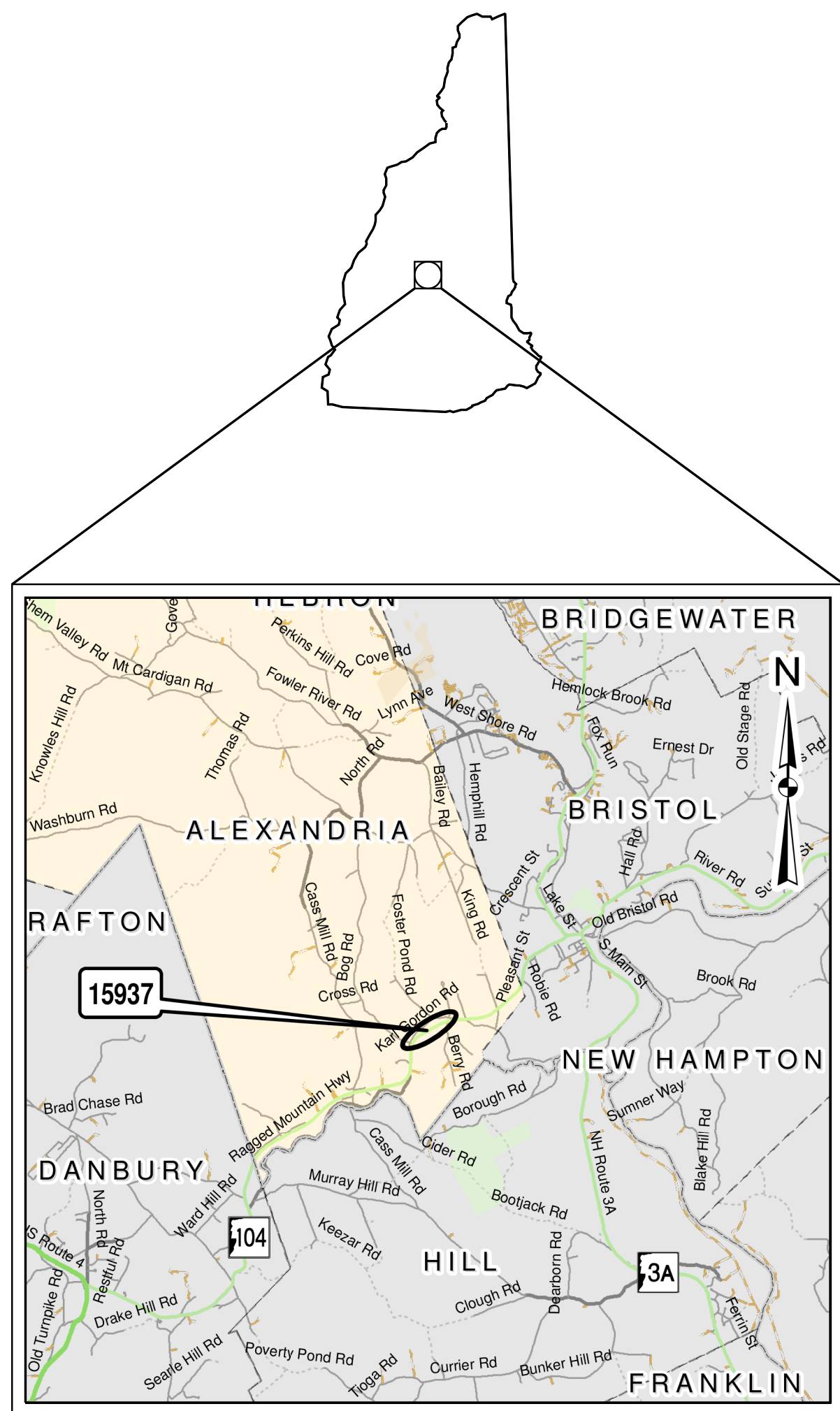
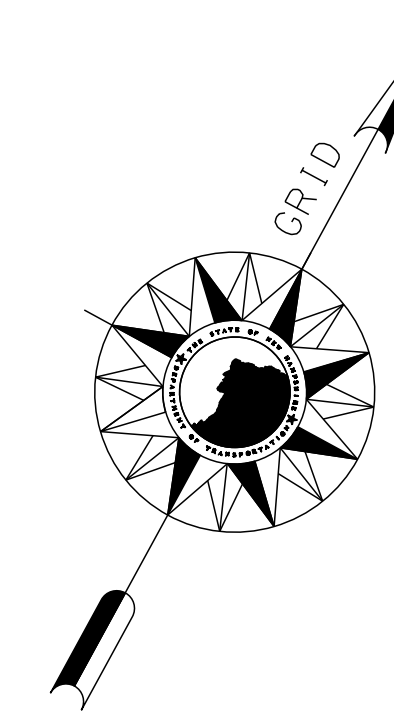
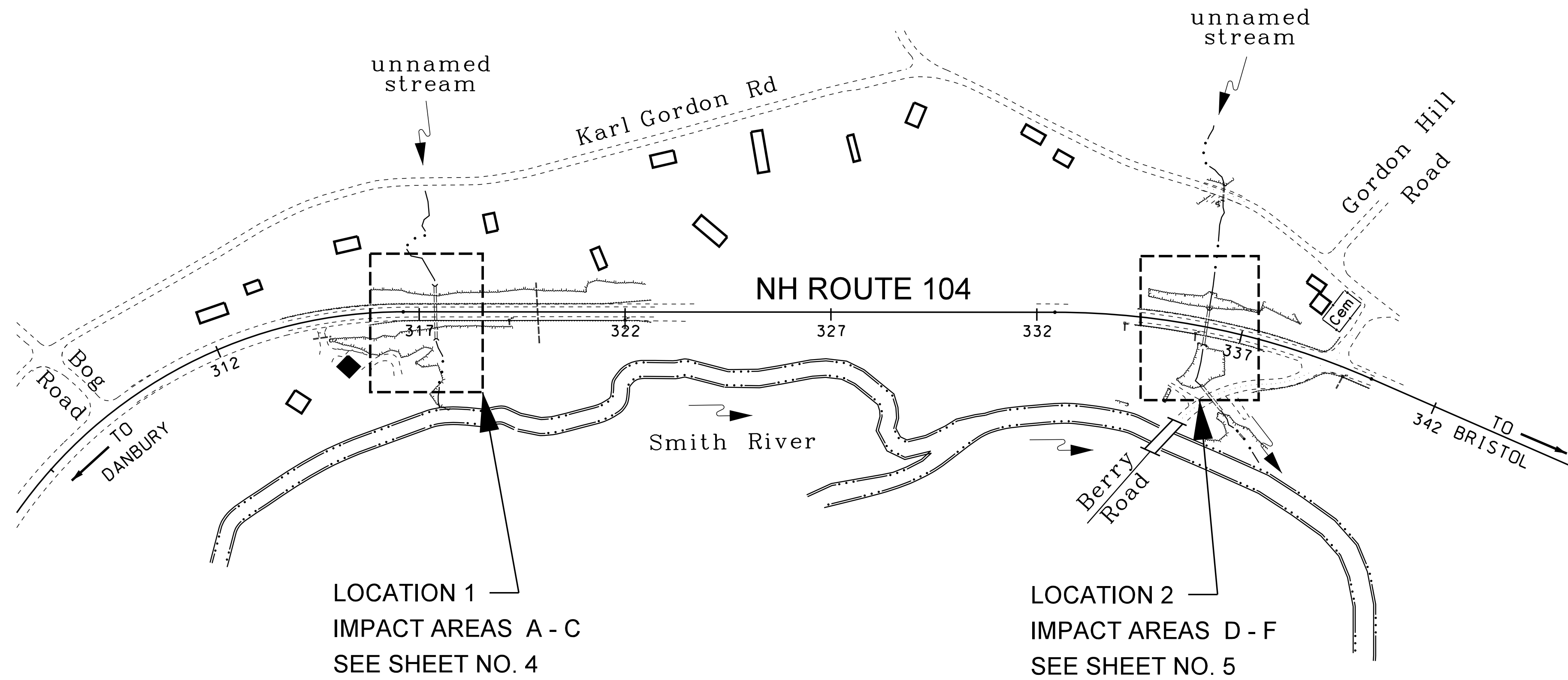


STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION
WETLANDS PLANS
FEDERAL AID PROJECT

X-A001(047)
 N.H. PROJECT NO. 15937
 NH ROUTE 104
CULVERT REHABILITATION



1 1/2 0 1 2 mi.
 GRAPHIC SCALE
LOCATION MAP



LOCATION 1
 IMPACT AREAS A - C
 SEE SHEET NO. 4

LOCATION 2
 IMPACT AREAS D - F
 SEE SHEET NO. 5

INDEX OF SHEETS

- 1 FRONT SHEET
- 2 - 3 STANDARD SYMBOLS
- 4 - 5 WETLAND IMPACT PLANS
- 6 - 7 DETAILS
- 8 EROSION CONTROL STRATEGIES
- 9 - 10 EROSION CONTROL PLANS

DRAWN BY SDF
 CHECKED BY CAC
 DATE MAY 2018
 DATE 7/2018

July 10, 2018

TOWN OF ALEXANDRIA
 COUNTY OF GRAFTON
 SCALE: 1" = 200'

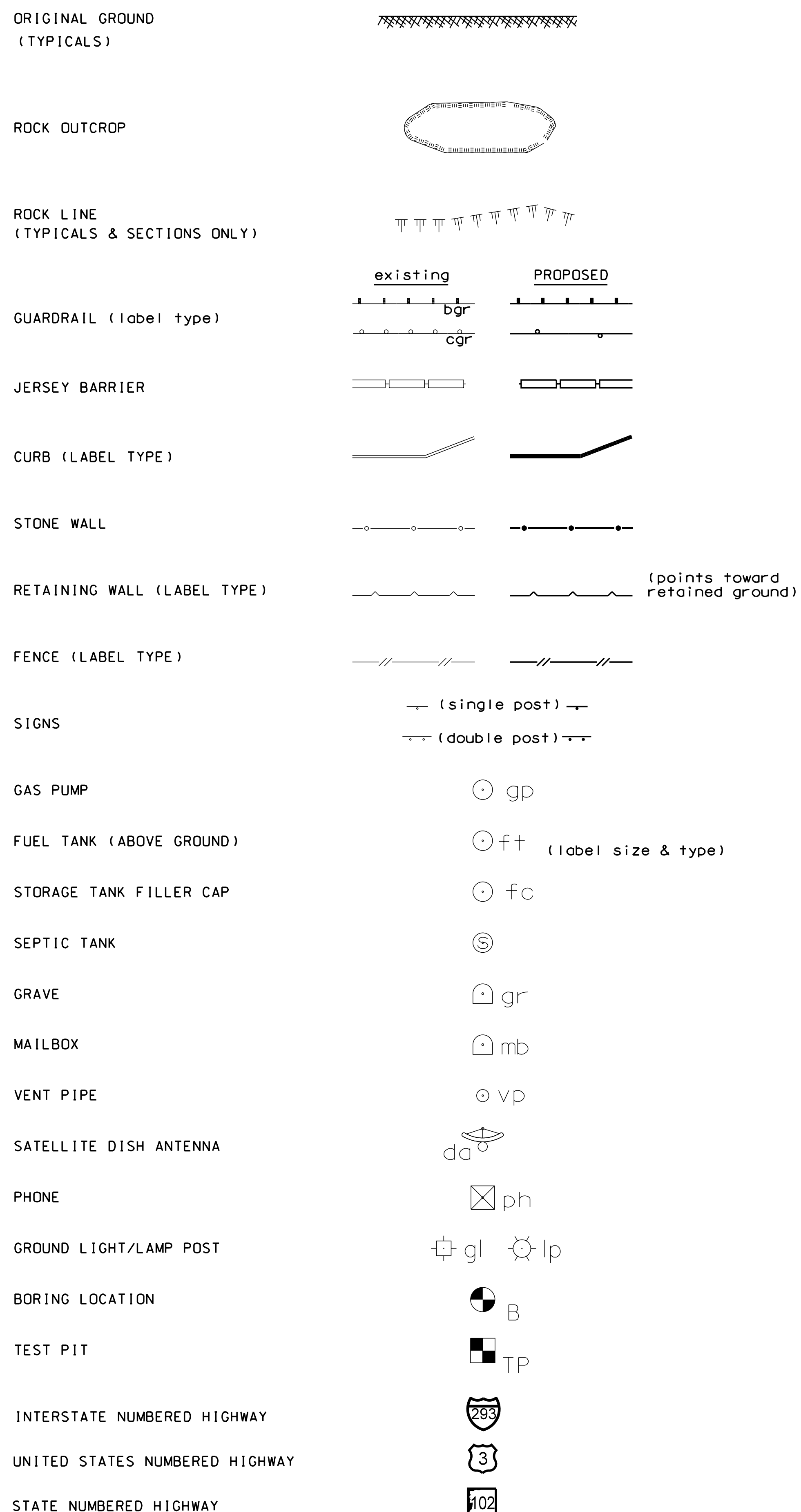
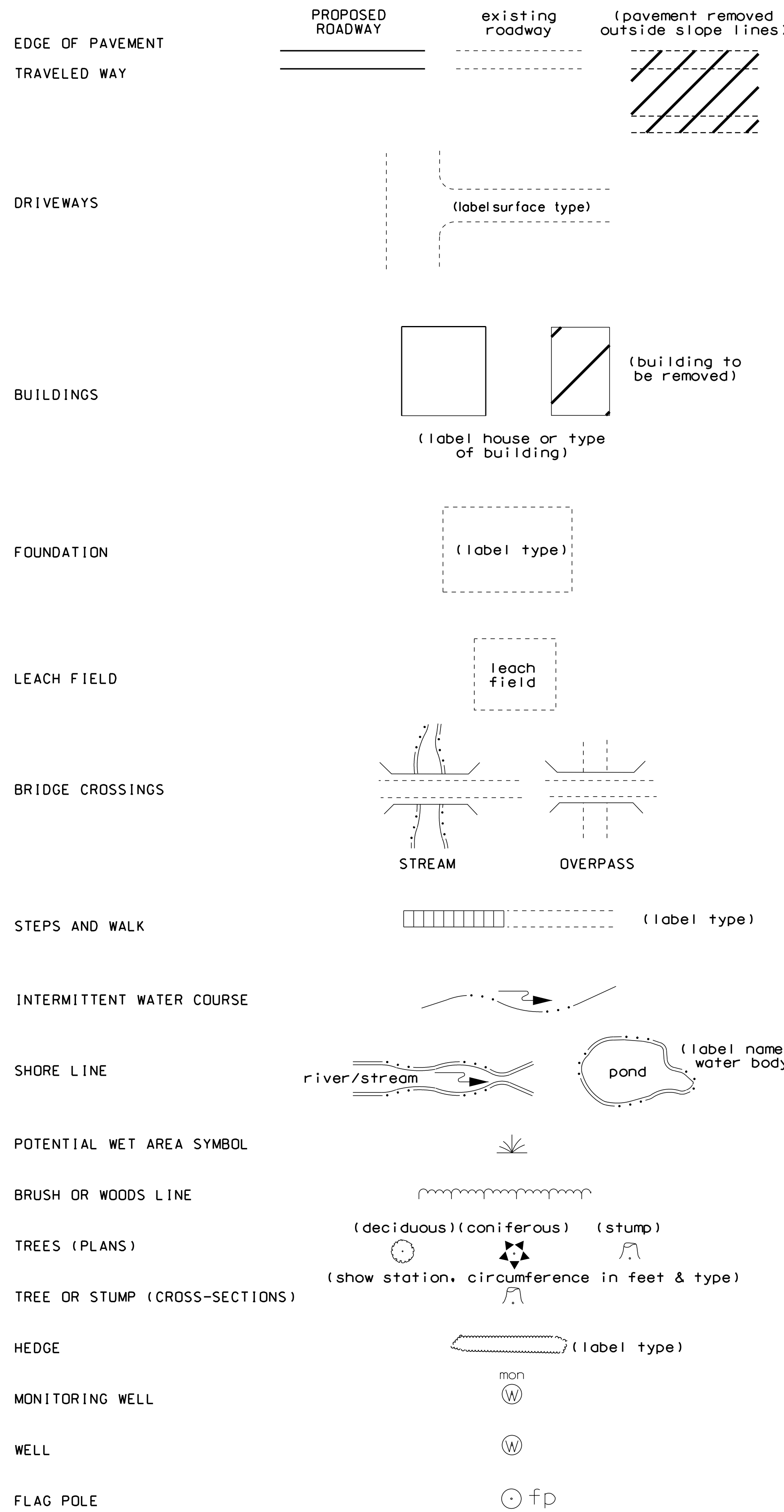
Wetland Delineation by:
 NHDOT Bureau of Environment
 Marc Laurin 4/13/2018

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

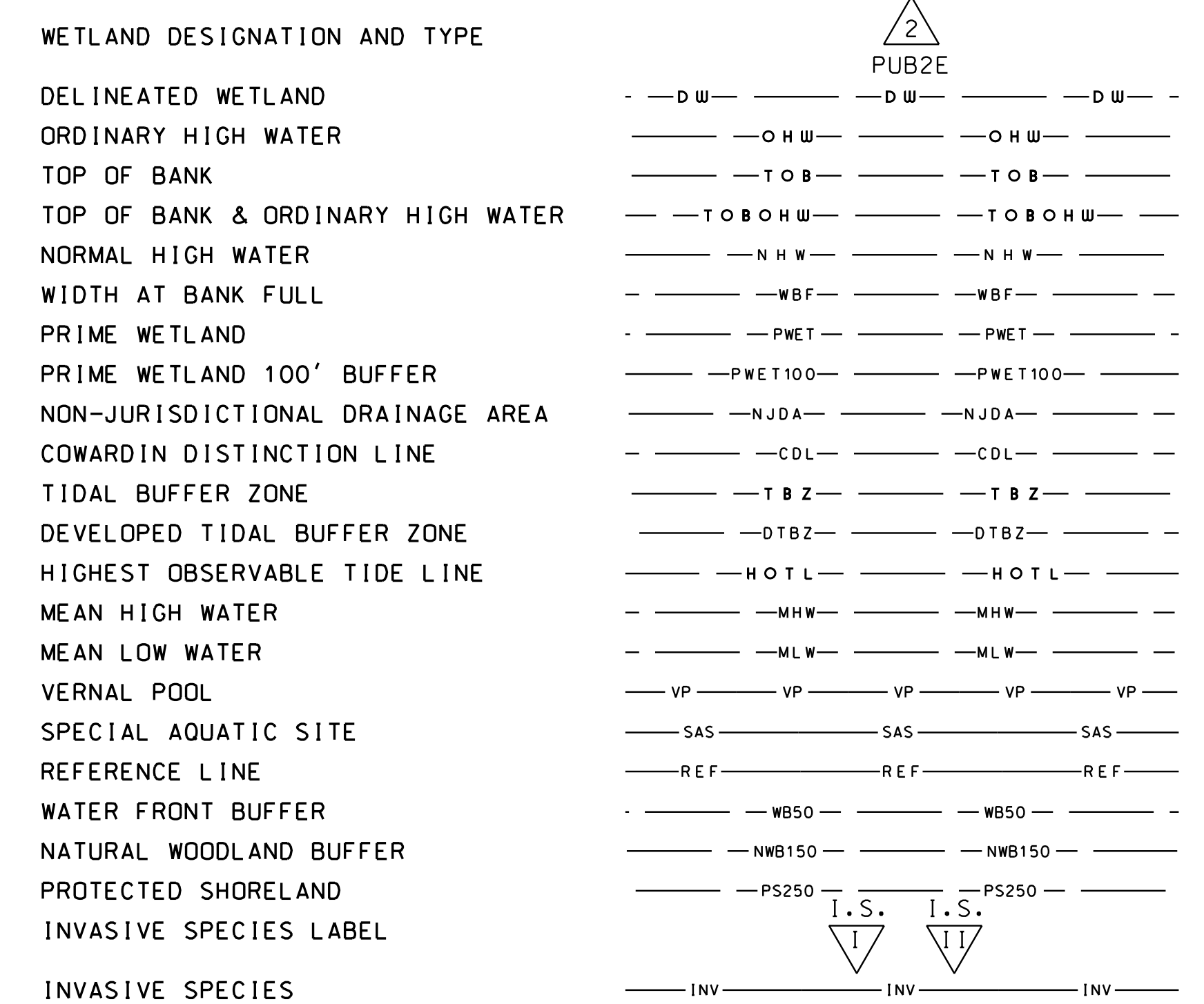
*NH ROUTE 104
 CULVERT REHABILITATION
 WETLAND IMPACT PLANS*

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A001(047)	15937	1	10

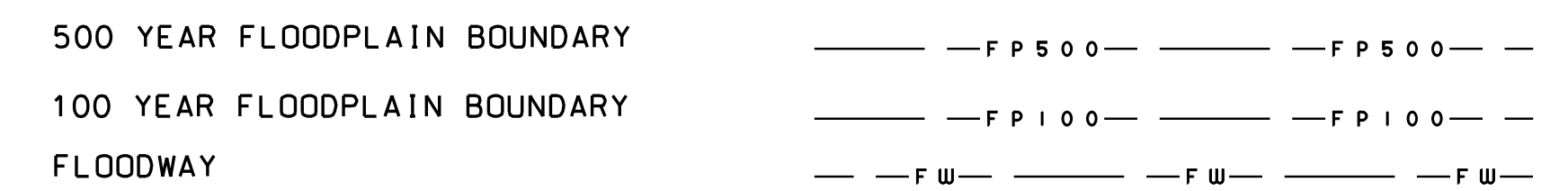
GENERAL



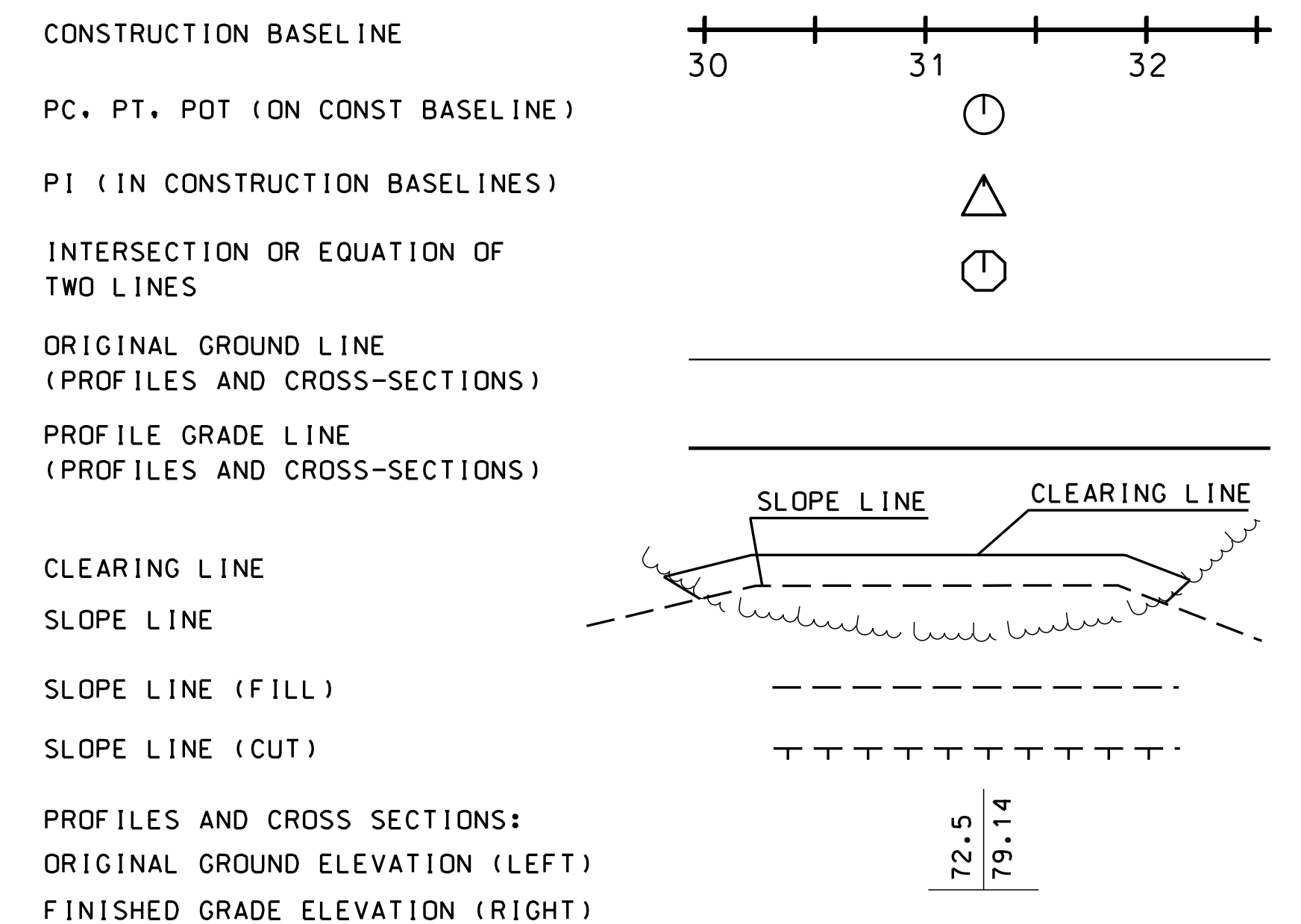
SHORELAND - WETLAND



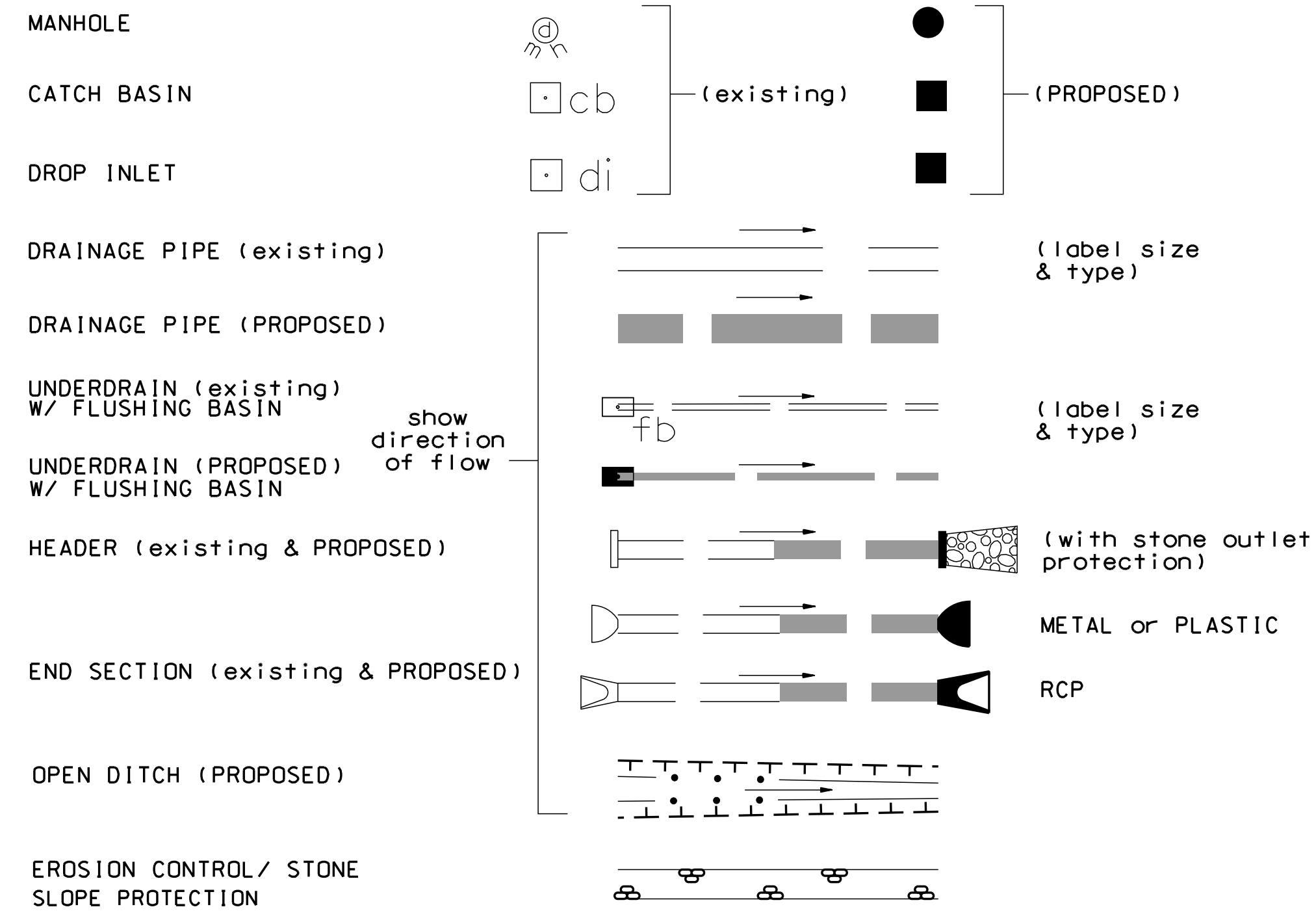
FLOODPLAIN / FLOODWAY



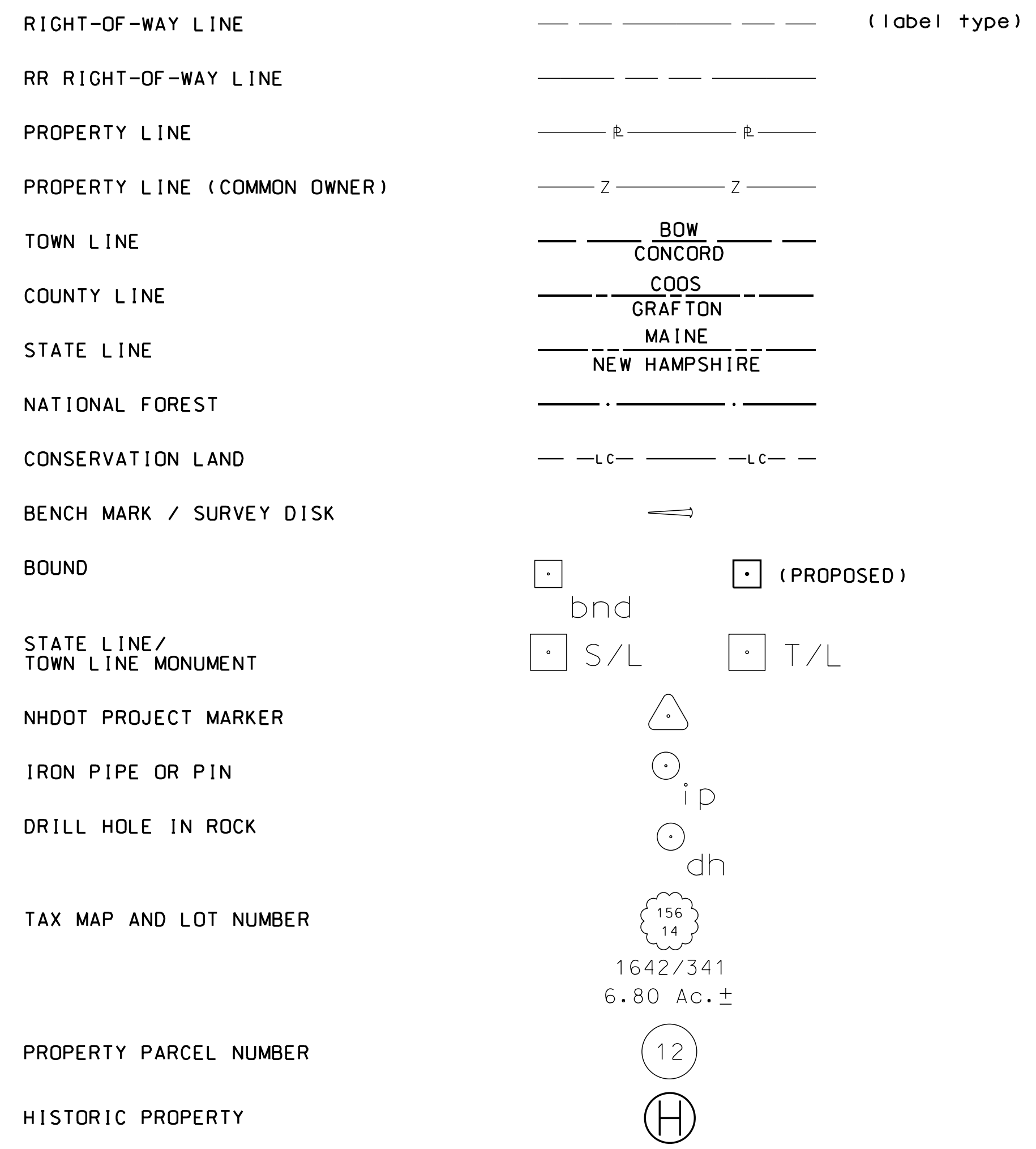
ENGINEERING



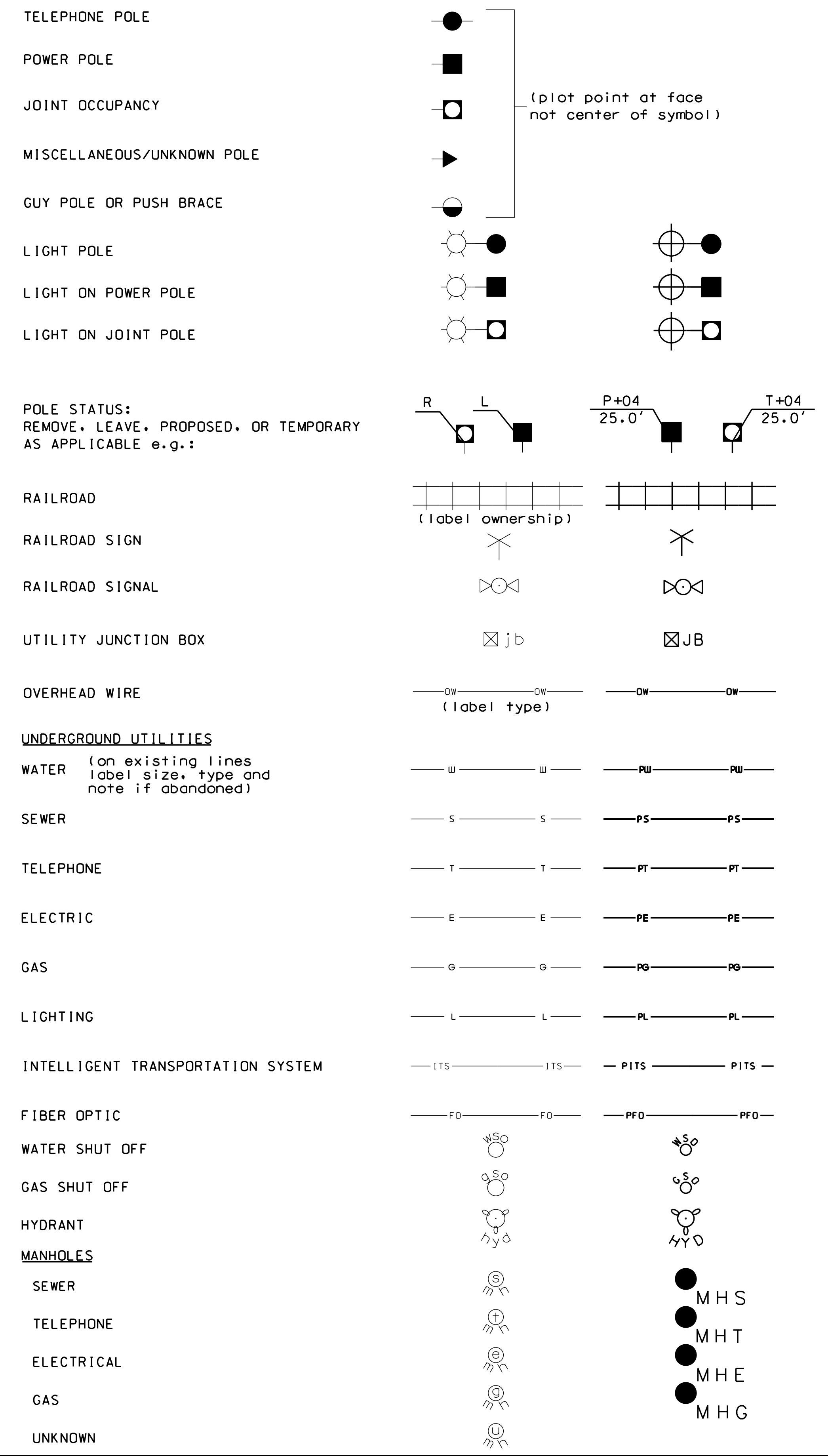
DRAINAGE



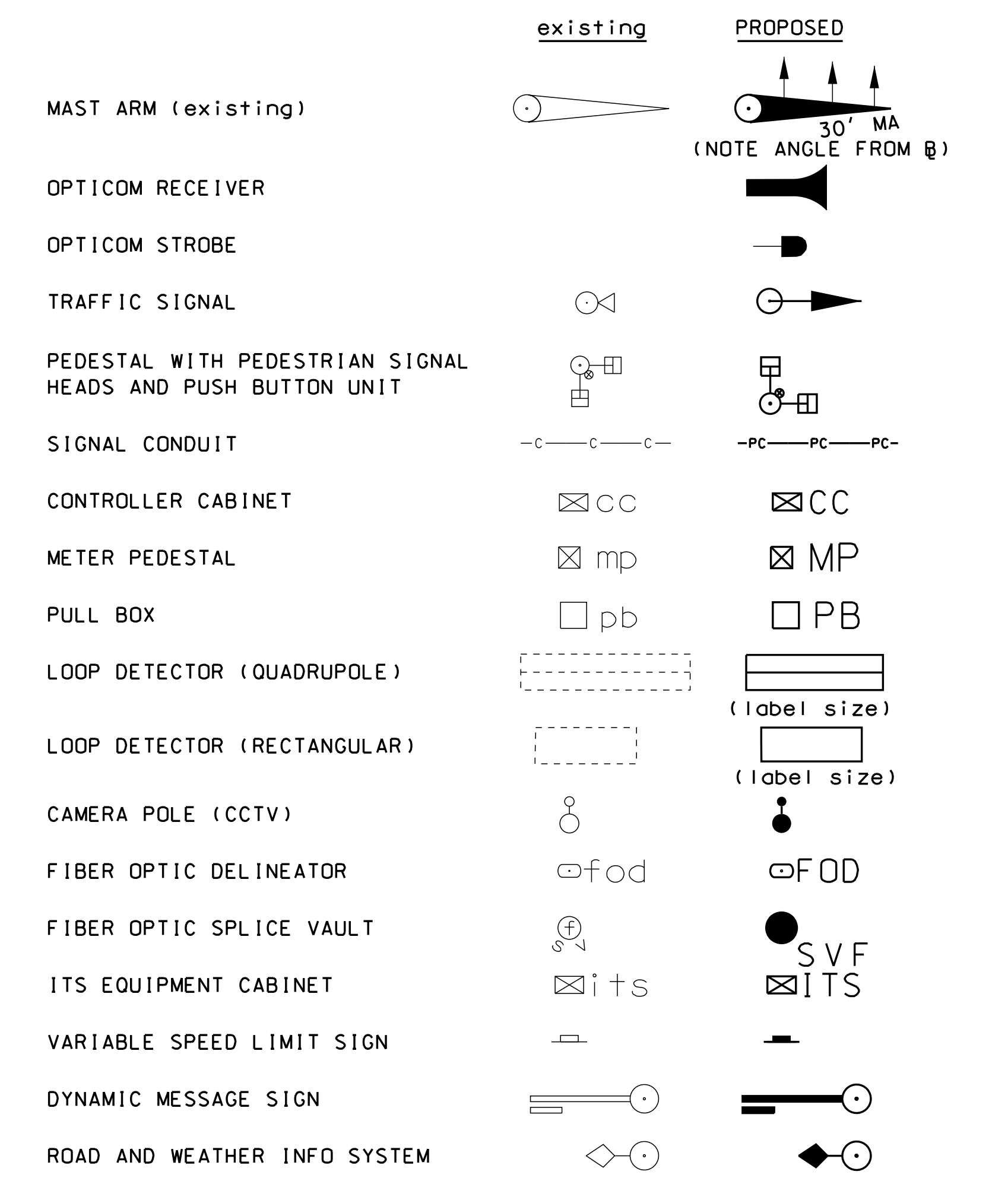
BOUNDARIES / RIGHT-OF-WAY



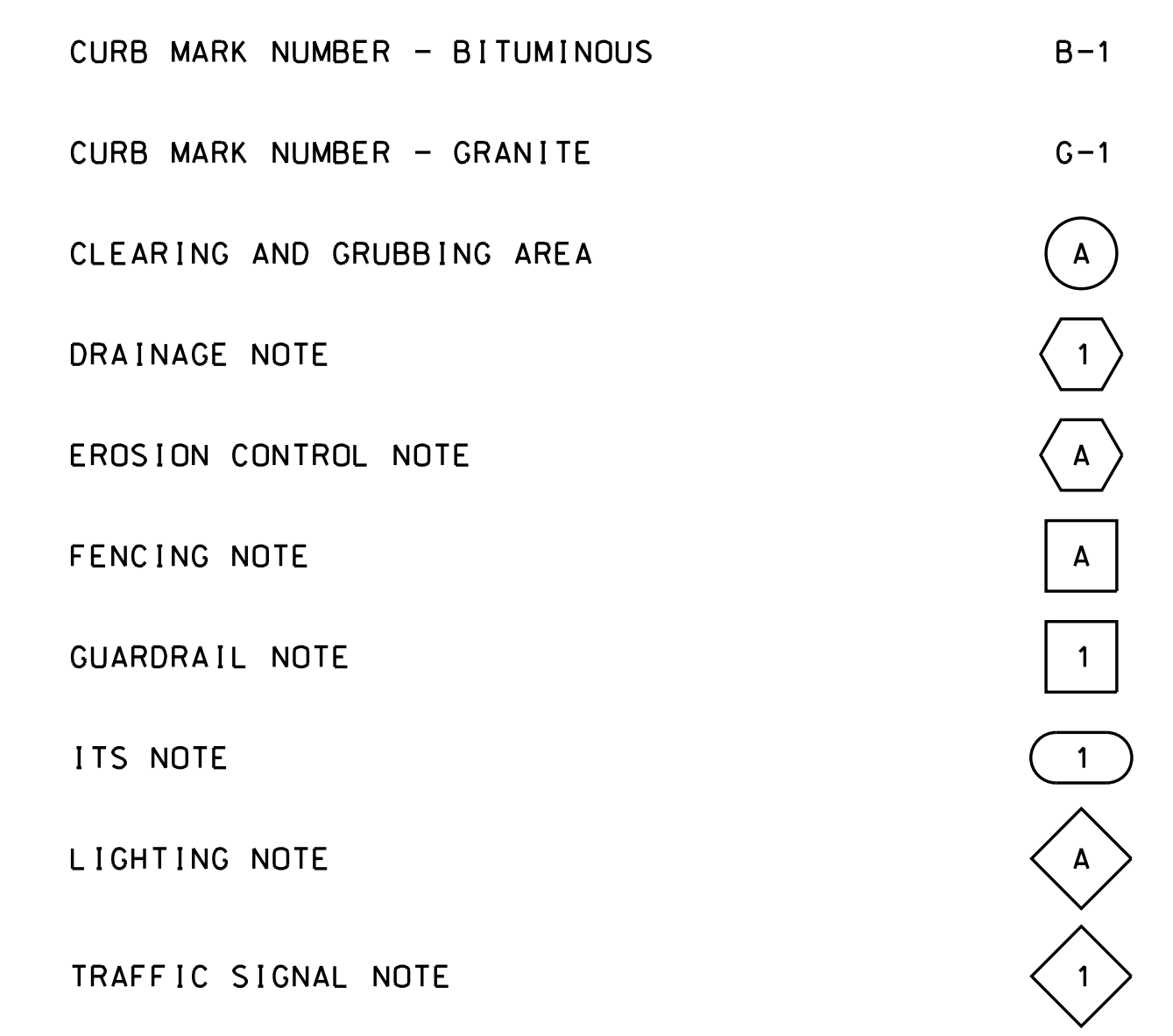
UTILITIES



TRAFFIC SIGNALS / ITS



CONSTRUCTION NOTES



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

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	15937s+dsymb1_2	15937	3	10

SDR PROCESSED
 NEW DESIGN SOF
 SHEET CHECKED CAC
 AS BUILT DETAILS

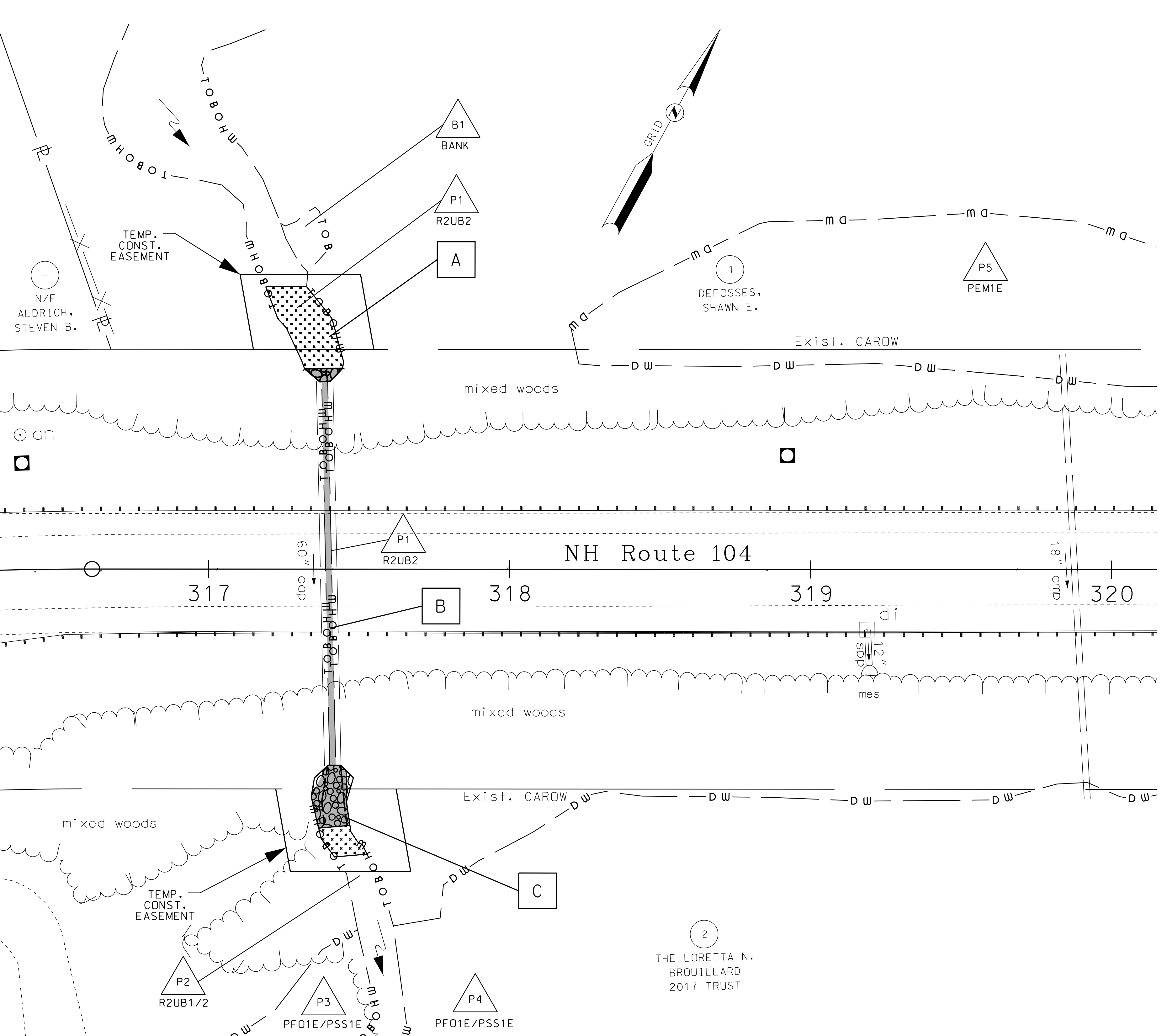
DATE DATE APRIL 2018
 DATE 7/10/18
 DATE

NUMBER DATE STATION STATION DESCRIPTION

REVISIONS AFTER PROPOSAL

WETLAND IMPACT SUMMARY														
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS						LINEAR STREAM IMPACTS FOR MITIGATION					
			PERMANENT		N.H.W.B. & A.C.D.E. (WETLAND)		TEMPORARY		PERMANENT					
			N.H.W.B. (NON-WETLAND)	LF	SF	LF	SF	LF	BANK LEFT	BANK RIGHT	CHANNEL			
P1	R2UB2	A			35	4	417	30						
P1	R2UB2	B			256	128								
P2	R2UB1/2	C			204	20	108	10						
P7	PEM1E/PSS1E	D						211						
P8	R4SB3/4	D			45	5	271	21						
P9	PEM1E/PSS1E	D						266						
P8	R4SB3/4	E			258	86								
P8	R4SB3/4	F			314	22	143	10						
P12	PSS1E	F						173						
P13	PSS1E	F						1290						
TOTAL					1112	265	2879	71			24	24	51	

PERMANENT IMPACTS: 1,112 SF
 TEMPORARY IMPACTS: 2,879 SF
 TOTAL IMPACTS: 3,991 SF



LEGEND

TYPE OF WETLAND IMPACT	SHADING/HATCHING	#	WETLAND DESIGNATION NUMBER
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	[Diagonal Hatching]	#	WETLAND IMPACT LOCATION
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	[Solid Grey]	#	WETLAND MITIGATION AREA
TEMPORARY IMPACTS	[Dotted]	[Diagonal Hatching]	MITIGATION

WETLAND CLASSIFICATION CODES			
R2UB2	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, SAND	R4SB3/4	RIVERINE, INTERMITTENT, STREAMBED, COBBLE-GRAVEL/SAND
R2UB1/2	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE-GRAVEL/SAND	PF01E/PSS1E	PALUSTRINE, FORESTED BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED / PALUSTRINE, SCRUB-SHRUB, SEASONALLY FLOODED/SATURATED
R2UB2/3	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, SAND/MUD	PEM1E	PALUSTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED
BANK	BANK	PSS1E	PALUSTRINE, SCRUB-SHRUB, SEASONALLY FLOODED/SATURATED

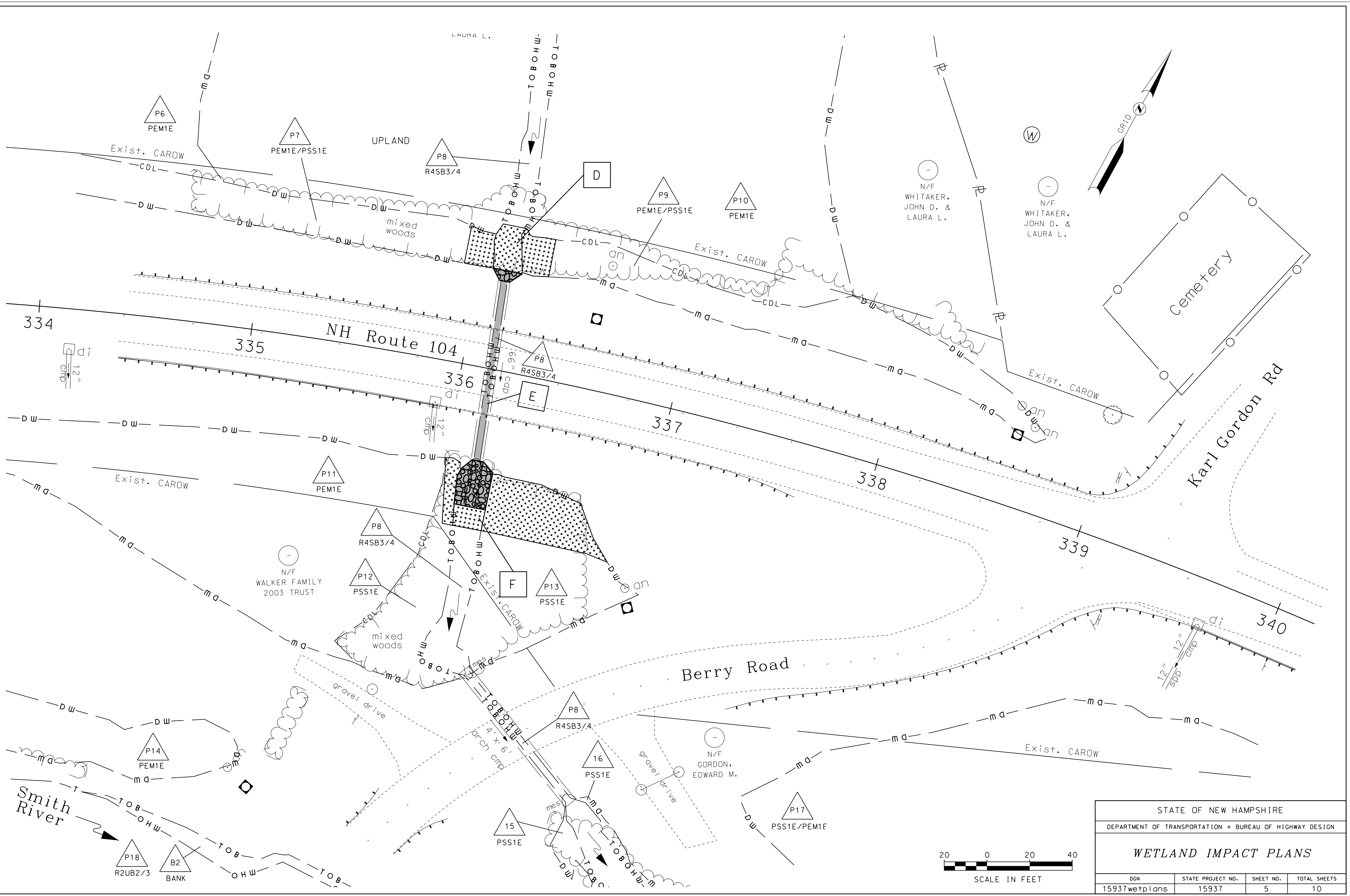


STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND IMPACT PLANS

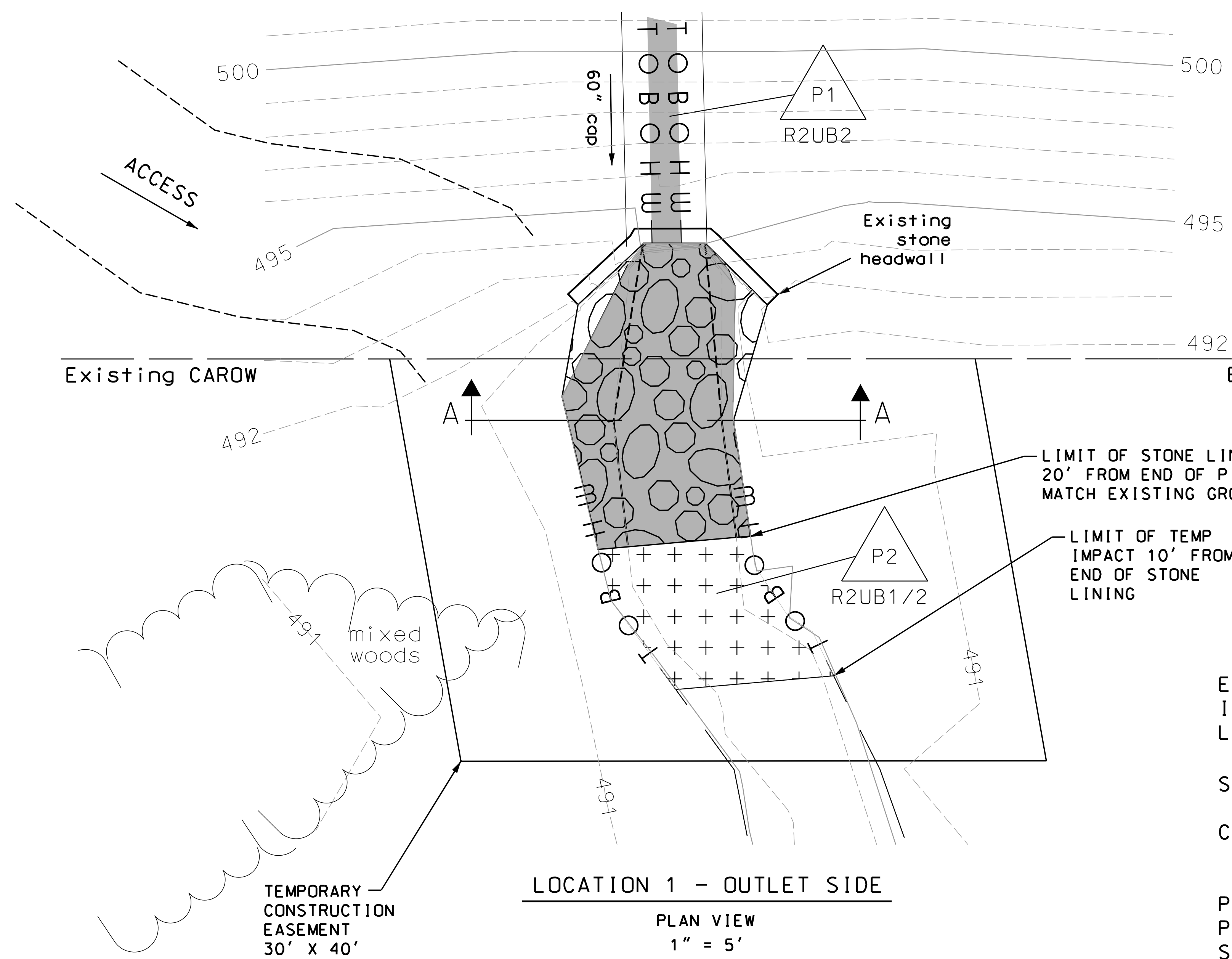
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937wetplans	15937	4	10

SDR PROCESSED	DATE	DATE	DATE	DATE
NEW DESIGN	APRIL 2018	APRIL 2018	APRIL 2018	APRIL 2018
SHEET CHECKED	CAC	CAC	CAC	CAC
AS BUILT DETAILS				



STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT PLANS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937wetplans	15937	5	10

REVISIONS AFTER PROPOSAL		STATION	DESCRIPTION
SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	SDF	DATE	APRIL 2018
SHEET CHECKED	CAC	DATE	7/10/18
AS BUILT DETAILS	DATE	DATE	DATE



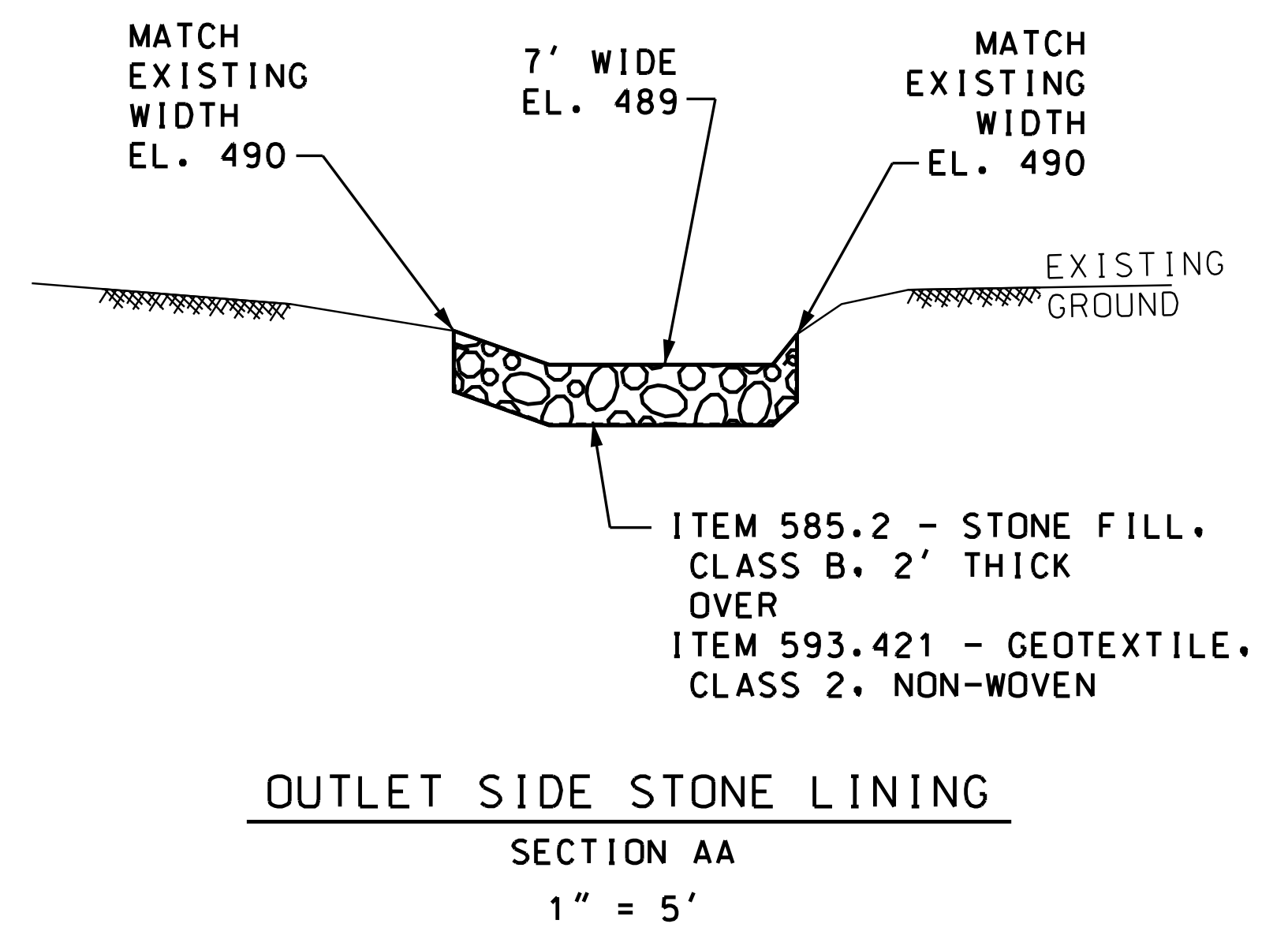
IMPACT AREA A
(INLET SIDE, NOT SHOWN)

IMPACT AREA B
(INSIDE PIPE)

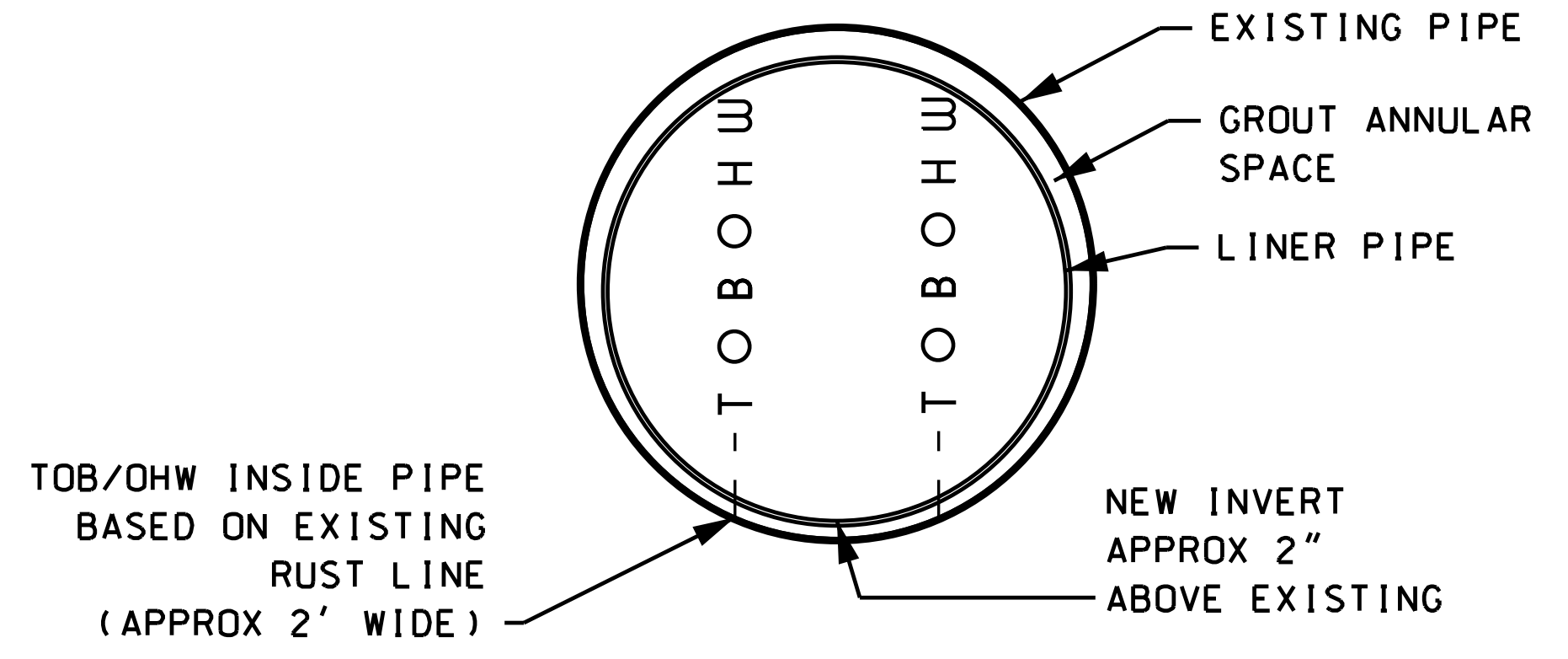
IMPACT AREA C
(OUTLET SIDE)

Existing 60" Corrugated Aluminum Pipe
Inlet invert 491.39 Outlet invert 488.75
Length 128' Slope 2.1%

SLIPLINE WITH 54" CORRUGATED METAL LINER, SPIRAL CORRUGATIONS
(MANNINGS N APPROX 0.012).
CONSTRUCT 33° BEVEL AT INLET SIDE TO TRANSITION FROM 54" LINER
TO 60" DIAMETER AT THE END OF THE EXISTING PIPE.
BEVEL MAY BE CONCRETE OR PREFABRICATED GALVANIZED STEEL.
PLACE STONE FILL CLASS B WITHIN LIMITS OF UPSTREAM HEADWALL.
PLACE STONE FILL CLASS B AT OUTLET PER DETAIL (THIS SHEET).
STONE FILL SHALL MAKE A SMOOTH TRANSITION FROM NEW PIPE
INVERTS TO EXISTING STREAM BED.
REPAIR EXISTING HEADWALLS AS NEEDED (REPLACE MISSING STONES
AND REPOINT MORTAR).



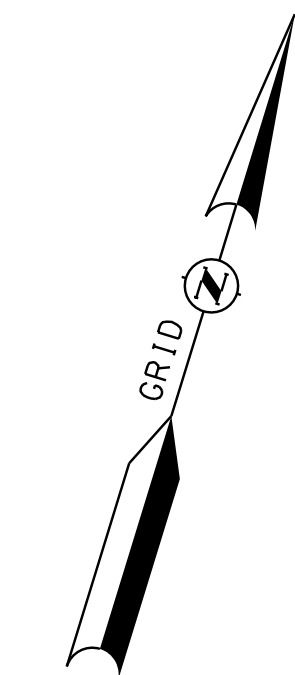
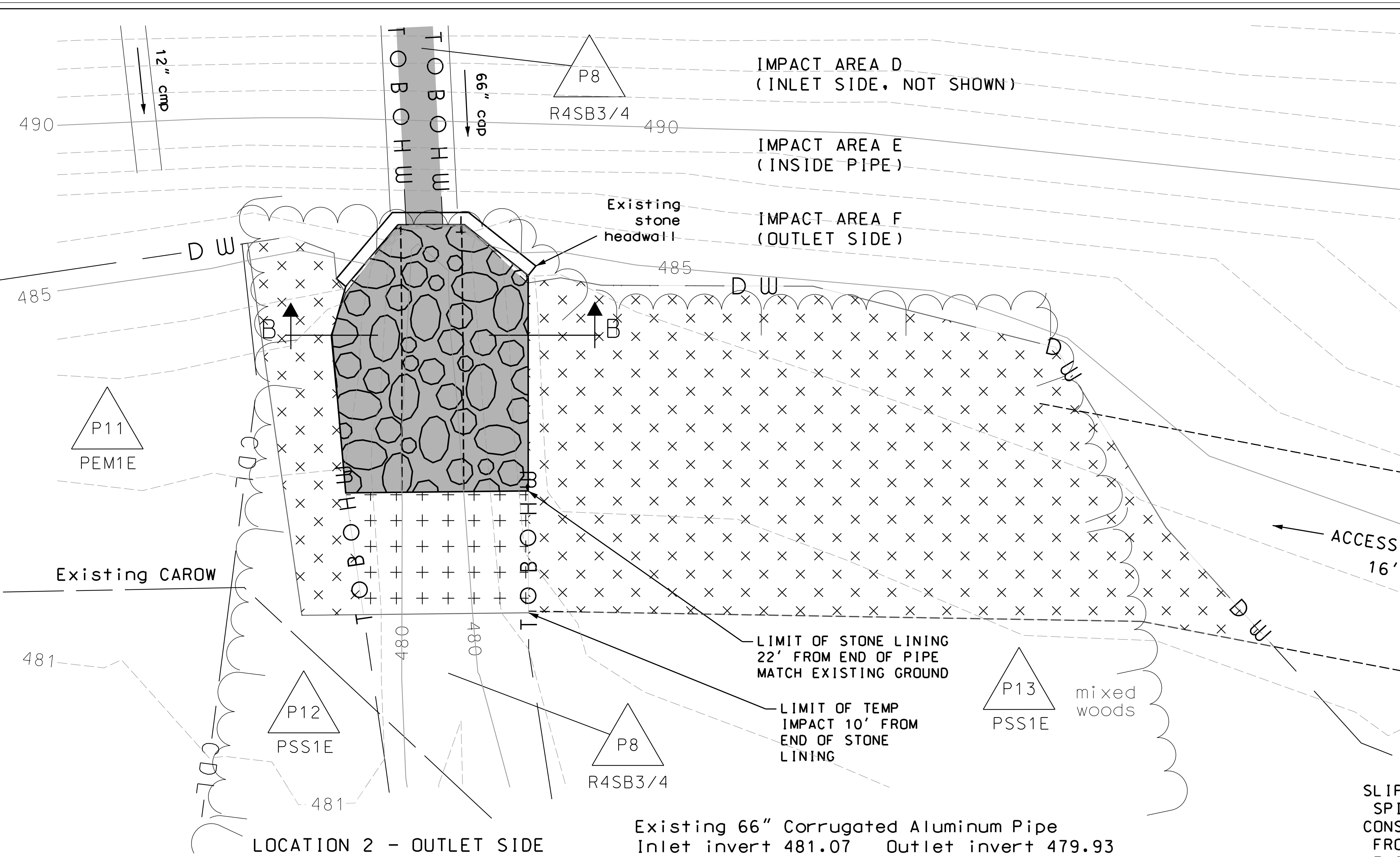
OUTLET SIDE STONE LINING
SECTION AA
1" = 5'



LOCATION 1 - EXISTING 60" PIPE
TYPICAL
NOT TO SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
<i>DETAILS</i>			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937stonedet	15937	6	10

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	SDF	DATE	APRIL 2018
SHEET CHECKED	CAC	DATE	7/10/18
AS BUILT DETAILS		DATE	

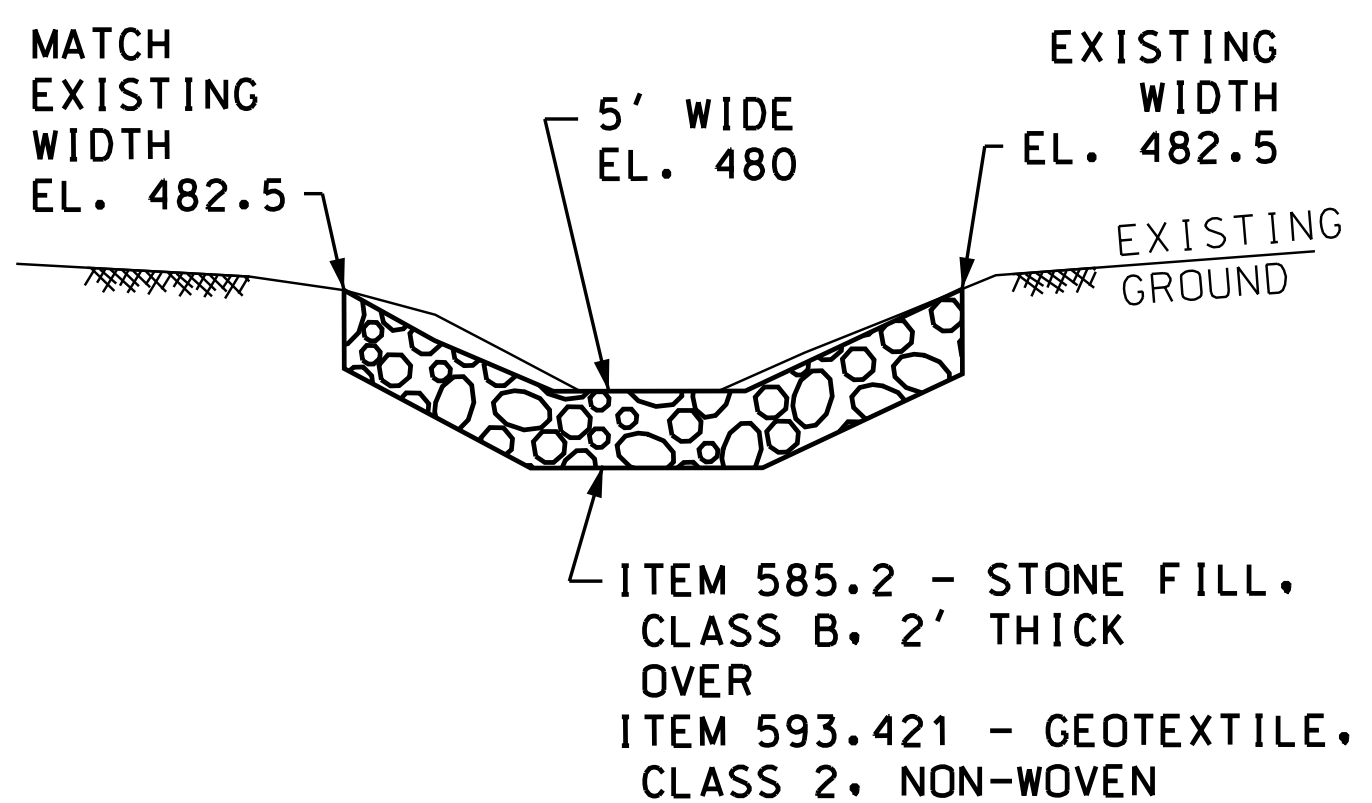


LOCATION 2 - OUTLET SIDE

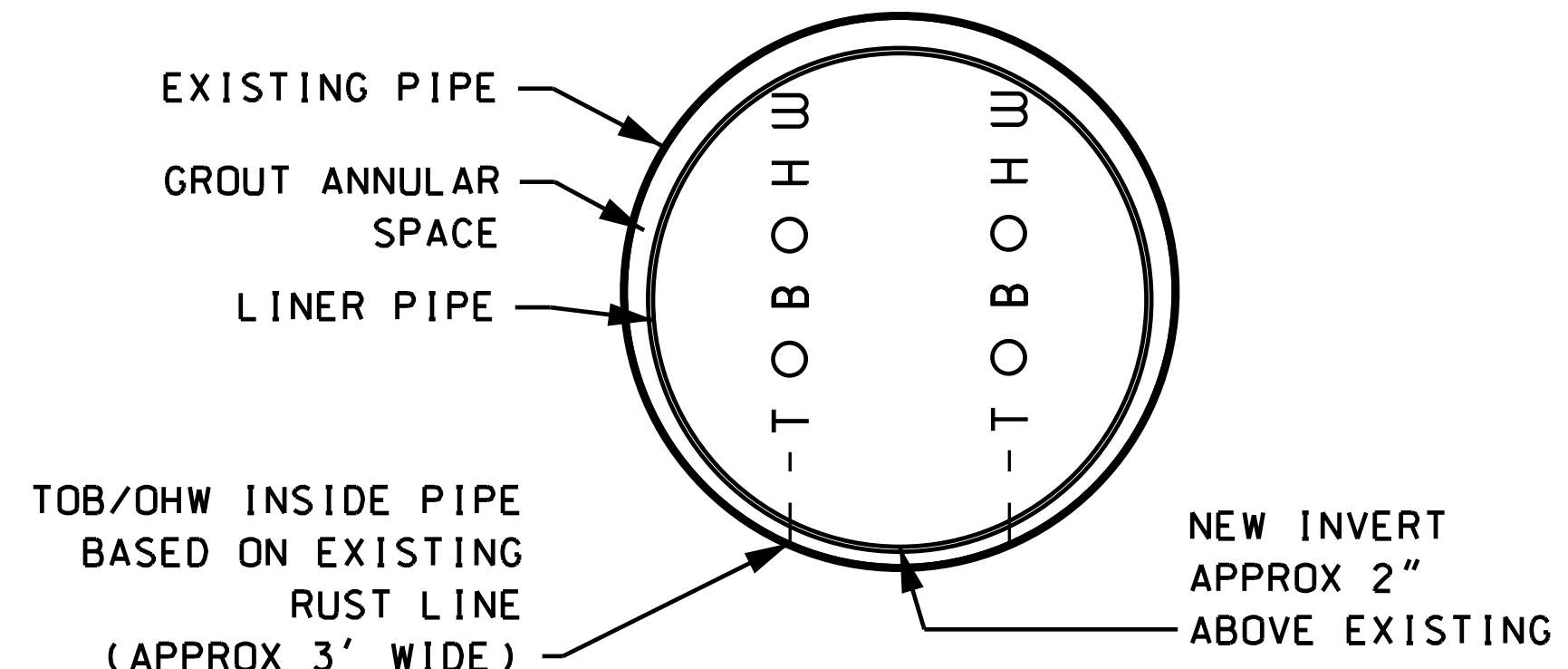
PLAN VIEW
1" = 5'

Existing 66" Corrugated Aluminum Pipe
Inlet invert 481.07 Outlet invert 479.93
Length 86' Slope 1.3%

SLIPLINE WITH 60" CORRUGATED METAL LINER, SPIRAL CORRUGATIONS (MANNINGS N APPROX 0.012). CONSTRUCT 33° BEVEL AT INLET SIDE TO TRANSITION FROM 60" LINER TO 66" DIAMETER AT THE END OF THE EXISTING PIPE. BEVEL MAY BE CONCRETE OR PREFABRICATED GALVANIZED STEEL. PLACE STONE FILL CLASS B WITHIN LIMITS OF UPSTREAM HEADWALL. PLACE STONE FILL CLASS B AT OUTLET PER DETAIL (THIS SHEET). STONE FILL SHALL MAKE A SMOOTH TRANSITION FROM NEW PIPE INVERTS TO EXISTING STREAM BED. REPAIR EXISTING HEADWALLS AS NEEDED (REPLACE MISSING STONES AND REPOINT MORTAR).



OUTLET SIDE STONE LINING
SECTION BB
1" = 5'



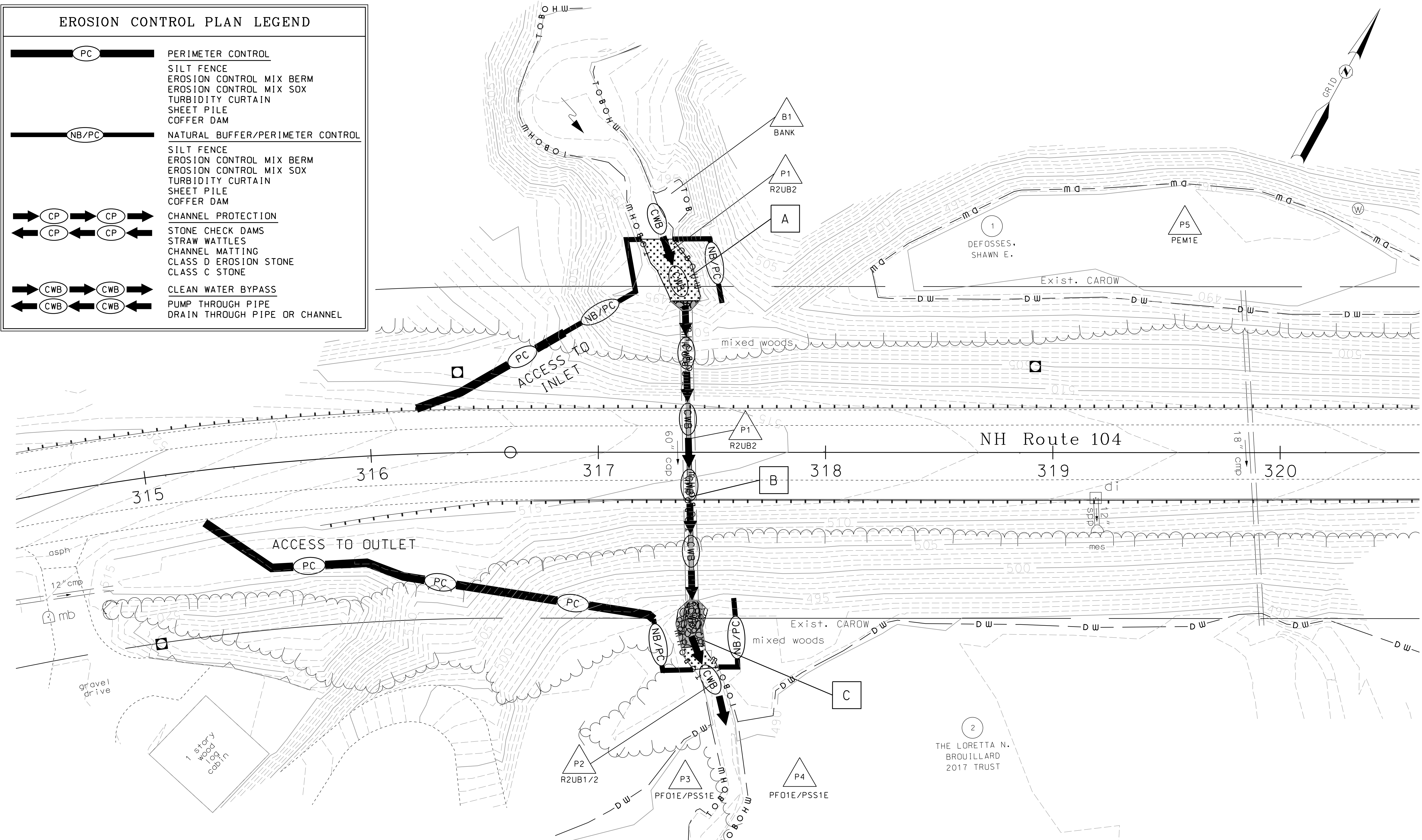
LOCATION 2 - EXISTING 66" PIPE
TYPICAL
NOT TO SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
<i>DETAILS</i>			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937stonedet	15937	7	10

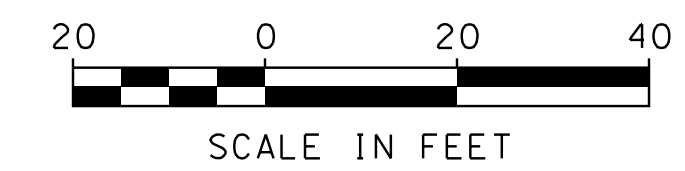
EROSION CONTROL PLAN LEGEND

	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS D EROSION STONE CLASS C STONE
	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL

SDR PROCESSED	DATE	APRIL 2018
NEW DESIGN	SDF	DATE
SHEET CHECKED	CAC	DATE
AS BUILT DETAILS	DATE	



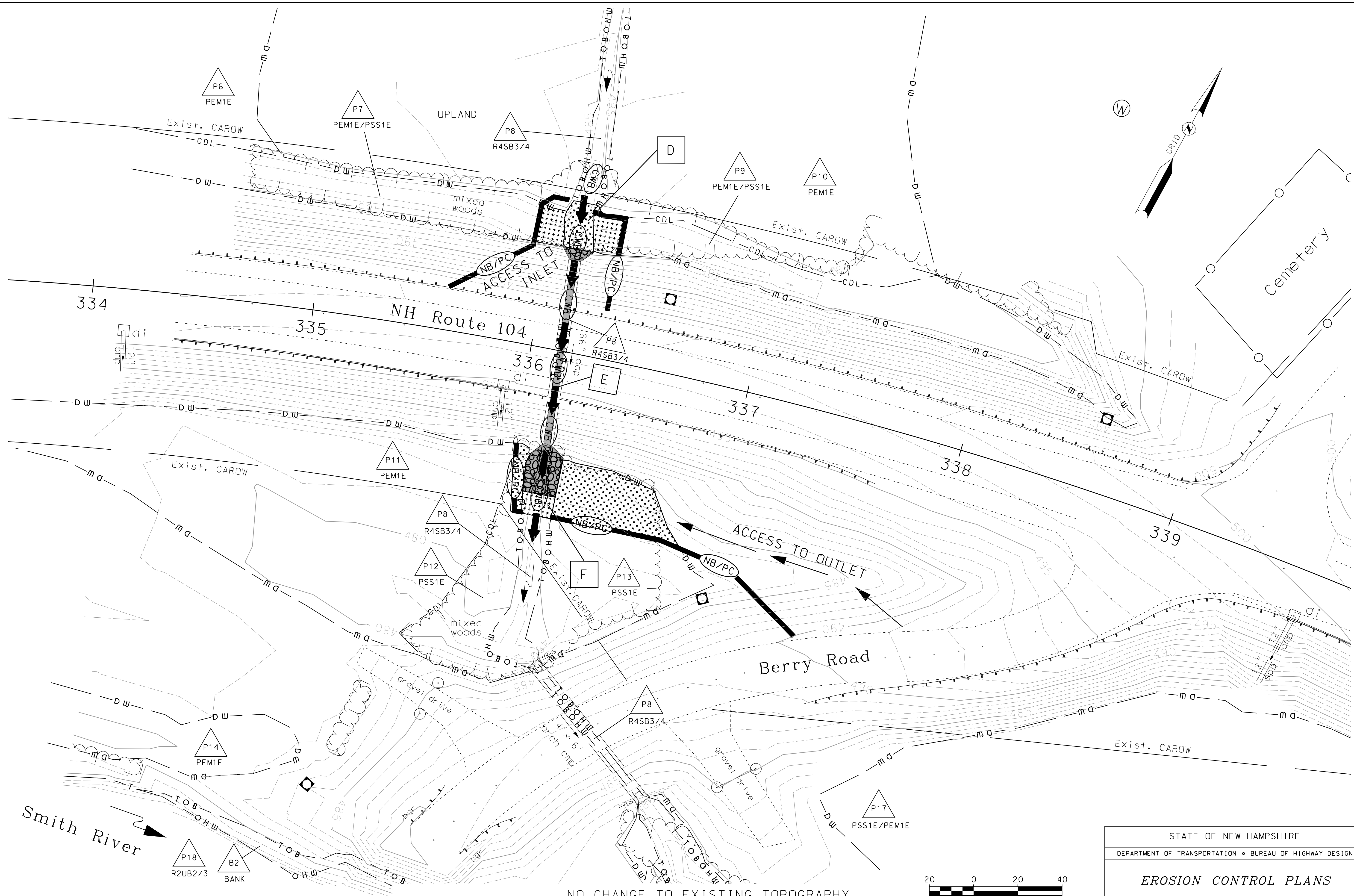
NO CHANGE TO EXISTING TOPOGRAPHY.
COUNTOUR INTERVAL 1 FOOT.



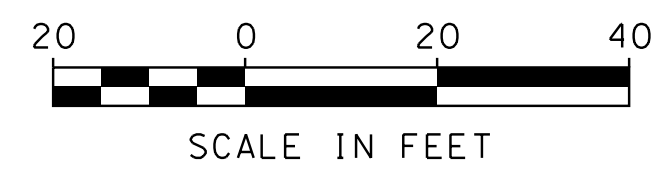
STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
<i>EROSION CONTROL PLANS</i>			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937ercplans	15937	9	10

SDR PROCESSED	DATE	APRIL 2018
NEW DESIGN	SDF	DATE
SHEET CHECKED	CAC	DATE
AS BUILT DETAILS	DATE	

REVISIONS AFTER PROPOSAL	STATION	DESCRIPTION



NO CHANGE TO EXISTING TOPOGRAPHY.
 COUNTOUR INTERVAL 1 FOOT.



STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
EROSION CONTROL PLANS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
15937ercplans	15937	10	10