

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-6458(00)X	1	29

SPECIFICATION

DESIGN: AASHTO Standard Specifications for Highway
Bridges 1996 Sixteenth Edition.

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

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

DESIGN LOADING

LIVE LOAD: MS22.5 STRESS CYCLES: 500,000(2,000,000)

SEISMIC PERFORMANCE CATEGORY B

MATERIALS

CONCRETE:

PRECAST Class P
PIPE PILES Class A
BRIDGE DECK Class A
APPROACH SLAB Class A
ALL OTHER Class LP

REINFORCING STEEL: ASTM A4015M Grade 60

STRUCTURAL STEEL: PILES HP360x132 ASTM A709/A709m, Grade 345W
PIPE PILES 6600 x16 mm

STRUCTURAL STEEL: STRANDS AASHTO M203 (ASTM A416),
GRADE 270 LOW RELAXATION

STRUCTURAL STEEL: HARDWARE ASTM A325M

BASIC DESIGN STRESSES

CONCRETE:

PRECAST f'c = 42 369 kPa
ALL OTHER f'c = 27 579 kPa

REINFORCING STEEL: fy=400 MPa

STRUCTURAL STEEL: H-Piles Fy=345 MPa
Pipe Piles Fy=250 MPa
Hardware Fy=170 MPa

Plans of existing bridge are available for the Contractor's
reference at the Bridge Design Office in Augusta. These plans
are reproductions of original drawings as prepared for the
construction of the bridge and 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.
No bridge deck evaluation is available due to steel grid deck.

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 interpretation by the
Department of information obtained for the subject site and no
assurance is given that the information or the conclusions of the
report will be representative of actual conditions at the time of
construction.

Hydrologic Data

Drainage Area (square kilometers) 25.9
Design Discharge(Q50) 442 m³/s
Check Discharge(Q100) 454 m³/s
Headwater Elevation(Q50) 2.6
Headwater Elevation(Q100) 2.7
Discharge Velocity(50) 0.81 m/s
Discharge Velocity(100) 0.83 m/s
Mean High Water 1.33
Mean Low Water 1.15

Traffic Data

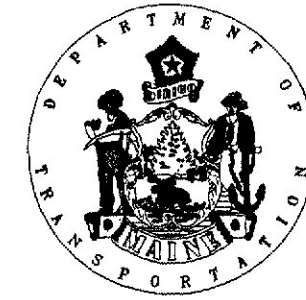
AADT 1995 4940
AADT 2005 6920
DHV 900
Trucks (%) 2
D (%) 56
Velocity 56 KM/H
80 KN eq P2.0 65
80 KN eq P2.5 64

NOTE:

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

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION



KITTERY POINT BRIDGE

OVER

SPRUCE CREEK

IN THE TOWN OF

KITTERY

YORK COUNTY

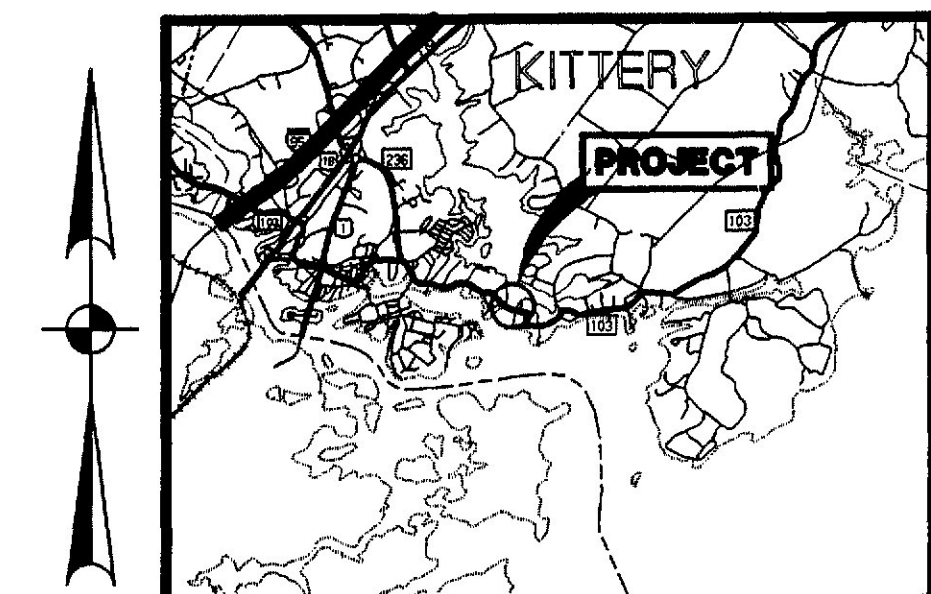
PROJECT NO. BR-6458(00)X

PROJECT LENGTH 0.3150 KILOMETER

INDEX OF SHEETS

DESCRIPTION	SHEET NO.
Title Sheet	1
Estimated Quantities	2
General Plan	3-4
Profile	5-6
Foundation Survey	7
Boring Details	8
Stage Construction	9
Abutment Details	10
Abutment Concrete Diaphragm	11
Pier Pile Details	12
Piers	13
Pier Concrete Diaphragm	14
Framing Plan	15
Girder Details	16
Superstructure	17
Doublewell Alternate Details	18
Twell Alternate Details	19
Cross Sections	20-25
Reinforcing Steel Schedule	26
Landscape Plan	27
Right Of Way Map	28-29

NOTE: Addendum sheet ARE Labeled IN (Red Ink)
PENCIL

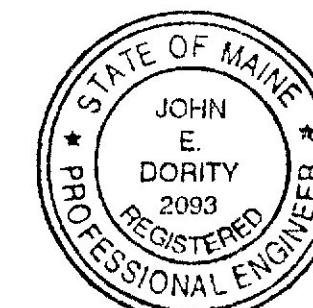


Scale
1:50 1 KILOMETER

Location Map

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

16APR97/150620



APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER

CHIEF ENGINEER

John E. Doherty
6/26/97

DATE
6/25/97
DATE

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

REGION 1

APPROVED:

DIVISION ADMINISTRATOR

DATE

METRIC

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F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	2	29

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE	1	LS
203.20	COMMON EXCAVATION	750	m³
203.24	COMMON BORROW	1800	m³
203.25	GRANULAR BORROW	155	m³
206.061	STRUCT. EARTH EXCAV. - DRAIN, AND MINOR STRUCTURES, BELOW GRADE	7	m³
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	260	m³
304.10	AGGREGATE SUBBASE COURSE-GRAVEL	1780	m³
403.07	HOT BITUMINOUS PAVEMENT, GRADING B	320	Mg
403.08	HOT BITUMINOUS PAVEMENT, GRADING C	110	Mg
403.10	HOT BITUMINOUS PAVEMENT, GRADING D	265	Mg
403.101	HOT BIT. PAVEMENT, GRADING D (SIDEWALKS, DRIVES, SHIMS, ETC.)	38	Mg
409.15	BITUMINOUS TACK COAT APPLIED	100	L
501.50	STEEL H-BEAM PILES 132 kg/m. DELIVERED	166	m
501.501	STEEL H-BEAM PILES 132 kg/m. IN PLACE	166	m
501.70	STEEL PIPE PILES, DELIVERED	230	m
501.701	STEEL PIPE PILES, IN PLACE	230	m
501.253	PILE PROTECTIVE COATING (57 769 kg)	1	LS
501.90	PILE TIPS	24	Each
501.91	PILE SPLICES	24	Each
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.4221	STRUCT. CONC. ROADWAY AND SIDEWALK SLAB ON CONCRETE BRIDGES	1	LS
502.45	STRUCTURAL CONCRETE APPROACH SLABS	18	m³
502.48	LOW PERMEABILITY CONCRETE	257	m³
503.14	EPOXY COATED REINFORCING STEEL, FABRICATED AND DELIVERED	56 425	kg
503.15	EPOXY COATED REINFORCING STEEL, PLACING	56 425	kg
503.17	MECHANICAL WELDED SPLICE	1070	Each
507.0831	STEEL BRIDGE RAILING, 4 BAR TRAFFIC/PEDESTRIAN (85 m)	1	LS
507.0832	STEEL BRIDGE RAILING, 4-BAR TRAFFIC/BICYCLE (85 m)	1	LS
508.13	MEMBRANE WATERPROOFING (850 m²)	1	LS
510.11	SPECIAL DETOUR, PEDESTRIAN TRAFFIC ONLY	1	LS
511.07	COFFERDAM, NW RETAINING WALL (Stage 2)	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	Each
515.20	PROTECTIVE COATING FOR CONCRETE SURFACES	372	m²
525.33	STONE MASONRY WALL - REMOVE AND RESET (3.3 m³)	1	LS
526.301	TEMPORARY CONCRETE BARRIER, TYPE I	1	LS
526.34	CONCRETE TRANSITION BARRIER	4	Each
527.32	PORTABLE CRASH BARRELS	7	Each
535.61	PRESTRESSED STRUCTURAL CONCRETE I - GIRDERS (534 m)	1	LS
603.159	300 mm CULVERT PIPE OPTION III	17	m
603.169	375 mm CULVERT PIPE OPTION III	31	m
604.092	CATCH BASIN TYPE B1-C	2	Each
604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	1	Each
604.182	CLEAN EXISTING CATCH BASIN AND MANHOLE	1	Each

* UNDETERMINED LOCATION

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
605.11	300 mm UNDERDRAIN TYPE C	27	m
606.1721	BRIDGE TRANSITION - TYPE 1	4	Each
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	3	Each
606.35	GUARDRAIL DELINEATOR POST	8	Each
606.363	GUARDRAIL REMOVE AND DISPOSE	300	m
606.55	GUARDRAIL TYPE 3 - SINGLE RAIL	240	m
606.60	GUARDRAIL TYPE 3 - OVER 4.5 m RADIUS	31	m
606.77	BREAKAWAY CABLE TERMINAL	1	Each
609.31	CURB TYPE 3	80	m
610.16	HEAVY RIPRAP	2260	m³
615.07	LOAM	51	m³
616.08	SODDING	214	m²
618.13	SEEDING METHOD NUMBER 1	1	Unit
618.14	SEEDING METHOD NUMBER 2	10	Unit
618.15	TEMPORARY SEEDING	3	kg
618.19	REFERTILIZATION	1	kg
619.12	MULCH	14	Unit
620.58	EROSION CONTROL GEOTEXTILE	2 700	m²
621.031	EVERGREEN TREES (4 FOOT - 5 FOOT) GROUP A	3	Each
621.032	EVERGREEN TREES (4 FOOT - 5 FOOT) GROUP B	17	Each
621.033	EVERGREEN TREES (4 FOOT - 5 FOOT) GROUP C	1	Each
621.195	MEDIUM DECIDUOUS TREE (1 3/4 INCH - 2 INCH CALIPER) GROUP A	6	EACH
621.273	LARGE DECIDUOUS TREE (2 INCH - 2 1/2 INCH CALIPER) GROUP A	10	Each
621.407	DWARF EVERGREENS (2 1/2 FOOT - 3 FOOT) GROUP A	26	EACH
621.499	BROADLEAF EVERGREENS (2 1/2 FOOT - 3 FOOT) GROUP B	18	EACH
621.54	DECIDUOUS SHRUBS (18 INCH - 24 INCH) GROUP A	81	Each
621.546	DECIDUOUS SHRUBS (2 FOOT - 3 FOOT) GROUP A	4	Each
621.71	HERBACEOUS PERENNIALS GROUP A	475	Each
627.71	150 mm WHITE PAVEMENT MARKING LINE	630	m
627.73	150 mm YELLOW PAVEMENT MARKING LINE	315	m
627.77	REMOVING PAVEMENT MARKINGS	40	m²
627.78	TEMPORARY 100 mm PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	630	m
627.811	TEMPORARY BI-DIRECTIONAL YELLOW DELINEATORS	315	Each
629.05	HAND LABOR, STRAIGHT TIME	5	Man Hour
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	Hour
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	Hour
635.12	GALVANIZED METAL BIN TYPE RETAINING WALL, T-WALL	497	m²
637.07	SPRINKLING	120	m³
637.08	CALCIUM CHLORIDE	3	Mg
639.18	FIELD OFFICE TYPE A	1	Each
639.22	TESTING FACILITIES BITUMINOUS MIXES	1	LS
639.23	TESTING FACILITIES - CONCRETE	1	LS
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.31	TYPE I BARRICADE	10	Each
652.33	DRUM	25	Each
652.34	CONE	50	Each
652.35	CONSTRUCTION SIGNS	46	m²
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	1000	Man Hour
655.50	CATHODIC PROTECTION SYSTEM	1	LS
656.50	BALED HAY, IN PLACE	9	Each
656.51	SANDBAG, IN PLACE	9	Each
656.55	DUMPED STONE	4	m³
656.62	TEMPORARY SLOPE DRAINS	3	m
656.632	750 mm TEMPORARY SILT FENCE	370	m
659.10	MOBILIZATION	1	LS
660.21	ON-THE-JOB TRAINING (BID)	1000	Man Hour

** NON-BID ITEM

STATE OF MAINE
DEPARTMENT OF TRANSPORTATIONKITTELY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTELY
YORK COUNTY
ESTIMATED QUANTITIES

PROJECT DESIGN ENGINEER	DATE
CHECKED	4-97
REVISIONS	
FIELD CHANGES	
PLANS	

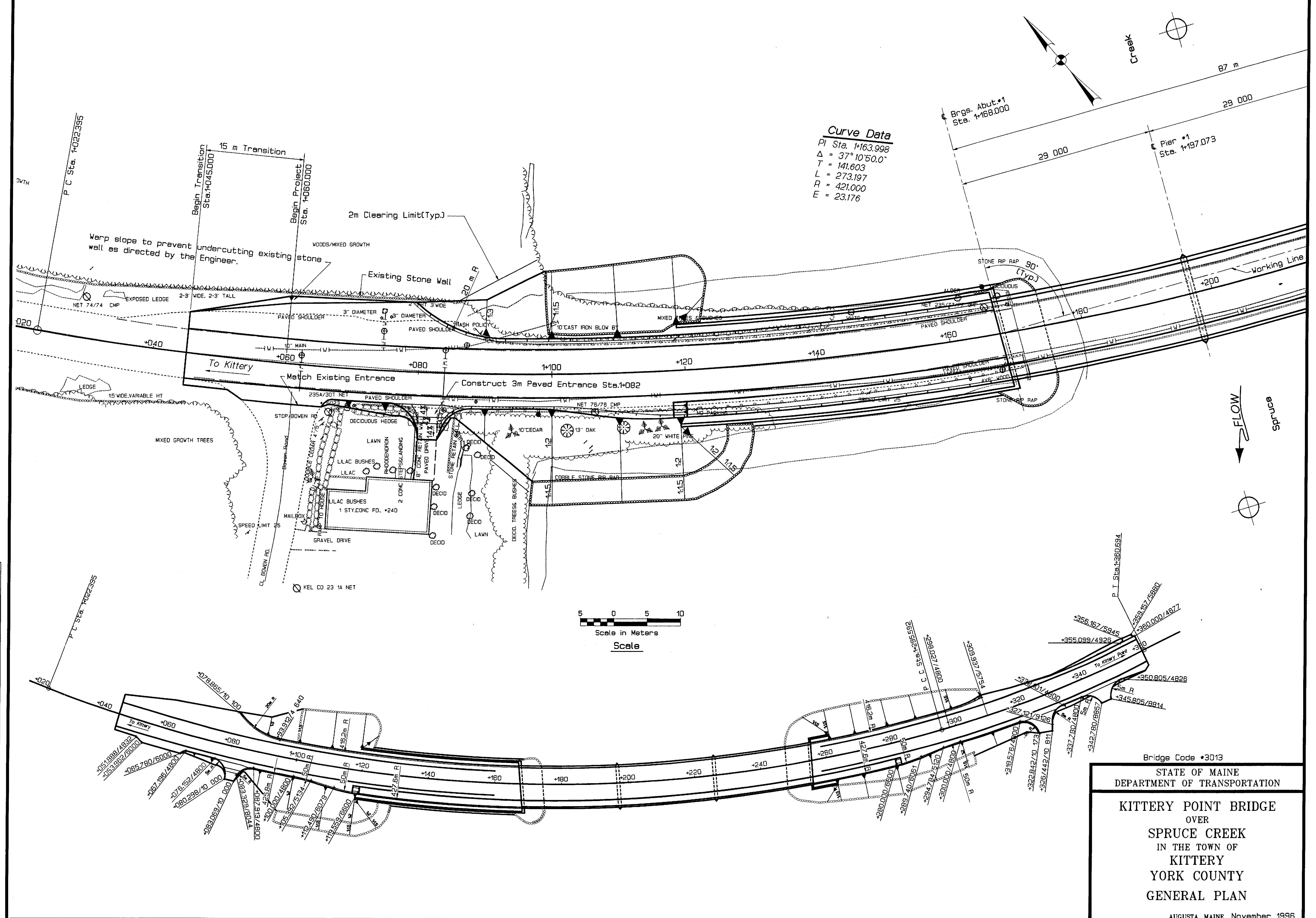
16APR97-150620

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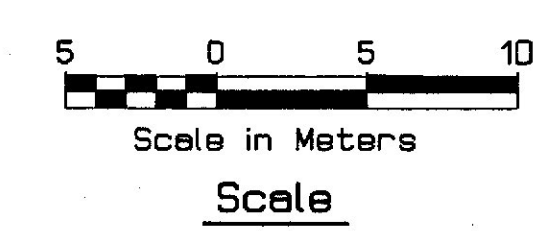
F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	3	29

PIN 006458.00



Curve Data

PI Sta. +163.998
 $\Delta = 37^{\circ}10'50.0''$
 $T = 141.603$
 $L = 273.197$
 $R = 421.000$
 $E = 23.176$



PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	11-95
CHECKED	
REVISIONS	
FIELD CHANGES	

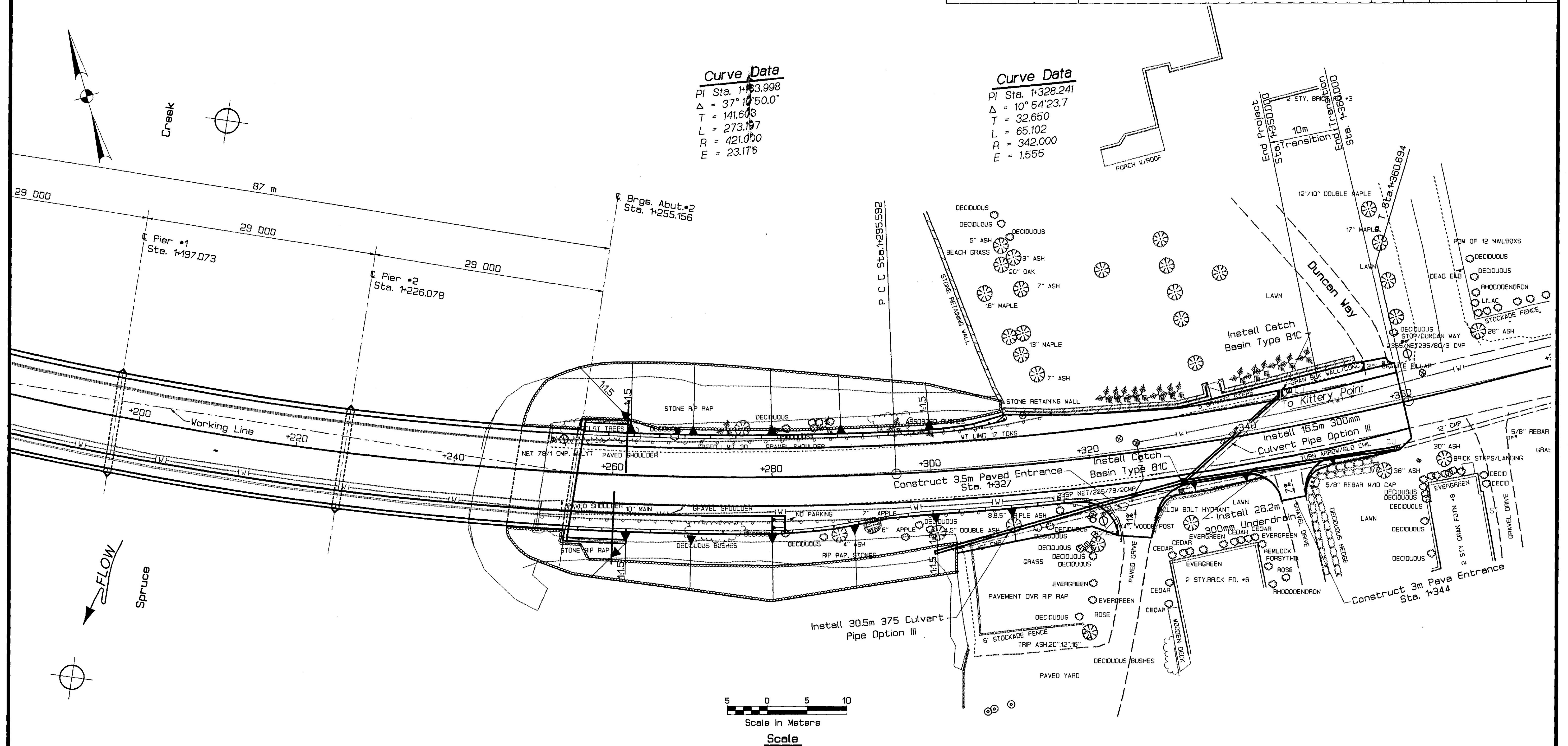
16APR97-15JUN20
PLAN1

Bridge Code #3013
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
GENERAL PLAN
AUGUSTA, MAINE November 1996

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F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	4	29



Bridge Code #3013

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

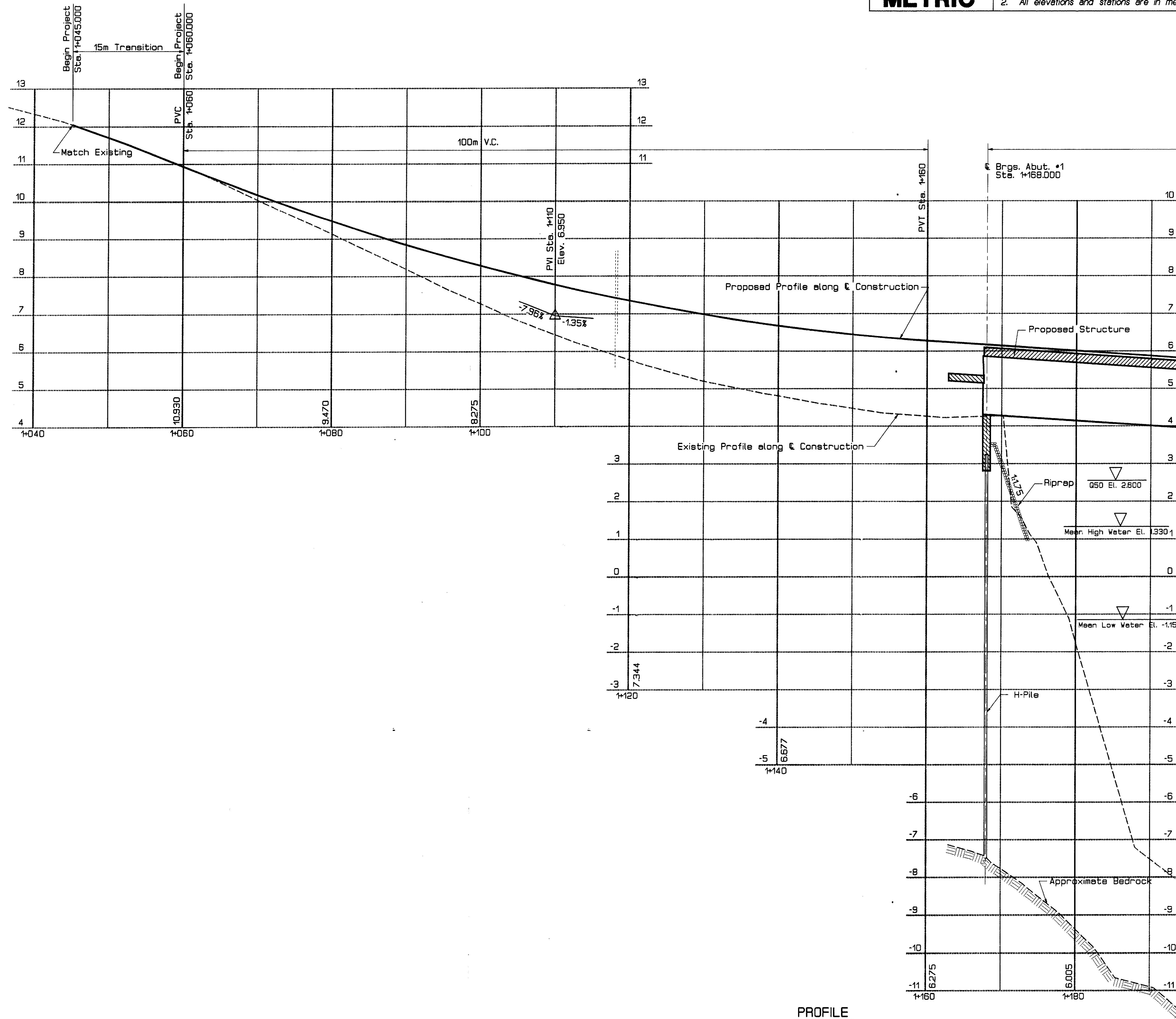
KITTERY POINT BRIDGE
 OVER
 SPRUCE CREEK
 IN THE TOWN OF
 KITTERY
 YORK COUNTY
 GENERAL PLAN

AUGUSTA, MAINE November 1996

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	11-96
CHECKED	
REVISIONS	
FIELD CHANGES	

16APR97-1506.20
 PLAN2

- | F.H.W.A.
REG. NO. | STATE | PROJECT NUMBER | SHEET
NO. | TOTAL
SHEETS |
|----------------------|-------|----------------|--------------|-----------------|
| 1 | MAINE | BR-6458(00)X | 5 | 29 |



AUGUSTA, MAINE November 1996

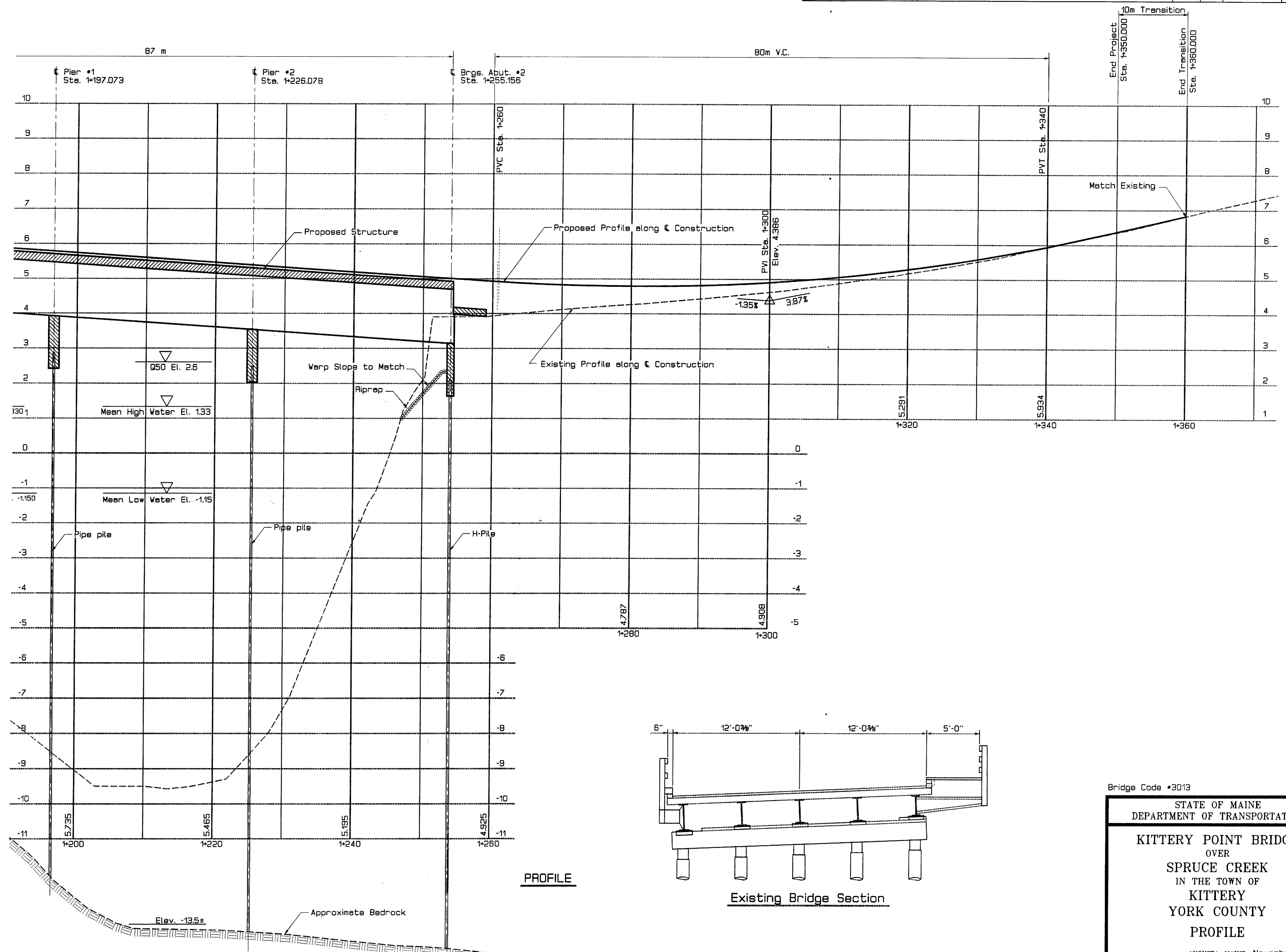
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	CHECKED	<i>[Signature]</i>	11-96
	REVISED		

16APR97-15.06.20
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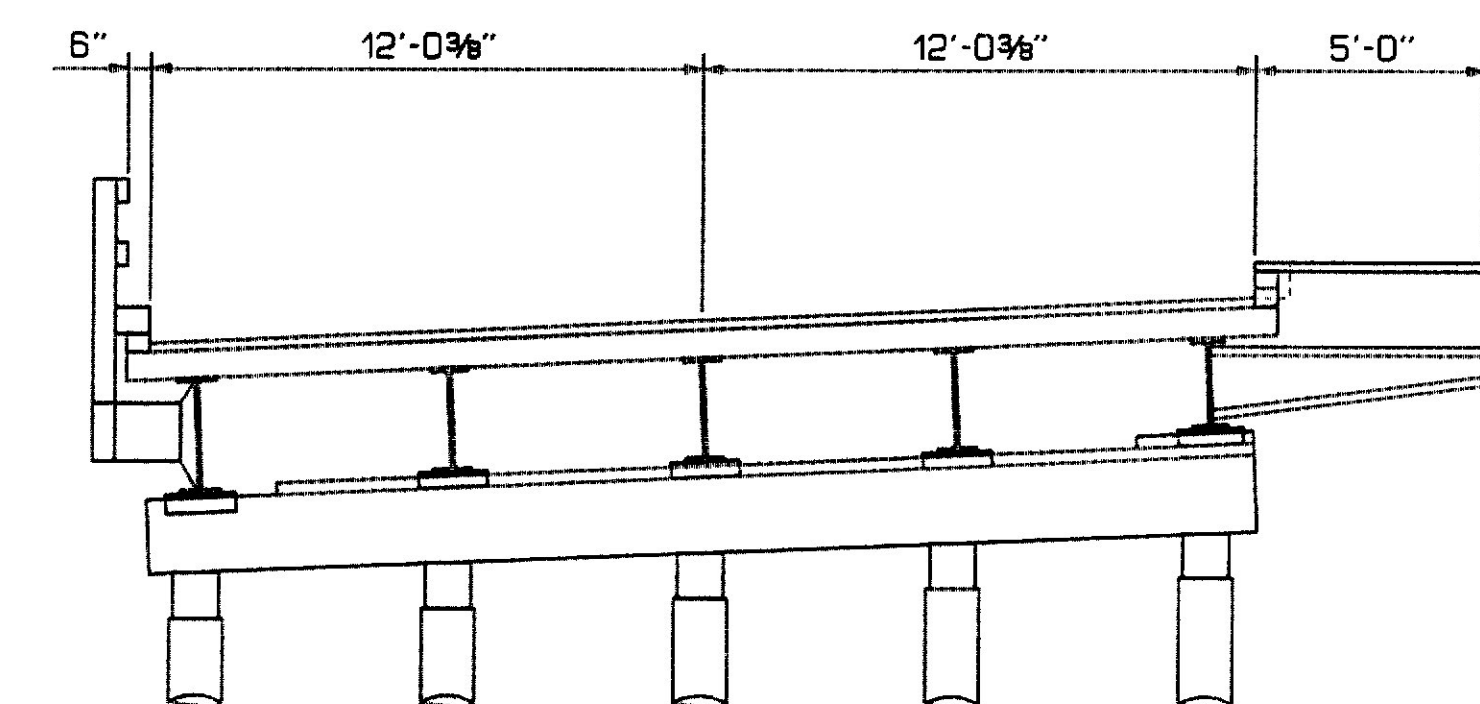
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PIN 006458.00				
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	6	29



PROFILE



Existing Bridge Section

Bridge Code #3013

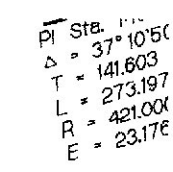
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
PROFILE

AUGUSTA, MAINE November 1996

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	11-96
CHECKED	
REVISIONS	
FIELD CHANGES	

16APR97-150620
PROF2



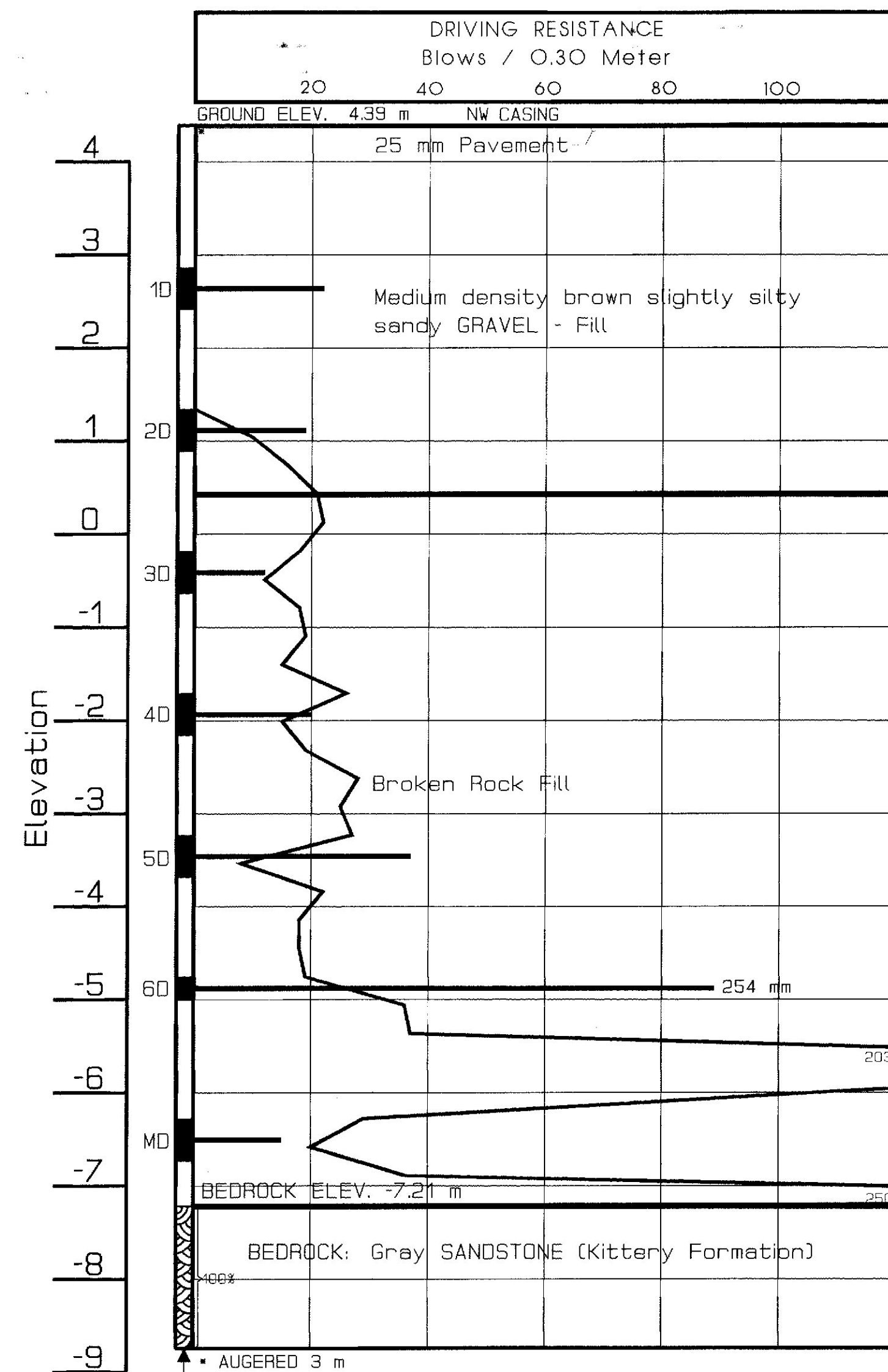
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

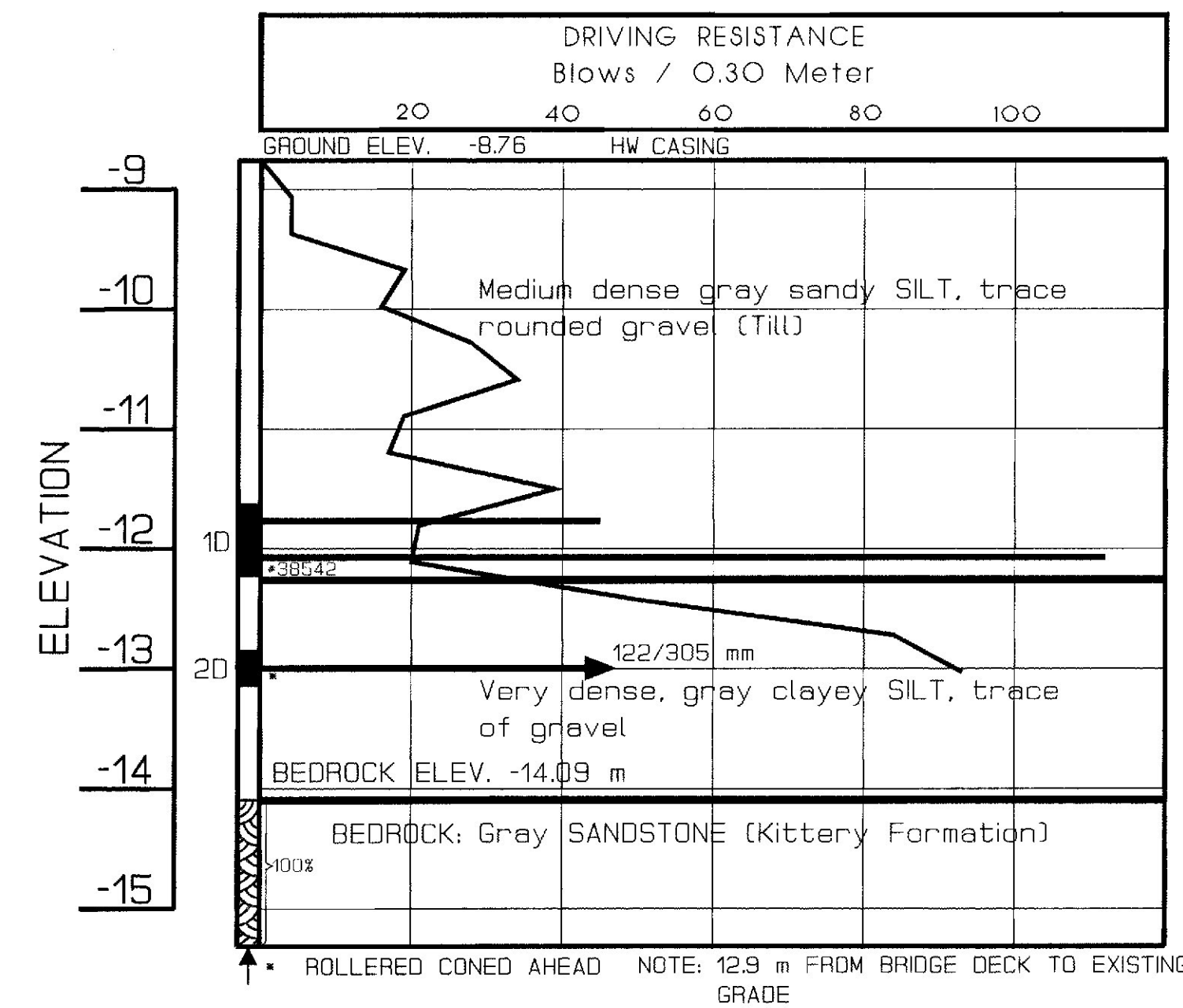
KITTERY POINT BRIDGE
over
SPRUCE CREEK
in the city of
KITTERY
YORK COUNTY
PIN. 6458.00
FOUNDATION SURVEY

SHEET OF AUGUSTA, MAINE

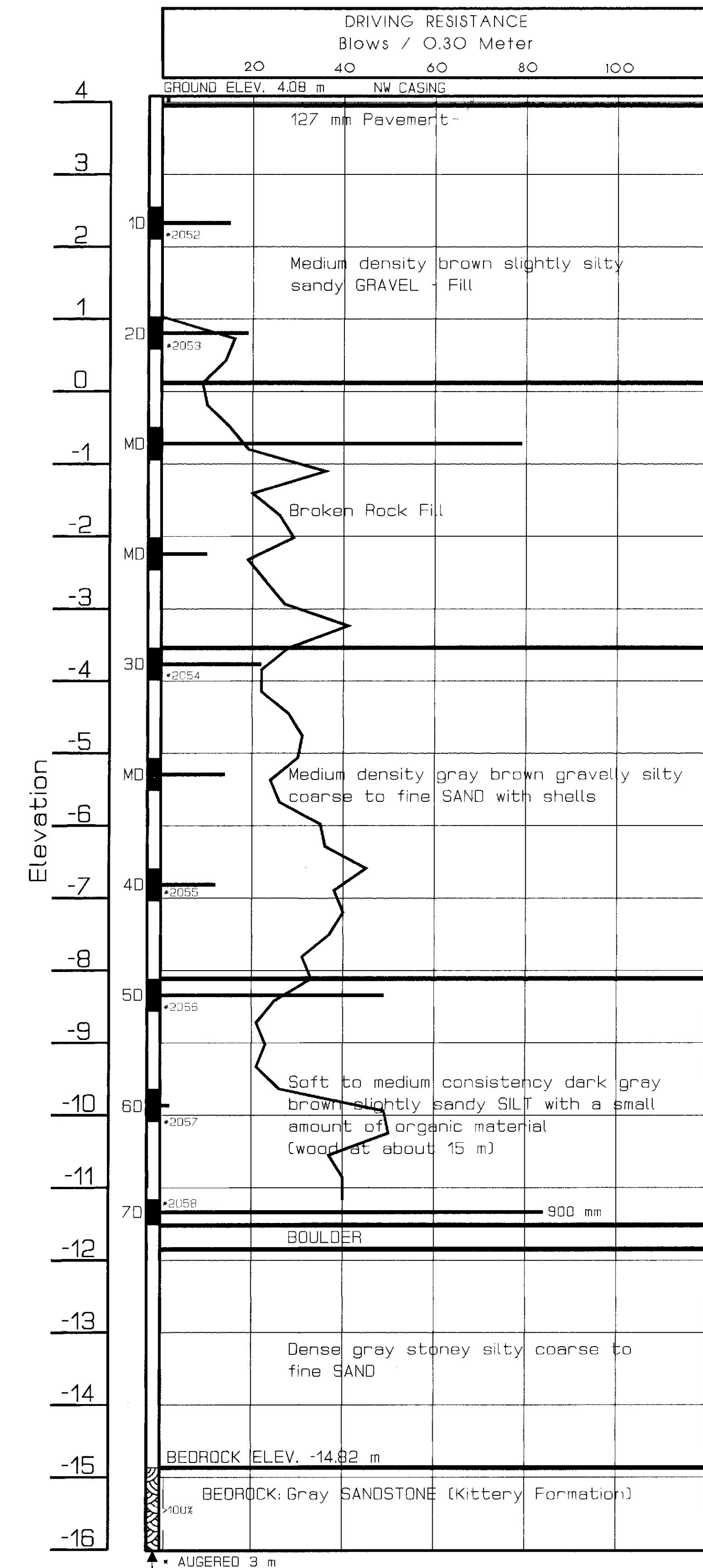
BORING CM-10-95 STATION 1+166, 3.3 m RT.



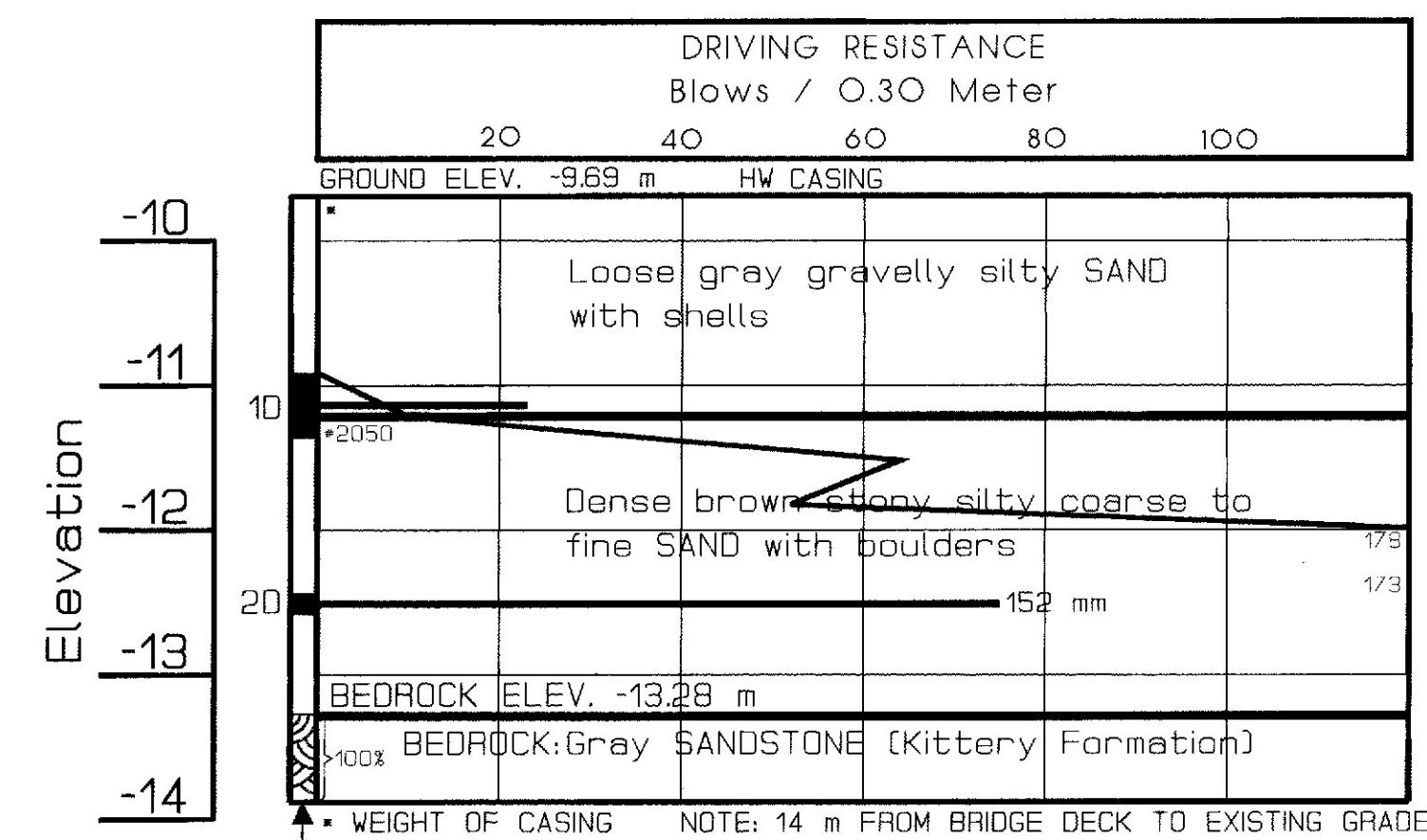
BORING NE-1A-97 STATION 1+198, 2.0 m RT.



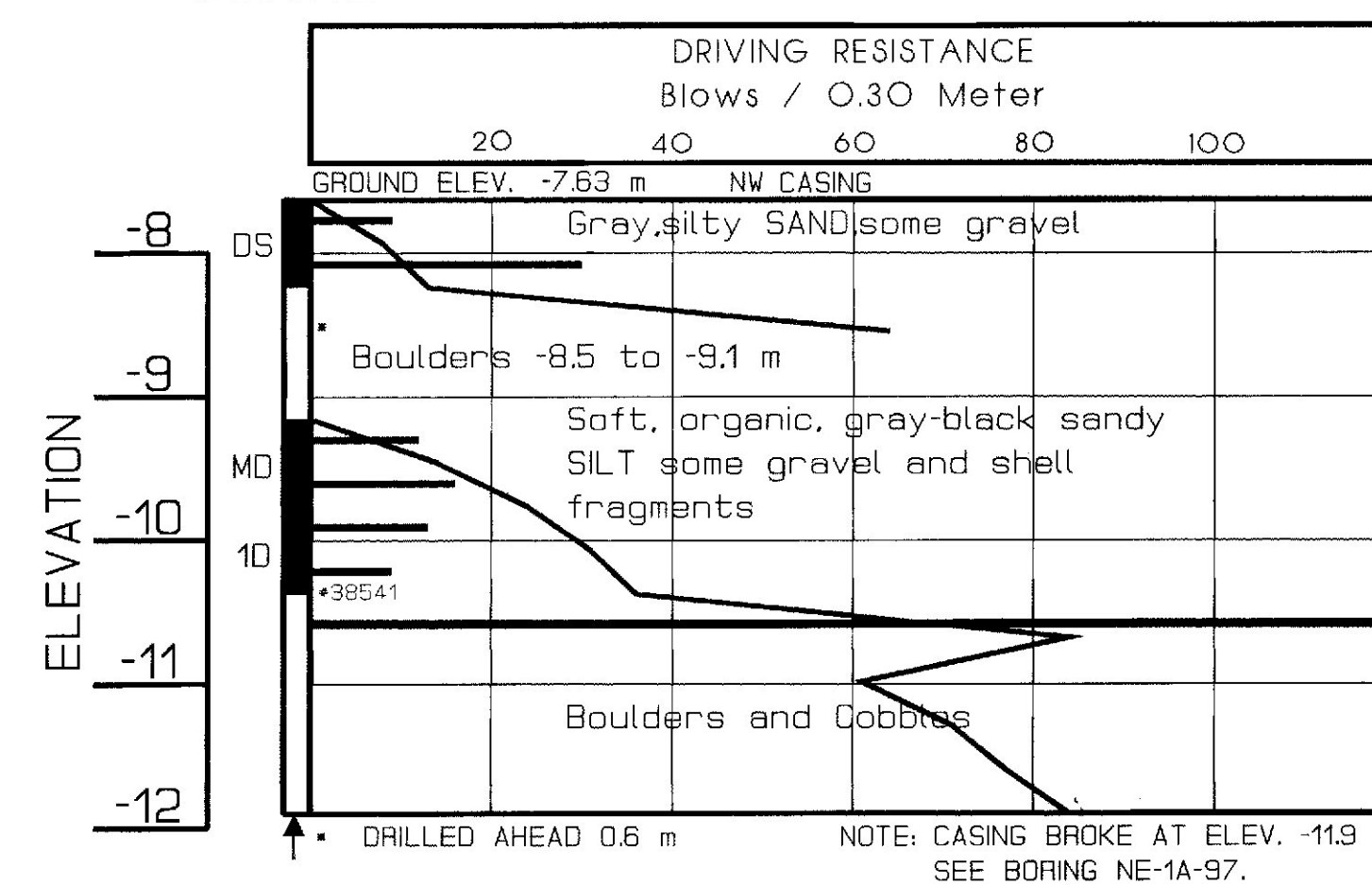
BORING CM-9-95 STATION 1+252.7, 3.5 m RT.



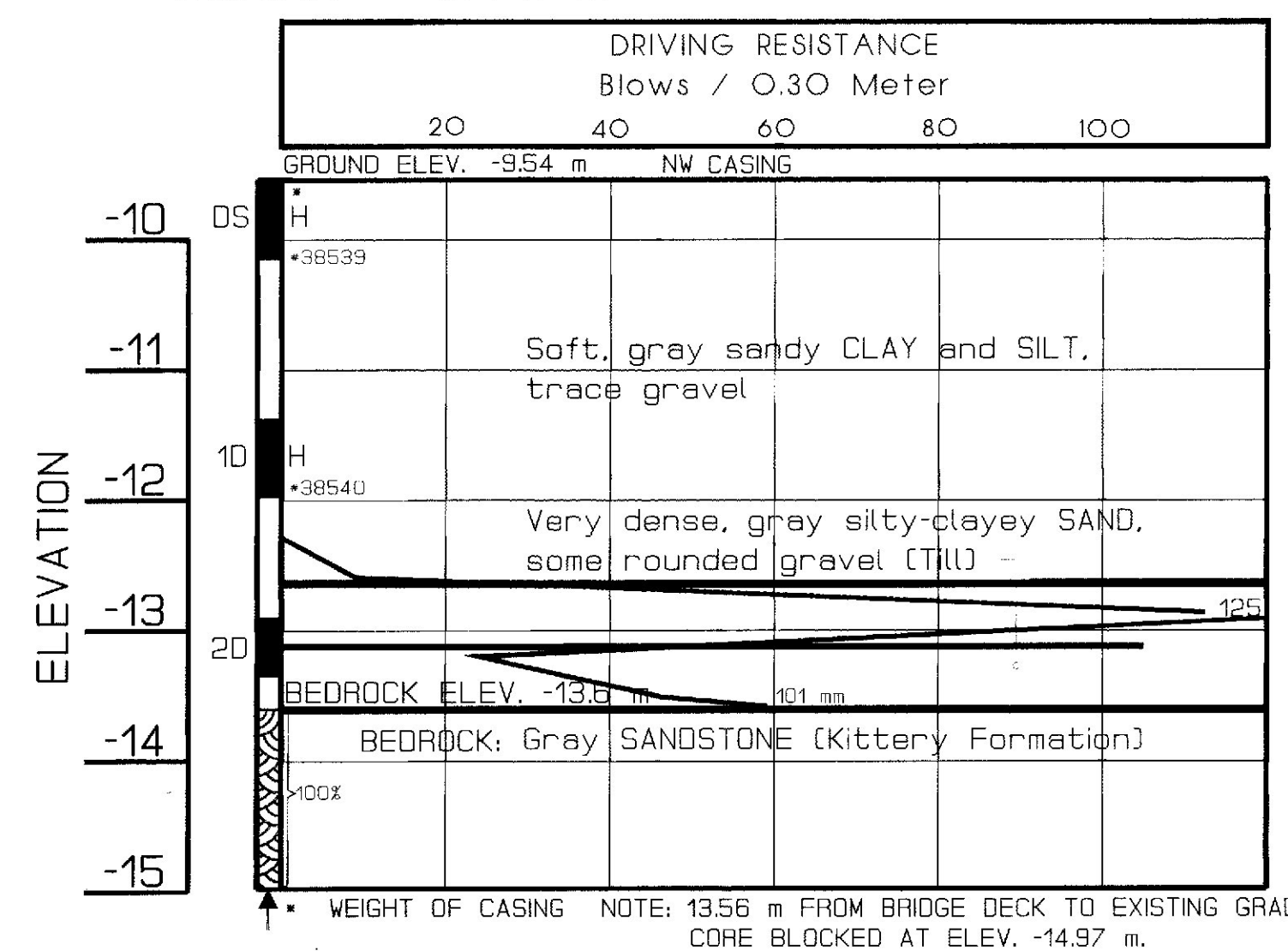
BORING CM-8-95 STATION 1+210, 2.5 m RT.



BORING NE-1-97 STATION 1+197, 2.0 m RT.



BORING CM-3-97 STATION 1+226, 2.0 m RT.



BORING NOTES

- DS All samples and vanes are made ahead of casing
- W Water Elevation
- Number of blows required to drive extra heavy casing 0.3 meters with 542 Nm of energy per blow
- Location of sample or sample attempt
- Number and type of dry sample
- Split spoon dredge spoil sample
- Split spoon sampler
- 51 mm O.D. 16 ga. seamless tubing
- 88 mm O.D. 16 ga. seamless tubing
- Wash sample and number
- Unsuccessful sample attempt and type of sampler
- Number of blows required to drive spoon or tubing 0.3 meters with 475 Nm of energy per blow
- Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
- Piston sampler
- Field vane test
- Bottom of boring (may not be bottom of soil strata)
- Refusal of drill rods or casing (may not be ledge)
- Locations cored by diamond bit and percent recovery of rock

PROJECT DESIGN ENGINEER	DATE
DESIGNER	BY
CHECKED	T. WHITE
REVISIONS	
FILED CHANGES	

PLANS

21APR95-0100.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE

over
SPRUCE CREEK

in the city of

KITTERY

YORK COUNTY

PIN. 6458.00

BORING DETAILS

SHEET OF AUGUSTA, MAINE

GENERAL CONSTRUCTION NOTES

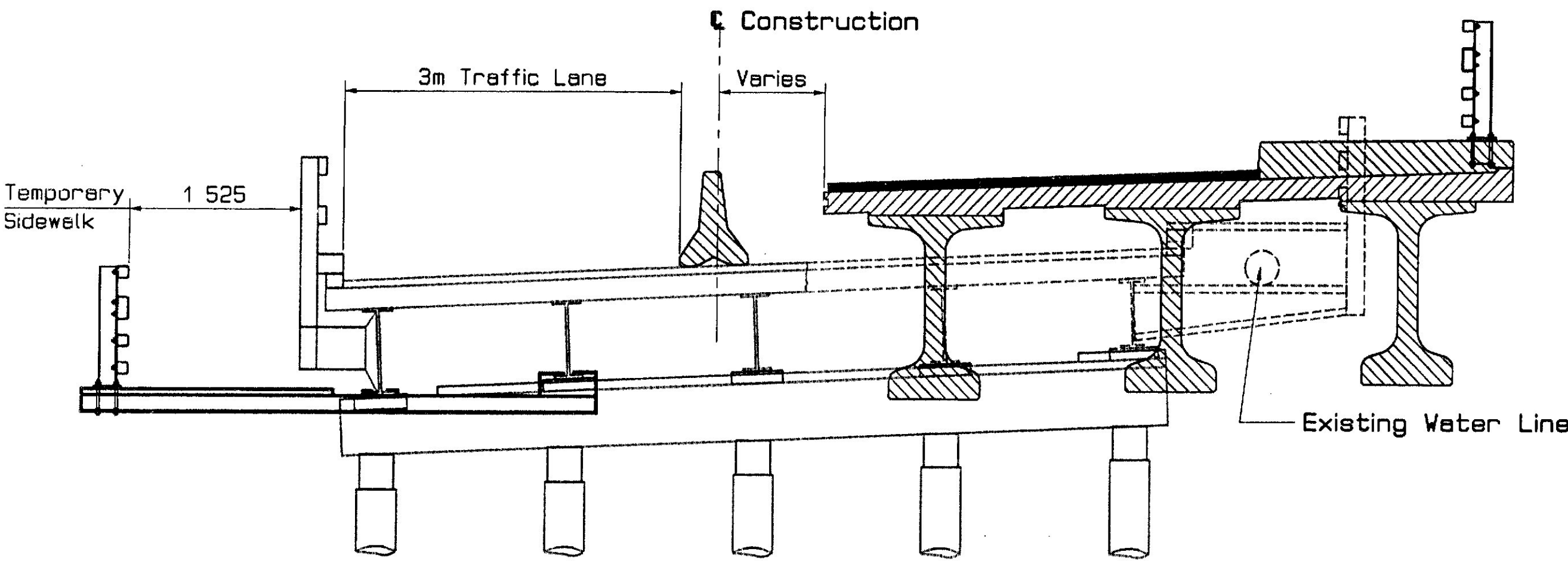
1. All utility facilities shall be adjusted by the respective utilities unless noted.
2. For easements, construction limits and right-of-way lines refer to Right of Way Map.
3. Place a 450 mm wide strip of sod on the side slopes along the top of the riprap.
4. All embankment material, except as otherwise shown, placed below Elevation 2.400, shall be granular borrow meeting the requirements of Subsection 703.19. Material for Underwater Backfill.
5. The clearing limits as shown on the plans are approximate. The exact limits shall be established in the field by the Engineer. Payment for clearing shall be incidental to contract items.
6. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Engineer. Payment for shaping and compacting of the existing subbase and layers of new subbase 150 mm or less thick, in areas where the Engineer directs the Contractor not to excavate to the subgrade line shown on the plans, will be made in accordance with Subsection 104.03, Extra Work.
7. Modified eccentric loader terminals shall be installed concurrently with the placement of each section of beam guardrail.
8. Pedestrian detour shall be constructed and serviceable prior to start of demolition of downstream side of bridge. Pedestrian detour shall allow unrestricted travel at all times.
9. Alternating two way traffic shall be maintained at all times.
10. Final course of hot bituminous pavement wearing surface shall be placed in one operation.
11. All reinforcing steel shall be epoxy coated.
12. Any reinforcing steel cut to fit shall be touched up with an approved epoxy coating material. Cost for touch up shall be incidental to Item 503.15, Epoxy Coated Reinforcing Steel, Placing.
13. Mechanical splices shall be epoxy coated. Coating shall be considered incidental to Item 503.17, Mechanical Splice.
14. The stone masonry at Sta. 1+070± Rt. to Sta. 1+085± Rt. to be removed and reset in the same vicinity in a similar manner approved by the Engineer. Payment will be made under Item 525.33, Stone Masonry Wall, Remove and Reset.
15. Transverse pressure treated sidewalk planks in the existing sidewalk shall be carefully removed, salvaged and stockpiled on site for pickup by MDOT maintenance personnel. The rest of the existing superstructure shall be removed in its entirety and become property of the Contractor.

Bridge Code #3013

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

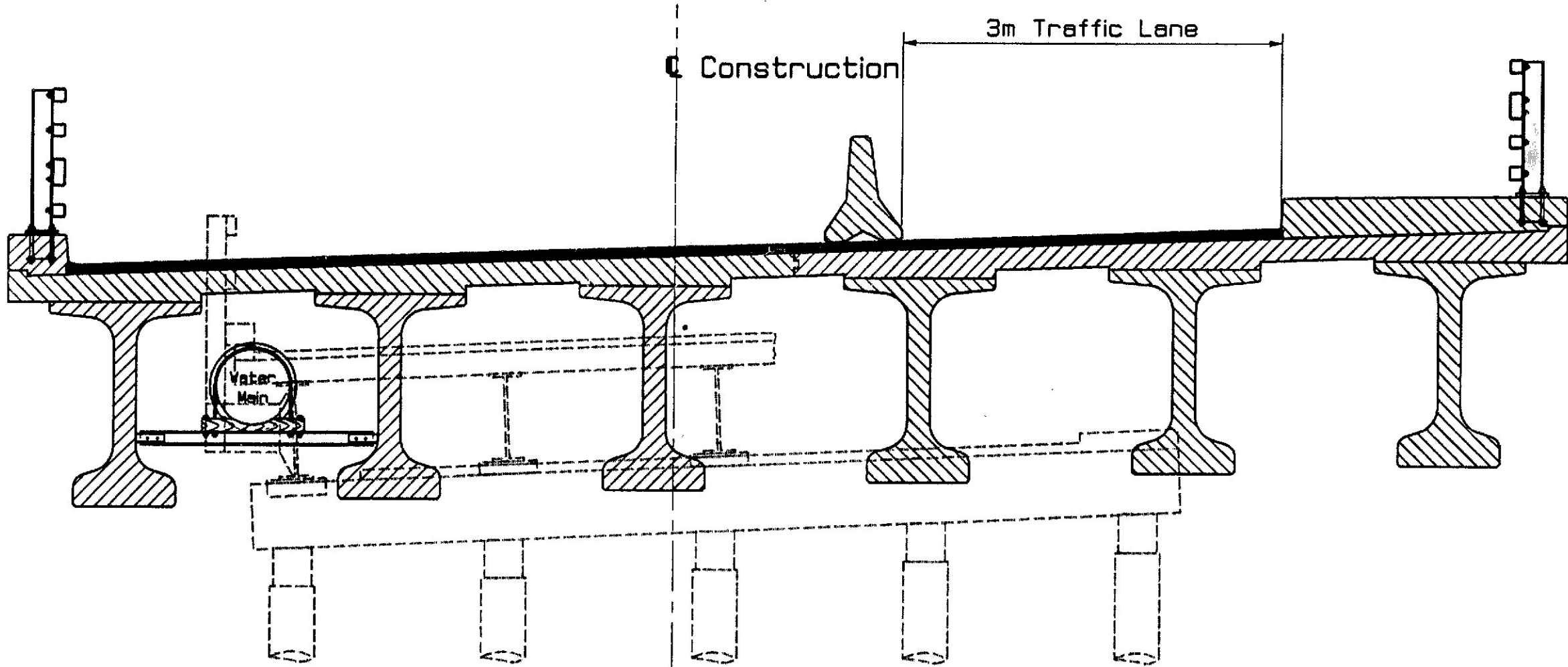
KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
STAGE CONSTRUCTION

SHEET OF AUGUSTA, MAINE



Stage 1

Flow



Stage 2

Stage Construction Notes

Stage I

Construct temporary sidewalk. Maintain traffic on the upstream side of the existing bridge. Remove the downstream side of the existing bridge and construct the downstream side of the proposed bridge.

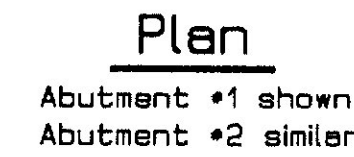
Stage II

Relocate traffic to the downstream side of the new bridge. Remove the remaining portion of the existing bridge and construct the remaining proposed structure.

PROJECT DESIGNER	DATE
BY	7-97
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

PLANS

STAGECON
16APR97-15.06.20

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Abutment #1 Shown
Abutment #2 Mirror Image

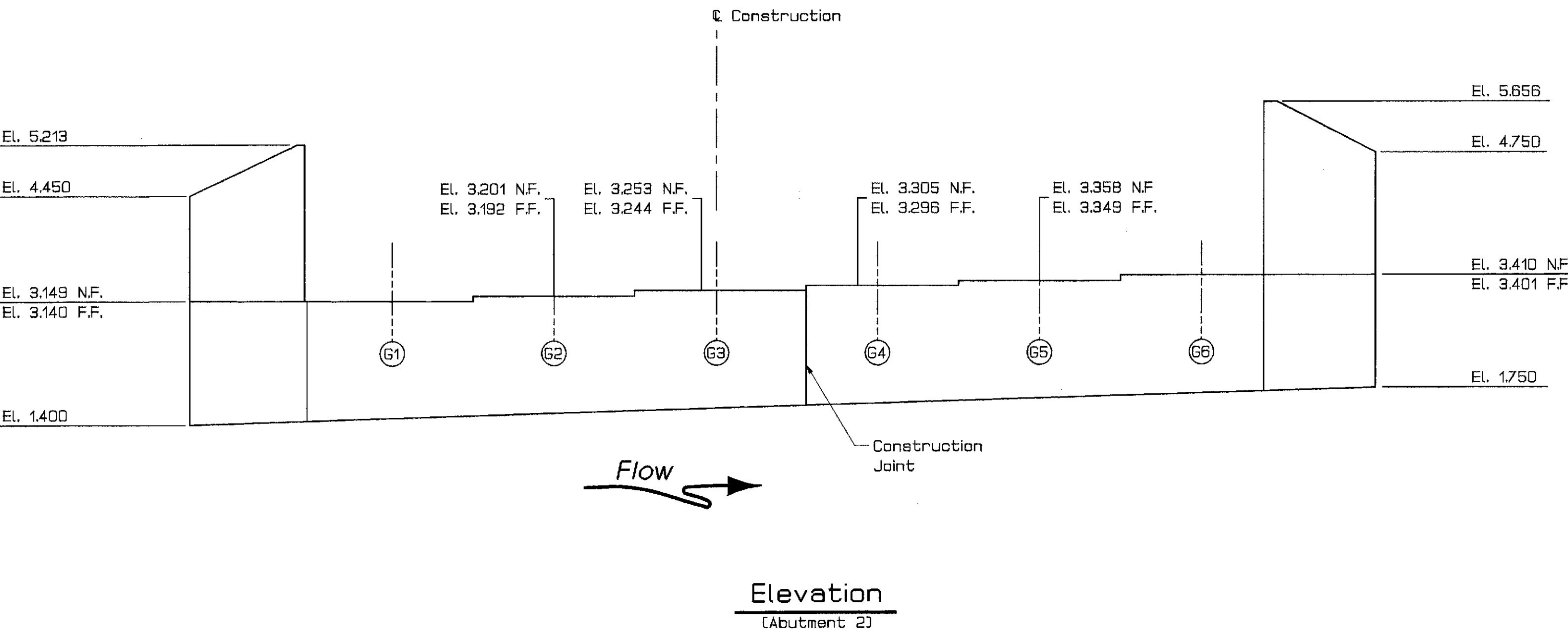
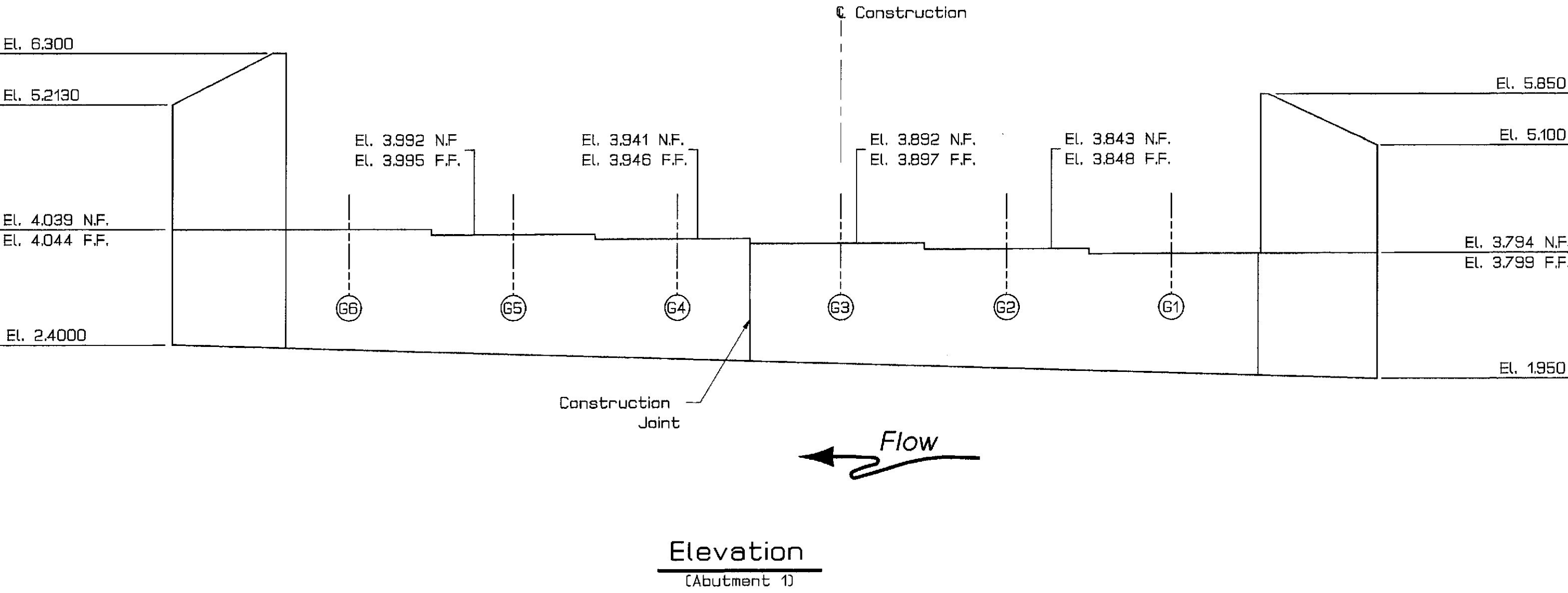
SUBSTR
16APR97-15.06.20

METRIC

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F.I.L.V.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458C00JX	10A	

ADDENDUM 10 A



PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	4/98
CHECKED	
REVISIONS	
FIELD CHANGES	

PLANS

ABUT2A
14FEB98-0100.10

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY

REVISED ABUTMENT ELEVATIONS

REVISION	DESCRIPTION	DATE
1	New Sheet	5/1/98

SHEET OF AUGUSTA, MAINE May 1998

METRIC

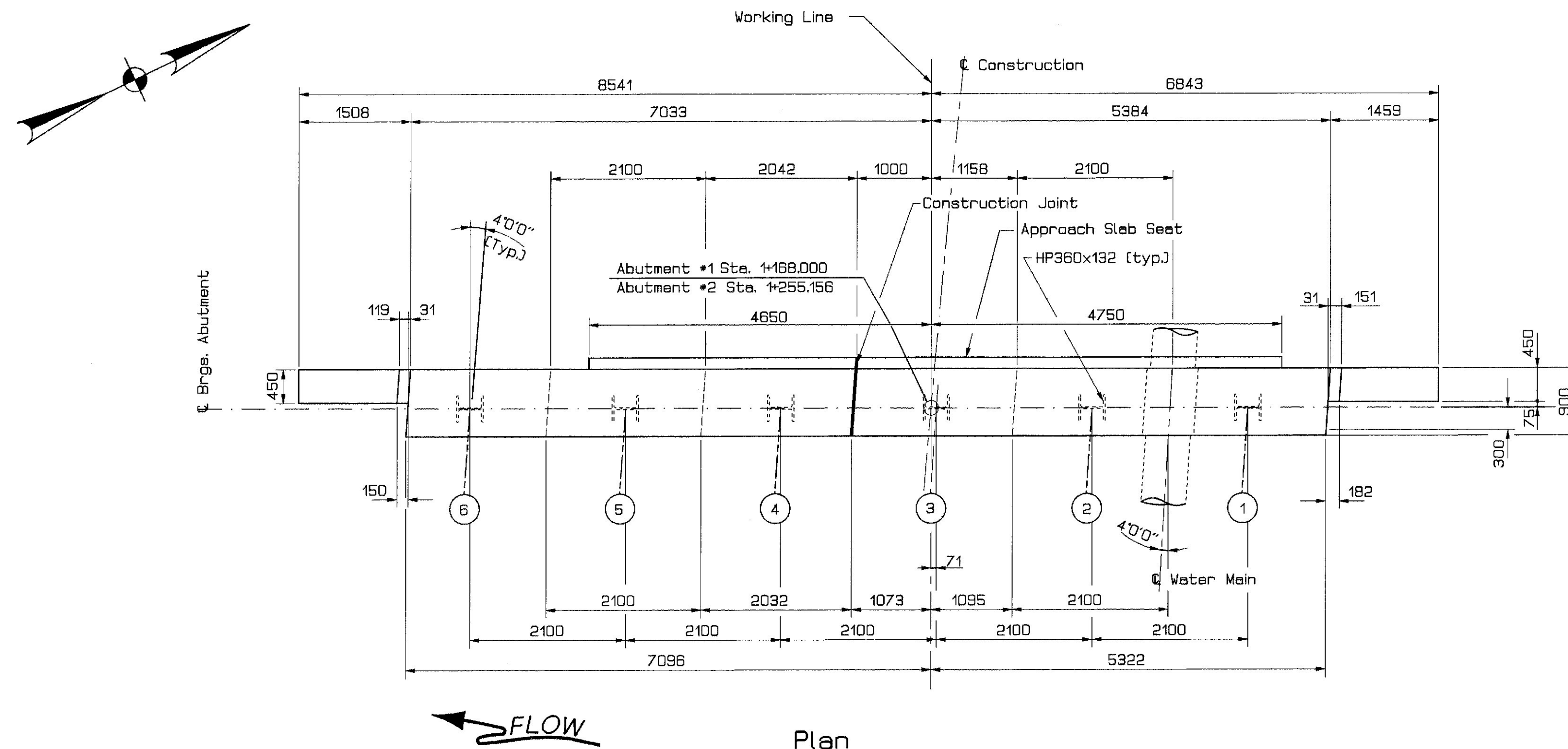
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.M.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-645800XX	10	29

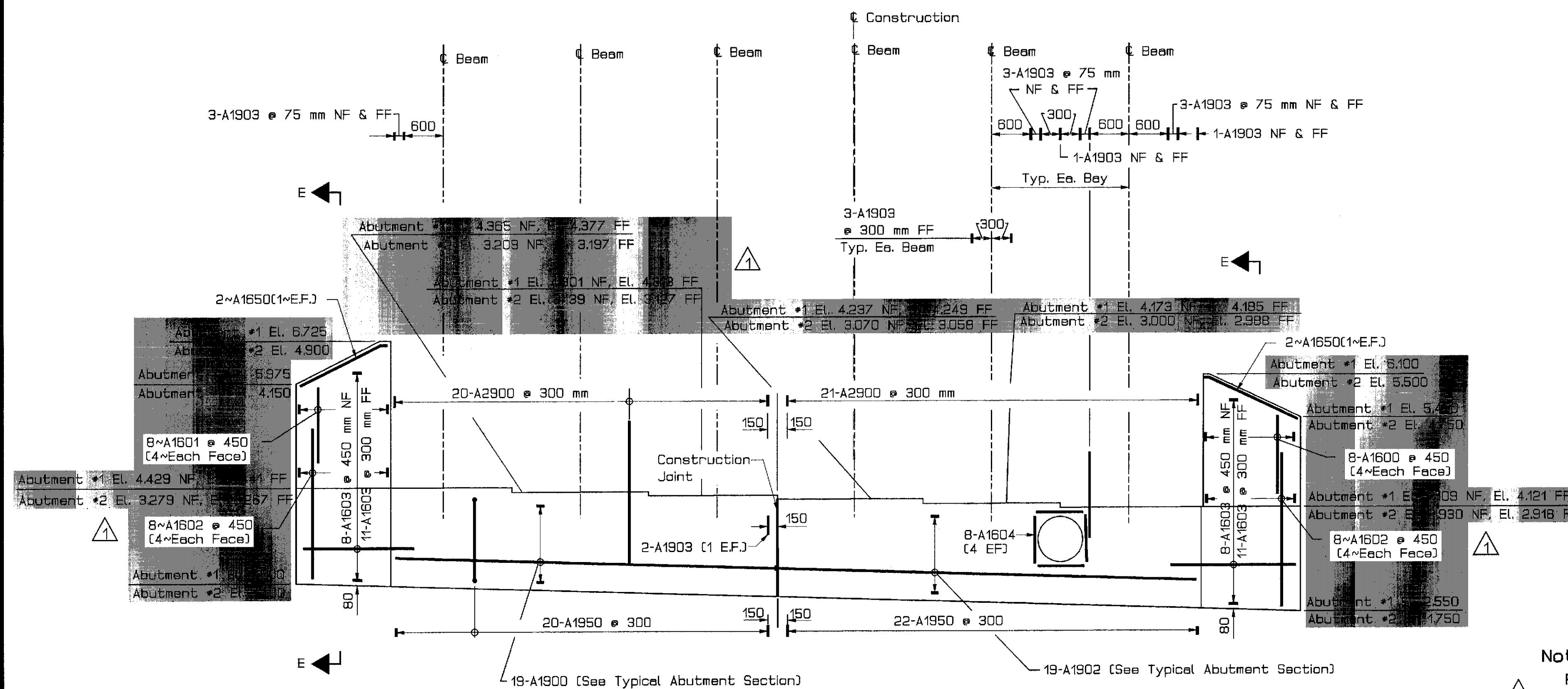
ADDITIONAL J.C.

Abutment Notes

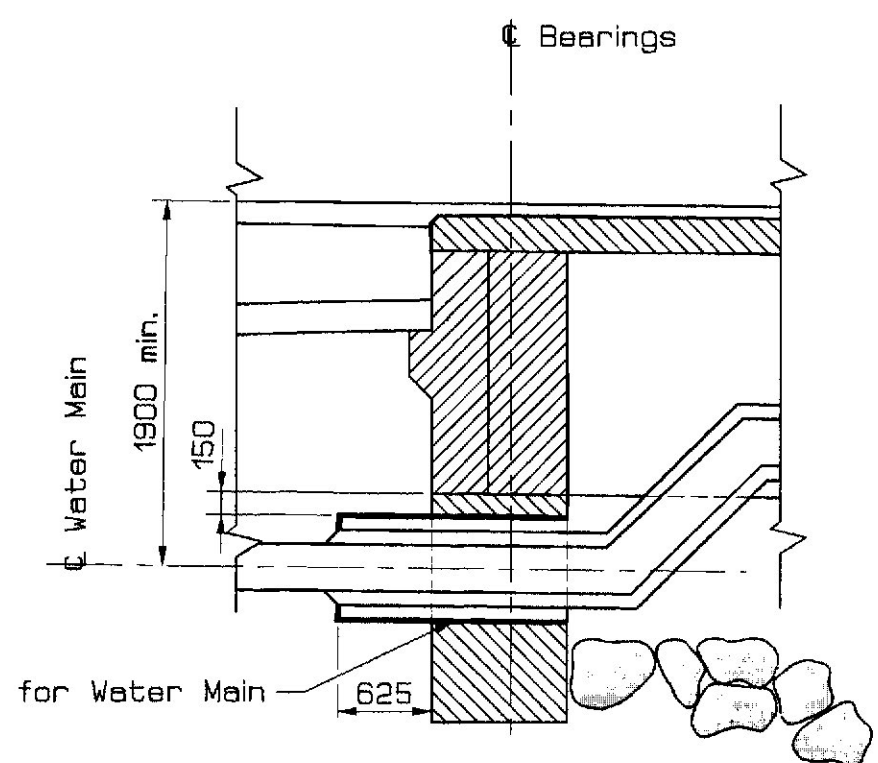
- Reinforcing steel shall have 75 mm cover unless otherwise indicated.
- The cutting of the reinforcing steel for the watermain will be considered incidental to Item 503.15 Reinforcing Steel, Placing.
- Structural Earth Excavation, Major Structures, required below the elevation shown on the plans will be paid for at 1.5 times the contract unit price for Item 206.082.
- Place 100 mm diameter drains in breastwall and wings at 6 000 mm maximum spacing. Exact location to be determined by the Engineer in the field.
- Estimate of piles required:
Abutment #1 6~HP360x132 @ 10 700 = 64 200
Abutment #2 6~HP360x132 @ 17 000 = 102 000
- Piles shall not be out of position by more than 75 mm in any direction.
- Maximum pile load is 1392 kn.
- Abutment concrete shall be class LP to be paid for under Item 502.48 Low Permeability Concrete.
- Existing abutment piles shall be removed to 1 meter below bottom of new riprap. Piles shall be transported to the Turner/Leeds Parks and Land Property in Turner, Me. Payment for removal and transport shall be incidental to bridge removal item.



Plan
Abutment #1 shown
Abutment #2 similar



Elevation
Abutment #1 Shown
Abutment #2 Mirror Image



Section Thru Water Main

Note:
For All Elevations Shown Inside
The Shaded Area See
Revised Abutment Elevations

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
ABUTMENT DETAILS

REVISION	DESCRIPTION	DATE
1	Elevations	5/1/98

AUGUSTA, MAINE August 1997

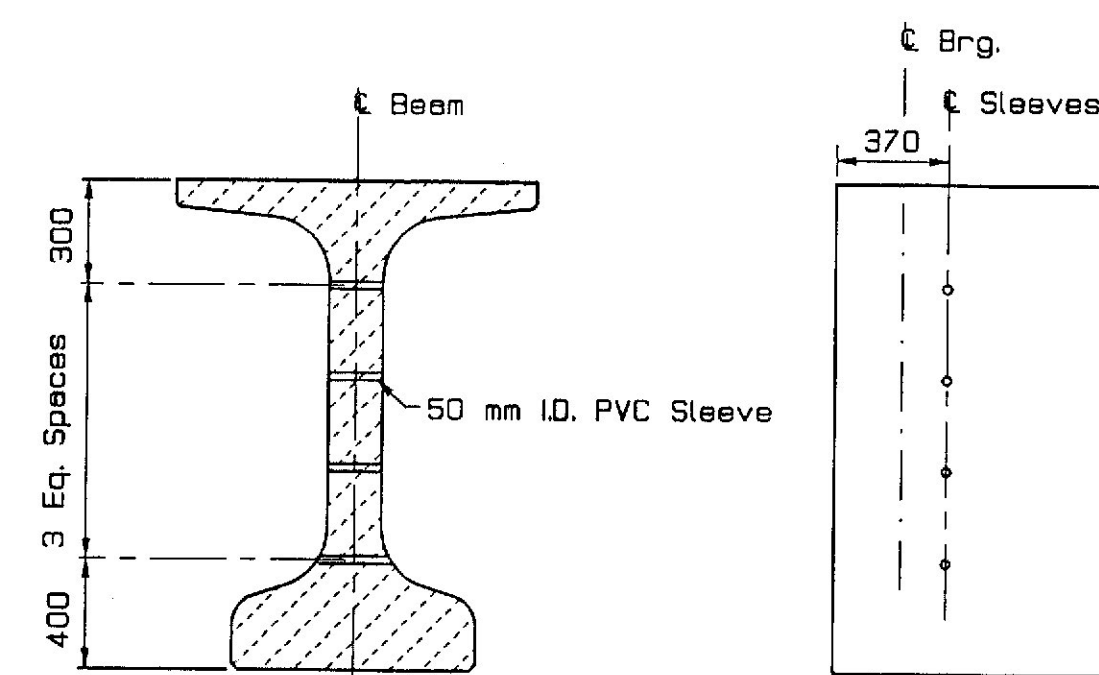
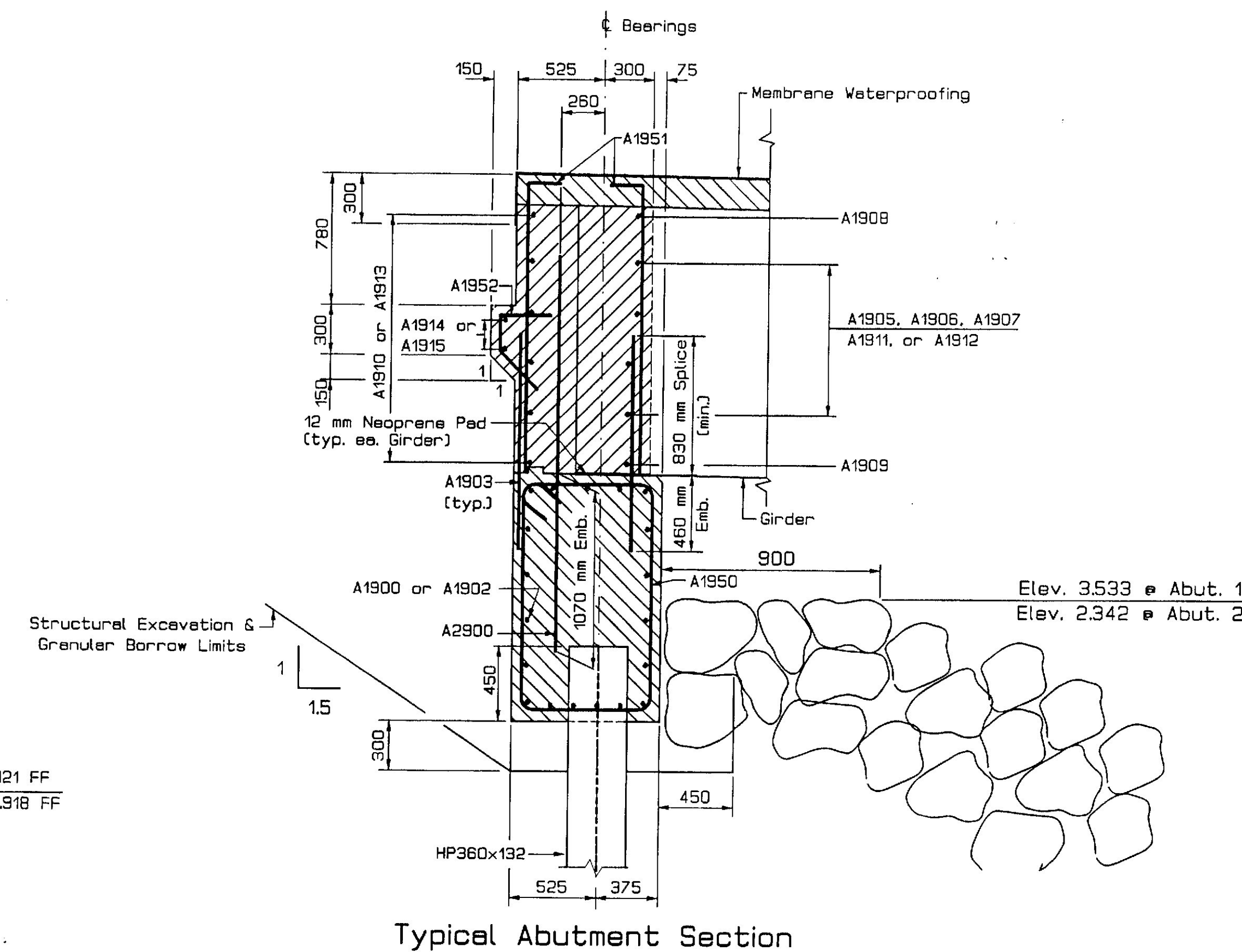
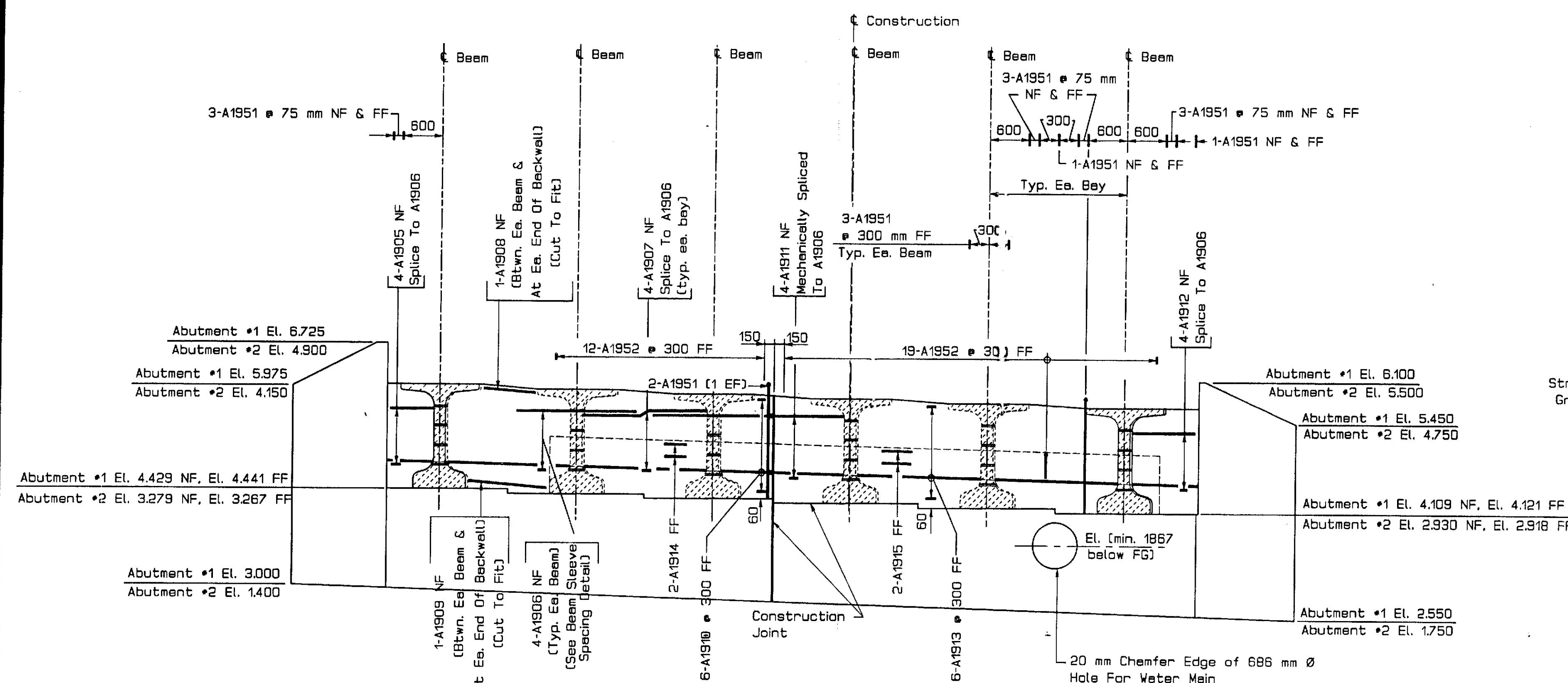
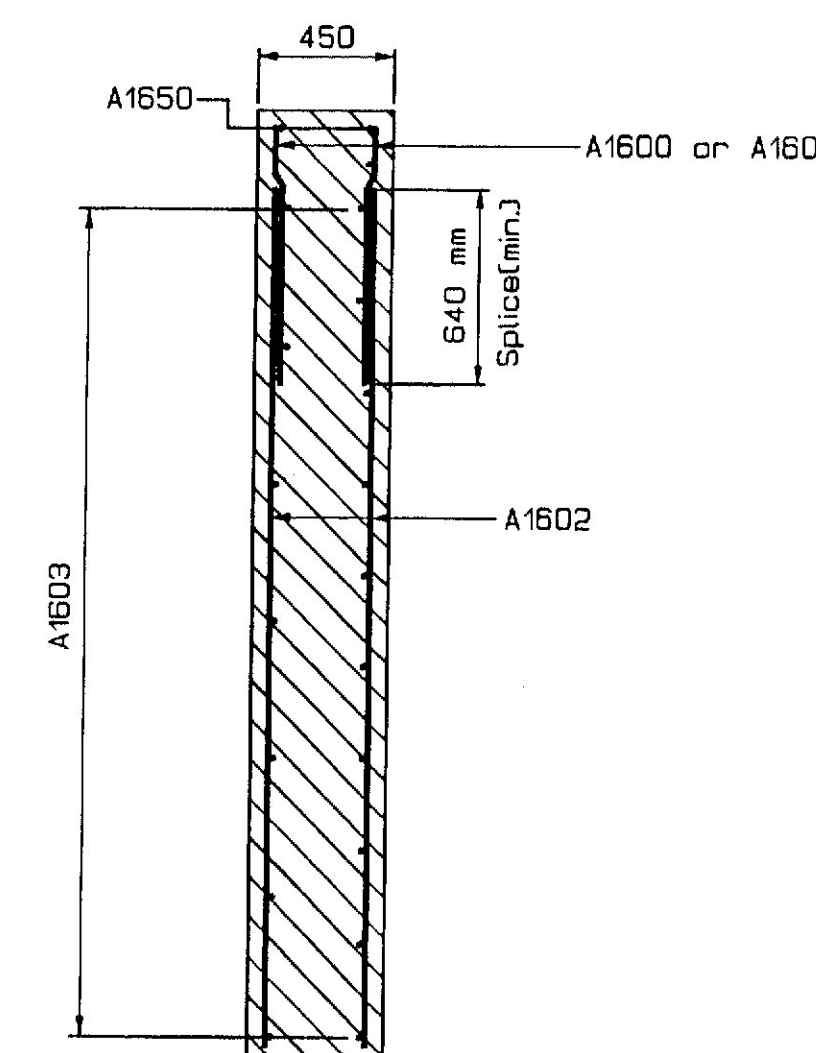
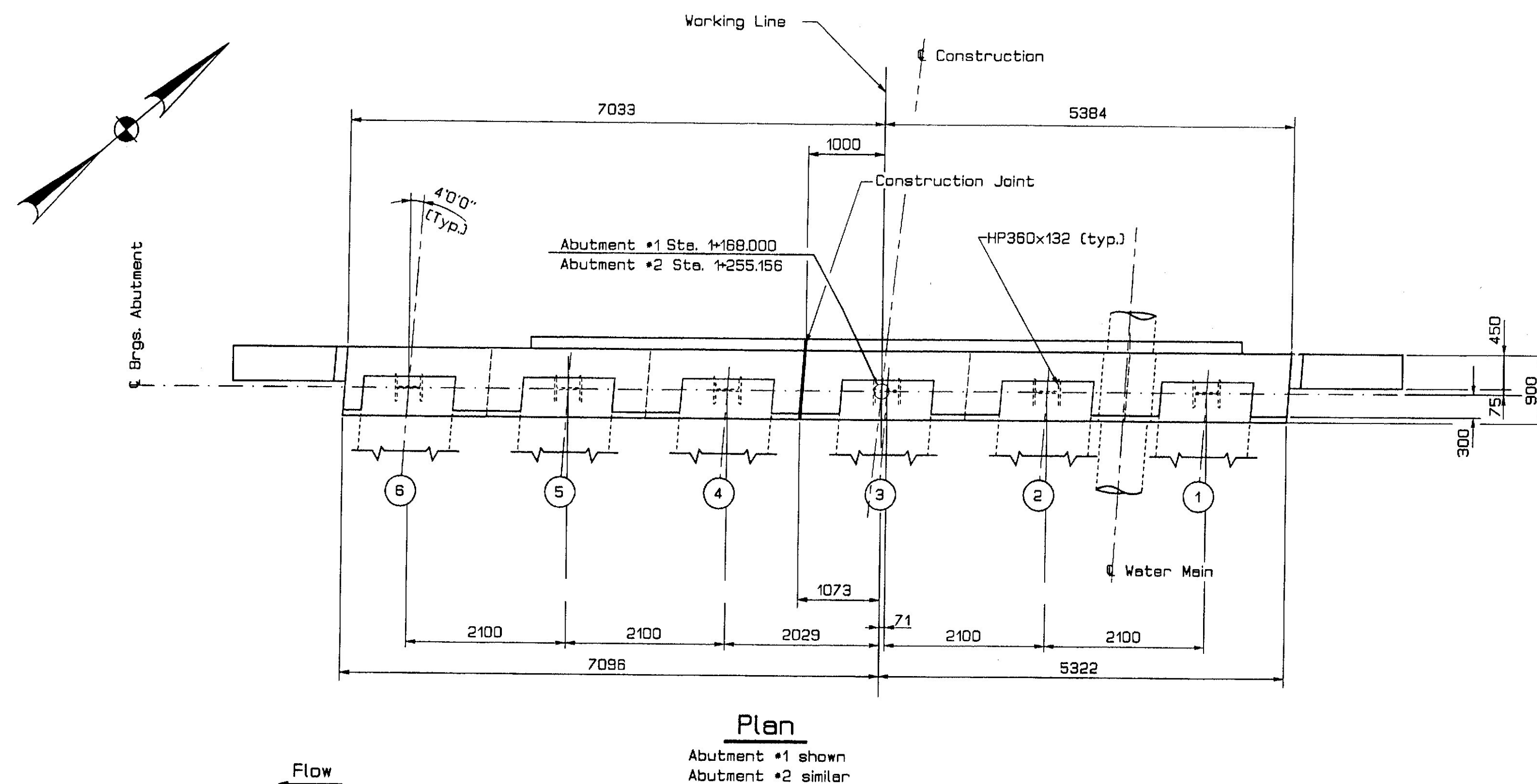
PROJECT DESIGN ENGINEER	DATE
CHECKED	5/1/98
REVISIONS	
FIELD CHANGES	
PLANS	

SUBSTR
14FE986-0100.10

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-545B(00)X	11	29



PROJECT DESIGN ENGINEER	DATE
DESIGN-Detailed	5-97
CHECKED	5-97
REVISIONS	
FIELD CHANGES	

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15APR97-15JG20

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY

ABUTMENT CONCRETE DIAPHRAGM

SHEET OF AUGUSTA, MAINE August 1997

METRIC

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

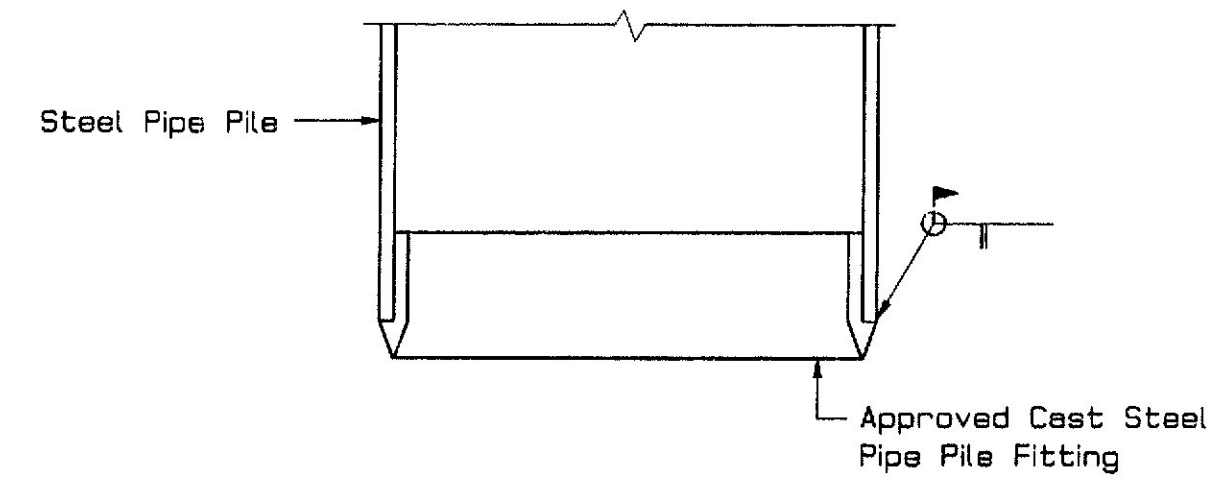
F.N.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	12	29

Pipe Pile Notes

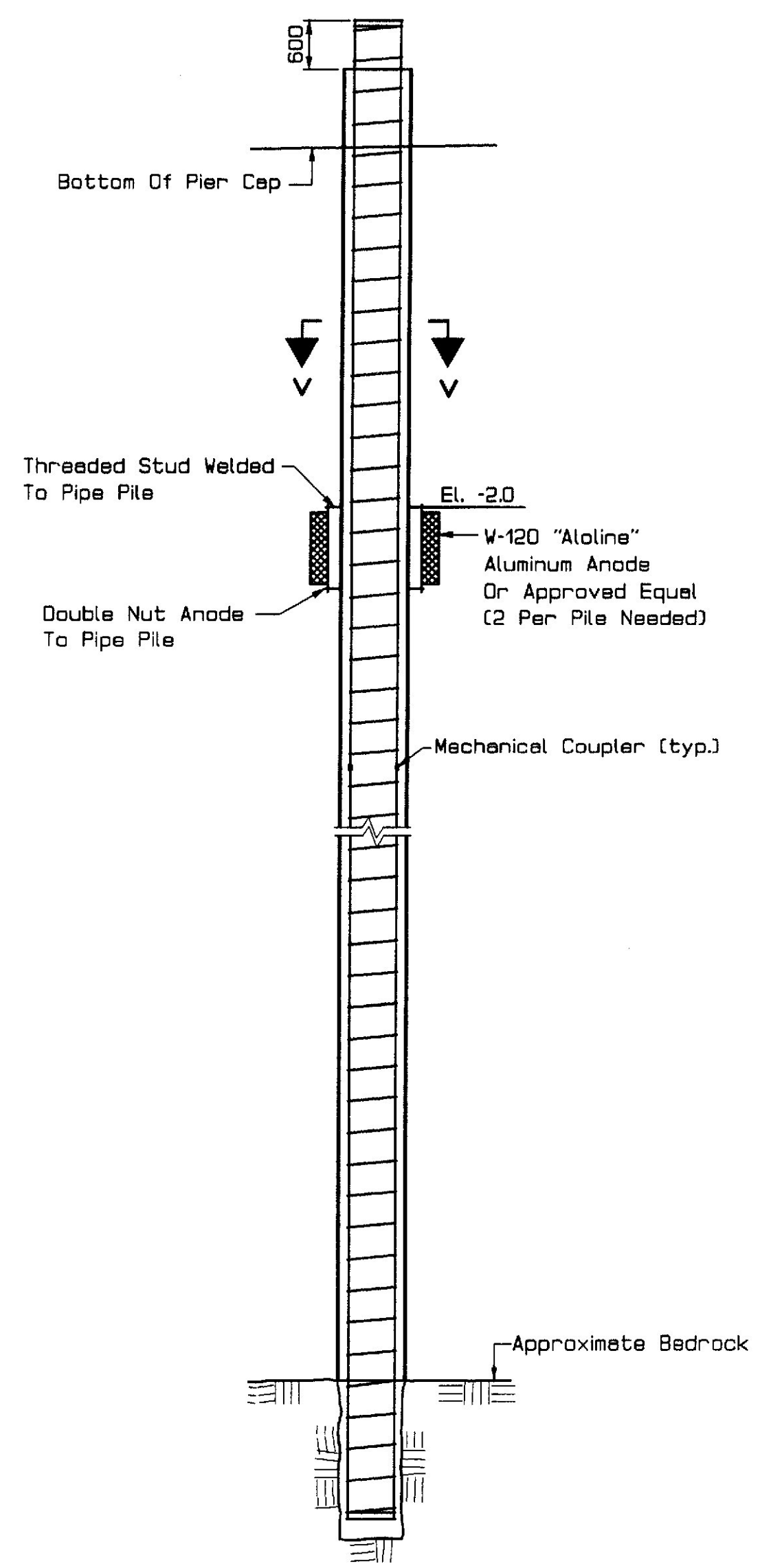
- Pipe piles shall be driven to ledge.
- Estimated driven length of piles are determined from available soils information with no allowance for uncertain pile penetration. The length to be used to estimate the reinforcement shall be based on the available boring information. Actual length of the reinforcing cage shall be determined in the field.
- Piles shall not be out of position shown by more than 50 mm in any direction. Piles shall be aligned in their final position prior to commencing the concrete and rebar cage placement.
- Embedment of piles in pier cap may vary between 800 mm and 1000 mm and the actual embedment length up to a maximum of 900 mm will be included in the measurement for payment.
- All pipe pile tips shall conform to the strength requirements of ASTM A 148/A 148M Grade 620-415.
- A wave equation analysis shall be performed by the Contractor for review by the Engineer. Preparation and submission of the wave equation analysis will be considered incidental to Item 501701.
- Estimate of pier piles required:

Pier	Piles	Size	Length	Max. Calc. Pile Axial Load
1&2	8	660 mm Ø x 16 mm wall	20 m	1690 kN
1&2	4	660 mm Ø x 16 mm wall	21 m	1690 kN

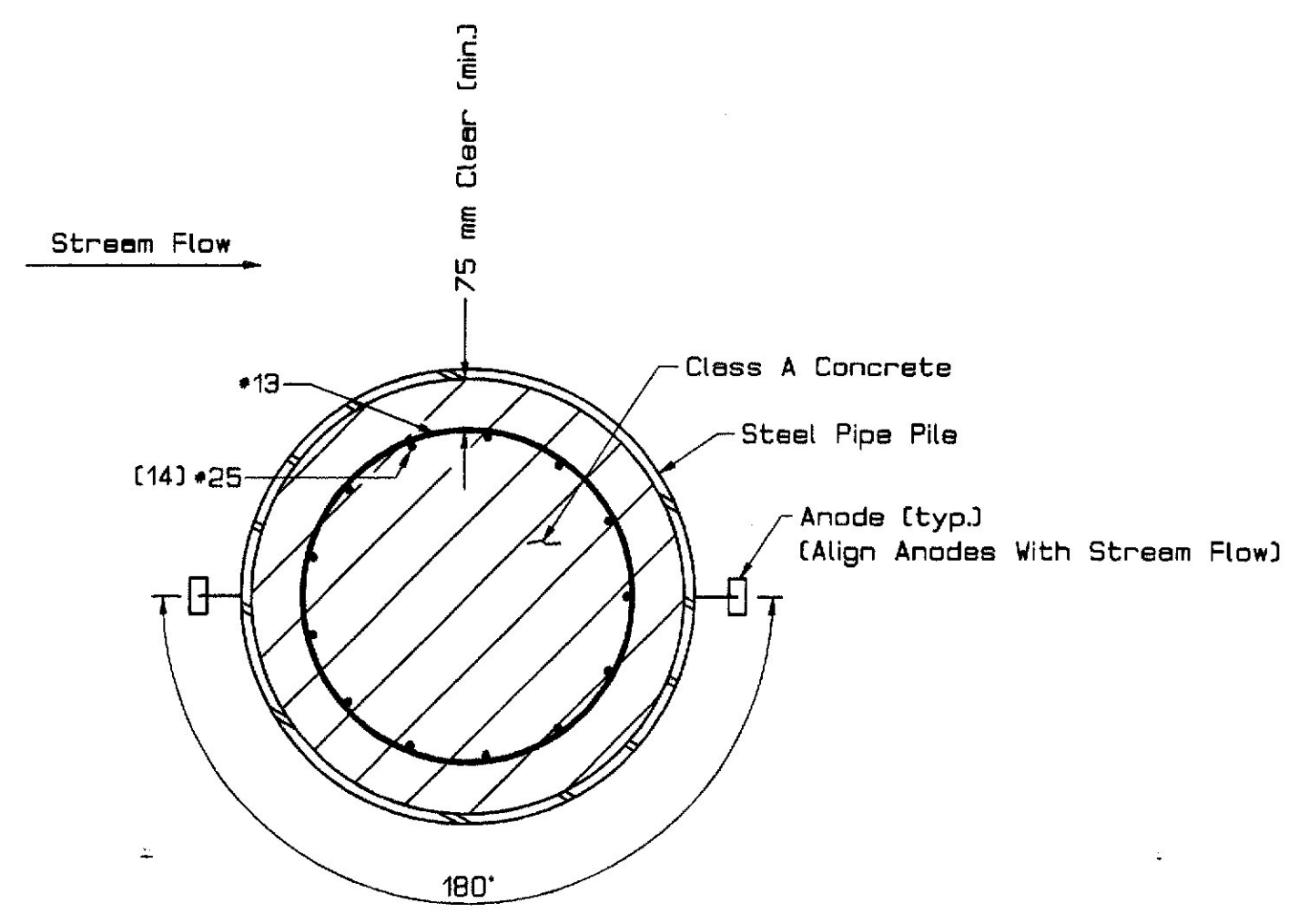
- Bases of pipe piles shall be embedded 1500 mm (min.) in bedrock. The bases of shafts shall be clean of all cuttings and debris.
- After removal of the overburden from within the pipe pile, the pipe pile shall be further advanced into bedrock, if necessary to achieve sealing against the entry of overburden. The excavation shall then continue into rock below the pipe pile as an uncased rock socket of length and diameter indicated. The inside surface of the pipe pile shall be cleaned free of extraneous material prior to placing reinforcement and concrete. Excavation of the rock socket shall be considered incidental to Pay Item 501701.
- The Contractor is responsible for determining the equipment and overall construction operation sequence necessary to insure that the pile tip reaches ledge and is founded on clean ledge. The driving and pipe pile cleaning procedure shall be considered incidental to Pay Item 50124.
- Lap splices of reinforcement are not allowed within one meter of the overburden elevation and within one meter of the overburden-bedrock interface elevation.
- Sacrificial Cathodic Protection Anodes shall be provided on all pipe piles as detailed. All costs shall be incidental to Item 65550 Cathodic Protection System.
- A Pile Driving Analyzer (PDA) shall be employed by the Contractor to verify that one pile of Pier #1 and one pile of Pier #2 are driven to the required axial load capacity. The piles to be tested will be selected by the Engineer.
- The concrete for the pipe piles shall be placed to the bottom of the pier caps to allow for the drilling of holes for reinforcing steel.
- Maximum 38 mm Ø holes shall be drilled through the pipe piles for the reinforcing steel in the bottom of the pier caps, as directed by the Engineer.
- A protective coating shall be applied to the full length of the steel castings in accordance with Special Provision Section 501 Pile Foundations Coating.
- The concrete and reinforcing steel placed inside the pipe piles shall be considered incidental to Pay Item 501701 Steel Pipe Piles in Place.



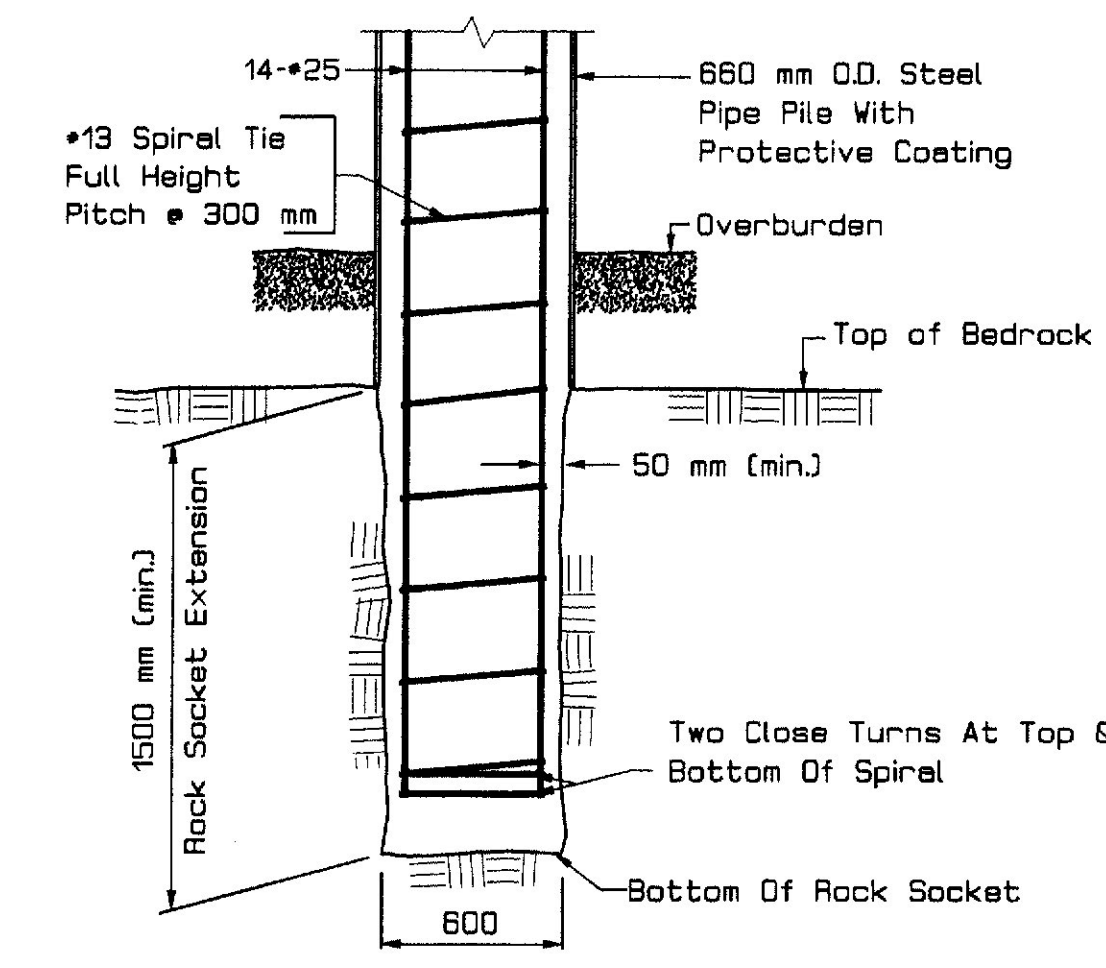
Pile Driving Shoe



Typical Pipe Pile Elevation



Section V-V



Pipe Pile Rock Socket Detail

PROJECT DESIGN ENGINEER	DATE
DESIGN-Detailed	5-97
CHECKED	
REVISIONS	
FIELD CHANGES	

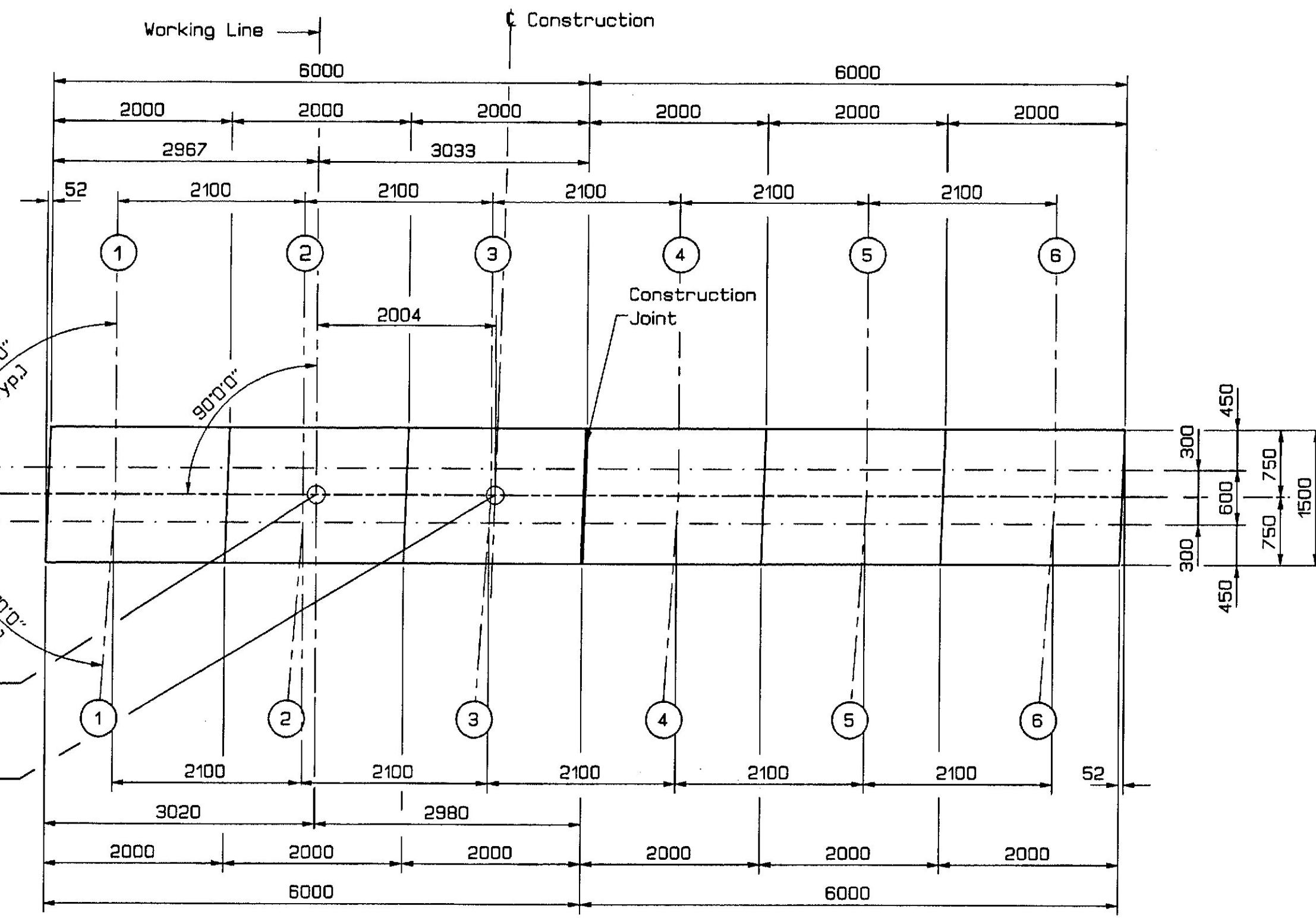
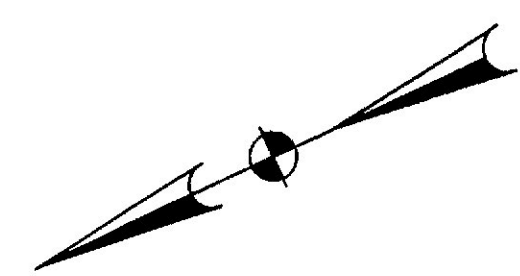
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16APR97-15JUN20

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

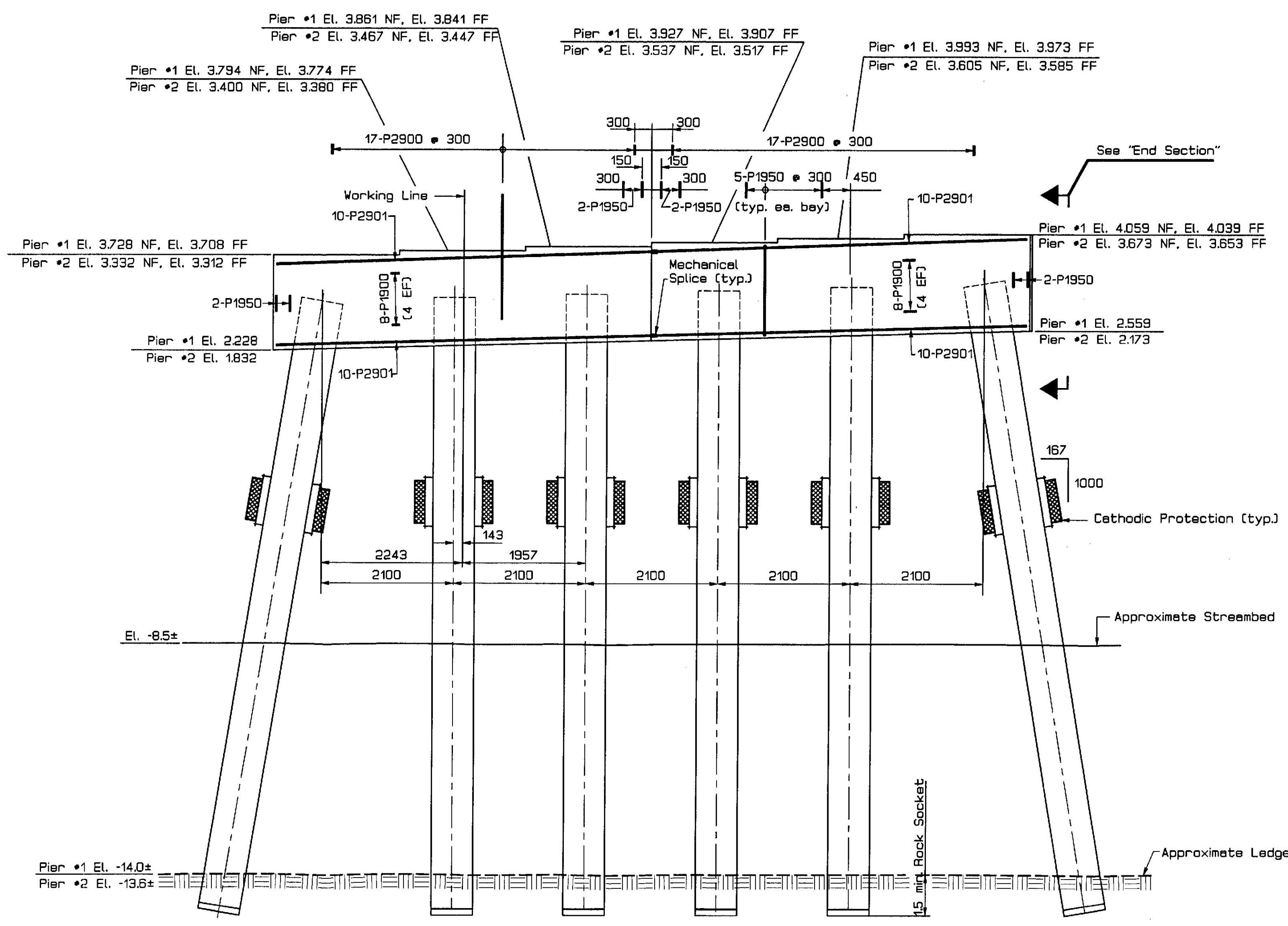
KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY

PIER PILE DETAILS

SHEET OF AUGUSTA, MAINE August 1997



Plan
Pier #1 Shown
Pier #2 Similar



Pier #1 Elevation
Pier #2 Similar

METRIC

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

F.H.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	13	29

Pier Notes

1. Reinforcing steel shall have 75 mm minimum cover unless otherwise indicated.
2. Existing pier piles shall be removed to 1 meter below streambed. Piles shall be transported to the Turner/Leeds Parks and Lands Property in Turner, Me. Payment for removal and transport shall be incidental to bridge removal item.

Design Criteria

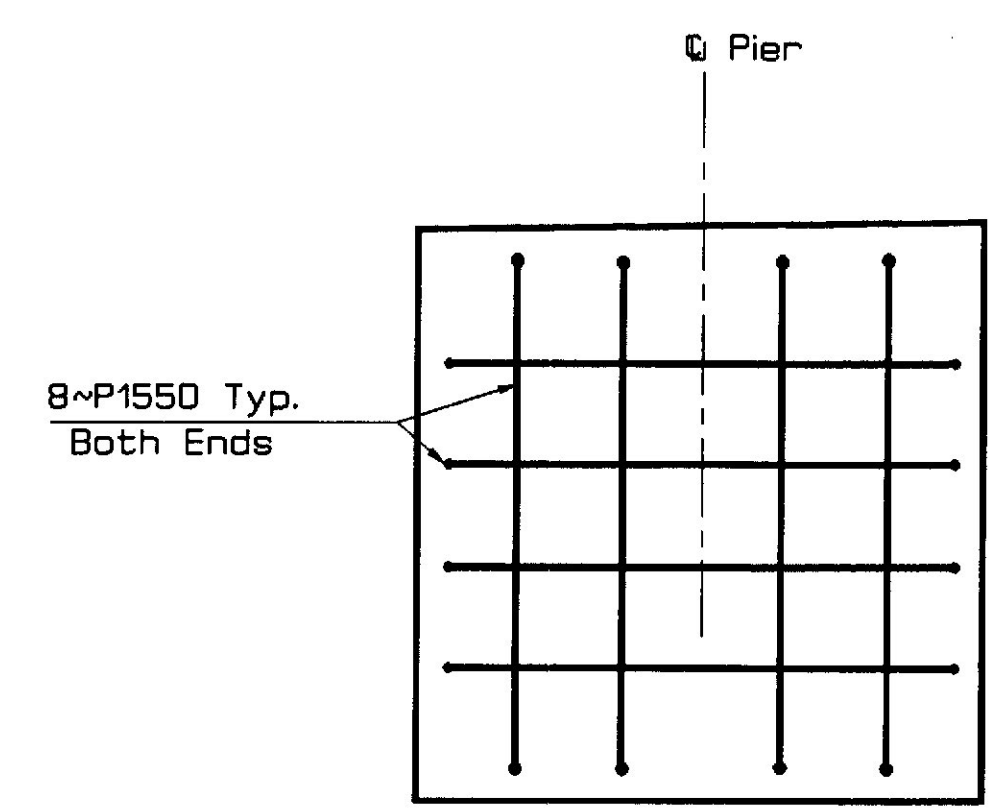
Critical AASHTO Loading - Group IX.

Bouyancy - Water level assumed at Elevation 2.600 m

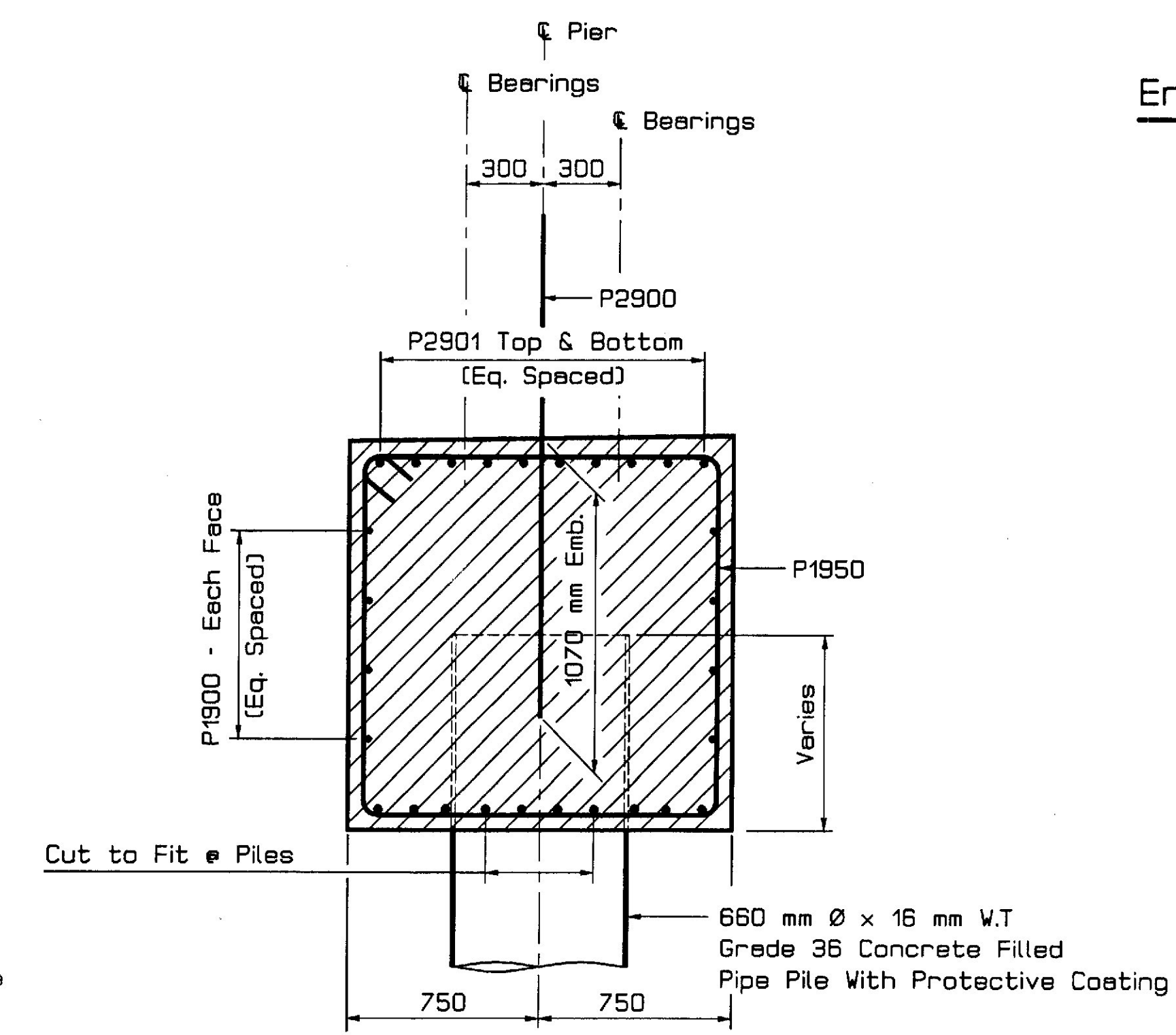
Stream flow - Velocity of 0.81 m/s (Q50) skewed at 0 degrees to longitudinal centerline of pier.

Wind - 160 kph.
Wind - 195 kg/m

Ice - Thickness 450 mm, pressure 690 kPa at Elevation 2.600 m
30 percent of nose force applied transverse to pier.



End Section



Typical Pier Diaphragm Section

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
PIERS

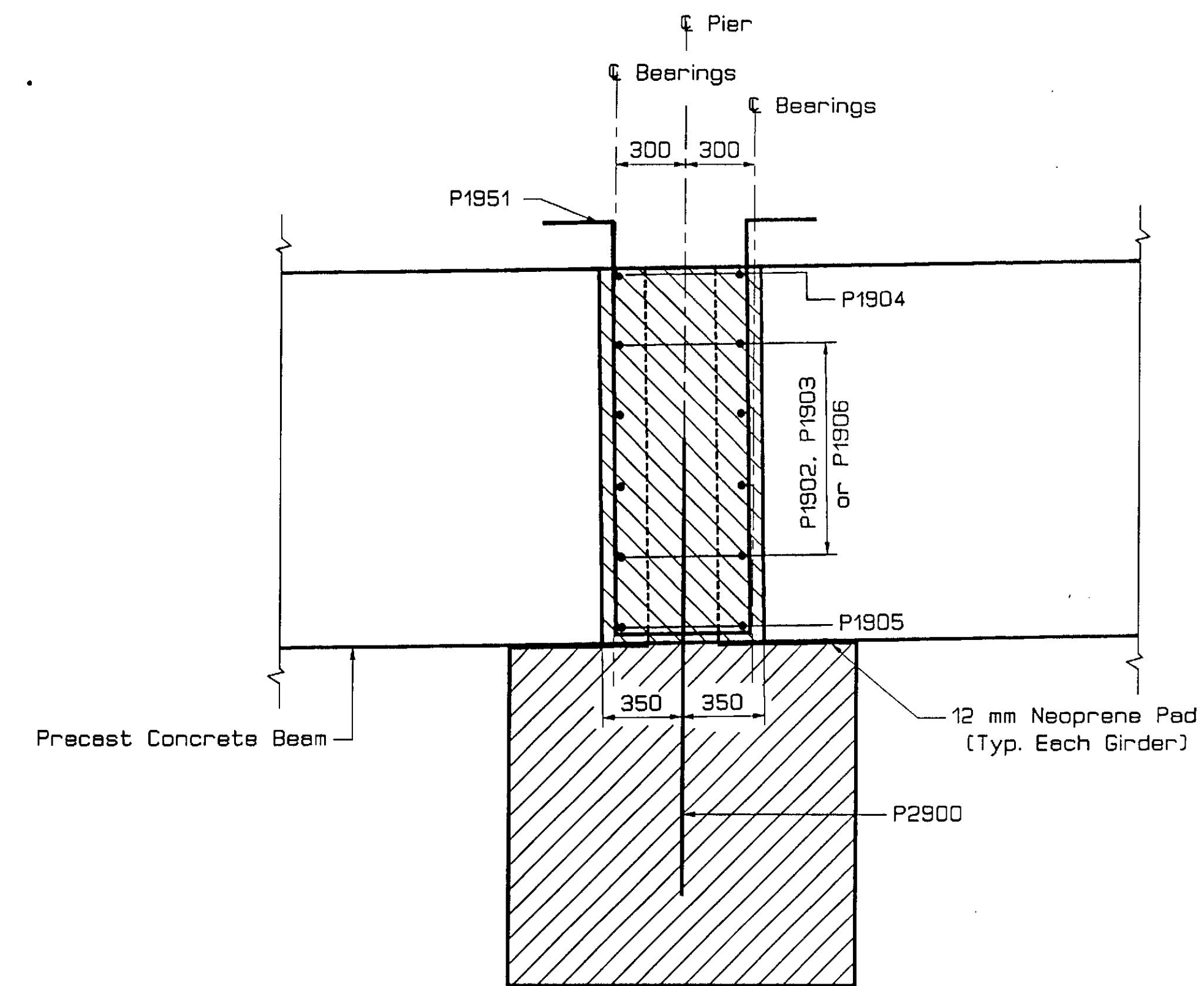
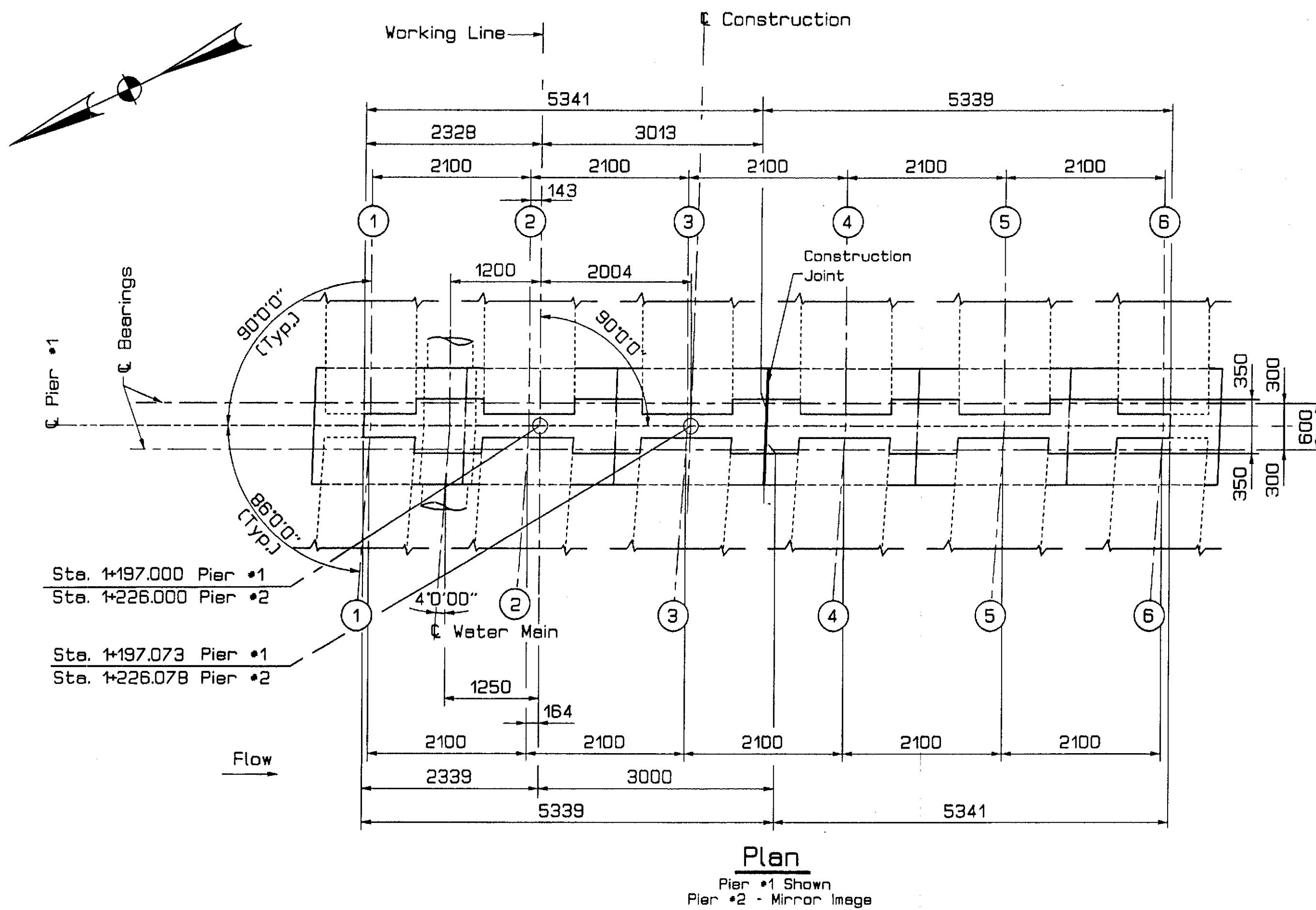
PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	4-97
CHECKED	
REVISIONS	
FIELD CHANGES	

PIER
16APR97-150620

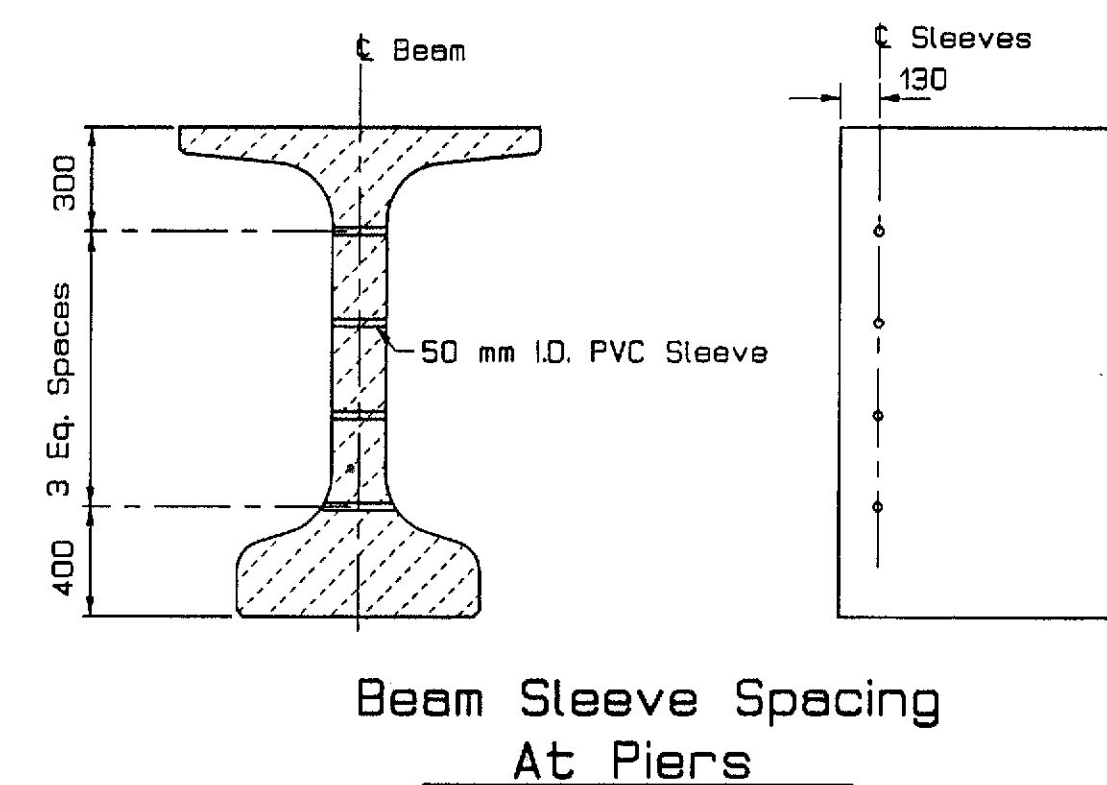
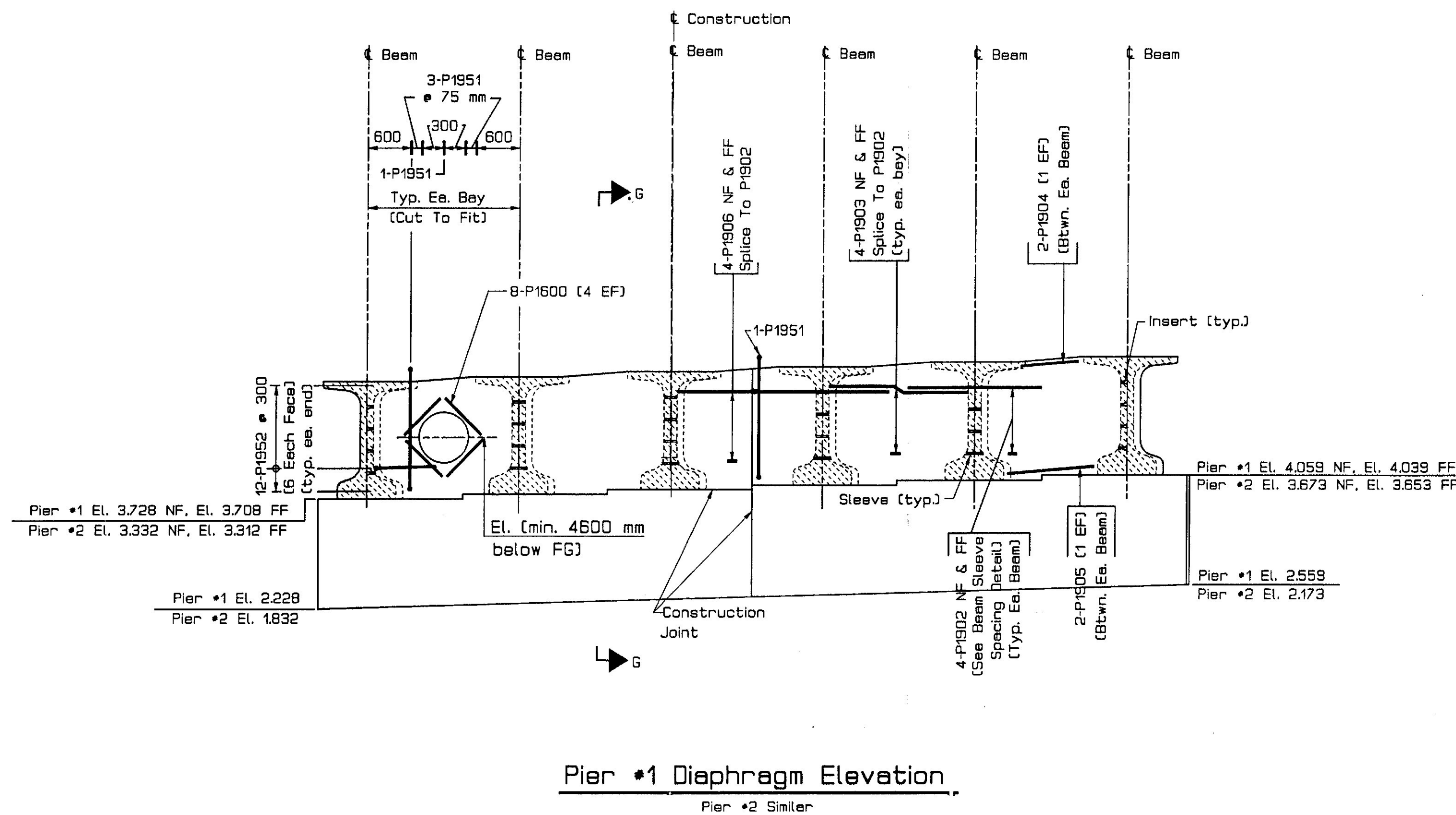
METRIC

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

F.M.V.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(DD)X	14	29



Section G-G
(Dimensions Shown Are Normal To Beams)



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY

PIER CONCRETE DIAPHRAGM

AUGUSTA, MAINE August 1997

PROJECT DESIGN ENGINEER	DATE
BY	7-97
CHECKED	
REVISIONS	
FIELD CHANGES	

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18APR97-15.06.20

- | F.H.V.A.
REG. NO. | STATE | PROJECT NUMBER | SHEET
NO. | TOTAL
SHEETS |
|----------------------|-------|----------------|--------------|-----------------|
| 1 | MAINE | BR-6458(00)X | 15 | 29 |

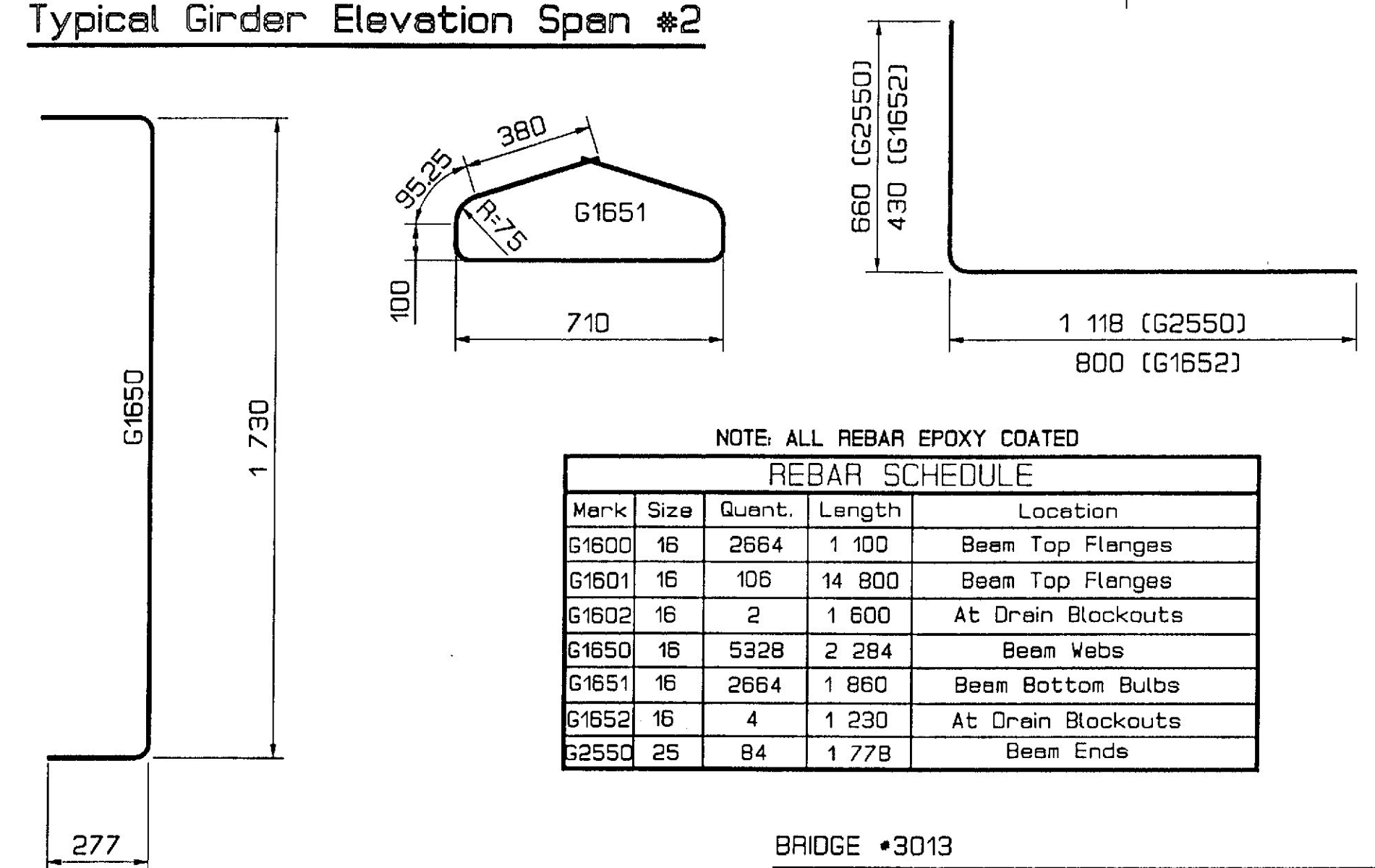
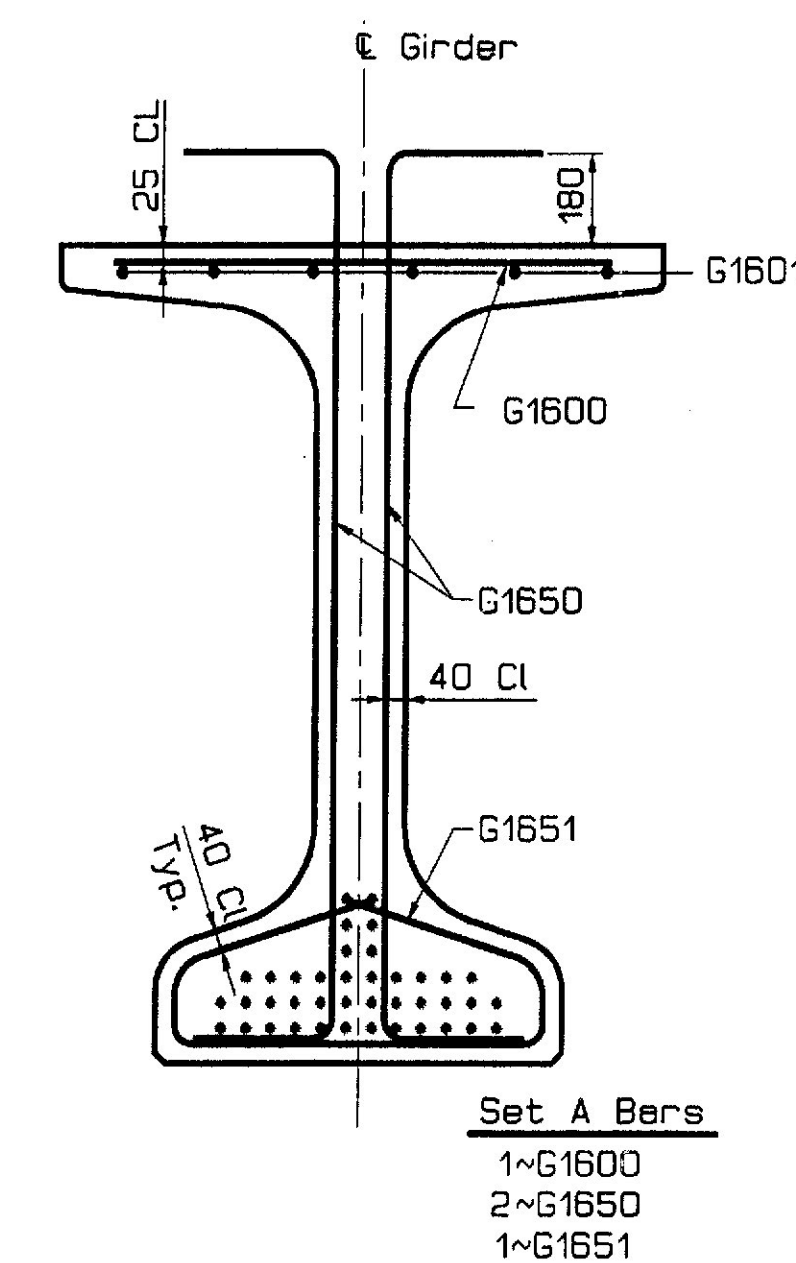
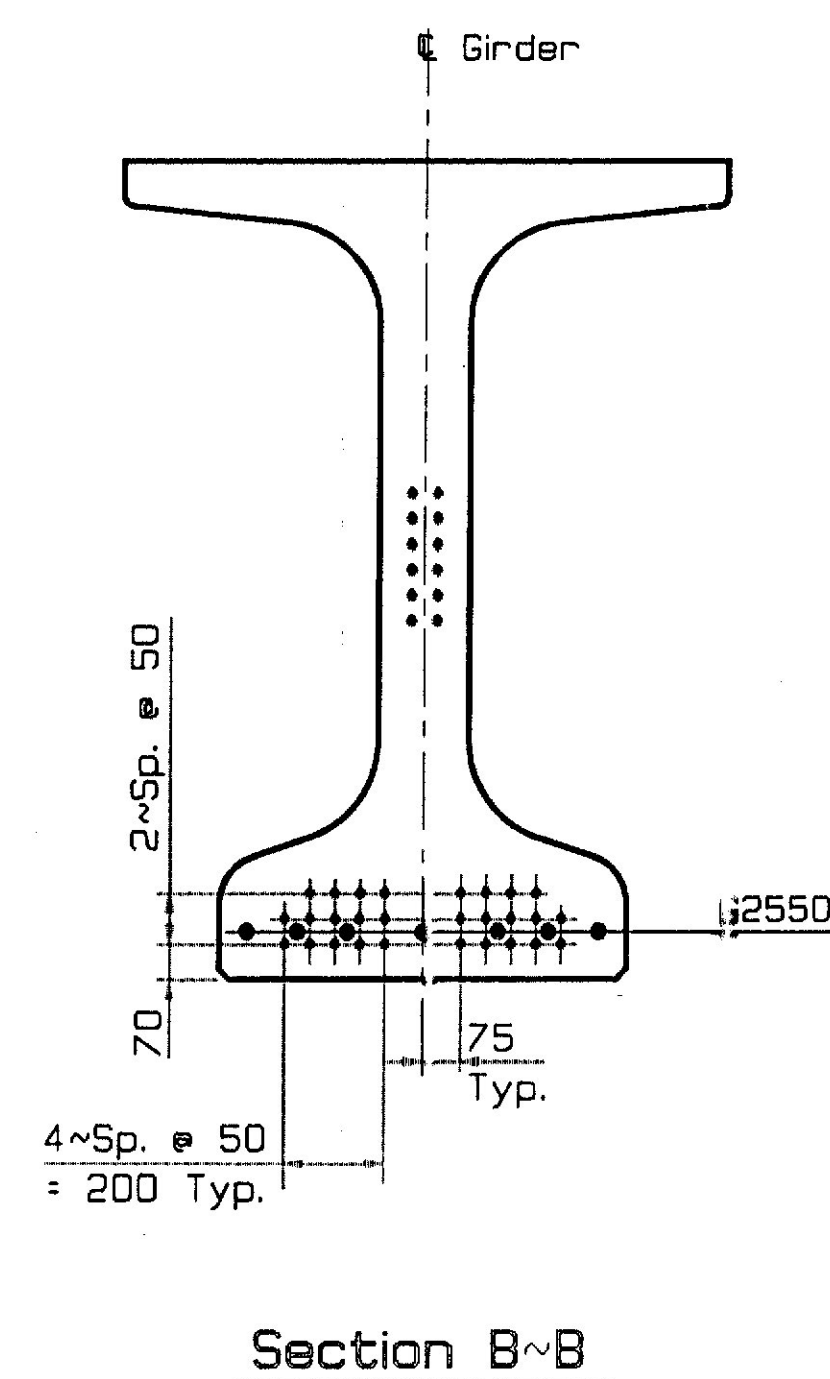
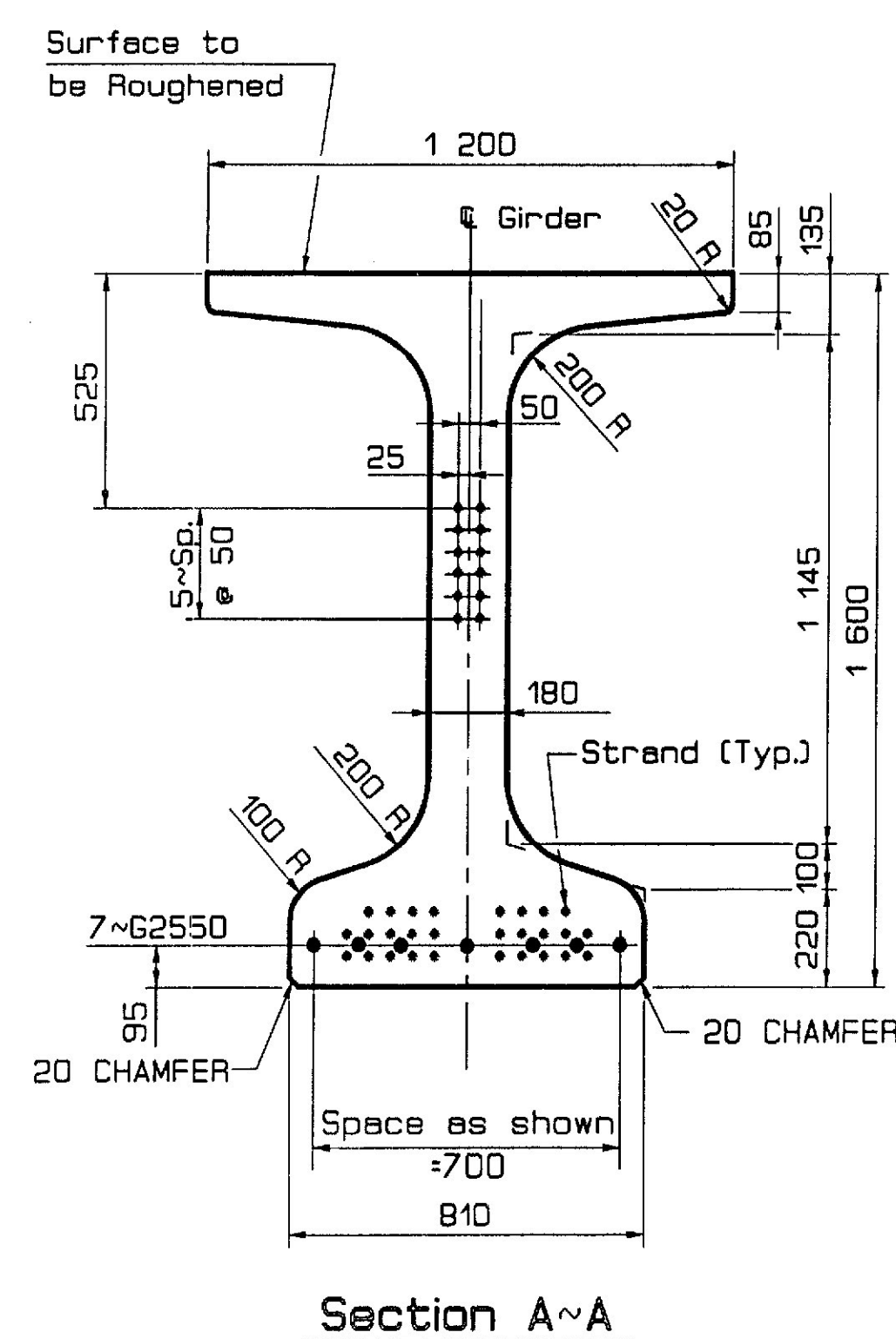
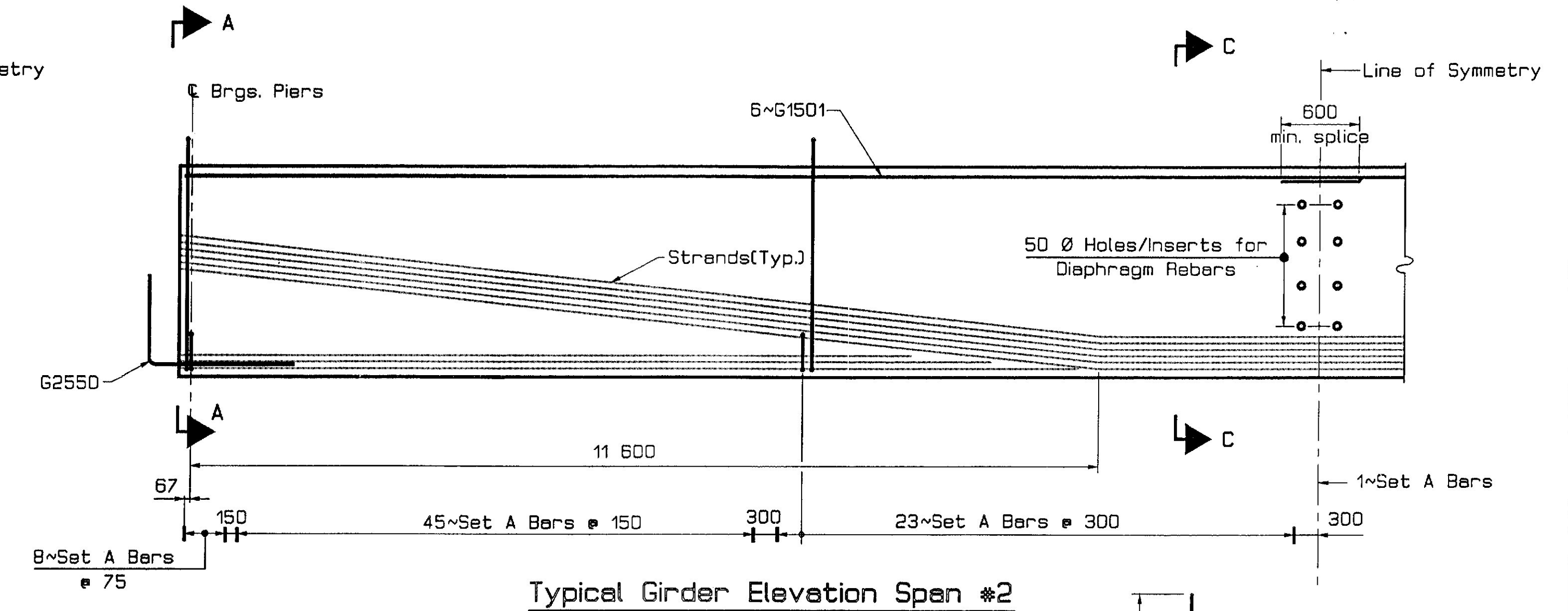
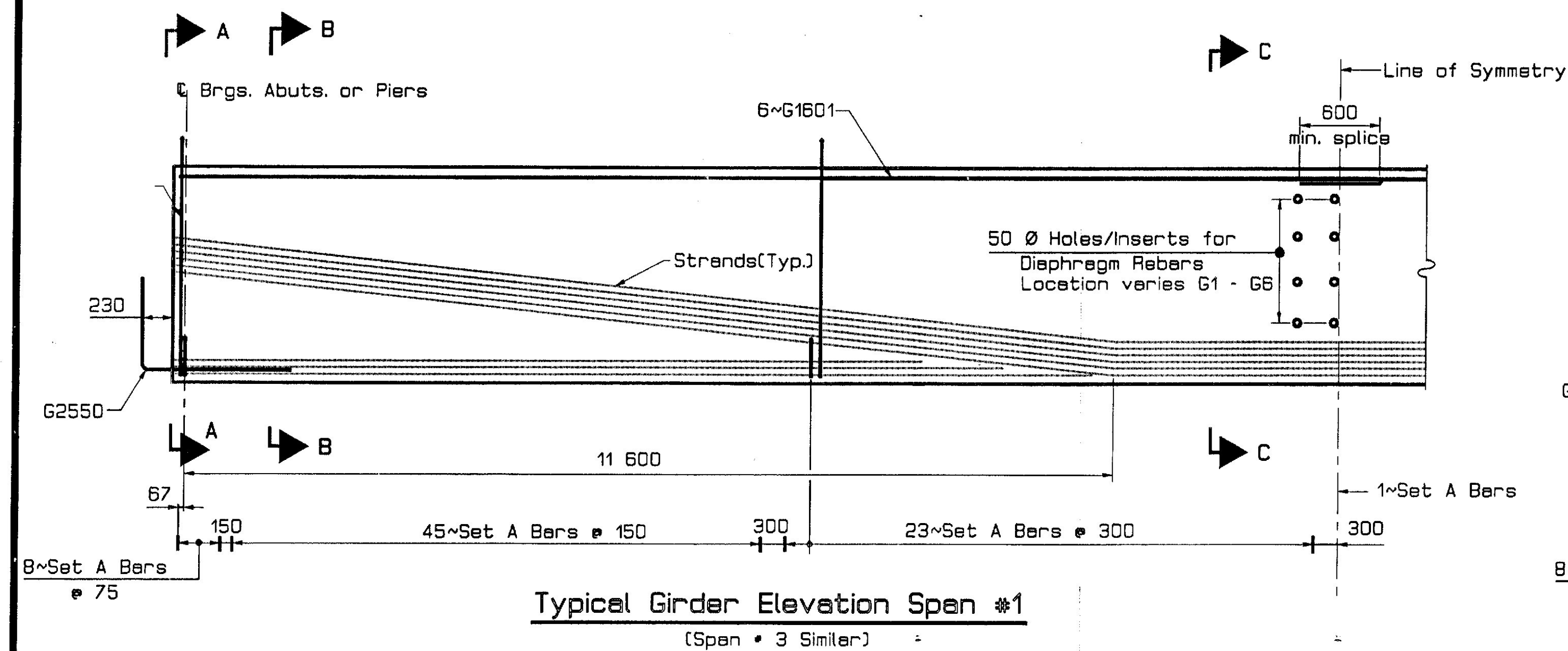
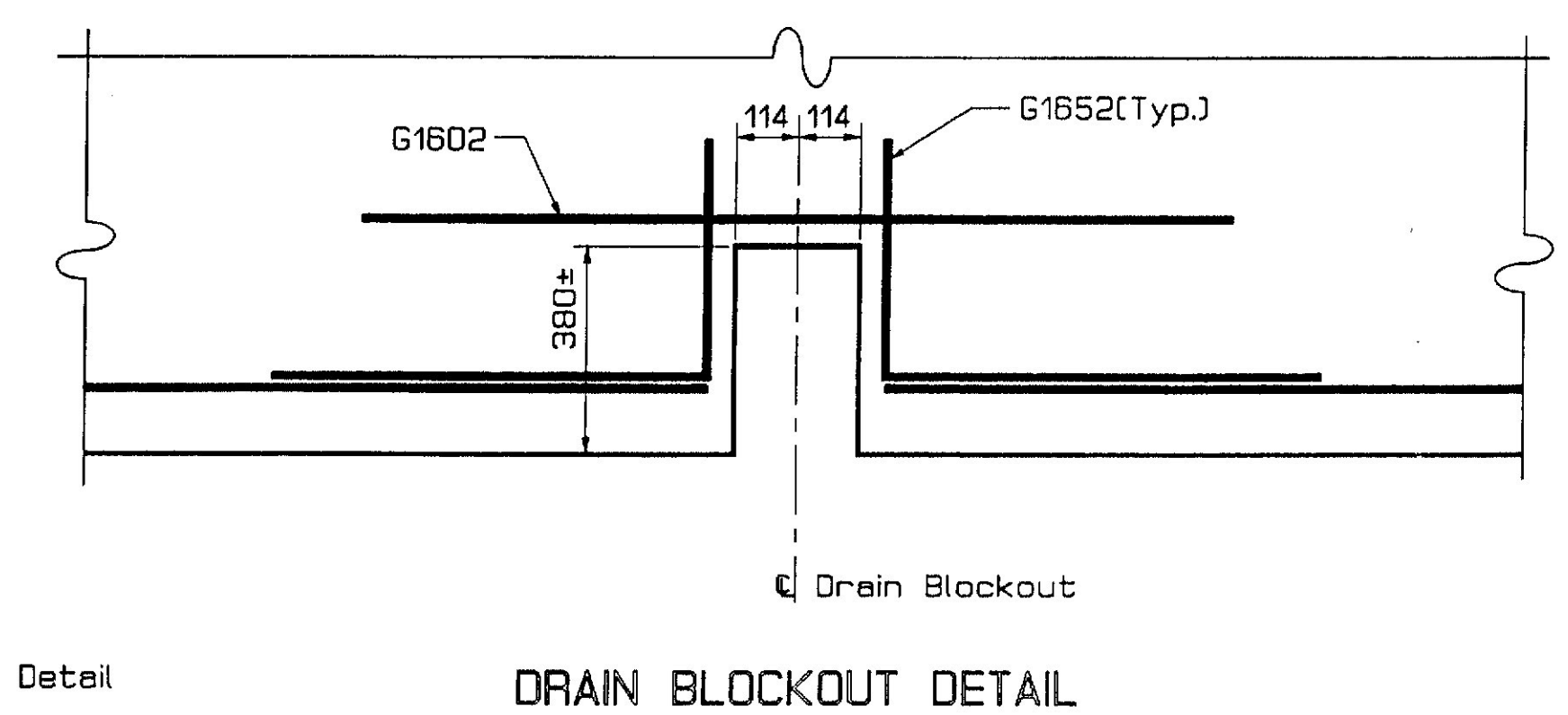
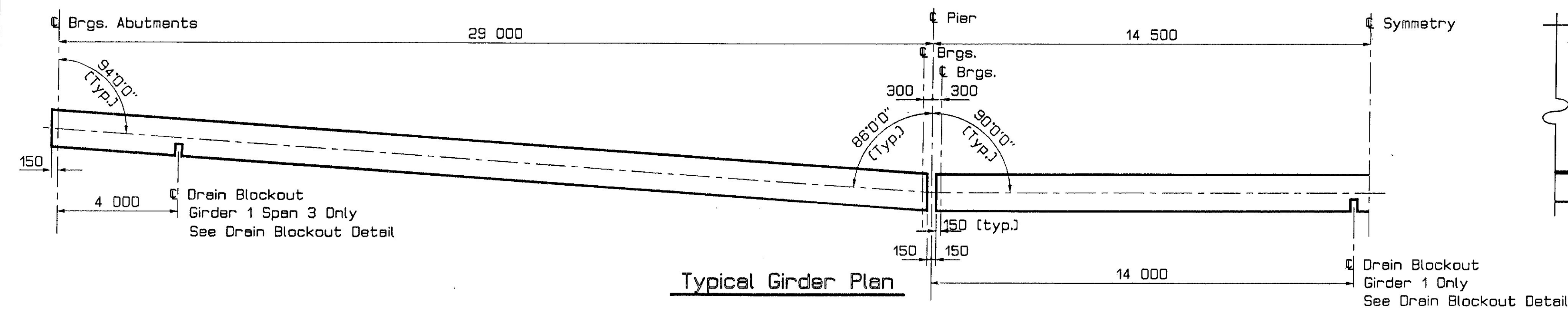
AUGUSTA, MAINE August 1997

FRAMPLAN
16APR97-15.06.20

METRIC

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

F.M.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	16	29



PROJECT DESIGN ENGINEER	DATE
BY	11-96
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

FRAMDET
16APR97-150620

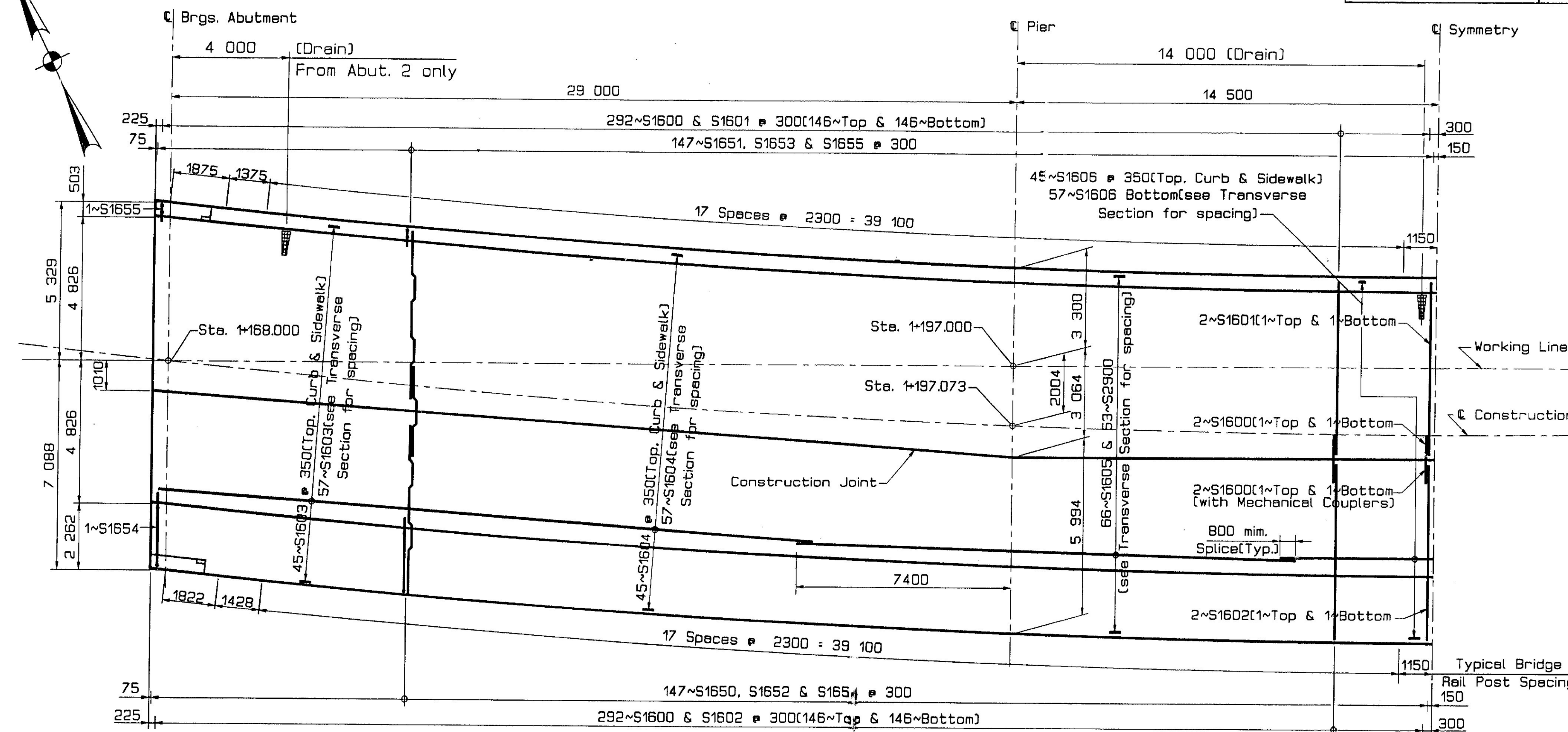
METRIC

1. All dimensions are in millimeters unless otherwise noted.
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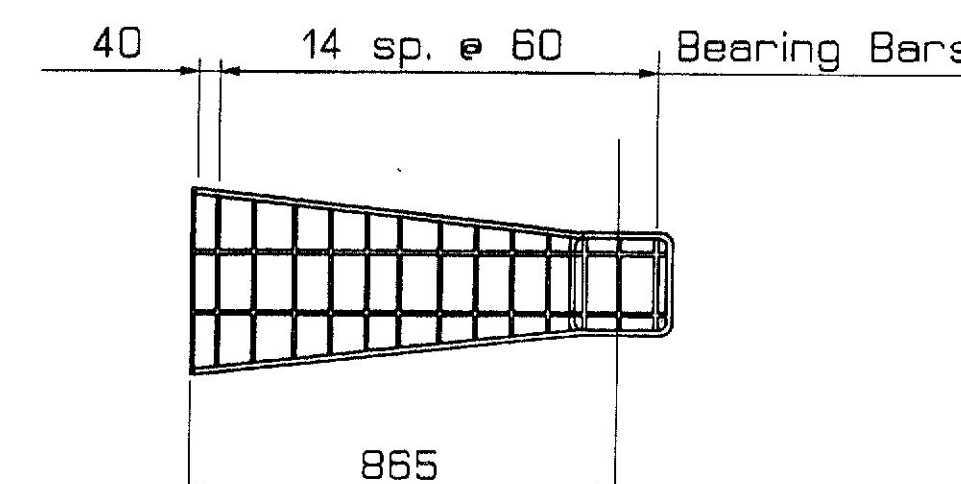
F.H.V.A. REG. NO.		STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1		MAINE	BR-6458(00)X	17	29

SUPERSTRUCTURE NOTES

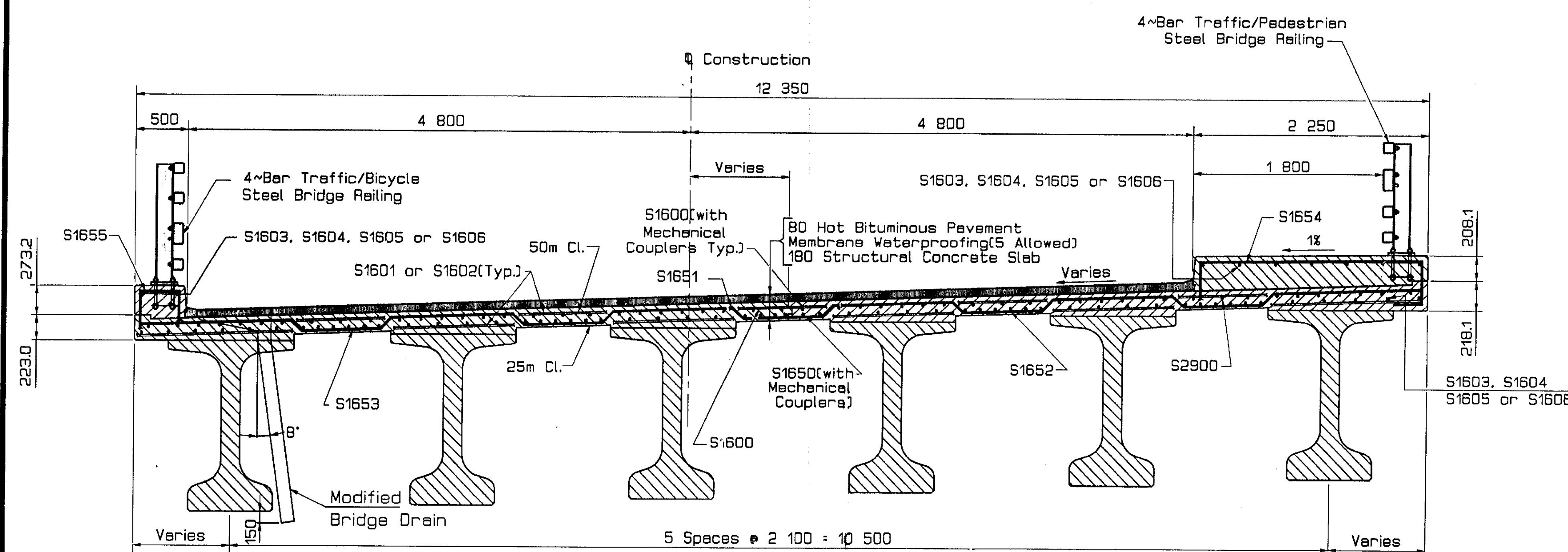
- Form a 30 mm V-groove on the fascias at the horizontal joint between the curb and the slab.
- Reinforcing steel shall have a minimum cover of 50 mm unless otherwise indicated.
- Adjust reinforcing steel to fit around the drains in a manner approved by the Engineer. Do not cut transverse reinforcing bars.
- The superstructure slab concrete shall be placed in one continuous operation and the concrete shall be kept plastic one complete span behind the span being placed.
- Protective coating for concrete surfaces shall be applied to the following areas:
Concrete curbs and sidewalk
Fascias down to the drip notch.
All exposed surfaces of concrete and posts.
Payment for protective coating shall be considered incidental to related contract items.
- All curb, sidewalk and diaphragm concrete shall be Class LP (Low Permeability) concrete paid for under item 502.48, Low Permeability Concrete.
- Transition barrier and related curb concrete shall be Low Permeability concrete and shall be considered incidental to item 526.34, Concrete Transition Barrier.



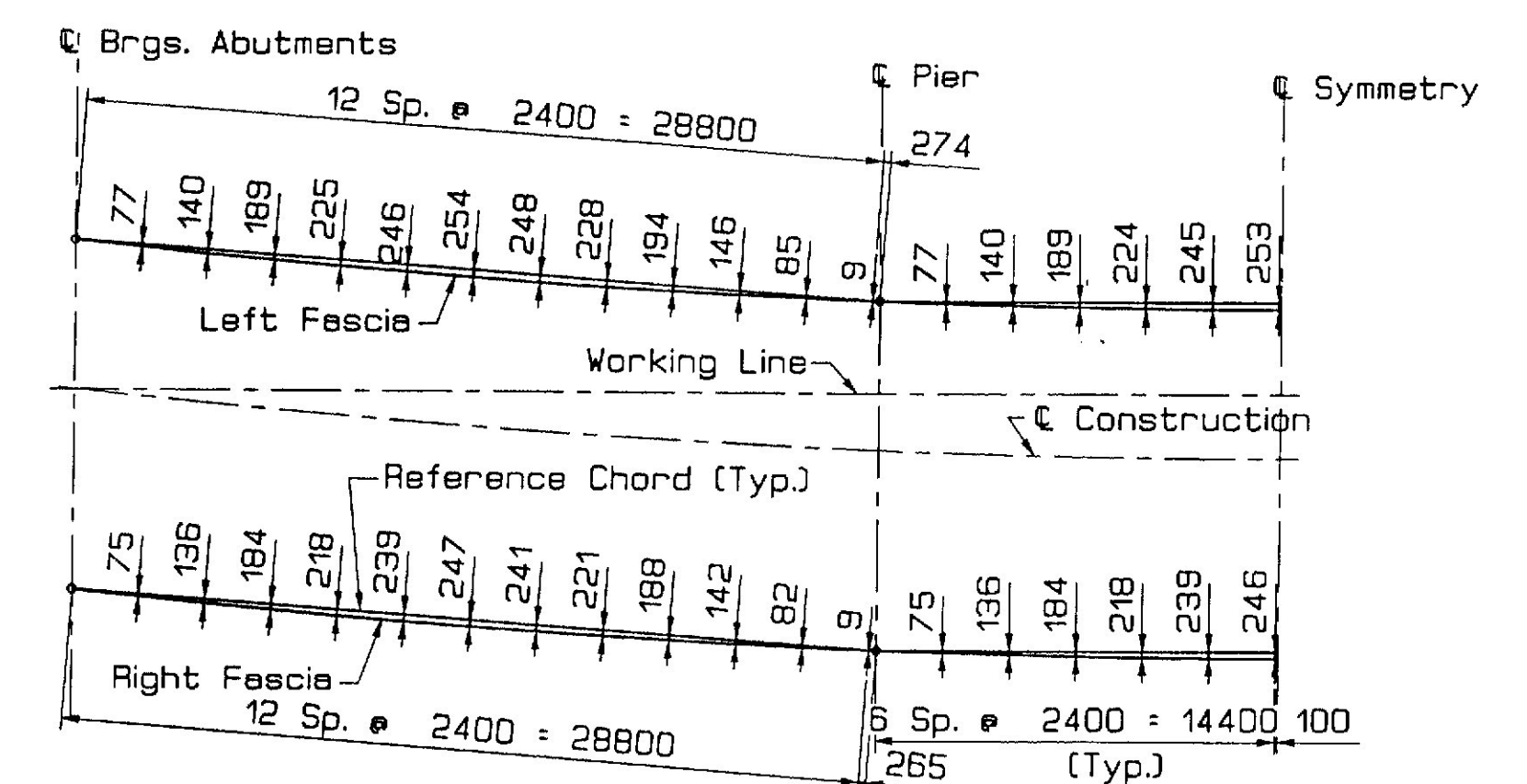
PLAN



STANDARD BRIDGE DRAIN MODIFICATIONS



TRANSVERSE SECTION



FASCIA OFFSET PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
SUPERSTRUCTURE

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	7-97
CHECKED	
REVISIONS	
FIELD CHANGES	

SPRSTR
16APR97-150620

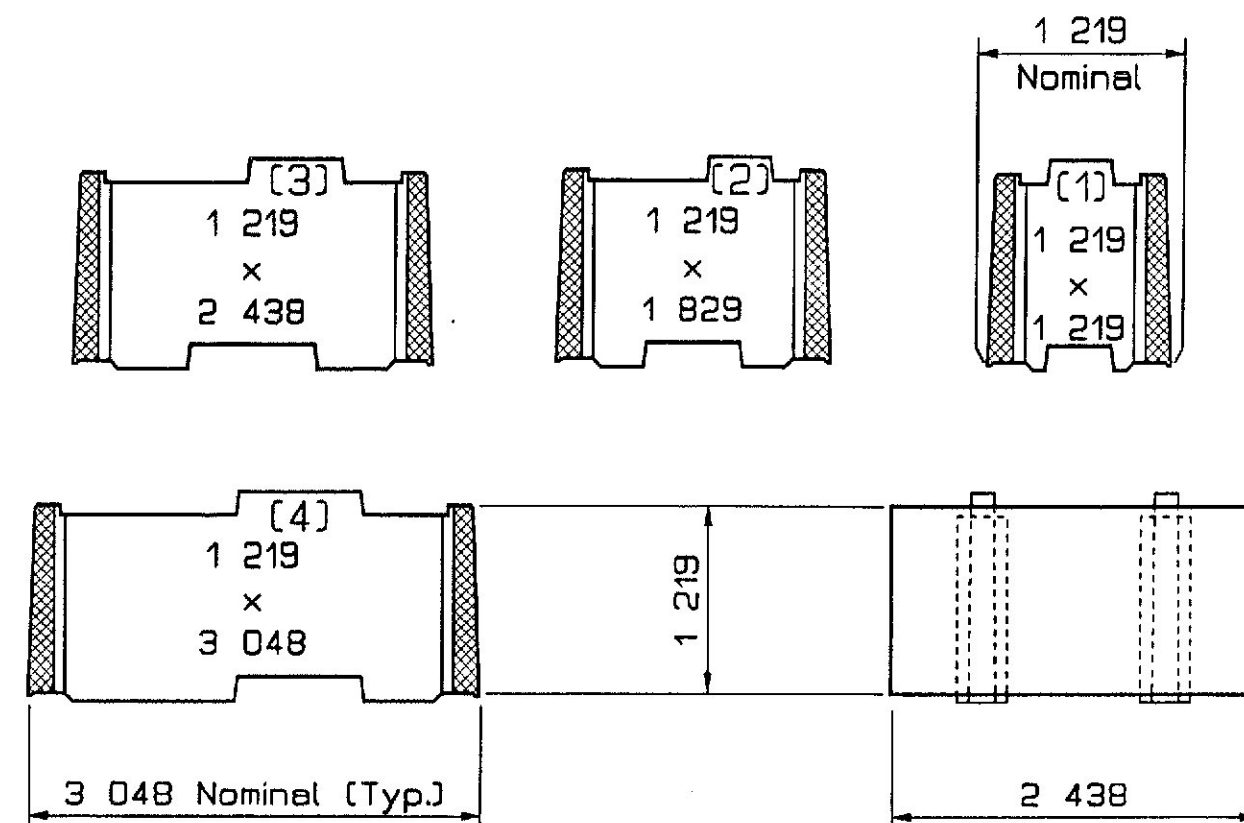
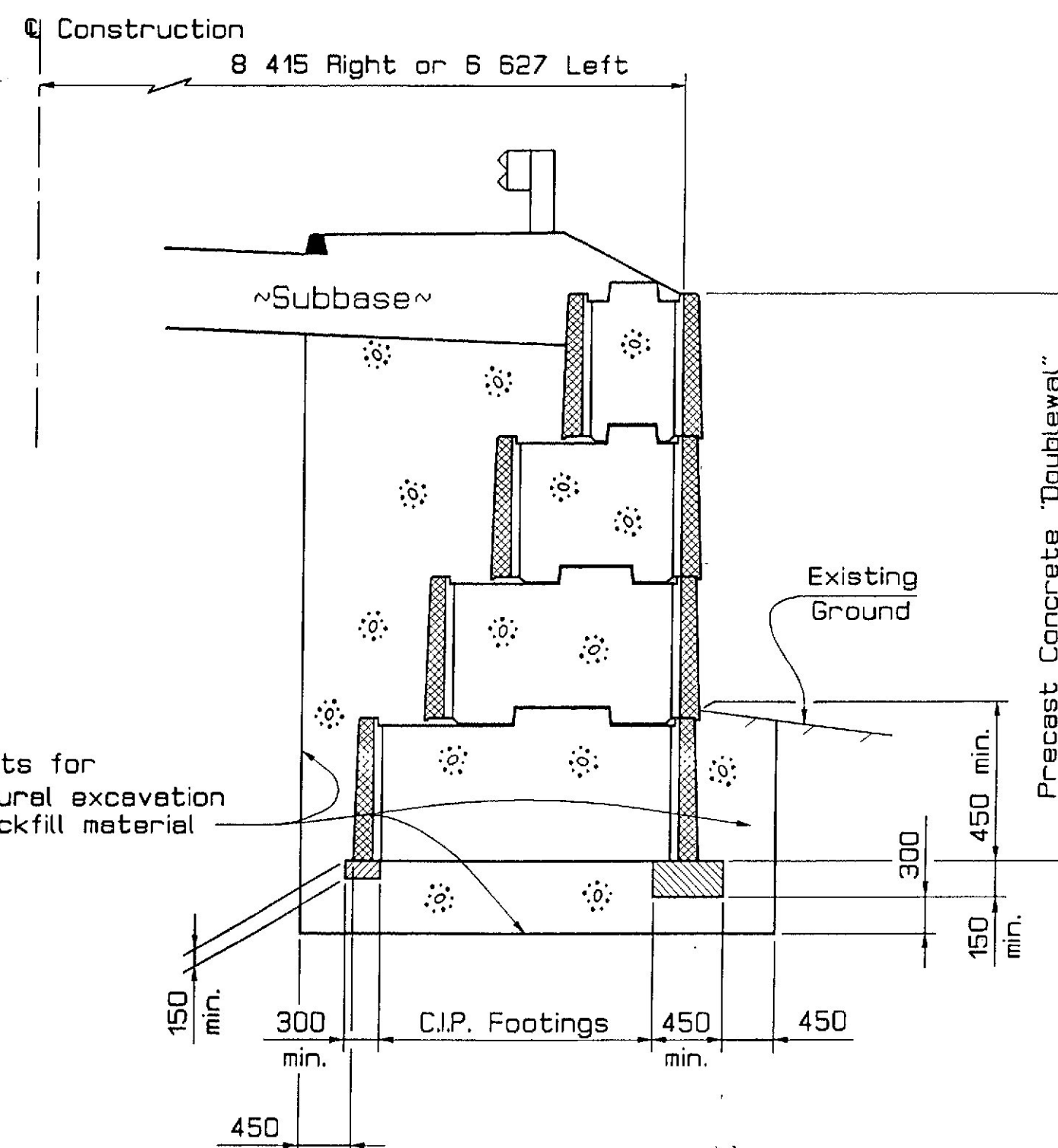
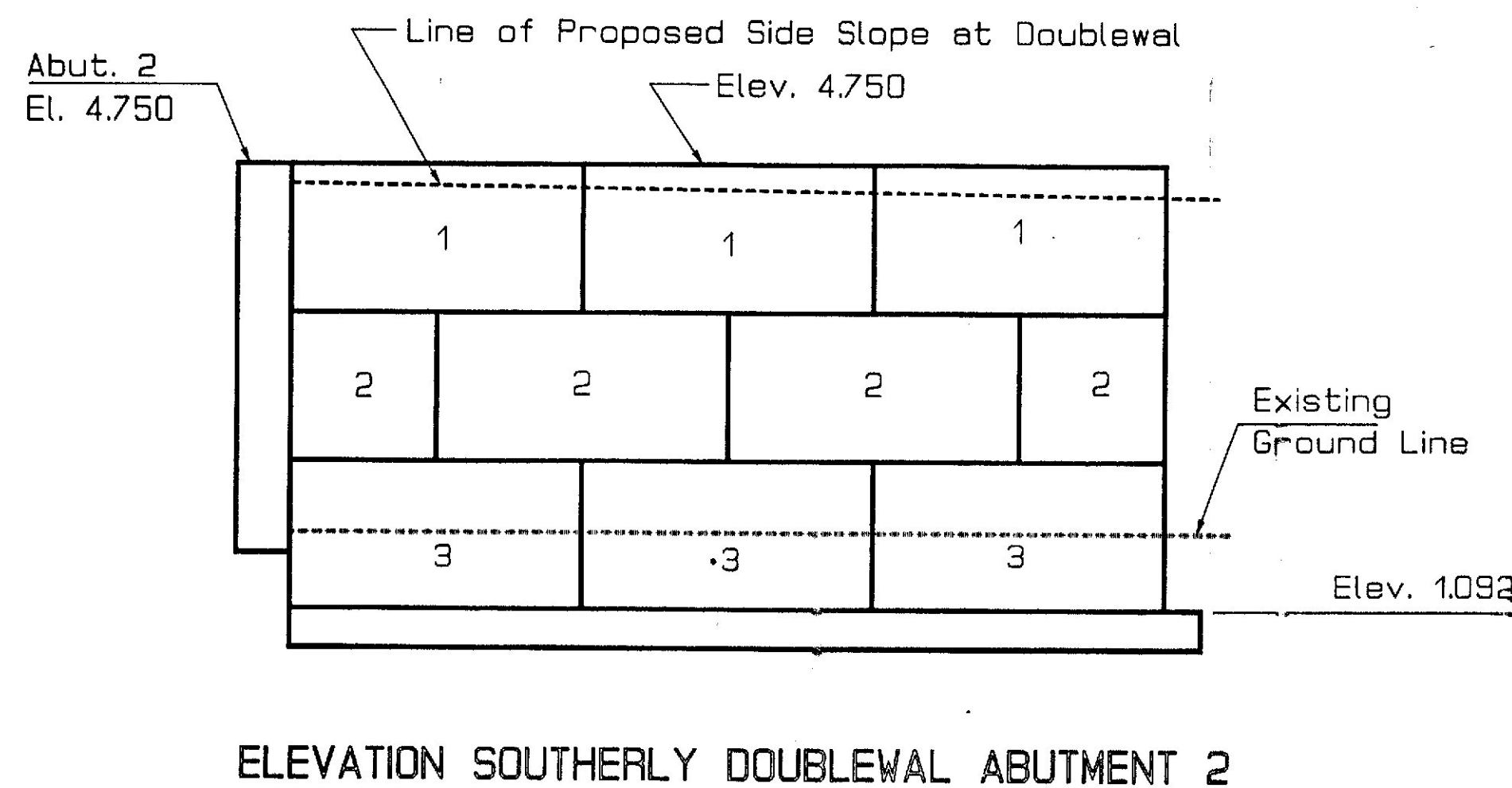
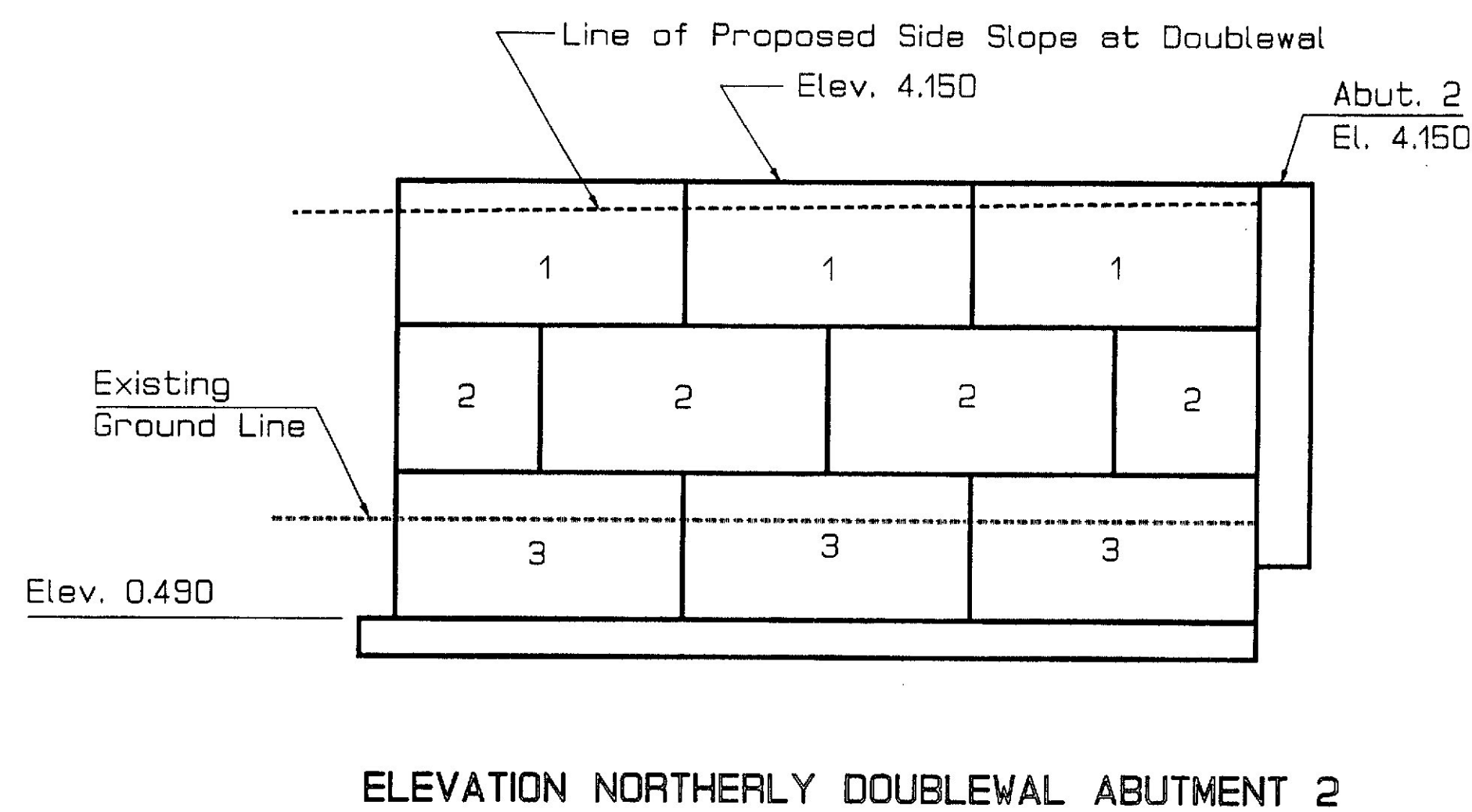
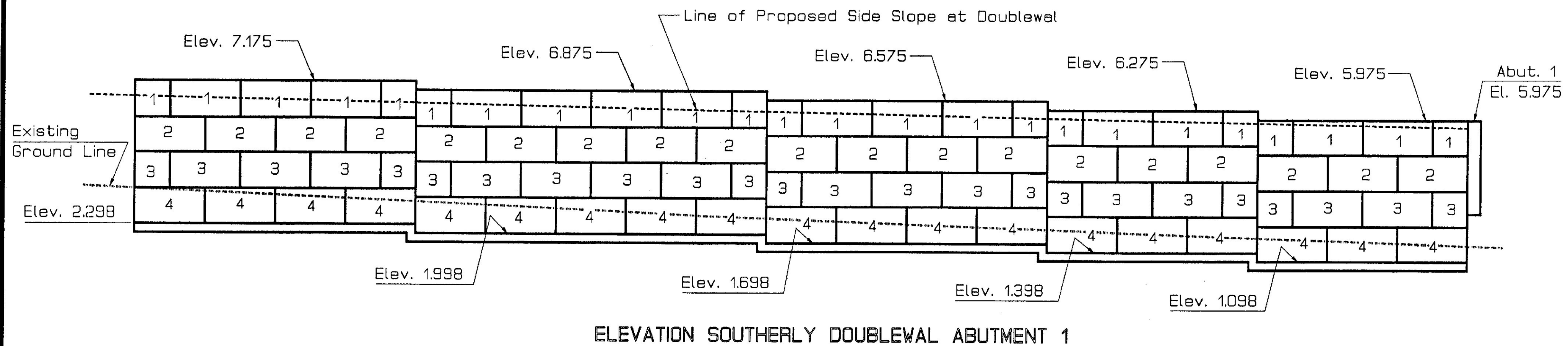
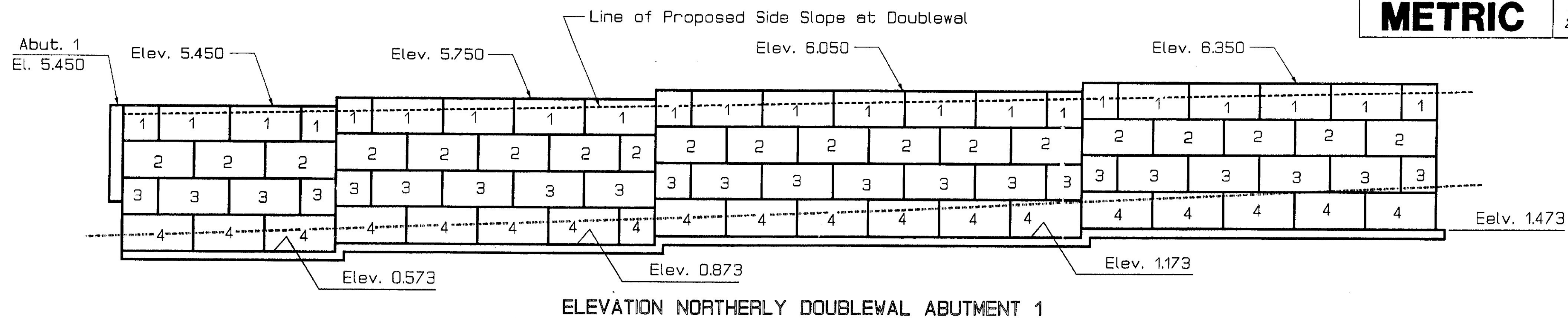
METRIC

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

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	BR-6458(00)X	18	29

DOUBLEWAL NOTES

- 1) Construction of the Doublewal system shall be in accordance with Special Provisions Section 635.
- 3) A 300 mm wide drainage geotextile fabric shall be secured to the back of each vertical front joint. Payment for the fabric and installation will be considered incidental to contract items.
- 4) All reinforcing steel in the Doublewals shall be epoxy coated. The epoxy coating will be considered incidental to Item 635.12, Galvanized Metal Bin-Type Retaining Wall.
- 5) Payment will be at the total Contract price bid for Item 635.12, Galvanized Metal Bin-Type Retaining Wall. Such payment will include all work and materials including excavation beyond the wall, excavating for bedding and backfill, furnishing and placing bedding and backfill material itself furnishing and placing reinforcing steel, concrete leveling slab, drainage geotextile, and incidentals to complete the work.
- 6) Faces of retaining walls shall have an exposed aggregate surface.
- 7) Concrete for the Doublewal system shall be Class P concrete and shall contain a silica fume additive. Payment for silica fume shall be considered incidental to related contract items.



DATE	BY	DESIGN-DETAILED	CHECKED	REVISIONS	FIELD CHANGES

DBLWAL
15APR97-150620

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY

DOUBLEWAL ALTERNATE DETAILS

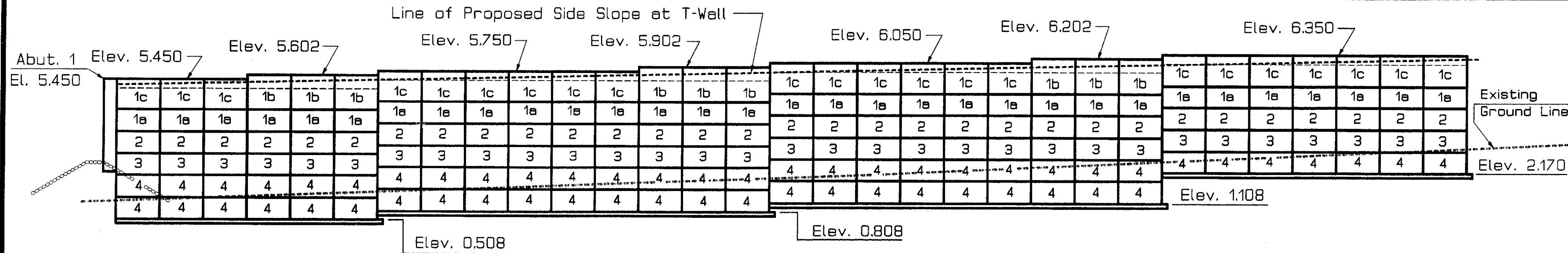
METRIC

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

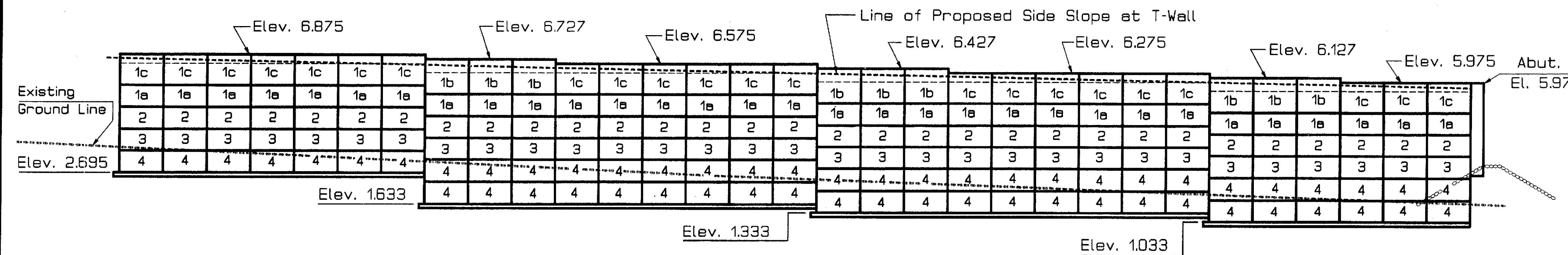
F.M.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-6458(00)X	19	29

T-WALL NOTES

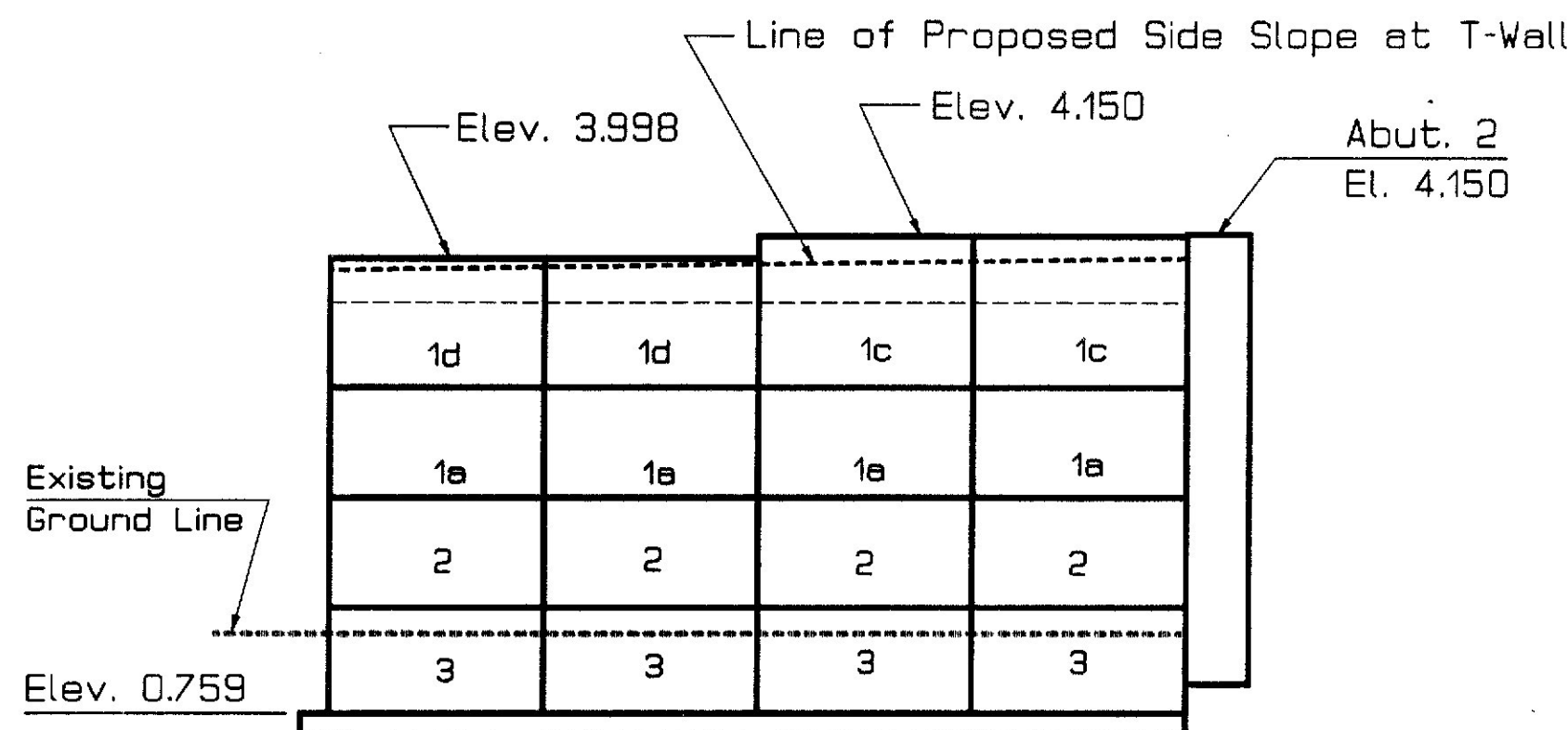
- The precast concrete T-Wall units shall be those as manufactured by Superior Concrete Co., Inc. of Auburn, Maine, or an approved other.
- Construction of the T-Wall system shall be in accordance with Special Provisions Section 635.
- A 300 mm wide drainage geotextile fabric shall be secured to the back of the concrete T-Wall flanges, at all horizontal joints up to the highest expected water level. Payment for the fabric, and installation, will be considered incidental to contract items.
- All reinforcing steel in the T-Walls shall be epoxy coated. The epoxy coating will be considered incidental to Item 635.12, Galvanized Metal Bin-Type Retaining Wall.
- Payment will be at the total Contract price bid for Item 635.12, Galvanized Metal Bin-Type Retaining Wall. Such payment will include all work and materials including excavation beyond the wall, excavating for bedding and backfill, furnishing and placing bedding and backfill material itself furnishing and placing reinforcing steel, concrete leveling slab, drainage geotextile, and incidentals to complete the work.
- Faces of retaining walls shall have an exposed aggregate surface.
- All concrete for the T-Wall system shall be Class P concrete and shall contain silica fume. Payment for silica fume shall be considered incidental to related contract items.



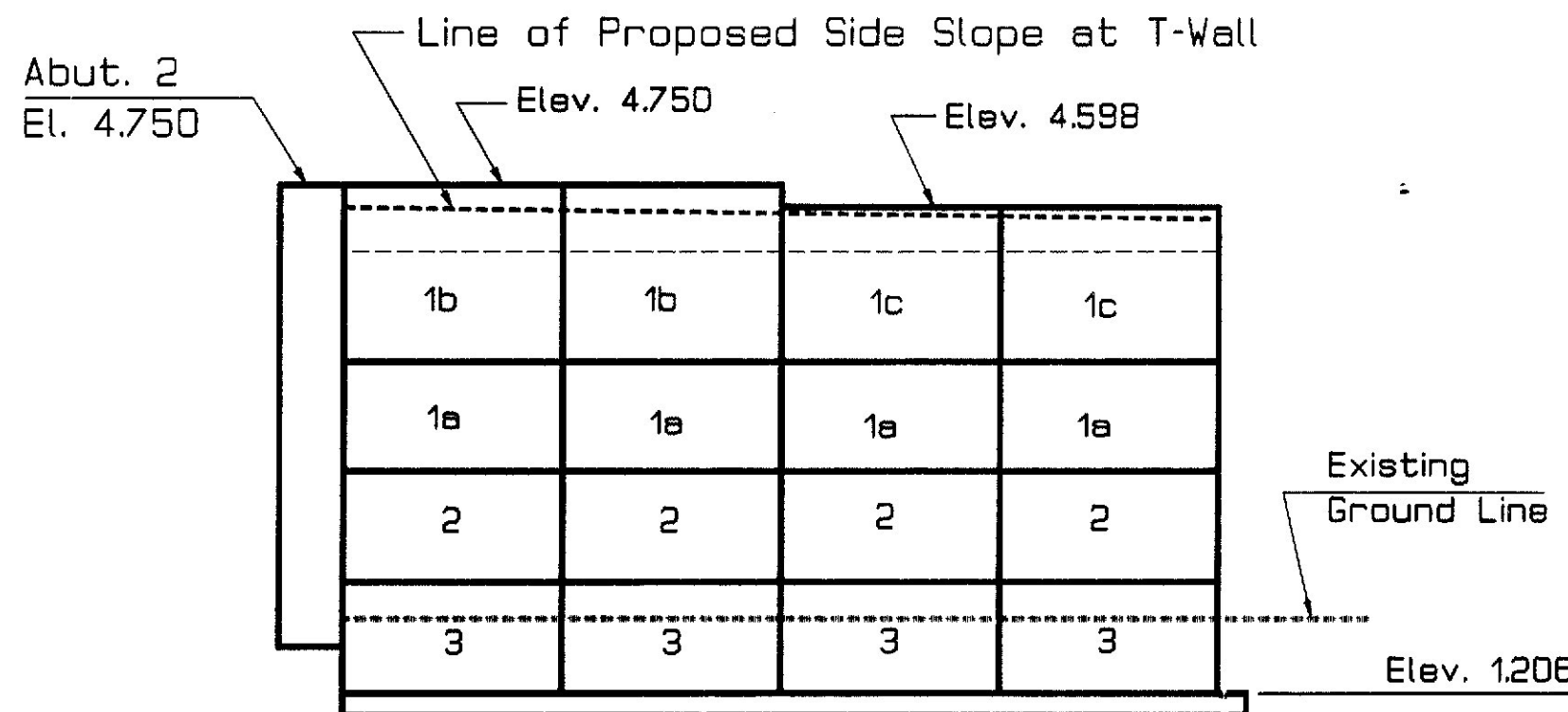
ELEVATION NORTHERLY T-WALL ABUTMENT 1



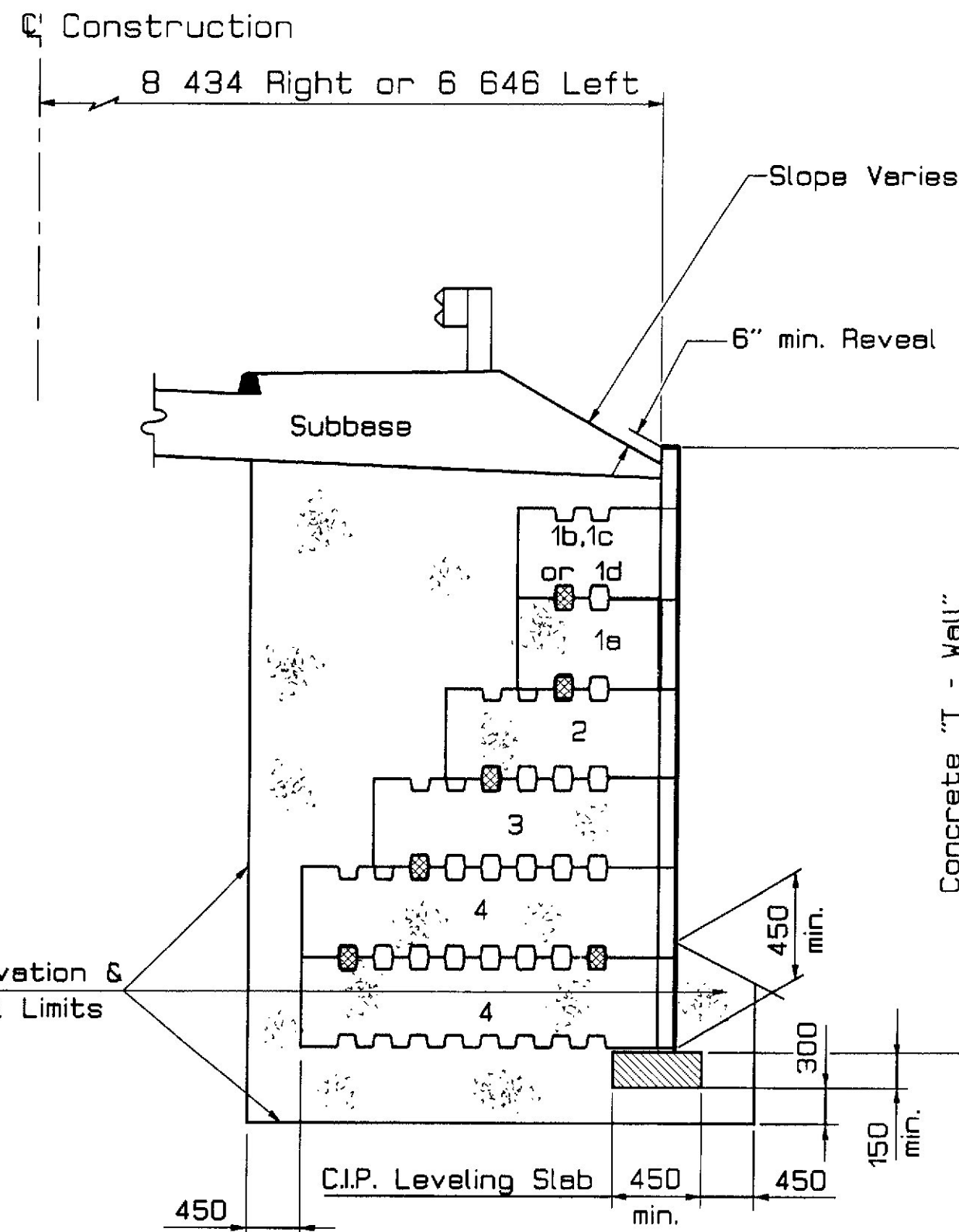
ELEVATION SOUTHERLY T-WALL ABUTMENT 1



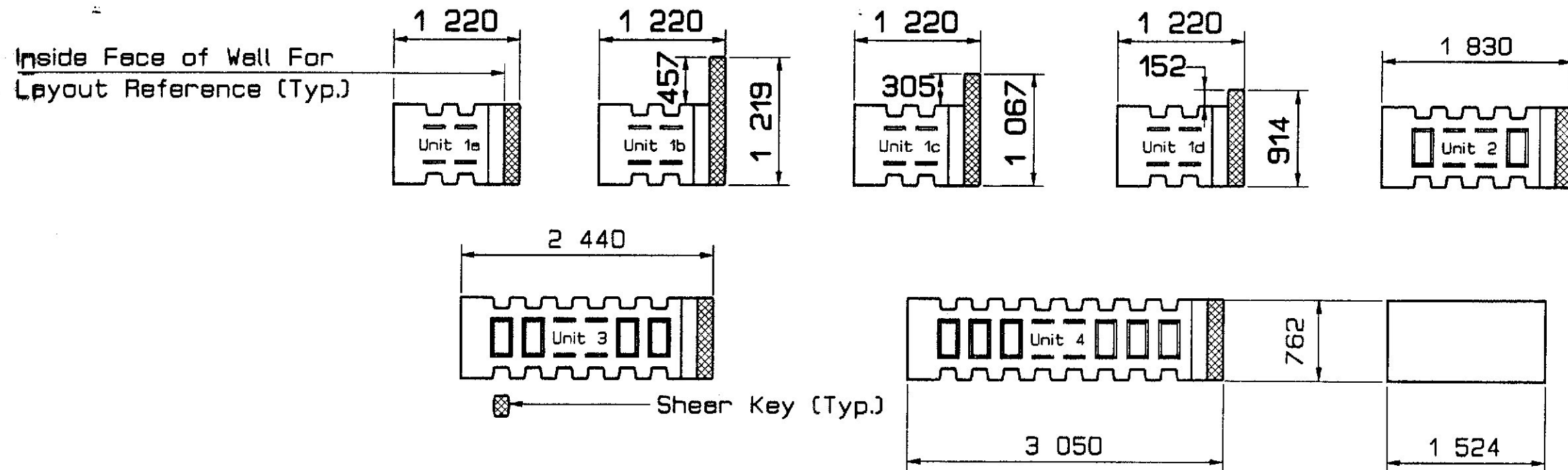
ELEVATION NORTHERLY T-WALL ABUTMENT 2



ELEVATION SOUTHERLY T-WALL ABUTMENT 2



T-WALL SECTION



"T - WALL" UNIT DIMENSIONS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KITTERY POINT BRIDGE
OVER
SPRUCE CREEK
IN THE TOWN OF
KITTERY
YORK COUNTY
TWALL DETAILS

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

TWALL
16APR97-15JUN20