DIA3 | WWGRAPH.CIV_GENE | C00416_DVCTTLSTL_FIGS.I DWG: C00416

F.A.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	I	103

WATERVILLE/WINSLOW
PIN 000566.40

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CONVENTIONAL SIGNS

COUNTY LINES
TOWN LINES
PROPERTY LINES
R/W LINES - EXISTING
R/W LINES - NEW - ACCESS CONTROL
R/W LINES - NEW - NO ACCESS CONTROL
CULVERT - EXISTING
CULVERT - PROPOSED
CURBING - EXISTING
CURBING - PROPOSED
TRAVELLED WAY - EXISTING
TRAVELLED WAY - PROPOSED
UNDERGROUND UTILITIES - EXISTING
UNDERGROUND UTILITIES - PROPOSED
RAILROAD - SINGLE TRACK
RAILROAD - DOUBLE TRACK
UTILITY POLE - EXISTING
UTILITY POLE - JOINT OCCUPANCY
PROPOSED UTILITY POLE - TEMPORARY
PROPOSED UTILITY POLE - PERMANENT
TREES
WOODS
hardwood softwood

SCALES

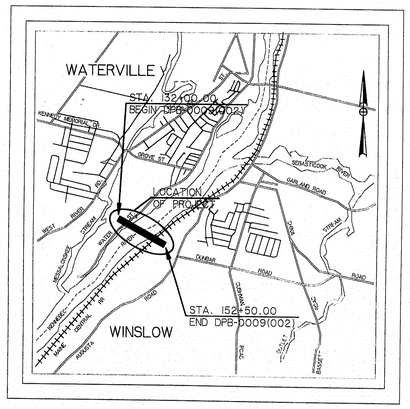
PLANS 50' 0 50' 100'
PROFILES HOR. 50' 0 50' 100'
PROFILES VER. 5' 0 5' 10'
CROSS SECTIONS 5' 0 5' 10'

CONTRACT DESCRIPTION

VOLUME I - STEEL ALTERNATE
VOLUME 2 - CONCRETE ALTERNATE

NOTE:

IT IS THE INTENT TO AWARD ONLY VOLUME I OR ONLY VOLUMNE 2

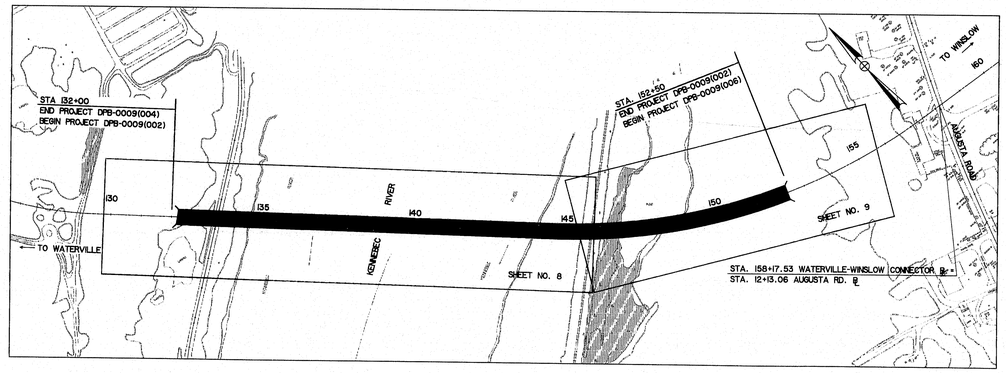


A PORTION OF KENNEBEC COUNTY
0 2500 5000
SCALE IN FEET

PLANS

WATERVILLE/WINSLOW
KENNEBEC COUNTY
DONALD V. CARTER BRIDGE
PROJECT NO. DPB-0009(002)
PROJECT LENGTH = 0.38 MILES
A BRIDGE PROJECT

VOLUME I - STEEL ALTERNATE



LAYOUT PLAN
200 0 200 400
GRAPHIC SCALE 1"=200'

INDEX OF SHEETS

SEE SHEET NO. 2 FOR INDEX

DONALD V. CARTER BRIDGE
TRAFFIC DATA

A.A.D.T. (1994)	12550
A.A.D.T. (2014)	15110
D.H.V.	1511
T.(%D.H.V.)	3
D.(%D.H.V.)	55
V.	50 MPH
P.S.D.(%)	N/A
18 KIPS	P(2.5)122

NOTE

ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE GOVERNED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (REVISION OF OCTOBER 1990) AND SUPPLEMENTALS THERETO, EXCEPT AS MODIFIED ON THE PLANS AND IN THE SPECIAL PROVISIONS.

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER — DATE

CHIEF ENGINEER — DATE

As Built 12/31/96

Prepared by:

HNTB ARCHITECTS ENGINEERS PLANNERS

ENGINEERS SIGNATURE — 2/20/95 DATE

STATE OF MAINE — CARL J. MCLICA — 11114 — REGISTERED PROFESSIONAL ENGINEER

115-187

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION

APPROVED:

DIVISION ADMINISTRATOR — DATE

D:\3-[WWGRAPH.STR.DVCARTER.STEEL]D05204.FSBU.DWG= STLINDEX

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	2	103

CONTRACT SHEET NO.	BRIDGE SHEET NO.	DESCRIPTION
1.		TITLE SHEET
2.		INDEX OF SHEETS
3.		ESTIMATED QUANTITIES AND GENERAL NOTES
4.		HIGHWAY PROFILE
5.-7.		HIGHWAY CROSS SECTIONS
8.-9.	B1 - B2	PLAN AND ELEVATION
10.	B3	GENERAL NOTES
11.	B4	BORING PLAN
12.-26.	B5 - B19	BORING LOGS
27.	B19A	FOUNDATION SURVEY (NORTH SOIL PROFILE)
28.	B19B	FOUNDATION SURVEY (SOUTH SOIL PROFILE)
29. 31 REV	B20 - B22	FOUNDATION PLAN
32.	B23	COFFERDAM DETAILS
33. REV	B24	ABUTMENT 1 (CONCRETE)
34.	B25	ABUTMENT 1 (RE-STEEL)
35. REV.	B26	ABUTMENT 2 (CONCRETE)
36.	B27	ABUTMENT 2 (RE-STEEL)
37.	B28	ABUTMENT DETAILS
38.	B29	WINGWALL DETAILS
39. REV	B30	PIER 1 DETAILS
40.	B31	PIER 1 RE-STEEL
41. REV	B32	PIER 2 DETAILS
42.	B33	PIER 2 RE-STEEL
43. REV.	B34	PIER 3 DETAILS
44.	B35	PIER 3 RE-STEEL
45.	B36	PIER 4 DETAILS
46.	B37	PIER 4 RE-STEEL
47.	B38	PIER 5 DETAILS
48.	B39	PIER 5 RE-STEEL
49. REV	B40	PIER 6 DETAILS
50.	B41	PIER 6 RE-STEEL
51. REV	B42	PIER 7 DETAILS
52.	B43	PIER 7 RE-STEEL
53. REV	B44	PIER 8 DETAILS
54.	B45	PIER 8 RE-STEEL
55. REV	B46	PIER 9 DETAILS
56.	B47	PIER 9 RE-STEEL
57. REV	B48	PIER 10 DETAILS
58.	B49	PIER 10 RE-STEEL
59.	B50	PIER CAP DETAILS
60.-65.	B51 - B56	FRAMING PLAN
66.	B57	CROSSFRAME DETAILS
67.-68.	B58 - B59	DEFLECTION DIAGRAM
69.-70.	B60 - B61	CAMBER DIAGRAM
71.-72.	B62 - B63	BEARING DEVICES
73.	B64	GIRDER SPLICE DETAILS
74.-76. REV	B65 - B67	CATWALK DETAILS
77.-79.	B68 - B70	BLOCKING ELEVATIONS
80.-84.	B71 - B75	DECK PLAN
85	B76	DECK SECTIONS
86.	B77	BARRIER DETAILS
87.-88.	B78 - B79	EXPANSION JOINT DETAILS
89.-95.	B80 - B86	REINFORCING STEEL SCHEDULE

REVISED IN AS BUILT

BRIDGE STANDARDS

96.	BD 112-93	DIAPHRAGMS & CROSSFRAMES
97.	BD 304-93	EXPANSION DEVICE: FINGER JOINT
98.	BD 501-93	SUBSTRUCTURE DETAILS
99.	BD 521-93	SUPERSTRUCTURE DETAILS

HIGHWAY STANDARDS

100.	HD-7	EROSION CONTROL FOR DITCHES AND SLOPES
101.	HD-10	MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES
102.	HD-11	MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES
103.	HD-12	MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES

AS BUILT Comm 12/1/96

115-188

NO.	REVISION	BY	DATE

WATERWIN

	BY	DATE
DESIGNED:		
DRAWN:		
CHECKED:		
IN CHARGE OF		

HNTB ARCHITECTS ENGINEERS PLANNERS

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

INDEX OF SHEETS

SHEET OF AUGUSTA, MAINE

DIA3 RWSRAPH_GV_GENE CD9402_GENQUANSTL_F08.I DWG: CD9402

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	3	103

ITEM NO.	ITEM DESCRIPTION	BRIDGE QUANTITY	HIGHWAY QUANTITY	TOTAL QUANTITY	UNIT
108.51	PROSECUTION OF WORK - INITIAL SCHEDULE	.95	.05	1	LS
108.52	PROSECUTION OF WORK - MONTHLY UPDATE			25	EA
201.11	CLEARING		2	2	ACRES
203.231	DISPOSAL OF RIVERBED EXCAVATION	2,100		2,100	CY
203.233	DISPOSAL OF SPECIAL EXCAVATION	140		140	CY
203.24	COMMON BORROW		6,600	6,600	CY
203.25	GRANULAR BORROW	600		600	CY
203.26	GRAVEL BORROW	200		200	CY
206.082	STRUCTURAL EARTH EXCAVATION - ABUTMENTS	85		85	CY
206.10	STRUCTURAL EARTH EXCAVATION - PIERS	3,300		3,300	CY
206.11	STRUCTURAL ROCK EXCAVATION - PIERS	55		55	CY
403.10	HOT BITUMINOUS PAVEMENT GRADING D	1,825		1,825	TON
501.46	STEEL H-BEAM PILES 73 lbs/ft. DELIVERED	10,458		10,458	LF
501.461	STEEL H-BEAM PILES 73 lbs/ft. IN PLACE	10,458		10,458	LF
501.90	PILE TIPS	224		224	EA
501.91	PILE SPLICES	246		246	EA
501.92	PILE MOBILIZATION	1		1	LS
502.219	STRUCTURAL CONCRETE ABUT. & RETAINING WALLS	1		1	LS
502.239	STRUCTURAL CONCRETE PIERS	1		1	LS
502.24	STRUCTURAL CONCRETE PIERS (PLACED UNDERWATER)	1,640		1,640	CY
502.26	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB	1		1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS	1		1	LS
503.12	REINFORCING STEEL, FABRICATED & DELIVERED	1,695,000		1,695,000	LB
503.13	REINFORCING STEEL, PLACING	1,695,000		1,695,000	LB
504.70	STRUCTURAL STEEL, FABRICATED & DELIVERED	1		1	LS
504.71	STRUCTURAL STEEL, ERECTION	1		1	LS
505.08	SHEAR CONNECTORS	1		1	LS
508.13	MEMBRANE WATERPROOFING	1		1	LS
511.071	COFFERDAM: (PIER 2)	1		1	LS
511.072	COFFERDAM: (PIER 3)	1		1	LS
511.073	COFFERDAM: (PIER 4)	1		1	LS
511.074	COFFERDAM: (PIER 5)	1		1	LS
511.075	COFFERDAM: (PIER 7)	1		1	LS
511.076	COFFERDAM: (PIER 8)	1		1	LS
512.08	FRENCH DRAINS	167		167	LF
513.20	AGGREGATE FOR SLOPE PROTECTION	730		730	SY
513.21	BITUMINOUS MATERIAL FOR SLOPE PROTECTION	1,100		1,100	GAL
514.06	CURING BOX FOR CONCRETE CYLINDERS	5		5	EA
520.23	EXPANSION DEVICE - FINGER JOINT: ABUTMENTS	2		2	EA
520.23	EXPANSION DEVICE - FINGER JOINT: PIER	1		1	EA
521.31	FABRIC TROUGH FOR FINGER JOINT: ABUTMENTS	2		2	EA
521.31	FABRIC TROUGH FOR FINGER JOINT: PIER	1		1	EA
523.10	BEARING DEVICE ASSEMBLY (POT BEARING)	65		65	EA
526.32	PERMANENT CONCRETE BARRIER TYPE III	4,066		4,066	LF
615.07	LOAM		80	80	CY
618.141	SEEDING - METHOD NUMBER 3		13	13	UNIT
* 618.15	TEMPORARY SEEDING		50	50	LBS
619.12	MULCH		16	16	UNIT
629.05	HAND LABOR, STRAIGHT TIME		25	25	MH
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)		25	25	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)		25	25	HR
631.36	FOREMAN		8	8	HR
639.18	FIELD OFFICE - TYPE A	.95	.05	1	EA
639.22	TEST FACILITIES - BIT. MIXES	1		1	LS
639.23	TESTING FACILITIES - CONCRETE	1		1	LS
652.31	TYPE I BARRICADE			20	EA
652.33	DRUM			10	EA
652.35	CONSTRUCTION SIGNS			265	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES			490	CD
* 652.38	FLAGGER			200	MH
* 656.55	DUMPED STONE		25	25	CY
656.632	30 INCH TEMPORARY SILT FENCE		500	500	LF
659.10	MOBILIZATION	.95	.05	1	LS
660.21	ON-THE-JOB TRAINING (BID)			11,000	MH

* UNDETERMINED LOCATION

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	RJD	2/95
DRAWN:	SV	2/95
CHECKED:	RJD	2/95
IN CHARGE OF	CJM	

GENERAL NOTES

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE THE MAINE CENTRAL RAILROAD, KENNEBEC SANITARY TREATMENT DISTRICT, AND THE TOWN OF WINSLOW.
2. LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED HIGHWAY EMBANKMENT SLOPE AREA. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES UNLESS OTHERWISE NOTED. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE ENGINEER.
3. UNLESS OTHERWISE NOTED, SEEDING METHOD NO. 3 SHALL BE UTILIZED ON ALL HIGHWAY EMBANKMENT SLOPES.
4. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE UNDER ITEMS 629.05, HAND LABOR; 631.12, ALL PURPOSE EXCAVATOR; AND 631.172, TRUCK (LARGE).
5. MULCH SHALL BE APPLIED TO ALL SEEDED AREAS.
6. FOR THE TEMPORARY CONSTRUCTION/RIVER ACCESS REQUIREMENTS REFER TO THE PERMIT. PAYMENT FOR THE CONSTRUCTION/RIVER ACCESS WILL BE INCIDENTAL TO THE CONTRACT.
7. CLEARING HAS BEEN ESTIMATED FOR THE AREA WITHIN THE LIMITS OF WORK AS OUTLINED BELOW:

   STA. 130+75 TO STA 134+60
   STA. 148+00 TO STA. 151+90

   THE CLEARING SHALL BE 10' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINE AND/OR BRIDGE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

AS BUILT Cam 12/18/96

115-189

STEEL ALTERNATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

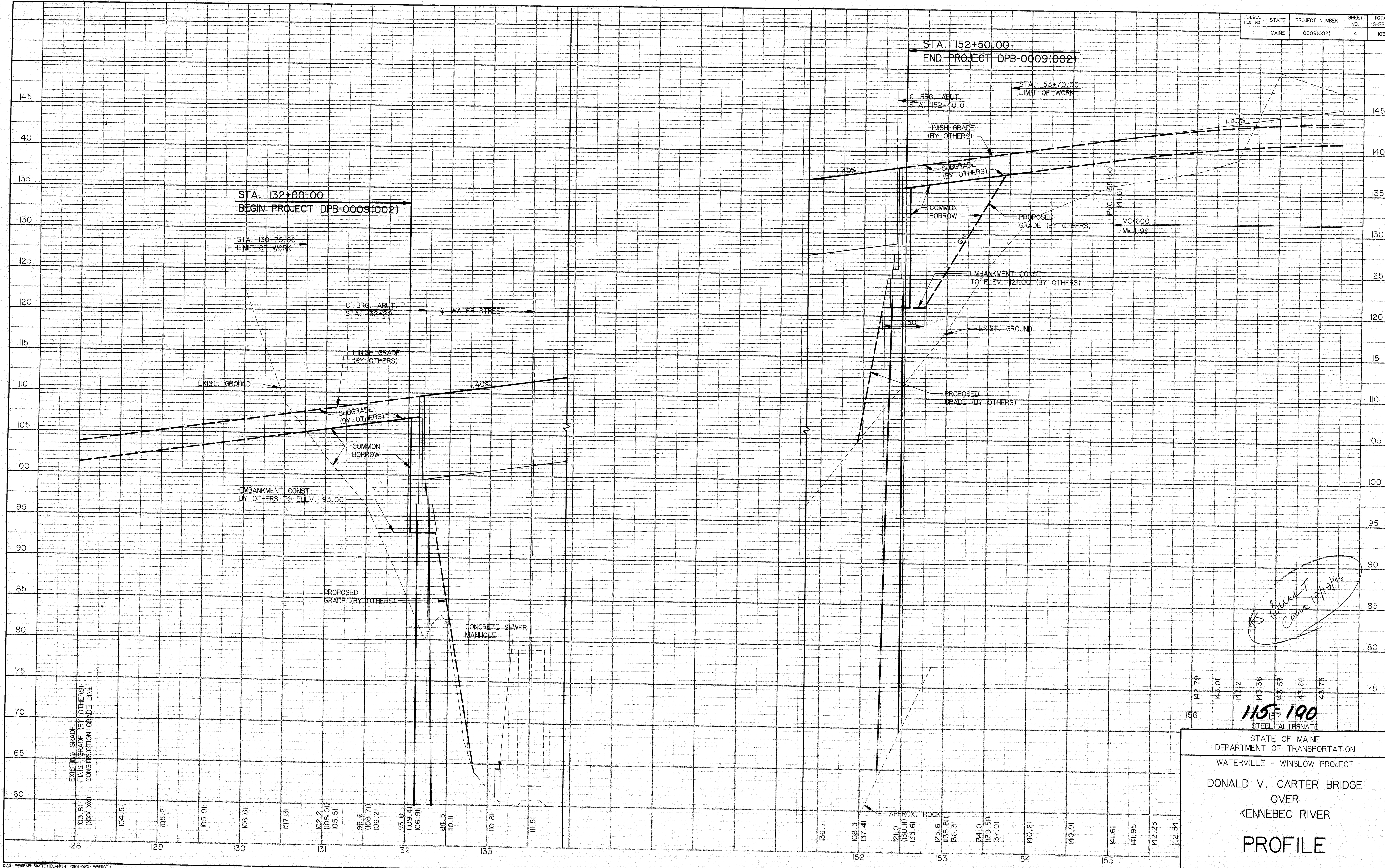
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

ESTIMATED QUANTITIES
AND
GENERAL NOTES

SHEET OF AUGUSTA, MAINE

HNTB
ARCHITECTS ENGINEERS PLANNERS

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	4	103



115-190

As Built
[illegible] 12/13/96

STEEL ALTERNATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

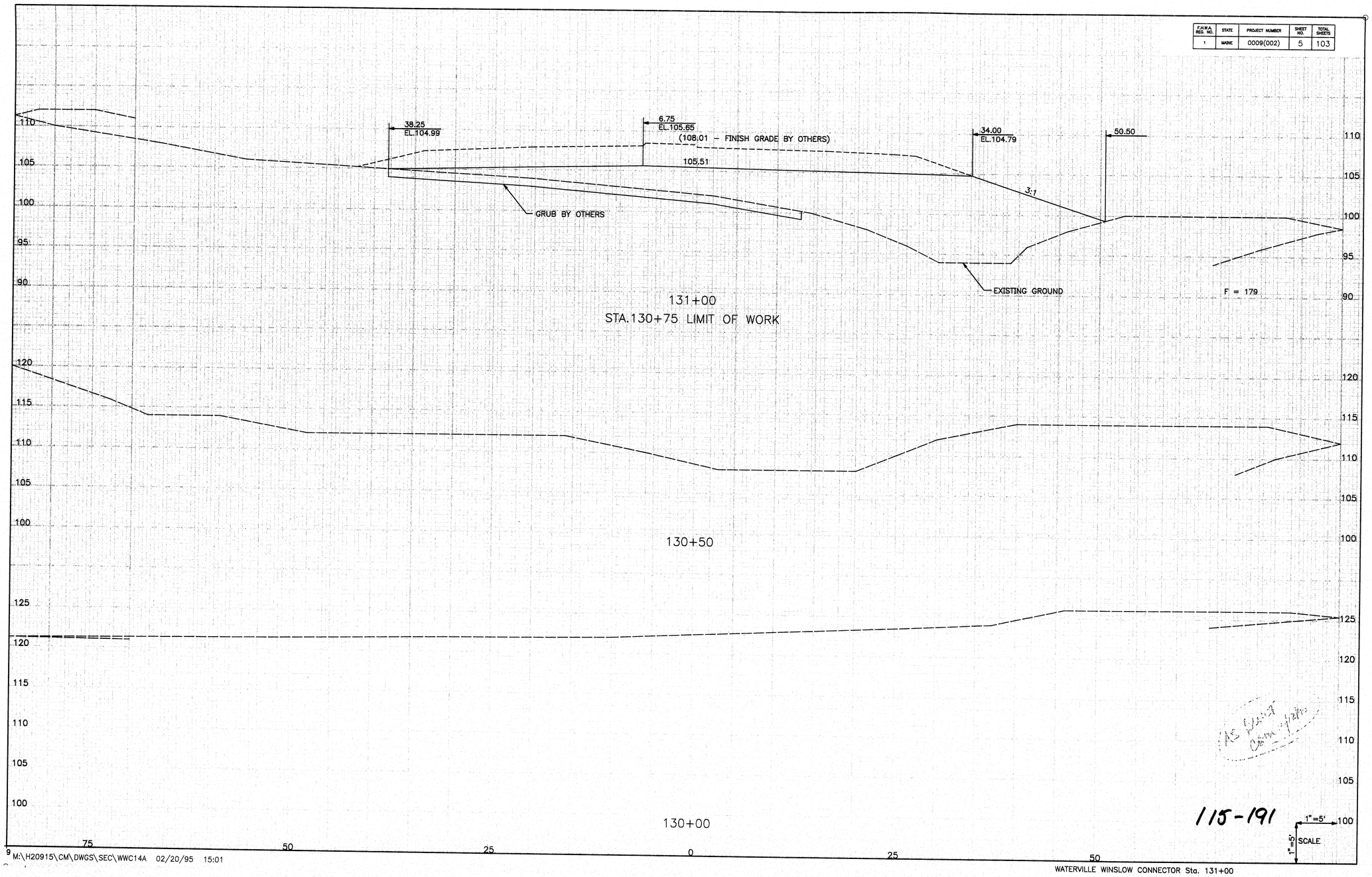
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PROFILE

AUGUSTA, MAINE

WATERVILLE-WINSLOW

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	5	103



As built
Dim plate

115-191

1"=5'
1"=5' SCALE

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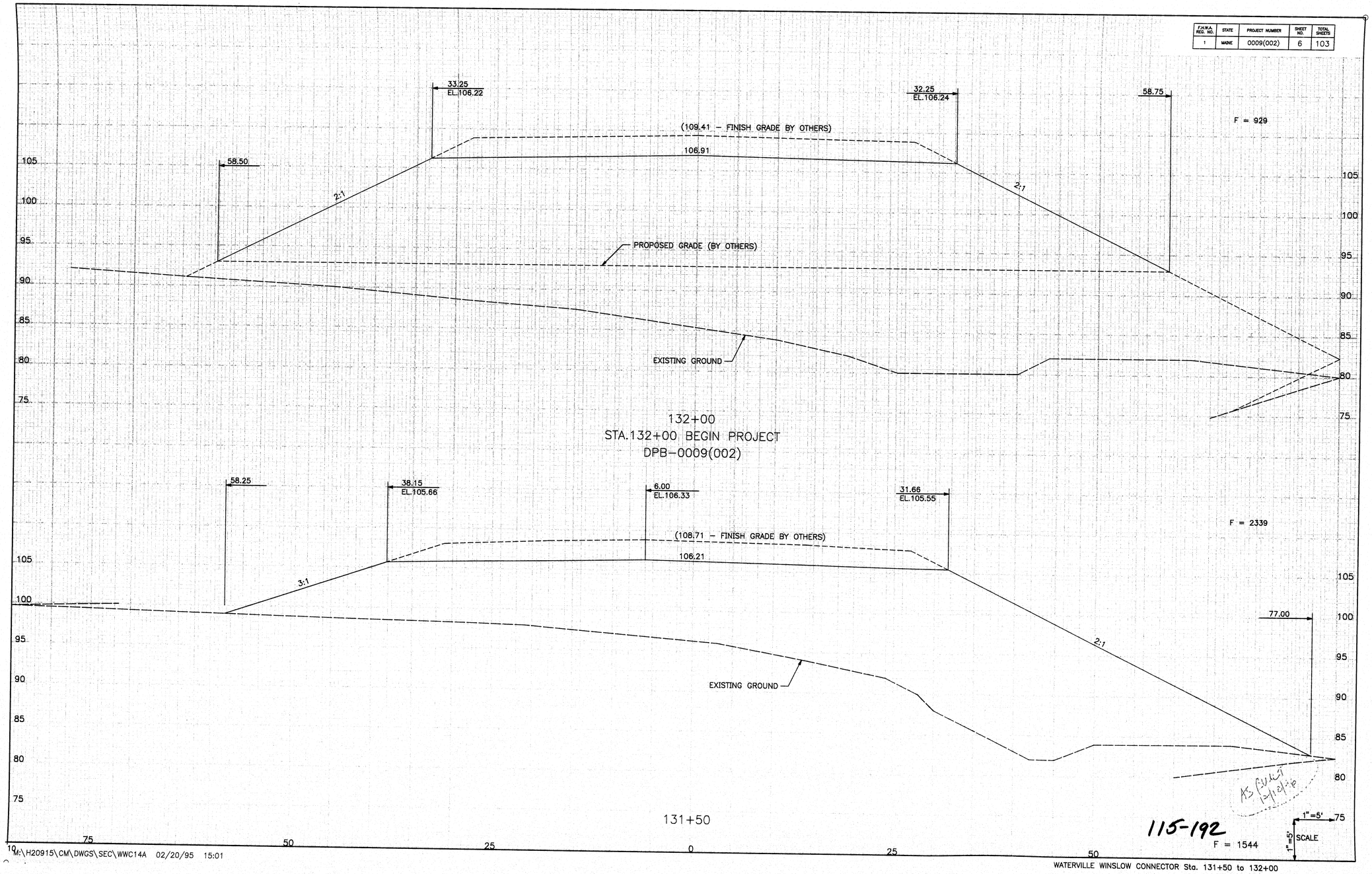
WATERVILLE WINSLOW CONNECTOR Sta. 131+00

F.A.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	6	103



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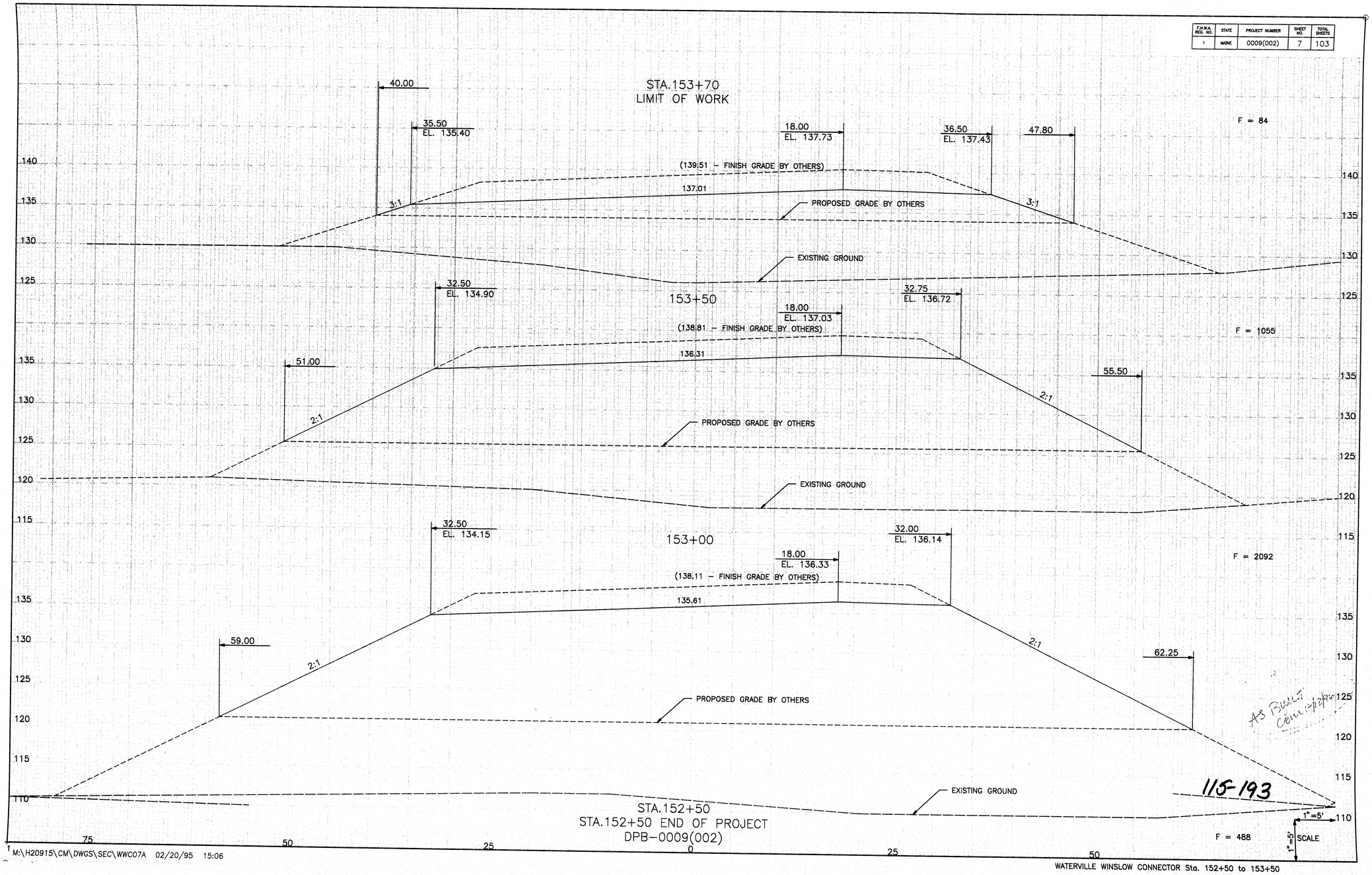
WATERVILLE WINSLOW CONNECTOR Sta. 131+50 to 132+00

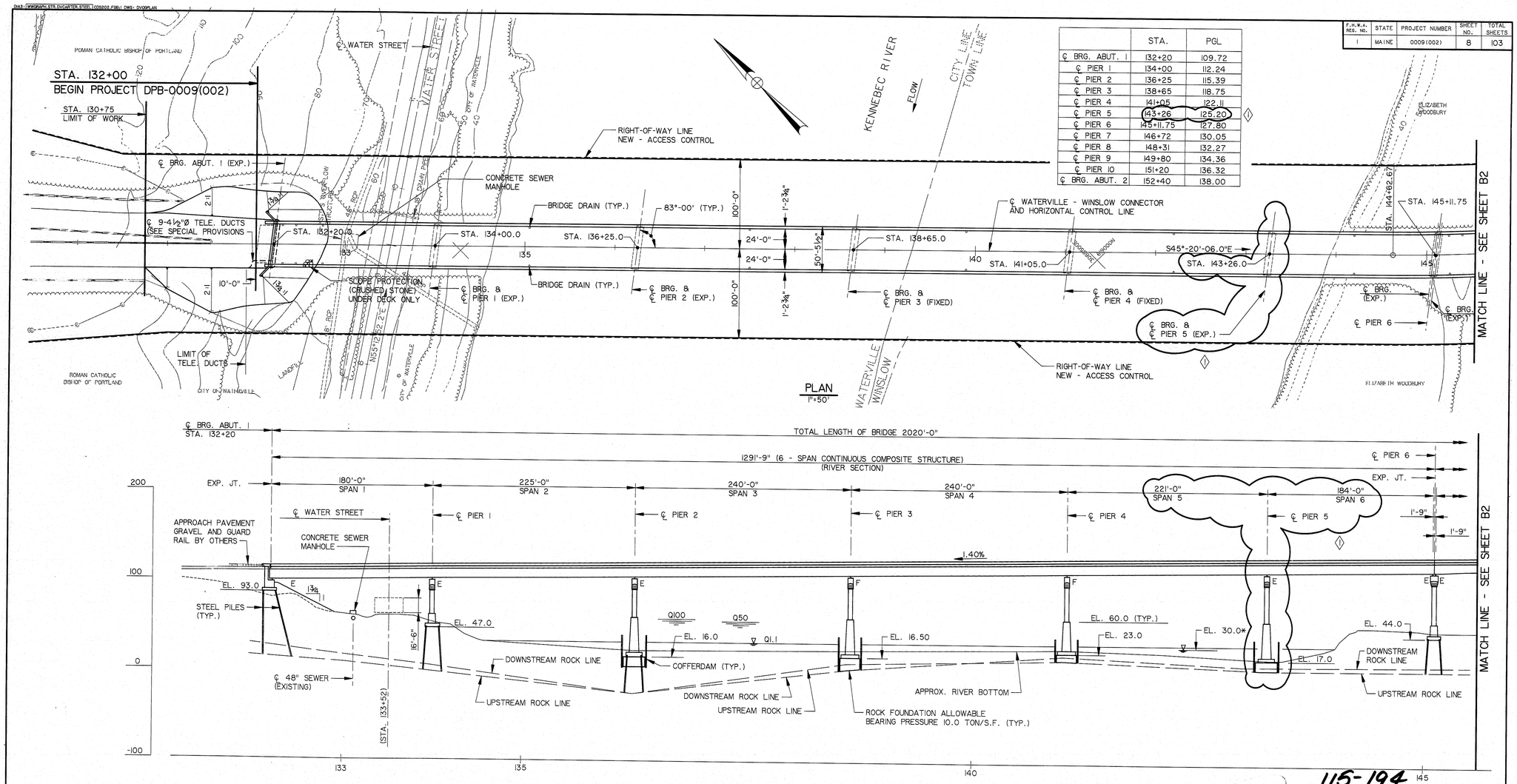
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	7	103



AS BUILT

115-193

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	8	103



PLAN
1"=50'

	STA.	PGL
℄ BRG. ABUT. 1	132+20	109.72
℄ PIER 1	134+00	112.24
℄ PIER 2	136+25	115.39
℄ PIER 3	138+65	118.75
℄ PIER 4	141+05	122.11
℄ PIER 5	143+26	125.20
℄ PIER 6	145+11.75	127.80
℄ PIER 7	146+72	130.05
℄ PIER 8	148+31	132.27
℄ PIER 9	149+80	134.36
℄ PIER 10	151+20	136.32
℄ BRG. ABUT. 2	152+40	138.00

ELEVATION
1"=50'

NOTES

1. * COFFERDAM SEAL DESIGN WATER LEVEL
2. FOR BRIDGE DRAIN LOCATIONS, SEE SHEET B2.

NO.	REVISION	BY	DATE
◇	PIER 5 RELOCATION	SM	9/95

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-194

STEEL ALTERNATIVE

AS BUILT 12/2/96

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

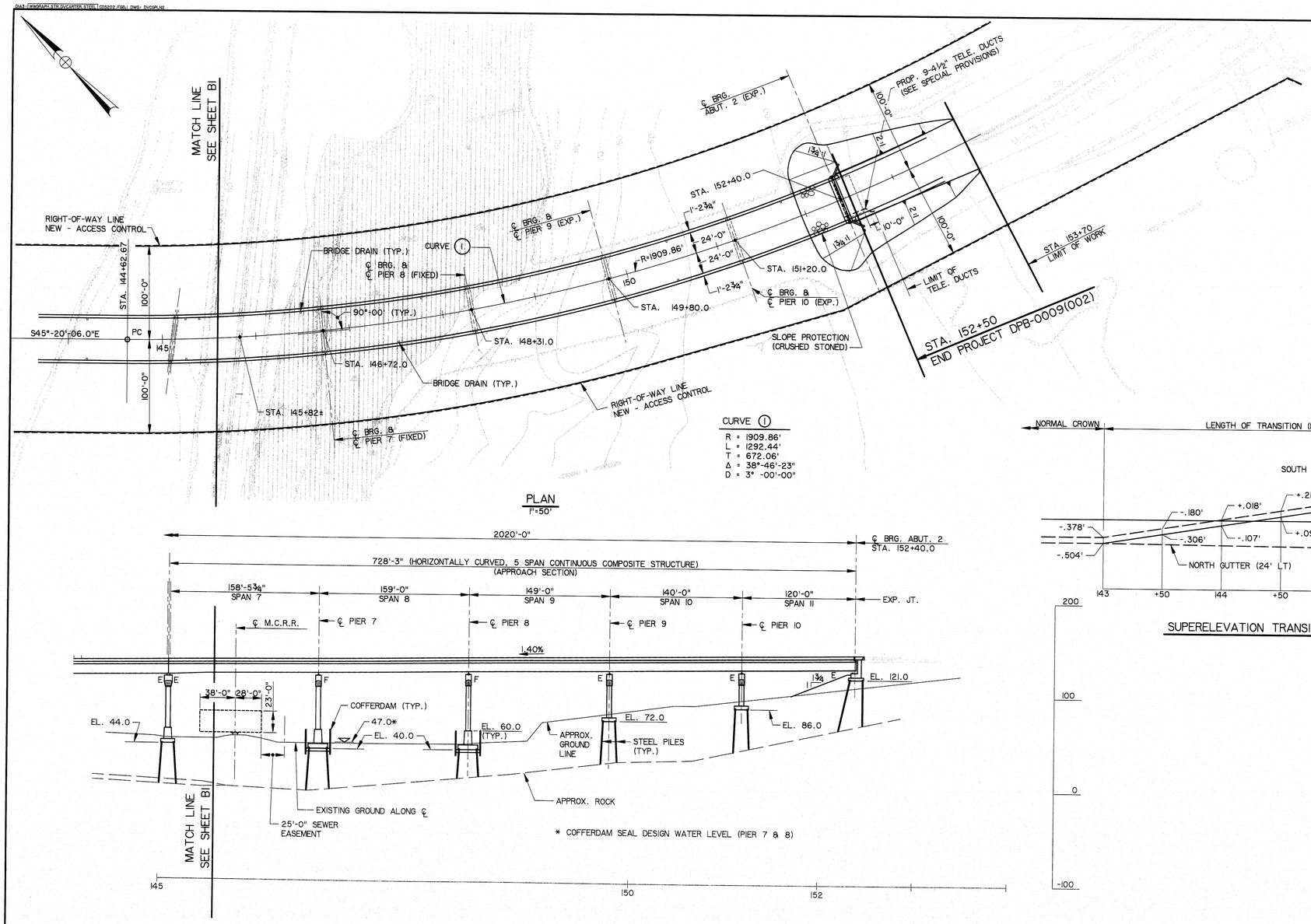
DONALD V. CARTER BRIDGE OVER KENNEBEC RIVER

PLAN AND ELEVATION - I

HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B1 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	9	103



PLAN
1"=50'

CURVE (1)
R = 1909.86'
L = 1292.44'
T = 672.06'
Δ = 38°-46'-23"
D = 3° -00'-00"

* COFFERDAM SEAL DESIGN WATER LEVEL (PIER 7 & 8)

ELEVATION
1"=50'

BRIDGE DRAIN		
STATION	24' LEFT	24' RIGHT
132+30		I
132+45		I
132+75		I
135+05		I
137+50		I
139+90		I
142+20		I
144+20		I
145+25		I
145+40	I	
146+50	I	
147+50		I
147+80	I	
148+87	I	
150+50	I	I
151+80	I	

SUPERELEVATION TRANSITION DIAGRAM

AS BUILT CEM 12/8/96

115-195
STEEL ALTERNATIVE

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PLAN AND ELEVATION - II

HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B2 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	10	103

GENERAL NOTES

SUPERSTRUCTURE

SPECIFICATIONS

DESIGN: LOAD FACTOR DESIGN
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 15TH EDITION, 1992.
AASHTO GUIDE SPECIFICATIONS FOR HORIZONTALLY CURVED HIGHWAY BRIDGES EDITION 1993, AND INTERIM SPECIFICATIONS.

CONTRACT: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF OCTOBER 1990.

DESIGN LOADING

LIVE LOAD: HS25, ALTERNATE MILITARY LOADING
FATIGUE 500,000/100,000 CYCLES

MATERIALS

CONCRETE: DECK SLAB - CLASS A
BARRIERS - CLASS A WITH SILICA FUME ADDITIVE

REINFORCING STEEL: ASTM DESIGNATION A615, GRADE 60.

STRUCTURAL STEEL: ALL STRUCTURAL STEEL SHALL BE ASTM DESIGNATION A709, GRADE 50W.

HIGH STRENGTH BOLTS: ASTM DESIGNATION A325, TYPE 3.

BASIC DESIGN STRESSES

CONCRETE: DECK SLAB f'c = 4,000 PSI
BARRIERS f'c = 4,000 PSI

REINFORCING STEEL: fy = 60,000 PSI

STRUCTURAL STEEL: fy = 50,000 PSI

TRAFFIC DATA

AADT 1990	= 12,558
AADT 2010	= 14,089
DHV 2010	= 1452
T(%) (DH)	= 2%
DD (DH)	= 56/44%
V	= 50 MPH

SUBSTRUCTURE

SPECIFICATIONS

DESIGN: LOAD FACTOR DESIGN
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 15TH EDITION, 1992. AND INTERIM SPECIFICATIONS.

CONTRACT: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF OCTOBER 1990.

DESIGN LOADING

LIVE LOAD: HS25, ALTERNATE MILITARY LOADING

EARTHQUAKE LOAD: ACCORDING TO AASHTO FOR ACCELERATION COEFFICIENT A = 0.10 AND CATEGORY B

MATERIALS

CONCRETE: ABUTMENTS, APPROACH SLABS - CLASS B
PIERS (CAP, SHAFT AND FOOTING) - CLASS A
PIER SEALS - CLASS S
ALL OTHER CONCRETE SHALL BE CLASS A.

REINFORCING STEEL: ASTM DESIGNATION A615, GRADE 60.

STRUCTURAL STEEL: FOUNDATION PILING SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270, GRADE 50. (ASTM A709, GRADE 50)

POT BEARING: ALL STRUCTURAL STEEL SHALL BE ASTM DESIGNATION A709, GRADE 50. SEE SUPPLEMENTAL SPECIFICATIONS.

BASIC DESIGN STRESSES

CONCRETE: ABUTMENTS/APPROACH SLABS f'c = 3,000 PSI
PIERS f'c = 4,000 PSI
PIER SEALS f'c = 3,500 PSI

REINFORCING STEEL: f'y = 60,000 PSI

DATUM

BASED ON 1929 N.G.V.D

HYDROLOGIC DATA

HYDROLOGIC PARAMETERS:

DRAINAGE AREA	= 5,182 SQUARE MILES
ORDINARY HIGH WATER (Q1.1)	= 33,000 CFS
DESIGN DISCHARGE (Q50)	= 149,420 CFS
CHECK DISCHARGE (Q100)	= 168,300 CFS
FLOOD OF RECORD (1987)	= 212,770 CFS @ ELEV. 64.2

HYDRAULIC PARAMETERS:

HEADWATER EL. @ Q50	56.3'
HEADWATER EL. @ Q100	58.9'
DISCHARGE VELOCITY @ Q50	4.8 FPS*
DISCHARGE VELOCITY @ Q100	5.0 FPS
ORDINARY HIGH WATER Q1.1	36.2'
VERTICAL CLEARANCE @ Q50	43.0'±

* OVERBANK VELOCITIES (0.3 FPS TO 0.9 FPS)

A HYDROLOGIC REPORT OF THE BRIDGE SITE IS AVAILABLE FOR THE CONTRACTOR'S REFERENCE AT THE BRIDGE DESIGN OFFICE IN AUGUSTA.
THE HYDRAULIC REPORT IS BASED ON THE INTERPRETATION BY THE DEPARTMENT OF INFORMATION OBTAINED FOR THE SUBJECT SITE AND NO ASSURANCE IS GIVEN THAT THE INFORMATION OF THE CONCLUSIONS OF THE REPORT WILL BE REPRESENTATIVE OF ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION.

FOUNDATIONS

ABUTMENTS: HP14x73 PILES SHALL BE DRIVEN TO ULTIMATE CAPACITY OF 203 TONS. DESIGN LOAD = 80 TONS AND 10 TONS FOR DRAG DOWN FORCES WITH F.S. = 2.25.

PIERS: SPREAD FOOTING ON ROCK - 10.0 TON/SF ALLOWABLE BEARING PRESSURE WITH COEFFICIENT OF FRICTION = 0.55.
HP14x73 PILES SHALL BE DRIVEN TO ULTIMATE CAPACITY OF 270 TONS. DESIGN LOAD = 120 TONS AND ALLOWABLE TENSION OF 12 TONS WITH F.S. = 2.25.

CONSTRUCTION CONTROL: WAVE EQUATION ANALYSIS AND PILE DYNAMIC TEST (MEASUREMENT AND ANALYSIS) IS REQUIRED FOR THE ABUTMENT AND PIER PILES INSTALLATION.

POINTED REINFORCED PILE TIPS SHALL BE USED FOR ALL FOUNDATION PILES. PILE LENGTHS SHOWN ON FOUNDATION PLAN ARE FOR ESTIMATING PURPOSES ONLY.

CONSTRUCTION

FOOTING ELEVATIONS AND SUBSTRUCTURE DETAILS ARE SUBJECT TO CHANGE DEPENDING UPON FOUNDATION MATERIAL ENCOUNTERED. REINFORCING STEEL FOR THE FOOTINGS, COLUMNS AND ABUTMENTS SHALL NOT BE FABRICATED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN MODIFIED AS REQUIRED.

CONCRETE COVER SHALL BE MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF THE REINFORCING STEEL. MINIMUM CONCRETE COVERS ARE SHOWN ON THE REINFORCING DETAILS SHEETS.

MAINTENANCE

POT BEARINGS: TO ACCOMMODATE REMOVAL, REPLACEMENT OR MAINTENANCE OF THE POT BEARINGS, TEMPORARY JACK POSITIONS ARE INDICATED ON THE DRAWINGS.

AS BUILT CGM 10/18/96

115-196

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	9/94
				DRAWN:	RJT	9/94
				CHECKED:	DWR	9/94
				IN CHARGE OF	CJM	

WATERWIN

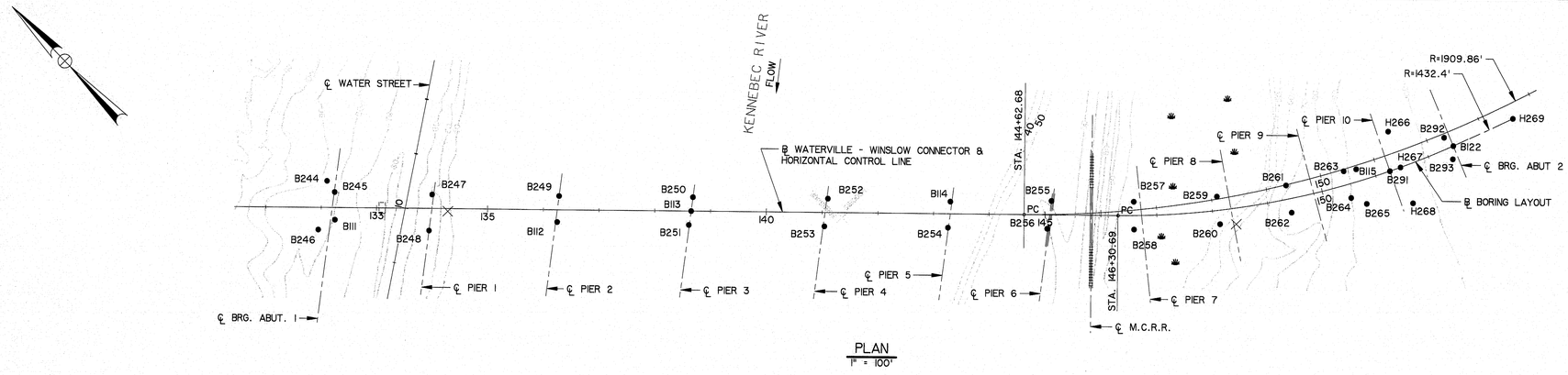
HNTB
ARCHITECTS ENGINEERS PLANNERS

STEEL ALTERNATIVE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

GENERAL NOTES

SHEET B3 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	11	103



PLAN
1" = 100'

BORING LOCATIONS *

BORING	STATION	OFFSET
B244	132+10	48' LT
B245	132+24	28' LT
B111	132+25	22' RT
B246	131+95	40' RT
B247	134+00	25' LT
B248	133+95	40' RT
B249	136+28	25' LT
B112	136+25	22' RT
B250	138+68	25' LT
B113	138+65	CENTER LINE
B251	138+61	25' RT
B252	141+10	25' LT
B253	141+04	25' RT
B114	143+30	22' LT
B254	143+26	25' RT
B255	145+11	25' LT
B256	145+04	25' RT
B257	146+59	25' LT
B258	146+59	25' RT
B259	148+11	25' LT
B260	148+11	25' RT
B261	149+39	25' LT
B262	149+39	25' RT
B263	150+47	25' LT
B264	150+47	25' RT
B115	150+70	22' LT
B265	150+70	43' RT
B291	151+20	CENTER LINE
H266	151+50	65' LT
H267	151+50	CENTER LINE
H268	151+50	65' RT
B292	152+42	27' LT
B293	152+45	27' RT
B122	152+50	CENTER LINE
H269	153+50	CENTER LINE

* LOCATED FROM BORING LAYOUT ℄

LEGEND

1. ▽ - GROUND WATER LEVEL
2. SAMPLE IDENTIFICATION:
   - O — OPEN END ROD
   - T — THIN WALL TUBE
   - U — UNDISTURBED SAMPLE
   - S — SPLIT SPOON
   - C — ROCK CORE
3. DRILLING DESCRIPTION AND PROCEDURE:

ITEM	CASING	DRIVE SAMPLE	CORE BARREL
TYPE	NW	SS	NX
INSIDE DIA. (IN.)	3.0	1 3/8	2 3/8
HAMMER WEIGHT(LB.)	300	140	-
HAMMER FALL (IN.)	24	30	-

GENERAL NOTES

1. THE SUBSURFACE EXPLORATIONS SHOWN HEREON WERE MADE BETWEEN JULY, 1990 AND JANUARY, 1992 FOR THE MAINE DEPARTMENT OF TRANSPORATION.
2. SOIL AND ROCK (WHERE ENCOUNTERED) CLASSIFICATION, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION OF AVAILABLE SUBSURFACE INFORMATION AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING SAMPLE LOCATIONS.
3. OBSERVED WATER LEVELS AND/OR WATER CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.
4. SOUND ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREON. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTENDED FOR DESIGN AND ESTIMATING PURPOSES ONLY. PRESENTATION OF THE INFORMATION ON THE PLANS OR ELSEWHERE IS FOR THE PURPOSE OF PROVIDING INTENDED USERS WITH ACCESS TO THE SAME DATA AVAILABLE TO THE DEPARTMENT. THE SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATIONS, INDEPENDENT ANALYSIS OR JUDGEMENT OF THE CONTRACTOR.

NOTES

1. MEAN SEA LEVEL DATUM (NGVD 1929) IS USED THROUGHOUT.
2. ALL BORINGS TAKEN BY MAINE TEST BORING, INC. UNDER SUPERVISION OF HALEY & ALDRICH, INC., SCARBOROUGH, MAINE.

AS BUILT CGM 12/16/96

115-197

STEEL ALTERNATE

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

HNTB
ARCHITECTS ENGINEERS PLANNERS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING PLAN

SHEET B4 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	12	103

B-246

Ground Elev. 78.5

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0					78.5 0.0	Frozen -FOREST MAT-
		1 2 3	S1 18"	0.5 2.0		Medium stiff dark brown fine sandy SILT, trace rootlets
5						
	21	7 15 16	S2 18"	5.0 6.5	73.0 5.5	Very stiff gray brown mottled fine sandy SILT, little clay -ALLUVIAL DEPOSIT-
	39					
	49					
	48					
	42				68.5 10.0	
10	28	6 10 10	S3 18"	10.0 11.5		Very stiff brown mottled silty CLAY with plant debris
	35					
	43					
	46					
	47					
15	43	2 4 4	S4 18"	15.0 16.5		FVW1, 15.0-15.7 ft., (2 in. X 3 in.); Su = 2820 psf
	49					FVW2, 15.7-16.4 ft., (2 in. X 3 in.); Su = 3140 psf
	65				61.5 17.0	Very stiff brown gray mottled silty CLAY
	74					
	70					
20	51	WOR WOR 2	S5 18"	20.0 21.5		FVW3, 20.0-20.7 ft.; Su = 1080 psf
	61	3				FVW4, 20.7-21.4 ft.; Su = 1260 psf
	65					Stiff dark gray silty CLAY with black streaks (organics)
	69					
	68					
25	57	WOR WOR 2	S6 18"	25.0 26.5		FVW5, 25.0-25.7 ft.; Su = 930 psf
	61					FVW6, 25.7-26.4 ft.; Su = 1110 psf
	62					Stiff dark gray silty CLAY with black streaks (organics)
	66					
	69					
30	63	1 2 3	S7 18"	30.0 31.5		Stiff brown silty CLAY from 30.0-30.5 ft. Gray silty CLAY from 30.5-31.5 ft.
	67					-MARINE DEPOSIT-
	74					
	63					
	68				43.0 35.0	
35	66	7 6 12	S8 18"	35.0 36.5		Medium dense brown silty fine SAND layered with gray brown mottled silty clay (1/2"-1" layers)
	96					
	85					
	68				39.5 39.0	
	144					
40	98	20 20 18	S9 8"	40.0 41.5		Dense brown medium to fine SAND, trace silt
	126					
	155					
	140					
	160					
45	103	15 16 17	S10 8"	45.0 46.5		Dense brown medium to fine SAND, trace silt
	116					
	163					
	159					
	124					
50	136	10 11 8	S11 12"	50.0 51.5		Medium dense brown medium to fine SAND, trace silt
	130					-GLACIOFLUVIAL DEPOSIT-
	137					
	135					
	110				23.5 15.0	
55	85	13 16 25	S12 12"	55.0 56.5		Dense gray silty medium to fine SAND, little coarse sand, trace gravel
	118					-GLACIAL TILL-
	137					
	139					
	164					
60	88	29 27 23	S13 10"	60.0 61.5		Very dense gray silty medium to fine SAND, little coarse sand, little gravel
	100					
	148					
	50/.1				15.4 63.1	Top of Bedrock at 63.1 ft. Seat NW casing at 63.1 ft. Begin NX rock core at 63.1 ft. (See Core Boring Report)

B-246(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60								63.1 ft. of Overburden (See Test Boring Report) NW casing seated at 63.1 ft. Begin NX rock core at 63.1 ft.
65		C1	63.1 68.1	60/50	100/83	FR. TO SL.	15.4 63.1	Hard, fresh, slightly weathered, grey aphanitic SLATE. Joints dipping at low to moderate angles, close to moderate, partly open, planar, smooth, slight staining on some joints surfaces.
							10.4 68.1	Bottom of Exploration at 68.1 ft.

B-111

Ground Elev. 94.9

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0						NOTE: Test boring location was originally laid out on the slope of a fill pile consisting of bituminous asphalt FILL. An access ramp was made and the area around the proposed borehole location was graded prior to set up. Two attempts to auger and drive through the fill were unsuccessful. The third attempt was conducted 5.0 ft. east and 1.2 ft. higher in elevation relative to the original staked location.
5	55	20 32 50	S1 13"	5.0 6.5		Very dense brown-black silty coarse to fine SAND, little fine gravel, asphalt, concrete fragments
	77					-FILL-
	58					
	75					
	101					
10	79	45 57 75	S2 11"	10.0 11.5		Very dense black-brown silty coarse to fine SAND, some fine gravel, little asphalt -FILL-
	80					
	74					
	20				81.3 13.6	
	19					
15	16	5 6 21	S3 10"	15.0 16.5		Stiff to very stiff mottled brown-gray clayey SILT, trace plant stems NOTE: Blow counts irregular
	43					-MARINE DEPOSIT-
	47					
	45					
	50					
20	49	6 8 9	S4 12"	20.0 21.5		Stiff mottled brown-gray laminated silty CLAY, trace fine sand in occasional partings and indistinct zones
	41					
	52					
	64					
	54					
25	47		T1 24"	25.0 27.0		Pushed tube in MARINE CLAY
	49					2 in. x 7 in. Vane Shear Test: 27.0-27.5 ft.; 115 ft. lbs. No remolded
	50					strength taken 27.5-28.14
	57					ft.; 94/33 ft. lbs. Su = 3800 psf
	48					
30	52	WOR 1 3	S5 18"	30.0 31.5		-MARINE DEPOSIT-
	47					
	51					
	54					
	57					
35	52		T2 24"	35.0 37.0		Pushed tube in MARINE CLAY
▽	52					2 in. x 7 in. Vane Shear Test: 37.0-37.5 ft.; 35/9 ft. lbs. 37.5-38.14
	64					ft.; 46/16 ft. lbs. Su = 1500 psf
	62					
40	60	WOR 1 3	S6 18"	40.0 41.5		-MARINE DEPOSIT-
	75					
	107					
	105					
	90				51.4 43.5	
45	74	15 13 18	S7 10"	45.0 46.5		-GLACIOFLUVIAL DEPOSIT- Dense brown fine SAND NOTE: SAND slightly darker brown below 45.5 ft.
	86					
	70					
	80					
	56					
50	69	13 18 20	S8 10"	50.0 51.5		Dense brown fine SAND, trace silt
▽	74					
	79					
	84					
	61					
55	66	12 14 15	S9 11"	55.0 56.5		Medium dense brown fine SAND, little silt, trace medium sand
	70					
	75					
	85					
60	83				35.9 59.0	-GLACIOFLUVIAL DEPOSIT-

B-111 (CONT)

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60						Medium dense gray fine SAND, little silt
	80	10 10 9	S10 14"	60.0 61.5		
	76					
65	212					
		24 21 28	S11 11"	65.0 66.5	28.5 66.4	Dense gray fine SAND, little coarse to medium sand, trace fine gravel -GLACIOFLUVIAL DEPOSIT-
						NOTE: Approximately 30% water loss at 67.0 ft. Casing refusal at 67.0 ft. Encountered boulder and cobble from 67.0-69.1 ft. Possible gravel from 66.4-67.0 ft. and 69.1-69.6 ft.
					25.3 69.6	-GLACIAL TILL- Seat NW casing at 69.6 ft. Begin NX rock core at 67.0 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60								69.6 ft. of Overburden (See Test Boring Report)
65		C1	67.0 72.0	25/NA	86/NA	FR.	28.5 66.4	NOTE: Total water loss at 67.0 ft. NOTE: NX rock cored from 67.0-72.0 ft.; Recovered 21 in. of hard, fresh, sound metasedimentary rock immediately overlying 4 in. of hard, fresh, coarse to fine grained granite. Drill action indicates boulder and cobble respectively. Rapid core advance from 69.1-69.6 ft. Top of Bedrock at 69.6 ft.
70				29/17	100/58	FR.	25.3 69.6	Moderately hard, fresh, grey, aphanitic SLATE; extremely thin bedding and foliation dipping at high angles; joints are very close to close, open, smooth, planar and dipping parallel to bedding; joint surfaces are generally fresh, occasionally slightly oxidized; frequent extremely thin calcite veins dipping parallel to bedding; occasionally folded, clay seam present at 71.8 ft.; tight, smooth, undulating vertical joint at 74.6 ft.; joints are moderately close from 72.0-75.0 ft.; open, smooth, planar, horizontal joints at 71.8 ft., 71.9 ft., and 72.0 ft.; occasional pyrite crystals
		C2	72.0 75.0	36/36	100/100	FR.	19.9 75.0	Bottom of Exploration at 75.0 ft.
75								

NO.	REVISION	BY	DATE

IN CHARGE OF

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

AS BUILT Comm 12/1/96

115-198

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B5 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	13	103

B-245

Ground Elev. 80.8

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		5	S1	0.0		Loose dark brown silty coarse to fine SAND, with roots and gravel
		3	4"	1.5		
		4				
5	15	6	S2	5.0		Medium dense dark brown silty coarse to fine SAND -FILL-
	14	6	4"	6.5		
		5				
	16					
	300					Drilled through root at approximately 8.0 ft.
	24					
10	33	8	S3	10.0		Dense gray-brown silty fine SAND, with roots
	90	11	6"	11.5		
	108	19				
	127				68.8	
	140				12.0	
15	72	5	S4	15.0		Very stiff gray-brown silty CLAY (too stiff to press tube) -MARINE DEPOSIT-
	92	11	16"	16.5		
	112	9				
	108					
	122					
20	55	5	S5	20.0		Very stiff brown silty CLAY, little fine SAND (too stiff to press tube) FV#1, 20.0-20.6 ft.; Su > 5,500 psf
	71	5	18"	21.5		
	84	6				
	101				57.3	
	135				23.5	
25	33	13	S6	25.0		Medium dense brown fine SAND, trace silt Change to 3 in. I.D. casing at 25.0 ft.
	15	15	7"	26.5		
	25	10				
	47					
	60					
	64					
30	25	12	S7	30.0		Medium dense brown medium to fine SAND, trace silt
	40	11	6"	31.5		
	70	13				
	95					
	115					
35	50	22	S8	35.0		Dense brown medium to fine SAND, trace silt -GLACIOFLUVIAL DEPOSIT-
	61	19	6"	36.5		
	100	21				
	105					
	113					
40	57	20	S9	40.0		Very dense brown medium to fine SAND, trace silt, trace coarse sand
	78	26	6"	41.5		
	115	28				
	143					
	157					
45	57	25	S10	45.0		Dense brown medium to fine SAND, trace silt
	87	42	6"	46.5		
	118	25				
	125					
	120					
50	48	18	S11	50.0		Dense brown medium to fine SAND, trace silt
	62	16	8"	51.5		
	67	16				
	82					
	81					
55	39	13	S12	55.0	25.7	
	47	16	12"	56.5	55.1	Dense gray medium to fine SAND, trace silt
	63	17				
	71					
	62				20.8	
60	57	15	S13	60.0	60.0	Dense gray medium to fine SAND, trace silt, trace fine gravel -GLACIAL TILL-
	72	20	12"	61.9		
	115	20				
	58					
	30					
65	65	15	S14	65.0		
		16	3"	66.4		
		50			14.4	
					66.4	Very dense gray coarse to fine GRAVEL

Bedrock encountered at 66.4 ft.
Seat NW casing at 66.5 ft.
Begin NX rock core at 66.5 ft. (See Core Boring Report)

B-245 (CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60								
								66.4 ft. of Overburden (See Test Boring Report) Begin NX rock core at 66.4 ft.
65		C1	66.5 68.4	22/5	96/22	SL. TO MOD.	14.3 66.5	C1: Moderately hard, gray aphanitic to fine grained -SCHIST-. Primary joint set is close, tight to slightly open, slightly to moderately weathered, planar and smooth, dipping at high angles.
	3							C2: Same lithology as C1, primary joint set same as C1. Secondary joint set is close, open, stepped and smooth to undulating and occasionally rough, dipping at low to horizontal angles, calcite stringers noted.
	3	C2	68.4 70.7	28/11	100/39	FR. TO SL.		C3: Moderately hard, gray aphanitic to fine grained -SCHIST-. Primary joint set is fresh, tight to slightly open, close, planar and smooth, to less frequently stepped and smooth, dipping at high angles. Frequent calcite stringers.
70	3							
	3	C3	70.7 75.7	60/42	100/70	FR.		
	3							
	4							
	3							
75	4						5.1 75.7	Bottom of Exploration at 75.7 ft.
	4							

H-267

Ground Elev. 95.9

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		4	S1	0.0	95.7	
		1	6"	1.5	0.2	Dark brown loamy SILT, with frozen leaves -FOREST MAT-
		1			93.9	
					2.0	Very loose brown silty fine SAND, trace coarse sand, with rootlet. -TOPSOIL-
5	11	5	S2	5.0		Medium dense brown silty fine SAND, trace medium sand -ALLUVIAL-
		9	18"	6.5		
	16	7			88.9	
▽	22				7.0	
	27					
10	26	7	S3	10.0		Very stiff mottled olive brown clayey SILT
	36	9	18"	11.5		
	48	12				
	51					
	32					
15	23	WOH	S4	15.0		FV#1, 15.0 to 15.6 ft., Su = 1110 psf Stiff gray silty CLAY -MARINE DEPOSIT-
	24	WOH	18"	16.5		
	26	WOH				
	25					
	23					
20	17	WOH	S5	20.0		Stiff gray silty CLAY
	17	WOH	18"	21.5		
	17	WOH				
	20					
	19					
	22					
25	17	WOH	S6	25.0		FV#2, 25.0 to 25.6 ft., Su = 740 psf Medium stiff gray silty CLAY
	17	WOH	18"	26.5		
	12	WOH				
	12					
	15					
	13					
30	12	WOH	S7	30.0		Medium stiff gray silty CLAY -MARINE DEPOSIT-
	12	3	18"	31.5		
	12	1				
	17					
	18				61.9	
35	125				34.0	
		66	S8	35.0		NOTE: Advanced roller bit through probable cobble from 34.0 to 35.0 ft. Very dense brown silty fine SAND, little coarse sand, little gravel (well bonded in situ) -GLACIAL TILL-
		72	12"	36.0		
						NOTE: Encountered boulder at 38.0 ft. while advancing roller bit. Washed ahead of casing to 40.0 ft.
40		100	S9	40.0	55.7	
			1"	40.2	40.2	Very dense brown silty fine SAND, little gravel -GLACIAL TILL- Bottom of Exploration at 40.2 ft. No Refusal

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

IN CHARGE OF

AS BUILT
C&M 12/16/96

115-199

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SHEET B6 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	14	103

B-244

Ground Elev. 87.5

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 2	S1 4"	0.0 1.5		Very loose dark brown loamy SILT, with leaf fragments and twigs
5		1 1 1	S2 4"	3.5 5.0		Very loose dark brown medium to fine SAND, little gravel and silt, trace coarse sand with glass, brick and ash fragments, (rust-colored staining) -FILL-
10	7 4 4 3 2 3	9 14 21	S3 6"	10.0 11.5	75.5 12.0	Dense dark brown medium to fine SAND, little silt, trace gravel and coarse sand, with glass and brick fragments (rust-colored staining) -FILL-
15	9 57 66 58 63 72	9 16 19	S4 18"	15.0 16.5		Very stiff brown-gray silty CLAY, with mottling
20	76 75 62 48 48 59	5 9 9	S5 15"	20.0 21.5		Very stiff brown-gray silty CLAY, with mottling
25	50 49 42 37 52 66	4 4 6	S6 18"	25.0 26.5	60.0 27.5	FV@1, 25.0-26.3 ft.; Su > 4000 psf Stiff brown-gray silty CLAY, with mottling -MARINE DEPOSIT-
30	61 38 39 47 62 63	23 15 11	S7 15"	30.0 31.5		Medium dense grayish-brown sandium to fine SAND, trace silt
35	38 60 78 66 82 50	15 19 22	S8 7"	35.0 36.5		Dense brown medium to fine SAND, trace coarse sand and silt
40	67 74 73 94 51 53	19 16 20	S9 6"	40.0 41.5		Dense brown medium to fine SAND, trace coarse sand and silt
45	79 115 120 55 80 80	17 20 20	S10 6"	45.0 46.5		Dense brown medium to fine SAND, trace coarse sand and silt
50	113 105 54 72 70 80	20 22 23	S11 8"	50.0 51.5		Dense brown medium to fine SAND, little coarse sand, trace silt
55	86 51 52 54 61 62	15 16 19	S12 7"	55.0 56.5		Dense brown medium to fine SAND, little coarse sand, trace silt
60	62 67 112 200/0.7*	16 18 16	S13 8"	60.0 61.5	26.5 61.0	Dense brown medium to fine SAND, little coarse sand, trace silt -GLACIOFLUVIAL DEPOSIT-
65		17 26 20	S14 8"	65.0 66.0		Dense gray medium to fine SAND, trace coarse sand and silt -GLACIAL TILL- Dense gray coarse to fine SAND, trace gravel and silt -GLACIAL TILL-
					18.8 66.7	Bedrock encountered at 66.7 ft. Roller bit to 68.8 ft. Begin NX rock core at 68.8 ft. (See Core Boring Report)

B-244 (CONT)

CORE BORING REPORT

B-244

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60								68.7 ft. of Overburden (See Test Boring Report) Advanced Roller Bit to 68.8 ft. Begin NX rock core at 68.8 ft.
65	6 5 6 6 6	C1	68.8 73.3	54/54	100/83	FR. TO SL.	18.7 68.8	C1: Moderately hard, gray aphanitic to fine grained -SCHIST-. Primary joint set is fresh to slightly weathered, tight to slightly open, close, planar and smooth to less frequently undulating and smooth, dipping at high angles approximately 70 degrees. Secondary joint set is fresh, tight, moderately close, stepped and rough, dipping at low to horizontal angles. Frequent quartz and calcite mineralization noted.
70	6 6 6 6 6 5	C2	73.3 76.3	36/12	100/33	FR. TO SL.		C2: Same lithology as C1. Silty coating on joint faces noted. Secondary joint set is fresh to slightly weathered, close, tight, planar and smooth, to undulating and smooth, dipping at low to horizontal angles. From 75.2 to 75.7 ft. zone of extremely weathered and fractured core with clay infillings.
75		C3	76.3 78.3	24/4	100/17	SL. TO MOD.	9.2 78.3	C3: Same as C2, but more severely weathered and fractured run. Moderately weathered joints. Silty coating noted on discontinuity surfaces. Bottom of Exploraton at 78.3 ft.

B-247

Ground Elev. 55.5

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		6 5 4	S1 5"	0.5 2.0		NOTE: Frozen ground from 0-0.5 ft. Loose brown silty fine SAND, some gravel -FILL-
5 ▽	14	7 7 9	S2 18"	5.0 6.5	50.5 5.0	Medium dense brown fine sandy SILT in seams and partings -ALLUVIAL DEPOSIT-
10	22 28 41 28 8 38	9 10 18	S3 6"	10.0 11.5		Medium dense gray brown coarse to fine SAND, trace silt in frequent partings
15	23 16 14 16 14 15	WOH 1 1	S4	15.5 17.0	42.5 13.0	FV@1, 15.5-16.2 ft.; 26/8 ft. lbs.; Su = 960 psf Medium stiff gray laminated silty CLAY -MARINE DEPOSIT-
20	12 14 16 15 16 18	1 2 1	S5 18"	20.0 21.5		Medium stiff gray laminated silty CLAY
25	19 36 35 27 23 25	1 2 3	S6 18"	25.0 26.5		FV@2, 25.0-25.7 ft.; 30/9 ft. lbs.; Su = 1110 psf Stiff gray laminated silty CLAY, trace fine sand in occasional seams -MARINE DEPOSIT-
30 ▽	20 24 23 22 36 34	WOR 1 2	S7 5"	30.0 31.5	21.7 33.8	Medium stiff gray laminated silty CLAY NOTE: Possibly layer of sand below 30.9 ft.
35	10 12 8 35 34 28	10 12 8	S8 7"	35.0 36.5		Medium dense gray silty fine SAND, occasional seam of silt
40	31 25 33 35 42 41	9 9 9	S9 8"	40.0 41.5		Medium dense gray silty fine SAND -GLACIOFLUVIAL DEPOSIT-
45	32 39 41 28 29 37	9 9 10	S10 10"	45.0 46.5		Medium dense gray silty fine SAND
50	48 76 138 100/.2	17 18 50	S11 9"	50.0 51.5	1.3 54.2	Very dense gray medium to fine SAND, little silt in occasional seams Bedrock encountered at 54.2 ft. Seat NW casing at 54.2 ft. Begin NX rock core at 54.2 ft. (See Core Boring Report)

B-247 (CONT)

CORE BORING REPORT

(B-247)

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								54.2 ft. of Overburden (See Test Boring Report) Begin NX rock core at 54.2 ft.
55	5 6 6 6 7	C1	54.2 59.2	60/57	100/95	FR.	1.3 54.2	C1: Hard, fresh, gray aphanitic SLATE. Bedding extremely thin dipping on high angles. Joints extremely close to close, tight to open, smooth to rough, planar, dipping on low to high angles. Joints with rough surfaces showing pyrite mineralization. Numerous healed joints, parallel to beddin. Numerous calcite stringes on various angles, mostly parallel to bedding.
60	6 6 6 6 6	C2	59.2 64.2	60/57	100/95	FR.	-8.7 64.2	C2: Hard, fresh, gray aphanitic SHALE. Bedding extremely thin dipping on high angles. Joints close to wide, closed, smooth planar, dipping on high angles. Some joint surfaces have thin calcite coating. Numerous calcite stringers. 61.0-61.2 ft. two veins of quartz on moderate angles. Bottom Of Exploration at 64.2 ft.

As Built CFM 12/19/96

115-200

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

IN CHARGE OF

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B7 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	14	103

B-244

Ground Elev. 87.5

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 0.1ft	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 2	S1 4"	0.0 1.5		Very loose dark brown loamy SILT, with leaf fragments and twigs
5	7 4 4 3 2	1 1 1	S2 4"	3.5 5.0		Very loose dark brown medium to fine SAND, little gravel and silt, trace coarse sand with glass, brick and ash fragments, (rust-colored staining) -FILL-
10	3 9 14 21	9 16 21	S3 6"	10.0 11.5		Dense dark brown medium to fine SAND, little silt, trace gravel and coarse sand, with glass and brick fragments (rust-colored staining) -FILL-
15	57 66 58 63 72	9 16 19	S4 18"	15.0 16.5	75.5 72.0	Very stiff brown-gray silty CLAY, with mottling
20	76 75 62 48 48	5 9 9	S5 15"	20.0 21.5		Very stiff brown-gray silty CLAY, with mottling
25	59 50 49 42 37	4 4 6	S6 18"	25.0 26.5		FV#1, 25.0-26.3 ft.; Su > 4000 psf Stiff brown-gray silty CLAY, with mottling -MARINE DEPOSIT-
30	66 61 38 39 47	23 15 11	S7 15"	30.0 31.5	60.0 27.5	Medium dense grayish-brown sandy fine to medium SAND, trace silt
35	62 63 38 60 78	15 19 22	S8 7"	35.0 36.5		Dense brown medium to fine SAND, trace coarse sand and silt
40	66 82 50 67 74	19 16 20	S9 6"	40.0 41.5		Dense brown medium to fine SAND, trace coarse sand and silt
45	73 94 51 79 115	17 20 20	S10 6"	45.0 46.5		Dense brown medium to fine SAND, trace coarse sand and silt
50	120 55 80 80 113	20 22 23	S11 8"	50.0 51.5		Dense brown medium to fine SAND, little coarse sand, trace silt
55	105 54 72 70 80	15 16 19	S12 7"	55.0 56.5		Dense brown medium to fine SAND, little coarse sand, trace silt
60	86 51 52 54 61	16 18 16	S13 8"	60.0 61.5	26.5 61.0	Dense brown medium to fine SAND, little coarse sand, trace silt -GLACIOFLUVIAL DEPOSIT- Dense gray medium to fine SAND, trace coarse sand and silt -GLACIAL TILL-
65	62 62 67 112 200/0.7'	17 26 20	S14 8"	65.0 66.0	18.8 68.7	Dense gray coarse to fine SAND, trace gravel and silt -GLACIAL TILL- Bedrock encountered at 68.7 ft. Roller bit to 68.8 ft. Begin NX rock core at 68.8 ft. (See Core Boring Report)

B-244 (CONT)

CORE BORING REPORT (B-244)

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
60								68.7 ft. of Overburden (See Test Boring Report) Advanced Roller Bit to 68.8 ft. Begin NX rock core at 68.8 ft.
65	6 5 6 6	C1	68.8 73.3	54/54	100/63	FR. TO SL.	18.7 68.8	C1: Moderately hard, gray aphanitic to fine grained SCHIST. Primary joint set is fresh to slightly weathered, tight to slightly open, close, planar and smooth to less frequently undulating and smooth, dipping at high angles approximately 70 degrees. Secondary joint set is fresh, tight, moderately close, stepped and rough, dipping at low to horizontal angles. Frequent quartz and calcite mineralization noted.
70	6 6 6 6	C2	73.3 76.3	36/12	100/33	FR. TO SL.		C2: Same lithology as C1. Silty coating on joint faces noted. Secondary joint set is fresh to slightly weathered, close, tight, planar and smooth, to undulating and smooth, dipping at low to horizontal angles. From 75.2 to 75.7 ft. zone of extremely weathered and fractured core with clay infillings.
75	6 6 6 5	C3	76.3 78.3	24/4	100/17	SL. TO MOD.		C3: Same as C2, but more severely weathered and fractured run. Moderately weathered joints. Silty coating noted on discontinuity surfaces.
							9.2 78.3	Bottom of Exploration at 78.3 ft.

B-247

Ground Elev. 55.5

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 0.1ft	SAMPLE NUMBER & REC. (IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		6 3 4	S1 5"	0.5 2.0		NOTE: Frozen ground from 0-0.5 ft. Loose brown silty fine SAND, some gravel -FILL-
5	14 22 28 41 28	7 7 9	S2 18"	5.0 6.5	50.5 5.0	Medium dense brown fine sandy SILT in seams and partings -ALLUVIAL DEPOSIT-
10	8 38 23 16 14	9 10 18	S3 6"	10.0 11.5	42.5 13.0	Medium dense gray brown coarse to fine SAND, trace silt in frequent partings
15	16 14 15 12 14	WOR 1 1	S4	15.5 17.0		FV#1, 15.5-16.2 ft.; 26/8 ft. lbs.; Su = 960 psf Medium stiff gray laminated silty CLAY -MARINE DEPOSIT-
20	16 15 16 19 18	1 2 1	S5 18"	20.0 21.5		Medium stiff gray laminated silty CLAY
25	36 35 27 25 30	1 2 3	S6 18"	25.0 26.5		FV#2, 25.0-25.7 ft.; 30/9 ft. lbs.; Su = 1110 psf Stiff gray laminated silty CLAY, trace fine sand in occasional seams -MARINE DEPOSIT-
30	20 24 23 22 36	WOR 1 3	S7 5"	30.0 31.5	21.7 33.8	Medium stiff gray laminated silty CLAY NOTE: Possibly layer of sand below 30.9 ft.
35	34 35 34 28 31	10 12 8	S8 7"	35.0 36.5		Medium dense gray silty fine SAND, occasional seam of silt
40	25 33 15 42 41	7 9 9	S9 8"	40.0 41.5		Medium dense gray silty fine SAND -GLACIOFLUVIAL DEPOSIT-
45	32 39 41 28 29	9 9 10	S10 10"	45.0 46.5		Medium dense gray silty fine SAND
50	37 48 76 138 100/.2	17 18 50	S11 9"	50.0 51.5	1.3 54.2	Very dense gray medium to fine SAND, little silt in occasional seams Bedrock encountered at 54.2 ft. Seat NW casing at 54.2 ft. Begin NX rock core at 54.2 ft. (See Core Boring Report)

B-247 (CONT)

CORE BORING REPORT (B-247)

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								54.2 ft. of Overburden (See Test Boring Report) Begin NX rock core at 54.2 ft.
55	5 6 6 6 7	C1	54.2 59.2	60/57	100/95	FR.	1.3 54.2	C1: Hard, fresh, grey aphanitic SLATE. Bedding extremely thin dipping on high angles. Joints extremely close to close, tight to open, smooth to rough, planar, dipping on low to high angles. Joints with rough surfaces showing pyrite mineralization. Numerous headed joints, parallel to beddin. Numerous calcite stringes on various angles, mostly parallel to bedding.
60	6 6 6 6 6	C2	59.2 64.2	60/57	100/95	FR.		C2: Hard, fresh, grey aphanitic SHALE. Bedding extremely thin dipping on high angles. Joints close to wide, closed, smooth planar, dipping on high angles. Some joint surfaces have thin calcite coating. Numerous calcite stringers. 61.0-61.2 ft. two veins of quartz on moderate angles.
							-8.7 64.2	Bottom of Exploration at 64.2 ft.

AS BUILT CEAM 12/16/96

115-200

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B7 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	15	103

B-248

Ground Elev. 53.6

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		7 9 7	S1 6"	0.5 2.0		NOTE: Frozen ground 0-0.5 ft. Medium dense brown fine sandy SILT, little coarse to fine gravel, trace coarse to medium sand, root fibers -FILL-
5	10	2 7 10	S2 3"	5.0 6.5		Medium dense dark brown to black organic silty fine SAND, trace fine gravel, wood, metal with white substance attached (probably old tin container)
	18					
	34					
	33					
	39					
10	54	21 10 16	S3 10"	10.0 11.5		Medium dense brown silty coarse to fine SAND, trace glass, metal, PVC scraps
	61					
	24				41.6 12.0	Brown CLAYS from 12.0-14.0 ft.
	11					
	18				39.6 14.0	
15	15	1 1 1	S4 18"	15.0 16.5		Very soft to soft dark gray laminated silty CLAY -MARINE DEPOSIT-
	13					
	15					
	14					
	1					
20	4	1 1 2	S5 18"	20.0 21.5		Unable to perform Field Vane Shear due to gravels inside casing (from fill) Soft dark gray laminated silty CLAY
	8					
	8					
	9					
	9					
25	9	WOH 12 1	S6 18"	25.0 26.5		FV#1, 25.0-25.7 ft.; 32/11 ft. lbs.; Su = 1190 psf FV#2, 25.7-26.4 ft.; 34/17 ft. lbs.; Su = 1260 psf Medium stiff to stiff gray laminated silty CLAY -MARINE DEPOSIT-
▽	16					
	14					
	13					
	17				24.6 29.0	
30	22	10 10 11	S7 10"	30.0 31.5		Medium dense brown silty fine SAND in partings -MARINE DEPOSIT-
	25					
	36					
	37					
	42					
35	46	7 8 12	S8 8"	35.0 36.5		Medium dense gray silty fine SAND, trace medium sand in occasional seams -GLACIOFLUVIAL DEPOSIT-
	17					
	32					
	26					
	27					
40	35	9 9 10	S9 7"	40.0 41.5		Medium dense gray silty fine SAND
	20					
	30					
	43					
	62					
45	28	17 16 37	S10 8"	45.0 46.5	7.6 46.0	Dense gray coarse to fine SAND, trace fine gravel, silt
	72				6.4 47.2	NOTE: Losing water below 46.0 ft. Quartzitic boulders exposed with roller bit
	200/3					Bedrock encountered at 47.2 ft. Seat NW casing at 47.2 ft. Begin NX rock core at 47.2 ft. (See Core Boring Report)

B-248 (CONT)

CORE BORING REPORT

(B-248)

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
40								
45								47.2 ft. of Overburden (See Test Boring Report) Begin NX rock core at 47.2 ft.
	4 4 5	C1	47.2 52.2	51/30	85/50	FR.	6.4 47.2	Hard, fresh, aphanitic SLATE, with white, medium to coarse grained inclusion of Quartz. Bedding extremely thin, highly disturbed, dipping on high to vertical angles. Joints extremely close to close, open, smooth to rough, planar dipping on low to high angles. Joint surfaces coated with pyrite or clay. Numerous calcite stringers on various angles. Numerous headed joints of various onantotion. -WATERVILLE FORMATION-
50	5 7							
							1.4 52.2	Bottom of Exploration at 52.2 ft.

B-249 (CONT)

CORE BORING REPORT

(B-249)

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
40								
45								47.8 ft. of Overburden (See Test Boring Report) Top of Bedrock at 47.8 ft. Begin NX core at 48.7 ft.
	8						-25.1 48.7	
	18	C1	48.7 49.6	8/0	77/0	FR. TO SL.		C1: Soft to moderately hard gray aphanitic SLATE, see C2 for further description.
50	19 22 26 15	C2	49.6 53.8	44/24	86/47	FR. TO SL.		C2: Soft to moderately hard gray aphanitic SLATE. Joint set close, tight to slightly open, planar and smooth, to stepped and smooth, and dipping at vertical angles (85-90 degrees). Bedding planes very thin, joints are foliation, joints confined to vertical bedding planes. Frequent quartz stringers bisect joint orientation, common pyrite mineralization on discontinuity faces. Trace of clay infillings noted on slightly weathered joints -WATERVILLE FORMATION-
							-30.2 53.8	Bottom of Exploration at 53.8 ft.

B-249

Ground Elev. 23.6

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	5	1 1 2 2	S1 18"	0.0 2.0		Very loose dark brown medium to fine SAND, little silt, trace gravel, trace coarse sand, few wood fragments -ALLUVIAL DEPOSIT-
	8					
	16					
	7					
	10				19.6 4.0	
5	9	7 3 5 8	S2 8"	5.0 7.0		Loose gray silty fine SAND, trace gravel with occasional distinct silty clay seams
	15					
	15					
	26				15.6 8.0	
	25					
10	20	6 6 8 9	S3 12"	10.0 12.0		Medium dense dark gray medium to fine SAND -MARINE DEPOSIT-
	25					
	22					
	21					
	27					
15	16	4 5 7 8	S4 14"	15.0 17.0		Medium dense dark gray medium to fine SAND, trace gravel
	18					
	18					
	23					
	28					
20	27	3 5 5 6	S5 16"	20.0 22.0		Loose to medium dense dark gray silty fine SAND
	26					
	27					
	40					
	46					
25	49	4 4 8 4	S6 16"	25.0 27.0		Medium dense dark gray medium to fine SAND, with occasional gray silt partings -MARINE DEPOSIT-
	57					
	59					
	104				-4.4 28.0	
	124					
30	82	6 8 10 10	S7 8"	30.0 32.0		Medium dense gray silty medium to fine SAND -MARINE DEPOSIT-
	60					
	70					
	62					
	87					
35	73	5 6 12 14	S8 12"	35.0 37.0		Medium dense gray silty medium to fine SAND
	80					
	124					
	127					
	132					
40	121	8 12 14 15	S9 15"	40.0 42.0		Medium dense gray silty medium to fine SAND
	196					
	199					
	210					
	233					
45	93					NOTE: Cored through boulder from 45.1 to 46.5 ft. Recovered 6 in. of slate.
	119					
	194				-24.2 47.8	Casing refusal at 47.8 ft. Roller bit to 48.7 ft. Top of Bedrock at 47.8 ft. Begin NX rock core at 48.7 ft. (See Core Boring Report)

As Built [illegible]

115-201

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	7/93
				DRAWN:	RJT	7/93
				CHECKED:		
				IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B8 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	16	103

B-112

Ground Elev. 22.9

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	3	4	S1	0.0		Medium dense gray fine gravelly coarse to medium SAND
		6	2"	1.5		-ALLUVIAL DEPOSIT-
	6	7				
	1/.6	4	S2	3.0	19.4	Loose gray fine GRAVEL, little silt, coarse to fine sand
	2	1	14"	4.5	3.5	Very soft gray laminated silty CLAY
5		2	S3	4.5		Medium stiff gray laminated silty CLAY
	7	2	22"	6.5		-MARINE DEPOSIT-
	9	3				
		4	S4	6.5		Medium stiff gray silty CLAY
	11	4	6"	8.5		
	13	4			14.4	
		6	S5	8.5	8.5	Stiff gray silty CLAY, some fine sand in matrix and pockets
	16	7	18"	10.5		-MARINE DEPOSIT-
10	15	5			12.4	
		4	S6	10.5	10.5	Medium dense gray silty fine SAND, little clay in occasional distinct zones
	18	4	14"	12.5		-MARINE DEPOSIT-
	20	10			10.4	
		11			12.5	
		3	S7	12.5		Medium dense gray fine SAND, trace silt
	16	4	18"	14.5		
	18	9				Medium dense gray fine SAND
		6	S8	14.5		
15	20	10	14"	16.5		
		11				
	23	3	S9	16.5		Medium dense gray medium to fine SAND
	24	4	12"	18.5		-MARINE DEPOSIT-
		8				
	26	11				
		3	S10	18.5		Loose gray fine SAND, little medium sand, trace fine gravel
	29	3	14"	20.5		
20		5				
	19	7				
		5	S11	20.5		Medium dense gray fine SAND, trace medium sand
	23	9	12"	22.5		
	25	6				
		6				
		3	S12	22.5		Loose gray fine SAND, trace medium sand
	16	4	16"	24.5		
		5				
25	15	1	S13	24.5		Loose gray fine SAND
	14	3	13"	26.5		-MARINE DEPOSIT-
		3				
		2	S14	26.5		Loose gray fine SAND
		2	14"	28.5		
		3				
		4	S15	28.5		Loose gray fine SAND, trace silt in occasional distinct zones
		5	14"	30.5		NOTE: Sand ran up 18 in. into casing; hole rewashed to 30.5 ft.
30		4				Loose gray fine SAND
		1	S16	30.5		-MARINE DEPOSIT-
		2	9"	32.5		
		3				
		4				
		3	S17	32.5		Loose gray fine SAND, little silt in frequent pockets, seams
		3	15"	34.5		NOTE: Sand ran up 12 in. into casing; hole rewashed to 34.5 ft.
		3				
		2	S18	34.5		Very loose gray fine SAND, trace silt
		2	9"	36.5		
35		3				
		3	S19	36.5		Loose gray fine SAND, little silt in occasional pockets
		3	13"	38.5		
		4				
		4				
		6	S20	38.5		Dense gray silty fine SAND, little fine gravel lodged in shoe
		9	12"	40.9		NOTE: Coarse fraction consists of angular slate fragments
	14	21				
40		7	S21	40.5		Medium dense gray fine SAND, little silt in frequent pockets, seams, trace fine gravel
		5	11"	42.5		
		5				
		16			-19.6	
		16	S22	42.5	42.5	Dense gray gravelly coarse to fine SAND, trace silt
		16	11"	44.5		
		17				-GLACIAL TILL-
		20				
45		17	S23	44.5		Dense gray gravelly coarse to fine SAND, little silt
		19	14"	46.5		
		22			-23.1	Refusal on BEDROCK at 46.0 ft.
		100			46.0	
					-24.0	Very dense gray gravelly coarse to fine SAND, consisting of very severely weathered slate, vertical foliation distinct
					46.9	-WEATHERED BEDROCK-

Set NW casing at 46.9 ft.
Roller bit to 47.2 ft.
Begin NX rock core at 47.2 ft. (See Core Boring Report)

B-112(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
40								47.2 ft. of Overburden (See Test Boring Report)
	10	C1	47.2 48.1	9/9	50/50	FR.	-24.3 47.2	
45	15	C2	48.1 50.9	34/30	100/80	FR.		C1: Moderately hard, fresh, gray aphanitic SLATE; with very hard, fresh, quartz vein 2 in. thick; extremely thin bedding and foliation dipping at high angles.
	20							NOTE: Core barrel dropped from 47.8-48.1 ft. VOID
		C3	50.9 53.1	24/12	92/46	FR.		C2: Moderately hard, fresh, gray aphanitic SLATE; extremely thin bedding and foliation dipping at high angles; joints are close to moderately close, open, rough, undulating and dipping parallel to bedding, occasionally at low angles; frequent extremely thin to thin, very hard quartz veins, occasionally very coarse grained; frequent pyrite mineralization in extremely thin veinlets disseminated throughout rock
50	25							C3: Same as C2, except with intersecting rough, undulating high angle joints at 52.9 ft.
		C4	53.1 57.2	46/39	94/80	FR.		-WATERVILLE FORMATION-
	18							C4: Same as C2, except with occasional smooth, planar, moderately dipping joints; frequent rough, undulating low to moderately dipping joints
	15							
55	15						-34.3 57.2	Bottom of Exploration at 57.2 ft.

B-250

Ground Elev. 25.3

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	8	5	S1	0.0		Loose dark brown coarse to medium SAND, little gravel, trace fine sand
	17	6	8"	2.0		-ALLUVIAL DEPOSIT-
		4				
	13					
	20					
	25					
5	24	29	S2	5.0		Loose gray silty medium to fine SAND, trace gravel
	30	2	8"	7.0		
	42	2				
	76	2			16.8	
	179				8.5	
10	29	100	S3	10.0		Very dense gray gravelly coarse to fine SAND, trace silt
	242	/55	4"	11.0		-GLACIAL TILL-
	79					
	104					
15	56					
		13	S4	15.0		Very stiff gray silty CLAY
		10	3"	16.0	9.3	
		50/0			16.0	Split spoon refusal at 16.0 ft.

Seated NW casing at 16.0 ft.
Top of Bedrock at 16.0 ft.
Begin NX rock core at 16.0 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
10								
								16.0 ft. of Overburden (See Test Boring Report)
15							9.3	Top of Bedrock at 16.0 ft.
	12	C1	16.0 20.3	49/42	95/81	FR.	16.0	Hard fresh gray aphanitic SLATE. Bedding and foliation dipping at low angles. Primary joint set fresh, wide, tight, smooth, planar at moderate angles. Secondary joint set is fresh, wide, tight, smooth, planar at low angles. Third joint set (at 17.5 ft.) fresh, wide, open, rough, stepped to undulating at moderate angles.
	9							
20	10							
	10							
	6						5.0 20.3	Bottom of Exploration at 20.3 ft.

B-113

Ground Elev. 24.6

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	10	4	S1	0.0		Loose gray coarse SAND, little medium to fine sand, trace fine gravel
	15	5	1"	2.0		-ALLUVIAL DEPOSIT-
		4				
	16	23	S2	2.0		Dense gray medium to fine SAND, trace silt
	20	19	1"	4.0		
		17				
5	10	12	S3	4.0		Loose gray fine SAND, little coarse to medium sand, trace silt, fine gravel
	8	5	4"	6.0		
		3				
	0	3				
		2	NR	6.5		NOTE: Casing sunk to 6.3 ft.; spoon dropped to 6.5 ft.
	2	1		8.5		No recovery
		7				NOTE: Casing sunk during tightening to 7.0 ft.
	14	9				
		20	S4	9.0		Medium dense gray coarse to fine sandy fine GRAVEL, trace silt
	20	5	6"	11.0		
10	25	9				
	27	18	S5	11.0		Medium dense gray coarse sandy fine GRAVEL, little medium to fine sand, silt in occasional indistinct zone; coarse fraction consists of angular, platy slate fragments
	79	12	12+"	13.0		NOTE: Total water loss at 13.0 ft.
		50				No Recovery
	13	18	NR	13.0		
		16		15.0		
	30	5				
15		6				
	9	47	S6	15.0		Very dense gray coarse sandy fine GRAVEL, consisting entirely of platy, angular slate fragments
		61	2"	17.0		NOTE: Probable wash sample
	23	17			8.1	High blow counts due to casing plowing
		9			16.5	effect
	18	12	S7	17.0		Partial water return from 15.0-17.0 ft.
		8	6"	18.4	6.6	
	32/0	177.4 70/1			18.0	Medium dense gray coarse to fine sandy fine GRAVEL, consisting of angular, platy slate fragments, some laminated clay, little silt in pockets; sample highly disturbed
						-GLACIOFLUVIAL DEPOSIT-

NW casing refusal at 18.0 ft.
Roller bit to 18.4 ft.
Bottom of Exploration at 18.4 ft.
NOTE: Casing bent and core barrel unable to advance past 12.4 ft.; borehole terminated and supplemental boring B113A drilled 1.5 ft. south of B113.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

As built Contract

115-202

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B9 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009 (002)	17	103

30
20
10
0
-10
-20

B-251

Ground Elev. 23.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	17	4 8 6	S1 4"	0.0 2.0		Medium dense gray gravelly coarse to fine SAND, trace silt -ALLUVIAL DEPOSIT-
	23	11				
	20					
	15					
	22					
5	5	7 4 6	S2 4"	5.0 7.0		Medium dense gray gravelly coarse to fine SAND
	7	13			16.1 7.0	
	44					
	43					
10	20	24 15	S3 6"	9.0 11.0		Medium dense gray gravelly coarse to fine SAND, little silt
	31	12 18				
	48					
	43					
	32				9.6 13.5	
15	90	189	S4 3"	14.0 14.2		Very dense gray sandy fine GRAVEL -GLACIAL TILL-
	77					
	58					
	46					
	89					
	50/.6	74 53/0	S5 4"	19.0 19.3	3.6 19.5	Very dense gray gravelly SILT
						Drove NW casing to 19.0 ft. Roller bit to 19.8 ft. Top of Bedrock at 19.6 ft. Begin KX rock core at 19.8 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
10								
15								
20								19.6 ft. of Overburden (See Test Boring Report) Top of Bedrock at 19.6 ft. Begin KX rock core at 19.8 ft.
	10	C1	19.8 24.8	60/53	100/88	FR.	3.3 19.8	Hard fresh gray aphanitic SLATE. Bedding and foliation dipping at high angles. Primary joint set is fresh, wide, tight, smooth planar dipping at vertical angle from 20.0 to 20.4 ft. Secondary joint set is fresh, very close, smooth, undulating at low angles. Third joint set is fresh, wide, tight, rough, undulating at moderate angles. Thin quartz veins present throughout core.
	11							
	12							
	11						-1.7 24.8	
	9							Bottom of Exploration at 24.8 ft.

B-252

Ground Elev. 25.7

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	22	7 5	S1 8"	0.0 2.0		Medium dense gray gravelly coarse to fine SAND, little silt -ALLUVIAL DEPOSIT-
	54	12 14				
	87				22.7 3.0	
	105					Dense gray coarse to fine sandy GRAVEL, little silt -GLACIAL TILL-
	84					
5		35 26 20 28	S2 8"	5.0 7.0	17.7 8.0	
10	12	50/.3	S3 3"	10.0 10.4	14.9 10.8	Very dense gray GRAVEL, little sand
						Drove NW casing to 11.0 ft. Top of Bedrock at 11.0 ft. Begin KX rock core at 11.0 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0								
5								
10								11.0 ft. of Overburden (See Test Boring Report) Top of Bedrock at 11.0 ft. Begin KX rock core at 11.0 ft.
		C1	11.0 16.0	58/57	96/82	FR.	14.7 11.0	Hard fresh gray aphanitic SCHIST. Bedding and foliation very thin, dipping at high angles. Primary joint set is fresh, close to wide, tight, smooth, planar at moderate angles. Secondard joint set is fresh, close to wide, open, rough, stepped to undulating at horizontal angles. Third joint set is fresh, wide, tight, smooth, planar at horizontal angles. Quartz veins present throughout core.
15							9.7 16.0	
								Bottom of Exploration at 16.0 ft.

B-253

Ground Elev. 25.8

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	7	9 12	S1 6"	0.0 2.0		Dense brown gray sandy GRAVEL, trace silt -ALLUVIAL DEPOSIT-
	23	21 11				
	24				22.8 3.0	
	36					Very dense gray gravelly coarse to fine SAND, little silt -GLACIAL TILL-
5	35					
	28	14 43	S2 4"	5.0 6.0	19.8 6.0	
	4	38/0				Seat NW casing at 6.0 ft. Top of Bedrock at 6.0 ft. Begin KX rock core at 6.0 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0								
5		C1	6.0 6.4	4/8	100/0			6.0 ft. of Overburden (See Test Boring Report) Top of Bedrock at 6.0 ft.
	11	C2	6.4 11.5	61/69	100/82	FR.	19.8 6.0	C1: Gray fractured SLATE with clay seam C2: Hard fresh gray aphanitic SLATE. Bedding and foliation dipping at high angles. Primary joint set is fresh, wide, tight, rough, planar. Secondary joint set is fresh, close, open, rough, planar at low angles. Quartz intrusions from 6.4 to 7.8 ft. Quartz veins present throughout core.
	8							
10	9							
	10							
	8	C3	11.5 16.7	63/46	100/75	FR.		C3: Same as C2 except, 13.7 to 14.1 ft. moderately weathered zone with calcite veins. NOTE: Frequent calcite stringers on high to vertical angles.
	11							
	12							
15	13							
	14							
	15						9.1 16.7	
								Bottom of Exploration at 16.7 ft.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

(APPROVED 12/5/96)

115-203

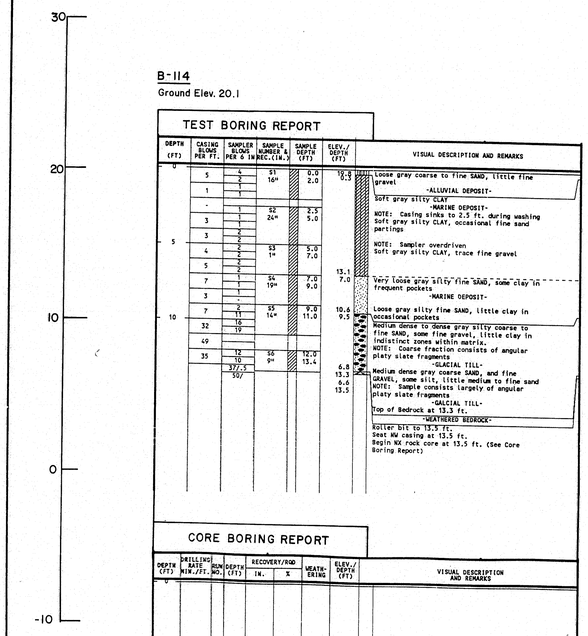
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B10 OF B86 AUGUSTA, MAINE



B-114
Ground Elev. 20.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	5	4 2 1	S1 16"	0.0 2.0	19.5 0.5	Loose gray coarse to fine SAND, little fine gravel -ALLUVIAL DEPOSIT-
	1	1 1 1				Soft gray silty CLAY -MARINE DEPOSIT-
	3	1 1 2	S2 24"	2.5 5.0		NOTE: Casing sinks to 2.5 ft. during washing
	3	2 2 2				Soft gray silty CLAY, occasional fine sand partings
5	4	2 2 2	S3 1"	5.0 7.0		NOTE: Sampler overdriven
	5	2 2 2				Soft gray silty CLAY, trace fine gravel
	7	1 1 1	S4 19"	7.0 9.0	13.1 7.0	Very loose gray silty fine SAND, some clay in frequent pockets -MARINE DEPOSIT-
	3	1 1 -				
	7	2 11 16	S5 16"	9.0 11.0	10.6 9.5	Loose gray silty fine SAND, little clay in occasional pockets
10	32	19				Medium dense to dense gray silty coarse to fine SAND, some fine gravel, little clay in indistinct zones within matrix. NOTE: Coarse fraction consists of angular platy slate fragments -GLACIAL TILL-
	49					
	35	12 10 37/.5 50/	S6 9"	12.0 13.4	6.6 13.5	Medium dense gray coarse SAND, and fine GRAVEL, some silt, little medium to fine sand NOTE: Sample consists largely of angular platy slate fragments -GLACIAL TILL-
					6.6 13.5	Top of Bedrock at 13.3 ft. -WEATHERED BEDROCK-

Roller bit to 13.5 ft.
Seat HW casing at 13.5 ft.
Begin NX rock core at 13.5 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0								
5								
10								
15								
20		C1	13.5 16.0	30/9	100/30	FR.	6.6 13.5	13.5 ft. of Overburden (See Test Boring Report) Begin NX rock core at 13.5 ft.
	11 12 5/6	C2	16.0 20.5	54/54	100/100	FR.		C1: Moderately hard, fresh, gray, aphanitic SLATE; extremely thin bedding and foliation dipping at high angles; joints close to very close, open to tight, smooth, planar, occasionally calcite coated and dipping parallel to bedding, frequent extremely thin quartz veins -WATERVILLE FORMATION- C2: Same as C1, except joints close to moderately close, tight
	6 6 6	C3	20.5 24.0	42/35	100/71	FR.		C3: Same as C1.
25	10 13 11	C4	24.0 28.6	37/30	100/97	FR.		C4: Same as C1.
	10 11 9	C5	28.6 29.5	34/25	100/74	FR.		C5: Same as C1.
	8 5/7 8 9 8						-9.4 29.5	Bottom of Exploration at 29.5 ft.

B-254
Ground Elev. 18.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	8	1 12 2	S1 10"	0.0 2.0	17.1 1.0	Medium dense brown coarse to fine SAND, little silt, fine gravel -ALLUVIAL DEPOSIT-
	2	1				Very loose gray silty fine SAND in partings
	1					-FLUVIAL DEPOSIT-
	2					
5	26					Medium dense gray silty coarse to fine SAND, some gravel
	24	8 10 15	S2 5"	5.0 7.0		NOTE: 7.0-10.0 ft. interbedded layers of light gray silty fine SAND, dark gray sand and gravelly sand, mostly of slate origin.
	35	8				
	21					
	14					
10	11				8.1 10.0	Seat HW casing at 10.0 ft. Top of Bedrock at 10.0 ft. Begin NX rock core at 10.0 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0								
5								
10	10	C1	10.0 15.0	55/51	91/85	FR.	8.1 10.0	10.0 ft. of Overburden (See Test Boring Report) Top of Bedrock at 10.0 ft.
	10 12 10							Hard fresh dark gray to black, aphanitic SLATE. Bedding extremely thin dipping on high angles. Joints close to moderate, tight, smooth, planar, dipping on high angles (parallel to bedding). Some joints with very thin clay coating. Frequent calcite stringers and veins dipping on moderately to vertical angles. -WATERVILLE FORMATION-
15	10						3.1 15.0	Bottom of Exploration at 15.0 ft.

B-255
Ground Elev. 50.3

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 4	S1 4"	0.0 1.5		Very loose dark brown silty fine SAND, with roots
5	3	2 2 3	S2 8"	5.0 6.5		Loose brown fine SAND
	6 7 10					
10	11	4 4 4	S3 11"	10.0 11.5		Loose brown fine SAND
	15 63 70				38.3 12.0	
15	131					
	60 57 55	44 34 29	S4 8"	15.0 16.5		Very dense brown coarse to fine SAND, little fine gravel -ALLUVIAL DEPOSIT-
	43 33					
20	3 3 6	1 1 1	S5 18"	20.0 21.5	30.2 20.1	Stiff gray silty CLAY
	9 10 11					
25	15 16 18		T1 26"	25.0 27.0		FV#1, 27.2-27.8 ft.; Su = 1220 psf
	19 19 38					
30	15 16 18	WOH WOH WOH	S6 18"	30.0 31.5		FV#2, 30.0-30.6 ft.; Su = 1300 psf Stiff gray silty CLAY -MARINE DEPOSIT-
	19 37 29					
35	21 54					
	38 37 29	12 16"	S7 6"	35.0 37.0	13.3 37.0	
40	40 70 110	12 21 20	S7 6"	40.0 41.5	10.0 40.3	Dense gray silty fine SAND -WEATHERED ROCK-
	76				6.1 44.2	Bedrock encountered at 40.3 ft. Seat NW casing at 44.2 ft. Begin NX rock core at 44.2 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATH-ERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
40								40.3 ft. of Overburden (See Test Boring Report) Seat NW casing to 44.2 ft. Begin NX rock core at 44.2 ft.
45	4 4 4	C1	44.2 45.5	16/0	100/0	FR. TO SL.	6.1 44.2	C1: Moderately hard, grey aphanitic to fine grained -SLATE-. Primary joint set is fresh to slightly weathered, close, tight to slightly open, planar and smooth, dipping at near vertical angles, parallel bedding planes, very thin calcite stringers, frequent infilling on primary joint surfaces. C2: Same as C1 except, secondary joint set is close, slightly weathered, tight to slightly open, stepped and rough, to less frequently planar and rough, dipping at low to horizontal angles. C3: Same as C2. C4: Same as C2. C5: Same as C1 except, secondary joints are fresh, close, tight to slightly open, stepped and rough, dipping at low to horizontal angles, perpendicular to foliation. Quartz and calcite mineralization common. Rock core is more sound than previous runs.
	4 4 4	C2	45.5 46.6	13/0	100/0	SL.		
	4 4 4	C3	46.6 48.2	18/0	100/0	SL.		
50	4 4 4	C4	48.2 50.4	27/0	100/0	SL.		
	4 4 4	C5	50.4 53.9	42/35	100/83	FR.	-3.6 53.9	Bottom of Exploration at 53.9 ft.

NO.	REVISION	BY	DATE

IN CHARGE OF	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

AS BUILT CLASS 12/1/96

115-204

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B11 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	19	103

B-256
Ground Elev. 49.8

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 / 0 / 1	S1 3"	0.0 1.5		Very loose dark brown silty fine SAND
5	5	2 / 1 / 3	S2 8"	5.0 6.5		Loose brown silty fine SAND
	7					
	15					
	18					
	17					
10	12	5 / 6 / 9	S3 9"	10.0 11.5		Medium dense brown silty fine SAND
	32					
	80				37.8 12.0	NOTE: Spin NW casing from 15.0-16.0 ft.
	92					
	106					
15 ▽		24 / 25 / 41	S4 6"	15.0 16.5		Very dense red-brown sandy coarse to fine GRAVEL -ALLUVIAL DEPOSIT-
	66					
	51					
	47					
	37					
20	22	27 / 11 / 4	S5 4"	20.0 21.5		Medium dense gray coarse to fine GRAVEL, little coarse sand
	12				28.0 21.8	
	13					
	14					
	13					
25	7	1 / 1 / 2	S6 18"	25.0 26.5		Medium stiff gray silty CLAY (Gravel in bottom of boring, washed ahead of casing to remove) -MARINE DEPOSIT-
	6					
	5					
	5					
	6					
30	40	17 / 28 / 19	S7 8"	30.2 31.7	19.0 30.8	Attempted tube, too stiff, could not advance. Very stiff gray silty CLAY
	74					Gray clayey coarse to fine GRAVEL. NOTE: Losing a bit of drill water during clean-out
	96					
	115					
	212					
35	68	26 / 27 / 39	S8 7"	35.2 36.7		Very dense gray clayey coarse to fine GRAVEL -GLACIAL TILL-
	64					
	184				11.5 38.3	Bedrock encountered at 38.3 ft. Seat NW casing at 38.3 ft. Begin NX rock core at 38.3 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATHERING	ELEV./DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
35								38.3 ft. of Overburden (See Test Boring Report) Begin NX rock core at 38.3 ft.
	5, 3	C1	38.3 40.3	24/0	100/0	SL.	11.5 38.3	C1: Moderately hard, gray aphanitic to fine grained -SLATE-. Very thin bedding. Primary joint set is close, open, slightly weathered, undulating and smooth, dipping at high angles
40	3, 3, 3	C2	40.3 42.8	30/17	100/57	FR. TO SL.		C2: Same lithology as C1. Same primary joint set. Secondary joint set is close, tight to slightly open, fresh, undulating and smooth to stepped and smooth, dipping at low to horizontal angles. Sound core begins at 41.3 ft. Calcite stringers abundant.
	4, 4	C3	42.8 44.9	25/13	100/52	FR. TO SL.		C3: Same as C2, calcite and quartz mineralization noted.
45	5, 4, 4	C4	44.9 48.3	41/27	100/66	FR.	1.5 48.3	C4: Same as C3.
								Bottom of Exploration at 48.3 ft.

B-257
Ground Elev. 46.4

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 / 1 / 1	S1 4"	0.0 1.5	44.4 2.0	Very loose brown fine SAND, with roots -TOPSOIL-
5	14	2 / 2 / 2	S2 12"	5.0 6.5		Loose gray-brown sandy SILT, trace medium sand
	8					
	14					
	14					
	9				37.4 9.0	
10	4	2 / 1 / 1	S3 14"	10.0 11.5		Very loose gray fine SAND, trace silt, with organics -ALLUVIAL DEPOSIT-
▽	6					
	10					
	30					
	73				32.4 14.0	
15	80	37 / 17 / 16	S4 3"	15.0 16.5		Dense gray sandy coarse to fine GRAVEL
	34				29.4 17.0	
	10					
	7					
	8					
20	6	WOM / WOM / WOM	S5 14"	20.0 21.5		FV#1, 20.0-20.6 ft.; Su = 1340 psf Stiff gray silty CLAY
	9					
	11					
	11					
	11					
25	10	WOM / WOM / WOM	S6 18"	25.0 26.5		FV#2, 25.0-25.6 ft.; Su = 820 psf Medium stiff gray silty CLAY
	10					
	12					
	12					
	17					
30	15	WOM / WOM / WOM	S7 18"	30.0 31.5		FV#3, 30.0-30.6 ft.; Su = 930 psf Medium stiff gray silty CLAY
	17					
	18					
	20					
	22					
35	19	WOM / 2 / 2	S8 18"	35.0 36.5		FV#4, 35.0-35.6 ft.; Su = 1480 psf Stiff gray CLAY
	19					
	23					
	22					
	24				6.4 40.0	
40	53	12 / 16 / 14	S9 8"	40.0 41.5		Dense gray clayey fine GRAVEL, little coarse to fine sand -GLACIAL TILL-
	64					
	81					
	127					
	109					
45	52	17 / 14 / 14	S10 5"	45.0 46.5		Medium dense gray clayey fine GRAVEL, little coarse to fine sand
	72					
	68					
	76					
	73					
50	48	21 / 21 / 15	S11 7"	50.0 51.5		Medium dense gray clayey fine GRAVEL, little coarse to fine sand
	60					
	47				-7.2 53.6	Bedrock encountered at 53.6 ft. Seat NW casing at 53.6 ft. Begin NX rock core at 53.6 ft. (See Core Boring Report)

B-257(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATHERING	ELEV./DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
45								
50								53.6 ft. of Overburden (See Test Boring Report) Seat NW casing at 53.6 ft. Advanced roller bit to 53.6 ft. Begin NX rock core at 53.6 ft.
55	4, 5	C1	53.6 56.0	29/0	100/0	MOD.	-7.2 53.6	C1: Moderately hard dark gray aphanitic -SLATE-. Primary joint set is moderately weathered, close, open, planar, and smooth, dipping at steep angles. Highly fractured core run (coarse gravel fragments)
	6	C2	56.0 57.4	17/0	100/0	MOD.		C2: Same as C1, moderately weathered fractured core run, no distinct joints, core reduced to coarse gravel and cobble fragments
	6	C3	57.4 58.6	14/5	100/36	MOD.		C3: Same as C1, primary joints same as C1. Secondary joints are moderately weathered, close, open, undulating to stepped and smooth, dipping at low to moderate angles, silty coating noted on joint faces.
60	5, 5	C4	58.6 60.6	24/0	100/0	MOD.		C4: Same as C1.
	6	C5	60.6 61.6	12/0	100/0	MOD.		C5: Same as C1.
65	4, 5, 6, 7, 7	C6	61.6 65.4	46/25	100/54	MOD.	-19.0 65.4	C6: Same lithology as C1. Primary joints are close, tight, moderately weathered, planar and smooth, dipping at steep angles. Secondary joints are close, tight, moderately weathered, undulating to stepped and smooth, dipping at low angles. Clay infillings noted at 64.4 ft. Calcite mineralization common.
								Bottom of Exploration at 65.4 ft.

115-205

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	7/93
				DRAWN:	RJT	7/93
				CHECKED:		
				IN CHARGE OF		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

BORING LOGS

SHEET B12 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	20	105

B-258

Ground Elev. 46.6

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 1	S1 3"	0.0 1.5	45.1 1.1	Very loose brown fine SAND (frozen) -TOPSOIL-
5		2 2 2	S2 12"	5.0 6.5		Loose gray-brown silty fine SAND
10		2 1 1	S3 9"	10.0 11.5	33.6 13.0	Very loose gray silty fine SAND
15		13 12 14	S4 7"	15.0 16.5	29.0 17.6	Medium dense gray gravelly coarse to fine SAND, trace silt -ALLUVIAL DEPOSIT-
20		WOH WOH WOH	S5 14"	20.0 21.5		Medium stiff gray silty CLAY, little silt
25		11 26*		25.0 27.1		Medium stiff gray silty CLAY FVW1, 27.1 ft. to 27.7 ft.; Su = 820 psf
30		WOH WOH WOH	S6 18"	30.0 31.5		FVW2, 30.0 ft. to 30.6 ft.; Su = 890 psf Medium stiff gray silty CLAY -MARINE DEPOSIT-
35		12 17*		35.0 37.0	9.9 36.7	Gray clayey fine SAND
40		24 18 17	S7 5"	40.0 41.5	7.6 39.0	Dense gray gravelly coarse to fine SAND, trace silt -GLACIAL TILL-
45		9 10 20	S8 3"	45.0 46.5	2.6 44.0	Dense gray silty fine SAND, trace coarse sand and fine gravel -GLACIAL TILL-
50		12 10 15	S9 12"	50.0 51.5	-6.8 53.4	Medium dense gray silty fine SAND, trace coarse to medium sand Bedrock encountered at 53.4 ft. Seat NW casing at 53.4 ft. Begin NX rock core at 53.4 ft. (See Core Boring Report)

B-258(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								53.4 ft. Of Overburden (See Test Borings Report) Begin NX rock core at 53.4 ft.
55	3	C1	53.4 55.8	29/0	100/0	MOD.	-6.8 53.4	C1: Moderately hard, dark gray aphanitic SLATE. Joints are very close, open, moderately weathered, planar and smooth, to stepped and smooth, and dipping at steep angles. Silty coating noted on joint surfaces.
		C2	55.8 60.0	50/0	100/0	MOD.		C2: Same as C1.
60		C3	60.0 62.9	35/0	100/0	MOD.		C3: Same as C1.
		C4	62.9 65.4	30/4	100/13	SL.		C4: Moderately hard, gray aphanitic SLATE. Bedding is very thin, and steeply inclined with occasional calcite stringers. Joints are very close, open, moderately weathered, planar and smooth, and dipping at steep angles. Calcite and quartz mineralization present.
65							-18.8 65.4	Bottom of Exploration at 65.4 ft.

B-259

Ground Elev. 46.0

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOH WOH WOH	S1 2"	0.0 1.5		Very loose brown silty fine SAND, with organics NOTE: B259 located on edge of pond.
5		WOH WOH WOH	S2 0"	4.6 5.9		No recovery
10		WOH WOH 2	S3 16"	9.4 10.9	32.0 14.0	Very soft brown organic SILT -ORGANIC SILT-
15		4 4 5	S4 5"	14.0 15.5		Very loose gray silty fine SAND, with roots and organics -ALLUVIAL DEPOSIT-
20		8 10 8	S5 8"	19.0 20.5	25.0 21.0	Loose gray silty fine SAND, with pockets of coarse sand and fine gravel
25		16 14 40				
		41 40 59	S6 26"	24.0 25.5		Medium dense gray sandy fine GRAVEL, little silt and coarse gravel -GLACIAL TILL-
30		57 54 58	S7 6"	29.0 30.5	13.0 33.0	Dense gray sandy fine GRAVEL, little silt and coarse gravel -GLACIAL TILL-
35		59 42 53				-WEATHERED ROCK-
		74 74 159	S8 16"	34.0 35.5	9.6 36.4	Bedrock encountered at 33.0 ft. Seat NW casing at 36.4 ft. Begin NX rock core at 36.4 ft. (See Core Boring Report) NOTE: Artesian water condition at depth of 30.0 ft.

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
30								33.0 ft. of Overburden (See Test Boring Report) Seat NW casing at 36.4 ft. Advanced roller bit to 36.4 ft. Begin NX rock core at 36.4 ft.
35	4 3	C1	36.4 37.6	14/0	100/0	SL.	9.6 36.4	C1: Moderately hard, grey aphanitic -SLATE-. Primary joint set is slightly weathered, close, tight, planar and smooth, dipping at high angles.
	3	C2	37.6 39.4	22/0	110/0	SL.		C2: Same as C1 except, joints are coated with silty substance and joint spacing is very close. Frequent calcite stringers.
	3 3	C3	39.4 41.9	30/9	100/30	SL.		C3: Same as C1.
40	3 3 3	C4	41.9 43.9	24/7	100/29	SL.		C4: Same as C1 except, extremely fractured core.
	3 3	C5	43.9 45.8	23/0	100/0	SL. TO MOD.		C5: Same as C1 except, core reduced to gravel size fragments. Moderately weathered with silty infillings on joint surfaces.
45	3						0.2 45.8	Bottom of Exploration at 45.8 ft.

AS BUILT
CHK'D 12/2/96

115-206

NO.	REVISION	BY	DATE
WINSLOW			

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B13 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	21	103

B-260
Ground Elev 48.0

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 0 1	S1 NR	0.0 1.5	47.0 1.0	No recovery - frozen soil at ground surface -TOPSOIL-
5	1	1 2 2	S2 16"	5.0 6.5		Soft brown sandy SILT -ALLUVIAL DEPOSIT-
10	5	0 0 0	S3 18"	10.0 11.5		Very soft brown sandy SILT, with organics
15	3	WOH WOH WOH	S4 18"	15.0 16.5	31.7 16.3	Very soft brown sandy SILT, with organics
20	8	WOH WOH WOH	S5 18"	20.0 21.5		FV#1, 20.0 ft. to 20.6 ft.; Su = 740 psf Medium stiff gray silty CLAY
25	10	WOH WOH WOH	S6 18"	25.0 26.5	24.0 24.0	Very loose gray clayey fine SAND
30	29	6 10 12	S7 6"	30.0 31.5	16.0 32.0	Medium dense gray-brown clayey fine SAND, little coarse sand and fine gravel
35	40	20 18 13	S8 14"	35.0 36.5	10.2 37.8	Artesian pressure at 35.0 ft. Weathered rock with clayey fine SAND -GLACIAL TILL-
	59					Top of Bedrock at 37.8 ft. Drove NW casing to 37.8 ft. Advanced roller bit to 37.8 ft. Begin NX rock core at 37.8 ft. (See Core Boring Report)
	100					

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
30								37.8 ft. of Overburden (See Test Boring Report) Begin NX rock core at 37.8 ft.
35	2	C1	37.8 39.7	23/0	100/0	MOD.	10.2 37.8	C1: Moderately hard gray aphanitic SLATE. Bedding planes are very thin and steeply inclined. Joints are very close to close, open, moderately to slightly weathered, and dipping at steep angles. Silty coatings are noted on discontinuity surfaces. Pyrite, calcite, and quartz mineralization present. C2: Same as C1. C3: Same as C1.
40	2	C2	39.7 40.8	13/0	100/0	SL.		
	3	C3	40.8 42.2	17/0	100/0	SL.		
	3	C4	42.2 43.8	19/0	100/0	SL.		C4: Same as C1.
45	4	C5	43.8 45.4	19/0	100/0	SL.		C5: Same as C1.
	3	C6	45.4 46.8	17/0	100/0	SL.		C6: Same as C1.
	3	C7	46.8 48.6	22/0	100/0	SL.	-0.6 48.6	C7: Moderately hard, gray aphanitic SLATE. Joints are close to very close, open, slightly weathered, planar and smooth, steeply dipping, pyrite mineralization common, occasional calcite and quartz mineralization. -WATERVILLE FORMATION- Bottom of Exploration at 48.6 ft.
	3							

B-261
Ground Elev. 72.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	13	6 3 2	S1 13"	0.0 1.5	72.1 0.0	Brown fibrous organics with medium to fine sand -TOPSOIL-
	10					Loose brown silty fine SAND, little fine gravel and medium sand, trace coarse sand Frost to approximately 0.6 ft. -MARINE DEPOSIT-
	13					
	19					
5	26	6 11 19	S2 18"	5.0 6.5		Dense olive brown silty CLAY with blockey structure
	24					
	38					
	48					
	50					
10	62	10 15 17	S3 18"	10.0 11.5		Dense olive brown silty CLAY with blockey structure and mottling
	54					
	93					
	98					
	121					
	126				58.1 14.0	
15	54	3 6 11	S4 18"	15.0 16.5		Very stiff gray silty CLAY, trace fine sand
	94					
	126					
	127					
▽ 20	129					
	94					FV#1, 20.2 to 20.8 ft.; Su = 1670 psf Stiff gray silty CLAY with high plasticity
	87	2 0 0	S5	20.0 22.3		
	82					
	86					
25	86					
	116					FV#2, 25.0 to 25.6 ft.; Su = 1480 psf FV#3, 25.6 to 26.2 ft.; Su = 1860 psf Stiff gray silty CLAY -MARINE CLAY-
	116	4 5 7	S6 18"	26.2 27.7		
	118					
	120					
30	121					FV#4, 30.0 to 30.6 ft.; Su = 1670 psf FV#5, 30.6 to 31.2 ft.; Su = 1860 psf Stiff to very stiff gray silty CLAY -MARINE CLAY-
	97					
	95	7 8 8	S7 18"	31.2 32.7		
	89					
	93					
35	101					
	84	5 2 3	S8 18"	35.0 37.1		FV#6, 35.0 to 35.6 ft.; Su > 1860 psf Stiff to very stiff gray silty CLAY to gray silty fine SAND, little clay
	108				35.1 37.0	
	189					Very dense sandy GRAVEL (slate) -GLACIAL TILL- Washed ahead of casing from 40.0 to 45.0 ft.
	276					
40	187					
	90	67 39 17	S9 2"	40.0 41.5		
	143					
	131					
45	100					
	113				27.1 45.0	Top of Bedrock at 45.0 ft. Advanced roller bit to 45.9 ft. Begin NX rock core at 45.9 ft. (See Core Boring Report)

B-261(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
40								45.9 ft. of Overburden (See Test Boring Report) Begin NX rock core at 45.9 ft.
45	9	C1	45.9 49.1	37/0	100/0	FR.	45.9	C1: Hard slightly weathered grey aphanitic SLATE. Joints are very close, open, smooth, planar, dipping at vertical and high angles. Joint surfaces are slightly coated with silt. Quartz veins throughout core. Entire run is extremely fractured.
	26							
	20							
50	13	C2	49.1 51.6	25/0	100/0	FR.		C2: Same as C1. NOTE: No water return at 51.3 ft.
	6							
	16							
	12	C3	51.6 53.8	32/0	100/0	FR.		C3: Same as C1, except joints are dipping at high angles.
	11							
							53.8	Bottom of Exploration at 53.8 ft.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

115-207

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET 814 OF 886 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	22	103

B-262

Ground Elev 79.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	Elev./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		5 2 2	S1 8"	0.0 1.5	78.6 0.5	Loose dark brown loamy SILT, trace fine sand, with wood and organics -TOPSOIL-
						Very loose to loose orange brown silty fine SAND, trace coarse to medium sand, few rootlets
5						
	10	6 7 5	S2 14"	5.0 6.5	71.1 8.0	Medium dense dark brown coarse to fine SAND, trace fine gravel -ALLUVIAL DEPOSIT-
	18					
	18					
	20					
	34					
10	37	7 13 12	S3 14"	10.0 11.5		Very stiff mottled olive brown clayey SILT
	48					
	63					
	59					
	55					
15	43	2 5 7	S4 14"	15.0 16.5		FVB1, 15.0-15.25 ft.; Su = 2980 psf (2 in. x 3 in.) Very stiff brown gray silty CLAY -MARINE DEPOSIT-
	48					
	55					
	56					
	57					
20	45	1 3 5	S5 18"	20.0 21.5		FVB2, 20.0-20.6 ft.; Su > 1860 psf Stiff gray silty CLAY
	54					
	62					
	58					
	61					
25	56	1 3 2	S6 18"	25.0 26.5		FVB3, 25.0-25.6 ft.; Su = 1860 psf Stiff gray silty CLAY, with frequent black oxidized specs
	58					
	68					
	71					
	72					
30	67	WOH WOH WOH	S7 18"	30.0 31.5		FVB4, 30.0-30.6 ft.; Su = 1450 psf Stiff gray silty CLAY, with frequent black oxidized specs -MARINE DEPOSIT-
	62					
	63					
	63					
	64					
35	66	WOH WOH WOH	S8 18"	35.0 36.5		FVB5, 35.0-35.6 ft.; Su = 1450 psf Stiff gray silty CLAY
	68					
	68					
	64					
	67					
40	85		S9 14"	40.0 41.5		FVB6, 40.0-40.6 ft.; Su = 1370 psf Stiff gray silty CLAY
	64					
	78				36.1 43.0	
	82					
	88					
45	67	WOH WOH WOH	S10 18"	45.0 46.5		Medium stiff gray silty CLAY, little fine sand
	63					
	67					
	75					
	125				30.1 49.0	
50	89	55 22 28	S11 8"	50.0 51.5		Very dense gray silty fine SAND, little coarse sand, little fine gravel -GLACIAL TILL-
	102					
	80					
	85					
	62					
55	100	50/.4	S12 5"	55.0 55.4	24.1 55.0 23.7 55.4	Very dense black GRAVEL, sample consists of platey slate fragments -WEATHERED BEDROCK-
						Encountered bedrock at 55.2 ft. Seat NW casing at 56.0 ft. Advanced roller bit to 56.0 ft. Begin NX rock core at 56.0 ft. (See Core Boring Report)

B-262(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								55.2 ft. of Overburden (See Test Boring Report) Begin NX rock core at 56.0 ft.
55	6	C1	56.0 57.9	23/9	100/39	SL.	23.1 56.0	C1: Hard, dark gray aphanitic SLATE. Primary joint set moderately to steeply dipping, close, tight to slightly open, undulating to planar and smooth, with frequent calcite and quartz veins -WATERVILLE FORMATION-
	4/.9							
	5	C2	57.9 61.8	47/34	100/72	SL.		C2: Same as C1
60	4							
	5						17.3 61.8	Bottom of Exploration at 61.8 ft.
	8							

B-263

Ground Elev. 89.6

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN.	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 1	S1 1"	0.0 1.5	89.5 0.1 88.1 1.5	Frozen dark brown loamy SILT, leaves -FOREST MAT-
						Dark brown loamy SILT -TOPSOIL-
5	12	9 11 17	S2 12"	5.0 6.5		Medium dense brown fine SAND, little silt, trace coarse to medium sand -ALLUVIAL DEPOSIT-
	48					
	47					
	43					
	37					
10	9	7 8 8	S3 8"	10.0 11.5		Medium dense brown medium to fine SAND, trace gravel, coarse sand, trace silt
	19					
	16					
	11				76.6 13.0	
	9					
15	12		U1 24"	15.0 17.0		Soft gray silty CLAY
	9					
	7	WOH	S4 18"	17.0 19.0		FVB1, 17.0-17.6 ft.; Su = 470 psf Soft gray silty CLAY
	7	WOH				
	7	WOH				
20	7					
	10		S5 18"	20.0 21.5		Soft gray silty CLAY -MARINE DEPOSIT-
	9					
	10					
	10					
	10					
25	13		U2 24"	25.0 27.0		Medium stiff gray silty CLAY
	12					
	13	WOH	S6 18"	27.0 29.0		FVB2, 27.0-27.4 ft.; Su = 580 psf Medium stiff gray silty CLAY
	14	WOH				
	12	WOH				
30	14	WOH	S7 18"	30.0 32.0		Medium stiff gray silty CLAY
	14	WOH				
	13	WOH				
	14	WOH				
	14					
35	13		U3 24"	35.0 37.0		Medium stiff gray silty CLAY
	15					
	13	WOH	S8 18"	37.0 39.0		FVB3, 37.0-37.6 ft.; Su = 930 psf Medium stiff gray silty CLAY
	19	WOH				
	25	WOH				
40	24	2 3 3	S9 18"	40.0 41.5		Medium stiff gray silty CLAY -MARINE DEPOSIT-
	25					
	31					
	44					
	39					
45	4		U4 22"	45.0 47.0		NOTE: 3 in. HW casing telescoped from 45.0 to 60.0 ft. Gray silty CLAY in top of tube Silty fine SAND in bottom of tube
	8				42.7 46.9	
	19	8 9 11	S10 14"	47.0 48.5		Dense gray silty fine SAND, little coarse sand, little gravel -GLACIAL TILL-
	61					
	58					
50	31	17 16 15	S11 6"	50.0 51.5		Medium dense gray silty fine SAND, little coarse sand, little gravel
	29					
	27					
	40					
	53					
55	19	15 14	S12 4"	55.0 56.5		Medium dense to dense gray silty fine SAND, little coarse sand, little gravel -GLACIAL TILL-
	29					
	30					
	64				30.6 59.0	
	55					Top of Bedrock at 59.0 ft. Drove casing to 60.0 ft.

B-263(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								59.0 ft. of Overburden (See Test Boring Report) Begin NX rock core at 60.0 ft.
55								
60	4	C1	60.0 61.6	19/0	100/0	SL.	29.6 60.0	C1: Moderately hard, gray aphanitic SLATE. Primary joints are very close to close, slightly weathered, tight to slightly open, planar and smooth and dipping at steep angles, parallel to bedding.
	5							C2: Same as C1, except joints are close, tight, planar and smooth.
	7	C2	61.6 63.5	23/8	100/34	SL.		
	8	C3	63.5 65.5	24/12	100/50	FR. TO SL.		C3: Same lithology as C1. Joints are fresh to slightly weathered, close, tight to slightly open, steeply dipping, planar to stepped and smooth. Pyrite, quartz mineralization present. Some oxidation noted.
65	6						24.1 65.5	-WATERVILLE FORMATION-
								Bottom of Exploration at 65.5 ft.

NO.	REVISION	BY	DATE

IN CHARGE OF	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

115-208

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

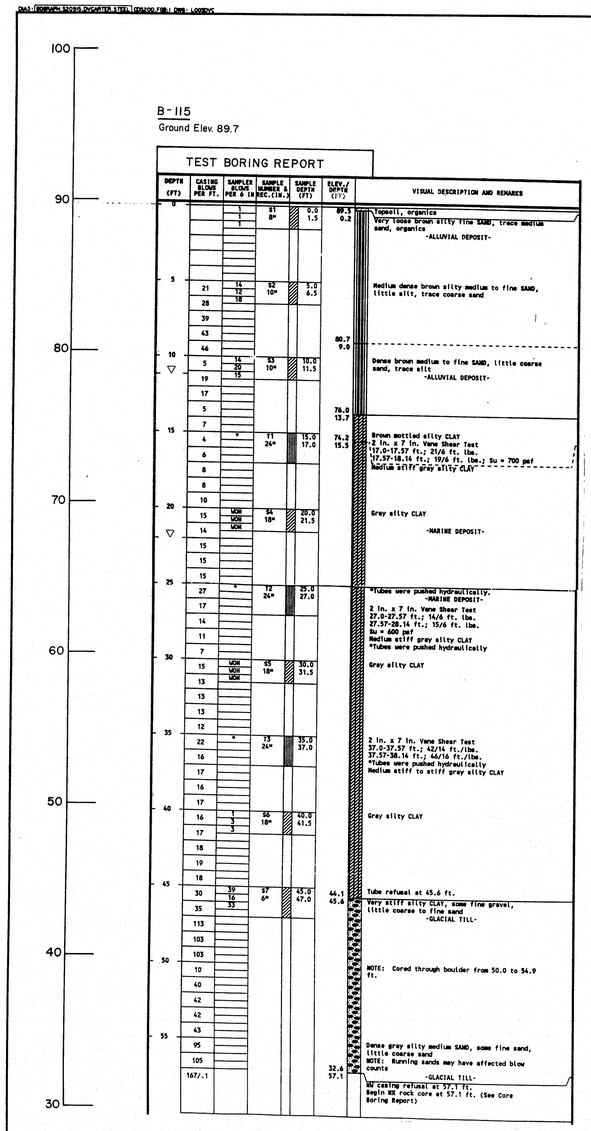
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B15 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	23	103



B-115
Ground Elev. 89.7

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1 1 1	S1 8"	0.0 1.5	89.5 0.2	Topsoil, organics Very loose brown silty fine SAND, trace medium sand, organics -ALLUVIAL DEPOSIT-
5	21	14 12 18	S2 10"	5.0 6.5		Medium dense brown silty medium to fine SAND, little silt, trace coarse sand
	39 43 46				80.7 9.0	
10 ▽	5 19	14 20 15	S3 10"	10.0 11.5		Dense brown medium to fine SAND, little coarse sand, trace silt -ALLUVIAL DEPOSIT-
	17 5				76.0 13.7	
15	7 4	*	T1 24"	15.0 17.0	74.2 15.5	Brown mottled silty CLAY 2 in. x 7 in. Vane Shear Test 17.0-17.57 ft.; 21/6 ft. lbs. 17.57-18.14 ft.; 19/6 ft. lbs.; Su = 700 psf Medium stiff gray silty CLAY
	6 8 8 10					
20 ▽	15 14	MUH MUH MUH	S4 18"	20.0 21.5		Gray silty CLAY -MARINE DEPOSIT-
	15 15 15					
25	27 17	*	T2 24"	25.0 27.0		*Tubes were pushed hydraulically. -MARINE DEPOSIT- 2 in. x 7 in. Vane Shear Test 27.0-27.57 ft.; 14/6 ft. lbs. 27.57-28.14 ft.; 15/6 ft. lbs. Su = 600 psf Medium stiff gray silty CLAY *Tubes were pushed hydraulically
	14 11 7					
30	15 13 13	MUH MUH MUH	S5 18"	30.0 31.5		Gray silty CLAY
	13 12					
35	22 16	*	T3 24"	35.0 37.0		2 in. x 7 in. Vane Shear Test 37.0-37.57 ft.; 42/14 ft./lbs. 37.57-38.14 ft.; 44/16 ft./lbs. *Tubes were pushed hydraulically Medium stiff to stiff gray silty CLAY
	17 16 17					
40	16 17	1 3 3	S6 18"	40.0 41.5		Gray silty CLAY
	18 19 18					
45	30 35	50 16 33	S7 6"	45.0 47.0	44.1 45.6	Tube refusal at 45.6 ft. Very stiff silty CLAY, some fine gravel, little coarse to fine sand -GLACIAL TILL-
	113 103 103					
50	10 40 42					NOTE: Cored through boulder from 50.0 to 54.9 ft.
	42 43					
55	95 105 167/.1					Dense gray silty medium SAND, some fine sand, little coarse sand NOTE: Running sands may have affected blow counts -GLACIAL TILL-
					32.6 57.1	NW casing refusal at 57.1 ft. Begin NX rock core at 57.1 ft. (See Core Boring Report)

B-115(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
45								30.9 ft. of Overburden (see Test Boring Report) Top of Bedrock at 57.1 ft.
50								
55								
60	6 6 7	C1	57.1 59.1	23/7	96/29	SL.		
	6/.4 6 7	C2	59.1 60.3	14/0	83/0	SL.		
	7 7	C3	60.3 63.5	36/12	100/33	SL.		
65	7/4/.3 6 8	C4	63.5 65.7	26/7	100/26	SL.		
	7 5/.1	C5 C6	65.7 66.0 66.0 69.1	2/0 36/21	83/0 97/57	SL. SL.	32.6 57.1	C1: Hard, slightly weathered, gray aphanitic SLATE; extremely thin bedding and foliation, dipping at high angles; joints slightly weathered, open, close, smooth, undulating, parallel to bedding; extremely thin to thin, hard white quartz veins present throughout and iron pyrite; fractured zone at 59.4 ft. C2: Same as C1, except joints are moderately weathered, open, very close, rough, stepped with silt seams C3: Same as C1, except joints from 62.1 to 63.5 ft. are close, smooth, planar C4: Same as C1. C5: Same as C1. C6: Same as C1, except joints are smooth, planar and undulating Bottom of Exploration at 69.1 ft.

B-264(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								
55								58.0 ft. of Overburden (See Test Boring Report) Begin NX rock core at 58.0 ft.
	6 6 7	C1	58.0 61.2	39/25	100/64	SL.	30.0 58.0	C1: Gray moderately hard aphanitic SLATE. Primary joint set slightly weathered, tight to slightly open, planar and smooth, dipping at high angles 85 degrees. Frequent quartz and calcite stringers.
60	4 3	C2	61.2 63.4	28/9	100/54	MOD.		C2: Same as C1, moderately fractured with moderate weathering and discontinuities are infilled with silty coating. Loss of drilling fluid on C2.
	4 6	C3	63.4 65.3	23/4	100/17	SL.		C3: Same as C1, moderately fractured core run. Loss of drilling fluid noted.
65	5 4	C4	65.3 66.9	20/5	100/25	MOD.		C4: Same as C1, except extremely fractured zone from 66.2 to 66.9 ft. Loss of drilling fluid noted.
	4	C5	66.9 68.0	13/8	100/62	FR.	20.8 68.0	C5: Same as C1, except joints are at high angles and stepped, tight and fresh. -WATERVILLE FORMATION- Bottom of Exploration at 68.0 ft.

B-264
Ground Elev. 88.8

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		8 1 4	S1 9"	0.0 1.5	88.6 0.2	Stiff black loamy SILT, with organics and frozen ground -TOPSOIL- Loose orange brown silty fine SAND, trace medium sand, trace coarse sand, few rootlets
5	17	13 15 16	S2 10"	5.0 6.5	83.6 5.0	Dense dark brown medium to fine SAND, trace coarse sand -ALLUVIAL DEPOSIT-
	37 30 26					
10	3 12	4 3 5	S3 7"	10.0 11.5		Loose brown medium SAND, trace coarse sand, trace fine sand
	10 9				74.8 14.0	
15	9 8	MUH MUH MUH	S4 18"	15.0 16.5		Soft gray silty CLAY -MARINE DEPOSIT-
	8 9 11					
20	8 8	MUH MUH MUH	S5 18"	20.0 21.5		FVW1, 20.0-20.6 ft.; Su = 480 psf Soft gray silty CLAY
▽	10 11 12					
25	10 13	MUH MUH MUH	S6 18"	25.0 26.5		FVW2, 25.0-25.8 ft.; Su = 480 psf Soft gray silty CLAY
	14 15 15					
30	18 18	MUH MUH MUH	S7 18"	30.0 31.5		FVW3, 30.0-30.6 ft.; Su = 590 psf Soft to medium stiff gray silty CLAY with rounded 1 in. gravel fragments at 31.2 ft. -MARINE DEPOSIT-
	20 20 21					
35	21 19	MUH MUH MUH	S8 18"	35.0 36.5		FVW4, 35.0-35.6 ft.; Su = 930 psf Medium stiff gray silty CLAY, with occasional black oxidized specks
	19 21 21					
40	20 24	MUH MUH MUH	S9 18"	40.0 41.5		FVW5, 40.0-40.6 ft.; Su = 1410 psf Stiff gray silty CLAY, with occasional black specks
	28 27				46.8 42.0	
45	26 26	1 2 1	S10 5"	45.0 46.5		FVW6, 45.0-45.6 ft.; Su > 1860 psf Stiff gray silty CLAY, little fine sand
	64 109 113				41.3 47.5	
50	68 52	28 22 20	S11 7"	50.0 51.5		Dense gray silty fine SAND, little coarse to medium sand, little fine gravel, well bonded matrix -GLACIAL TILL-
	55 76 66					
55	52 35	10 13	S12 4"	55.0 56.5		Medium dense black GRAVEL, sample consists of slate
	30 58 50/0	14			30.8 58.0	Bedrock encountered at 58.0 ft. Sent NW casing at 58.0 ft. Begin NX rock core at 58.0 ft. (See Core Boring Report)

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		

IN CHARGE OF

115-209

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B16 OF B86 AUGUSTA, MAINE

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	24	103

B-265
Ground Elev. 88.0

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		4 2 2	S1 8"	0.0 1.5	88.0 86.5	Soft to medium stiff dark brown loamy SILT, little fine sand, trace medium sand with roots, wood fragments Frozen soils 0-0.5 ft. -TOPSOIL-
5	18	11 11 12	S2 16"	5.0 6.5	83.0 81.5	Medium dense brown medium to fine SAND, little silt -ALLUVIAL DEPOSIT-
▽	37					
	39					
	41					
	42					
10	9	15 15 13	S3 12"	10.0 11.5	78.0 76.5	Medium dense brown medium SAND, little fine sand, trace coarse sand and silt
	31					
	12					
	15					
15	12					
	12	WOH WOH WOH	S4 18"	15.0 16.5	73.0 71.5	Soft to medium stiff gray silty CLAY -MARINE DEPOSIT-
	11					
	11					
	10					
20	10					
	12	WOH WOH WOH	S5 18"	20.0 21.5	68.0 66.5	FVW1, 20.0-20.6 ft.; Su = 590 psf Soft to medium stiff gray silty CLAY
	10					
	10					
	8					
25	10					
	19	WOH WOH WOH	S6 18"	25.0 26.5	63.0 61.5	Soft to medium stiff gray silty CLAY
	16					
	11					
	11					
	11					
30	11	WOH 1 1	S7 18"	30.0 31.5	58.0 56.5	FVW2, 30.0-30.6 ft.; Su = 740 psf Medium stiff gray silty CLAY with occasional black oxidized specks -MARINE DEPOSIT-
	12					
	14					
	15					
	15					
35	14	WOH 1 1	S8 18"	35.0 36.5	53.0 51.5	Medium stiff gray silty CLAY, with occasional black oxidized specks
	16					
	20					
	22					
	22					
40	26	WOH 1 1	S9 18"	40.0 41.5	48.0 46.5	FVW3, 40.0-40.6 ft.; Su = 1300 psf Stiff gray silty CLAY
	20					
	24					
	22					
	25					
45	56	13 20 27	S10 2"	45.0 46.5	43.0 41.5	Dense gray silty fine SAND, little coarse sand and fine gravel -GLACIAL TILL-
	78					
	200					
	96					Brown casing to refusal at 48.0 ft. Advanced roller bit to 49.0 ft. with increased resistance Cored boulder from 49.0 to 52.0 ft.
	86					
50	79					
	53					
	136					
	95					
	59					
55	54	20 33 35	S11 10"	55.0 56.5	33.0 31.5	Very dense gray silty fine SAND, little coarse sand and gravel -GLACIAL TILL-
	101					
	135					
	200/.8				29.2 58.8	Encountered bedrock at 58.8 ft. Seat NW casing at 58.8 ft.

B-265(CONT)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	%	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								58.8 ft. of Overburden (See Test Boring Report) Begin NX rock core at 58.8 ft.
55								
60	6	C1	58.8 60.0	14/0	100/0	FR. TO MOD. FR.	29.2 58.8	C1: Moderately hard, fresh to slightly weathered gray aphanitic SLATE. Primary joint set is steeply dipping, close, tight, fresh, planar and smooth, infrequently stepped and smooth. Joints parallel to bedding planes. Severely fractured core run. -WATERVILLE FORMATION-
	7	C2	60.0 63.5	42/30	100/71			C2: Hard, fresh, gray aphanitic SLATE. Joints dipping at moderate to high angles, close, tight, planar, smooth, occasional quartz or calcite banding. Fractured zone from approximately 63.0 to 63.3 ft. Pyrite mineralization on some joint surfaces.
	8							
	9						24.5 63.5	Bottom of Exploration at 63.5 ft.
	8							

H-266
Ground Elev. 93.9

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0					92.9 1.0	Dark brown loamy SILT, frozen -FOREST MAT/TOPSOIL-
		9 9 7	S1 12"	1.0 2.5		Medium dense brown mottled silty fine SAND, trace medium sand -ALLUVIAL DEPOSIT-
5	3	5 9 12	S2 18"	5.0 6.5	87.9 86.4	Medium dense brown mottled medium to fine SAND, little silt
▽		13				
		21			85.9 8.0	
10		29				Very stiff olive brown mottled clayey SILT
	26	5 6 8	S3 18"	10.0 11.5	82.9 81.4	
		30				
		30				
		29				
15		24				
	19	WOH 1 1	S4 18"	15.0 16.5	77.9 76.4	FVW1, 15.0 to 15.6 ft., Su = 1410 psf Stiff gray silty CLAY -MARINE DEPOSIT-
	18					
	21					
	20					
20	19					
	16	WOH WOH WOH	S5 18"	20.0 21.5	72.9 71.4	Stiff gray silty CLAY, with black specs
	13					
	12					
	13					
	13					
25	15	WOH WOH WOH	S6 18"	25.0 26.5	67.9 66.4	FVW2, 25.0 to 25.6 ft., Su = 520 psf Medium stiff gray silty CLAY, with black specs
	15					
	15					
	17					
	18					
30	24	7 8	S7 18"	30.0 31.5	63.4 61.9	Gray silty CLAY, little fine sand -MARINE DEPOSIT- Medium dense gray silty fine SAND
	30					
	141				60.9 32.0	Probable cobbles and boulders at 33.0 ft. Casing refusal at 33.0 ft. Washed ahead of casing to 39.0 ft.
35	96	58 157	S8 12"	35.0 36.2	58.9 57.7	Very dense gray brown silty fine SAND, little coarse to medium sand, little gravel -GLACIAL TILL-
	131	109	S9 12"	36.5 37.5	56.4 37.5	Very dense grey brown silty fine SAND, little coarse to medium SAND, little gravel -GLACIAL TILL-
						Bottom of Exploration at 37.5 ft. No Refusal

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	7/93
DRAWN:	RJT	7/93
CHECKED:		
IN CHARGE OF		

115-210,

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

BORING LOGS

SHEET B17 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	25	103

H-268

Ground Elev. 95.0

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		2	S1	0.0	95.0	Loose dark brown loamy SILT, trace fine sand,
		1	3"	1.5	93.5	with wood, leaves
		3			1.5	-FOREST MAT/TOPSOIL-
						Medium dense brown silty medium to fine SAND
	13	7	S2	5.0		-ALLUVIAL DEPOSIT-
	18	12	18"	6.5		
	38	5				
	66					
	85					
10	41	3	S3	10.0		Stiff mottled brown clayey SILT
	50	4	18"	11.5	83.8	-MARINE DEPOSIT-
	57	5			11.2	Gray silty CLAY
	49					
	39					
15	28		U1	15.0		Gray silty CLAY
	26		24"	17.0		
	26	WOR	S4	17.0		FVW1, 17.0 to 17.6 ft., Su = 750 psf
	22	WOR	18"	18.5		Medium stiff gray silty CLAY
	22	WOR				
20	17	WOH	S5	20.0		Medium stiff gray silty CLAY
	15	WOH	18"	21.5		-MARINE DEPOSIT-
	16	WOH				
	16					
	14					
25	17		U2	25.0		3 in. tube Gray silty CLAY
	18		24"	27.0		
	25	WOH	S6	27.0		FVW2, 27.0 to 27.6 ft., Su = 770 psf
	27	WOH	18"	28.6		Medium stiff gray silty CLAY
	28	WOH				
30	23	WOH	S7	30.0		Medium stiff gray silty CLAY
	22	WOH	18"	31.5		-MARINE DEPOSIT-
	24	WOH				
	26					
35	24					
	20				59.0	Attempted tube sample at 35.0 ft. -
	37	1	S8	36.0	36.0	encountered gray silty fine SAND
	86	2	18"	37.5	57.5	Loose to medium dense, gray silty fine SAND
	246	8			37.5	Encountered probable boulder at 39.0 ft.
40						Advanced roller bit to 40.0 ft.
			S9	40.0		Very dense gray silty fine SAND, little gravel
			1"	40.3		-GLACIAL TILL-
					52.9	
	100/.1	5\10	S10	42.0	42.1	Split spoon refusal on probable boulder at
			NR	42.1		42.1 ft.
						Bottom of Exploration at 42.1 ft.

B-291

Ground Elev. 93.2

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1	S1	0.0	93.0	Dark brown loamy SILT, with organics
		1	12"	2.0	91.2	-FOREST MAT-
		1			2.0	Very soft light brown sandy SILT, little silty
						fine sand with rootlets
						-TOPSOIL-
5	16	6	S2	5.0		Medium stiff to medium dense laminated
	25	8	18"	7.0		brown-gray clayey SILT and silty fine SAND,
	28	11				trace medium sand
	22	14				Sample wet at 6.3 ft.
	29					
10	15	11	S3	10.0	83.2	
	13	10	12"	12.0	10.0	Medium dense brown medium SAND, trace silt,
	23	9			81.4	trace fine gravel
	20	10			11.8	-ALLUVIAL DEPOSIT-
	19					At 11.8 ft. Olive brown clayey SILT
15	12					-MARINE DEPOSIT-
	13		T1	15.0		Gray silty CLAY
	12		24"	17.0		
	12					FVW1, 17.0 to 17.6 ft., Su = 590 psf
	12	WOH	S4	18.2		FVW2, 17.6 to 18.2 ft., Su = 560 psf
	12	WOH	18"	19.7		Medium stiff gray silty CLAY with black
		WOH				streaks
20	11	WOH	S5	20.0		
	13	WOH	24"	22.0		Medium stiff gray silty CLAY, with black
		WOH				streaks
		WOH				
	13					
	12					
25	13		T2	25.0		Gray silty CLAY
	13		24"	27.0		
	13					FVW3, 27.0 to 27.6 ft., Su = 760 psf
	15	WOH	S6	28.2		FVW4, 27.6 to 28.2 ft., Su = 820 psf
	19	1	18"	29.7		Medium stiff gray silty CLAY
		2				
30	14	WOH	S7	30.0		Gray silty CLAY
		WOH	24"	32.0		-MARINE DEPOSIT-
	15	WOH				
		2				
	18					
	20					
35	18	WOH	S8	35.0		Gray silty CLAY with black concretions
	23	2	18"	37.0	56.5	
		3			36.7	Olive brown sandy SILT, trace fine sand
	30				55.2	
	99				38.0	Washed ahead from 39.5 to 40.0 ft. through
	150/.5					probable cobbles.
40	100	100/.4	S9	40.0		
	90	50/0	3"	40.4		Very dense olive brown silty fine SAND, little
	52					coarse sand, little fine gravel, well bonded
	74					inситu
	200/.4					-GLACIAL TILL-
						Split spoon refusal at 40.4 ft.
						Drove NW casing to 40.5 ft.
						Begin NX rock core at 40.5 ft.
						Cored boulders, cobbles and glacial till from
						40.5 to 46.2 ft.
						Drove casing to 44.4 ft.
						Begin NX rock core at 44.4 ft.
						Cored 4.0 ft. from 44.4 to 48.4 ft. Recovered
						cobbles and boulders.
						Casing and drive shoe bent from driving to
						44.5 ft.
						Removed NW driving casing and spun NW casing
						to 50.0 ft.
45						
50		48	S10	50.0		Very dense grayish brown silty medium to fine
		58	10"	51.5		SAND, little gravel
		74			41.7	
					52.1	Spun casing to 52.1 ft.
						Refusal on top of Bedrock at 52.1 ft.
						Advanced roller bit to 53.0 ft.
						Begin NX rock core at 53.0 ft. (See Test
						Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/ROD IN.	RECOVERY/ROD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
50								52.1 ft. of Overburden (See Test Boring Report)
								Spun NW casing to 52.1 ft.
								Advanced roller bit to 53.0 ft.
								Begin NX rock core at 53.0 ft.
55		C1	53.0	57/0	95/0	MOD.	40.2	Soft to moderately hard black aphanitic PHYLLITE.
			57.7				53.0	Joints are moderately weathered, very close, open and
								dipping steeply. Core is highly fractured.
							35.5	
							57.7	Bottom of Exploration at 57.7 ft.

H-269

Ground Elev. 124.1

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	8	7	S1	0.0		Loose brown fine SAND, little silt, trace
	3	8	15"	1.5	122.6	medium sand, with rootlets and organics
	6	1			1.5	-TOPSOIL-
	42					
	58					Advanced roller bit through probable cobbles
5	27	10	S2	5.4		and gravel at approximately 4.5 ft.
	5	12	12"	6.9	118.7	Advanced roller bit to 5.4 ft. washed beyond
	63	16			5.4	probable cobbles
	69					Very stiff olive brown mottled SILT, trace
	75					clay
10	46	24	S3	10.0		-MARINE DEPOSIT-
	60	22	18"	11.5		
	78	20				
	83					
	71					Very stiff olive brown silty CLAY
15	39	5	S4	15.5		(Pushed cobble ahead of sampler - hence high
	45	3	18"	17.0		blow counts)
	133	5			110.1	
	100/.6				14.0	Loose brown silty fine SAND, with occasional
						olive clay partings
					105.5	
					18.6	-WEATHERED BEDROCK-
20		50/.1	NR	20.1	104.0	
				20.1	20.1	Advanced casing to 18.6 ft.
						Advanced roller bit to 20.0 ft.
						Split spoon refusal at 20.1 ft.
						Bottom of Exploration at 20.1 ft.

NO.	REVISION	BY	DATE

IN CHARGE OF CJM

	BY	DATE
DESIGNED:	SM	6/94
DRAWN:	RJT	6/94
CHECKED:	DWR	6/94

AS BUILT
CJM 12/8/96

115-211

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB
ARCHITECTS ENGINEERS PLANNERS

BORING LOGS

SHEET B18 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	26	103

B-292

Ground Elev. 111.3

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0						Begin NW driven casing at 5.0 ft. -ALLUVIAL DEPOSIT-
5	16	3, 6	S1	5.0 / 7.0	105.6 / 5.7	Medium dense brown medium SAND
	13	6, 6				Stiff olive brown clayey SILT
	33					
	38					
	38					
10	42		T1 24"	10.0 / 12.0		Mottled olive brown silty CLAY
	50					
	52	8, 8	S2 24"	12.2 / 14.2		FV#1, 12.0 to 12.2 ft., Su > 1860 psf Very stiff mottled olive gray silty CLAY
	59	12, 10				
	73					
15	58	3, 4	S3 24"	15.0 / 17.0		Medium stiff to stiff olive gray silty CLAY, well bonded insitu -MARINE DEPOSIT-
	67	4, 4				
	68					
	68					
	114				91.6 / 19.7	
20	215	100/.3	S4 3"	20.0 / 20.3		Very dense grayish brown silty medium to fine SAND, little coarse sand, little fine gravel -GLACIAL TILL- Washed ahead of casing open hole in Glacial Till from 20.0 ft.
	199					
	194					
	252					
	200					
25	220	100/.5	S5 6"	25.0 / 25.5		Very dense grayish brown silty medium to fine SAND, little coarse sand, little gravel Advanced roller bit to 29.0 ft. Spun NW casing to 26.5 ft. Cored Boulder from 29.0 to 31.0 ft.
	300/.5					
30		27, 51, 66	S6 18"	31.0 / 32.5		Very dense grayish brown silty medium to fine SAND, little gravel -GLACIAL TILL-
35						Cored boulder from 34.0 to 37.0 ft. Recovered 2.5 ft. of mixed gravel, boulders and cobbles.
		81, 32, 26	S7	37.0 / 38.5		Very dense gray silty medium to fine SAND, little coarse sand, little fine gravel with cobbles and boulders
40		50/.1		40.0 / 40.0	71.2 / 40.1	No recovery Split spoon refusal at 40.1 ft. Spun casing to Refusal at 40.1 ft. Advanced roller bit to 40.1 ft. Probable Top of Bedrock at 40.1 ft. Begin NX rock core at 40.1 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
30								40.1 ft. of Overburden (See Test Boring Report) Advanced roller bit to 40.1 ft. Begin NX rock core at 40.1 ft.
40	8, 10, 7, 7, 8	C1	40.1 / 45.1	60/38	100/64	SL. TO FR.	71.2 / 40.1	Moderately hard to hard, gray aphanitic SCHIST. Joints are close, tight, fresh to slightly weathered, planar and smooth to less frequently stepped and smooth and dipping at moderate to steep angles. Quartz and pyrite mineralization noted.
45							66.2 / 45.1	Bottom of Exploration at 45.1 ft.

B-293

Ground Elev. 108.8

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1, 1, 1, 2	S1	0.0 / 2.0	108.6 / 0.2	FOREST MAT Very loose brown sandy SILT, with plant fibers, rootlets -TOPSOIL-
					106.3 / 2.5	
5		10, 11, 12, 13	S2 24"	5.0 / 7.0		Very stiff brown mottled clayey SILT with fine sand laminations Spun NW casing from 5.0 to Bottom of Exploration -MARINE DEPOSIT-
10			T1 24"	10.0 / 12.0	98.8 / 10.0	Mottled olive gray silty CLAY
		4, 5, 3	S3 18"	12.4 / 13.9		FV#1, 12.0 to 12.2 ft., Su = 3380 psf FV#2, 12.2 to 12.4 ft., Su = 3140 psf Very stiff gray brown silty CLAY (mottled)
15		2, 1, 1, 1	S4 24"	15.0 / 17.0	93.3 / 15.5	Gray silty CLAY -MARINE DEPOSIT-
20		2, 6, 7, 11	S5 24"	20.0 / 22.0	88.3 / 20.5	Gray silty CLAY to 20.5 ft. Medium dense gray brown silty fine SAND
					86.3 / 22.5	Gravel in wash, color change to gray at 22.5 ft. -GLACIAL TILL-
25		24, 27, 100/.4	S6 10"	25.0 / 26.4		Very dense brown gray silty coarse fine SAND, little gravel
30		50/0		29.5 / 29.5		Split spoon refusal at 29.5 ft. Advanced roller bit to 30.0 ft. with resistance. Cored boulder from 30.0 to 32.0 ft. Recovered 5 in.
		68, 50/.1	S7 5"	32.0 / 32.6		Very dense gray brown silty medium to fine SAND, little gravel
35						Many boulders and cobbles encountered while spinning casing to 38.5 ft.
					69.5 / 39.3	Spun NW casing to 39.3 ft. Refusal at 39.3 ft. Advanced roller bit to 39.3 ft. Top of Bedrock at 38.5 ft. Begin NX rock core at 39.3 ft. (See Core Boring Report)

CORE BORING REPORT

DEPTH (FT)	DRILLING RATE MIN./FT.	RUN NO.	DEPTH (FT)	RECOVERY/RQD IN.	RECOVERY/RQD %	WEATHERING	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
30								38.5 ft. of Overburden (See Test Boring Report) Advanced casing and roller bit to 39.3 ft. Begin NX rock core at 39.3 ft.
40	8, 10	C1	39.3 / 40.6	15/0	100/0	MOD.	69.5 / 39.3	Moderately hard dark gray aphanitic SCHIST. Joints are very close, open, moderately to severely weathered and dipping steeply, planar and smooth. Rock core is reduced to gravel sized fragments and some rock disintegration was noted.
	12, 16	C2	40.6 / 43.1	30/0	100/0	MOD. TO SEV.		
	10	C3	43.1 / 44.3	14	100	MOD.	64.5 / 44.3	Bottom of Exploration at 44.3 ft.

B-122

Ground Elev. 108.4

TEST BORING REPORT

DEPTH (FT)	CASING BLOWS PER FT.	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & REC.(IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		1, 2, 2	S1 7"	0.0 / 1.5		0.0-0.2 ft. Organic topsoil, roots and plant fibers Very loose brown fine sandy SILT, little plant stems, roots, organics -TOPSOIL-
					106.4 / 2.0	-MARINE DEPOSIT-
5	10	9, 10, 17	S2 18"	5.0 / 6.5	102.9 / 5.5	Very stiff brown-gray clayey SILT, little fine sand, indistinct laminations Very stiff brown mottled silty CLAY, laminated -MARINE DEPOSIT-
	25					
	38					
	39					
	45					
10	28	3, 4, 8	S3 18"	10.0 / 11.5		Very stiff brown mottled silty CLAY, laminated
	30					
	39					
	39					
	40					
15	31		S4 12"	15.0 / 17.0		NOTE: Attempt tube sample from 15.0-17.0 ft. - not successful S4 sample taken from recovery inside tube Dense brown-gray clayey SILT, trace fine gravel
	22					
	19				90.9 / 17.5	-MARINE DEPOSIT-
	19					
	18					
20	27		T1 24"	20.0 / 22.0		Brown-gray silty CLAY in tube sample
	22	100/0				
	100/.6				85.8 / 22.6	2 in. x 7 in. Vane shear tests: 22.0-22.57 ft.; 46/10 ft. lbs. 22.57-22.6 ft.; vane refusal Su = 1700 psf Bottom of Exploration at 22.6 ft. Casing Refusal at 22.6 ft. Split spoon refusal at 22.6 ft. *Tube sample pushed hydraulically

115-212

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	6/94
				DRAWN:	RJT	6/94
				CHECKED:	DWR	6/94
				IN CHARGE OF	CJM	

HNTB
ARCHITECTS ENGINEERS PLANNERS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

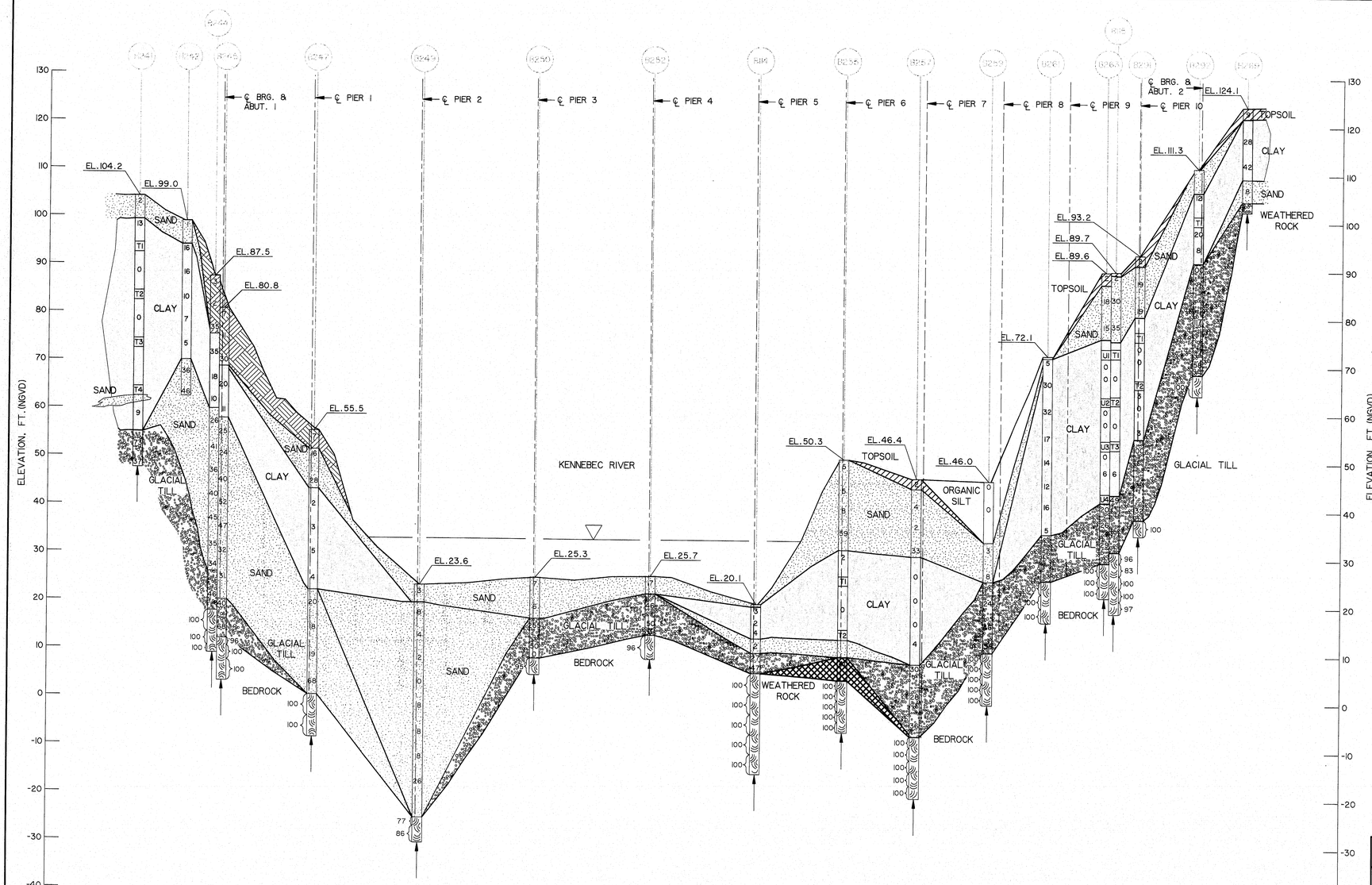
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

BORING LOGS

SHEET B19 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	27	103



LEGEND

- B291 - BORING NUMBER
- EL.93.2 - GROUND SURFACE ELEVATION
- 12 - INDICATES NUMBER OF BLOWS NECESSARY TO DRIVE A SPLITSPOON SAMPLER (2 IN. O.D., 1 3/8 IN. I.D.) 12 IN. BY A 140LB. HAMMER FALLING FREELY THROUGH 30 IN.
- T1 - LOCATIONS OF THIN-WALL TUBE SAMPLE
- 100 - LOCATIONS OF NX-SIZE ROCK CORE AND PERCENT RECOVERY OF ROCK
- BOTTOM OF BORING

NOTES:

1. ELEVATIONS REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM.
2. SUBSURFACE STRATIFICATION LINES BETWEEN BORINGS ARE NECESSARY INTERPOLATIONS AND MAY NOT NECESSARILY AGREE WITH ACTUAL FIELD CONDITIONS.
3. DETAILED SOIL DESCRIPTIONS ARE INCLUDED ON TEST BORING LOGS.

FOUNDATION SURVEY
(NORTH SOIL PROFILE)

0 100 200 500 FEET
1"= 100'-0" HORIZONTAL

0 10 20 50 FEET
1"= 10'-0" VERTICAL

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:		
DRAWN:		
CHECKED:		
IN CHARGE OF		

HNTB
ARCHITECTS ENGINEERS PLANNERS

AS BUILT
Chris 12/10/96

115-213
STEEL ALTERNATE

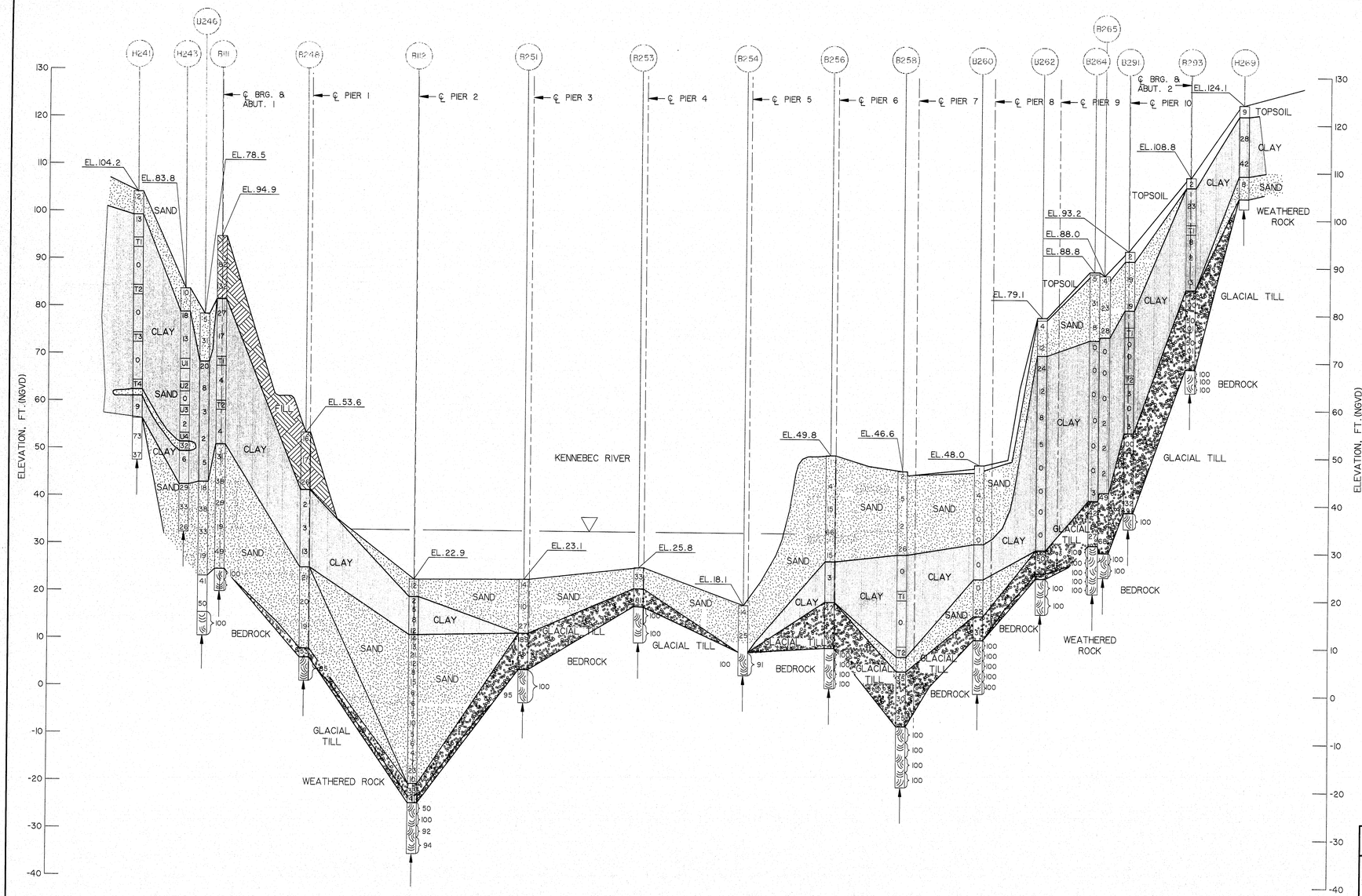
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

FOUNDATION SURVEY
NORTH SOIL PROFILE

SHEET B19A OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	28	103



NOTE:

FOR LEGEND, SEE SHEET B19A

AS BUILT C.I. 12/9/96

115-214

STEEL ALTERNATE

FOUNDATION SURVEY
(SOUTH SOIL PROFILE)

0 100 200 500 FEET
1"= 100'-0" HORIZONTAL

0 10 20 50 FEET
1"= 10'-0" VERTICAL

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:		
DRAWN:		
CHECKED:		

IN CHARGE OF WATERVILLE

HNTB
ARCHITECTS ENGINEERS PLANNERS

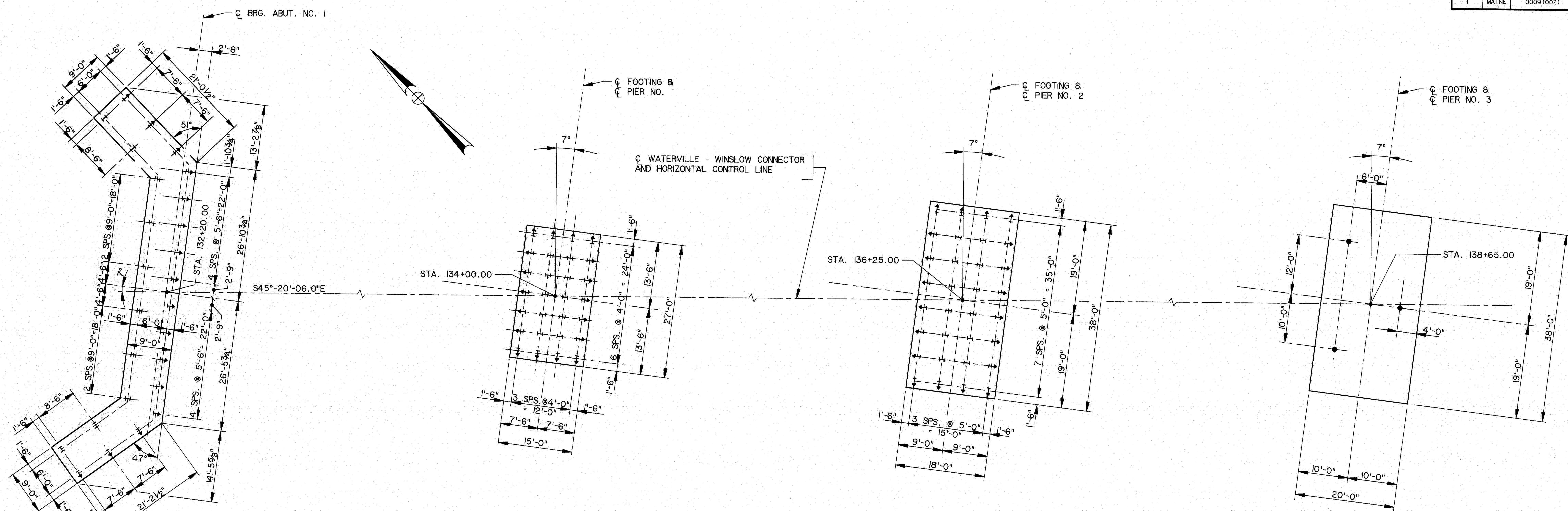
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

FOUNDATION SURVEY
SOUTH SOIL PROFILE

SHEET B19B OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	29	103



FOUNDATION PLAN

PILE NOTES

1. PILES MARKED THUS ↦ SHALL BE BATTER IN THE DIRECTION OF THE ARROW:
   - o ABUTMENTS: 3 INCH PER FOOT
   - o PIERS: 2 INCH PER FOOT
2. ESTIMATE OF PILES REQUIRED:

ABUTMENT 1	22-HP14x73 @ 78' = 1716'
PIER 1	28-HP14x73 @ 45' = 1260'
PIER 2	32-HP14x73 @ 42' = 1344'
PIER 6	24-HP14x73 @ 40' = 960'
PIER 7	28-HP14x73 @ 46' = 1288'
PIER 8	28-HP14x73 @ 34' = 952'
PIER 9	20-HP14x73 @ 48' = 960'
PIER 10	20-HP14x73 @ 47' = 940'
ABUTMENT 2	22-HP14x73 @ 55' = 1210'

3. 13HPx73 BEARING PILES MAY BE SUBSTITUTED FOR 14HPx73 BEARING PILES AT THE OPTION OF THE CONTRACTOR. IN EITHER CASE PAYMENT WILL BE MADE UNDER ITEM 501.216 FOR THE PILES.
4. ● - INDICATES 2 1/8"Ø (NX) CONCRETE SEAL CORE.
5. CONCRETE SEAL CORE LOCATIONS MAY BE ADJUSTED IN FIELD BY THE ENGINEER.

As Built CBM 12/10/96

115-215

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

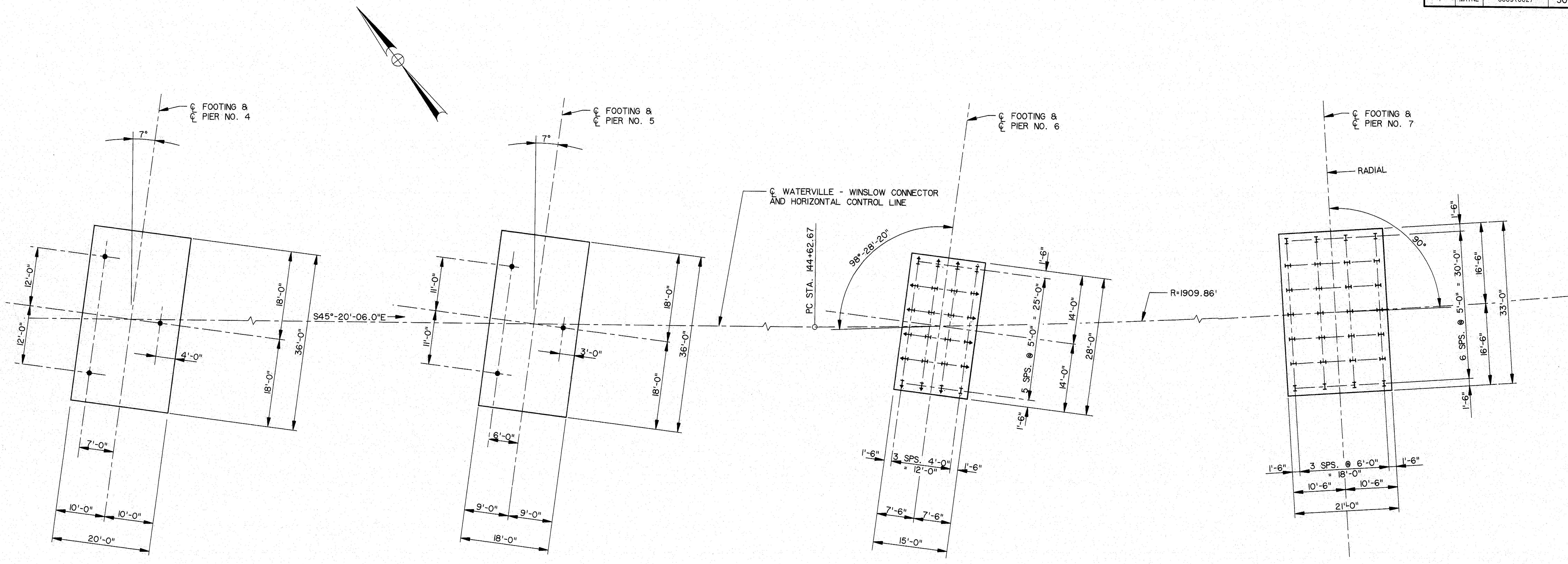
FOUNDATION PLAN - I

HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B20 OF B86 AUGUSTA, MAINE

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	DWR	9/94
				DRAWN:	RJT	9/94
				CHECKED:	SM	9/94
				IN CHARGE OF	CJM	

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	30	103



FOUNDATION PLAN

NOTES

1. FOR PILE NOTES SEE SHEETS B3 AND B20.
2. ● - INDICATES 2⅛"Ø (NX) CONCRETE SEAL CORE.

AS BUILT CJM 12/13/96

115-216

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

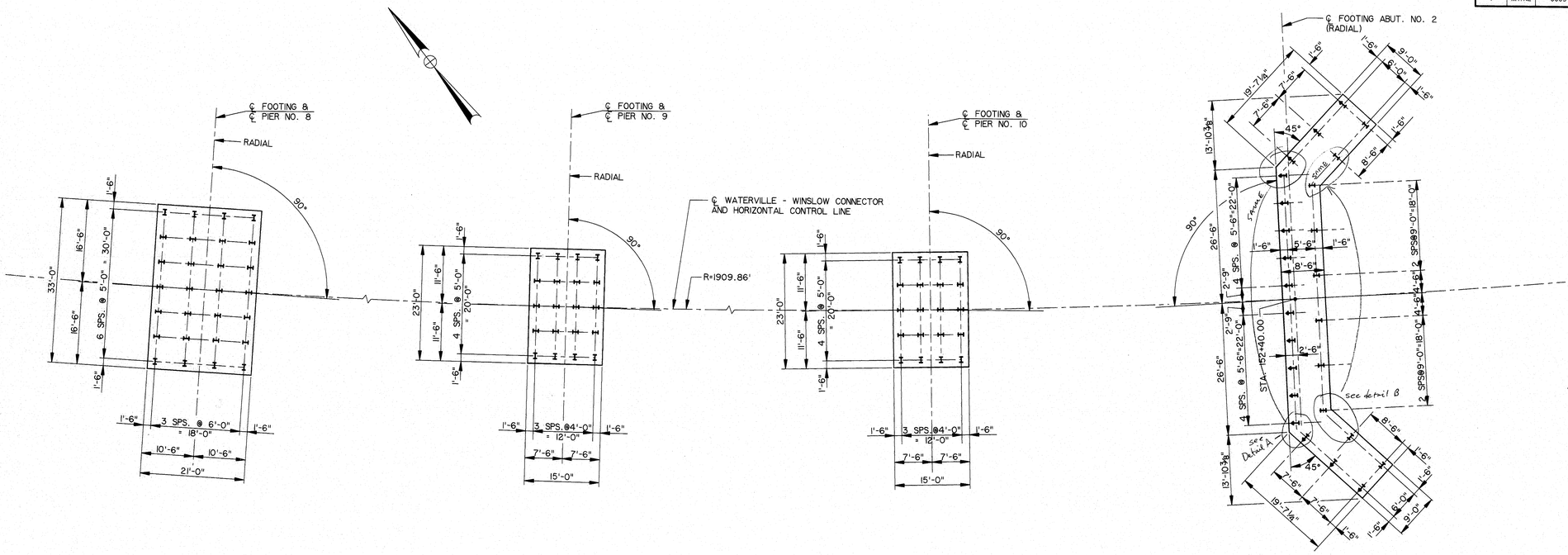
WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB ARCHITECTS ENGINEERS PLANNERS

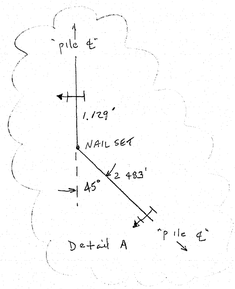
FOUNDATION PLAN - II

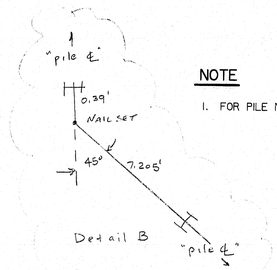
SHEET B21 OF B86 AUGUSTA, MAINE

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	9/94
				DRAWN:	RJT	9/94
				CHECKED:	DWR	9/94
				IN CHARGE OF	CJM	



FOUNDATION PLAN
1" = 10'-0"





NOTE

1. FOR PILE NOTES SEE SHEETS B3 AND B20.

REV 115-217

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

FOUNDATION PLAN - III

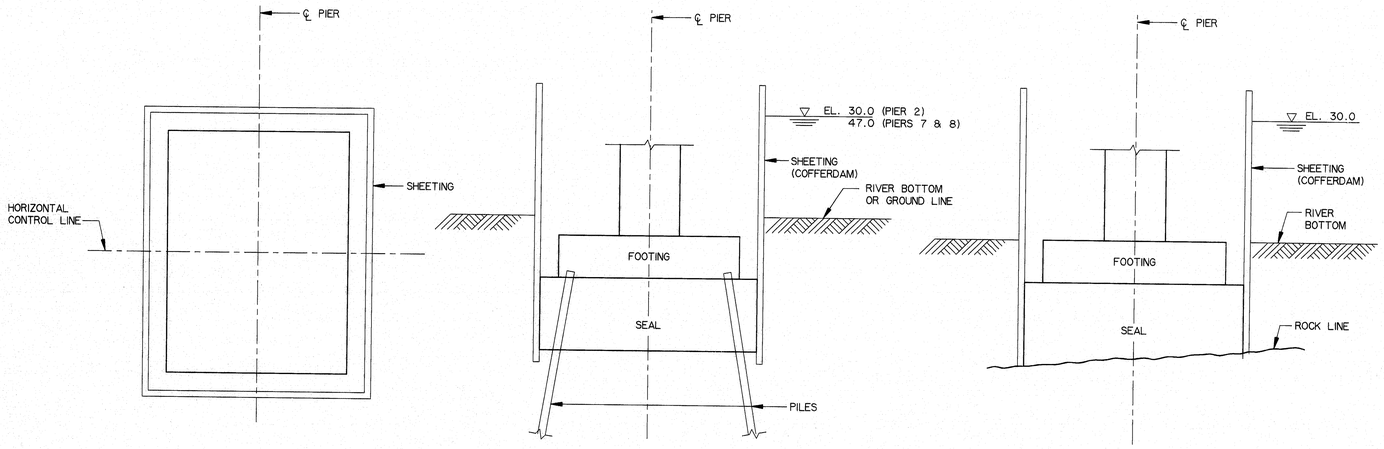
SHEET B22 OF B86 AUGUSTA, MAINE

HNTB
ARCHITECTS ENGINEERS PLANNERS

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	32	103



PLAN

SECTION - TYPE I COFFERDAM
PIERS 2, 7 AND 8

SECTION - TYPE II COFFERDAM
PIERS 3, 4 AND 5

SCHEMATIC COFFERDAMS

COFFERDAM NOTES:

1. IN THE EVENT THAT THE WATER RISES OUTSIDE THE COFFERDAM ABOVE THE ELEVATION 30.0 (EL. 47.0 AT PIERS 7 & 8), THE COFFERDAM SHALL BE FLOODED. AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL CONSIDER THE POSSIBILITY THAT THE BOTTOM OF EXCAVATION MAY BE LOWERED BY A MAXIMUM OF TWO FEET IN HIS SHEETING DESIGN.
3. SKETCHES SHOWN ON THIS SHEET INDICATE THE TYPE OF COFFERDAMS WHICH WILL BE REQUIRED FOR THE CONSTRUCTION OF THE PIERS.
4. FOR CONCRETE SEAL DIMENSIONS SEE FOUNDATION PLAN.
5. SEALS FOUNDED ON ROCK SHALL BE CORED FULL DEPTH, AT THREE LOCATIONS AS INDICATED ON FOUNDATION PLANS. THE CORES SHALL BE INSPECTED BY THE ENGINEER FOR VOIDS OR OTHER DEFECTS. THE CONTRACTOR SHALL CORRECT ANY AND ALL DEFECTS. METHOD(S) FOR CORRECTING DEFECTS SHALL BE APPROVED BY THE ENGINEER. FOR EACH CORE THAT REVEALS VOIDS OR OTHER DEFECTS TWO ADDITIONAL CORES SHALL BE TAKEN. ONE ADDITIONAL CORE SHALL BE MADE IN APPROXIMATELY THE SAME LOCATION AS THE ORIGINAL CORE. THE OTHER ADDITIONAL CORE SHALL BE LOCATED BY THE ENGINEER. ALL COST OF CORING SHALL BE INCLUDED IN LUMP SUM PRICE BID FOR COFFERDAMS.
6. PAY ITEMS:

   511.071 - COFFERDAM, PIER 2
   511.072 - COFFERDAM, PIER 3
   511.073 - COFFERDAM, PIER 4
   511.074 - COFFERDAM, PIER 5
   511.075 - COFFERDAM, PIER 7
   511.076 - COFFERDAM, PIER 8

   SHALL BE FULL COMPENSATION FOR PLACEMENT AND REMOVAL OF CONSTRUCTION MATERIALS, EXCAVATION OF MATERIALS WITHIN THE COFFERDAMS, AND ALL LABOR AND EQUIPMENT TO DO THE NECESSARY WORK.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

AS Built Dec 12/96

115-218

STEEL ALTERNATIVE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

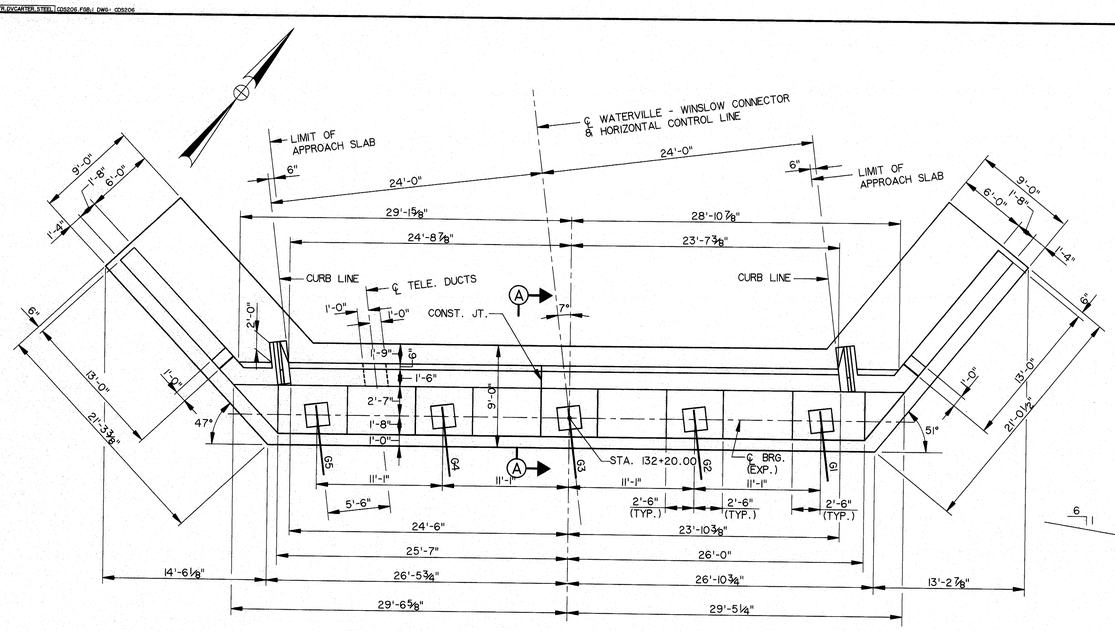
WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER
OVER
KENNEBEC RIVER

COFFERDAM DETAILS

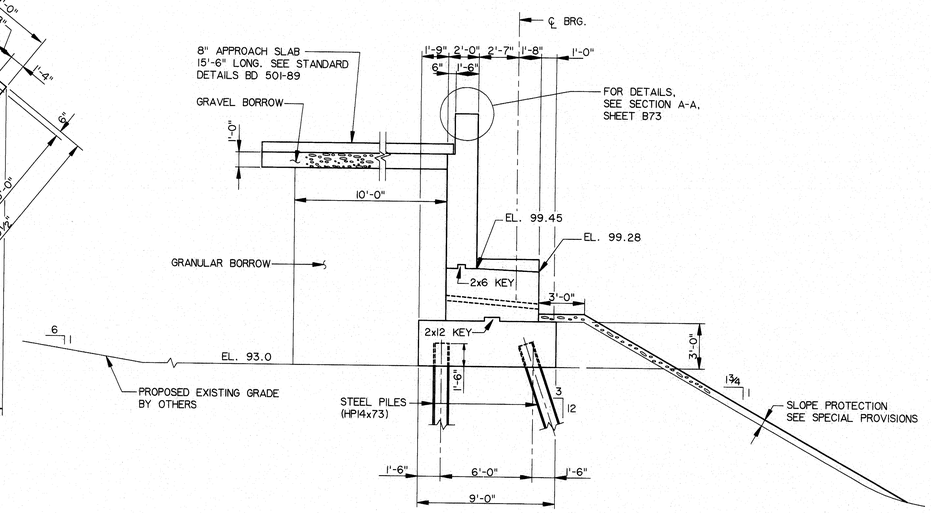
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B23 OF B86 AUGUSTA, MAINE

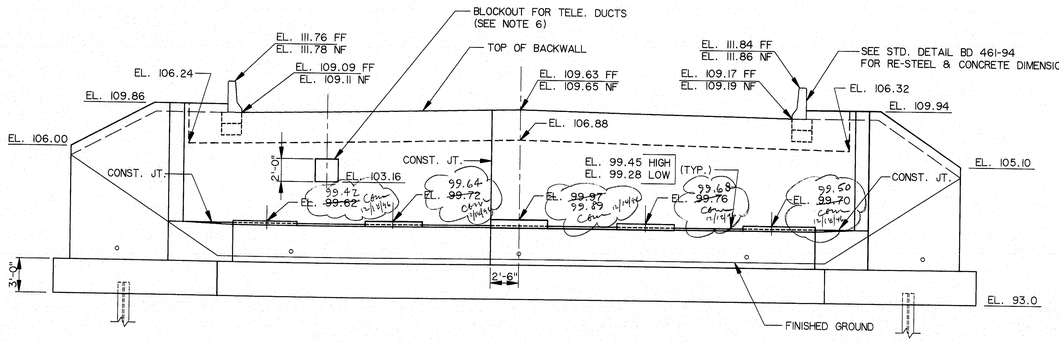
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	33	103



PLAN - ABUTMENT NO. 1



SECTION A-A



ELEVATION

ABUTMENT NOTES

1. REINFORCING STEEL SHALL HAVE 2 INCHES COVER UNLESS OTHERWISE INDICATED.
2. COVER EXPANSION JOINTS ON THE BACK WITH TWO LAYERS OF HEAVY ROOFING FELT, SEE STD. DETAILS BD 501-89.
3. PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE FOLLOWING AREAS:
   CONCRETE BARRIERS.
   TOP OF ABUTMENT BACKWALLS AND ONE (1) FOOT BELOW TOP OF BACKWALLS ON THE BACK SIDE.
   PAYMENT FOR PROTECTIVE COATING FOR CONCRETE SURFACES WILL BE INCIDENTAL TO THE CONCRETE ITEMS.
4. PLACE 4 INCH DIAMETER DRAINS IN BREASTWALL AND WINGWALLS AT 20 FEET MAXIMUM SPACING. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
5. MAXIMUM PILE LOAD = 77 TONS
6. BLOCKOUT FOR TELEPHONE DUCTS TO BE FILLED WITH BRICK MASONRY.

115-219

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

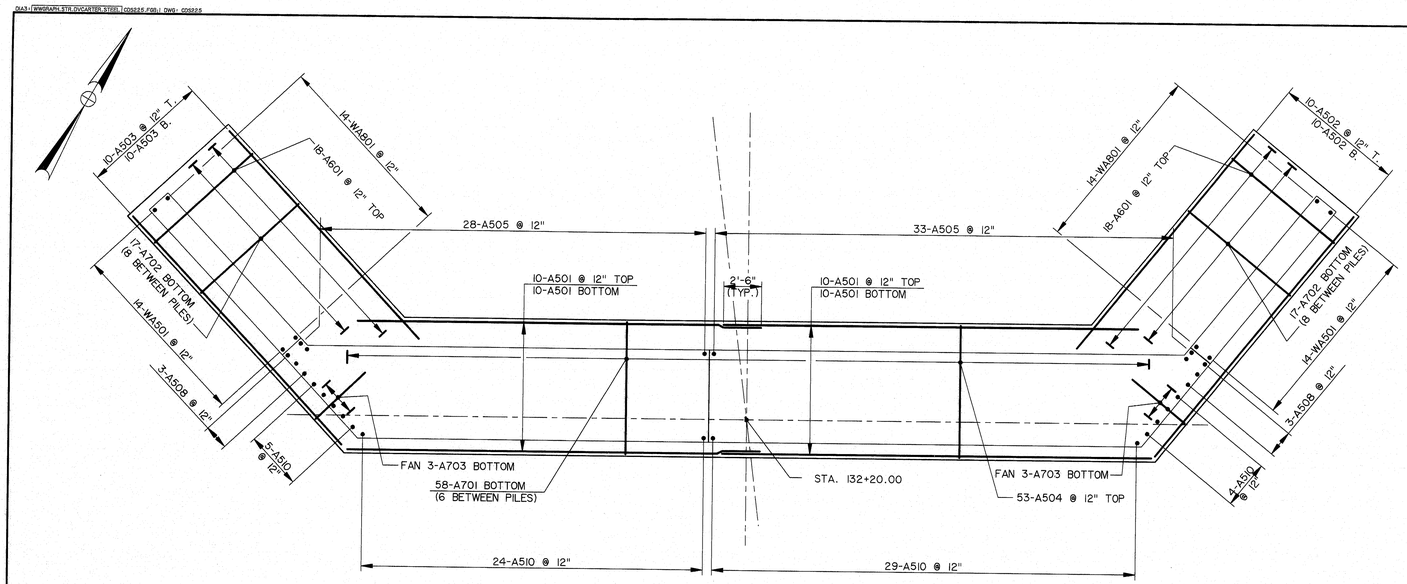
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

ABUTMENT 1 (CONCRETE)

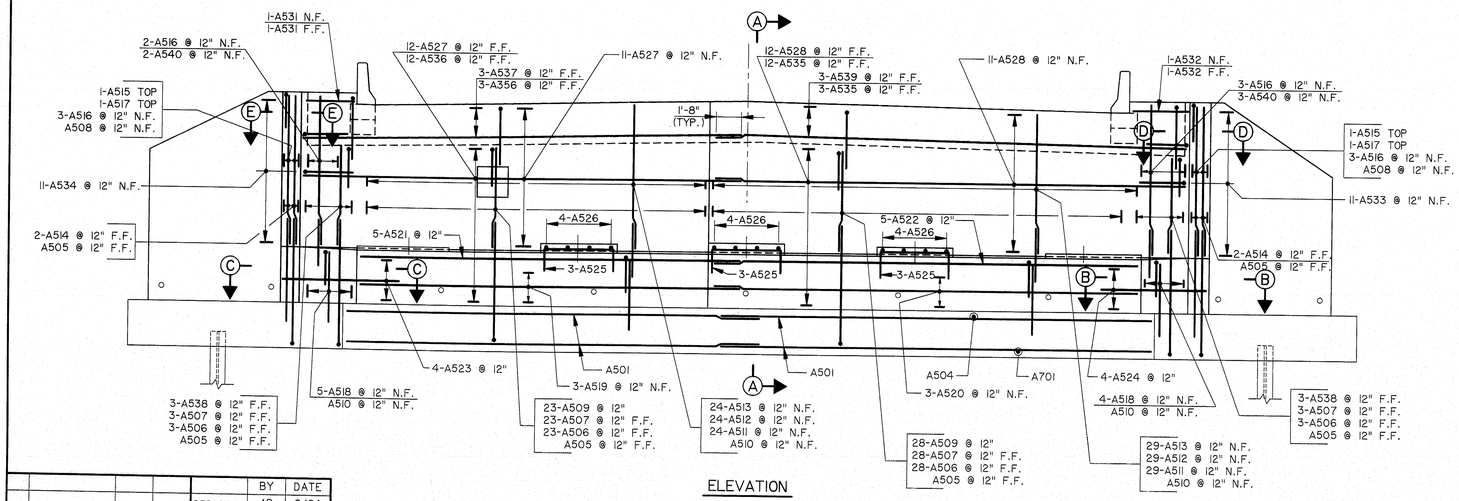
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B24 OF B86 AUGUSTA, MAINE

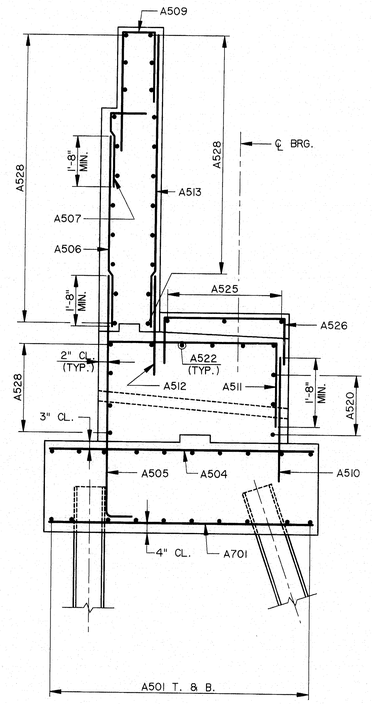
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	34	103



PLAN - ABUTMENT NO. 1



ELEVATION



SECTION A-A

NOTES

1. FOR END BARRIER BRACKET REINFORCEMENT, SEE SHEET B79.
2. FOR SECTIONS B-B, C-C, D-D, E-E, SEE SHEET B28.

AS BUILT CONV 12/19/96

115-220

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	AD	9/94
DRAWN:	LS	9/94
CHECKED:	RJR	9/94
IN CHARGE OF	CJM	

WATERWIN

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

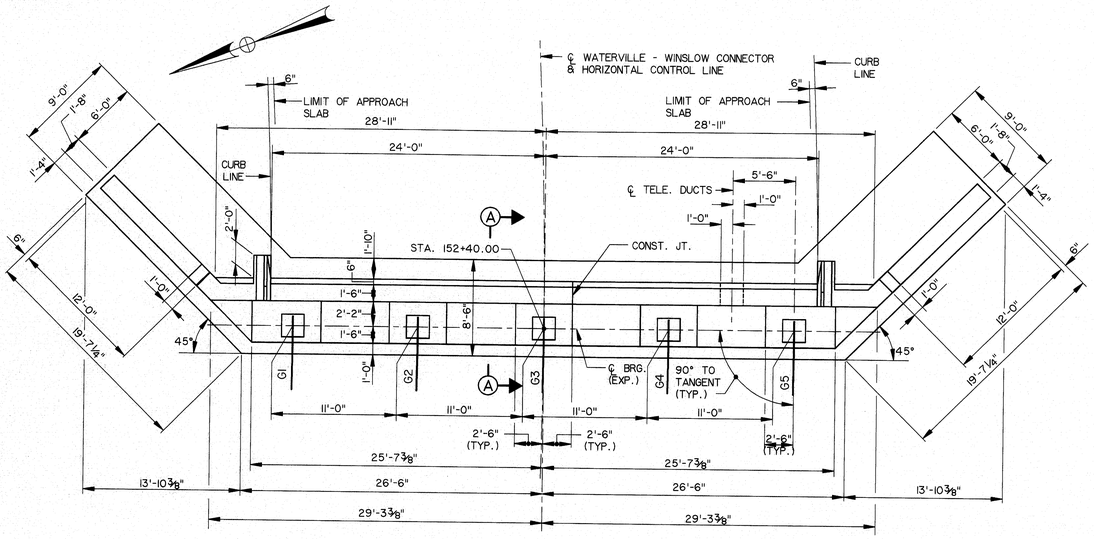
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

ABUTMENT 1 (RE-STEEL)

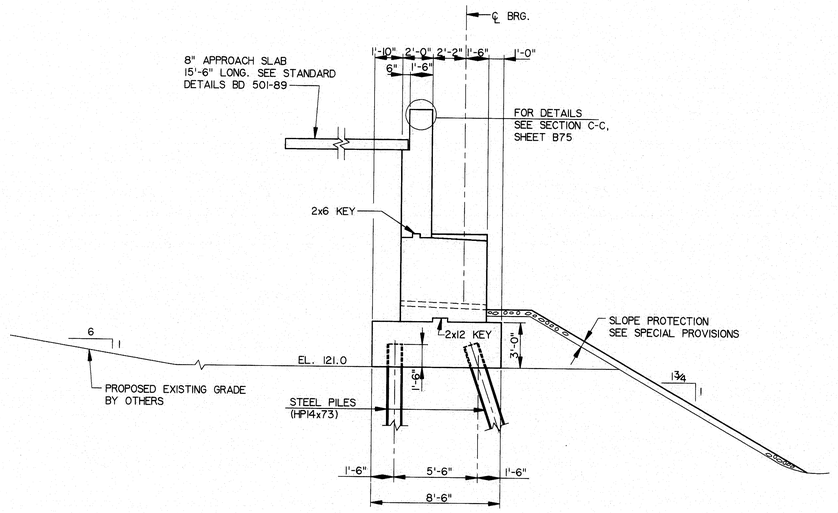
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B25 OF B86 AUGUSTA, MAINE

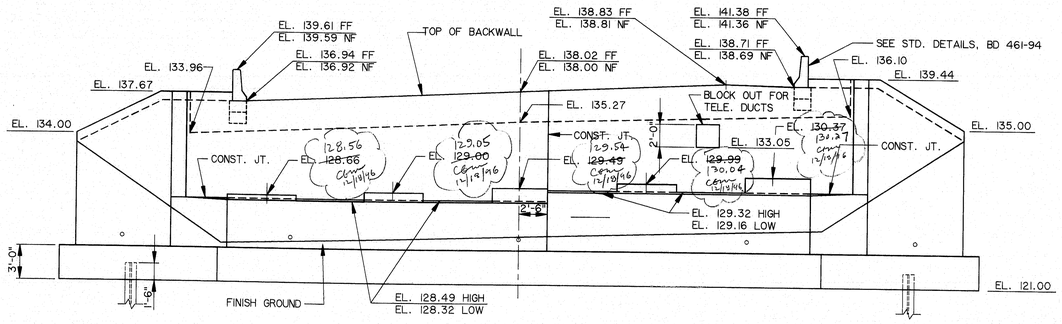
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	35	103



PLAN - ABUTMENT NO. 2



SECTION A-A
(FOR ADDITIONAL DETAILS, SEE ABUTMENT 1)



ELEVATION

NOTES

1. MAXIMUM PILE LOAD = 68 TONS
2. FOR ADDITIONAL NOTES SEE ABUTMENT 1.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-221

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

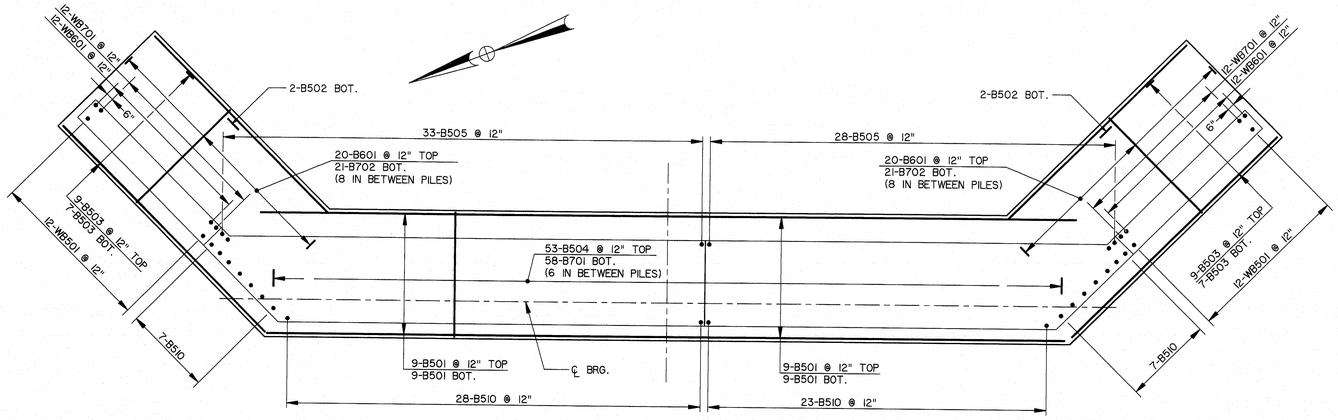
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

ABUTMENT 2 (CONCRETE)

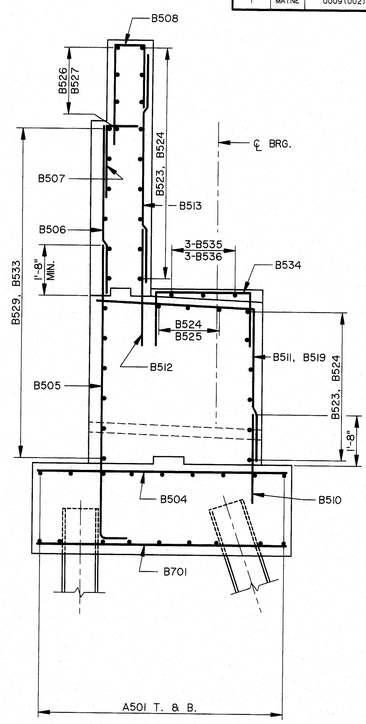
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B26 OF B86 AUGUSTA, MAINE

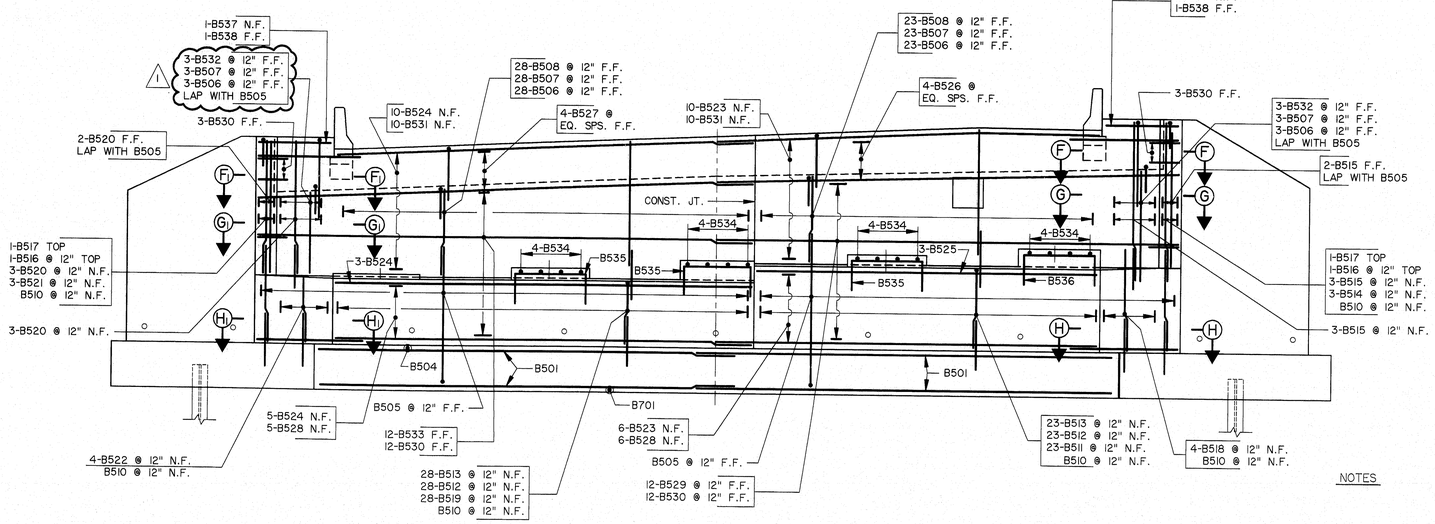
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	36	103



PLAN - ABUTMENT NO. 2



SECTION A-A



ELEVATION

NOTES

1. FOR END POST BRACKET REINFORCEMENT, SEE SHEET B79.
2. FOR SECTIONS F-F, G-G, H-H, F1 - F1, G1 - G1, H1 - H1, SEE SHEET B28.

As built Cem 12/16/96

115-222

STEEL ALTERNATIVE

NO.	REVISION	BY	DATE
1	BARS	DWR	9/95

	BY	DATE
DESIGNED:	RJR	9/94
DRAWN:	LS	9/94
CHECKED:	JFW	9/94
IN CHARGE OF	CJM	

HNTB ARCHITECTS ENGINEERS PLANNERS

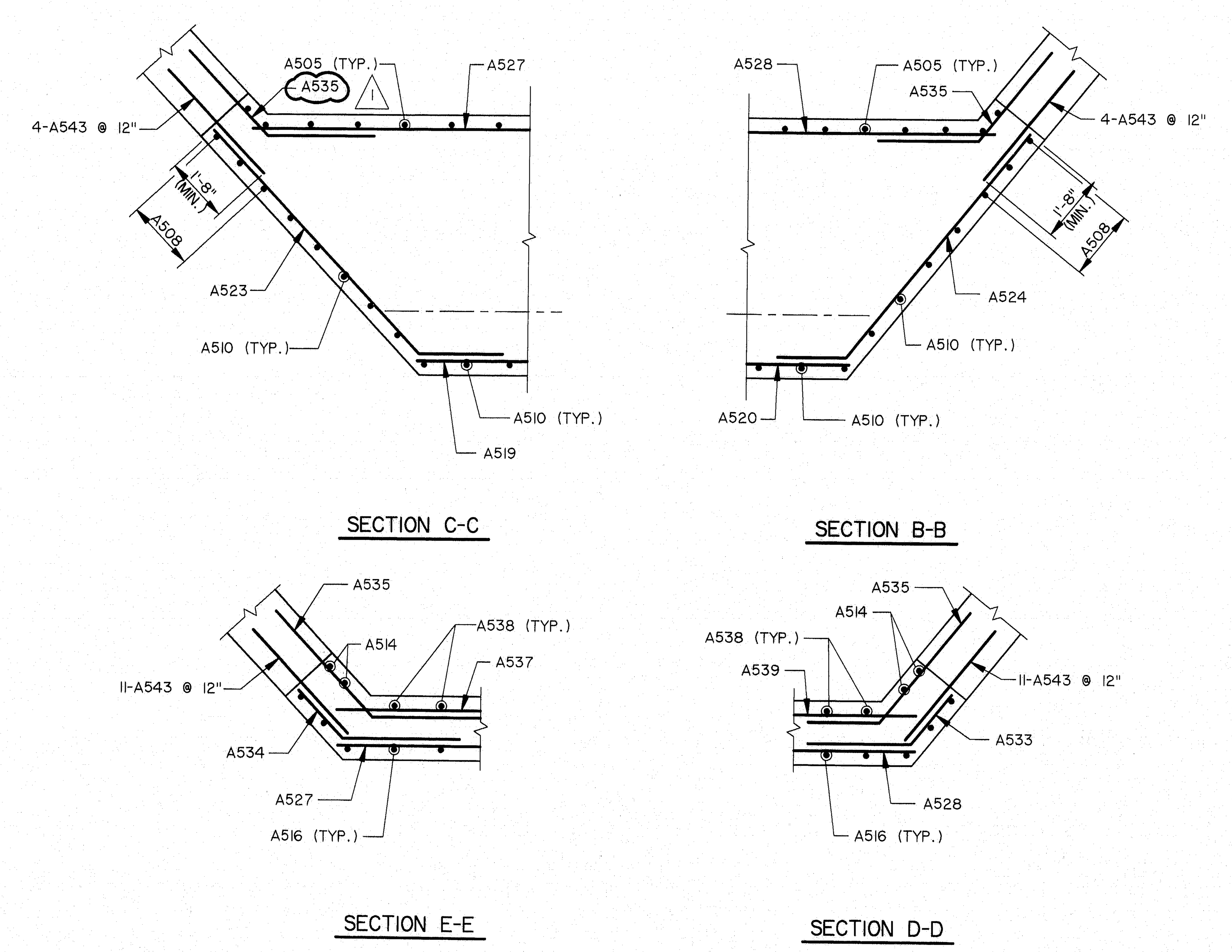
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

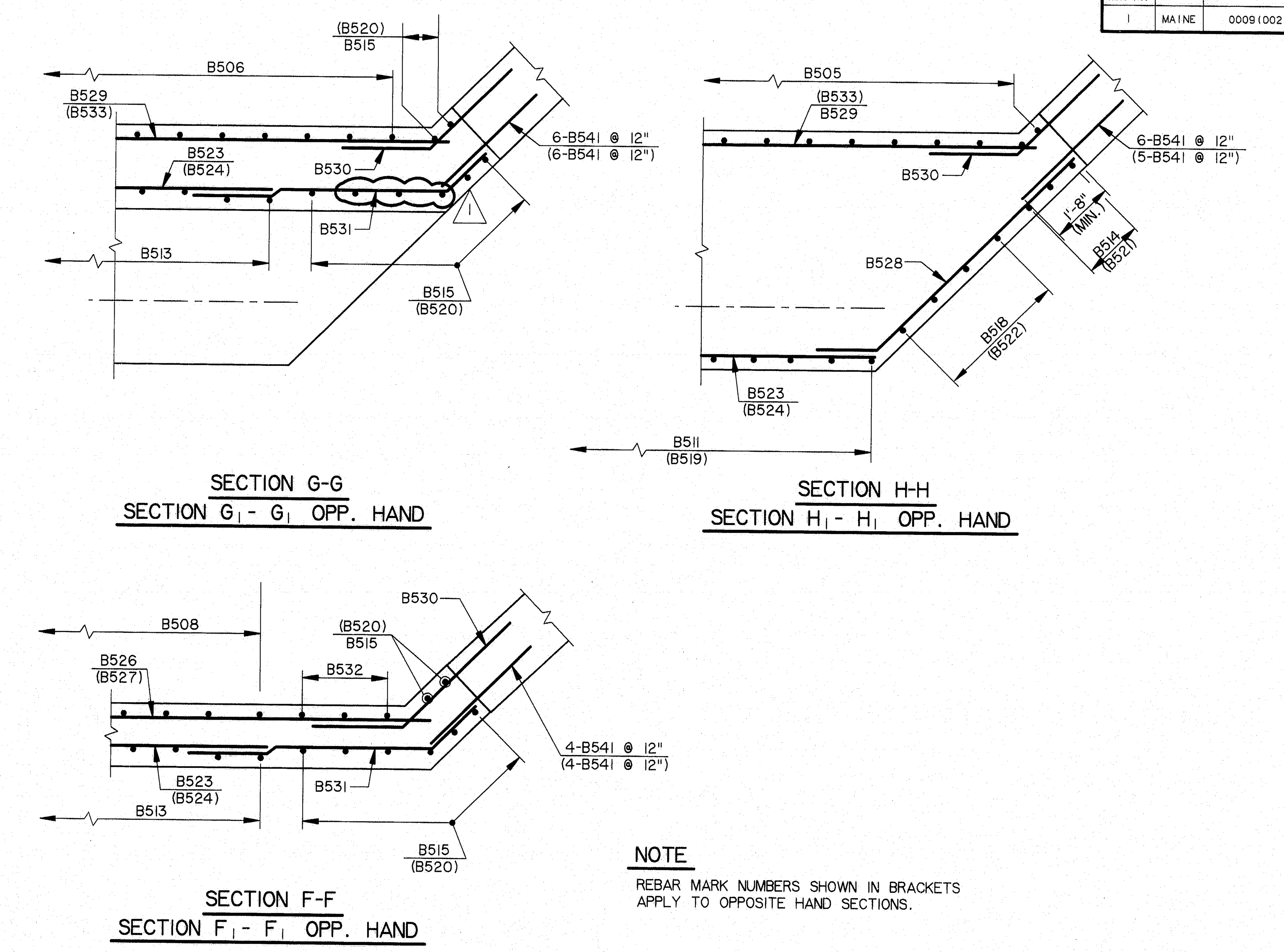
ABUTMENT 2 (RE-STEEL)

SHEET B27 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	37	103



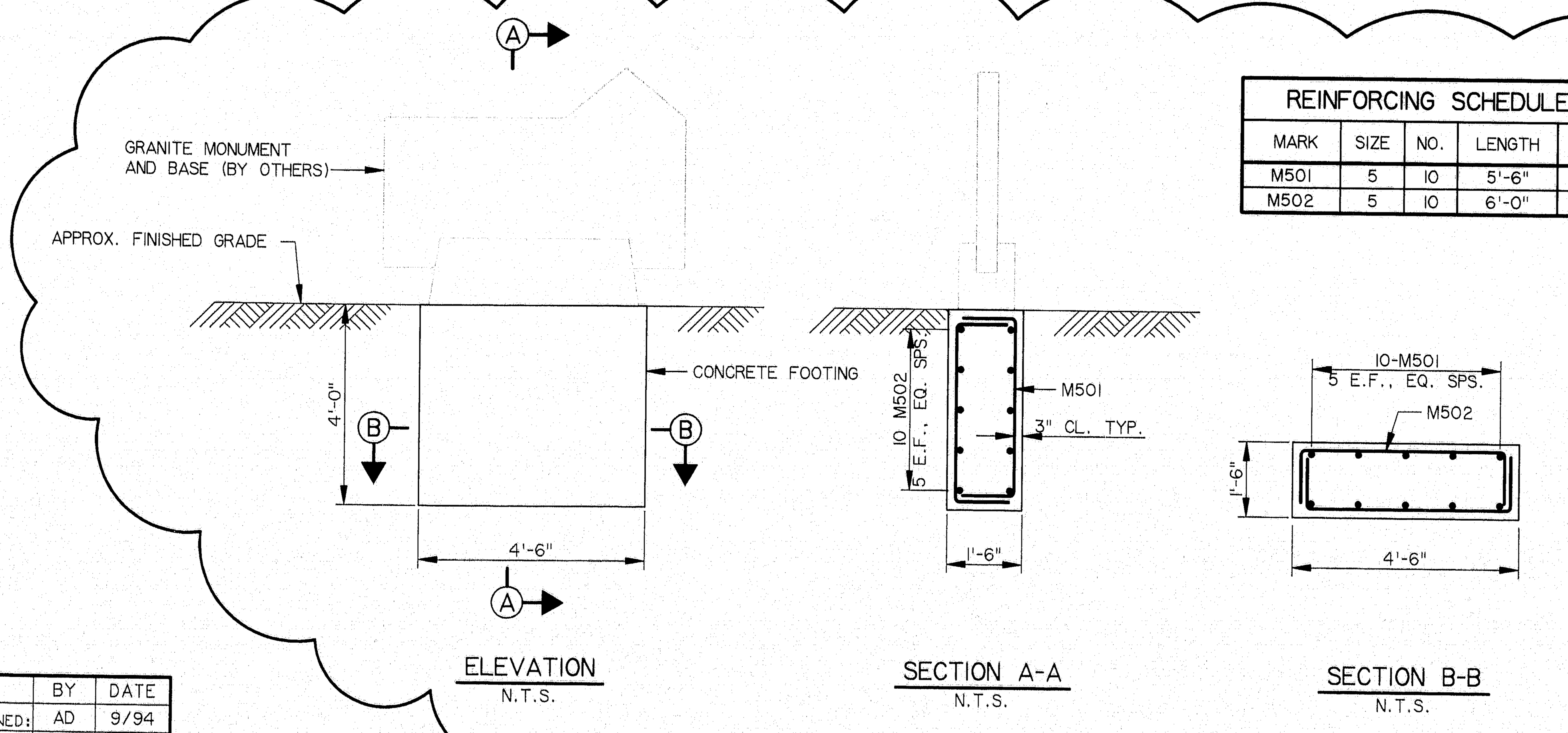
PLAN - ABUTMENT NO. 1



NOTE

REBAR MARK NUMBERS SHOWN IN BRACKETS APPLY TO OPPOSITE HAND SECTIONS.

PLAN - ABUTMENT NO. 2



REINFORCING SCHEDULE - MEMORIAL						
MARK	SIZE	NO.	LENGTH	TYPE	A	B
M501	5	10	5'-6"	101	3'-6"	1'-0"
M502	5	10	6'-0"	101	4'-0"	1'-0"

NOTES:

1. MONUMENT FOOTING SHALL BE FIELD LOCATED BY THE ENGINEER.
2. UNSUITABLE MATERIALS AT THE BOTTOM OF FOOTING SHALL BE EXCAVATED AND REPLACED WITH 1' MIN. OF GRAVEL BORROW AS DIRECTED BY THE ENGINEER.
3. SEE SHEET B80 FOR BENT BAR DETAIL.
4. GRANITE MONUMENT AND CONNECTION TO FOOTING BY OTHERS.

DONALD V. CARTER MEMORIAL

As Built cem 12/10/96

115-223

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	AD	9/94
				DRAWN:	LS	9/94
1	MEMORIAL	DWR	9/95	CHECKED:	RJR	9/94
				IN CHARGE OF	CJM	

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

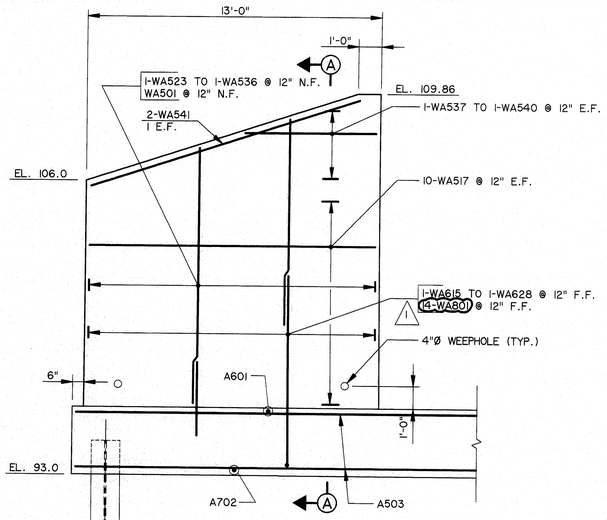
HNTB
ARCHITECTS ENGINEERS PLANNERS

ABUTMENT DETAILS

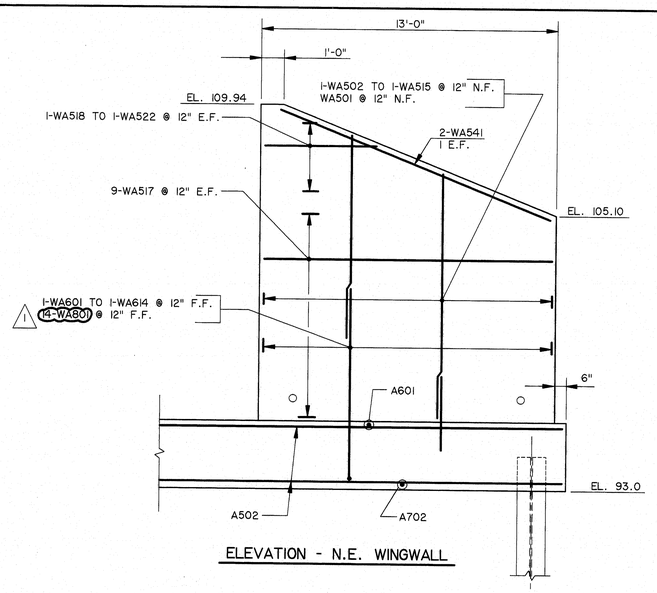
SHEET B28 OF B86 AUGUSTA, MAINE

DIA3 - WWGRAPHS.STR.DVCARTER_STEEL CD5208.F08.I DWG - CD5208

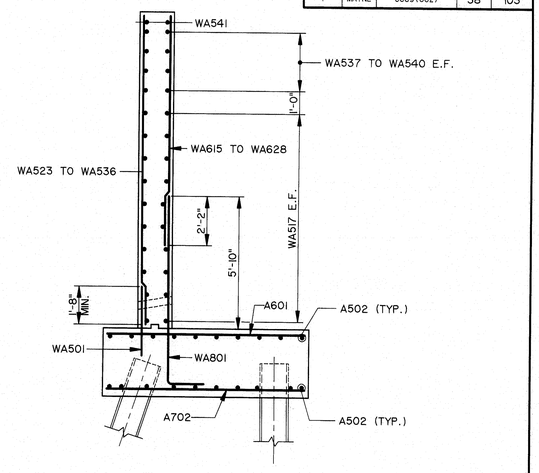
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	38	103



ELEVATION - N.W. WINGWALL

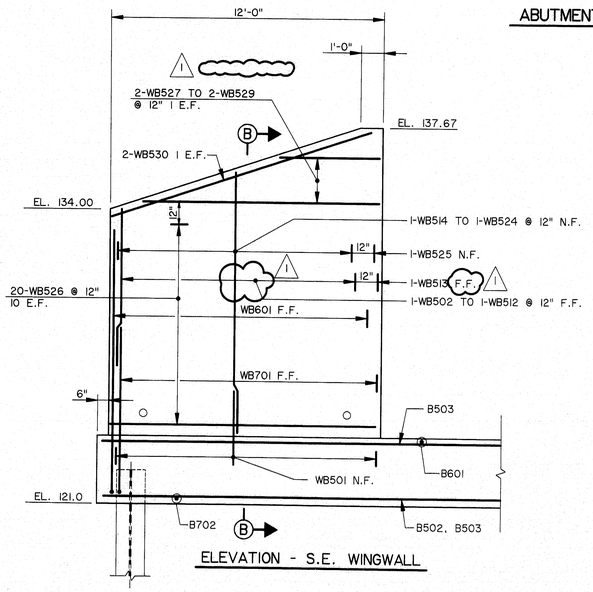


ELEVATION - N.E. WINGWALL

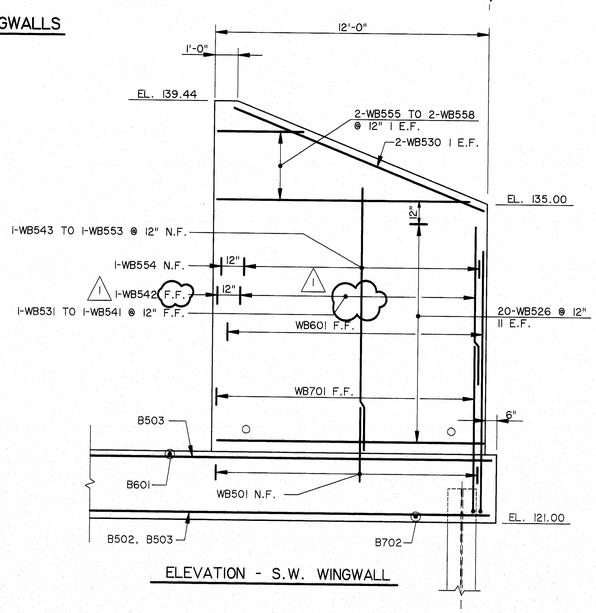


SECTION A-A

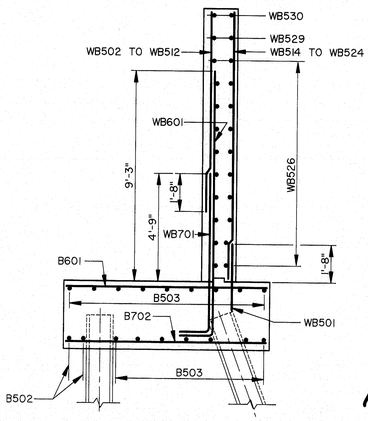
ABUTMENT NO. 1 - WINGWALLS



ELEVATION - S.E. WINGWALL



ELEVATION - S.W. WINGWALL



SECTION B-B

As Built CJM 12/2/96

115-224

STEEL ALTERNATIVE

NOTES

1. FOR ADDITIONAL DETAILS, SEE SHEETS B24 & B26.

ABUTMENT NO. 2 - WINGWALLS

NO.	REVISION	BY	DATE
1	BARS	DWR	9/95

	BY	DATE
DESIGNED:	AD	9/94
DRAWN:	LS	9/94
CHECKED:	RJR	9/94
IN CHARGE OF	CJM	

HNTB ARCHITECTS ENGINEERS PLANNERS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

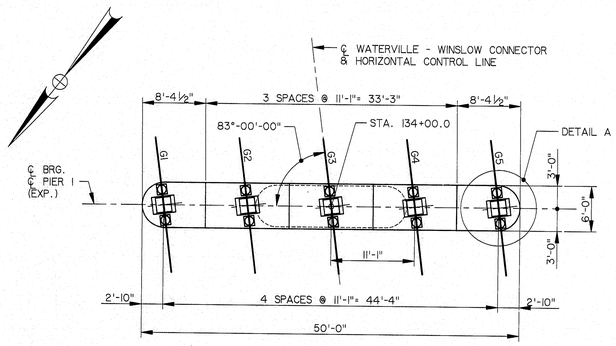
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

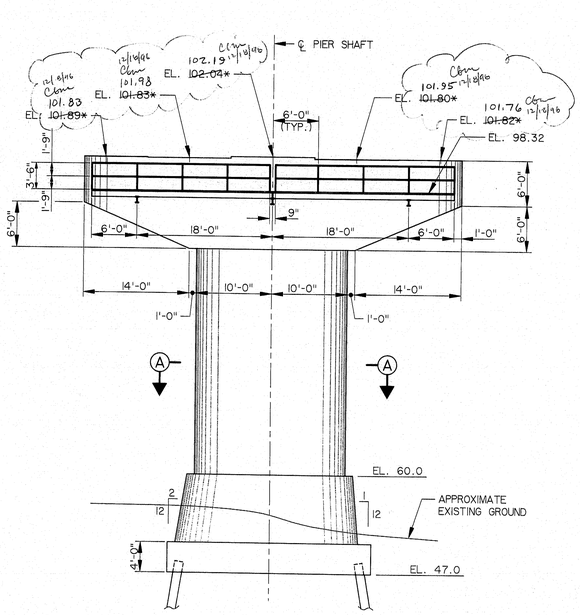
WINGWALL DETAILS

SHEET B29 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	39	103

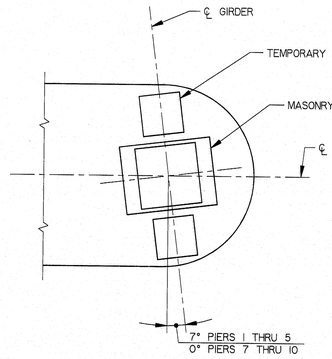


PLAN



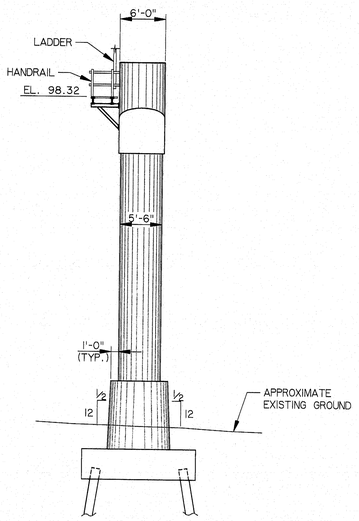
ELEVATION
(LOOKING UPSTATION)

× SEE NOTE 7



DETAIL A
TYP. PIERS 1 THRU 5 AND 7 THRU 10

MAX. DEAD LOAD REACTION PER GIRDER	
PIERS 1 - 5	627 K
PIER 7	432 K
PIERS 8 -10	341 K



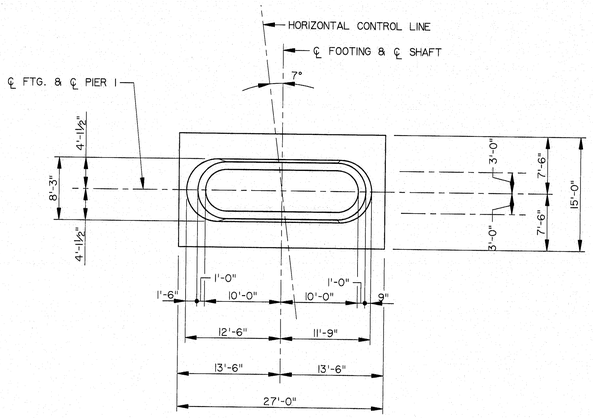
SIDE ELEVATION

PIER NOTES

1. REINFORCING STEEL SHALL HAVE 3 INCHES MINIMUM COVER UNLESS OTHERWISE INDICATED.
2. THE METHOD OF PLACING DOWELS IN THE CONCRETE SEAL SHALL BE APPROVED BY THE ENGINEER.
3. MAXIMUM CALCULATED PILE LOAD = 113 TONS (GROUP: IV).
4. SEAL CONCRETE DIMENSIONS ARE PREDICATED ON THE USE OF STANDARD SHEET PILE PDA27 OR EQUIVALENT STEEL SHEET PILING, USING APPROPRIATE STANDARD ROLLED CORNERS. PAY DIMENSIONS FOR SEAL CONCRETE SHALL BE TO THE NEAT LINES SHOWN PLUS 5" ALL AROUND.
5. FOR CATWALK DETAILS, SEE SHEETS B65-B67.
6. FOR BEARING DEVICE DETAILS, SEE SHEETS B62-B63.
7. BEARING PAD ELEVATIONS MAY VARY, SEE SHEET B62, NOTE 2.

DESIGN CRITERIA

1. BUOYANCY - WATER LEVEL ASSUMED AT ELEVATION 56.3 (Q50).
2. STREAM FLOW - VELOCITY = 4.8 FEET PER SECOND AT PIERS 1 THRU 5 AND 0.9 F.P.S. AT PIERS 6 THRU 8. FLOW DIRECTION IS AT 0° SKEW TO LONGITUDINAL CENTERLINE OF PIERS 1 THRU 6, 13.30° AT PIER 7 AND 18.1° AT PIER 8.
3. WIND - 40 PSF.
4. ICE - THICKNESS 24 INCHES, PRESSURE 100 PSI AT ELEVATION 56.3 30 PERCENT OF NOSE FORCE APPLIED TRANSVERSE TO PIER.



SECTION A-A

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-225

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

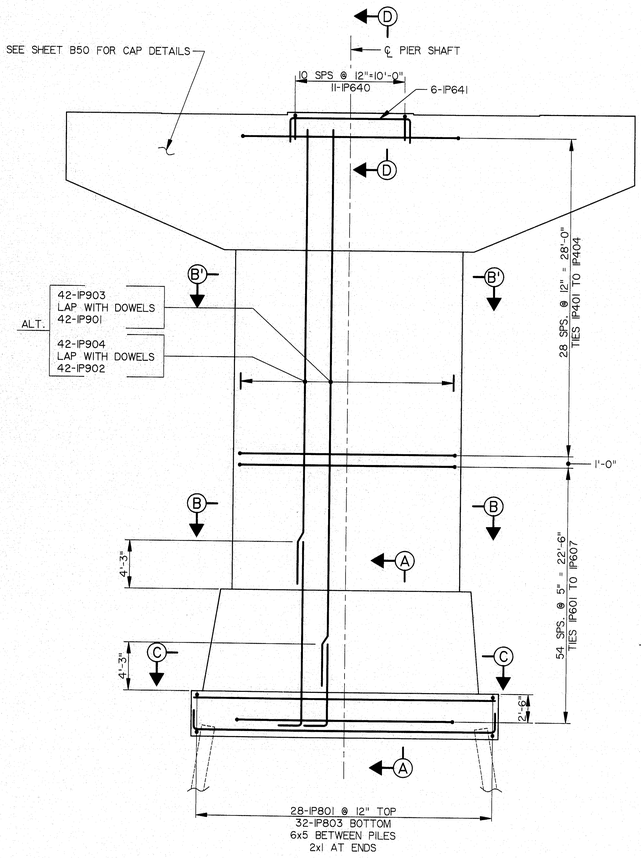
PIER 1 DETAILS

SHEET B30 OF B86 AUGUSTA, MAINE

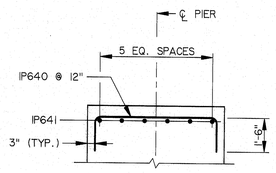
HNTB
ARCHITECTS ENGINEERS PLANNERS

D:\83-1\WW\PAPL\STR\DVCARTER\STEEL\C05260_F081.DWG- C05260

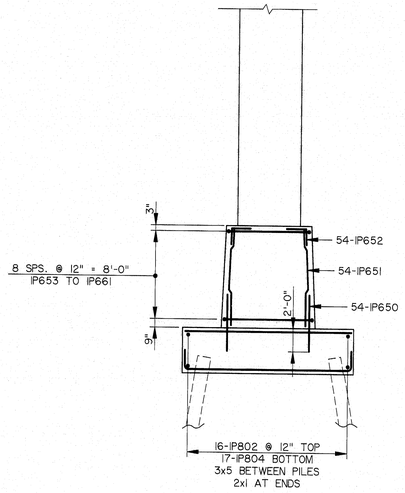
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	40	103



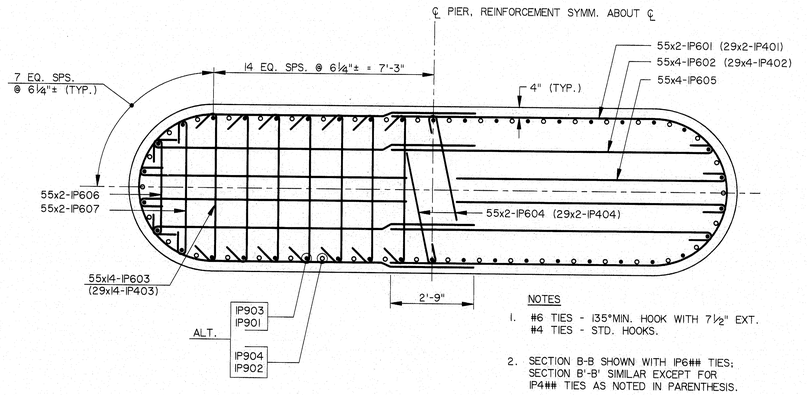
ELEVATION - PIER 1



SECTION D-D



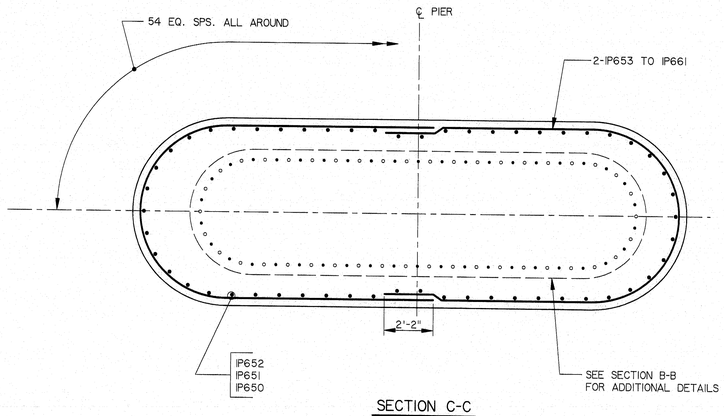
SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.
2. SECTION B-B SHOWN WITH IP6## TIES;
   SECTION B'-B' SIMILAR EXCEPT FOR
   IP4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-226

STEEL ALTERNATIVE

AS-BUILT 12/3/96

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

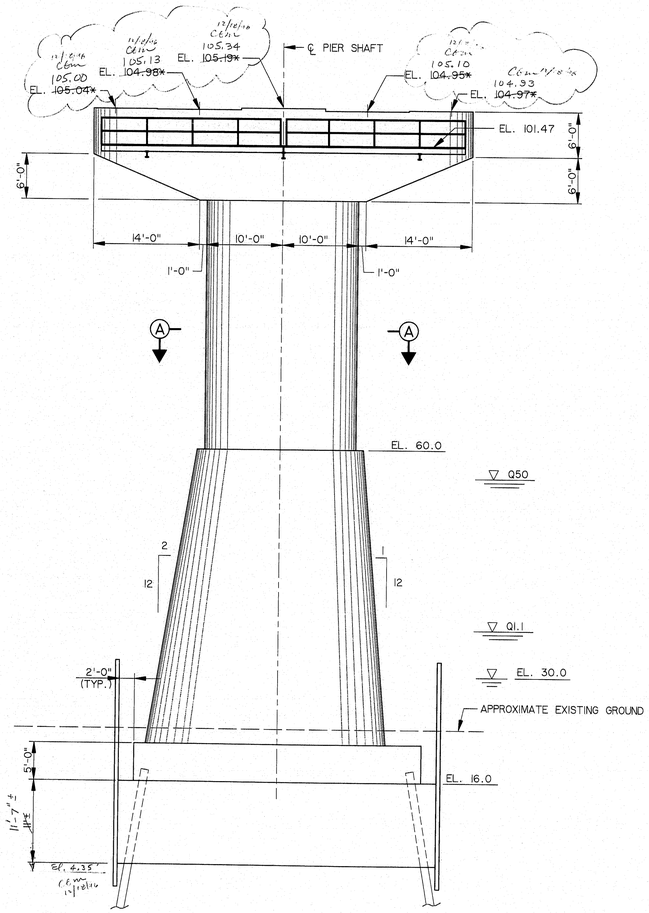
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB
ARCHITECTS ENGINEERS PLANNERS

PIER 1 RE-STEEL

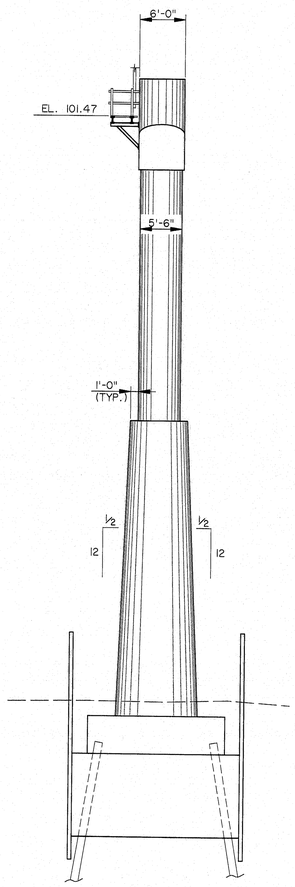
SHEET B31 OF 886 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	41	103

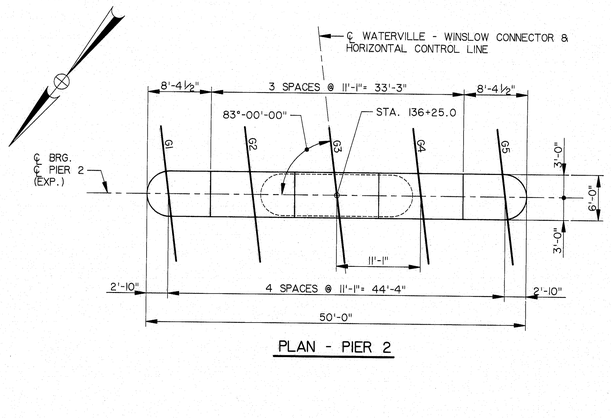


ELEVATION - PIER 2
LOOKING UPSTATION

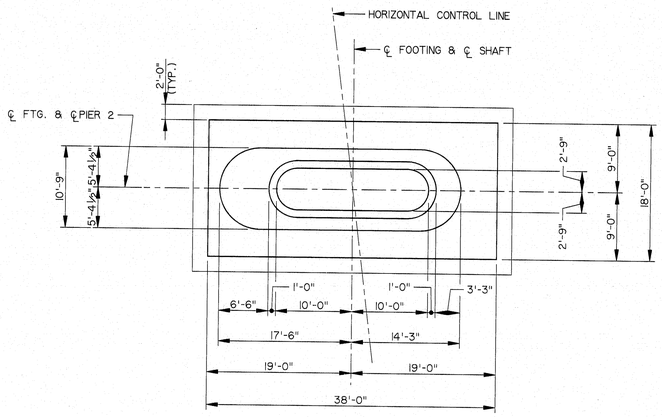
* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



PLAN - PIER 2



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED PILE LOAD = 119 TONS (GROUP: IX)
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

HNTB
ARCHITECTS ENGINEERS PLANNERS

115-227

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

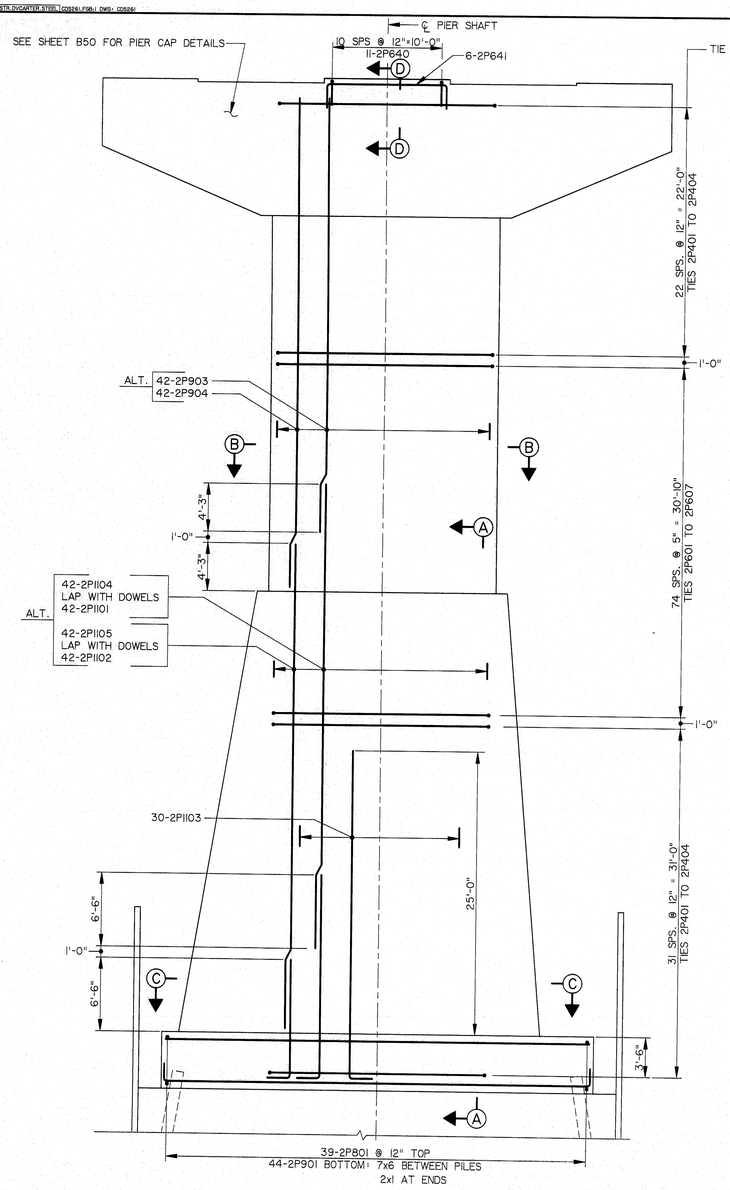
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

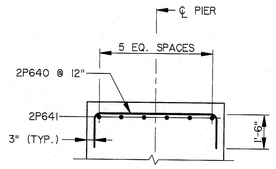
PIER 2 DETAILS

SHEET B32 OF B86 AUGUSTA, MAINE

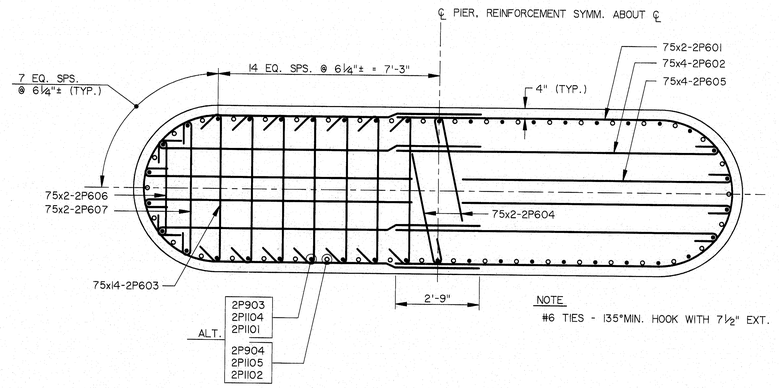
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	42	103



ELEVATION - PIER 2

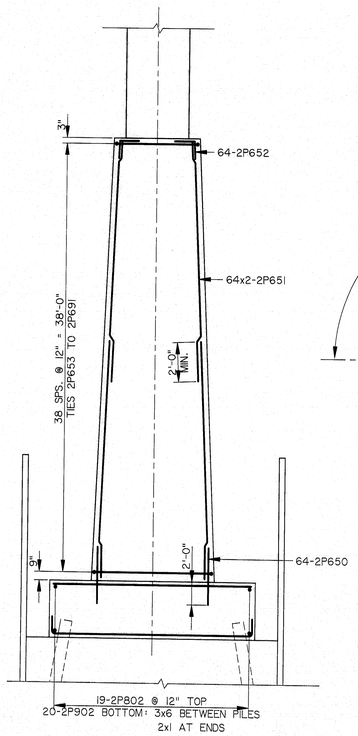


SECTION D-D

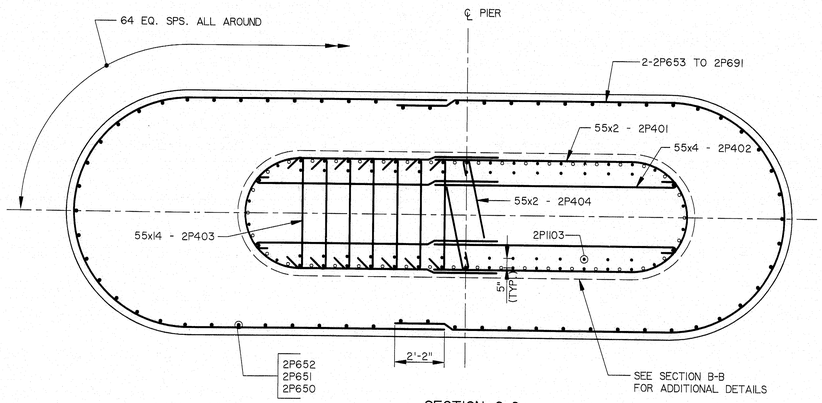


NOTE
#6 TIES - 135°MIN. HOOK WITH 7½" EXT.

SECTION B-B



SECTION A-A



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	DWR	9/94
DRAWN:	LS	9/94
CHECKED:	SM	9/94
IN CHARGE OF	CJM	

115-228
STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

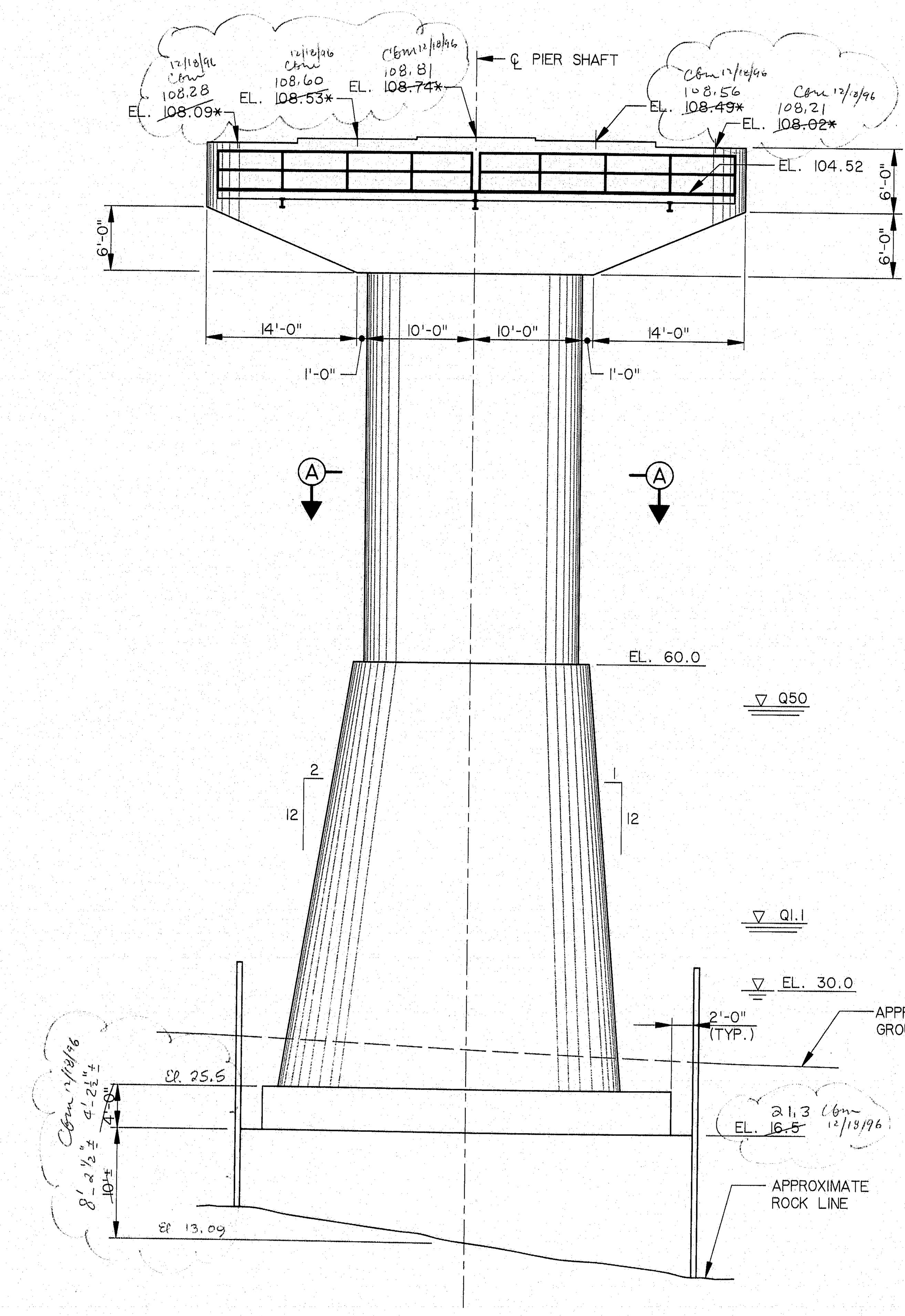
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 2 RE-STEEL

HNTB
ARCHITECTS ENGINEERS PLANNERS

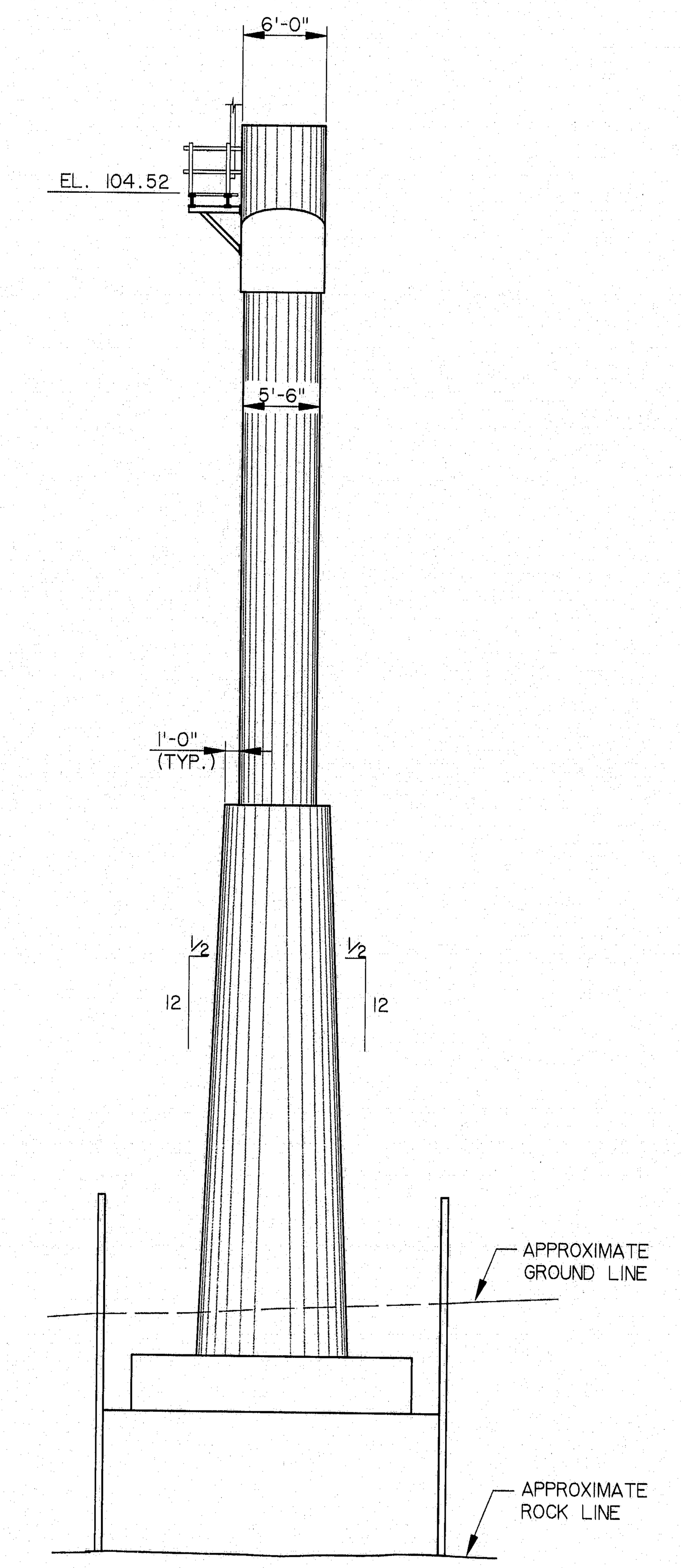
SHEET B33 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	43	103

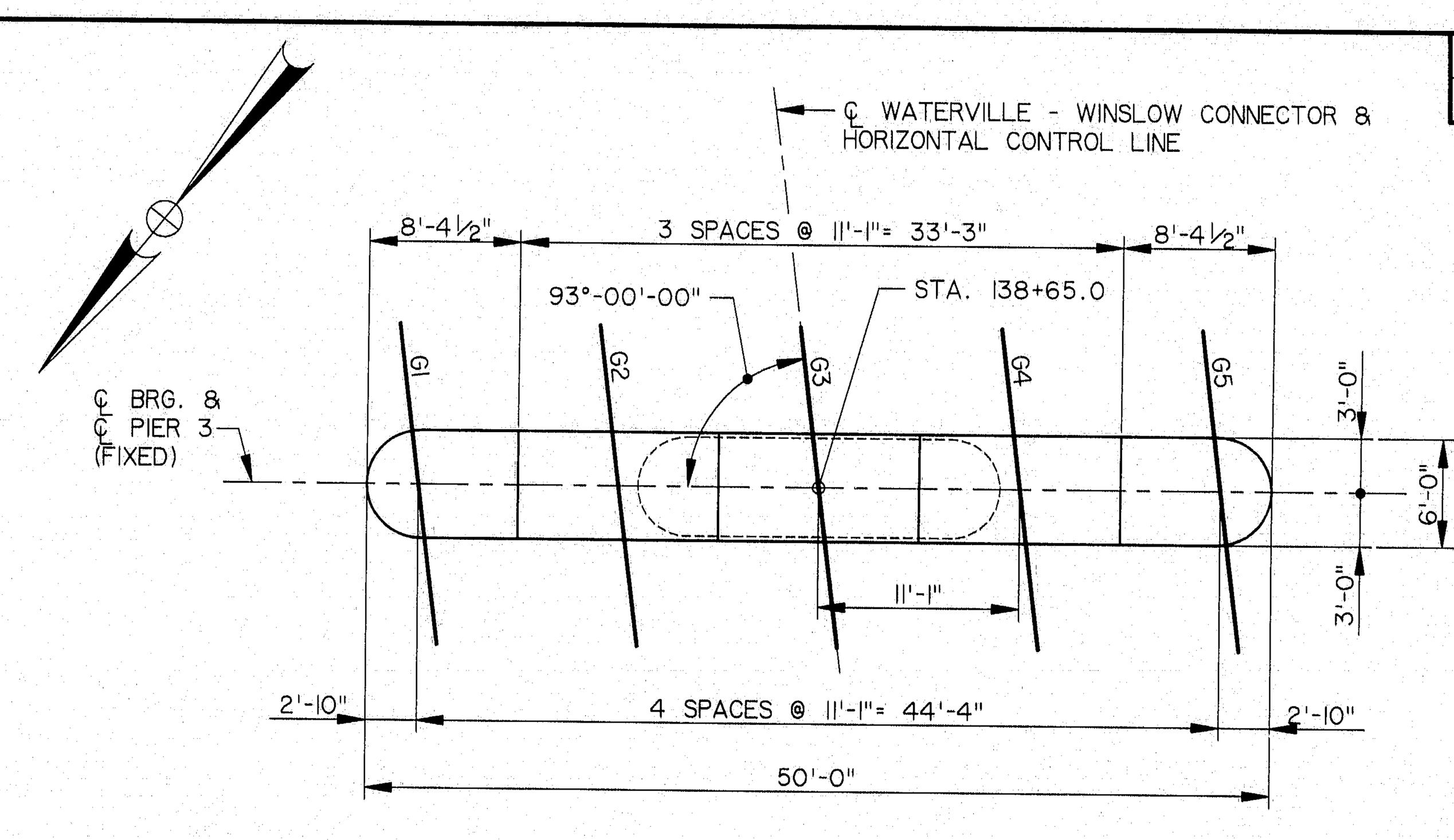


ELEVATION
(LOOKING UPSTATION)

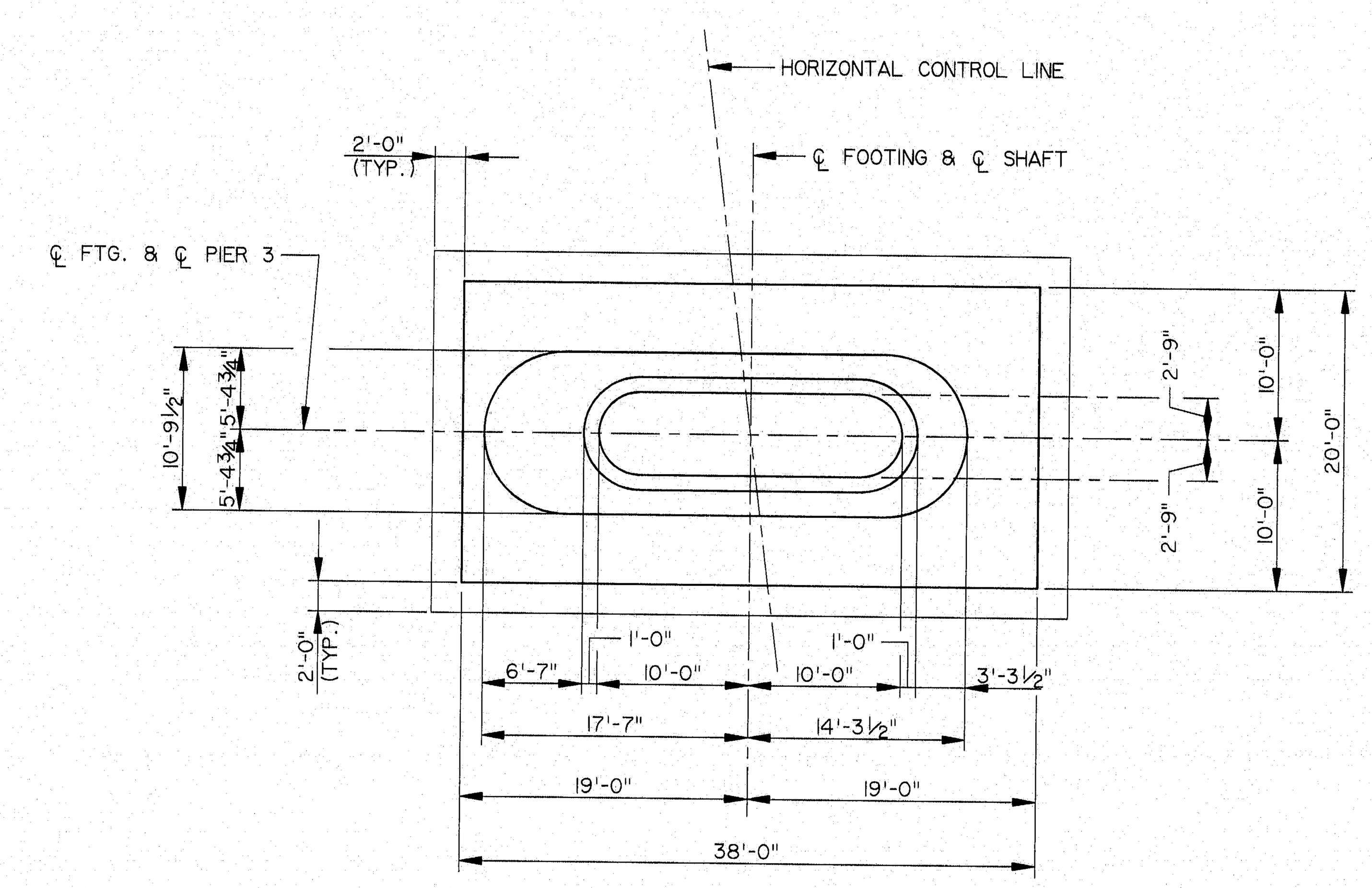
* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



PLAN - PIER 3



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED FOOTING PRESSURE = 14.9 T.S.F. (GROUP: SEISMIC)*
   * ULTIMATE CAPACITY OF FOUNDATION SUPPORTING ROCK IS USED IN CONJUNCTION WITH SEISMIC LOADING.
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

					BY	DATE
				DESIGNED:	SM	8/94
				DRAWN:	RJT	8/94
				CHECKED:	DWR	8/94
NO.	REVISION	BY	DATE	IN CHARGE OF	CJM	

115-229

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

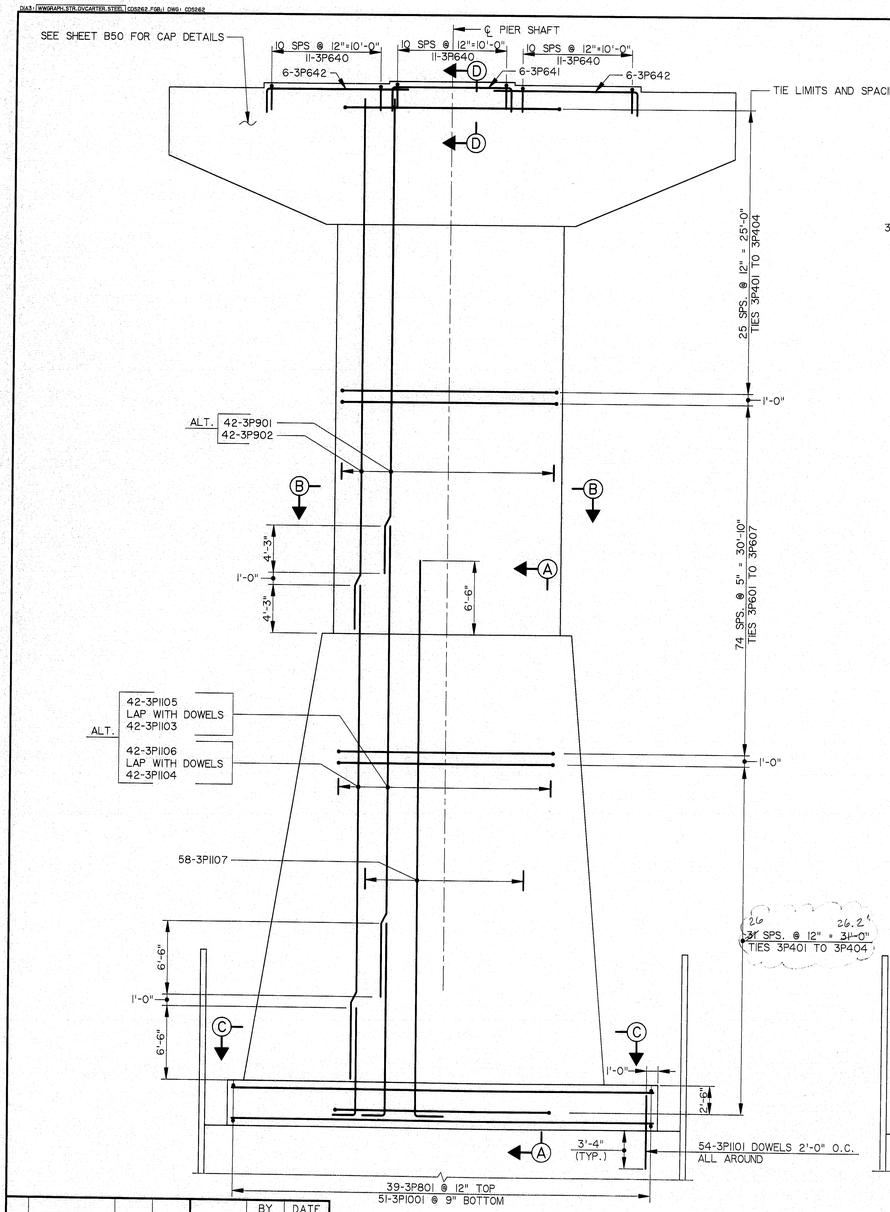
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

HNTB
ARCHITECTS ENGINEERS PLANNERS

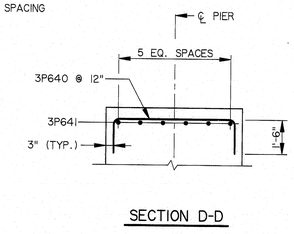
PIER 3 DETAILS

SHEET B34 OF B86 AUGUSTA, MAINE

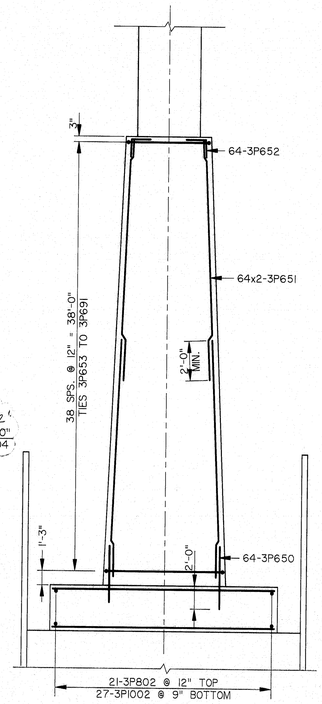
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	44	103



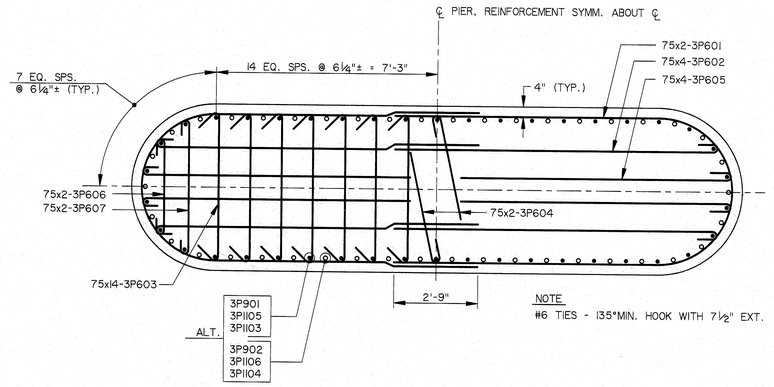
ELEVATION - PIER 3



SECTION D-D

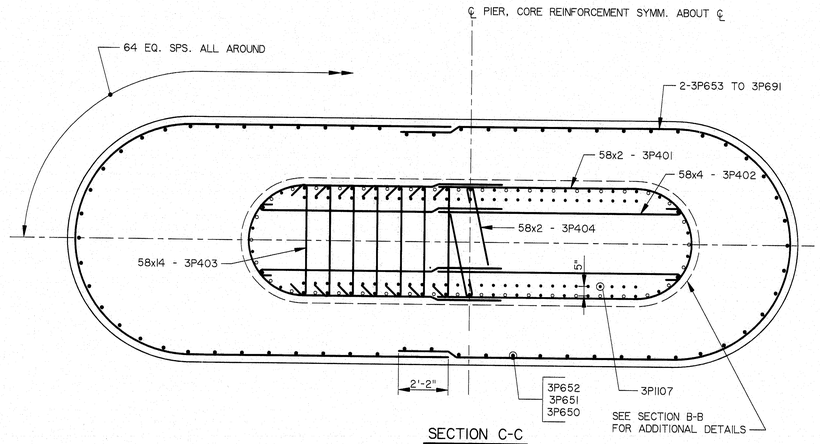


SECTION A-A



NOTE
#6 TIES - 135°MIN. HOOK WITH 7½" EXT.

SECTION B-B



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	DWR	9/94
DRAWN:	LS	9/94
CHECKED:	SM	9/94
IN CHARGE OF	CJM	

115-230

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

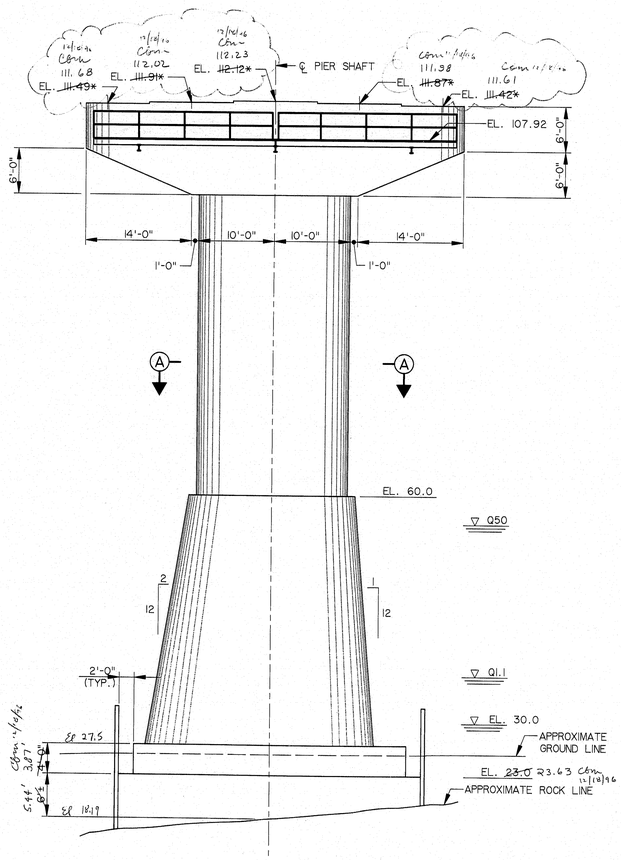
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 3 RE-STEEL

HNTB
ARCHITECTS ENGINEERS PLANNERS

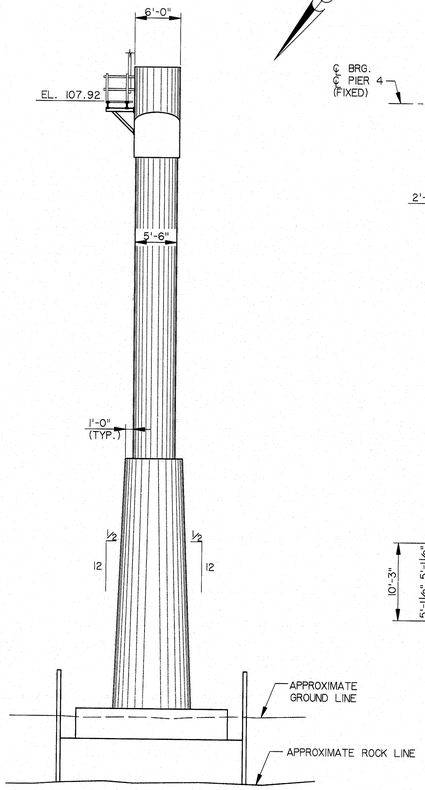
SHEET B35 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	45	103

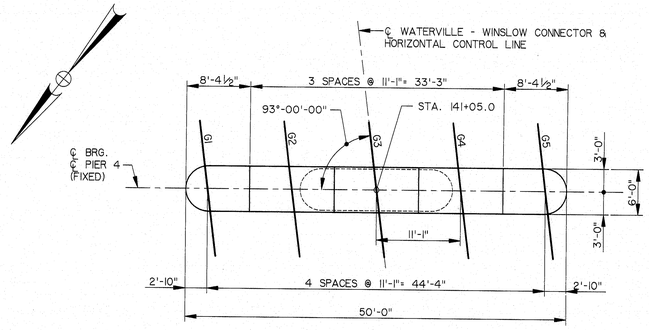


ELEVATION
(LOOKING UPSTATION)

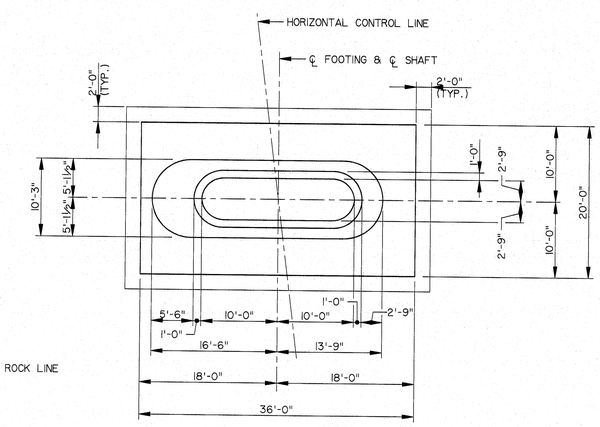
* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



PLAN



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED FOOTING PRESSURE = 16.3 T.S.F. (GROUP: SEISMIC)
   ULTIMATE CAPACITY OF FOUNDATION SUPPORTING ROCK IS USED IN CONJUNCTION WITH SEISMIC LOADING.
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERWIN

115-231
STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

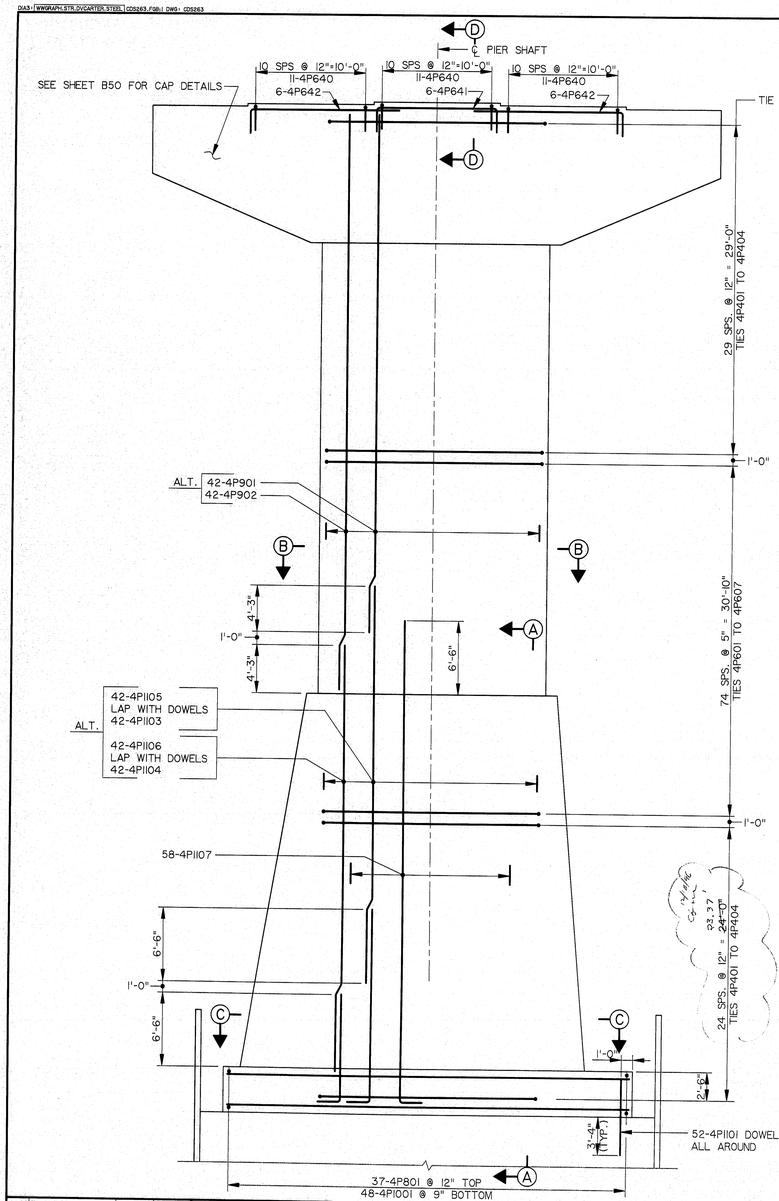
PIER 4 DETAILS

HNTB
ARCHITECTS ENGINEERS PLANNERS

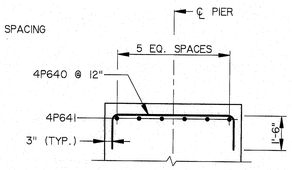
SHEET B36 OF B86 AUGUSTA, MAINE

D:\A3 | WWGRAPH\STR.DVCARTER.STEEL | CDS263.F08-1 DWG: CDS263

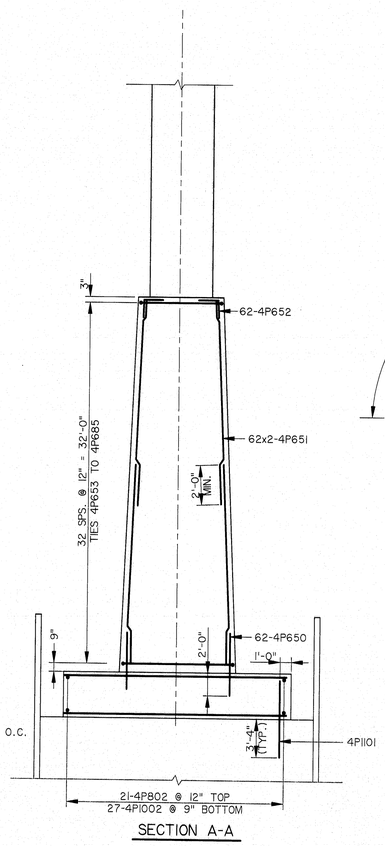
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	46	103



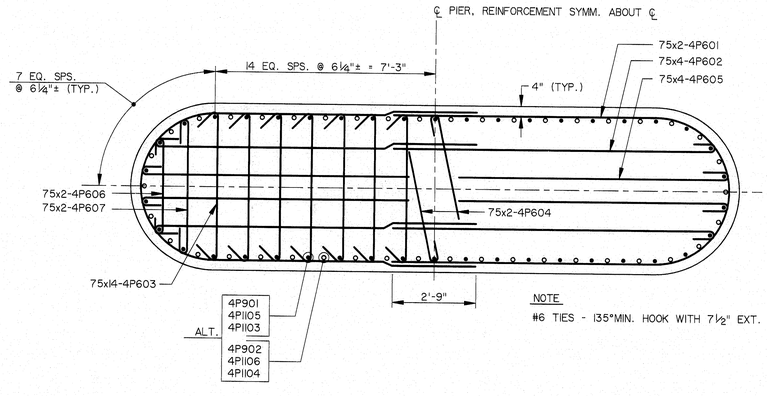
ELEVATION - PIER 4



SECTION D-D

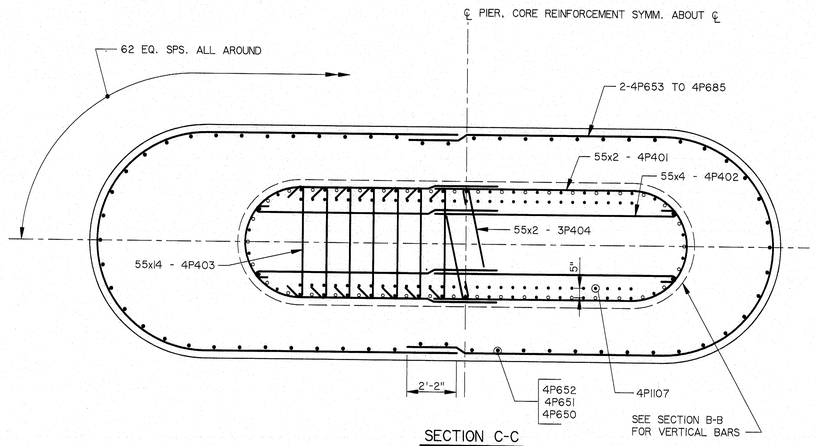


SECTION A-A



SECTION B-B

NOTE
#6 TIES - 135°MIN. HOOK WITH 7½" EXT.



SECTION C-C

115-232
STEEL ALTERNATIVE

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERMIN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

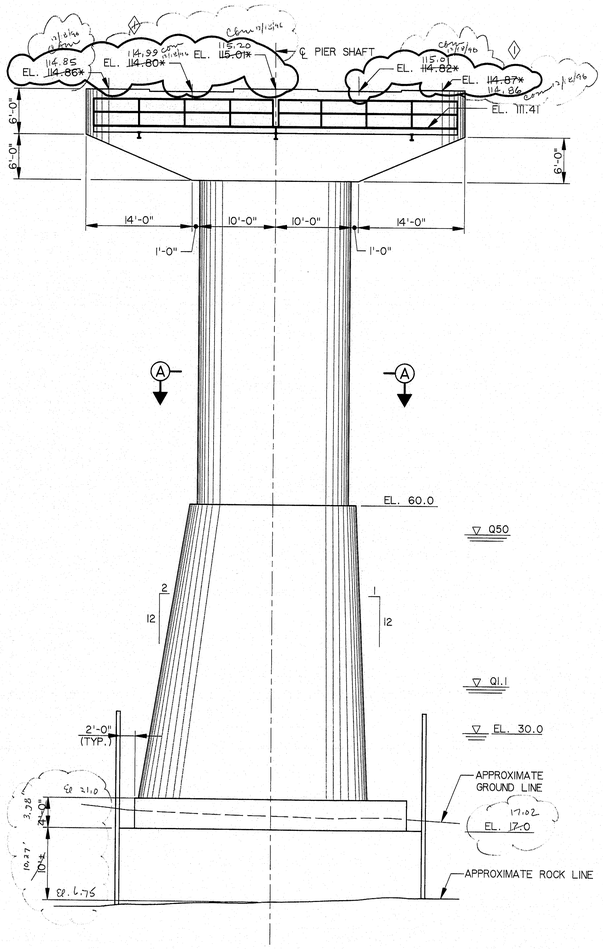
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 4 RE-STEEL

HNTB
ARCHITECTS ENGINEERS PLANNERS

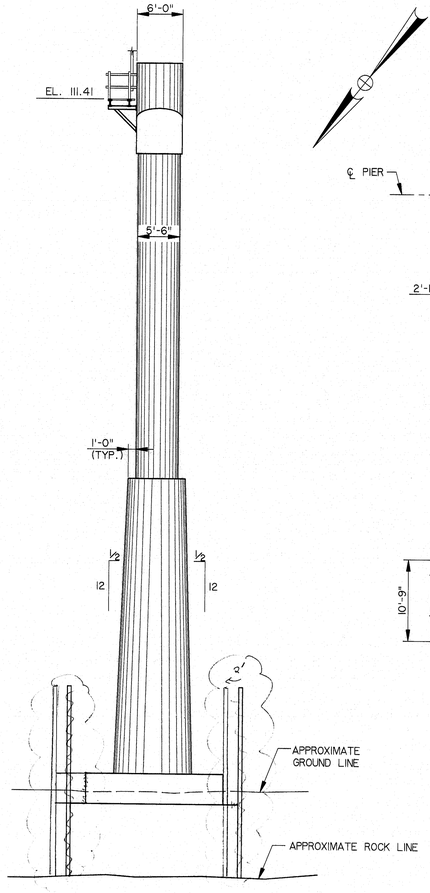
SHEET B37 OF B86 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	47	103

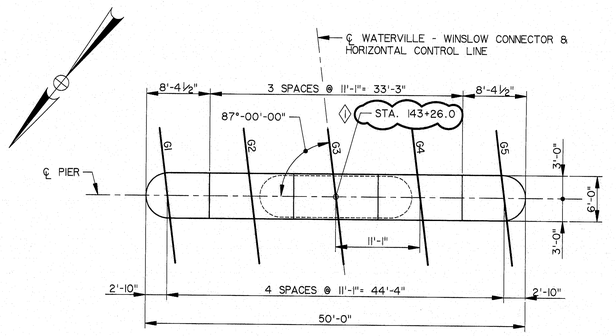


ELEVATION
(LOOKING UPSTATION)

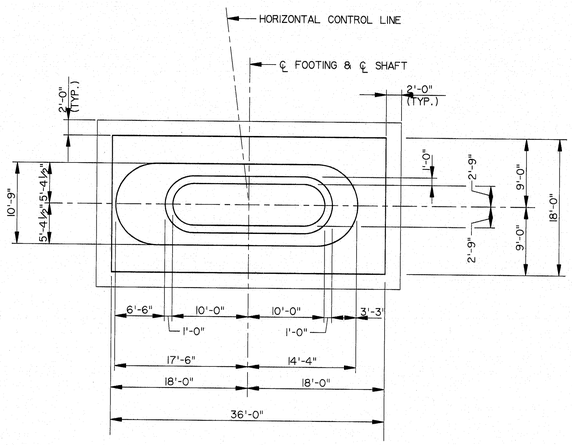
* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



PLAN - PIER 5



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED FOOTING PRESSURE = 8.9 T.S.F. (GROUP: SEISMIC).
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

NO.	REVISION	BY	DATE
◇	PIER EL. & STA.	JFW	10/95

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERVIN

HNTB
ARCHITECTS ENGINEERS PLANNERS

115-233
STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

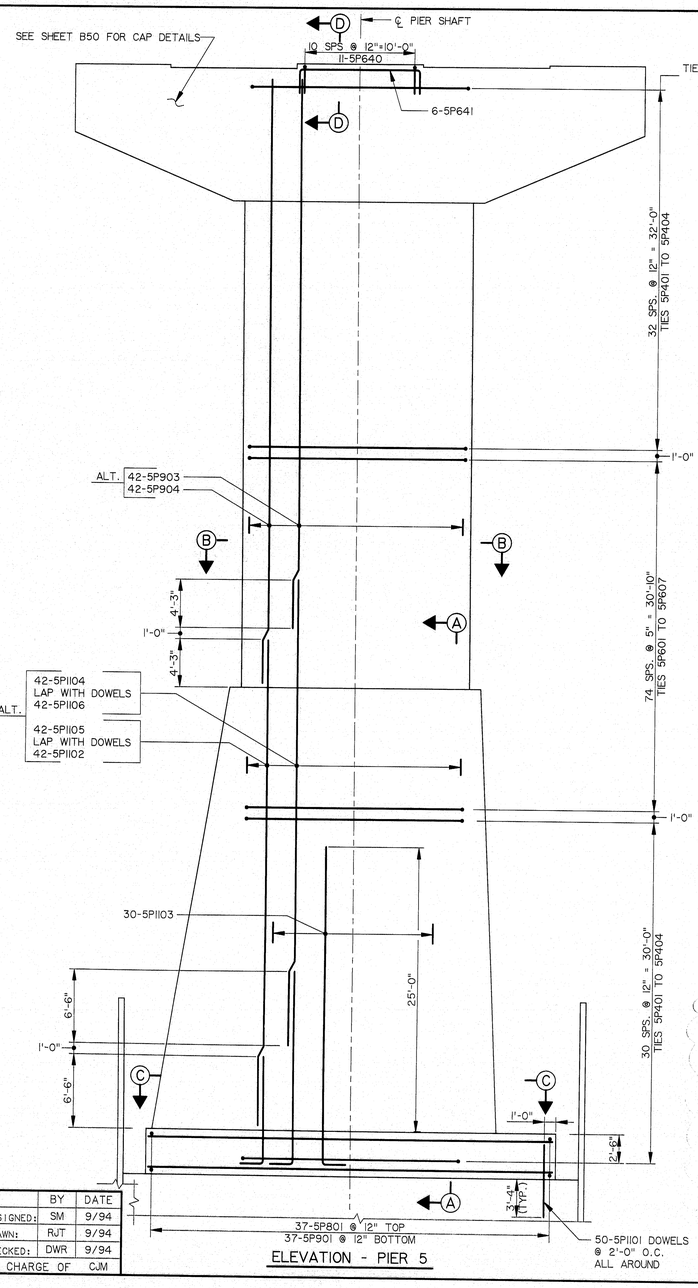
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

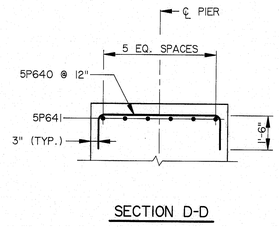
PIER 5 DETAILS

SHEET B38 OF B86 AUGUSTA, MAINE

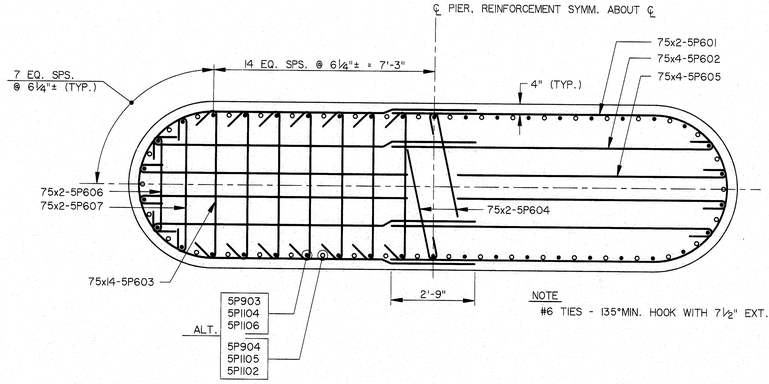
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	48	103



ELEVATION - PIER 5

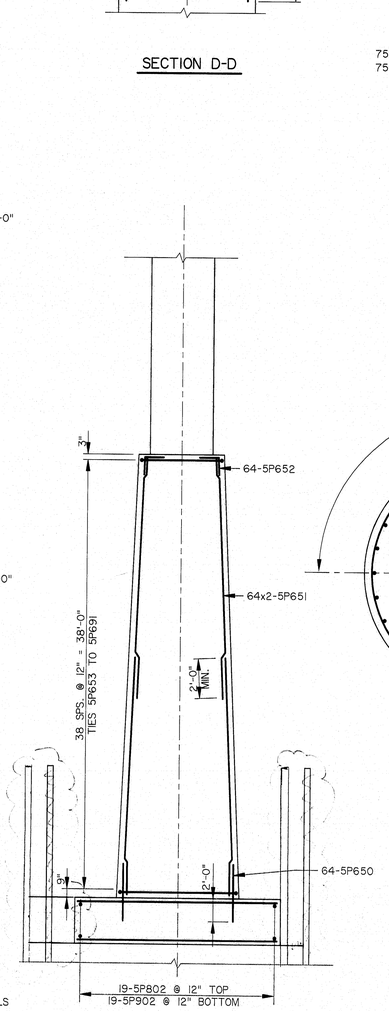


SECTION D-D

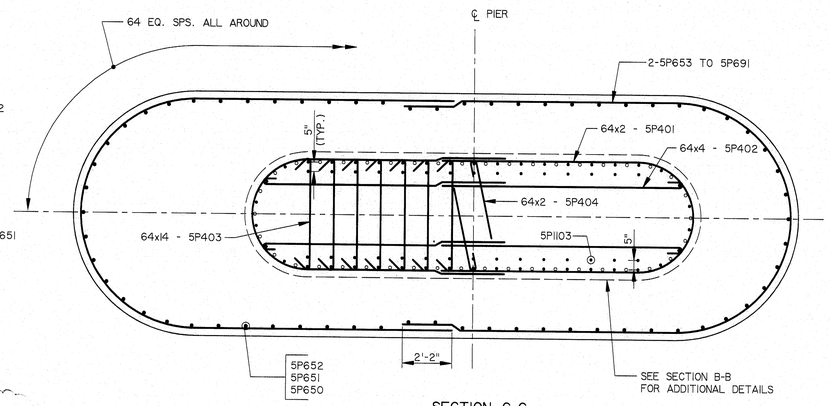


NOTE
#6 TIES - 135°MIN. HOOK WITH 7½" EXT.

SECTION B-B



SECTION A-A



SECTION C-C

115-234

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

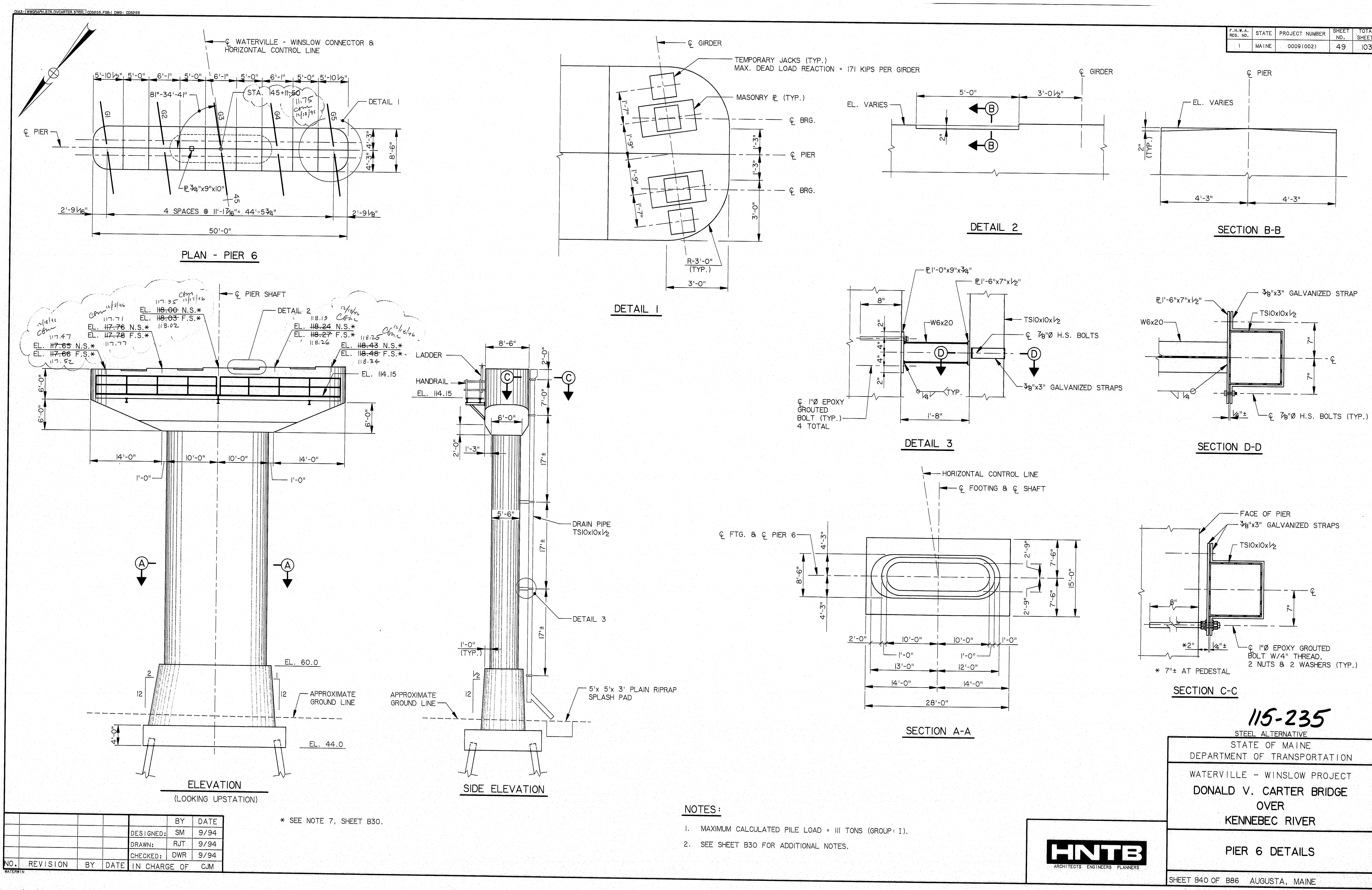
PIER 5 RE-STEEL

SHEET B39 OF B86 AUGUSTA, MAINE

NO.	REVISION	BY	DATE

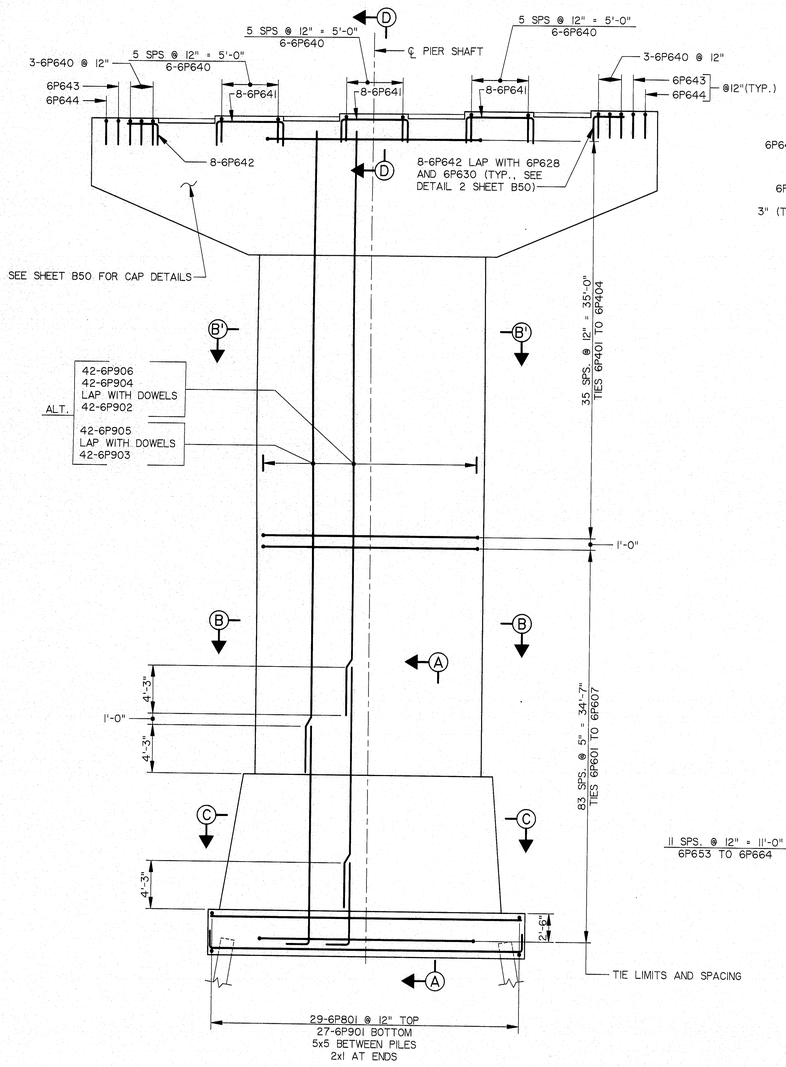
	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

HNTB
ARCHITECTS ENGINEERS PLANNERS

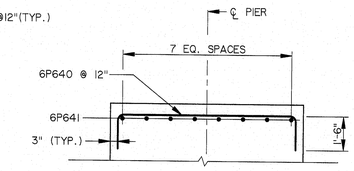

F.H.W.A. REG. NO. 1
STATE MAINE
PROJECT NUMBER 0009(002)
SHEET NO. 49
TOTAL SHEETS 103
℄ WATERVILLE - WINSLOW CONNECTOR & HORIZONTAL CONTROL LINE
STA. 145+11.60
81°-34'-41"
DETAIL 1
℄ PIER
℄ 3/4"x9"x10"
4 SPACES @ 11'-1 7/8" = 44'-5 3/4"
50'-0"
PLAN - PIER 6
℄ GIRDER
TEMPORARY JACKS (TYP.)
MAX. DEAD LOAD REACTION = 171 KIPS PER GIRDER
MASONRY ℄ (TYP.)
℄ BRG.
℄ PIER
R=3'-0" (TYP.)
DETAIL 1
EL. VARIES
DETAIL 2
SECTION B-B
℄ PIER SHAFT
DETAIL 2
EL. 114.15
LADDER
HANDRAIL
DRAIN PIPE TS10x10x1/2
DETAIL 3
EL. 60.0
APPROXIMATE GROUND LINE
EL. 44.0
5'x 5'x 3' PLAIN RIPRAP SPLASH PAD
ELEVATION
(LOOKING UPSTATION)
SIDE ELEVATION
W6x20
TS10x10x1/2
℄ 7/8"Ø H.S. BOLTS
3/8"x3" GALVANIZED STRAPS
℄ 1"Ø EPOXY GROUTED BOLT (TYP.) 4 TOTAL
DETAIL 3
3/8"x3" GALVANIZED STRAP
℄ 7/8"Ø H.S. BOLTS (TYP.)
SECTION D-D
HORIZONTAL CONTROL LINE
℄ FOOTING & ℄ SHAFT
℄ FTG. & ℄ PIER 6
28'-0"
SECTION A-A
FACE OF PIER
3/8"x3" GALVANIZED STRAPS
℄ 1"Ø EPOXY GROUTED BOLT W/4" THREAD, 2 NUTS & 2 WASHERS (TYP.)
* 7"± AT PEDESTAL
SECTION C-C
* SEE NOTE 7, SHEET B30.
NOTES:
1. MAXIMUM CALCULATED PILE LOAD = 111 TONS (GROUP: I).
2. SEE SHEET B30 FOR ADDITIONAL NOTES.
115-235
STEEL ALTERNATIVE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER
PIER 6 DETAILS
HNTB
ARCHITECTS ENGINEERS PLANNERS
SHEET B40 OF B86 AUGUSTA, MAINE
BY DATE
DESIGNED: SM 9/94
DRAWN: RJT 9/94
CHECKED: DWR 9/94
IN CHARGE OF CJM
NO. REVISION BY DATE

DIA:\WWGRAPH\STR.DVCARTER.STEEL\C05265.FIG\L1.DWG- C05265

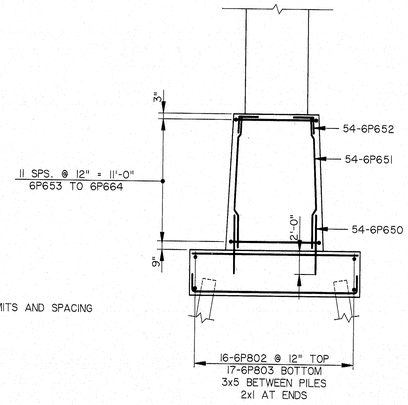
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	50	103



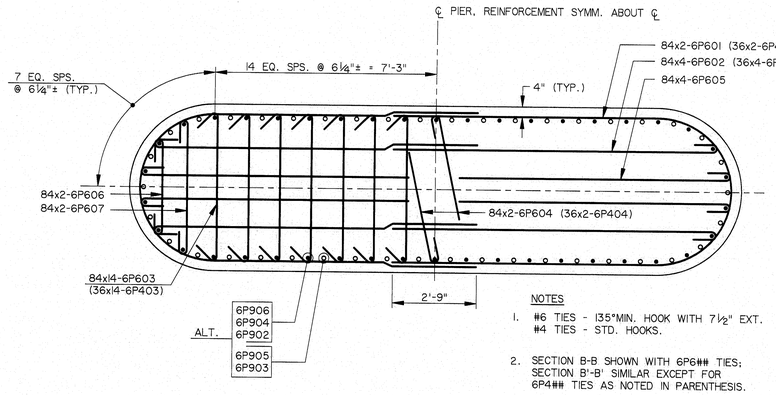
ELEVATION - PIER 6



SECTION D-D



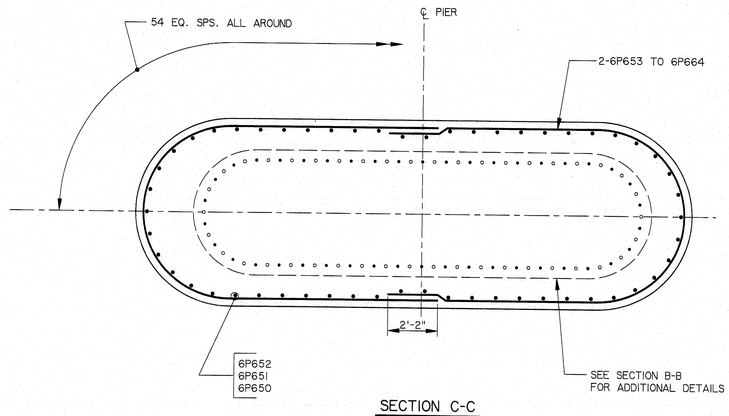
SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.
2. SECTION B-B SHOWN WITH 6P6## TIES; SECTION B'-B' SIMILAR EXCEPT FOR 6P4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERMIN

115-236

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

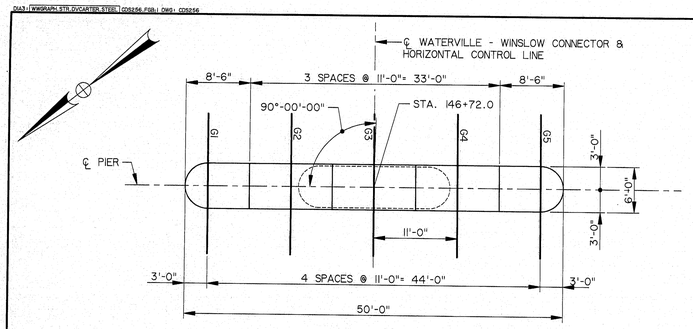
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 6 RE-STEEL

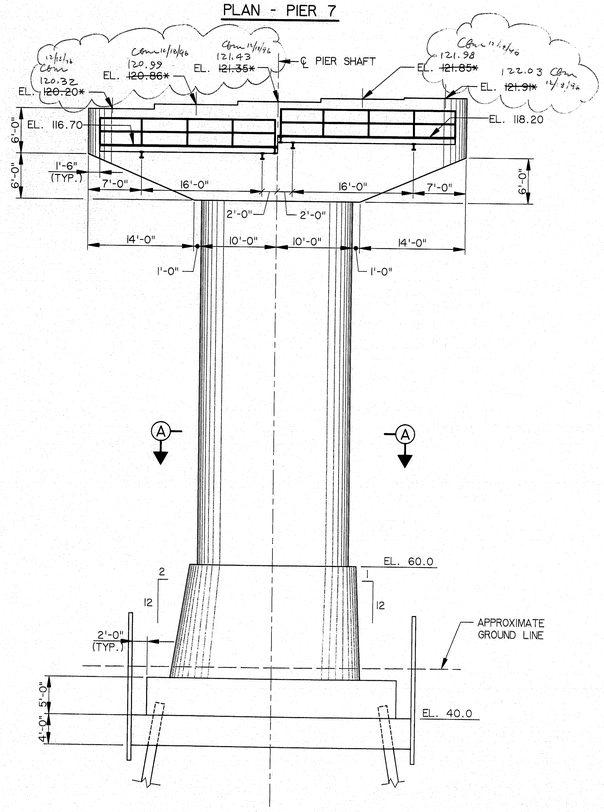
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B41 OF B86 AUGUSTA, MAINE

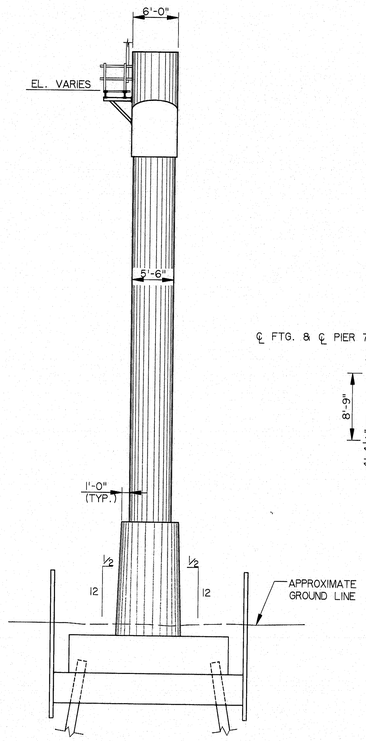
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	51	103



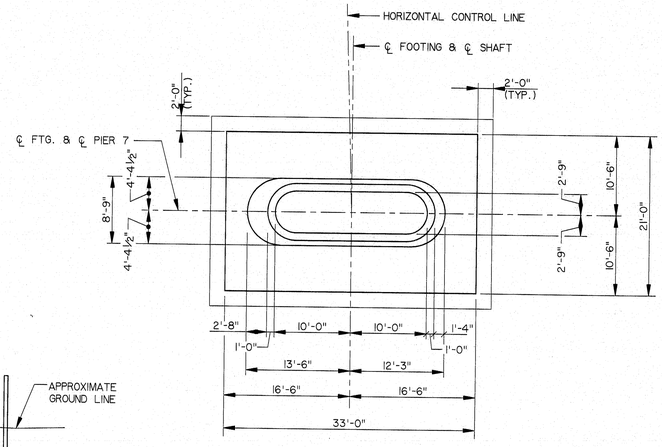
PLAN - PIER 7



ELEVATION
(LOOKING UPSTATION)



SIDE ELEVATION



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED PILE LOAD = 164 TONS (GROUP: SEISMIC)*.
   * ULTIMATE CAPACITY OF PILE USED IN CONJUNCTION WITH SEISMIC LOADS.
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

* SEE NOTE 7, SHEET B30.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERWIN

115-237

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

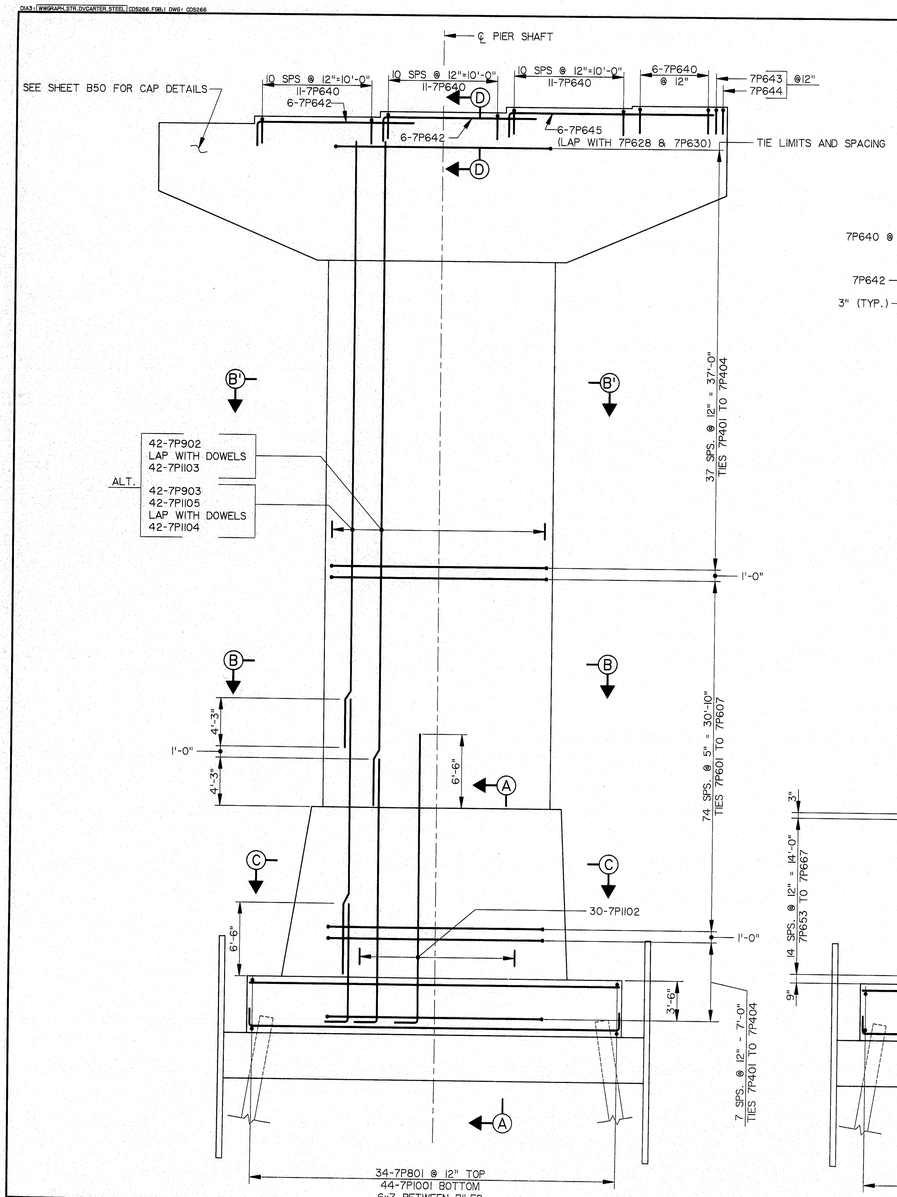
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 7 DETAILS

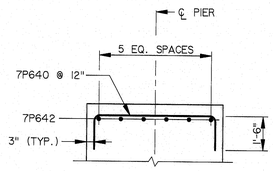
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B42 OF B86 AUGUSTA, MAINE

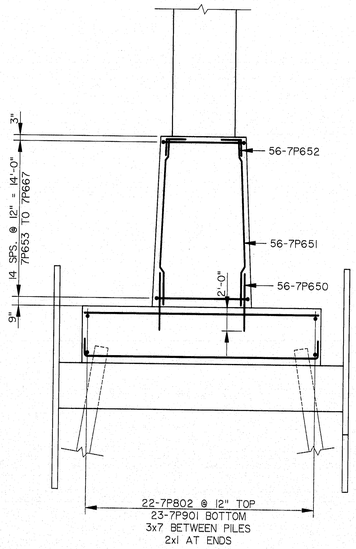
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	52	103



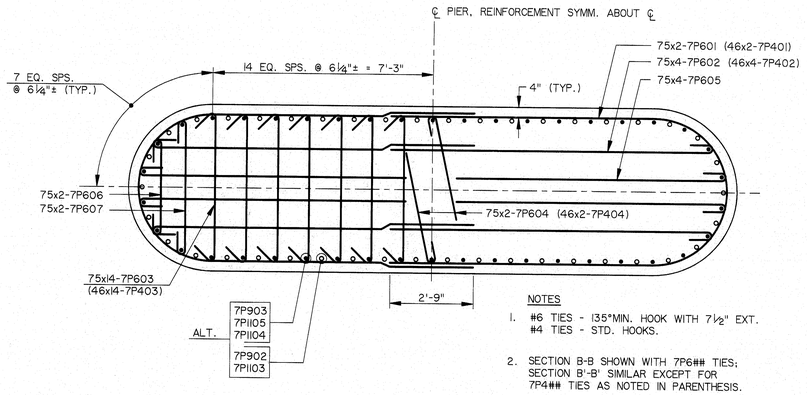
ELEVATION - PIER 7



SECTION D-D



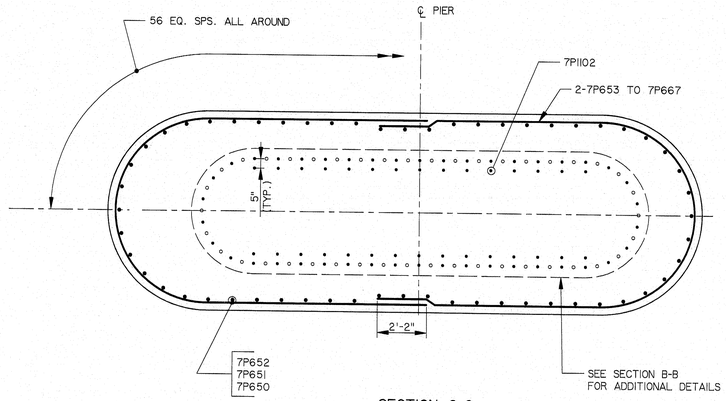
SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.
2. SECTION B-B SHOWN WITH 7P6## TIES; SECTION B'-B' SIMILAR EXCEPT FOR 7P4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-238

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

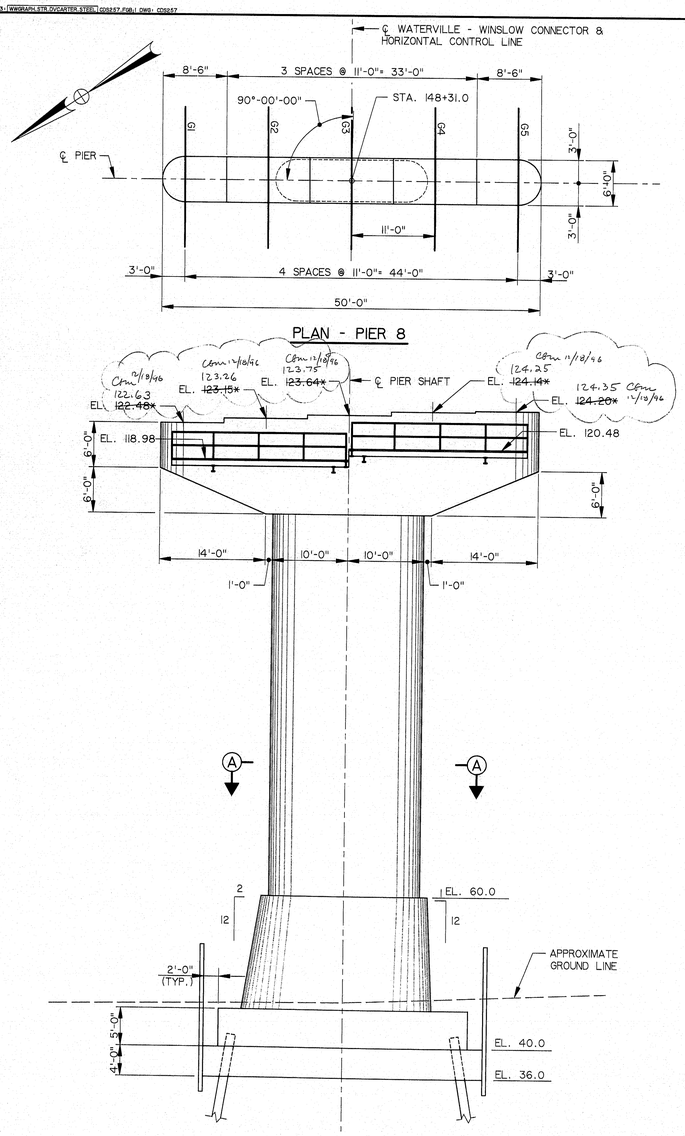
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 7 RE-STEEL

HNTB
ARCHITECTS ENGINEERS PLANNERS

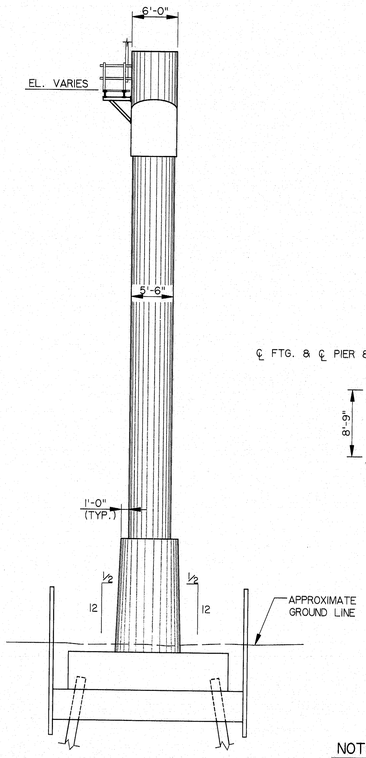
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	53	103



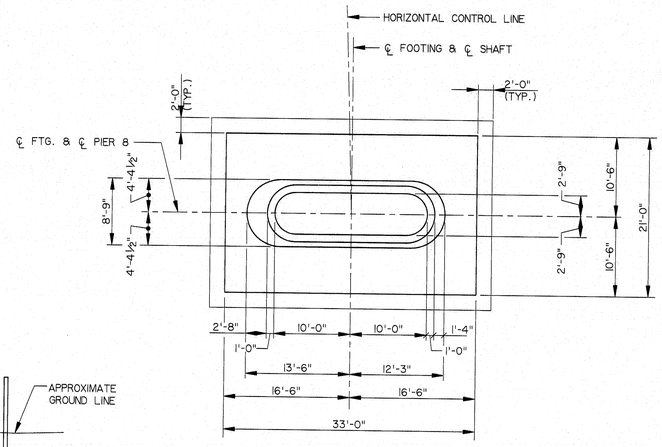
PLAN - PIER 8

ELEVATION
(LOOKING UPSTATION)

* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED PILE LOAD = 157 TONS (GROUP: SEISMIC)*

   * ULTIMATE CAPACITY OF PILE IS USED IN CONJUNCTION WITH SEISMIC LOADS.

2. SEE SHEET B30 FOR ADDITIONAL NOTES.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERWIN

HNTB
ARCHITECTS ENGINEERS PLANNERS

115-239

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

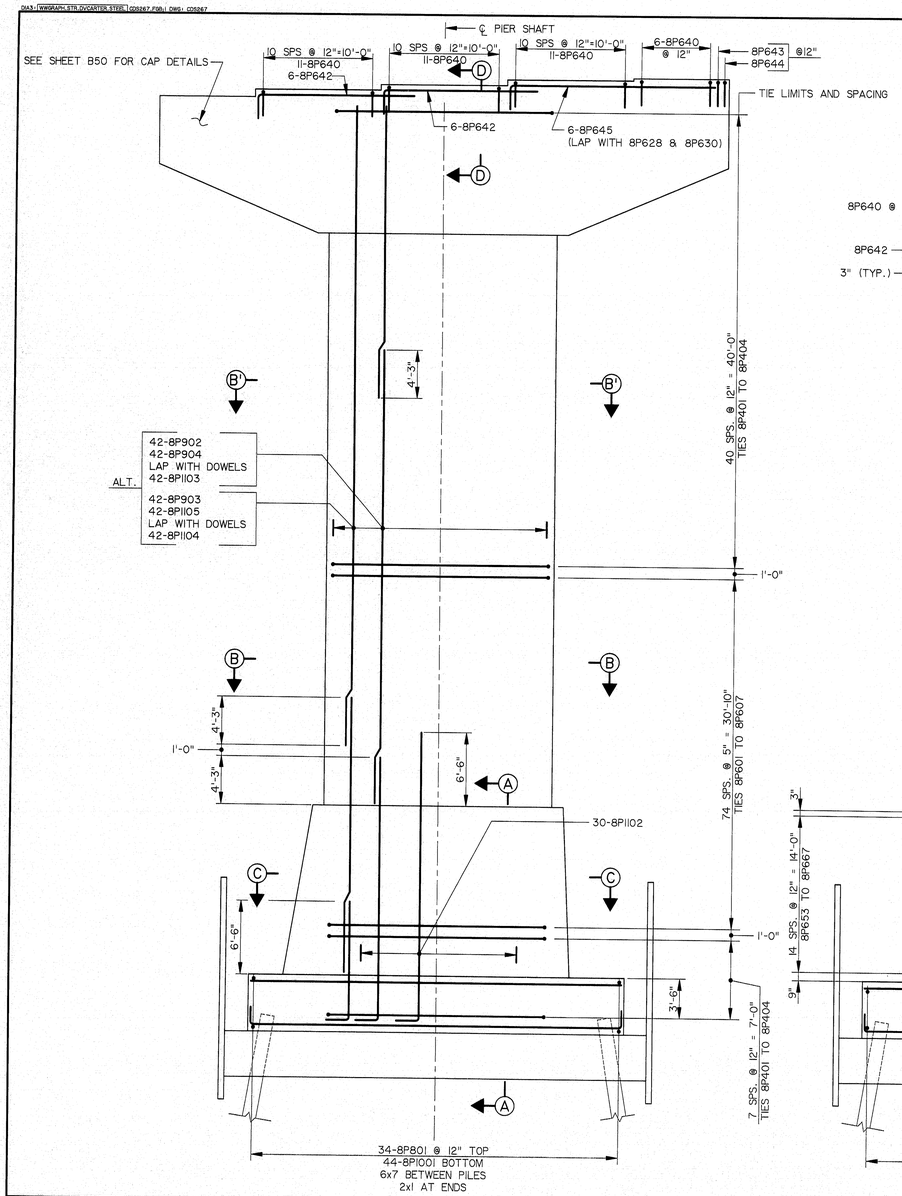
WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

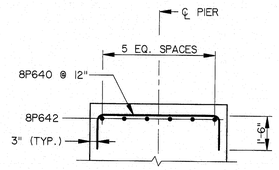
PIER 8 DETAILS

SHEET B44 OF B86 AUGUSTA, MAINE

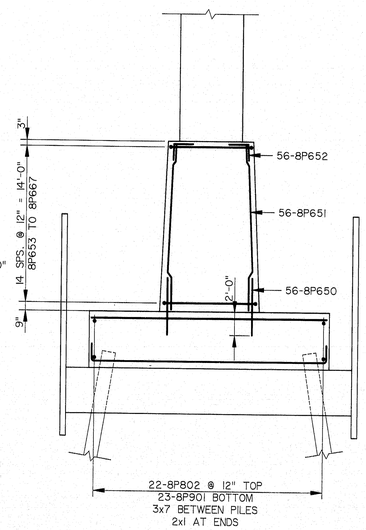
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	54	103



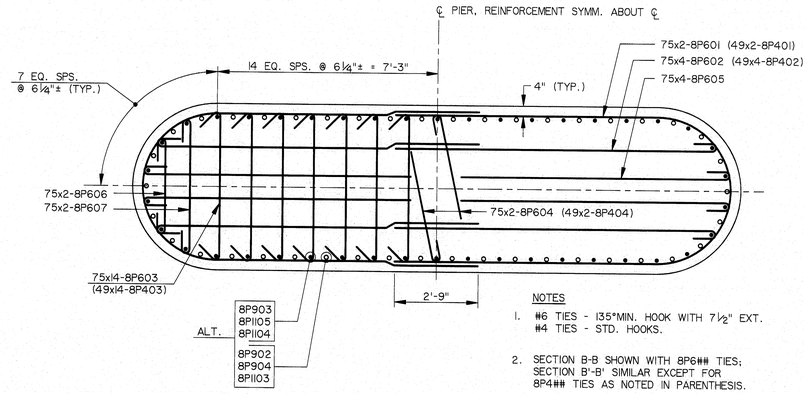
ELEVATION - PIER 8



SECTION D-D



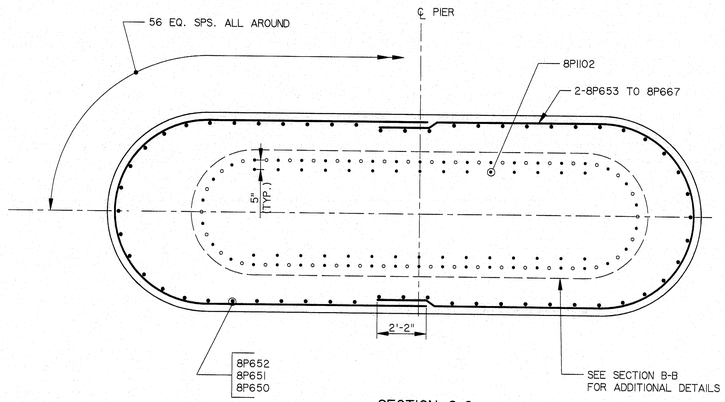
SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.
2. SECTION B-B SHOWN WITH 8P6## TIES;
   SECTION B'-B' SIMILAR EXCEPT FOR
   8P4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')



SECTION C-C

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-240

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

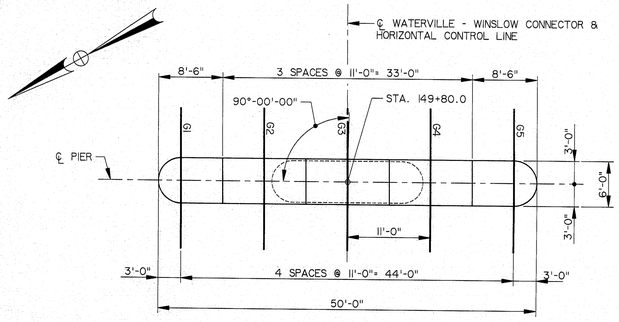
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 8 RE-STEEL

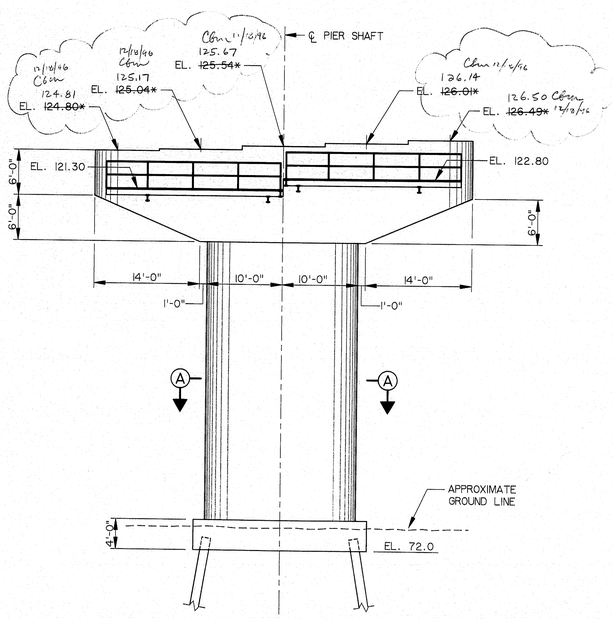
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B45 OF B86 AUGUSTA, MAINE

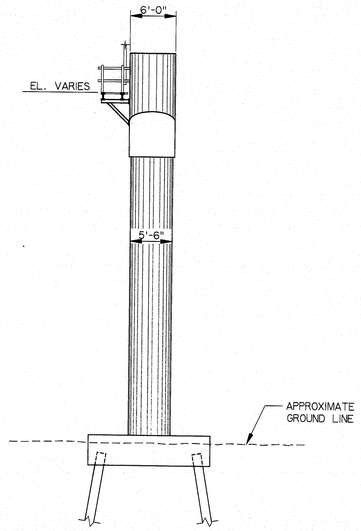
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	55	103



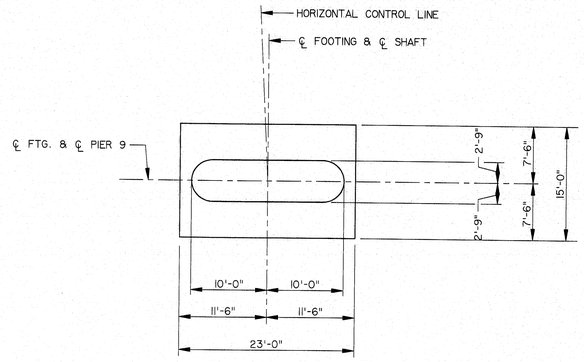
PLAN - PIER 9



ELEVATION
(LOOKING UPSTATION)



SIDE ELEVATION
1/8" = 1'-0"



SECTION A-A

* SEE NOTE 7, SHEET B30.

NOTES:

1. MAXIMUM CALCULATED PILE LOAD = 116 TONS (GROUP: I).
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

115-241

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

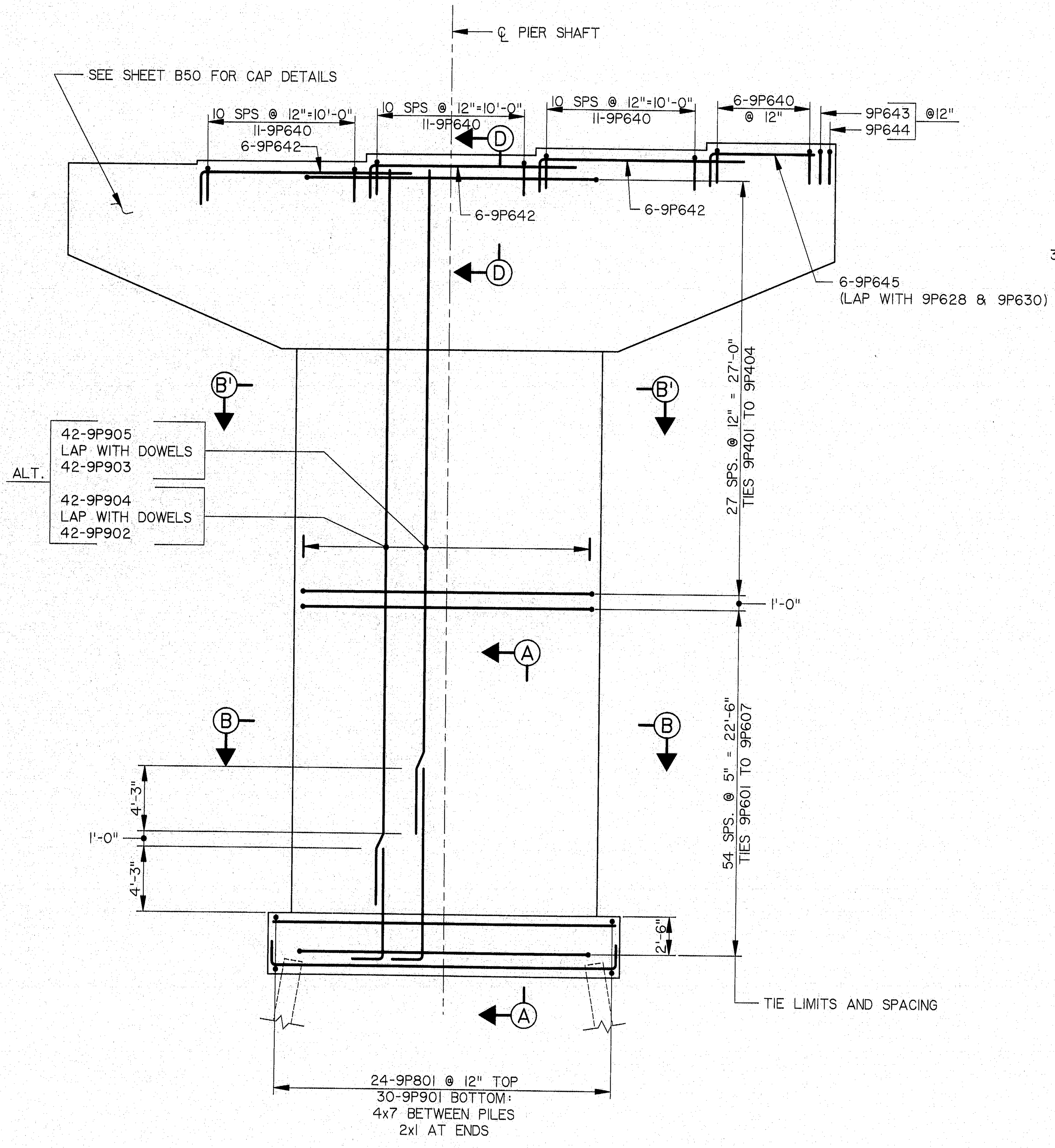
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 9 DETAILS

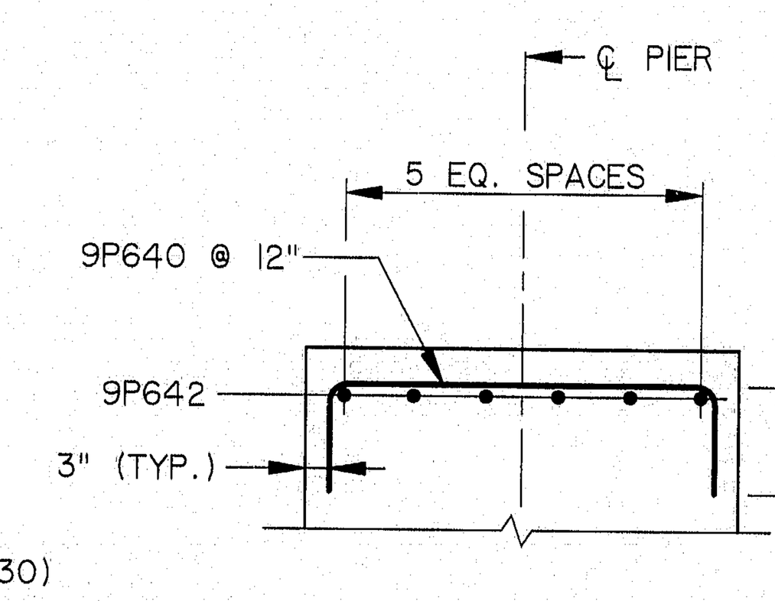
HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B46 OF B86 AUGUSTA, MAINE

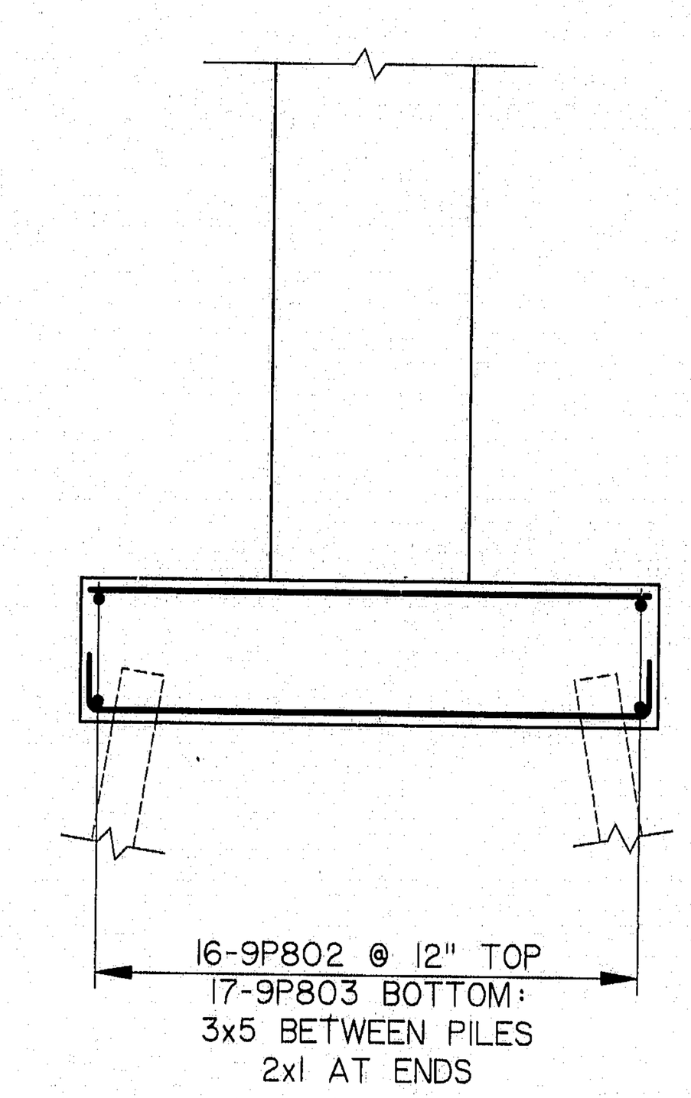
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	56	103



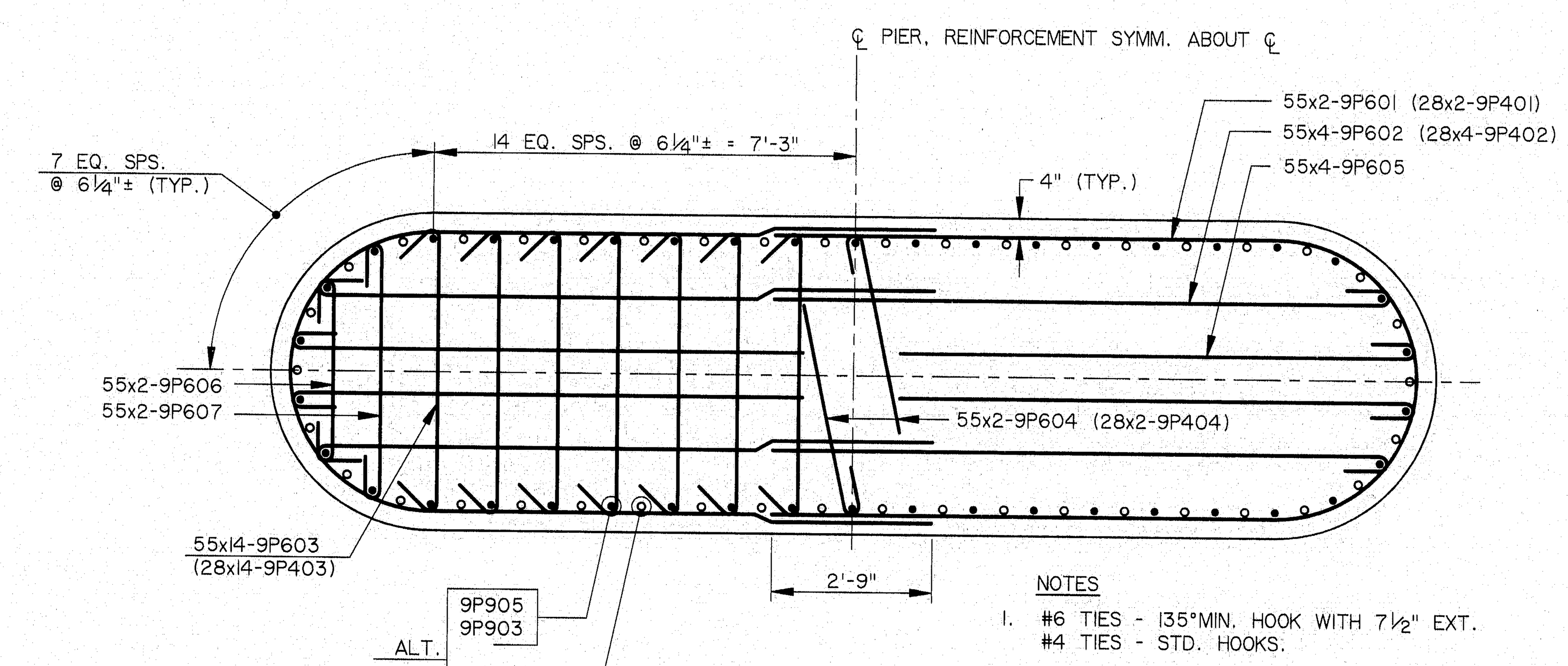
ELEVATION - PIER 9



SECTION D-D



SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.
2. SECTION B-B SHOWN WITH 9P6## TIES; SECTION B'-B' SIMILAR EXCEPT FOR 9P4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')

As Built cbm 12/4/16

115-242

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

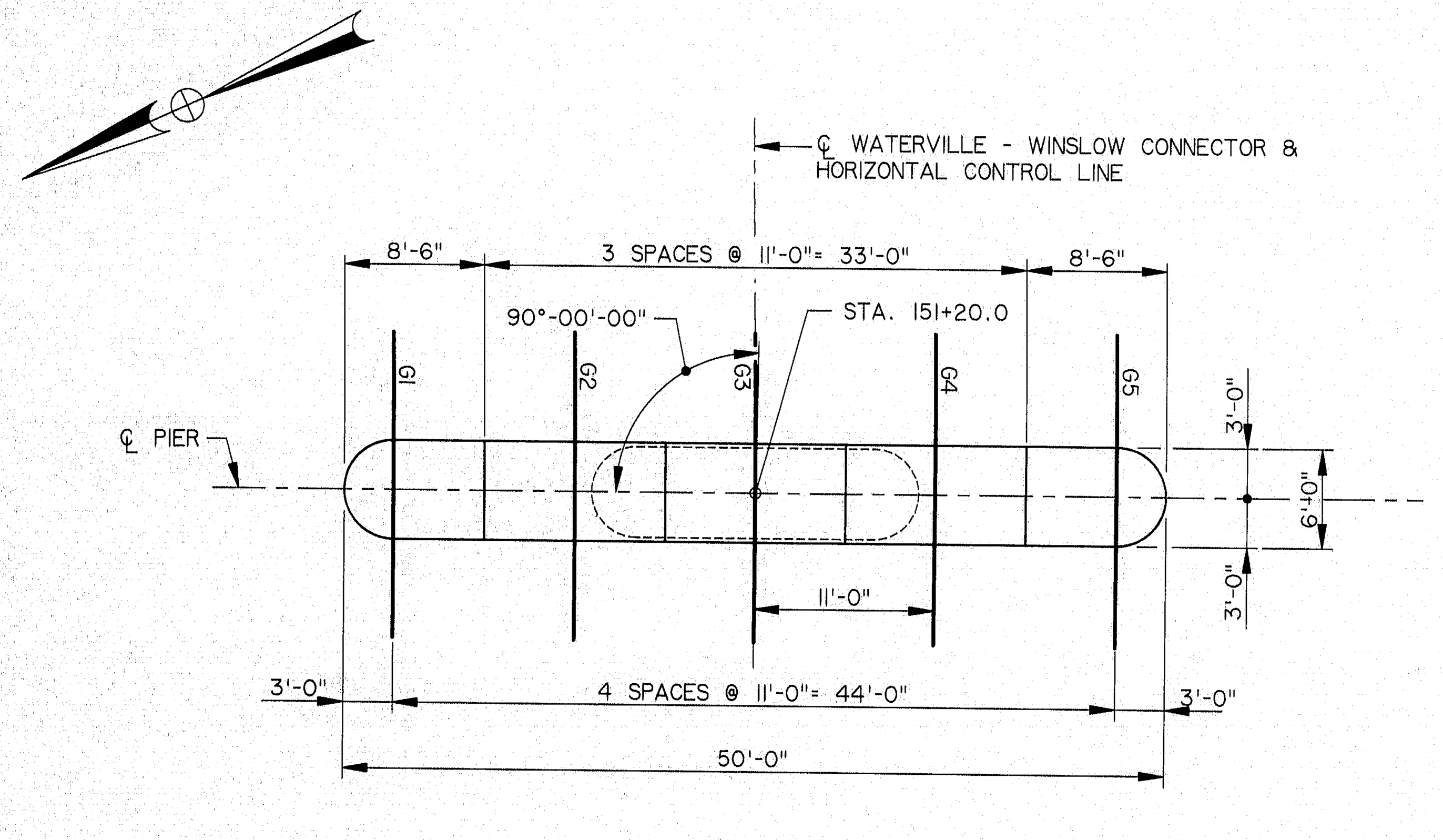
HNTB
ARCHITECTS ENGINEERS PLANNERS

PIER 9 RE-STEEL

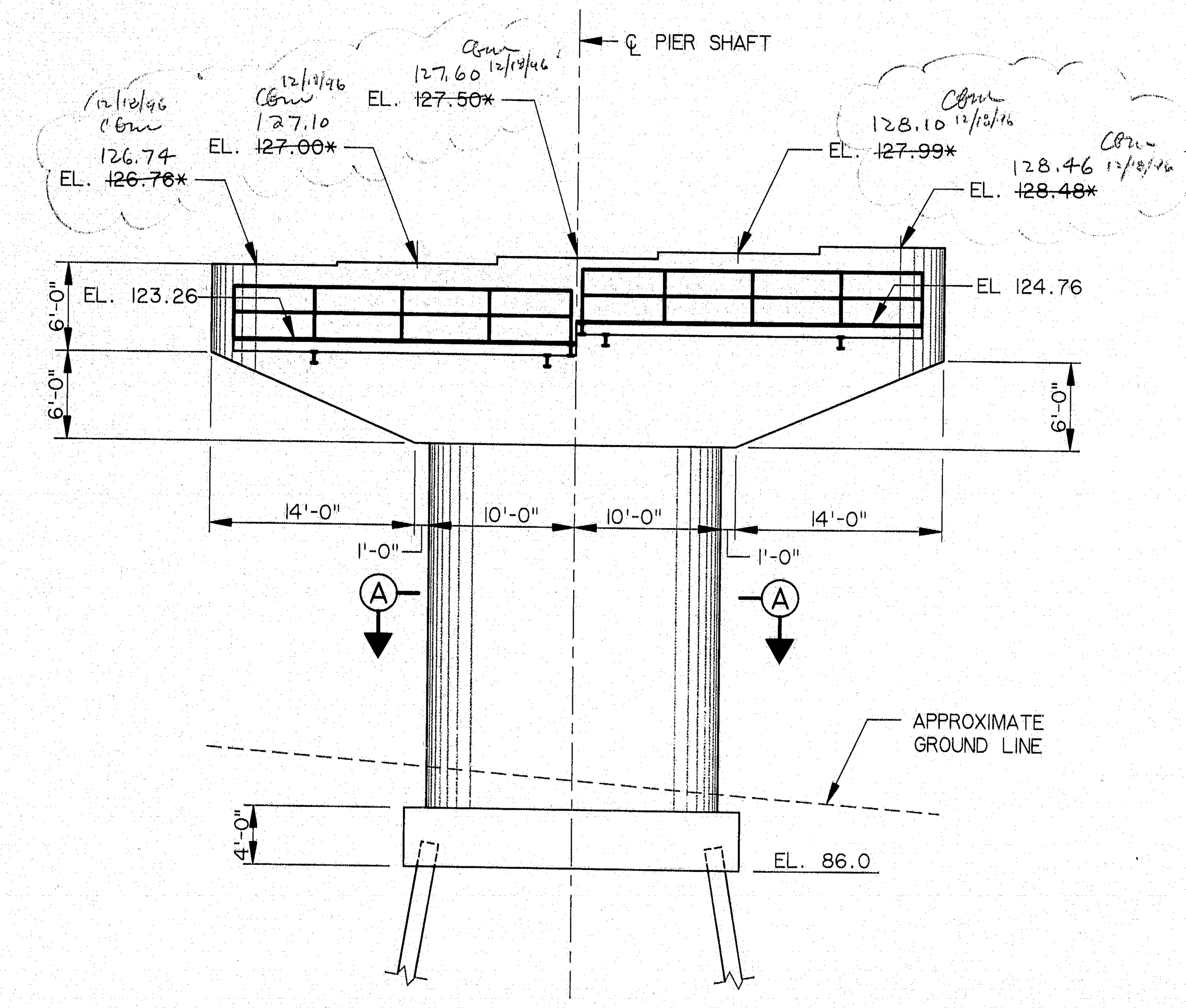
SHEET B47 OF B86 AUGUSTA, MAINE

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	9/94
				DRAWN:	RJT	9/94
				CHECKED:	DWR	9/94
				IN CHARGE OF	CJM	

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(002)	57	103

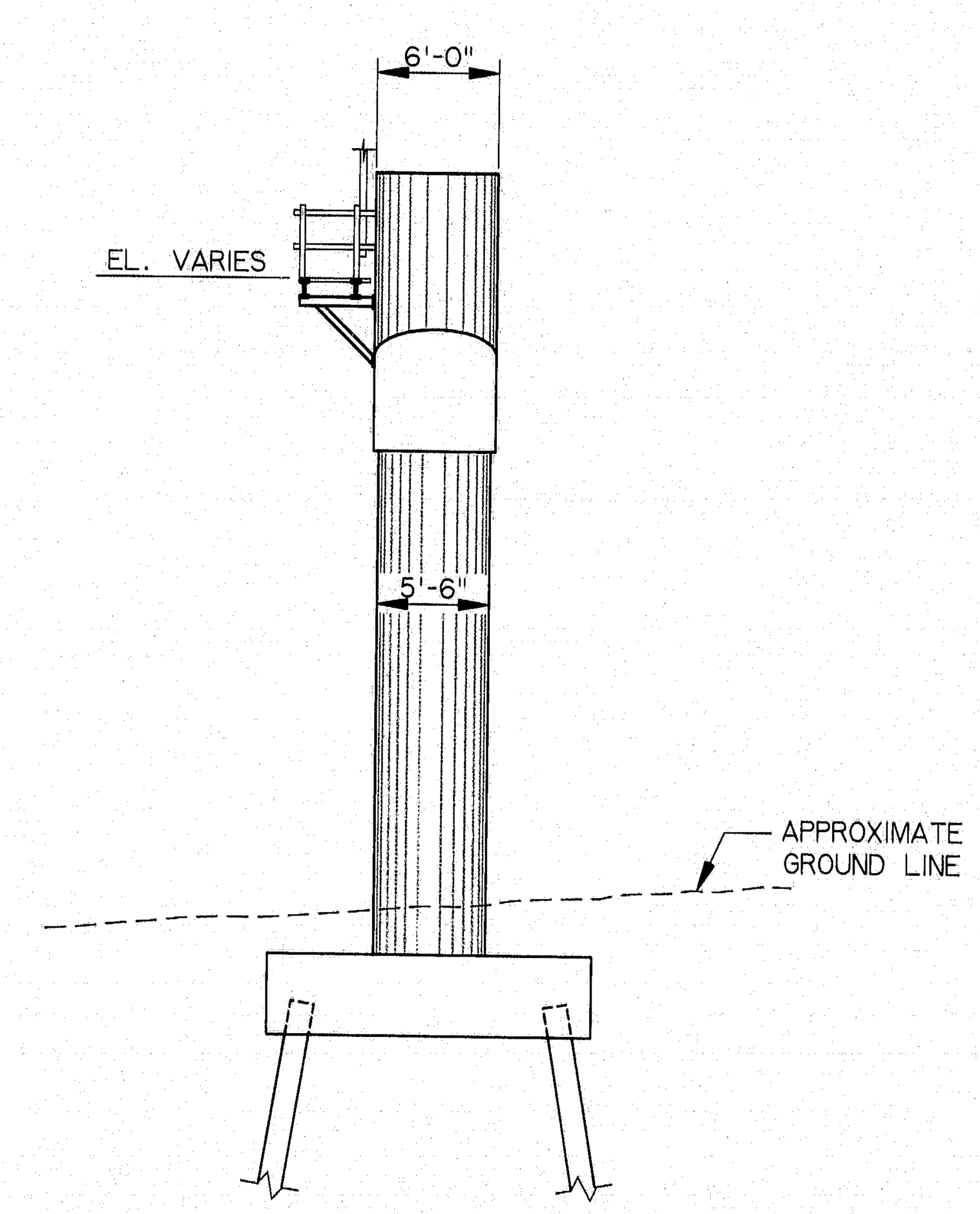


PLAN - PIER 10

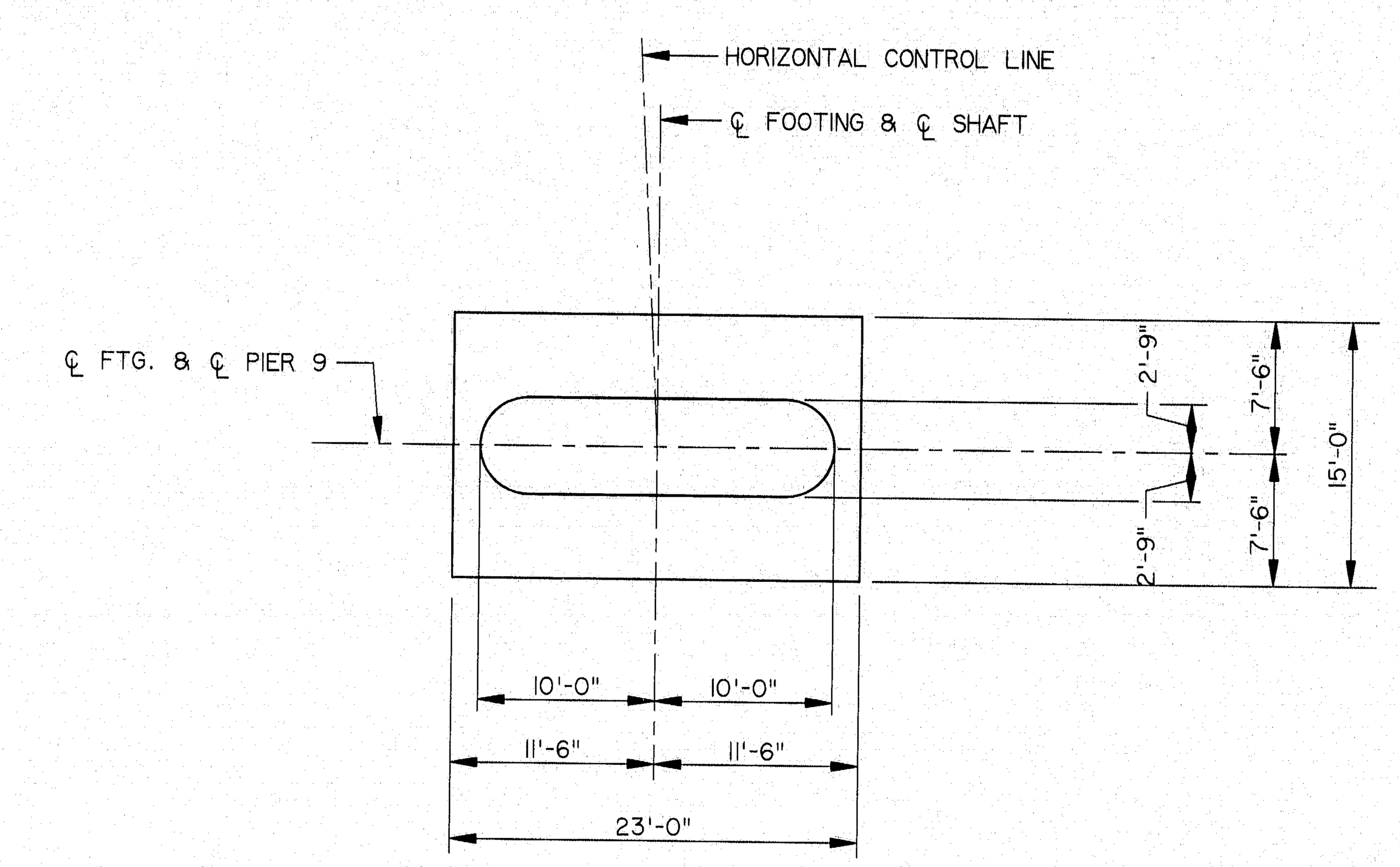


ELEVATION
(LOOKING UPSTATION)

* SEE NOTE 7, SHEET B30.



SIDE ELEVATION



SECTION A-A

NOTES:

1. MAXIMUM CALCULATED PILE LOAD = 107 TONS (GROUP: I).
2. SEE SHEET B30 FOR ADDITIONAL NOTES.

115-243

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

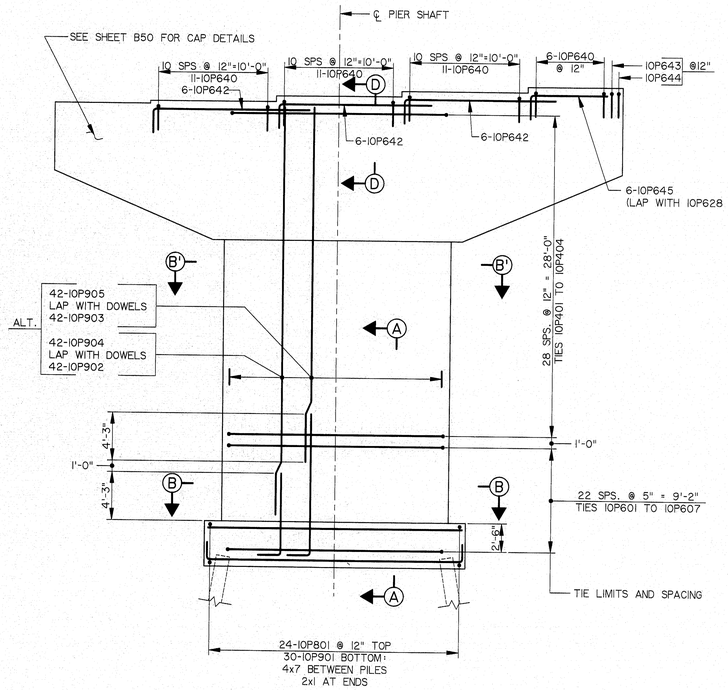
HNTB
ARCHITECTS ENGINEERS PLANNERS

PIER 10 DETAILS

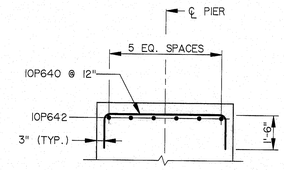
SHEET B48 OF B86 AUGUSTA, MAINE

NO.	REVISION	BY	DATE		BY	DATE
				DESIGNED:	SM	9/94
				DRAWN:	RJT	9/94
				CHECKED:	DWR	9/94
				IN CHARGE OF	CJM	

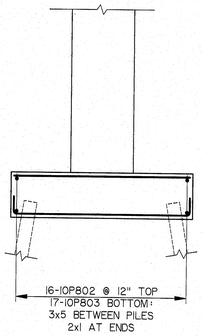
F.H.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	58	103



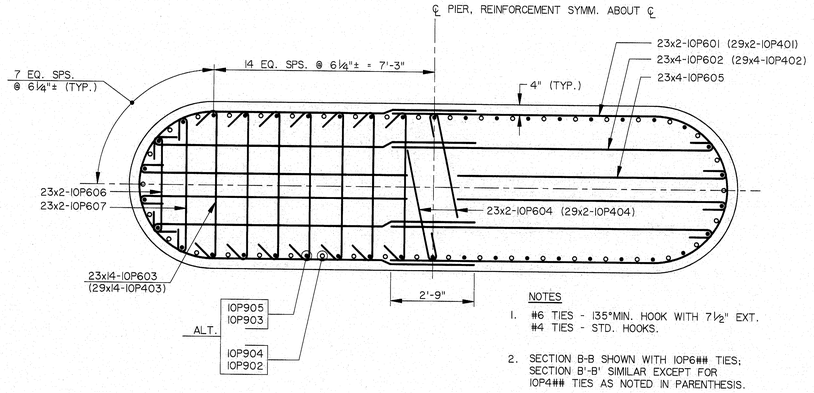
ELEVATION - PIER 10



SECTION D-D



SECTION A-A



NOTES

1. #6 TIES - 135°MIN. HOOK WITH 7½" EXT.
   #4 TIES - STD. HOOKS.

2. SECTION B-B SHOWN WITH 10P6## TIES;
   SECTION B'-B' SIMILAR EXCEPT FOR
   10P4## TIES AS NOTED IN PARENTHESIS.

SECTION B-B (SECTION B'-B')

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	SM	9/94
DRAWN:	RJT	9/94
CHECKED:	DWR	9/94
IN CHARGE OF	CJM	

WATERMIN

As Built
CJM
12/18/96

115-244
STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT

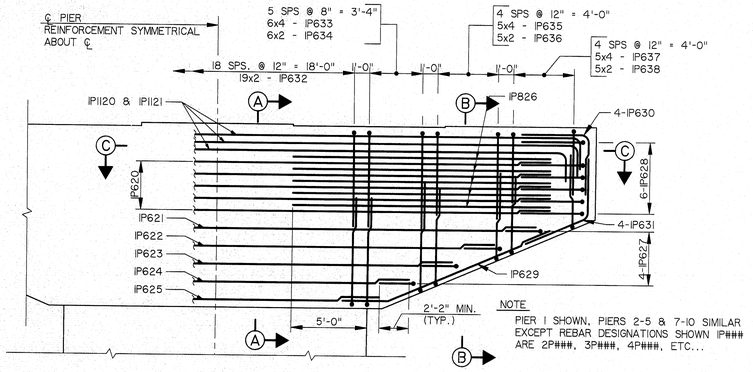
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER 10 RE-STEEL

HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B49 OF B86 AUGUSTA, MAINE

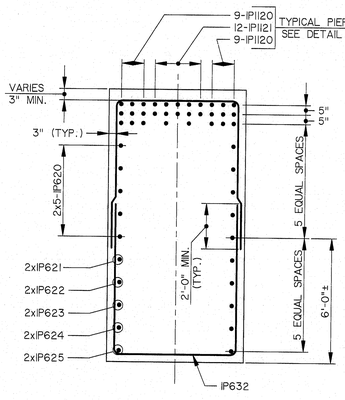
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
I	MAINE	0009(002)	59	103



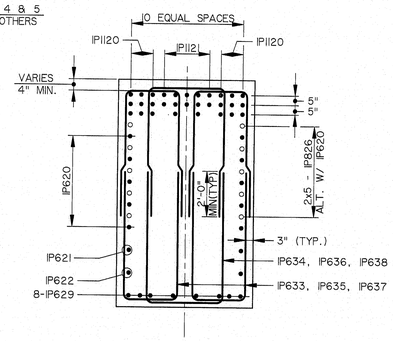
PIER CAP DETAIL I

NOTE

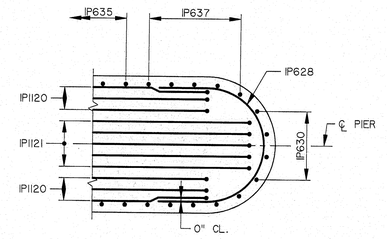
PIER 1 SHOWN, PIERS 2-5 & 7-10 SIMILAR EXCEPT REBAR DESIGNATIONS SHOWN IP#### ARE 2P####, 3P####, 4P####, ETC...



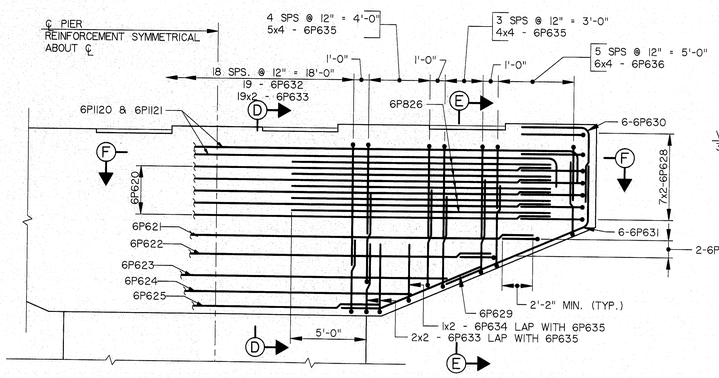
SECTION A-A



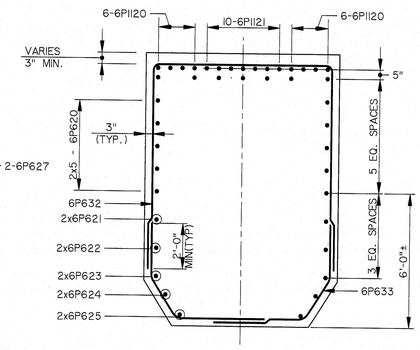
SECTION B-B



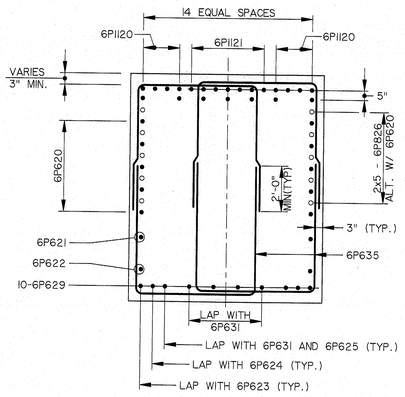
SECTION C-C



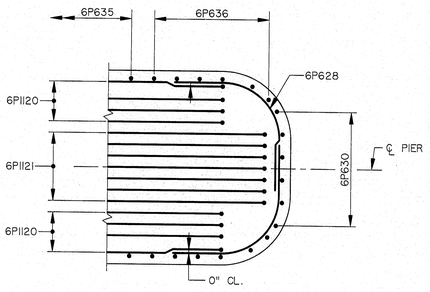
PIER CAP DETAIL 2 (PIER 6)



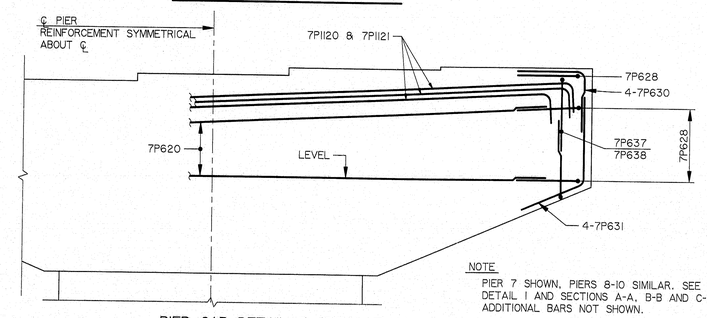
SECTION D-D



SECTION E-E



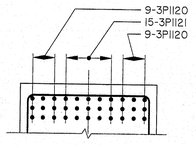
SECTION F-F



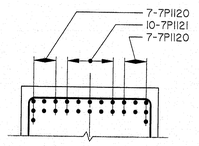
NOTE

PIER 7 SHOWN, PIERS 8-10 SIMILAR. SEE PIER CAP DETAIL I AND SECTIONS A-A, B-B AND C-C FOR ADDITIONAL BARS NOT SHOWN.

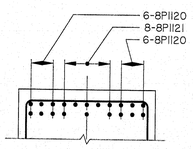
PIER CAP DETAIL 3 (PIERS 7-10)



PIER 3



PIER 7



PIERS 8, 9 & 10

DETAIL 4

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	DWR	9/94
DRAWN:	RJT	9/94
CHECKED:	SM	9/94
IN CHARGE OF	CJM	

WATERVIN

As Built Corr 12/10/96

115-245

STEEL ALTERNATIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WATERVILLE - WINSLOW PROJECT
DONALD V. CARTER BRIDGE
OVER
KENNEBEC RIVER

PIER CAP DETAILS

HNTB
ARCHITECTS ENGINEERS PLANNERS

SHEET B50 OF B86 AUGUSTA, MAINE