FORM NO. ENG. 6 ED. 12-73

F. HW. A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN-PORTLAND	FU-22(104)	82-153	1977	66	1	41

CONNECTICUT DEPARTMENT OF TRANSPORTATION

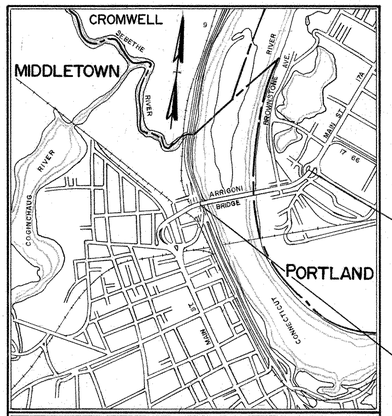
PLAN

FOR

ARRIGONI BRIDGE RESTORATION

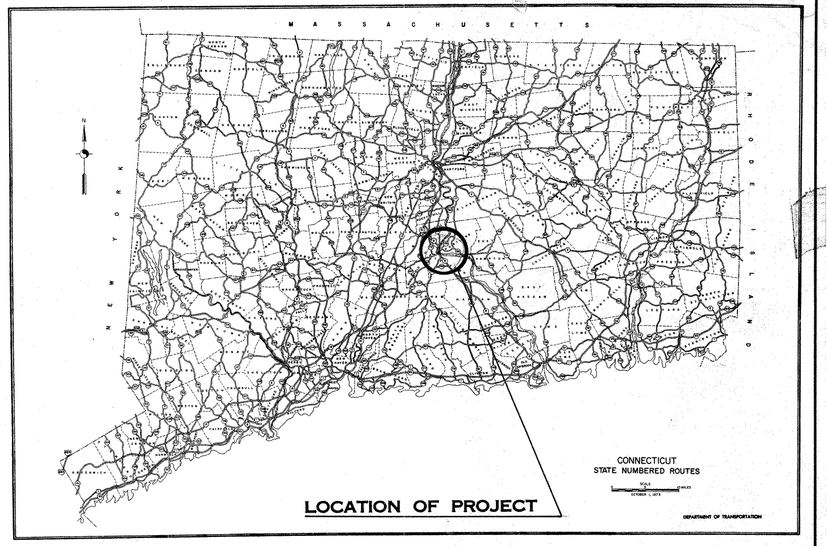
IN THE TOWNS OF

MIDDLETOWN - PORTLAND



END OF FEDERAL AID PROJECT
NO. FU-22(104)
STATE PROJECT NO. 82-153

BEGINNING OF FEDERAL AID PROJECT
NO. FU-22(104)
STATE PROJECT NO. 82-153



DESIGN SCALES PLAN 1 IN. = 40 FT. & 1 IN. 20 FT.
PROFILE HOR. 1 IN. = 40 FT. VERT. 1 IN. = 4 FT.

OTHER SCALES AS NOTED

TO BE MAINTAINED BY THE STATE

1974 SPECIFICATIONS, FORM NO. 811 INCLUDING SUPPLEMENT THERETO DATED NOV, 1977, GOVERN
ALL ELEVATIONS ON THIS PROJECT
BASED ON U.S.C. & G DATUM

TOWN NO. 82
PROJECT NO. 153

FEDERAL AID PROJECT NO. FU-22(104)

LIST OF DRAWINGS

SHEET NO.	TITLE
1	TITLE SHEET
2	DETAILED ESTIMATE SHEET
3-4	MISCELLANEOUS DETAILS
5	DRAINAGE DETAILS
6-8	TRAFFIC CONTROL PLANS
9-12	PLAN & PROFILE SHEETS
13-41	BRIDGE PLANS
41-1 - 41-6	CONSTRUCTION SIGNS, SUPPORTS AND CHANNELIZING DEVICES

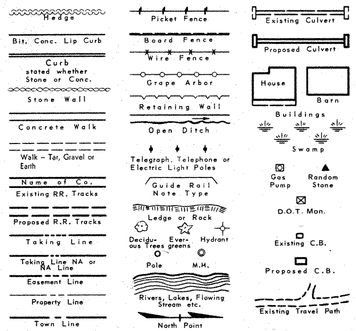
	STANDARD SHEETS	FEDERAL HIGHWAY ADMINISTRATION APPROVAL DATE
220-F	METAL BEAM RAIL (TYPE R-1)	6-22-73
220-I	OBJECT MARKER	
222-B	PAVED DITCH	3-11-70
222-C	CURBING	11-16-66
222-D	SIDEWALK	3-22-72
228-C	TYPE "C-L" CATCH BASIN	2-18-76
228-D	STEEL FRAME & GRATE FOR TYPE "C" & "C-L" CATCH BASINS (TYPE A)	2-25-76
260-A	PRESSURE RELIEF JOINT FOR R.C. PAVEMENT	5-30-74
925-A	PAVEMENT FOR RAILING	4-22-76
228-E	TYPE "C" CATCH BASIN	2-18-76

TOTAL SHEETS = 47 WHICH INCLUDES 41-1 TO 41-6

MAJOR BRIDGE IMPROVEMENT PROGRAM

CONSTRUCTION STARTED APRIL 3, 1968
CONSTRUCTION COMPLETED MAY 15, 1969
PLANS REVISED BY James F. Smith
PLANS CHECKED BY John E. Hebert Jr. Sept. 26, 1977

STANDARD CONVENTIONS



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DIVISION ADMINISTRATOR _____ DATE

SUBMITTED September 9, 1977
William Hinter
TRANSPORTATION ENGINEER OF DESIGN

APPROVAL RECOMMENDED Sept. 9, 1977
A.A. Hubbard
CHIEF OF DESIGN

APPROVED Sept 13 1977
MANAGER OF DESIGN

N5415

82 153

473 07

1

FORM NO. ENG. 8A ED. 5-69

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

B.P.R. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	66	2	41

DETAILED ESTIMATE SHEET

FOR THE CONSTRUCTION OF ARRIGONI BRIDGE RESTORATION (THIS SHEET NOT CORRECTED) IN THE TOWN OF MIDDLETOWN-PORTLAND

FROM STA. ____ TO STA. ____ LENGTH ____ FEET; BASE COURSE ____ WIDTH ____ FEET; DEPTH ____ INCHES; SURFACE COURSE ____ WIDTH ____ FEET; DEPTH ____ INCHES

DATE / BY / PREPARED / DRAFTED / CHECKED

DRAINAGE

LOCATION	R.C. PIPE 15" LF	R.C. PIPE 18" LF	R.C. PIPE 36" LF	6" STD. STEEL PIPE LF	15" C.C.M. PIPE LF	18"x11" C.C.M. PIPE-ARCH LF	TYPE "D" CATCH BASIN EA.	TYPE "L" CATCH BASIN EA.	TYPE "C-L" CATCH BASIN OVER 10' DEEP EA.	CONVERT MANHOLE TO TYPE "C-L" CATCH BASIN EA.	GRAVEL FILL C.Y.	DITCH EXCAVATION C.Y.	SODDING S.Y.	PAVED APRON S.Y.	MODIFIED RIPRAP C.Y.	BEDDING MATERIAL C.Y.	TRENCH EXCAVATION 0'-4' DEEP C.Y.	TRENCH EXCAVATION 0'-10' DEEP C.Y.	TRENCH EXCAVATION 0'-15' DEEP C.Y.	ROCK IN TRENCH EXCAVATION 0'-4' DEEP C.Y.	ROCK IN TRENCH EXCAVATION 0'-10' DEEP C.Y.	ROCK IN TRENCH EXCAVATION 0'-15' DEEP C.Y.	8" STEEL PIPE ELBOW EA.
FEDERAL AID																							
Middletown Side																							
Near Railroad		8					1				2			6	2	1	2	13				1	
Route 9 Median				39												2	12			1			1
Portland Side																							
Sta. 1+84 to 3+43											3				3								
Sta. 3+75 to 5+28											1	20	120		1								
Sta. 5+58 (Brownstone Ave.)	80			8	20		1	1						6		8		78			4		1
Sta. 5+98 to 7+75						168		1			2			6	2	12	65	16		3	1		
Sta. 8+82 to 9+33									1		1			6	1		3						
Sta. 10+10 to 10+19		8					1				1			6	1	2			45			2	
Sta. 11+10 to 11+19		8					1				1			6	1	2			39			2	
Sta. 12+19											1				1								
Unassigned														6		3	3	3	1	1		1	
Total Fed. Aid Part.	80	8	16	46	20	168	1	3	2	1	12	20	126	36	12	30	85	110	85	5	6	5	2

MISCELLANEOUS

LOCATION	CLEARING & GRUBBING L.S.	CUT CONCRETE PAVEMENT L.F.	REMOVAL OF CONCRETE SUBBASE S.Y.	PREMIXED BITUMINOUS CONCRETE BASE C.Y.	TWO COURSE BITUMINOUS CONCRETE TON	TON	36" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER L.F.	BITUMINOUS MATERIAL FOR TACK COAT GAL.	PRESSURE RELIEF JOINT S.Y.	MAINTENANCE AND PROTECTION OF TRAFFIC L.S.	5" GRANITE STONE CURBING L.F.	5" GRANITE CURVED STONE CURBING L.F.	GRANITE SLOPE CURBING L.F.	BITUMINOUS CONCRETE LIP CURBING L.F.	LIGHT CONCRETE BARRIER CURB L.F.	CONCRETE SIDEWALK S.F.	MOBILIZATION AND DEMOBILIZATION L.S.	FURNISHING AND PLACING TOPSOIL S.Y.	FERTILIZING AND SEEDING S.Y.	LIMING TON	CONSTRUCTION FIELD OFFICE (TYPE B) NO.	BARRICADE WARNING LIGHTS LOW INTENSITY DAY	BARRICADE WARNING LIGHTS HIGH INTENSITY DAY	BARRICADE WARNING LIGHTS STEADY BURN DAY	CONSTRUCTION STAKING L.S.
FEDERAL AID PARTICIPATING																									
Middletown	L.S.	47	79			31																			
North Side	L.S.	80					98						30		48	221									
South Side	L.S.	92					120						30		60	262									
Portland	L.S.	42	70			17		6	70												1				
North Side	L.S.	147					46				25	70	30		23	572		13	13						
South Side	L.S.	187					44				50	85	30		22	732		18	18						
Brownstone Ave.	L.S.	97	46	9	13	8								110											
Unassigned				16	2		12	3	2				10	2	13		19	19		6	5200	1000	4,000	L.S.
Total Fed. Aid Part.	L.S.	692	195	25	15	56	320	20	100	L.S.	75	155	120	120	195	1800	L.S.	50	50	1	6	5200	1000	4,000	L.S.

RAILING

LOCATION	METAL BEAM RAIL (TYPE R-1) SYSTEM 2 L.F.	SYSTEM 3 L.F.	SYSTEM 4 L.F.	SYSTEM 5 L.F.	SYSTEM 6A L.F.	PCI CONCRETE END ANCHORAGE TYPE I EA.	PCI CONCRETE END ANCHORAGE TYPE II EA.	PAVEMENT FOR RAILING S.Y.	OBJECT MARKER EA.
FEDERAL AID PARTICIPATING									
Middletown									
South Side	18.75	18.75	12.50	12.50	12.50	1		33	
North Side	18.75	18.75	12.50	12.50	12.50	1		33	
Portland									
South Side	106.25		12.50	12.50	12.50		1	21	1
North Side	66.25		12.50	12.50	12.50		1	18	1
Unassigned	2.50	6.25							
Total Fed. Aid Part.	40	210	50	50	50	2	2	105	2

BRIDGE

LOCATION	CUTTING & SEALING JOINTS IN BITUMINOUS CONCRETE OVERLAY L.F.	BITUMINOUS CONCRETE WEARING SURFACE TON	REMOVAL OF EXISTING BITUMINOUS WEARING SURFACE S.Y.	REMOVAL OF EXISTING MASONRY C.Y.	WELDED STUDS EA.	BRIDGE SCUPPER-FIBERGLAS HOPPER EA.	ELIMINATE EXISTING DRAINAGE SYSTEM L.S.	8" PIPE FOR BRIDGE DRAINAGE L.F.	FIBERGLAS TROUGH L.F.	ELASTOMERIC EXPANSION JOINT DEVICE (MODEL 230) L.F.	ELASTOMERIC EXPANSION JOINT DEVICE (MODEL 460) L.F.	TRANSFLEX EXPANSION JOINT (MODEL 630) L.F.	TRANSFLEX EXPANSION JOINT (MODEL 1300) L.F.	SURFACE PATCH S.F.	CLASS "C" CONCRETE C.Y.	PARTIAL DEPTH PATCH BAG	PARTIAL DEPTH PATCH (GRID) BAG	FULL DEPTH PATCH C.Y.	CLEAN AND RESEAL EXISTING FILLED BRIDGE JOINTS L.F.	36" WIRE ROPE INSPECTION CABLE L.F.	SUSPENDER CABLE PROTECTION L.S.	DEFORMED STEEL BARS LB.	SELF-DRILLING CONCRETE ANCHORS EA.	LIGHT CONCRETE FOR BARRIER CURB (BRIDGE) C.Y.	STRUCTURAL STEEL (82-153) CWT.	CONCRETE CYLINDER CURING BOX EA.	PROTECTIVE COMPOUND FOR BRIDGES S.Y.	MEMBRANE WATERPROOFING (WOVEN GLASS FABRIC) S.Y.	REMOVE AND RESET RAILING (PANELS) L.F.	JACKING EXISTING GIRDERS-PIER 4 L.S.	POLYVINYL CHLORIDE PLASTIC PIPE WEEPHOLES EA.	REMOVAL OF STEEL EXPANSION JOINTS L.F.	EPOXY SURFACE COATING-SIDEWALK S.Y.	EPOXY PROTECTIVE COATING-PIER CAPS S.Y.	TRANSPORTATION AND INSTALLATION OF CONCRETE BARRIER L.S.	REMOVAL OF CONCRETE BARRIER L.S.	RELOCATION OF CONCRETE BARRIER L.F.
FEDERAL AID PARTICIPATING																																			
Total Fed. Aid Part. Arrigoni Bridge	1100	230	17,500	228	960	45	L.S.	1650	360	6882	248	100	70	-	120	900	360	30	550	2800	L.S.	29,000	6850	350	1200	1	2850	17300	440	L.S.	250	1100	5000	-	L.S.	L.S.	8,120
FEDERAL AID NON PARTICIPATING																																			
Total Fed. Aid Non Part. Arrigoni Bridge	-	-	-	22	-	-	-	-	-	-	-	-	270	20	-	-	-	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	-	1,100	-	-	-
TOTALS	1100	230	17,500	250	960	45	L.S.	1650	360	6882	248	100	70	270	140	900	360	30	550	2800	L.S.	30,000	6850	350	1200	1	2,850	17300	440	L.S.	250	1100	5000	1100	L.S.	L.S.	8,120

ELECTRICAL

LOCATION	1½" RIGID METAL CONDUIT SURFACE L.F.	2" RIGID METAL CONDUIT-SURFACE L.F.	2" RIGID METAL CONDUIT-IN TRENCH L.F.	8"x8"x4" CAST IRON JUNCTION BOX EA.	NO. 8 SINGLE CONDUCTOR IN CONDUIT L.F.	SERVICE ENTRANCE CABLE (TYPE SE STYLE U) 3#8 L.F.	2" LIQUID TIGHT FLEXIBLE METAL CONDUIT L.F.	SERVICE RELOCATION L.S.	NAVIGATION LIGHTS EA.	AVIATION OBSTRUCTION LIGHT REWIRING AVIATION AND NAVIGATION LIGHTING SYSTEM EA.	L.S.
FEDERAL AID PARTICIPATING											
Arrigoni Bridge (Bridge No. 005241)	30	100	100	4	6000	250	30	L.S.	6	2	L.S.
Total Fed. Aid Part.	30	100	100	4	6000	250	30	L.S.	6	2	L.S.

MISCELLANEOUS

LOCATION	TRAFFIC CONE EA.	TRAFFIC DRUM DAY	CONST. SIGNS ENVAP. LENS S.F.	REFLECTIVE SHEETING SIGN FACE SHEET ALUM. (ENCAP LENS) S.F.	TRAFFICMEN STATE POLICE OFFICERS HR.	TRAFFICMEN HR.
FEDERAL AID PARTICIPATING						
Unassigned	25	25000	1448	200	2500	2500
Total Fed. Aid Part.	25	25000	1448	200	2500	2500

82 153

473 07

FORM NO. ENG 11 ED 4-66

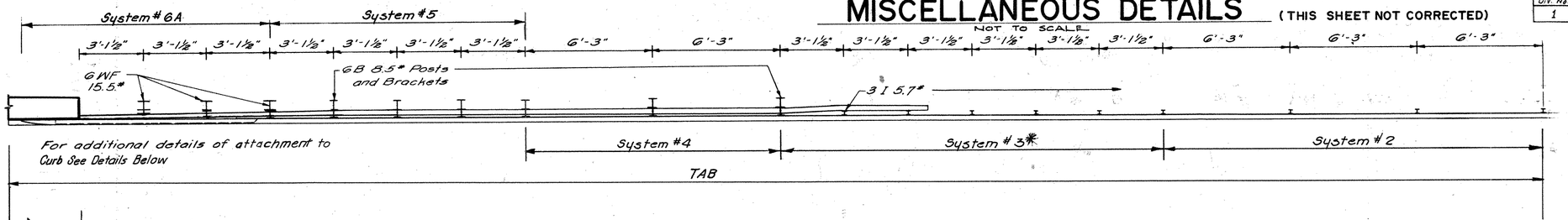
Pub. Road Oil. No.	State	Town	Fed. Aid Proj. No.	Proj. No	Year	Map & No.	Sheet No.	Total Sheets
1	CONN.	MIDDLETOWN - PORTLAND	FU-22 (104)	82-153	1977	66	3	41

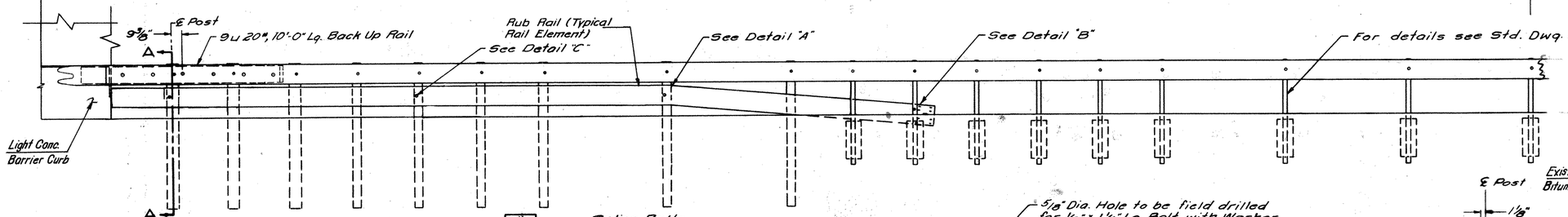
ARRIGONI BRIDGE RESTORATION

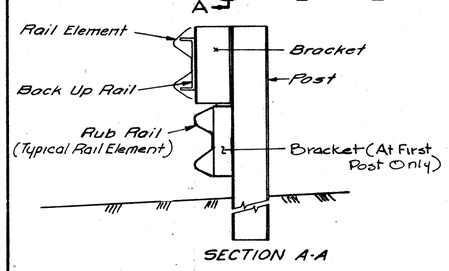
MISCELLANEOUS DETAILS

NOT TO SCALE

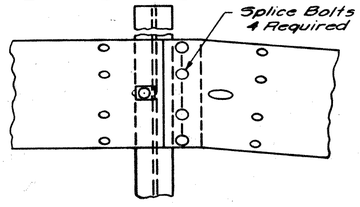
(THIS SHEET NOT CORRECTED)



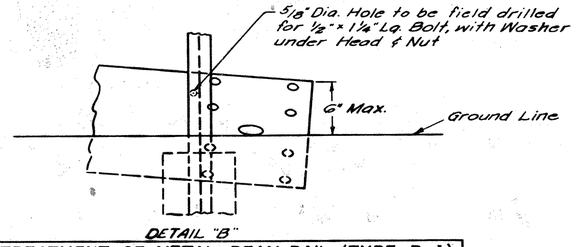




SECTION A-A

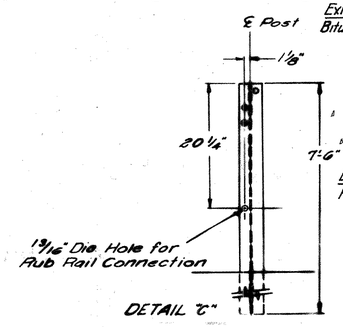


DETAIL "A"
SPECIAL SPLICE

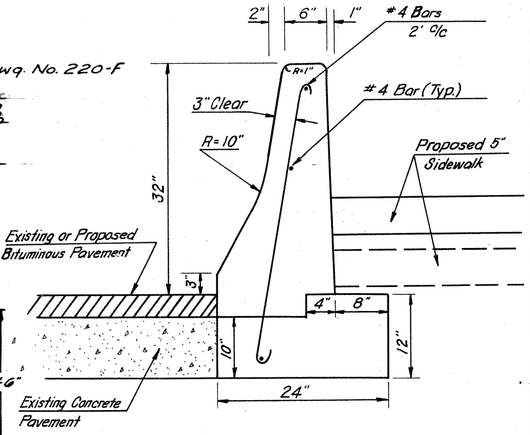


DETAIL "B"

TERMINAL TREATMENT OF METAL BEAM RAIL (TYPE R-I) AT LEADING END OF CONCRETE BARRIER CURB

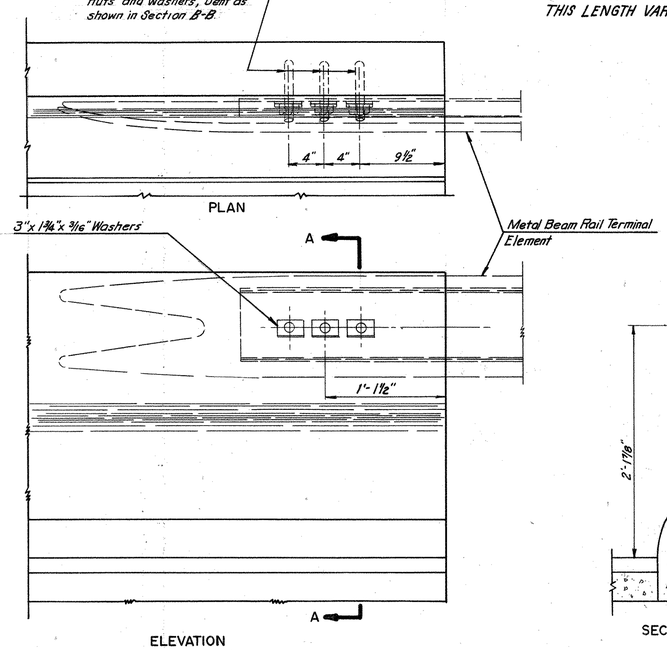


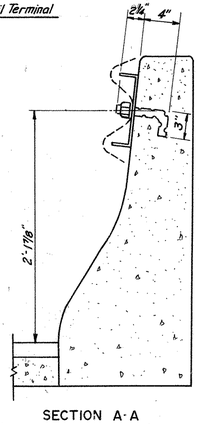
DETAIL "C"



LIGHT CONCRETE BARRIER CURB
(CAST IN PLACE)
Scale: 1"=10"

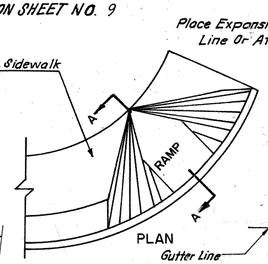
* WHERE TAB IS NOT CALLED FOR ON PLANS THIS LENGTH VARIES AS SHOWN ON SHEET NO. 9

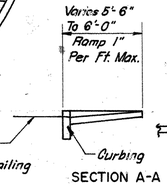




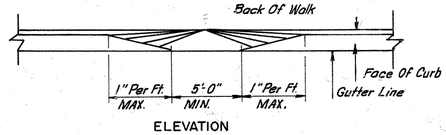
SECTION A-A

ANCHORAGE FOR TERMINAL TREATMENT



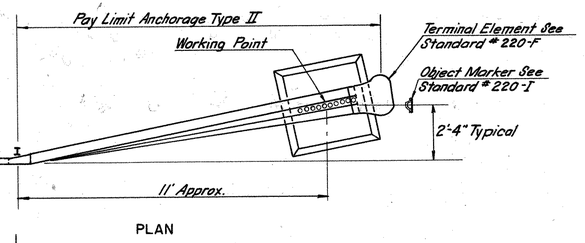


SECTION A-A

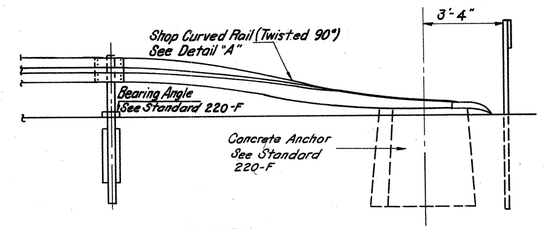


ELEVATION

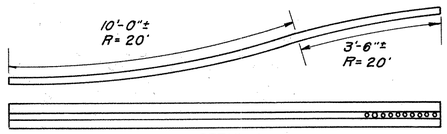
SIDEWALK RAMP



PLAN



ELEVATION



DETAIL A
SHOP CURVED RAIL

R-I CONCRETE END
ANCHORAGE TYPE II

NOTES:

1. Sidewalk Ramps Shall Be Constructed And Paid For Under The Item "Concrete Sidewalk" Except That The Final Texture Of The Ramp Surface Shall Be A Course Broom Finish Transverse To The Slope Of The Ramp
2. Care Shall Be Taken To Assure A Uniform Grade on The Ramp Free Of Sags And Short Grade Changes
3. The Bottom Of The Ramp Shall Meet The Gutter Line At The Curb Face
4. For Details And Dimensions Not Shown, See Standard Sheet No. 222D.
5. All Sidewalk Ramps Shall Be Constructed Of Portland Cement Concrete.

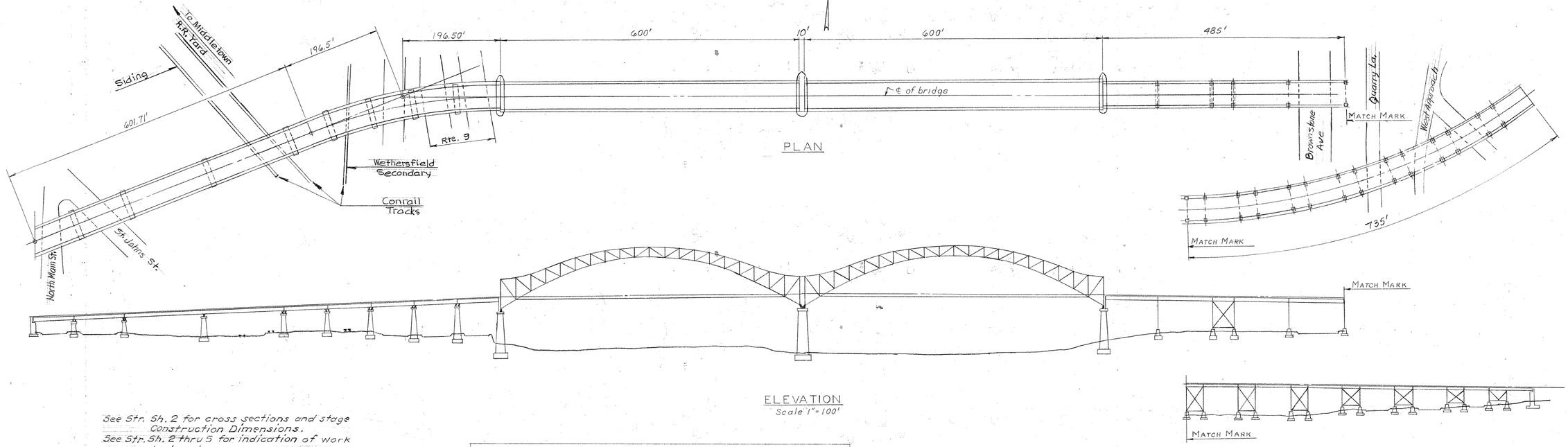
PLAN
NOTEBOOK NO.
Surveyed
Plotted
Traced
Designed
New Const. Noted
Typ. Field Chk. Noted

82 153

473 07

FORM NO. ENG. 15A ED. 1-71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	13	41



PLAN

ELEVATION
Scale 1"=100'

See Str. Sh. 2 for cross sections and stage Construction Dimensions.
See Str. Sh. 2 thru 5 for indication of work to be done.

SEQUENCE OF OPERATIONS

1. Remove Existing Bituminous Overlay * *
2. Eliminate Existing Drains & Patch Deck
3. Install New Scuppers & drainage pipes.
4. Replace existing joints & install PVC Pipe Weepholes.
5. Install Curb barrier and Apply Epoxy Coating.
6. Apply Membrane Waterproofing.
7. Place Bituminous Concrete Wearing Surface, * *
8* Jack Girders, (Pier 4 only) Repair piers and apply epoxy coating to pier caps.
9.* Install Suspender Cable Protection.
10.* Install Safety Cables, ladders, and ladder Cages.
11.* Update Aviation & Navigation Lighting Systems.
12.* Install relief Joints (Roadway Item) * *

*All operations shall be done in accordance with stage Construction details on Str. Sh. 2. Operations 8 thru 11 may progress concurrently with operations 1-7. The contractor may submit an alternate sequence for approval.

* * Work on the approach roadways shall not begin until all construction on the bridge deck is completed. See Details on Structure Sheet 3. Stage Construction shall be similar to that shown on Structure Sheet 2 for the bridge deck.

QUANTITIES

ITEM	UNIT	AMOUNT
Cutting and Sealing Joints in Bituminous Concrete Overlay	L.F.	1100
Bituminous Concrete Wearing Surface	TON	2300
Removal of Existing Bituminous Wearing Surface	S.Y.	17500
Removal of Existing Masonry	C.Y.	250
Removal of Steel Expansion Joints	L.F.	1100
Bridge Scupper - Fiberglas Hopper	Ea.	45
Eliminate Existing Drainage System	L.S.	—
8" Pipe for Bridge Drainage (82-153)	L.F.	1650
Fiberglas Trough	L.F.	360
Elastomeric Expansion Joint Device (Model-250)	L.F.	682
Elastomeric Expansion Joint Device (Model-400)	L.F.	248
Transflex Expansion Joint (Model-650)	L.F.	100
Transflex Expansion Joint (Model-1300)	L.F.	70
Surface Patch	S.F.	270
Class "C" Concrete	C.Y.	140
Partial Depth Patch	Bag	900
Partial Depth Patch (Grid)	Bag	360
Full Depth Patch	C.Y.	30
Jacking Existing Girders - Pier 4	L.S.	—
Clean and Reseal Existing Filled Bridge Joints	L.F.	550
Epoxy Surface Coating - Sidewalks	S.Y.	5000
Epoxy Protective Coating - Pier Caps	S.Y.	1100
3/4" Wire Rope Inspection Cable	L.F.	2200
Suspender Cable Protection	L.S.	—
Deformed Steel Bars	Lb.	30,000
Self Drilling Concrete Anchors	Ea.	6,850
Polyvinyl Chloride Plastic Pipe Weepholes	Ea.	250
Light Concrete for Barrier Curb (Bridge)	C.Y.	350
Structural Steel (82-153)	CWT	12.00
Concrete Cylinder Curing Box	Ea.	1
Protective Compound for Bridges	S.Y.	2850
Membrane Waterproofing (Woven Glass Fabric)	S.Y.	17,300
Remove and Reset Railing Panels	L.F.	440
Welded Studs	EA.	960

For Electrical Details, See Structure Sheet 25
For quantity listing of Electrical pay items See "DETAILED ESTIMATE SHEET"

GENERAL NOTES:

Specifications: Connecticut Department of Transportation Form 811(1974), Interim Specifications and Special Provisions.

Design Specifications: Standard Specifications for Highway Bridges (AASHTO-1973), with the Interim Specifications up to and including 1976, as supplemented by the Connecticut Department of Transportation Bridge Manual (1964).

Allowable Design Stresses: Light Concrete - Based on f'_c = 4000 PSI
Class "C" Concrete - Based on f'_c = 3000 psi
Reinforcement (ASTM A 615 Grade 40) f_s (tensile) = 20,000 psi
" " " (ASTM A 615 Grade 60) f_s (tensile) = 24,000 psi
Structural Steel ASTM A36 Ft = 20,000 psi All thicknesses.
" " ASTM A588 Ft = 27,000 psi " "

Class "C" Concrete: Class "C" Concrete shall be used for the item "full Depth Patch" for restoration of Piers 1 & 4, for headers around scuppers and at expansion joints where indicated on the plans.

Joint Seal: See Special Provisions.

Reinforcement: Grade 60 bars may be substituted for grade 40 bars. Size and spacing shall be the same as for grade 40 bars.

Decimal Dimensions: When dimensions are given to less than three decimal places, the omitted digits shall be assumed to be zeros.

Stage Construction: The Contractor shall complete all work in one stage before beginning work in any subsequent stage unless otherwise directed by the Engineer.

Traffic: All work shall be done in accordance with the special provision "Limitation of Operations" and "Maintenance and protection of Traffic".

Paint: Paint shall Conform to the requirements of article 6.03.03-62c, "Colored Finish Vinyl System". The color of the final field coat of paint on the structural steel shall match the Department's Standard Bridge Color No. 506 (Green).

Future Paving Allowance: None.

Structural Steel: See Structure Sheets 10-24 for ASTM designations.

Quantities: The quantities "Partial Depth Patch" and "Partial Depth Patch (Grid)" have been estimated as 10% of the respective deck areas. See ☑ Note on Structure sheets 3, 4 and 5. The Item "Full Depth Patch" shall be used at scuppers as shown on Str. Sh. 12 and in unassigned areas of the decks as directed by the Engineer.

(THIS SHEET NOT CORRECTED)

INSPECTION OF FIELD WELDS		
METHOD	UNIT	QUANTITY
Radiographic or ultrasonic	in.	0
Ultrasonic	in.	0
Magnetic Particle	L.F.	0

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

GENERAL PLAN

ENGINEER	BRIDGE DESIGN UNIT
APPROVED	DATE 6/28/77
DRAFTSMAN T.S.R.	CHECKER W.S.C. DESIGNER W.S.C.
STRUCTURE NO. 82-153-00524	STRUCTURE SHEET 1 OF 25

BRUNING 44-131 23530

82 153

473 07

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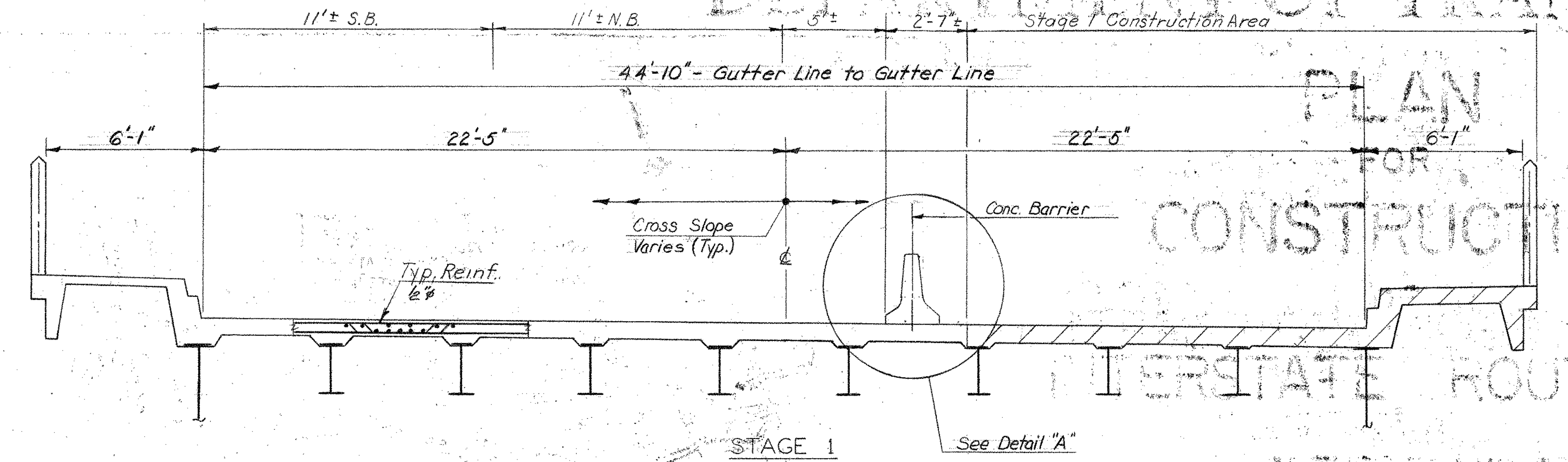
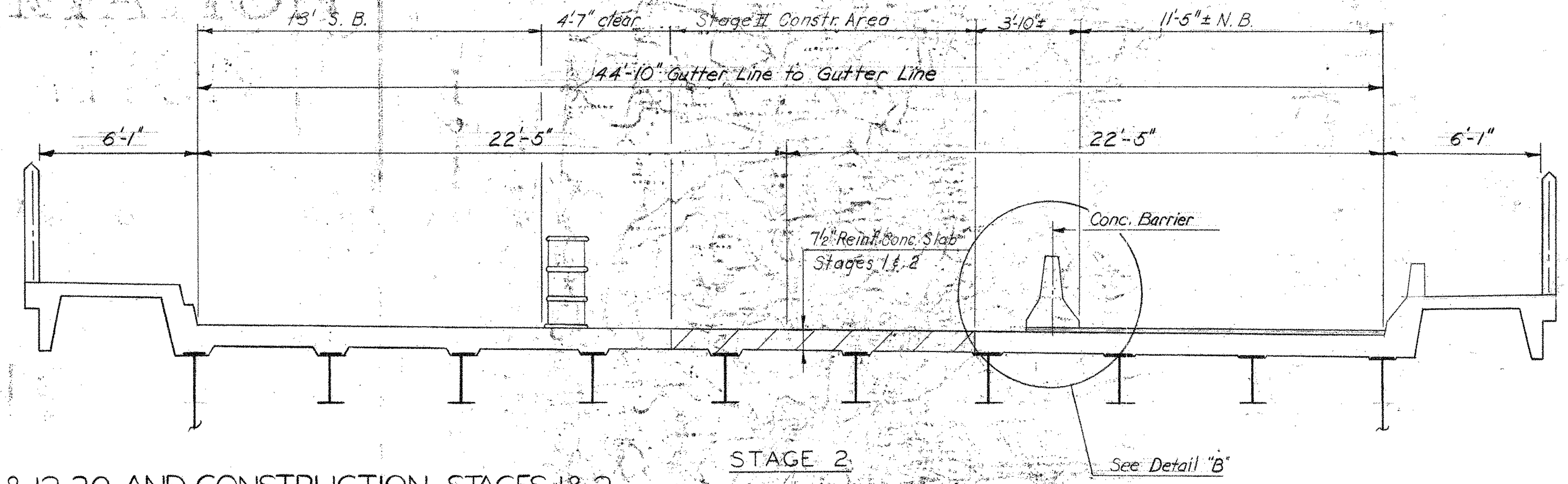
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	14	41

(THIS SHEET NOT CORRECTED)



STAGE 1

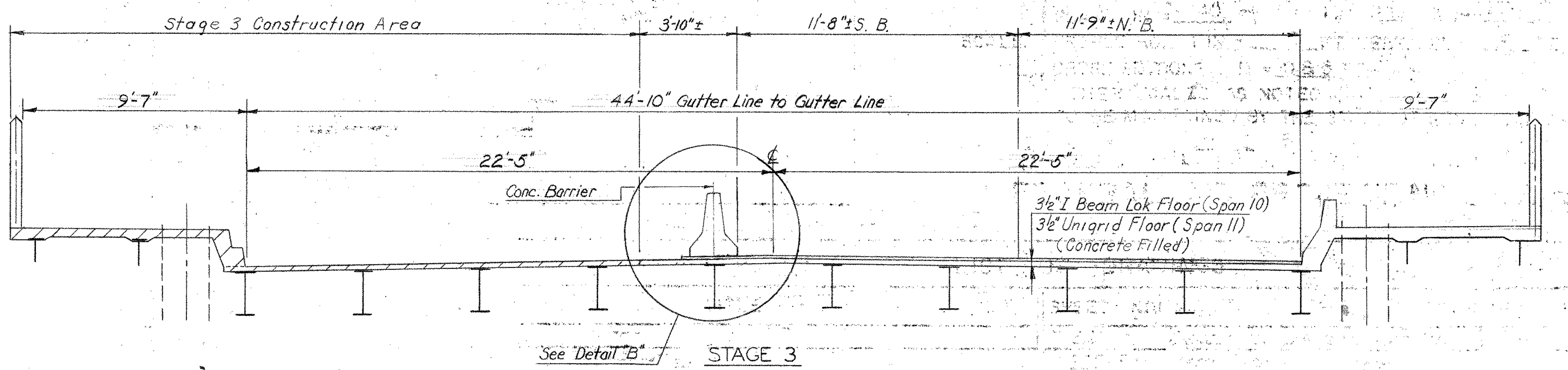


STAGE 2

TYPICAL CROSS SECTIONS SPANS 1-9 & 12-30 AND CONSTRUCTION STAGES 1 & 2

Scale: ¼" = 1'-0"

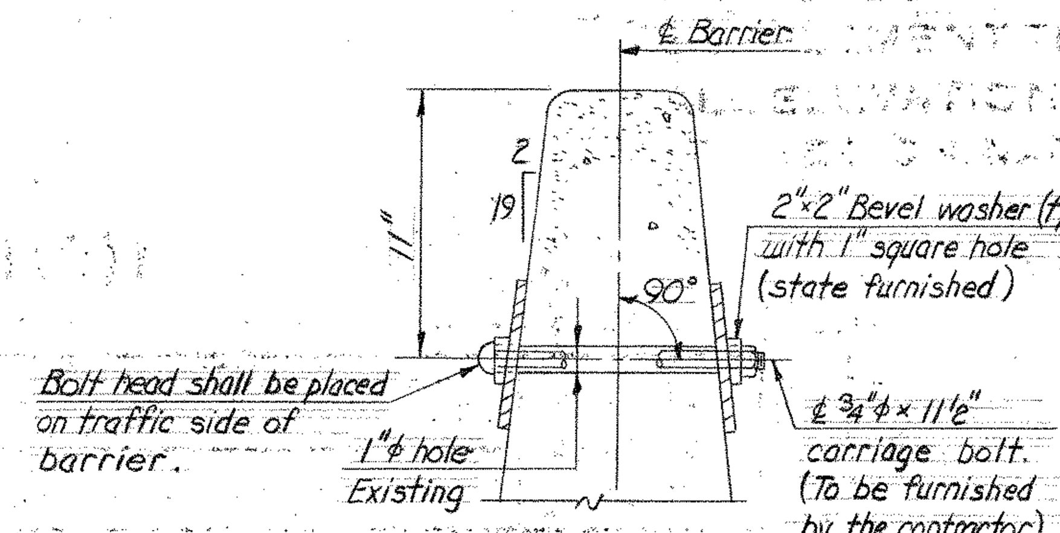
Notes:
Each construction stage shown is typical for the entire length of the structure.
Dimensions shown on this sheet are based on details shown on original contract plans.
Field conditions may vary.
For Sequence of Operations, See Str. Sh. 1.
For listing of work to be done; See Str. Sh's. 3-5.
For further cross section details see Str. Sht. 21 and supplementary sheets
For "as built" profiles along ℄ and gutter lines, see supplementary sheets



STAGE 3

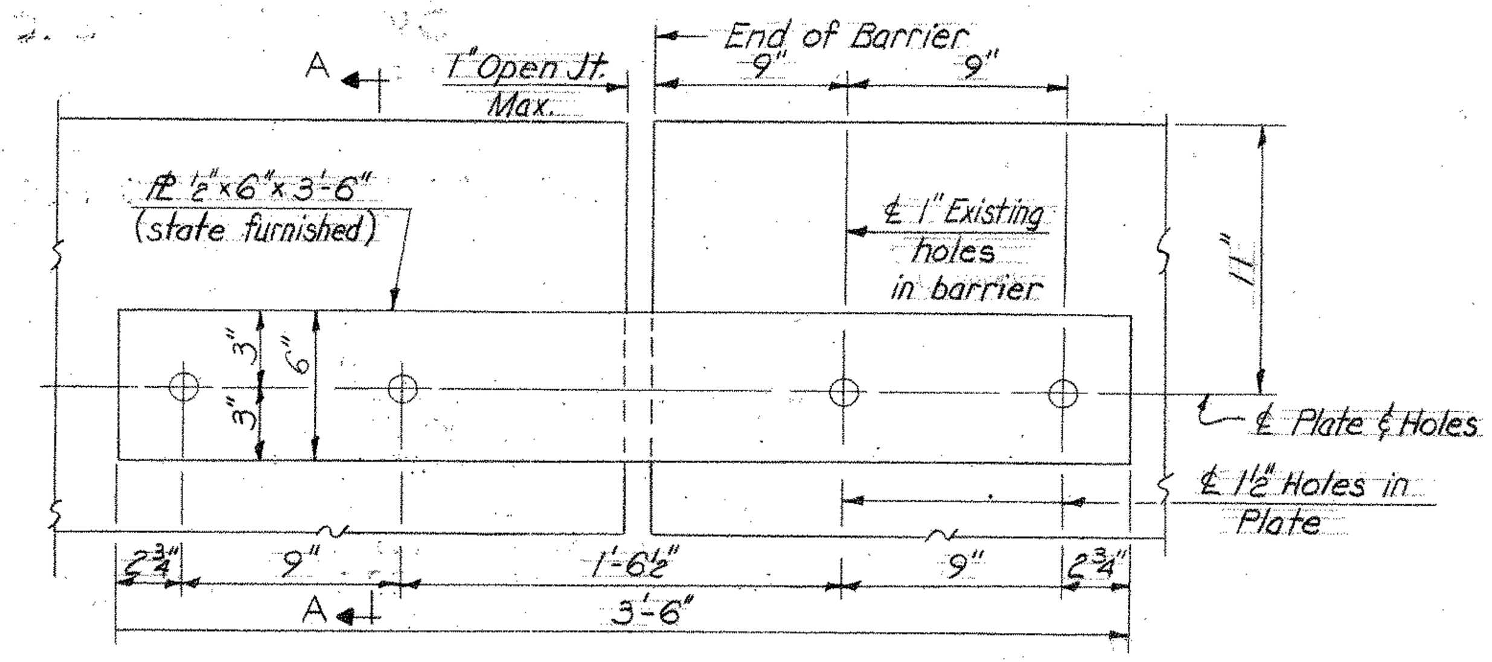
TYPICAL CROSS SECTION SPANS 10 & 11 AND CONSTRUCTION STAGE 3

Scale: ¼" = 1'-0"



SECTION A-A

Scale: 1½" = 1'

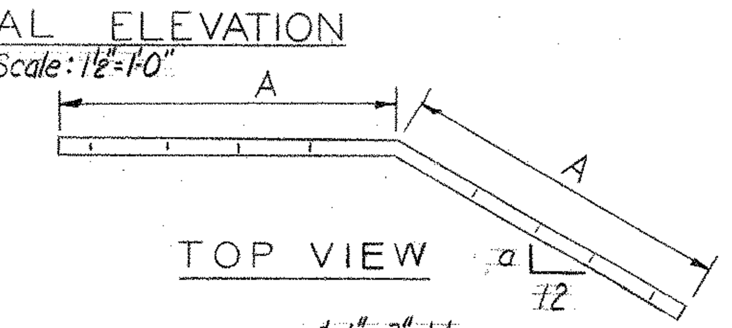


PARTIAL ELEVATION

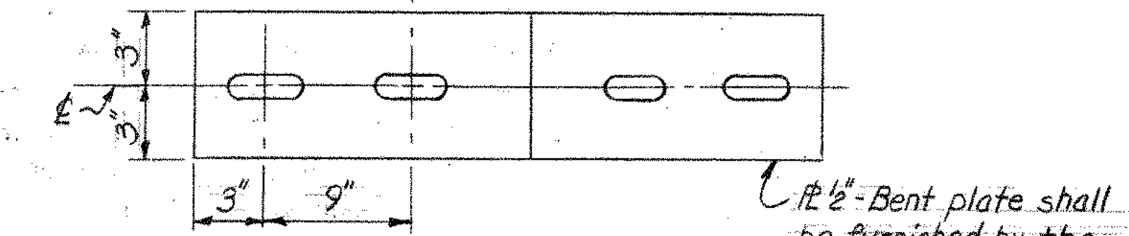
Scale: 1½" = 1'-0"

Concrete barrier units, ½"×6"×3'-6" plates, beveled washers and nuts will be state furnished.
The contractor shall transport, install, relocate and remove the barrier as required. The contractor shall furnish the ¾"×11½" carriage bolts and the bent plates as detailed on this sheet.
See traffic control plans and special provisions for further details.

A	a	No. Req'd
1'-9"	3"	24
2'-0"	3"	24



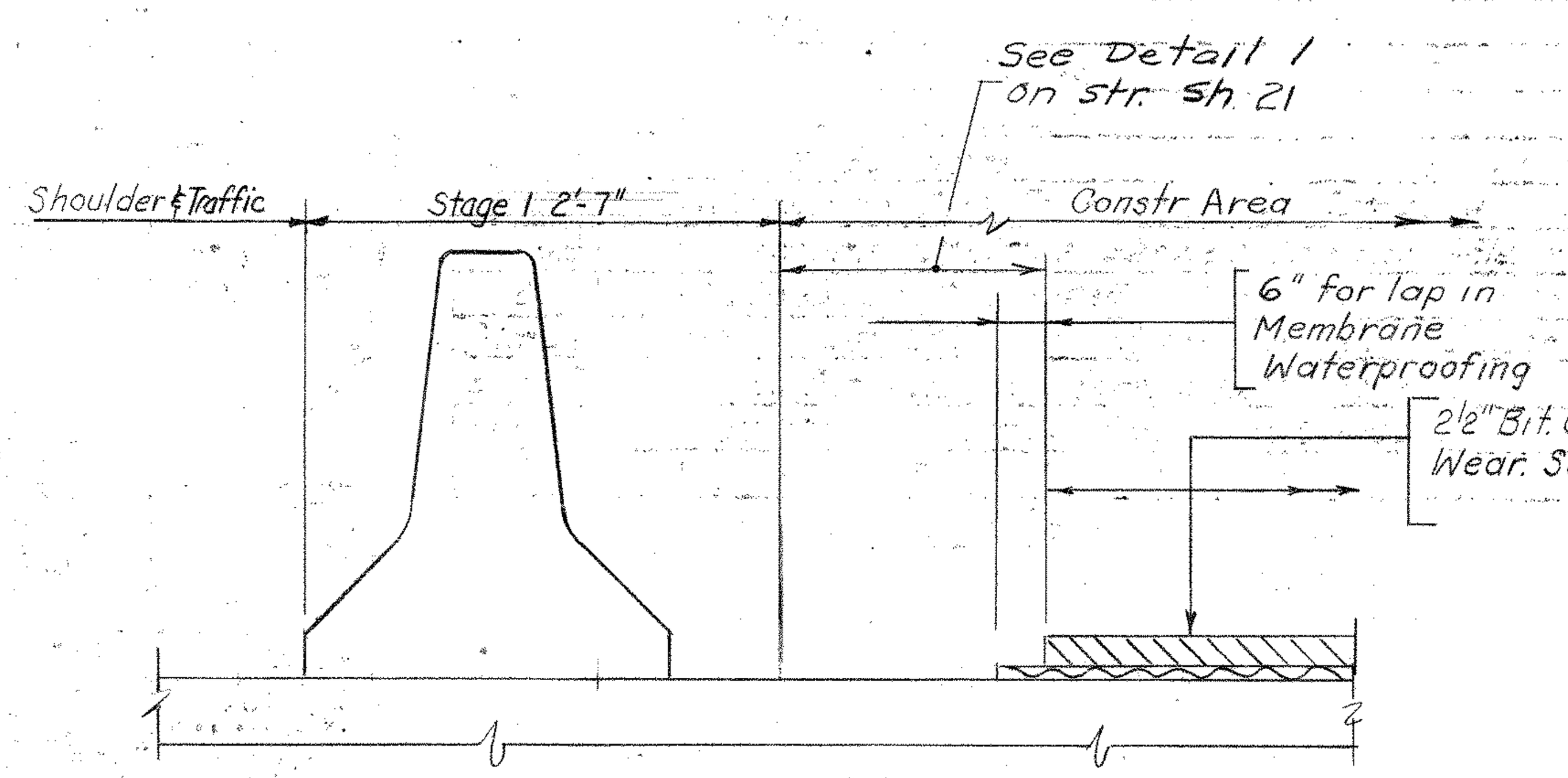
TOP VIEW



ELEVATION

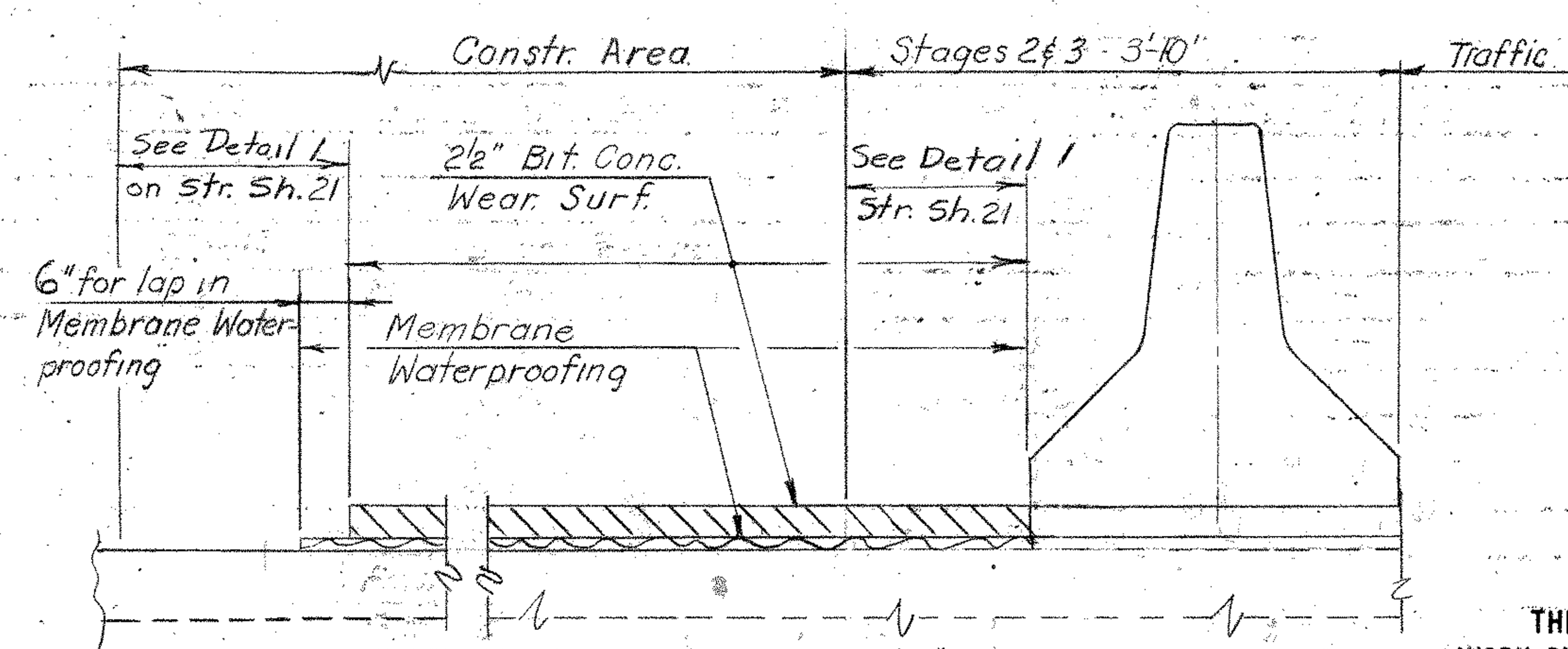
BENT PLATE DETAIL

BARRIER CONNECTION DETAILS



DETAIL "A"

Stage 1



DETAIL "B"

Stages 2 & 3

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
REVISIONS		

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

CROSS SECTIONS AND STAGE CONSTRUCTION

ENGINEER	BRIDGE DESIGN UNIT		
DESIGNER W.S.C.	DRAFTSMAN J.J.C.		CHECKER W.S.C.
APPROVED [signature]			DATE 6/28/77
STRUCTURE NO. 82-153-00524		BRIDGE LOG NO. 00524	STRUCTURE SHEET NO. 2 of 25

82 153

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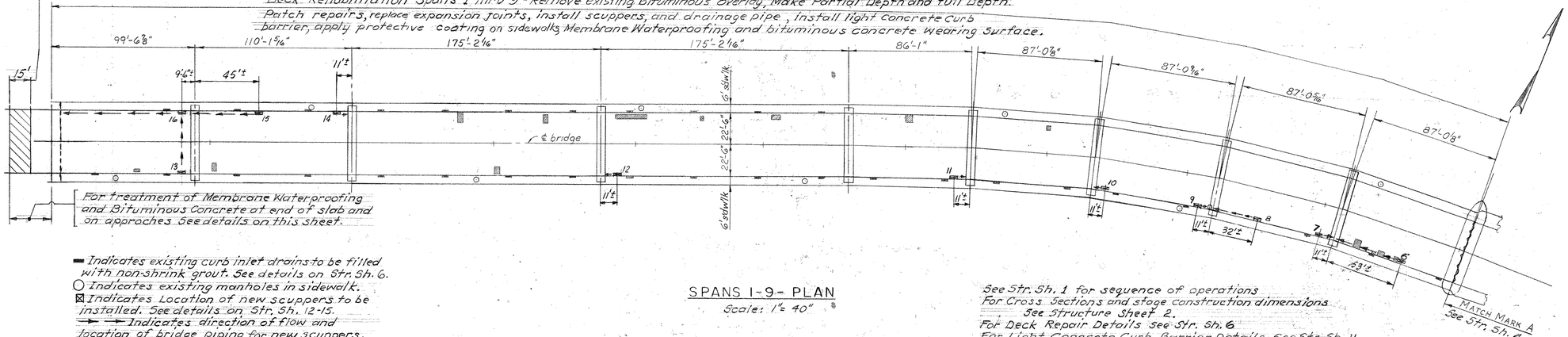
FORM NO. ENG. 15A ED. 1-71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FV-22(104)	82-153	1977	66	15	41

THIS SHEET NOT CORRECTED

Install Relief Joint- See details on this sheet.

Deck Rehabilitation Spans 1 thru 9- Remove existing bituminous overlay, Make Partial Depth and full Depth Patch repairs, replace expansion joints, install scuppers, and drainage pipe, install light concrete curb barrier, apply protective coating on sidewalks, Membrane Waterproofing and bituminous concrete wearing surface.



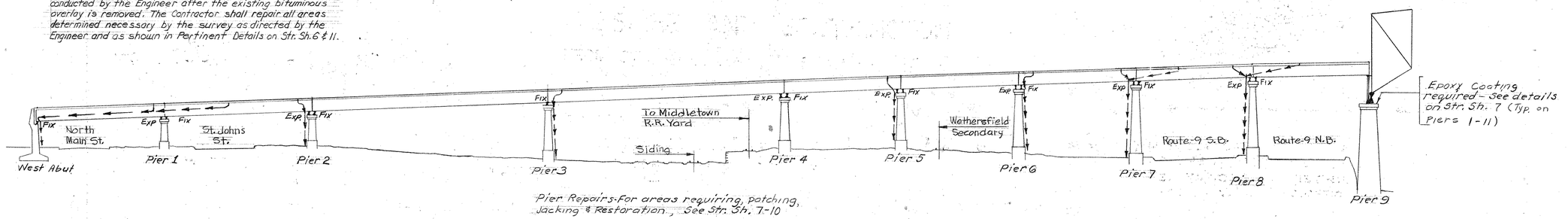
DECK JOINTS

Sliding Plate Joints over Piers 1, 2, 4, 5, 6, 7 and 8. See details on Str. Sh. 6
Finger Joint over Pier 9. See details on Str. Sh. 20, 21, 22 & 24

▬ Indicates existing curb inlet drains to be filled with non-shrink grout. See details on Str. Sh. 6.
○ Indicates existing manholes in sidewalk.
☒ Indicates Location of new scuppers to be installed. See details on Str. Sh. 12-15.
→→ Indicates direction of flow and location of bridge piping for new scuppers. See details on Str. Sh's. 13-15.
▨ Indicates possible deck and sidewalk repair areas. Exact locations and extent of areas to be repaired under the items "Partial Depth Patch" & "Full Depth Patch" will be determined by a survey conducted by the Engineer after the existing bituminous overlay is removed. The Contractor shall repair all areas determined necessary by the survey as directed by the Engineer and as shown in Pertinent Details on Str. Sh. 6 & 11.

SPANS 1-9- PLAN
Scale: 1"= 40'

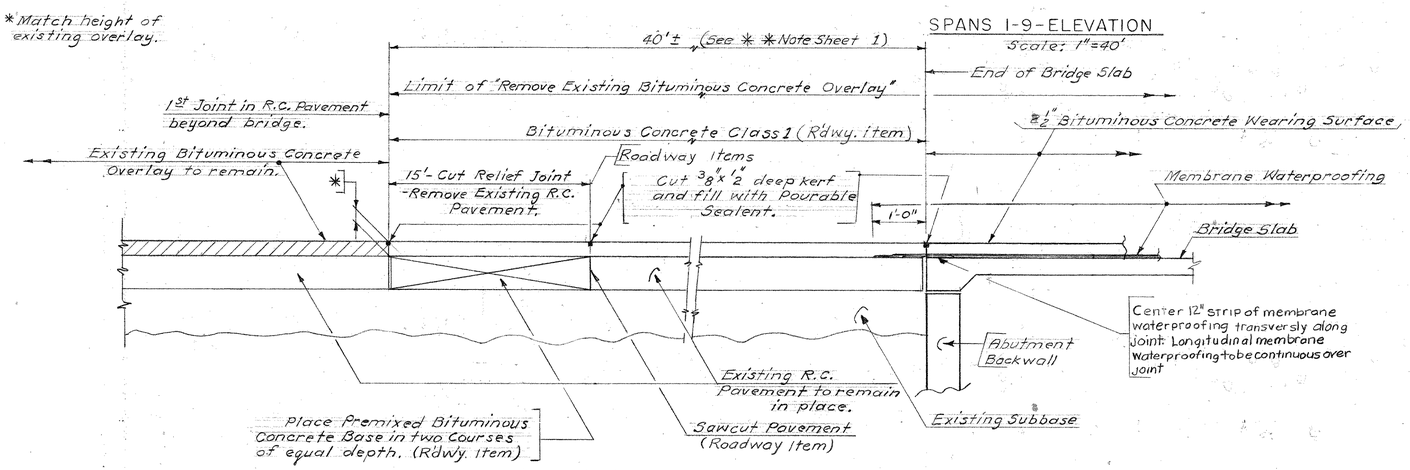
See Str. Sh. 1 for sequence of operations
For Cross Sections and stage construction dimensions See Structure Sheet 2.
For Deck Repair Details See Str. Sh. 6
For Light Concrete Curb Barrier Details See Str. Sh. 11.
For installation of 1½" ϕ PVC Plastic Pipe Weepholes, See Str. Sh. 6.



Pier Repairs-For areas requiring, patching, Jacking & Restoration, See Str. Sh. 7-10

SPAN 1 | SPAN 2 | SPAN 3 | SPAN 4 | SPAN 5 | SPAN 6 | SPAN 7 | SPAN 8 | SPAN 9

SPANS 1-9-ELEVATION
Scale: 1"=40'



DETAILS OF PRESSURE RELIEF JOINT & DETAILS ON APPROACHES.
(WEST END SHOWN- EAST END OPPOSITE HAND)
Not to Scale.

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NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

BRIDGE- SPANS- 1- 9

ENGINEER Bridge Design Unit
APPROVED [signature] DATE 6/28/77
DRAFTSMAN T.S.R. CHECKER W.S.C. DESIGNER W.S.C.
STRUCTURE NO. 82-153-00524 STRUCTURE SHEET 3 OF 25

BRUNING 44-131 23530

82 153

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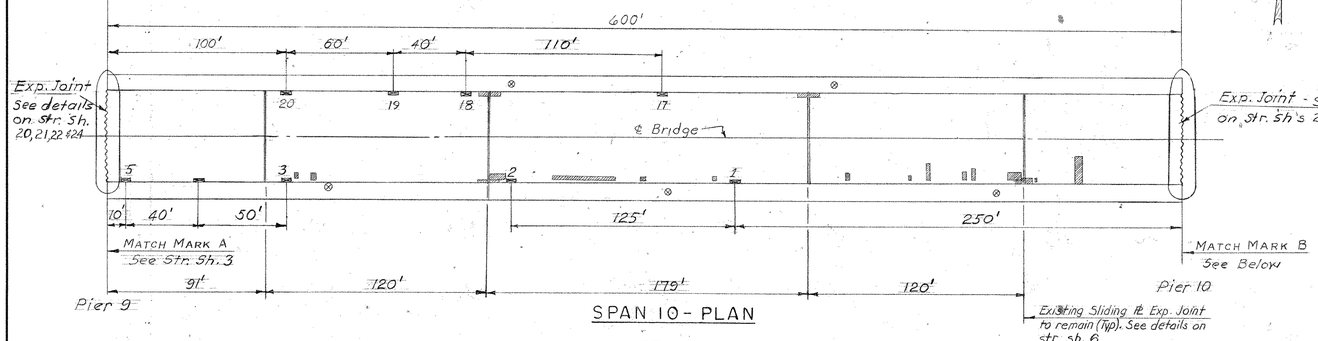
15

FORM NO. ENG. 15A ED. 1/71

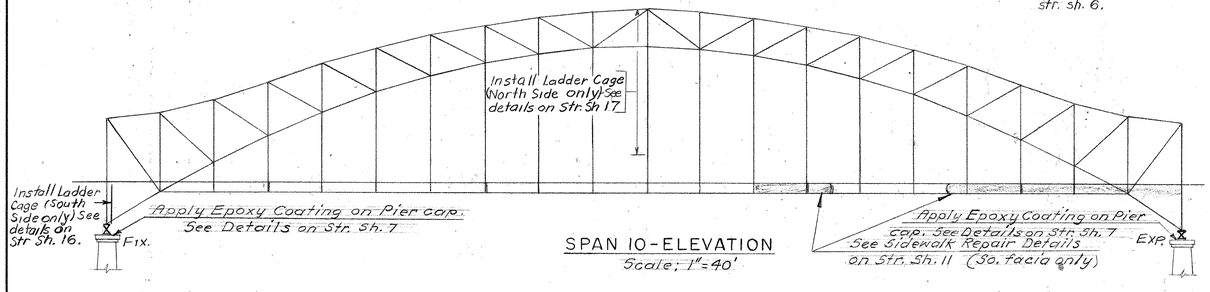
F.H.W.A. DIV. DIT.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	16	41

THIS SHEET NOT CORRELATED

Remove existing bituminous overlay, replace exp. joints, Install Suspender Cable Protection, make patch repairs, Update Aviation and Navigation Lighting, Install Scuppers & Place Membrane Waterproofing and Bit. Conc. Wearing Surface, install ladders, Cages and Safety Cables. Install light Concrete curb barrier and Apply protective coatings to pier caps and sidewalks.

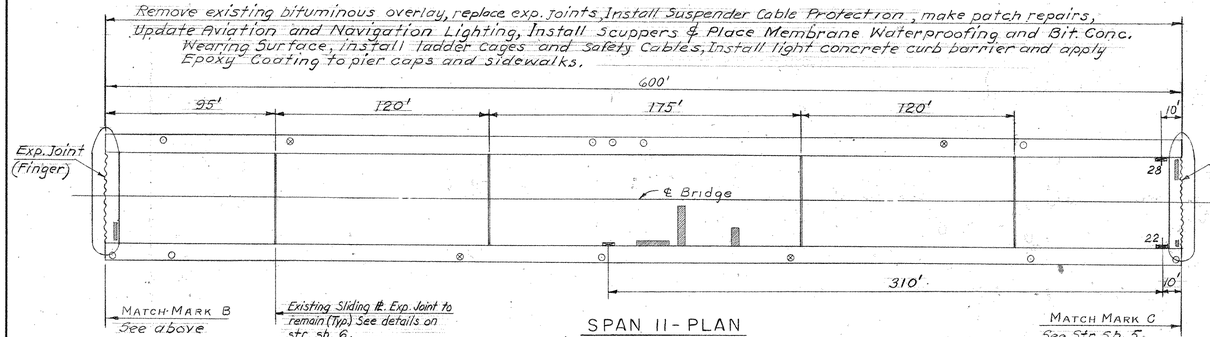


SPAN 10 - PLAN

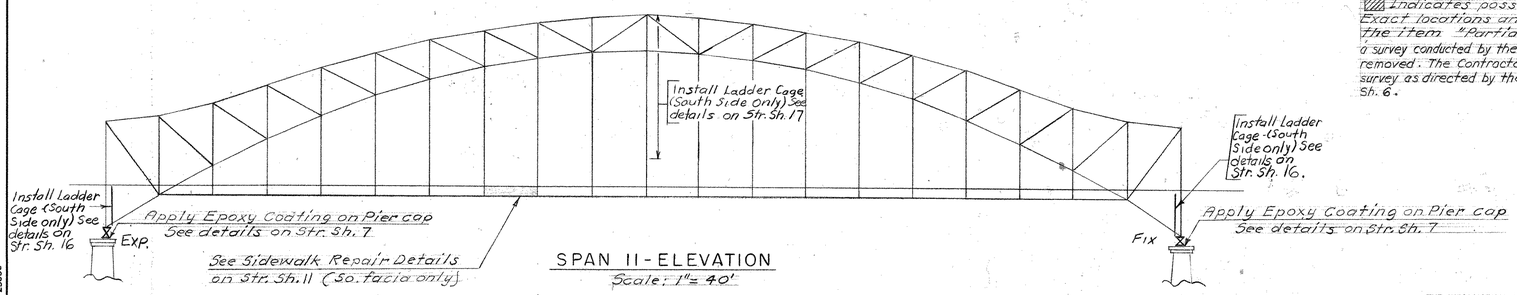


SPAN 10 - ELEVATION
Scale: 1" = 40'

Remove existing bituminous overlay, replace exp. joints, Install Suspender Cable Protection, make patch repairs, Update Aviation and Navigation Lighting, Install Scuppers & Place Membrane Waterproofing and Bit. Conc. Wearing Surface, install ladder Cages and Safety Cables, Install light concrete curb barrier and apply Epoxy Coating to pier caps and sidewalks.



SPAN 11 - PLAN



SPAN 11 - ELEVATION
Scale: 1" = 40'

▨ Indicates location of new scuppers, See details on Str. Sh. 12-15.
○ Indicates location of existing manholes.
⊗ Indicates locations where access ladders to Eye-Bars will be installed. See Str. Sh. 18.

For installation of 1'2" ϕ PVC Plastic Pipe Weepholes, See Str. Sh. 6.
For Light Concrete Curb Barrier Detail See Str. Sh. 11
For Sequence of operations, See Str. Sh. 1.
For Stage Construction and Cross Sections, See Str. Sh. 2.
For Joint details, See Str. Sh's. 6 & 20-24
For Deck Repair Details, See Str. Sh. 6
For Aviation and Navigation Lighting and Electrical Details See Str. Sh. 25
For Suspender Cable Protection Details, See Str. Sh. 18.
For Details of Ladders, Cages, and safety cables, See Str. Sh. 16 - 19
▨ Indicates possible deck repair areas.
Exact locations and extent of areas to be repaired under the item "Partial Depth Patch (grid)" will be determined by a survey conducted by the Engineer after the existing bituminous overlay is removed. The Contractor shall repair all areas determined necessary by the survey as directed by the Engineer and as shown in Pertinent Details on Str. Sh. 6.

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NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

BRIDGE SPANS 10 & 11

ENGINEER	BRIDGE DESIGN UNIT
APPROVED	W. A. Johnson — DATE 6/28/77
DRAFTSMAN T.S.R.	CHECKER W.S.C. — DESIGNER W.S.C.
STRUCTURE NO.	82-153-00524 — STRUCTURE SHEET 4 OF 25

BRUNING 44131 2350

82 153

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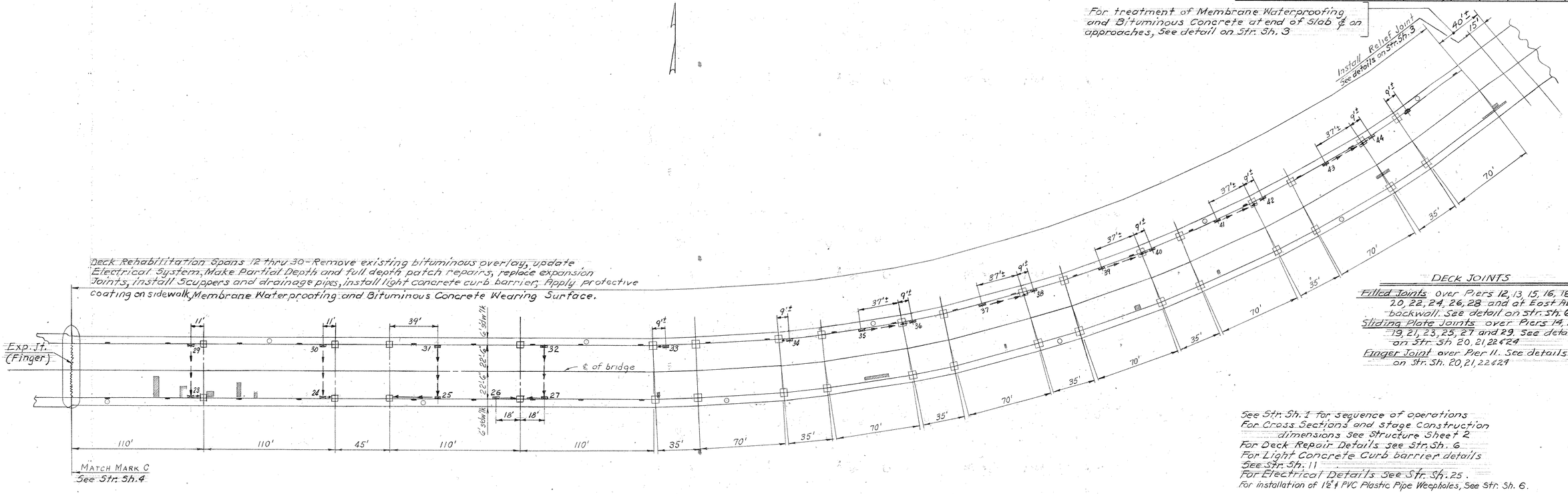
FORM NO. ENG. 15A ED. 1-71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	17	41

For treatment of Membrane Waterproofing and Bituminous Concrete at end of Slab & on approaches, See detail on Str. Sh. 3

Deck Rehabilitation Spans 12 thru 30 - Remove existing bituminous overlay, update Electrical System, Make Partial Depth and full depth patch repairs, replace expansion Joints, Install Scuppers and drainage pipes, install light concrete curb barriers, Apply protective coating on sidewalk, Membrane Waterproofing and Bituminous Concrete Wearing Surface.



DECK JOINTS

Filled Joints over Piers 12, 13, 15, 16, 18, 20, 22, 24, 26, 28 and at East Abut. backwall. See detail on Str. Sh. 6

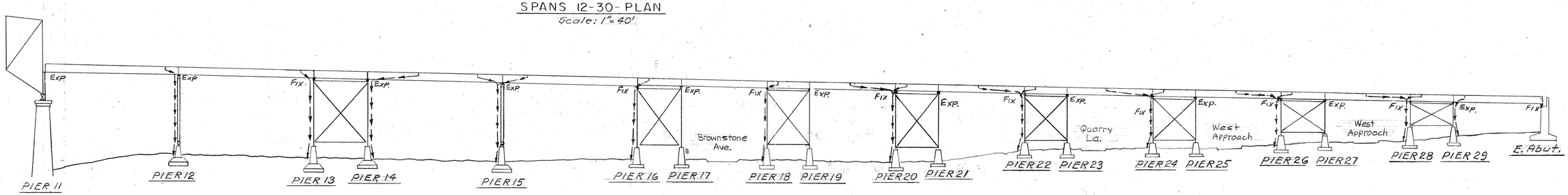
Sliding Plate Joints over Piers 14, 17, 19, 21, 23, 25, 27 and 29. See details on Str. Sh 20, 21, 22 & 24

Finger Joint over Pier 11. See details on Str. Sh. 20, 21, 22 & 24

See Str. Sh. 1 for sequence of operations
For Cross Sections and stage Construction dimensions See Structure Sheet 2
For Deck Repair Details see Str. Sh. 6
For Light Concrete Curb barrier details See Str. Sh. 11
For Electrical Details See Str. Sh. 25.
For installation of 1½" ϕ PVC Plastic Pipe Weepholes, See Str. Sh. 6.

SPANS 12-30 - PLAN

Scale: 1" = 40'



SPANS 12-30 - ELEVATION

Scale: 1" = 40'

■ Indicates existing curb inlet drains to be filled with non-shrink grout. See details on Str. Sh. 6

○ Indicates existing manholes in sidewalk.

☒ Indicates location of new scuppers to be installed. See details on Str. Sh. 12-15

→→ Indicates direction of flow and location of bridge piping for new scuppers. See details on Str. Sh's 12 thru 15

▨ Indicates possible deck & sidewalk repair areas. Exact locations and extent of areas to be repaired under the items "Partial Depth Patch" "Full Depth Patch" will be determined by a survey conducted by the Engineer after the existing bituminous overlay is removed. The Contractor shall repair all areas determined necessary by the survey as directed by the Engineer and as shown in Pertinent Details on Str. Sh. 6 & 11

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

BRIDGE - SPANS 12-30

ENGINEER BRIDGE DESIGN UNIT
APPROVED W. Q. Johnson DATE 6/28/77
DRAFTSMAN G.O.K. CHECKER W.S.C. DESIGNER W.S.C.
STRUCTURE NO. 82-153-00524 STRUCTURE SHEET 5 OF 27

BRUNING 44-131 23530

82 153

473 07

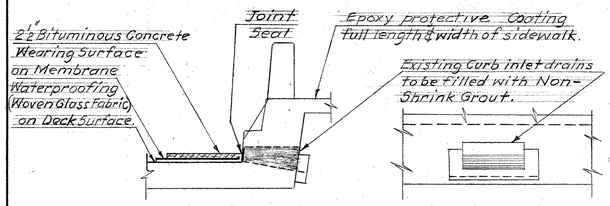
17

FORM NO. ENG. 15 A ED. 1/71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	18	41

REMOVAL OF EXISTING TROUGHS & DOWNSPOUTS

Substructure Unit	Items to be Removed	Disposition @ Ground Line
West Abutment	Troughs from span 1 (No.& So.Facias) Metal downspouts & C.I. Pipes.	No. Side -Connect to new drainage pipe from the Structure So. " - Plug
Pier 2	Troughs from span 3 (No.& So.Facias) Metal downspouts (So. Only) & C.I. Pipes (No.& So.)	No. Side -Connect to new drainage pipe from the Structure So. " - Plug.
" 6	Troughs from span 7 (So.Facias Only) Metal downspouts & C.I. Pipe (So. Only)	connect to new drainage pipe from the Structure
" 7	Troughs from Span 8 (So. Facia Only) Metal downspouts & C.I. Pipe (So. Only)	Connect to new drainage pipe from the Structure
" 16	Troughs from Span 16 (No.& So.Facias) Metal downspouts & C.I. Pipes.	N. Side - See Roadway Plans S. Side - Plug.
" 28	Troughs from Span 28 (No. Facia only) Metal downspouts & C.I. Pipe (No. Only)	Plug.

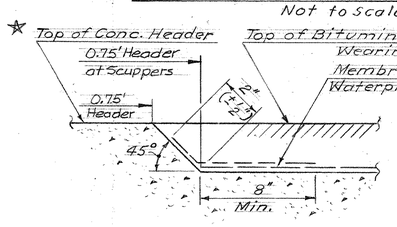


ELIMINATE EXISTING DRAINAGE SYSTEM

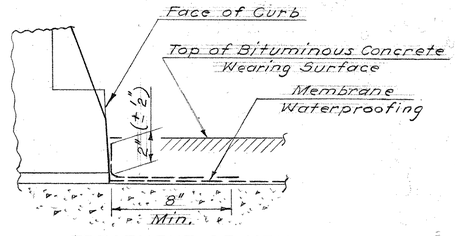
Not to Scale

Existing troughs and pipes shall be removed from the superstructure & substructure units. Pipes not being reconnected for new drainage pipes from the Structure shall be plugged at ground line (See table). Cost of this work shall be included in the item "Eliminate Existing Drainage System".

For location of existing curb drains See Str. Sh's 3 & 5.
For new drainage system See Str. Sh's 12-15.



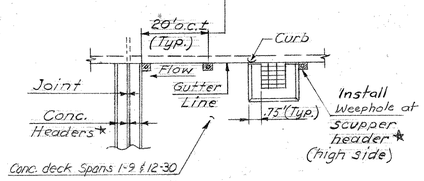
TREATMENT OF MEMBRANE WATERPROOFING AT HEADERS



TREATMENT OF MEMBRANE WATERPROOFING AT GUTTER

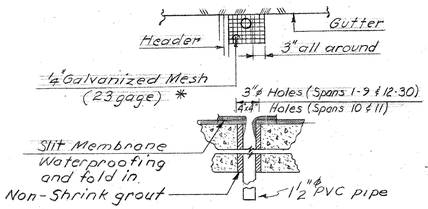
★ Place "Protective Compound for Bridges" on exposed surfaces of all headers at new expansion joints and scuppers.

Install Polyvinyl Chloride (PVC) Plastic Pipe Weepholes. Locate in field to clear floorbeams & lateral bracing.

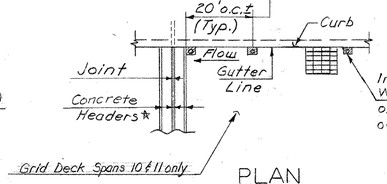


PLAN
(SPANS 1-9 & 12-30)

Do not install PVC pipe Weepholes in spans 1, 2, 5, 8, 9, 16, 26 & 28.

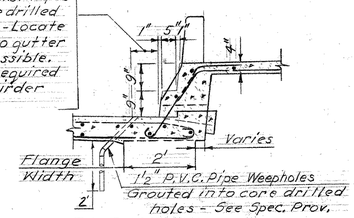


Install Polyvinyl Chloride Plastic Pipe Weepholes. Locate in field to clear floorbeams & lateral bracing.



PLAN
(SPANS 10 & 11)

3"ø holes for PVC. Pipes to be core drilled thru slab - Locate as close to gutter line as possible. Angle as required to clear girder flange.

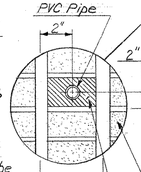


ELEVATION
(SPANS 1-9 & 12-30)

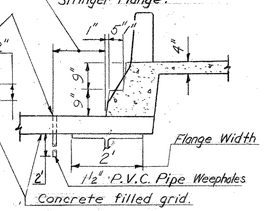
DETAIL THRU DECK

Note: 1½" PVC pipe weepholes shall be installed thru slab along the gutter at 20' t.o.c., at headers around joints and at headers on high side of scuppers.

★ The cost of furnishing and installing the ¼" galvanized mesh and grout shall be included in the contract bid price each for "Polyvinyl Chloride Plastic Pipe Weepholes."



Determine in field to clear Stringer Flange.

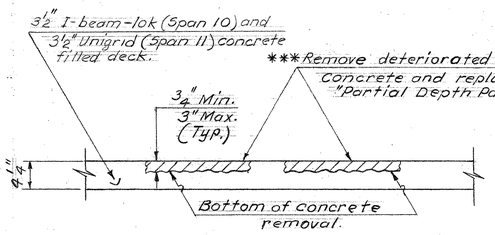


ELEVATION
(SPANS 10 & 11)

Remove existing conc. and grout PVC pipe into grid. Cut hole in existing steel deck forms to allow pipe to pass through. Cost shall be included in the contract bid price each for "Polyvinyl Chloride Plastic Pipe Weepholes."

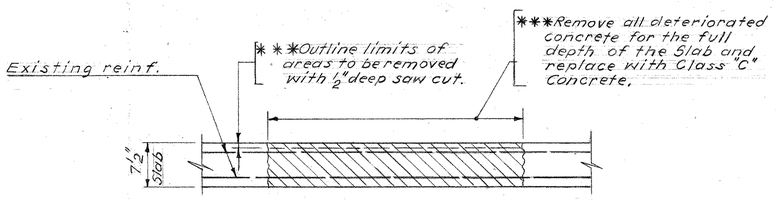
WEEPHOLE DETAILS

Not to Scale



PARTIAL DEPTH PATCH - GRID

SPANS 10 & 11 ONLY
Scale: 1"=1'-0"

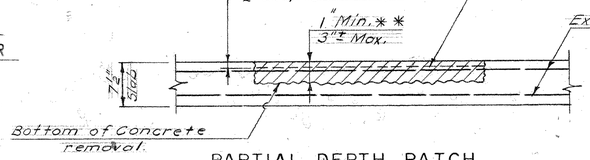


FULL DEPTH PATCH

SPANS 1-9 & 12-30
Scale: 1"=1'-0"

★★Outline limits of areas to be removed with ½" deep saw cut.

★★★Remove deteriorated Concrete and replace with "Partial Depth Patch".

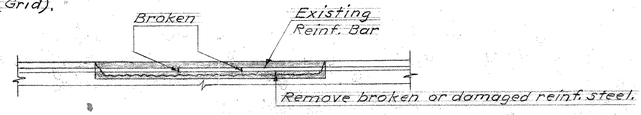


PARTIAL DEPTH PATCH

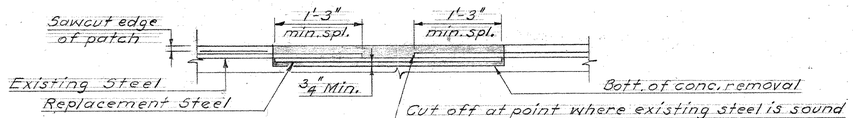
SPANS 1-9 & 12-30
Scale: 1"=1'-0"

★★Locations and limits of deteriorated areas to be removed and replaced shall be determined by the Engineer after existing bituminous overlay is removed. Cost of ½" depth sawcuts shall be included in the items "Partial Depth Patch" and "Full Depth Patch" as required. Do Not Sawcut for "Partial Depth Patch (Grid)".

★★If after concrete removal the reinforcing has at least one half of the top bar area exposed, the concrete shall be further removed to depth of ¾" below the top bars.



SECTION OF CONCRETE REMOVAL AREA SHOWING EXISTING REINF. STEEL

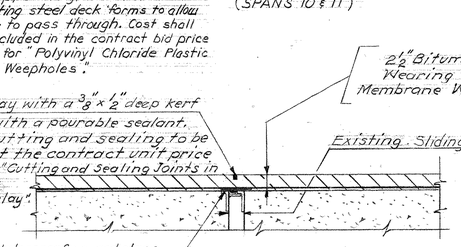


SECTION SHOWING REPAIR

DEFORMED STEEL BARS

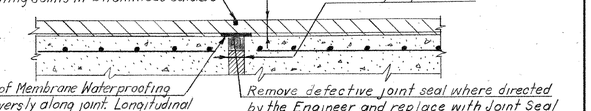
SPANS 1-9 & 12-30

Cut overlay with a ⅜" x ½" deep kerf and fill with a pourable sealant. Cost of cutting and sealing to be paid for at the contract unit price per foot for "Cutting and Sealing Joints in Bituminous Concrete Overlay".



TYPICAL SECTION - SLIDING PLATE JOINTS IN SPANS 10 & 11

Cut overlay with a ⅜" x ½" deep kerf and fill with a pourable sealant. Cost of cutting and sealing to be paid for at the contract unit price per foot for "Cutting and Sealing Joints in Bituminous Concrete Overlay."



TYPICAL SECTION - JOINT OVER PIERS 12, 13, 15, 16, 18, 20, 22, 24, 26, 28.

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NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE

OVER

CONNECTICUT RIVER

DECK REPAIR DETAILS

ENGINEER	Bridge Design Unit		
APPROVED		DATE	6/28/77
DRAFTSMAN G.O.K.	CHECKER W.S.C.	DESIGNER	W.S.C.
STRUCTURE NO. 82-153-00524		STRUCTURE SHEET	6 OF 25

BRUNING 44-131 23530

82 153

473 07

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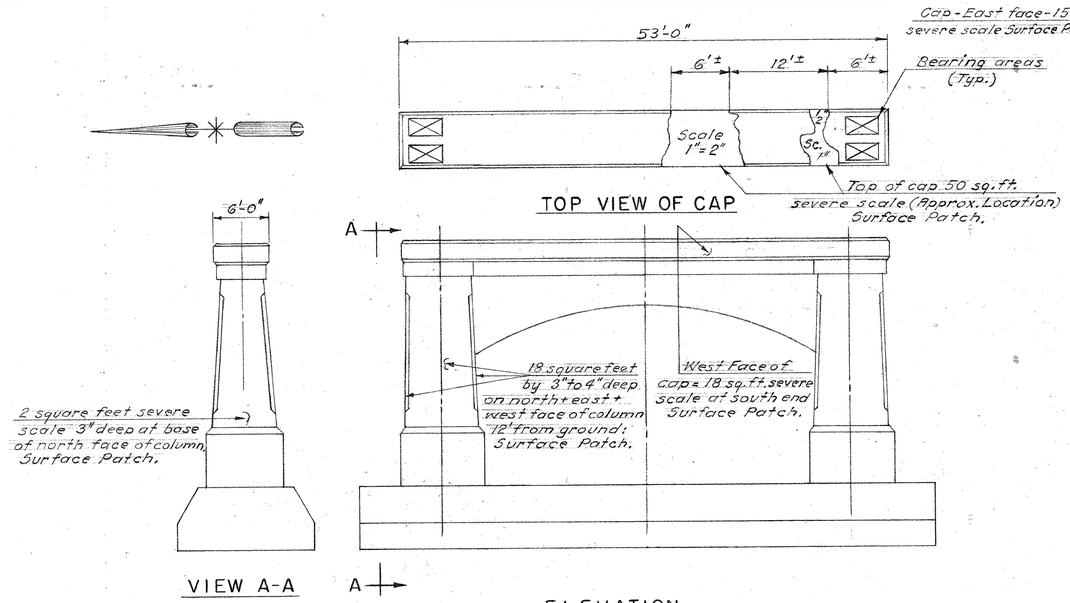
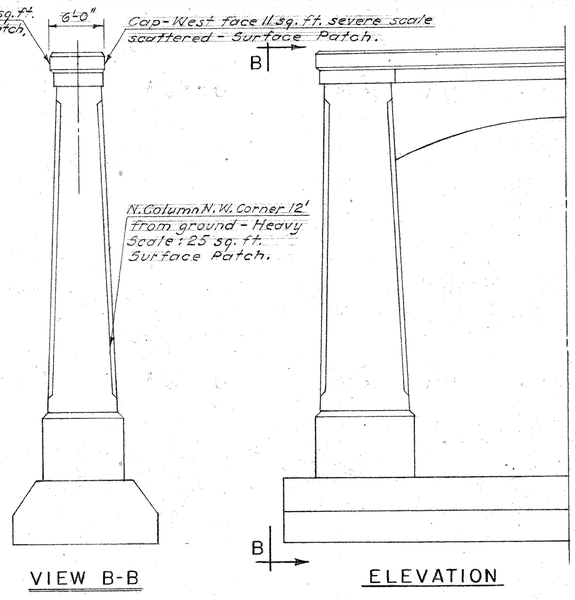
FORM NO. ENG. 15A ED. 1-75

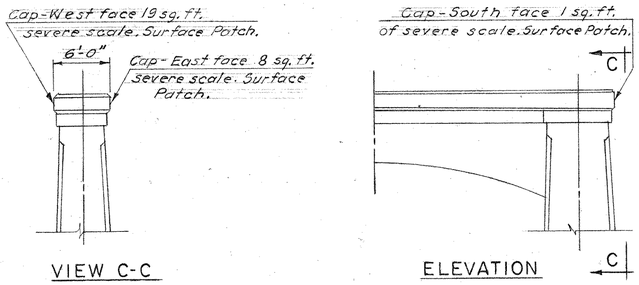
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	19	41



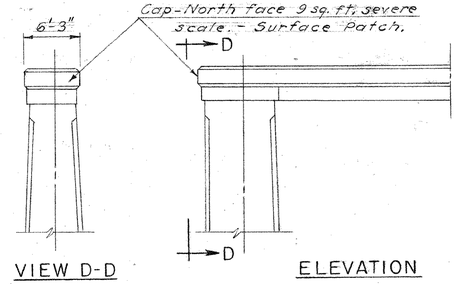
PATCHING-PIER NO.2



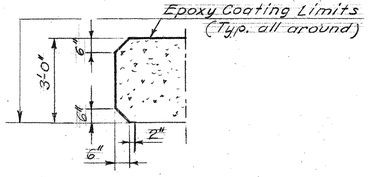
PATCHING-PIER NO.5



PATCHING-PIER NO. 6

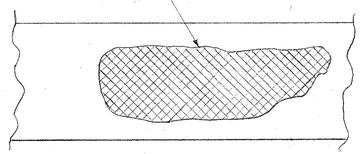


PATCHING-PIER NO.7



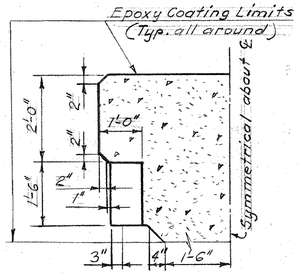
COPING DETAIL PIERS 9,10,11.

Remove all loose concrete from area and repair with Cement Mortar. - See Special Provision "Surface Patch" and Note A.



SURFACE PATCH DETAIL

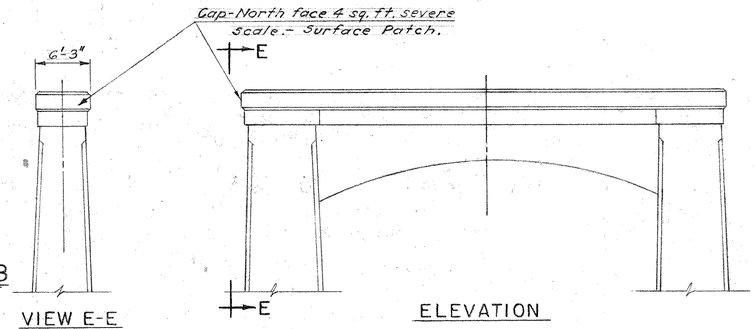
Not to Scale



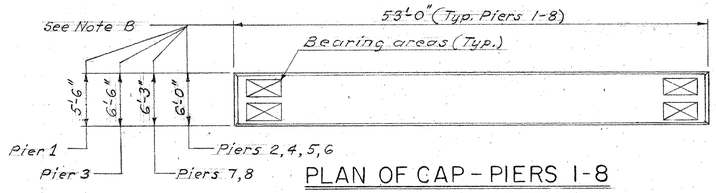
COPING DETAIL PIERS 1-8

Note A

Areas so indicated on this sheet and any other areas on the pier caps and columns so designated by the Engineer shall be repaired by "Surface Patch". Exact locations and limits of areas shall be determined by the Engineer during construction.



PATCHING-PIER NO.8

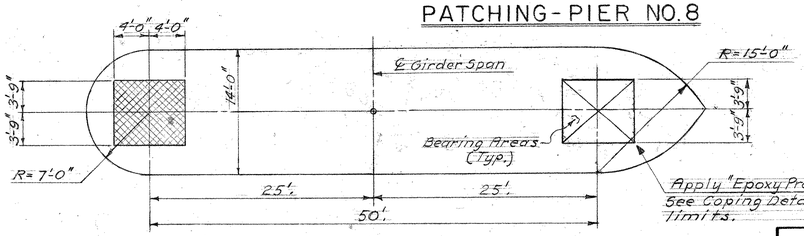


PLAN OF CAP - PIERS 1-8

NOT TO SCALE

NOTE B

Piers 1-8 - After repairs to pier caps are completed apply Epoxy coating to entire cap areas. Buildup Epoxy to allow surface water to drain away from bearing areas and off pier caps. See "Coping Details" Piers 1-8 for Limits.



PLAN OF TOP - PIERS 9-10-11

Scale: 1/8"=1'-0"

For Concrete Repairs to Piers 1 & 4. See Structure Sheets 8, 9 & 10.

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NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDLETOWN - PORTLAND

ARRIGONI BRIDGE

OVER

CONNECTICUT RIVER

REPAIRS-PIER CAPS AND COLUMNS

ENGINEER	BRIDGE DESIGN UNIT		
DESIGNER W.S.G.	DRAFTSMAN G.O.K.	CHECKER	W S C
APPROVED		DATE	6/28/77
STRUCTURE NO. 82-153-00524	BRIDGE LOG NO. 00524	STRUCTURE SHEET NO.	7 of 25

OGILVIE PRESS BUFFALO, N.Y.

82 153

473 07

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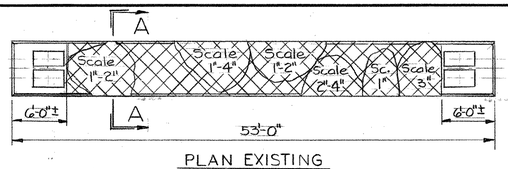
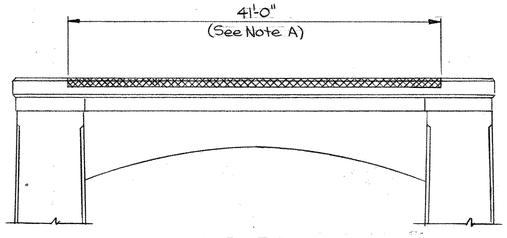
FORM NO. ENG. 15A ED. 1-75

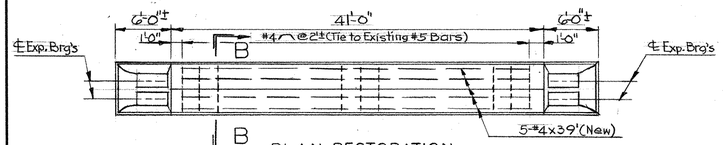
FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	F-082(104)	82-153	1977	66	20	41



PLAN EXISTING

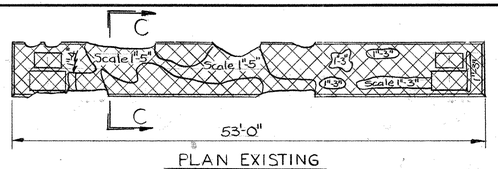


ELEVATION

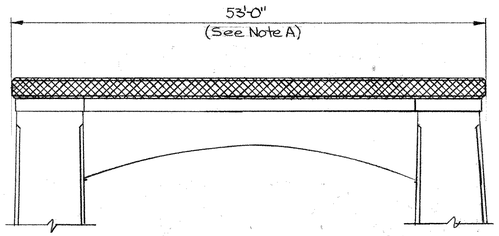


PLAN RESTORATION

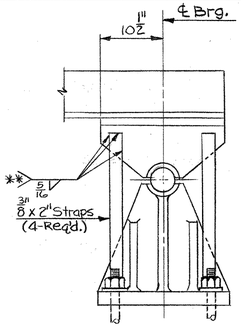
PIER NO.1
Scale 1"=1'-0"



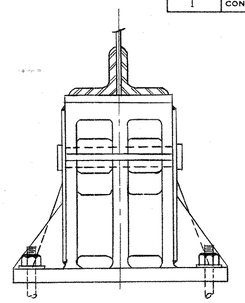
PLAN EXISTING



ELEVATION



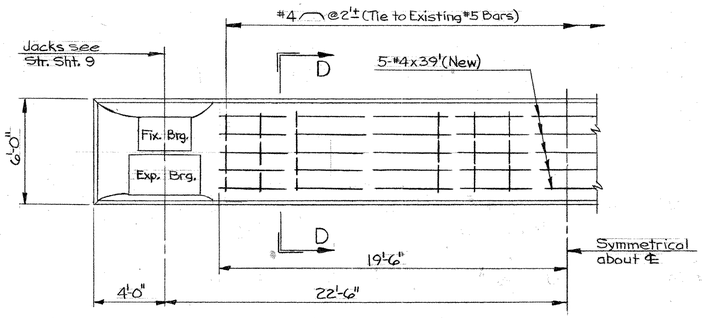
END VIEW



ELEVATION

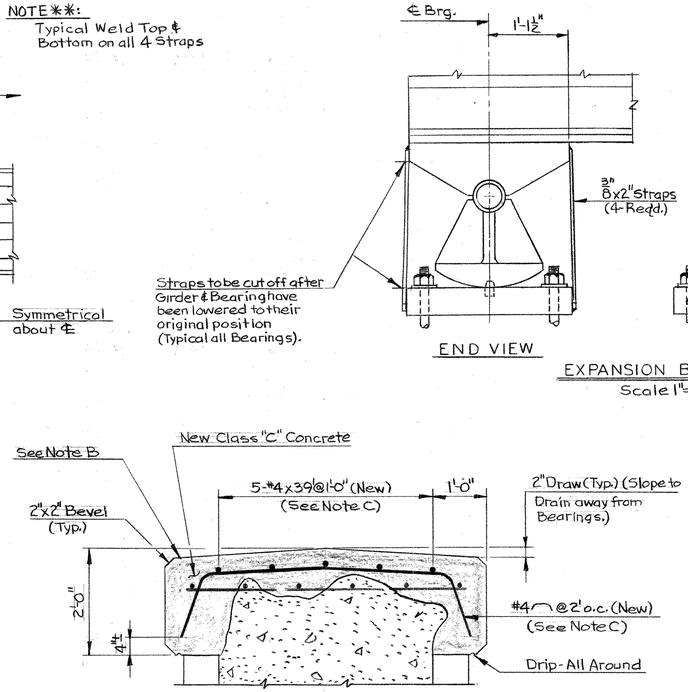
FIXED BEARING
Scale 1"=1'-0"

NOTE **:
Typical Weld Top & Bottom on all 4 Straps



PLAN RESTORATION
Scale 1"=1'-0"

PIER NO.4
Scale 1"=1'-0"

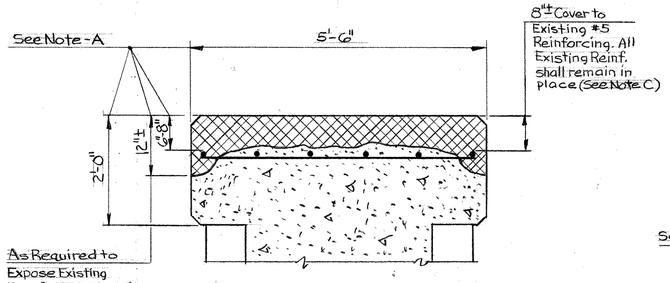


Straps to be cut off after Girder & Bearing have been lowered to their original position (Typical all Bearings).

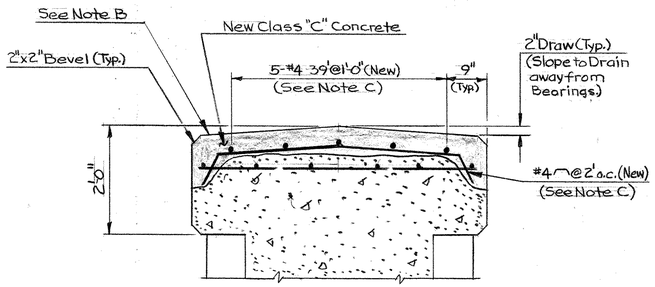
END VIEW

ELEVATION

EXPANSION BEARING
Scale 1"=1'-0"

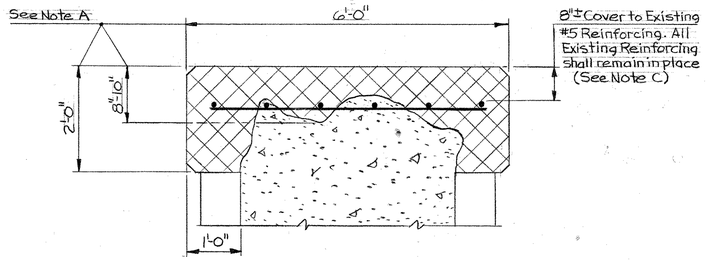


SECTION A-A
Scale 3/4"=1'-0"



NOTE:
New Reinforcing shall have 3" Min. Cover

SECTION B-B
Scale 3/4"=1'-0"



SECTION C-C
Scale 3/4"=1'-0"

Note
New Reinforcing shall have 3" Min. Cover.

SECTION D-D
Scale 3/4"=1'-0"

Note A

Remove all Deteriorated Concrete in ▨ Area (Pay Item-Removal of Existing Masonry). Depth Limits shown are approximate. Exact Limits will be determined by the Engineer as the Removal Work progresses. See Special Provisions.

Note B

Apply Epoxy Coating on Pier Caps after Concrete Restorations are completed. See Structure Sheet 7 for Details and Limits

Note C

Reinforcing Details shown on this sheet are approximate. Field conditions may vary. Adjustments may be required for placement of New #4 Bars depending on the exact location of Existing #5 Bars. Placement of the New Bars shall be as directed by the Engineer during construction.

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NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

PIERS 1 & 4 RESTORATION

ENGINEER Bridge Design Unit
DESIGNER W.S.C. | DRAFTSMAN F.T.R. | CHECKER W S C
APPROVED [signature] | DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 8 OF 25

OGILVIE PRESS BUFFALO, N.Y.

82 153

473 07

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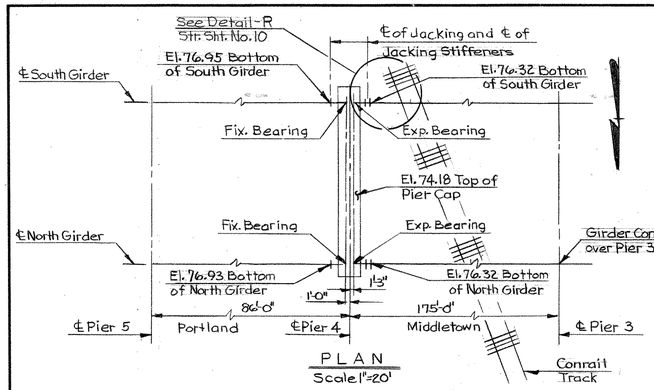
FORM NO. ENG. 15A ED. 1-75

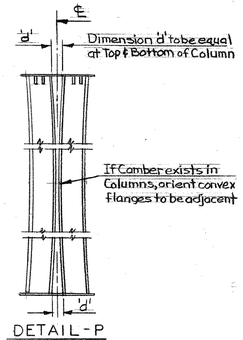
FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	F-022(104)	82-153	1977	66	21	41

GIRDER REACTIONS (KIPS)

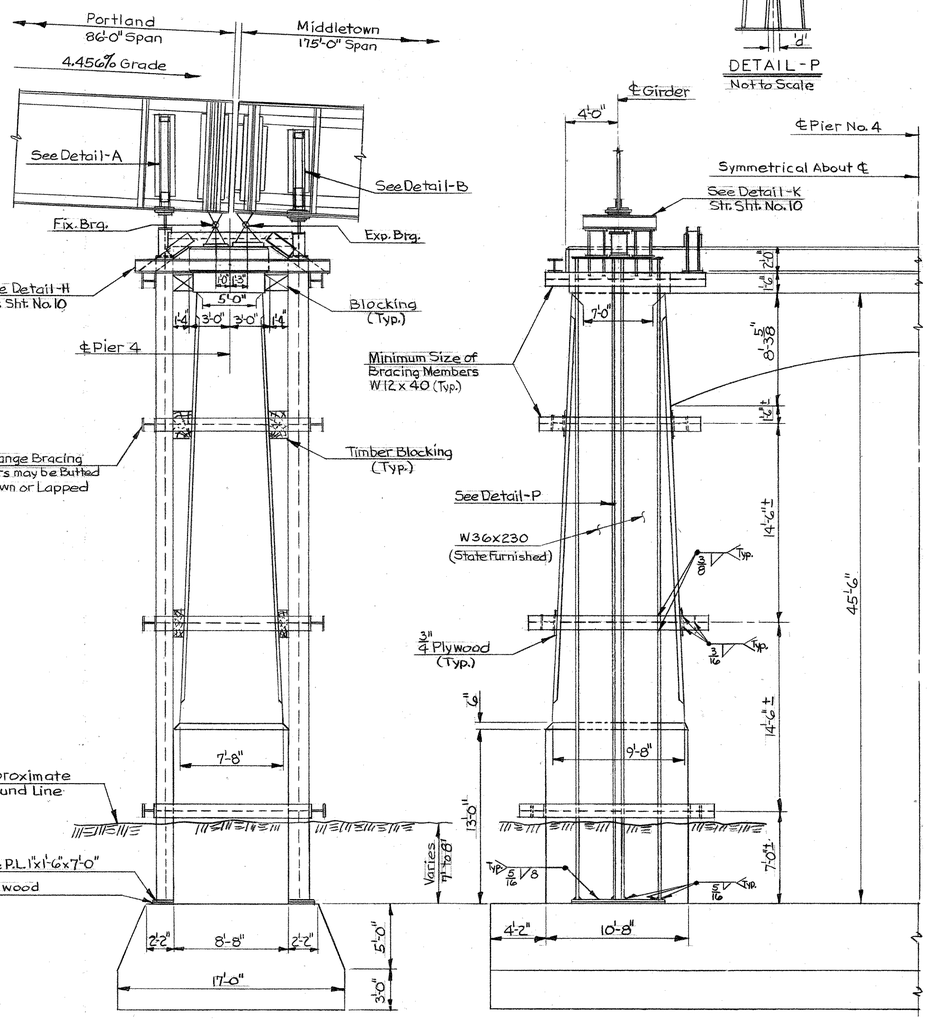
	Exp. Bearing	Fix. Bearing
Dead Load	375	235
Live Load	130	135
Total	505	370



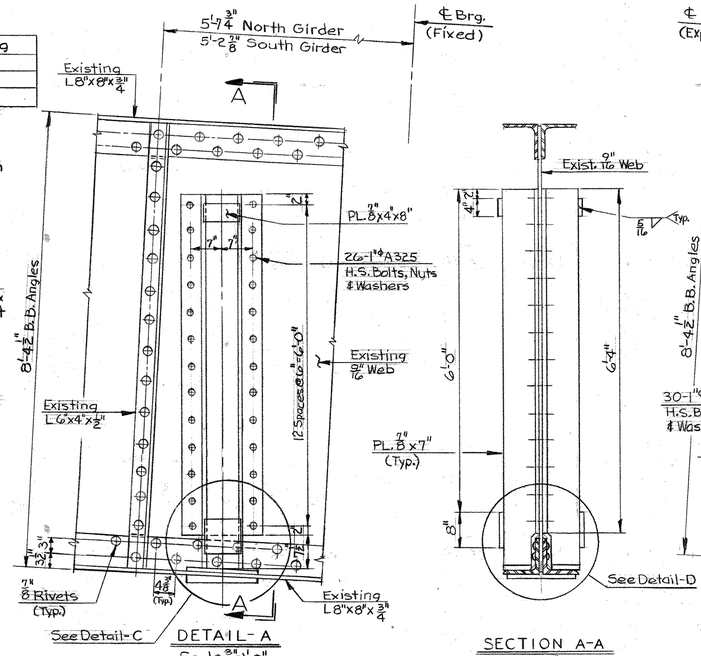
PLAN
Scale 1"=20'



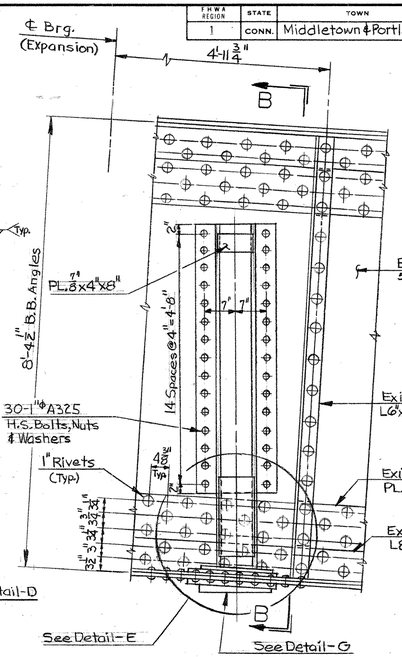
DETAIL-P
Not to Scale

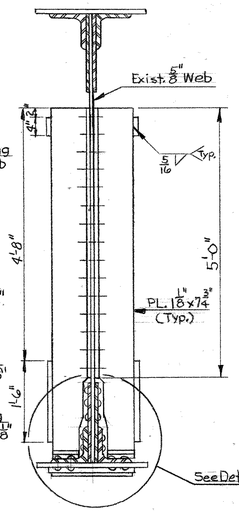


JACKING FRAMEWORK
Scale 3/16"=1'-0"

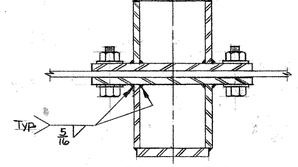


DETAIL-A
Scale ¾"=1'-0"

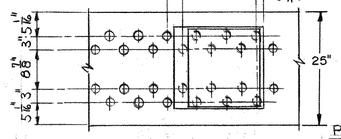




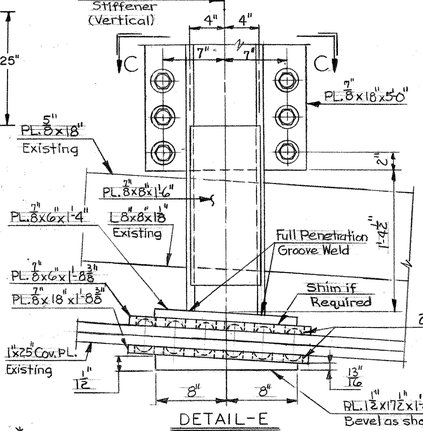
SECTION B-B
Scale ¾"=1'-0"



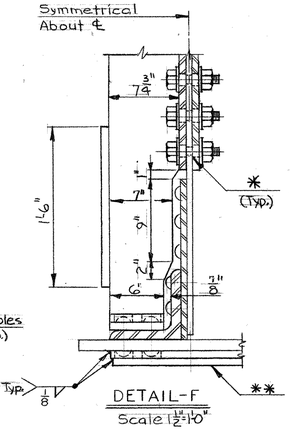
SECTION C-C
Scale 1½"=1'-0"



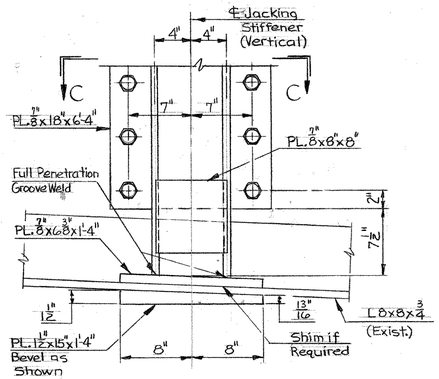
DETAIL-G
Scale ¾"=1'-0"



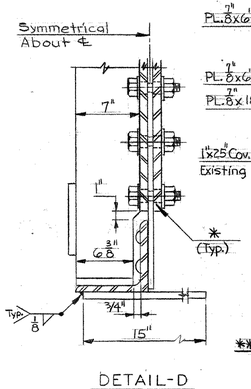
DETAIL-E
Scale 1½"=1'-0"



DETAIL-F
Scale 1½"=1'-0"



DETAIL-C
Scale 1½"=1'-0"



DETAIL-D
Scale 1½"=1'-0"

* NOTE:
1¼" ϕ Holes in ⅞" Pl's.
1⅛" ϕ Holes in Girder Web.
Hardened Washer under Bolt Head and Nut.

** NOTE:
The Interface between this plate and the Jacking Frame shall be coated with Lubricating Grease (Exp. Bearing Only).

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

JACKING DETAILS PIER NO. 4

ENGINEER Bridge Design Unit
DESIGNER B.A.M. | DRAFTSMAN F.T.R. | CHECKER B.A.M.
APPROVED [signature] | DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 9 OF 25

OGILVIE PRESS BUFFALO, N.Y.

82 153

473 07

21

FORM NO. ENG. 158 ED. 1-75

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	22	41

NOTES

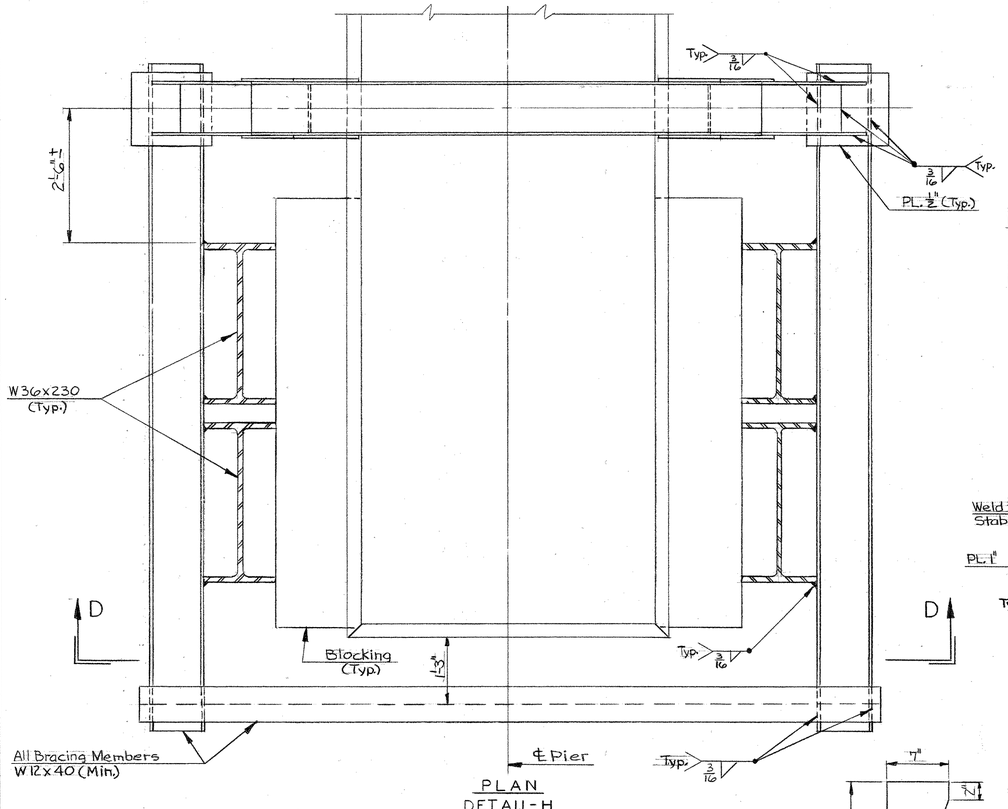
The proposed W36x230 Jacking Columns are ASTM A7 Steel. All other structural steel shall conform to ASTM A36.

The Jacking Stiffeners shall be bolted to the Girder Web by Friction Type Connections with 1" Dia. High Strength Bolts conforming to ASTM A325.

Welding to the Bridge Girders will be permitted only for the welds shown on the plans or approved by the Engineer.

It is the Contractor's responsibility to maintain the stability of the Jacking Frame during all phases of the Jacking Operation.

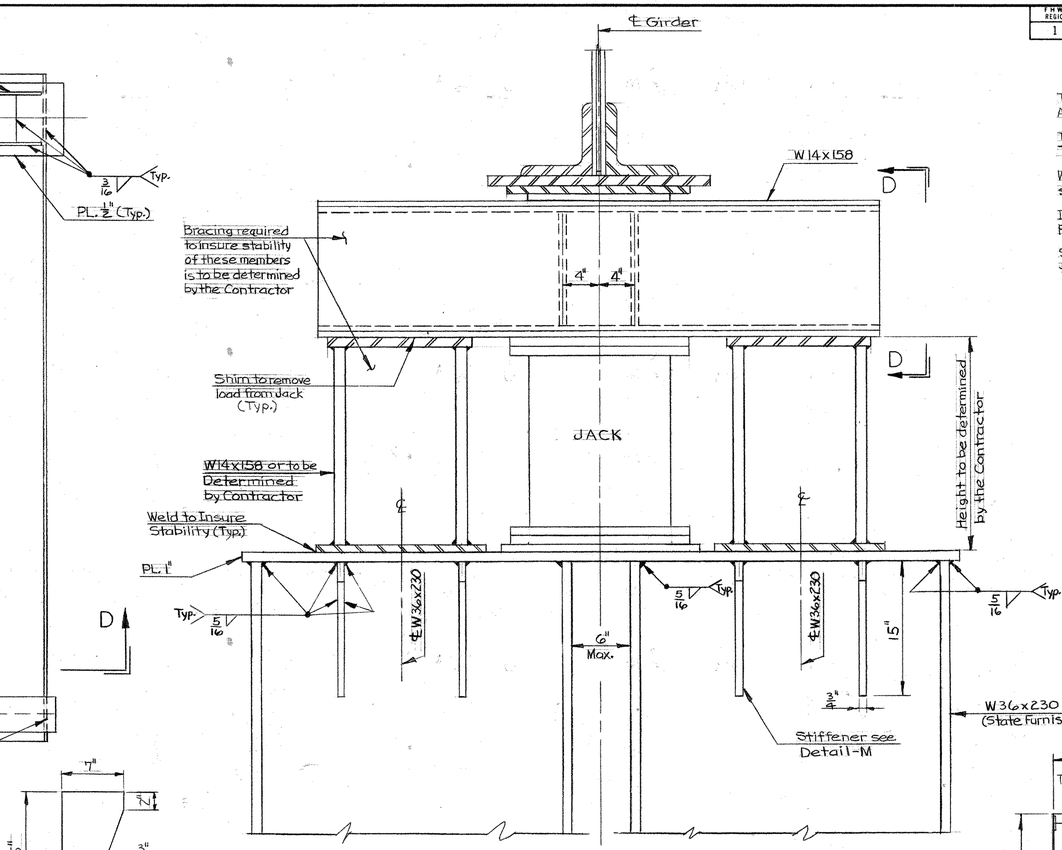
Subject to the approval by the Engineer, the Contractor may revise the proposed Jacking Framework.



PLAN

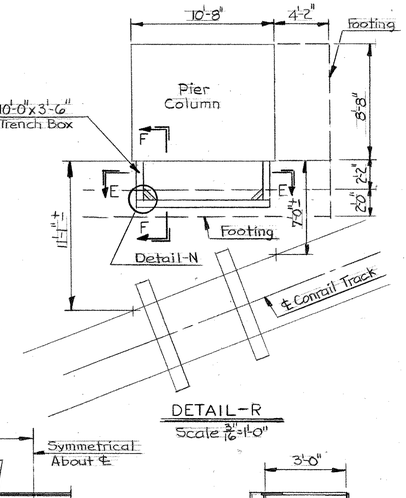
DETAIL-H

Scale 3/4"=1'0"



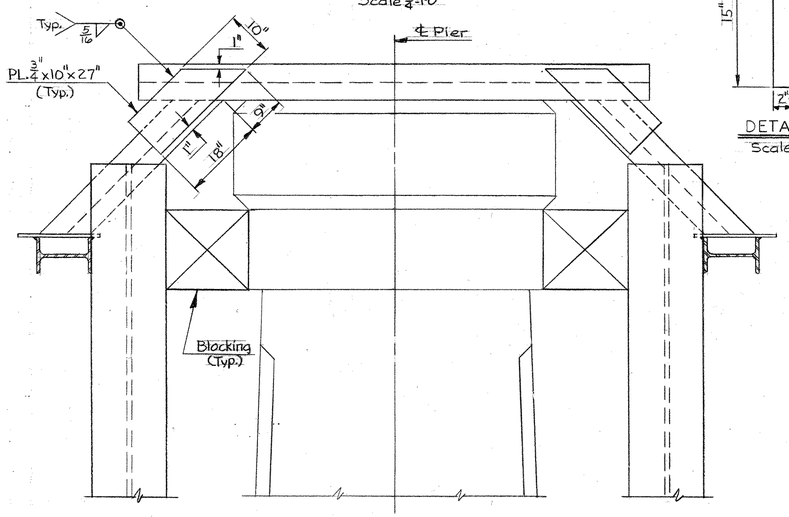
DETAIL-K

Scale 1/2"=1'0"



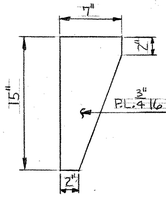
DETAIL-R

Scale 3/16"=1'0"



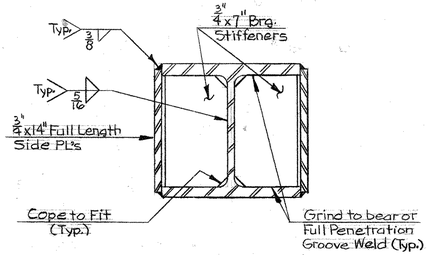
SECTION D-D

Scale 3/4"=1'0"



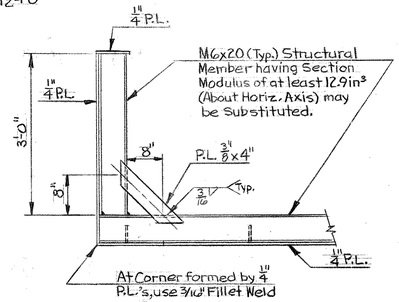
DETAIL-M

Scale 1 1/2"=1'0"



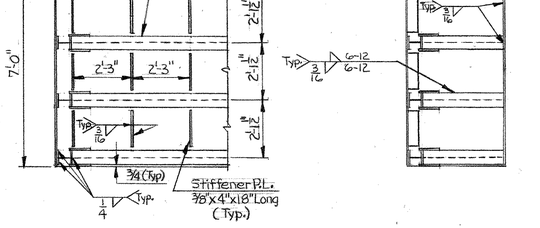
SECTION D-D

Scale 1 1/2"=1'0"



DETAIL-N

Scale 3/4"=1'0"

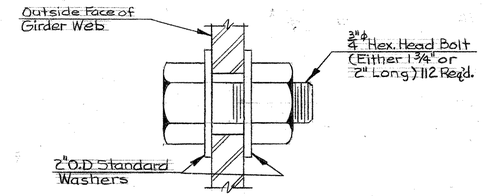


SECTION E-E

Scale 3/8"=1'0"

SECTION F-F

Scale 3/8"=1'0"



CONCEALING BOLT HOLES IN GIRDER WEB

Scale 3/4"=0'-1"

WORK THIS SHEET WITH STR. SHT. NO. 9

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

JACKING DETAILS PIER NO. 4

NO.	DATE	DESCRIPTION

REVISIONS

ENGINEER Bridge Design Unit

DESIGNER B.A.M. | DRAFTSMAN F.T.R. | CHECKER B.A.M.

APPROVED [signature] | DATE 6/28/77

STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 10 OF 25

OGILVIE PRESS BUFFALO, N.Y.

82 153

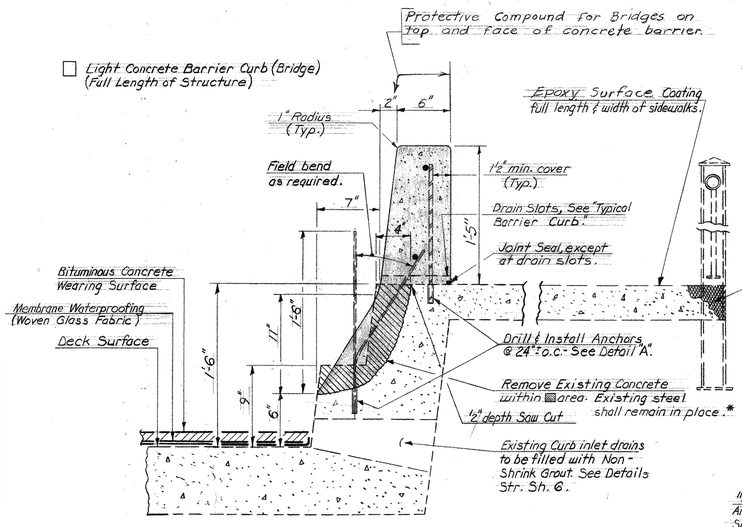
473 07

22

FORM NO. ENG. 158 ED. 1-75

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown - Portland	FU-22(104)	82-153	1977	66	23	41

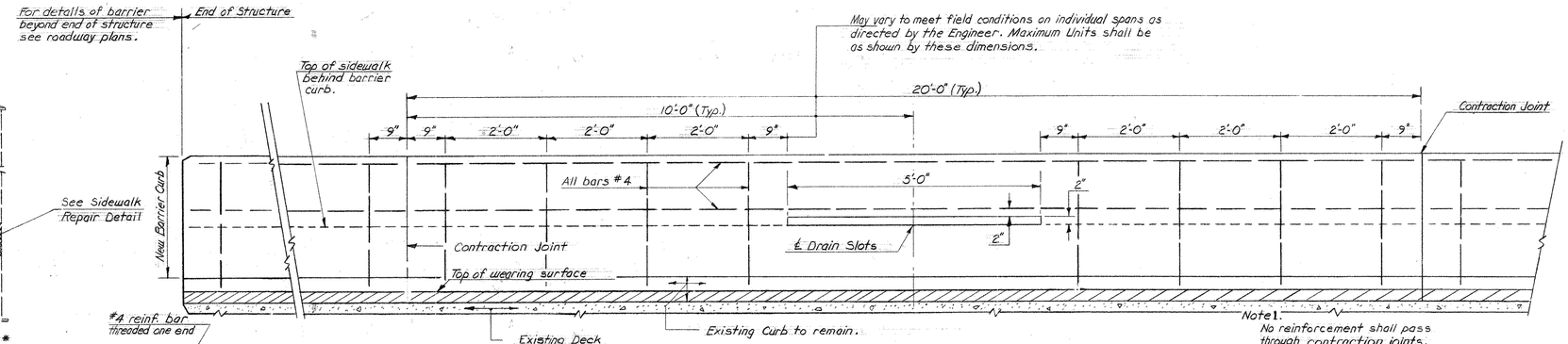
☐ Light Concrete Barrier Curb (Bridge) (Full Length of Structure)



* Concrete shall be removed at the contract bid price per c.y. for "Removal of Existing Masonry". Cost of saw cutting for removal shall be included in this item.

PROPOSED SECTION THRU CURB & SIDEWALK

Scale: 1½"=1'-0"

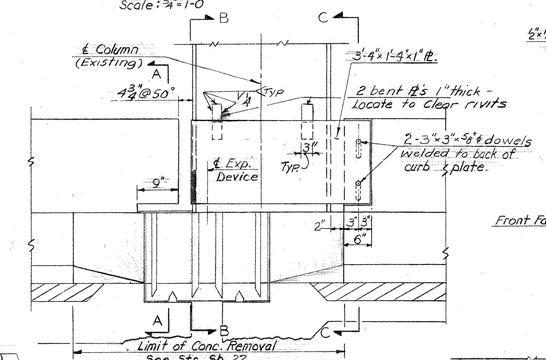


DETAIL "A"

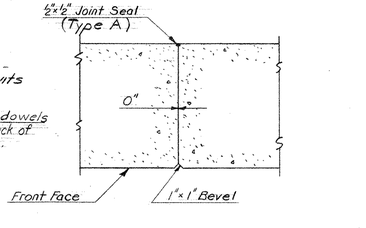
Note 1.
No reinforcement shall pass through contraction joints.
Joint Seal (Type A) shall be placed to completely seal top and sides of contraction joints.

TYPICAL BARRIER CURB

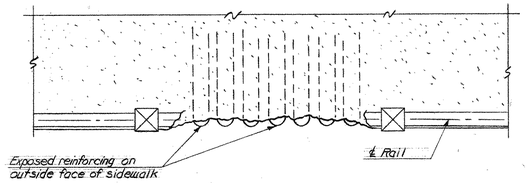
Scale: ¾"=1'-0"



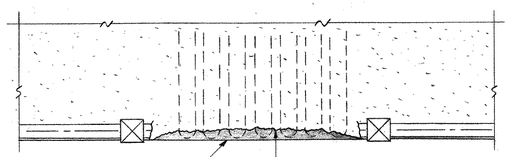
ELEVATION VIEW



NON - KEYED CONTRACTION JOINTS



SIDEWALK - EXISTING CONDITION



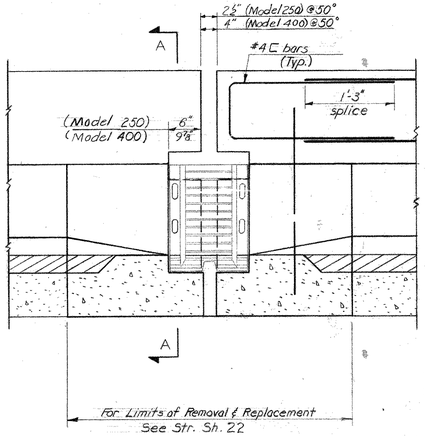
SIDEWALK - REPAIRED

SIDEWALK REPAIR DETAIL

Not to Scale

Curb ℓt. 5'-6"x1'-4"x1"

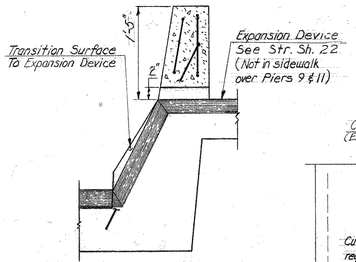
See Structure Sheet 4 for locations of sidewalk repair areas. Field conditions may vary. Exact limits and locations of areas to be repaired will be determined by the Engineer during construction.

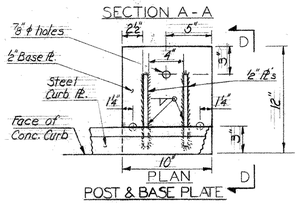


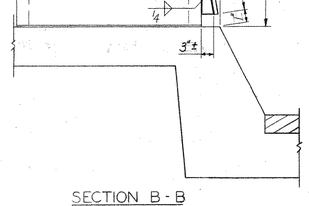
ELEVATION VIEW

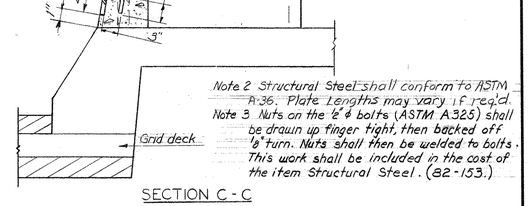
BARRIER CURBS OVER PIERS 1, 2, 4, 5, 6, 7, 8, 14, 17, 19, 21, 23, 25, 27, 29.

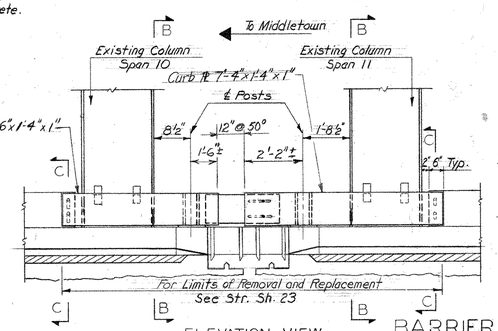
Scale: 1"=1'-0"







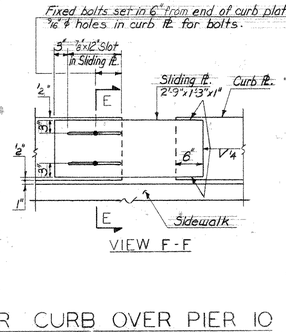


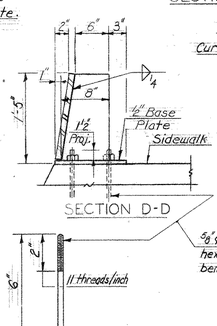


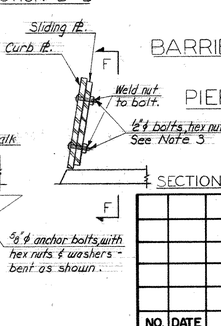
ELEVATION VIEW
Not to Scale

BARRIER CURB OVER PIER 10

Scale: 1"=1'-0" Except as noted.







BARRIER CURBS OVER PIERS 9 & 11

NO.	DATE	DESCRIPTION
		REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

CURB & SIDEWALK DETAILS

ENGINEER BRIDGE DESIGN UNIT
DESIGNER W.S.C. | DRAFTSMAN J.J.C. | CHECKER W.S.C.
APPROVED W. G. Johnson | DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 11 of 25

BRUNING 44-132 26280

82 153

23

FORM NO. ENG. 158 ED. 1-75

FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	24	41

Remove Concrete from Grid as required to Weld Grid Bars to ℄. Refill Grid with New Concrete.*

Existing Concrete filled Grid 3½" Unigrid Span No. 11 3½" I-Beam Lok Span No. 10

C10x30 (New)

G

F

3.291'

2.0'

2.0'

4.0' Back to Back C's

℄ Scupper

4x0.5 Remove Concrete & Stay in Place Forms. Weld Existing Grid to WT ℄. Refill Grid with New Concrete.*

L4x4x½ (New) (Typ.)

C10x30 (New)

2.25'

2.333'

5.0'

℄ W21x73 ℄ Gutter Line

℄ W21x73 (Existing)

PLAN

NOTES

1. New Steel shall conform to ASTM A-36
2. Bolts, Nuts & Washers shall conform to ASTM A-325
3. Holes shall be field drilled in existing Steel as required to install new steel. Cost of drilling will be paid for under the item "Structural Steel (82-153)
4. For Scupper Frame Details see Str. Sht. No. 15
5. For Scupper Locations on Spans see Str. Shts 3-5.

Set Scuppers to follow grade and cross slope. Top of Scupper Frame shall be set .208' above top of existing Grid

3.291' x 2.250' Scupper Frame Remove Existing Concrete filled Grid completely within this area

2½" Bit. Conc. Wear. Surface on Membrane Waterproofing on Existing Grid

Membrane Waterproofing to be turned up 1"± all around Scupper Frame

0.5"±

Shim ℄'s as required. Weld to W21x73 and Scupper Frame

⅝" ℄ Hex Bolts, Nuts & Washers (Typ.)

L4x4x½ to be fitted and Bolted to W21x73. Clip L's as required to clear fillets

C10x30 (New)

WT 12x27.5 (New)

Shim ℄'s as required. Weld to WT 12x27.5 & Scupper Frame

W21x73 (Exist.)

Fiberglas Scupper

W21x73 (Exist.)

SECTION F-F

3.291' x 2.250' Scupper Frame

⅝" ℄ Hex. Nuts, Bolts & Washers (Typ.)

C10x30 (New)

C10x30 (New)

L4x4x½ (New) (Typ.)

Fiberglas Scupper

WT 12x27.5 (New)

SECTION G-G

SCUPPER INSTALLATION - SPANS NO. 10 & 11

Scale 1"=1'-0"

* This Work will be paid for under the item "Partial Depth Patch-Grid."

Gutter Line

J

C10x30 (New)

Existing Stringer (W21 on Spans 1-9, 12-16, 18, 20, 22, 24, 26, 28, 30.) (W18 on Spans 17, 19, 21, 23, 25, 27, 29.)

L4x4x½ (New) (Typ. on Stringer)

Remove Concrete within this area. Existing Reinforcing shall remain in place except where necessary to clear Scupper and Frame.**

Varies

H

2.313'

3.125'

2.313'

Varies

℄ Scupper

Pour New Concrete Slab and Header around Scupper**

2.875' / 2.146'

3.625' / 2.896'

W12x27 (New)

C10x30 (New) Existing

J

Existing Girder

Existing Angle Stiffener (Typ. on Girders)

PLAN

Set Scuppers to follow grade ℄ cross slope. Top of Scupper Frame shall be set .208' above top of Existing Deck.

Gutter Line

See Str. Sht. 6

4.625' x 2.896' / 4.708' x 2.875'

3.125' x 2.146' / 3.208' x 2.125' Scupper Frame

.75'

2-No. 6 Bars (New) 3 Sides

½" Depth Sawcut 3 Sides**

2" Bit. Conc. Wear. Surface on Membrane Waterproofing on Existing Slab

Existing Reinforcing

Exist. Reinforcing

Exist. 7½" Slab

W12x27 (New)

¼

L4x4x½ (New) to be fitted and Bolted to Exist. Stringer. Clip Angles as required to clear Fillets

⅝" ℄ Hex. Bolts, Nuts & Washers (Typ.)

Existing Girder

Existing Stringer

C10x30 (New)

Cut Channel to clear Flange

Fiberglas Scupper

Fiberglas Trough for Details see Str. Sht. No. 15

SECTION H-H

SCUPPER INSTALLATION - SPANS 1-9 & 12-30

Scale 1"=1'-0"

** This Work will be paid for under the item "Full Depth Patch"

Existing Reinforcing

4.708' x 2.875'

.75' Header

3.208' x 2.125' Scupper Frame

.75' Header

Exist. 7½" Slab

W12x27

C10x30

Fiberglas Scupper

C10x30

Fiberglas Trough

Where shown on Str. Sht. No. 13 & 14. 8" ℄ Pipe will connect directly to scupper where Fiberglas trough is not required.

SECTION J-J

Scale 1"=1'-0"

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

SCUPPER INSTALLATION DETAILS

ENGINEER Bridge Design Unit

DESIGNER W.S.C. | DRAFTSMAN F.T.R. | CHECKER W.S.C.

APPROVED [signature] DATE 6/28/77

STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 12 OF 27

BRUNING 44-132 26280

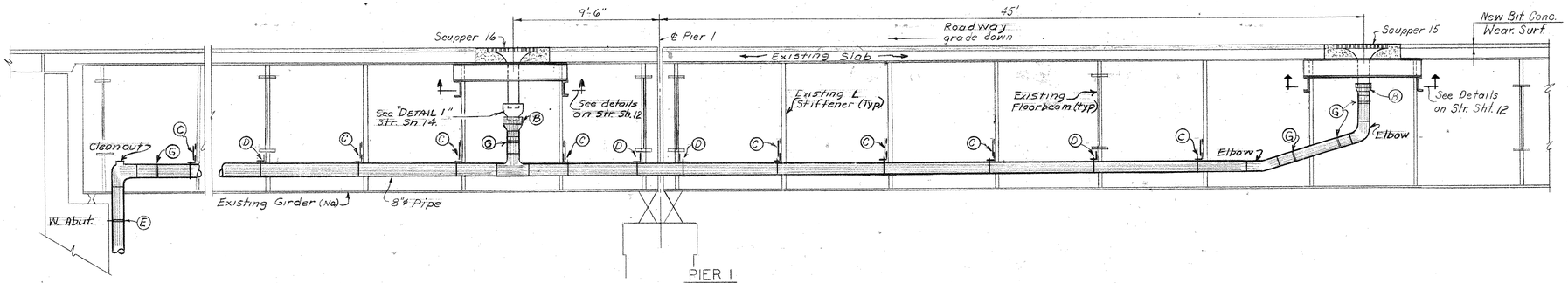
82 153

473 07

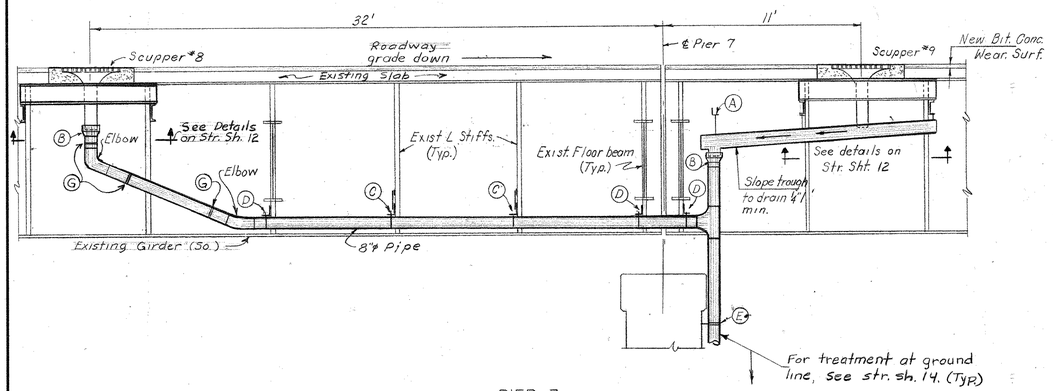
24

FORM NO. ENG. 158 ED. 1-75

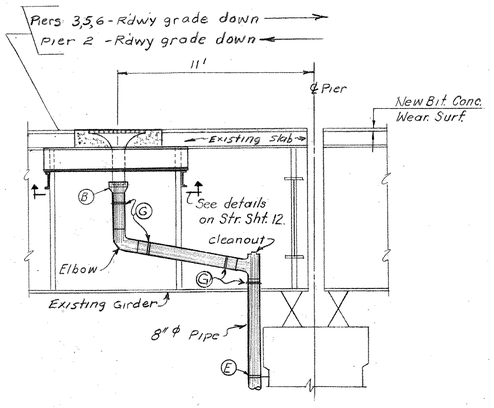
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown - Portland	FU-22(104)	82-153	1977	66	25	41



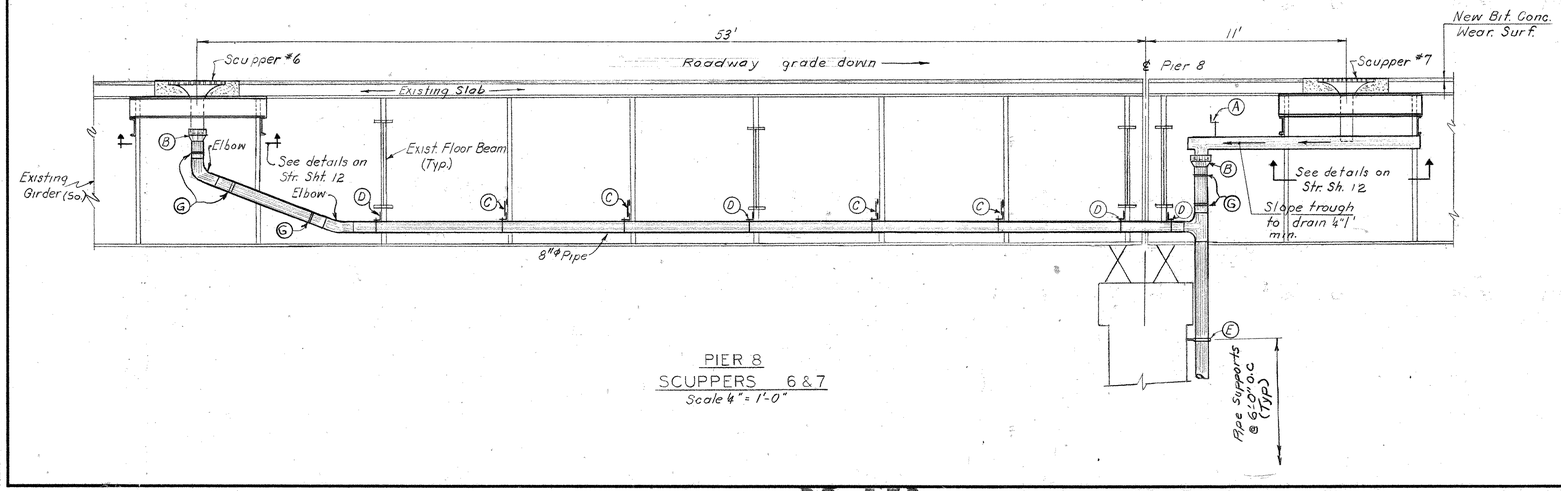
PIER 1
SCUPPERS 13-15 & 16



PIER 7
SCUPPERS 8 & 9



PIER 2 SCUPPER 14
PIER 3 SCUPPER 12
PIER 5 SCUPPER 11
PIER 6 SCUPPER 10



PIER 8
SCUPPERS 6 & 7
Scale 4" = 1'-0"

WORK THIS SHEET WITH STR. SHT. 2, 3, 12, 15.

- (A) See "Trough Support - Detail 1" on Str. Sht. 15
- (B) See "Pipe Reducer" on Str. Sht. 15.
- (C) See "Pipe Support on Existing Stiffeners" on Str. Sht. 15.
- (D) See "Pipe Support Below Floorbeam" on Str. Sht. 15.
- (E) See "Pipe Clamp" on Str. Sht. 15.
- (F) See "Trough Support, Detail 2" on Str. Sht. 15.
- (G) See "Pipe Support on Existing Web" on Str. Sh. 15.

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

SCUPPERS & DRAINAGE - PIERS 1-9

NO.	DATE	DESCRIPTION

REVISIONS

ENGINEER BRIDGE DESIGN UNIT
DESIGNER W.S.C. | DRAFTSMAN T.S.R. | CHECKER W.S.C.
APPROVED [signature] DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 13 OF 25

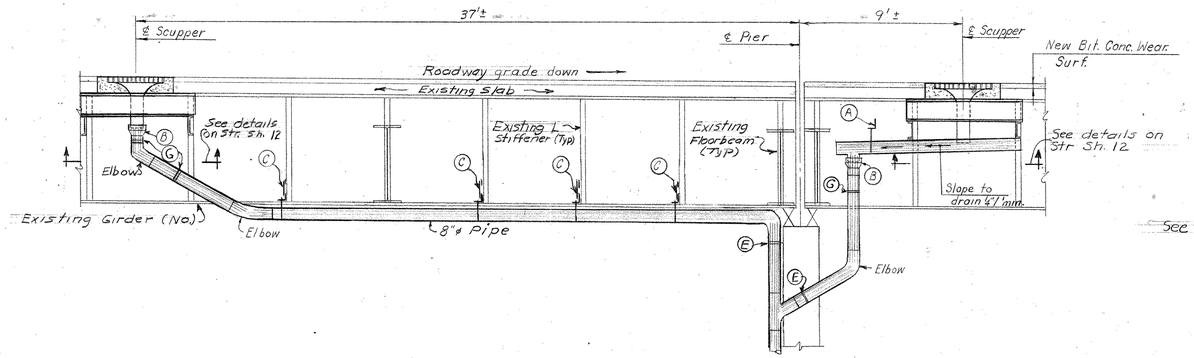
OGILVIE PRESS BUFFALO, N.Y.

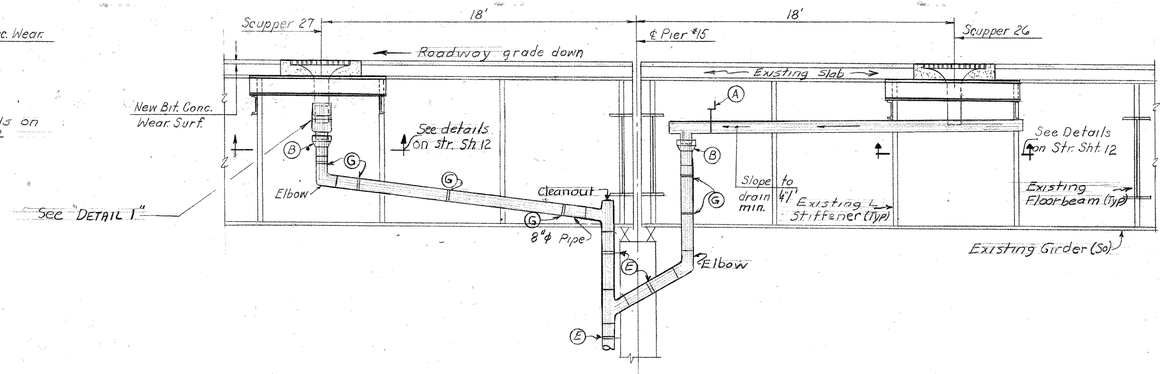
82 153

25

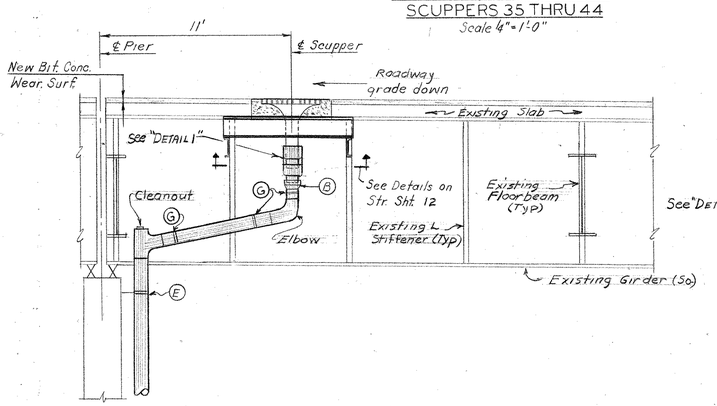
FORM NO. ENG. 158 ED. 11-75

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	(U-22(104)	82-153	1977	66	26	41

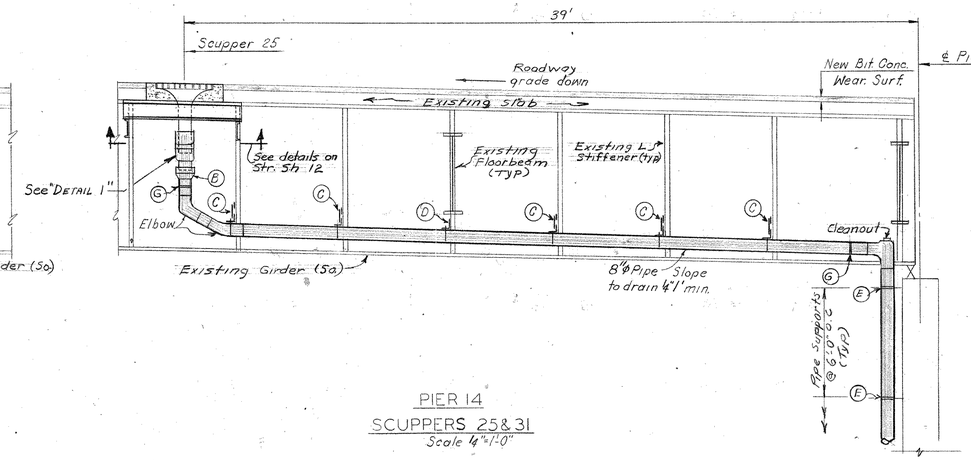




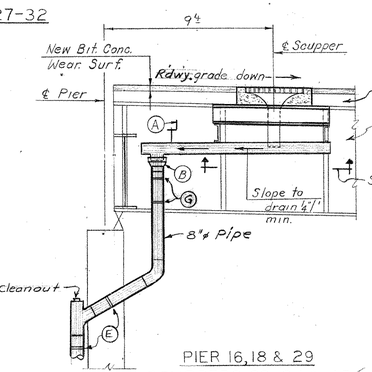
PIERS 20-22-24-26-28
SCUPPERS 35 THRU 44
Scale 4"=1'-0"



PIER 12 & 13
SCUPPERS 23, 24, 29 & 30
Scale 4"=1'-0"



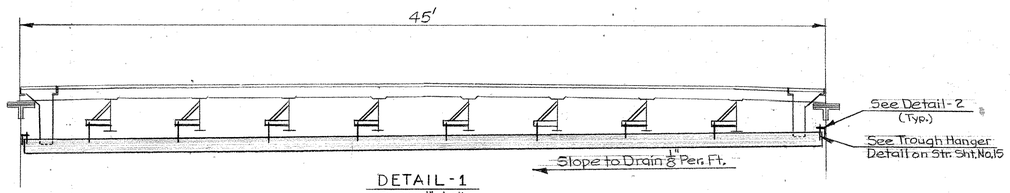
PIER 14
SCUPPERS 25 & 31
Scale 4"=1'-0"



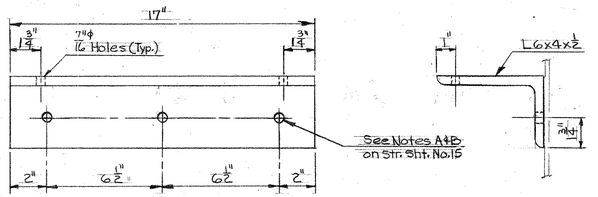
PIER 15
SCUPPERS 26-27-32
Scale 4"=1'-0"

PIER 16, 18 & 29
SCUPPERS 33, 34 & 45
Scale 4"=1'-0"

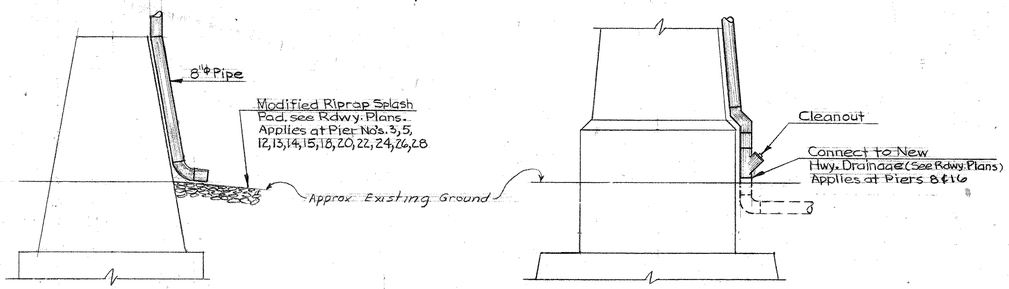
WORK THIS SHEET WITH STR. SHT. 2, 5, 12, 13 & 15
For references Ⓐ thru Ⓖ see Str. Sht. 13.



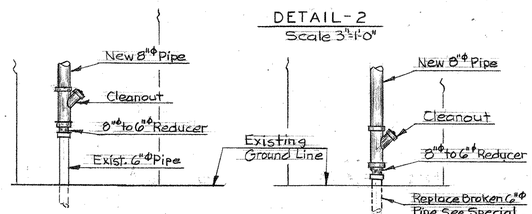
DETAIL-1
Scale 1/4"=1'-0"



DETAIL-2
Scale 3"=1'-0"



DOWN SPOUT & RIPRAP SPLASH PAD DETAILS
Scale 1/4"=1'-0"



WEST ABUTMENT
PIERS 2 & 6
Scale 1/4"=1'-0"

PIER-7
Scale 1/4"=1'-0"

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

SCUPPERS & DRAINAGE - PIERS 12-29

ENGINEER BRIDGE DESIGN UNIT
DESIGNER W.S.C. DRAFTSMAN T.S.R & F.T.R. CHECKER W.S.C.
APPROVED W. G. Johnson DATE 6/28/77
STRUCTURE NO. 82-153-00524 BRIDGE LOG NO. 00524 STRUCTURE SHEET NO. 14 OF 25

ODELVE PRESS BUFFALO, N.Y.

82 153

473 07

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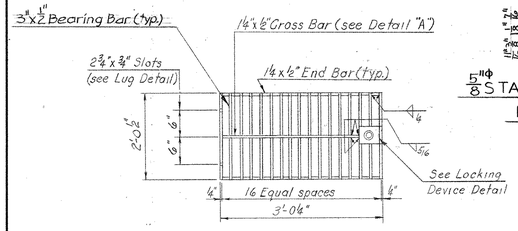
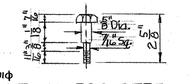
FORM NO. ENG. 15A ED. 1-71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	27	41

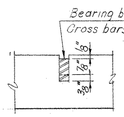


PLAN OF STEEL GRATE
Scale 3/4"=1'-0"

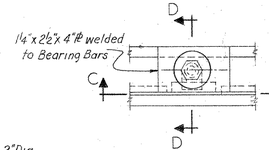


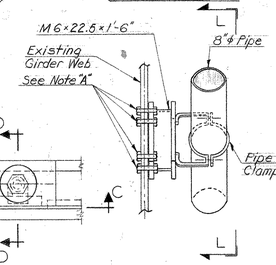
5/8φ STAINLESS STEEL BOLT DETAIL

SECTION A-A
Scale 3"=1'-0"

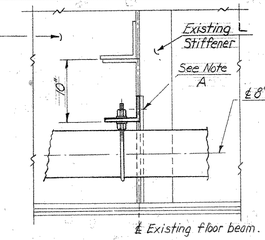


DETAIL A
Scale 3"=1'-0"

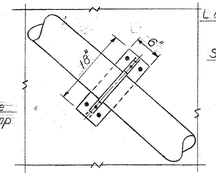




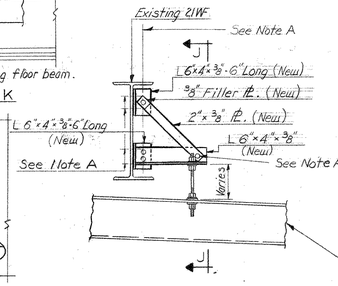
PIPE SUPPORT ON EXISTING WEB
Scale: 3/4"=1'-0"



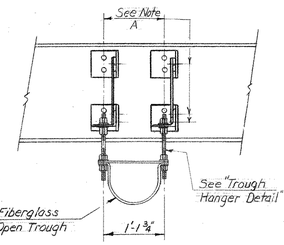
SECTION K-K
± Existing floor beam.



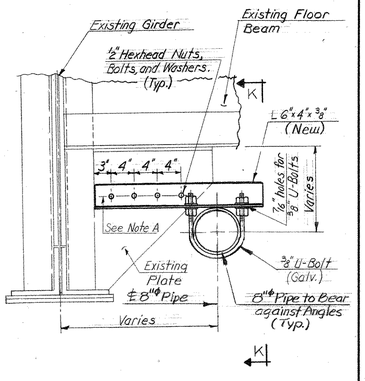
VIEW L-L



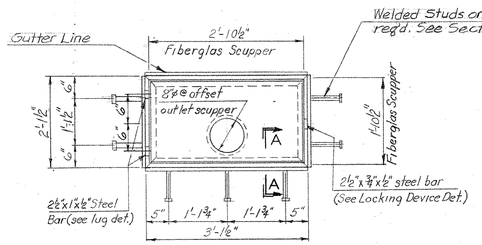
TROUGH SUPPORT - DETAIL 2



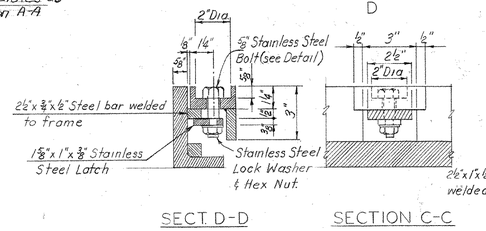
SECTION J-J



PIPE SUPPORT - BELOW FLOORBEAMS

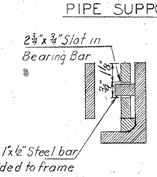


PLAN
STEEL FRAME FOR FIBERGLAS HOPPER
Scale 3/4"=1'-0"



SECT. D-D
SECTION C-C

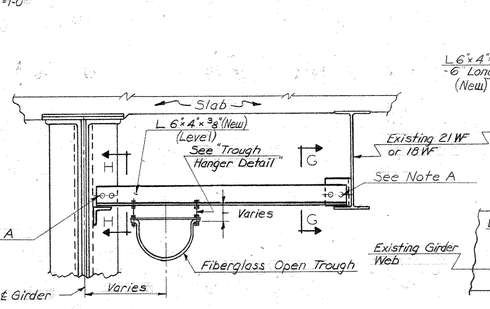
LOCKING DEVICE DETAIL
Scale 3"=1'-0"



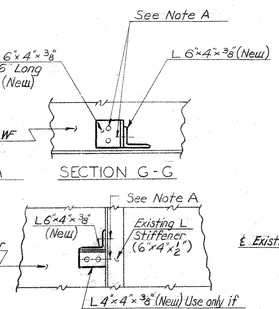
LUG DETAIL
To engage grating to frame

Steel for Scupper frames and grates shall conform to ASTM A588.

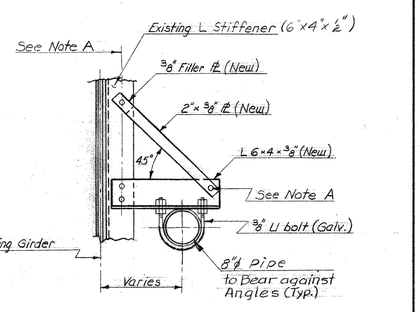
BRIDGE SCUPPER FRAME & GRATE DETAILS



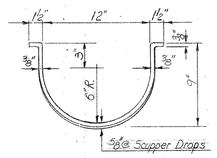
TROUGH SUPPORT - DETAIL 1
Scale: 3/4"=1'-0"



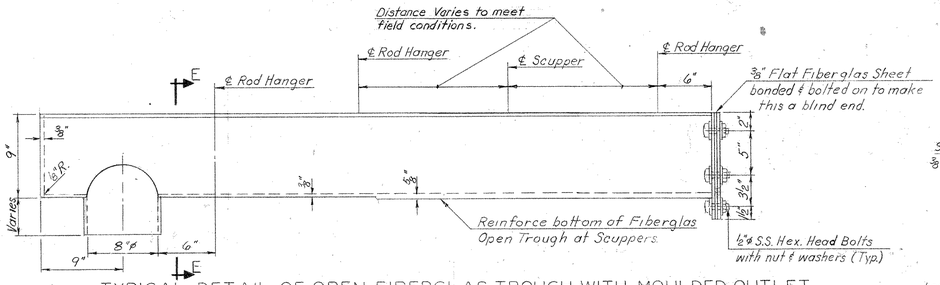
SECTION H-H



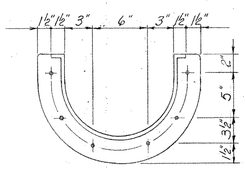
PIPE SUPPORT - ON EXISTING STIFFENERS



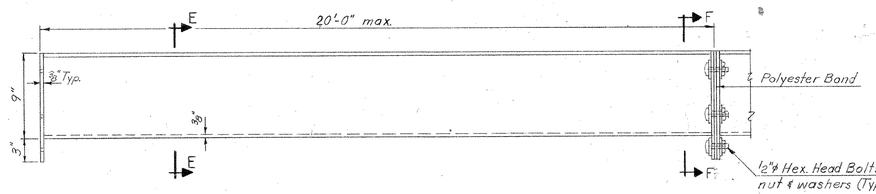
SECTION E-E



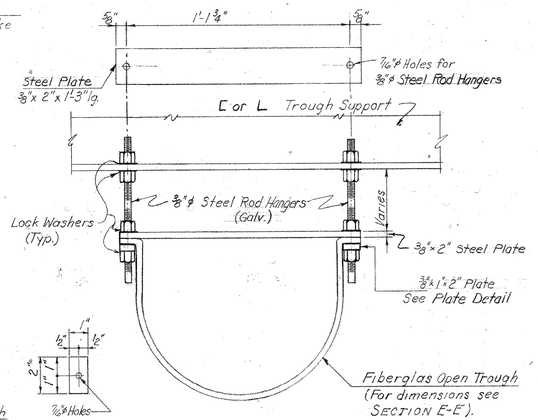
TYPICAL DETAIL OF OPEN FIBERGLAS TROUGH WITH MOULDED OUTLET



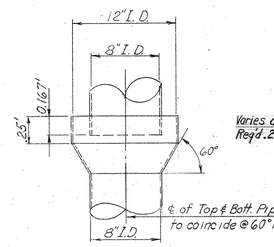
SECTION F-F



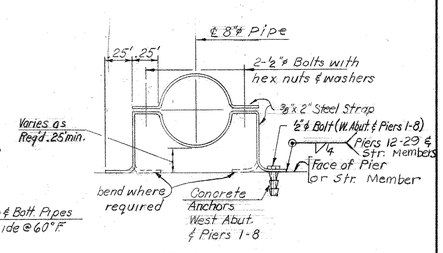
DETAIL OF OPEN FIBERGLAS TROUGH
Scale: 1/2"=1'-0"



TROUGH HANGER DETAIL
Scale 3"=1'-0"



PIPE REDUCER



PIPE CLAMP

NOTES:
A. Use 1/2" Bolts, nuts and washers (ASTM A325) for connections, 9/16"φ holes shall be drilled in new and existing steel as required for connections. Cost of drilling & bolting shall be included in the item structural steel (82-153).
B. All new structural steel shall conform to requirements of ASTM A36 except as noted elsewhere on this sheet.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

WORK THIS SHEET WITH STRUCTURE SHEETS 3,4,5, 12, 13, 14

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

SCUPPER & DRAINAGE DETAILS

ENGINEER BRIDGE DESIGN UNIT
APPROVED [signature] DATE 6/28/77
DRAFTSMAN T.S.R. CHECKER W.S.C. DESIGNER W.S.C.
STRUCTURE NO. 82-153-00524 STRUCTURE SHEET 15 OF 25

BRUNING 44-131 23530

82 153

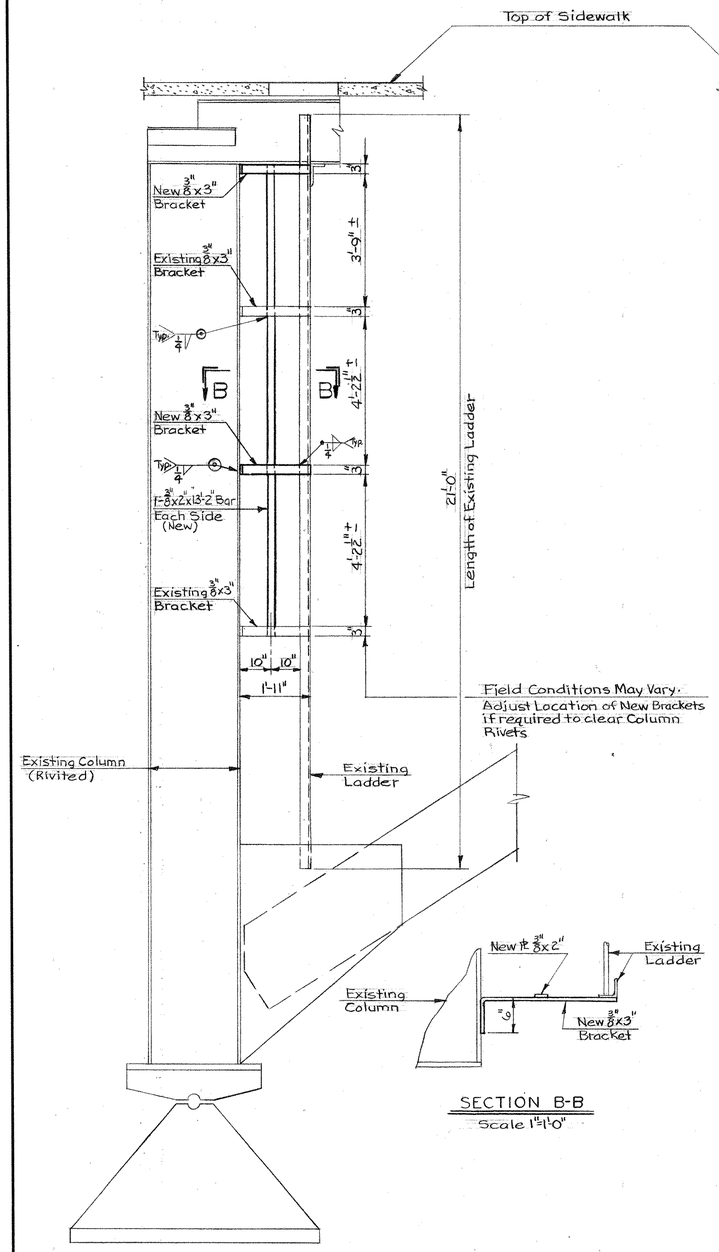
473 07

27

FORM NO. ENG. 158 ED 1-75

F H W A REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown - Portland	FU-22(104)	82-153	1977	66	28	41

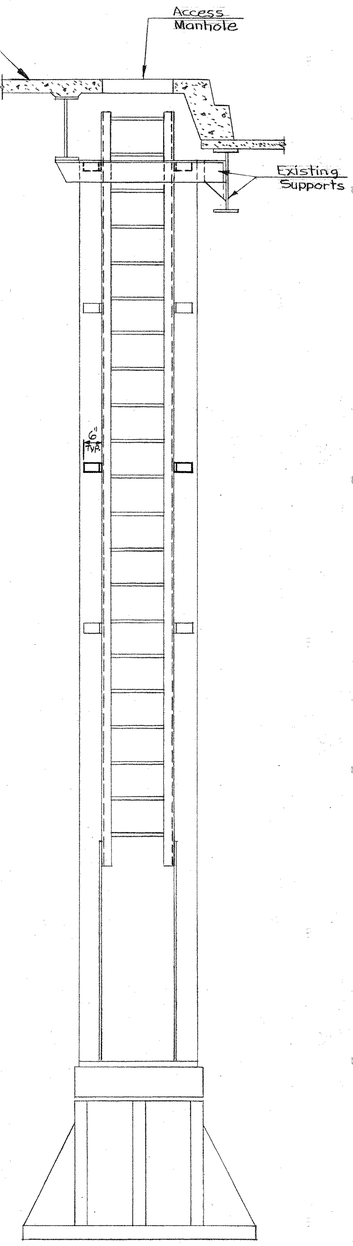
All New Steel for Ladder Cages and Brackets shall conform to ASTM A-36. Cost of Fabrication and Erection of Cages and Brackets shall be included in the item "Structural Steel (82-153).



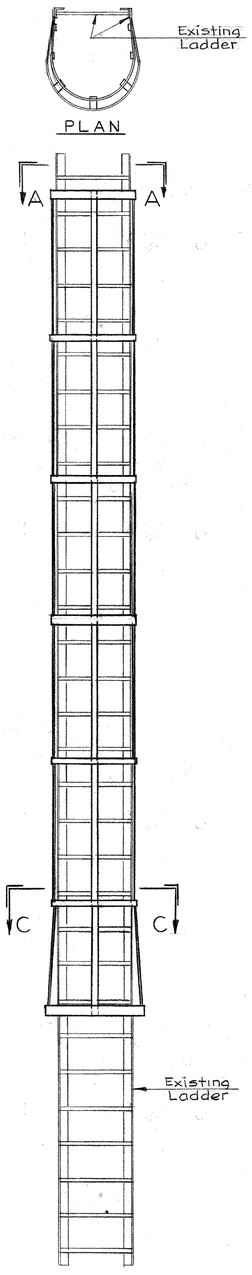
SIDE VIEW

SECTION B-B
Scale 1"=1'-0"

AT PIERS NO. 9 & NO. 11
(SOUTH END ONLY)
Scale ½"=1'-0"

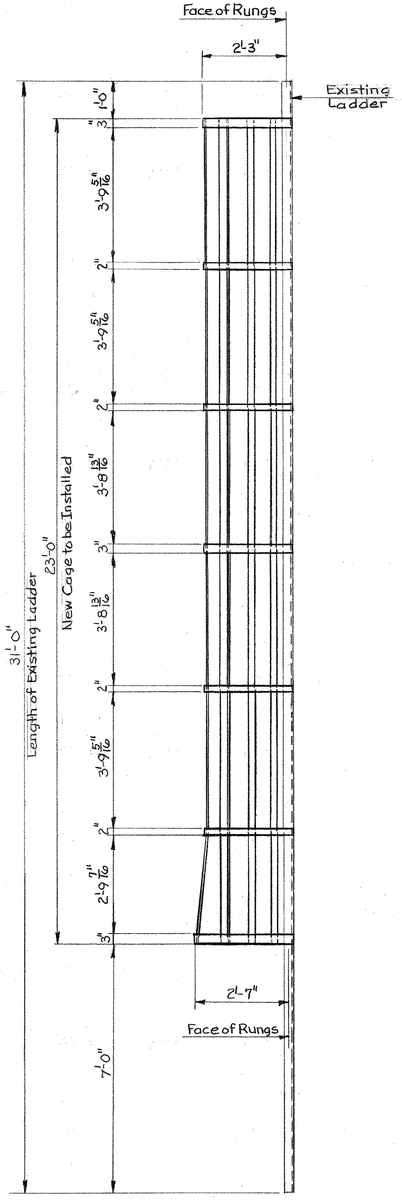


FRONT VIEW



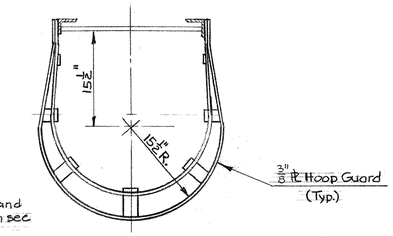
FRONT VIEW

AT PIER NO. 10
(SOUTH END ONLY)
Scale ½"=1'-0"

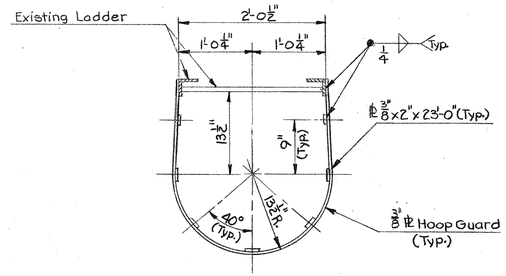


SIDE VIEW

NOTE:
For Dimensions and Notes not shown see Section A-A



SECTION C-C
Scale 1"=1'-0"



SECTION A-A
Scale 1"=1'-0"

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN – PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

CAGES FOR EXISTING LADDERS

ENGINEER Bridge Design Unit
DESIGNER W.S.C. | DRAFTSMAN F.T.R. | CHECKER W.S.C.
APPROVED W. S. Johnson | DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 16 OF 25

BRUNING 44132 26280

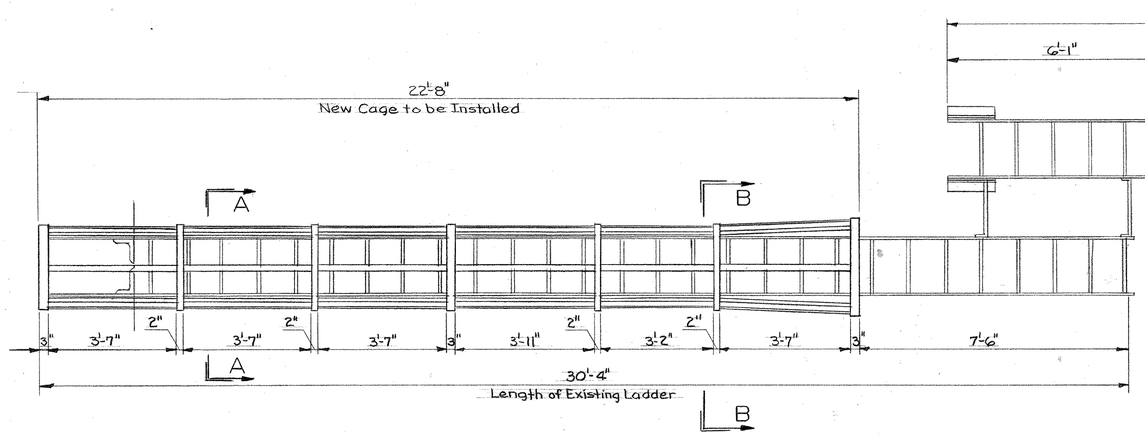
82 153

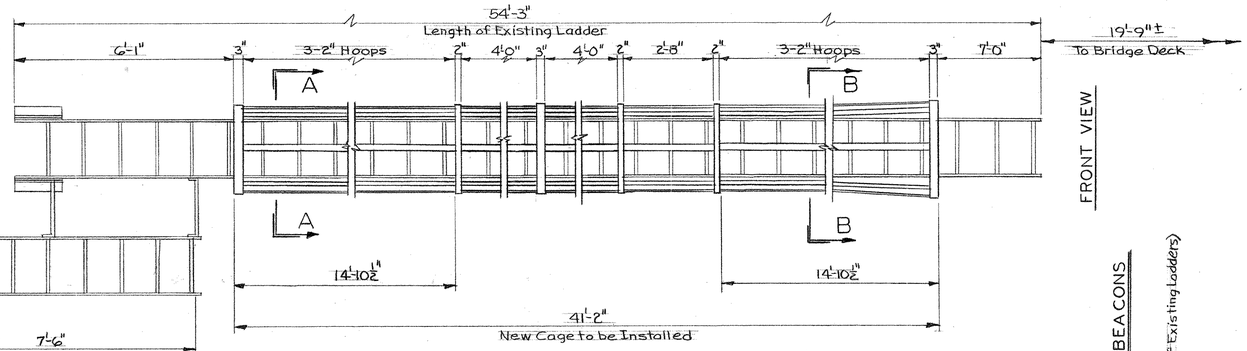
473 07

28

FORM NO. ENG. 15B ED. 1-75

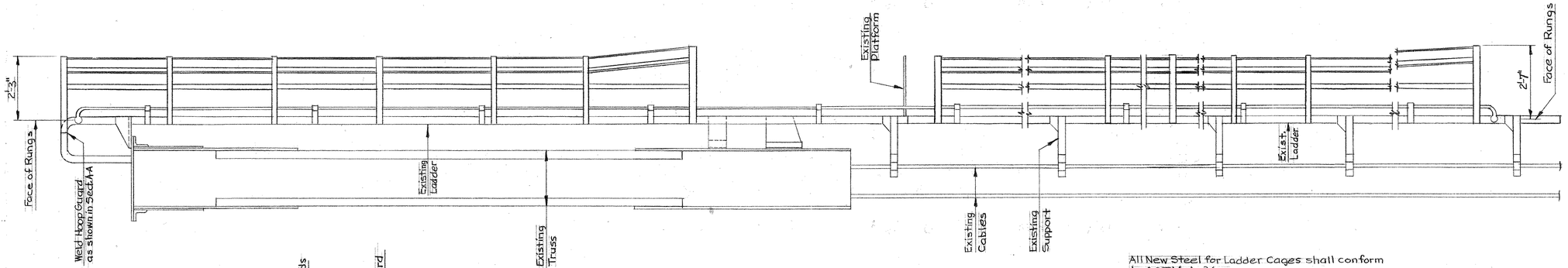
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	29	41



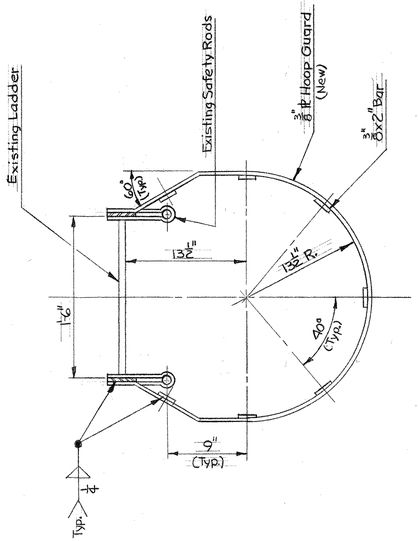


FRONT VIEW

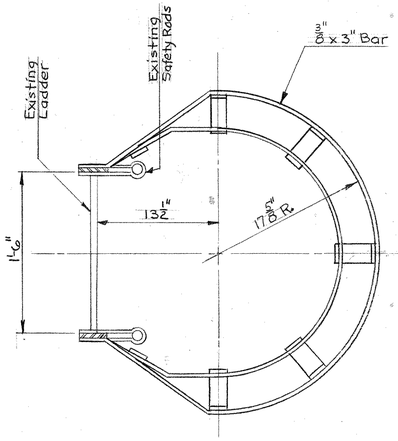
LADDERS TO AVIATION BEACONS
Scale 1"=1'-0"
(See Sht. 5 of Sht. No. 4 for Locations of Existing Ladders)



SIDE VIEW



SECTION A-A
Scale 1 1/2"=1'-0"



SECTION B-B
Scale 1 1/2"=1'-0"

NOTE:
For Dimensions and Notes not shown see Section A-A

All New Steel for Ladder Cages shall conform to ASTM A-36.
Cost of Fabrication and Erection of Cages shall be included in the Item "Structural Steel (82-153)"

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN – PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

CAGES FOR EXISTING LADDERS

NO.	DATE	DESCRIPTION

REVISIONS

ENGINEER Bridge Design Unit
DESIGNER W.S.C. | DRAFTSMAN F.T.R. | CHECKER W S C
APPROVED [signature] DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 17 OF 25

BRUNING 44-132 26280

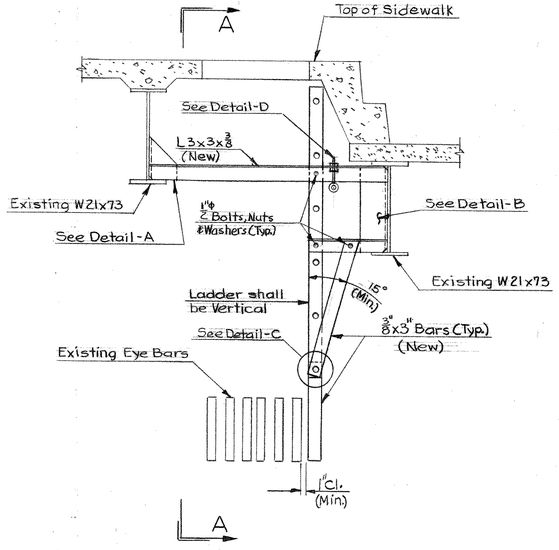
82 153

473 07

FORM NO. ENG. 158 ED. 1-75

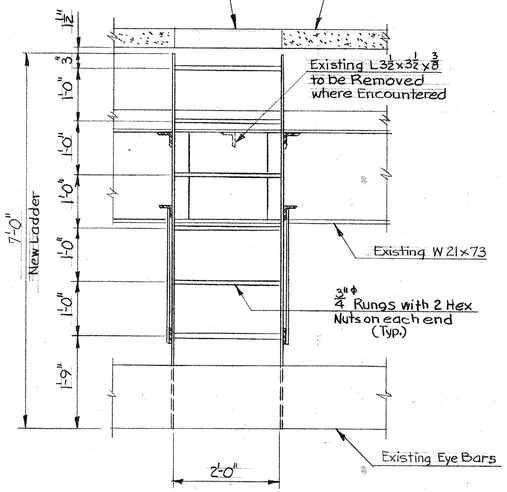
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	30	41

All New Structural Steel for Ladders & Bracing shall conform to ASTM A-36
Bolts, Nuts and Washers shall conform to ASTM A-325.
9/16" ϕ Holes shall be drilled in new & existing steel as required for 1/2" ϕ Bolts. Cost of drilling and bolting shall be included in the item "Structural Steel (82-153)"



SIDE VIEW

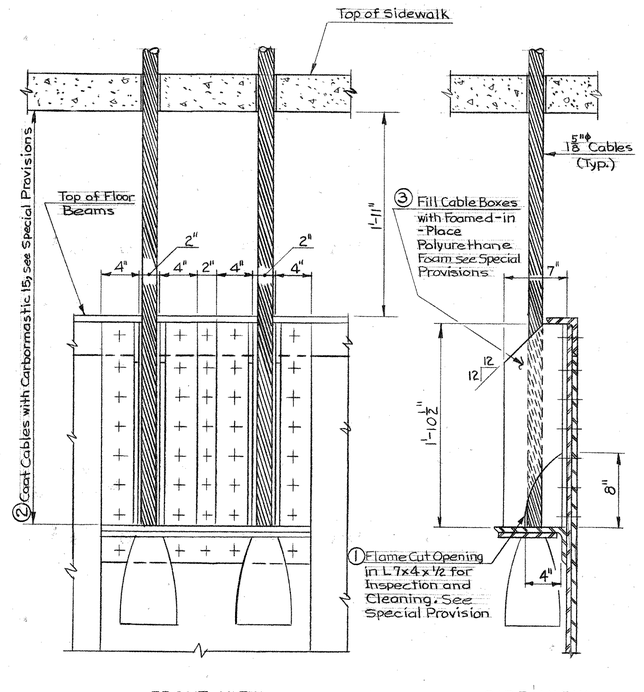
Access Manhole in Sidewalk (Existing). For Manholes where Access Ladders shall be installed - see Structure Sheet No. 4.



SECTION A-A

ACCESS LADDERS TO EYE BARS

Scale 3/4"=1'-0"

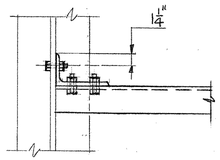


FRONT VIEW SIDE VIEW

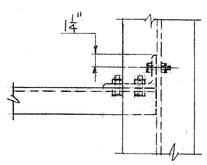
NOTE:
All Steel Cables and Concrete shown on the Suspender Cable protection details are existing. Work under this item is Limited to Modification of the existing installation as indicated by items ①, ② and ③ and shall be done for each of the 4 Cables at each of the 68 Cable Anchorage locations below the sidewalks on the Structure.

SUSPENDER CABLE PROTECTION UNDER SIDEWALK

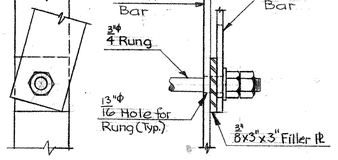
Scale 1½"=1'-0"



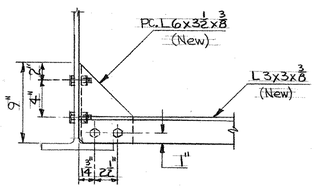
PLAN



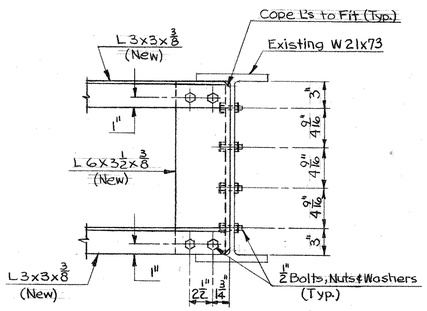
PLAN



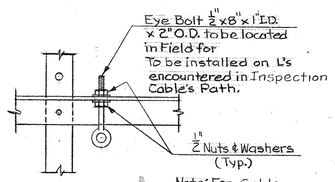
DETAIL-C
Scale 3"=1'-0"



DETAIL-A
Scale 1½"=1'-0"



DETAIL-B
Scale 1½"=1'-0"



Note: For Cable Installation details see Str. Sht. No. 19

DETAIL-D
Scale 1½"=1'-0"

NO.	DATE	DESCRIPTION
		REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN - PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

LADDER & CABLE PROTECTION DETAILS

ENGINEER Bridge Design Unit
DESIGNER W.S.C. DRAFTSMAN F.T.R. CHECKER W.S.C.
APPROVED [signature] DATE 6/28/77
STRUCTURE NO. 82-153-00524 BRIDGE LOC NO. 00524 STRUCTURE SHEET NO. 18 OF 25

82-153

473 07

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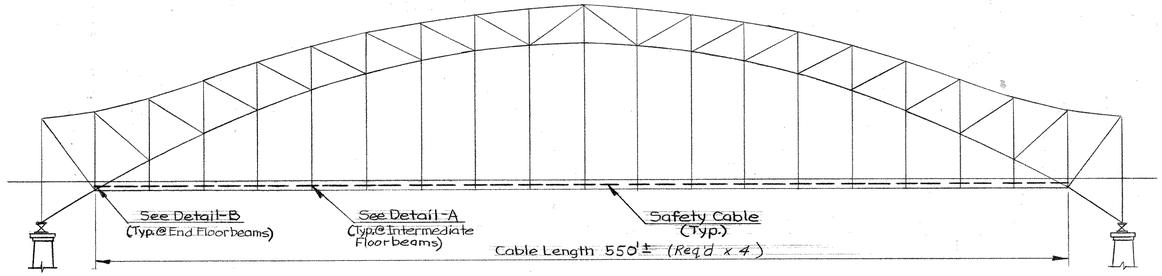
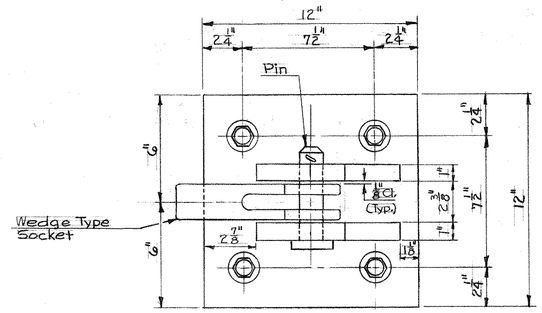
BRUNING 44-132 26280

FORM NO. ENG. 15B ED 1-75

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	31	41



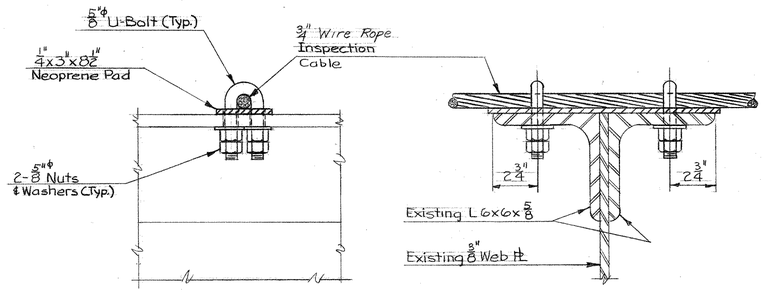
TYPICAL SPAN ELEVATION
Scale 1"=40'



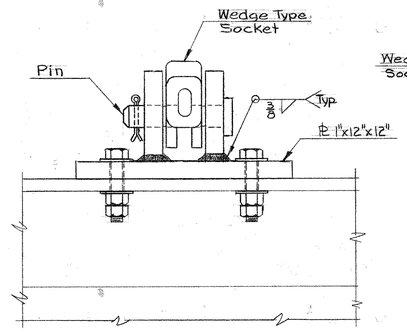
PLAN VIEW

NOTES:

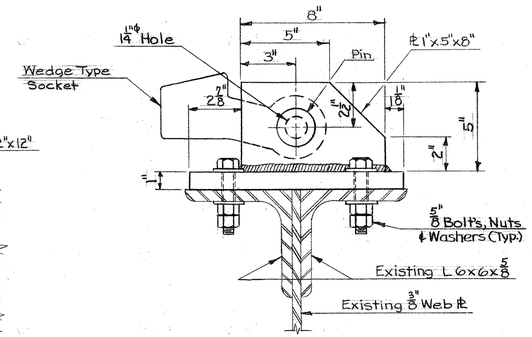
Structural Plates shall conform to ASTM A588 Steel.
5/8"φ U-Bolts, Hex Head Bolts, Nuts and Washers shall conform to ASTM A325.
13/16"φ Holes shall be drilled in new and existing steel as required for installation, cost of drilling and bolting shall be included in the item "Structural Steel (82-153)"
The cost of furnishing and installing Neoprene pads shall be included in the item "¾" Wire Rope Inspection Cable"
The "¾" Wire Rope Inspection Cable" shall conform to the requirements of AASHTO M 30-72 Type I



DETAIL-A
Scale 3"=1'-0"

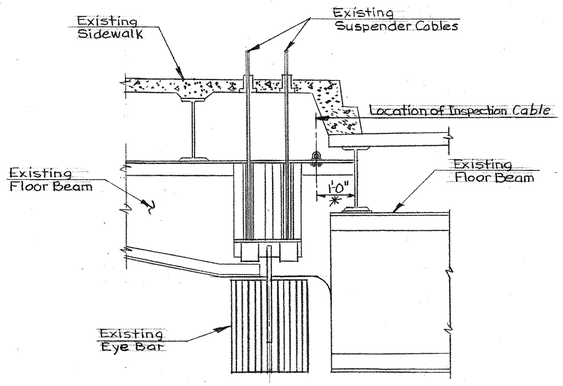


FRONT VIEW



SIDE VIEW

DETAIL-B
Scale 3"=1'-0"



SAFETY CABLE LOCATION
Scale 1"=1'-0"
(North Side Shown South Side Similar)

*Field Conditions may vary. Location of Cable may be adjusted if necessary to clear Conduits and Structural Elements as directed by the Engineer.

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN – PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

SAFETY CABLE INSTALLATION

ENGINEER Bridge Design Unit
DESIGNER W.S.C. | DRAFTSMAN F.T.R. | CHECKER W.S.C.
APPROVED [signature] | DATE 6/28/77
STRUCTURE NO. 82-153-00524 | BRIDGE LOG NO. 00524 | STRUCTURE SHEET NO. 19 OF 25

82 153

473 07

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BRUNING 44-132 26280

FORM NO. ENG. 158 ED. 1-75

F.H.W.A. REGION	STATE	TOWN	FED. AID. PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
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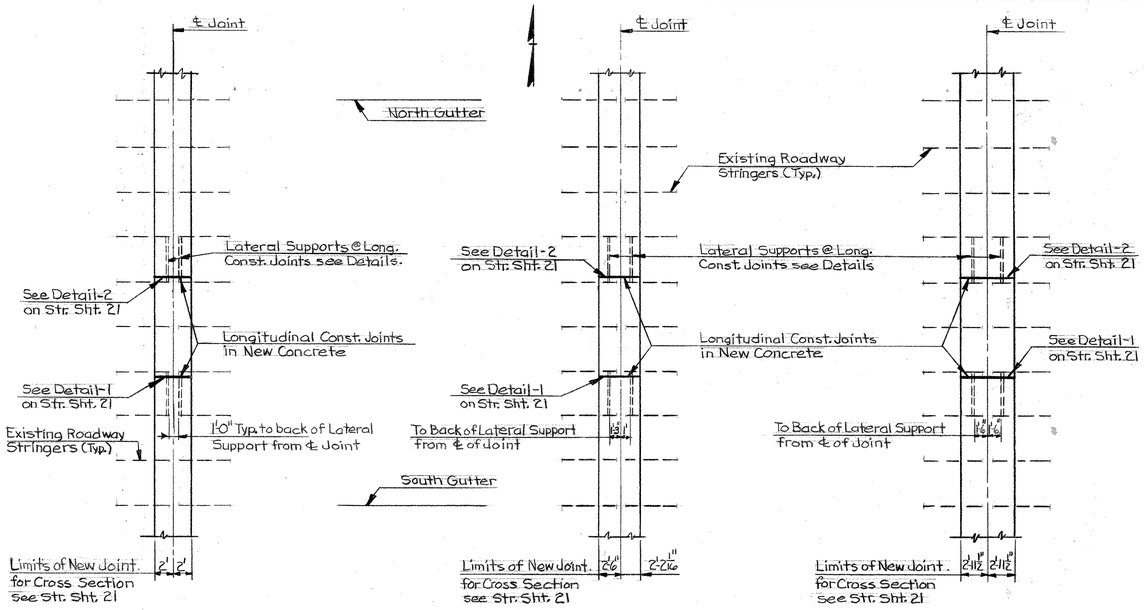
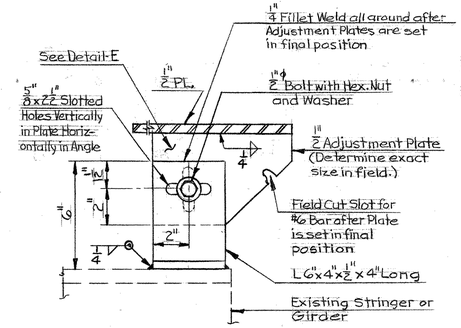


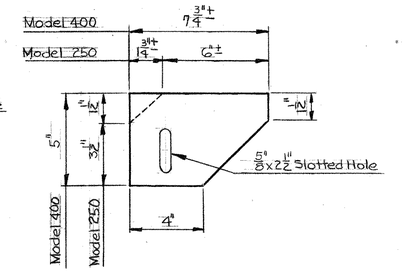
PLAN AT JOINT OVER PIERS 1,2,4,5,8,14,17,19,21,23,25,27,29
Scale 1"=1'-0"

PLAN AT JOINT OVER PIERS 9&11
(Pier 9 Shown Pier 11 Opp. Hand)
Scale 1"=1'-0"

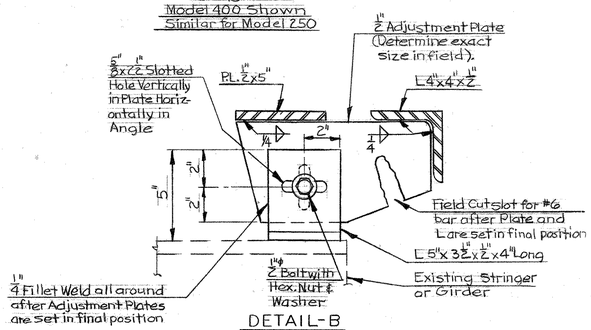
PLAN AT JOINT OVER PIER 10
Scale 1"=1'-0"



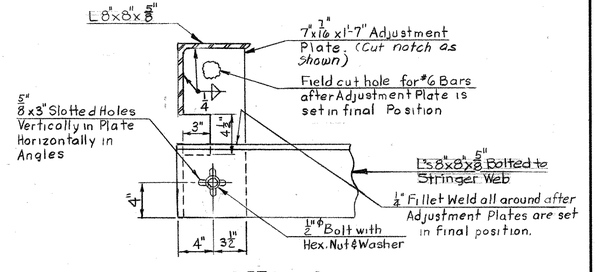
DETAIL-A
Scale 3"=1'-0"
Model 400 Shown
Similar for Model 250



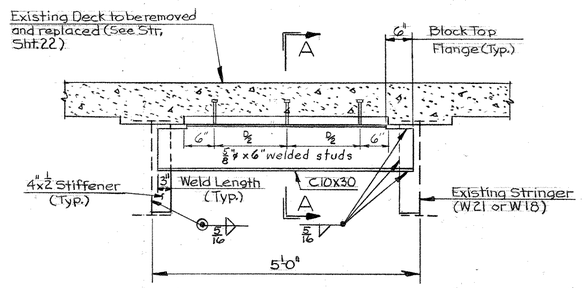
DETAIL-E
Scale 3"=1'-0"



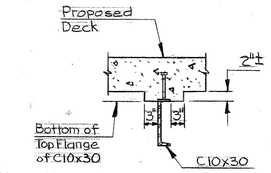
DETAIL-B
Scale 3"=1'-0"



DETAIL-D
Scale 1 1/2"=1'-0"



Supports for Longitudinal Joints over Piers 1,2,4,5,8,14,17,19,21, 23,25,27,29 and Concrete Deck side of Joint over Piers 9&11
Scale 3/4"=1'-0"



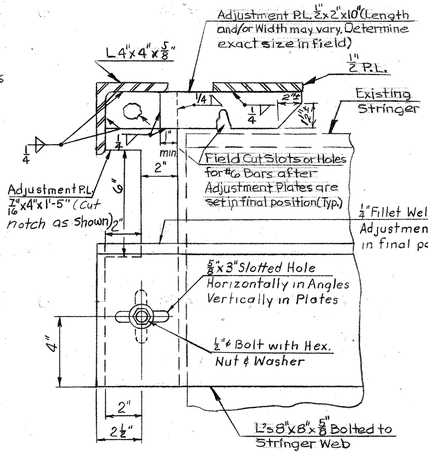
SECTION A-A
Scale 3/4"=1'-0"

NOTES

Lateral Supports shall be installed as shown and as directed by the Engineer. (Field conditions may require slight variations in location of Supports from ℄ of Joint).

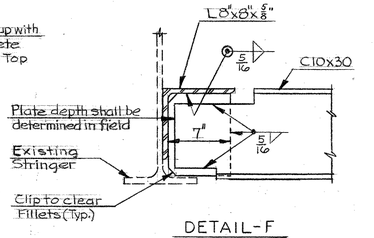
After the deck is removed, the stringers and angles shall be cleaned of all rust dirt etc., in areas where stiffeners are to be welded. Cost of cleaning shall be included in the item "Structural Steel (82-153)."

All steel for Lateral Supports shall conform to A.S.T.M. A-36



DETAIL-C
Scale 3"=1'-0"

NOTES:
Steel for Adjustment Plates and Angles shall conform to ASTM A-36.
1/2" ϕ Bolts, Nuts and Washers shall conform to ASTM A-325.



DETAIL-F
Scale 1 1/2"=1'-0"
(Typical at Angle Connection)

Supports for Longitudinal Joints over Piers 10 and on Grid Deck side of Joint over Piers 9&11
Scale 3/4"=1'-0"

LATERAL SUPPORTS AT LONGITUDINAL CONSTRUCTION JOINTS

Work This Sheet With Structure Sheets 21-24

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

JOINT SUPPORTS & DETAILS

NO.	DATE	DESCRIPTION

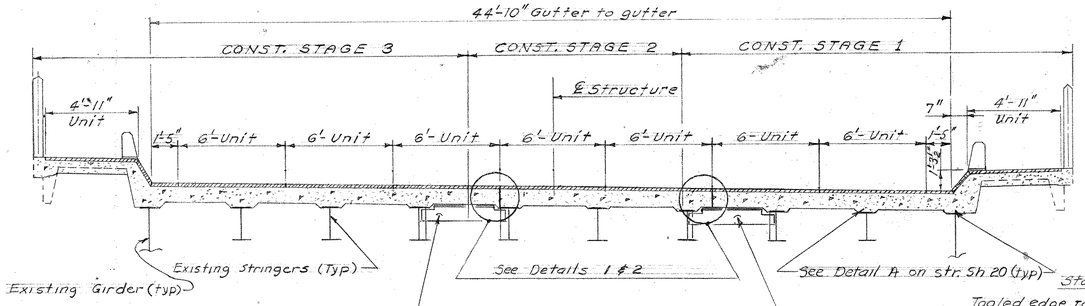
REVISIONS

ENGINEER Bridge Design Unit
DESIGNER W.S.C. DRAFTSMAN F.T.R. CHECKER W.S.C.
APPROVED [signature] DATE 6/28/77
STRUCTURE NO. 82-153-00524
BRIDGE LOG NO.
STRUCTURE SHEET NO. 20 OF 25

82 153
473 07
32

FORM NO. ENG. 15A ED. 1-75

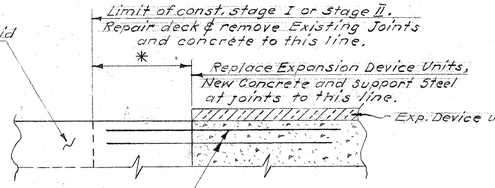
FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	33	41



EXPANSION DEVICE UNITS

MODEL 250 & MODEL 400

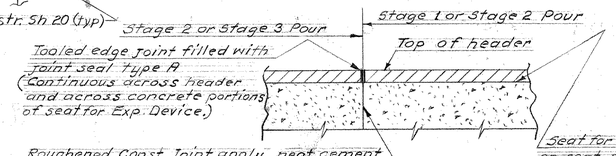
FOR INSTALLATION DETAILS SEE STR. SH. 22 & 24



* 1'-10" at Model 250, 400 & 650 Joints 10" at Model 1300 Joint. Elastomeric Device Units, New Concrete and Supports will be be installed in this area during Stage 2 or Stage 3 Constr. See Detail 2.

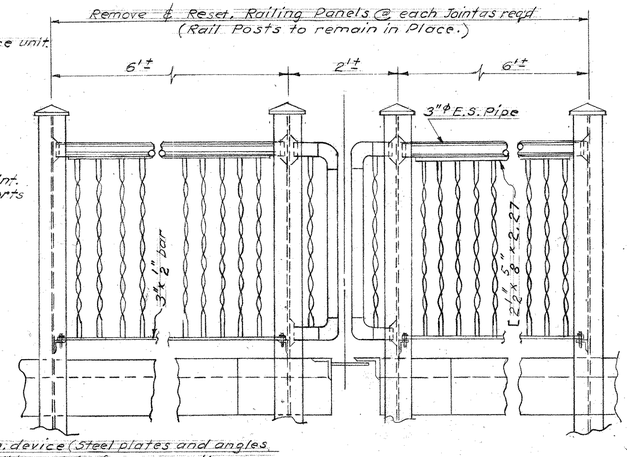
DETAIL 1

NOT TO SCALE.



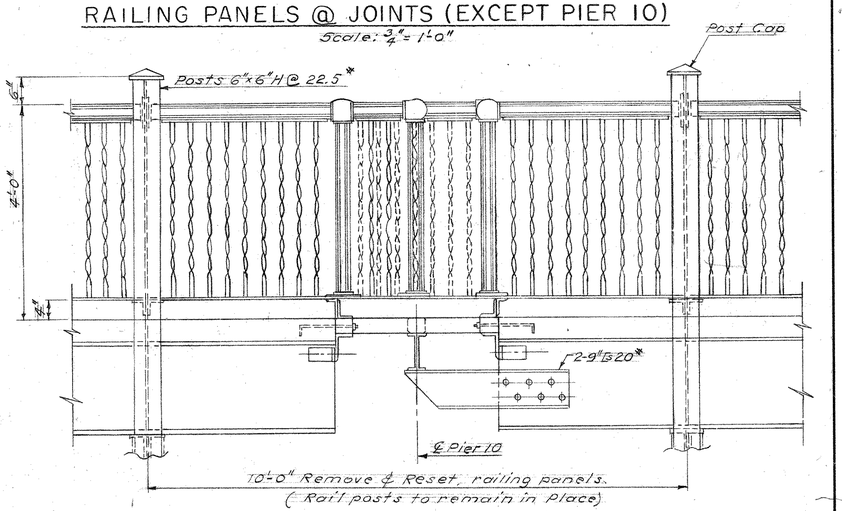
DETAIL 2

NOT TO SCALE.



RAILING PANELS @ JOINTS (EXCEPT PIER 10)

Scale: 3/4" = 1'-0"



RAILING PANELS AT PIER 10

Scale: 3/4" = 1'-0"

EXPANSION DEVICE UNITS

TYPE 650

FOR INSTALATION DETAILS SEE STR. SH. 22 & 24

Support shown for grid deck side of joint - See cross section for Model 250 & Model 400 joint for support on concrete deck side of joint.

EXPANSION DEVICE UNITS

MODEL 1300

FOR INSTALATION DETAILS SEE STR. SH. 23 & 24

CROSS SECTIONS THROUGH REHABILITATED JOINTS

Scale: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION

REVISIONS

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

CROSS SECTIONS & DETAILS AT JOINTS

ENGINEER	BRIDGE DESIGN UNIT		
DESIGNER W.S.C.	DRAFTSMAN G.O.K.	CHECKER W S C	
APPROVED		DATE 6/28/77	
STRUCTURE NO. 82-153-00524		BRIDGE LOG NO. 00524	STRUCTURE SHEET NO. 25 OF 25

82 153

473 07

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OGILVIE PRESS BUFFALO, N.Y.

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	34	41

All new reinf. shall have 2" min cover. Splices shall be For layout of Joint units in cross section, See Str. Sh. 21.
WORK THIS SHEET WITH STR. SH. 20, 21 & 24

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
REVISIONS		

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

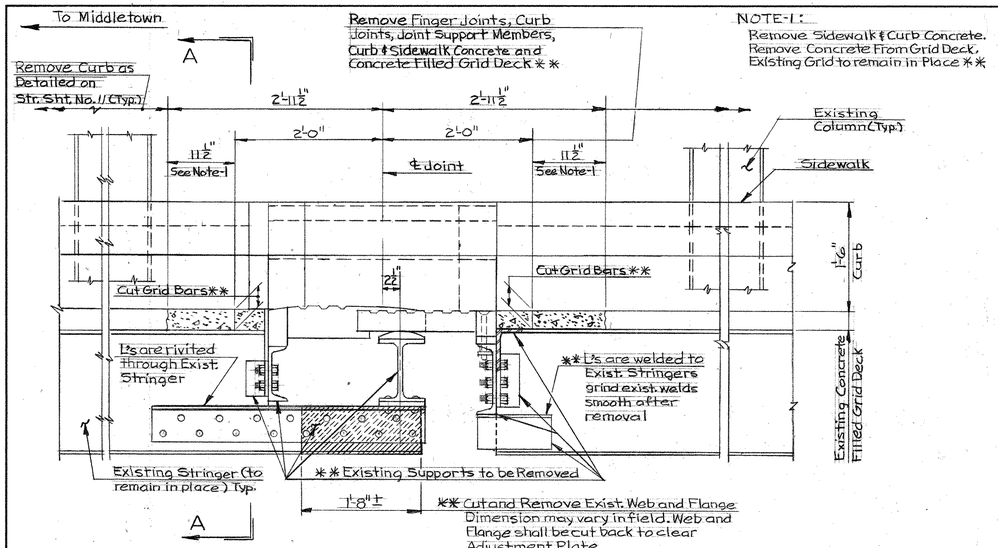
JOINT DETAILS

ENGINEER: Bridge Design Unit
APPROVED: [signature] DATE 6/28/77
DRAFTSMAN: G.O.K. CHECKER: W.S.C. DESIGNER: W.S.C.
STRUCTURE NO. 82-153-00524 STRUCTURE SHEET 22 OF 25

BRUNING 44-131 23530

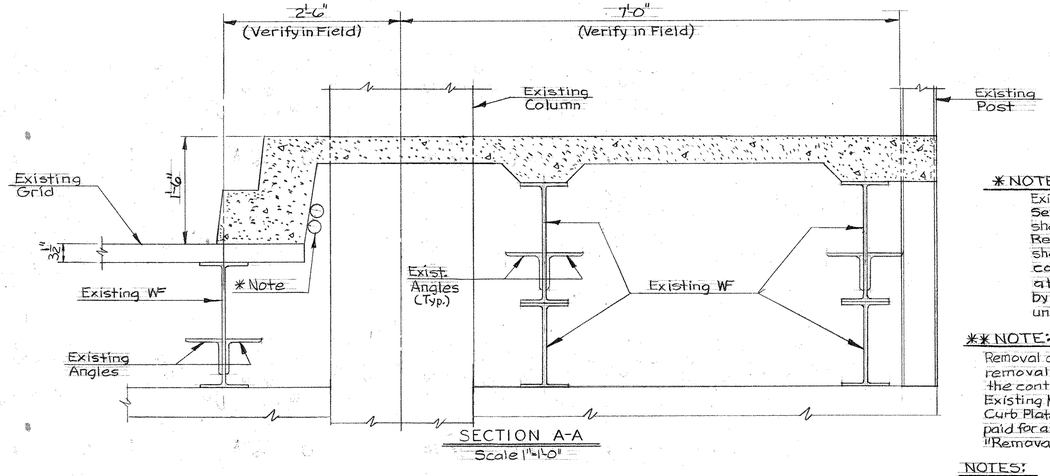
FORM NO. ENG. 15A ED. 1/71

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown-Portland	FU-22(104)	82-153	1977	66	35	41



EXISTING JOINT IN DECK CURB AND SIDEWALKS

Scale 1"=1'-0"



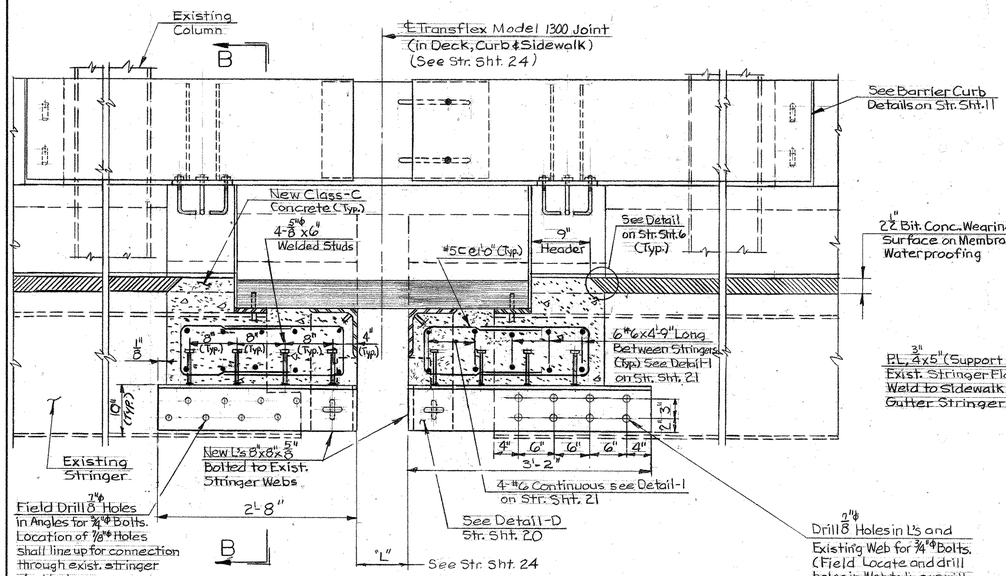
SECTION A-A

Scale 1"=1'-0"

* NOTE:
Existing Electrical Conduits, Electrical Service to Navigation and Aviation Lights shall not be interrupted during Rehabilitation of Joint. The Contractor shall detach the conduits from the existing concrete, provide temporary support and attach to the new concrete as directed by the Engineer. This work will be paid for under the item "Class C Concrete."

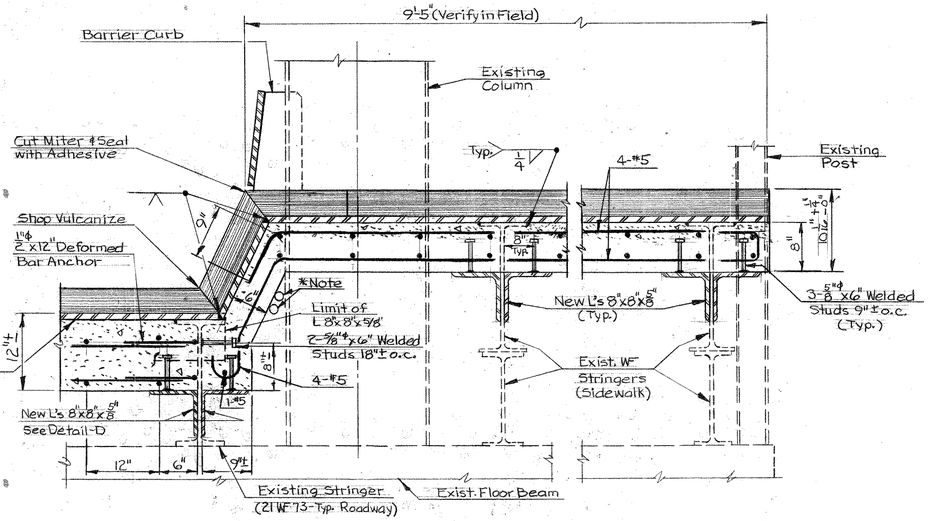
** NOTE:
Removal of sidewalk and curb concrete and removal of concrete from grid will be paid for at the contract unit price per c.y. for "Removal of Existing Masonry". Removal of Finger Joint Plates, Curb Plates and Steel support members will be paid for at the contract unit price per L.f. for "Removal of Steel Expansion Joints".

NOTES:
Reinforcing Steel shall have 2" minimum cover unless shown otherwise. Splices shall be 1'-3".
New Steel shall conform to ASTM A-36.
¾" ø Bolts, Nuts & Washers shall conform to ASTM A-325.
All Contact Surfaces shall be cleaned to bare metal before bolting.



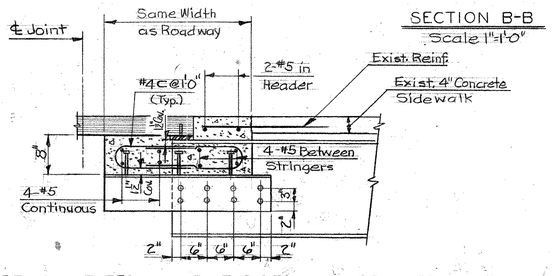
REHABILITATED JOINT IN DECK CURB AND SIDEWALK

Scale 1"=1'-0"



SECTION B-B

Scale 1"=1'-0"



REHABILITATED JOINT AT SIDEWALK STRINGERS

Scale ¾"=1'-0"

For Layout of Joint Units in Cross Section see Str. Sht. 21.
WORK THIS SHEET WITH STR. SHT. 2, 20, 21 & 24

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

JOINT OVER PIER NO. 10

ENGINEER Bridge Design Unit
APPROVED [signature] DATE 6/28/77
DRAFTSMAN F.T.R. CHECKER W.S.C DESIGNER W.S.C.
STRUCTURE NO. 82-153-00524 STRUCTURE SHEET 23 OF 25

BRUNING 44-131 23530

82 153

473 07

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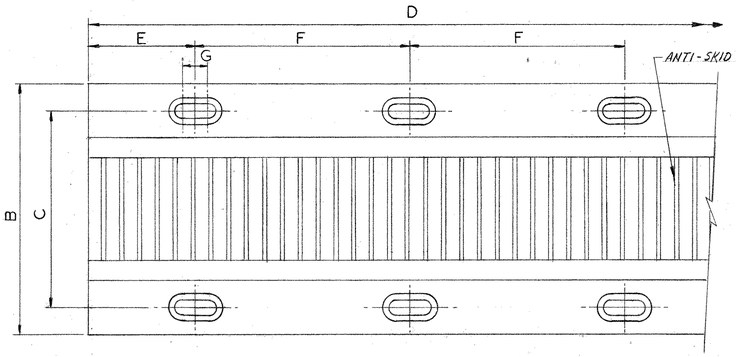
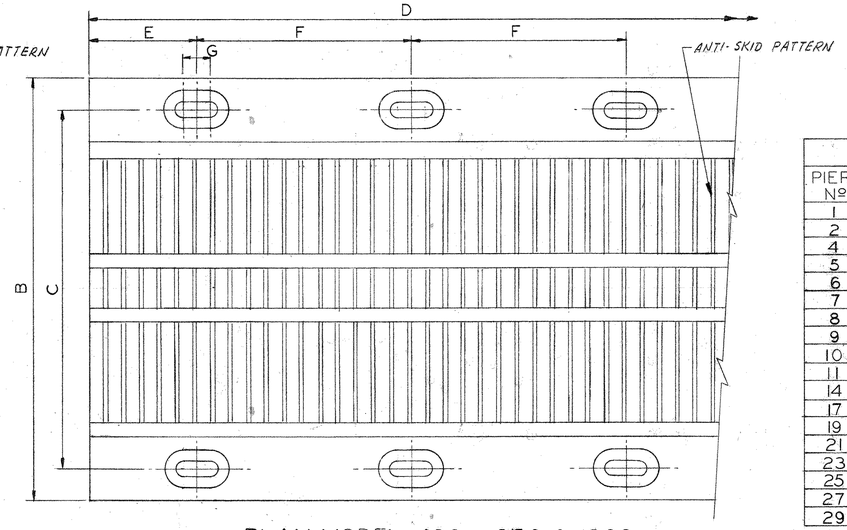
FORM NO. ENG. 15A ED. 1-75

FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	66	36	41



PLAN-MODEL 250



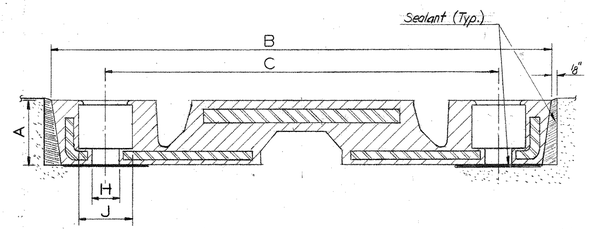
PLAN-MODEL 400 - 650 & 1300

BRIDGE EXPANSION UNIT SCHEDULE

PIER Nº	MODEL	DIMENSIONS (INCHES) A	B	C*	D	E	F	G	H	J	K*	L*	M*
1	400	2.125	23.250	19.625	72.000	6.000	12.000	1.500	0.875	2.125	23.500	4.000	2.188
2	400	"	"	"	"	"	"	"	"	"	"	"	"
4	400	"	"	"	"	"	"	"	"	"	"	"	"
5	250	1.813	14.000	11.000	72.000	6.000	12.000	1.500	0.750	1.500	14.250	2.500	1.875
6	250	"	"	"	"	"	"	"	"	"	"	"	"
7	250	"	"	"	"	"	"	"	"	"	"	"	"
8	250	"	"	"	"	"	"	"	"	"	"	"	"
9	650	3.000	28.500	24.250	72.000	4.000	16.000	1.500	1.000	2.250	28.750	4.750	3.063
10	1300	5.000	47.500	42.500	48.000	6.000	12.000	2.000	1.250	2.750	47.750	7.000	5.063
11	650	3.000	28.500	24.250	72.000	4.000	16.000	1.500	1.000	2.250	28.750	4.750	3.063
14	400	2.125	23.250	19.625	72.000	6.000	12.000	1.500	0.875	2.125	23.500	4.000	2.188
17	250	1.813	14.000	11.000	72.000	6.000	12.000	1.500	0.750	1.500	14.250	2.500	1.875
19	250	"	"	"	"	"	"	"	"	"	"	"	"
21	250	"	"	"	"	"	"	"	"	"	"	"	"
23	250	"	"	"	"	"	"	"	"	"	"	"	"
25	250	"	"	"	"	"	"	"	"	"	"	"	"
27	250	"	"	"	"	"	"	"	"	"	"	"	"
29	250	"	"	"	"	"	"	"	"	"	"	"	"

* @ 60° - See Table A for Variation with Temperature

M* dimensions may vary (∓ 0/4")



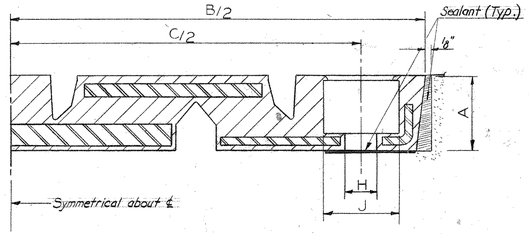
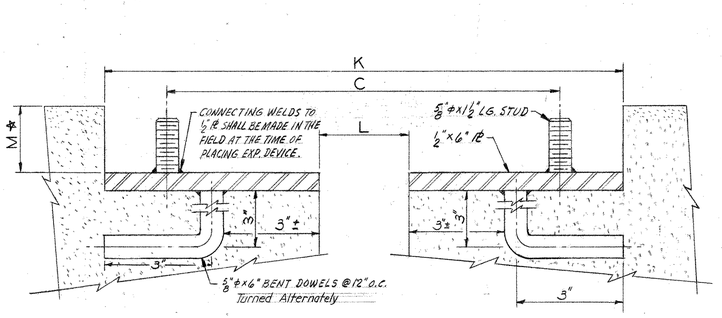
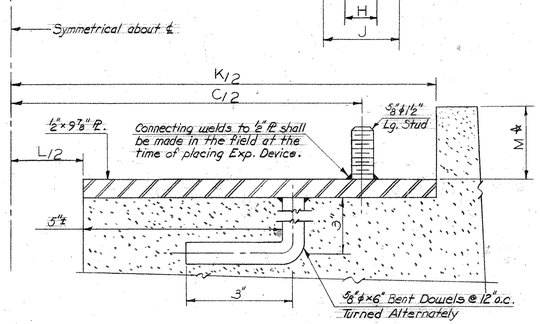


TABLE A

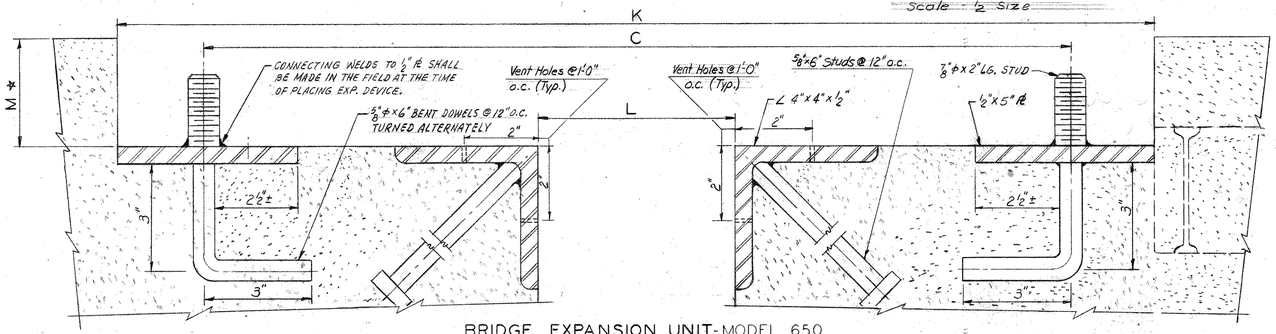
TEMPERATURE - °F	0°			20°			40°			60°			80°			100°		
DIMENSIONS - in.	C	K	L	C	K	L	C	K	L	C	K	L	C	K	L	C	K	L
Piers 1, 14	20.562	24.437	4.935	20.187	24.062	4.561	19.812	23.687	4.187	19.437	23.313	3.813	19.062	22.938	3.439	18.687	22.663	3.065
Piers 2, 4	20.250	24.125	4.625	20.000	23.875	4.375	19.750	23.625	4.125	19.500	23.375	3.875	19.250	23.125	3.625	18.875	22.875	3.375
Piers 17, 19, 21, 23, 25, 27, 29	11.625	14.875	3.125	11.375	14.625	2.875	11.125	14.375	2.625	10.875	14.125	2.375	10.625	13.875	2.125	10.375	13.625	1.875
Pier 10	47.187	52.435	11.719	45.312	50.561	9.831	43.437	48.687	7.944	41.562	46.813	6.056	39.687	44.939	4.169	37.812	43.065	2.281
Piers 5, 6, 7, 8	11.437	14.560	2.810	11.187	14.436	2.686	11.062	14.312	2.562	10.937	14.188	2.438	10.812	14.064	2.314	10.687	13.940	2.190
Piers 9 & 11	25.187	29.685	5.685	24.812	29.311	5.311	24.437	28.937	4.937	24.062	27.663 △ 28.563	4.563	23.687	27.489 △ 28.189	4.189	23.312	27.115 △ 27.815	3.815



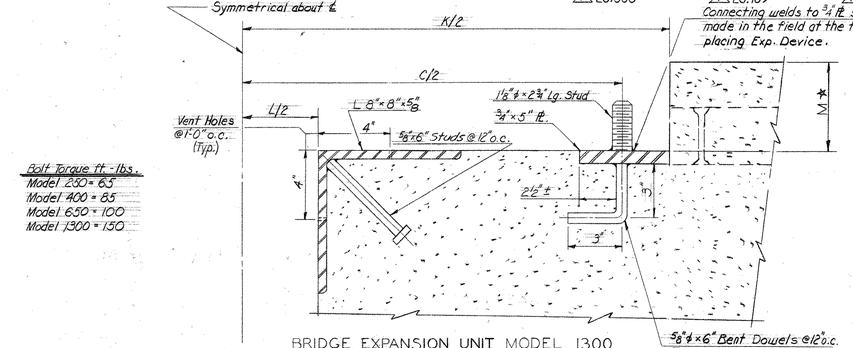
BRIDGE EXPANSION UNIT-MODEL 250
Scale ½ size



BRIDGE EXPANSION UNIT-MODEL 400
Scale ½ size



BRIDGE EXPANSION UNIT-MODEL 650
Scale - ½ size - Shown @ Pier 9 - Opposite hand @ Pier 11



Bolt Torque ft.-lbs.
Model 250 = 65
Model 400 = 85
Model 650 = 100
Model 1300 = 150

BRIDGE EXPANSION UNIT MODEL 1300
Scale 3" = 1'-0"

Work this sheet with Str. Shts. 20 - 23

Notes:

1. All structural steel supports and anchorage assemblies will be paid for at the contract lump sum price for "Structural Steel (82-153)" All steel shall be A-36.
2. Expansion unit sections shall be joined together with a tongue and groove seal except where otherwise shown.
3. Top of angles and plates shall follow the profile grade and roadway and sidewalk cross-slope. Surface of concrete in contact with the expansion units shall be screeded flush with adjacent steel surface, and steel-trowel finished. Prior to placement of the expansion unit, the bearing surfaces shall be checked for linearity, and any high points ground down to the satisfaction of the Engineer.
4. Anchor nuts shall be tightened to the required torque shown above. Do not tighten end nuts until mating sections are engaged. Retighten to required torque 4 to 24 hours after initial tightening.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
△	2/24/78	Dimension Changes - TABLE A

REVISIONS

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN & PORTLAND

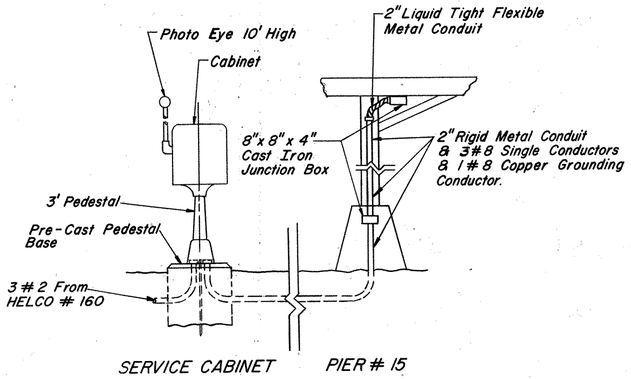
ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

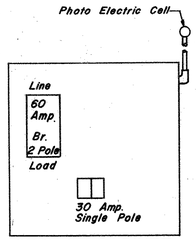
JOINT DETAILS

ENGINEER BRIDGE DESIGN UNIT
DESIGNER W.S.C. DRAFTSMAN W.D.& J.J.C. CHECKER W.S.C.
APPROVED [signature] DATE 6/28/77
STRUCTURE NO. 82-153-00524
BRIDGE LOG NO. 00524 STRUCTURE SHEET NO. 24 OF 25

82 153
473 07
36

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FO-22(104)	82-153	1977	66	37	41





SERVICE CABINET LAYOUT

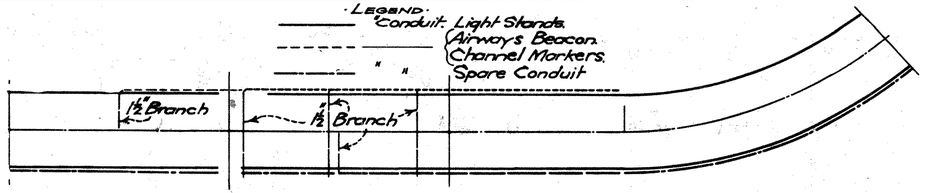
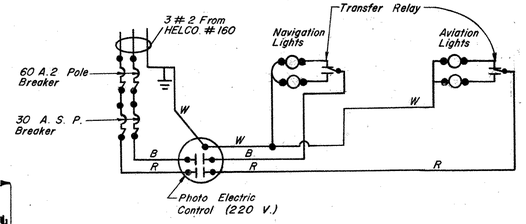
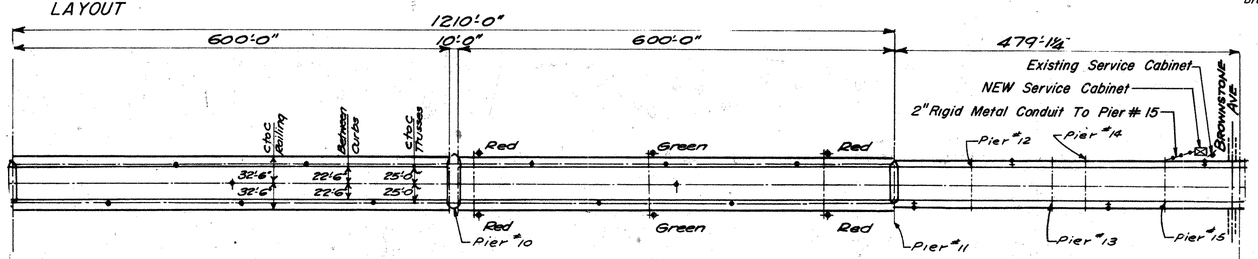


DIAGRAM OF CONDUIT LAYOUT

W - White Wire
B - Black Wire
R - Red Wire



WIRING DIAGRAM



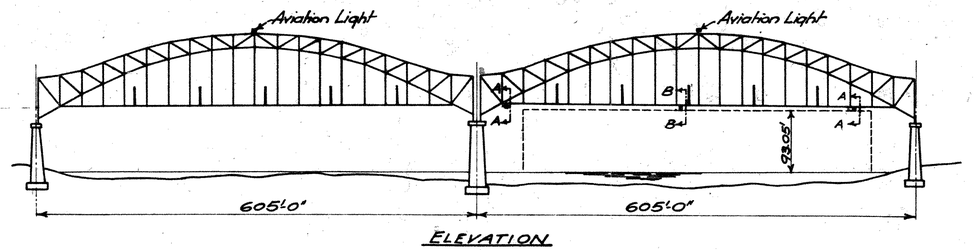
LIGHTING PLAN
Scale 1"-100'-0"

PORTLAND

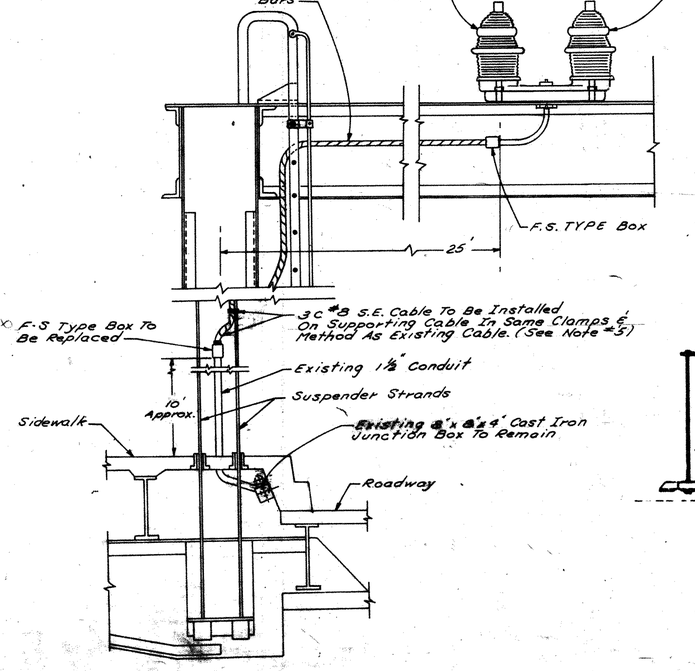
GENERAL NOTES:

1. All Existing Cast Iron Junction Boxes To Remain, And Replace All Cover Mounting Screws With Stainless Steel Screws.
2. All Conductors Shall Be Copper And Insulated For 300 Volts.
3. Install 3-#8 Single Conductors In All Conduit And 3-#8 S.E. Style U Cable Exposed With Straps To The Suspended Strands Every Eight Feet.
4. Existing Aviation And Navigation Lights To Remain On At Night, Even If Temporary Wiring Is To Be Used.
5. All Existing Clamps On Suspender Strands To Be Used If Possible, And All Screws And Nuts To Be Replaced With Stainless Steel

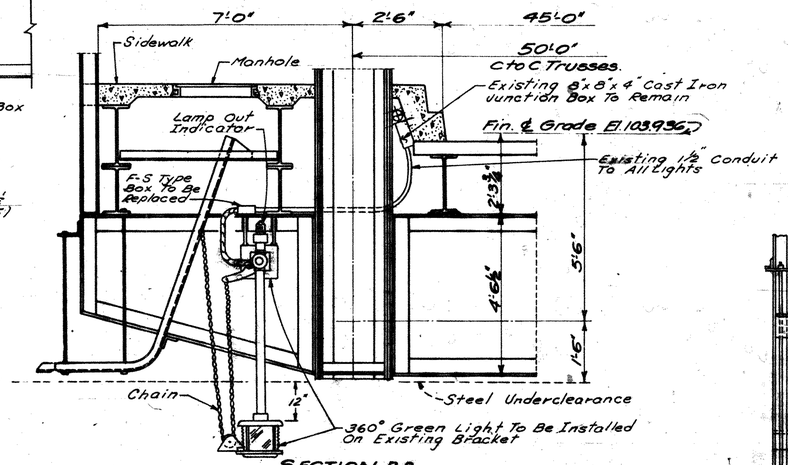
MIDDLETOWN



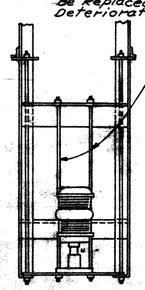
ELEVATION

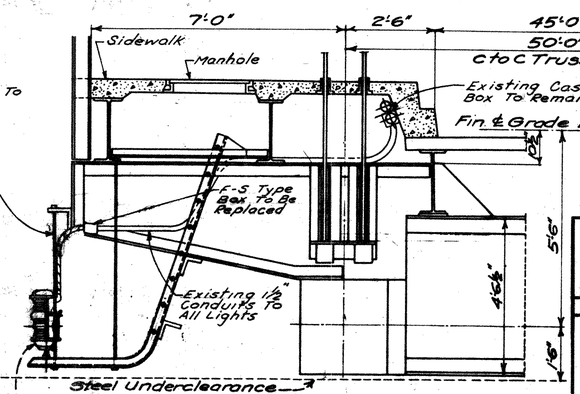


CABLE ATTACHMENT TO AVIATION LIGHTS



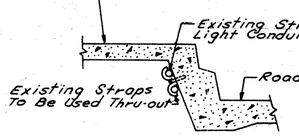
SECTION-B-B



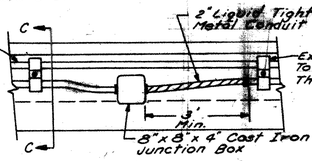


SECTION-A-A

SUPPORTS FOR CHANNEL LIGHTS BETWEEN SPANS 10 AND 11 NORTH AND SOUTH SIDES



SECTION C-C



JUNCTION BOX INSTALLATION NEAR PIER # 14

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

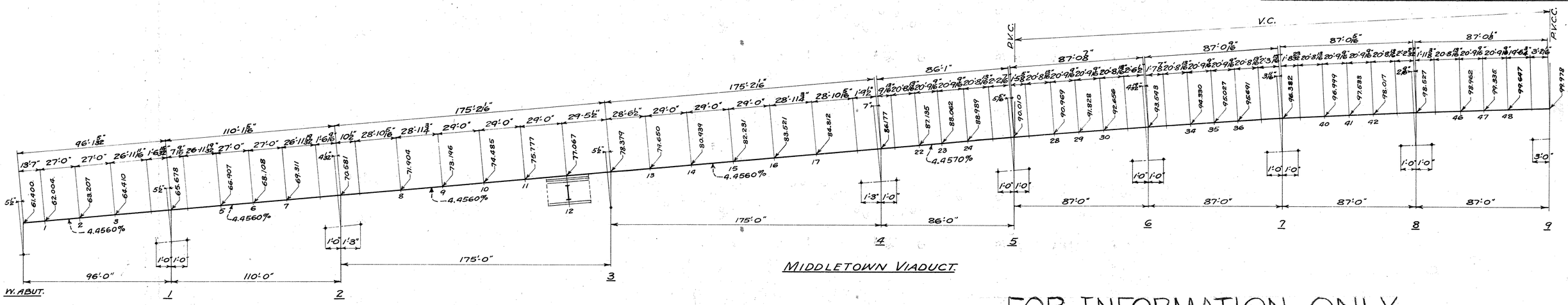
MIDDLETOWN & PORTLAND

ARRIGONI BRIDGE OVER CONNECTICUT RIVER
PLAN SHOWING BEACON AND CHANNEL LIGHTS

SCALES: None
DES. BY S. P. Kurek DATE 6-76
CHECKED BY Hugh W. Miller DATE 9-76
APPROVED BY [illegible] DATE 9-17-76

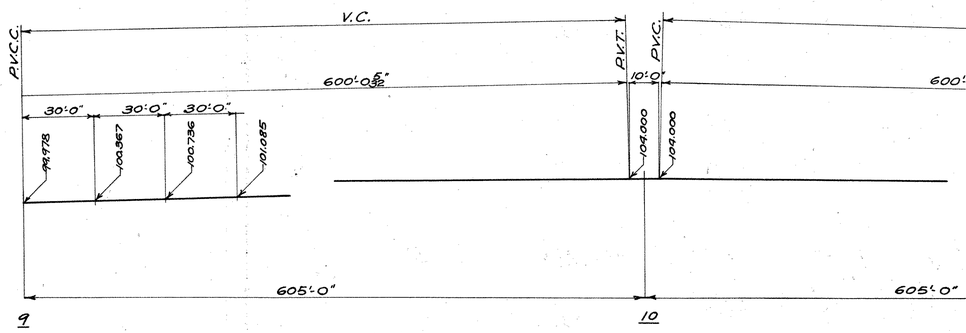
Str. Sht. 25 of 25

FHWA DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	38	41

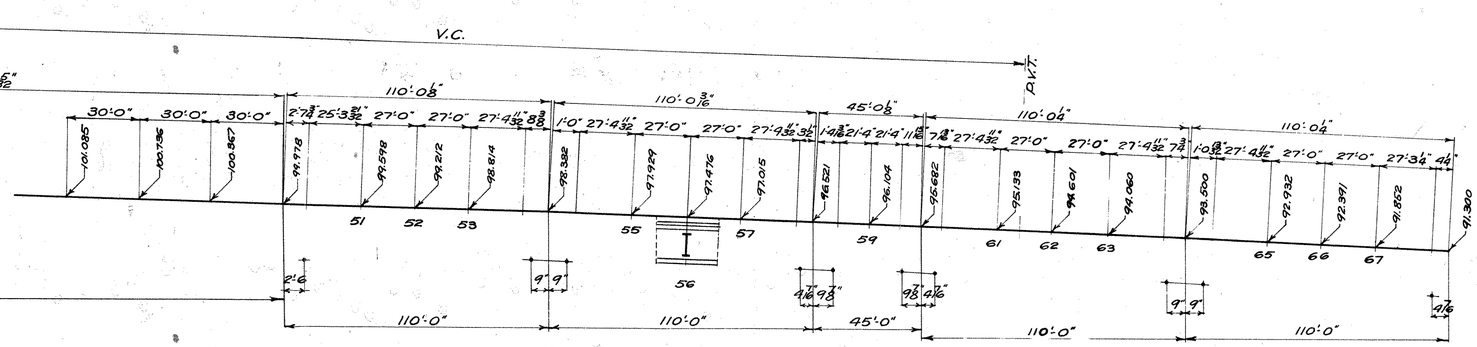


MIDDLETOWN VIADUCT.

FOR INFORMATION ONLY
PROJ. NO. 82-153

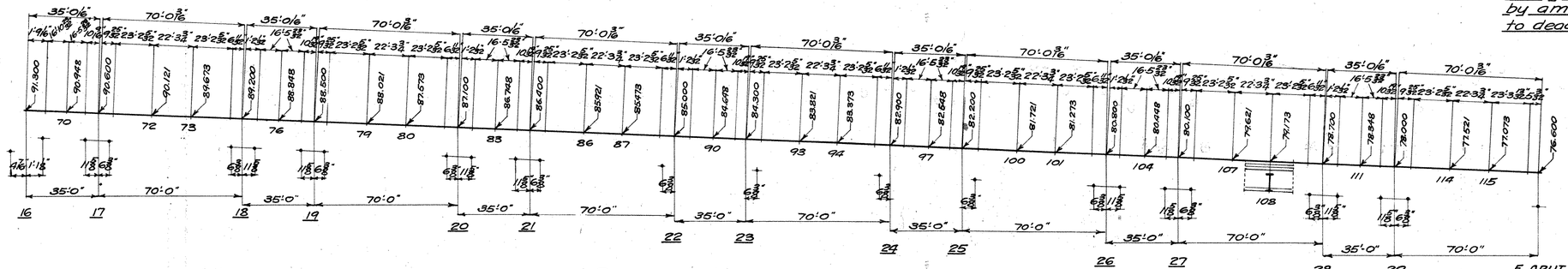


ARCH SPANS.



PORTLAND VIADUCT.

NOTE:,
The elevations shown hereon are finished roadway center line grades and are to be increased where necessary by amounts equal to the anticipated deflections due to dead load of the Concrete Roadway and Sidewalk Slabs.



PORTLAND VIADUCT.

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN - PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

PROFILE ROADWAY CENTERLINE
(EXISTING)

SUPPLEMENTAL SHEET NO. 1 OF 4

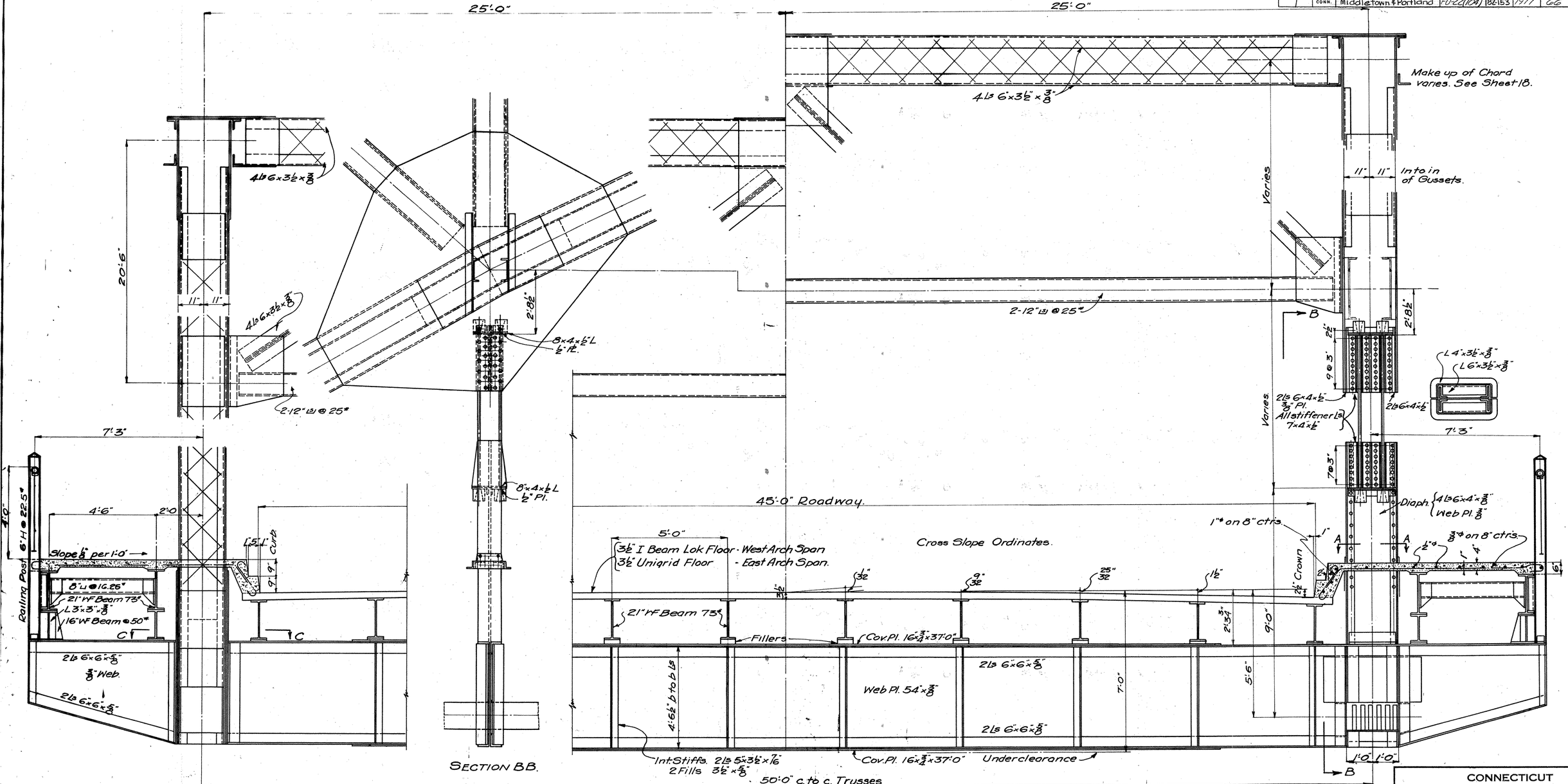
This sheet to be used for informational purposes only.

82 153

473 07

38

FHWA DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	39	41



SECTION B-B.

SECTION C-C.

HALF SECTION AT PANEL POINT "B"

HALF TYPICAL SECTION

Fillers under stringers of West end of West span are of varying thickness to provide for transition in floor from 5" bank at Pier No. 9 to point of normal cross slope.

Details of Sidewalk Slabs and Reinforcing have been modified. For new details, see Sheet No. 36.

FOR INFORMATION ONLY
PROJ. NO. 82-153

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN - PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

ARCH SPANS TYP. CROSS SECTION
(EXISTING)

SUPPLEMENTAL SHEET NO. 2 OF 4

This sheet to be used for informational purposes only.

F.H.W.A. DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	Middletown & Portland	FU-22(104)	82-153	1977	66	40	41

PROFILE AT ℄ OF ROADWAY { Hor. 1"=100' Vert. 1"=20'

The +. and -. distances on the above profile are the distances the various points on the superelevated gutter line are above or below the ℄ grade. Longitudinal dimensions on profile are taken on measured center line chords.

PROFILE OF NORTH & SOUTH GUTTER LINES
Scales { Hor. 1"=40' Vert. 1"=1'

SECTION THRU NORMAL AND SUPERELEVATED ROADWAY ON VIADUCT SPANS
Section is looking East on Middletown Viaduct and West on Portland Viaduct.

HALF SECTION THRU SUPERELEVATED ROADWAY ON 600' SPAN

FOR INFORMATION ONLY
PROJ. NO. 82-153

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MIDDLETOWN - PORTLAND

ARRIGONI BRIDGE
OVER
CONNECTICUT RIVER

PROFILE OF GUTTER LINES
(EXISTING)

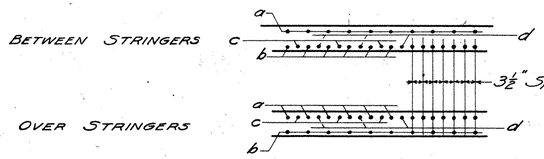
SUPPLEMENTAL SHEET NO. 3 OF 4

This sheet to be used for informational purposes only.

FHWA DIV. OFF.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN	Middletown & Portland	FU-22(104)	82-153	1977	66	41	41

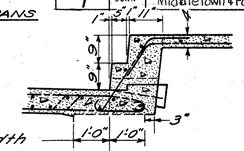
BETWEEN STRINGERS

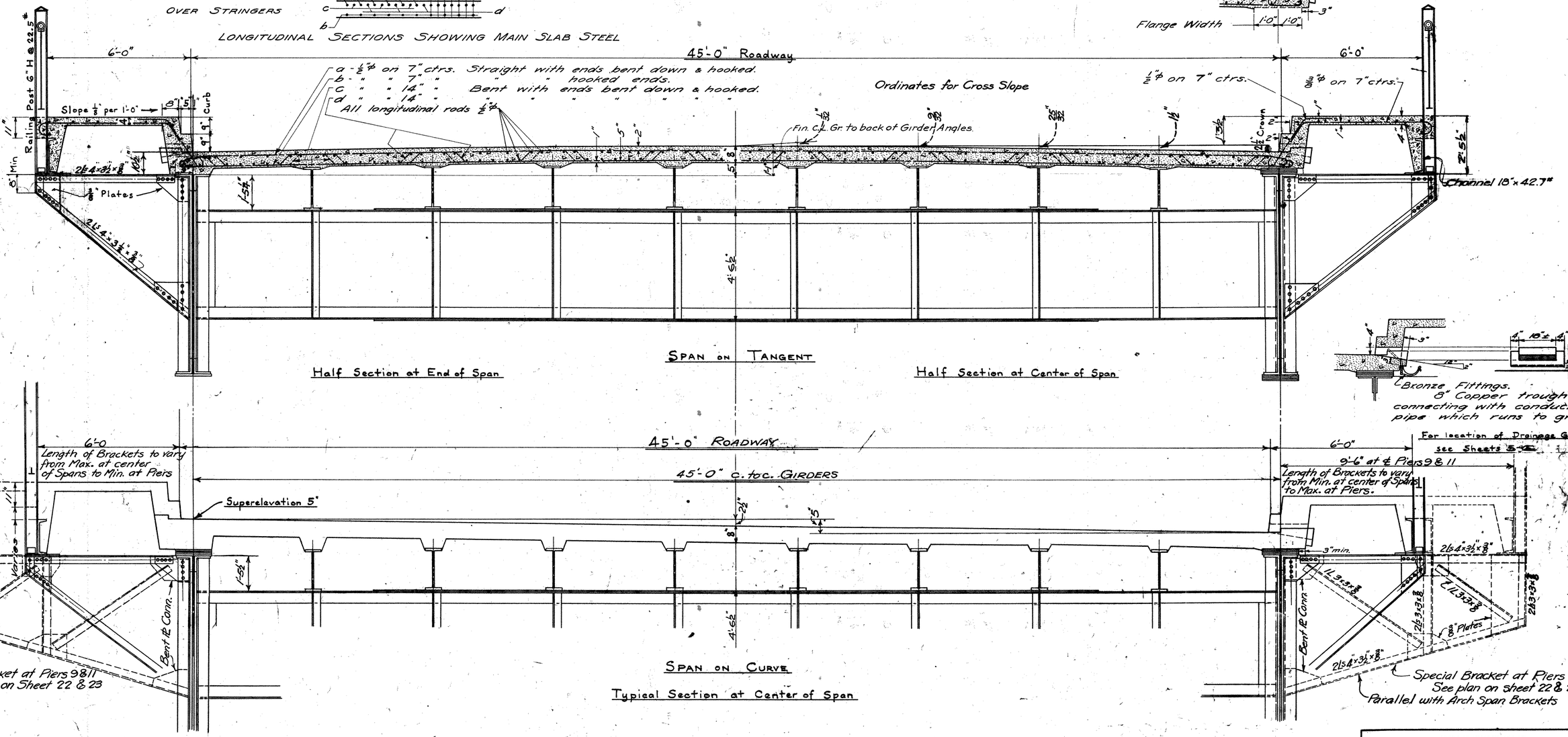
OVER STRINGERS



LONGITUDINAL SECTIONS SHOWING MAIN SLAB STEEL

CURB DETAILS FOR SPANS PIERS 2 TO 4





For location of Drainage Gutters see Sheets 5-36

FOR INFORMATION ONLY
PROJ. NO. 82-153

Roadway and Sidewalk Slabs have been modified. For details and layout of Reinforcing see Sheets 36-37.

Concrete in Roadway, Curbs and Sidewalks to be Class A (1-2-4)
Reinforcing to consist of deformed steel bars of approved shape.
Premoulded Joint Filler(½") to be placed as directed by The Engineer and to be included in the item of Class A Concrete.

NOTE: For Railing details see Sh. #27

CONNECTICUT DEPARTMENT OF TRANSPORTATION
MIDDLETOWN - PORTLAND
ARRIGONI BRIDGE OVER CONNECTICUT RIVER
VIADUCT SPANS TYP. CROSS SECTION (EXISTING)
SUPPLEMENTAL SHEET NO. 4 OF 4
This sheet to be used for informational purposes only.

Form No. Tra-19 Ed 1-66

FHWA REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO	YEAR	ROUTE NO	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	6&17	41-1	41

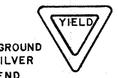
R1 - SERIES

R1-1

BACKGROUND RED
LEGEND SILVER

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24	STC-1	1	.080
(2)	30	STC-2	1	.100
(4)	48	STC-24	2	.100

R1-2



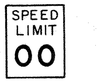
BACKGROUND SILVER
LEGEND RED

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	36	STC-215	1	.100
(4)	60	STC-267	2	.100

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.

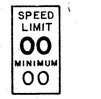
R2 - SERIES

R2-1

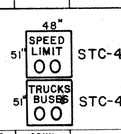


	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	24 X 30	STC-5	1	.080
(3)	36 X 48	STC-303	2	.100
(4)	48 X 60	STC-270	2	.100

R2-4a



SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
48 X 96	STC-431	2-4 LB.	.125



STC-462A
STC-462B

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
	STC-462	2-4 LB.	.125

R3 - SERIES

R3-1

BACKGROUND SILVER
LEGEND BLACK
CIRCLE & DIAGONAL RED

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30 X 30	STC-517	1	.100
	30 X 24	STC-518		.100
	36 X 36	STC-553	2	.100
(3)	36 X 30	STC-554		.100

R3-2

BACKGROUND SILVER
LEGEND BLACK
CIRCLE & DIAGONAL RED

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
	30 X 30	STC-519		.100
(2)	30 X 24	STC-520	1	.100
	36 X 36	STC-549	2	.100
(3)	36 X 30	STC-550		.100

R3-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24	STC-288	1	.080

R3-5

(L)

(R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(L)	30 X 36	STC-300	1	.100
(R)	30 X 36	STC-326	1	.100

R3-6

(L)

(R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(L)	30 X 36	STC-331	1	.100
(R)	30 X 36	STC-301	1	.100

R3-7L

STC-297

R3-7R

STC-327

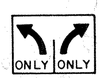
SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
30		1	.100

R3-8

(L)

(R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(L)	30	STC-333	1	.100
(R)	30	STC-332	1	.100



SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
32 X 24	STC-390	1	.100

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
24	S-237-Z	1	.080

STC-329

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
30		1	.100

STC-330

STC-349

STC-350

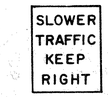
SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
36 X 30		2	.100

R4 - SERIES

R4-1

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	24 X 30	STC-102	1	.080

R4-3



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(3)	48 X 60	STC-491	2	.100

R4-7

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	24 X 30	STC-526	1	.080
	24 X 18	STC-527		.080
(3)	36 X 48	STC-540	2	.100
	36 X 30	STC-541		.100

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
48 X 60	STC-274	2	.100

R5 - SERIES

R5-1

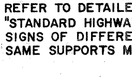
BACKGND SILVER
LEGEND SILVER
SIGN FACE RED

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	30	STC-509	2	.100
(3)	48	STC-511	2	.100

R5-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24 X 12	STC-200	1	.080

R5-9



BKGND. RED
LEGEND SILVER

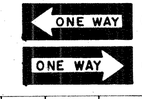
SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
36 X 24	STC-512	2	.100
42 X 30	STC-513	2	.100

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
36 X 24	STC-510	2	.100

SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2) 48 X 60	STC-392	2	.100

R6 - SERIES

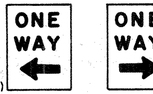
R6-1



(L)
(R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1 L)	36 X 12	STC-88	1	.100
(1 R)	36 X 12	STC-77	1	.100

R6-2



(L)
(R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1 L)	18 X 24	STC-120	1	.080
(1 R)	18 X 24	STC-119	1	.080

R8 - SERIES

R8-4

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	54 X 36	STC-299	2	.100

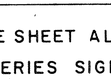
R11 - SERIES

R11-1

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(3)	48 X 60	STC-273	2	.100

R7 - SERIES

BACKGROUND SILVER
LEGEND RED



SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
24 X 28	STC-90	1	.080

COLORS
(STANDARD INTERSTATE COLORS)

R - SERIES
BACKGROUND - SILVER
LEGEND - BLACK (EXCEPT AS NOTED)

ALL COLORS SHALL BE REFLECTORIZED WITH THE EXCEPTION OF BLACK WHICH SHALL BE OPAQUE.

NOTES

1. SUPPORTS - WT/FT 3 LB. (EXCEPT AS NOTED)
2. THE LEGEND "STATE TRAFFIC COMMISSION" SHALL APPEAR ON ALL R-SERIES SIGNS EXCEPT WHEN SUFFIXED WITH THE LETTER "Z"
3. SQUARE TELESCOPIC TUBING SUPPORTS ARE TO BE USED ONLY AT THOSE LOCATIONS SPECIFICALLY DESIGNATED IN THE CONTRACT DOCUMENTS.
4. FOR SPECIFIC LEGEND, SIGN DESIGN, AND BOLT HOLE PATTERN, REFER TO DETAILED DRAWINGS AND FHWA PUBLICATION "STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MUTCD 1971". SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME SUPPORTS MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.

★ DENOTES DETAIL ADDED FOR THIS PROJECT

REVISIONS		
NO.	DATE	DESCRIPTION

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

SIGN FACE SHEET ALUMINUM

R-SERIES SIGNS

TYPICAL DETAILS

SUBMITTED J.A. Gaski Jr. HWY. ASSOC. ENG. DATE 6-21-73
APPROVED J.P. Pitaleo ENG. OF TRAFFIC DATE 6-21-73
SCALE NONE PROJECT NO 82-153

82 153 473 07 41-1

Form No. Tra-19 Ed 1-66

FHWA REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	66 & 17	41-2	41

W1 - SERIES

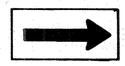
W1-1L

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-6	1	.100
(4)	48	R-373	2	.100

W1-1R

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-5	1	.100
(4)	48	R-372	2	.100

W1-6



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2L) OR (2R)	48X24	R-1	2	.100

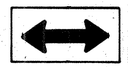
W1-2L

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-28	1	.100
(4)	48	R-223	2	.100

W1-2R

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-27	1	.100
(4)	48	R-222	2	.100

W1-7



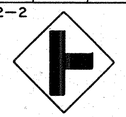
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	48X24	R-7	2	.100

W2 - SERIES

W2-1

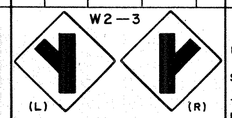
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-26	1	.100
(3)	36	R-362	1	.100
(4)	48	R-236	2	.100

W2-2



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2L) OR (2R)	30	R-25 R & L	1	.100

W2-3



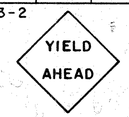
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2L)	30	R-110	1	.100
(2R)	30	R-109	1	.100

W3 - SERIES

W3-1

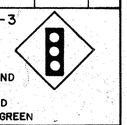
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	30	R-186	1	.100
(3)	48	R-187	2	.100

W3-2



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	30	R-105	1	.100

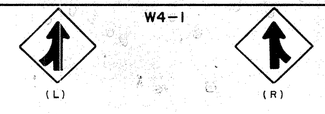
W3-3



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	36	R-353	1	.100
(3)	48	R-317	2	.100

W4 - SERIES

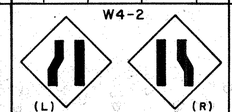
W4-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L)	30	R-356	1	.100
(3L)	48	R-355	2	.100

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1R)	30	R-351	1	.100
(3R)	48	R-350	2	.100

W4-2



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2L)	36	R-442	1	.100
(2R)	36	R-259	1	.100
(3L)	48	R-311	2	.100
(3R)	48	R-309	2	.100

W6 - SERIES

W6-1

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	30	R-333	1	.100
	24X18	R-334		.100
(2)	36	R-357	1	.100
	24X18	R-334		.100

W6-2

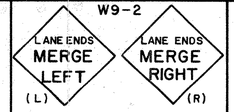
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	30	R-333	1	.100
	24X18	R-332		.100
(2)	36	R-357	1	.100
	24X18	R-332		.100

W6-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	30	R-327	1	.100
	24X18	R-328		.100
(3)	36	R-359	1	.100
	24X18	R-328		.100
(4)	48	R-404	2	.100
	36X30	R-405		.100

W9 - SERIES

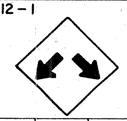
W9-2



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L)	48	R-156	2	.100
(1R)	48	R-155	2	.100

W12 - SERIES

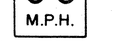
W12-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24	R-104	1	.080
(2)	24	R-209	1	.080
(4)	48	R-210	2	.100

W13 - SERIES

W13-1

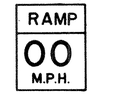


	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	18	R-168	1	.080
(2)	24	R-209	1	.080

W13-2

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(3)	48X60	R-396	2	.100

W13-3



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(3)	48X60	R-398	2	.100

M1 - SERIES

M1-1

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X24	S-539	1	.080
(2)	36X36	S-786	2	.100
(3)	48X48	XS-391	2	.100

M1-4

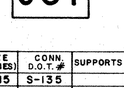
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24	S-115	1	.080
(2)	36	S-234	2	.100

M1-6

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24	S-116	1	.080
(2)	36	S-235	2	.100

M2 - SERIES

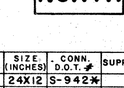
M2-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	21X15	S-135		.080
(2)	21X15	S-44		.080

M3 - SERIES

M3-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X12	S-942*		.080
(2)	24X12	S-941*		.080
(3)	30X15	S-122*		.100
(4)	30X15	S-272*		.100

M3-2

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X12	S-942*		.080
(2)	24X12	S-941*		.080
(3)	30X15	S-122*		.100
(4)	30X15	S-272*		.100

M3-3

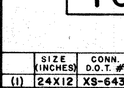
	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X12	S-942*		.080
(2)	24X12	S-941*		.080
(3)	30X15	S-122*		.100
(4)	30X15	S-272*		.100

M3-4

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X12	S-942*		.080
(2)	24X12	S-941*		.080
(3)	30X15	S-122*		.100
(4)	30X15	S-272*		.100

M4 - SERIES

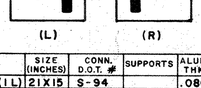
M4-5



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	24X12	XS-643		.080
(2)	24X12	XS-71		.080

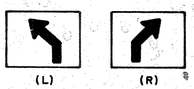
M5 - SERIES

M5-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L) OR (1R)	21X15	S-94		.080
	21X15	S-139		.080
(2L) OR (2R)	21X15	S-93		.080
	21X15	S-95		.080

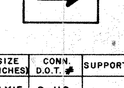
M5-2



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L)	21X15	S-138		.080
(1R)	21X15	S-141		.080
(2L)	21X15	S-114		.080
(2R)	21X15	S-140		.080

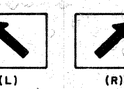
M6 - SERIES

M6-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L) OR (1R)	21X15	S-119		.080
(2L) OR (2R)	21X15	S-81		.080

M6-2

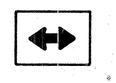


	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L)	21X15	S-97		.080
(1R)	21X15	S-100		.080
(2L)	21X15	S-82		.080
(2R)	21X15	S-83		.080

M6-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	21X15	S-99		.080
(2)	21X15	S-98		.080

M6-4



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1)	21X15	S-120		.080
(2)	21X15	S-85		.080

D - SERIES

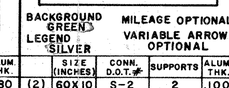
D9-2

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(R)(L) OR (V)	24	XS-688		.080
	24 X 6	XS-689	1	.080

D9-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(L)(R) or (V)	24	XS-762	1	.080

D1-1



	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(2)	60X10	S-2	2	.100
(3)	60X20	S-3	2	.100

D10-1 D10-2 D10-3

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
D10-1	12X24	S-891	1	.080
D10-2	12X36	S-892	1	.080
D10-3	12X48	S-893	1	.080

D1-a

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
	36X9	XS-680	2	.100

D10-4

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
	78X78	XS-101	2-4 LB.	.125

E5 - SERIES

E5-1

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(L)	72X60	XS-755L	2 - 4LB.	.125
(R)	72X60	XS-755R	2 - 4LB.	.125

E5-1a

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORTS	ALUM. THK.
(1L)	72X60	XS-756L	2 - 4LB.	.125
(1R)	72X60	XS-756R	2 - 4LB.	.125
(2L)	90X60	XS-812L	2 - 4LB.	.125
(2R)	90X60	XS-812R	2 - 4LB.	.125

NOTES

1. SUPPORTS — WT/FT. 3 LB(EXCEPT AS NOTED)
2. SQUARE TELESCOPIC TUBING SUPPORTS ARE TO BE USED ONLY AT THOSE LOCATIONS SPECIFICALLY DESIGNATED IN THE CONTRACT DOCUMENTS.
3. FOR SPECIFIC LEGEND, SIGN DESIGN, AND BOLT HOLE PATTERN, REFER TO DETAILED DRAWINGS AND FHWA PUBLICATION "STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MUTCD 1971" SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME SUPPORTS MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.

*VARIABLE LEGEND

**FOR ARROWS USE M5 & M6 SERIES (1)

COLORS

(STANDARD INTERSTATE COLORS)

W - SERIES
BACKGROUND - YELLOW
LEGEND - BLACK (EXCEPT AS NOTED)

M2 - M6 SERIES
(1) & (3)
BACKGROUND - BLUE
LEGEND - SILVER
(2) & (4)
BACKGROUND - SILVER
LEGEND - BLACK

D - SERIES
AS NOTED

E - SERIES
BACKGROUND - GREEN
LEGEND - SILVER

ALL COLORS SHALL BE REFLECTORIZED WITH THE EXCEPTION OF BLACK WHICH SHALL BE OPAQUE

REVISIONS		
NO.	DATE	DESCRIPTION
1	2-6-74	ADDED D9-2 & REVISED E5-1a
2	1-27-76	ADDED D9-3 & XS-101 SIGNS
3	3-31-77	REVISED COLORS OF D1-1 TO GREEN & SILVER
4	11-1-77	OBSOLETE SUBPLATES REMOVED.

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

SIGN FACE SHEET ALUMINUM

W, M, D & E SERIES SIGNS

TYPICAL DETAILS

SUBMITTED A.O. Gaudreau DATE 6-21-73
HWY. ASSOC. ENG.
APPROVED J.J. Peters DATE 6-21-73
ENG. OF TRAFFIC

SCALE NONE PROJECT NO. 82-153

82 153

473 07

41-2

FHWA REGION NO	STATE	TOWN	FED AID PROJ NO	PROJ NO	YEAR	ROUTE NO	SHEET NO	TOTAL SHEETS
1	CONN	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	66 & 17	41-3	41

NOTES:

Square Tubular Sign Supports are to be used only where indicated on the plans.

The steel posts shall be square tubes formed of 12 gage (.105 U.S.S. Gage) cold rolled carbon steel conforming to A.S.T.M.-A366. They shall be hot dip galvanized to provide a zinc coating of 1.25 oz. in conformance with ASTM-A525. Wall thickness tolerance shall not exceed +.011, -.008 inch.

Tubing shall be corner welded by high-frequency resistance welding, or approved equal, and externally scarfed to agree with corner radii. Consecutive size tubes shall telescope freely for a minimun of 10'. Tolerance on hole size shall not exceed $\frac{1}{64}''\pm$. Tolerance on hole spacing shall not exceed $\frac{1}{8}''\pm$ in 20'.

Installation: Sign post anchor can be driven through blacktop surfaces without first opening a hole. However, in concrete surfaces a hole must be made prior to driving anchor. Driving caps must be used.

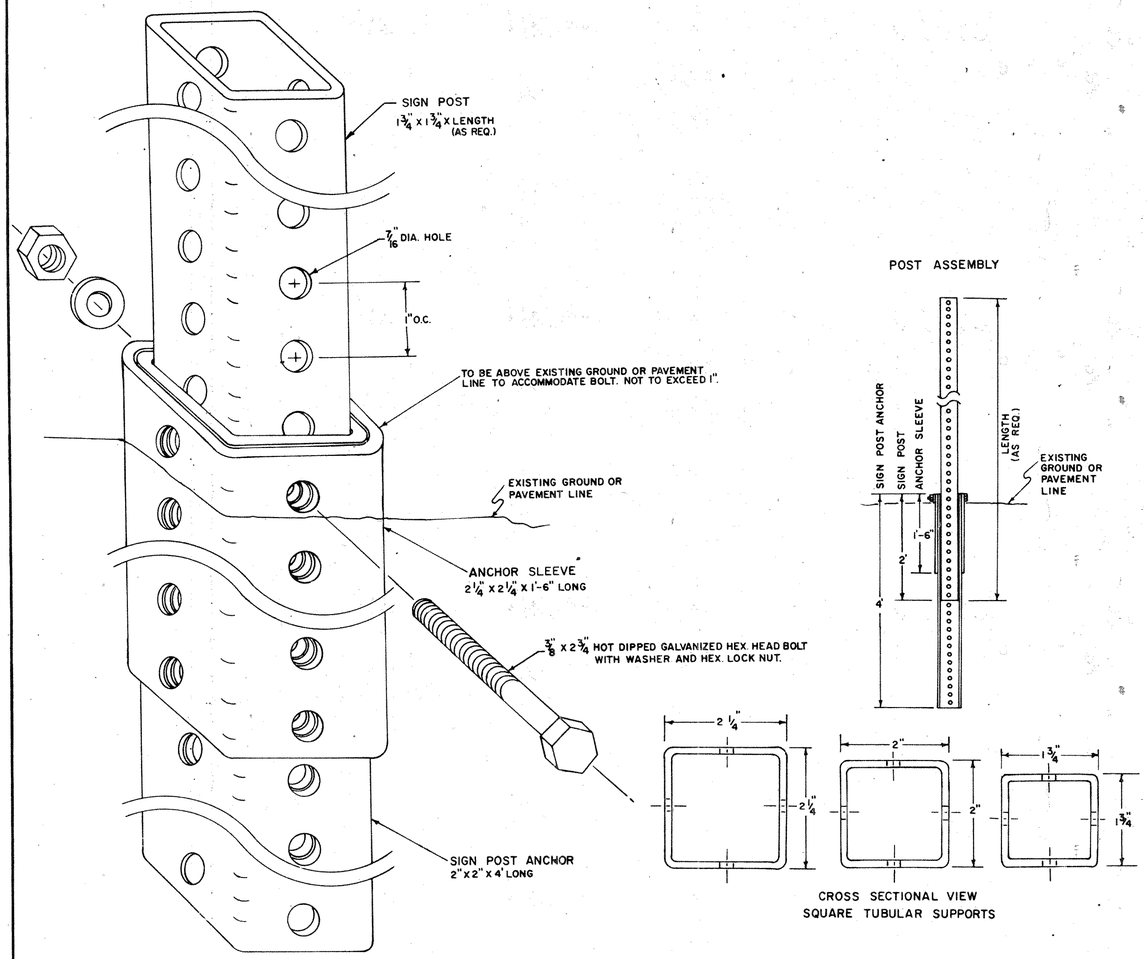
Step 1 - Drive sign post anchor to within three or four inches of surface.

Step 2 - Drive anchor sleeve until top is flush with top of sign post anchor and holes match, then drive both sign post anchor and anchor sleeve until one hole is exposed above ground surface for bolt connection. Exposed length not to exceed 1".

Step 3 - Insert sign post and bolt in place.

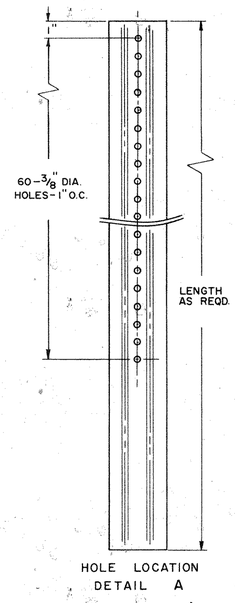
Single post installation for signs with total area not exceeding 10 square feet. Two post installation for signs with total area over 10 square feet but not to exceed 20 square feet.

Connecting bolt shall be installed perpendicular to the direction of traffic.

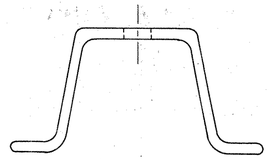


POST ASSEMBLY

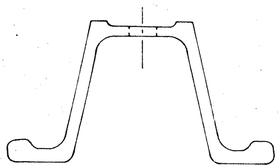
CROSS SECTIONAL VIEW
SQUARE TUBULAR SUPPORTS



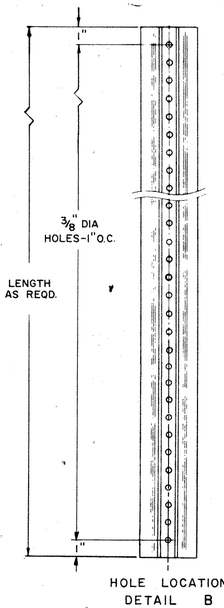
HOLE LOCATION
DETAIL A



TYPICAL
METAL SIGN
POST
DETAIL A

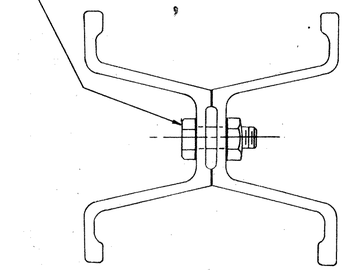


TYPICAL
METAL SIGN
POST
DETAIL B



HOLE LOCATION
DETAIL B

5/16" Bolts shall be used to assemble the double section. Bolt spacing: 16" on center above ground and 4" on center below ground level. All connecting bolts shall be tightened to 30 foot pounds torque.



TYPICAL DOUBLE SECTION

REVISIONS		
NO.	DATE	DESCRIPTION

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

TYPICAL METAL SIGN POSTS FOR SIGN FACE SHEET ALUMINUM

SUBMITTED BY N. A. Haslexraff Hwy. Assoc. Eng. DATE 6-14-74

APPROVED J. H. Catalanas Eng. of Traffic DATE 6-14-74

SCALE NONE PROJECT NO. 82-153

82 153

473 07

41-3

Form No. Tr-19 Ed 1-68

FUR ROAD DIV. NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN-PORTLAND	FU-22(104)	82-153	1977	66 & 17	41-4	41

G20 SERIES

G20-2

END CONSTRUCTION

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60 X 24	C-1404	2

G20-2a

END ROAD WORK

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48 X24	C-1412	2

WORK AREA BE PREPARED TO STOP

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3019	1
48	C-2012	2

NEXT 0 MILES

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
72X14	C-1420	

ROAD CONSTRUCTION NEXT 0 MI. BE PREPARED TO STOP

NOTE:
THIS SIGN SHALL BE FABRICATED WITH BATTENS

CONN. D.O.T. #	SIZE (INCHES)	SUPPORT
C-1428	120"X 10.8"	BREAKAWAY

M4 SERIES

M4-10

DETOUR (R) DETOUR (L)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(R)	48 X18	C-1401	2
(L)	48 X18	C-1402	2

M4-8

DETOUR

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
21X9	C-1407	

W1 SERIES

W1-1L

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3011	1
(E)	48	C-2031	2

W1-1R

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3010	1
(E)	48	C-2030	2

W1-6

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36 X18	C-1410	1
48 X24	C-1409	2

W1-2L

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3013	1
(E)	48	C-2033	2

W1-2R

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3012	1
(E)	48	C-2032	2

W1-7

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48X24	C-1408	2

W1-4L

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3022	1
(E)	48	C-2020	2

W1-4R

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3021	1
(E)	48	C-2019	2

W4 & W9 SERIES

W9-2

LANE ENDS MERGE LEFT (L) LANE ENDS MERGE RIGHT (R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(L)	48	C-2010	2
(R)	48	C-2011	2

W4-2

(L) (R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(L)	48	C-2028	2
(R)	48	C-2027	2

W6 SERIES

W6-3

TWO WAY TRAFFIC

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2015	2
24 X18	C-2016	

W13 SERIES

W13-1

00 M.P.H.

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(A)	18 X18	C-3016	1
(B)	24X24	C-2022	1

CONSTRUCTION AREA 00 M.P.H.

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
72 X24	C-1418	2

REDUCE SPEED TO 00 MPH

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3006	1
48	C-2008	2

SPEED LIMIT AHEAD 00 M.P.H.

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
72X24	C-1419	2

SHOULDER CLOSED

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2009	2

USE SHOULDER

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2026	2

STAY IN LINE

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2001	2

W20 SERIES

W20-1

ROAD CONSTRUCTION AHEAD

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3001	1
(E)	48	C-2005	2

W20-7

FLAGMAN AHEAD

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3005	1
(E)	48	C-2029	2

W20-2

DETOUR 1000 FT

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3002	1
(E)	48	C-2006	2

CROSSOVER 1000 FT AHEAD

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2017	2

W20-4

ONE LANE ROAD AHEAD

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3004	1

SLOW MOVING TRUCKS AHEAD

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
96X48	C-1415	

W20-5

LEFT LANE CLOSED 1000 FT (L) RIGHT LANE CLOSED 1000 FT (R)

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(L)	48	C-2002	2
(R)	48	C-2003	2

W21 SERIES

W21-1

MEN WORKING

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(C)	30	C-3015	1
(D)	36	C-3008	1
(E)	48	C-2021	2

MOWING

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3009	1
48	C-2013	2

W21-2

FRESH OIL

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3003	1

LINE PAINTING

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
96X18	C-1414	

W21-6

SURVEY CREW

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3007	1

W22 SERIES

W22-1

BLASTING ZONE 1000 FT

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36	C-3020	1
(E)	48	C-2025	2

W22-3

END BLASTING ZONE

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36X30	C-1422	2
(E)	42X36	C-1421	2

W22-2

TURN OFF 2-WAY RADIO

	SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
(D)	36X30	C-1424	2
(E)	42X36	C-1423	2

CROSS OVER

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48	C-2004	2

CROSSOVER 2 LANES

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60X66	C-1426	2 - 4Lb.

(BLANK)

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
36	C-3014	1
48	C-2014	2

CROSSOVER 2 LANES

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60X66	C-1427	2-4 Lb.

OVERLAY PANELS

2 NUMBER 3 ON OTHER SIDE 2
C-3017 C-2023

5 BLANK ON OTHER SIDE 5
C-3018 C-2024

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
4X6	C-3017	
4 X6	C-3018	
5 X7	C-2023	
5 X7	C-2024	

NOTE:
PANEL NUMBERS SHALL CORRESPOND TO SIZE USED ON SIGNS.

R11 SERIES

COPY & BORDER – BLACK PLAIN
BACKGROUND – SILVER REFLECTORIZED

R11-2

ROAD CLOSED

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
48X30	C-280	2

R11-3a

ROAD CLOSED 00 MILES AHEAD LOCAL TRAFFIC ONLY

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60X30	C-277	2

R11-3b

BRIDGE CLOSED 00 MILES AHEAD LOCAL TRAFFIC ONLY

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60X30	C-278	2

R11-4

ROAD CLOSED TO THRU TRAFFIC

SIZE (INCHES)	CONN. D.O.T. #	SUPPORT *
60X30	C- 281	2

NOTES:

* SUPPORTS NOTED ARE FOR LONG TERM INSTALLATION, Wt./Ft. 3 Lb. (EXCEPT AS NOTED).

FOR SPECIFIC LEGEND, SIGN DESIGN AND BOLT HOLE PATTERN REFER TO DETAILED DRAWINGS AND F.H.W.A. PUBLICATION, "STANDARD HIGHWAY SIGN AS SPECIFIED IN M.U.T.C.D. 1971."

SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME SUPPORTS MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.

WHERE (0-00) SHOWN ON SIGN - INDICATES VARIABLE NUMBER(S) LEGEND.

COLORS OF SIGNS (UNLESS OTHERWISE SPECIFIED).
LEGEND – BLACK PLAIN
BACKGROUND – ORANGE REFLECTORIZED

COLOR & MATERIALS SHALL CONFORM TO STATE SPECIFICATIONS.

MATERIALS:
ALUMINUM THICKNESS FOR ALL SIGNS SHALL BE .100 EXCEPT SIGNS NOS. C-1426, C-1427 & C-1428 WHICH SHALL BE .125.

PLYWOOD THICKNESS 1/2" EXTERIOR GRADE A-C OR BETTER, SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF REFLECTORIZATION AND COPY.

INITIAL	DATE
M.W.C.	4-22-76
F.C.L.G.	6-24-76
	9-30-76

DESIGNED BY
DRAWN BY
CHECKED BY

REVISIONS		
NO.	DATE	DESCRIPTION

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

SIGNS FOR MAINTENANCE, CONSTRUCTION AND PERMIT OPERATIONS.

SUBMITTED [signature] HWY. ASSOC. ENG. DATE 9-16-76
APPROVED [signature] ENG. OF TRAFFIC DATE 9-16-76

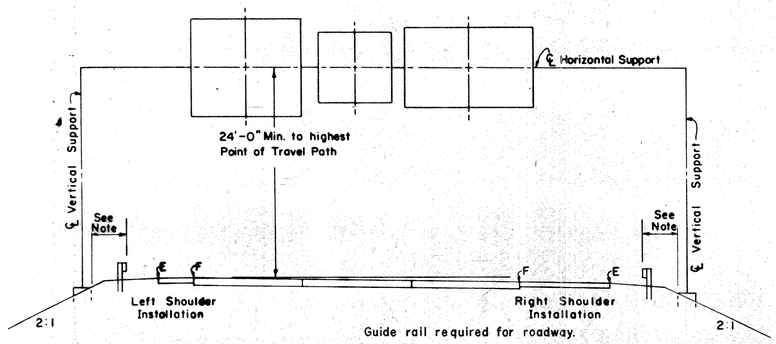
SCALE NONE PROJECT NO. 82-153

82 153

473 07

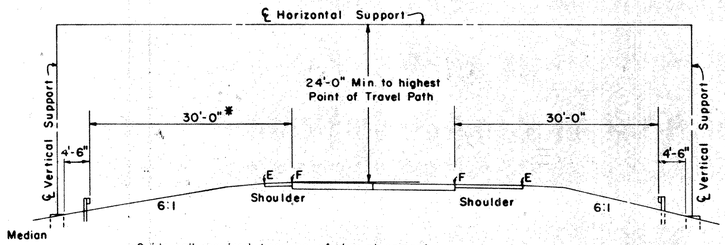
41-4

FHWA REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ NO	YEAR	ROUTE NO	SHEET NO	TOTAL SHEETS
1	CONN.	MIDDLETOWN - PORTLAND	FU-22(104)	82-153	1977	66 & 17	41-5	41



Guide rail required for roadway.

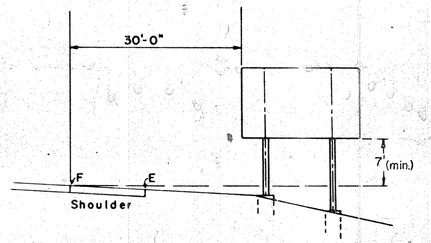
NOTES:
Vertical supports behind metal beam type rail 8'- 6" min. to near edge of foundation.
Vertical supports behind three cable guide railing-13'-6" min. to near edge of foundation.
All Signs are to be horizontal, regardless of camber in support.



Guide rail required because of sign placement.

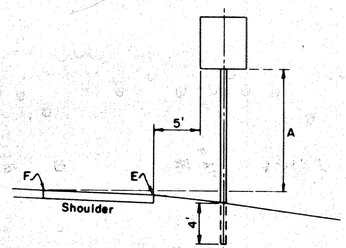
NOTES:
* If median width does not permit dimension shown, sign foundation is to be in center of median.

For placement of cantilever sign support use applicable portion of above details.

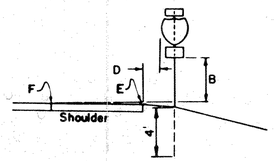


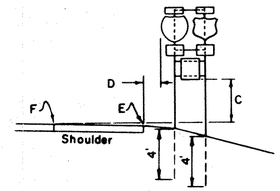
TYPICAL DIRECTIONAL SIGN PLACEMENT

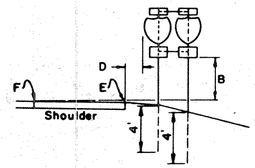
NOTES:
Min. Vertical Clearance above Sidewalks shall be 8'-0"
Where Railing is used, the Offset to the Near Edge of Sign Face Shall be as Follows:
Metal Beam Rail - 8'-6"
Cable Guide Railing - 13'-6"
On Intersecting Roads at Ramp Termini - 5' from Point "E"
For Lateral Placement See Standard Guide Sign Side Mounted Break Away Post Detail (Panel Hinge Data) Sheet.
On cut slopes maintain a 6'-0" minimum ground clearance at right support, except where height of sign above travelway exceeds 12'-0" Sign to be horizontal.

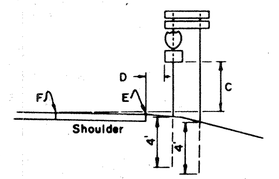


TYPICAL REGULATORY & WARNING SIGN PLACEMENT





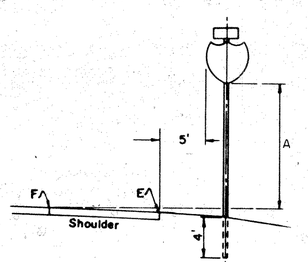




TYPICAL ROUTE MARKER DIRECTIONAL ASSEMBLIES
(NON-EXPRESSWAY)

Dim."A"	Dim."B"	Dim."C"	Dim."D"*	ASSEMBLY LOCATION
6'	5'	5'	5'	Rural Districts & Expressways
7'	7'	6'	1'	Business and Residential Districts — Where parking or other obstructions limit visibility.

* Or As Directed By The Engineer



TYPICAL CONFIRMATORY ROUTE MARKER PLACEMENT

"E" - Edge of Shoulder or Face of Curb.
"F" - Edge of Travelway

REVISIONS		
NO.	DATE	DESCRIPTION
1	9-11-73	ADD-6' MIN. GROUND CLEAR. AT RIGHT SUPPORT.
2	9-12-73	REF. TO MISC. DETAILS METAL BEAM RAIL STD.
3	1-7-77	Lateral & Vert Clearances Rev. Rev. #2 Deleted.

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

TYPICAL SIGN SUPPORT AND SIGN PLACEMENT DETAILS

SUBMITTED BY _____ Hwy. Assoc. Eng. DATE _____
APPROVED _____ Eng. of Traffic DATE _____
SCALE NONE PROJECT NO. 82 - 153

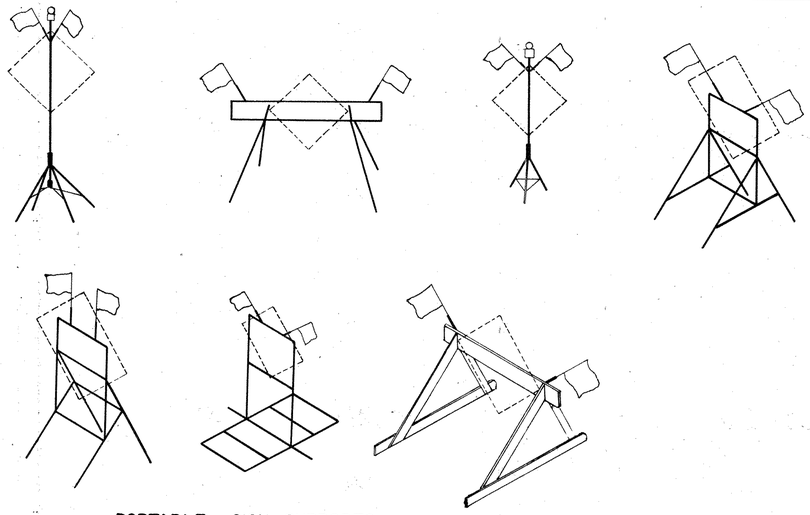
82 153

473 07

41-5

PUB. ROAD DIV. NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	MIDDLETOWN-PORTLAND	FU-22(104)	82-153	1977	66 & 17	41-6	41

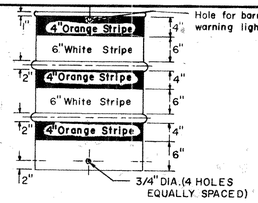
Form No. Tra-19 Ed 1-68



PORTABLE SIGN SUPPORTS

NOTES:

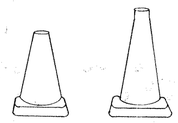
1. Sign supports shall be constructed of a suitable material. Break-away and/or collapsible features shall be incorporated in the design so that the support will not constitute a hazard to the motorist and/or workmen in the work area.
2. Mounting height of sign utilizing structures depicted above shall be a minimum of 12", with a recommended height of 18" above pavement.
3. The engineer reserves the right to reject any support which he deems a hazard, or not in the best interest of the motoring public.
4. Flags and/or barricade warning lights shall be used as shown on the Traffic Control Plans and as directed by the engineer.



TRAFFIC DRUM

NOTES:

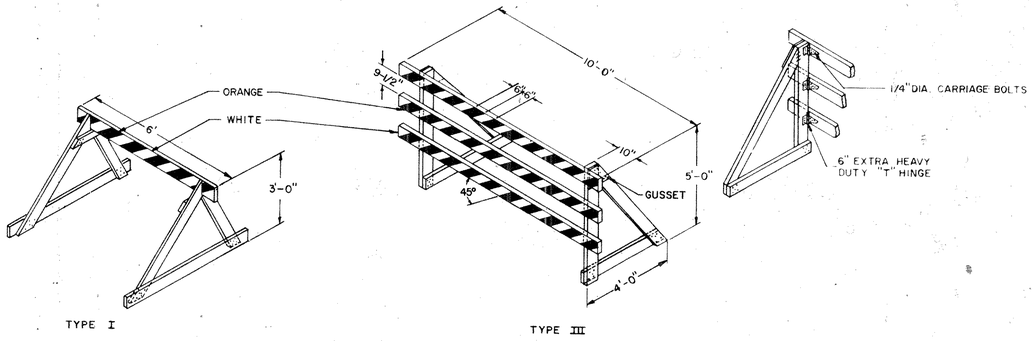
1. Traffic drum shall be designed in accordance with the specifications.
2. The engineer reserves the right to reject any drum he deems not suitable for purpose intended.
3. Reflectorized stripes should not be placed over the protruding circumferencial ribs of the drum.



TRAFFIC CONES

NOTES:

1. Traffic cones shall be designed in accordance with the Manual on Uniform Traffic Control Devices, Chapter VI, Section 6C-3, Cone Design.
2. Height of cones shall be 18" or 28" as specified.
3. Cones shall be predominately federal orange in color.
4. Rubber cones shall be reflectorized with interior ribs for rigidity.
5. Plastic cones shall be color impregnated.
6. Cones shall of a thickness necessary to withstand impact without damage to either cone or impacting vehicle.
7. The Engineer reserves the right to reject any cone he deems not suitable for purpose intended.



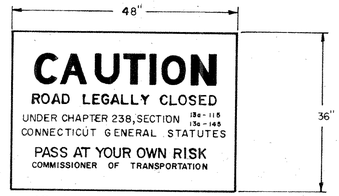
CONSTRUCTION BARRICADES

NOTES:

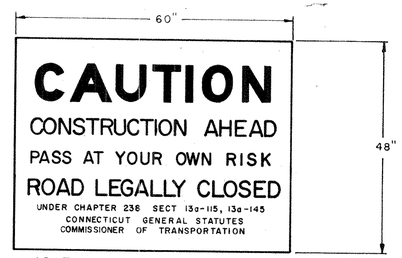
1. TYPE III barricade to be folding type. All lumber shall be 2" x 6".
2. Stripes shall be angled downward in the direction traffic is to pass.
3. The entire area of orange and white stripes shall be reflectorized.
4. To provide maximum flexibility in use, cross rails shall be striped on both sides in opposite directions, i.e., stripes on one side shall extend from upper left to lower right and on the opposite side from upper right to lower left.

NOTE.
For specific legend and sign design refer to detailed drawings, Conn. Dept. of Transportation, Traffic Division.

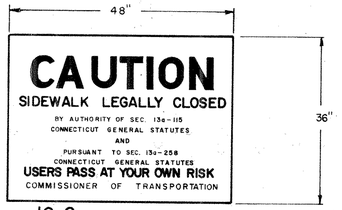
SERIES 16 SIGNS



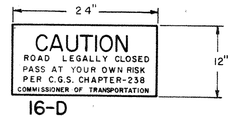
16-A



16-B



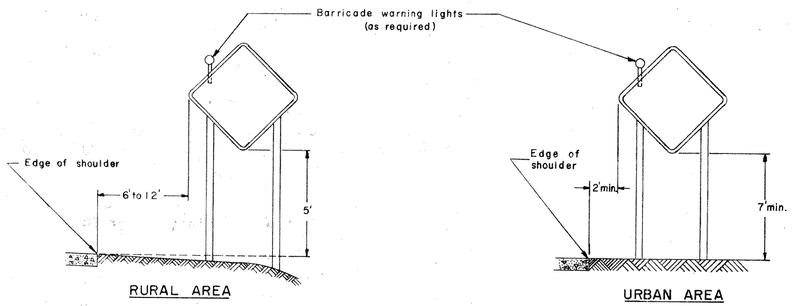
16-C



16-D

BLACK PRA COPY
SILVER REFL. BACKGROUND

PLACEMENT OF ROADSIDE SIGNS



TYPICAL LONG TERM INSTALLATION

NOTE:
Supports shall be metal sign post, see typical sheets, Metal Sign Posts & Sign Placement Details.

REVISIONS		
NO.	DATE	DESCRIPTION

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
DIVISION OF TRAFFIC

TYPICAL CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

SUBMITTED BY L.J. Whitlock TRANS./ASSOC. ENG.-TRAFFIC DATE 11-23-76

APPROVED BY James C. Spencer ENG. OF TRAFFIC DATE 11-23-76

SCALE NONE PROJECT NO. 82-153

CONTROL		ELECTRICAL	
INITIAL	DATE	INITIAL	DATE
DESIGNED BY			
DRAWN BY			
CHECKED BY			

82 153

473 03 41-6