LT 21.0' 15 IN INV. OUT = 454.0015 IN INV. @ OUTLET = 453.00 GRATE ELEV. = 459.50CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT 6 IN UNDERDRAIN PIPE TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) CONNECT 6 IN UNDERDRAIN PIPE @ DOWNSTREAM HEADWALL REMOVE EXISTING 47 FT X 12 IN HDPE @ STA 301+64.4, LT 20.2' TO STA 301+17.0, LT 20.8' (SUBSIDIARY)
- STA 302+44.0, RT 10.0' TO STA 302+44.0, LT 18.0' CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 302+44.0, LT 18.0' 15 IN INV. OUT = 441.90TOP OF SLAB ELEV. = 445.40CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE HEADWALL @ STA 302+43.4, LT 14.6' (SUBSIDIARY) REMOVE EXISTING 41 FT X 15 IN CMP @ STA 302+84.8, LT 16.3' TO STA 302+43.4, LT 14.6' REMOVE HEADWALL @ STA 302+84.8, LT 16.3' (SUBSIDIARY)
- STA 304+66.0, RT 10.0' TO STA 302+44.0, RT 10.0' CONSTRUCT 222 FT X 15 IN RCP CONSTRUCT CB-F @ STA 302+44.0, RT 10.0' 15 IN INV. IN = 441.6015 IN INV. OUT = 441.35GRATE ELEV. = 446.45CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

- 22 STA 304+66.0, RT 10.0' TO STA 304+66.0, LT 18.0' CONSTRUCT 28 ET X 15 IN RCP CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 304+66.0, LT 18.0' 15 IN INV. OUT = 416.80TOP OF SLAB ELEV. = 420.30CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- 23 STA 306+77.0, RT 10.0' TO STA 304+66.0, RT 10.0' CONSTRUCT 211 FT X 15 IN RCP CONSTRUCT CB-F @ STA 304+66.0, RT 10.0' 15 IN INV. IN = 416.5015 IN INV. IN = 416.5015 IN INV. OUT = 416.25GRATE ELEV. = 421.35CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE

(UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

- 24 STA 306+77.0, RT 10.0' TO STA 306+77.0, LT 18.0' CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 306+77.0, LT 18.0' 15 IN INV. OUT = 398.85TOP OF SLAB ELEV. = 402.35CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING CB @ STA 306+74.6, LT 15.9' (SUBSIDIARY) REMOVE EXISTING 47 FT X 12 IN RCP @ STA 306+95.1, RT 27.4' TO STA 306+74.6, LT 15.9' (SUBSIDIARY) REMOVE HEADWALL @ STA 306+95.1, RT 27.4' (SUBSIDIARY)
- 25 STA 306+97.0, RT 32.0' TO STA 306+77.0, RT 10.0' CONSTRUCT 30 FT X 15 IN RCP CONSTRUCT CB-F @ STA 306+77.0. RT 10.0' 15 IN INV. IN = 398.5515 IN INV. IN = 398.5515 IN INV. OUT = 398.3015 IN INV. @ OUTLET = 397.40 GRATE ELEV. = 403.40CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

(UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

26 STA 308+33.0, LT 18.0' TO STA 307+60.0, LT 18.0' CONSTRUCT 73 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 307+60.0, LT 18.0' 15 IN INV. OUT = 389.75TOP OF SLAB ELEV. = 394.25CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE

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- (27) STA 308+36.0, RT 10.0' TO STA 308+33.0, LT 18.0' CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 308+33.0, LT 18.0' 15 IN INV. IN = 381.6515 IN INV. OUT = 381.40TOP OF SLAB ELEV. = 386.15 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- 28 STA 309+91.0, RT 10.0' TO STA 308+36.0, RT 10.0' CONSTRUCT 155 FT X 15 IN RCP CONSTRUCT CB-F @ STA 308+36.0, RT 10.0' 15 IN INV. IN = 381.1015 IN INV. OUT = 380.85GRATE ELEV. = 386.85CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING 432 FT X 15 IN RCP @ STA 312+68.4, RT 12.2' TO STA 308+36.0, RT 10.1' (SUBSIDIARY)
- (29) STA 309+91.0, RT 10.0' TO STA 309+81.0, LT 18.0' CONSTRUCT 30 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 309+81.0, LT 18.0' 15 IN INV. OUT = 364.60TOP OF SLAB ELEV. = 368.10 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING 32 FT X 15 IN CMP @ STA 310+15.4, LT 18.4'
- 30 STA 310+80.0, RT 10.0' TO STA 309+91.0, RT 10.0' CONSTRUCT 89 FT X 15 IN RCP CONSTRUCT 89 FT X 15 IN RCP CONSTRUCT CB-F @ STA 309+91.0, RT 10.0' 15 IN INV. IN (W) = 363.4015 IN INV. IN (N) = 363.4015 IN INV. OUT = 363.15GRATE ELEV. = 367.90CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

TO STA 309+83.3, LT 20.2'

31) STA 310+80.0, RT 10.0' TO STA 310+80.0, LT 18.0' CONSTRUCT 28 FT X 15 IN RCP CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 310+80.0, LT 18.0' 15 IN INV. OUT = 352.45TOP OF SLAB ELEV. = 355.95 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

- 32 STA 312+07.0, RT 10.0' TO STA 310+80.0, RT 10.0' CONSTRUCT 127 FT X 15 IN RCP CONSTRUCT CB-F © STA 310+80.0, RT 10.0' 15 IN INV. IN = 352.15 15 IN INV. IN = 352.15 15 IN INV. OUT = 351.90 GRATE ELEV. = 357.00 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- \$\sqrt{33}\$ STA 314+80.0, RT 10.0' TO STA 312+07.0, RT 10.0' CONSTRUCT 273 FT X 15 IN RCP, 3750D CONSTRUCT CB-F @ STA 312+07.0, RT 10.0' 15 IN INV. IN = 336.95 15 IN INV. OUT = 336.20 GRATE ELEV. = 341.45 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING CB @ STA 312+68.4, RT 12.2' (SUBSIDIARY) REMOVE EXISTING 209 FT X 15 IN RCP @ STA 314+77.1, RT 11.3' TO STA 312+68.4, RT 12.2' (SUBSIDIARY)
- STA 316+15.0, RT 10.0' TO STA 314+80.0, RT 10.0' CONSTRUCT 135 FT X 15 IN RCP CONSTRUCT 5' DIA. CB-F @ STA 314+80.0, RT 10.0' 15 IN INV. IN = 308.00 EXISTING 8 IN INV. IN = 309.9± 15 IN INV. OUT = 307.75 GRATE ELEV. = 312.50 INTERCEPT EXISTING 8 IN CMP (SUBSIDIARY) CONNECT (4)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING 36 FT X 15 IN RCP @ STA 315+05.8, LT 10.7' TO STA 314+77.1, RT 11.3'
- STA 317+49.0, RT 10.0' TO STA 316+15.0, RT 10.0'
 CONSTRUCT 134 FT X 15 IN RCP
 CONSTRUCT CB-F @ STA 316+15.0, RT 10.0'
 15 IN INV. IN = 296.35
 15 IN INV. OUT = 296.10
 GRATE ELEV. = 300.85
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- 36 STA 319+42.0, RT 14.0' TO STA 317+49.0, RT 10.0' CONSTRUCT 193 FT X 15 IN RCP, 3750D CONSTRUCT CB-F @ STA 317+49.0, RT 10.0' 15 IN INV. IN = 281.80 15 IN INV. OUT = 281.05 GRATE ELEV. = 286.30 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- 37 STA 211+64.0, LT 27.0' TO STA 319+42.0, RT 14.0'
 CONSTRUCT 109 FT X 18 IN RCP
 CONSTRUCT CB-E @ STA 319+42.0, RT 14.0'
 15 IN INV. IN = 262.75
 18 IN INV. OUT = 262.50
 GRATE ELEV. = 267.25
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
 REMOVE EXISTING CB @ STA 319+58.8, RT 11.3'
 REMOVE EXISTING 27 FT X 15 IN RCP @ STA 319+69.3, LT 13.0'
 TO STA 319+58.8, RT 11.3'
- STA 405+68.0, LT 10.0' TO STA 405+13.0, RT 18.0'
 CONSTRUCT 62 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) @ STA 405+13.0, RT 18.0'
 15 IN INV. OUT = 439.60
 TOP OF SLAB ELEV. = 443.10
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- 39 STA 407+50.0, LT 19.0' TO STA 405+68.0, LT 10.0' CONSTRUCT 182 FT X 15 IN RCP CONSTRUCT CB-F @ STA 405+68.0, LT 10.0' 15 IN INV. IN = 435.40 15 IN INV. OUT = 435.15 GRATE ELEV. = 439.90 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 408+66.0, RT 10.0' TO STA 407+50.0, LT 19.0'
 CONSTRUCT 120 FT X 15 IN RCP
 CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL
 R-4349-C OR APPROVED EQUAL) © STA 407+50.0, LT 19.0'
 15 IN INV. IN = 418.55
 15 IN INV. OUT = 418.30
 TOP OF SLAB ELEV. = 423.15
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE
 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

- \$\left(41\right)\$ STA 411+64.0, RT 10.0' TO STA 408+66.0, RT 10.0' CONSTRUCT 298 FT X 15 IN RCP

 CONSTRUCT CB-F @ STA 408+66.0, RT 10.0'

 15 IN INV. IN = 406.35

 15 IN INV. OUT = 406.10

 GRATE ELEV. = 410.85

 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE

 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

 REMOVE EXISTING 25 FT X 12 IN CMP @ STA 409+31.5, RT 15.5'

 TO STA 409+56.1, RT 15.1' (SUBSIDIARY)
- STA 411+64.0, RT 10.0' TO STA 411+64.0, LT 15.0'
 CONSTRUCT 25 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 411+64.0, LT 15.0'
 15 IN INV. OUT = 374.75
 TOP OF SLAB ELEV. = 378.75
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 413+70.0, RT 10.0' TO STA 411+64.0, RT 10.0'
 CONSTRUCT 206 FT X 15 IN RCP
 CONSTRUCT CB-F @ STA 411+64.0, RT 10.0'
 15 IN INV. IN = 374.50
 15 IN INV. IN = 374.25
 GRATE ELEV. = 379.45

 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE
 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
 REMOVE EXISTING CB @ STA 412+40.0, RT 13.9' (SUBSIDIARY)
 REMOVE EXISTING 143 FT X 15 IN RCP @ STA 413+83.3, RT 13.7'
 TO STA 412+40.0, RT 13.9' (SUBSIDIARY)
- STA 413+70.0, RT 10.0' TO STA 413+70.0, LT 14.0'
 CONSTRUCT 24 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB-E @ STA 413+70.0, LT 14.0'
 15 IN INV. OUT = 352.10
 GRATE ELEV. = 356.60
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE
 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
 REMOVE EXISTING CB @ STA 413+71.5, LT 11.3' (SUBSIDIARY)
 REMOVE EXISTING 28 FT X 15 IN RCP @ STA 413+83.3, RT 13.7'
 TO STA 413+71.5, LT 11.3' (SUBSIDIARY)
- STA 415+43.0, RT 10.0' TO STA 413+70.0, RT 10.0' CONSTRUCT 173 FT X 15 IN RCP CONSTRUCT CB-F @ STA 413+70.0, RT 10.0' 15 IN INV. IN = 351.85 15 IN INV. IN = 351.85 15 IN INV. OUT = 351.60 GRATE ELEV. = 357.05 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT) REMOVE EXISTING CB @ STA 413+83.3, RT 13.7' (SUBSIDIARY) REMOVE EXISTING 127 FT X 15 IN RCP @ STA 415+10.4, RT 14.5' TO STA 413+83.3, RT 13.7' (SUBSIDIARY)
- STA 417+18.0, RT 10.0' TO STA 415+43.0, RT 10.0'
 CONSTRUCT 175 FT X 15 IN RCP
 CONSTRUCT CB-F @ STA 415+43.0, RT 10.0'
 15 IN INV. IN = 330.55
 15 IN INV. OUT = 330.30
 GRATE ELEV. = 335.05
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE
 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
 REMOVE EXISTING CB @ STA 415+10.4, RT 14.5' (SUBSIDIARY)
 REMOVE EXISTING 210 FT X 15 IN RCP @ STA 417+20.6, RT 12.7'
 TO STA 415+10.4, RT 14.5' (SUBSIDIARY)
- STA 419+00.0, RT 10.0' TO STA 417+18.0, RT 10.0' CONSTRUCT 182 FT X 15 IN RCP, 3750D

 CONSTRUCT CB-F @ STA 417+18.0, RT 10.0'

 15 IN INV. IN = 308.15

 15 IN INV. OUT = 307.90

 GRATE ELEV. = 312.65

 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)

 REMOVE EXISTING CB @ STA 417+20.6, RT 12.7' (SUBSIDIARY)

 REMOVE EXISTING 23 FT X 18 IN CMP @ STA 417+43.0, RT 37.7'

 TO STA 417+20.6, RT 12.7'

 REMOVE HEADWALL @ STA 417+43.0, RT 37.7' (SUBSIDIARY)
- STA 419+00.0, RT 10.0' TO STA 418+86.0, RT 30.0' CONSTRUCT 24 FT X 15 IN RCP
 15 IN INV. @ INLET = 286.00
 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ INLET
- \$\lequiv \text{49} \text{STA 419+00.0, LT 39.7' TO STA 419+00.0, RT 10.0'} \text{CONSTRUCT 50 FT X 18 IN RCP} \text{CONSTRUCT CB-F @ STA 419+00.0, RT 10.0'} \text{15 IN INV. IN = 286.95} \text{15 IN INV. IN = 284.55} \text{18 IN INV. OUT = 283.50} \text{18 IN INV. @ OUTLET = 280.00} \text{GRATE ELEV. = 291.45} \text{CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE (UNDERDRAIN TO MATCH CROWN WITH 18 IN INV. OUT) CONNECT 6 IN UNDERDRAIN PIPE @ DOWNSTREAM HEADWALL

- STA 107+57.7, RT 11.0' TO STA 106+05.0, RT 14.7'
 CONSTRUCT 153 FT X 15 IN RCP, 3750D
 CONSTRUCT DEEP SUMP SLAB TOP (SEE DETAIL) CB-B © STA 106+05.0, RT 14.7'
 15 IN INV. OUT = 256.85
 GRATE ELEV. = 259.95
- STA 107+57.7, RT 11.0' TO STA 110+00.0, RT 11.0'
 CONSTRUCT 242 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB-B © STA 110+00.0, RT 11.0'
 15 IN INV. OUT = 261.15
 GRATE ELEV. = 265.65
- STA 107+57.7, RT 11.0' TO STA 107+58.0, RT 29.0'
 CONSTRUCT 18 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 107+58.0, RT 29.0'
 15 IN INV. OUT = 257.55
 TOP OF SLAB ELEV. = 261.80
 REMOVE EXISTING CB © STA 107+57.80, RT 22.7' (SUBSIDIARY)
 REMOVE EXISTING 12 FT X 18 IN RCP © STA 107+57.7, RT 11' TO
- 53 STA 107+57.7, RT 11.0'
 CONSTRUCT CB-B @ STA 107+57.7, RT 11.0'
 15 IN INV. IN (S) = 256.25
 15 IN INV. IN (N) = 257.40
 15 IN INV. IN (E) = 257.40
 EXISTING 18 IN INV. OUT = 256.2±
 GRATE ELEV. = 263.35
 INTERCEPT EXISTING 18 IN RCP (SUBSIDIARY)

107+57.80, RT 22.7' (SUBSIDIARY)

- STA 112+15.0, RT 11.0' TO STA 112+15.0, RT 26.0'
 CONSTRUCT 15 FT X 15 IN RCP
 CONSTRUCT CB WITH BEEHIVE GRATE (NEENAH FOUNDRY MODEL R-4349-C OR APPROVED EQUAL) © STA 112+15.0, RT 26.0'
 15 IN INV. OUT = 264.20
 EXISTING 12 IN INV. IN = 264.2±
 TOP OF SLAB ELEV. = 269.14
 REMOVE EXISTING CB © STA 112+14.0, RT 23.4' (SUBSIDIARY)
 FILL AND ABANDON EXISTING 153 FT X 18 IN CMP © STA 110+58.7, RT 24.4'
 TO STA 412+14.0, RT 23.4' (SUBSIDIARY)
 INTERCEPT EXISTING 12 IN CMP (SUBSIDIARY)
- STA 112+65.0, RT 11.0' TO STA 112+15.0, RT 11.0' CONSTRUCT 50 FT X 15 IN RCP CONSTRUCT CB-F @ STA 112+15.0, RT 11.0' 15 IN INV. IN = 264.10 15 IN INV. OUT = 264.10 GRATE ELEV. = 269.78
- 118+60.0, RT 11.0' TO STA 119+05.0, RT 11.0'
 CONSTRUCT 45 FT X 15 IN RCP
 CONSTRUCT DEEP SUMP (SEE DETAIL) CB-B © STA 119+05.0, RT 11.0'
 15 IN INV. OUT = 279.55
 GRATE ELEV. = 284.05
 CONNECT (2)-6 IN UNDERDRAIN PIPES TO NEW STRUCTURE
 (UNDERDRAIN TO MATCH CROWN WITH 15 IN INV. OUT)
- STA 116+32.0, RT 11.0' TO STA 118+60.0, RT 11.0' CONSTRUCT 226 FT X 15 IN RCP CONSTRUCT CB-B @ STA 118+60.0, RT 11.0' 15 IN INV. IN = 279.10 15 IN INV. OUT = 278.85 GRATE ELEV. = 284.15
- STA 114+00.0, RT 11.0' TO STA 116+32.0, RT 11.0' CONSTRUCT 229 FT X 15 IN RCP CONSTRUCT CB-F © STA 116+32.0, RT 11.0' 15 IN INV. IN (N) = 277.34 15 IN INV. IN (E) = 276.70 EXISTING 15 IN INV. IN = 277.1± 15 IN INV. OUT = 276.60 GRATE ELEV. = 283.40 INTERCEPT EXISTING 15 IN RCP (SUBSIDIARY)
- STA 116+32.0, RT 11.0' TO STA 116+31.1, RT 25.1' CONSTRUCT 15 FT X 15 IN RCP
 15 IN INV. OUT = 276.9±
 UTILIZE EXISTING CORE HOLE (W) FOR NEW PIPE PLUG EXISTING CORE HOLE (S) (SUBSIDIARY)
- 59 STA 112+65.0, RT 11.0' TO STA 114+00.0, RT 11.0' CONSTRUCT 134 FT X 15 IN RCP CONSTRUCT CB-F @ STA 114+00.0, RT 11.0' 15 IN INV. IN = 271.85 15 IN INV. OUT = 271.60

GRATE ELEV. = 276.35

STA 112+61.7, LT 50.2' TO STA 112+65.0, RT 11.0'

CONSTRUCT 61 FT X 15 IN RCP

CONSTRUCT CB-F @ STA 112+65.0, RT 11.0'

15 IN INV. IN (N) = 266.80

15 IN INV. IN (S) = 263.85

15 IN INV. OUT = 263.85

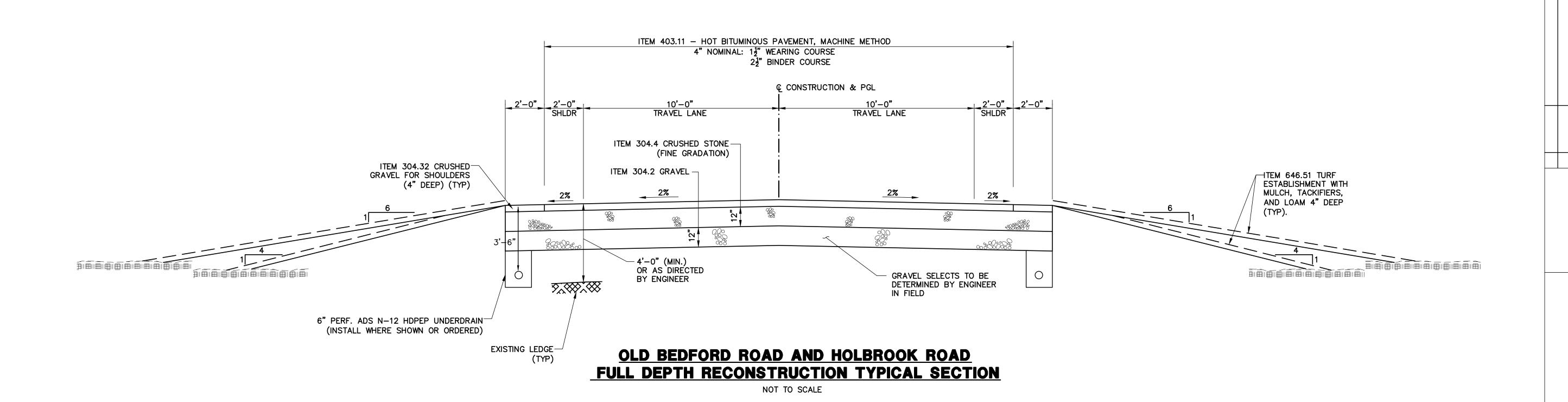
15 IN INV. @ OUTLET = 263.55

GRATE ELEV. = 271.30

CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL @ OUTLET

- STA 112+03.3, LT 68.0' TO STA 112+22.4, LT 70.1'
 CONSTRUCT 20 FT X 15 IN RCP
 CONSTRUCT 4-FT SPECIAL MANHOLE (SEE DETAIL) © STA 112+22.4, LT 70.1'
 15 IN INV. OUT = 261.00
 15 IN INV. © OUTLET = 260.85
 GRATE ELEV. = 263.95
 CONSTRUCT MORTAR RUBBLE MASONRY HEADWALL © OUTLET
 CONSTRUCT CLASS C STONEFILL PAD AT OUTLET AND BERM
 (SEE PLANS FOR LOCATION / LIMITS)
- R1 STA 129+43.5, LT 50.2' TO STA 129+32.7, RT 14.2'
 REMOVE CB @ STA 129+32.7, RT 14.2'
 REMOVE 65 FT X 15 IN HDPE
 REMOVE HEADWALL @ STA 129+43.5, LT 50.2' (SUBSIDIARY)
- R2 STA 307+74.0, RT 10.3' TO STA 307+63.0, LT 10.1' REMOVE CB © STA 307+63.0, LT 10.1' REMOVE 23 FT X 12 IN RCP
- R3 STA 308+36.0, RT 10.1' TO STA 307+74.0, RT 10.3' REMOVE CB © STA 307+74.0, RT 10.3' REMOVE 62 FT X 12 IN RCP
- R4 STA 312+68.4, RT 12.2' TO STA 312+54.1, LT 12.2' REMOVE CB @ STA 312+54.1, LT 12.2' REMOVE 28 FT X 12 IN RCP
- R5 STA 319+69.3, LT 13.0' TO STA 315+05.8, LT 10.7' REMOVE CB @ STA 315+05.8, LT 10.7' REMOVE 463 FT X 15 IN RCP
- R6 STA 211+59.5, LT 24.5' TO STA 319+69.3, LT 13.0' REMOVE CB © STA 319+69.3, LT 13.0' REMOVE 73 FT X 18 IN RCP
- R7 STA 107+57.80, RT 22.7' TO STA 110+58.7, RT 24.4' REMOVE CB @ STA 110+58.7, RT 24.4 REMOVE 300 FT X 18 IN RCP
- R8 STA 112+14.0, RT 23.4' TO STA 116+30.9, RT 24.9' REMOVE 410 FT X 15 IN CMP

					REVISION DESCRIPTION
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:	חשטשט	ביי ביי ביי	ROAD	SHIRE 03110	PROJ. 77-2015
	TOWN OF BED		24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSH	DATE: MAY 7, 2015
DEDFORD ROAD AND	BROOK ROAD		NOTIONION	D, NEW HAMPSHIRE	SCALE: AS SHOWN
OLD BEDFOR	HOLBRO	. (NECONS NECONS	BEDFORD, NE	SHEET: 17 OF 62



SECTIONS

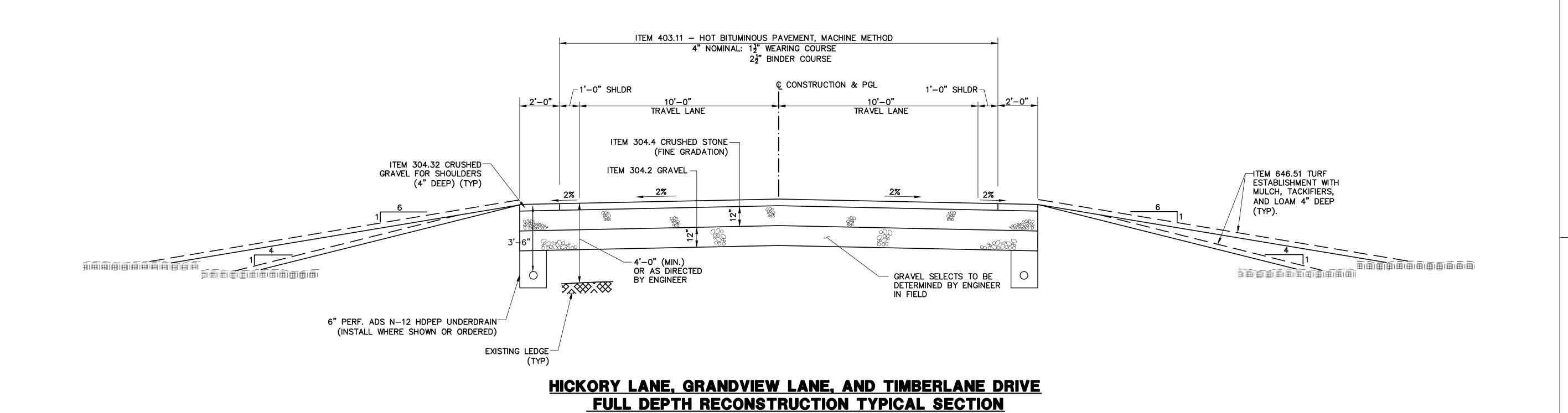
TYPICAL

F BEDFOI AMHERST RO HAMPSHIRE

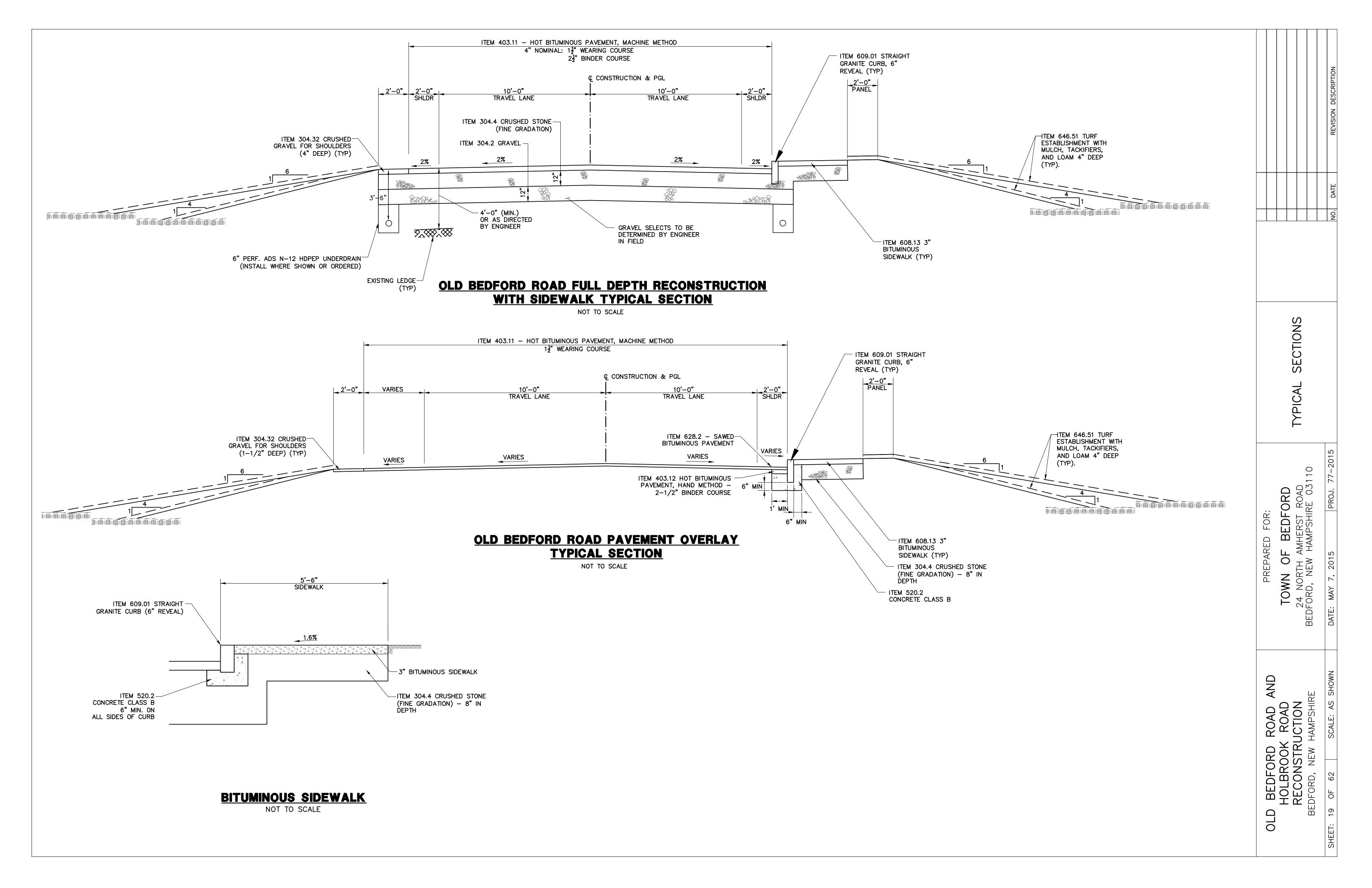
OF

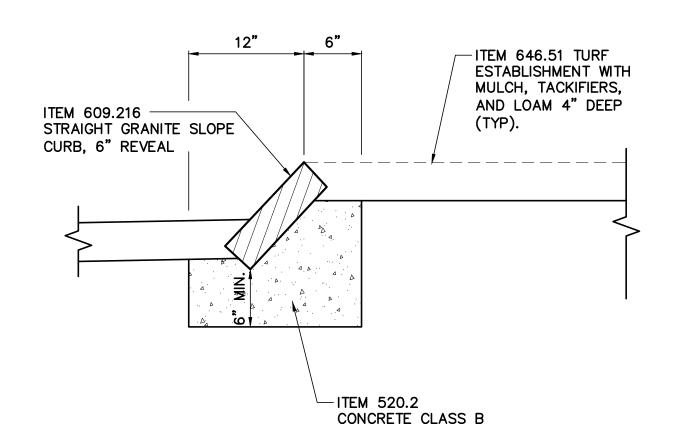
TOWN

OLD



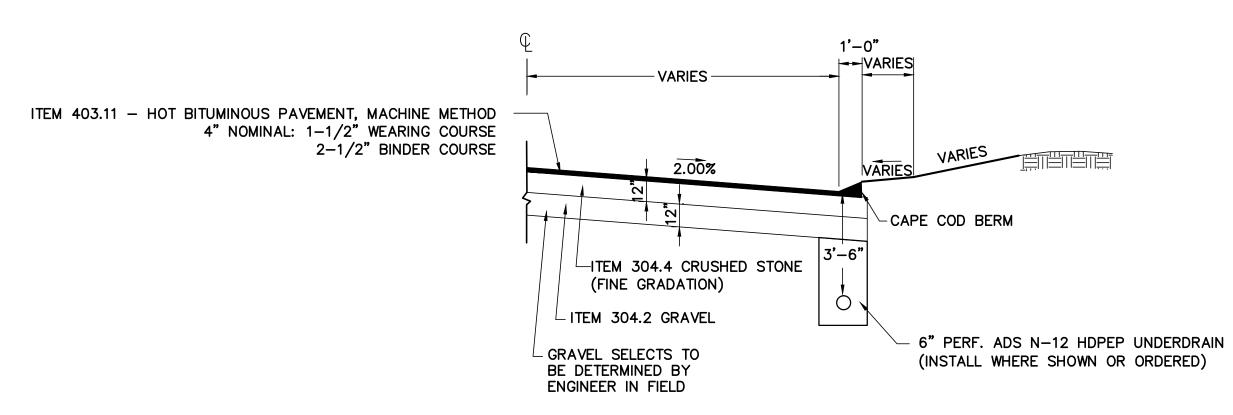
NOT TO SCALE





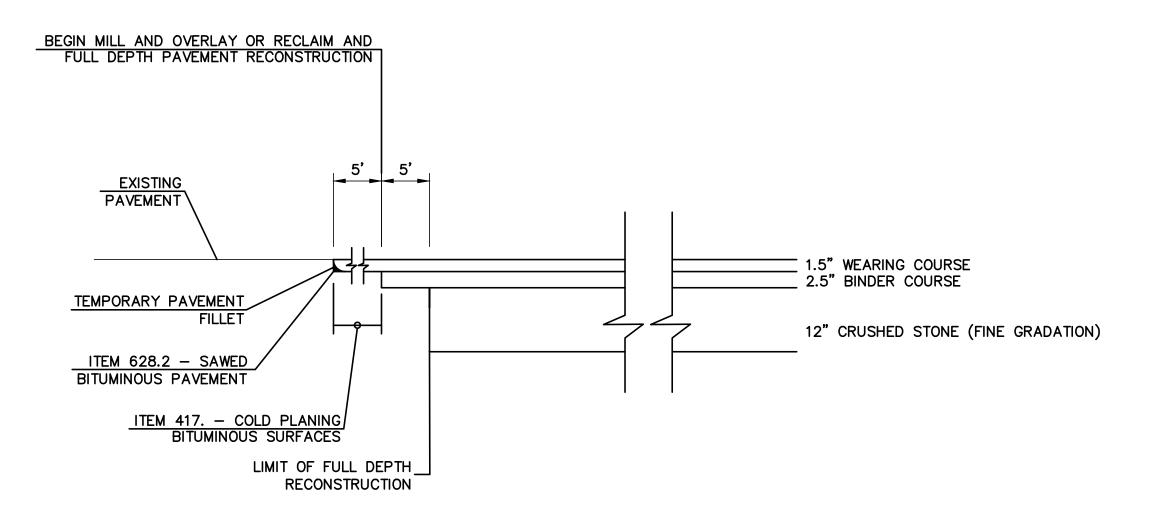
STRAIGHT GRANITE SLOPE CURB DETAIL

NOT TO SCALE



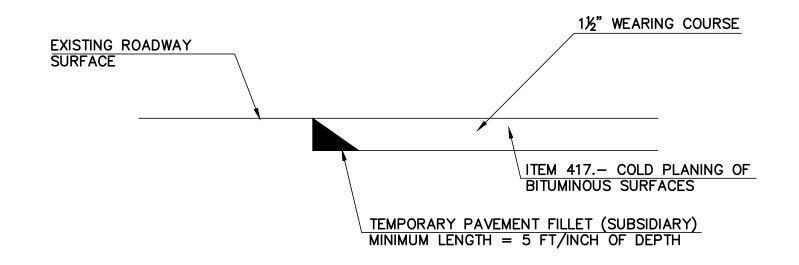
CAPE COD BERM SECTION

NOT TO SCALE



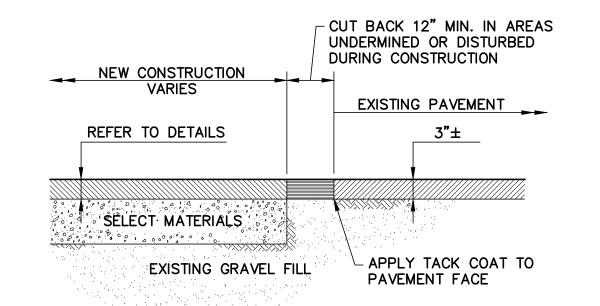
END PAVEMENT AND BASE COURSE TRANSITION

NOT TO SCALE



TEMPORARY PAVEMENT FILLET DETAIL

NOT TO SCALE



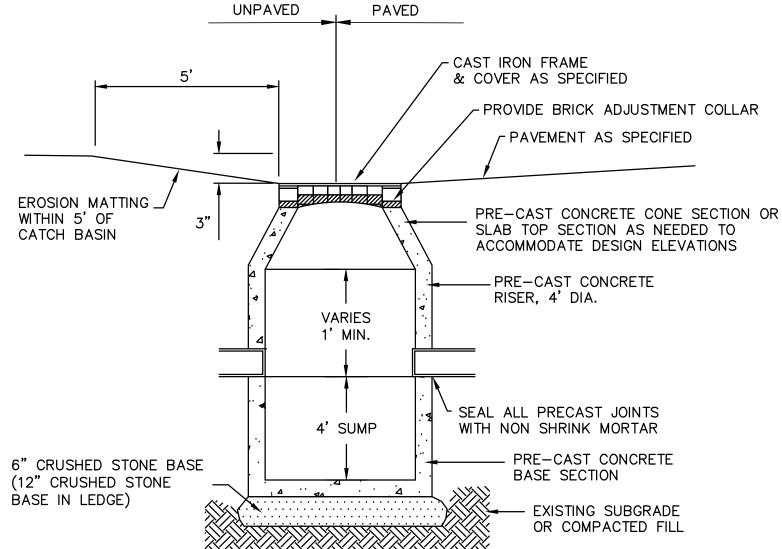
SAWCUT PAVEMENT SEALING PROCEDURE

- 1. CLEAN SAWED JOINTS WITH COMPRESSED AIR
- 2. APPLY JOINT SEAL MATERIAL FILLING FROM THE BOTTOM UP
- 3. THE HOT-SEAL MATERIAL SHALL COMPLETELY FILL THE SAWCUT SUCH THAT AFTER COOLING THE LEVEL OF THE SEALER WILL NOT BE GREATER THAT 1/8 INCH BELOW THE PAVEMENT SURFACE.

PAVEMENT SAW CUT

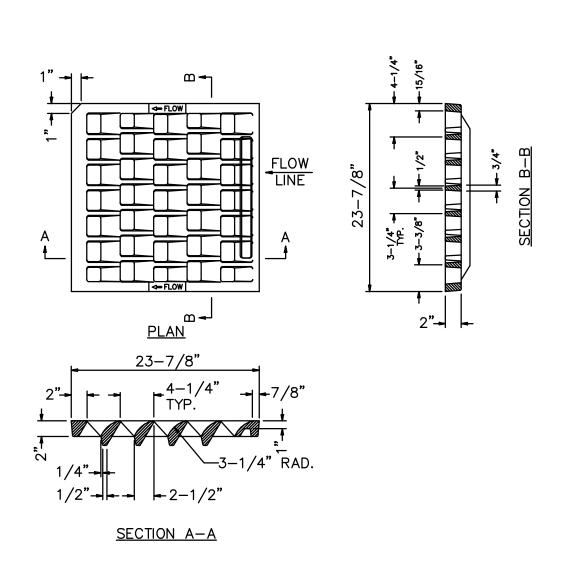
NOT TO SCALE

				REVISION DESCRIPTION
				40. DATE
		NOADWAI DEIAILS		
	TOWN OF REDEORD	24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSHIRE 03110	DATE: MAY 7, 2015 PROJ. 77-2015
BEDFORD ROAD AND	HOLBROOK ROAD	AFCONOLIGION PLACEMENT	IDFORD, NEW HAMPSHIRE	SCALE: AS SHOWN
OLD BEDFOR	HOLBRO	N D D J L	BEDFORD, NE	SHEET: 20 OF 62



TYPICAL DEEP SUMP CATCH BASIN DETAIL

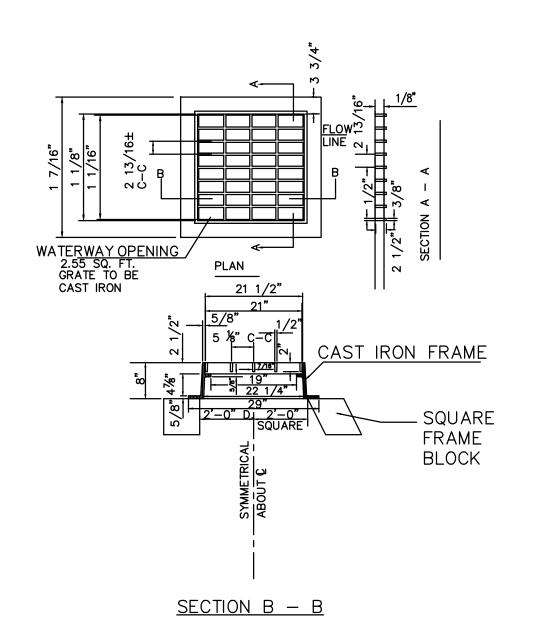
NOT TO SCALE



TYPE 'F' CATCH BASIN

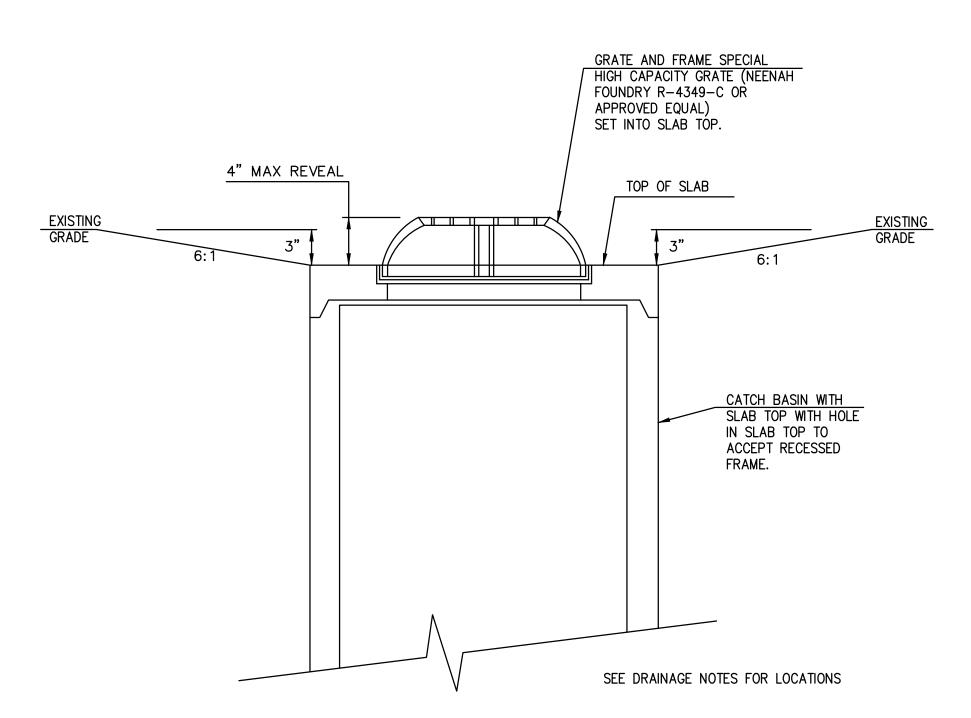
GRATE DETAIL

NOT TO SCALE

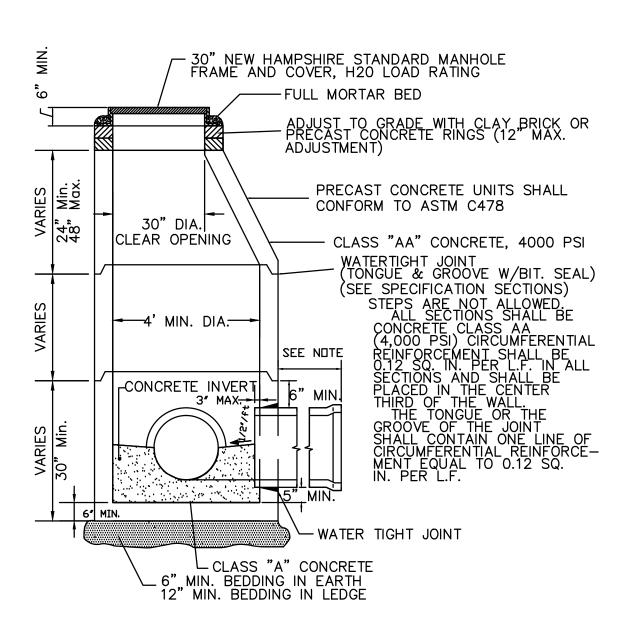


TYPE 'B' CATCH BASIN FRAME & GRATE DETAIL

NOT TO SCALE



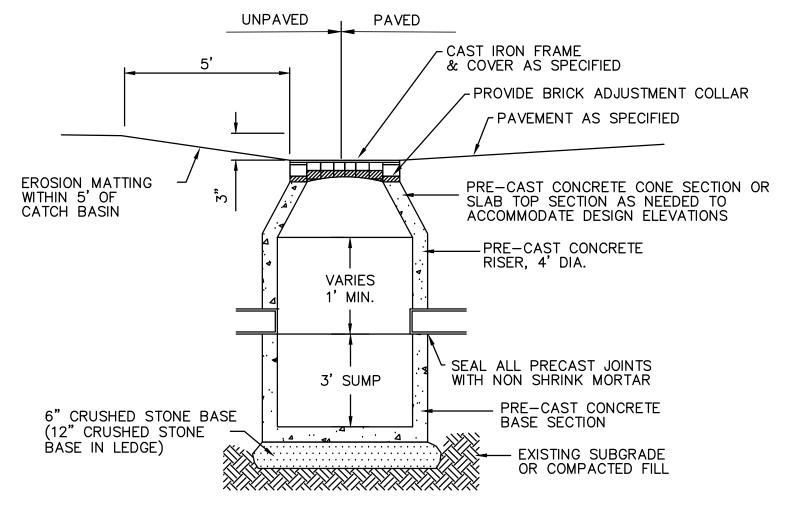
BEEHIVE GRATE, NEENAH
FOUNDRY MODEL R-4349-C
NOT TO SCALE



MATERIALS & CONSTRUCTION TO NHDOT STANDARDS

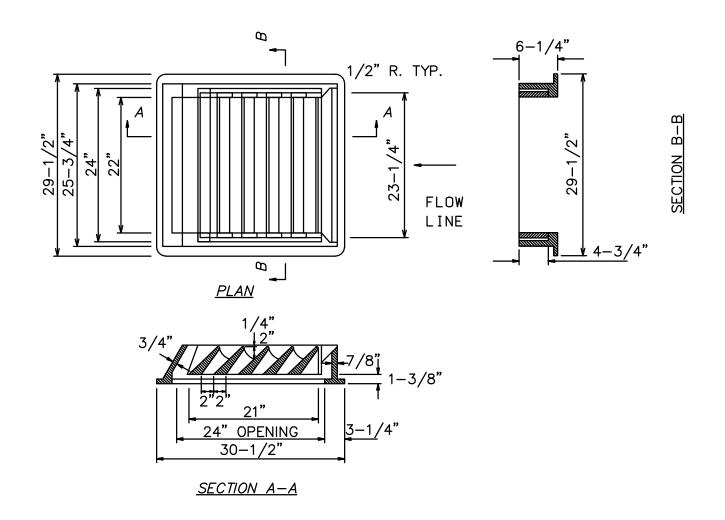
TYPICAL DRAIN MANHOLE DETAIL

NOT TO SCALE



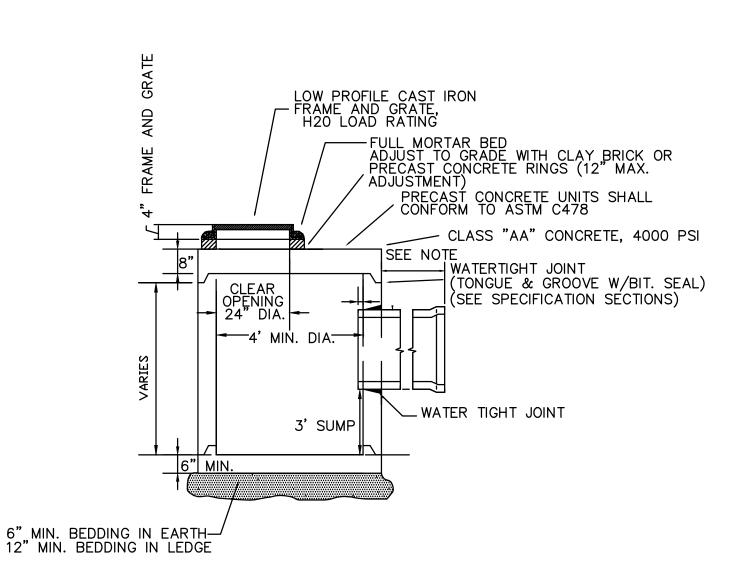
CATCH BASIN DETAIL

NOT TO SCALE



TYPE 'E' CATCH BASIN FRAME & GRATE DETAIL

NOT TO SCALE



MATERIALS & CONSTRUCTION TO NHDOT STANDARDS

TYPICAL SLAB TOP CATCH BASIN DETAIL NOT TO SCALE

OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE

S

DET,

DRAINAGE

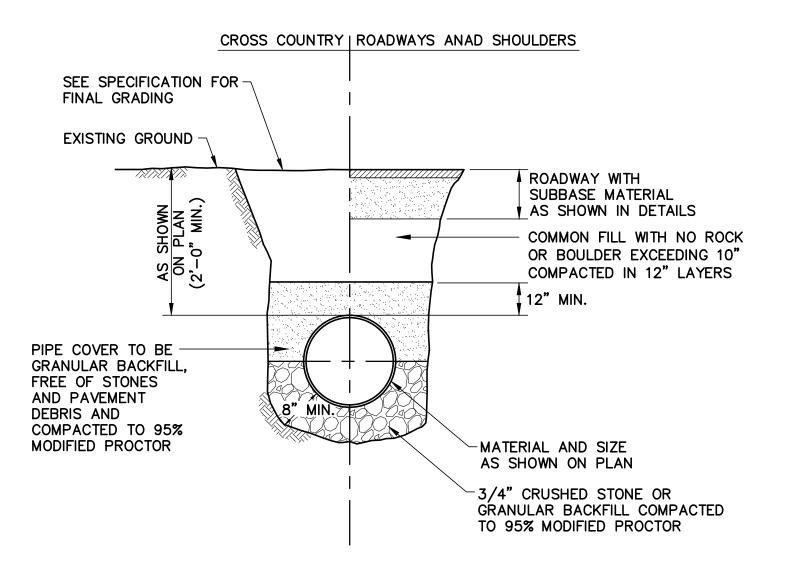
ROAD SOAD

BEDFO

OF

TOWN

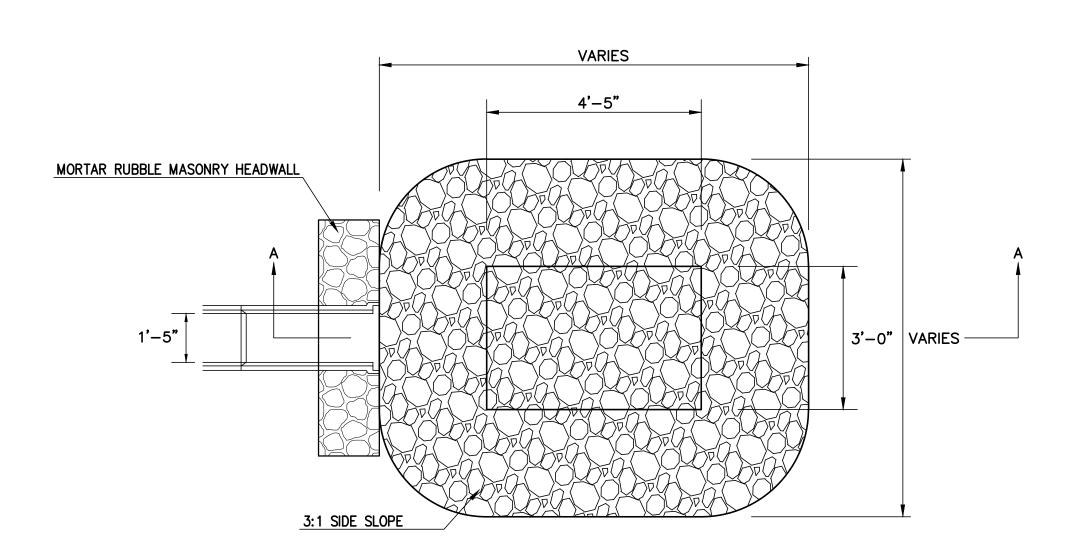
24 NORTH ABEDFORD, NEW

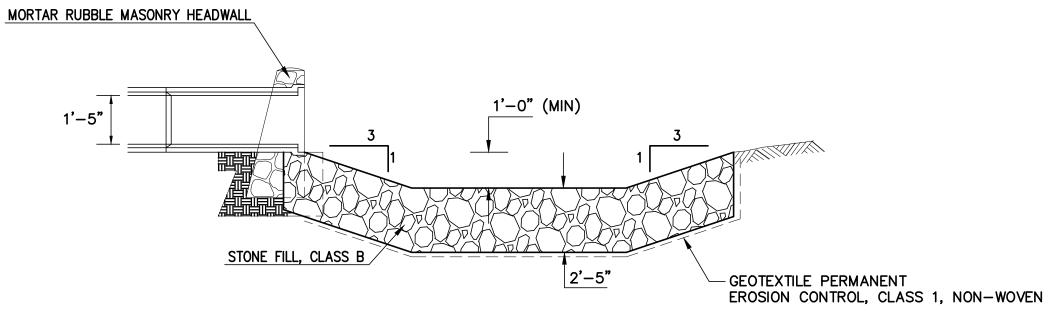


ALL EXCAVATION AND BACKFILL FOR TRENCH TO BE SUBSIDIARY TO PIPE CONSTRUCTION PAY ITEM.

DRAIN PIPE TRENCH

NOT TO SCALE





PLUNGE POOL DETAIL NOT TO SCALE

DIA. HEADWALL HEADWALL FILL PIPE HEADWALL BOTTOM WIDTH

D L H FH h W

12' 4'-3' 3'-9' 1'-1' 1'-3' 2'-0'

15' 6'-0' 4'-3' 1'-7' 1'-6' 2'-1'

18' 7'-0' 4'-6' 1'-10' 1'-6' 2'-2'

24' 9'-0' 5'-0' 2'-4' 1'-6' 2'-5'

30' 11'-0' 5'-6' 2'-10' 1'-6' 2'-6'

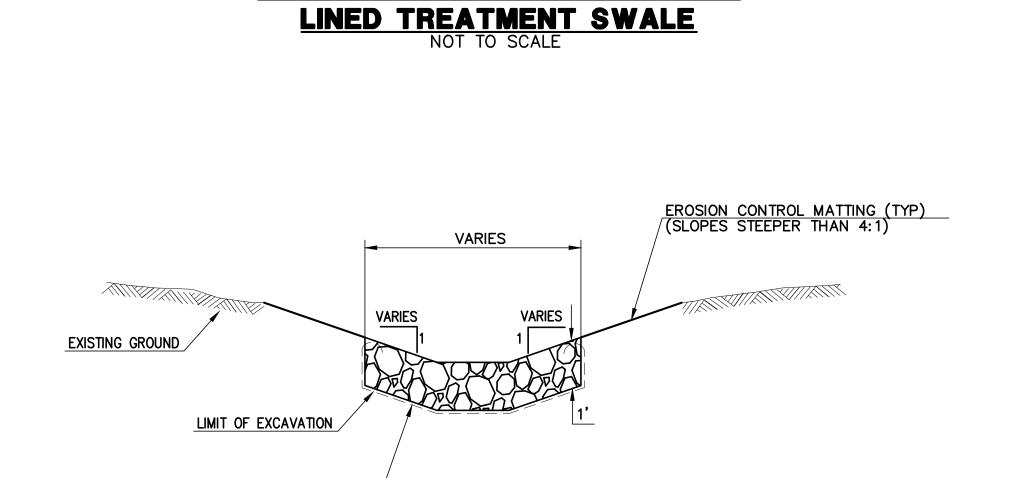
42' 15'-9' 6'-9' 4'-1' 1'-9' 2'-9'

48' 17'-9' 7'-3' 4'-7' 1'-9' 2'-10'

NOTE: ALL DIMENSIONS GIVEN IN FEET AND INCHES EXCEPT PIPE DIAMETER PROVIDE GROUVE END AT INLET HEADWALL AND TONGUE END AT DUTLET END HEADWALL AND TONGUE END AT DUTLET END HEADWALL AND SECTION SECTION SECTION A-A

MORTAR RUBBLE MASONRY HEADWALL DETAIL

NOT TO SCALE



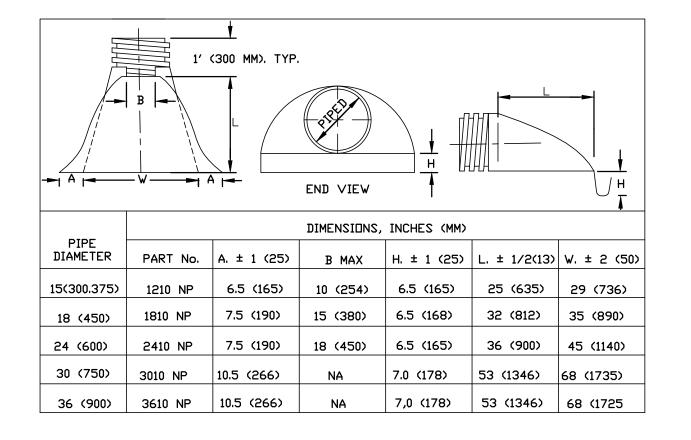
TURF REINFORCEMENT MATTING

-EXISTING TREES TO REMAIN WHERE POSSIBLE

EXISTING GRADE

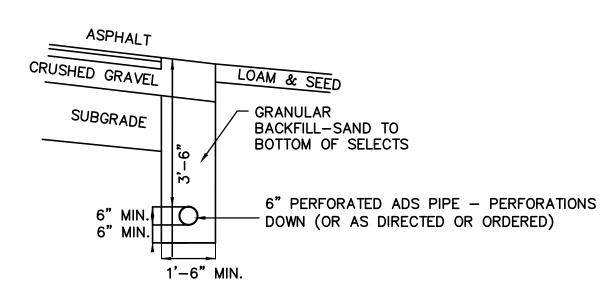
STONE FILL CHANNEL NOT TO SCALE

GEOTEXTILE PERMANENT
EROSION CONTROL, CLASS 1, NON-WOVEN



ADS END SECTION DETAIL

NOT TO SCALE



UNDERDRAIN DETAIL

NOT TO SCALE

			REVISION DESCRIPTION	
			DATE	
			NO.	
רפטבע		HIKE 05110	PROJ. 77-2015	
TOWN OF BEDE	24 NORIH AMHERSI	BEDFORD, NEW HAMPS	DATE: MAY 7, 2015	
IOI BROOK ROAD		NEW HAMPSHIRE	SCALE: AS SHOWN	
LOI BRO	ONO DIE	BEDFORD, NE	SHEET: 22 OF 62	

TURF REINFORCEMENT
MATTING, PROPEX LANDLOK

OR APPROVED EQUAL.

NOTES:

- 1. THE BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FEET BELOW FINAL GRADE.
- 2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, LARGE ROCKS, OR OTHER OBJECTIONABLE MATERIAL.
- 3. TOPSOIL AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE. STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
- 4. REMOVE ACCUMULATED SEDIMENT FROM POND AT COMPLETION OF PROJECT.
- 5. ANTI-SEEP COLLAR SHALL BE INSTALLED AS SHOWN TO PREVENT FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FEET FROM SIDES AND TOP OF THE PIPE AND 4 FEET BELOW THE PIPE.
- 6. ALL UPSTREAM CONSTRUCTION SHALL BE COMPLETED AND STABILIZED BEFORE MAKING DRAINAGE CONNECTIONS TO DOWNSTREAM INFILTRATION AREAS.
- 7. FINAL LANDSCAPING SHALL NOT BE DONE UNTIL AFTER FINAL CLEANING OF SEDIMENT FROM BASIN.
- 8. CLASS C STONE SHALL BE IN ACCORDANCE WITH NHDOT SPECIFICATIONS.
- 9. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OFF ALL NECESSARY COMPONENTS RELATED TO THE OUTLET STRUCTURE AND INFILTRATION BASIN FOR REVIEW AND APPROVAL BY THE ENGINEER.

EMERGENCY SPILLWAY/

SPECIAL MANHOLE -

MAX. WATER LEVEL = 263.95

WATER QUALITY

VOLUME

BOTT. ELEV. = 261.00

EMBEDMENT IN CASE OF OVER-EXCAVATION

DURING CLEANING

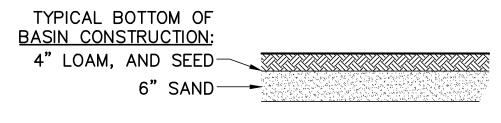
CONSTRUCT 1' MIN. OF

EROSION STONE ON ALL SIDES

AND BOTTOM TO STABILIZE

STRUCTURE (SUBSIDIARY)

TRASH RACK



BASIN BOTTOM

NOT TO SCALE



(TYP.)

#5 BARS -

(TYP.)

"(TYP.)

3' MIN. (TYP.)

FILL MANHOLE WITH 3000 PSI

CONCRETE TO DEPTH SHOWN

(SUBSIDIARY)

Deertongue, "Tioga" (Panicum clandestinum(Dichanthelium c.), "Tioga") 25%

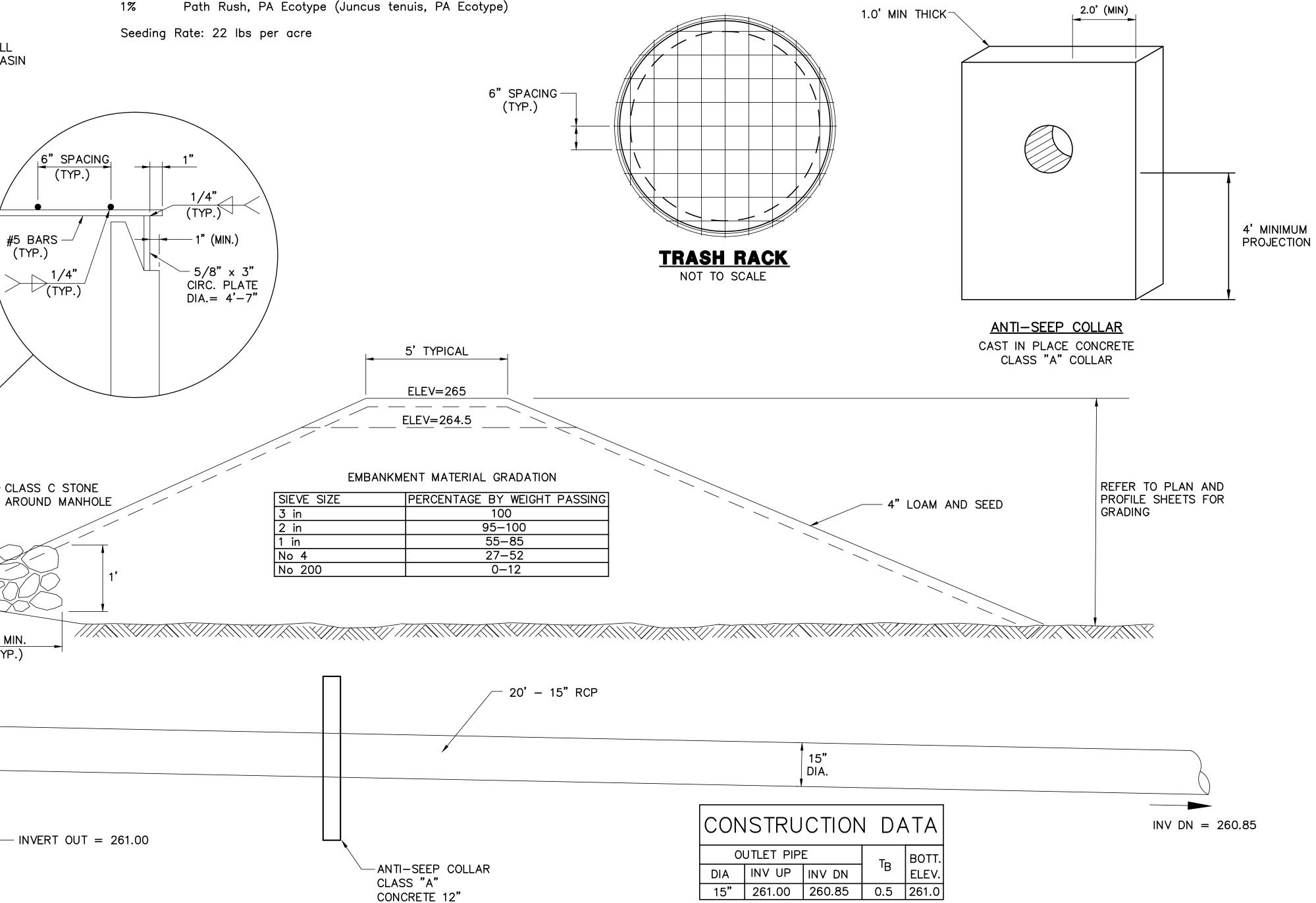
Virginia Wildrye, PA Ecotype (Elymus virginicus, PA Ecotype)

Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype) Autumn Bentgrass, PA Ecotype (Agrostis perennans, PA Ecotype) 5%

Ticklegrass (Rough Bentgrass), PA Ecotype (Agrostis scabra, PA Ecotype)

THICK

Path Rush, PA Ecotype (Juncus tenuis, PA Ecotype)



SEDIMENTATION BASIN OUTLET DETAIL

NOT TO SCALE

S

DETAIL

DRAINAGE

F BEDFOF AMHERST RO HAMPSHIRE

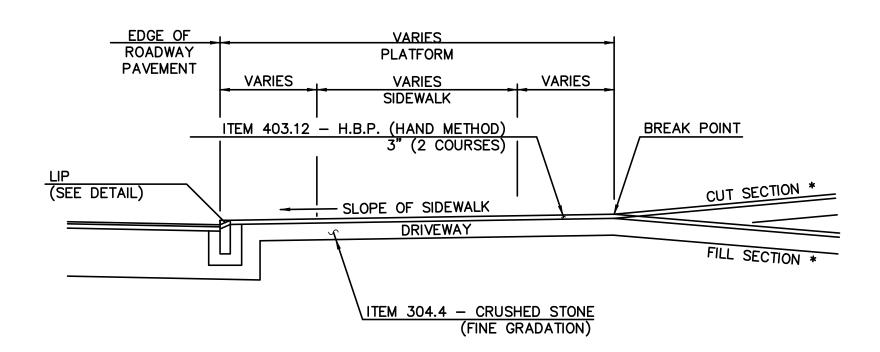
24 NORTH ABEDFORD, NEW

OF

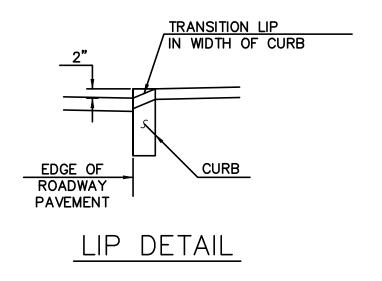
TOWN

0 |

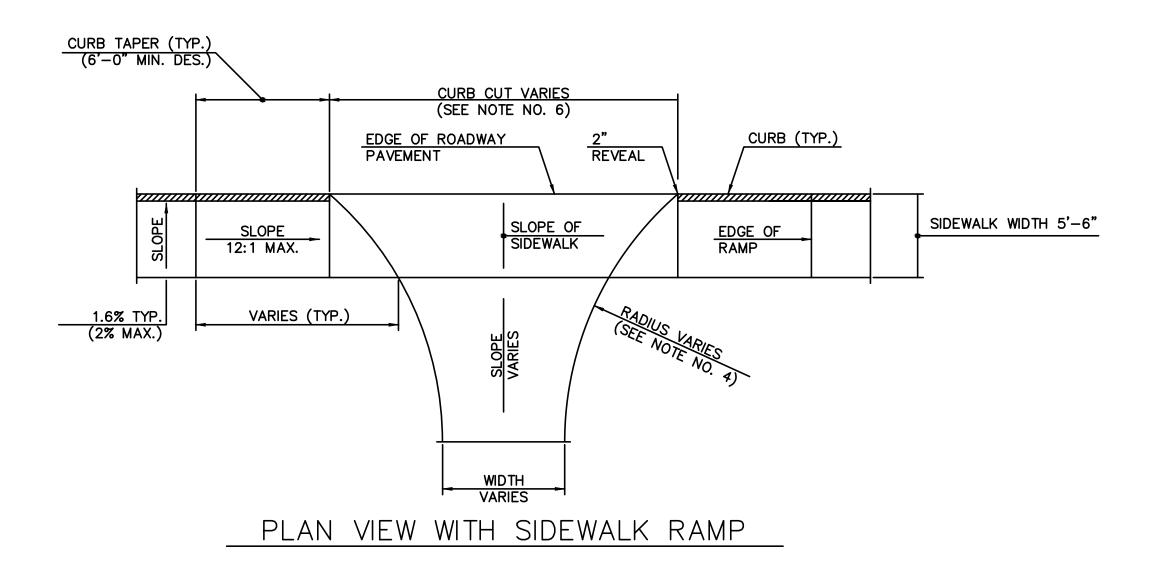
FOR:



TYPICAL URBAN CURBED DRIVE IN CUT/FILL SECTION



* SEE NOTE NOS. 1-3



S

DETAIL

DRIVEWAY

OF BEDFORD

AMHERST ROAD

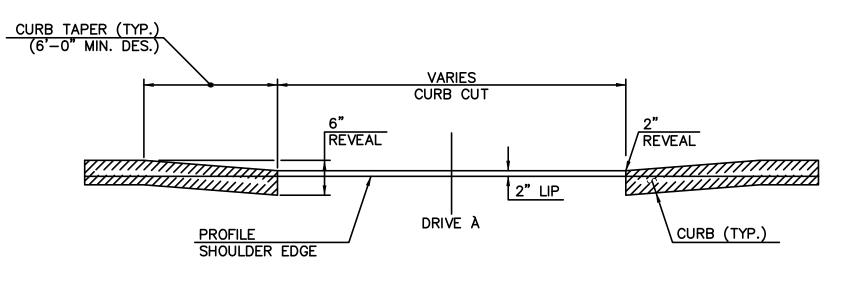
V HAMPSHIRE 03110

OF

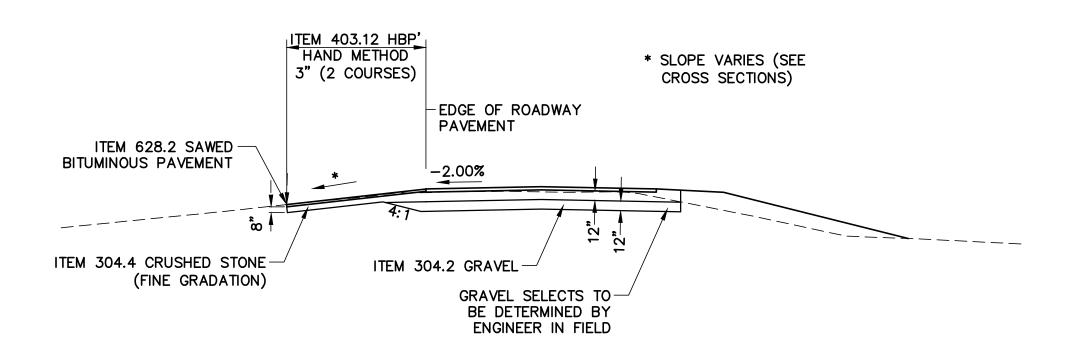
TOWN

0

FOR:



END VIEW



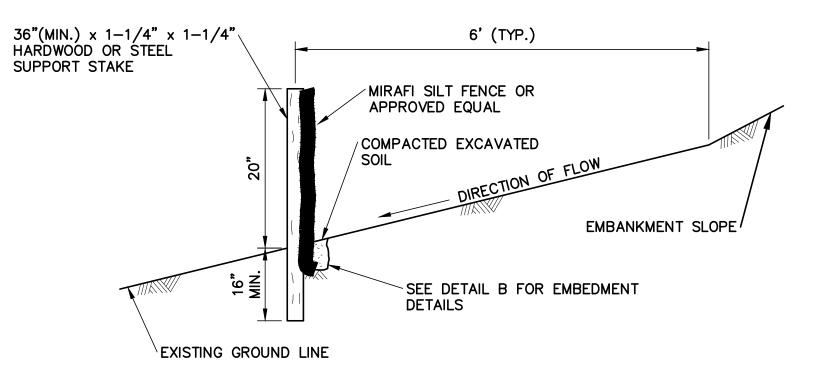
UNCURBED DRIVE DETAIL NOT TO SCALE

GRADES OF MAJOR ENTRANCES BEYOND THE PLATFORM SHOULD NOT EXCEED 8%. GRADES OF OTHER DRIVES BEYOND THE PLATFORM SHOULD NOT EXCEED 15%.

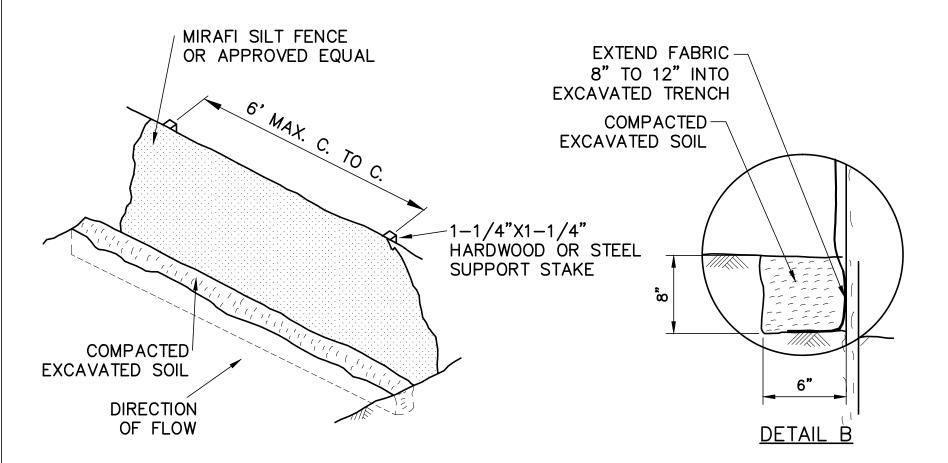
THE ALGEBRAIC DIFFERENCE BETWEEN TWO ADJACENT GRADES SHOULD NOT EXCEED 10%.

^{4.} FOR DESIGN CRITERIA AND OTHER ADDITIONAL INFORMATION, REFER TO THE NHDOT DRIVEWAY MANUAL.

CURBING CAN BE FLARED TO FIT DRIVE RADII IF APPROPRIATE OR ENDED AS DETAILED ABOVE.
 CURB CUTS FOR RESIDENTIAL DRIVES WITH ANGLES OF ENTRY OF 75^-90^ ARE TYPICALLY 25'-0".



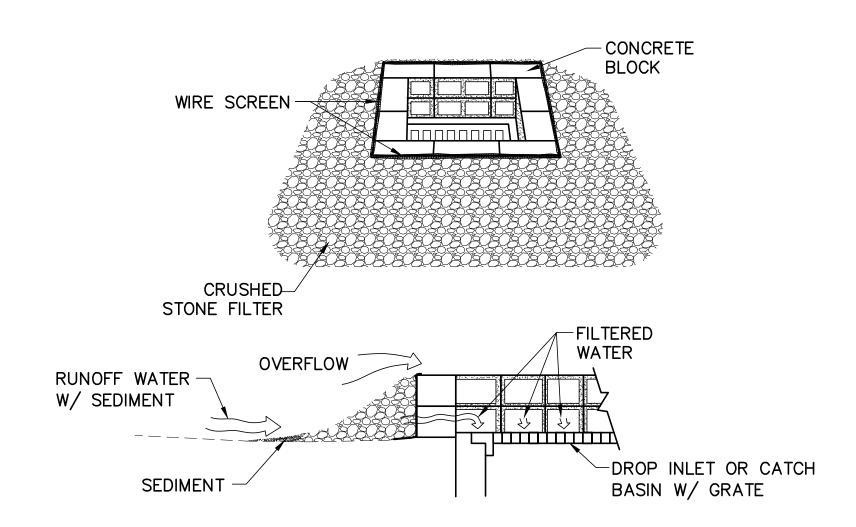
TOE OF SLOPE CONDITION



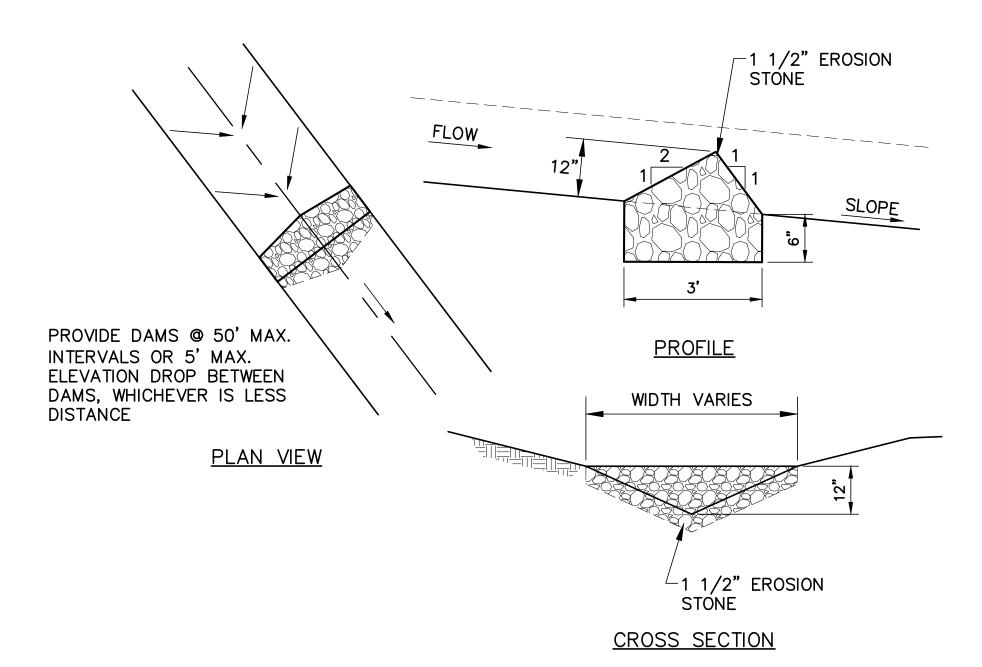
NOTES:

- 1. FILTER FABRIC SILT FENCE MUST BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
- 2. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH ONE—HALF (1/2) THE ABOVE GROUND HEIGHT OF THE FENCE.
- 3. ANY FENCE SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.

FILTER FABRIC SILT FENCE NOT TO SCALE

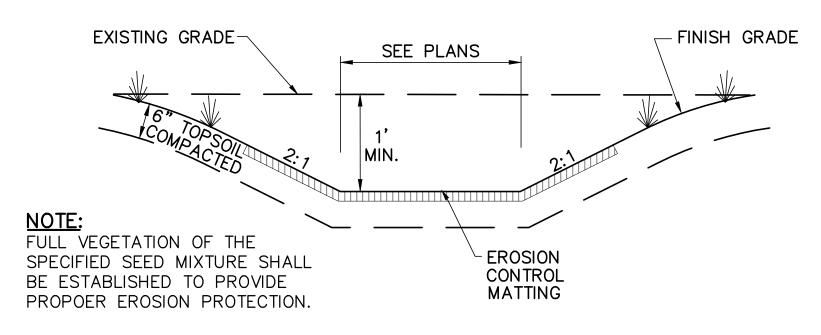


BLOCK & GRAVEL DROP INLET/CATCH BASIN (SEDIMENT FILTER) INLET PROTECTION NOT TO SCALE

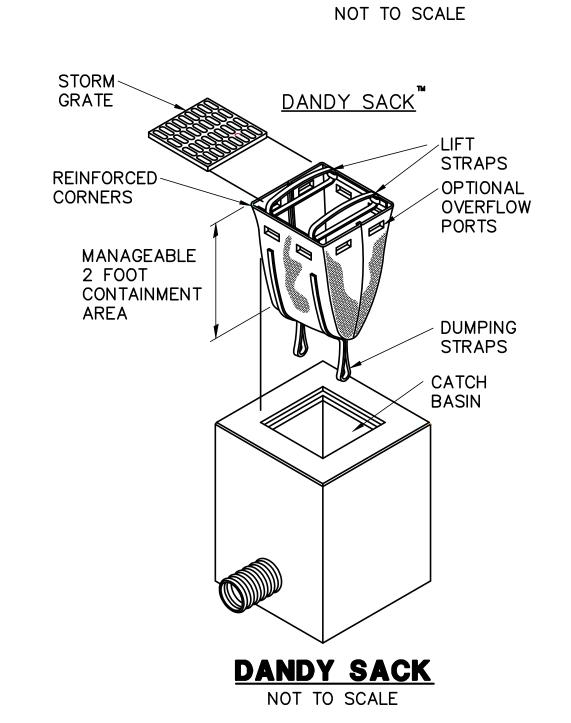


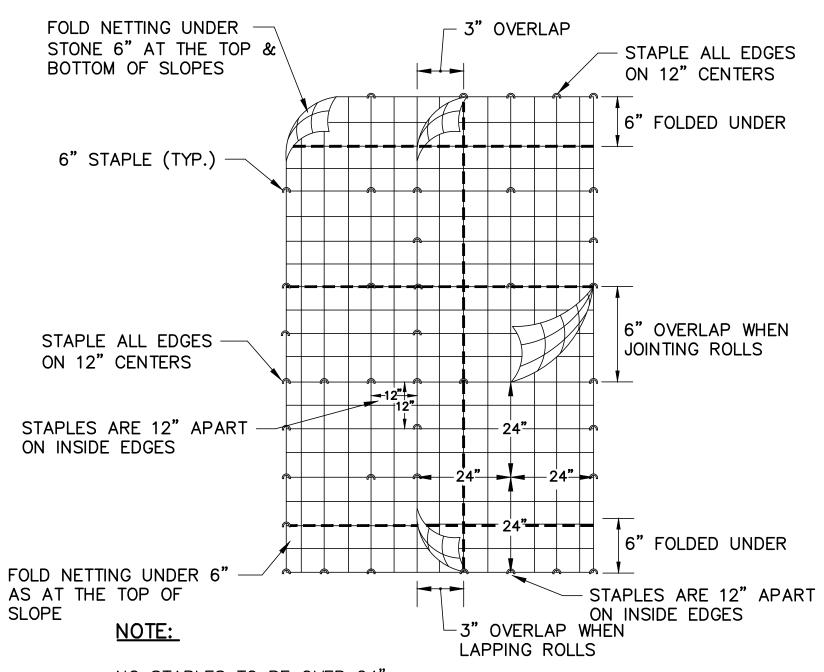
STONE GRADE STABILIZATION (CHECK DAM) STRUCTURES

NOT TO SCALE



GRASS-LINED SWALE

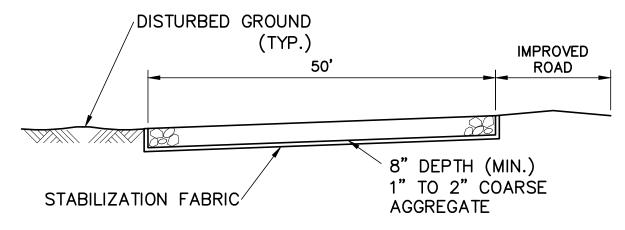




NO STAPLES TO BE OVER 24"
APART CENTER TO CENTER

MULCH NETTING INSTALLATION

NOT TO SCALE



IMPROVED ROAD SURFACE

NOTE:

STABILIZED CONSTRUCTION ENTRANCE THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING NEW ROCK AND REMOVING "CLOGGED" ROCK AS NECESSARY. A STOCKPILE OF ROCK MATERIAL WILL BE STORED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

GENERAL NOTES:

- 1. SILT FENCE SHALL CONSIST OF AN APPROVED PREFABRICATED SILT FENCE WITH FABRIC ATTACHED TO POSTS AND SHALL BE ASSEMBLED IN THE FIELD ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. WIRE MESH REINFORCEMENT AND/OR CLOSER POST SPACING MAY BE ORDERED BY THE ENGINEER IN AREAS WHERE HIGH RUNOFF VOLUMES ARE ANTICIPATED, OR LOW SPOTS WHERE SEDIMENT WILL BE COLLECTED.
- PRIOR TO BEGINNING EARTHWORK OPERATIONS AT LOCATIONS DIRECTED BY THE ENGINEER, SILT FENCE SHALL BE CONSTRUCTED ALONG THE TOE OF PROPOSED EMBANKMENT AT THE LIMITS OF CLEARING.

NO. DATE REVISION DESCRIPTION

EROSION CONTROL DETAILS

TOWN OF BEDFORD

24 NORTH AMHERST ROAD
BEDFORD, NEW HAMPSHIRE 03110

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ISTRUCTION
NEW HAMPSHIRE

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EROSION CONTROL SPECIFICATIONS:

- 1. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION" 2008. THE CONTRACTOR SHALL HAVE REFERENCE TO THIS BOOK.
- 2. RECOGNIZING THAT IMMEDIATE ATTENTION TO EROSION CONTROL PRACTICES DRAMATICALLY IMPROVES SOIL AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY. THE CONTRACTOR SHALL GIVE HIGH PRIORITY TO THE DAILY AND TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES. IMMEDIATE INSTALLATION OF PRACTICES USUALLY REDUCES LONG TERM COSTS TO THE CONTRACTOR AND PROVIDES BENEFITS TO THE DEVELOPER AND THE PUBLIC GOOD.
- 3. EROSION CONTROL PRACTICES ARE SHOWN ON THE PLANS WITH RESPECT TO LOCATION AS DETERMINED FROM EXISTING TOPOGRAPHY. CHANGES MAY BE INDICATED IN THE FIELD TO IMPROVE EROSION AND SEDIMENT CONTROL.
- 4. CONSTRUCTION SHALL PROCEED UNIT BY UNIT TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE WITHIN A UNIT. THIS PROCEDURE SHOULD RESULT IN THE EXPOSURE OF THE SMALLEST PRACTICAL LAND AREA AT ANY ONE TIME.
- 5. AREAS ADJACENT TO STREAMS CALL FOR PARTICULAR ATTENTION WITH REGARD TO SILT INTERCEPTION. INSTALL SILT FENCES AS SHOWN ON PLAN AND IN DETAIL BEFORE EARTHWORK COMMENCES. ADDITIONAL FENCING MAY BE REQUIRED AS WORK CONTINUES.
- 6. ALL DISTURBED AREAS AND ALL PROPOSED GRASSED AREAS SHALL HAVE TOPSOIL SPREAD (4" MINIMUM) AND BE LIMED, FERTILIZED, TILLED, SEEDED AND MULCHED. ALL SLOPES 3:1 (1 RISE ON 3 RUN) AND STEEPER SHALL HAVE MULCH HELD IN PLACE WITH NETTING (OR OTHER APPROVED BIODEGRADABLE MATTING MATERIAL), STAPLED AND STAKED. EACH AREA SHALL BE LIMED, FERTILIZED, PREPARED, SEEDED AND MULCHED (WITH ANCHORED NETTING AS REQUIRED) WITHIN 3 DAYS OF FINAL GRADING OR TEMPORARILY STABILIZED WITHIN 21 DAYS OF INITIAL DISTURBANCE. WHEN PERMANENT SEEDING CANNOT BE INSTALLED BY SEPTEMBER 15, TEMPORARY SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL BE INSTALLED IMMEDIATELY AND MAINTAINED IN THAT CONDITION UNTIL PERMANENT PRACTICES CAN BE INSTALLED IN THE FOLLOWING PLANTING SEASON.
- 7. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- 8. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE (SEE NOTE 10).
- 9. TEMPORARY STABILIZATION OF DISTURBED AREAS:

SEEDBED PREPARATION: TILL THREE INCHES DEEP MIXING IN FERTILIZER. APPLY LIME 2 TONS/ACRE (100#/1,000 SQ. FT.) FERTILIZE: UNIFORMLY APPLY NOT LESS THAN 300#/ACRE (7#/1,000 SQ. FT.) OF 10-20-20 OR EQUIVALENT.

<u>SEEDING:</u> SELECT APPROPRIATE SEEDING MIXTURE FROM TABLE 1 BELOW. SPREAD SEED UNIFORMLY. FIRM SOIL BY ROLLING OR PACKING; IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS.

MULCHING: MULCH ALL DISTURBED AREAS WITH 1-1/2 TO 2 TONS OF HAY OR STRAW PER ACRE (70-90#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND FLATTER SLOPES SUBJECT TO WASH OR WIND BLOWN. USE JUTE (OR OTHER BIODEGRADABLE) NETTING. STAKING AND STAPLING MAY BE REQUIRED.

AND STALLING MAT BE REGOINED.						
TAB	LE 1 - PLA	NT SELECTION A	AND SEEDING RATES			
SPECIES	PER ACRE	PER 1000 SQ.FT.	REMARKS			
WINTER RYE	2 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO DEPTH OF ONE INCH.			
OATS	2 1/2 BU OR 80 LBS.	2 LBS.	BEST FOR SPRING SEEDINGS. LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO DEPTH OF ONE INCH.			
ANNUAL RYE	40 LBS.	1 LB.	GROWS QUICKLY. BUT IS OF SHORT GRASS DURATION USE WHERE APPEARANCES ARE IMPORTANT. COVER SEED WITH NO MORE THAN 1/4 INCH OF SOIL. WITH MULCH, SEEDING MAY BE DONE THROUGHOUT GROWING SEASON. OTHERWISE SEED EARLY SPRING OR BETWEEN AUGUST 15 & SEPTEMBER 15.			

10. PERMANENT STABILIZATION OF DISTURBED AREAS:

SEED BED PREPARATION: TOPSOIL (SANDY LOAM, LOAM, OR SILT LOAM), FRIABLE, FREE OF TREE ROOTS, WEEDS, STONES MORE THAN 1-1/2 INCHES IN DIAMETER OR LENGTH SHALL BE PLACED OVER ALL DISTURBED AREAS IN A 4" (MINIMUM) THICK LAYER.

TOPSOIL: TOPSOIL SHALL BE FREE OF HERBICIDES AND TOXIC MATERIALS. TILL THREE INCHES DEEP MIXING IN THE FERTILIZER AND LIME. APPLY LIME AT RATES INDICATED IN TABLE "A".

<u>SEEDING:</u> SELECT APPROPRIATE SEEDING MIXTURE FROM <u>TABLE</u> "C". SPREAD SEED UNIFORMLY. FIRM SOIL BY ROLLING OR PACKING; IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS.

MULCHING: MULCH ALL DISTURBED AREAS WITH 1-1/2 TO 2 TONS OF HAY OR STRAW PER ACRE (70 - 90#/1,000 SQ. FT.). ANCHOR MULCH ON ALL SLOPES 3:1 OR STEEPER AND ON FLATTER SLOPES SUBJECT TO WASH (WATERWAYS AND/OR WINDBLOWN) USING BIODEGRADABLE NETTING (OR OTHER APPROVED BIODEGRADABLE MATTING MATERIAL), WITH STAKING AND STAPLING.

TABLE "A"-LIM	E APPLICATION	ON RATES
EXISTING SOIL pH	LIMESTONE '	TO BE ADDED
EXISTING SOIL PIT	TONS/ACRE	POUNDS/CY
4.0-4.4	3	12
4.5-4.9	2	8
5.0-5.4	1	4
UNKNOWN	2	8

TABLE "C" — SEEDING GUIDE					
		SOIL DRAII	NAGE		
<u>USE</u>	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL <u>DRAINED</u>	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A B C D	FAIR POOR POOR FAIR FAIR	GOOD GOOD GOOD FAIR EXCELLENT	GOOD FAIR EXCELLENT GOOD EXCELLENT	FAIR FAIR GOOD EXCELLENT POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNEL WITH FLOWING WATER	A C D	GOOD GOOD GOOD	GOOD EXCELLENT EXCELLENT	GOOD EXCELLENT EXCELLENT	FAIR FAIR FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSABLE LANDS, AND LOW INTENSITY USE RECREATION SITES	A B C D	GOOD GOOD FAIR	GOOD GOOD EXCELLENT GOOD	GOOD FAIR EXCELLENT GOOD	FAIR POOR FAIR EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F G	FAIR FAIR	EXCELLENT EXCELLENT	EXCELLENT EXCELLENT	<u>2/</u> <u>2/</u>

GRAVEL PIT — SEE PM-NH-24 RECOMMENDATIONS REGARDING RECLAMATION OF SAND AND GRAVEL PITS. *

- 1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE "D".
- 2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREAS AND ATHLETIC FIELDS.
 - * SEE "VEGETATING NEW HAMPSHIRE SAND AND GRAVEL PITS; TECHNICAL NOTE PM-NH-24, UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, REVISION APRIL, 1991.
- 11. SEEDING MIXTURES FOR GRASSED TREATMENT SWALES, IF APPLICABLE, AS SPECIFIED BY THE USDA NATURAL RESOURCES CONSERVATION SERVICE. WOODSVILLE NH ARE:

TABLE "E" -	MIXTURES &	RATES
MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A. TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 <u>2</u> 42	0.45 0.45 <u>0.05</u> 0.95

SITE PREPARATION, LIME, SEED AND MULCH SHALL BE AS IN ITEM 8 ABOVE.

- 12. TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED; B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
- C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN
- INSTALLED; OR D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

MAINTENANCE: DURING THE CONSTRUCTION PERIOD AND UNTIL SUCH TIME AS THE LONG TERM VEGETATION IS ESTABLISHED TO A 70% VEGETATIVE STAND.

- A. DISTURBED AREAS WILL BE FERTILIZED AND RESEEDED.
- B. CATCH BASINS WILL BE CHECKED AND CLEANED AS NECESSARY.C. DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND
- C. DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.
- D. THE SILT FENCES AND HAYABLE DIKES WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT—CIRCUITING.
- 13. REFER TO "EROSION AND SEDIMENT CONTROL PLAN" PRIOR TO ANY SITE DISTURBANCE. CONTACT ENGINEER FOR COPIES OF PLAN.

INSPECTIONS: THE ENGINEER SHALL BE CONTACTED ON A REGULAR BASIS TO INSPECT ALL EROSION CONTROL PRACTICES AS WELL AS THE MAINTENANCE OF THE EROSION CONTROL COMPONENTS. REFER TO CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. EROSION CONTROL PRACTICES SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

- 14. ALL TREATMENT SWALES, DITCHES, AND LEVEL LIP SPREADERS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- 15. FOR SPECIAL WINTER CONSTRUCTION CONSIDERATIONS, THE CONTRACTOR SHALL REFER TO THE "EROSION & SEDIMENT CONTROL PLAN".
- 16. THIS PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430.53 AND CHAPTER AGR 3800 RELATIVE TO SPECIES.

TABLE "D" -	- MIXTURES & RATES	
MIXTURE	POUNDS PER ACRE	POUNDS PER 1.000 SQ. FT.
A. TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 <u>2</u> 42	0.45 0.45 <u>0.05</u> 0.95
B. TALL FESCUE CREEPING RED FESCUE CROWN VETCH OR FLATPEA TOTAL	15 10 15 <u>30</u> 40 or 55	0.35 0.25 0.35 <u>0.75</u> 0.95 or 1.35
C. TALL FESCUE CREEPING RED FESCUE BIRDSFOOT TREFOIL TOTAL	20 20 <u>8</u> 48	0.45 0.45 <u>0.20</u> 1.10
D. BIRDSFOOT TREFOIL REDTOP TOTAL	20 <u>10</u> 30	0.50 <u>0.20</u> 0.70
E. TALL FESCUE FLATPEA TOTAL	20 <u>30</u> 50	0.45 <u>0.75</u> 1.20
F. CREEPING RED FESCUE 1/ KENTUCKY BLUEGRASS 1/ TOTAL	50 <u>50</u> 100	1.15 <u>1.15</u> 2.30
G. TALL FESCUE 1/ 1/ FOR HEAVY USE ATHLETIC FIEL	150 DS CONSULT THE UNIVERSITY	3.60 OF NEW

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

OTHER SEED MIXTURES AND SEEDING RATES AS RECOMMENDED BY THE USDA — NATURAL RESOURCES CONSERVATION SERVICE MAY BE USED WITH PRIOR WRITTEN PERMISSION FROM THE ENGINEER.

CONSTRUCTION SEQUENCE:

- 1. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION CONFERENCE WITH TOWN OFFICIALS PRIOR TO ANY WORK COMMENCING ON SITE.
- 2. FELL AND CLEAR TREES, AS REQUIRED. PLACE JOB TRAILER AT SPECIFIED LOCATION AND INSTALL CONSTRUCTION ENTRANCE(S). STABILIZE THE CONSTRUCTION ENTRANCE(S) WITH COARSE AGGREGATE 8 INCHES (MINIMUM) IN DEPTH, ON TOP OF A GEOTEXTILE, TO PREVENT OFF—SITE TRACKING BY VEHICLES AND EQUIPMENT.
- 3. INSTALL SILT FENCE AT ALL LOCATIONS INDICATED ON PLAN AND AT OTHER LOCATIONS AS DETERMINED BY THE ENGINEER. INSTALL OTHER TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO EARTHWORK COMMENCING.
- 4. GRUB SITE AND DISPOSE OF DEBRIS, AS NECESSARY; CONTRACTOR TO LEGALLY DISPOSE OF DEBRIS OFF THE SITE.
- 5. STOCKPILE TOPSOIL AND INSTALL ASSOCIATED EROSION CONTROL MEASURES, I.E., SILT FENCE, AND MULCH.
- 6. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE) AND SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- 7. INSTALL PROPOSED CLOSED DRAINAGE SYSTEMS.
- 8. REMOVE EXISTING PAVEMENT AND SELECT MATERIAL AND PLACE SELECT MATERIALS AND PAVEMENT FOR THE LIMITS OF THE PROPOSED ROADWAY IMPROVEMENTS. THE LIMITS OF THE ROADWAY IMPROVEMENTS SHALL BE STABILIZED WITHIN 72 HOURS AFTER GRADING.
- 9. INSPECT ALL DISTURBED AREAS ON A WEEKLY BASIS AND AFTER EVERY ONE—HALF INCH OF RAINFALL. FOLLOWING THESE INSPECTIONS, INSTALL ANY AND ALL TEMPORARY DRAINAGE, EROSION, AND SEDIMENT CONTROL PRACTICES AS INDICATED OR AS REQUIRED, I.E., DIVERSION CHANNELS, BERMS, DRAINS, DITCHES, SILT SACKS, SILT FENCES, SEED AND MULCH, OR ANY OTHER BEST MANAGEMENT PRACTICES AS RECOMMENDED AND SPECIFIED IN THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS OF NEW HAMPSHIRE" (USDA SOIL CONSERVATION SERVICE).
- 10. PLACE TOPSOIL, COMPLETE PERMANENT FERTILIZING, LIMING, SEEDING AND MULCHING, AND INSTALL LANDSCAPE PLANTING.
- 11. CLEAN AND RESTORE SILT DESTINATION SITES. REMOVE OTHER EROSION CONTROL PRACTICES ON A TIMELY BASIS AS PERMANENT MEASURES TAKE HOLD. SPOT FERTILIZE, SEED, AND MULCH AS REQUIRED. NO RUNOFF SHALL BE DIRECTED TO THE PERMANENT MEASURES UNTIL THEY ARE ESTABLISHED.
- 12. INSPECT AND MAINTAIN GRADING, EROSION CONTROL AND SEDIMENT CONTROL PRACTICES WEEKLY AND INSPECTION SHOULD OCCUR AFTER EVERY 0.5" OR GREATER RAINFALL WITHIN A 24 HOUR PERIOD
- 13. REFER TO "EROSION AND SEDIMENT CONTROL PLAN" FOR ADDITIONAL DETAILS RELATIVE TO THE REQUIRED CONSTRUCTION SEQUENCE. MAINTENANCE OF ALL EROSION CONTROL COMPONENTS SHALL BE AN ONGOING PRACTICE AND IN STRICT ACCORDANCE WITH THE APPROVED PLAN.

SPECIAL WINTER CONSIDERATIONS

THE MAJOR FOCUS OF WINTER EROSION AND SEDIMENT CONTROL IS THE PERIODS OF INTENSE RUNOFF ASSOCIATED WITH MID-WINTER THAWS AND RAINSTORMS, AND THE SPRING MELT.

FROZEN GROUND MAKES THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES VERY DIFFICULT. INSTALLATION SHOULD TAKE PLACE WELL BEFORE THE GROUND FREEZES. MAINTENANCE IN WINTER WILL BE MUCH MORE TIME CONSUMING AND DIFFICULT THAN IN THE SUMMER. THE OVERALL CONSTRUCTION SCHEDULE AND THE WEEKLY WORK SCHEDULE WILL BE DEVELOPED TO INCREASE TIME, EFFORT, AND MANPOWER DEVOTED TO MAINTAINING THE EROSION AND SEDIMENT CONTROL MEASURES.

INTENSE RUNOFF IN MID-WINTER THAWS AND RAINSTORMS, AND THE SPRING MELT PERIOD, CAN RESULT IN MORE SEVERE EROSION AND SEDIMENTATION PROBLEMS THAN RUNOFF FROM SUMMER STORMS. THE SOIL IS OFTEN COMPLETELY SATURATED WITH WATER, AND IS ALSO OFTEN UNDERLAIN BY A FROST LAYER. BOTH OF THESE FACTORS RESULT IN A GREATER PERCENTAGE OF THE RAIN OR MELTWATER RUNNING OVER THE GROUND SURFACE. WINTER AND SPRING RAINSTORMS ARE OFTEN HEAVIER AND MORE INTENSE THAN SUMMER SHOWERS. FOR THESE REASONS, EROSION AND SEDIMENTATION CAN BE ESPECIALLY SEVERE IN MID-WINTER THAWS AND THE SPRING MELT.

- 1. CONTROL MEASURES FOR WINTER CONSTRUCTION:
- A. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
- B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS: AND
- C. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF GRAVEL PER NHDOT ITEM.
- D. MINIMIZE DISTURBED AREA AND TIME OF DISTURBANCE: DISTURBED AREA AND LENGTH OF DISTURBANCE SHALL BE MINIMIZED ESPECIALLY BETWEEN OCTOBER 15TH AND MAY 1ST.
- E. GRASSED OR RIP RAPPED SWALES AND DITCHES: INSTALLATION WILL OCCUR BEFORE GROUND FREEZES. CHANNELS ARE TO BE STABILIZED WITH STONE, RIPRAP, OR VEGETATION IMMEDIATELY. INSPECTIONS ARE TO BE FREQUENT WITH REMOVAL OF ANY FLOW BLOCKAGE CAUSED BY ICE OR SEDIMENT.
- F. MULCHING: MULCH ALONE <u>SHOULD NOT</u> BE CONSIDERED AN ADEQUATE EROSION AND SEDIMENT CONTROL TECHNIQUE FOR AREAS THAT ARE DISTURBED IN THE WINTER OR SPRING. MULCH IS EASILY WASHED AWAY BY INTENSE RUNOFF FLOWING OVER SATURATED OR FROZEN SOIL. IT IS ESSENTIAL THAT MULCH BE LAID DOWN IN SUCH A WAY THAT IT WILL NOT BLOW OR WASH AWAY.
- G. SILT FENCE: INSTALLATION IS REQUIRED BEFORE THE GROUND FREEZES, OTHERWISE STAKES WILL BE DIFFICULT TO DRIVE. INSPECT FREQUENTLY AND REMOVE ANY COLLECTED SEDIMENT PERIODS IN ORDER TO PROVIDE AS MUCH CAPACITY AS POSSIBLE.
- H. SNOW FENCE: INSTALLATION IS REQUIRED BEFORE THE GROUND FREEZES OTHERWISE STAKES WILL BE DIFFICULT TO DRIVE. FENCES MUST BE PLACED LIBERALLY AROUND THE WORK SITE TO KEEP SOIL DISTURBANCE TO AN ABSOLUTE MINIMUM.
- I. STONE CHECK DAMS: PER DETAIL THE PLACEMENT WILL OCCUR IN SWALES AND DITCHES AFTER FINAL GRADING AND IS TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED.
- 2. INSPECTION AND MAINTENANCE

INSPECTION OF EROSION AND SEDIMENT CONTROL MEASURES IS REQUIRED MORE FREQUENTLY IN THE WINTER AND SPRING THAN IN THE SUMMER. CAREFUL ATTENTION MUST BE GIVEN TO WEATHER PREDICTIONS. INSPECTION OF ALL CONTROL MEASURES WILL BE ONGOING TO ENSURE THAT STRUCTURES WILL MANAGE THE POTENTIALLY HEAVY AND INTENSE RUNOFF. CONSTANT MAINTENANCE OF CRITICAL CONTROL MEASURES MAY BE NECESSARY DURING THE WINTER AND EARLY SPRING TO PREVENT FAILURE OR OVERLOADING OF CONTROL MEASURES. A SECOND LINE OF CONTROL WILL BE QUICKLY INSTALLED IF PROBLEMS OCCUR. A SUBSTANTIAL AMOUNT OF TIME, EQUIPMENT, AND MANPOWER SHALL BE DEVOTED TO EROSION AND SEDIMENT CONTROL.

3. FOLLOW—UP

INSTALLATION OF PERMANENT VEGETATIVE CONTROLS WILL BE REQUIRED AS EARLY AS IS PRACTICAL AT THE BEGINNING OF THE GROWING SEASON.

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EROSION CONTROL NOTES

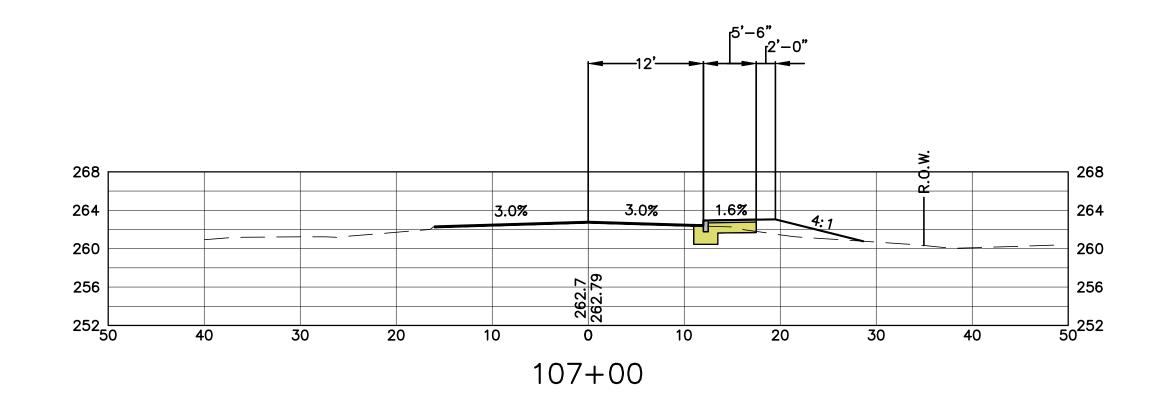
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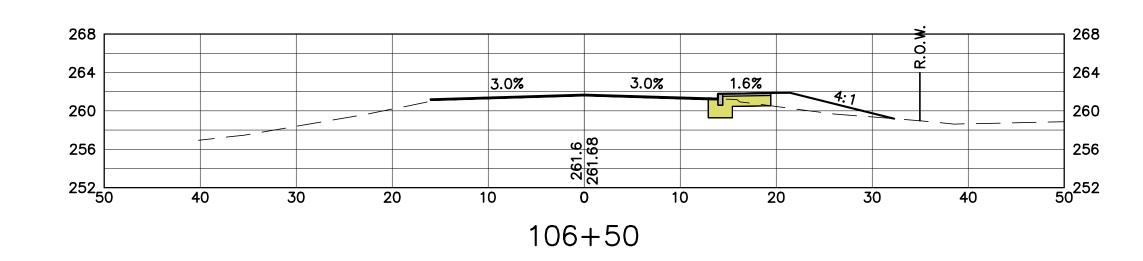
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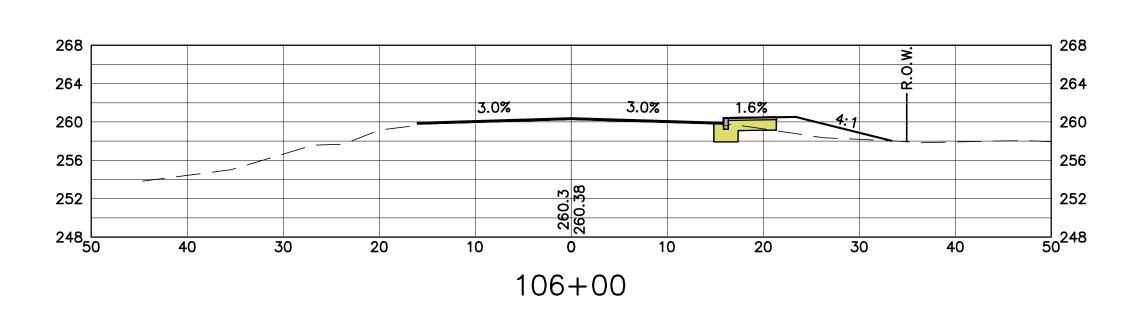
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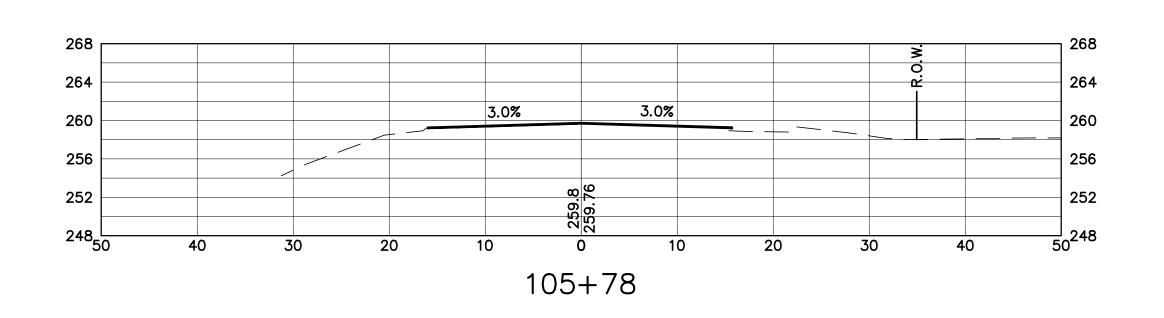
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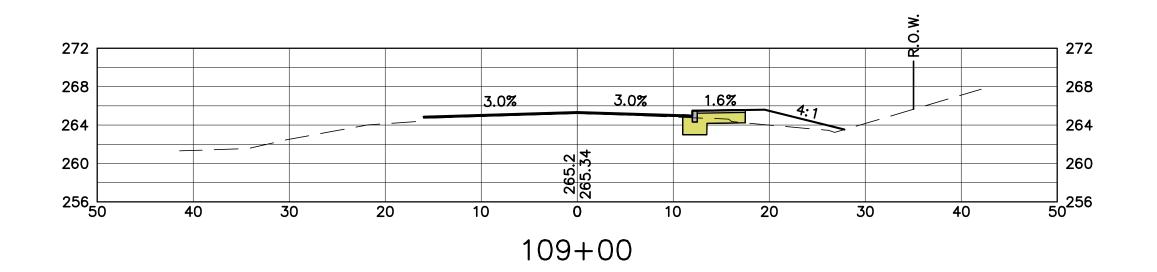
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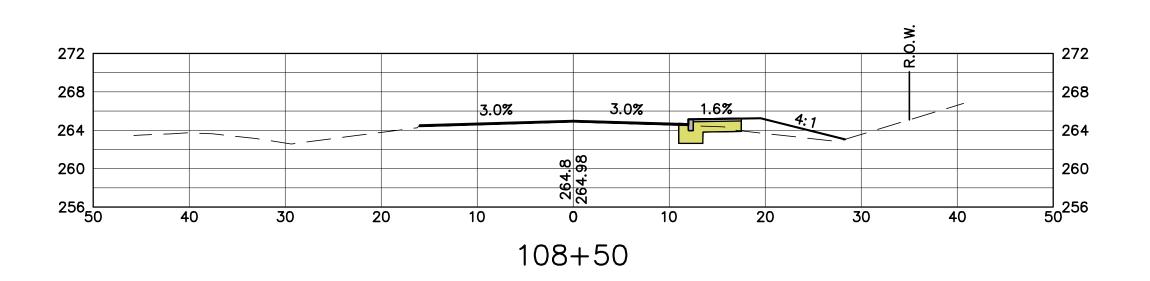


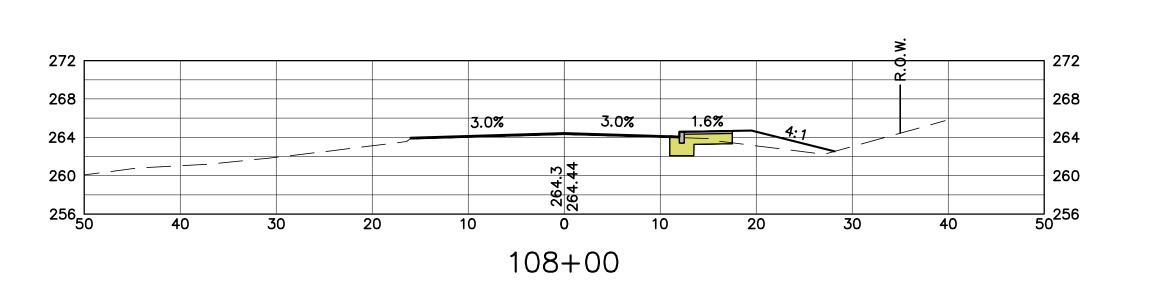


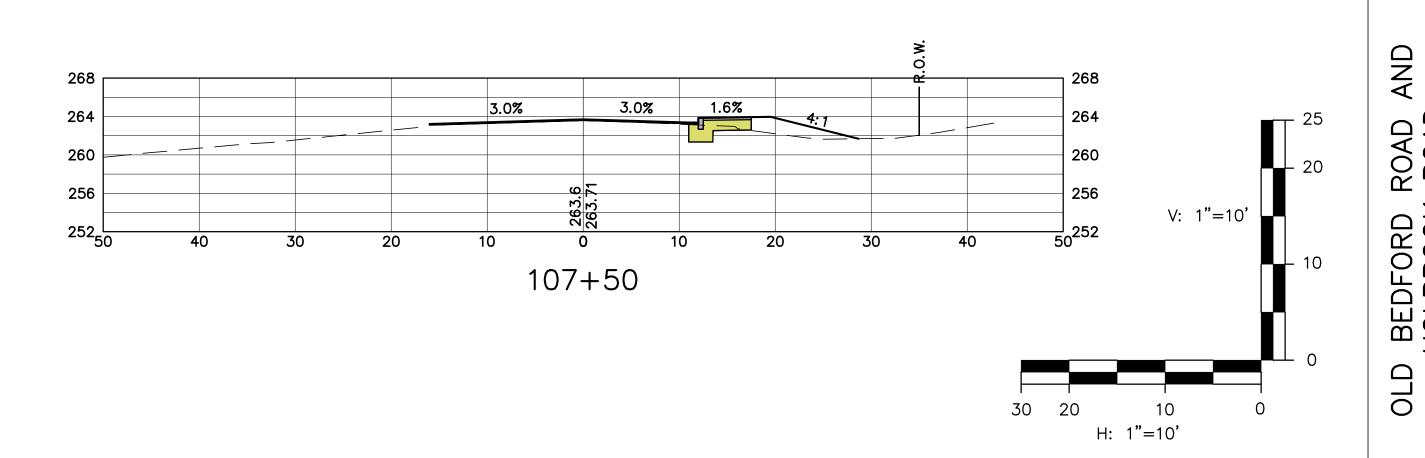




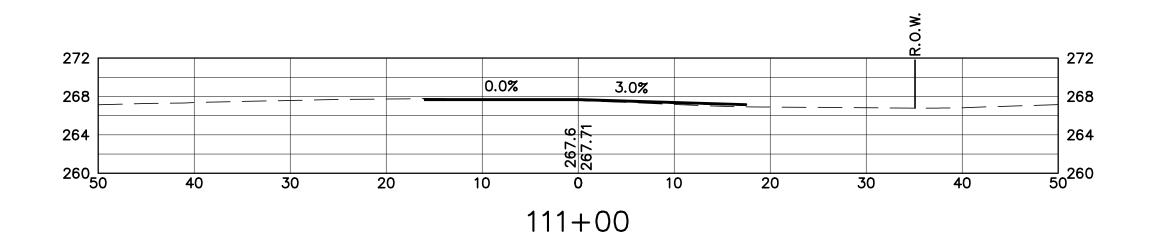


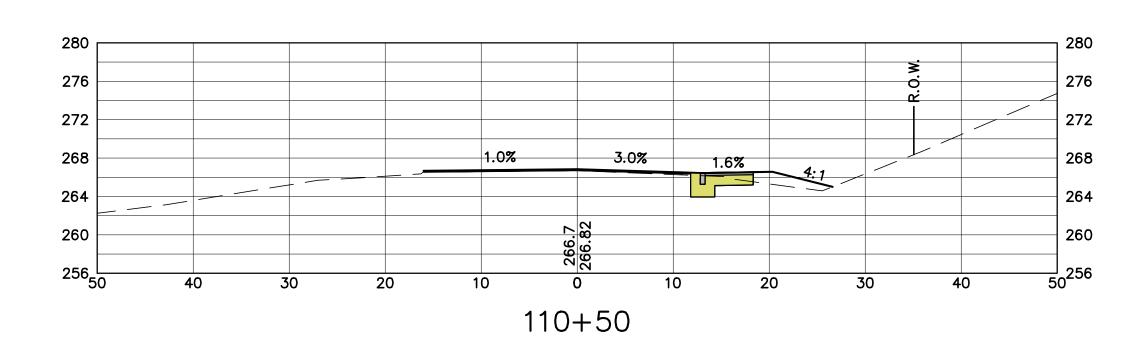


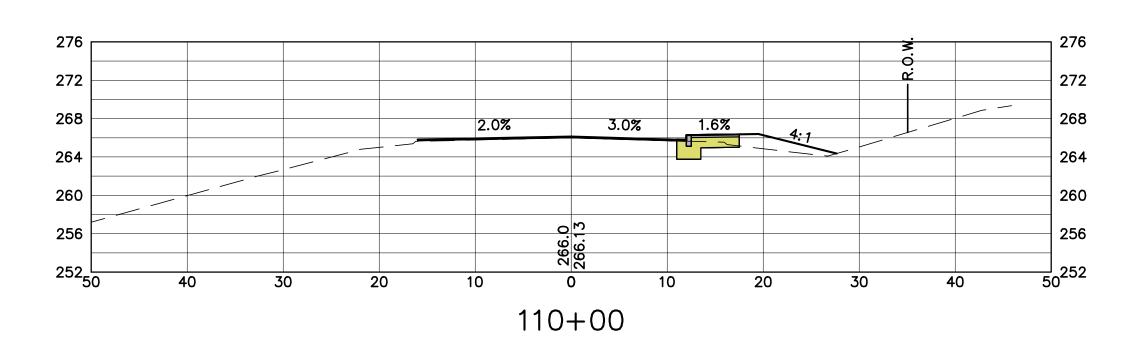


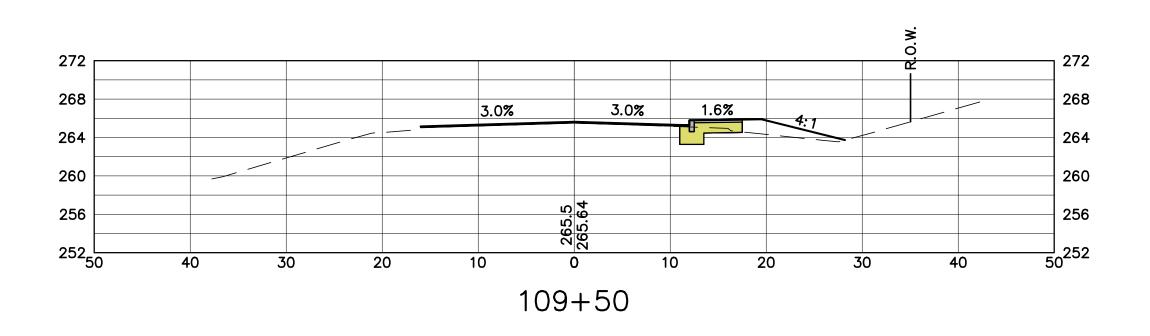


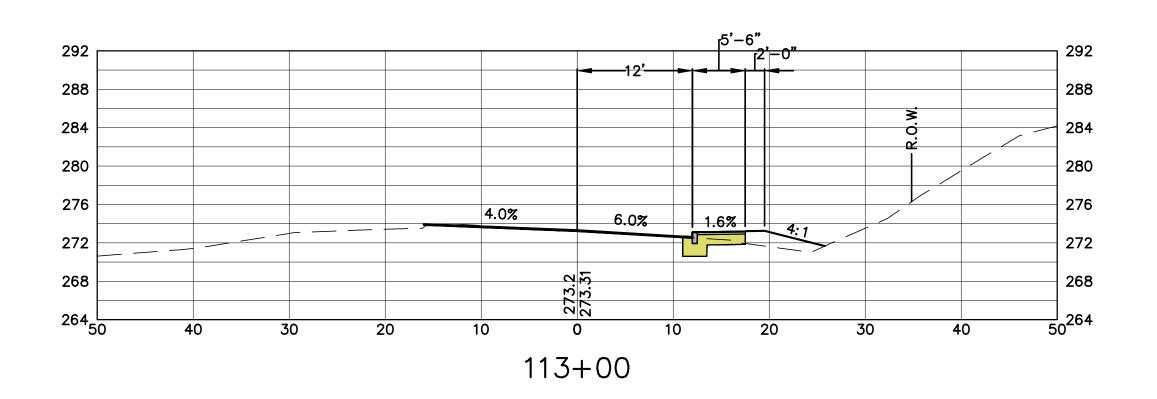
					REVISION DESCRIPTION	
					DATE	
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	OLD BEDFORD ROAD	ODOCO OFICIAIONO		105+78 TO 109+00		
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	A PO NWOT		24 NORIH AMHE		DATE: MAY 7, 2015	
DEDIORD ROAD AND	HOI BROOK ROAD		NOT DON TONOUN	EDFORD, NEW HAMPSHIRE	SCALE: AS SHOWN	
	HOI BRC		ソトランコと	EDFORD, N	7 OF 62	

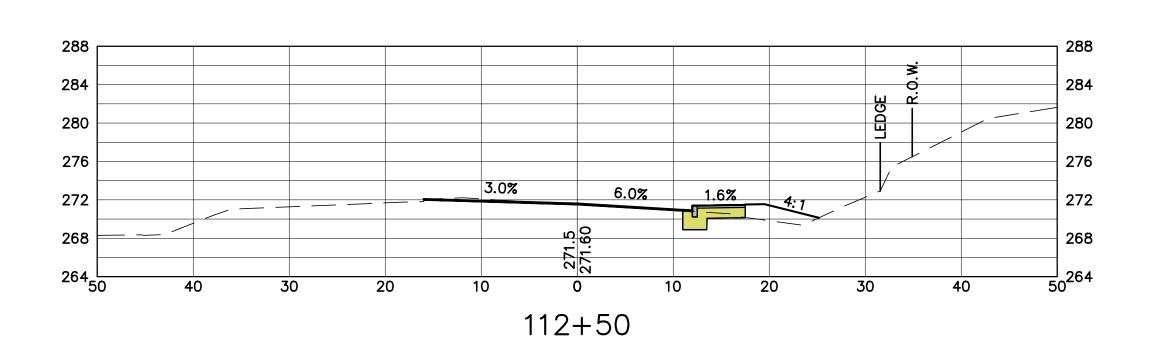


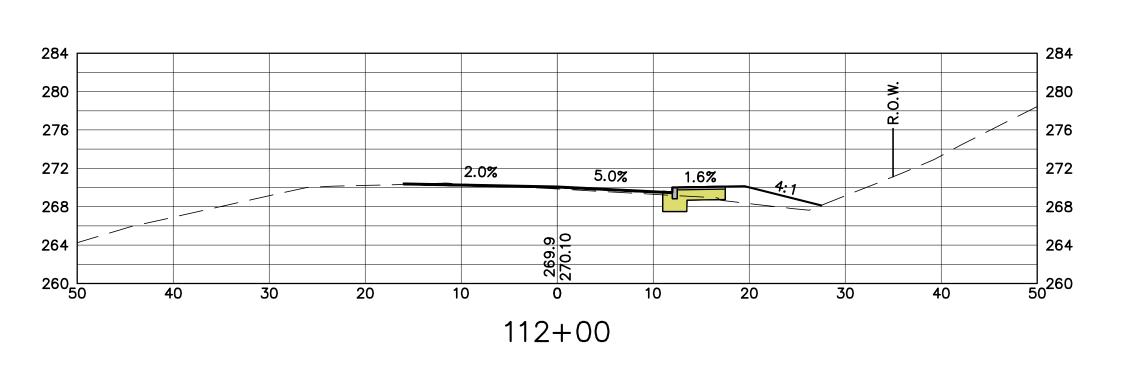


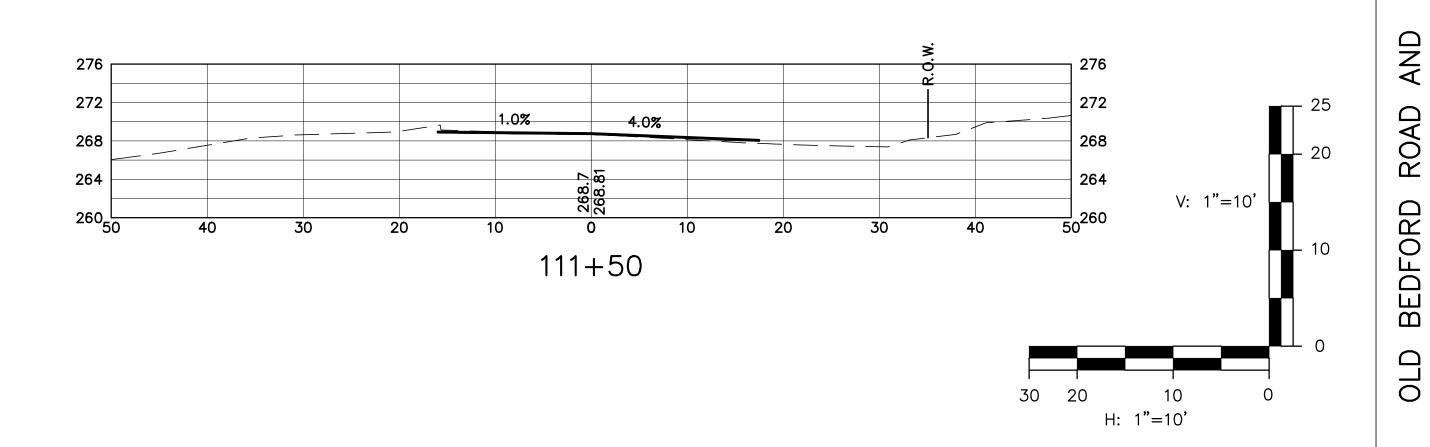


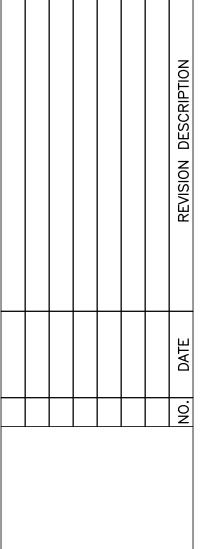






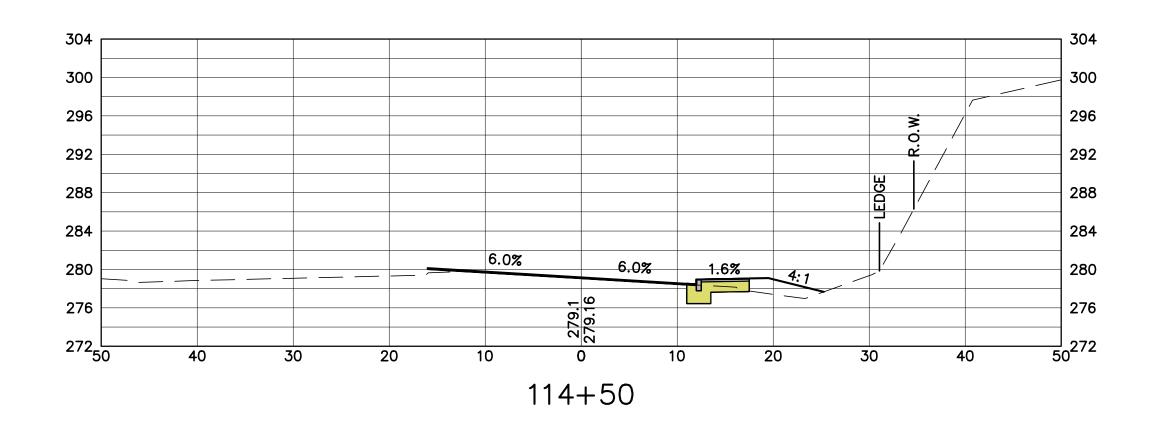


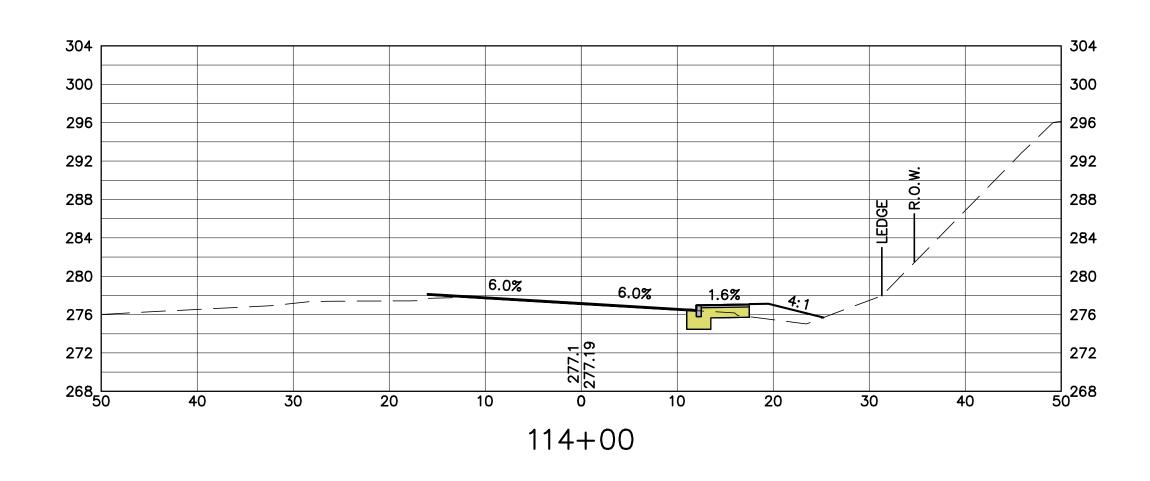


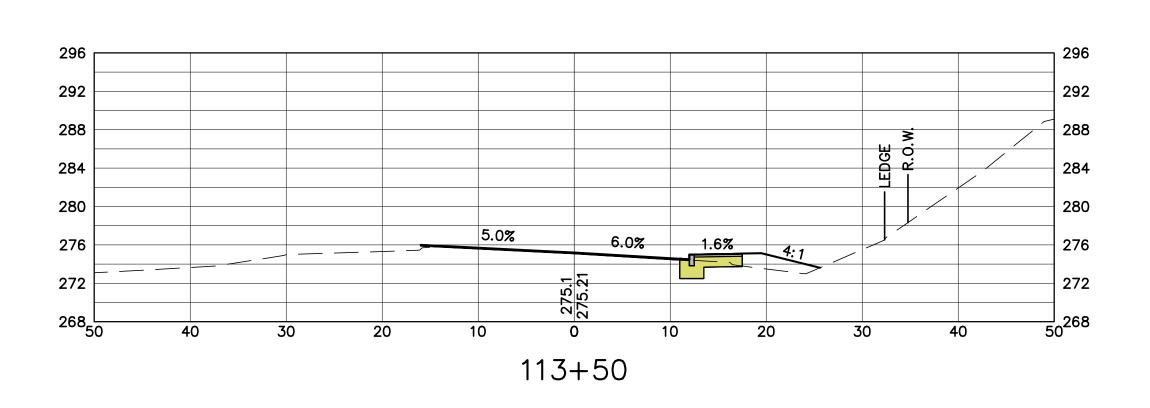


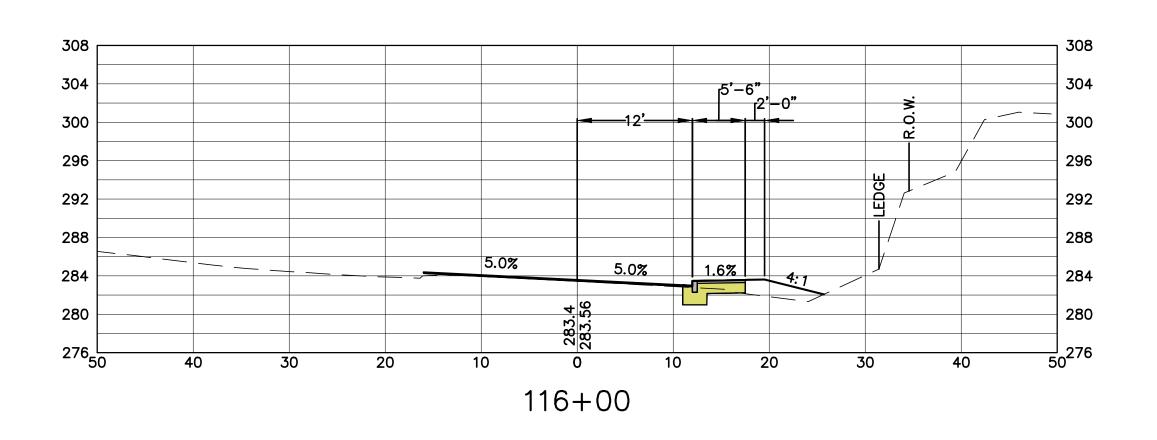
PREPARED FOR: TOWN OF BEDFORD	TH AMI
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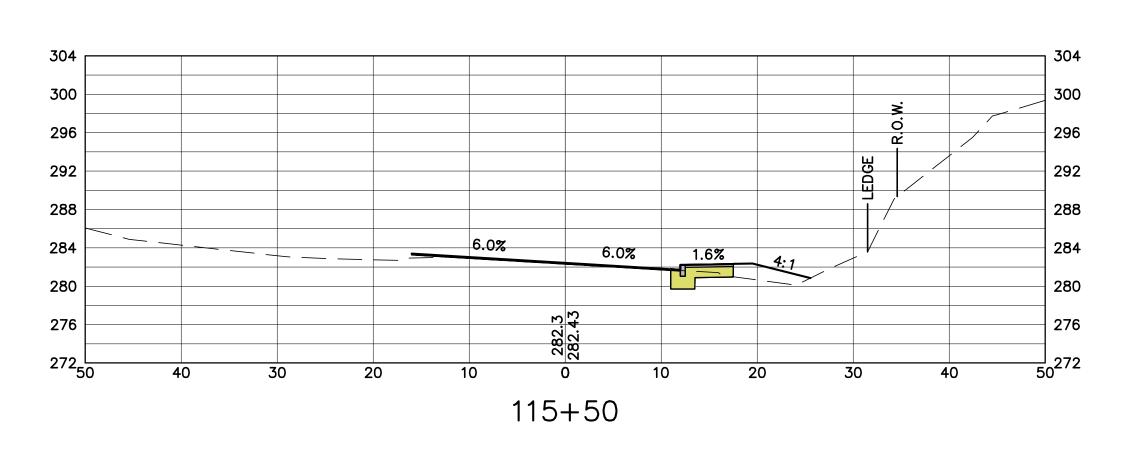
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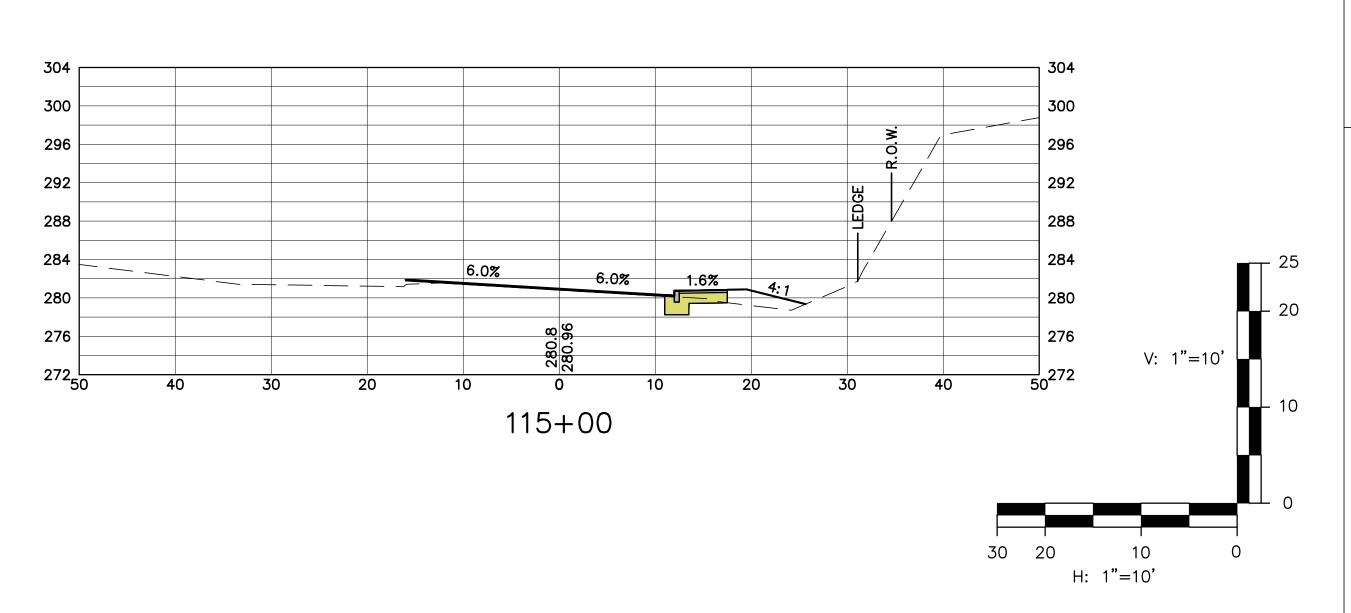




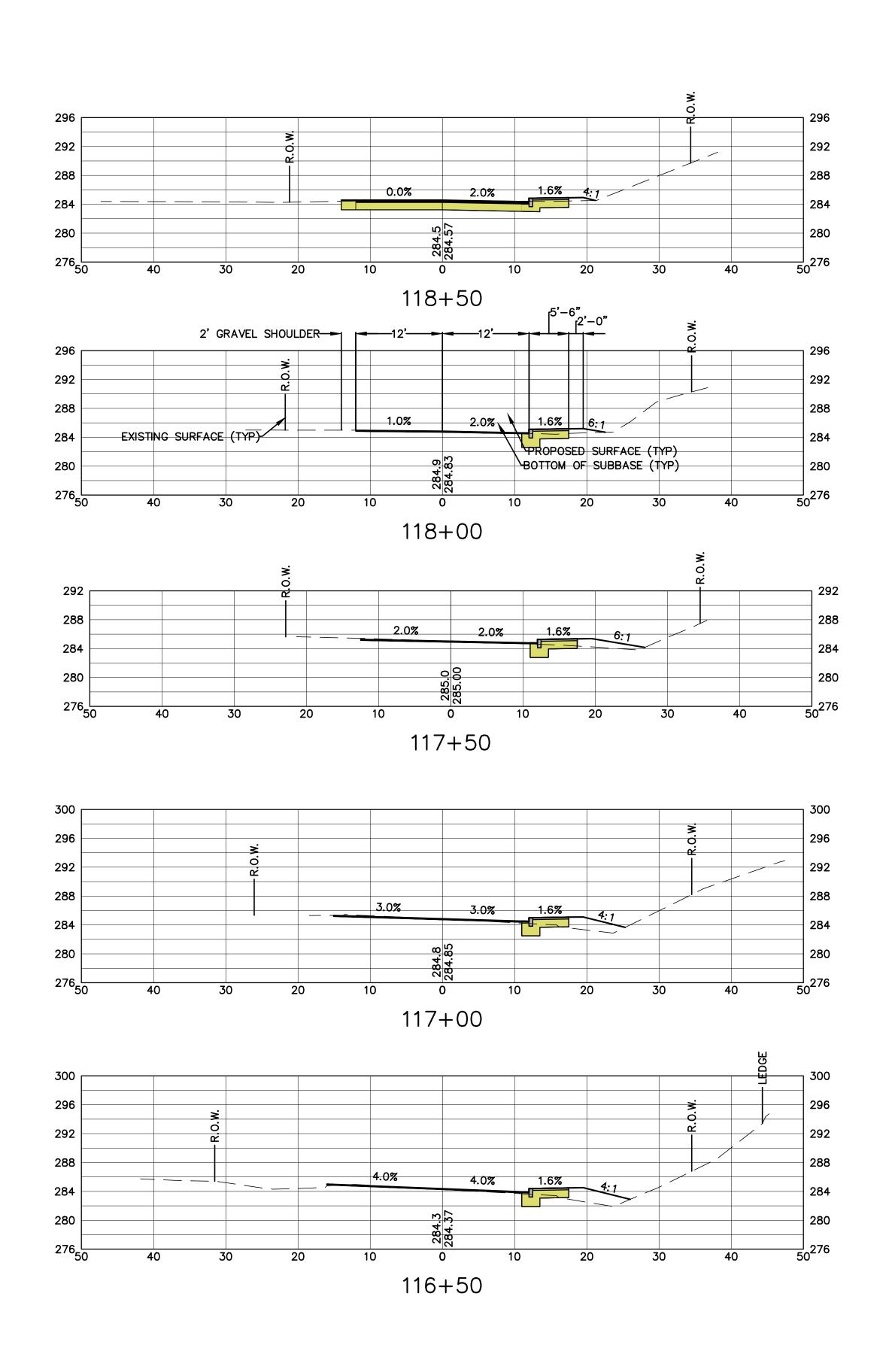


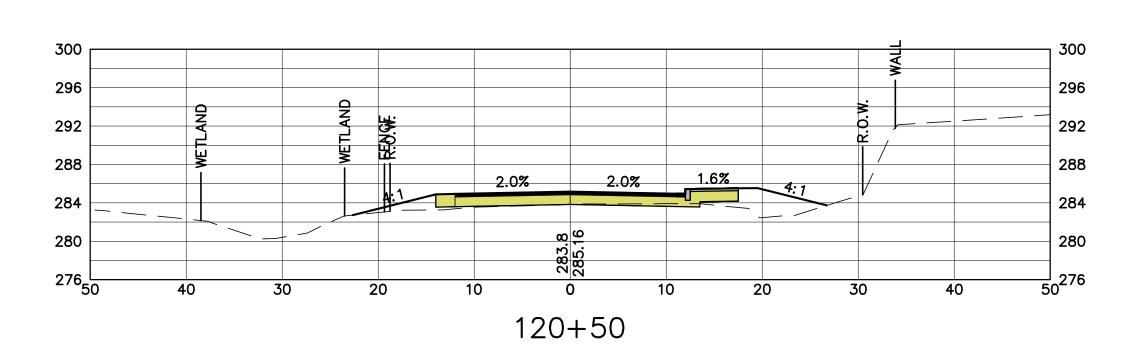


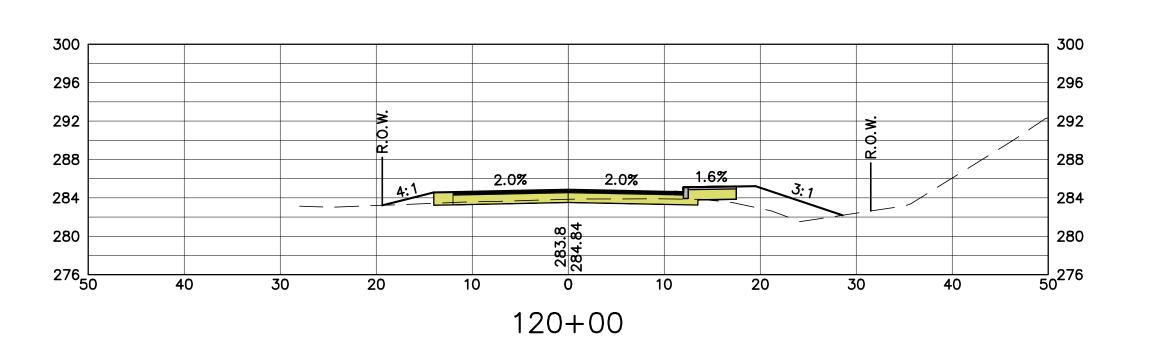


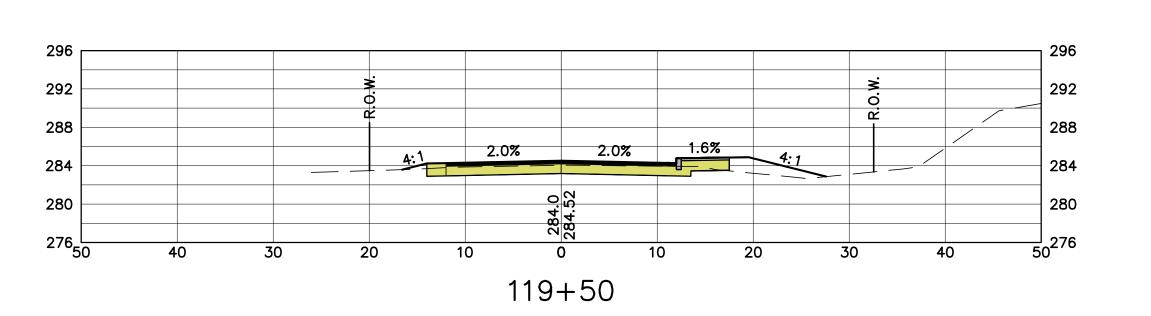


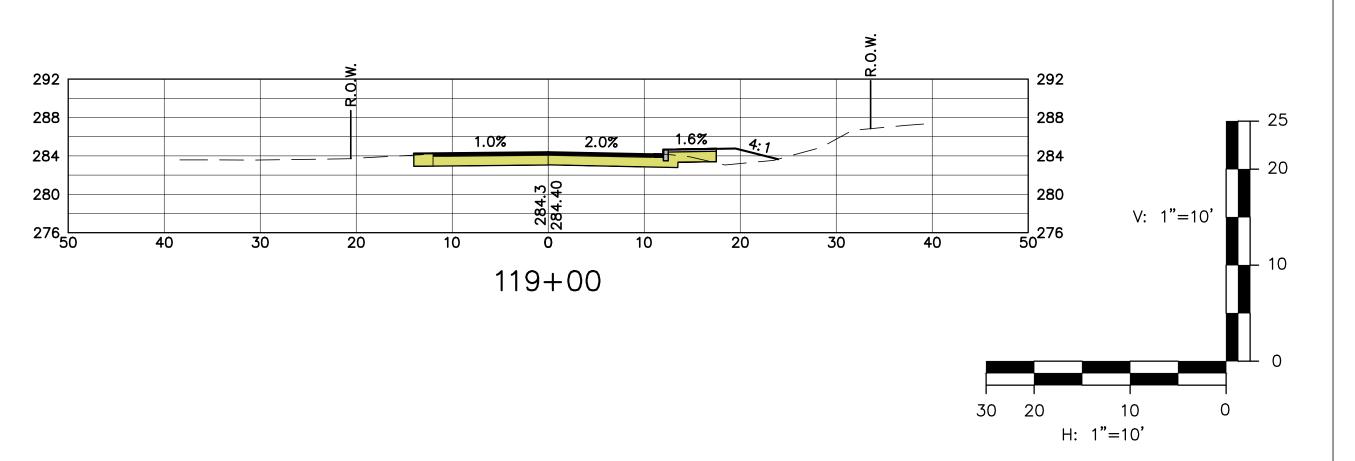
			REVISION DESCRIPTION
			NO. DATE
	OLD BEDFORD ROAD	113+50 TO 116+00	
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110	DATE: MAY 7, 2015 PROJ. 77-2015
OLD BEDFORD ROAD AND	HOLBROOK ROAD	REDECRO NEW HAMPSHIRE	SHEET: 29 OF 62 SCALE: AS SHOWN









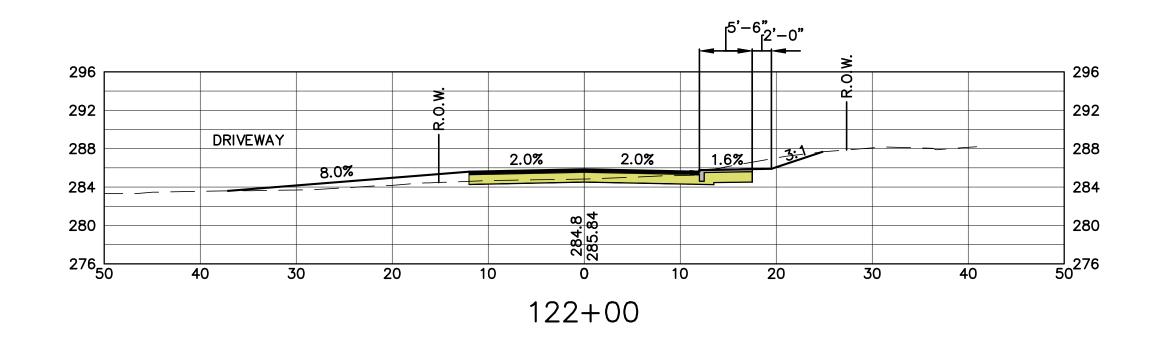


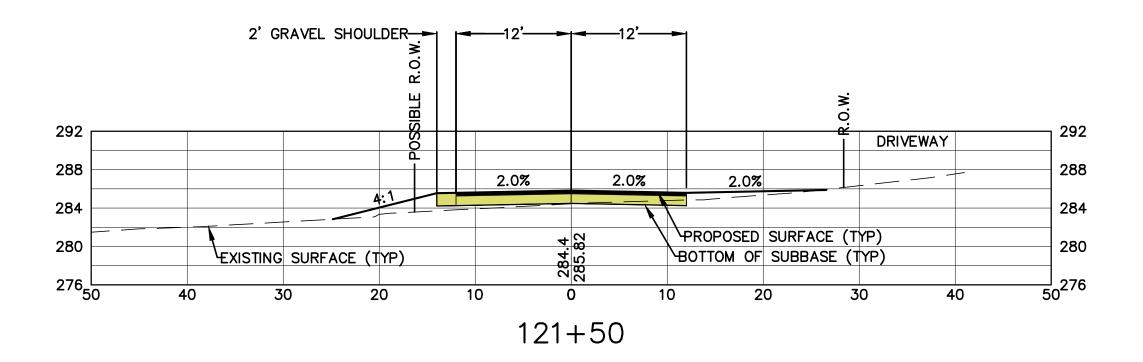
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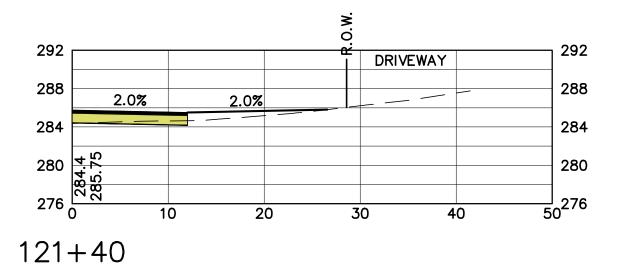
PREPARED FOR: TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03
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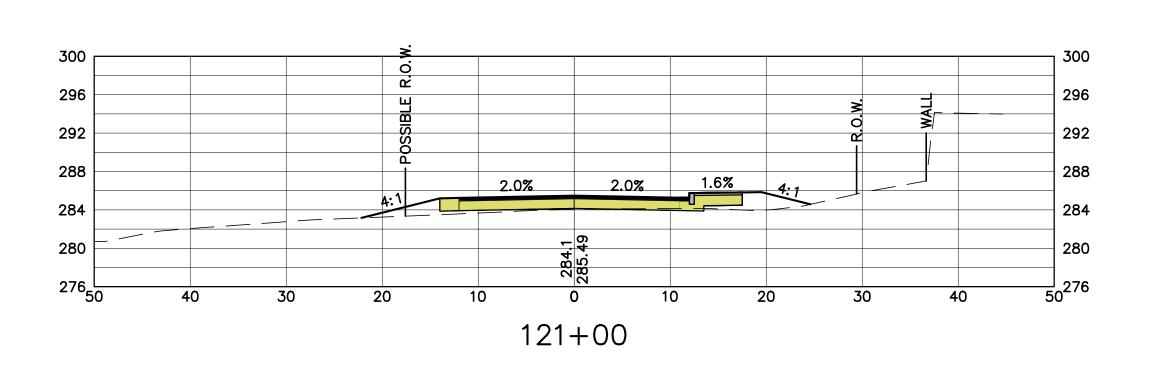
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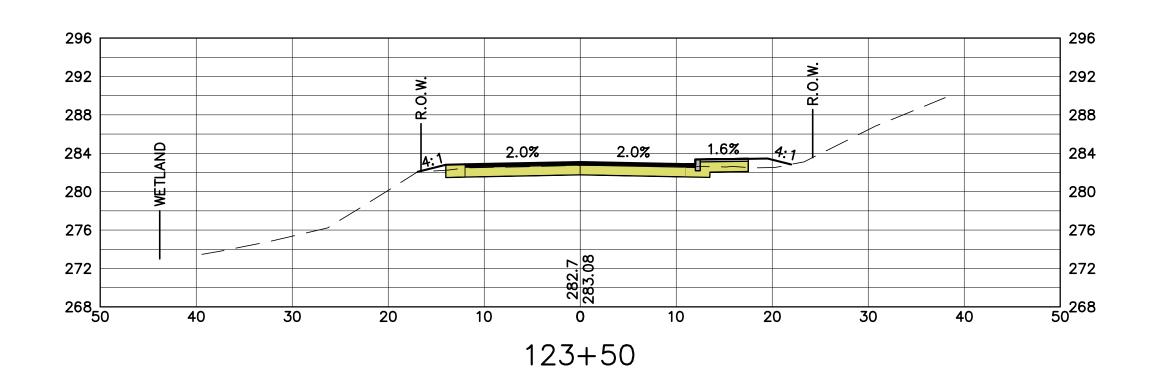
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ROAD	ROAD	ECONSTRUCTION	NEW HAMPSHIRE
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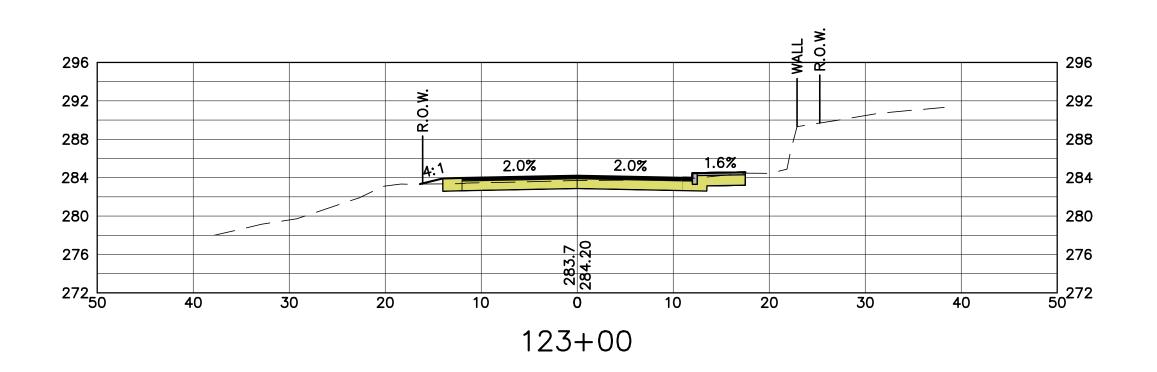


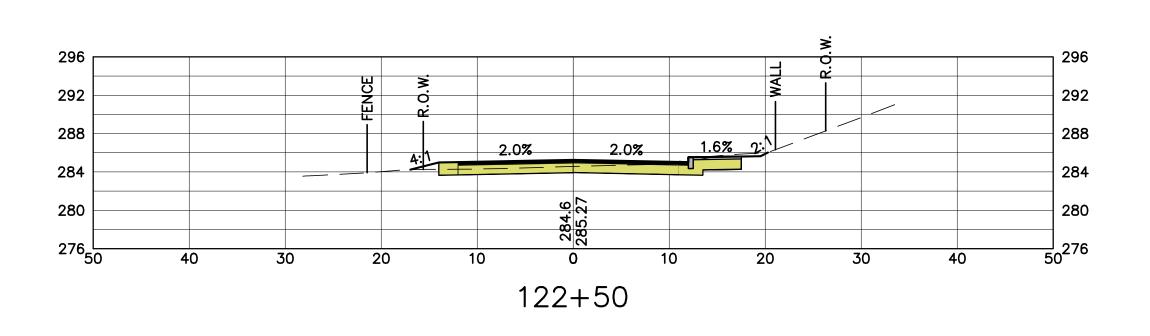


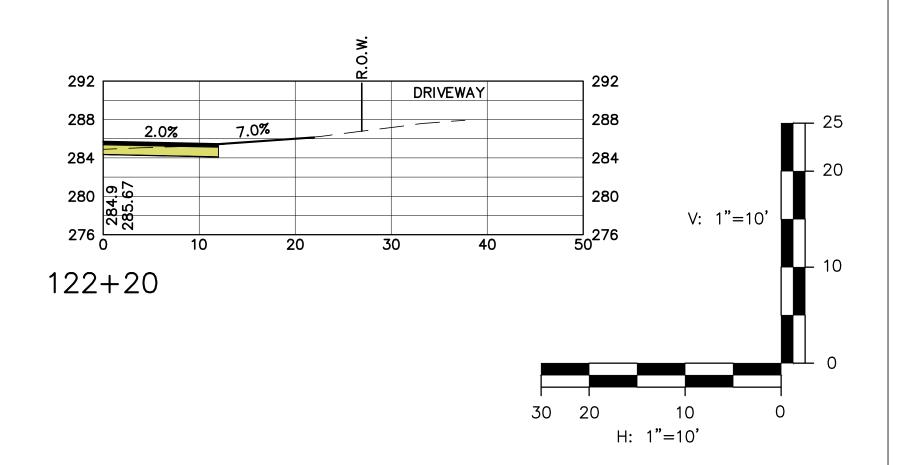


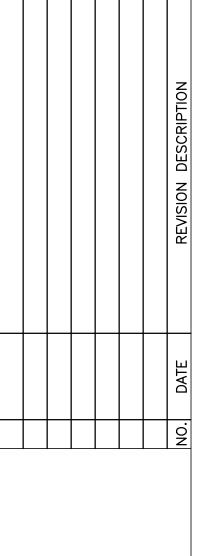








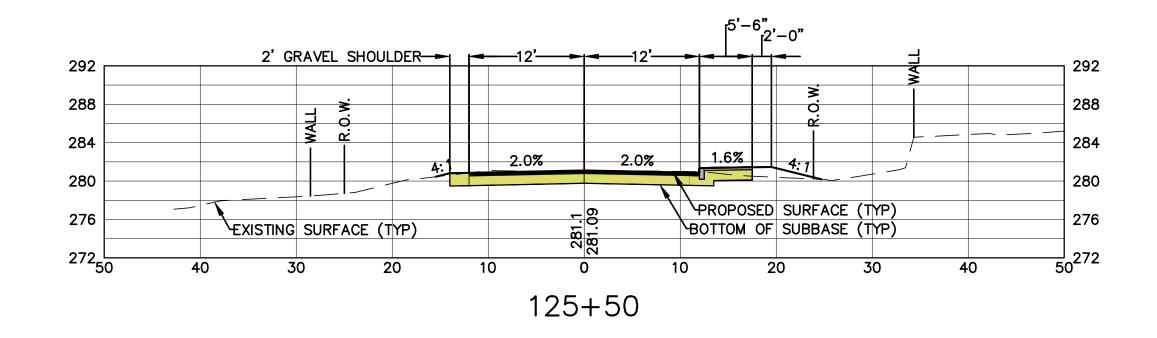


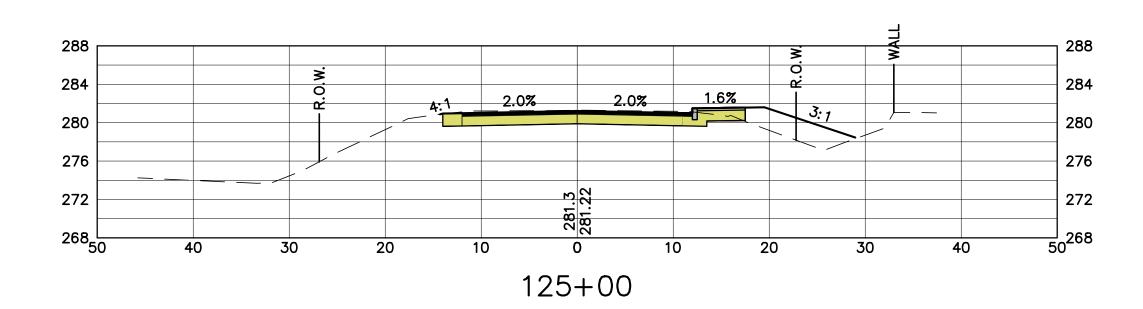


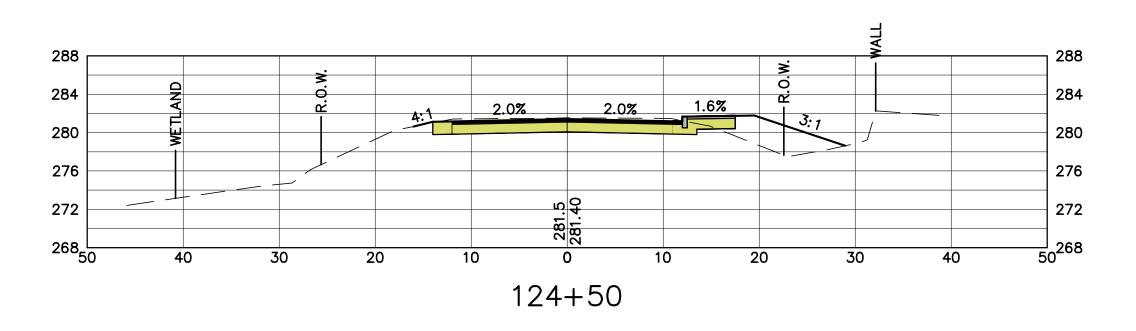
OLD BEDFORD ROAD CROSS SECTIONS 121+00 TO 123+50	
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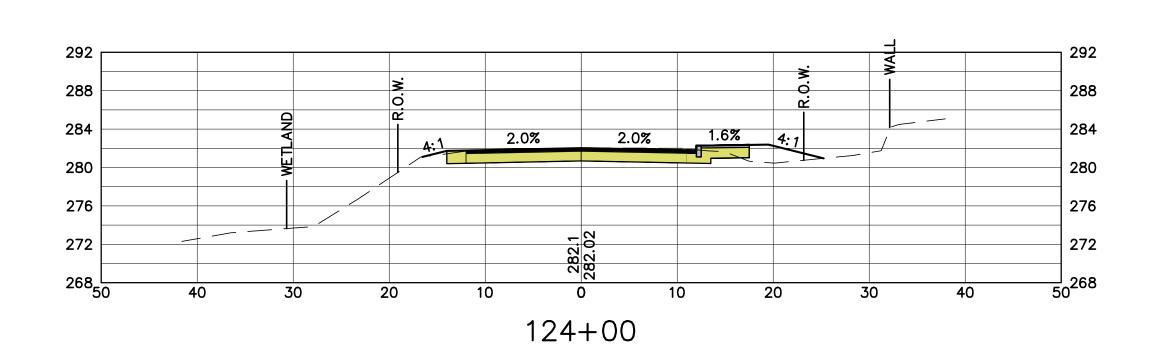
PREPARED FOR: TOWN OF BEDFORD	TH AMI
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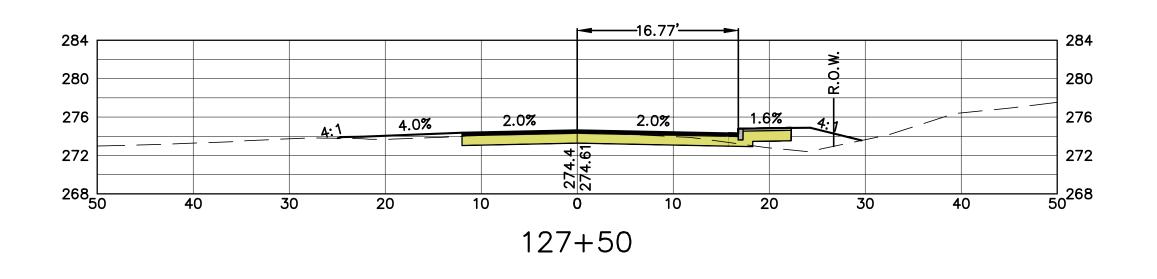
D BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE	62 SCALF: AS SHOWN
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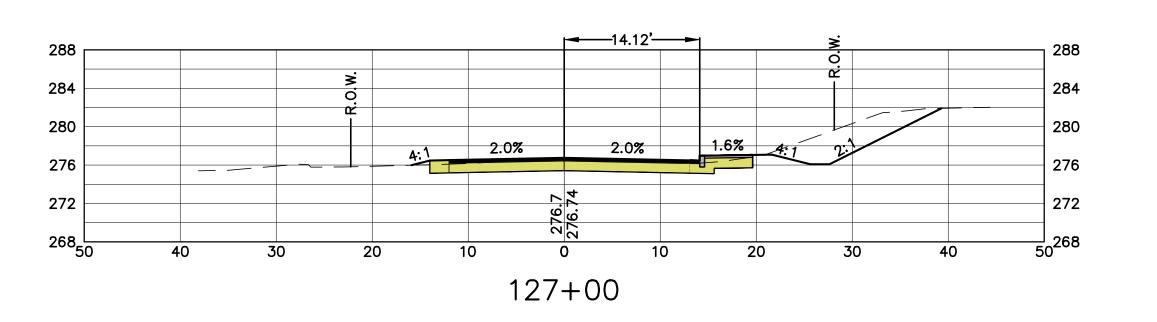


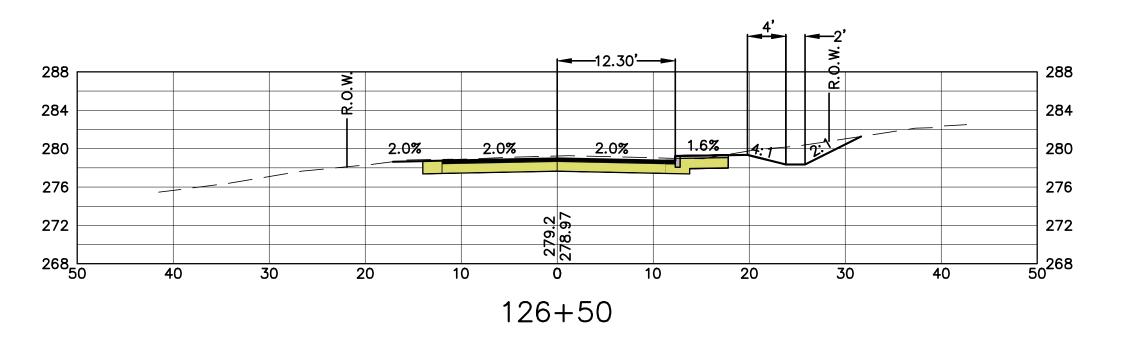


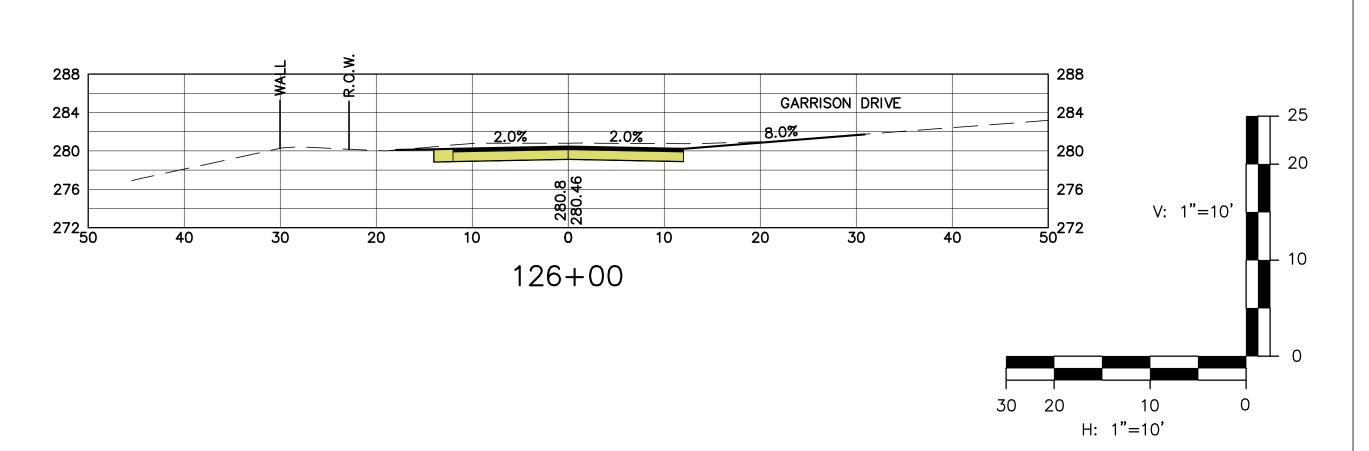


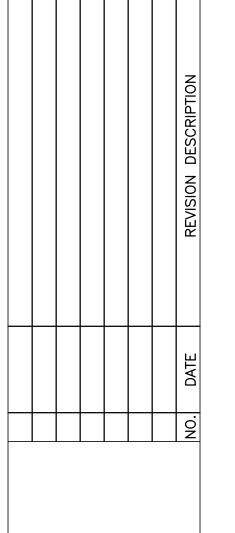






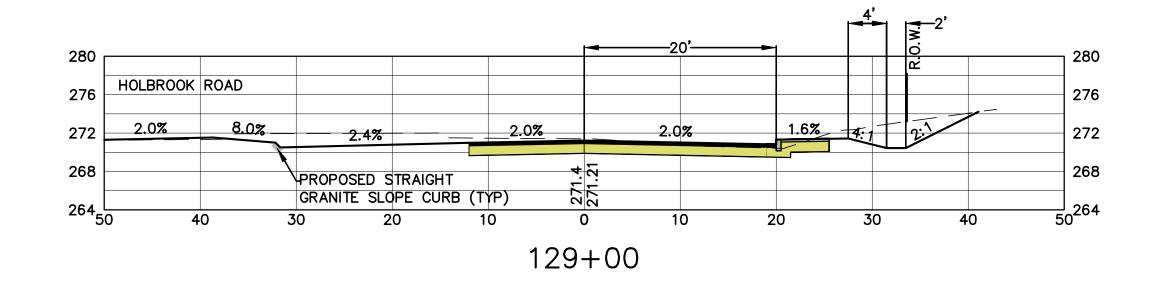


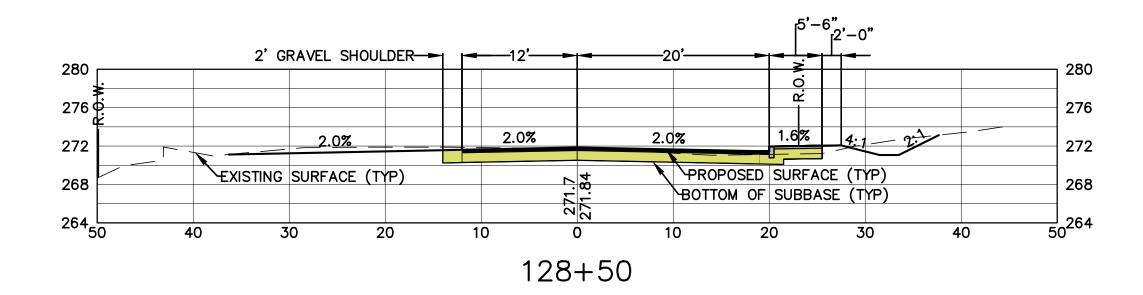


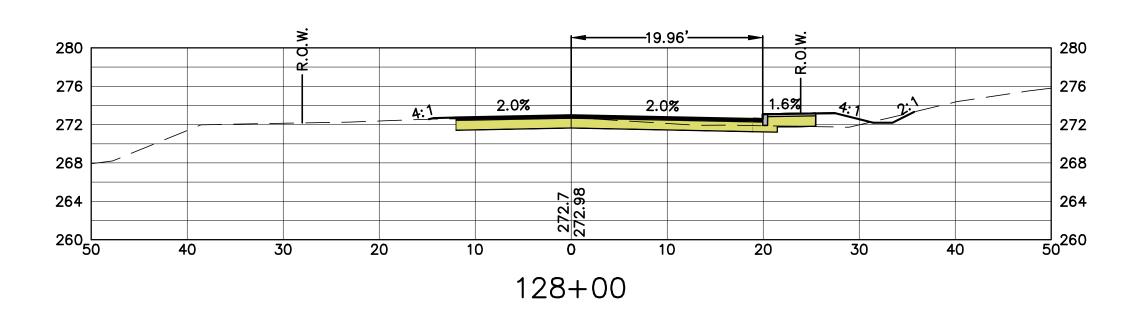


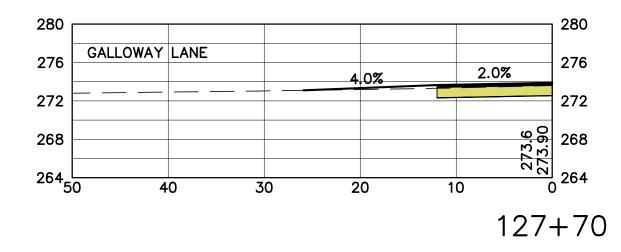
OLD BEDFORD ROAD	CROSS SECTIONS	124+00 TO 127+50	
			L(

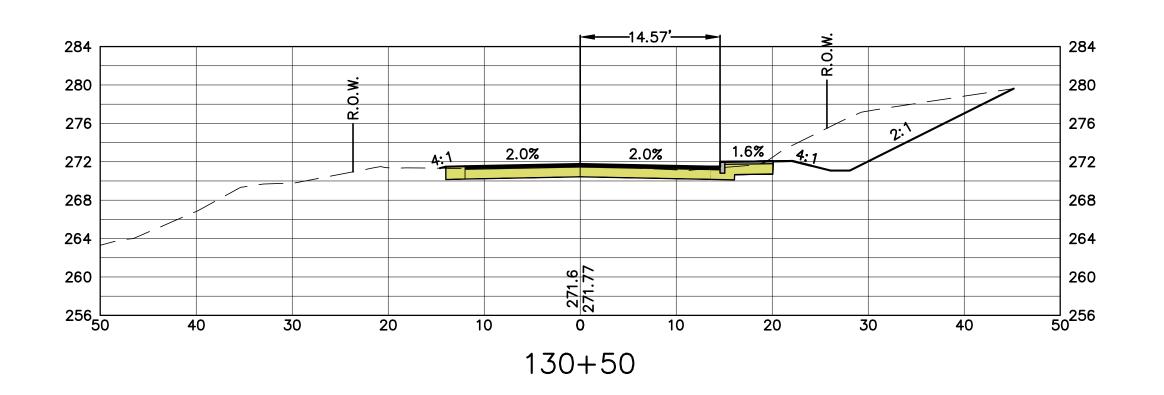
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OLD BEDFORD KOAD AND HOI RROOK ROAD	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	SCALE: AS SHOWN
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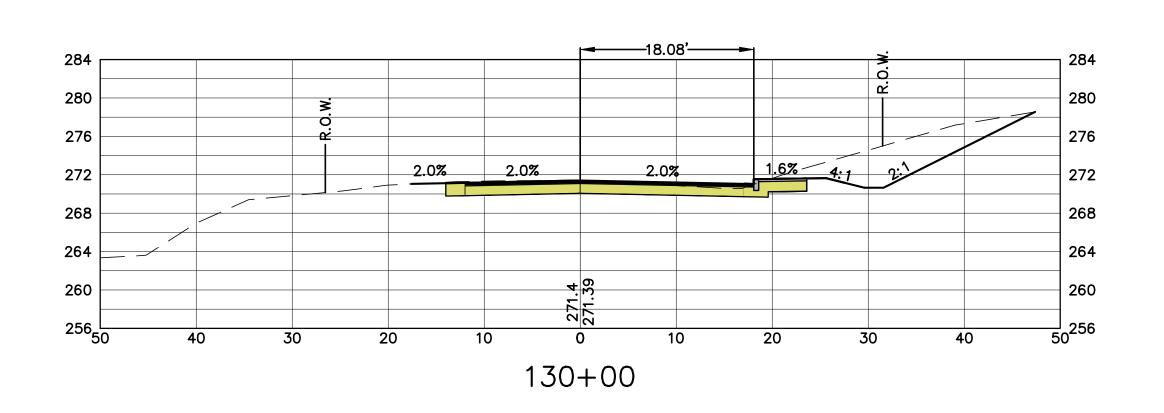


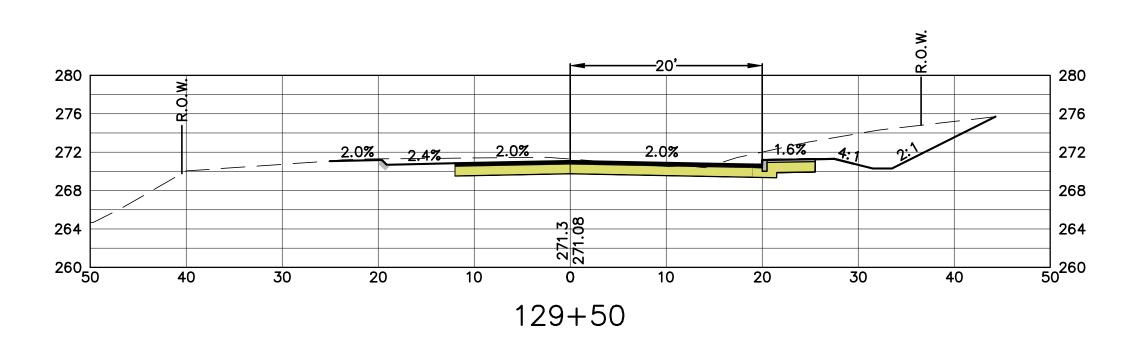


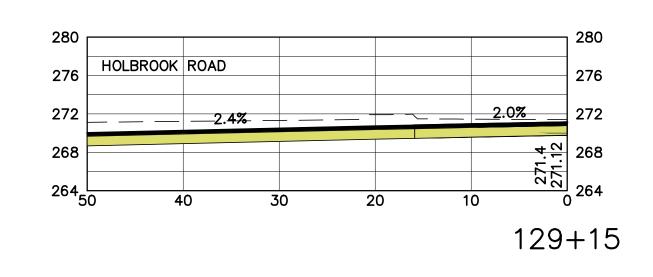


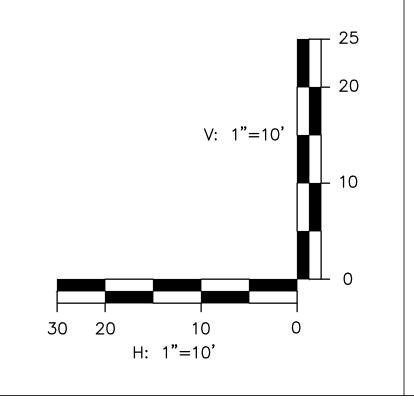








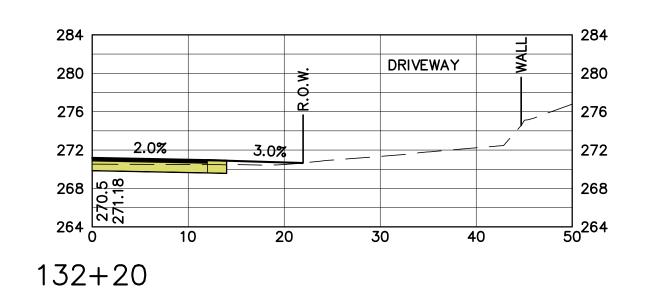


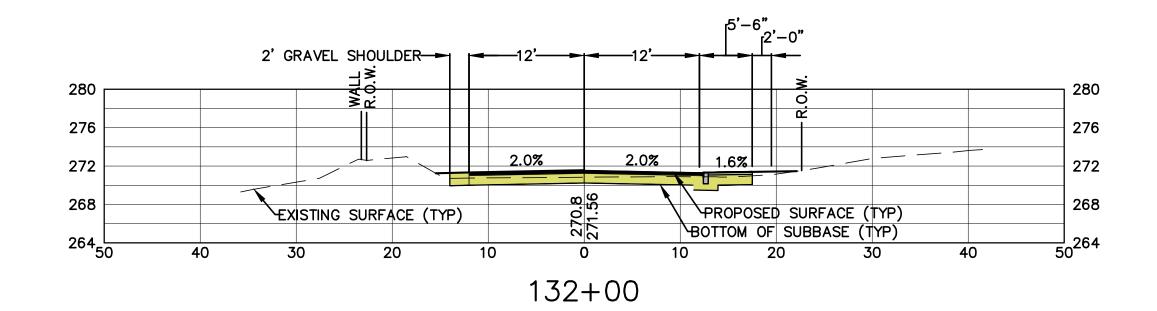


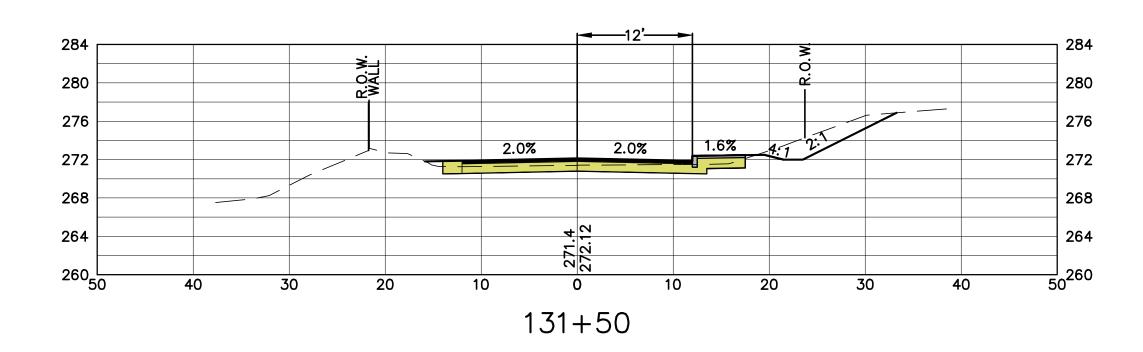
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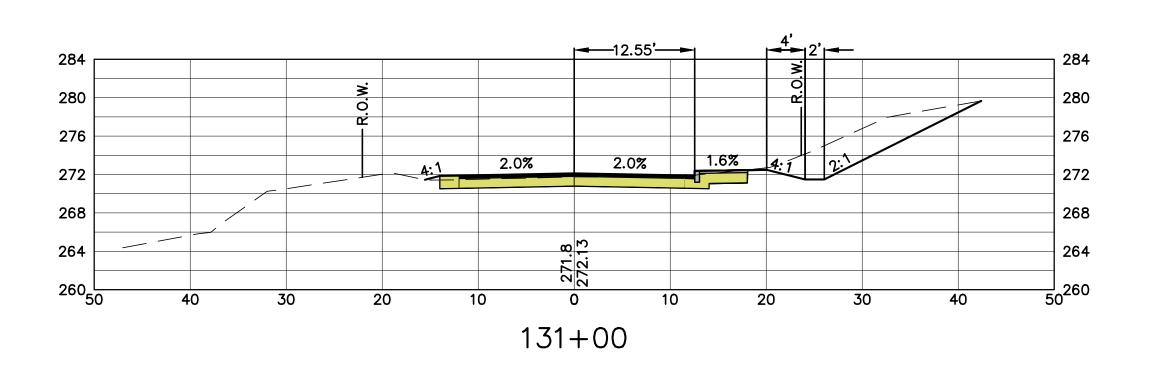
OLD BEDFORD ROAD	CROSS SECTIONS	127+70 TO 130+50	

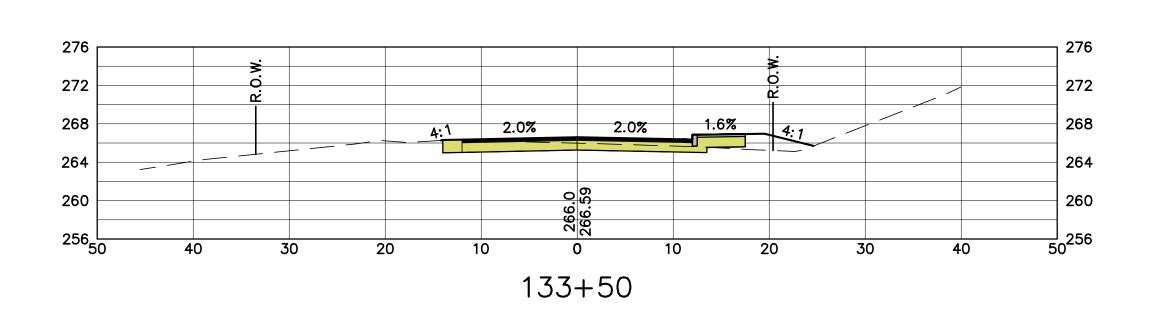
	IOWN OF BEDFORD	24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSHIRE 03'	
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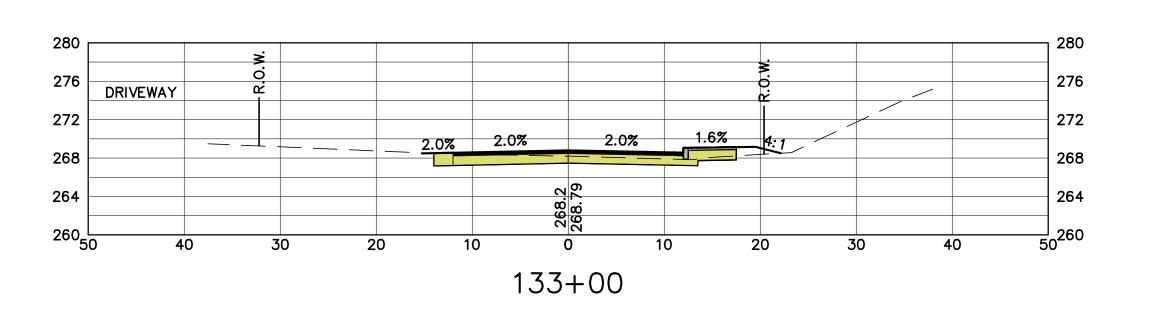


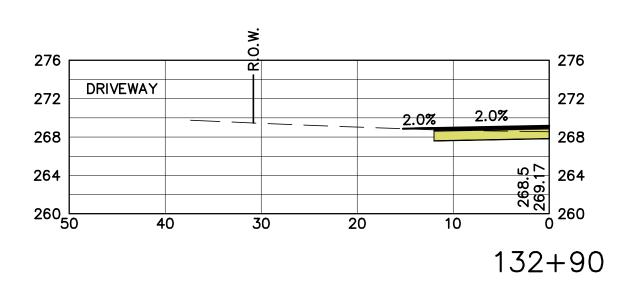


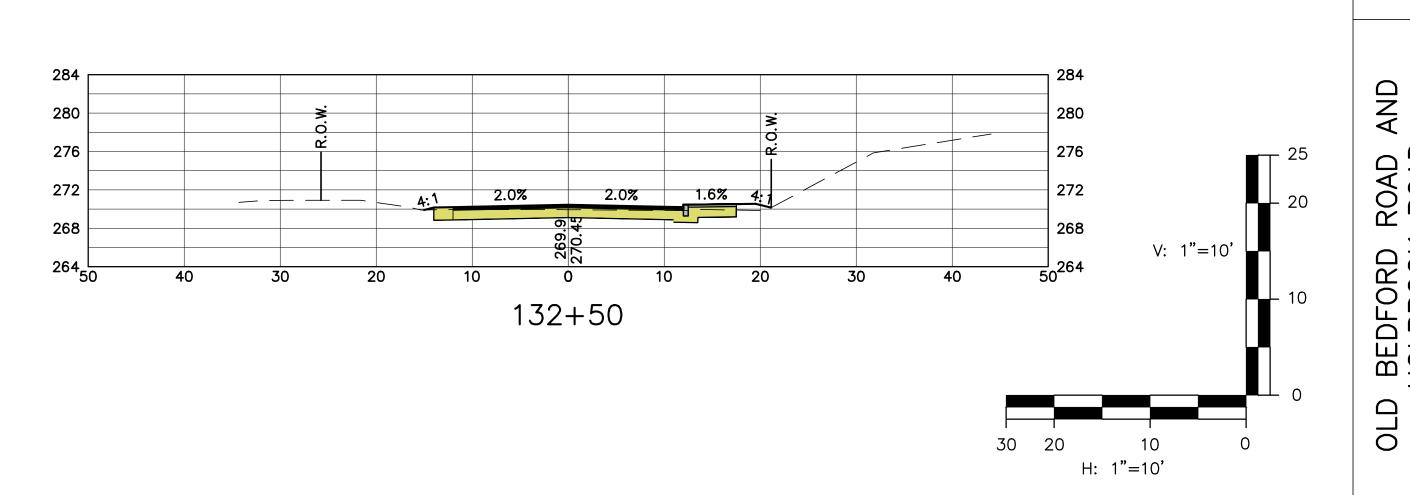


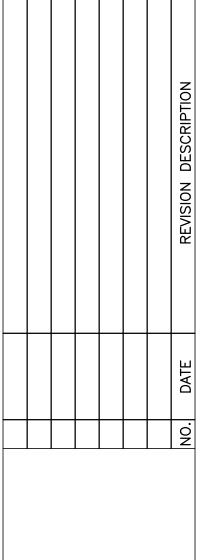




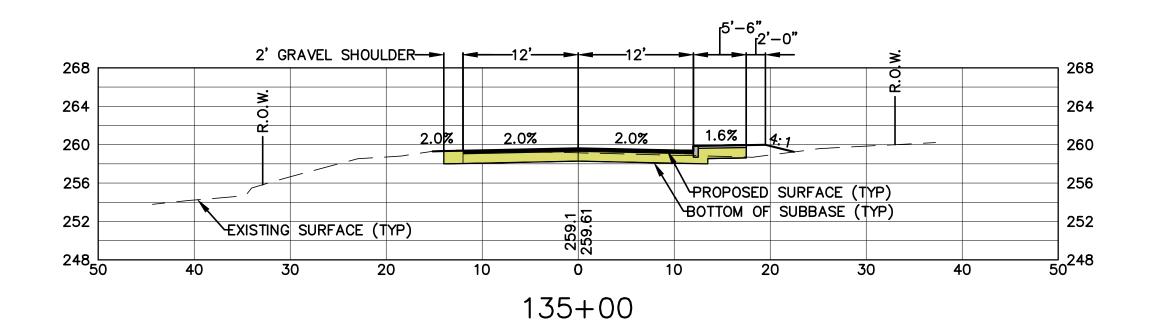


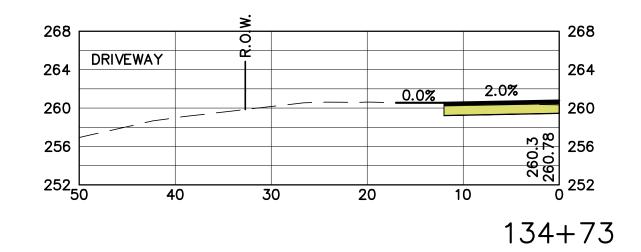


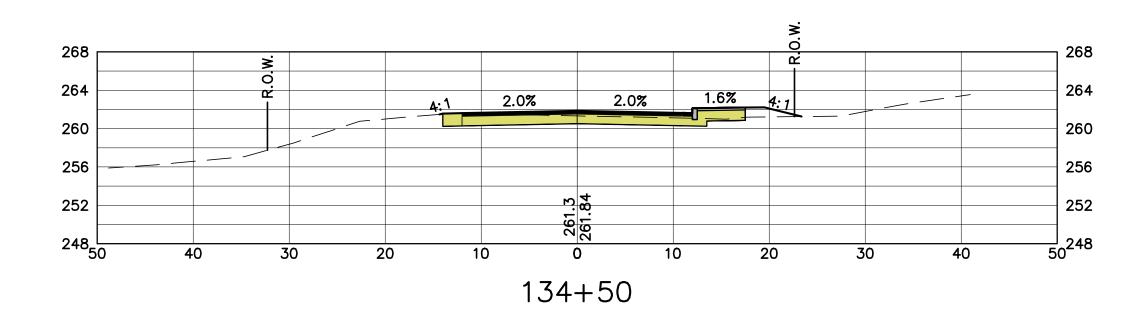


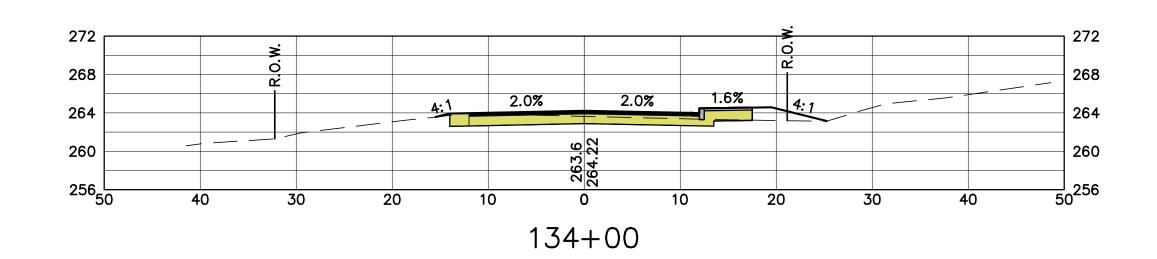


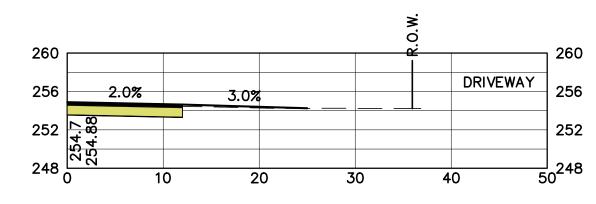
		BE	
HOLBROOK ROAD	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	



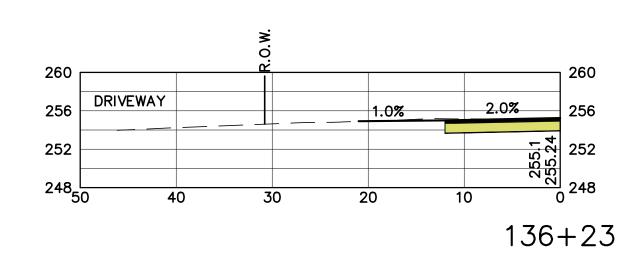


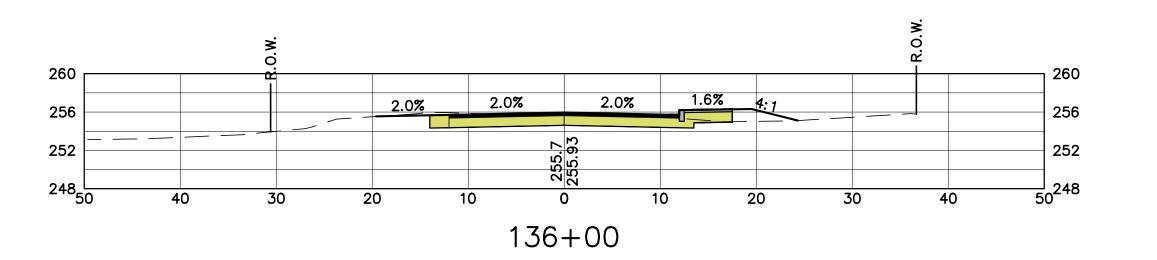


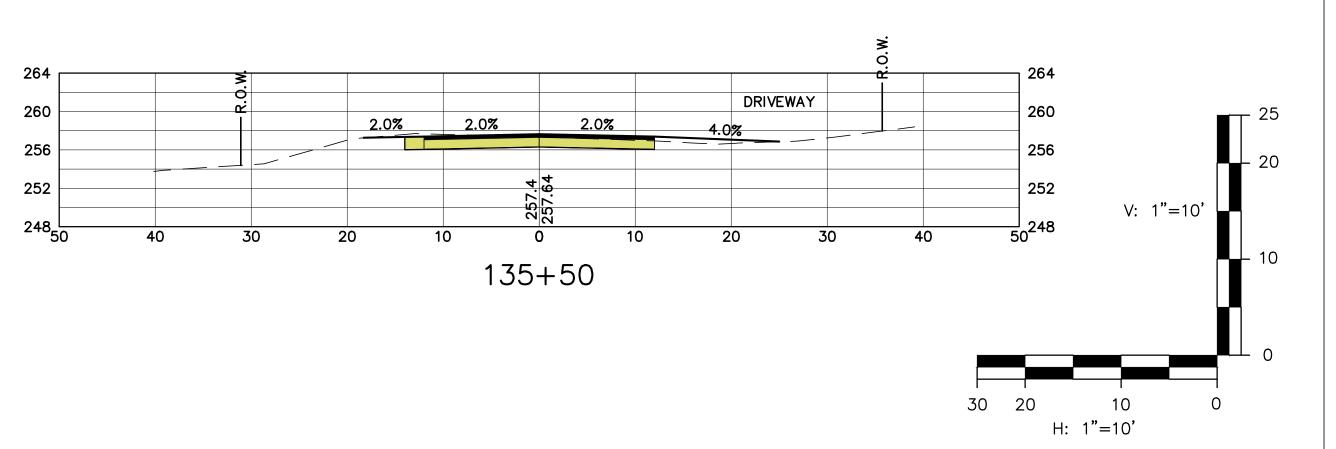


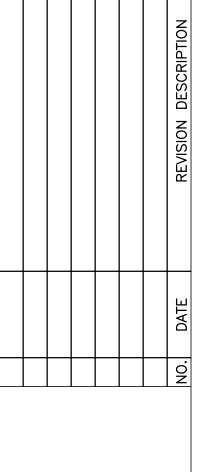


136+36

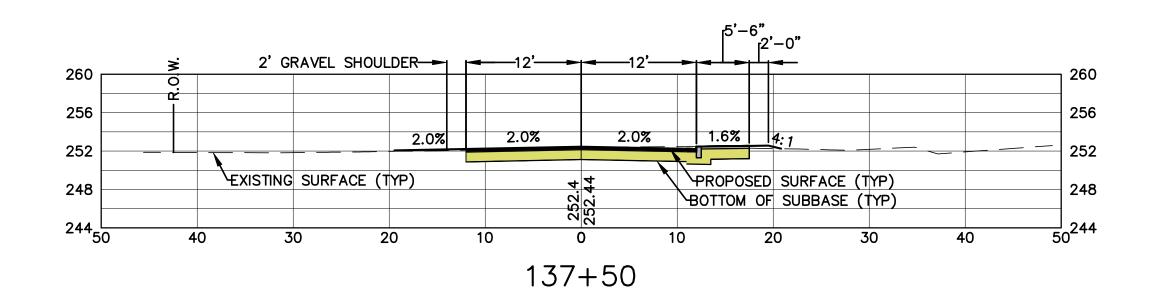


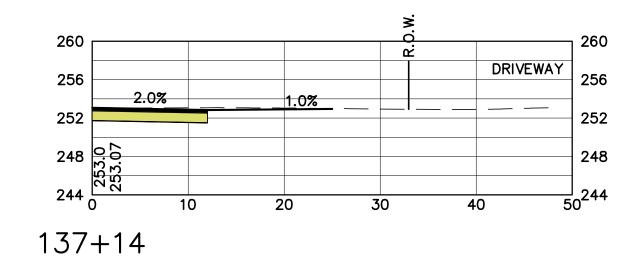


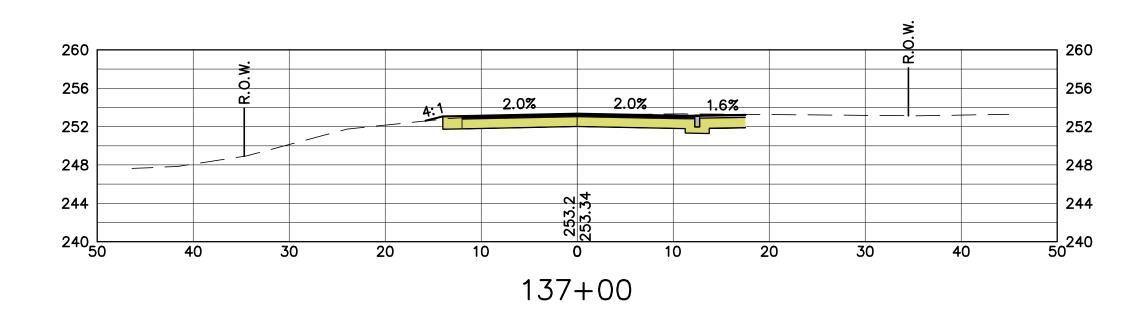


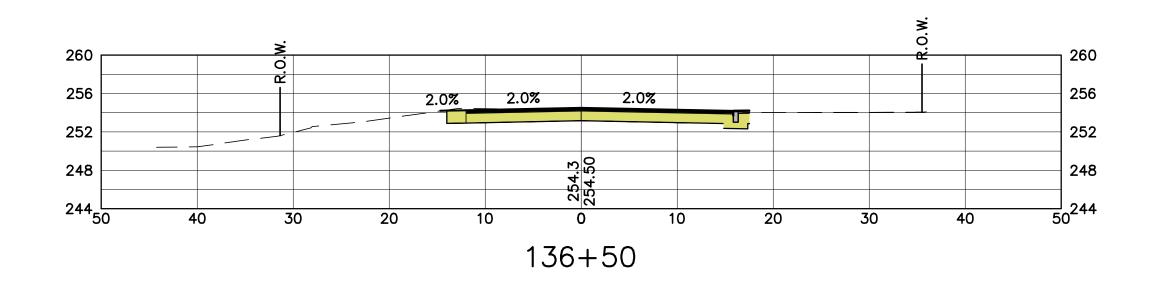


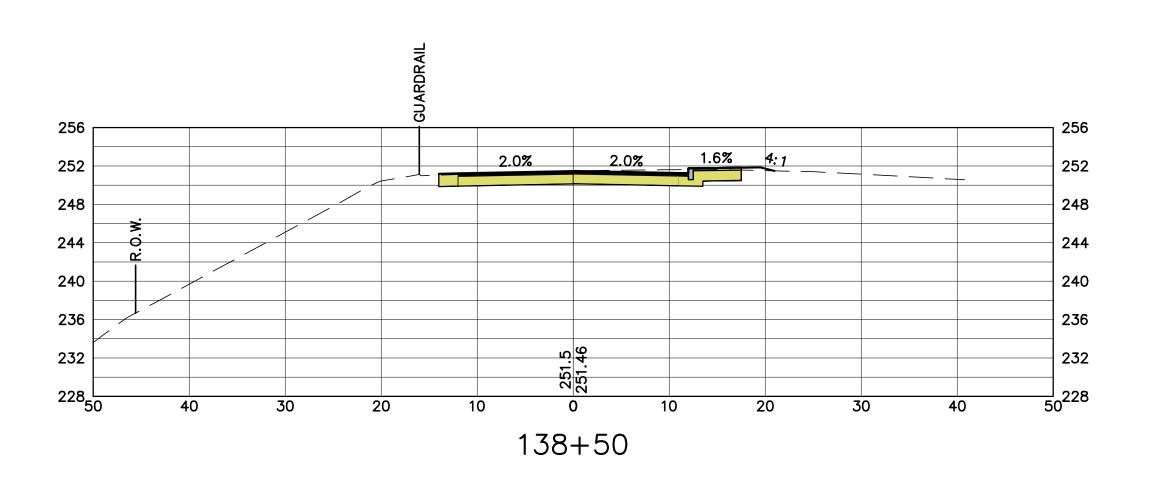
OLD BEDFORD ROAD	CROSS SECTIONS	134+00 TO 136+36	
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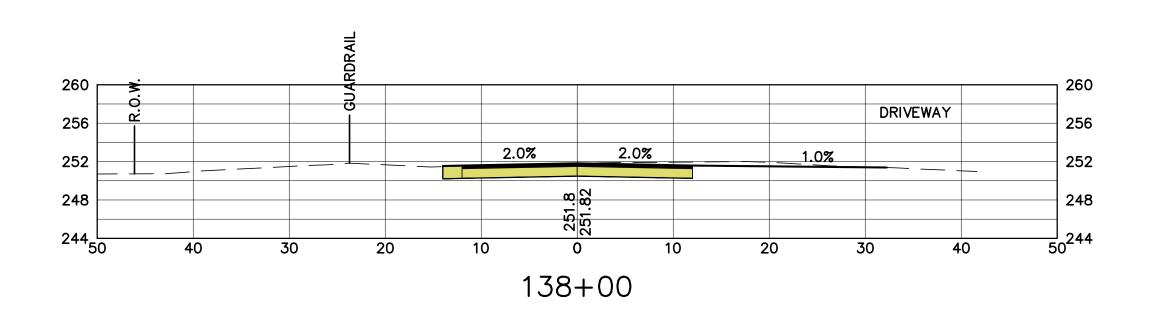


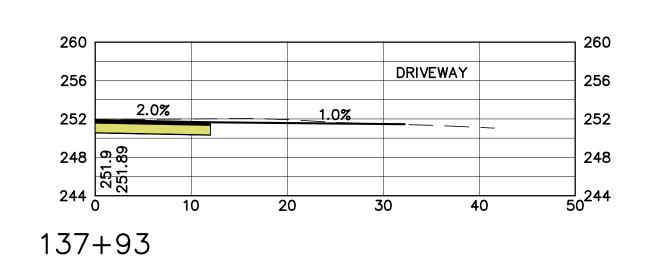


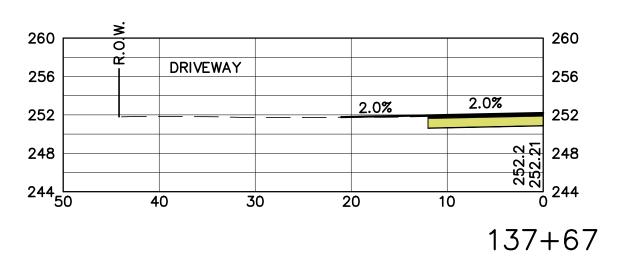


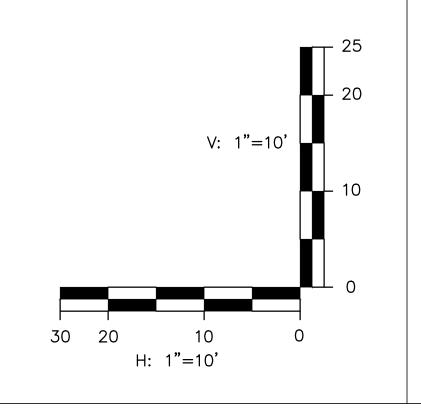








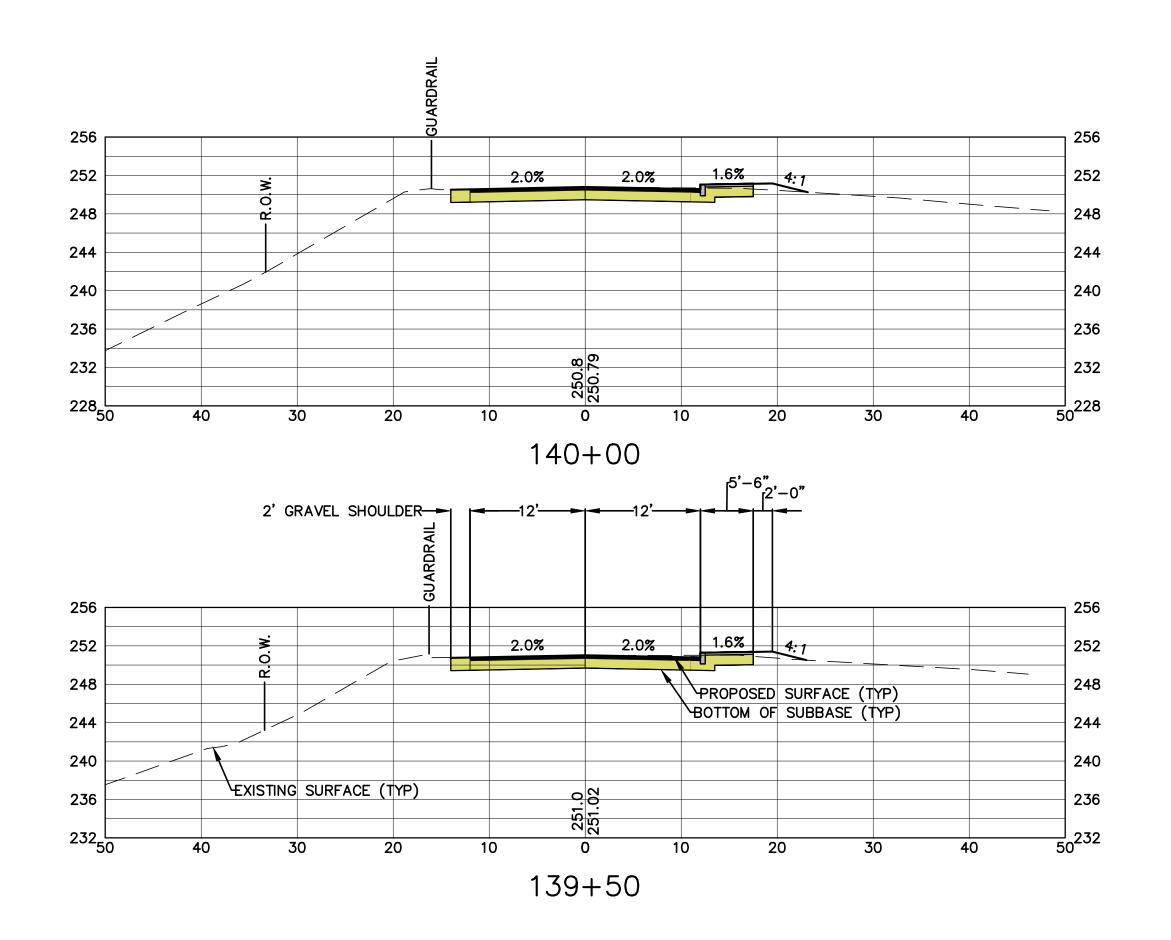


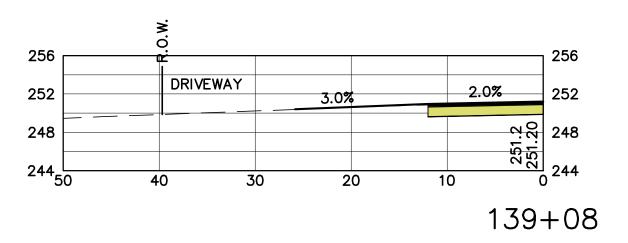


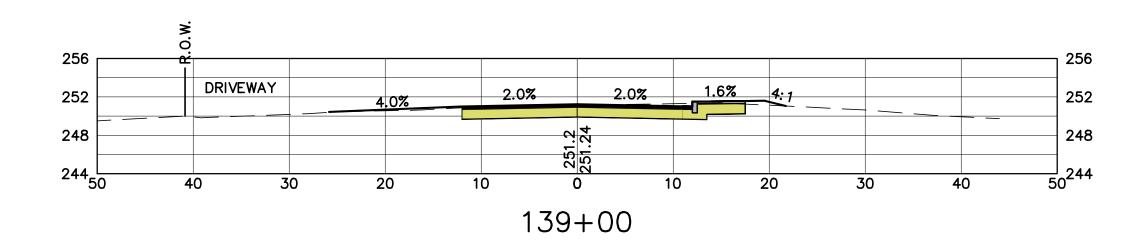
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SFDFORD ROAD	SS SECTIONS	00 10 138+50		

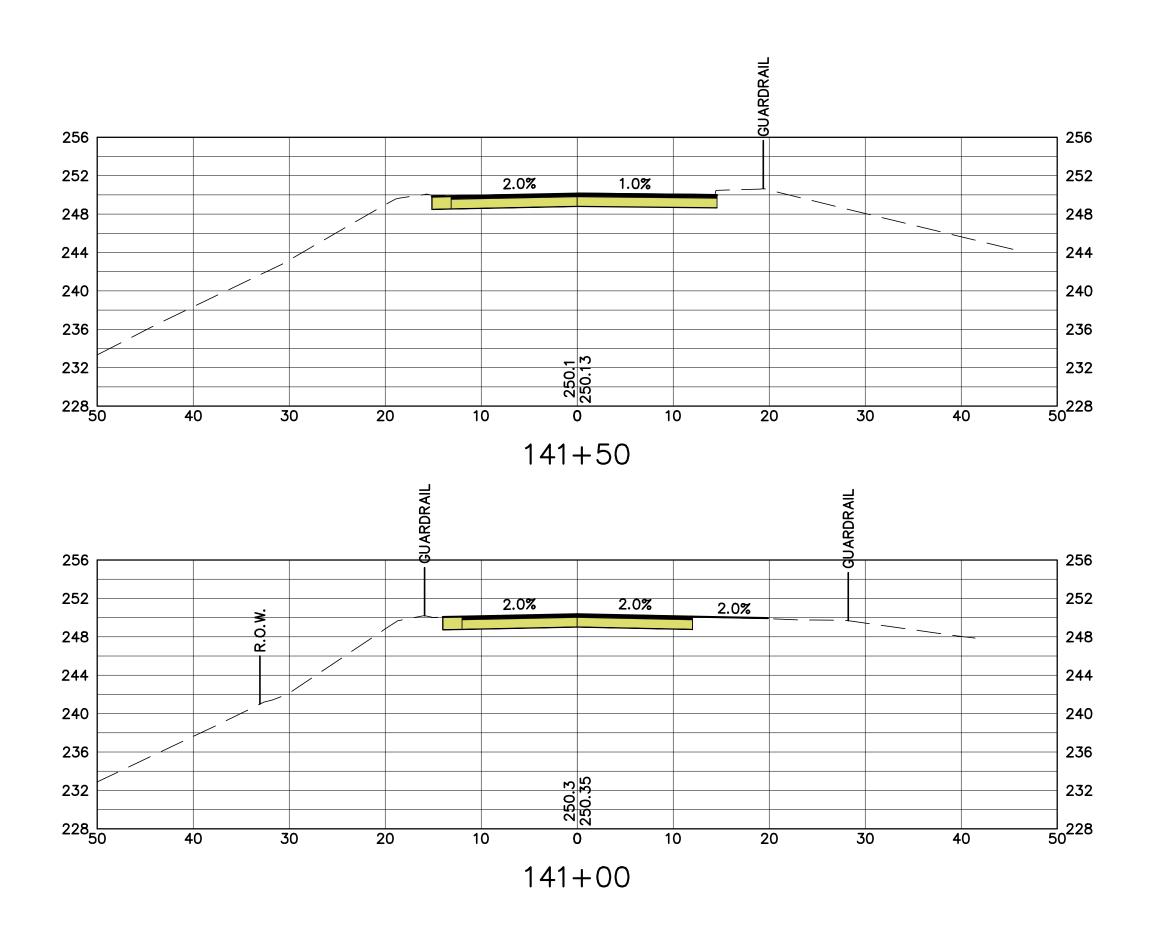
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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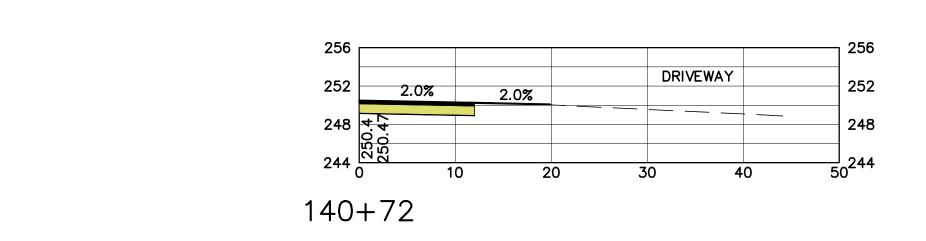
	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	FFT: 36 OF 62 SCALE: AS SHOWN
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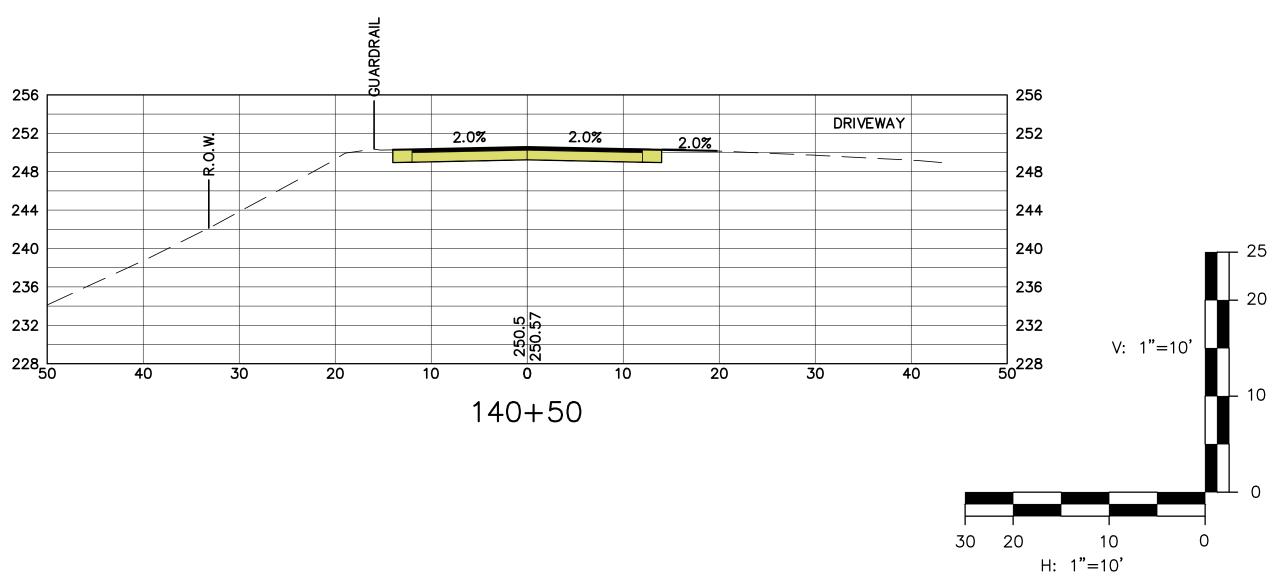






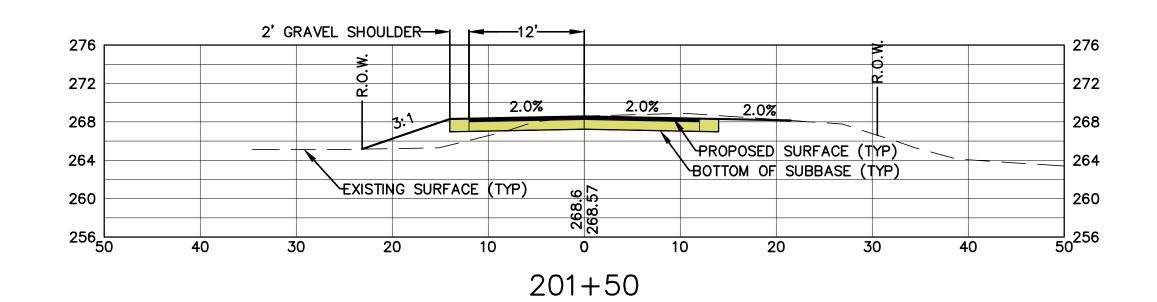


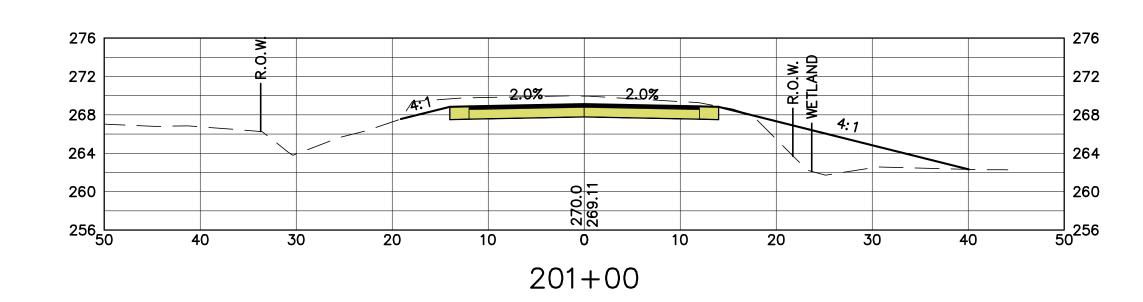


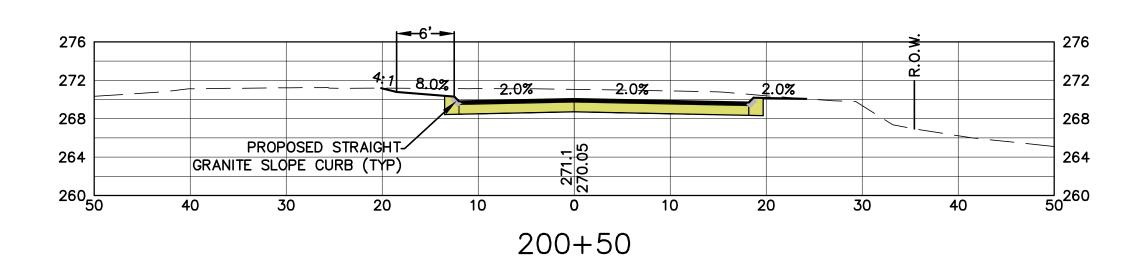


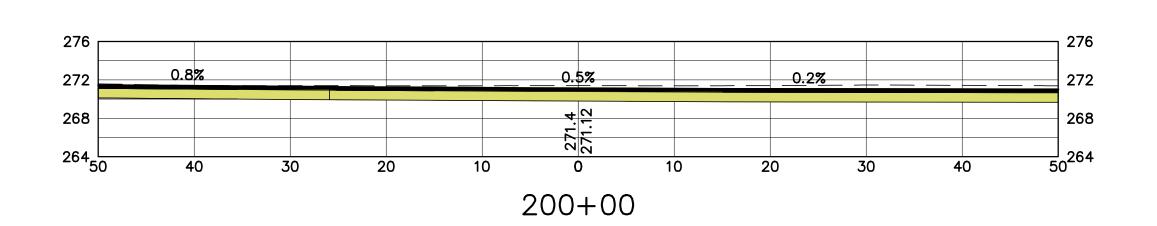
OLD BEDFORD ROAD CROSS SECTIONS 139+00 TO 141+50					DATE REVISION DESCRIPTION	
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5110		OLD BEDFORD ROAD	CROSS SECTIONS	139+00 TO 141+50	5	
ARED FOR: AMHERST ROAD HAMPSHIRE 03110	D FOR:	BEDFORD	HERST ROAD	AMPSHIRE 03110	PROJ. 77-2015	

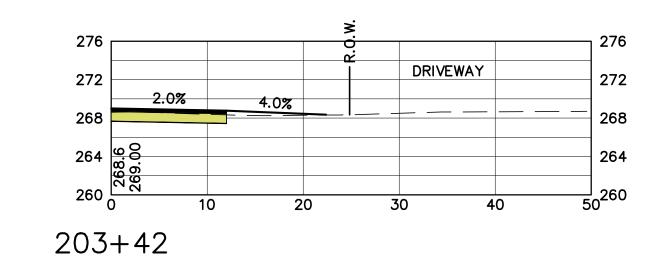
24 NORTH AN BEDFORD, NEW H	RECONSTRUCTION BEDFORD, NEW HAMPSHIRE
TOWN OF	HOLBROOK ROAD
PREPAR	OLD BEDFORD ROAD AND
	25 20 10 0

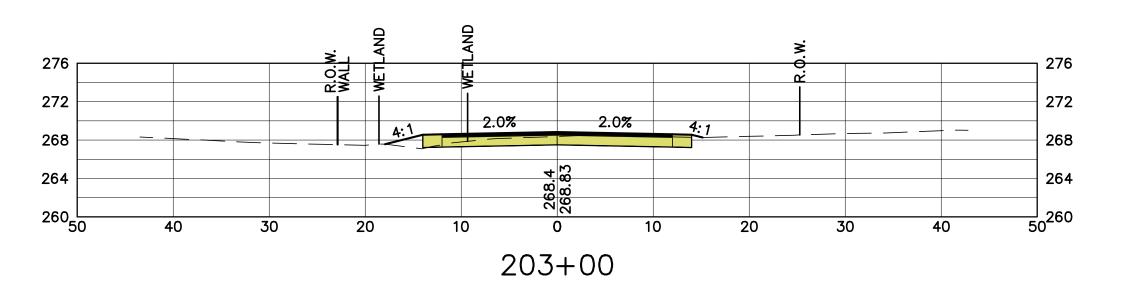


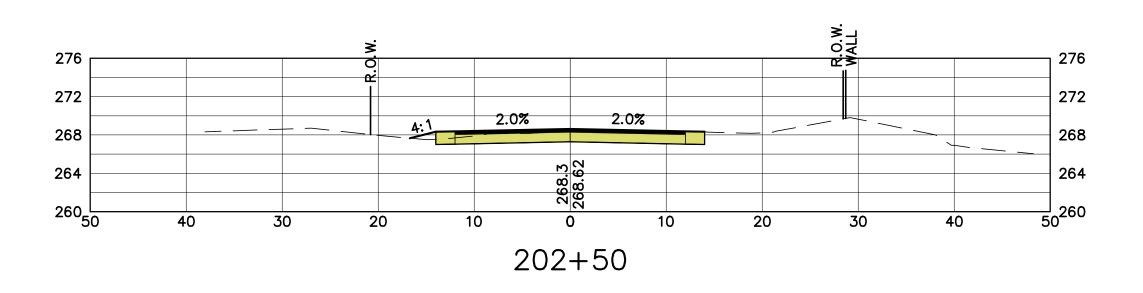


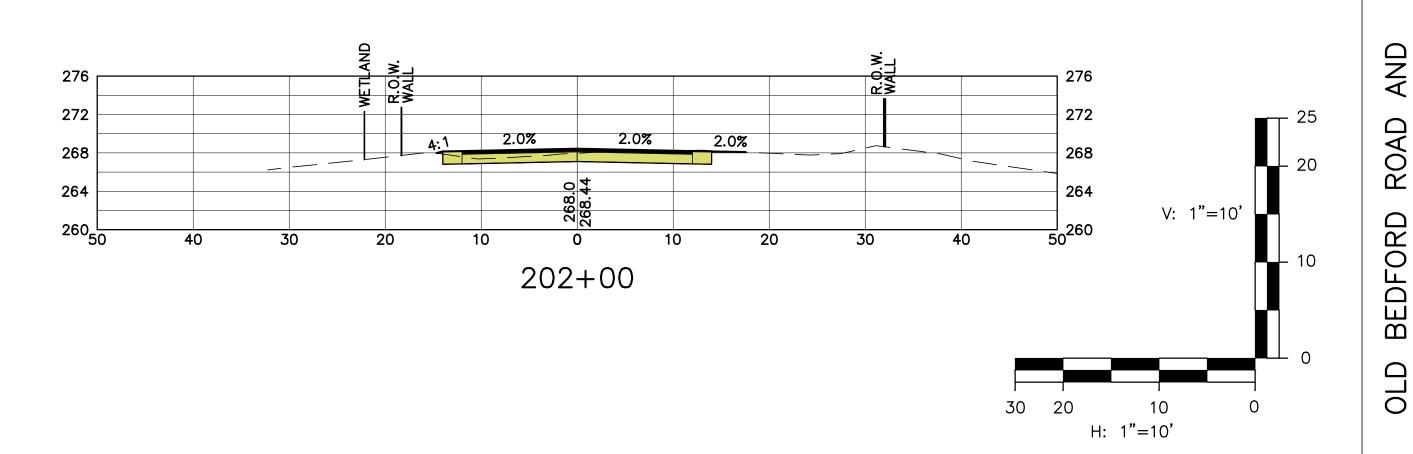


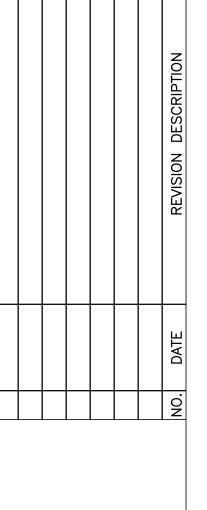






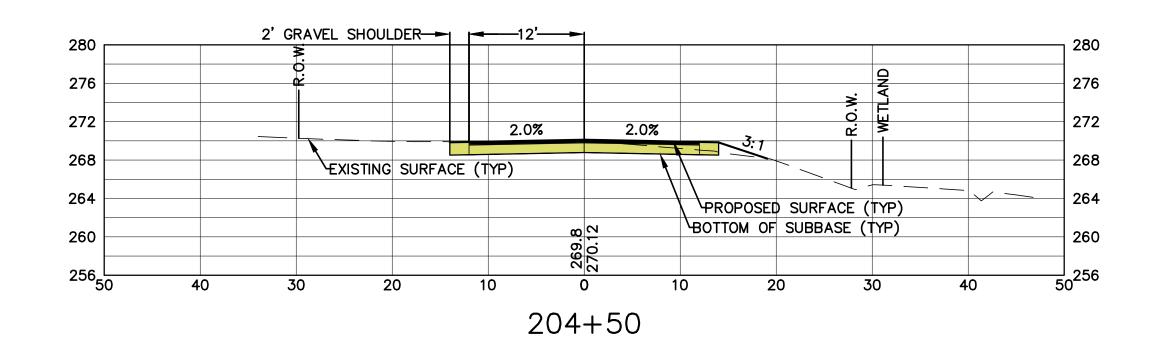


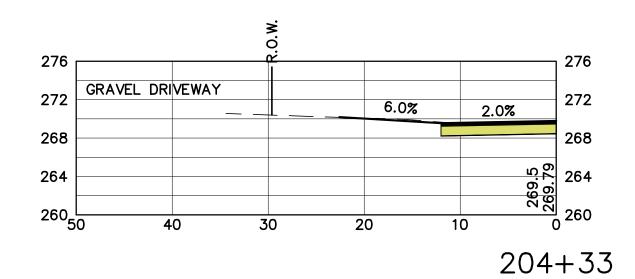


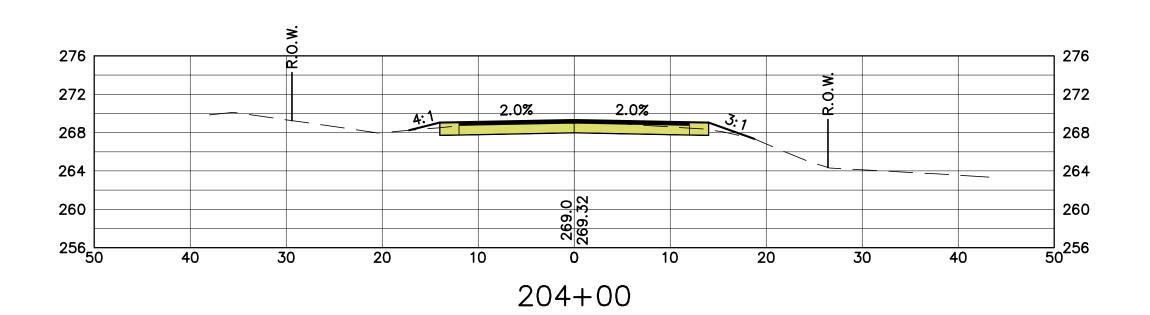


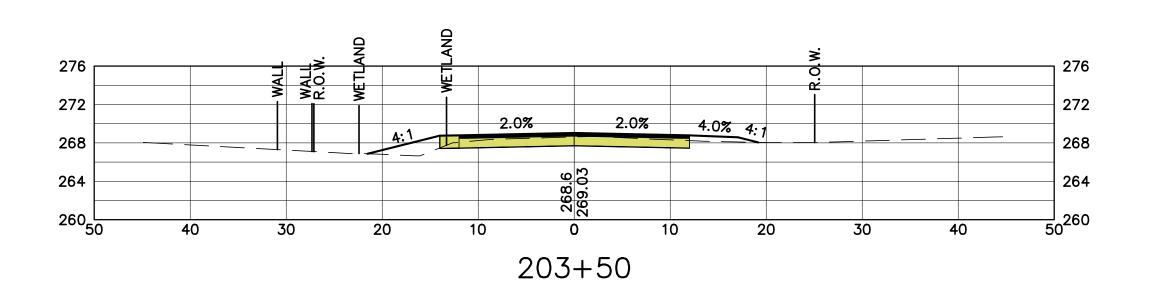
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110	
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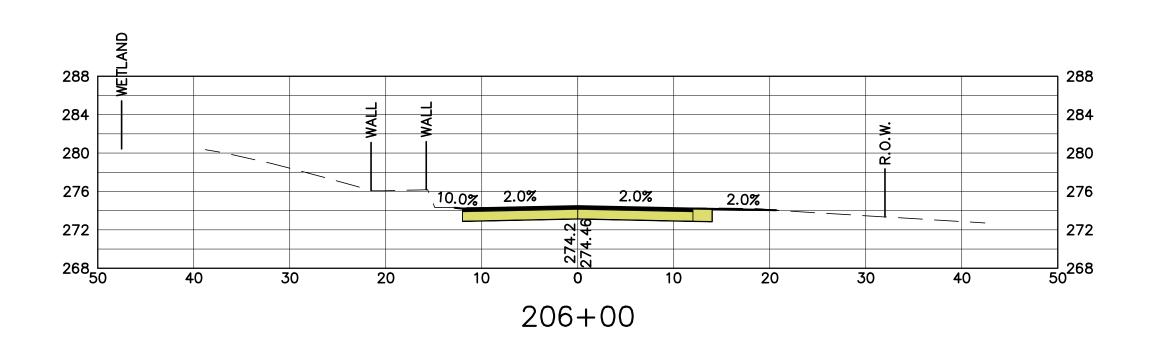
OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	

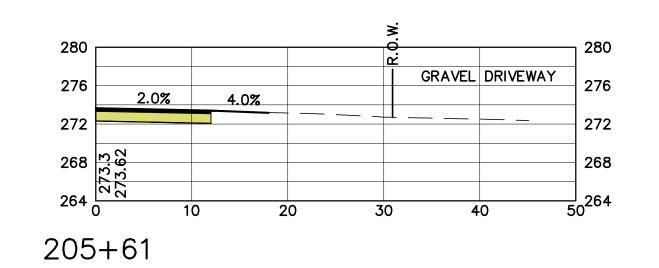


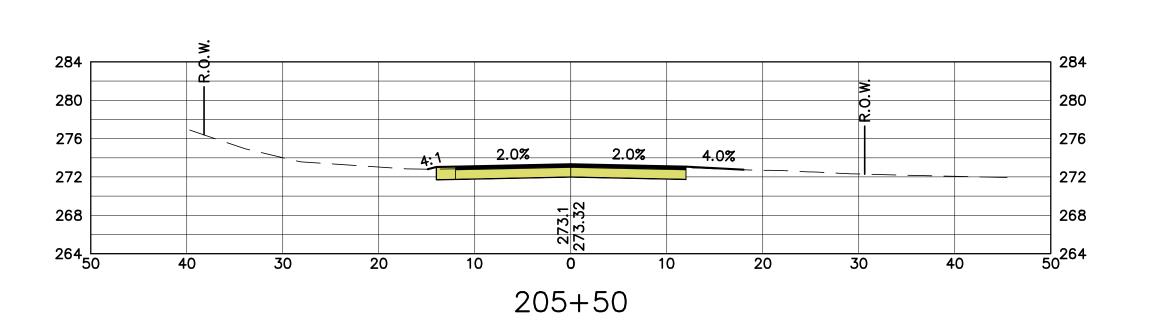


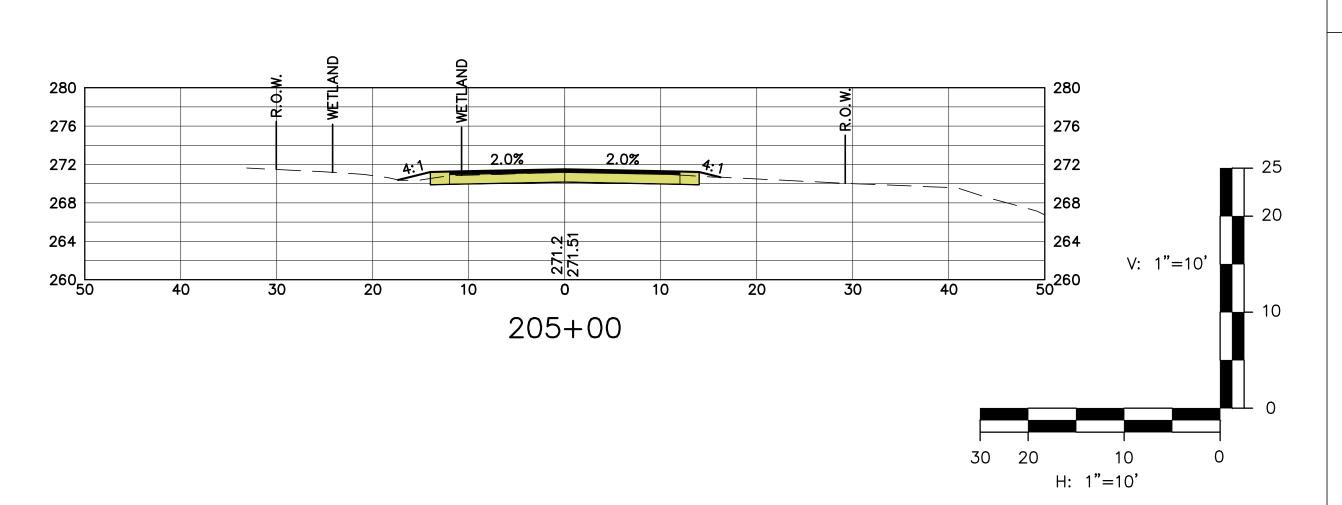


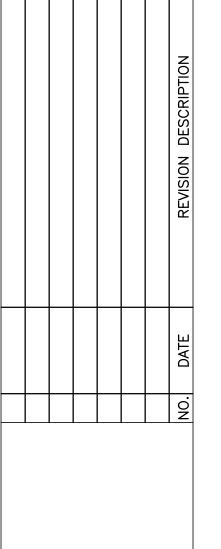




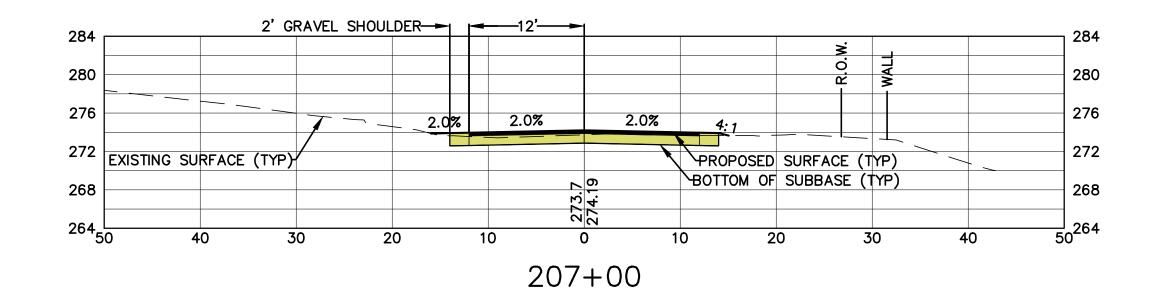


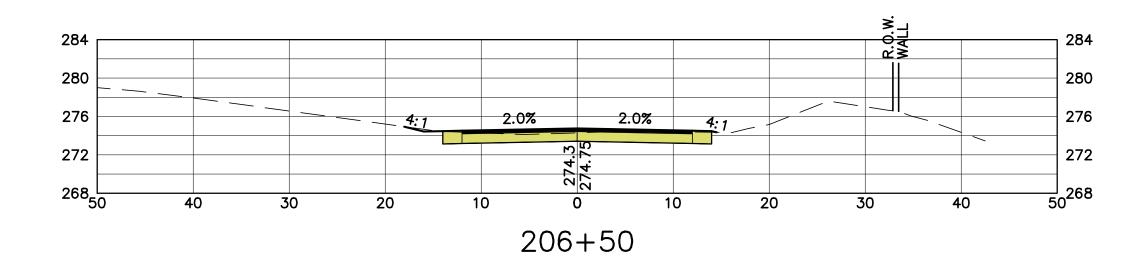


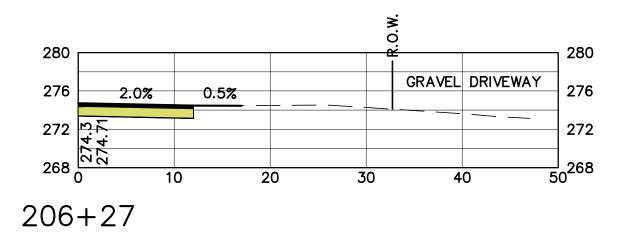


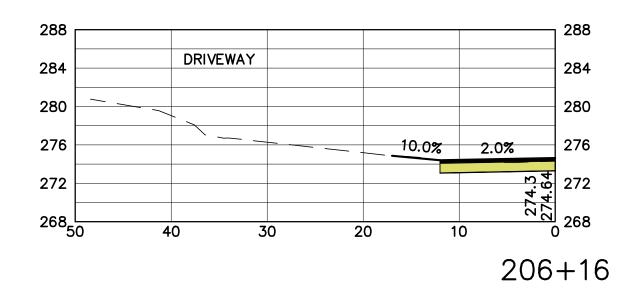


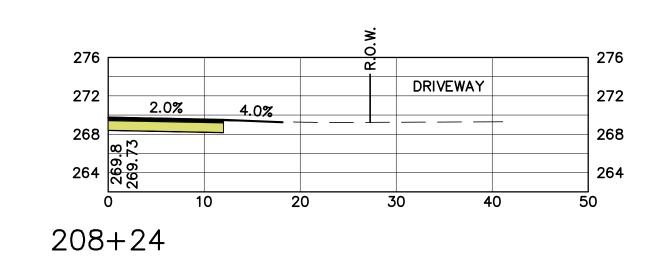
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OLD BEDFORD ROAD AND	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	- - ()
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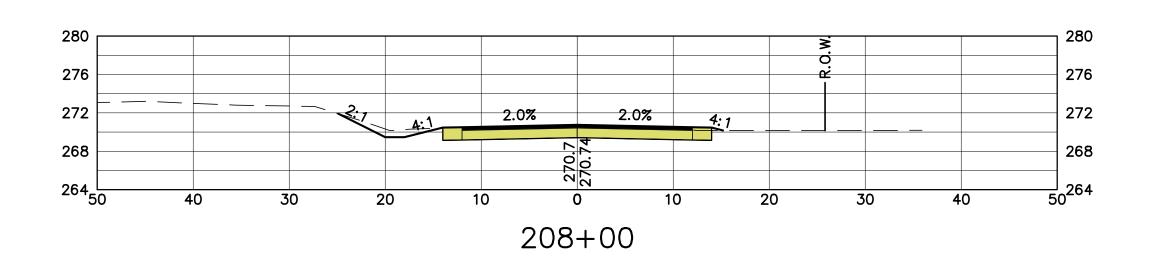


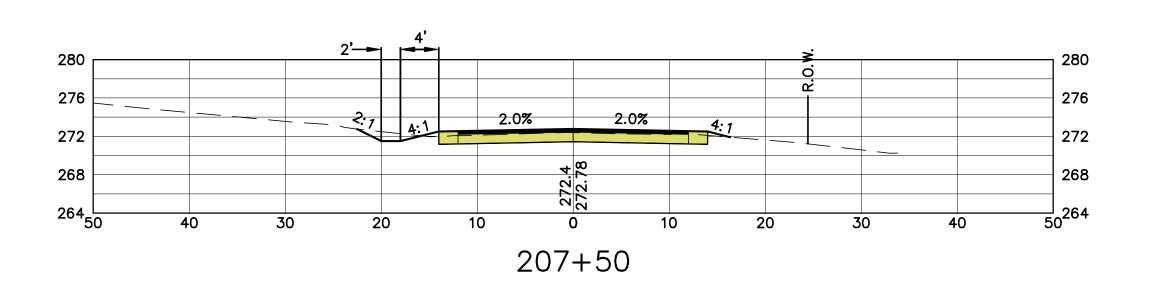


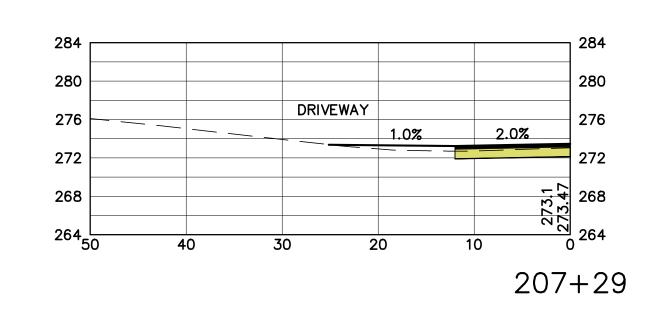


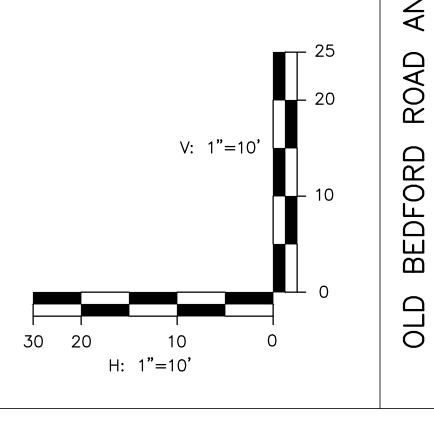


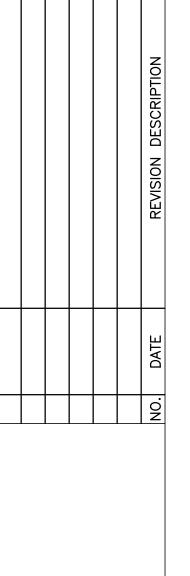






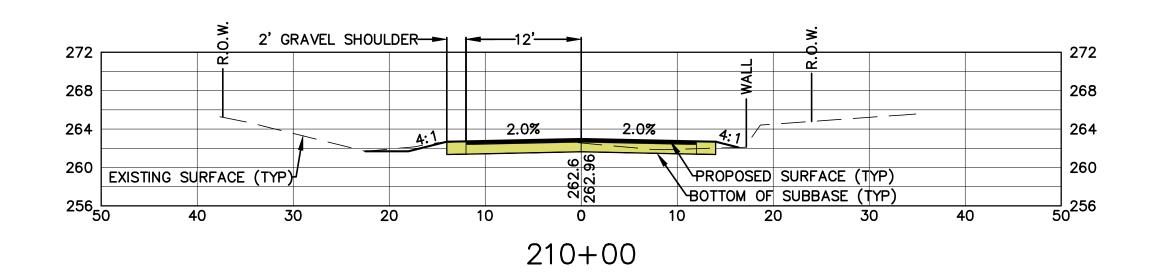


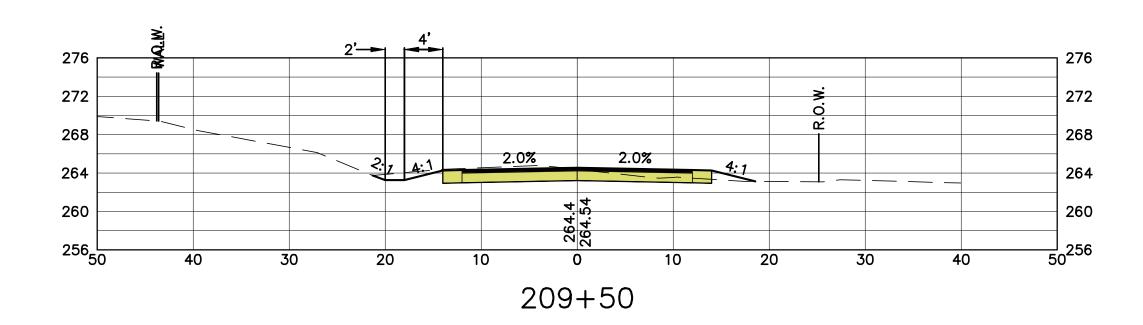


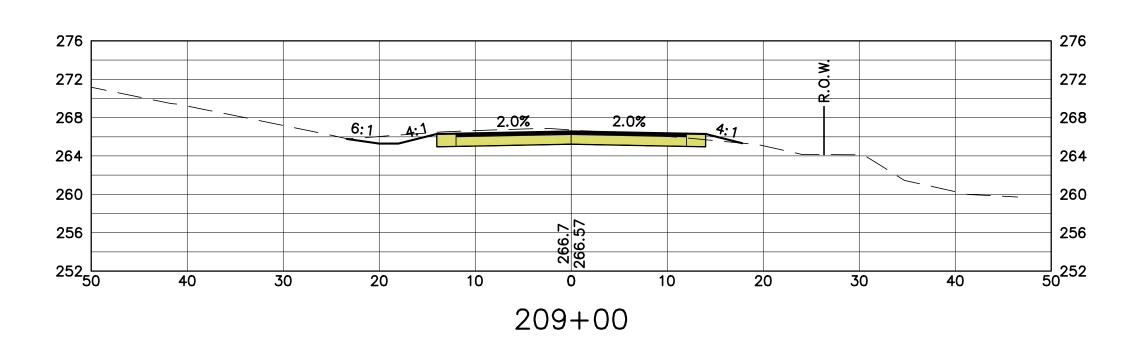


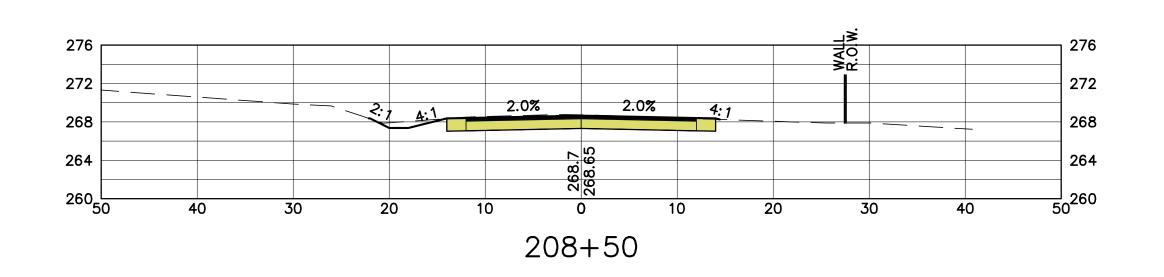
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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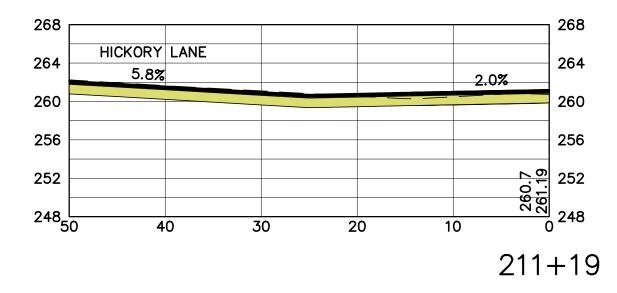
BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION IDFORD, NEW HAMPSHIRE	NWCHO OV 19 IVOO
BEDFOI HOLBRC RECONS DFORD, N	05 50

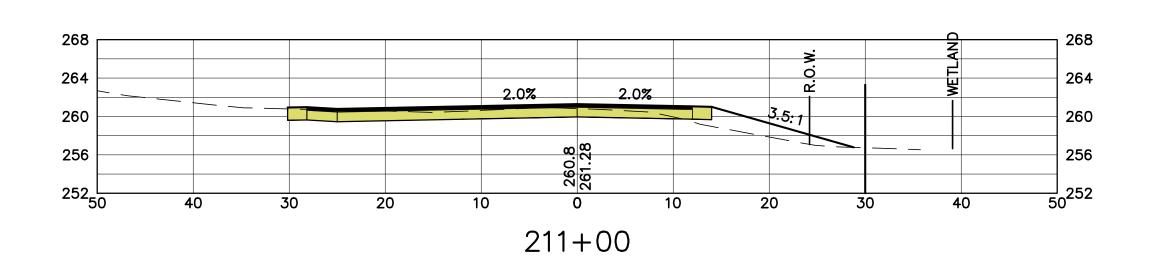


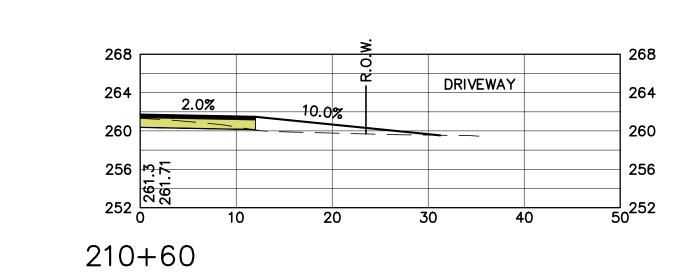


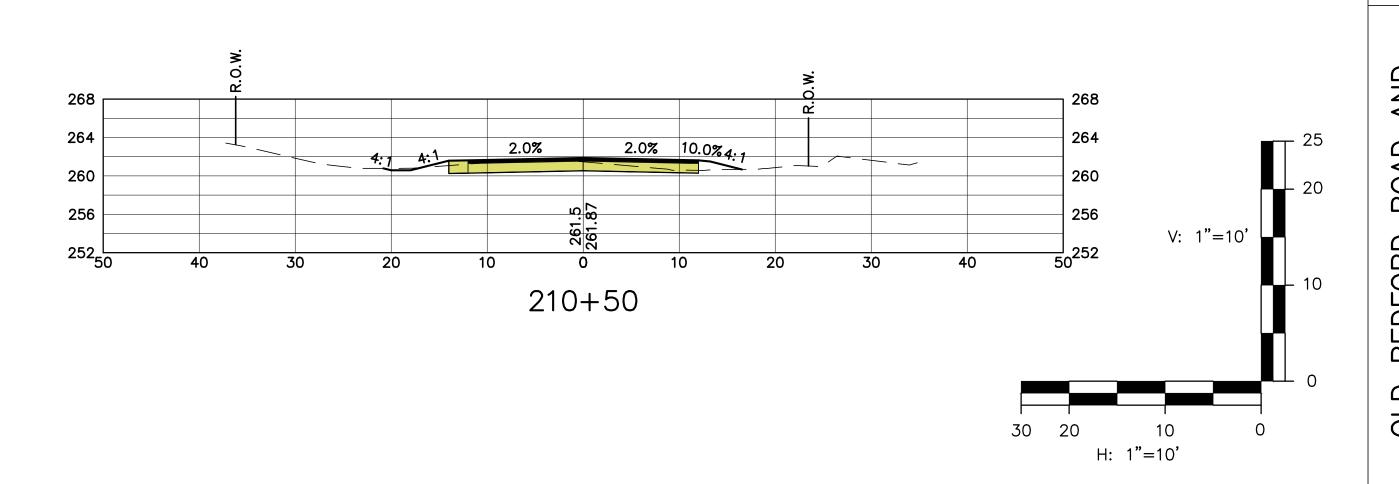










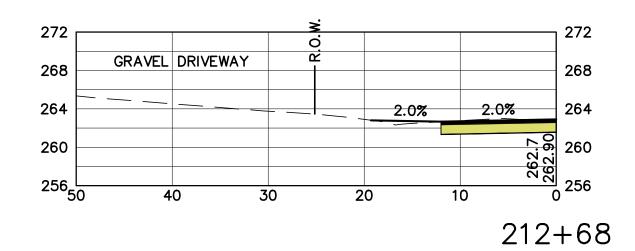


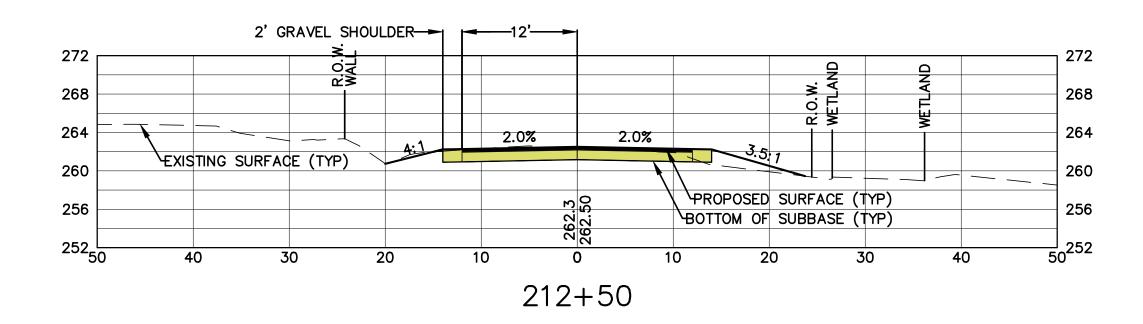
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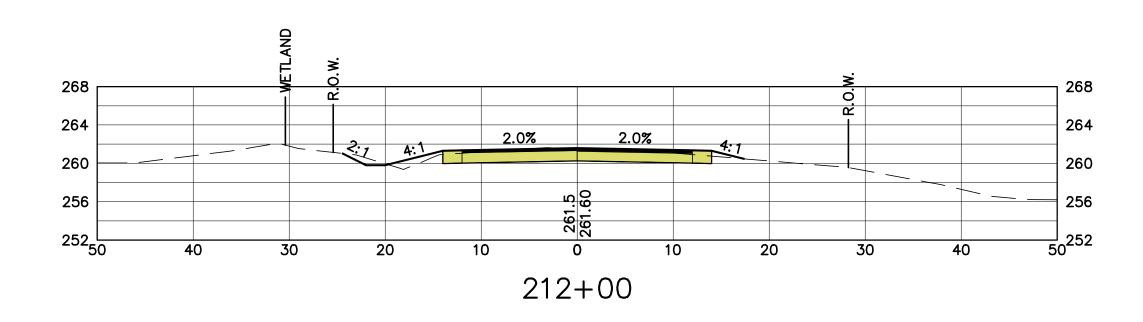
HOI BROOK BOAD	SECTI	208+50 TO 211+19

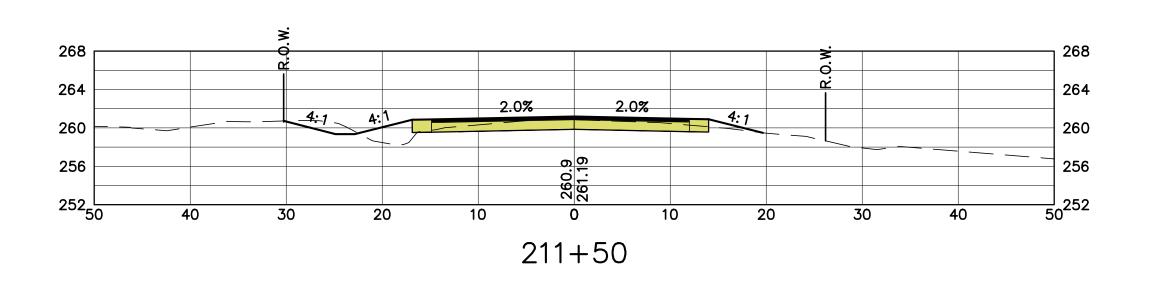
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110	
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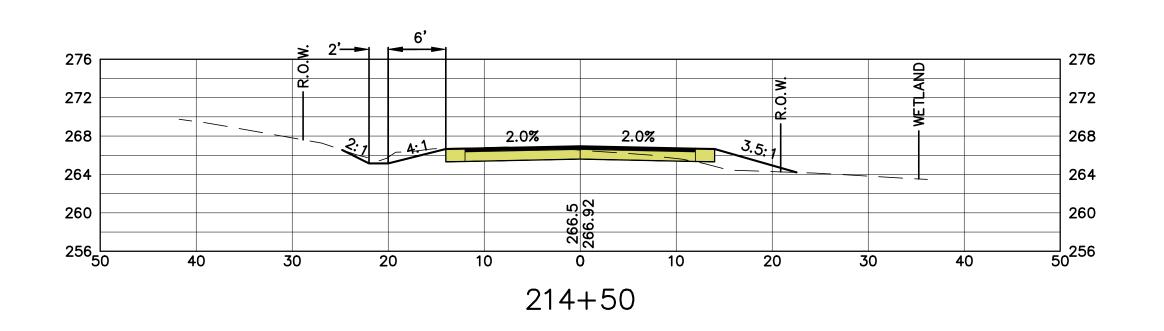
TORD ADD AND	3ROOK ROAD	RECONSTRUCTION	SEDFORD, NEW HAMPSHIRE	
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J BEDFORD	HOLBROOK	RECONSI	BEDFORD, NE	

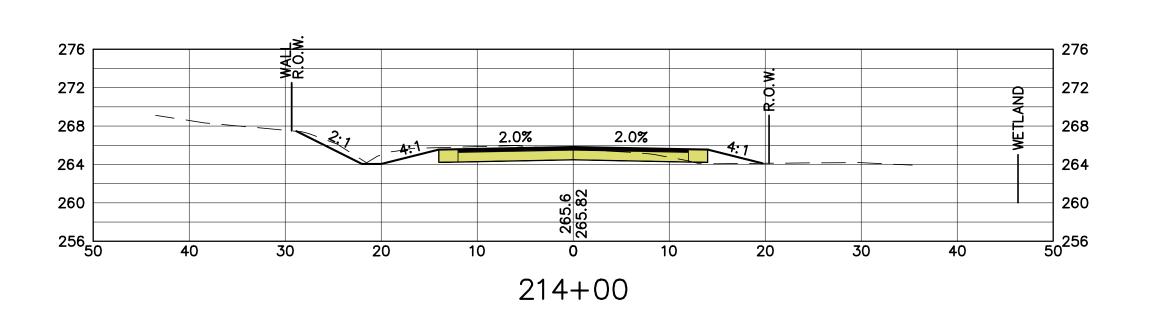


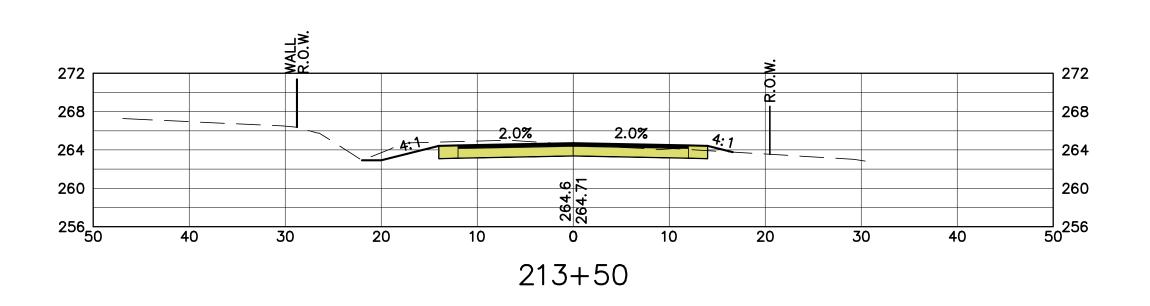


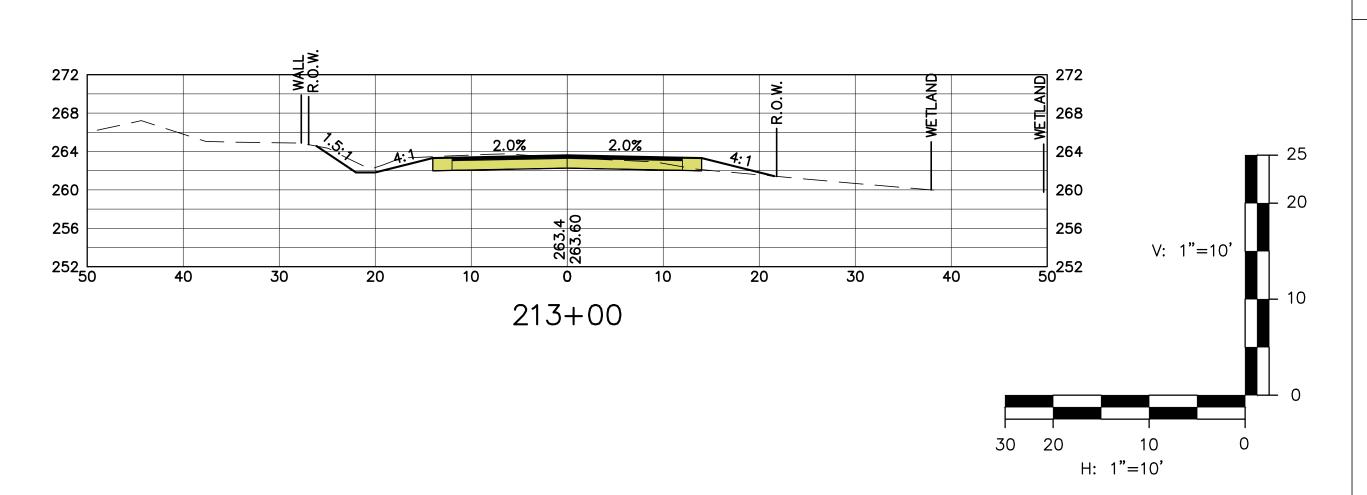


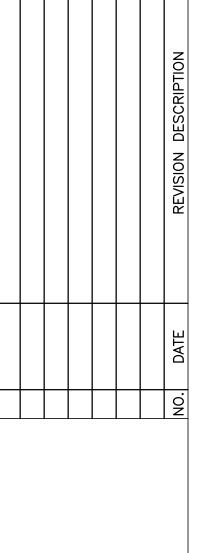








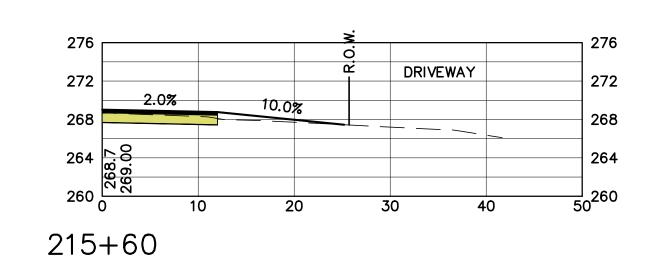


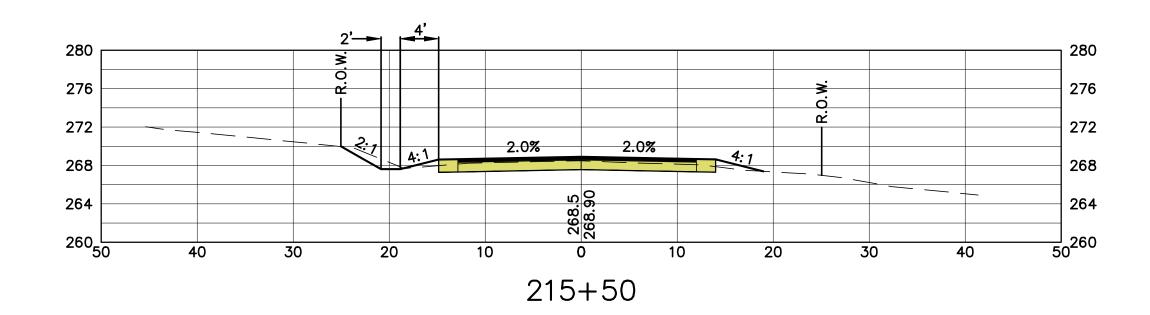


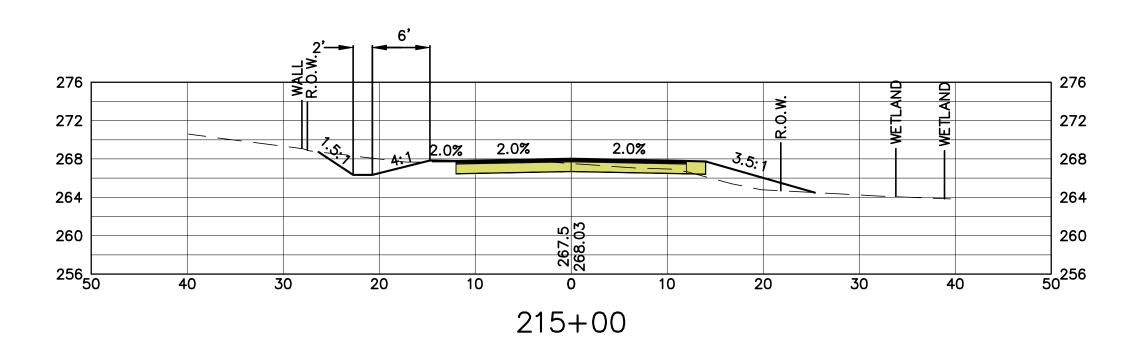
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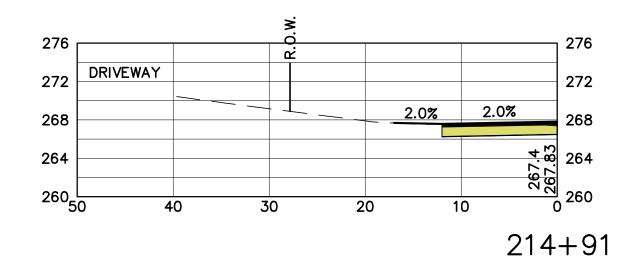
PREPARED FOR: TOWN OF BEDFORD 24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 0311	
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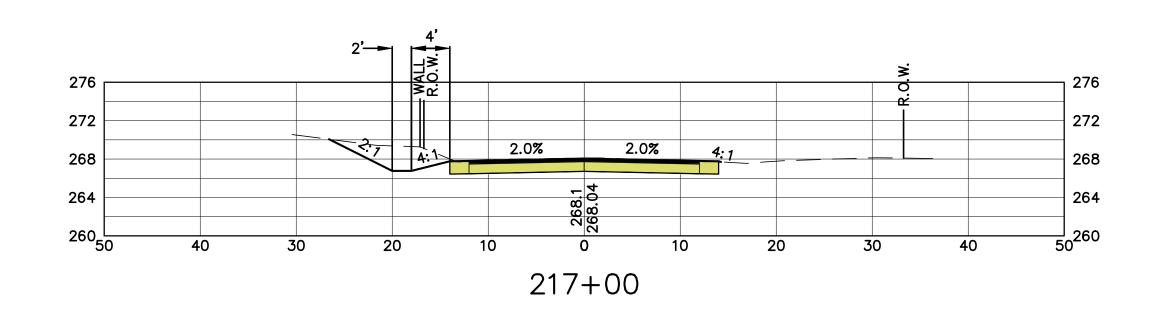
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OLD BEDFORD ROAD AND	HOLBROOK ROAD	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE

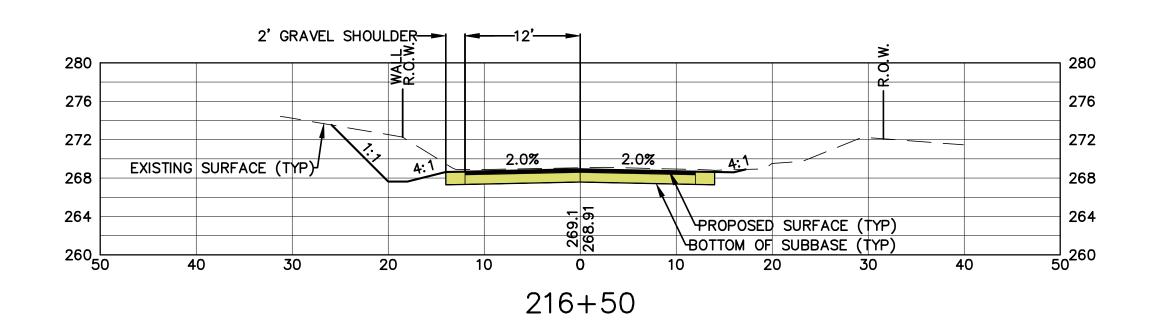


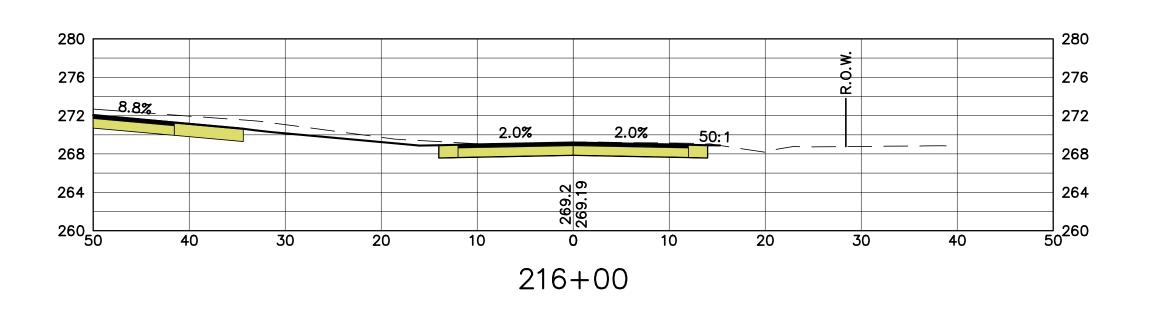


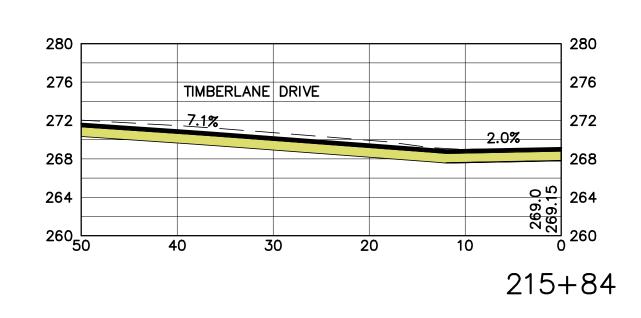


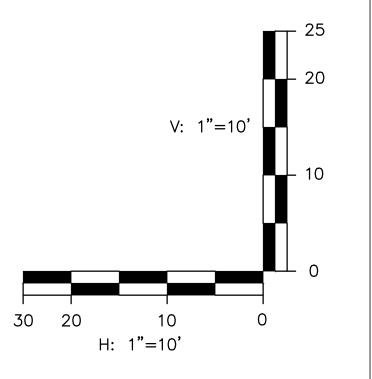






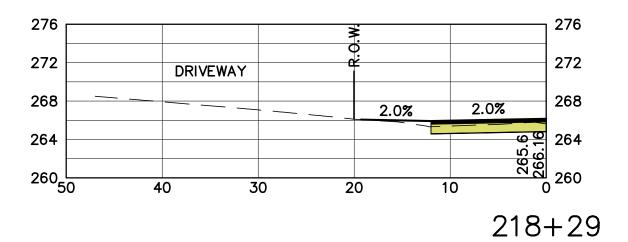


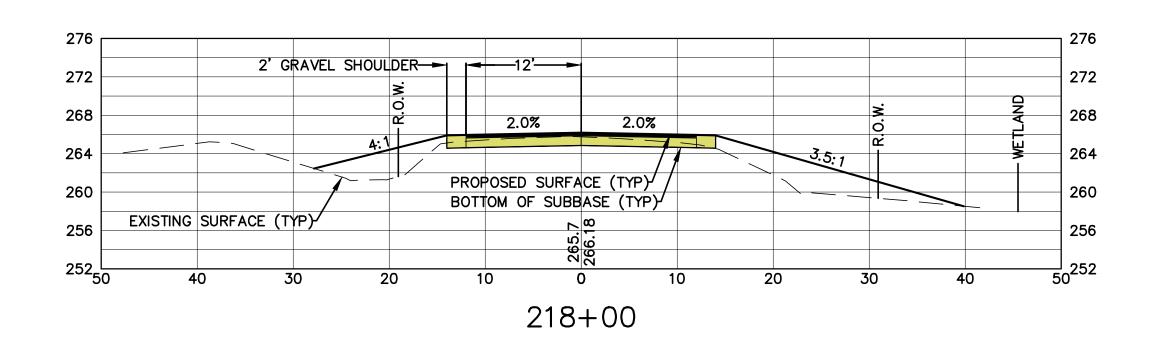


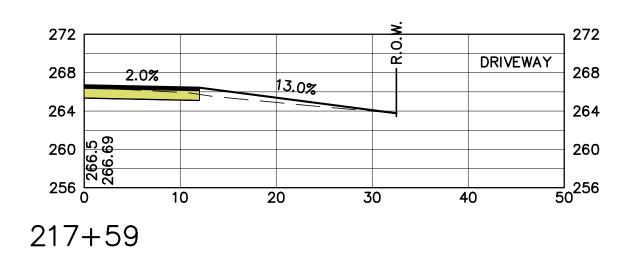


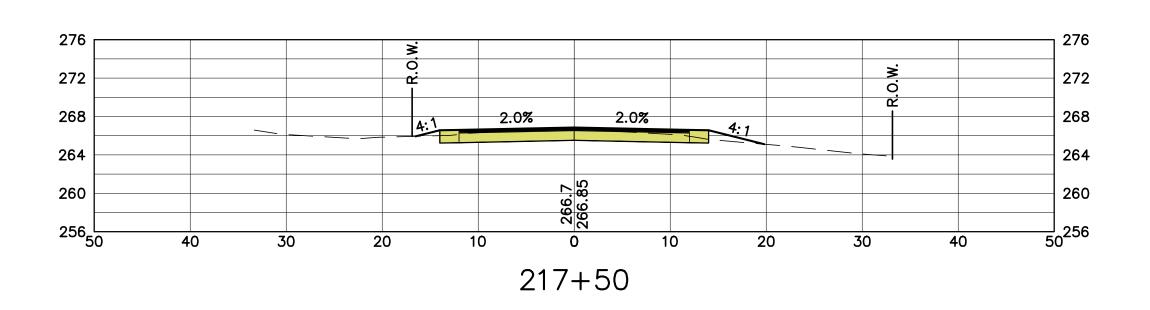
				NO. DATE REVISION D	
	HOLBROOK ROAD	CROSS SECTIONS	214+91 TO 217+00		
יורן יוירה - סויי	TOWN OF BEDFORD	24 NORTH AMHERST ROAD	SEDFORD, NEW HAMPSHIRE 03110	DATE: MAY 7, 2015 PROJ. 77-2015	

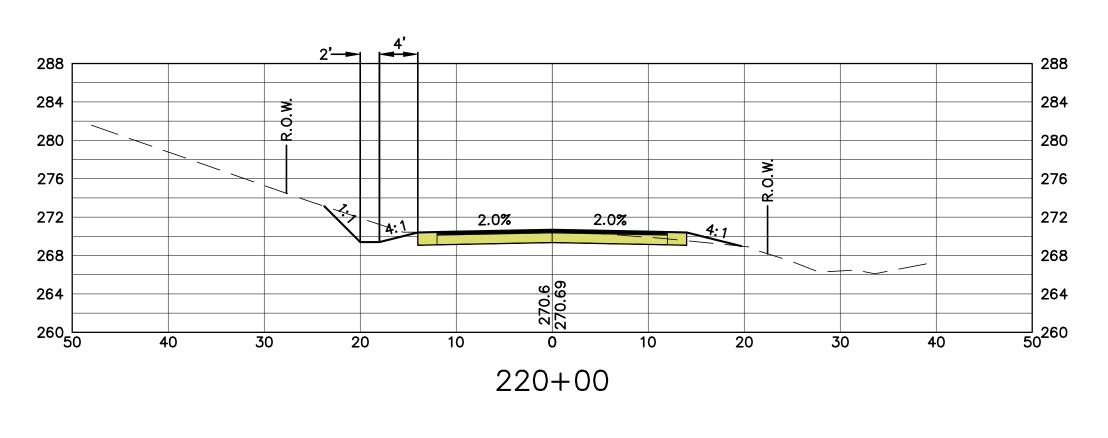
OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE	SCALE: AS SHOWN
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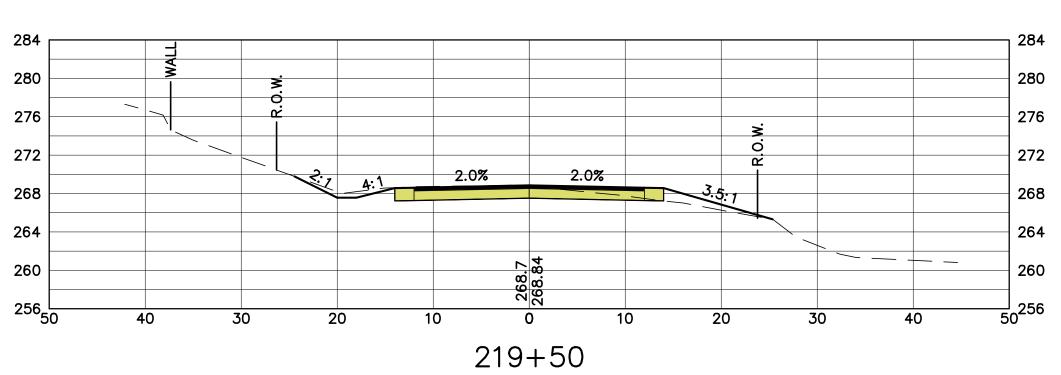


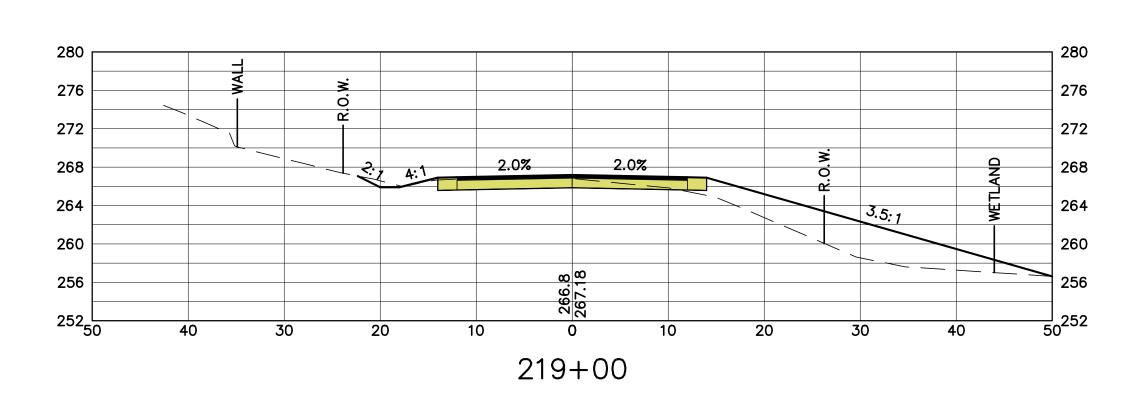


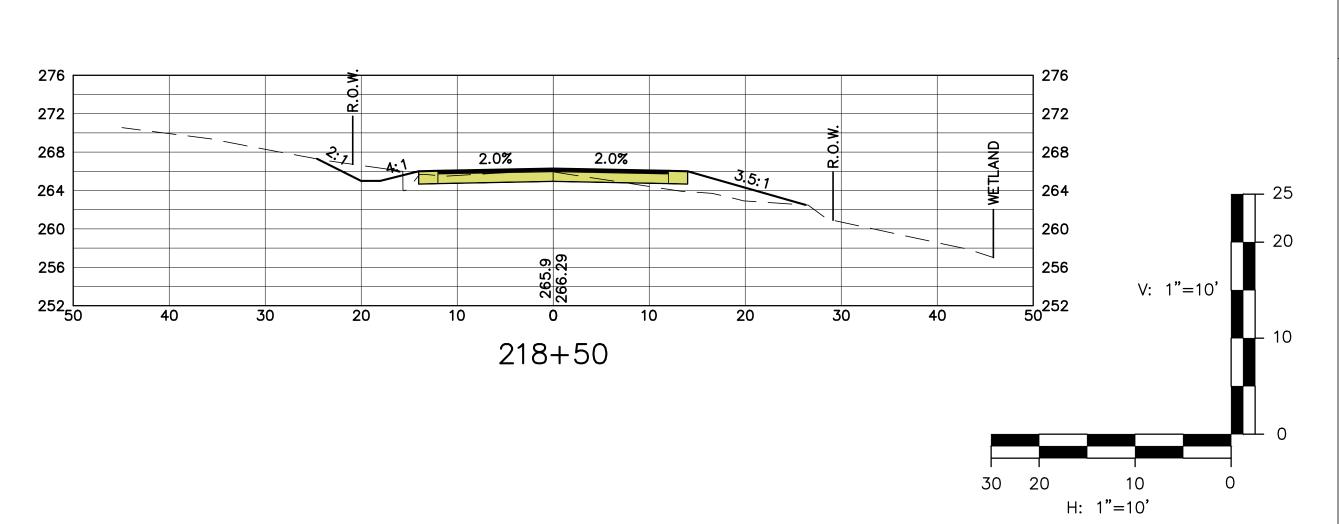


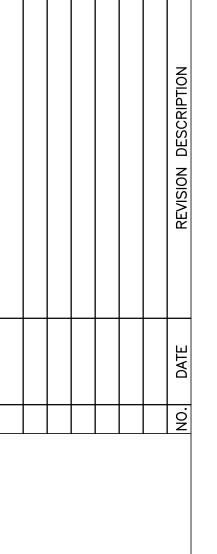










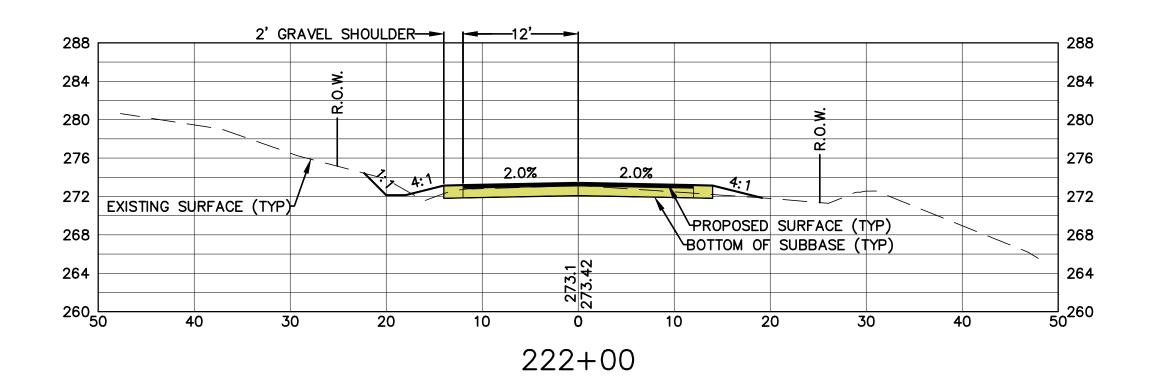


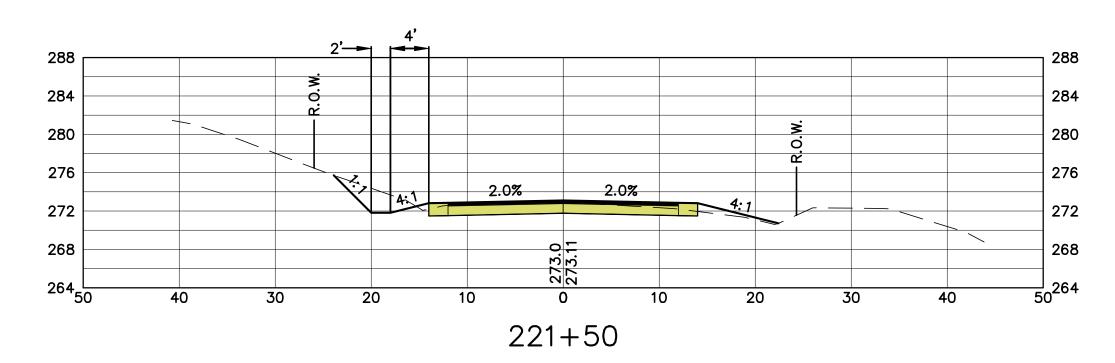
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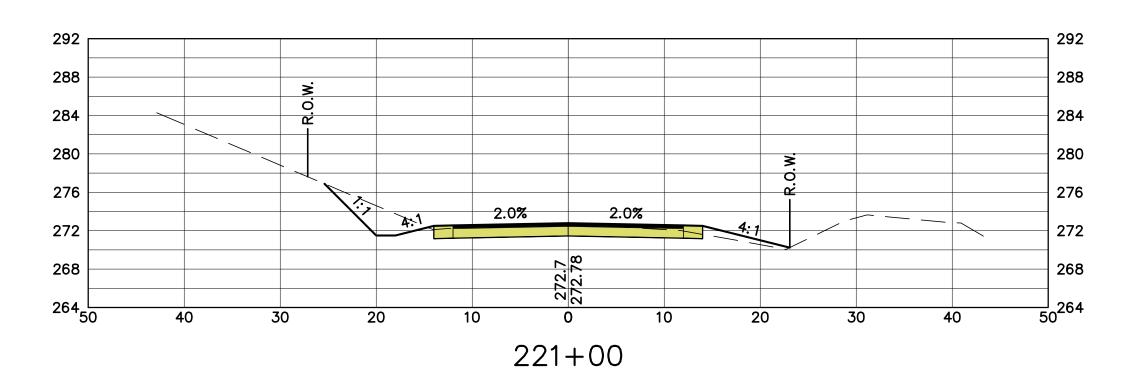
TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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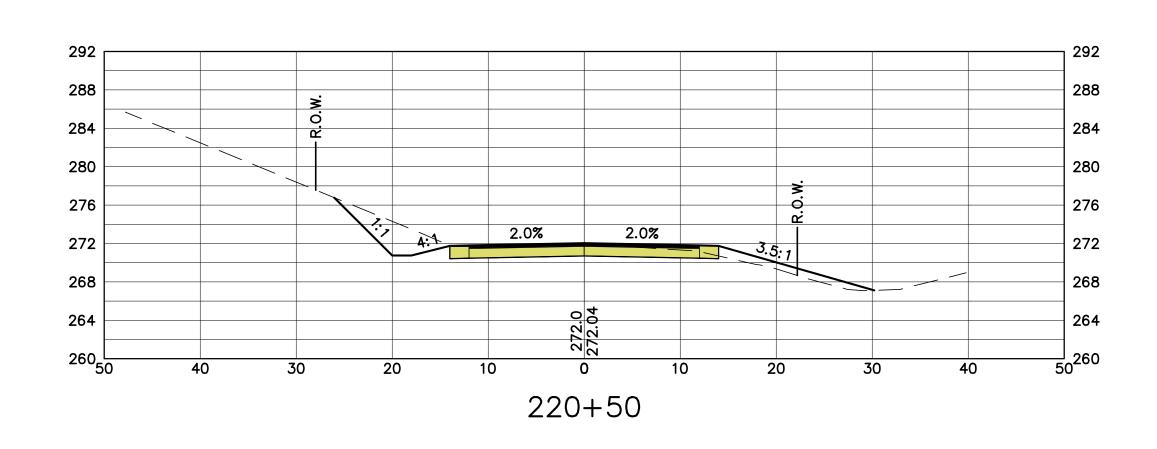
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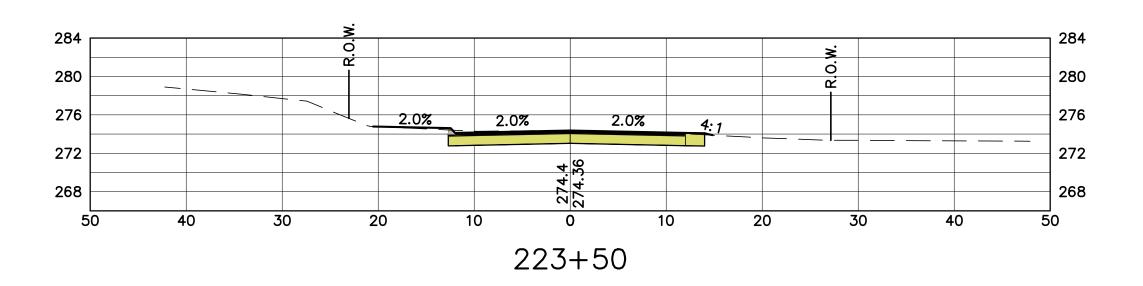
OLD BEDFORD ROAD AND	HOLBROOK ROAD	RECONSTRUCTION	BENEORN NEW HAMBCHIRE

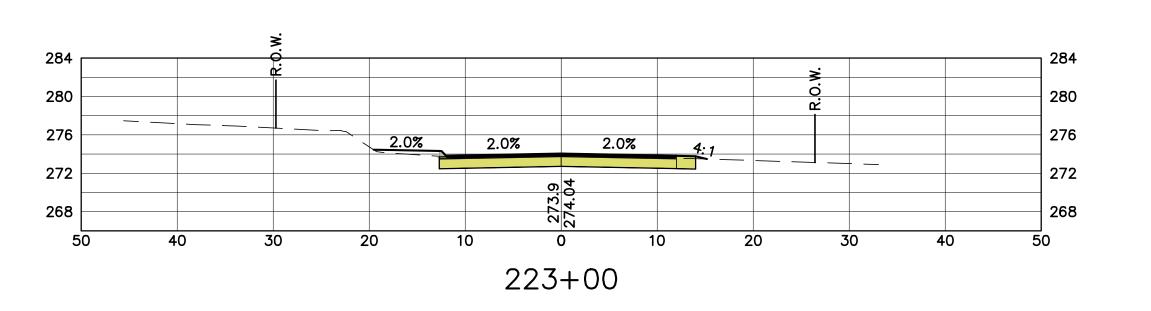


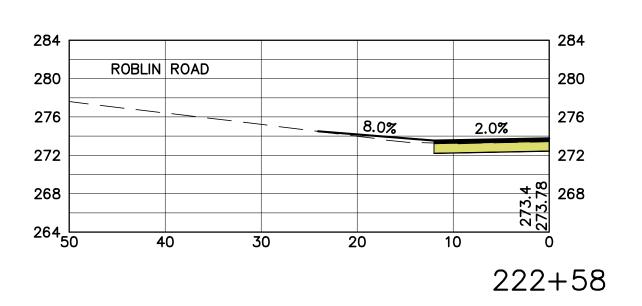


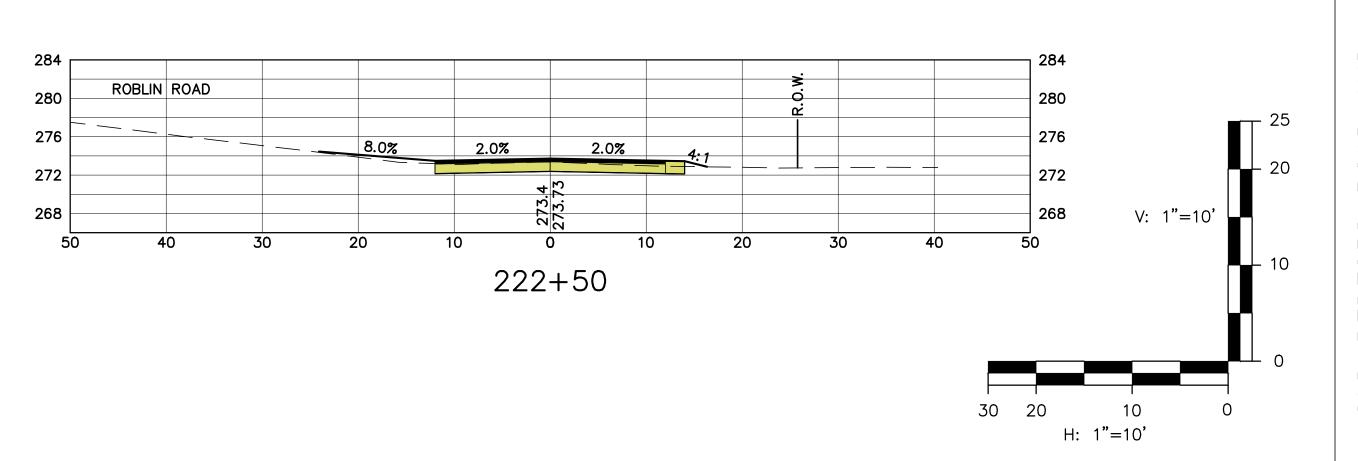


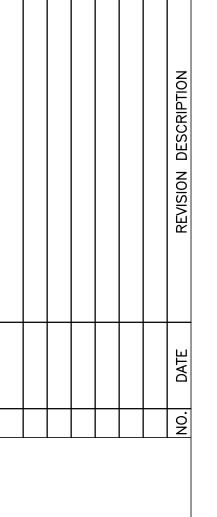












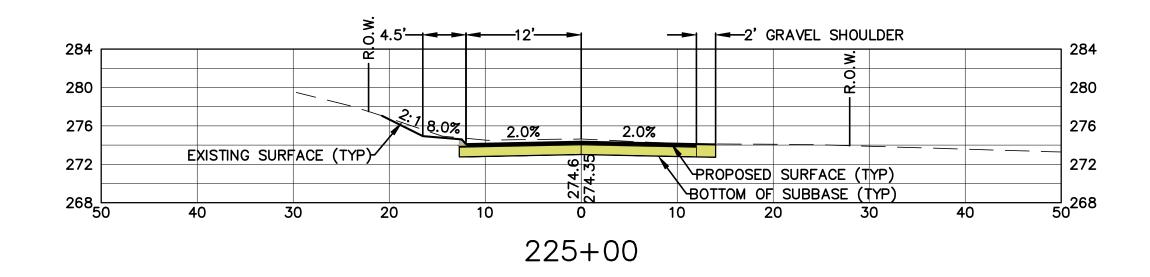
HOLBROOK ROAD CROSS SECTIONS 220+50 TO 223+50

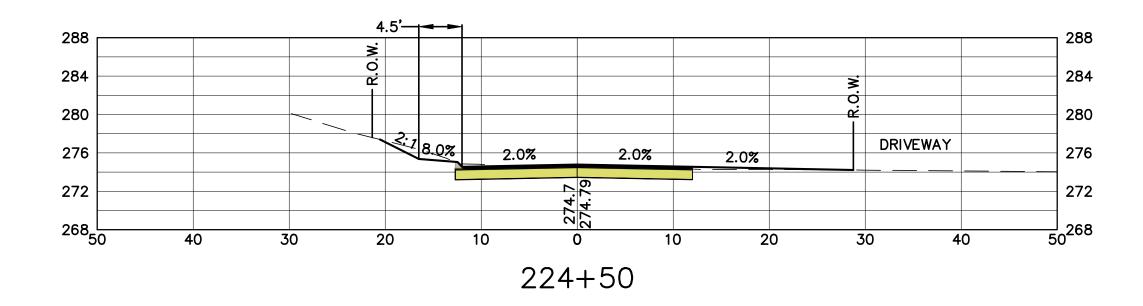
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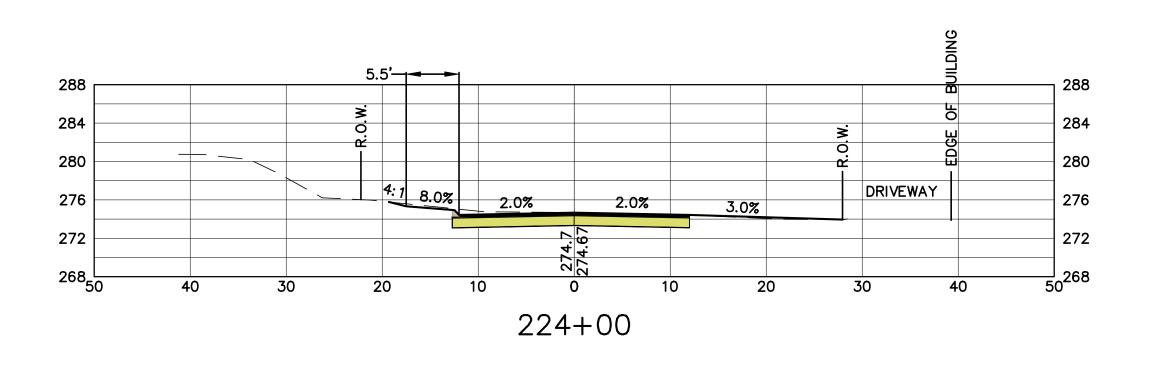
TOWN OF BEDFORD

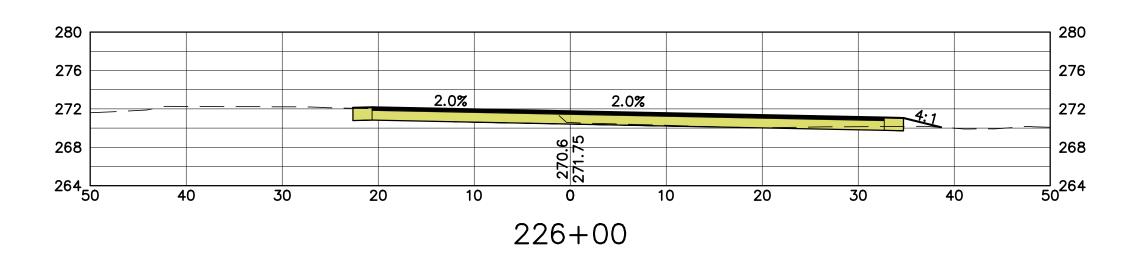
24 NORTH AMHERST ROAD
BEDFORD, NEW HAMPSHIRE 03110

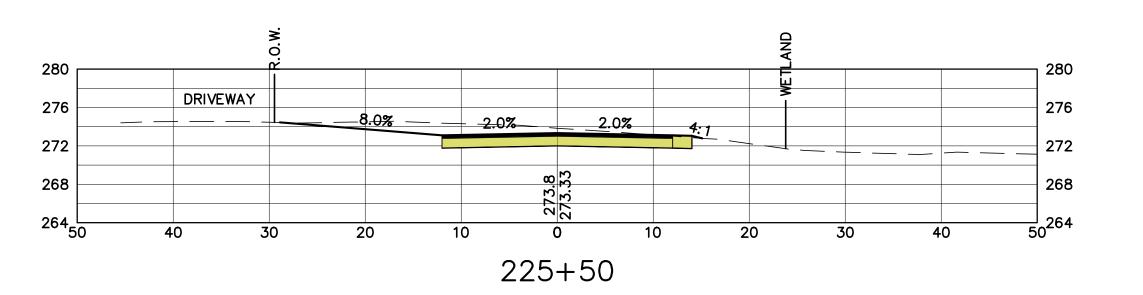
OLD BEDFORD ROAD AND
HOLBROOK ROAD
RECONSTRUCTION
BEDFORD, NEW HAMPSHIRE

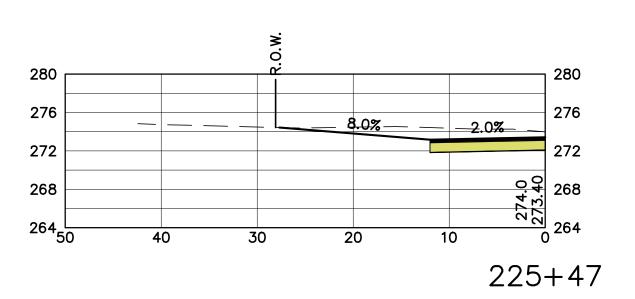


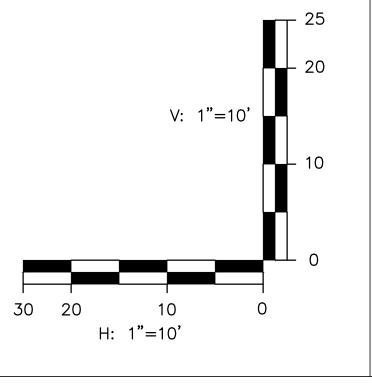








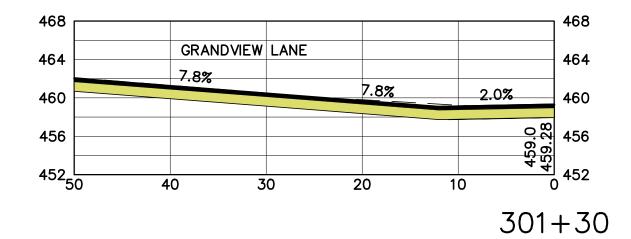


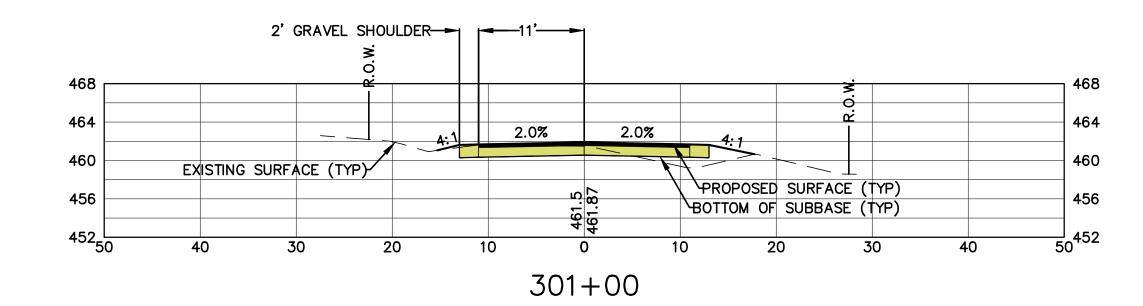


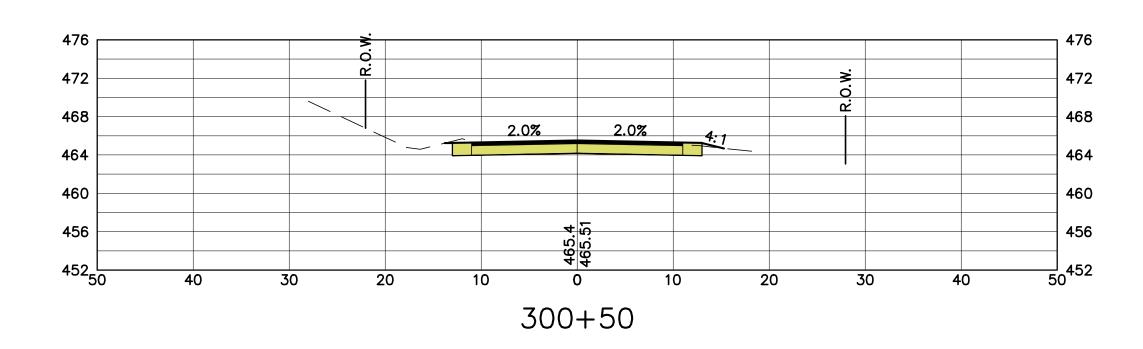
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SOAD		76+00		

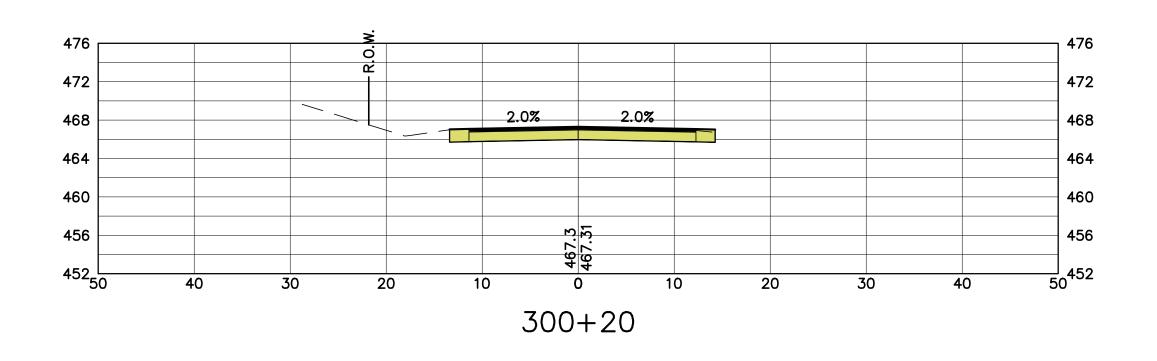
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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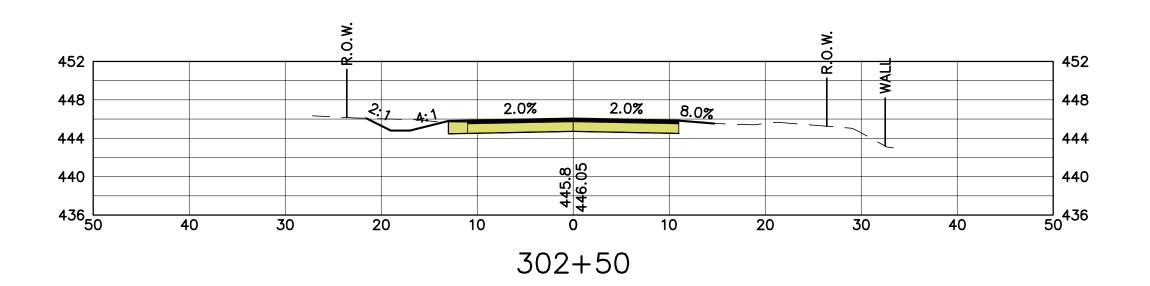
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OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE	

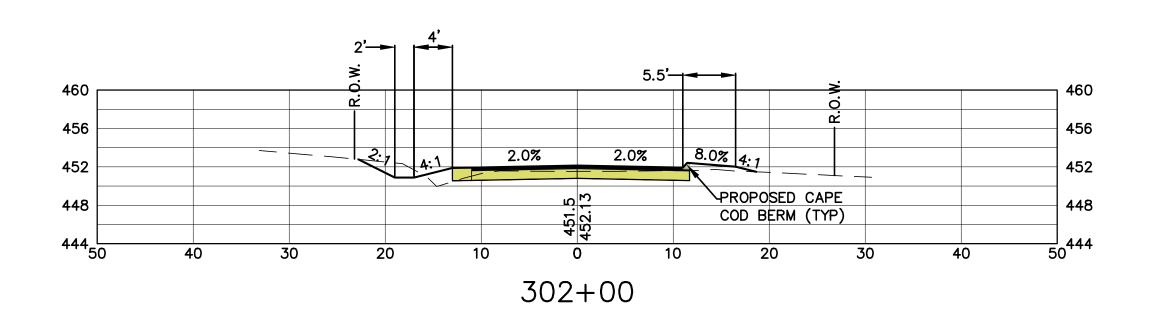


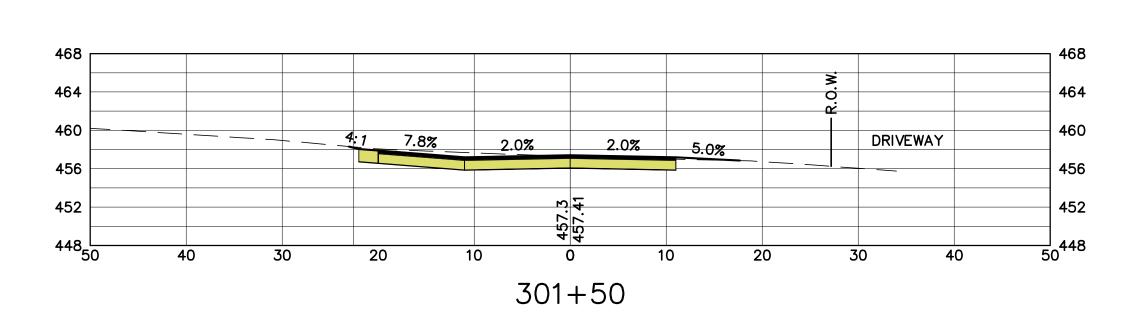


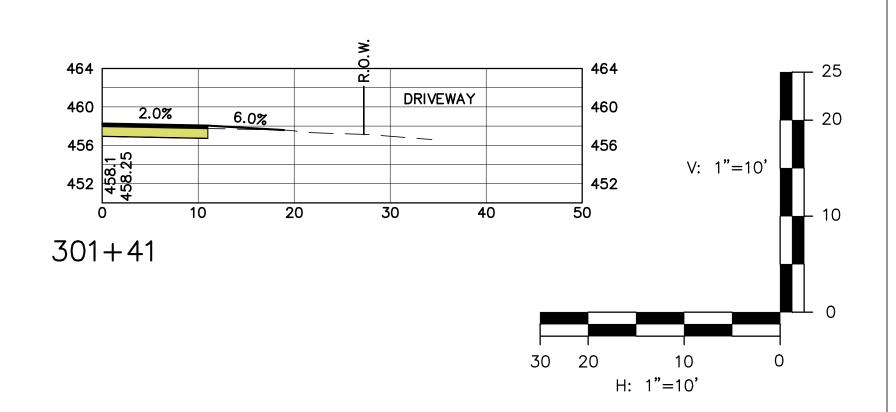










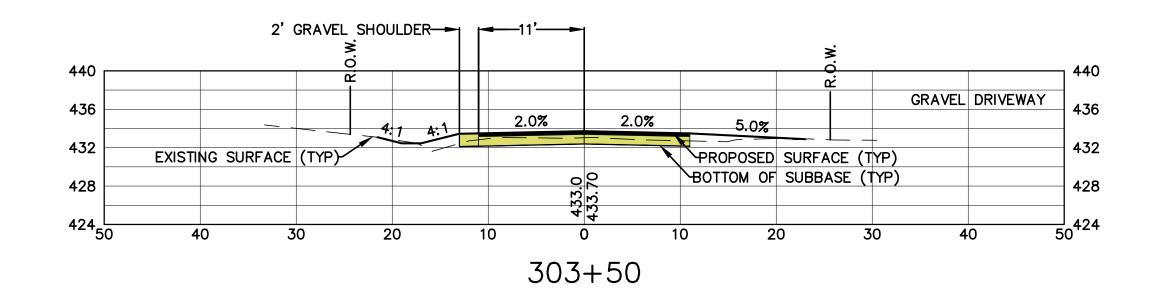


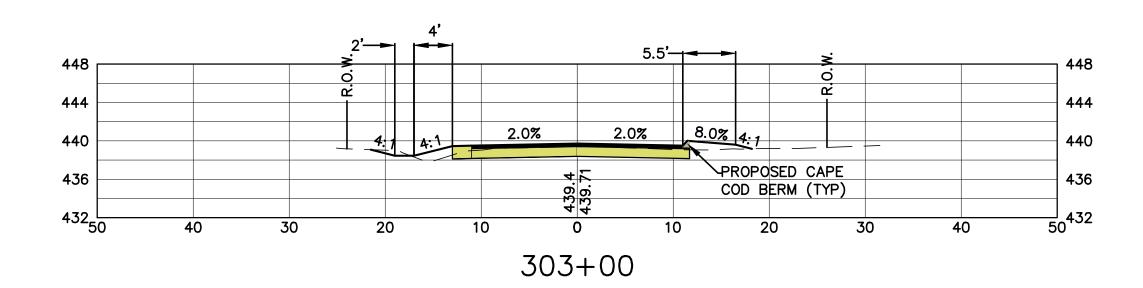
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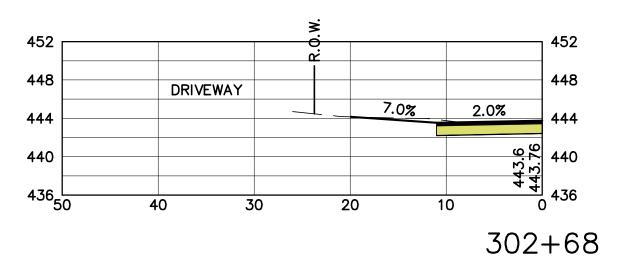
HICKORY LANE
CROSS SECTIONS
300+20 TO 302+50

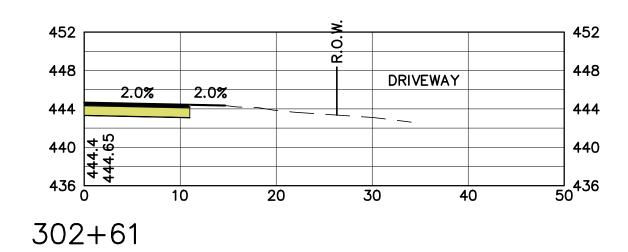
PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03	

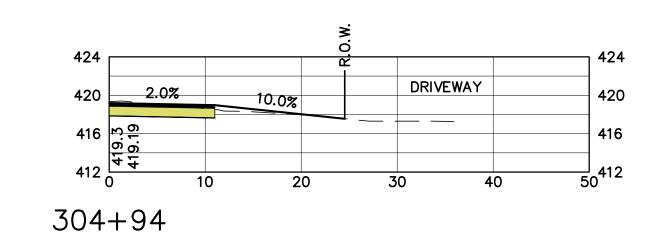
OLD BEDFORD ROAD AND HOLBROOK ROAD RECONSTRUCTION BEDFORD, NEW HAMPSHIRE

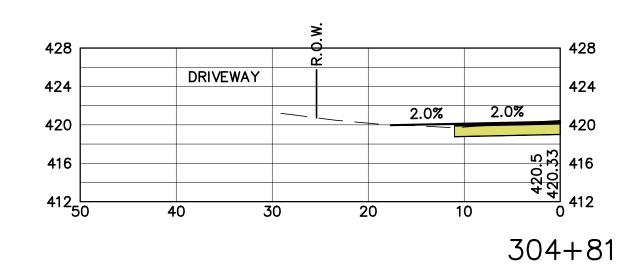


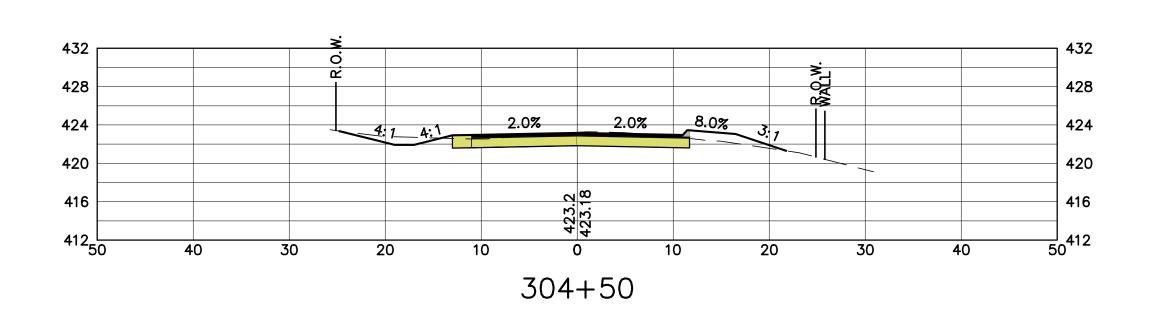


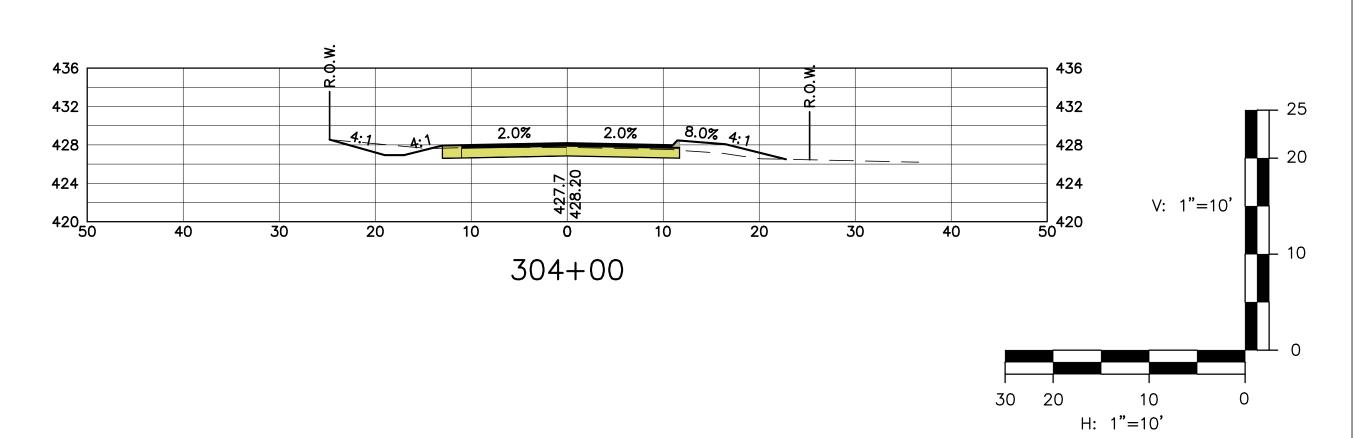






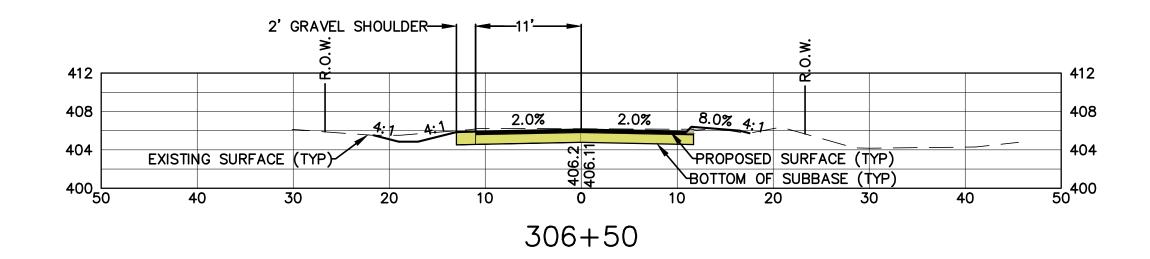


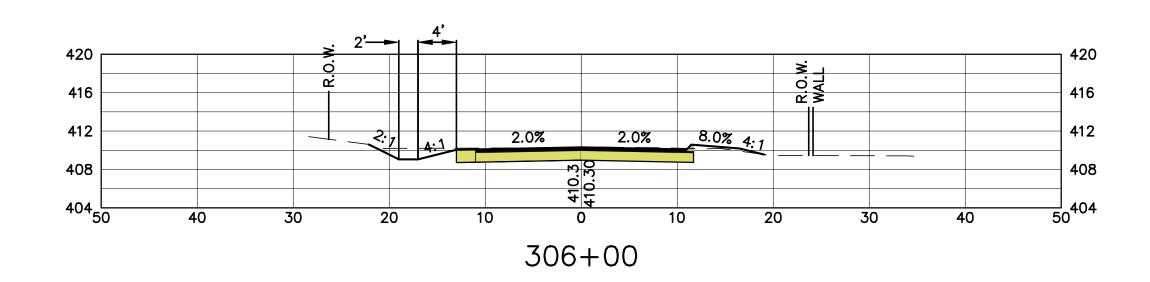


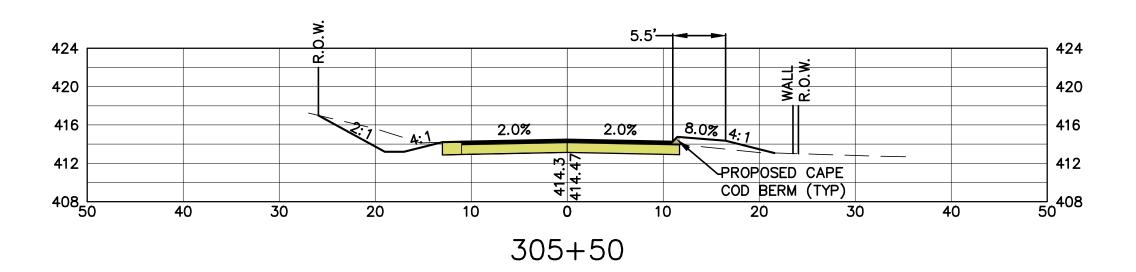


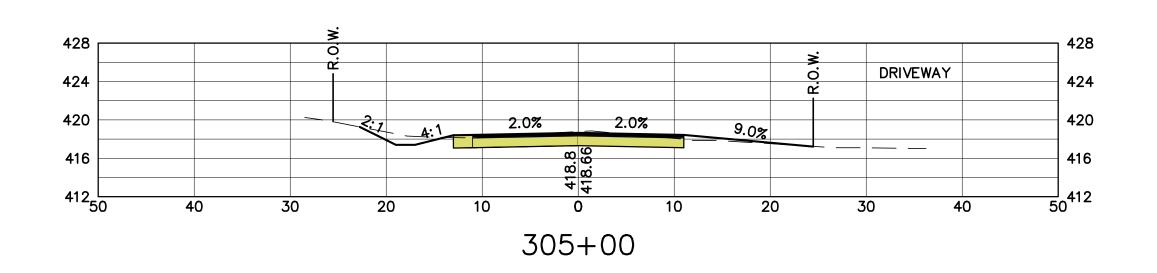
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HICKORY I ANF		CHOIS SECTIONS	302+61 10 304+94		
BENEVBN	טוס	HERST ROAD	AMPSHIRE 03110	PROJ. 77–2015	

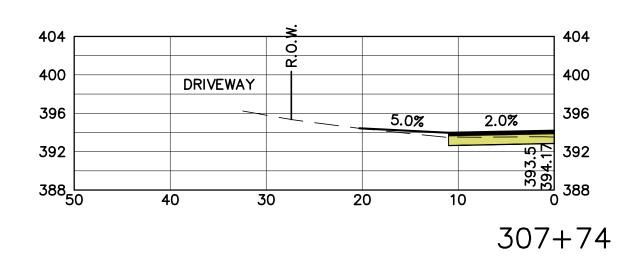
	SUPERTY 18 OF 60 SCALE, AS SHOWN
BED	BEDFORD, NEW HAMPSHIRE
	RECONSTRUCTION
	HOLBROOK ROAD
	OLD BEDFORD ROAD AND

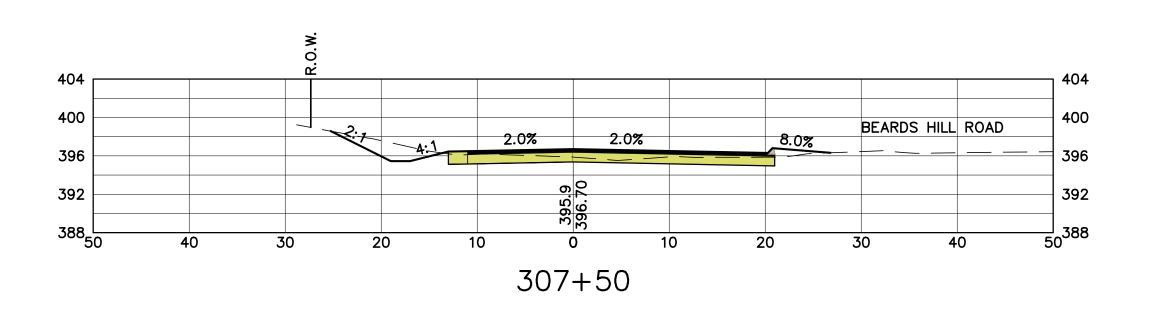


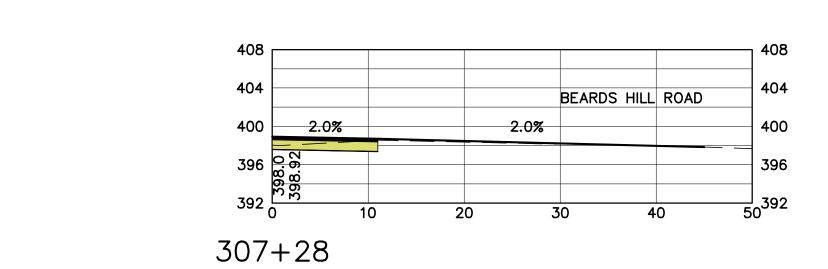


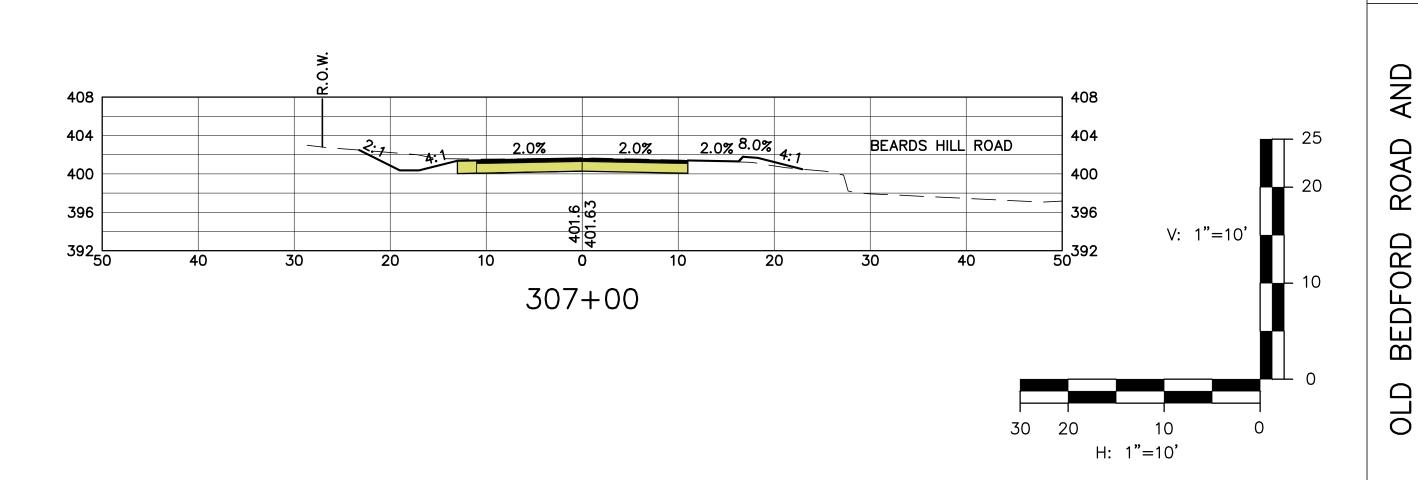








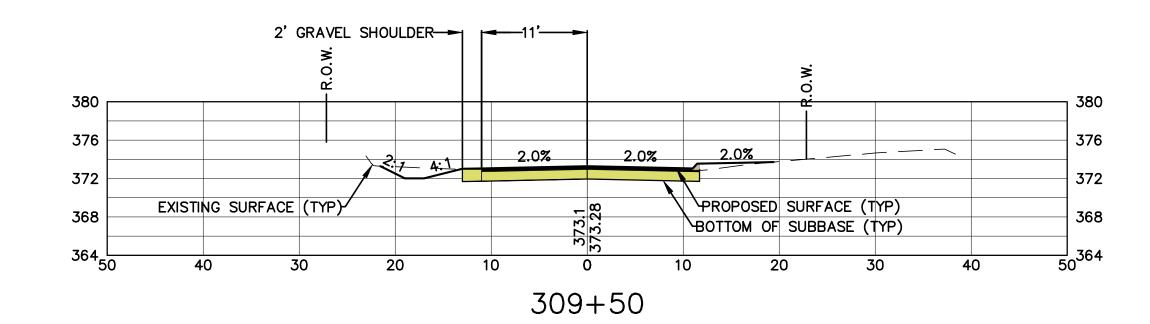


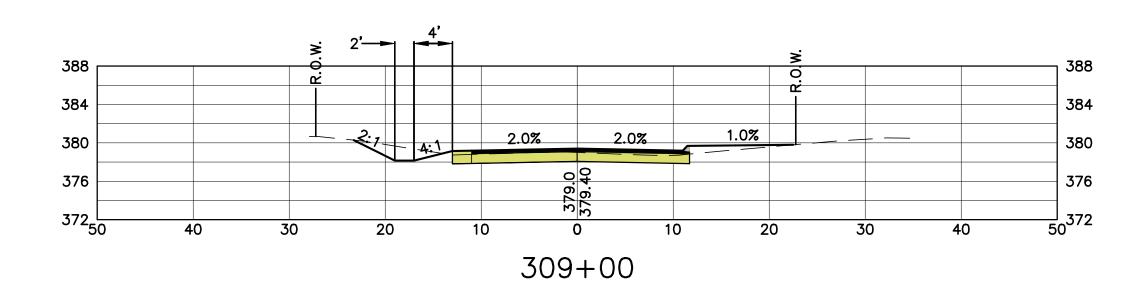


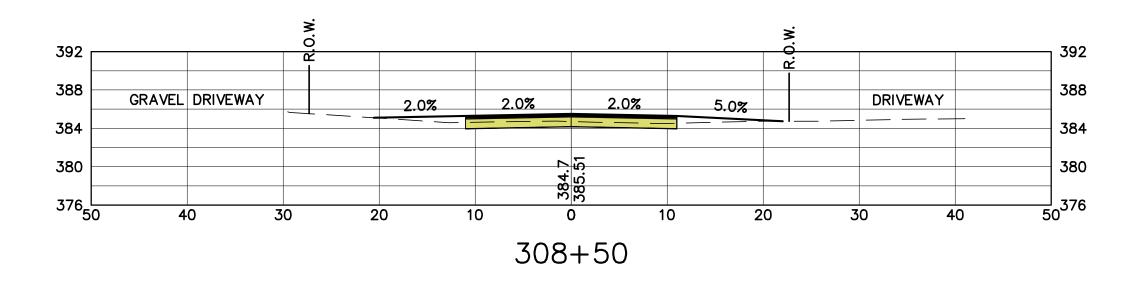
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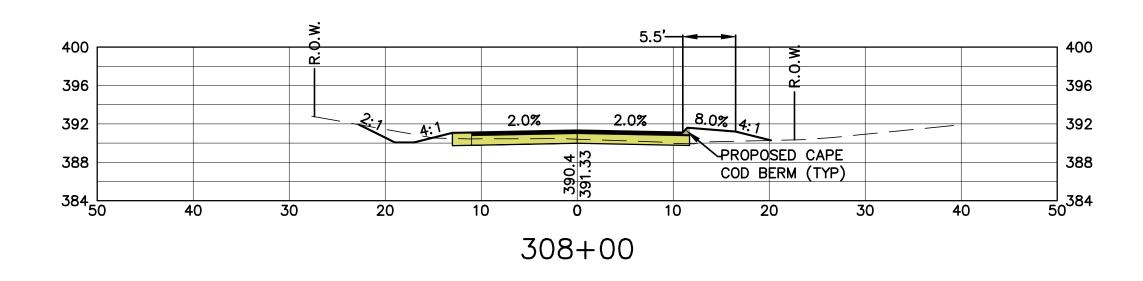
-	HICKORY LANE	CROSS SECTIONS	305+00 TO 307+74	

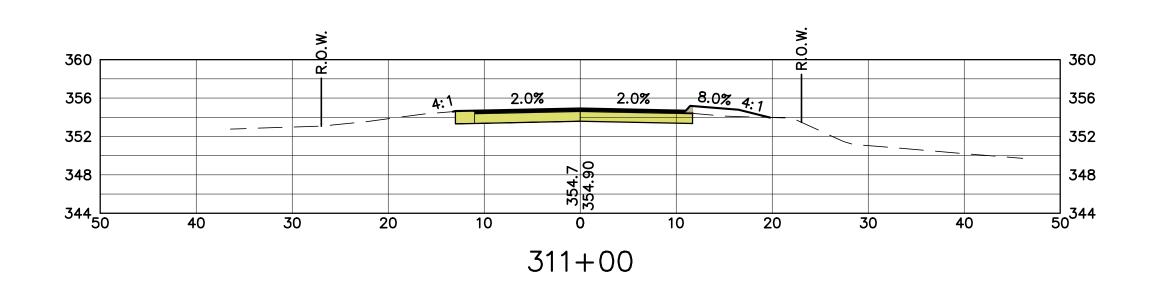
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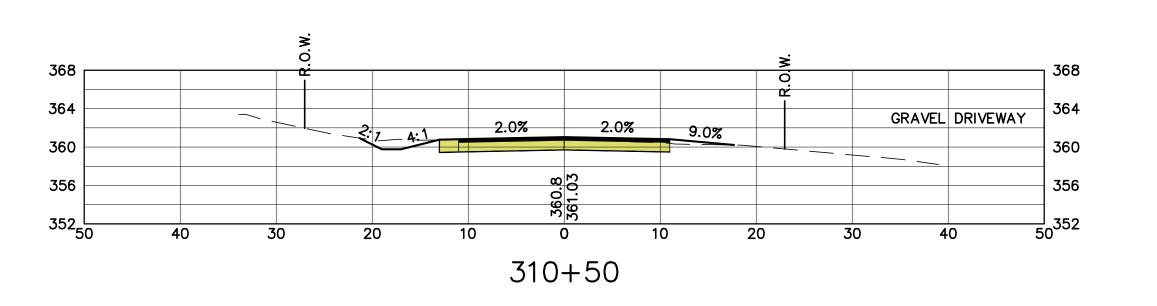


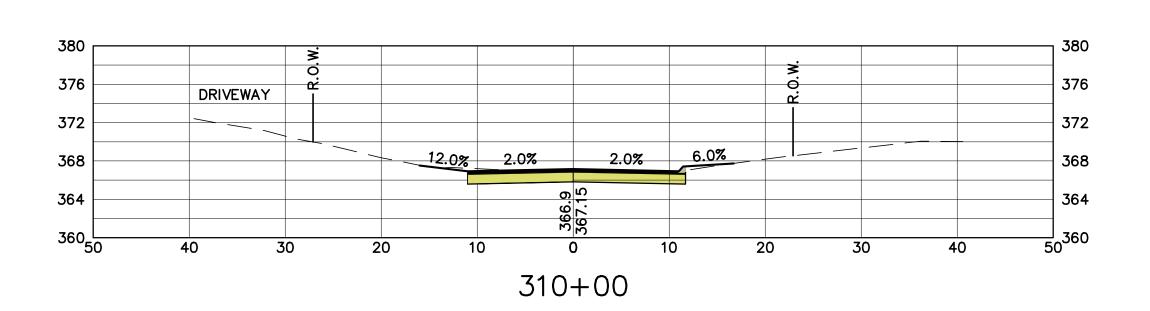


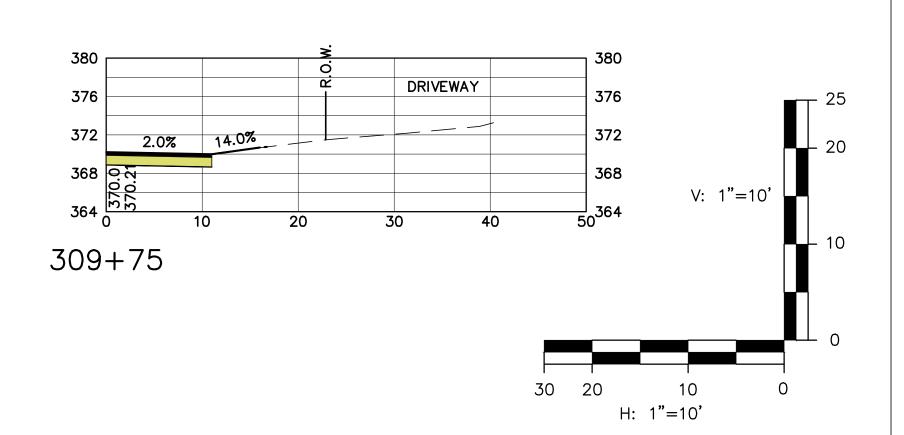


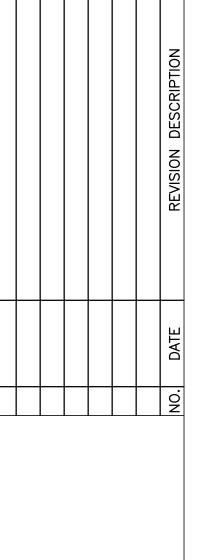








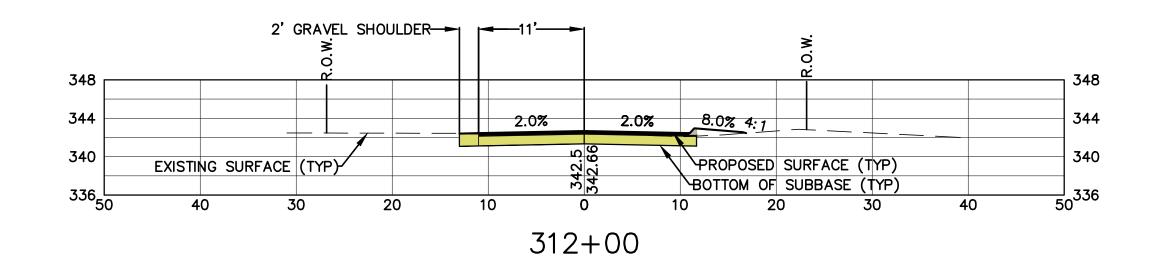


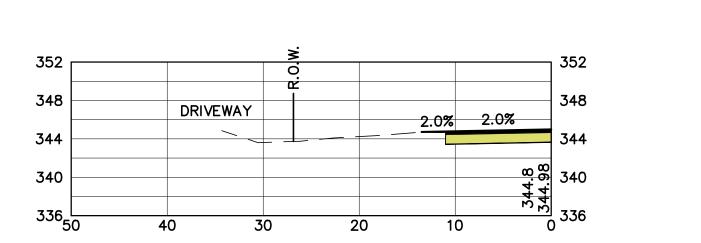


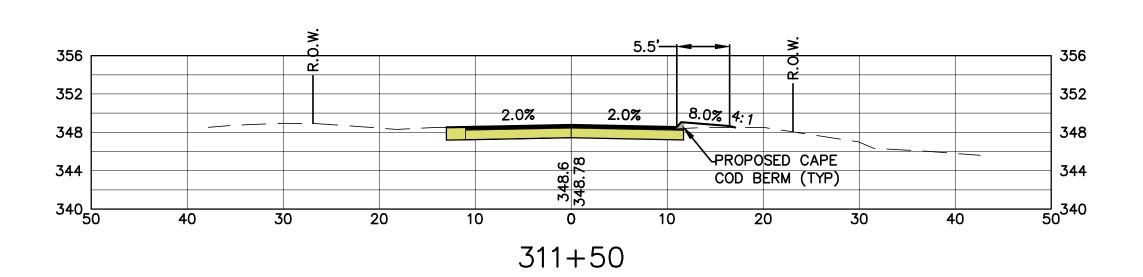
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308+00 TO 311+00

PREPARED FOR:	TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110	
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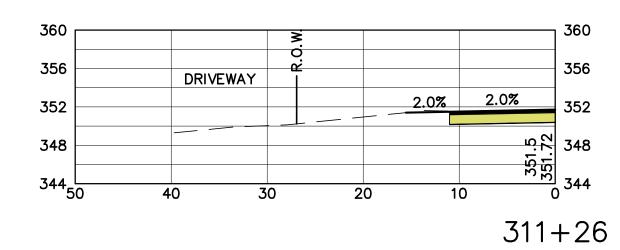
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	OLD BEDFORD ROAD AND	3EDF0	OLD

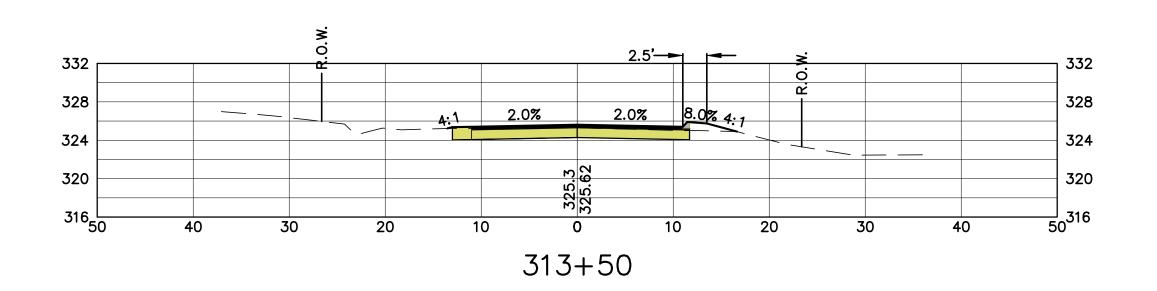


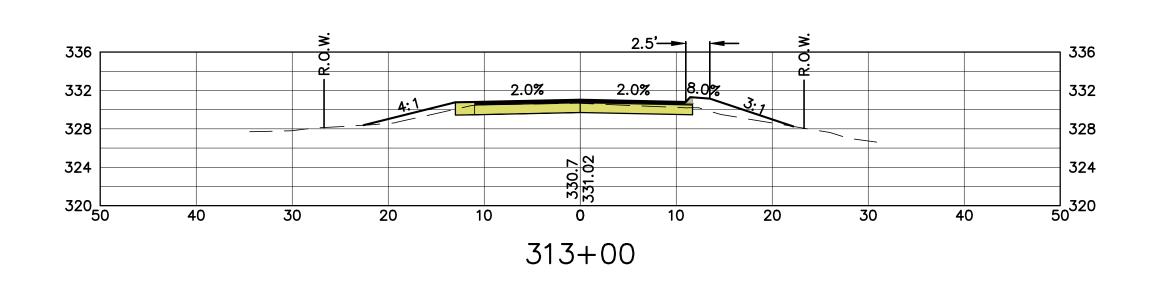


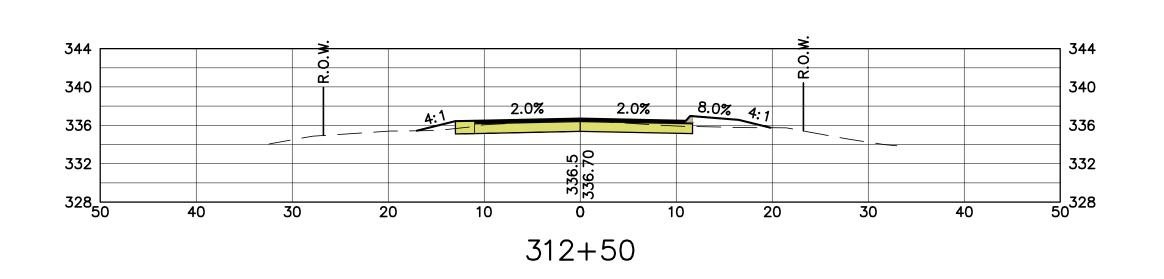


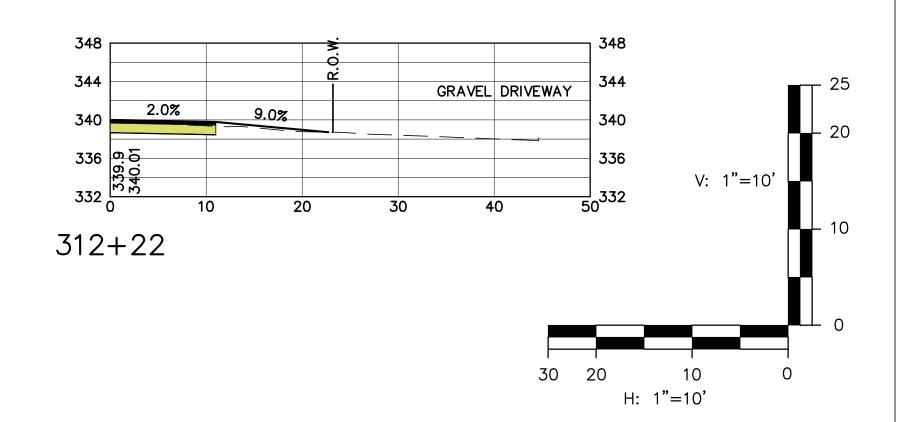
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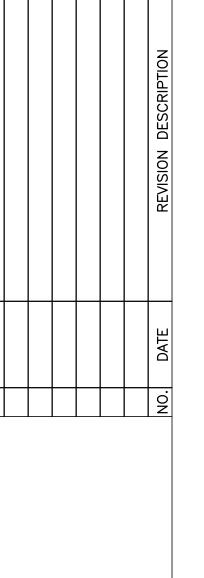










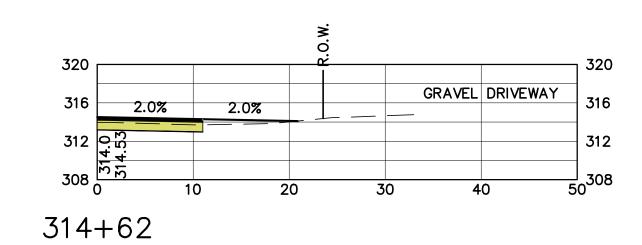


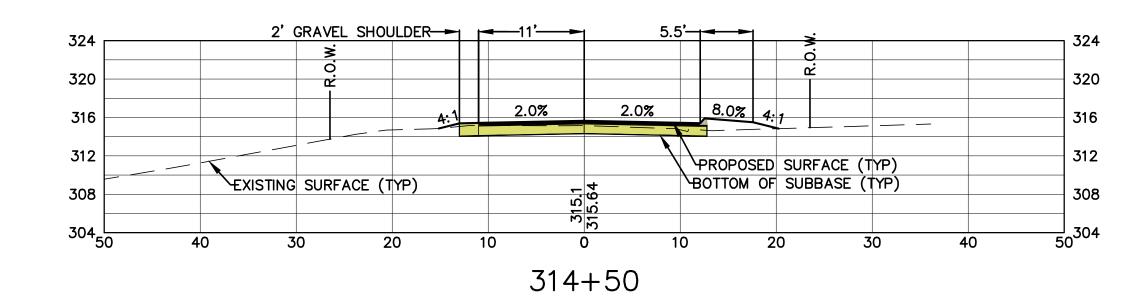
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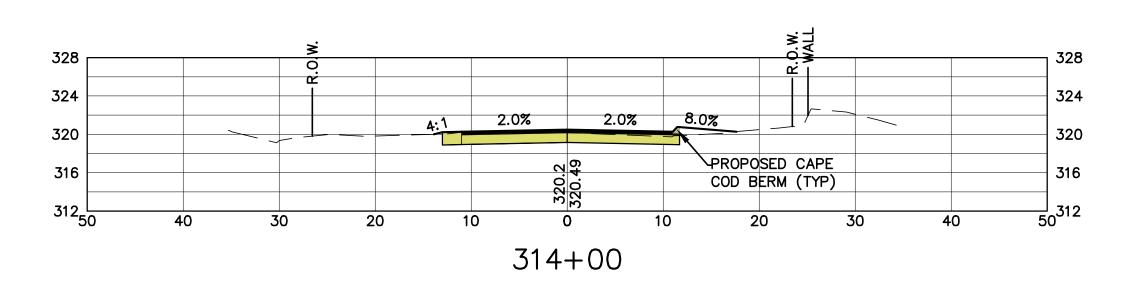
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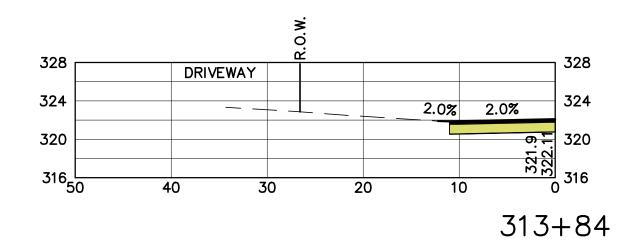
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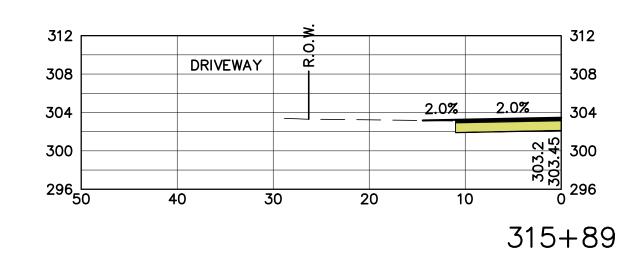
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OLD BEDFORD	HOLBROOK	RECON	BEDFORD, NEW HAMPSHIRE

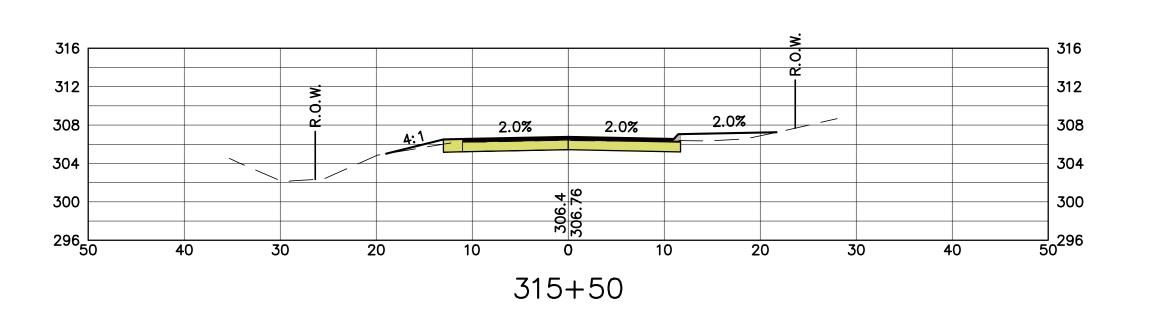


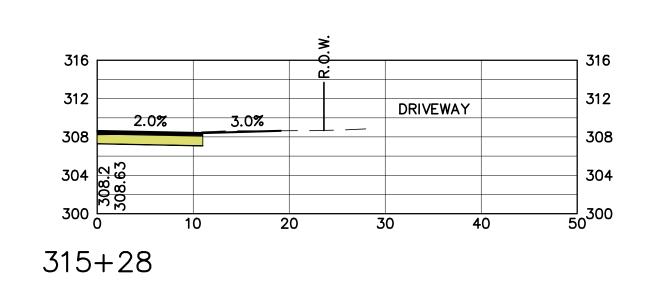


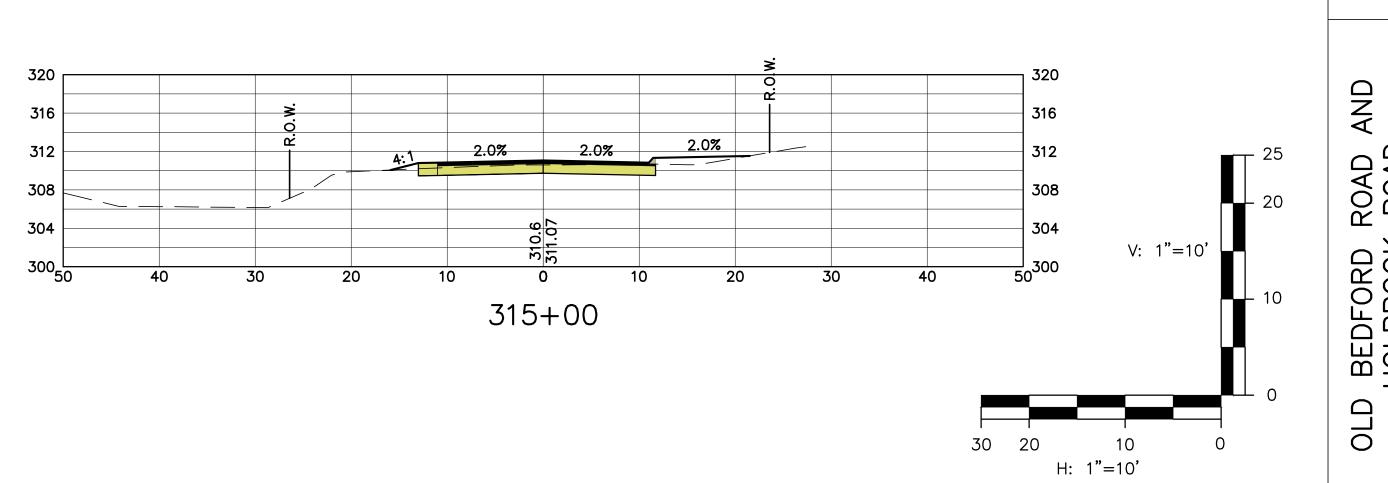


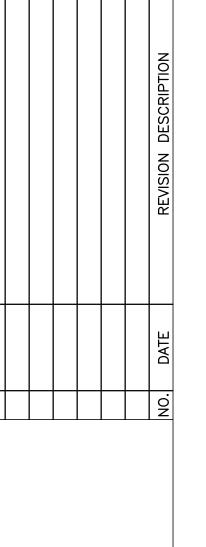






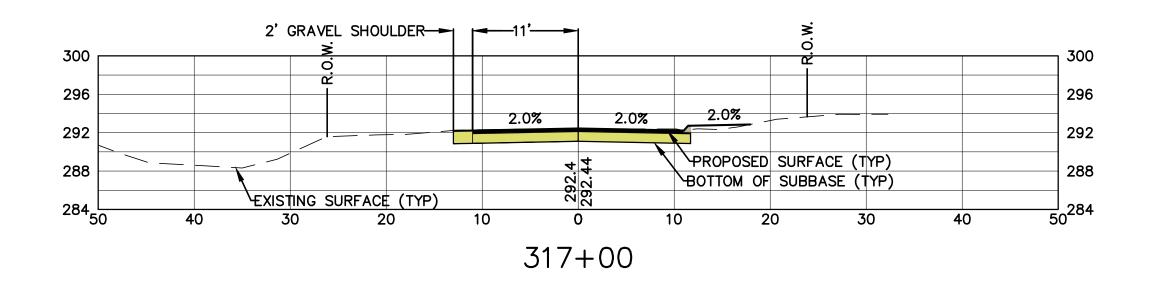


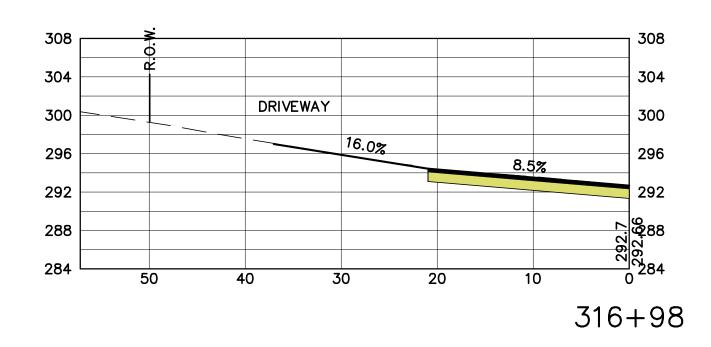


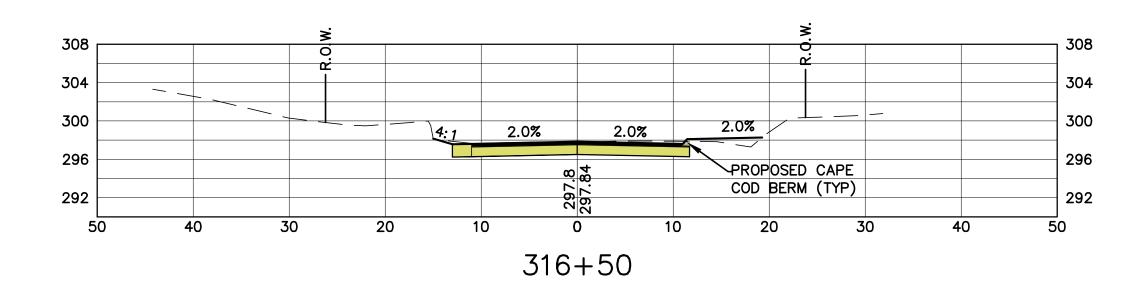


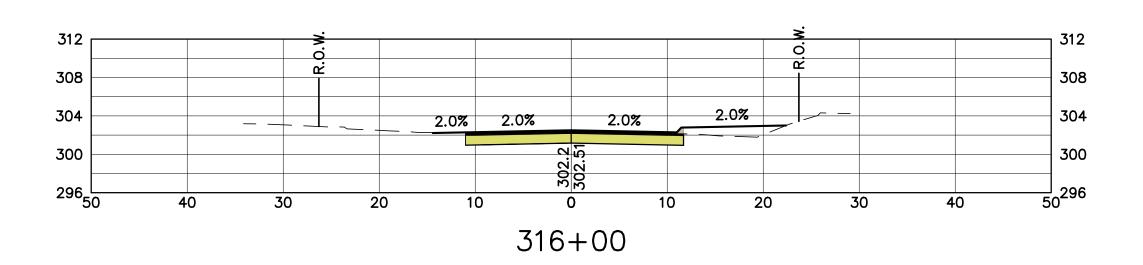
REPAREI	TOWN OF BEDFORD	24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSHIRE 03110	
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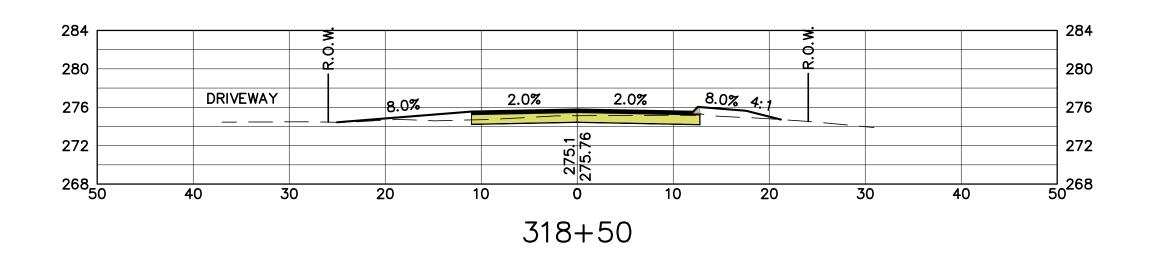
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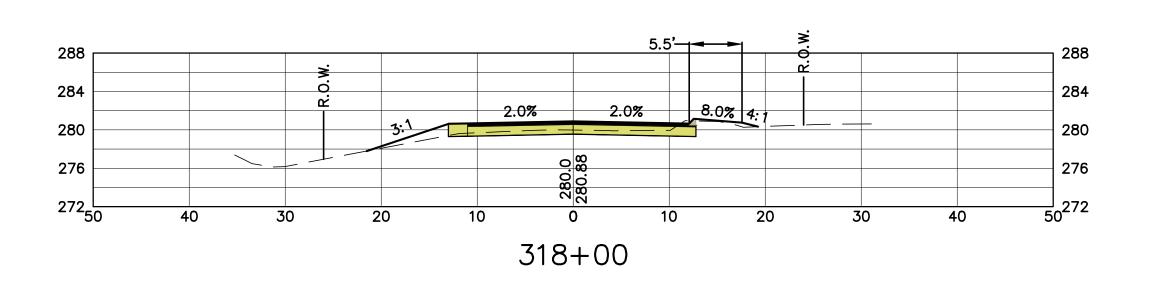


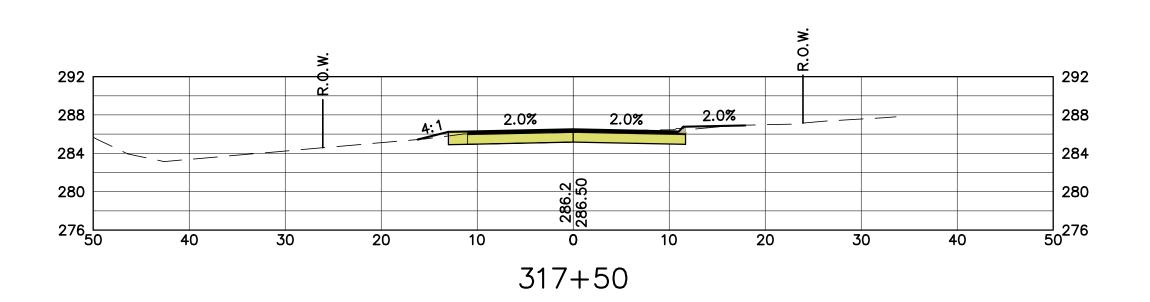


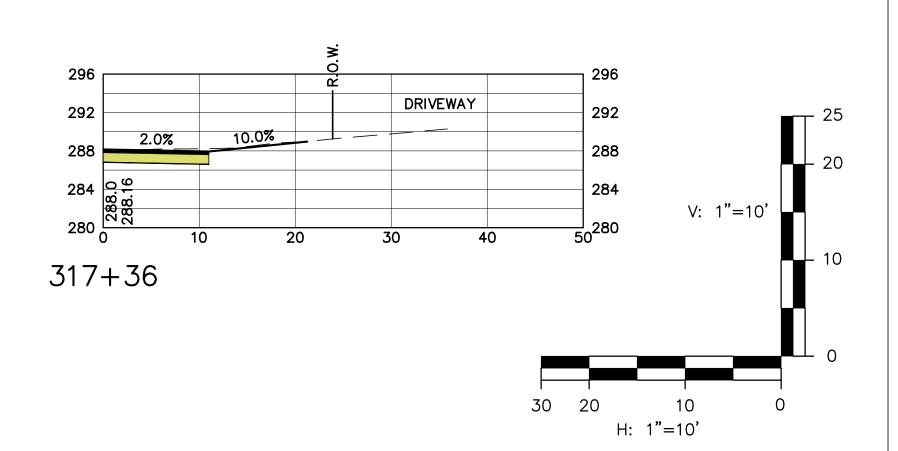


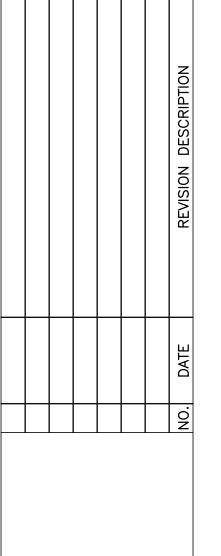






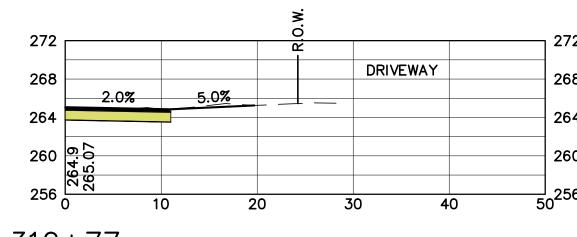


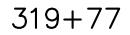


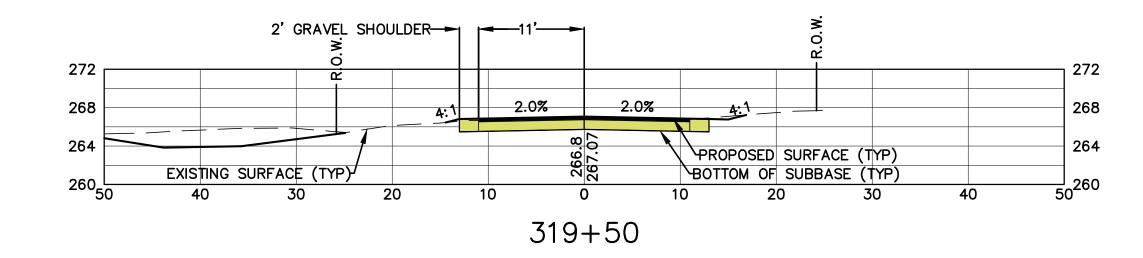


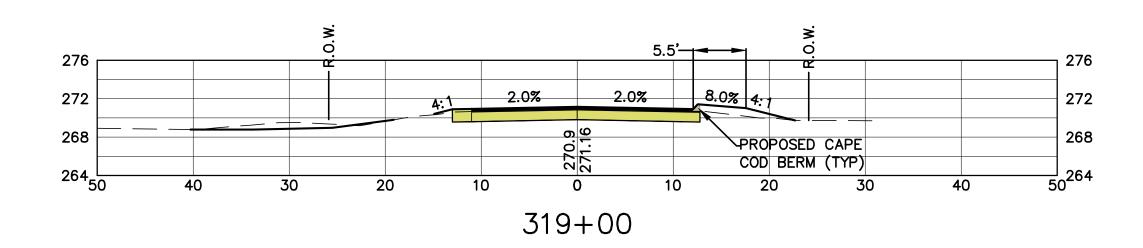
24 NORTH AMHERST ROAD	BEDFORD, NEW HAMPSHIRE 0311
	24 NORTH AMHERST ROAD

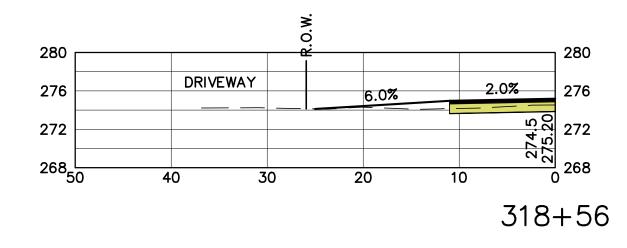
OLD BEDFORD ROAD AND HOLBROOK ROAD	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE

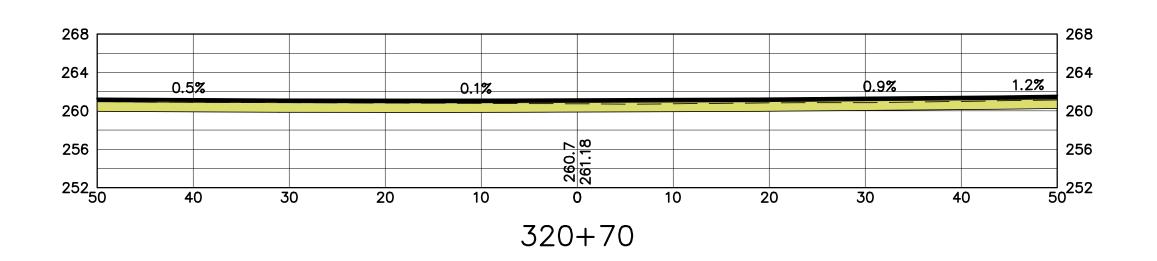


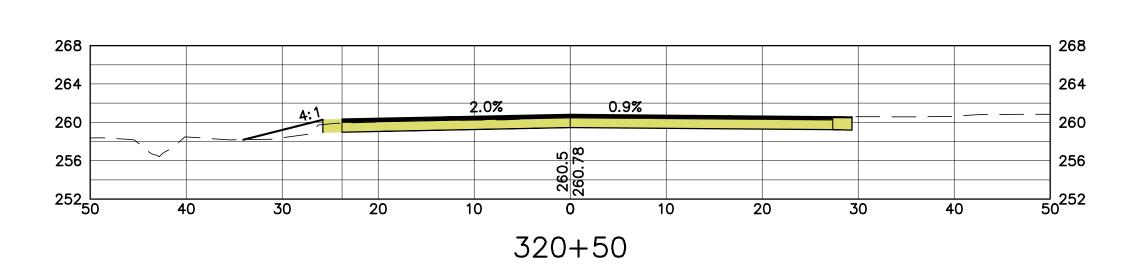


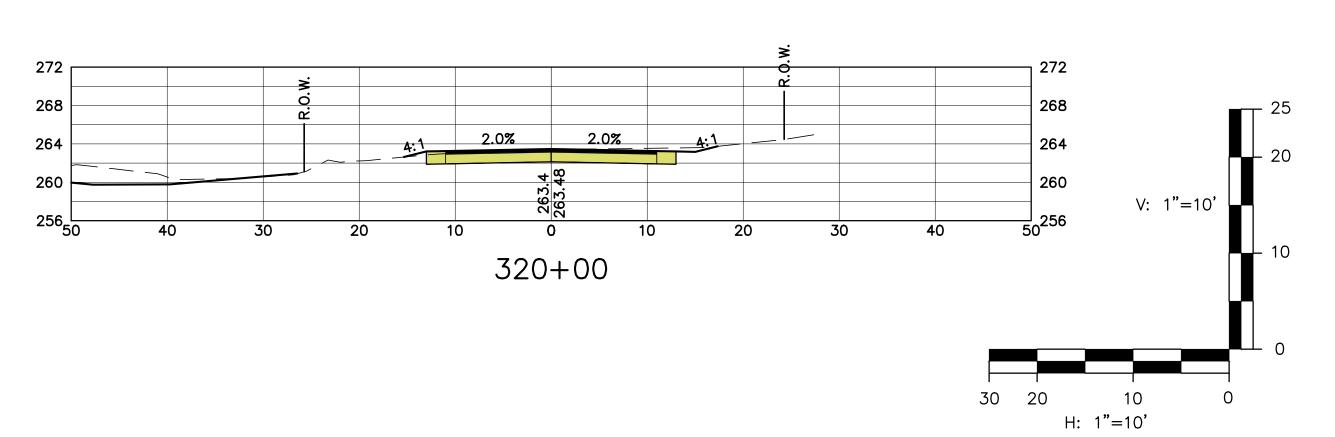




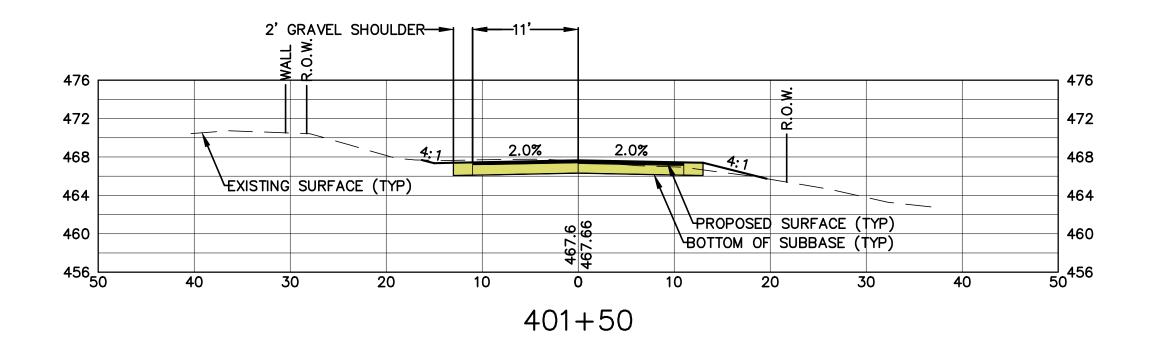


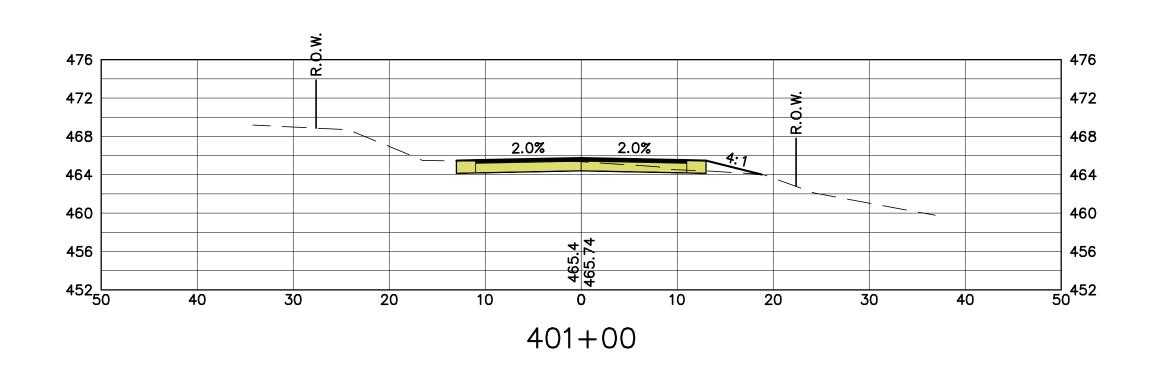


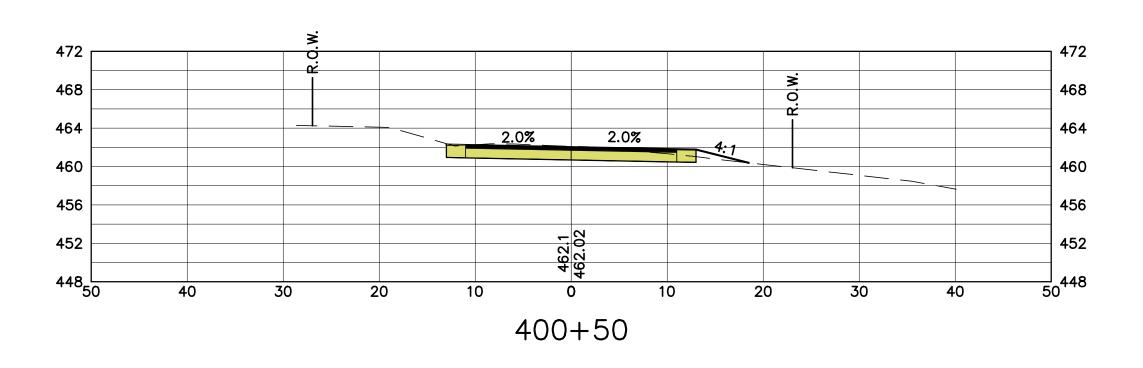


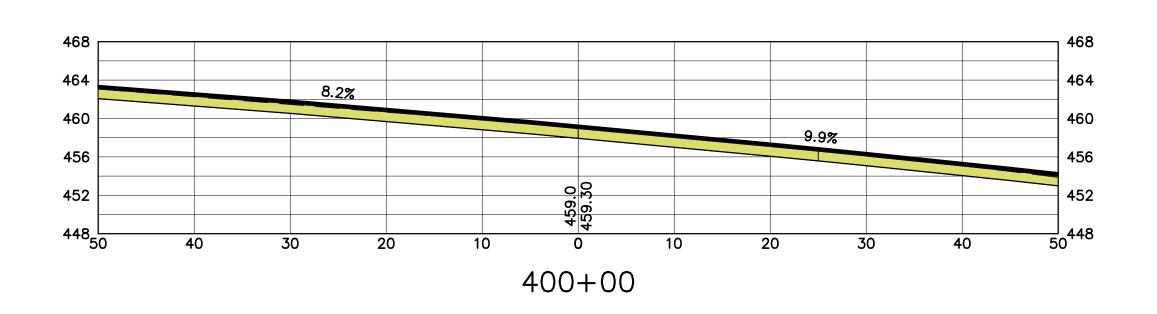


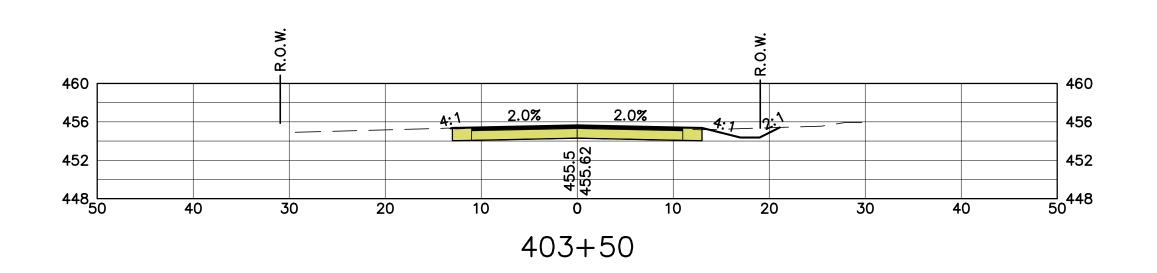
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D FOR:	BEDFORD	ST ROAD	0 - 0	PROJ. 77-2015
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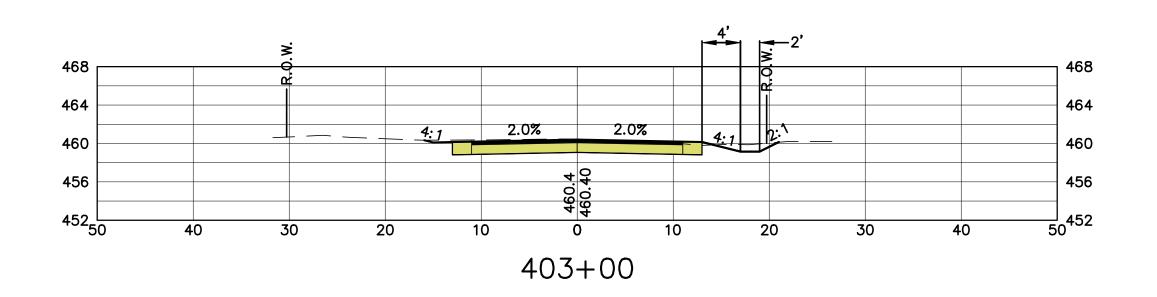


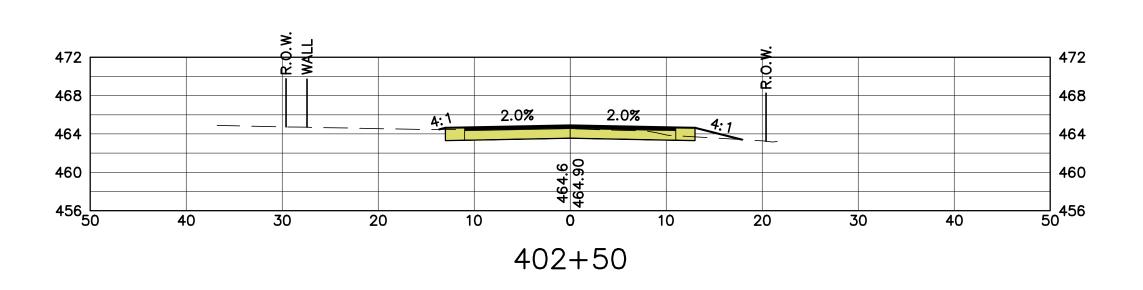


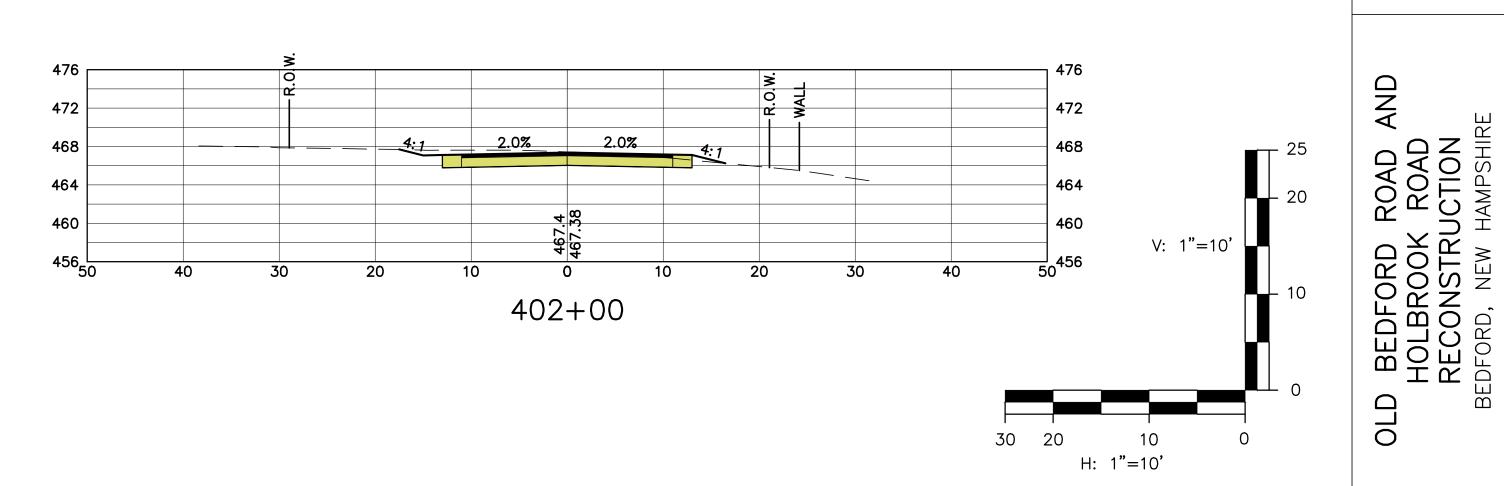










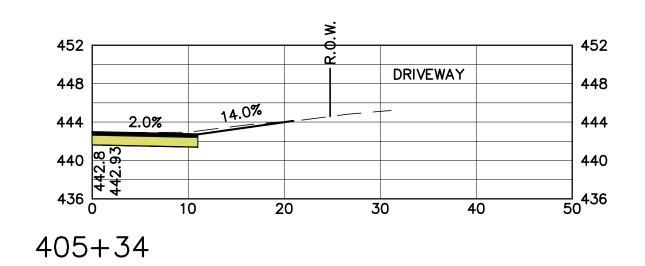


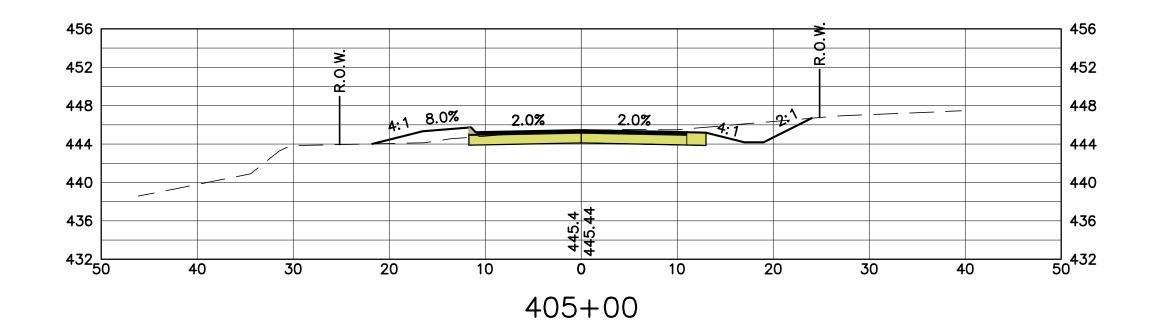
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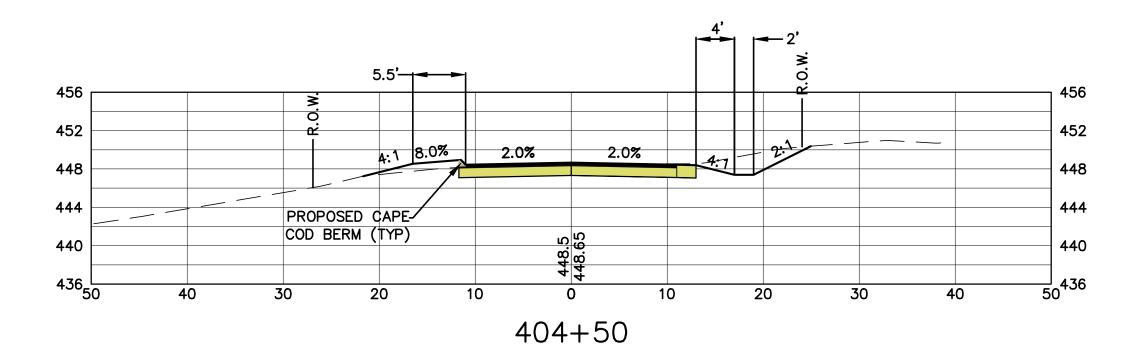
GRANDVIEW LANE CROSS SECTIONS
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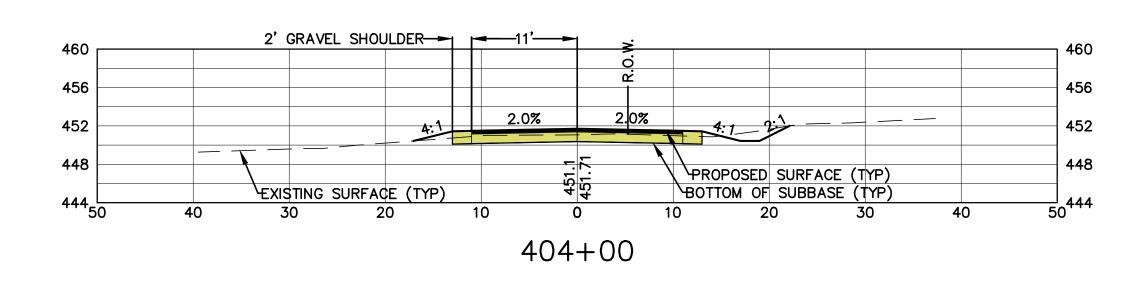
PREPARED FOR: TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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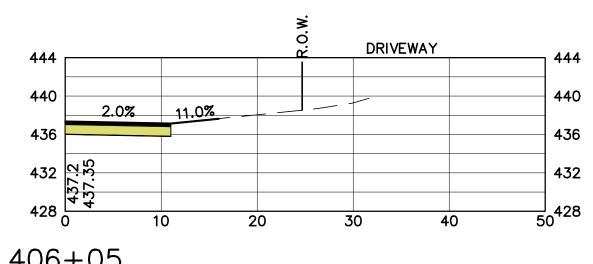
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SEDFORD ROAD AND	OLBROOK ROAD	ECONSTRUCTION	ORD, NEW HAMPSHIRE	

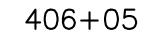


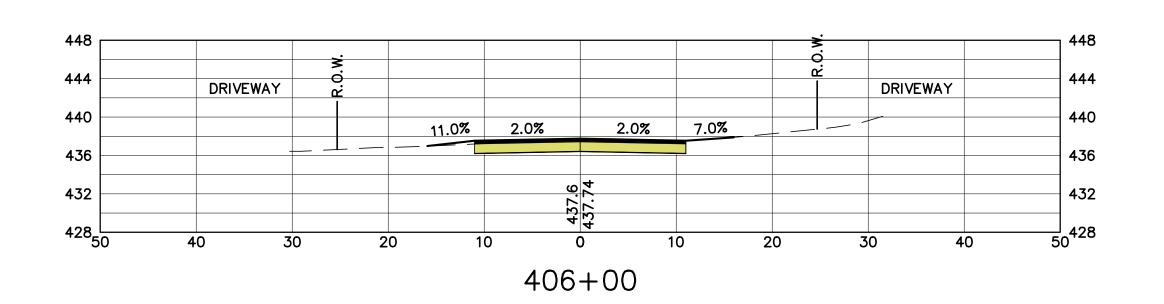


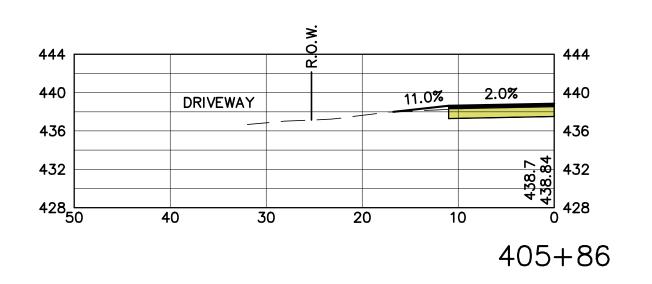


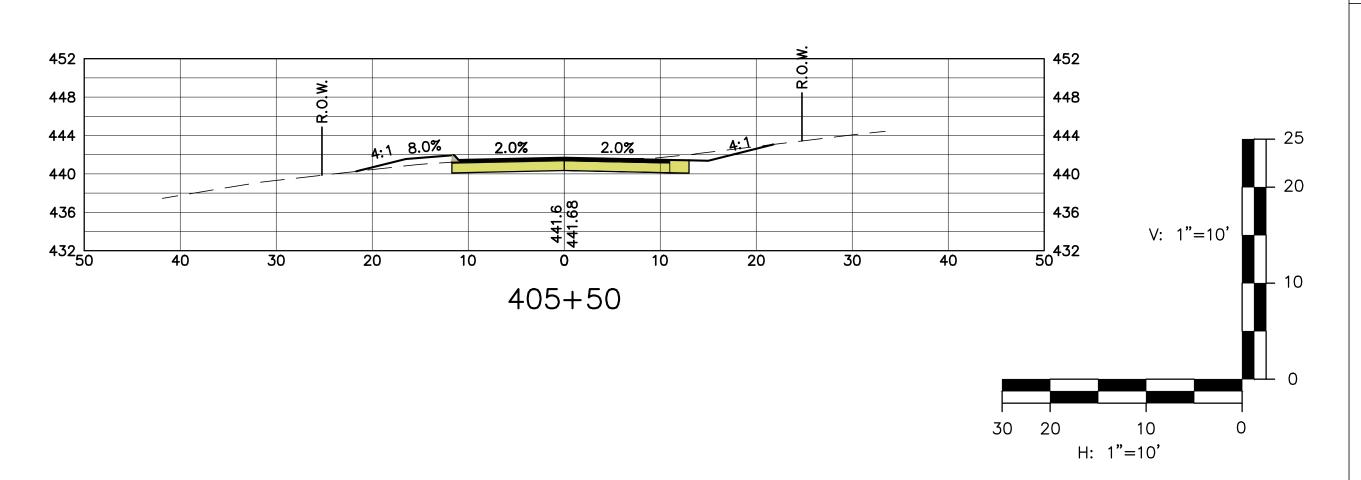










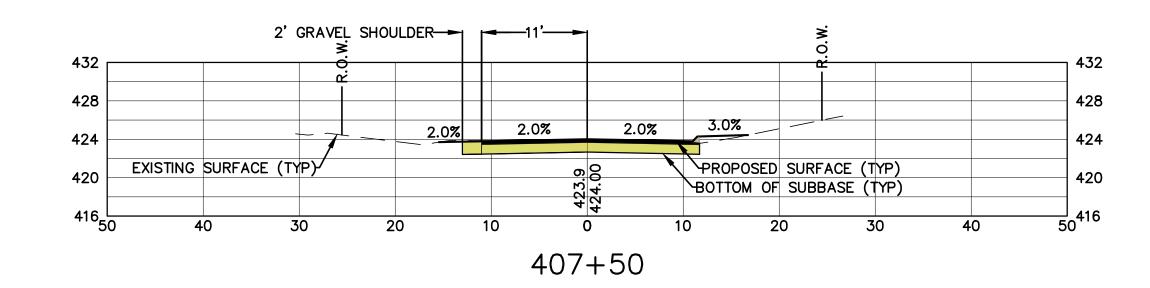


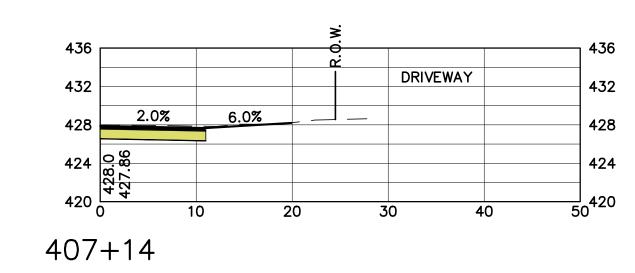
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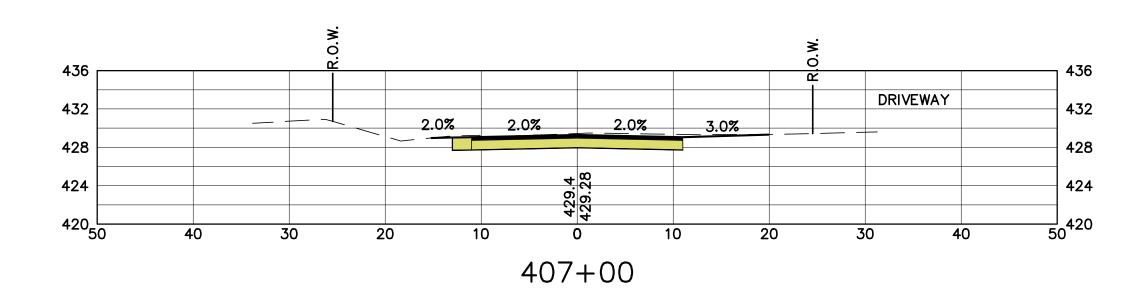
FORD	TIMBERLANE DRIVE
r ROAD	CROSS SECTIONS
IIRE 03110	404+00 TO 406+05

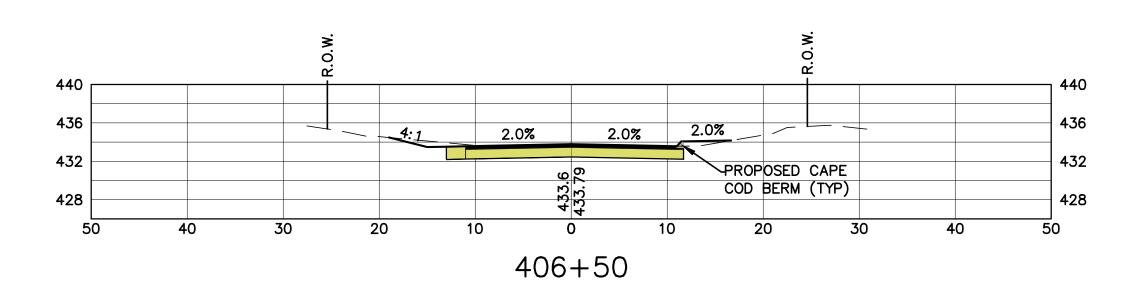
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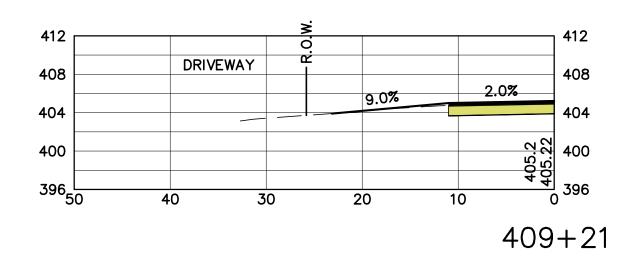
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OLD BEDFORD ROAD AND	HOLBROOK ROAD	RECONSTRUCTION	BEDFORD, NEW HAMPSHIRE	

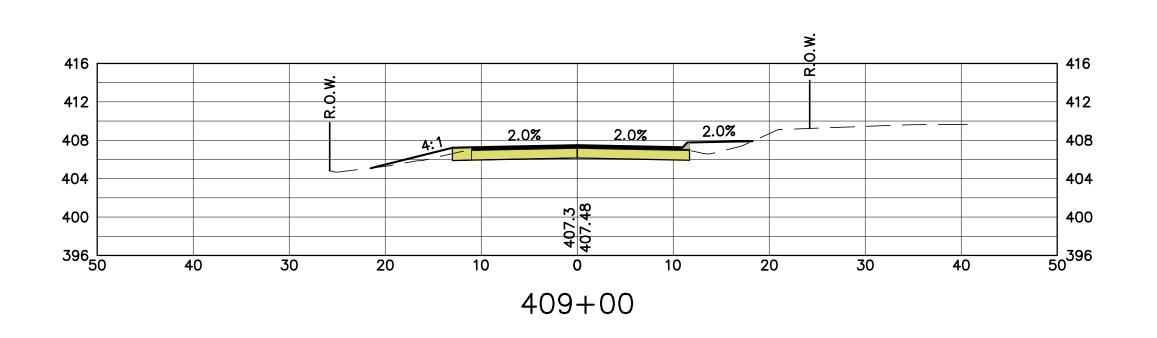


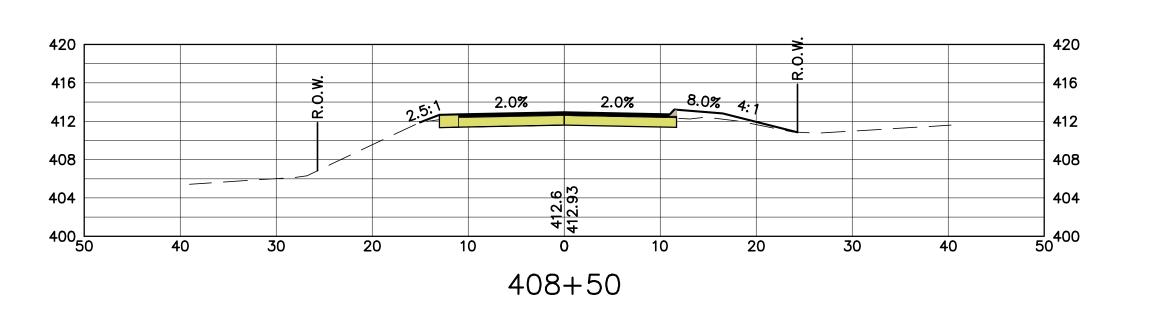


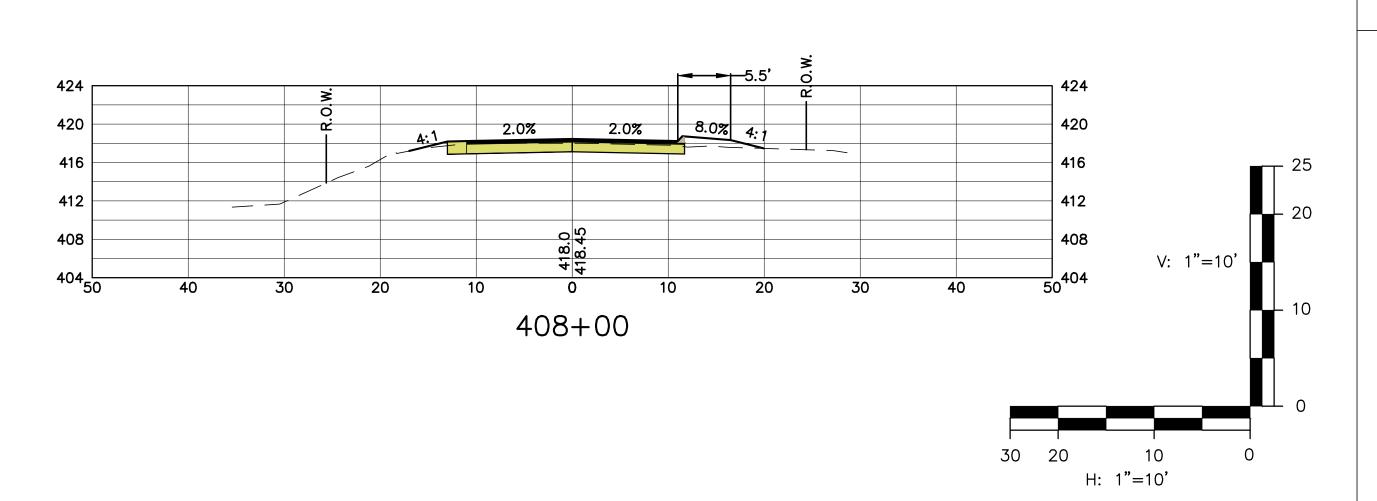








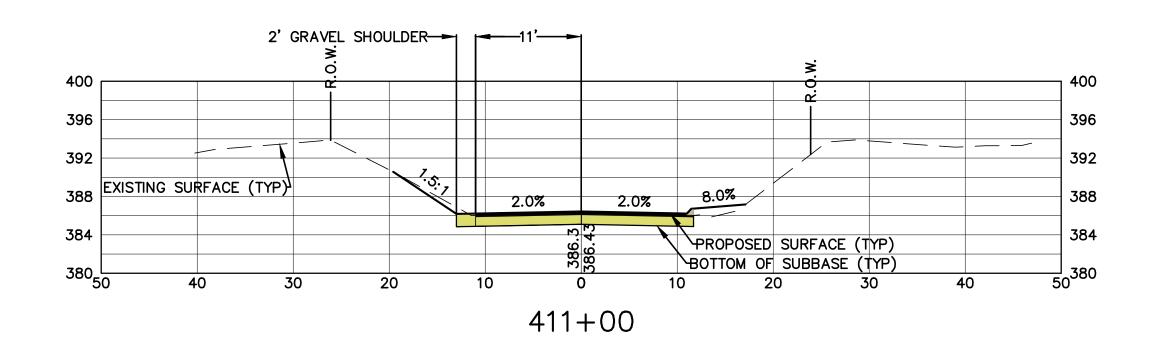


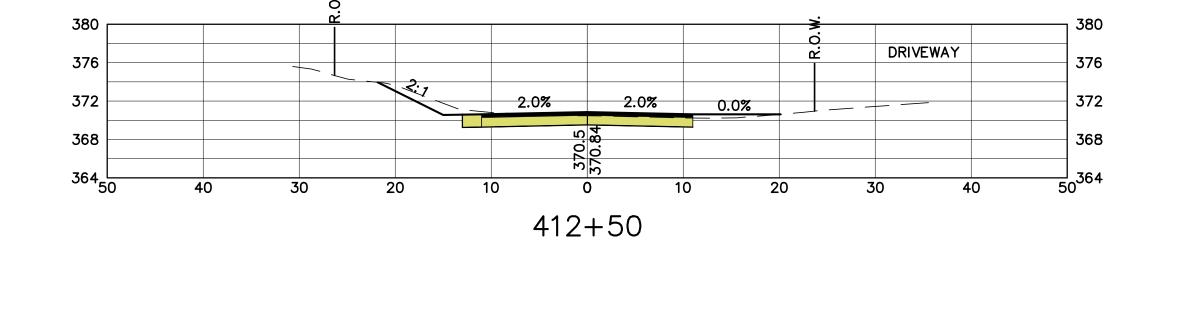


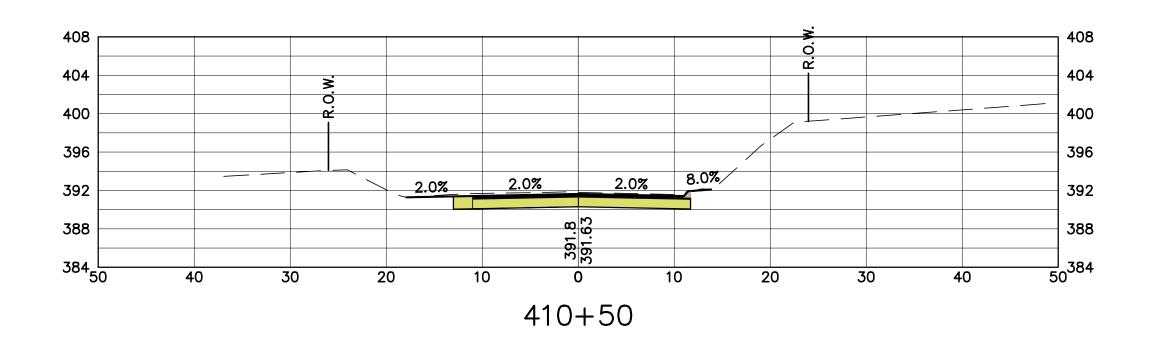
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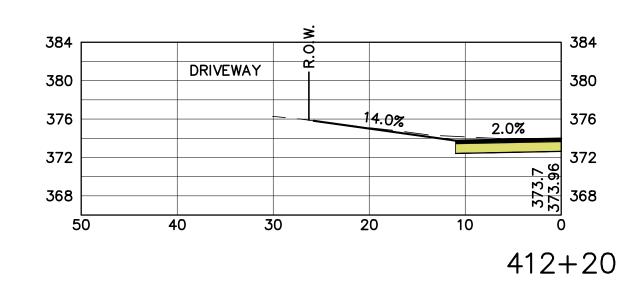
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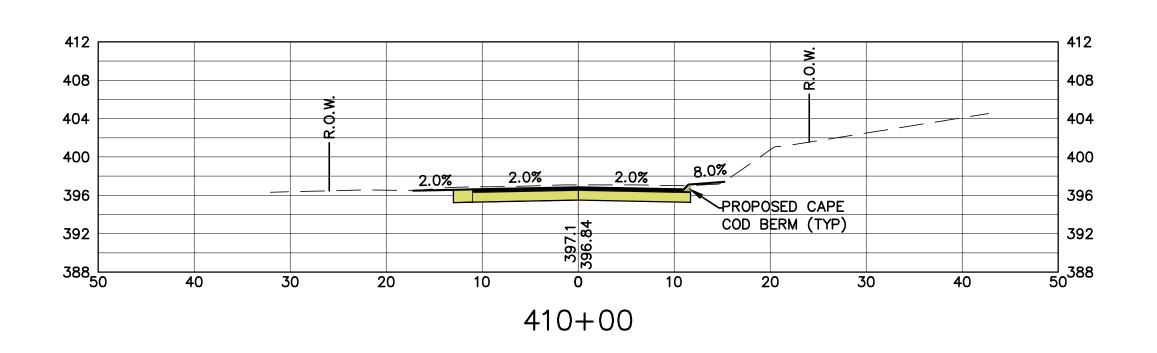
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W HAMPSHIRE	BEDFORD, N

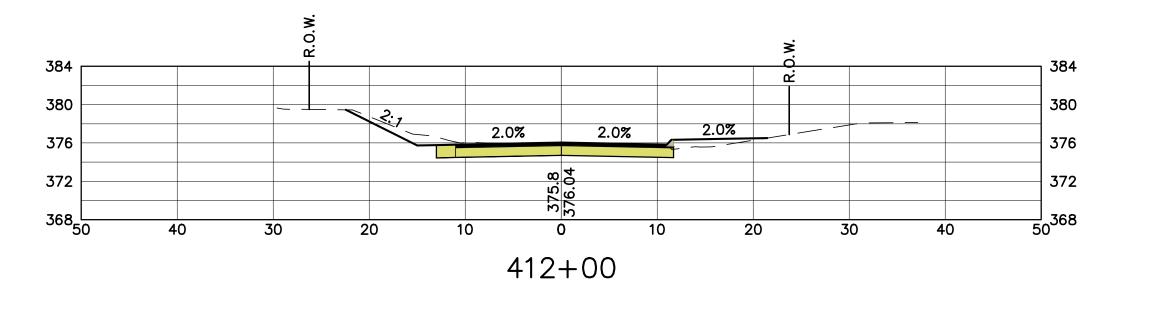


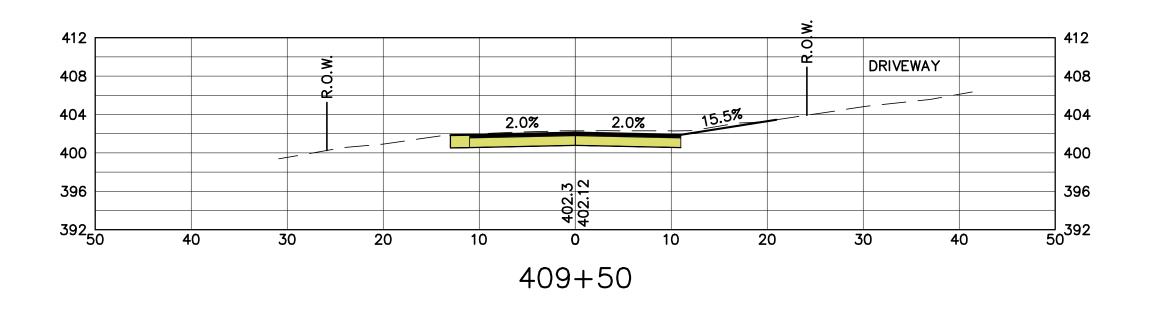


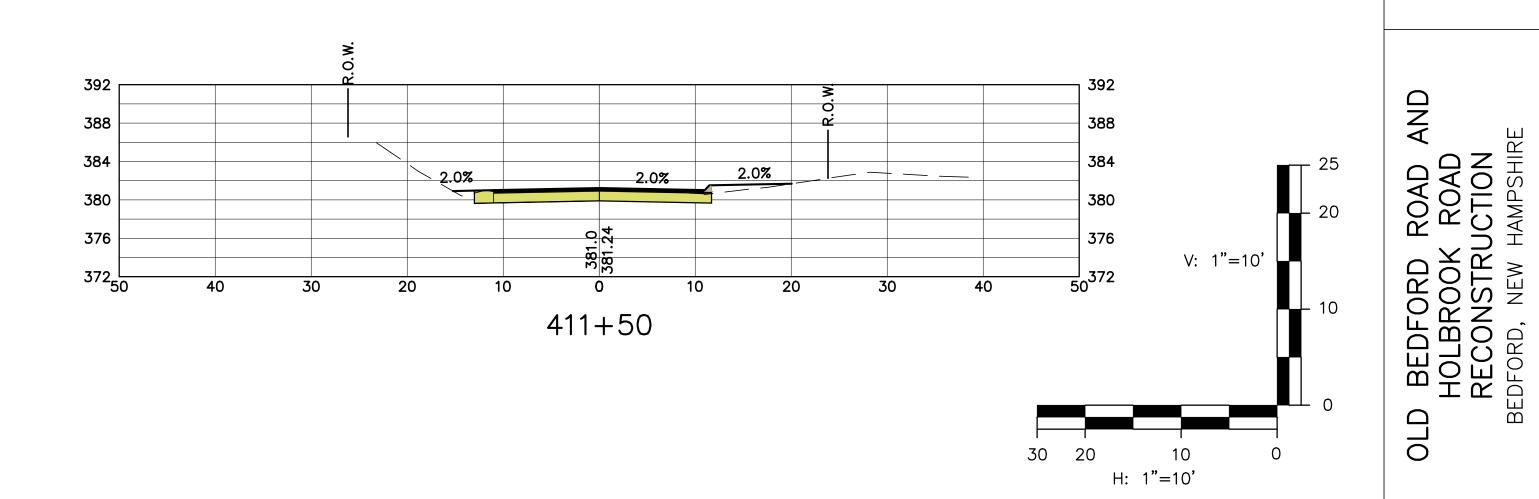










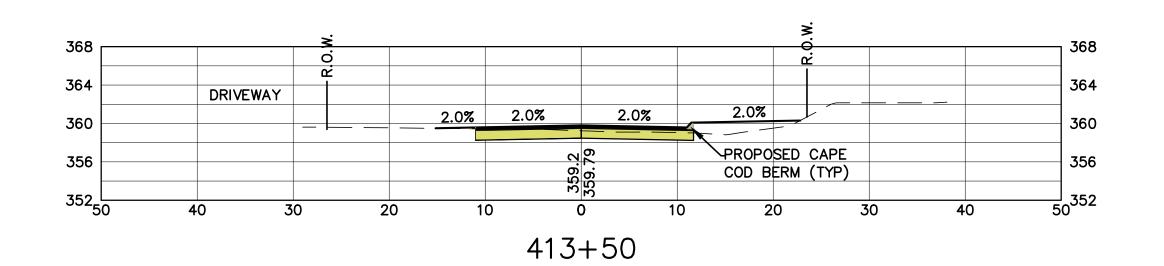


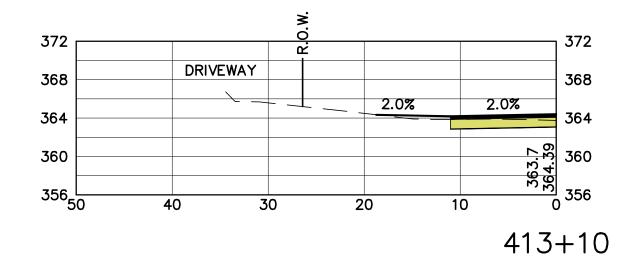
TOWN OF BEDFORD
24 NORTH AMHERST ROAD
BEDFORD, NEW HAMPSHIRE 03110

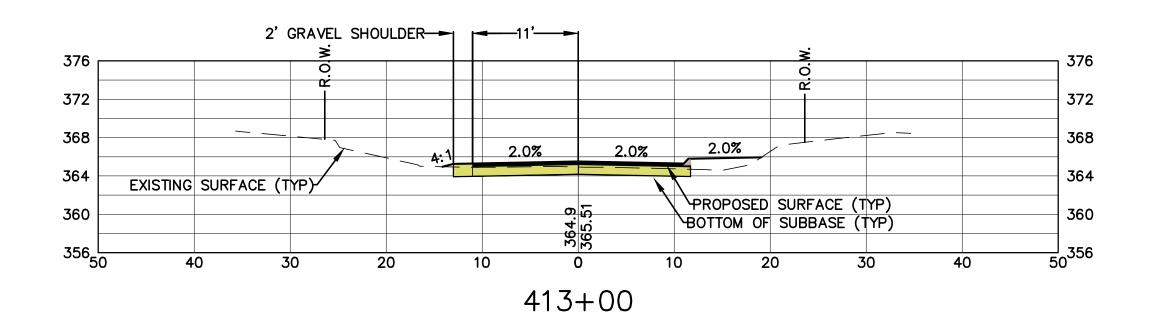
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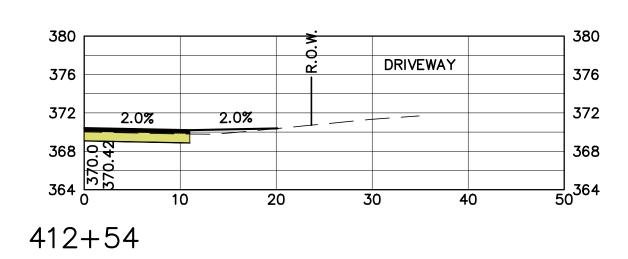
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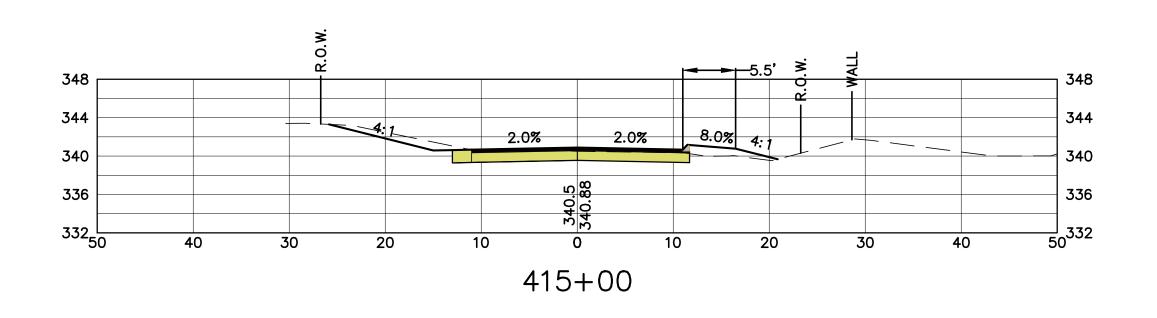
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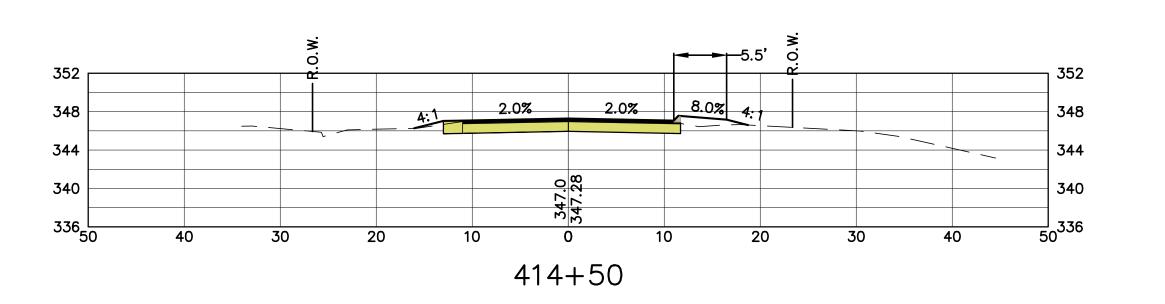


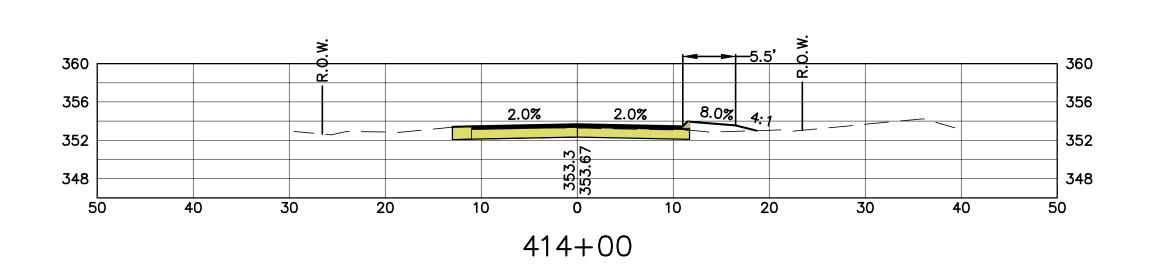


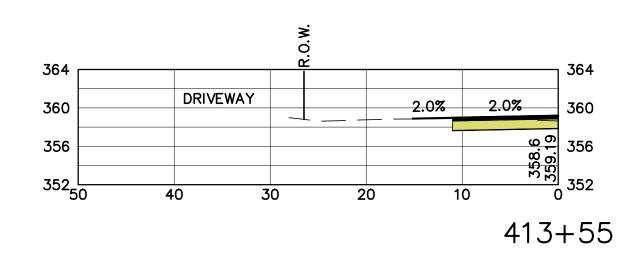


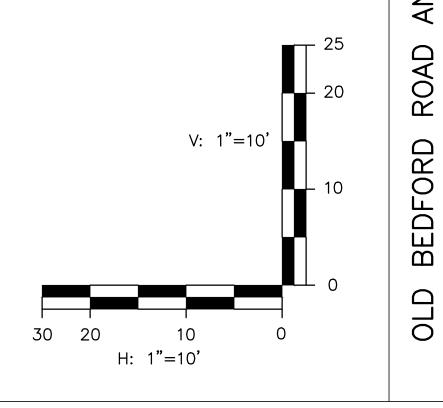


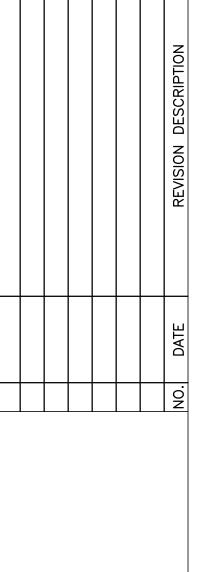




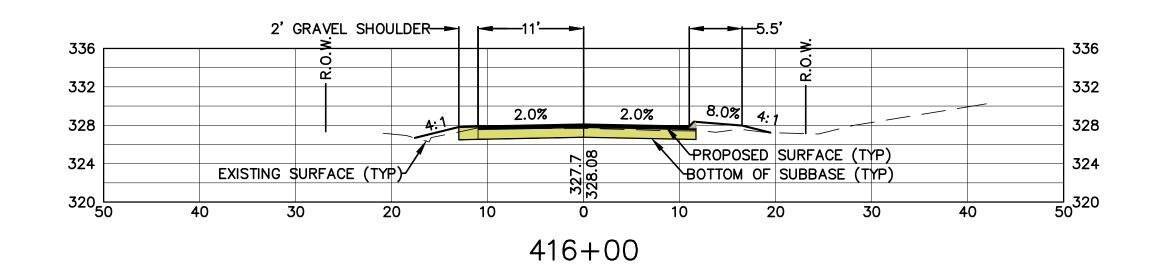


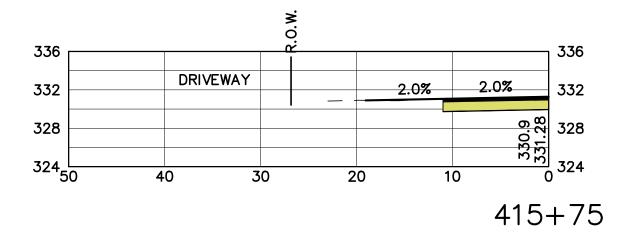


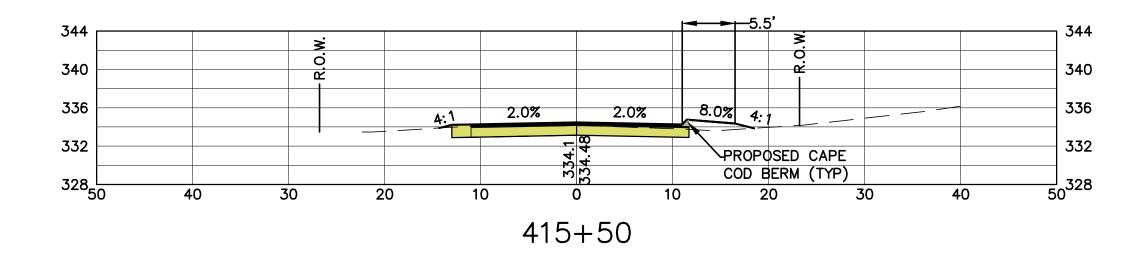


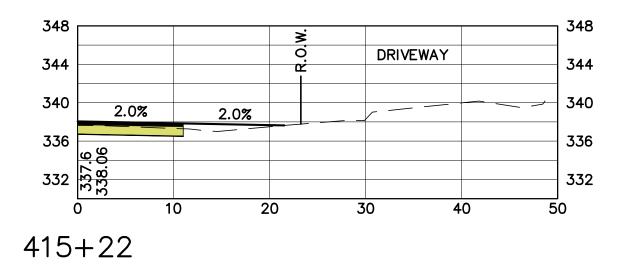


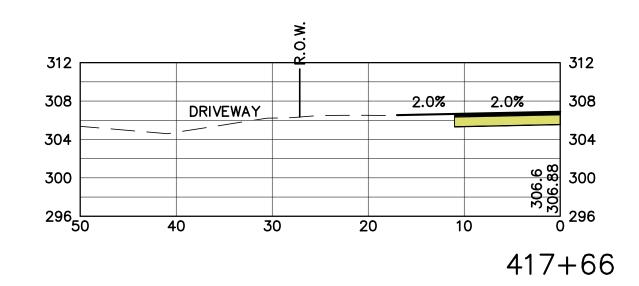
PREPARED FOR: TOWN OF BEDFORD	24 NORTH AMHERST ROAD BEDFORD, NEW HAMPSHIRE 03110
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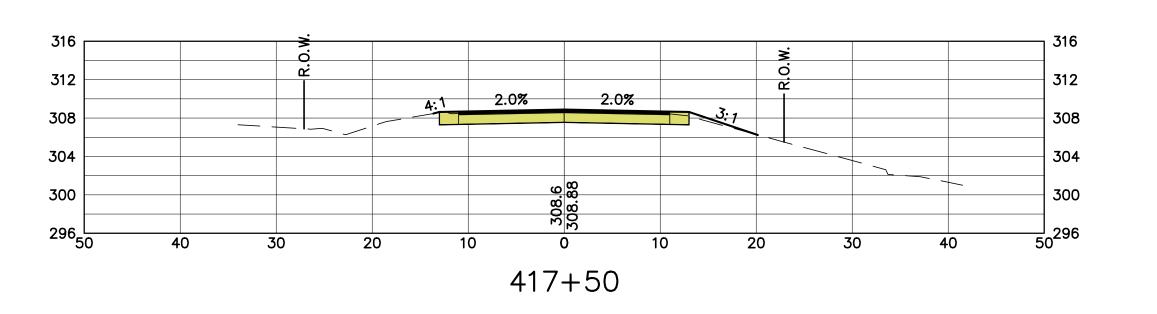


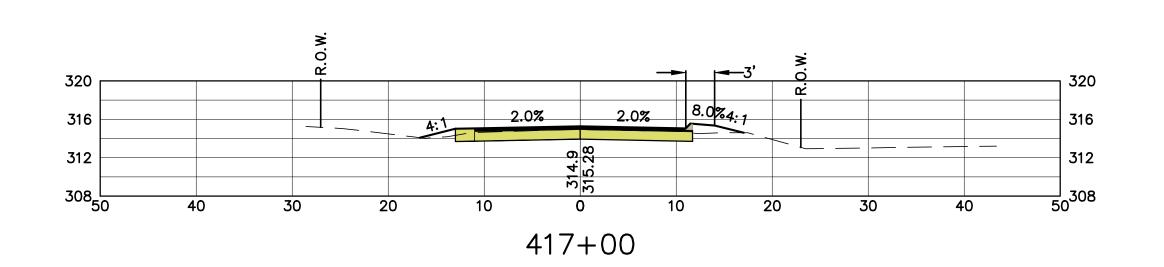


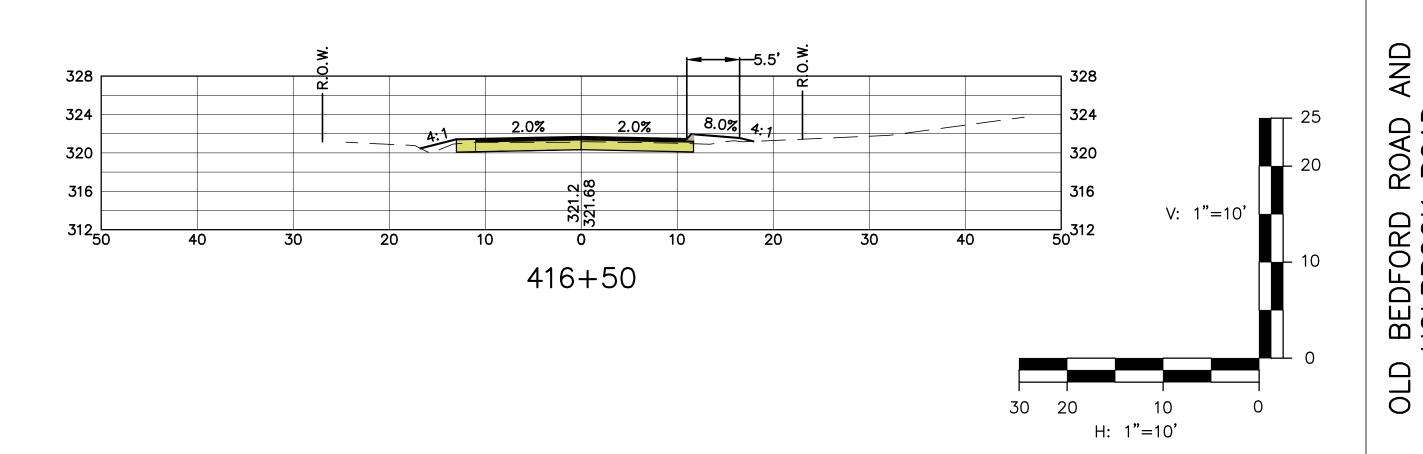


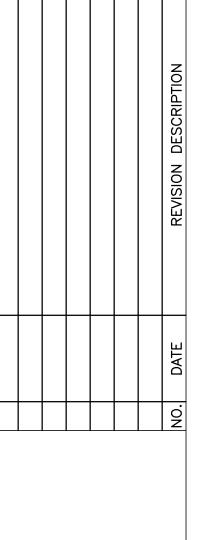






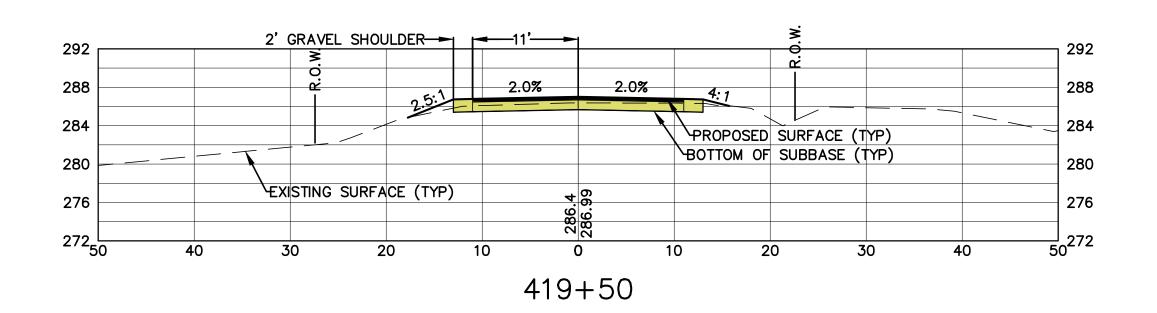


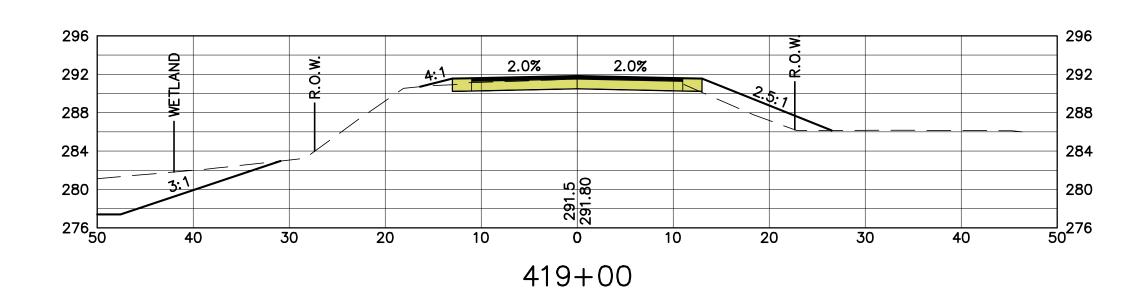


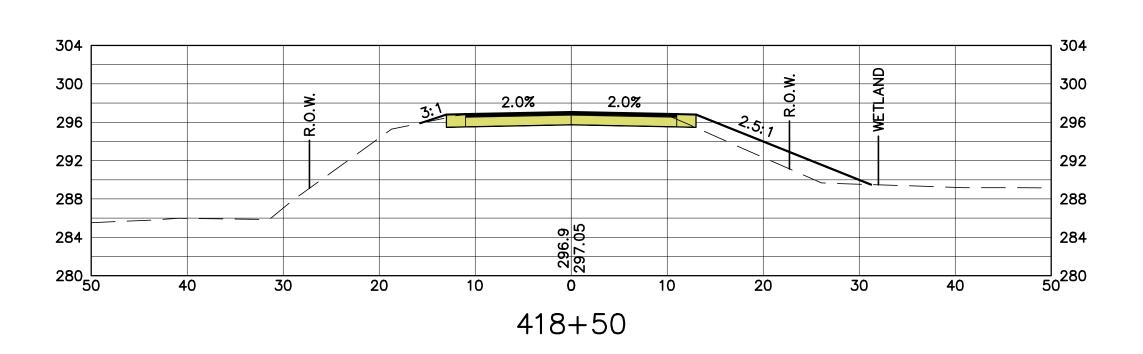


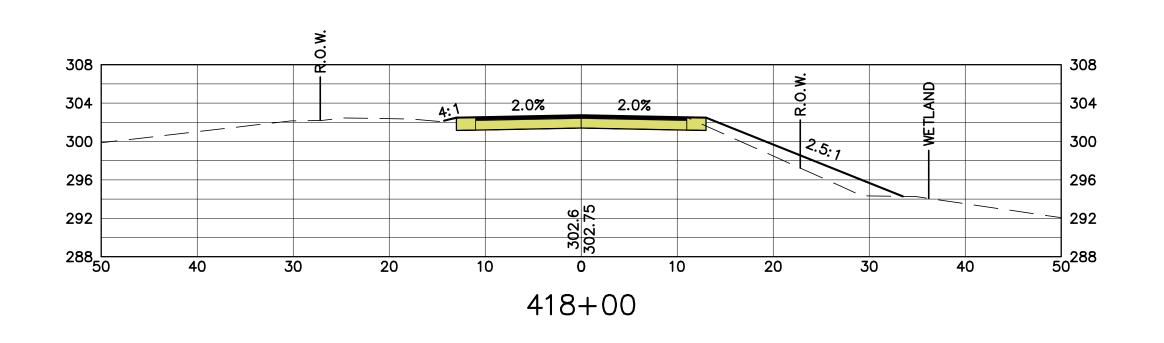
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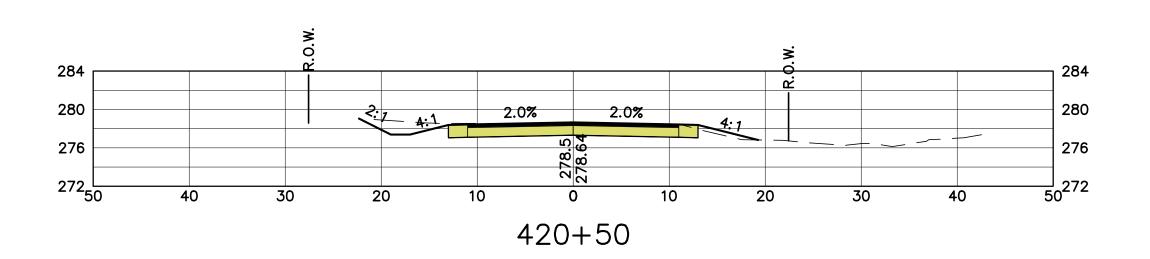
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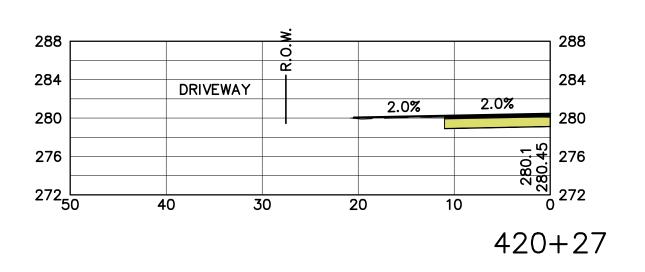


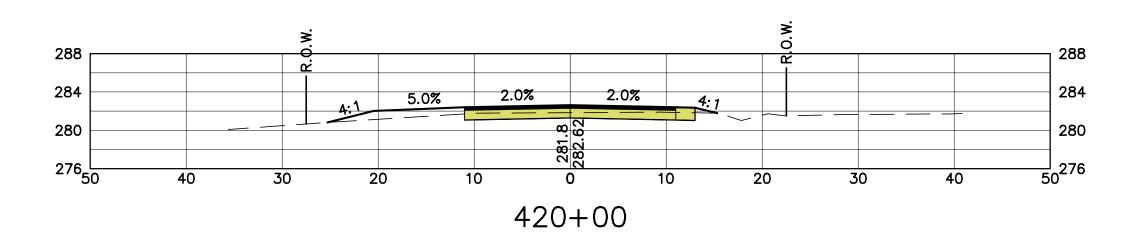


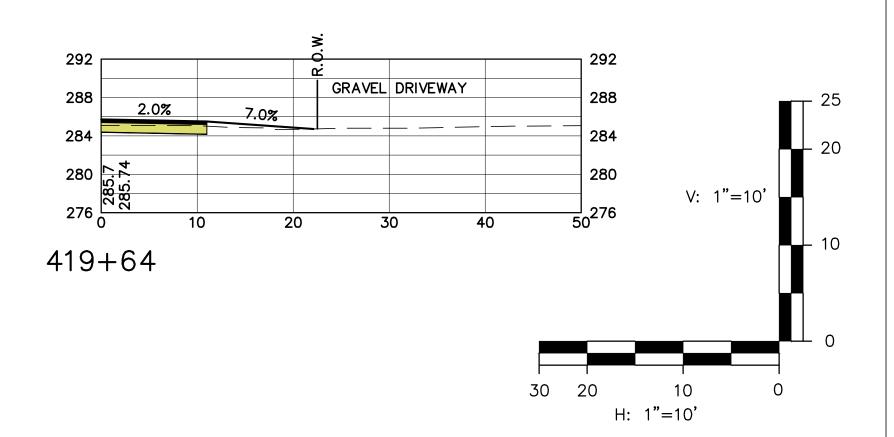






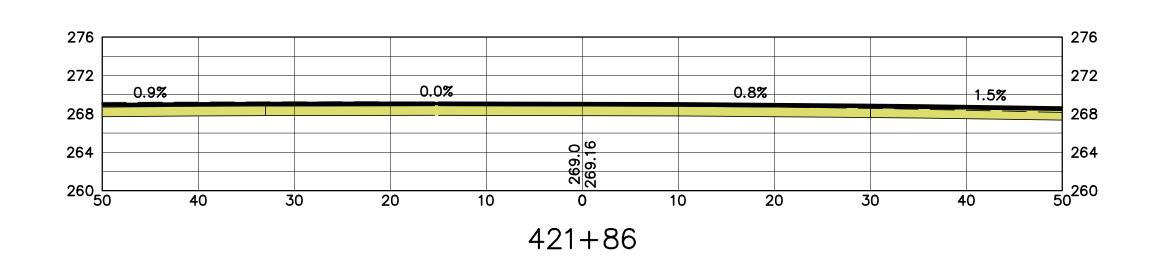


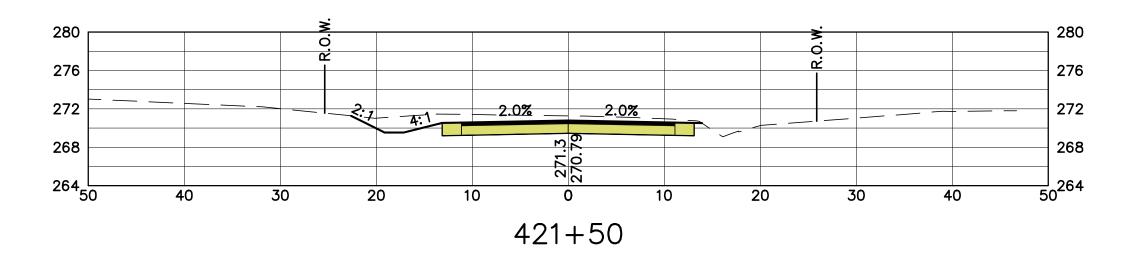


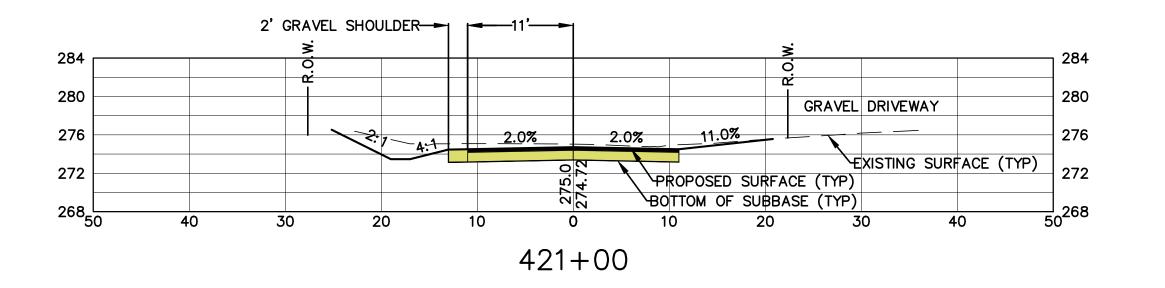


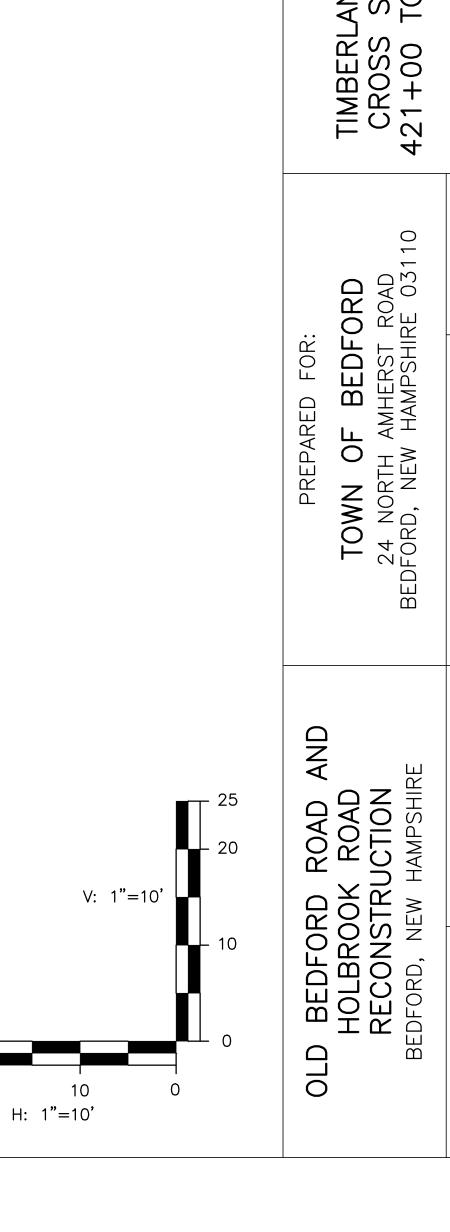
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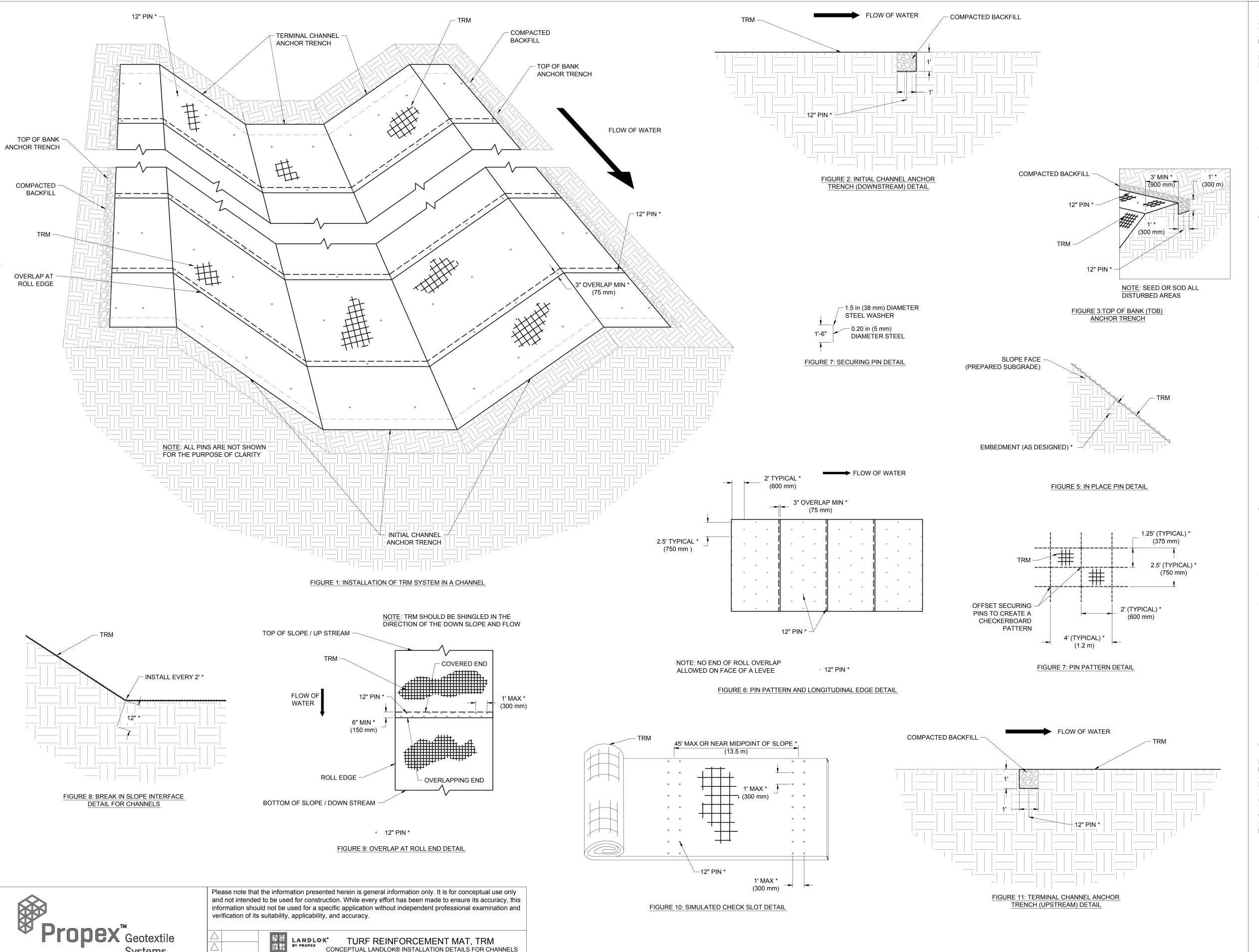
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04/11/2012 D.LOIZEAUX NTS

*ALL DIMENSIONS ARE TO BE VERIFIED BY THE ENGINEER

TURF REINFORCEMENT MAT (TRM) IN A CHANNEL **GENERAL INSTALLATION GUIDELINES**

PRE-CONSTRUCTION

A pre-construction meeting shall be held with the construction team and a representative from Propex ®. This meeting shall be scheduled by the contractor with at least two weeks notice. Also, Propex suggests that installation monitoring of the TRM be performed by a qualified independent third party.

- SITE PREPARATION • Grade and compact area of TRM installation as directed and approved by Engineer. Subgrade shall be uniform and smooth. Remove all rocks, clods, vegetation or other objects so the installed mat will have direct contact with soil surface.
- Prepare seedbed by loosening the top 2-3 in (50-75 mm) minimum of soil. This may be accomplished with a rotary tiller on slopes 3:1 or flatter.
- Perform a site specific soil test to determine what amendments such as lime and fertilizer to incorporate. Do not mulch areas where mat is to be placed.

- Keep seeded areas moist as necessary to establish vegetation. When watering seeded areas, use fine spray to prevent erosion of seeds or soil. If as a result of a rain, prepared seedbed becomes crusted or eroded, or if eroded places, ruts or depressions exist for any reason, rework soil until smooth and reseed such areas.
- Apply an amount equivalent to 50% of the total seed mixture required to be installed on the soil surface before installing the TRM.
- Disturbed areas shall be reseeded.
- Consult project plans and/or specifications for seed types and application rates.

GENERAL INSTALLATION GUIDELINES FOR STORM WATER CHANNELS

- Figure 1 shows general installation layout and details for TRM in storm water channels.
- Excavate an Initial Channel (IC) Anchor Trench 1 ft wide x 1 ft deep (300 mm x 300 mm) minimum wide across the channel at downstream end of project (see Figure 2). Deeper initial trench and/or hard armoring may be required in channels that have the potential for scour.
- Excavate the Top of Bank (TOB) Anchor Trench 1 ft wide x 1 ft deep (300 x 300 mm) minimum wide along both sides of the installation (see Figure 3). Each TOB Anchor Trench shall be located 3 ft (900 mm) minimum over crest of bank.
- Beginning at the downstream end of the channel, place TRM roll end i nto a TOB Anchor Trench and secure
- with pins on 2 ft (600 mm) centers (see Figure 3). • Unroll TRM down the first channel bank and up the opposing channel bank, terminating the TRM roll end into the opposite TOB Anchor Trench and secure with pins on 2 ft (600 mm) centers (see Figure 3).
- Place the TRM roll edge into IC Anchor Trench. Secure TRM roll edge in Initial Channel Anchor Trench with
- pins on 2 ft (600 mm) centers (see Figure 2).
- Position adjacent rolls and secure in Initial Channel Anchor Trench in same manner.
- Continue installation as described above, overlapping adjacent rolls as follows: A.Roll edge overlap: 3 in (75 mm) minimum overlap with upstream mat on top. Secure with one row of
- securing pins on 12 in (300 mm) centers on the designed pin pattern detail in Figure 6. B. Roll end overlap for slopes: 6 in (150 mm) minimum overlap with upslope mat on top. Secure with two
- rows of pins staggered 6 in (150 mm) apart on 12 in (300 mm) centers (see Figure 9). • Secure mat using pins. For appropriate frequency and pattern, see the typical Anchor/Pin Pattern Detail (see
- Figure 6) and the Pin Pattern Detail (see Figure 7). See Toe Interface Detail (Figure 8) for sp ecial anchoring patterns for breaks in slope. • For channel bank heights or channel bottom widths greater than 45 ft (13.7 m), install simulated check slots
- per Figure 10. This method includes placing two rows of pins 12 in (300 mm) apart on 12 in (300 mm) centers at 45 ft (13.7 m) maximum intervals (see Figure 10) or across the midpoint of the slope for slope lengths less than 60 ft (18.2 m). • Excavate Terminal Channel (TC) Anchor Trench 12 in wide x 12 in deep (300 x 300 mm) minimum across the
- channel at the upstream end of the project (see Figure 11). Deeper terminal trench and/or hard armoring may be required in channels that have the potential for scour. • Place the TRM roll edge into TC Anchor Trench. Secure TRM roll edge in TC Anchor Trench with pins on 2 ft
- (600 mm) centers (see Figure 11). • Backfill and compact soil into each trench as directed and approved by Engineer.
- When required, the Engineer is to create project details for transition to structures along the longitudinal edge or to address water flowing perpendicular to the seams.

GROUND PINNING AND ANCHORING DEVICES

• Metal pins should be at least 0.20 in (5 mm) diameter steel with a 1 1/2 in (38 mm) steel washer at the head of the pin (see Figure 8). Metal pins should be driven flush to the soil surface. Pins should be between 12-24 in (300-600 mm) long and have sufficient ground penetration to resist pullout. Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Depending on soil pH and design life of the pin, galvanized or stainless steel pins may be required. Consult project plans and/or specifications for tie down device details.

SPECIAL TRANSITIONS

• For applications that require special transitions (i.e. connections to riprap, concrete, T-Walls, etc.), refer to the project specific drawings or consult with Propex Engineering Service at 423-553-2450.

VEGETATION ESTABLISHMENT

- Installed TRM shall be re-seeded and soil-filled or sodded as is required by the project documents.
- After seeding, spread and lightly rake 1/2 3/4 in (12-19 mm) of fine site soil or topsoil into the mat and completely fill the voids using backside of rake or other flat tool. For slopes 3:1 or flatter, roll the entire TRM installation with a drum roller to compact seed and soil tightly into the matrix.
- Smooth soil-fill in order to just expose the top of the TRM. Do not place excessive soil above the mat.
- If equipment must operate on the mat, make sure it is of the rubber-tired type. No tracked equipment or sharp
- turns are allowed on the mat. Avoid any traffic over the mat if loose or wet soil conditions exist.
- Broadcast additional seed and install a Landlok® Erosion Control Blanket (ECB) above the soil-filled mat as required by the Engineer. For levees or slopes steeper than 3:1, the addition of the ECB may be required or alternate methods of retaining the soil fill may be considered. Please contact the project engineer or Propex Engineering Services at (423) 553-2450.
- Irrigate as necessary to establish and maintain vegetation. Frequent, light irrigation will need to be applied to seeded areas if no natural rain events have occurred within two weeks of seeding and shall continue until 75% of vegetation has established and has reached a height of 2 inches. Do not over irrigate.

CONTRACTORS MAINTENANCE AND GUARANTEE PERIOD

It shall be the responsibility of the Owner to maintain all seed and TRM areas after Engineer's acceptance. Maintenance shall consist of watering and weeding, repair of all erosion and any re-seeding as necessary to establish a uniform stand of the specified grasses. A minimum of 70% of the area seed shall be covered with no bare or dead spots greater than 10 ft² (1 m²). Seeded areas shall not be mowed prior to establishment of 70% vegetative density and a minimum grass growth of 4 inches (100 mm). Mower height shall not be set lower than 4 inches (100 mm). Throughout the duration of the project, the contractor shall be responsible for mowing to facilitate growth and shall not let the vegetation in the seeded areas exceed 18 inches (450 mm). In addition, the Contractor shall water all grassed areas as often as necessary to establish satisfactory growth and to maintain its growth throughout the duration of the project.

Replanting is to be performed within 14 calendar days of notification by the Engineer.