METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	1	17

7811.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

PROJECT NO. BR-7811(00)E
PROJECT LENGTH 0.060 km
BRIDGE REPLACEMENT
BRIDGE NO. 5723

SPECIFICATIONS

DESIGN: AASHTO LRFD Bridge Design Specifications, Second Edition 1998 and Interim Specifications 1999 and 2000.

CONTRACT: State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revision of April 1995.

STANDARD DETAILS: State of Maine, Department of Transportation, Standard Details, Highways and Bridges, April 1997.

DESIGN LOADING

Live Load ..... HL - 93 Modified For Strength 1

TRAFFIC DATA

Current (1998) AADT	7,160
Future (2018) AADT	11,450
DHV - % of AADT	9
Design Hour Volume	1,030
% Heavy Trucks (AADT)	9
% Heavy Trucks (DHV)	5
Directional Distribution (DHV)	54
80 kN Equivalent P 2.0	890
80 kN Equivalent P 2.5	873
Design Speed (km/h)	90

HYDROLOGIC DATA

Drainage Area	5.02 hectares
Design Discharge (Q50)	57 m^3/s
Check Discharge (Q100)	65 m^3/s
Headwater Elevation (Q50)	97.6 m
Headwater Elevation (Q100)	97.8 m
Discharge Velocity (Q50)	1.8 m/s
Discharge Velocity (Q100)	1.9 m/s
Headwater Elevation (Q1.1)	96.5 m
Discharge Velocity (Q1.1)	1.03 m/s

MATERIALS

Concrete	
Curbs	Class LP
All other	Class A
Reinforcing Steel	ASTM A 615/A 615M, Grade 420
Structural Steel:	
All Material (except as noted)	ASTM A 709/A 709M, Grade 345W
High Strength Bolts	ASTM A 325M, Type 3

BASIC DESIGN STRESSES

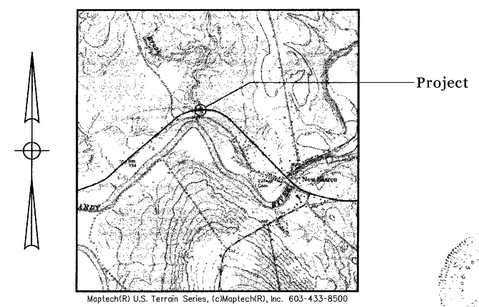
Concrete	
Curbs	f 'c = 30 MPa
All other	f 'c = 30 MPa
Reinforcing Steel	f y = 420 MPa
Structural Steel:	
ASTM A 709/A 709M, Grade 345W	F y = 345 MPa
ASTM A 325M	F u = 830 MPa

UTILITIES

Central Maine Power Company
Adelphia Cable
Verizon

MAINTENANCE OF TRAFFIC

Maintain two 3.65 meter wide lanes of two - way traffic using a temporary detour and bridge.



LOCATION MAP

1 0 1 2 3
Kilometers

LIST OF DRAWINGS

Title Sheet	1
Estimated Quantities	2
General Plan	3
Profile	4
Foundation Survey	5-6
Cross - Sections	7-10
Abutment No. 1	11
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Framing Plan	13
Superstructure	14
Superstructure Details	15
Reinforcing Steel	16
Right of Way Map	17

NOTES

All work contemplated under this contract shall be governed by and in conformity with the Standard Specifications (Revision of April 1995), the Standard Details (April 1997), and supplementals thereto, except as modified on the plans and in the Special Provisions.

A hydrologic report of the bridge site is available for the Contractor's reference at the Bridge Design office in Augusta. The hydrologic report is based on the Department's interpretation of 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.

Plans of the existing bridge are available for the Contractor's reference at the Bridge Design office in Augusta. The plans are reproductions of the original drawings as prepared for 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.

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED:

COMMISSIONER — DATE 02/02/01

CHIEF ENGINEER — DATE 02/02/01

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR — DATE

METRIC 1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-7811(00)E	2	17

7811.00

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	Removing Existing Bridge	1	LS
203.20	Common Excavation	4450	m³
203.25	Granular Borrow	280	m³
204.41	Rehab of Existing Shoulders, Plan Qty	53	m²
206.082	Str Earth Excavation-Major Structures	470	m³
304.10	Aggregate Subbase Course - Gravel	460	m³
403.207	Hot Mix Asphalt, 19.0 mm	150	Mg
403.209	Hot Mix Asphalt, 9.5 mm (Incid)	20	Mg
403.210	Hot Mix Asphalt, 9.5 mm	170	Mg
409.15	Bituminous Tack Coat, Applied	375	l
501.231	Dynamic Loading Test	1	EA
501.50	Steel H-Beam Piles 132 kg/m, Delivered	230	m
501.501	Steel H-Beam Piles 132 kg/m, In Place	230	m
501.90	Pile Tips	10	EA
501.91	Pile Splices	10	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete Abuts & Ret Walls (77 m³)	1	LS
502.26	Str Concrete Rd&Sw Slab On Steel Bridges (116 m³)	1	LS
502.31	Structural Concrete Approach Slab (22 m³)	1	LS
503.12	Reinforcing Steel, Fab & Del	22000	kg
503.13	Reinforcing Steel, Placing	22000	kg
504.70	Structural Steel Fab & Del (60200 kg)	1	LS
504.71	Structural Steel Erection (60200 kg)	1	LS
505.08	Shear Connectors (1340 EA)	1	LS
507.0832	Steel Brdg Rail, 4 Bar, Traffic/Bicycle (64 m)	1	LS
508.13	Membrane Waterproofing (440 m²)	1	LS
510.10	Special Detour, 7.3 m Roadway Width	1	LS
514.06	Curing Box for Concrete Cylinders	1	EA
515.21	Protective Coating for Concrete Surfaces (130 m²)	1	LS
526.301	Temporary Concrete Barrier Type I (40 m)	1	LS
526.34	Permanent Concrete Transition Barrier	4	EA
603.17	450 mm Culvert Pipe Option I	27	m
606.1721	Bridge Transition Type I	4	EA
606.265	Terminal End- Single Rail- Galv Steel	2	EA
606.35	Guardrail Delineator Post	3	EA
606.36	Guardrail Removed and Reset	65	m
606.369	Guardrail Removed and Stacked	130	m
606.55	Guardrail Type 3 - Single Rail	39	m
606.60	Guardrail Type 3 - Over 4.5 m Radius	16	m
606.752	Widen Shoulder for Modified Eccentric Loader Terminal	1	EA
606.76	Modified Eccentric Loader Terminal	1	EA
610.08	Plain Riprap	990	m³
610.18	Stone Ditch Protection	55	m³
613.319	Temporary Erosion Control Blanket	410	m²
615.07	Loam	22	m³
618.1411	Seeding Method Number 3 - Plan Quantity	4.5	UN
618.19	Refertilization	7	kg
618.20	Annual Rye Grass Seed	0.3	kg
618.25	Applied Water	4	m³
619.1201	Mulch - Plan Quantity	11	UN
621.54	Deciduous Shrubs (450 - 600 mm)	100	EA
627.71	100 mm Solid White Pave Marking Line	400	m
627.73	100 mm Solid Yellow Pave Marking Line	200	m
627.77	Removing Pavement Markings	5	m²
627.78	Temp 100 mm Pntd Pave Mark White or Yellow	120	m
629.05	Hand Labor, Straight Time	80	MH
631.12	All-Purpose Excavator (Inc Operator)	40	HR
631.132	Small Bulldozer (Inc Operator)	40	HR
631.14	Grader (Including Operator)	40	HR
631.15	Roller Earth Base Crs (Inc Op)	40	HR
631.172	Truck-Large (Inc Operator)	80	HR
631.36	Foreman	40	MH
637.071	Dust Control	1	LS
639.18	Field Office Type A	1	EA
652.31	Type I Barricade	10	EA
652.312	Type III Barricade	6	EA
652.33	Drum	20	EA
652.34	Cone	20	EA
652.35	Construction Signs	50	m²
652.361	Maint Of Traff Control Dev	1	LS
652.38	Flagger	500	MH
656.75	Temporary Soil and Water Pollution Control	1	LS
657.24	Seeding Pits	5	UN
659.10	Mobilization	1	LS
660.21	On-The-Job Training	1000	HR

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT

GENERAL CONSTRUCTION NOTES

1. The utilities involved in this project are as follows: CMP Co., Verizon, Adelphia Cable.
2. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
3. For easements, construction limits, and right-of-way lines, refer to Right of Way Map.
4. During Construction, traffic will be maintained on a temporary bridge. Two-way traffic shall be maintained in a 7.3 m min. travelled way at all times.
5. Place a 600 mm wide strip of temporary erosion control blanket on the side slopes along the top of the riprap and behind the wingwalls.
6. All embankment material, except as otherwise shown, placed below Elevation 96.5, shall be granular borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
7. The clearing limits as shown on the plans are approximate. The exact limits shall be established in the field by the Construction Manager. Payment for clearing will be incidental to related Contract items.
8. Place loam 50 mm deep on slopes between Station 0+120 and Station 0+220.
9. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Construction Manager.
10. In areas where the Construction Manager directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 150 mm or less thick will be made under appropriate equipment rental items.
11. Two guardrail delineator posts shall be installed at each leading guardrail end and one at each trailing guardrail end.
12. Modified eccentric loader terminals shall be installed concurrently with the placement of each section of beam guardrail.
13. 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 appropriate Contract items.
14. Place riprap on sideslopes up to elevation 97.6.
15. A 0.90 m Paved Apron as shown on plans shall be placed at all gravel entrances unless otherwise directed by the Construction Manager.
16. Unpaved entrances shall be constructed with 350 mm aggregate subbase course-gravel.
17. All joints between existing and proposed hot bituminous pavement shall be butted, unless otherwise directed by the Construction Manager. Payment will be incidental to Item 403.
18. All work shall be done in accordance with Maine Department of Transportation's best management practices for erosion control, September, 1997, or latest revision.
19. The existing bridge shall be removed in its entirety. All material shall become property of the Contractor.
20. Guardrail beams and posts to be removed and stacked shall remain the property of the Owner and shall be delivered to the MDOT Division 4 Office Warehouse located in Fairfield, Maine as directed by the Construction Manager. Payment will be considered incidental to Item 606.369, Guardrail Removed and Stacked. The Contractor's operations shall be such that the guardrail beams and posts are not damaged during removal.

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

ESTIMATED QUANTITIES

SHEET OF

AUGUSTA, MAINE

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

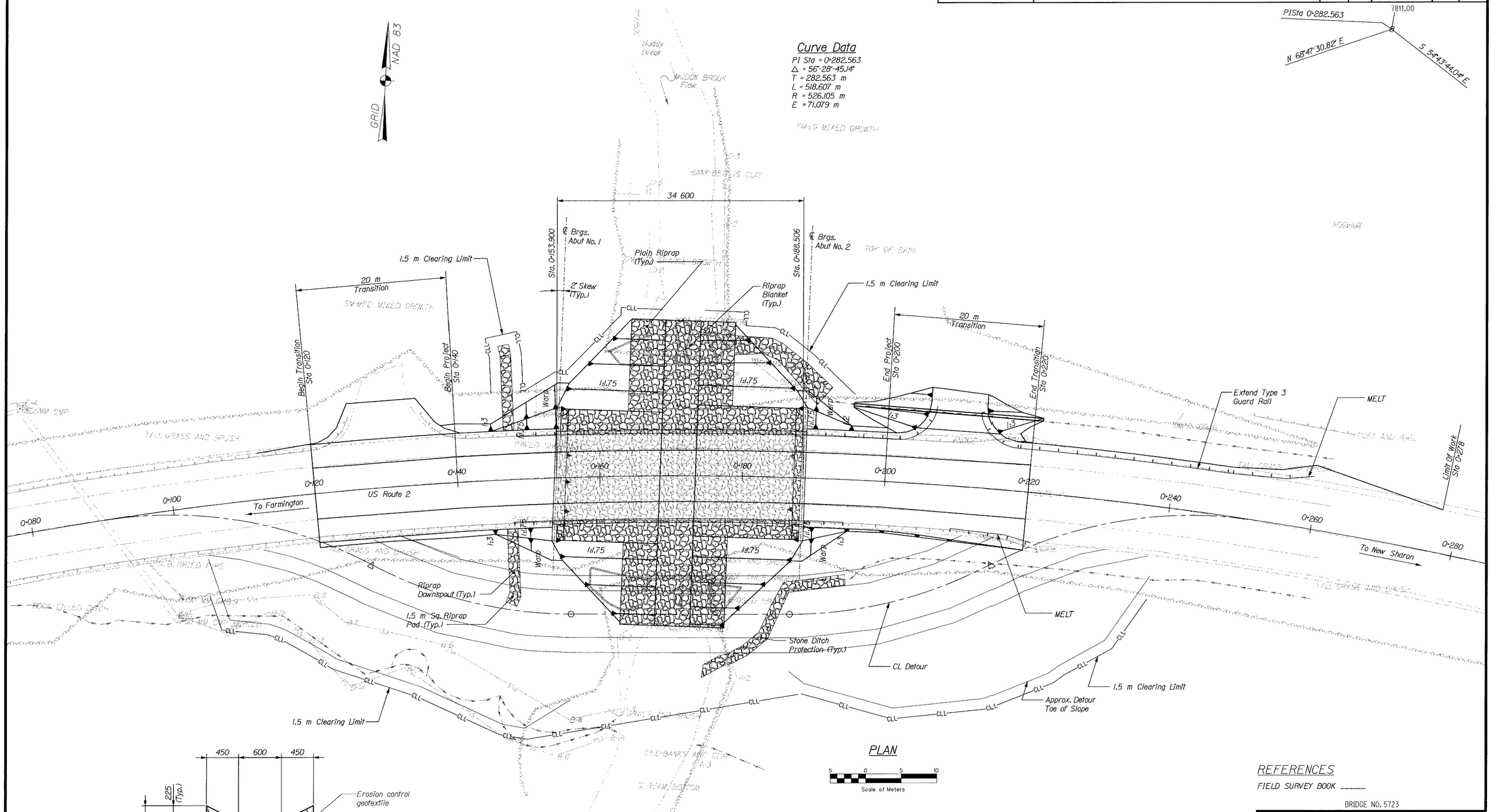
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	E. CASWELL	12/00
CHECKED	C. RUFF	
REVISIONS	J. CASWELL	
FIELD CHANGES		

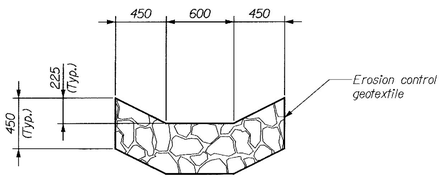
PLANS

Filename: ...\002_quan.dgn Division: BRIDGE Username: carter Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-7811(00)E	3	17





STONE DITCH PROTECTION & RIPRAP DOWNSPOUT

ITEM 204.41
Rehab of existing shoulder, Plan Quantity
Sta. 0+220 to Sta. 0+278 LT

ITEM 603.17
450 mm Culvert Pipe Option I
Sta. 195.23, 10.56 m LT to Sta. 221.17, 10.32 m LT

ITEM 606.369
GR Removed and Stacked
Sta. 0+147.58 to Sta. 0+194.40 RT
Sta. 0+209.64 to Sta. 0+221.07 RT
Sta. 0+148.56 to Sta. 0+218.56 LT

ITEM 606.752
Widen shoulder for MELT
Sta. 0+260 ± LT

Construct Gravel Entrance
Sta. 0+209.69 LT, 6.67 m Wide

REFERENCES
FIELD SURVEY BOOK _____

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

GENERAL PLAN

SHEET OF

AUGUSTA, MAINE

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

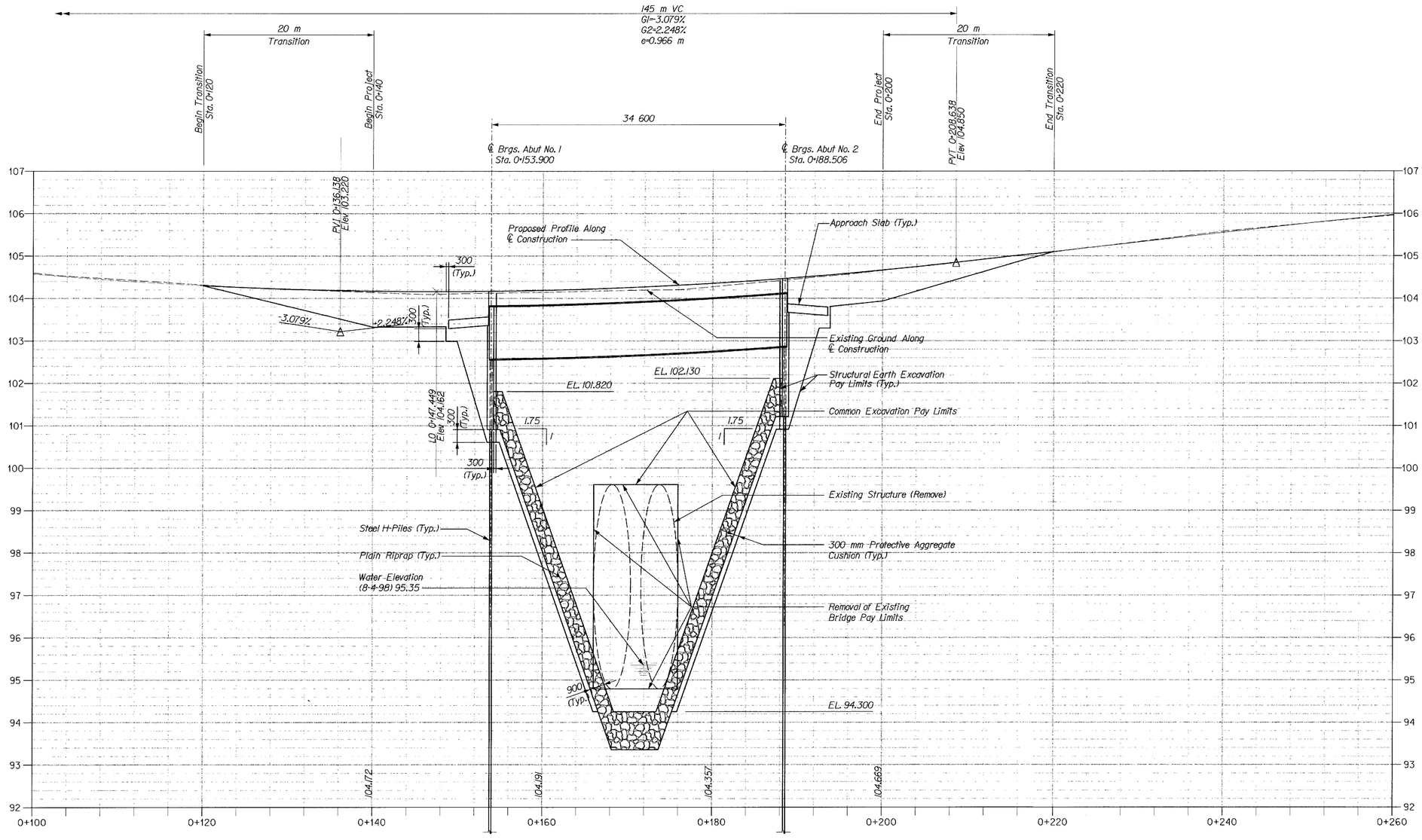
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	E. CASWELL	12-00
CHECKED	C. RUFF	12-00
REVISIONS	J. BURGESS	
FIELD CHANGES		

PLANS

Filename: ...\003_nssurv.dgn Division: BRIDGE Username: carter Date:27 F. 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	4	17

7811.00



PROFILE

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

PROFILE

SHEET OF

AUGUSTA, MAINE

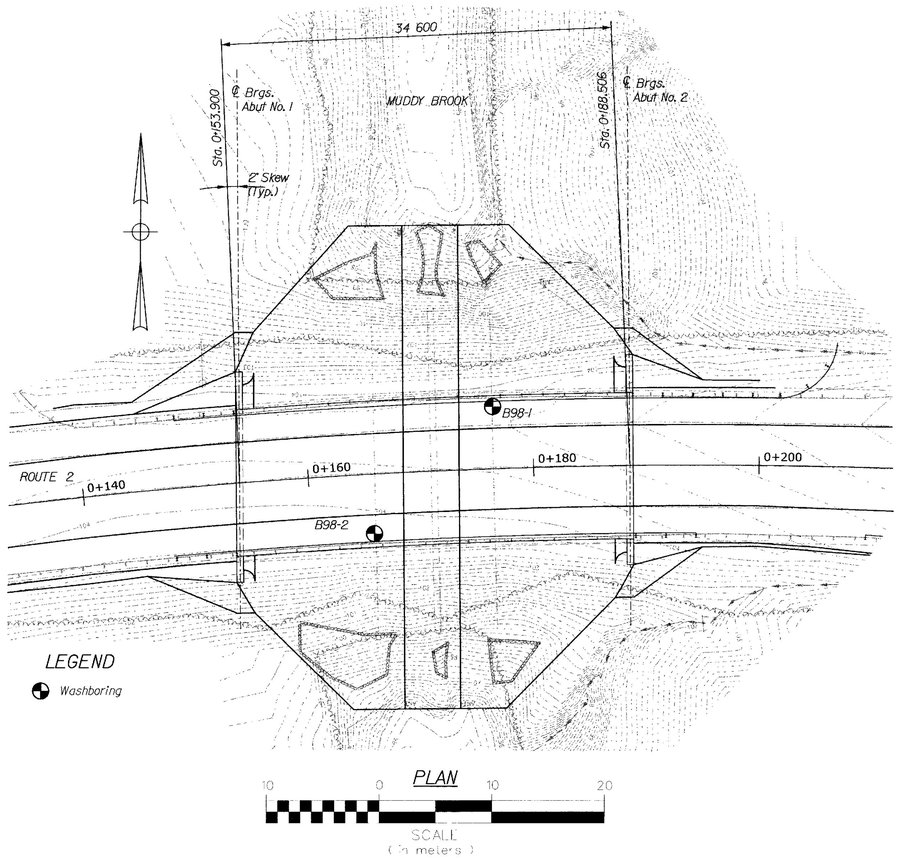
CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

PLANS		BY	DATE
PROJECT DESIGN ENGINEER			
DESIGN-DETAILED	E. CASWELL	C. RUFF	12-00
CHECKED	J. BURGESS		12-00
REVISIONS			
FIELD CHANGES			

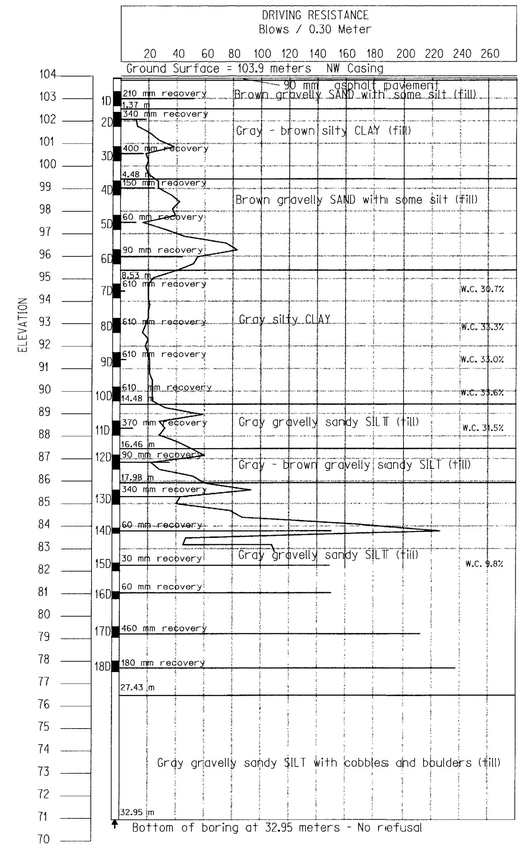
Filename: ...\004_nsprof.dgn
Division: BRIDGE
Username: carter
Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	5	17

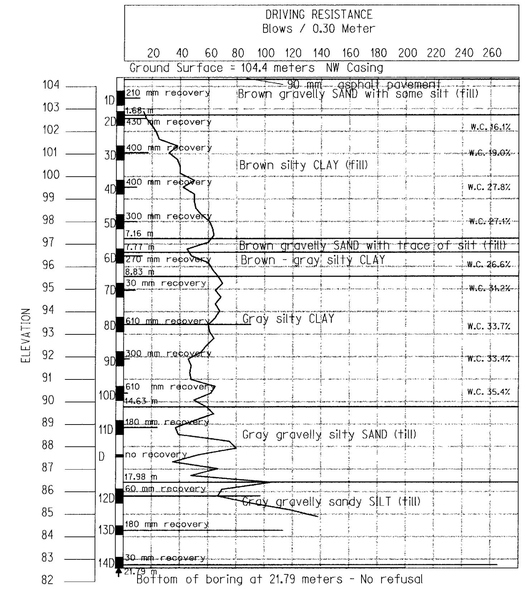
7811.00



BORING B98-2 NOVEMBER 1998
Sta. 0+165.60 5.294 RT



BORING B98-1 NOVEMBER 1998
Sta. 0+176.54 5.526 LT



BORING NOTES

- Number of blows required to drive nw casing 0.3 meters with 542 nm of energy per blow
- Location of sample or sample attempt
- 1D Number and type of dry sample - split spoon sampler
- Number of blows required to drive spoon or tubing 0.3 meters wiht 415 nm of energy per blow
- Bottom of boring (may not be bottom of soil strata)

BRIDGE NO. 5723

STATE OF MAINE
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NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

FOUNDATION SURVEY

SHEET OF AUGUSTA, MAINE

s.w.cole
engineering, inc.
geotechnical consultants

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	S. COLE	
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

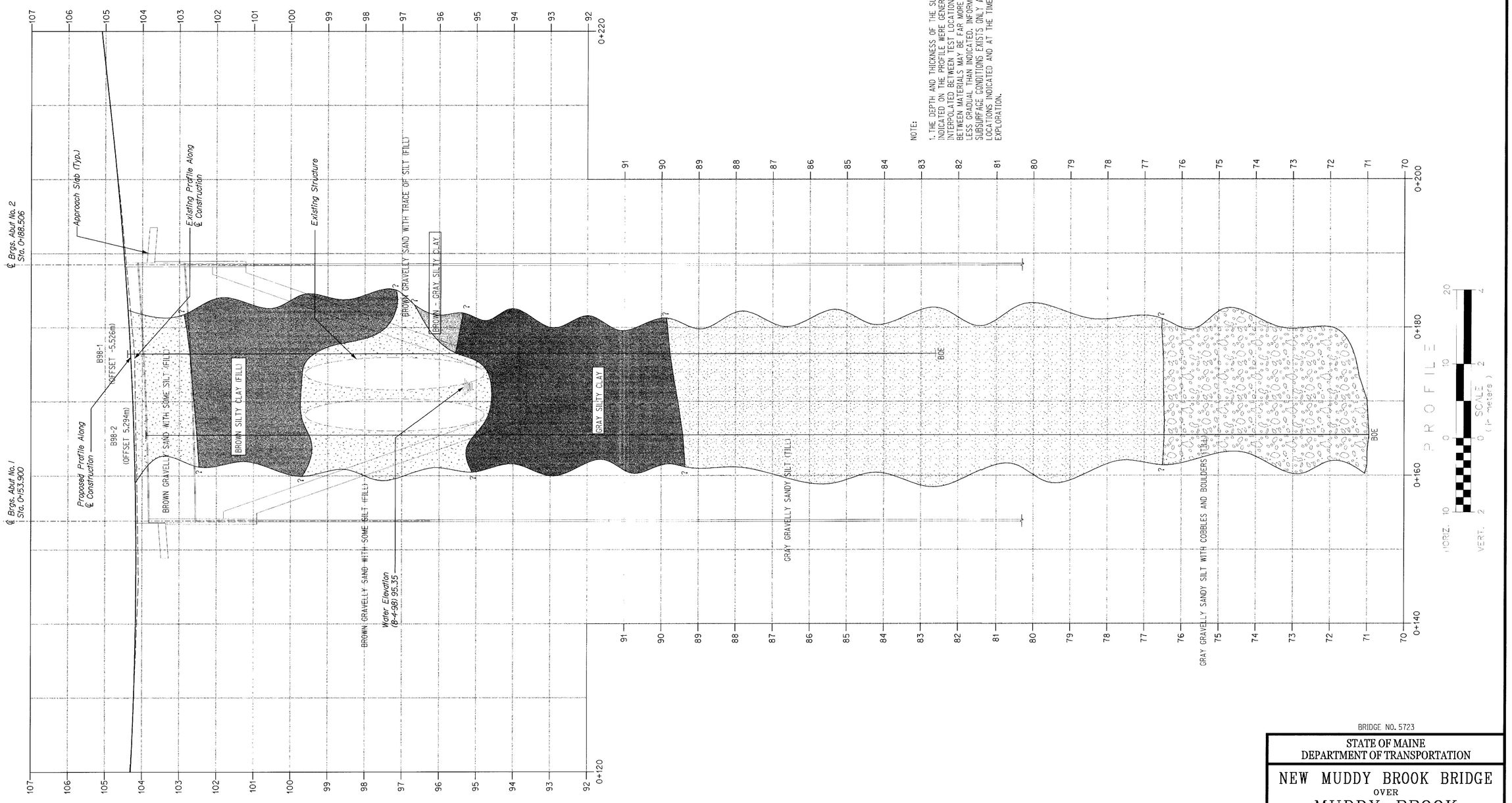
Filename: ...\005_plandiagramsfnd.dgn Division: BRIDGE Username: carter Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	6	17

7811.00

NOTE:

1. THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE PROFILE WERE GENERALIZED FROM AND INTERPOLATED BETWEEN TEST LOCATIONS. THE TRANSITION BETWEEN MATERIALS MAY BE FAR MORE OR LESS GRADUAL THAN INDICATED. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE SPECIFIC LOCATIONS INDICATED AND AT THE TIME OF THE EXPLORATION.



PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	S. COLE	
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
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FRANKLIN COUNTY

FOUNDATION SURVEY

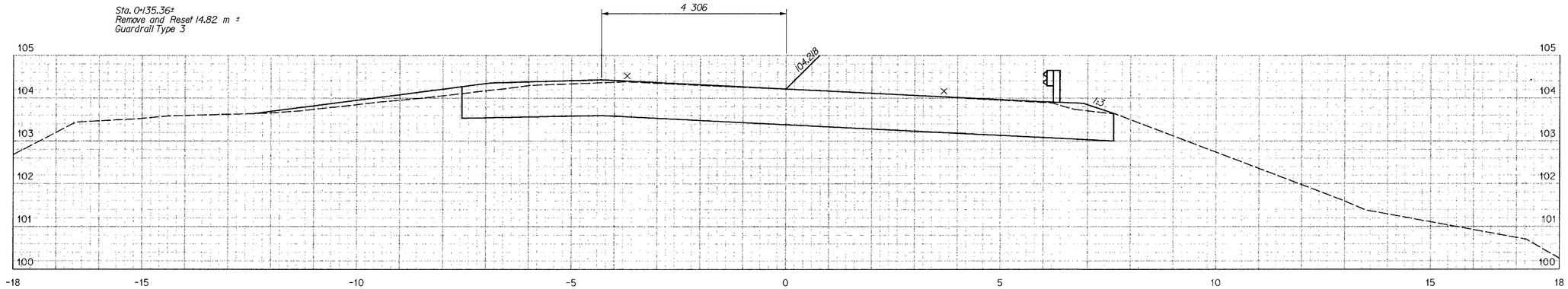
s.w.cole engineering, inc. geotechnical consultants

SHEET OF AUGUSTA, MAINE

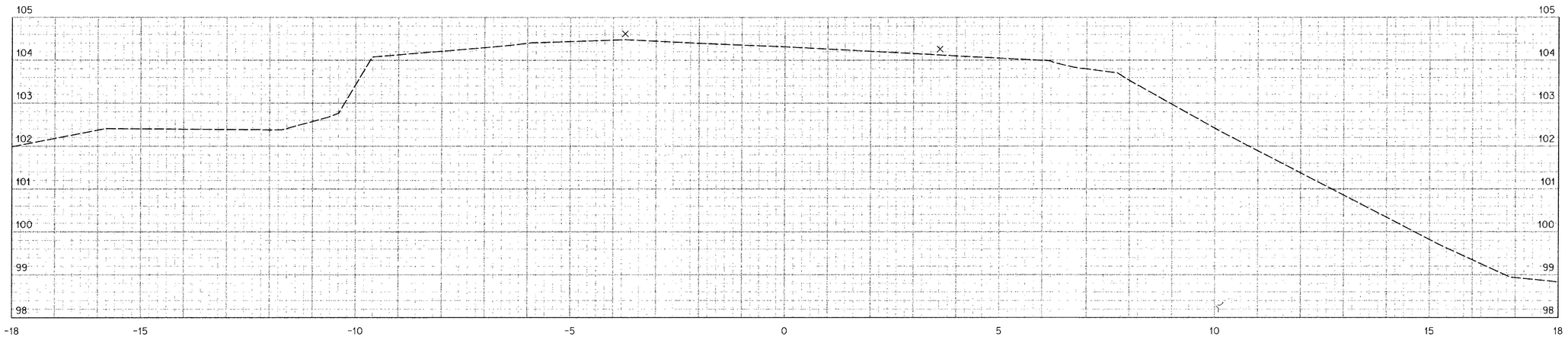
Filename: ...\006_plandiagramsfnd.dgn Division: BRIDGE Username: carter Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	7	17

7811.00



0+130

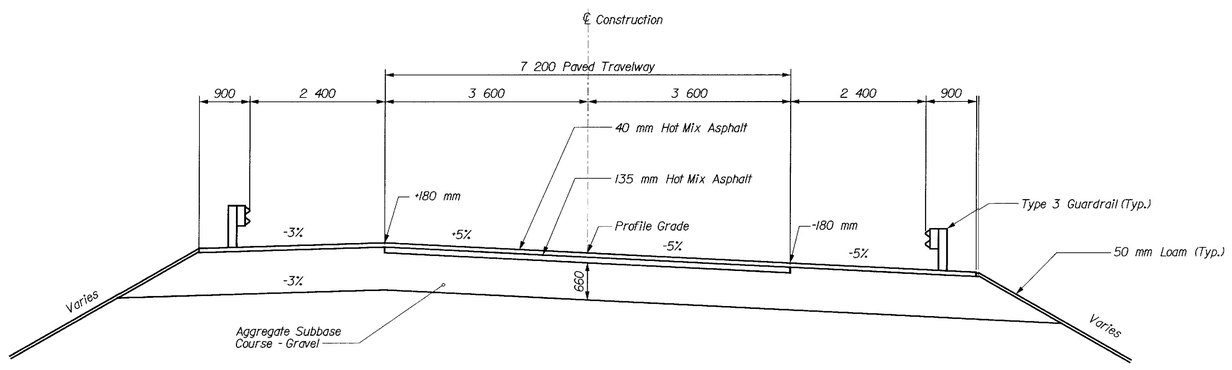


Sta. 0+120
Remove and Reset 7.43 m ±
Guardrail Type 3

0+120
Begin Transition
Match Existing

Sta. 0+120
Remove and Reset 27.58 m ±
Guardrail Type 3

Sta 0+063.4
CMP #3/4
9. m LT



Pavement, Base and subbase
Depths as shown on the plans
are intended to be nominal.

APPROACH SECTION - ROUTE 2

PROJECT DESIGN ENGINEER		BY	DATE
	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	C. RUFF	12-00
PLANS	REVISIONS	J. BURGESS	12-00
	FIELD CHANGES		

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

NEW SHARON

US ROUTE 2

Sta 0+120 to Sta 0+130

Filename: ...\007_xsect.dgn

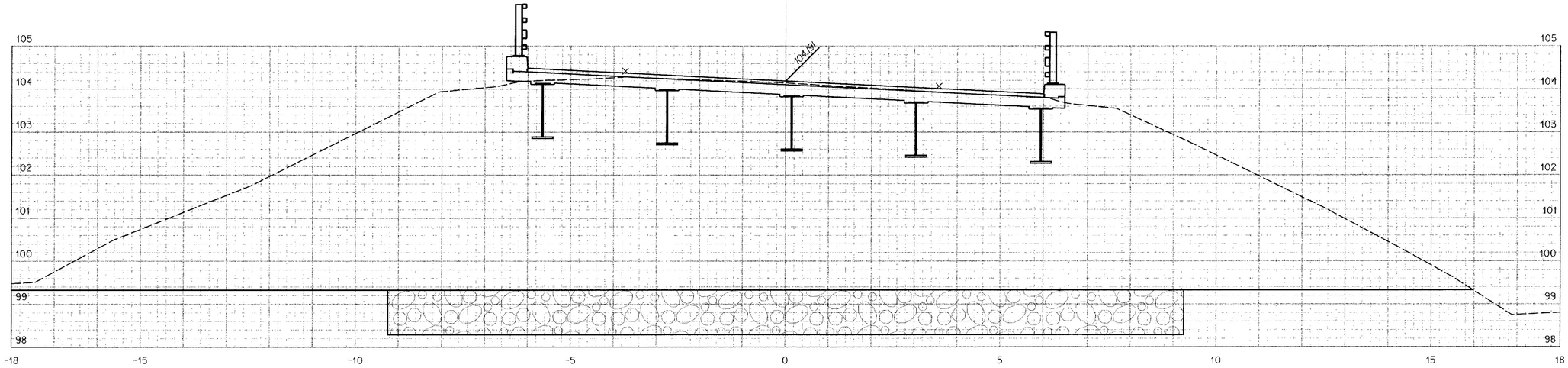
Division: BRIDGE

Username: carter

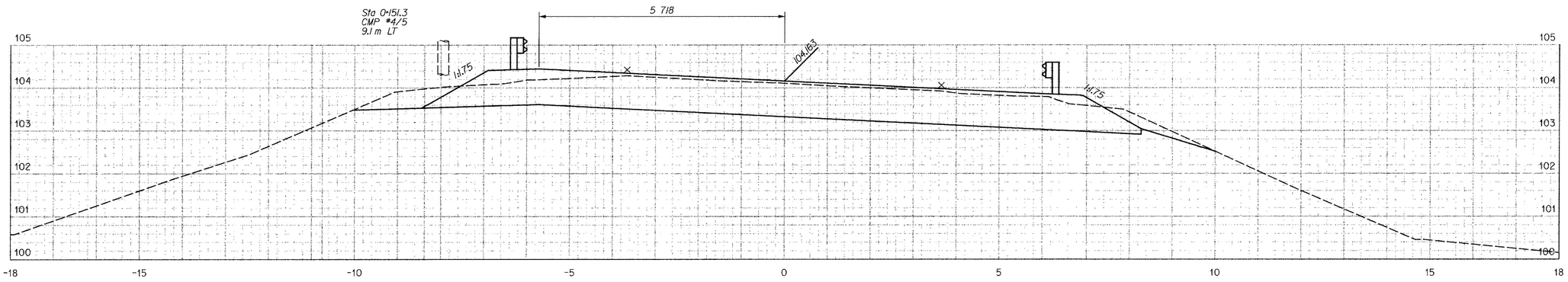
Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	8	17

7811.00



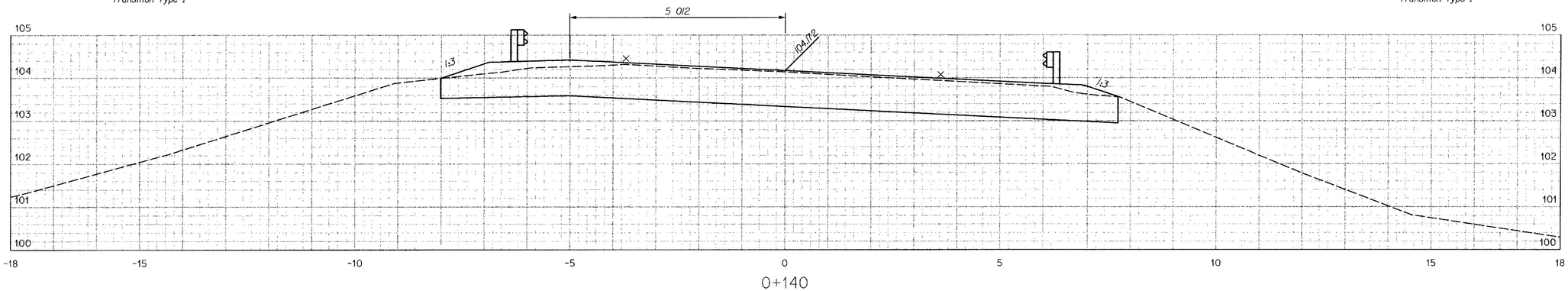
0+160



Sta. 0+148.56±
Install Bridge
Transition Type I

0+150

Sta. 0+147.58±
Install Bridge
Transition Type I



0+140
End Transition
Begin Project

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	C. RUFF	12-00
	REVISIONS	J. BURGESS	
	FIELD CHANGES		

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

NEW SHARON

US ROUTE 2

Sta 0+140 to Sta 0+160

Filename: ...\008_xsect.dgn

Division: BRIDGE

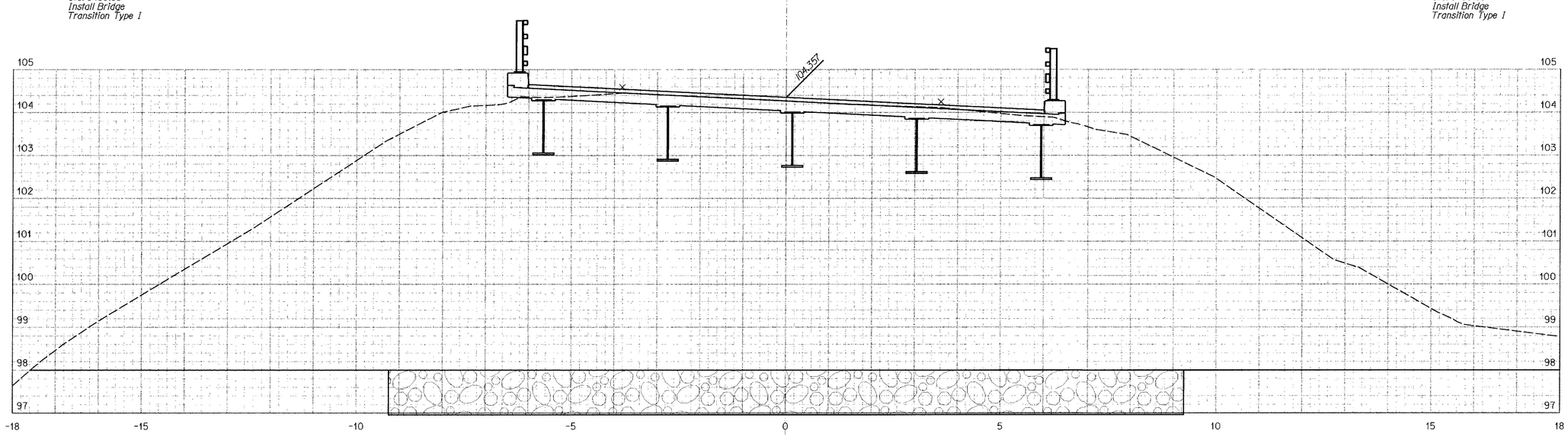
Username: carter

Date:27 FEB 2001

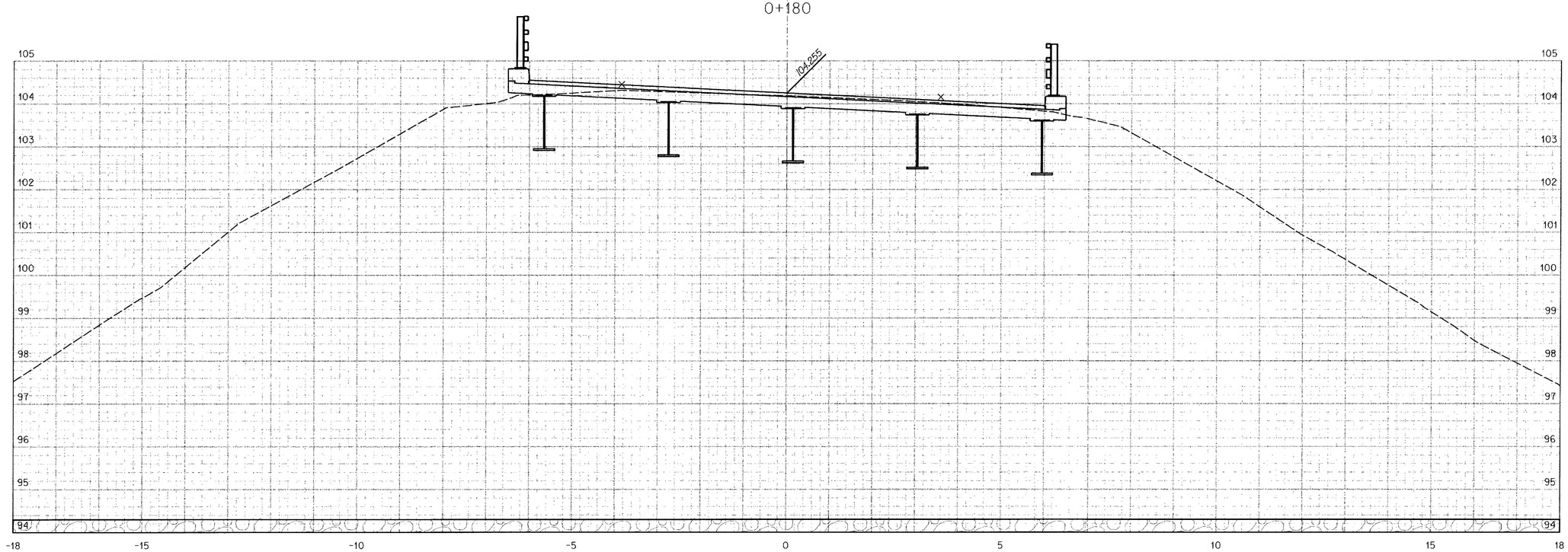
METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	9	17

7811.00

Sta. 0+188.65±
Install Bridge
Transition Type I



0+180



0+170

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	J. BURGESS	12-00
	REVISIONS		
	FIELD CHANGES		

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

NEW SHARON

US ROUTE 2

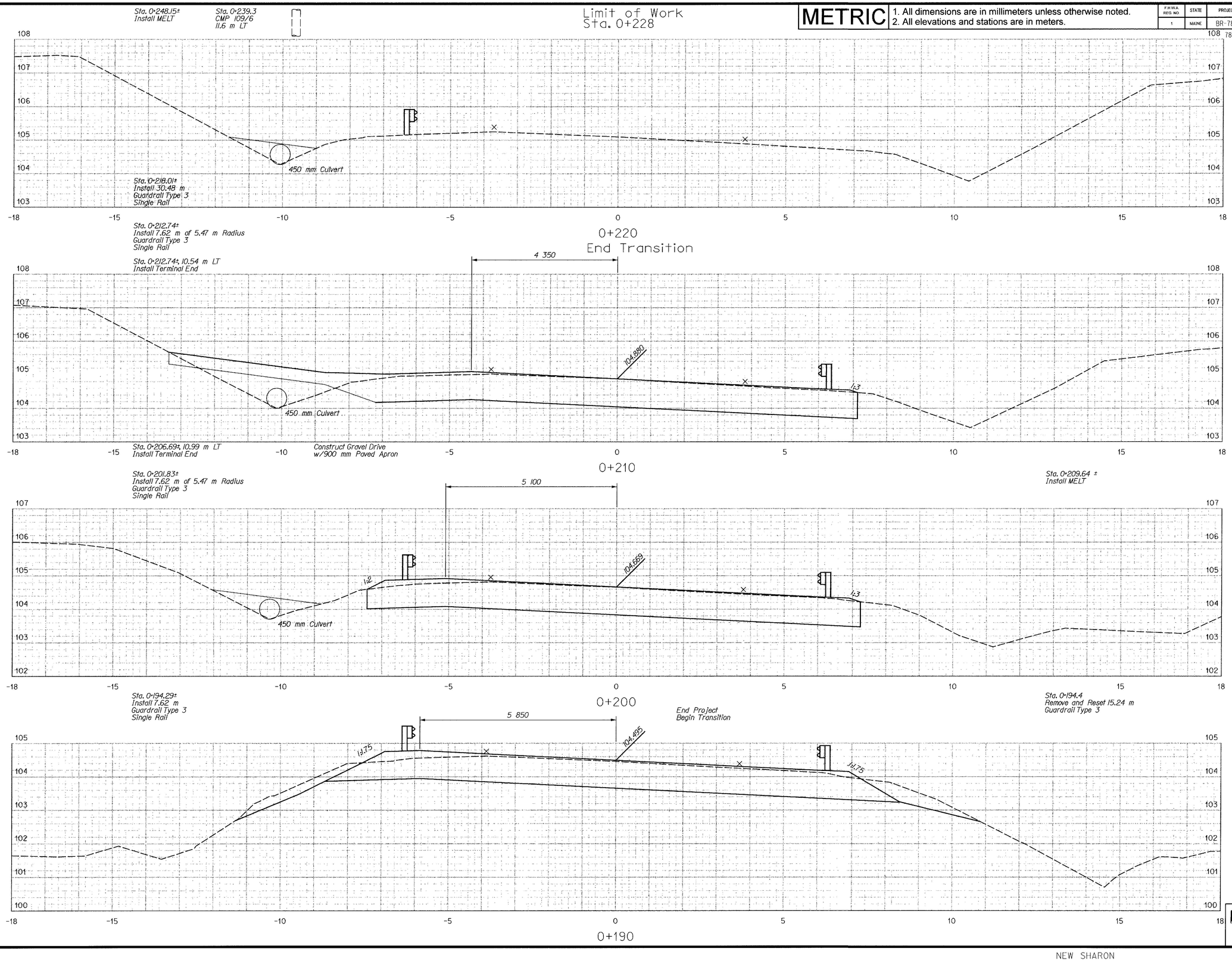
Sta 0+170 to Sta 0+180

Filename: ...\009_xsect.dgn Division: BRIDGE Username: carter Date:27 FEB 2001

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-7811(00)E	10	17

7811.00



PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	E. CASWELL	12-00
CHECKED	C. RUFF	12-00
REVISIONS	J. BURGESS	
FIELD CHANGES		

PLANS

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

NEW SHARON

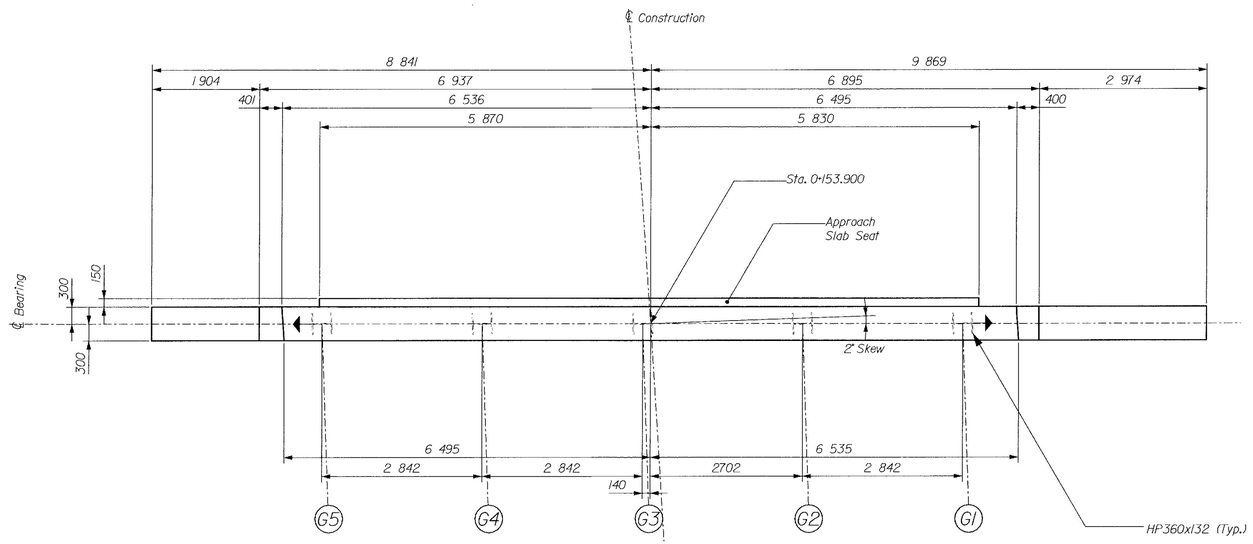
US ROUTE 2

Sta 0+190 to Sta 0+220

Filename: ...\010_xsect.dgn Division: BRIDGE Username: carter Date:27 FEB 2001

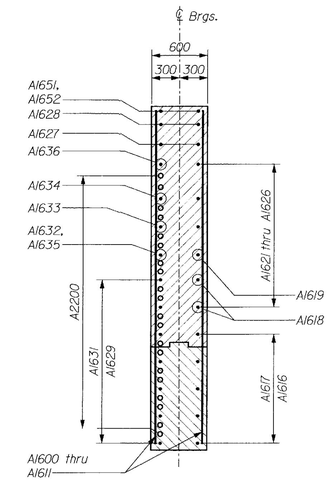
METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	11	17

7811.00



PLAN ABUTMENT NO. 1

← Flow



SECTION C-C

ABUTMENT NOTES

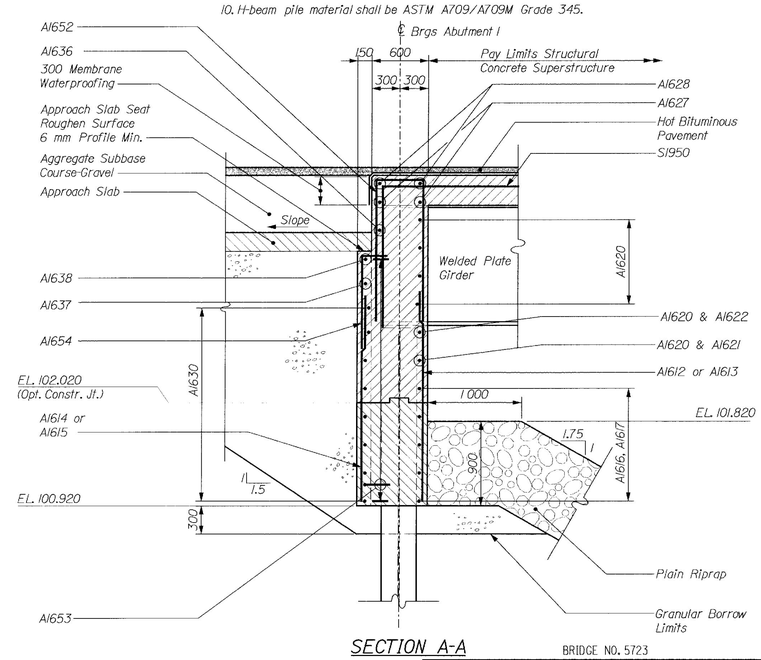
1. Reinforcing steel shall have 50 mm cover unless otherwise indicated.
2. All reinforcing steel shall be placed at 300 mm in both directions unless otherwise noted.
3. Protective coating for concrete surfaces shall be applied to the following areas: Tops of wings and parapets and to 300 mm below tops of wings and parapets on the backside.

PILE NOTES

1. Piles shall be driven to an ultimate capacity of 2.25 times the maximum design pile load. The maximum calculated pile load is 940 kN. The Contractor shall perform one dynamic load test to confirm the ultimate capacity of the piles.
2. The Contractor shall perform a wave equation analysis to establish driving criteria and estimate driving stresses. The analysis shall be submitted to the Construction Manager for review and acceptance. All piles shall be driven in conformance with the wave equation driving criteria. The cost of performing the wave equation analysis shall be considered incidental to pay Item 501.92, Pile Driving Equipment Mobilization.
3. All piles shall be equipped with a pile tip in accordance with Standard Specification 501.10
4. Estimate of piles required:
   Abutment No. 1 -- 5 HP360x132 @ 23 m
   Abutment No. 2 -- 5 HP360x132 @ 23 m
5. Piles shall not be out of position shown by more than 50 mm in any direction.
6. Cut-off elevations for tops of piles are as follows:

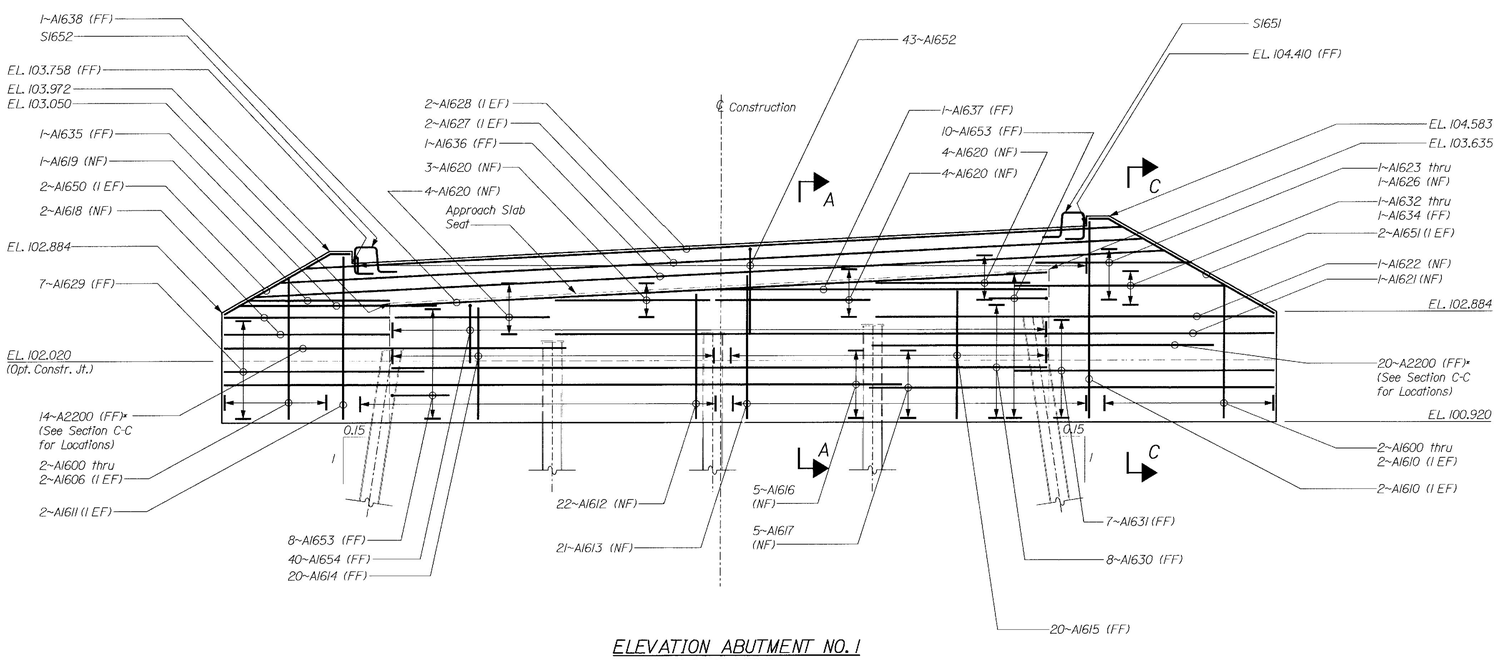
	Abutment No. 1	Abutment No. 2
G1	102.782	103.083
G2	102.639	102.941
G3	102.497	102.799
G4	102.354	102.657
G5	102.213	102.514

7. Pile cut-off elevations are given at ℄ Bearing and ℄ Stringer. Cut pile to match girder slope prior to welding sole plate.
8. Sole Plates will be considered structural steel and will be paid under Item 504.70 Structural Steel.
9. Piles marked thus ⊢⊢▶ shall be battered 15% (15 mm per 100 mm) in the direction of the arrow.
10. H-beam pile material shall be ASTM A709/A709M Grade 345.



SECTION A-A

BRIDGE NO. 5723



ELEVATION ABUTMENT NO. 1

*A2200 shall extend 3200 outside Exterior Stringer

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	C. RUFF	12-00
	REVISIONS	B. S. VUJAY	12-00
	FIELD CHANGES		

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

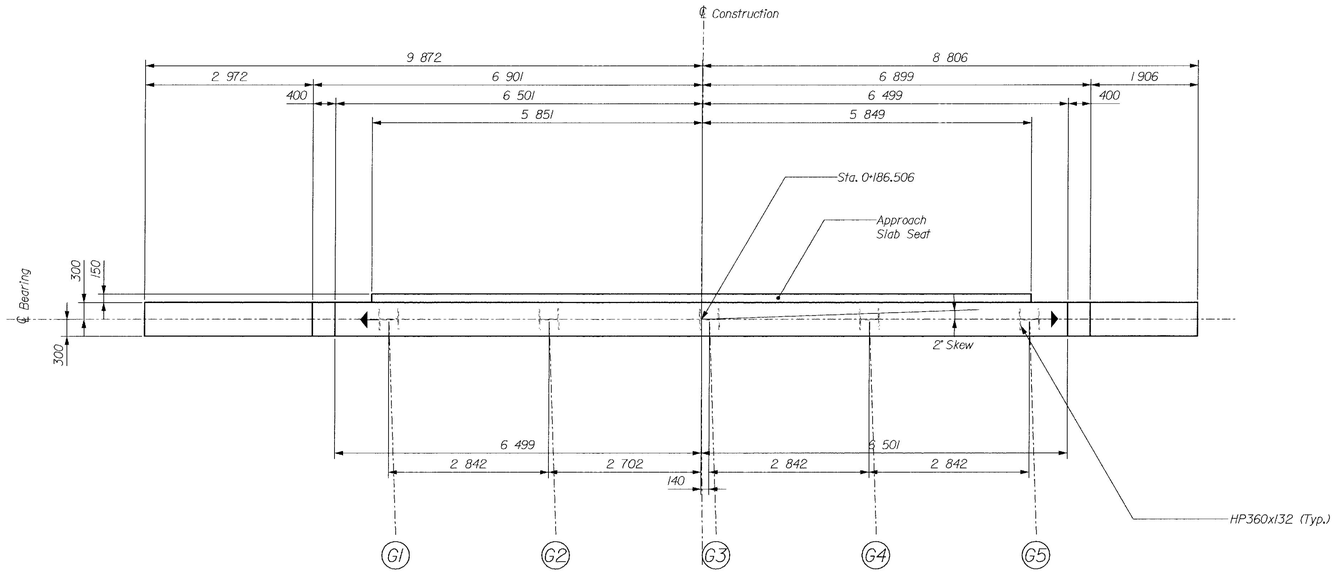
NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

ABUTMENT NO. 1

SHEET OF AUGUSTA, MAINE

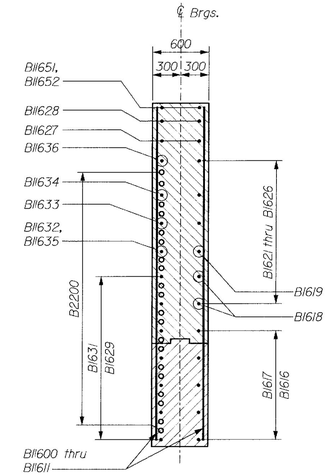
METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	12	17

7811.00

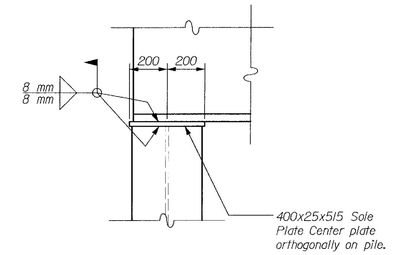


PLAN ABUTMENT NO. 2

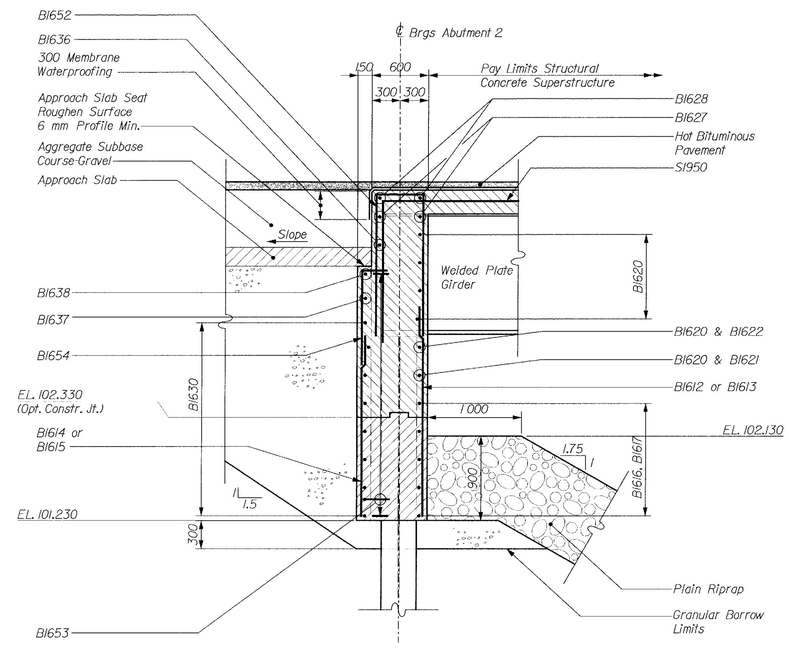
Flow



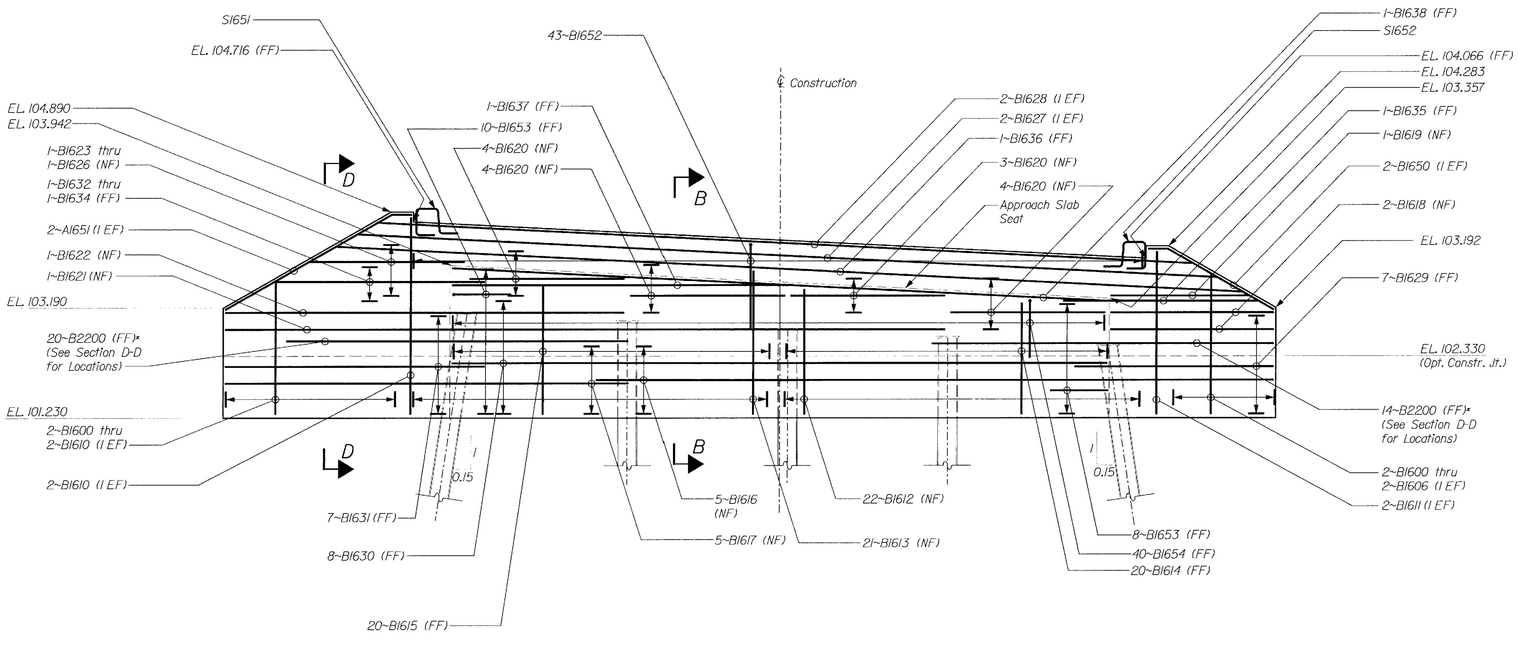
SECTION D-D



CAP PLATE DETAIL



SECTION B-B



ELEVATION ABUTMENT NO. 2

*B2200 shall extend 3200 outside Exterior Stringer

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	E. CASWELL	12-00
CHECKED	C. RUFF	12-00
REVISIONS	B. S. VUJAY	
FIELD CHANGES		

PLANS

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

ABUTMENT NO. 2

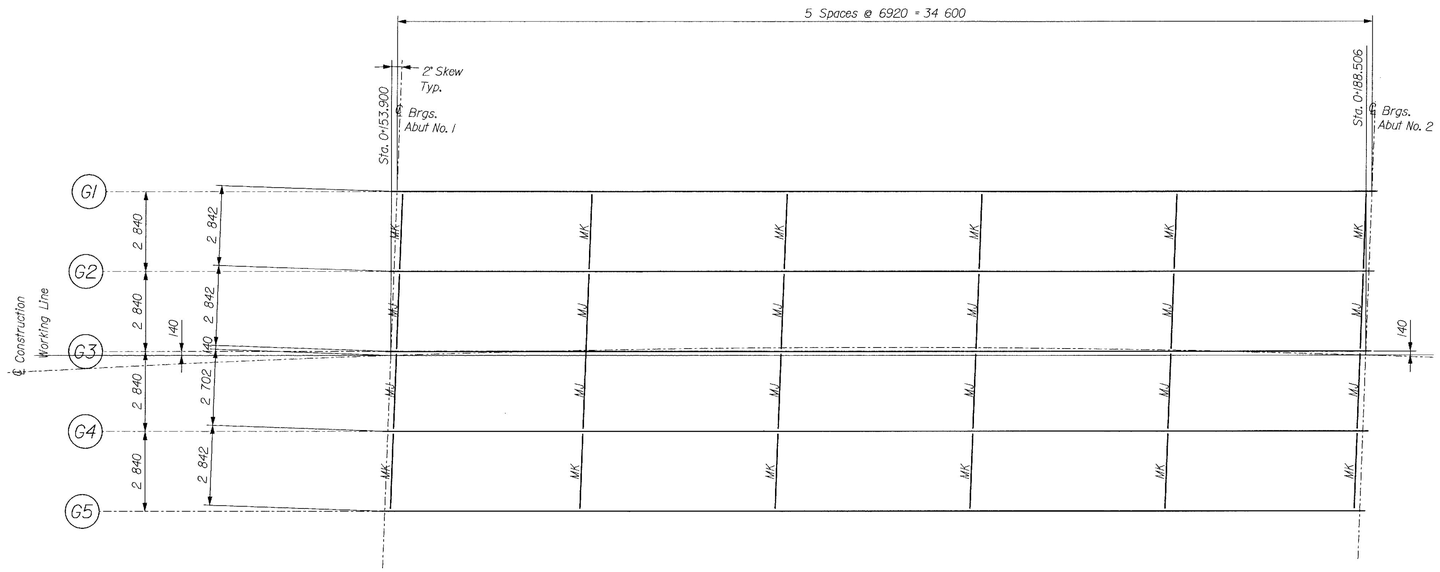
CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

SHEET OF

AUGUSTA, MAINE

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	13	17

7811.00



FRAMING PLAN

STRUCTURAL STEEL NOTES

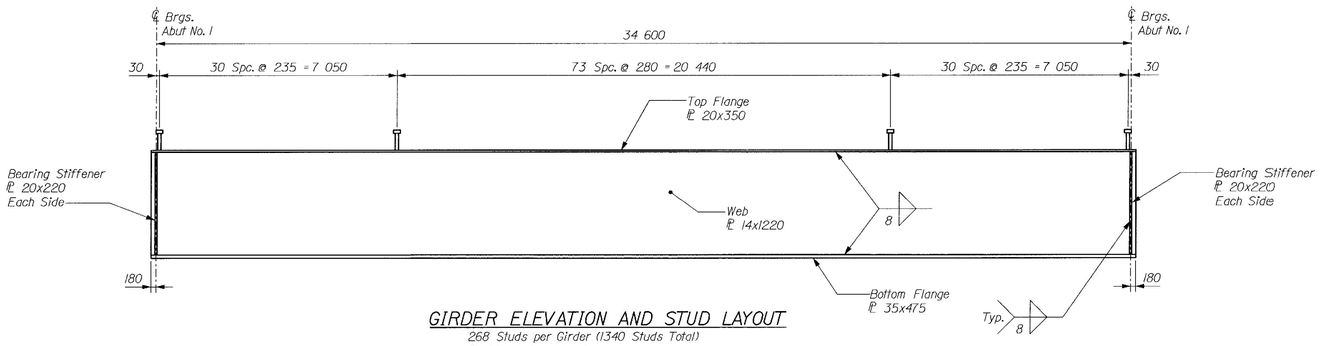
1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.
2. Bearing stiffeners shall be plumb after erection and dead loading of the structure.
3. Cross-frame or diaphragm connection plates may be either plumb or normal to the top flange.
4. No transverse butt-weld splices will be allowed in the flange plates or web plates within 3.0 m or 10 per cent of span length (whichever is greater) from the points of maximum positive moment. Butt-weld splices in flanges shall be not less than 1.0 m from transverse butt-welds in the web plates and no transverse web or flange butt-welds shall be located within 1.0 m of other transverse welds (e.g. connection plates to web welds) on either flange or web.
5. Sections of flange plates or web plates between transverse shop splices shall be not less than 6 m in length unless otherwise shown on the plans.

BASIC DESIGN STRESSES

STRUCTURAL STEEL: ASTM A709/A709M, Grade 345W — Fy=345 MPa
ASTM 325M — Fu=830 MPa

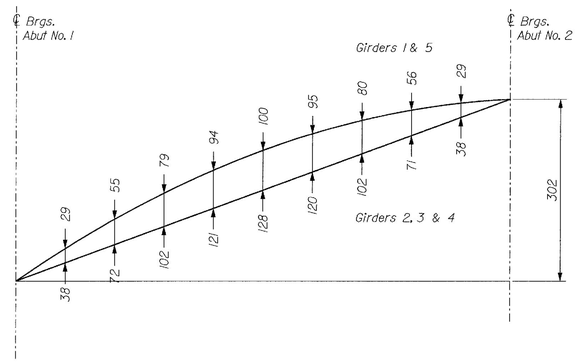
MATERIALS

STRUCTURAL STEEL: All Material ASTM A709/A709M, Grade 345W
(Except as otherwise noted) (unpainted)
High strength Bolts ASTM A325M - Type 3



GIRDER ELEVATION AND STUD LAYOUT

268 Studs per Girder (1340 Studs Total)
Double studs all locations



CAMBER DIAGRAM

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	J. BURGESS	12-00
	REVISIONS	C. RUFF	
	FIELD CHANGES		

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

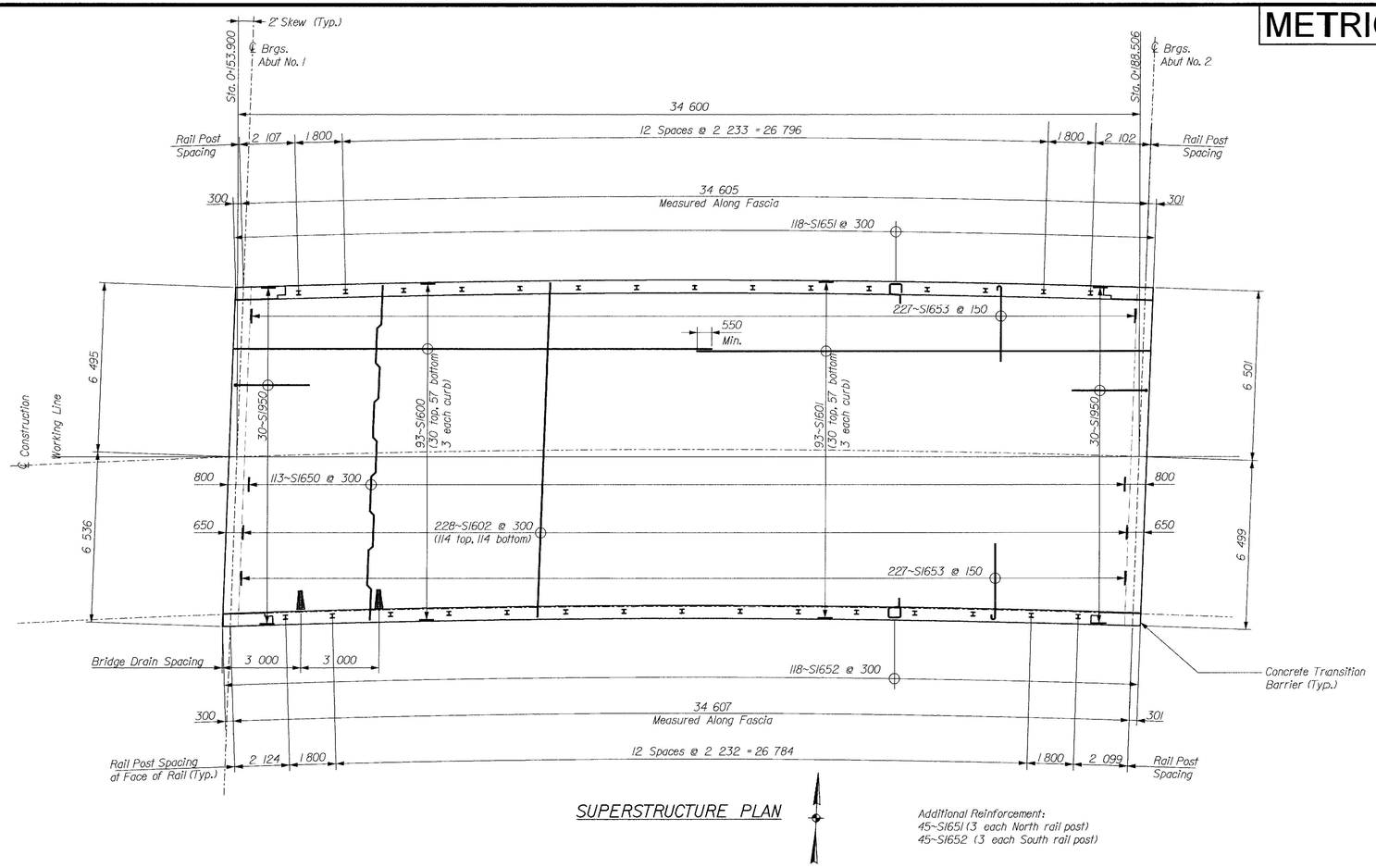
FRAMING PLAN

SHEET OF

AUGUSTA, MAINE

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	14	17
				7811.00		

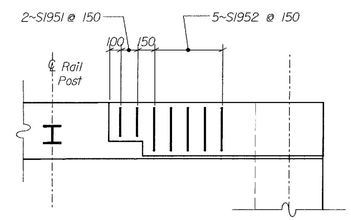


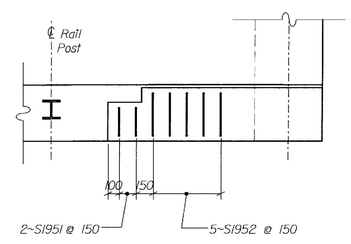
SUPERSTRUCTURE PLAN

Additional Reinforcement:
45~S1651 (3 each North rail post)
45~S1652 (3 each South rail post)

SUPERSTRUCTURE NOTES

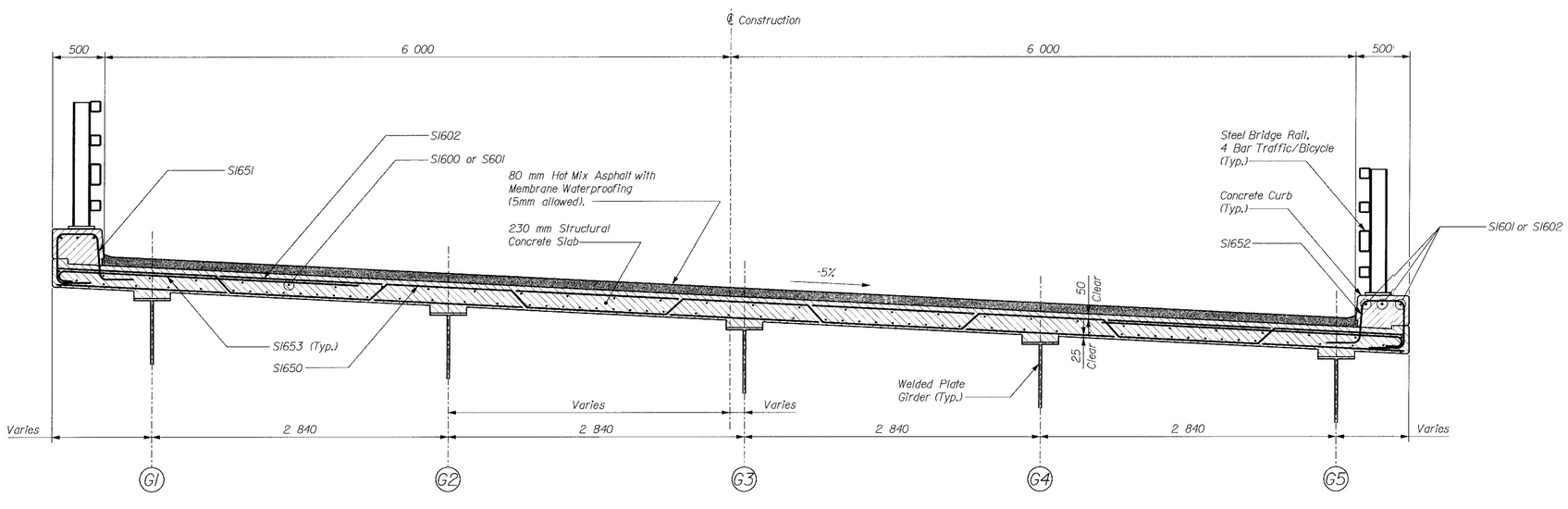
1. Form a 30mm V-groove on the fascias at the horizontal joint between the curb and the slab.
2. Reinforcing steel shall have a minimum cover of 50mm unless otherwise indicated.
3. The superstructure slab concrete shall be placed continuously and shall be kept plastic until the entire span has been placed.
4. Protective coating for concrete surfaces shall be applied to the following areas:
   All exposed surfaces of concrete curb.
   Fascia down to the drip notch.
   All exposed surfaces of transition barrier.
5. Adjust reinforcing steel to fit around the bridge drains in a manner approved by the Construction Manager. Do not cut transverse reinforcing bars.





CONCRETE TRANSITION BARRIER PLAN ABUTMENT #2

(Abutment #1 Similar)



TRANSVERSE SECTION

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	C. RUFF	12-00
	REVISIONS	B. S. VIJAY	
	FIELD CHANGES		

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

SUPERSTRUCTURE

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

SHEET OF AUGUSTA, MAINE

METRIC	1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		1	MAINE	BR-7811(00)E	15	17

7811.00

BOTTOM OF SLAB ELEVATION TABLE

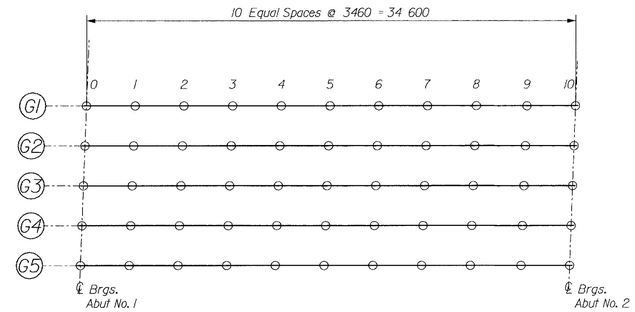
	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
G1	104.147	104.196	104.245	104.293	104.333	104.368	104.394	104.413	104.426	104.437	104.448
G2	104.004	104.063	104.119	104.172	104.216	104.252	104.277	104.293	104.300	104.304	104.306
G3	103.862	103.920	103.976	104.029	104.074	104.110	104.134	104.150	104.157	104.162	104.164
G4	103.719	103.777	103.833	103.886	103.931	103.967	103.991	104.007	104.015	104.019	104.022
G5	103.578	103.626	103.674	103.721	103.762	103.797	103.822	103.842	103.856	103.868	103.879

DEAD LOAD DEFLECTIONS - INTERIOR BEAMS (mm)

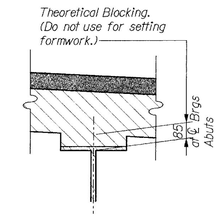
	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
Steel	0	10	18	25	29	31	29	25	18	10	0
Fluid	0	45	84	116	135	142	135	116	84	45	0
SupImp	0	8	14	19	23	24	23	19	14	8	0

DEAD LOAD DEFLECTIONS - EXTERIOR BEAMS (mm)

	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
Steel	0	10	18	25	29	31	29	25	18	10	0
Fluid	0	36	67	92	107	113	107	92	67	36	0
SupImp	0	8	15	21	25	26	25	21	15	8	0

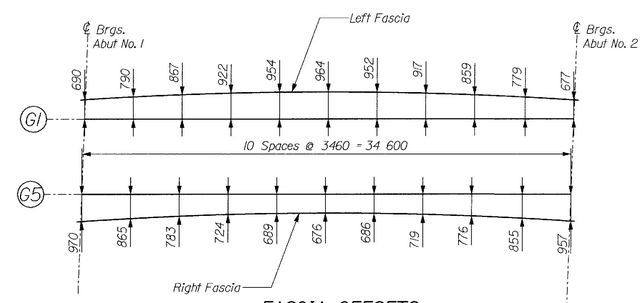


BOTTOM OF SLAB ELEVATION LAYOUT PLAN



SLAB HAUNCH & BLOCKING DETAIL

For information not shown, see 502(2).



FASCIA OFFSETS

Offsets are measured normal to exterior girders.

BRIDGE NO. 5723

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NEW MUDDY BROOK BRIDGE
OVER
MUDDY BROOK
IN THE TOWN OF
NEW SHARON
FRANKLIN COUNTY

SUPERSTRUCTURE DETAILS

SHEET OF AUGUSTA, MAINE

CASWELL ENGINEERING, P.A.
Structural Consultants
56 Maine Street
Brunswick, Maine 04011
(207) 725-6221

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	E. CASWELL	12-00
	CHECKED	C. RUFF	12-00
	REVISIONS	B. S. VULAY	
	FIELD CHANGES		

Filename: ...\015_supdet.dgn Division: BRIDGE Username: carter Date:27 FEL 01

REINFORCING STEEL SCHEDULE

METRIC
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-7811(00)E	16	17

7811.00

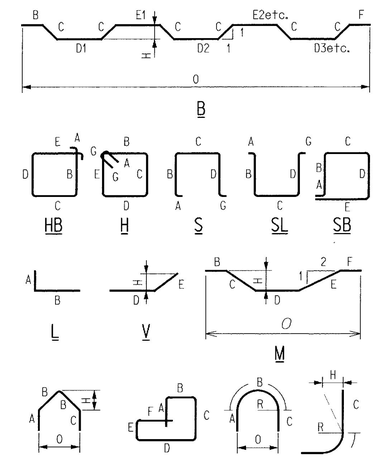
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
ABUTMENT NO. 1				SUPERSTRUCTURE			
A1600	4	1856	Wings	S1600	93	18288	Deck & Curbs
A1601	4	2028	Wings	S1601	93	17359	Deck & Curbs
A1602	4	2199	Wings	S1602	228	12960	Deck
A1603	4	2371	Wings				
A1604	4	2542	Wings				
A1605	4	2714	Wings				
A1606	4	2886	Wings				
A1607	2	3057	North Wing				
A1608	2	3229	North Wing	APPROACH SLABS			
A1609	2	3401	North Wing	AS1600	32	11800	App Slabs
A1610	4	3535	North Wing	AS1900	82	4600	App Slabs
A1611	2	2928	South Wing				
A1612	22	2199	Breastwall				
A1613	21	2527	Breastwall				
A1614	20	1598	Breastwall				
A1615	20	1887	Breastwall				
A1616	5	12000	Breastwall				
A1617	5	7160	Breastwall				
A1618	2	2905	Breastwall				
A1619	1	2484	Breastwall				
A1620	15	2717	Breastwall				
A1621	1	12739	Breastwall				
A1622	1	7056	Breastwall				
A1623	1	3794	North Wing				
A1624	1	3269	North Wing				
A1625	1	2744	North Wing				
A1626	1	2218	North Wing				
A1627	2	15335	Breastwall				

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
ABUTMENT NO. 1														
A1650	2	2490	V	-	-	-	2152	338	-	-	168	-	-	South Wing
A1651	2	3721	V	-	-	-	3383	338	-	-	168	-	-	North Wing
A1652	43	3500	S	-	1500	500	1500	-	-	-	-	-	-	Breastwall
A1653	18	1100	L	550	550	-	-	-	-	-	-	-	-	App Slab Seat
A1654	40	1530	L	550	980	-	-	-	-	-	-	-	-	App Slab Seat
ABUTMENT NO. 2														
B1650	2	2492	V	-	-	-	2154	338	-	-	168	-	-	South Wing
B1651	2	3721	V	-	-	-	3383	338	-	-	168	-	-	South Wing
B1652	43	3500	S	-	1500	500	1500	-	-	-	-	-	-	Breastwall
B1653	18	1100	L	550	550	-	-	-	-	-	-	-	-	App Slab Seat
B1654	40	1527	L	550	977	-	-	-	-	-	-	-	-	App Slab Seat

TYPE - BENDING DIAGRAMS

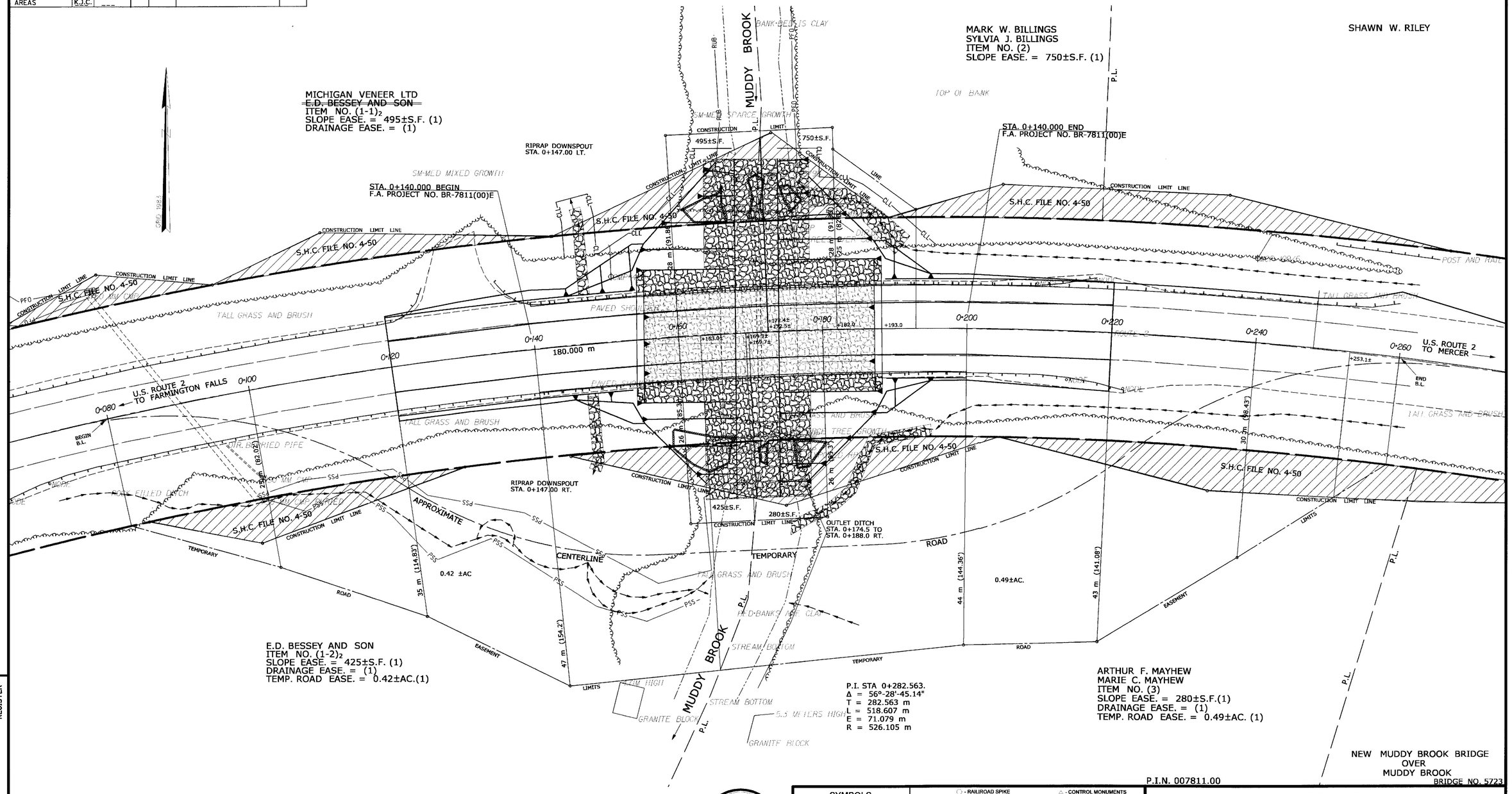


JB 2001

ITEM	TECH	CHECKED
BASE MAP	K.J.C.	---
EXIST. R/W	K.J.C.	---
PROP. LINES	K.J.C.	---
AREAS	K.J.C.	---

REVISIONS			
NO.	DATE	DESCRIPTION	BY

METRIC	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	1	MAINE	----------	1 of 17	17



STATE OF MAINE
REGISTRY OF DEEDS

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

PLAN FILED IN PLAN BOOK PAGE					
		COUNTY RECORD			
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	01-17-2001	1982	072

EXISTING RIGHT-OF-WAY REFERENCES
S.H.C. FILE NO. 4-50

STATE OF MAINE
JOHN E. DORITY
2093
REGISTERED
PROFESSIONAL ENGINEER

SYMBOLS
IP (IRON PIPE or PIN)
S.T. (SEPTIC TANK)
WATER LINE
GAS LINE
ELECTRIC LINE
TELEPHONE LINE
SEWER LINE
PROPERTY LINE
LIMITS OF WROUGHT PORTION
EXISTING RIGHT OF WAY
NEW RIGHT OF WAY
NEW RIGHT OF WAY WITHIN EXISTING RIGHT OF WAY
CONTROL OF ACCESS

- RAILROAD SPIKE
- CONTROL MONUMENTS

MAINE DEPARTMENT OF TRANSPORTATION - CENTERLINE CONTROL

MAINE STATE COORDINATE SYSTEM - ZONE

CENTERLINE CONTROL MONUMENTS			TRAVERSE CONTROL POINTS		
STATION	NORTH	EAST	NUMBER	NORTH	EAST

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAP

STATE HIGHWAY "25"

NEW SHARON — FRANKLIN COUNTY

FEDERAL AID PROJECT NO. BR-7811(00)E

DATE: NOVEMBER 2000

SCALE: 1 = 250

SHEET NO. 1 OF 1 SHEET

D.O.T. FILE NO. 4 - 213

JOHN G. MELROSE — COMMISSIONER

JOHN E. DORITY — CHIEF ENGINEER

Date: 02 MAR 2001 Username: Ken Carlson Division: ROW Filename: ...\X001_RWPlan1.dgn