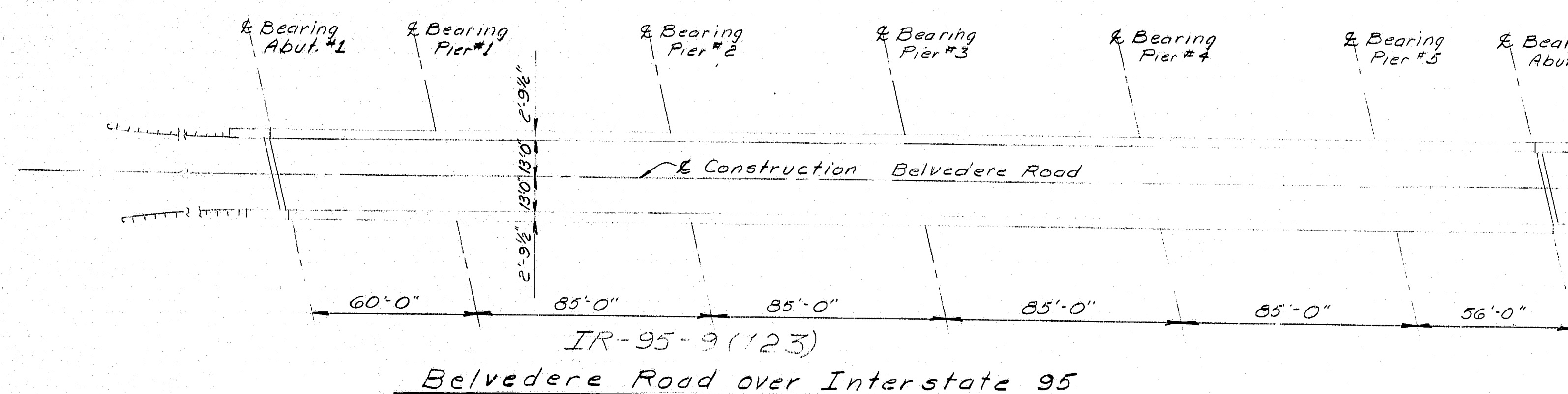
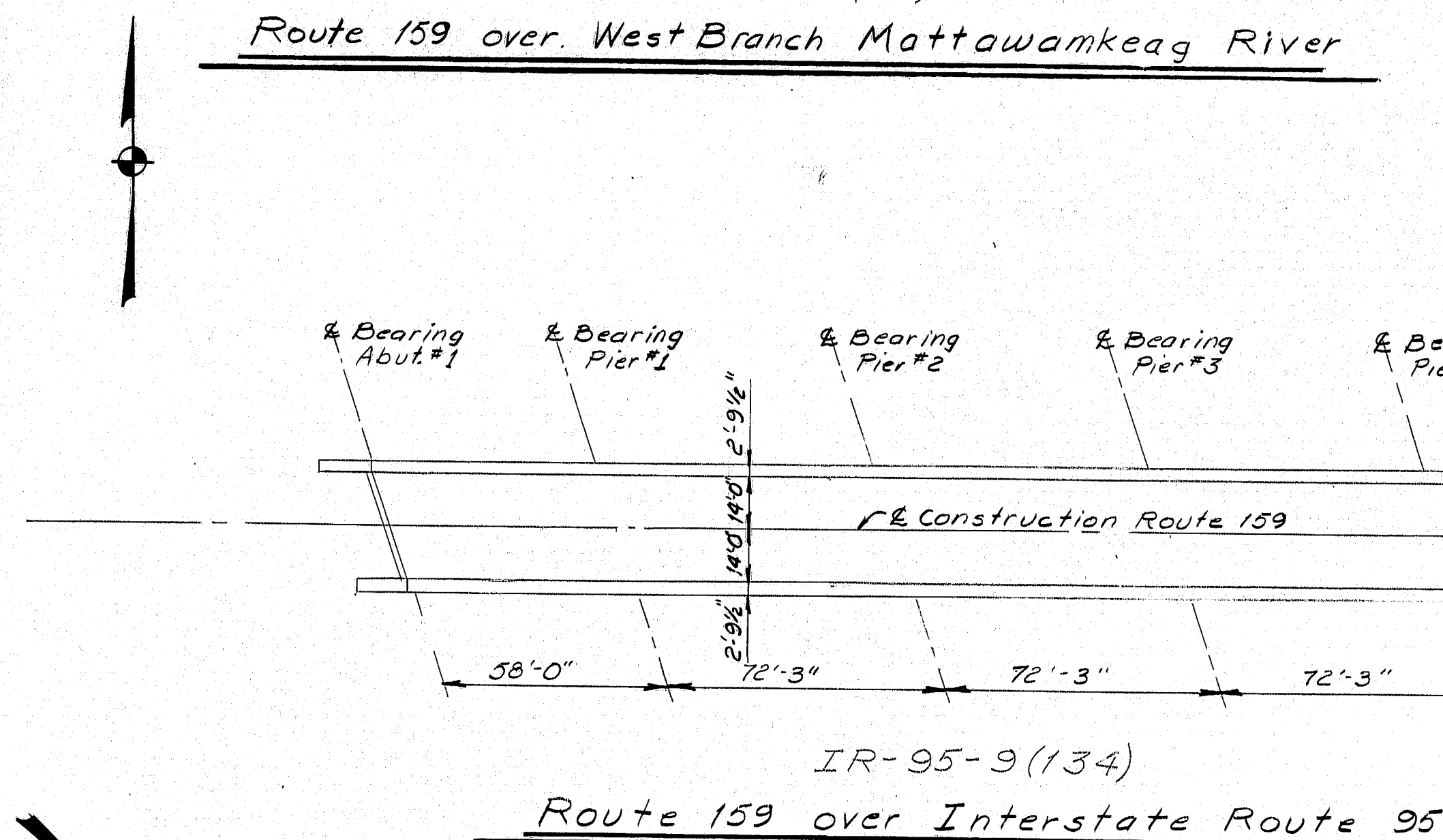
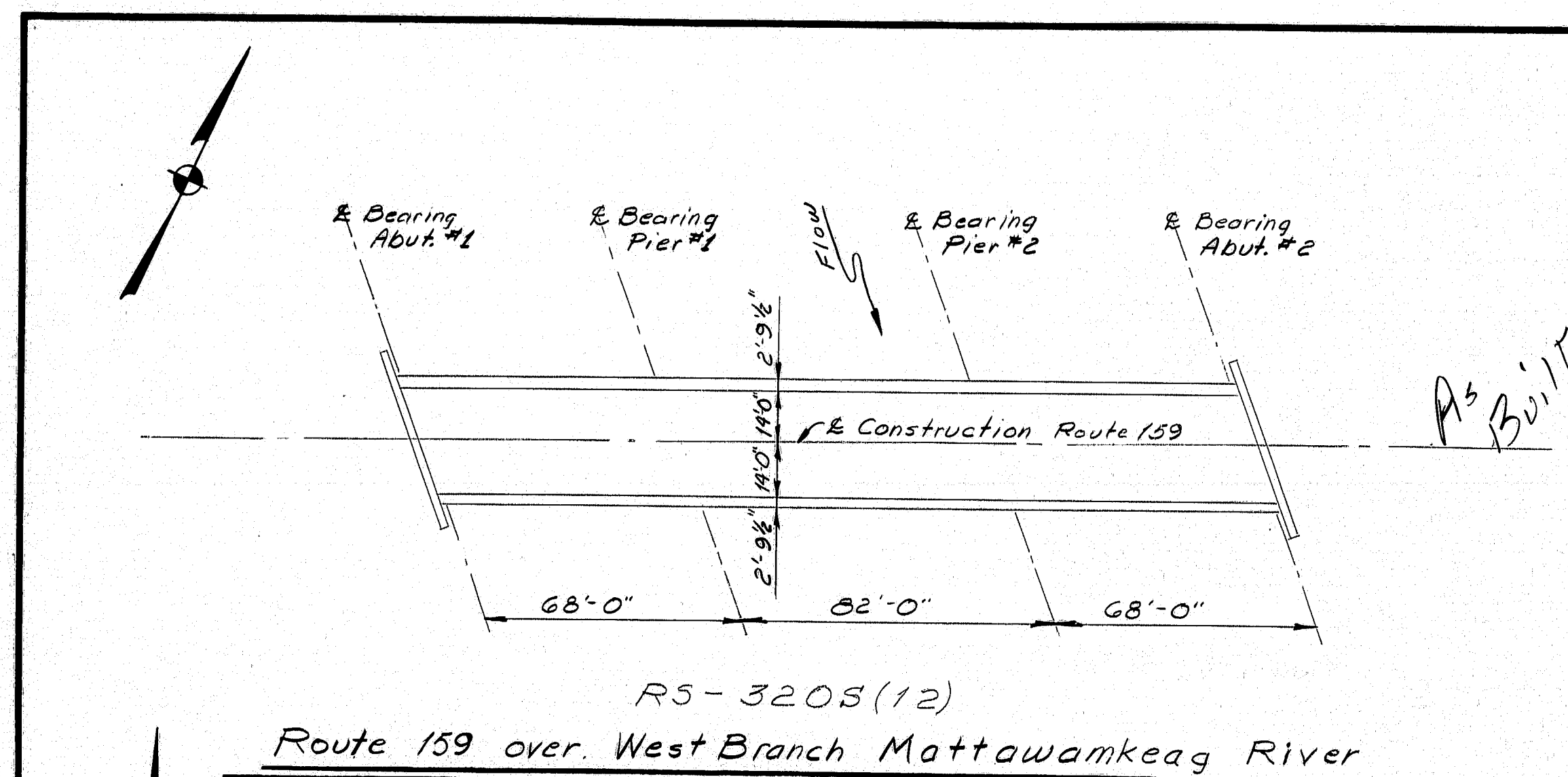


| PROJECT DESIGN ENGINEER | DATE |
|-------------------------|-------|
| BY | 12/90 |
| DESIGN - DETAILED | 12/90 |
| CHECKED | 12/90 |
| REVISIONS | |
| FIELD CHANGES | |
| PLANS | |

BRWING 45710.1



SCOPE OF WORK

- All Bridges:**
1. Remove existing wearing surface and membrane and install new membrane waterproofing and 2 1/4" bituminous concrete wearing surface.
 2. Clean and paint existing structural steel.
 3. Repair deteriorated areas of existing structural concrete slab surface before placing new membrane waterproofing.

Route 159 Bridges:

4. Maintain traffic on a minimum 11'-0" lane during construction.

Belvedere Road Bridge:

5. Close bridge to traffic during construction.
6. Install guardrail type 3 and connect to existing end post. Remove existing cable guardrail.

NOTE:

Plans of the existing bridge are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

NOTE:

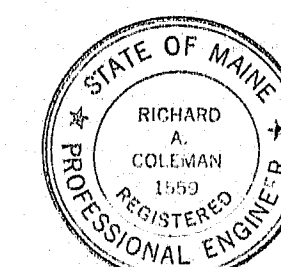
All work contemplated under this contract to be governed by and in conformity with the State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revision of October 1990. And with AASHTO Standard Specifications for Highway Bridges 1989 and Interim Specifications 1990.

TABLE OF CONTENTS

| DESCRIPTION | SHEET NO. |
|---|-----------|
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| DETAILS and NOTES | 2 |
| ESTIMATED QUANTITIES | 3 |
| STANDARD DETAILS | |
| GUARDRAIL HD-5 (widened shoulder) | 4 |
| GUARDRAIL HD-6 | 5 |
| MAINTENANCE OF TRAFFIC HD-10 thru HD-12 | 6 thru 8 |
| PAVEMENT MARKINGS HD-13 | 9 |

TRAFFIC DATA

| | Rte. 159 over Mattawamkeag R | Rte. 159 over Interstate 95 | Belvedere Rd. over I-95 |
|-------------------|------------------------------|-----------------------------|-------------------------|
| Current AADT | 1986 = 2210 | 1986 = 2210 | 1987 = 245 |
| Future AADT | 2006 = 3090 | 2006 = 3090 | 2007 = 345 |
| Daily High Volume | 340 | 390 | 41 |
| Trucks - % AADT | 10 | 10 | 8 |
| 18 kips Eq. P2.5 | 76 | 76 | 7 |



APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER

1/29/91
DATE

CHIEF ENGINEER

1/29/91
DATE

105-1

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION I

APPROVED:

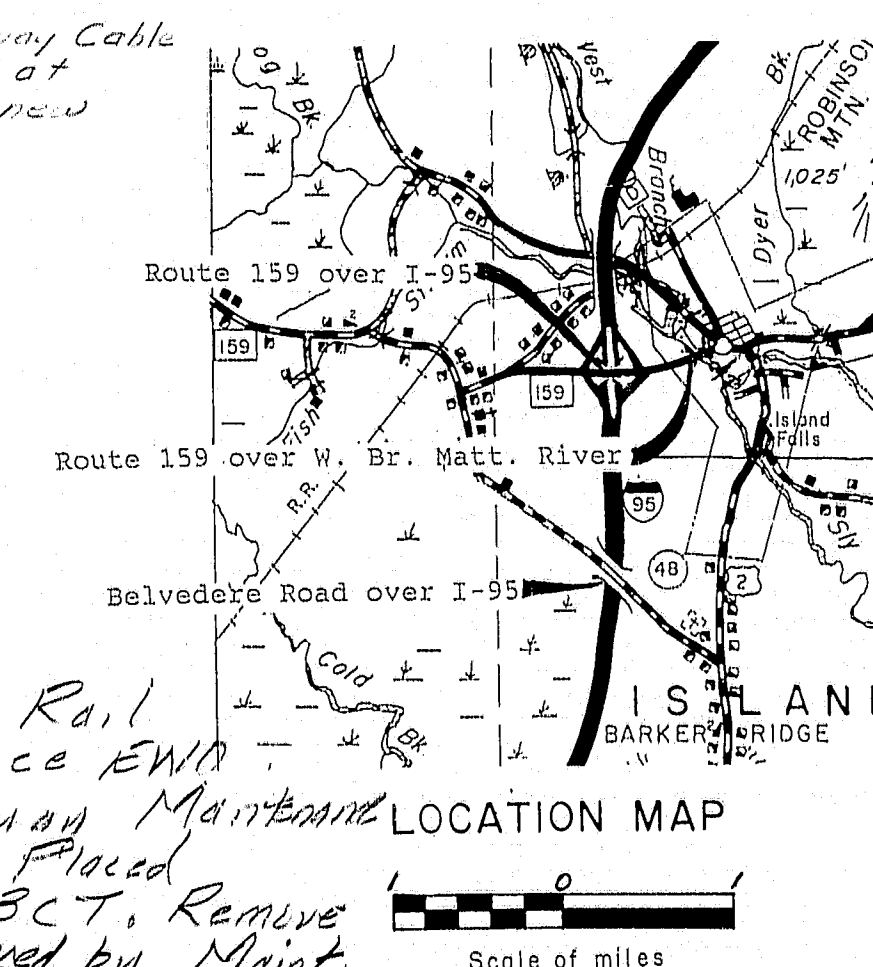
DIVISION ADMINISTRATOR DATE

As BUILT
11/81

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WEARING SURFACE
REPLACEMENT
3 BRIDGES
ISLAND FALLS
AROSTOOK COUNTY
GENERAL PLAN

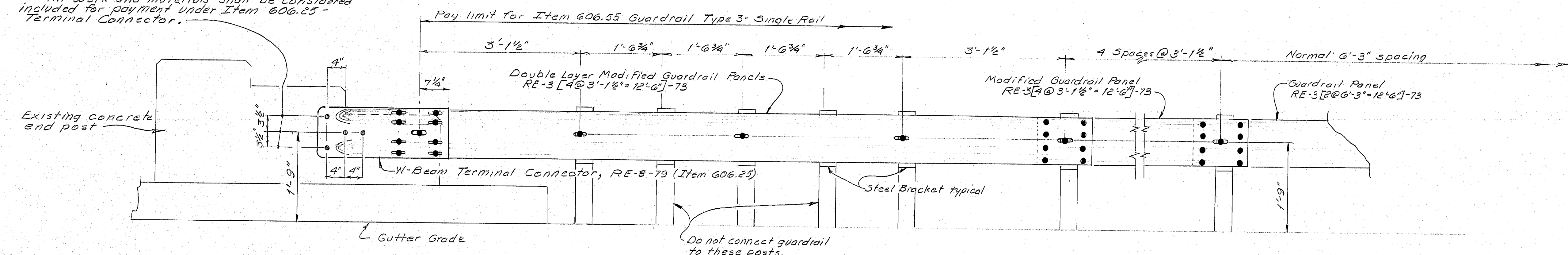
SHEET OF AUGUSTA, MAINE



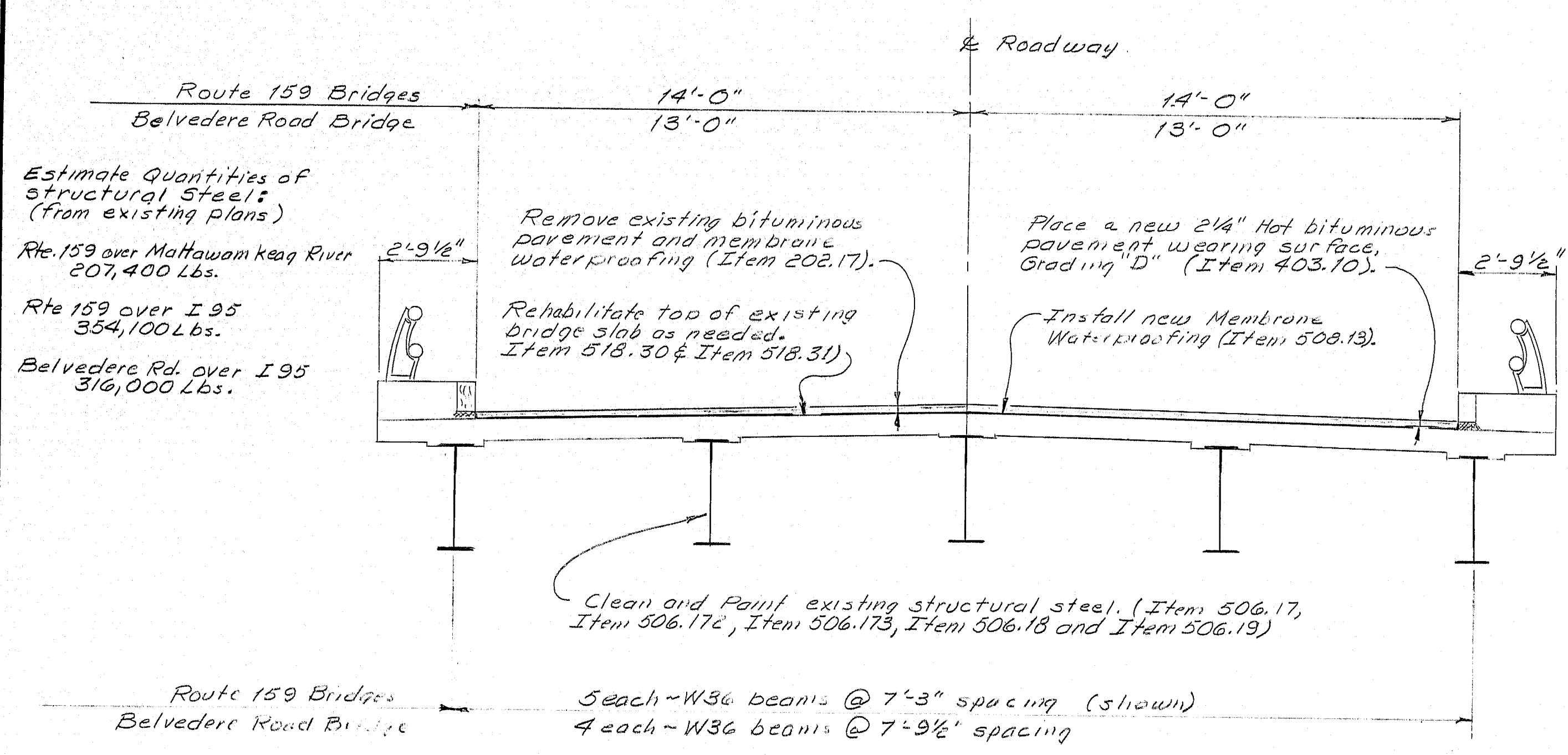
4 Ea. ~ 7/8" Ø x 8' Threaded Steel Anchors with washers and Hex Nuts, ASTM A325, Type 1, Hot Dipped Galvanized. Drill for and install anchors using a high strength polyester resin anchoring material according to the manufacturer's recommendations. Projection of anchors shall be 1 1/2". All materials and procedures used shall be as approved by the Engineer. All work and materials shall be considered included for payment under Item 606.25 - Terminal Connector.

NOTE: For guardrail details not shown refer to Standard Details (HD-6).

| F.N.E.A. PROJ. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|--------------------|-------|----------------|-----------|--------------|
| 1 | MAINE | RS-3806 (12) | 2 | 9 |
| | | IR-95-9(154) | | |
| | | IR-95-9(123) | | |



ELEVATION - EXISTING CONCRETE END POST BELVEDERE ROAD BRIDGE
Guardrail installation similar at all (4) concrete end posts.



EXISTING BRIDGE SECTION

Construction Notes - Belvedere Road over I-95:

- One guardrail delineator post shall be installed at each guardrail end.
- A breakaway cable terminal shall be installed concurrent with the installation of each section of beam guardrail, unless otherwise approved temporary protection has been authorized.
- All hardware used on the cable guardrail which is to be removed, shall be carefully salvaged by the Contractor and will remain the property of the Department. Associated guardrail cable and posts shall become the property of the Contractor.
- The new guardrail shall be offset a distance of 14'-3" from the E of existing road to the face of the new guardrail.
- The shoulder in the new guardrail area shall be reggraded from the edge of the existing pavement to a new normal berm distance of 17'-3" from the E of the existing road. Payment will be made under Item 204.41 and Item 606.751.
- All deck repairs under Section 518, regardless of depth, shall be accomplished using the material described in Subsection 518.02 (c) only. The repairs shall comply with the manufacturer's recommendations for the material being used.
- The bridge will be closed to traffic for a period stated in the Special Provision.

| PROJECT DESIGN ENGINEER | DATE |
|-------------------------|------|
| BY LTH | 1/9/ |
| DESIGN - CHECKED | |
| REVISIONS | |
| FIELD CHANGES | |

BRIDGE 4870-1

105-2

| |
|---|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION |
| WEARING SURFACE REPLACEMENT 3 BRIDGES ISLAND FALLS AROOSTOOK COUNTY |
| Details and Notes |
| SHEET OF AUGUSTA, MAINE |

| | |
|-------------------------|------|
| PROJECT DESIGN ENGINEER | DATE |
| DESIGN - DETAILED | 2/22 |
| CHECKED | LTH |
| BY | LTH |
| PLANS | |
| REVISIONS | |
| FILE NO. | |

BRUNING 44-132-457-10-1

| ESTIMATED QUANTITIES | | | | | |
|----------------------|--|--|--|--|-----------|
| ITEM NO. | DESCRIPTION | QUANTITY | | | UNIT |
| | | RS-320S (12) Rte. 159 over Mt. Halloweag | IR-95-9 (134) Rte. 159 over I 95 | IR-95-9 (123) Belvedere Rd over I 95 | Total |
| 202.1271 | Removing Existing Bituminous Pavement | 1 | | | 1 L.S. |
| 202.1272 | Removing Existing Bituminous Pavement | | 1 | | 1 L.S. |
| 202.1273 | Removing Existing Bituminous Pavement | | | 1 | 1 L.S. |
| 204.91 | Rehabilitation of Existing Shoulder, Plan Quantity | | | 300 | 300 SF. |
| 403.10 | Hot Bituminous Pavement, Grading D | 87 | 160 | 167 | 414 Ton |
| 506.1701 | Surface Preparation of Existing Structural Steel | 1 | | | 1 L.S. |
| 506.1702 | Surface Preparation of Existing Structural Steel | | 1 | | 1 L.S. |
| 506.1703 | Surface Preparation of Existing Structural Steel | | | 1 | 1 L.S. |
| 506.1721 | Field Painting Existing Structural Steel - Code ZHP-1 | 1 | | | 1 L.S. |
| 506.1722 | Field Painting Existing Structural Steel - Code ZHP-1 | | 1 | | 1 L.S. |
| 506.173 | Field Painting Existing Structural Steel - Code XM-1 | | | 1 | 1 L.S. |
| 506.1801 | Containment and Pollution Control | 1 | | | 1 L.S. |
| 506.1802 | Containment and Pollution Control | | 1 | | 1 L.S. |
| 506.1803 | Containment and Pollution Control | | | 1 | 1 L.S. |
| 506.1901 | Disposal of Hazardous or Toxic Material | 1 | | | 1 L.S. |
| 506.1902 | Disposal of Hazardous or Toxic Material | | 1 | | 1 L.S. |
| 506.1903 | Disposal of Hazardous or Toxic Material | | | 1 | 1 L.S. |
| 508.1301 | Membrane Water proofing | 1 | | | 1 L.S. |
| 508.1302 | Membrane Water proofing | | 1 | | 1 L.S. |
| 508.1303 | Membrane Water proofing | | | 1 | 1 L.S. |
| 518.30 | Rehabilitation of Str. Conc. Slab - to Reinforcing Steel | 250 | 450 | 450 | 1,150 SF. |
| 518.31 | Rehabilitation of Str. Conc. Slab - to below Reinforcing Steel | 100 | 200 | 200 | 500 SF. |
| 526.301 | Temporary Concrete Barrier, Type 1 | 1 | | | 1 L.S. |
| 526.301c | Temporary Concrete Barrier, Type 1 | | 1 | | 1 L.S. |

| ESTIMATED QUANTITIES | | | | | |
|----------------------|---|--|--|--|-----------|
| ITEM NO. | DESCRIPTION | QUANTITY | | | UNIT |
| | | RS-320S (12) Rte. 159 over Mt. Halloweag | IR-95-9 (134) Rte. 159 over I 95 | IR-95-9 (123) Belvedere Rd over I 95 | Total |
| 606.25 | Terminal Connector | | | 4 | 4 Ea. |
| 606.35 | Guardrail Delineator Post | | | 4 | 4 Ea. |
| 606.55 | Guardrail Type 3 - Single Rail | | | 400 | 400 L.F. |
| 606.751 | Widen Shoulder for Breakaway Cable Terminal | | | 4 | 4 Ea. |
| 606.77 | Breakaway Cable Terminal | | | 4 | 4 Ea. |
| 627.63 | 4 inch Solid Yellow Pavement Marking Line | 1100 | 1500 | 0 | 2600 L.F. |
| 627.65 | White or Yellow Pavement and Curb Marking | 50 | 50 | 0 | 100 S.F. |
| 627.67 | Removing Pavement Markings | 250 | 250 | 0 | 500 S.F. |
| 627.68 | Temp. 4 inch Painted Pavement Marking Line, White or Yellow | 1100 | 1500 | 0 | 2600 L.F. |
| 639.19 | Field Office Type B | .33 | .33 | .34 | 1 Ea. |
| 639.22 | Testing Facilities Bituminous Mixes | .20 | .40 | .40 | 1 L.S. |
| 643.7201 | Temporary Traffic Signal | 1 | | | 1 L.S. |
| 643.7202 | Temporary Traffic Signal | | 1 | | 1 L.S. |
| 652.30 | Flashing Arrow Board | - | 0.5 | 0.5 | 1 Ea. |
| 652.31 | Type 1 Barricade | 10 | 30 | 20 | 60 Ea. |
| 652.312 | Type 111 Barricade | - | - | 2 | 2 Ea. |
| 652.33 | Drum | 10 | 10 | 10 | 30 Ea. |
| 652.34 | Cone | 10 | 30 | 20 | 60 Ea. |
| 652.35 | Construction Signs | 250 | 510 | 540 | 1300 SF. |
| 652.361 | Maintenance of Traffic Control Devices | .33 | .33 | .34 | 1 L.S. |
| 652.38 | Flogger | 100 | 100 | 100 | 300 MH |
| 659.10 | Mobilization | .2 | .4 | .4 | 1 L.S. |

| ESTIMATE OF LUMP SUM QUANTITIES | | | | | |
|---------------------------------|---------------------------------------|-----|-------|-------|------------|
| 202.12++ | Removing Existing Bituminous Pavement | 681 | 1,262 | 1,318 | 3,261 S.Y. |
| 508.13++ | Membrane Waterproofing | 686 | 1,269 | 1,327 | 3,282 S.Y. |

| F.R.W.A. RES. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|----------------------|-------|----------------|-----------|--------------|
| 1 | MAINE | RS-320S (12) | 3 | 9 |
| | | IR-95-9 (134) | | |
| | | IR-95-9 (123) | | |

TEMPORARY SIGNALS

Item No. 643.72
The temporary signal controller shall be a two-phase pretimed controller. It shall operate as shown below.

SEQUENCE OF OPERATION

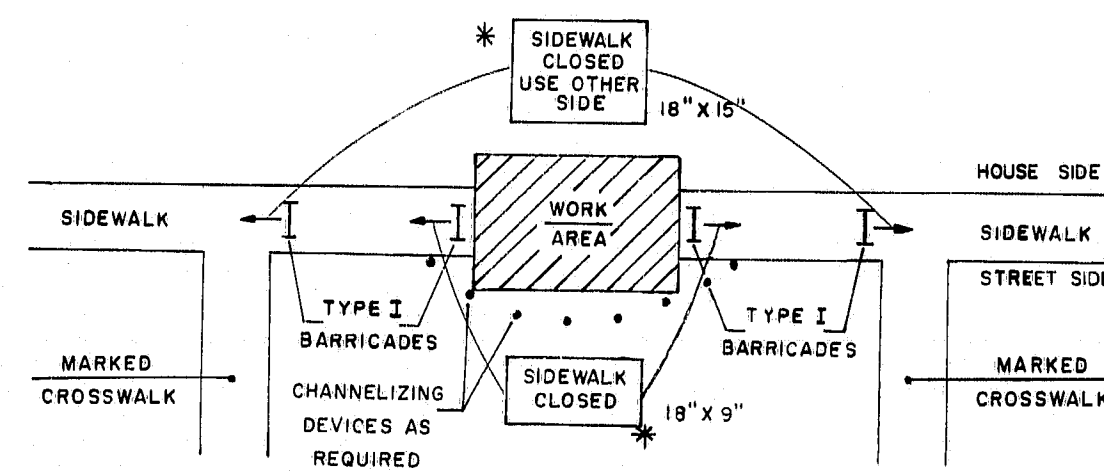
| Project | INTERVAL HEADS | 1 | 2 | 3 | 4 | 5 | 6 |
|---|--------------------------|----|---|----|----|---|----|
| | | G | Y | R | R | R | R |
| Rte. 159/Mt. H. RS-320S (12) Rte. 159/I-95 IR-95-9 (134) | EASTBOUND | R | R | R | G | Y | R |
| | WESTBOUND | R | R | R | G | Y | R |
| | Timing 70 Second Dial | 17 | 3 | 15 | 17 | 3 | 15 |
| | Timing 80 Second Dial | 17 | 3 | 20 | 17 | 3 | 20 |

G = Green
Y = Yellow
R = Red

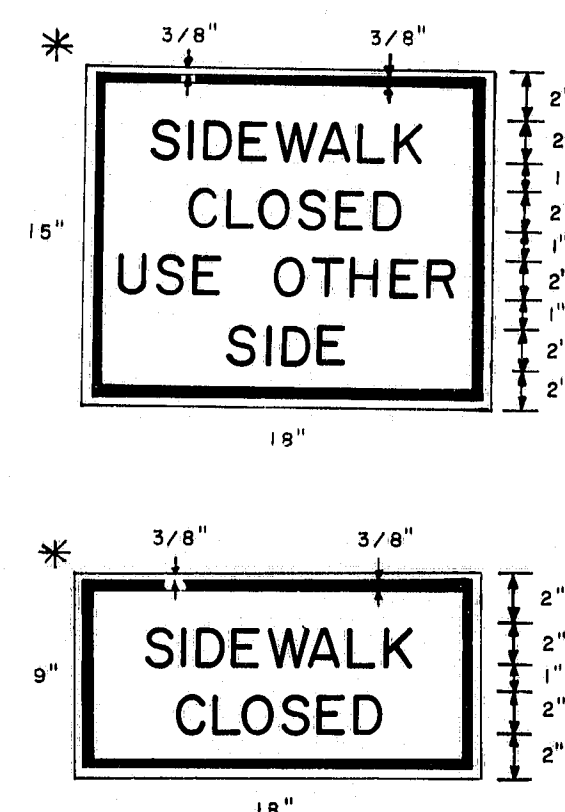
105-3

| |
|---|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION |
| WEARING SURFACE REPLACEMENT 3 BRIDGES ISLAND FALLS AROOSTOOK COUNTY Estimated Quantities |
| SHEET OF AUGUSTA, MAINE |

* NON-REFLECTORIZED WHITE BACKGROUND, BLACK TEXT
AND BORDER-2" SERIES C UPPER CASE LETTERS

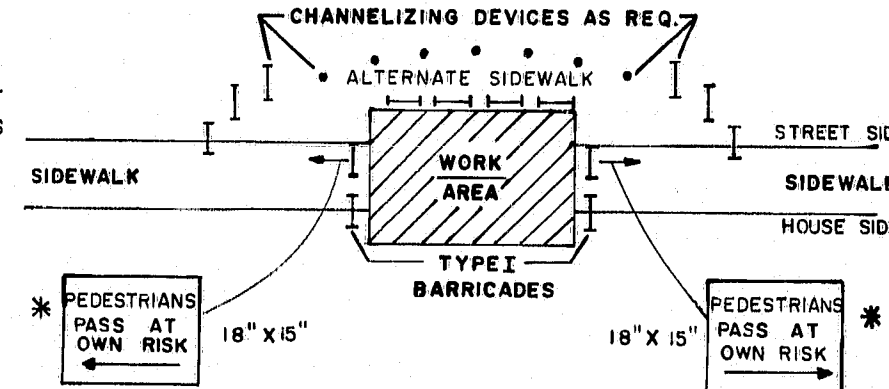


**SIDEWALK CLOSURE
WITHOUT ALTERNATE SIDEWALK**

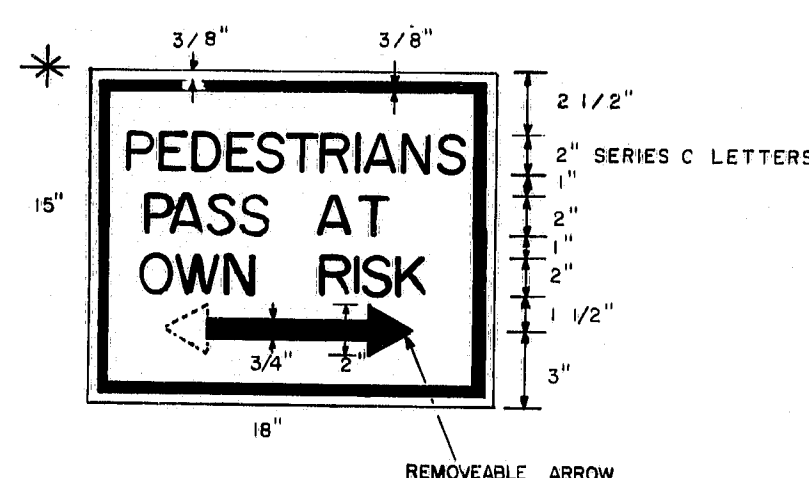


A

* NON-REFLECTORIZED WHITE BACK
GROUND, BLACK TEXT AND BORDER-
2" SERIES C UPPER CASE LETTERS

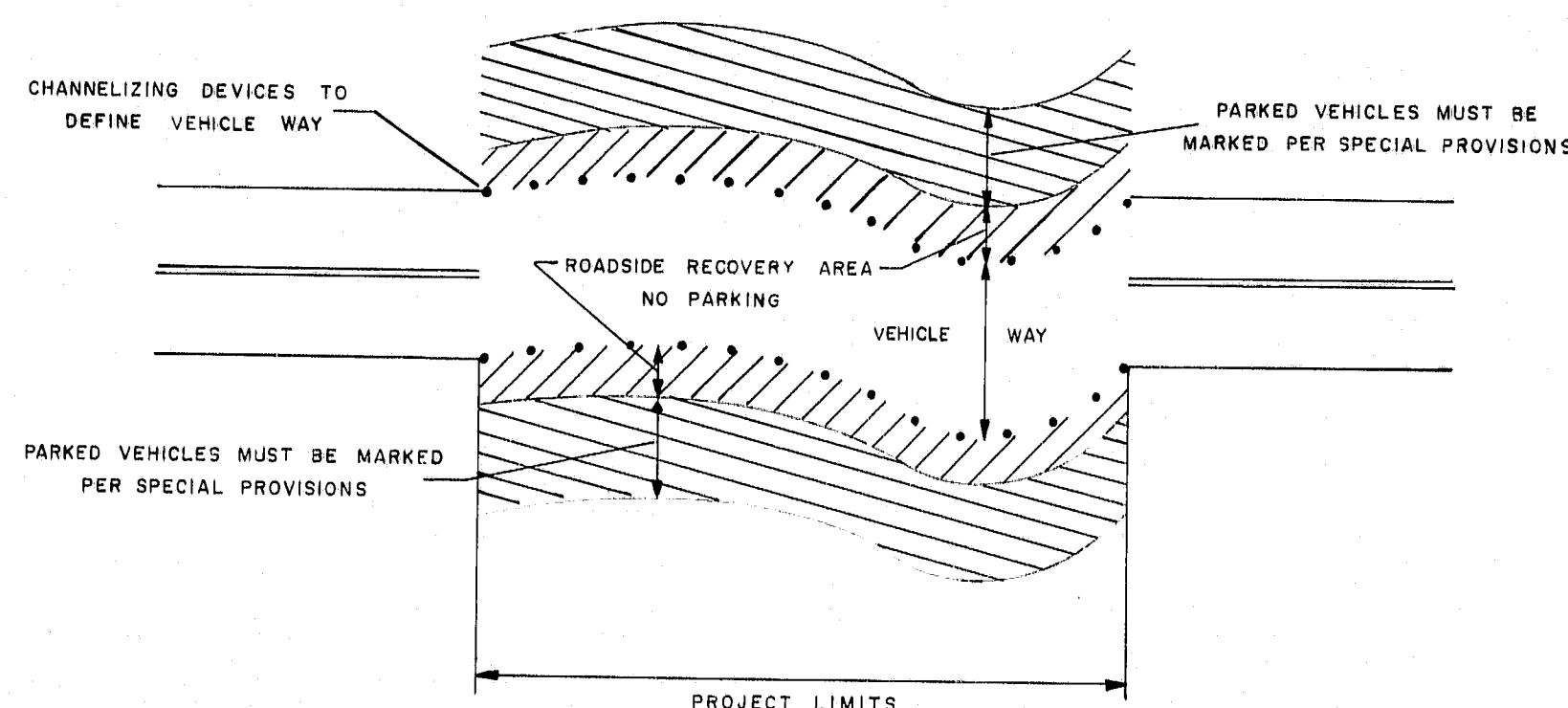


**SIDEWALK CLOSURE
WITH ALTERNATE SIDEWALK**

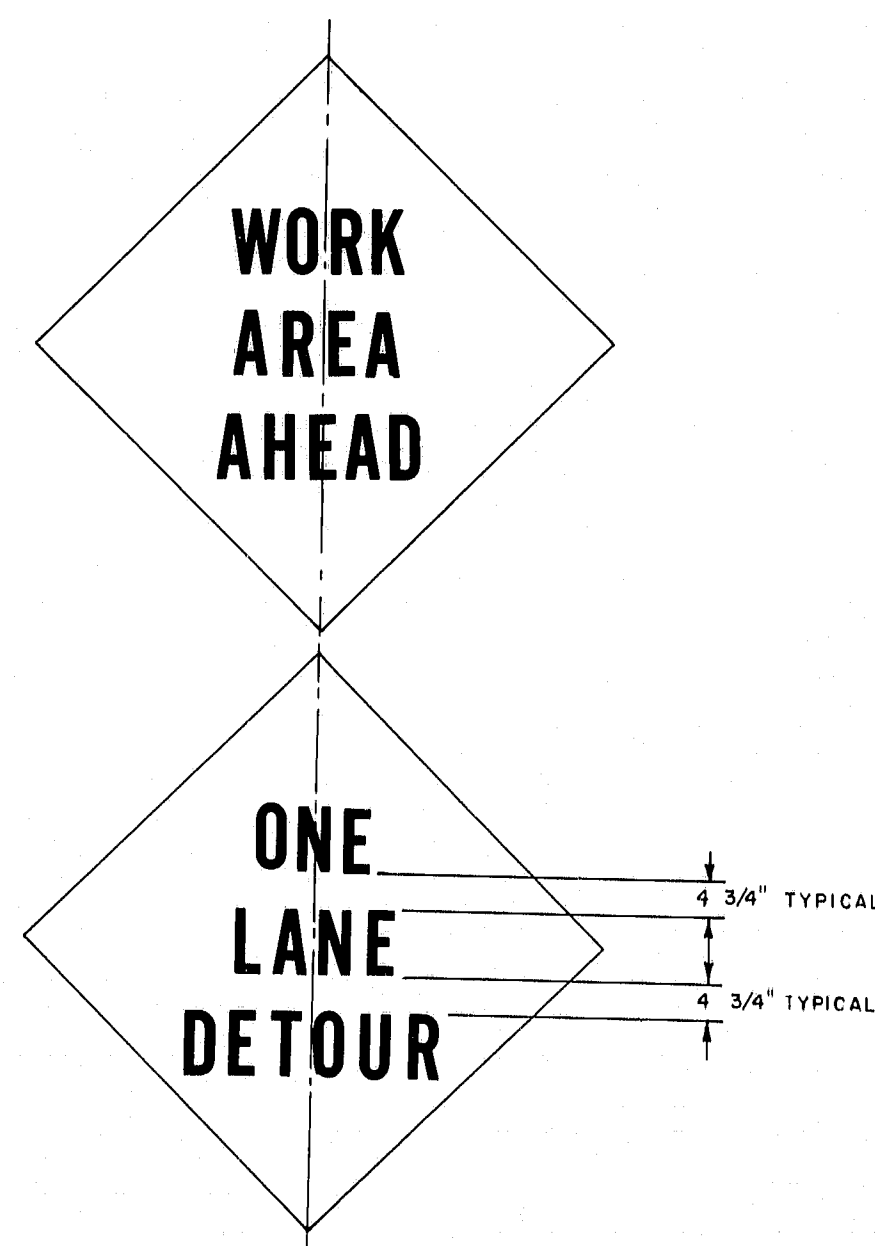


B

ALL DIMENSIONS AND OTHER REQUIREMENTS AS
SPECIFIED IN THE SPECIAL PROVISIONS

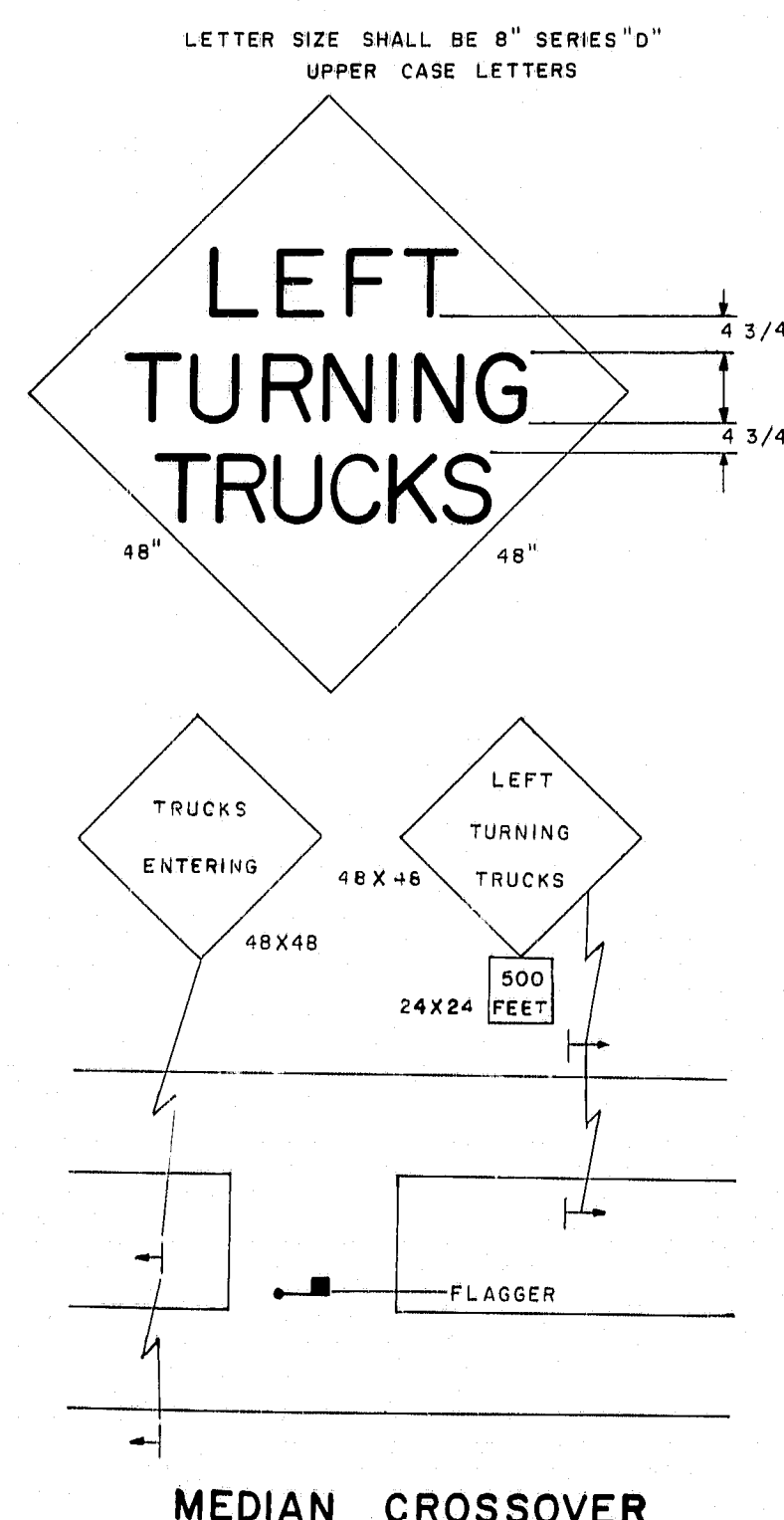


ROADSIDE RECOVERY AREA



1. Letter size shall be 8" Series 'D'.
2. Border dimensions and legend design shall conform to
"Standard Highway Signs".

CONSTRUCTION WARNING SIGN DETAIL

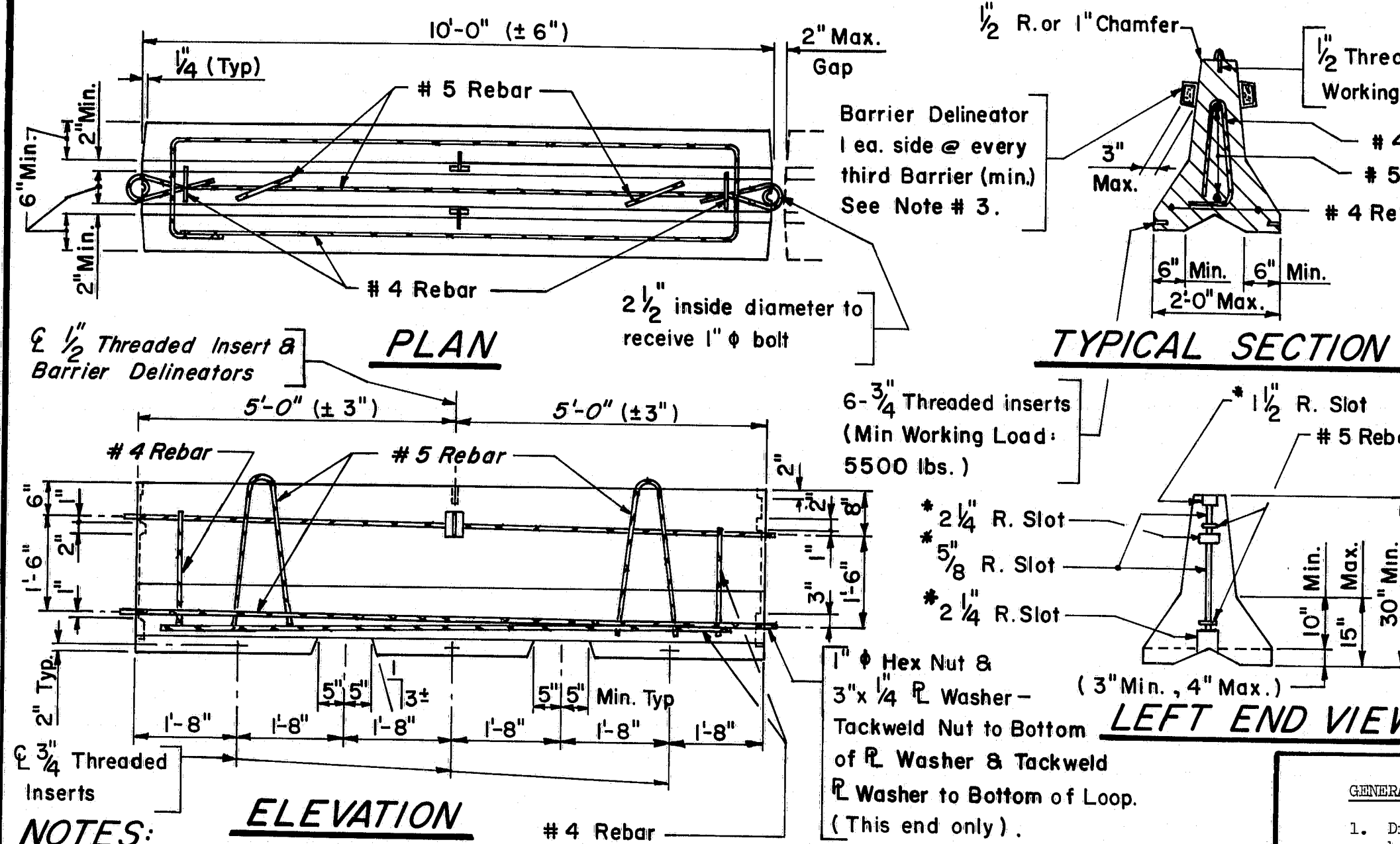


MEDIAN CROSSOVER

NOTES:

- Subject to approval by the Engineer and connections other than the one detailed may be used, provided they are of equivalent or greater strength. All end connections submitted for approval shall incorporate a connecting pin or other locking device that is positively secured against accidentally being dislodged under impact.
- The reinforcing steel shown is the minimum required. Lifting arrangement and size and locations of hold-down inserts are advisory only. It shall be the Contractor's responsibility to provide adequate lifting points and hold-down arrangements.
- Barrier Delineators shall be bi-directional with a minimum effective reflective area of 8.0 square inches as approved by the Engineer. The Reflector shall preferably be of Methyl Methacrylate, and the Housing of Acrylonitrile Butadiene Styrene. As an alternate reflectors may be mounted on the top of the barrier.

F



CONNECTING BOLT

* The slots may be 2 1/4 inch radius full height with the 1 inch space on the Connecting Bolt increased to 4 inch.

TEMPORARY CONCRETE BARRIER-TYPE I

GENERAL NOTES

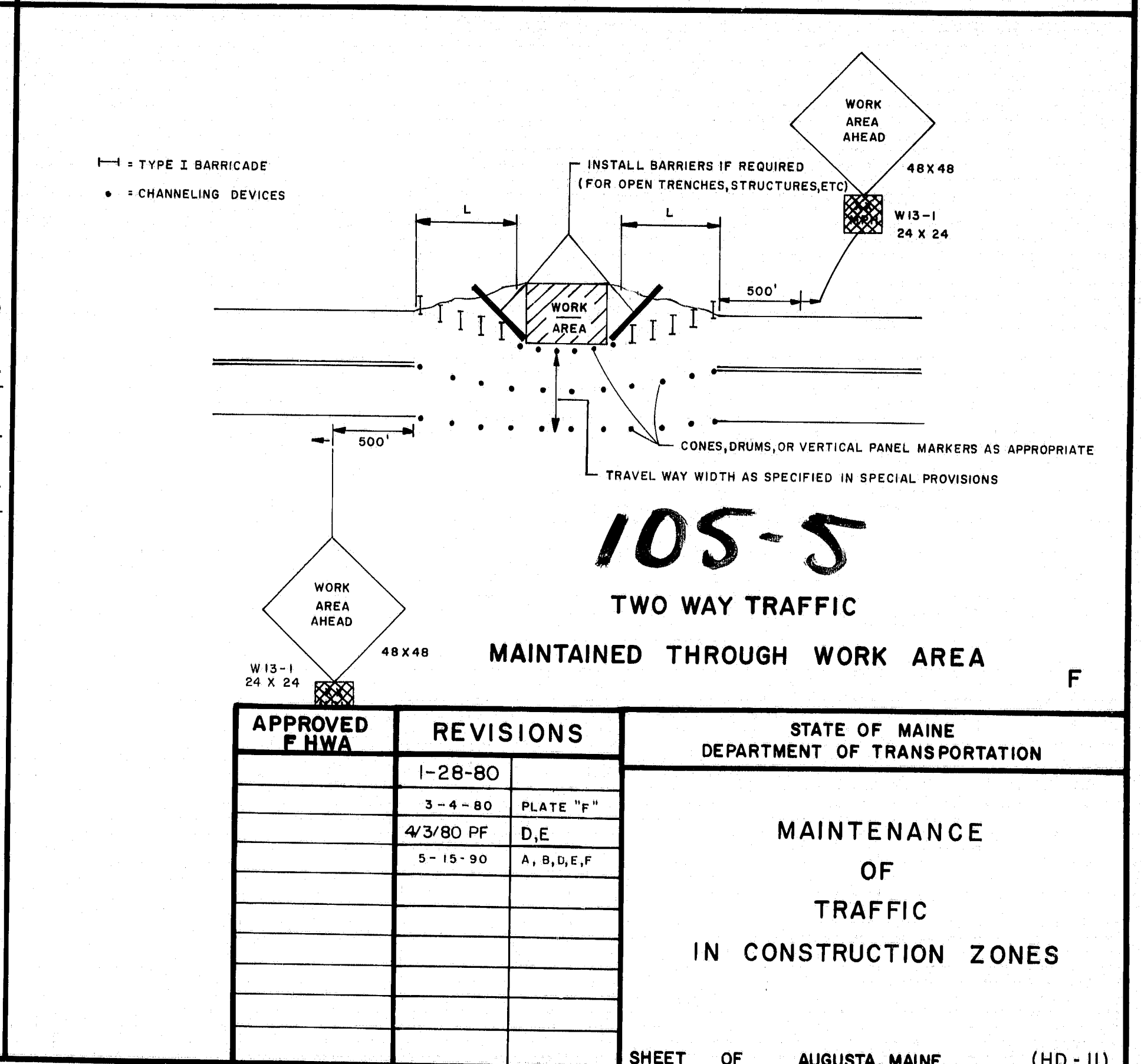
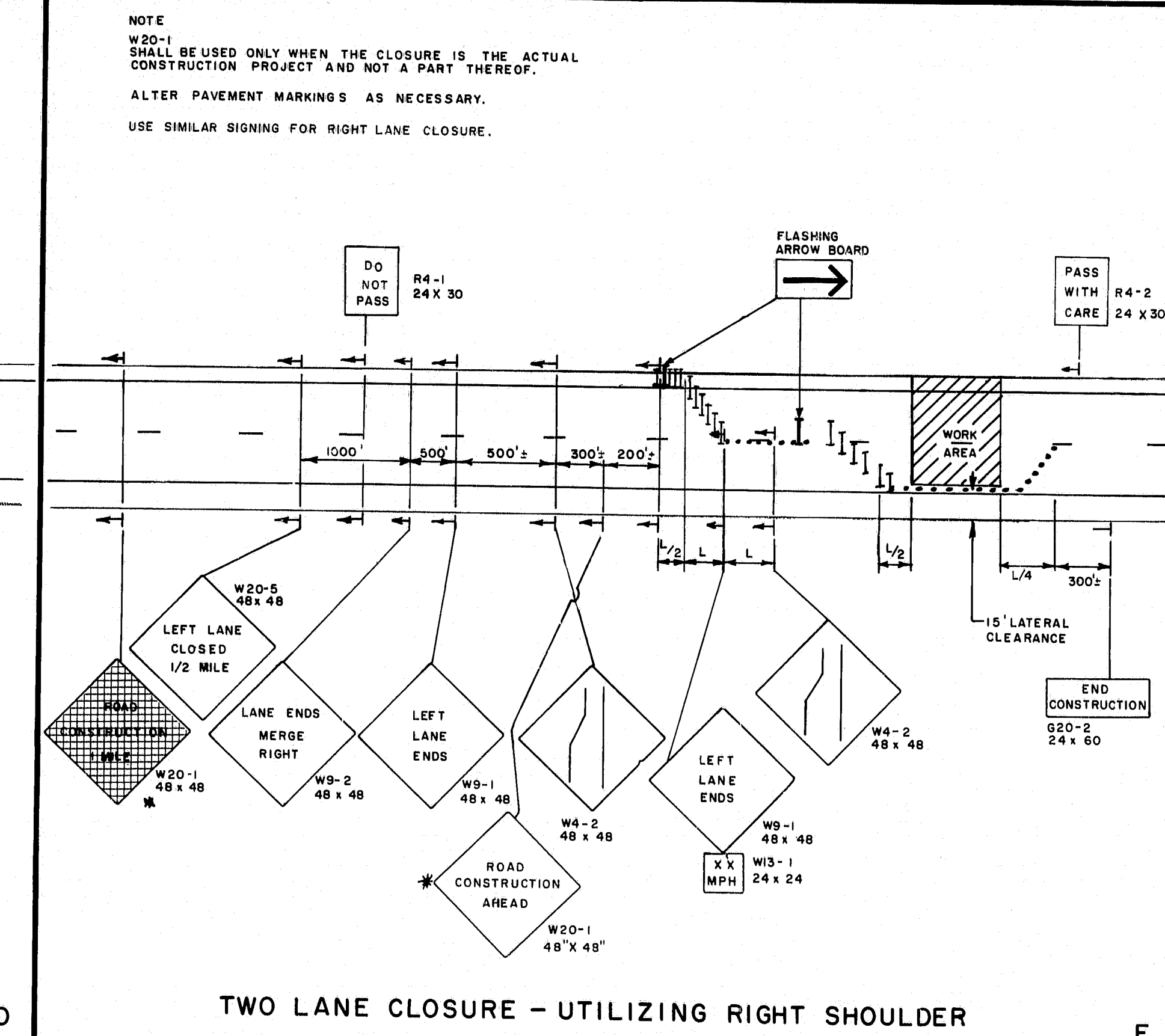
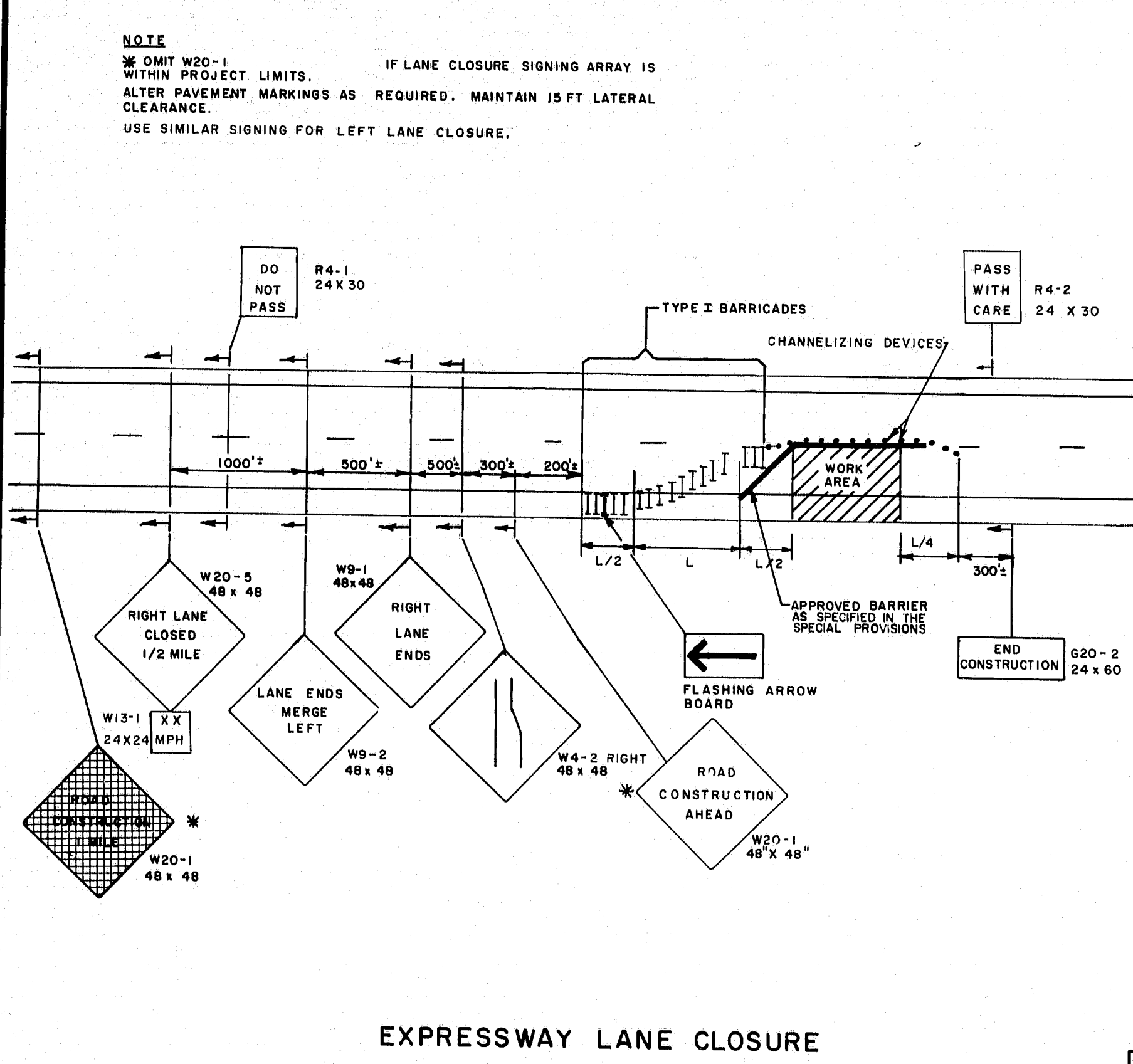
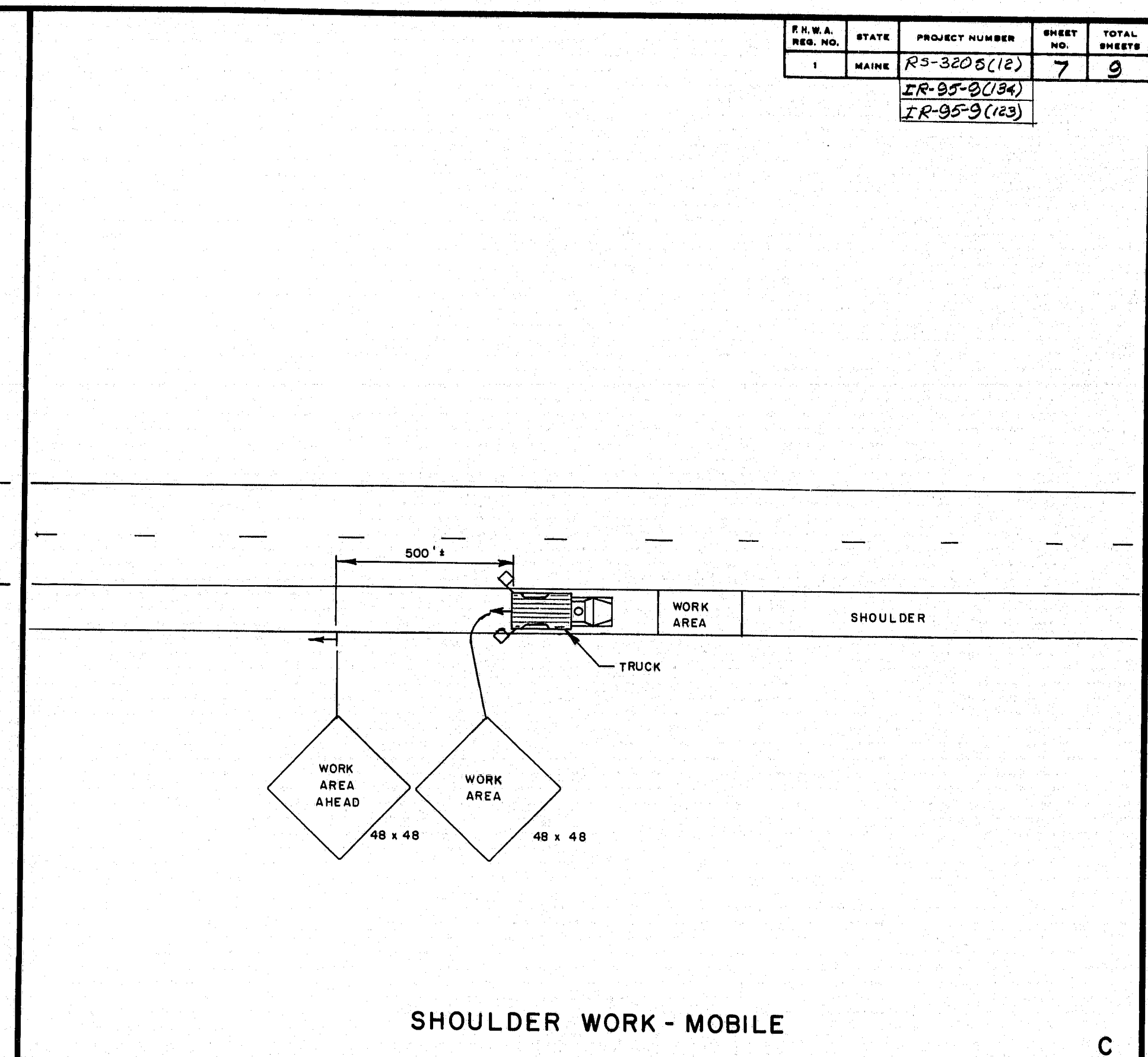
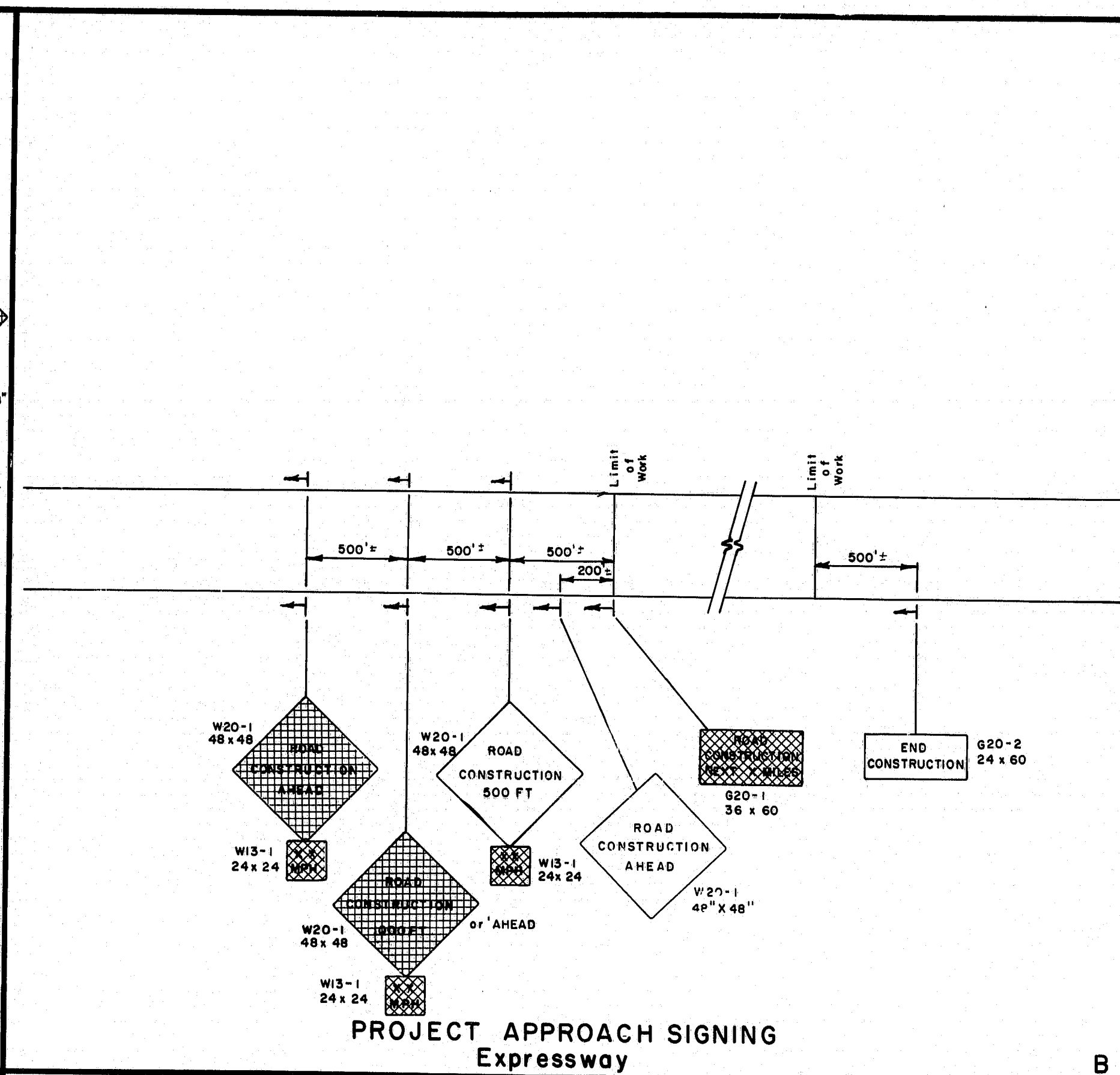
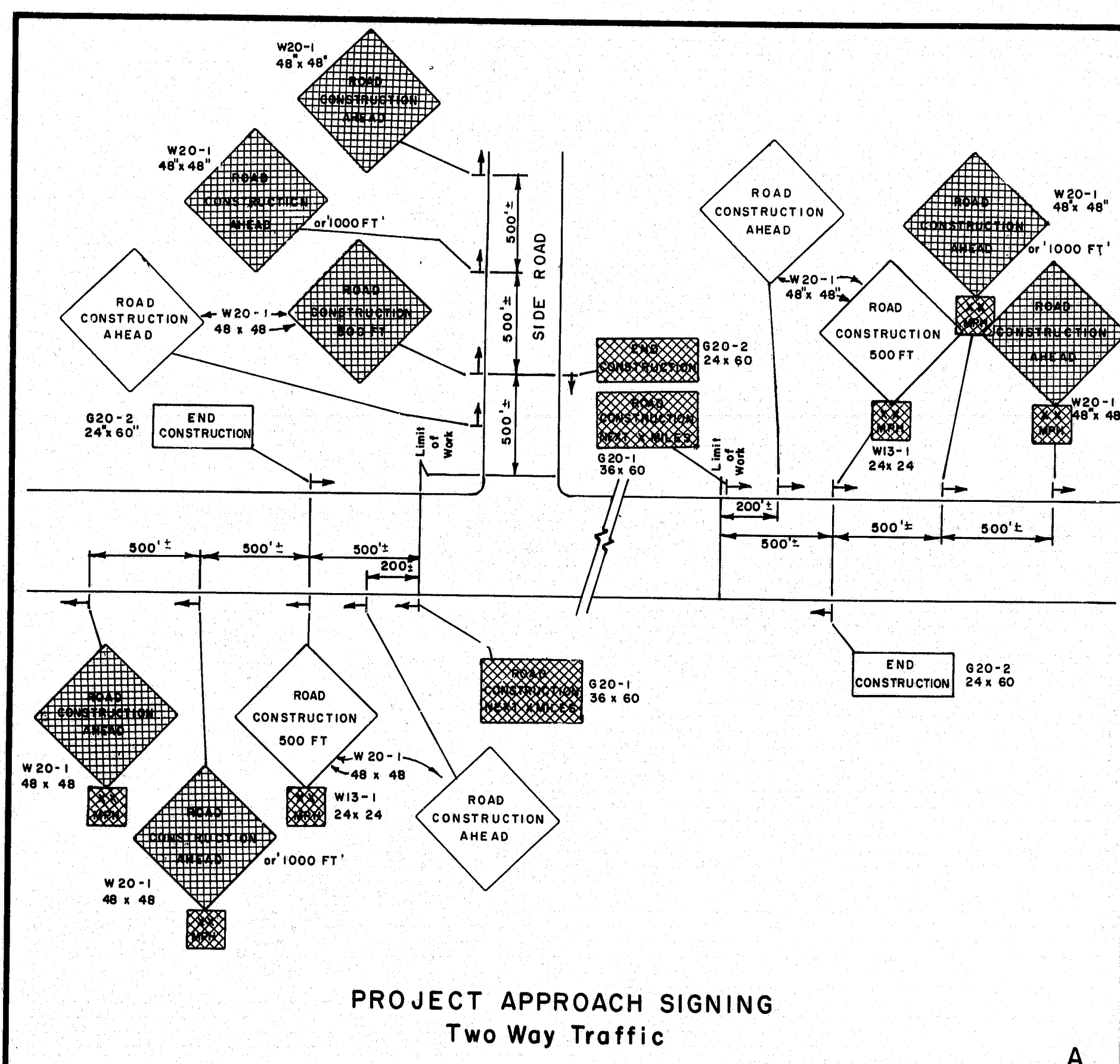
- Distances shown for sign placement are nominal, exact locations shall be determined by the Engineer.
- Grades on temporary roadways through the construction zone used by the public shall not exceed 10 percent.
- Advisory speed consistent with prevailing conditions shall be as determined by the Engineer.
- Use shaded signs when specified in the Special Provisions.
- The length of tapers shall be determined from the following formulae:
If S is equal to or less than 40 MPH
 $L = (W \times S \times S) / 60$
If S is equal to or greater than 45 MPH
 $L = WS$
Where:
L = taper length in feet
S = operating speed in MPH
W = width of roadway to be closed in feet
Taper lengths shall be rounded to the nearest five feet.
It may be required to extend lane closure tapers to provide a smooth transition where geometric alignment reduces sight distance.

- The maximum longitudinal spacing of channelizing devices shall conform to the following:
(a) 50 feet through work areas
(b) A distance in tapers equal to the numerical value of the operating speed, i.e., 45 MPH = 45 feet
(c) In all areas not covered above maximum spacing shall be as follows:
Radius of curve Spacing
50' to 300' 25'
300' to 700' 50'
700' to 1000' 75'
over 1000' 5 times the operating speed
The maximum transverse spacing in tapers shall be determined from the following formula:
 $D = (W \times S) / L$
Where:
D = transverse spacing in feet
W = width of roadway to be closed in feet
L = taper length in feet
S = operating speed in MPH

7. BORDER DIMENSIONS AND LEGEND DESIGN SHALL CONFORM TO THE STANDARD HIGHWAY SIGNS BOOKLET.

105-4

| REVISIONS | | APPROVED | | STATE OF MAINE | |
|---------------------------------|-----------|----------|--|---|--|
| Description | Me. DOT | FHWA | | DEPARTMENT OF TRANSPORTATION | |
| Original Plan | Feb. 1989 | | | MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| SHEET OF AUGUSTA, MAINE (HD-10) | | | | | |



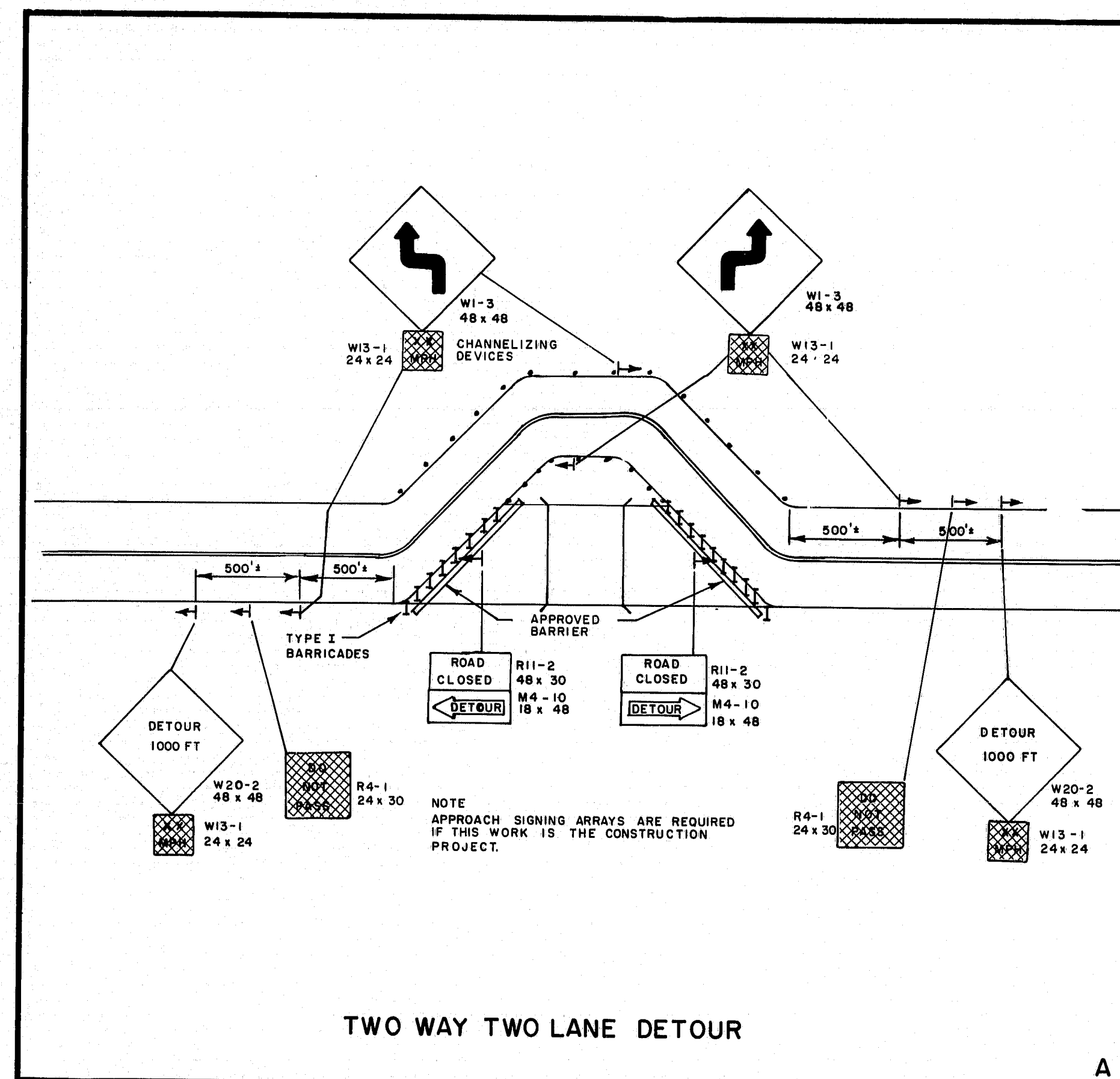
| | | | |
|--------------|-------------------|----|------|
| PLANS | DESIGN - DETAILED | BY | DATE |
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

| R.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|----------------------|-------|----------------|--------------|-----------------|
| 1 | MAINE | R3-3205(12) | 7 | 9 |
| | | IR-95-9(134) | | |
| | | IR-95-9(123) | | |

[illegible]

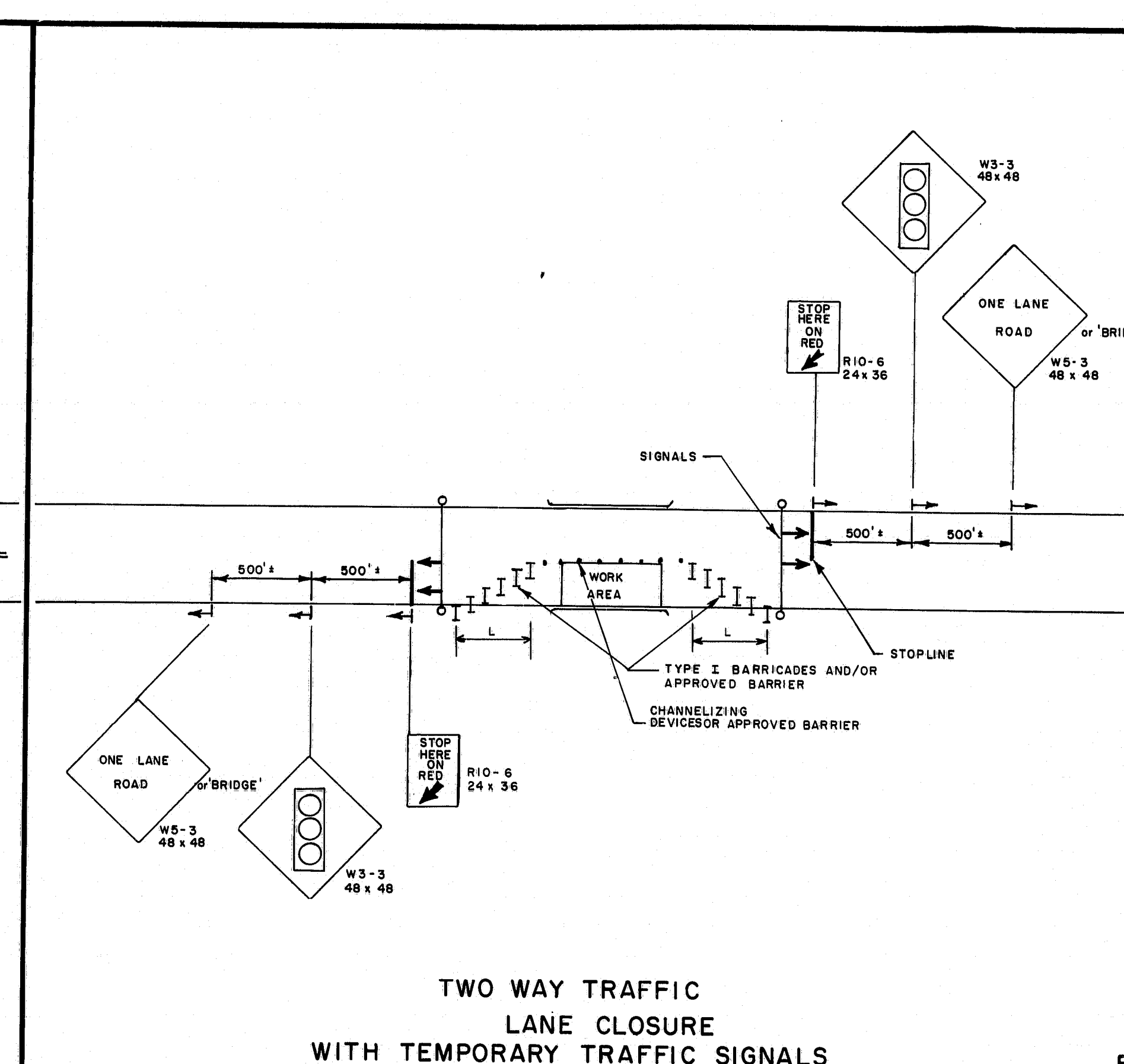
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

MAINTENANCE
OF
TRAFFIC
IN CONSTRUCTION ZONES



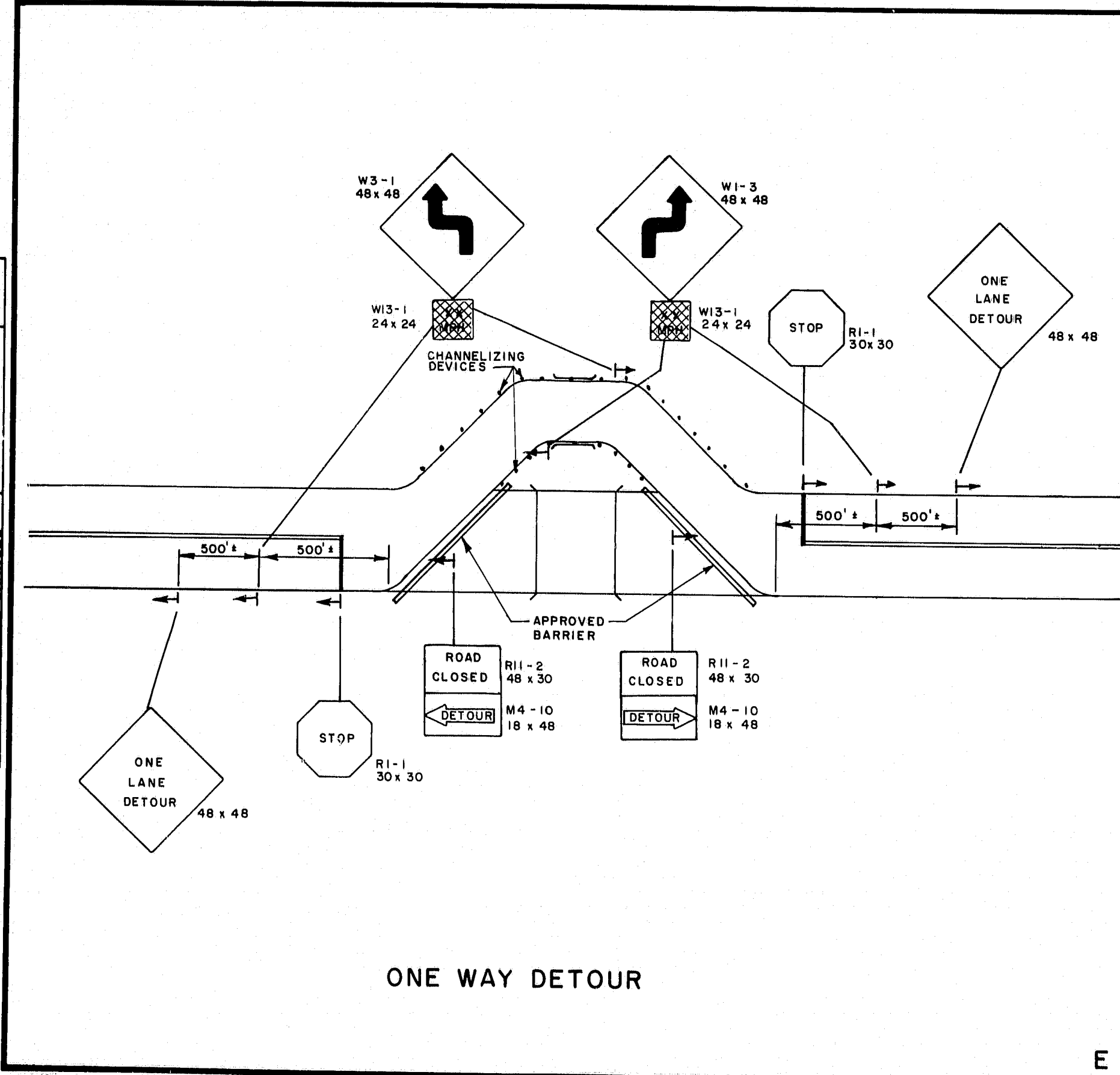
TWO WAY TWO LANE DETOUR

A



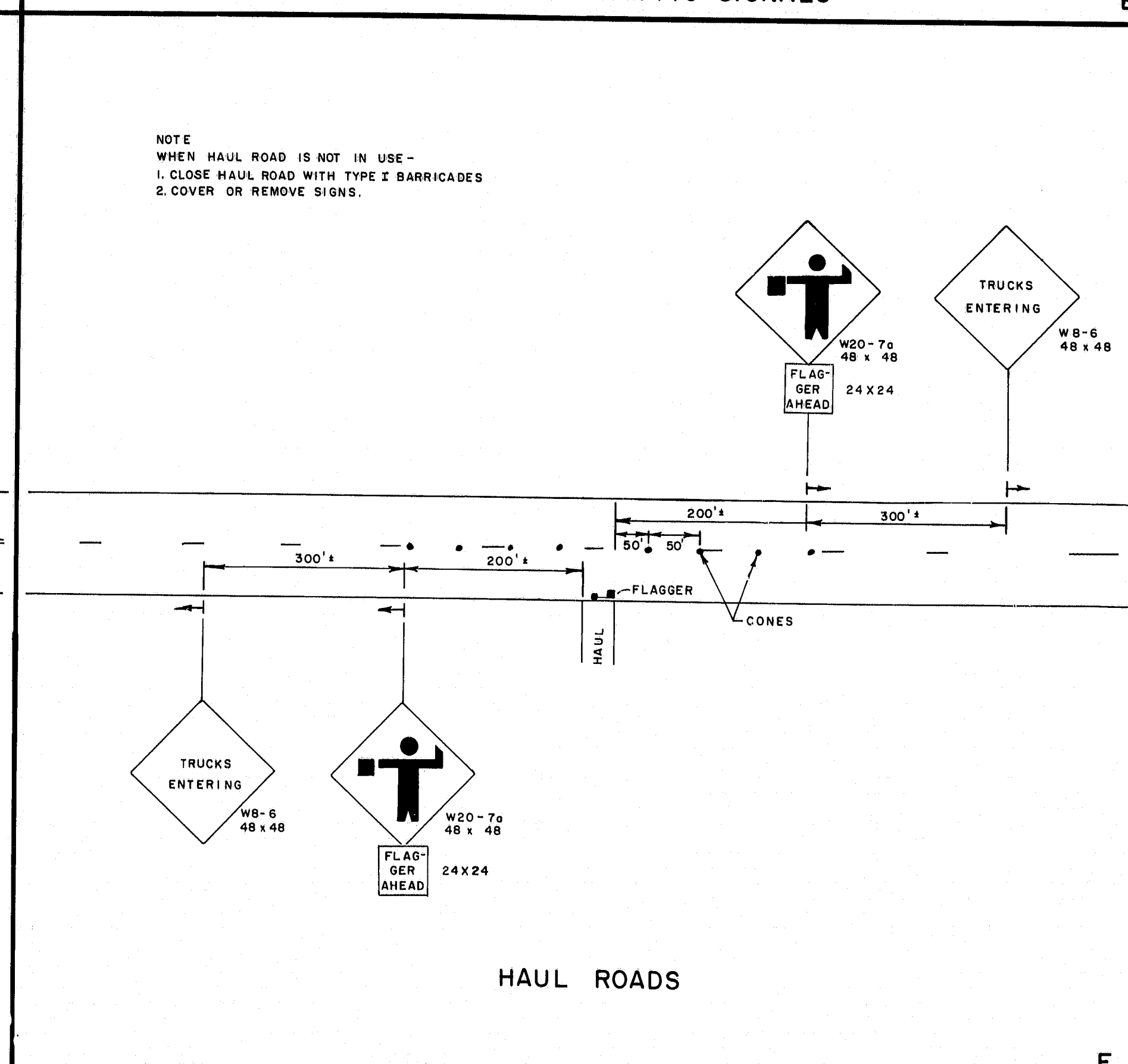
TWO WAY TRAFFIC LANE CLOSURE WITH TEMPORARY TRAFFIC SIGNALS

B



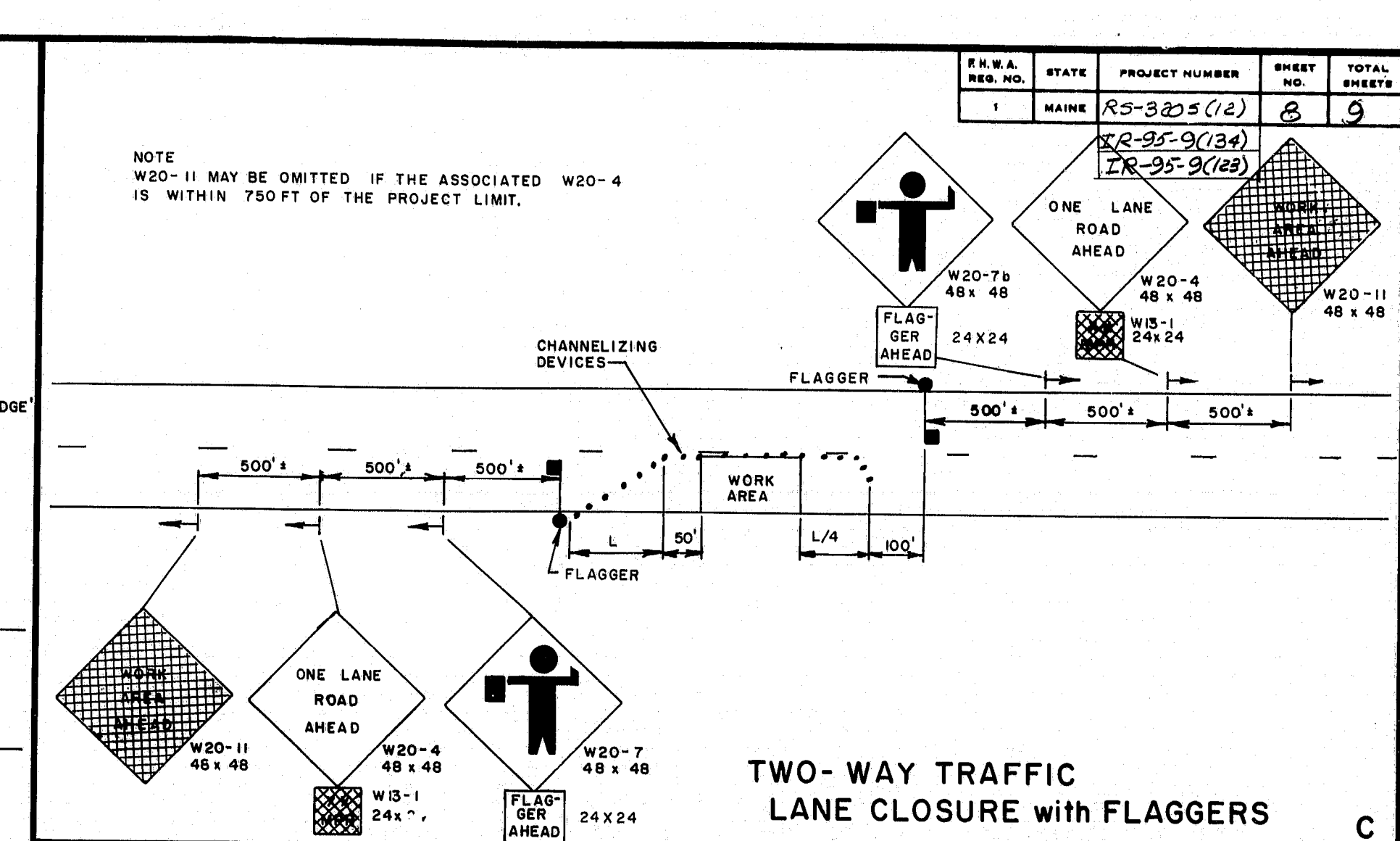
ONE WAY DETOUR

C



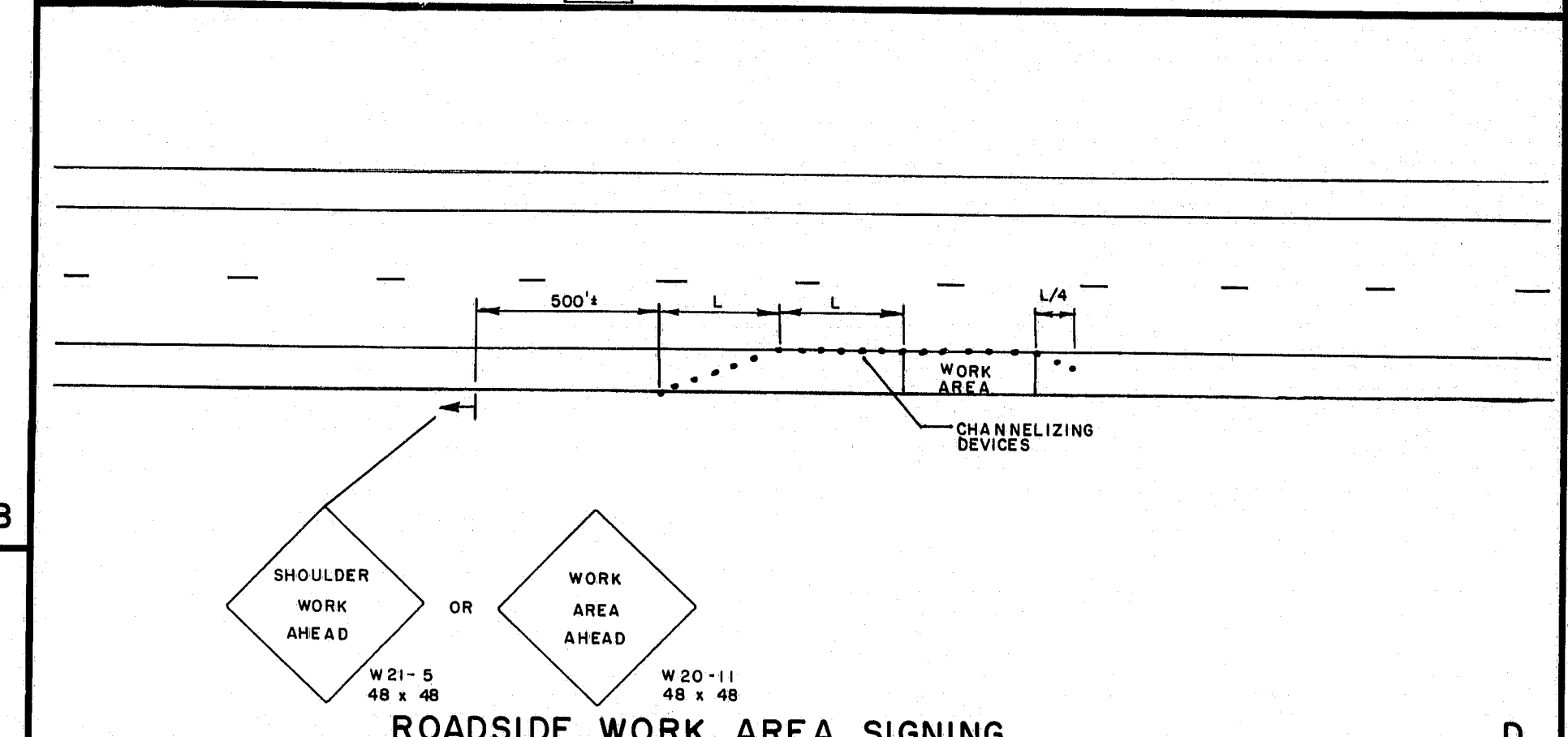
HAUL ROADS

D



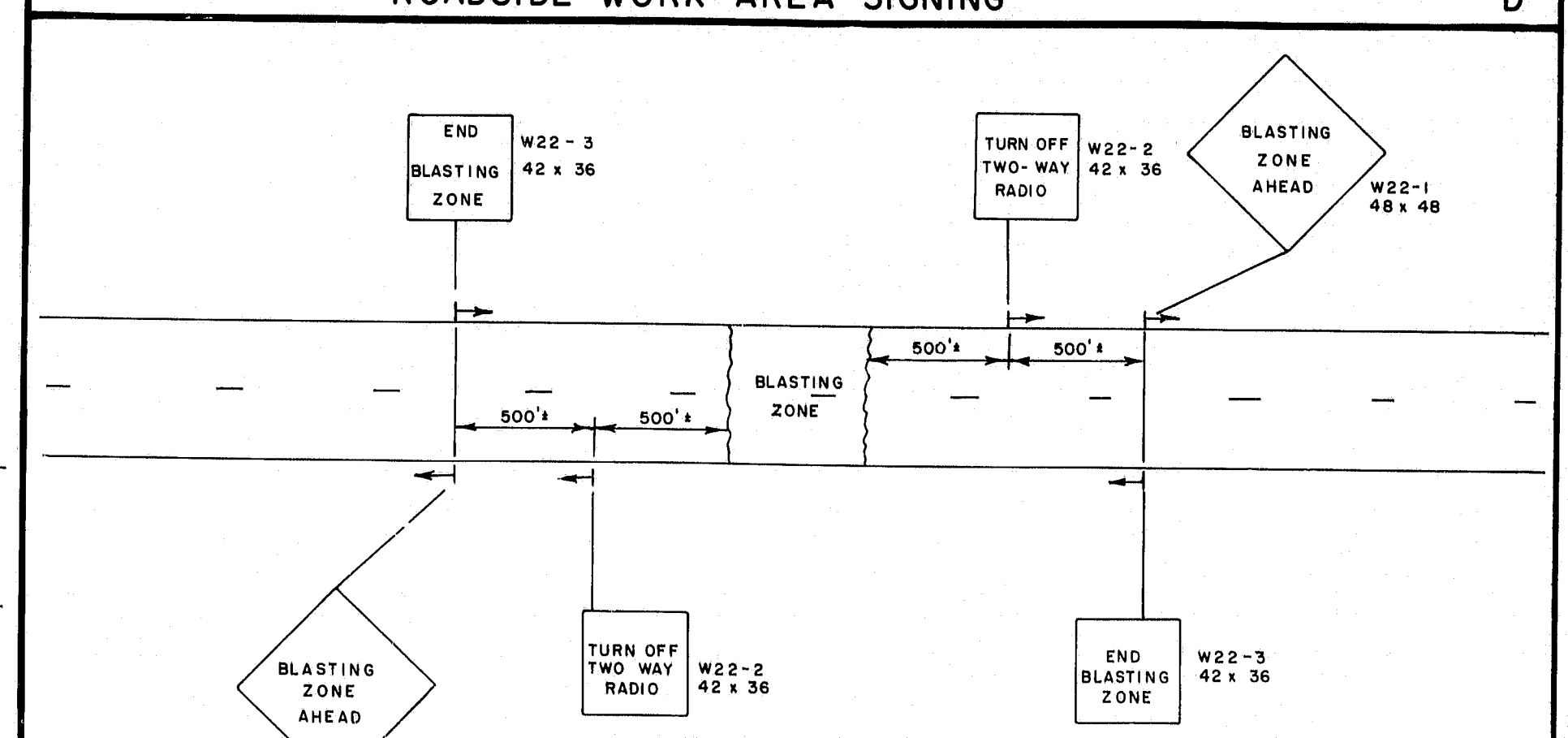
TWO-WAY TRAFFIC LANE CLOSURE WITH FLAGGERS

E



ROADSIDE WORK AREA SIGNING

F



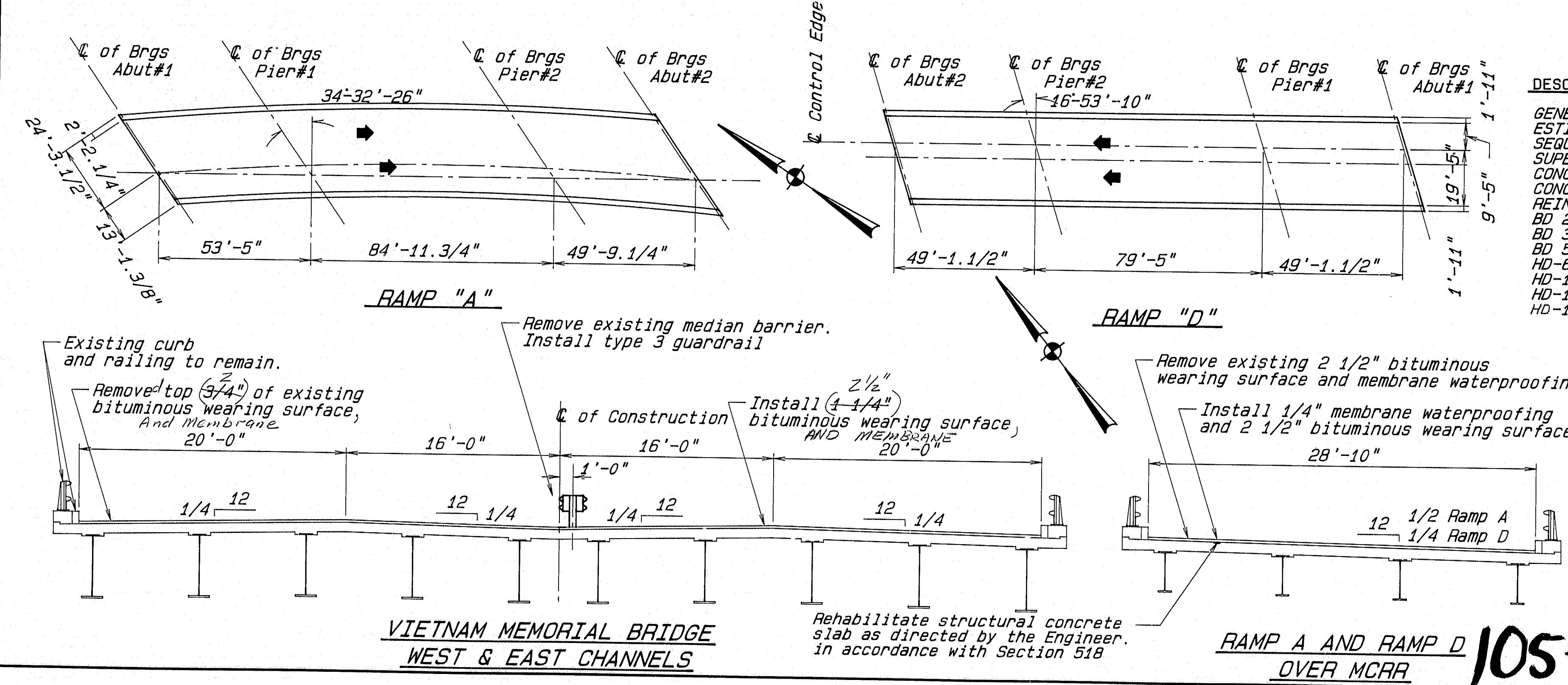
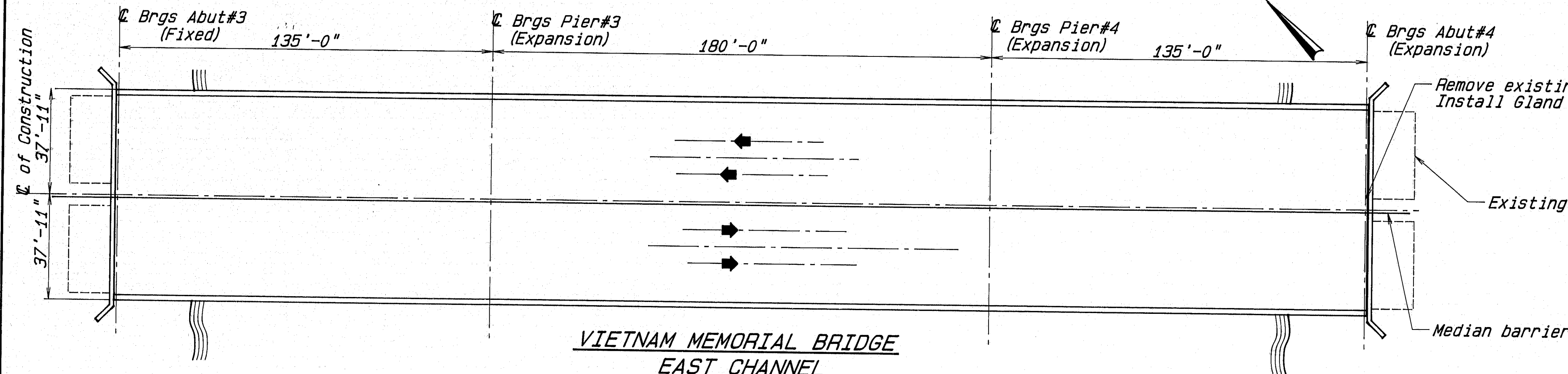
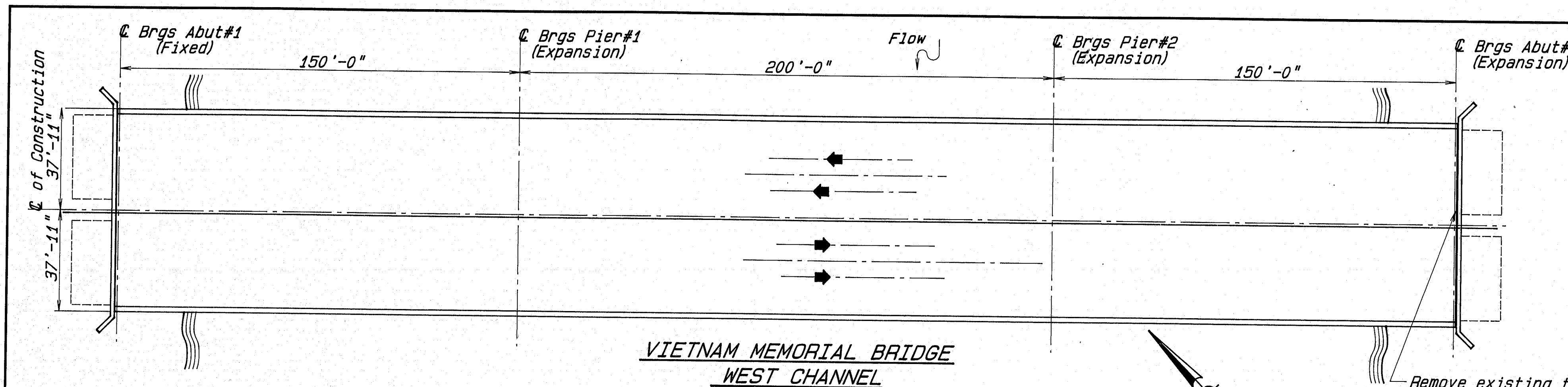
BLASTING ZONE

G

| REVISIONS | | | | STATE OF MAINE DEPARTMENT OF TRANSPORTATION | |
|-----------|----|---------|--|---|--|
| 4/3/80 | PF | B, C, D | | MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | SHEET OF AUGUSTA, MAINE (HD-12) | |

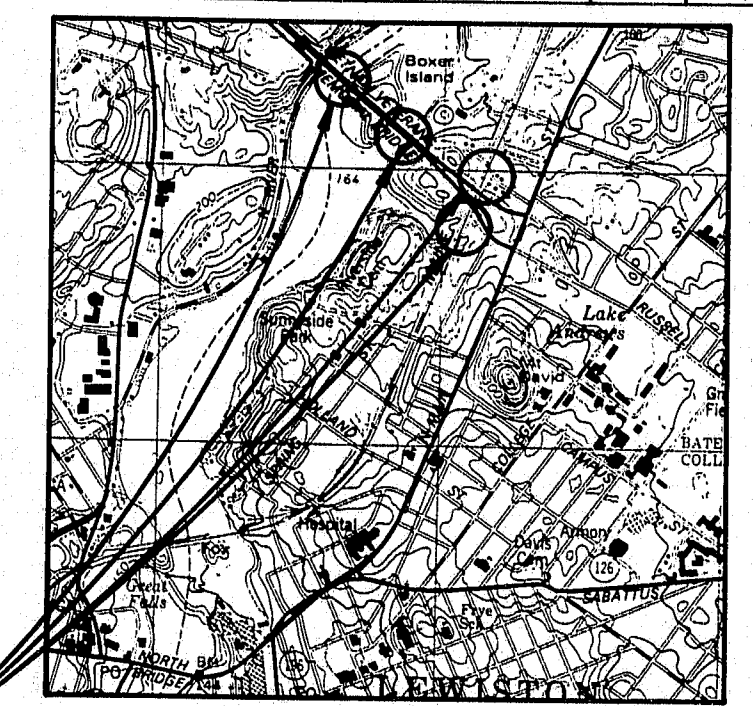
105-6

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



Plans of the existing bridge are available for the Contractor's reference at the bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

| TRAFFIC DATA | E | W |
|----------------------------|-------|-------|
| Current (1991) AADT | 11030 | 11215 |
| Future (2011) AADT | 17645 | 17945 |
| DHV - % of AADT | 11 | 10 |
| Design Hour Volume | 1940 | 1795 |
| % Heavy Trucks (AADT) | 6 | 5 |
| % Heavy Trucks (DHV) | 4 | 4 |
| Directional Distribution | 100 | 100 |
| 18 Kip Equivalent P 2.0 | 500 | 500 |
| 18 Kip Equivalent P 2.5 | 490 | 498 |
| (E=Eastbound, W=Westbound) | | |



SPECIFICATIONS
DESIGN: AASHTO Standard Specifications for Highway Bridges, 1989 and 1990 Interims.
CONTRACT: State of Maine, Department of Transportation Standard Specifications for Highways and Bridges, Revisions of October, 1990.

DESIGN LOADING
 EXISTING LOADING HS20

MATERIALS
 CONCRETE (Unless otherwise specified) CLASS A
 REINFORCING STEEL ASTM A615, GRADE 60
 STRUCTURAL STEEL ASTM A36

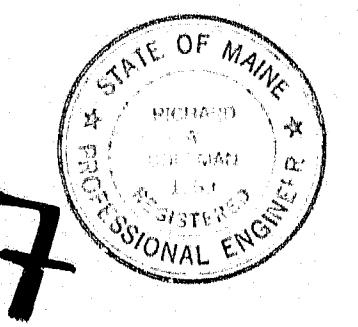
MATERIALS
 CONCRETE $f_c=3,000$ psi
 REINFORCING STEEL $F_y=60,000$ psi
 STRUCTURAL STEEL $F_y=36,000$ psi

| DESCRIPTION | SHEET NO. |
|----------------------------|-----------|
| GENERAL PLAN | 1 |
| ESTIMATED QUANTITIES | 2 |
| SEQUENCE OF CONSTRUCTION | 3 |
| SUPERSTRUCTURE DETAILS | 4 |
| CONCRETE END POSTS | 5 |
| REINFORCING STEEL SCHEDULE | 6 |
| BD 201-89 | 7 |
| BD 502-89 | 8 |
| BD 521-89 | 9 |
| HD-6 | 10 |
| HD-10 | 11 |
| HD-11 | 12 |
| HD-12 | 13 |
| | 14 |

SCOPE OF WORK
EAST AND WEST CHANNELS
 Grind 3/4" of existing wearing surface. Remove the existing transflex joints and replace them with Gland Seals. Place 1 1/4" of bituminous wearing surface. Remove existing median rail and replace with type 3 guard rail. Retrofit existing end posts and bridge rail transitions. Clean and paint structural steel at bridge seats and beam ends. Overlay 50' of each approach to match new profile grade on bridges.
RAMP A & D
 Remove existing 2" bituminous wearing surface and waterproofing membrane. Repair concrete deck as necessary. Place new waterproofing membrane and 2 1/2" bituminous wearing surface. Clean and paint structural steel at bridge seats and beam ends. Retrofit existing end posts and bridge rail transitions. Overlay 20' of each approach to match new profile grade on bridges.
As Built Plans RWH 9/9/92

STATE OF MAINE
 DEPT. OF TRANSPORTATION
 APPROVED:
 COMMITTEE CHAIRMAN
 9-10-91
 DATE
 9-9-91
 DATE
 CHIEF ENGINEER

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
WEARING SURFACE REPLACEMENT AT VIETNAM VETERANS MEM. BRIDGE RAMP A AND RAMP D IN THE CITIES OF LEWISTON AND AUBURN ANDROSCOGGIN COUNTY
GENERAL PLAN
 SHEET 1 OF 14
 AUGUSTA, MAINE
 AUGUST 1991



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RAMP A AND RAMP D OVER MCRR
105-7

H13