

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



## GORHAM CUMBERLAND COUNTY CURTIS BRIDGE OVER S. BR. STROUDWATER RIVER ROUTE 22 STATE PROJECT NO. 19276.00 BRIDGE NO. 5768

### LIST OF DRAWINGS

Title Sheet .....	1
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General Plan & Profile .....	3
Invert Lining Details .....	4,5
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### TRAFFIC DATA

Current (2012) AADT .....	10,380
Future (2032) AADT .....	12,460
Design Speed (mph) .....	45

### HYDROLOGIC DATA

Drainage Area .....	7.56 sq mi
Design Discharge (Q50) .....	577.7 cfs
Check Discharge (Q100) .....	669.3 cfs
Headwater Elevation (Q50) .....	88.58 ft
Headwater Elevation (Q100) .....	89.34 ft
Discharge Velocity (Q50) .....	17.89 fps
Discharge Velocity (Q100) .....	18.42 fps
Q.1.1 Discharge .....	97.0 cfs
Headwater Elevation (Q1.1) .....	83.57 ft
Discharge Velocity (Q1.1) .....	12.91 fps
Headwater Elevation (Q25) .....	87.38 ft

### MATERIALS

Concrete:	
Unless Otherwise Noted: .....	Class "A"
Reinforcing Steel .....	ASTM A 615/A 615M, Grade 60

### BASIC DESIGN STRESSES

Concrete .....	f 'c = 4,350 psi
Reinforcing Steel .....	f y = 60,000 psi

### UTILITIES

Central Maine Power Company      Time Warner Cable  
Fairpoint Communications

### MAINTENANCE OF TRAFFIC

Maintain two 11' lanes at all times except as allowed in the special provisions.



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
APPROVED: *[Signature]*  
COMMISSIONER: *[Signature]*  
CHIEF ENGINEER: *[Signature]*  
DATE: 5/16/12  
5/15/12

SIGNATURE: *[Signature]*  
P.E. NUMBER: 10661  
DATE: 5-15-12

PROJECT INFORMATION	
PROGRAM	BRIDGE
PROJECT MANAGER	MARK FARLIN
DESIGNER	BRIAN NICHOLS
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN 19276.00

19276.00

GORHAM  
CURTIS BRIDGE  
TITLE SHEET

<b>PROJECT LOCATION:</b>	43° 38' 18.08" N. - 70° 25' 44.69" W Route 22, approx. 0.5 miles westerly of Intersection with Route 114 North, (South Street.)
<b>PROGRAM AREA:</b>	Bridge
<b>OUTLINE OF WORK:</b>	Bridge Culvert Rehabilitation using a concrete invert lining. Additionally, one external boulder weir w/ rock ramp and 4 internal concrete weirs will be used to ensure fish passage. Plain riprap will be used for aprons and slope stability.

SHEET NUMBER  
**1**  
OF 6

Date: 5/15/2012

Username: brian.j.nichols

Division: BRIDGE

Filename: \\00\BRIDGE\MSTA\001\_Title.dgn

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.24	COMMON BORROW	10	CY
502.325	STRUCTURAL CONCRETE CULVERT INVERT LINING (30 CY)	1	LS
502.326	STRUCTURAL CONCRETE - FISH WEIRS (11 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	5900	LB
503.13	REINFORCING STEEL, PLACING	5900	LB
511.07	COFFERDAM: UPSTREAM	1	LS
511.07	COFFERDAM: DOWNSTREAM	1	LS
511.07	COFFERDAM: FISH WEIR	1	LS
610.08	PLAIN RIPRAP	900	CY
610.08	PLAIN RIPRAP: "ROCK RAMP"	10	CY
610.16	HEAVY RIPRAP: BOULDER WEIR	10	CY
613.319	EROSION CONTROL BLANKET	100	SY
619.1401	EROSION CONTROL MIX	20	CY
620.58	EROSION CONTROL GEOTEXTILE	1100	SY
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
652.31	TYPE 1 BARRICADE	5	EA
652.33	DRUM	10	EA
652.34	CONE	20	EA
652.35	CONSTRUCTION SIGNS	300	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (60 CD)	1	LS
652.38	FLAGGER	40	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

- For easements, construction limits and right of way lines, refer to Right of Way Map.
- The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.
- All embankment material, except as otherwise shown, placed below EL. 88.6 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
- Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
- Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap.
- Extended-use Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion. Payment will be made under the appropriate Contract items.
- Project information referred to below may be accessed at the following MaineDOT web address: [http://www.maine.gov/mdot/contractors/\\*projecttbl](http://www.maine.gov/mdot/contractors/*projecttbl).
- The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
- The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
- Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:
  - If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.
  - If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.
  - If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation.
- The Contractor shall minimize, to the maximum extent possible, the void spaces in the riprap aprons at both ends of the pipe. Granular Borrow meeting the material requirements for underwater backfill shall be spread between the layers of individual stones. Granular Borrow used to fill the void spaces shall not be paid for directly but shall be considered incidental to Item No. 610.08, Plain Riprap.
- In addition to the clearing limits shown on the plan, the Contractor shall clear all of the American Bamboo located within State Right-of-way on the Northeast corner of the site between the guardrail and the stream. Clearing of bamboo shall not be paid for directly, but shall be considered incidental to related contract items.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION <b>19276.00</b> WIN 19276.00 BRIDGE NO. 5788 BRIDGE PLANS
CURTIS BRIDGE S. BR. STROUDWATER RIVER GORHAM CUMBERLAND COUNTY <b>ESTIMATED QUANTITIES</b>
SHEET NUMBER <b>2</b> OF 6

Date: 5/4/2012

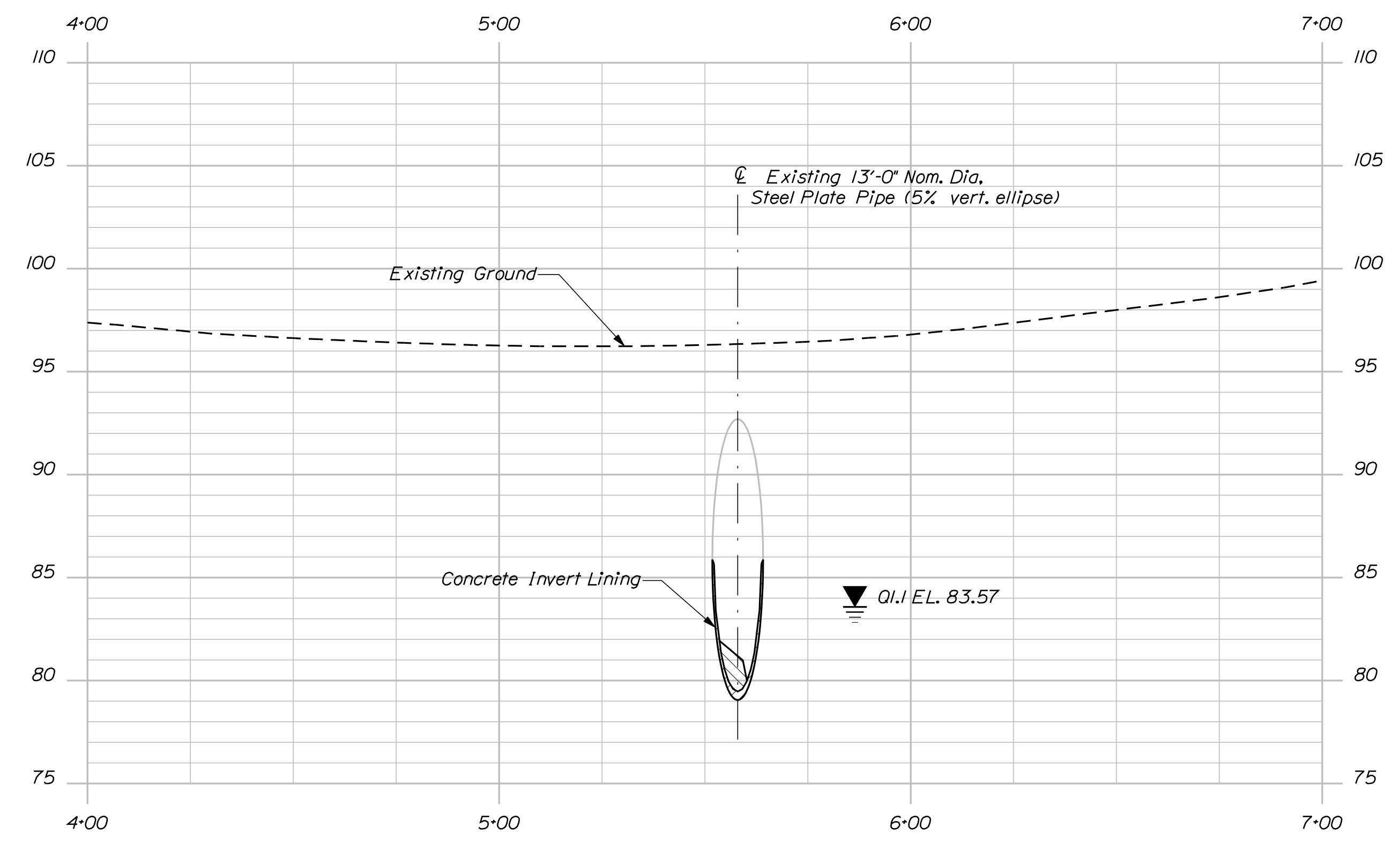
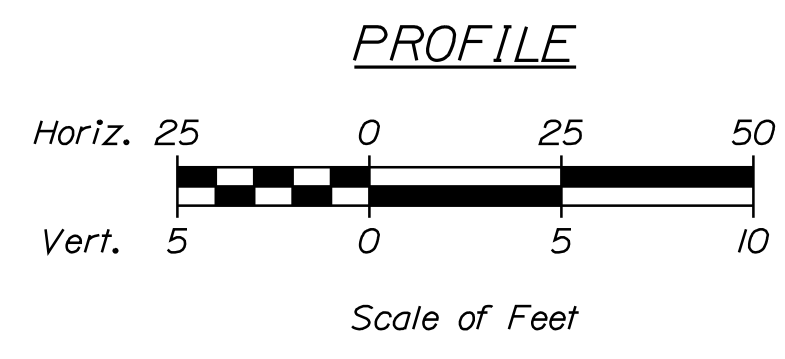
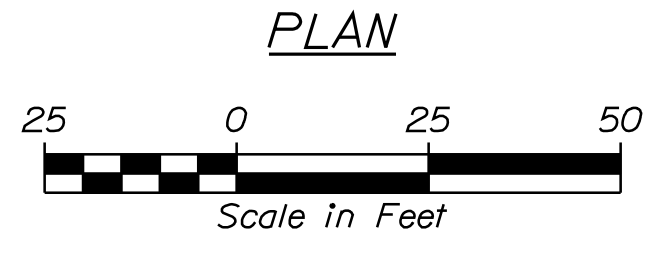
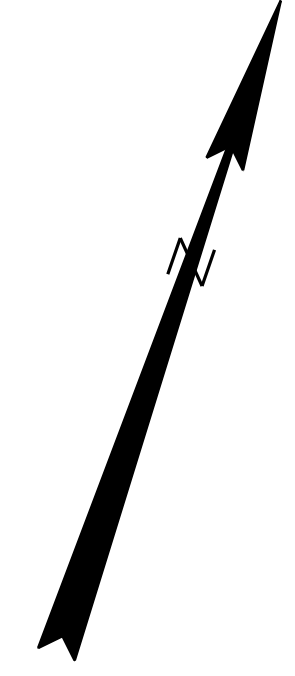
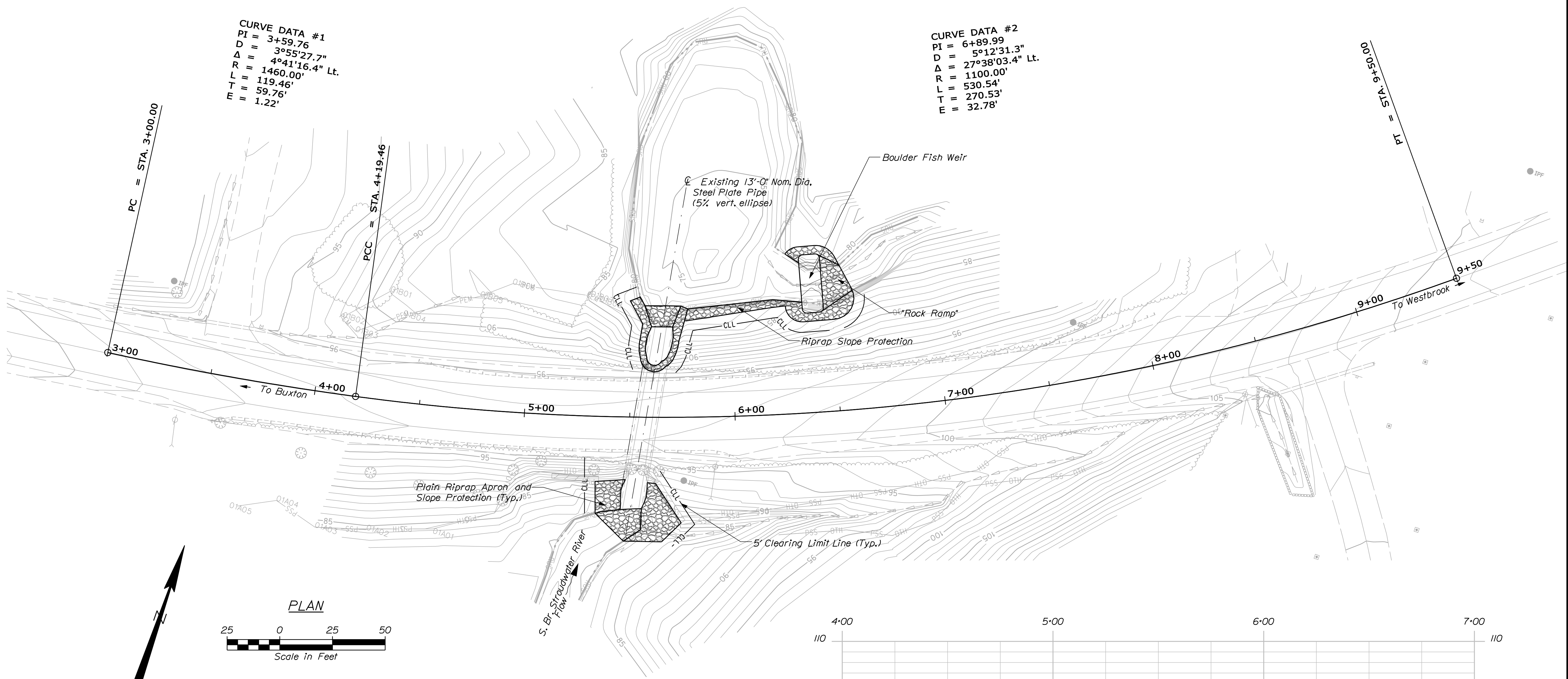
Username: briani.nichols

Division: BRIDGE

Filename: ... \00\bridge\msta\003\_BDPlan1.dgn

**CURVE DATA #1**  
 PI = 3+59.76  
 D = 3°55'27.7"  
 Δ = 4°41'16.4" Lt.  
 R = 1460.00'  
 L = 119.46'  
 T = 59.76'  
 E = 1.22'

**CURVE DATA #2**  
 PI = 6+89.99  
 D = 5°12'31.3"  
 Δ = 27°38'03.4" Lt.  
 R = 1100.00'  
 L = 530.54'  
 T = 270.53'  
 E = 32.78'



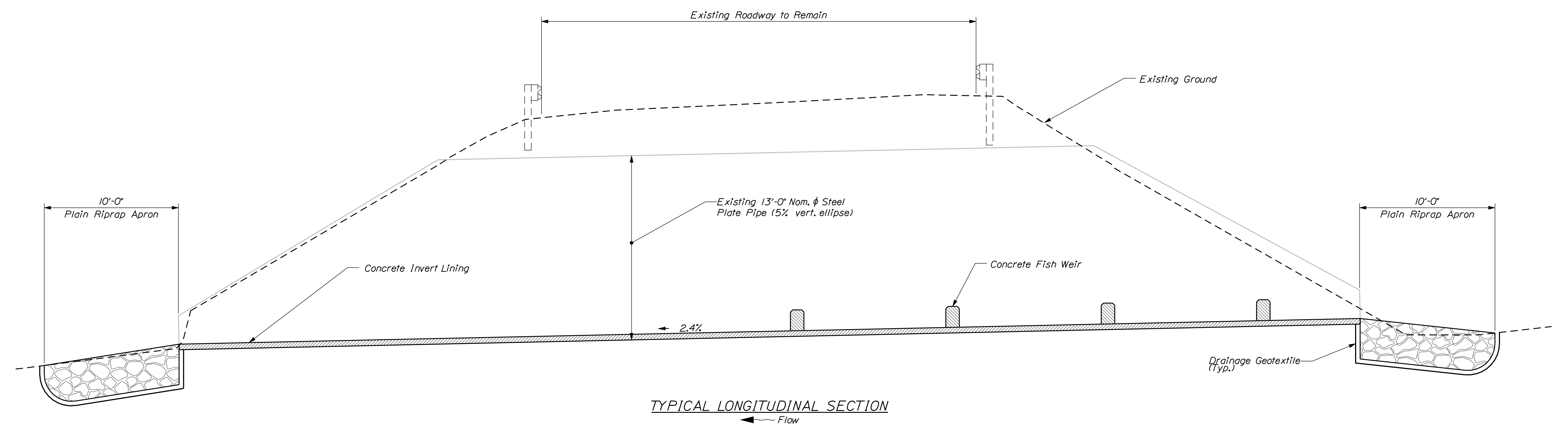
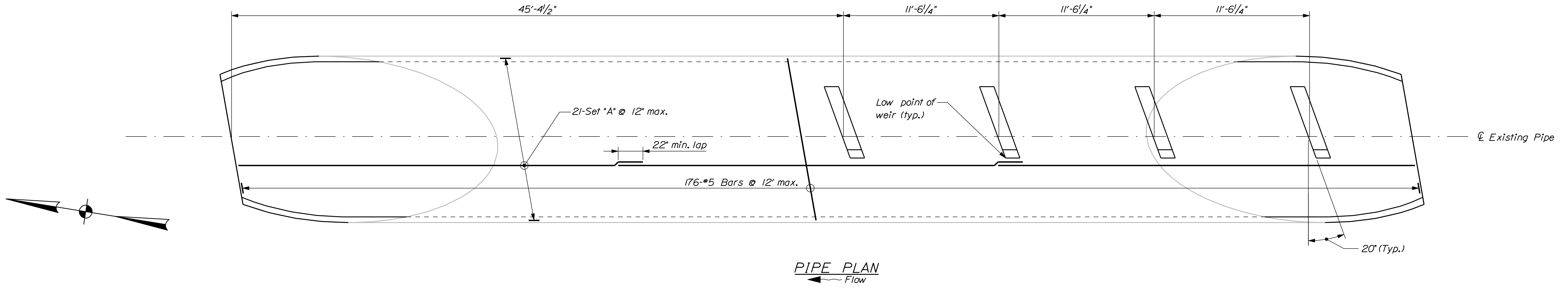
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 5768		WIN		19276.00		BRIDGE PLANS	
CURTIS BRIDGE		S. BR. STROUDWATER RIVER		CUMBERLAND COUNTY		GORHAM		GENERAL PLAN & PROFILE		SHEET NUMBER	
PROJ. MANAGER		M. PARLIN		BY		DATE		SIGNATURE		P.E. NUMBER	
DESIGN/DETAILED		BIN		BIN		DATE		DATE		DATE	
CHECKED/REVIEWED		ADN		ADN		3/19/2012		SIGNATURE		DATE	
DESIGN/DETAILED		ADN		ADN		3/19/2012		SIGNATURE		DATE	
REVISIONS 1		---		---		---		---		---	
REVISIONS 2		---		---		---		---		---	
REVISIONS 3		---		---		---		---		---	
REVISIONS 4		---		---		---		---		---	
FIELD CHANGES		---		---		---		---		---	
								3		OF 6	

Date: 5/4/2012

Username: brian.j.nichols

Division: BRIDGE

Filename: ...\\00\bridge\msta\004\_Pipe\_1.dgn



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
19276.00

BRIDGE NO. 5768  
WIN  
19276.00  
BRIDGE PLANS

PROJ. MANAGER	BY	DATE
M. PARLIN	B.J.N.	3/9/2012
CHECKED-REVIEWED	ADN	SIGNATURE
DESIGNS DETAILED		P.E. NUMBER
REVISIONS 1		DATE
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CURTIS BRIDGE  
S. BR. STROUDWATER RIVER  
CUMBERLAND COUNTY  
GORHAM  
INVERT LINING DETAILS

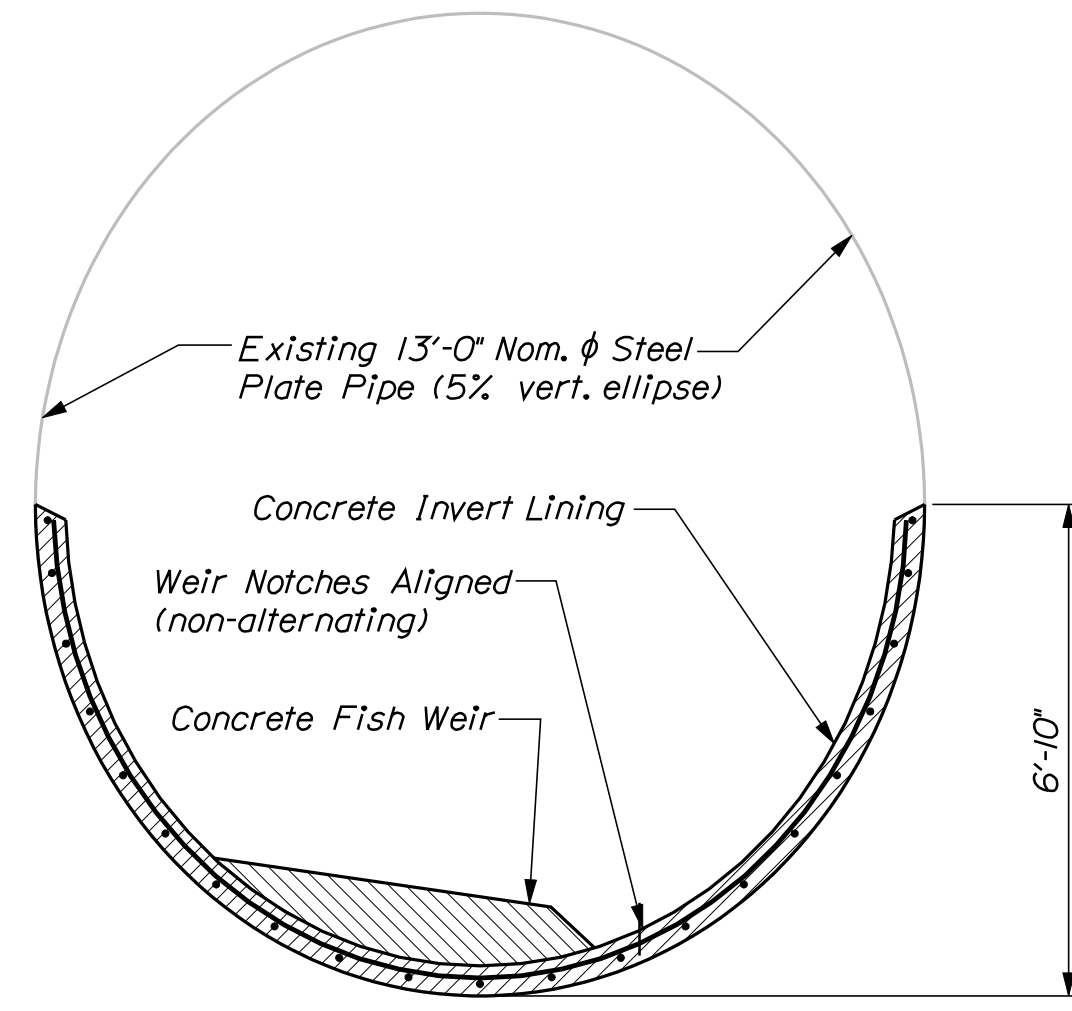
SHEET NUMBER  
**4**  
OF 6

Date: 5/4/2012

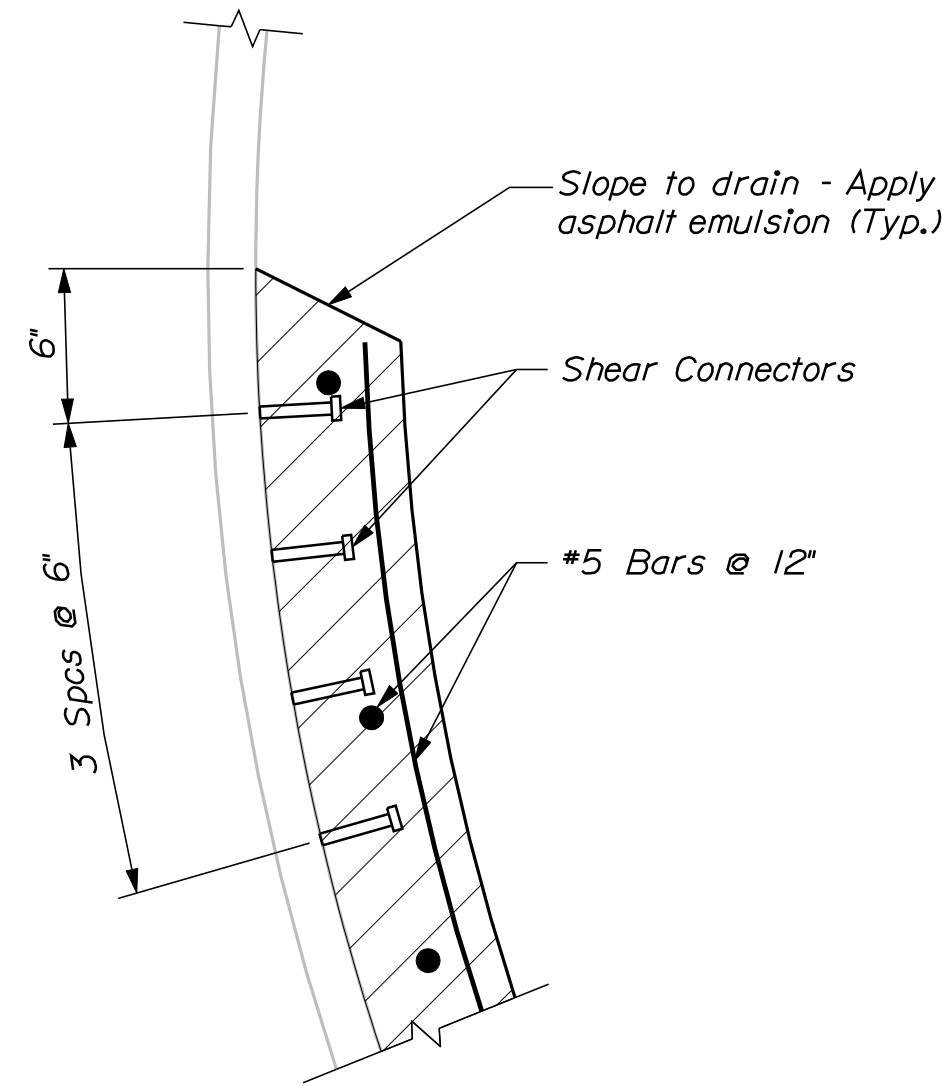
Username: brian.j.nichols

Division: BRIDGE

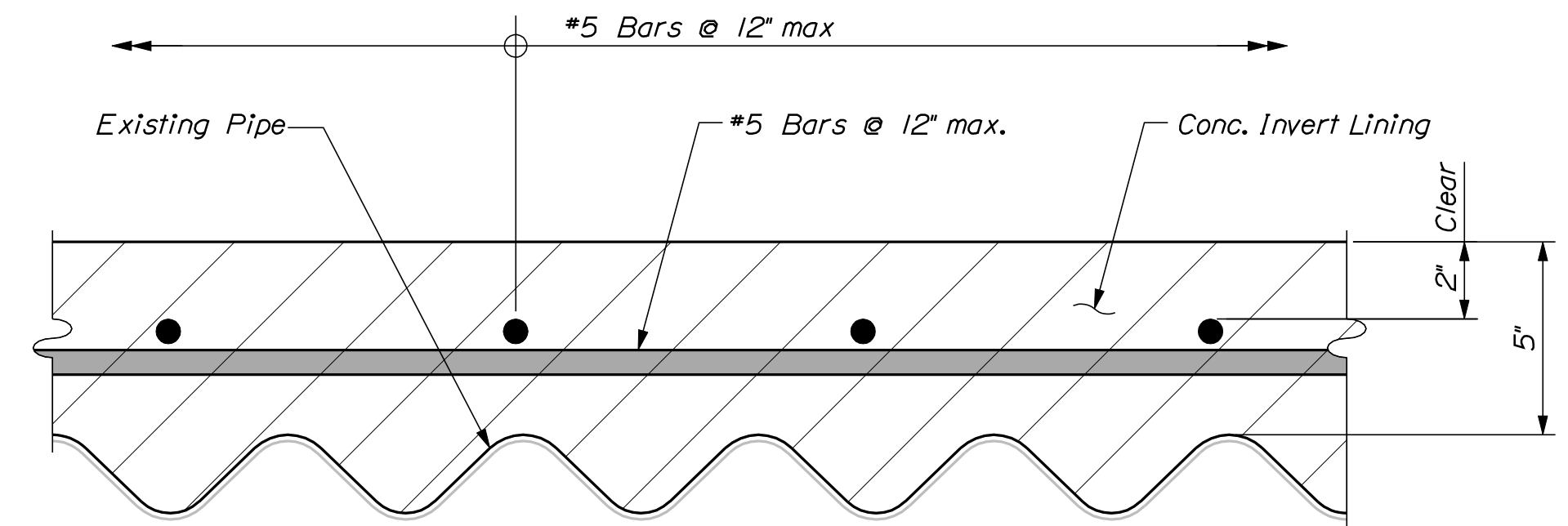
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**PLATE PIPE SECTION**

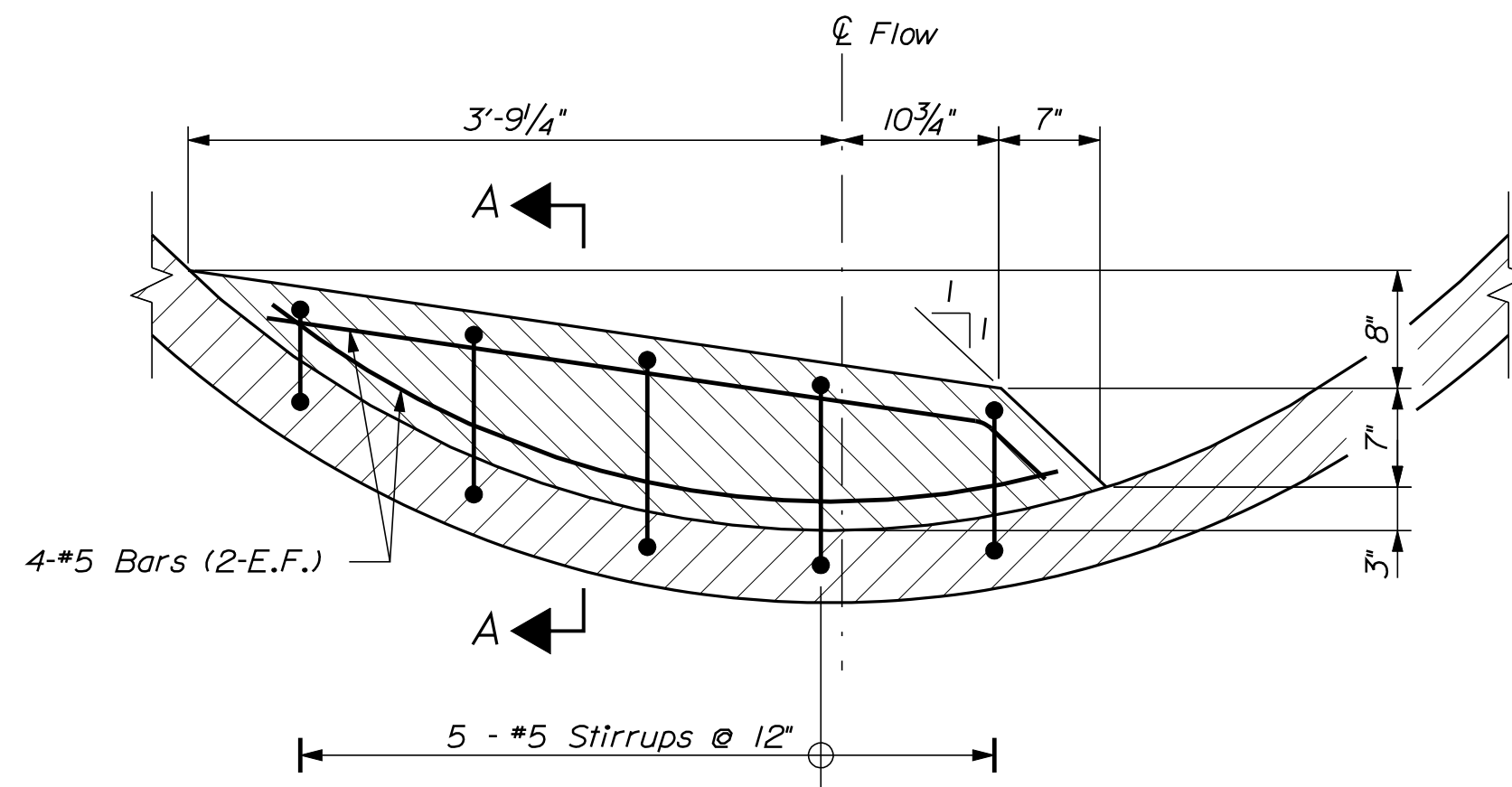


**CONNECTION DETAIL**



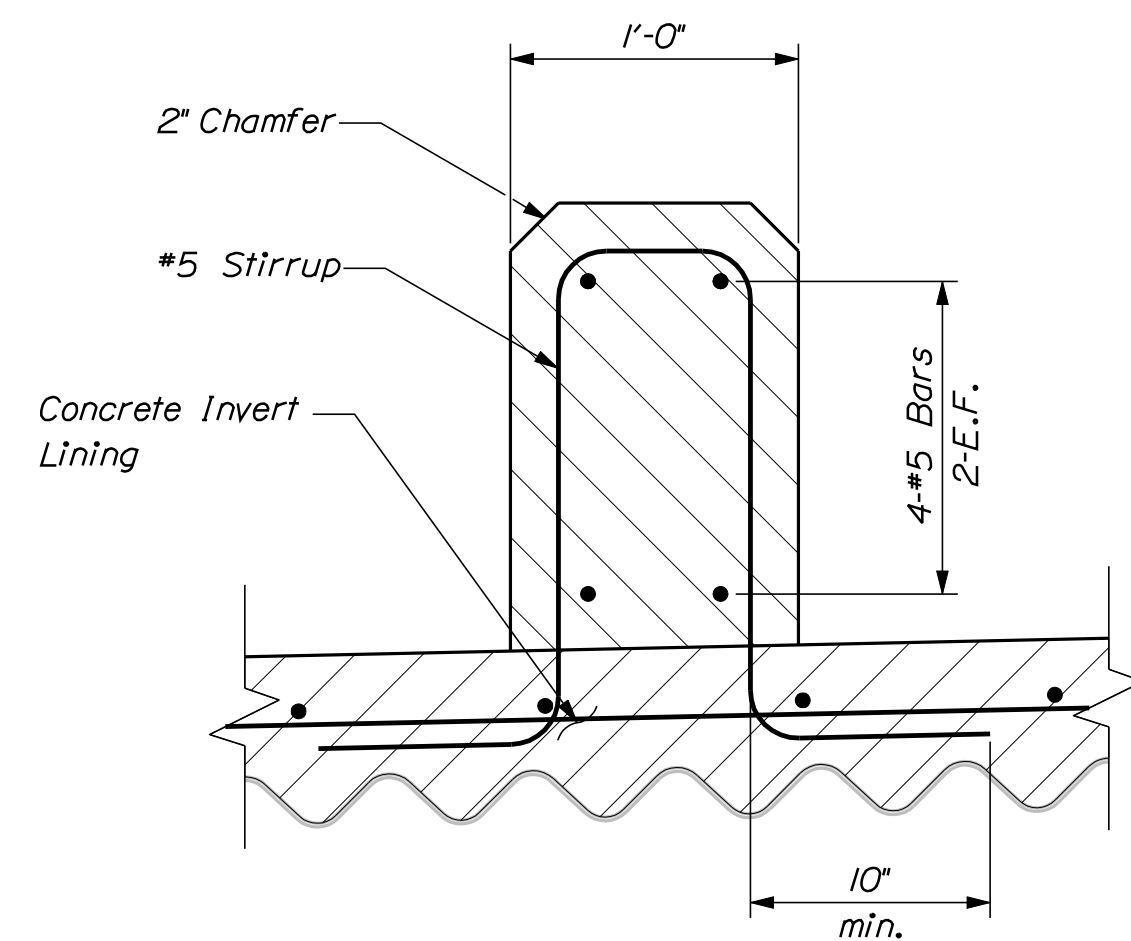
**INVERT LINING SECTION**

Note: Four rows of shear connectors shall be spaced longitudinally at 12" spacing along each side of the culvert. Shear connectors shall be 1/2" diameter x 3" studs or machine bolts welded to the crests of the corrugations. Approximately 592 shear connectors are required. Shear connections shall not be paid for directly. Payment will be considered incidental to item 502.325 Structural Concrete Culvert Invert Lining.

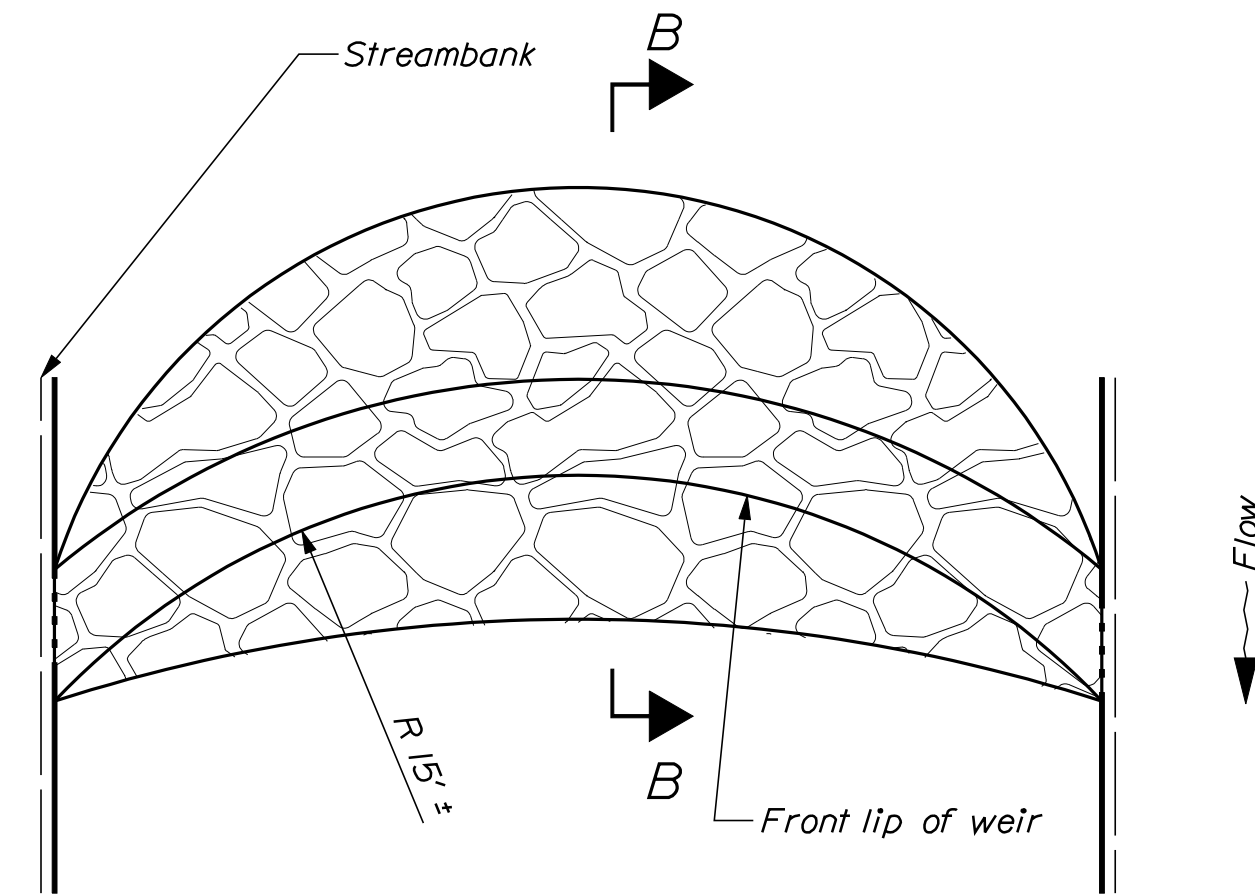


**INTERNAL FISH WEIR ELEVATION**

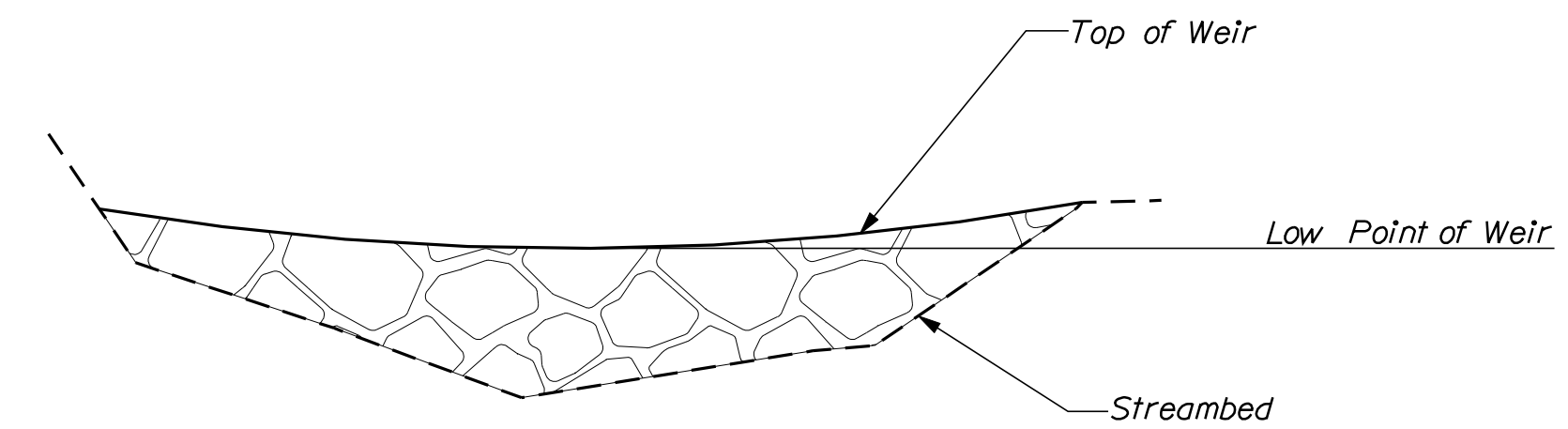
Should conditions such as deformation of the existing pipe and irregularities in the invert lining thickness result in conflict between the vertical and the horizontal dimensions shown in this detail, the vertical dimensions shall control.



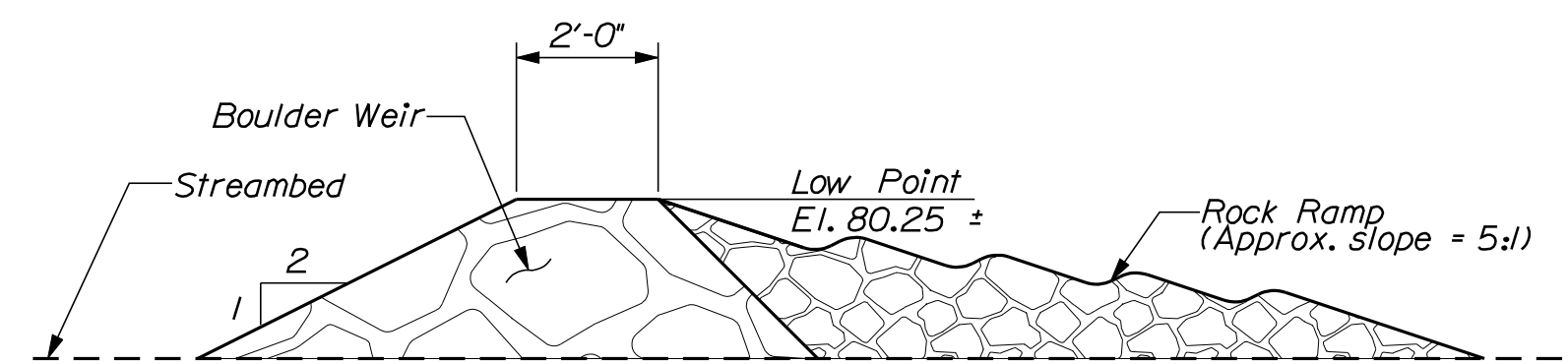
**SECTION A-A**  
See Invert Lining Details for invert reinforcement



**BOULDER WEIR PLAN**  
Conceptual only - Final design to be field directed  
Rock Ramp Omitted for clarity



**BOULDER WEIR ELEVATION**  
Conceptual only - Final design to be field directed



**SECTION "B-B"**  
Conceptual only - Final design to be field directed  
Flow →

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
19276.00  
BRIDGE NO. 5768  
WIN  
19276.00  
BRIDGE PLANS

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
M. PARLIN	ADN	3/19/2012			
DESIGN DETAILED					
CHECKED-REVIEWED					
DESIGN DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

CURTIS BRIDGE  
S. BR. STROUDWATER RIVER  
GORHAM  
CUMBERLAND COUNTY  
**INVERT LINING DETAILS**

SHEET NUMBER  
**5**  
OF 6

FINAL PLAN OF SHIERS MEADOWS  
FOR RICHARD R. SHIERS  
BY BH2M  
DATED - JUNE 2005  
LAST REVISION DATE - MARCH 6, 2006  
JOB NO. 02031C  
CUMBERLAND COUNTY REGISTRY OF DEEDS  
PLAN BOOK 206, PAGE 174

JOAN H. VICKERY  
BENJAMIN A. VICKERY  
TAX MAP/LOT - 4/4.101

CURVE DATA #1  
PI = 3+59.76  
D = 3°55'27.7"  
Δ = 4°41'16.4" Lt.  
R = 1460.00'  
L = 119.46'  
T = 59.76'  
E = 1.22'

RICHARD R. SHIERS  
CONSTANCE M. SHIERS  
ITEM NO. (2)  
CONST. & MAINT. EASE. = 1,445± S.F. (1)  
SLOPE EASE. = 408± S.F. (1)  
TOTAL AREA = 22.22± AC. (PER PLAN)  
TAX MAP/LOT - 4/4.001

CONTROL INFORMATION  
HORIZONTAL DATUM - US STATE PLANE NAD(83)1996  
ZONE - MAINE 2000 WEST ZONE  
VERTICAL DATUM - NAVD 88  
COMBINED SCALE FACTOR - 0.9999754

CURVE DATA #2  
PI = 6+89.99  
D = 5°12'31.3"  
Δ = 27°38'03.4" Lt.  
R = 1100.00'  
L = 530.54'  
T = 270.53'  
E = 32.78'

STANDARD BOUNDARY SURVEY  
FOR CLAYTON D. LOUBIER, JR.  
BY BH2M  
DATED - SEPTEMBER 2007  
JOB NO. 07091

CLAYTON D. LOUBIER, JR.  
ITEM NO. (3)  
CONST. & MAINT. EASE. = 388± S.F. (1)  
SLOPE EASE. = 659± S.F. (1)  
TOTAL AREA = 2.75± AS. (PER TOWN)  
TAX MAP/LOT - 4/7

BRIAN D. HANSCOM  
KATHLEEN A. HANSCOM  
ITEM NO. (1)  
SLOPE EASE. = 89± S.F. (1)  
TOTAL AREA = 2.7± AC. (PER PLAN)  
TAX MAP/LOT - 4/6.003

NADIA M. DOUCETTE  
JOSHUA G. DOUCETTE  
ITEM NO. (4)  
SLOPE EASE. = 831± S.F. (1)  
TOTAL AREA = 1.38± AC. (PER PLAN)  
TAX MAP/LOT - 4/6.514

DENISE C. LASTORIA  
JOSEPH E. LASTORIA  
TAX MAP/LOT - 4/6.513

STATE OF MAINE  
REGISTRY OF DEEDS

COUNTY \_\_\_\_\_  
RECEIVED \_\_\_\_\_,  
at \_\_\_\_\_ h \_\_\_\_\_ m \_\_\_\_\_ M and recorded in  
Plan Book \_\_\_\_\_, Page \_\_\_\_\_  
Attest: \_\_\_\_\_  
REGISTER

- EXISTING RIGHT OF WAY REFERENCES
  - ROUTE 22 / COUNTY ROAD
    - STATE HIGHWAY COMMISSION - RIGHT OF WAY MAP STATE AID HIGHWAY NO. 7 GORHAM, CUMBERLAND COUNTY CURTIS BRIDGE OVER SOUTH BRANCH OF STROUDWATER RIVER DATED JUNE 1960 S.H.C. FILE NO. 3-137 CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 67, PAGE 2
    - CUMBERLAND COUNTY COMMISSIONERS RECORDS VOLUME 3, PAGE 279 1804 4 RODS WIDE (66')
  - EDGEFIELD ROAD
    - PUBLIC ROAD - ACCEPTED BY TOWN COUNCIL IN 2005
- AS-BUILT PLANS
  - STATE HIGHWAY COMMISSION - BRIDGE DIVISION CURTIS BRIDGE OVER SOUTH BRANCH STROUDWATER RIVER GORHAM, CUMBERLAND COUNTY BRIDGE NO. 5768 DATED AUGUST 1958 FILE NO. 98-114 & 75-4
- CONTROL INFORMATION
 

HORIZONTAL DATUM - US STATE PLANE NAD(83)1996  
ZONE - MAINE 2000 WEST ZONE  
VERTICAL DATUM - NAVD 88  
COMBINED SCALE FACTOR - 0.9999754
- TAX MAP INFORMATION
 

TOWN OF GORHAM  
TAX MAP 4

FINAL SUBDIVISION PLAN - 1  
OF HIDDEN RIVER SUBDIVISION  
FOR NORMAND BERUBE BUILDERS, INC.  
BY SEBAGO TECHINCS  
DATED - NOVEMBER 14, 2002  
LAST REVISION DATE - JUNE 30, 2003  
CUMBERLAND COUNTY REGISTRY OF DEEDS  
PLAN BOOK 203, PAGE 427

SYMBOLS

PI or PIP (IRON PIPE or PIN FOUND)	(WELL)
S.T. (SEPTIC TANK)	GRADING LIMIT LINE
ABM (TRAVERSE POINT)	CONSTRUCTION LIMIT LINE
W (WATER LINE)	PROPERTY LINE
G (GAS LINE)	LIMITS OF TROUGHT PORTION (LOW.P.)
E (ELECTRIC LINE)	EXISTING RIGHT OF WAY
T (TELEPHONE LINE)	NEW RIGHT OF WAY
S (SEWER LINE)	NEW ROW WITHIN EXIST. ROW
	CONTROL OF ACCESS

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W	G.L.L.	C.W.K.
PROP. LINES	G.L.L.	
AREAS	G.L.L.	N.T.A.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
16 STATE HOUSE STATION - AUGUSTA, ME. 04333-0016  
GORHAM  
RIGHT OF WAY MAP

NO.	DATE	REVISIONS DESCRIPTION	BY	PLAN FILED IN PLAN BOOK		PAGE		COUNTY RECORD	
				NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

DAVID BERNHARDT  
COMMISSIONER  
KENNETH L. SWEENEY  
CHIEF ENGINEER

DATE \_\_\_\_\_

STATE OF MAINE  
CHRISTOPHER W. KNIGHT  
2257  
PROFESSIONAL  
LAND SURVEYOR

STATE AID HIGHWAY NO. 7  
ROUTE 22 / COUNTY ROAD  
GORHAM CUMBERLAND COUNTY  
STATE PROJECT NO. 19276.00

MARCH 2012  
SCALE 1" = 25'

RIGHT-OF-WAY MAP  
SHEET 1 OF 1

D.O.T. FILE NO. 3-582

SHEET NUMBER  
**6**  
OF 6

Filename: ... \00\ROW\MSTA006\_RWPLAN1.dgn Division: BRIDGE Username: briam.nichols Date: 5/4/2012