

INDEX OF SHEETS

1. TITLE
- 2-3. LAYOUTS
4. PROFILE
5. QUANTITIES
6. GEN. NOTES & MISC. DETAILS
7. PRELIMINARY INFORMATION
8. SLAB DETAILS
9. ABUTMENT DETAILS
10. WINGWALL DETAILS
11. REINFORCING STEEL SCHEDULE
12. R.O.W. PLAN SHEET
- 13-15. ROADWAY SECTIONS
- 16-19. CHANNEL SECTIONS

Dated: APR 5 1993

G. EASTMAN, INC.
Contractor
Gordon Eastman
Signature
PRESIDENT
Title

LIST OF STANDARDS

E-100	10-21-92 R
E-101	10-21-92 R
E-106	1-23-87 R
E-107a	9-10-87
G-1	10-31-85 R
G-1d	10-31-85 R
SB-R6-82	11-13-91 R
SB-R7-90	3-10-92 R

W. J. Clark
Transportation Secretary's Signature

CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.

STATE OF VERMONT AGENCY OF TRANSPORTATION



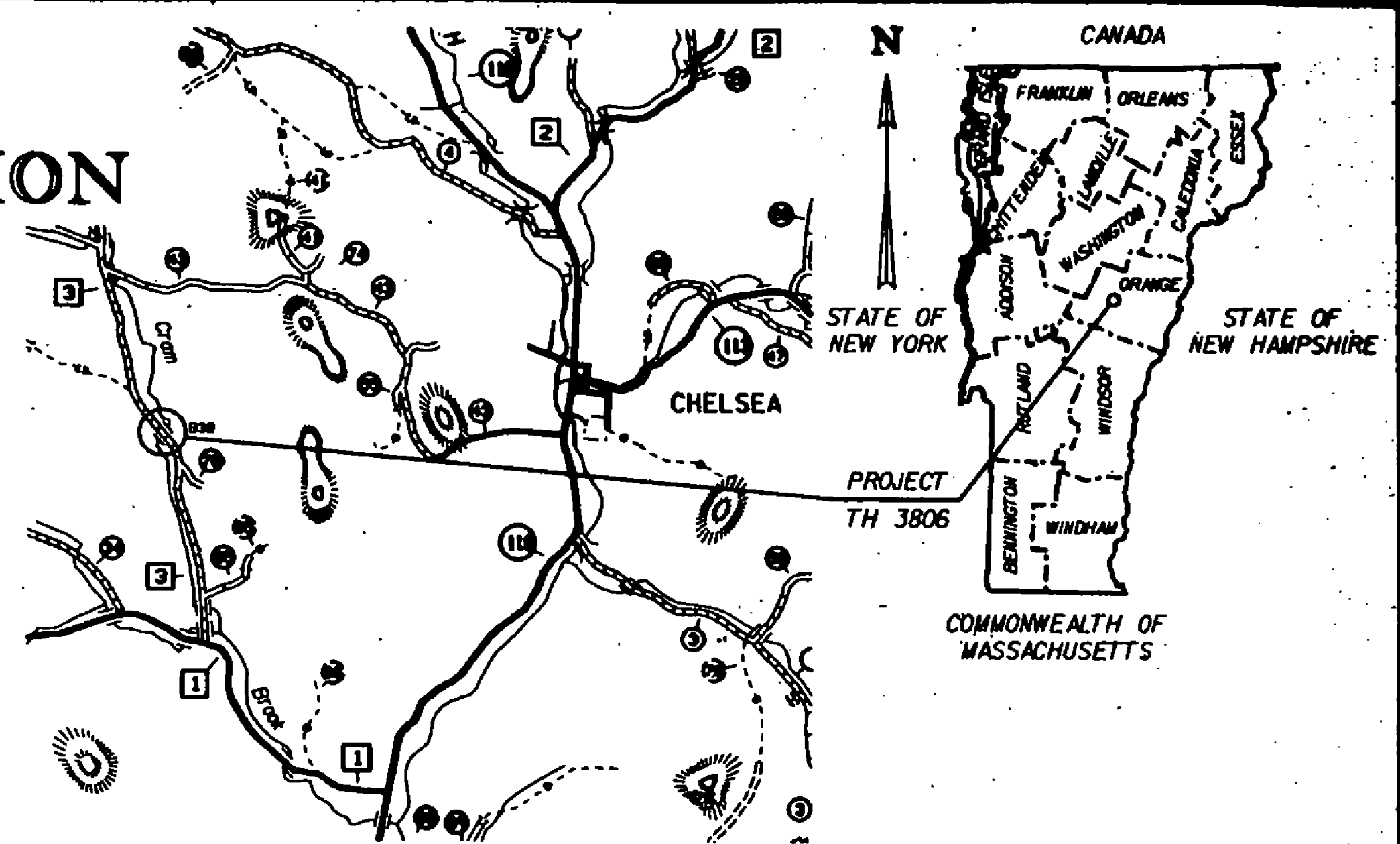
PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF CHELSEA COUNTY OF ORANGE

ROUTE NO. T.H.3 (CLASS 2) BRIDGE NO. 30

PROJECT LOCATION: BEGINNING AT A POINT ON TH *3 APPROXIMATELY 0.95 MILES FROM THE INTERSECTION OF TH *1 AND TH *3 AND EXTENDING APPROXIMATELY 0.04 MILES IN A NORTHWESTERLY DIRECTION

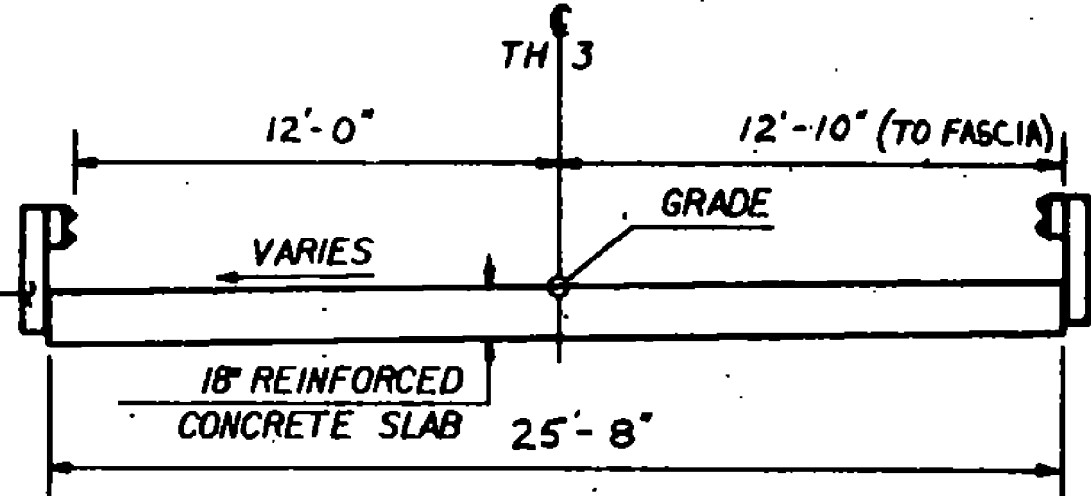
PROJECT DESCRIPTION: WORK TO CONSIST OF THE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE WITH RELATED CHANNEL AND ROADWAY WORK

LENGTH OF BRIDGE: 23.00'
LENGTH OF ROADWAY: 177.00'
LENGTH OF PROJECT: 200.00'



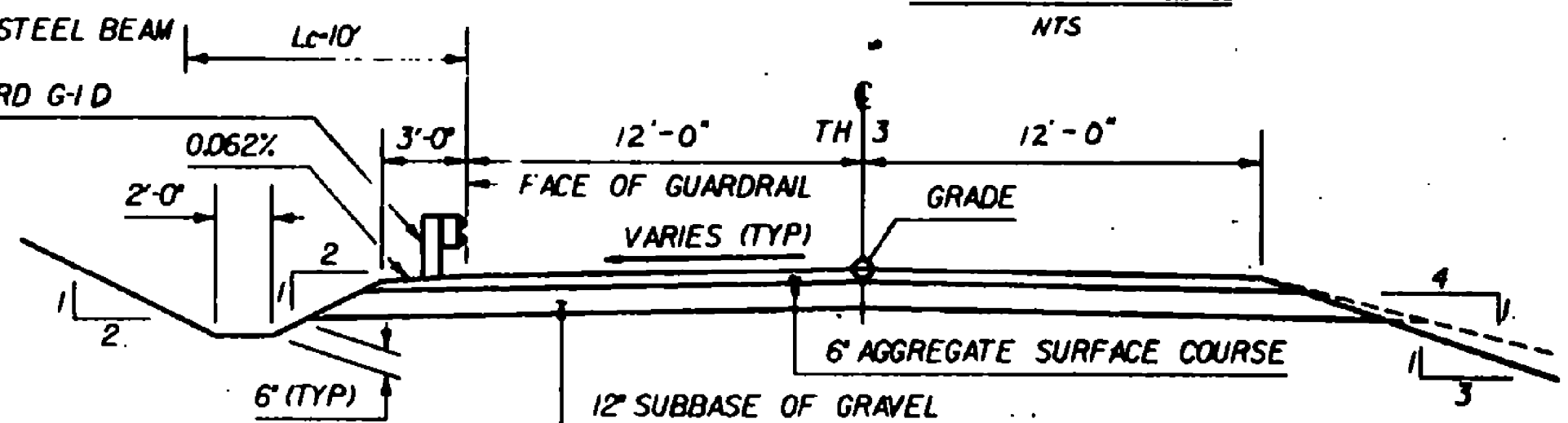
LOCATION MAP
0 0.5 1
SCALE: 1" = 1/2 MILE

BRIDGE RAILING:
STANDARD STEEL BEAM /
FASCIA MOUNTED /
STEEL TUBING (TYP)



BRIDGE TYPICAL
NTS

HEAVY DUTY STEEL BEAM
GUARD RAIL
SEE STANDARD G-1 D



ROADWAY TYPICAL
NTS

CONVENTIONAL SIGNS

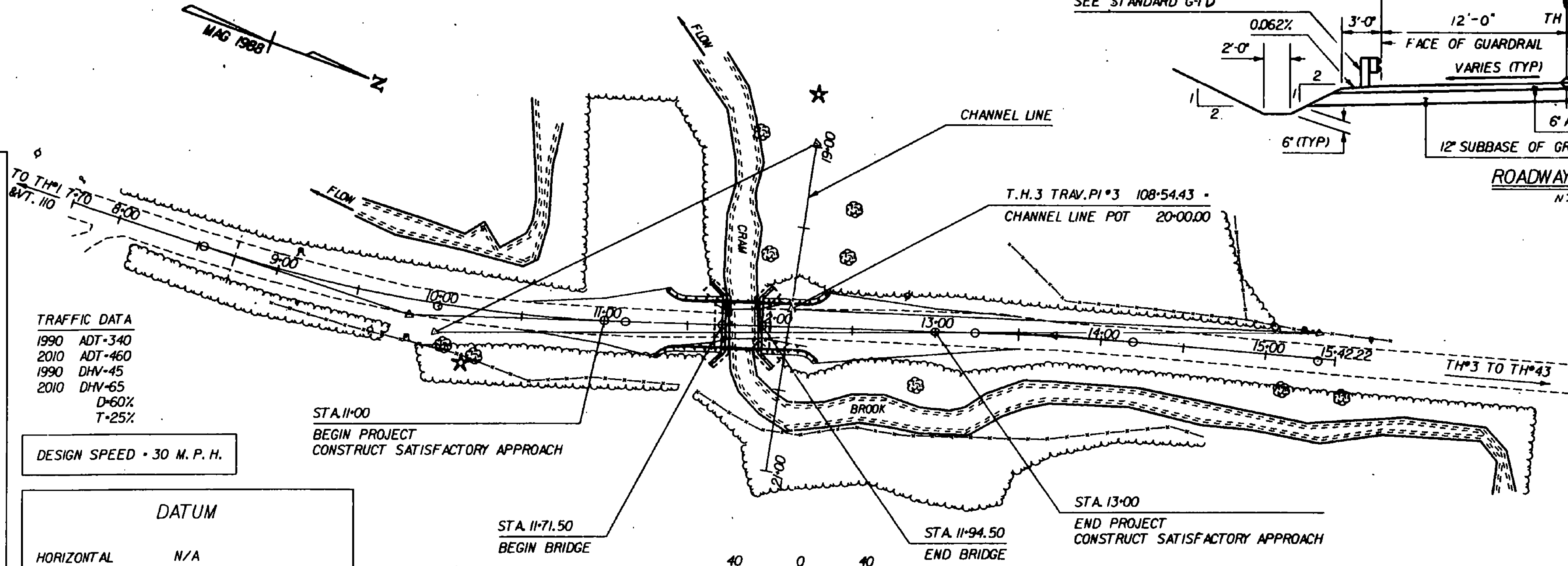
CONTROL OF ACCESS	---
COUNTY LINE	---
CULVERT	---
FENCE LINE	X-X
GUARD RAIL	○-○-○
LIMITS OF ACCESS	○-○-○
POINT OF ACCESS	X
POWER POLE	□
PROPERTY LINE	---
RAILROAD	---
R.O.W. TAKING LINE	SR
SLOPE RIGHTS	○-○-○
STONE WALL	○-○-○
SURVEY LINE	---
TELEPHONE POLE	○
TOE OF SLOPE	○-○-○
TOP OF CUT	△-△-△
TOWN LINE	---
TRAVELED WAY	---
TREES	⊗

TRAFFIC DATA
1990 ADT-340
2010 ADT-460
1990 DHV-45
2010 DHV-65
D=60%
T=25%

DESIGN SPEED - 30 M.P.H.

DATUM

HORIZONTAL	N/A
VERTICAL	ASSUMED



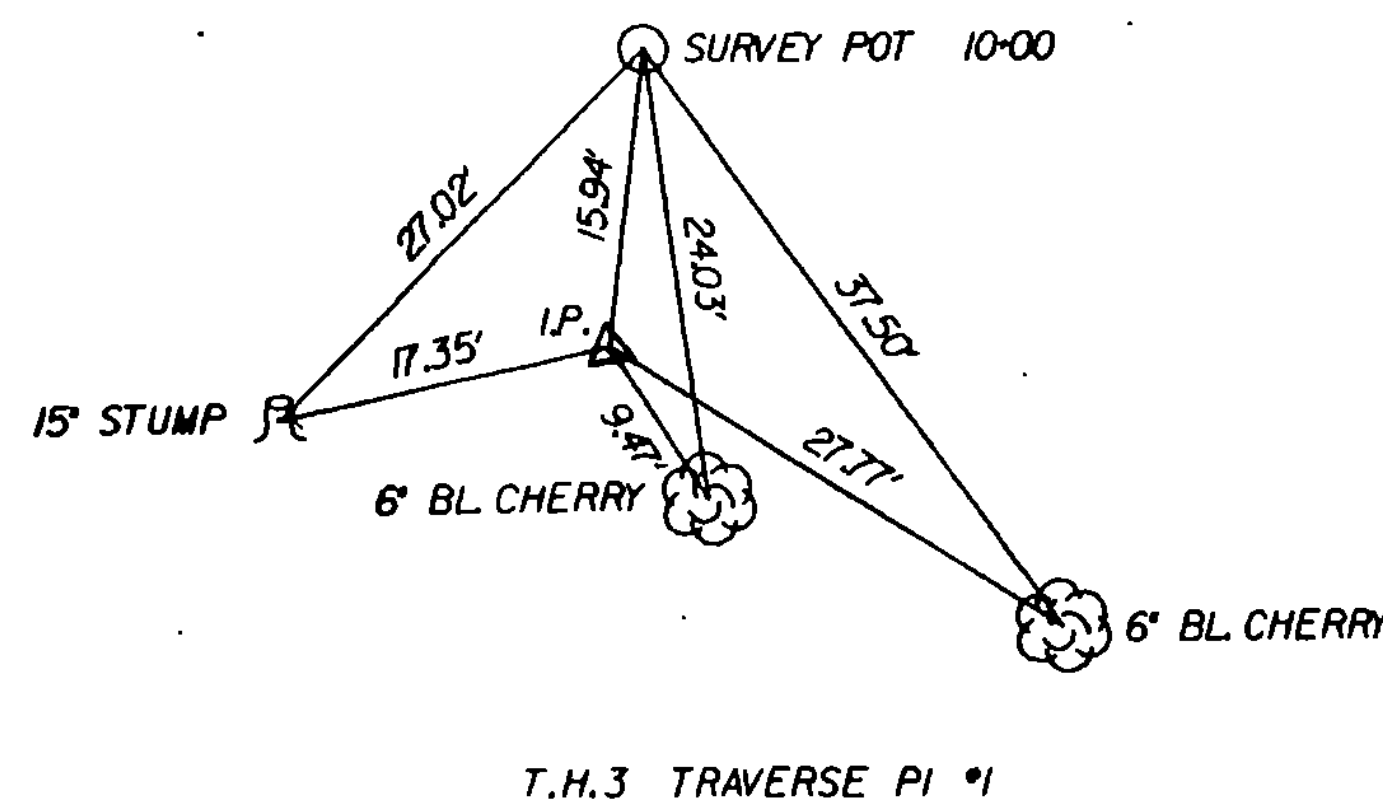
40 0 40
SCALE: 1" = 40'

THESE PLANS ARE SUBJECT TO SUCH
ENGINEERING CHANGES AS MAY BE REQUIRED
BY THE FEDERAL HIGHWAY ADMINISTRATION OR
THE CHIEF ENGINEER
CONSTRUCTION IS TO BE CARRIED ON IN
ACCORDANCE WITH THESE PLANS AND THE
STANDARD SPECIFICATIONS FOR CONSTRUCTION
DATED 1990, AS APPROVED BY THE FEDERAL
HIGHWAY ADMINISTRATION ON MARCH 15,
1990 FOR USE ON THIS PROJECT, INCLUDING
ALL SUBSEQUENT REVISIONS AND SUCH RE-
VISED SPECIFICATIONS AND SPECIAL PROVISIONS
AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE
STATE TRANSPORTATION BOARD
APPROVED *Robert F. Slade* DATE 12/10/93
Acting DIRECTOR OF ENGINEERING

PROJECT - CHELSEA
PROJECT NUMBER - T H 3806
SHEET 1 OF 19 SHEETS

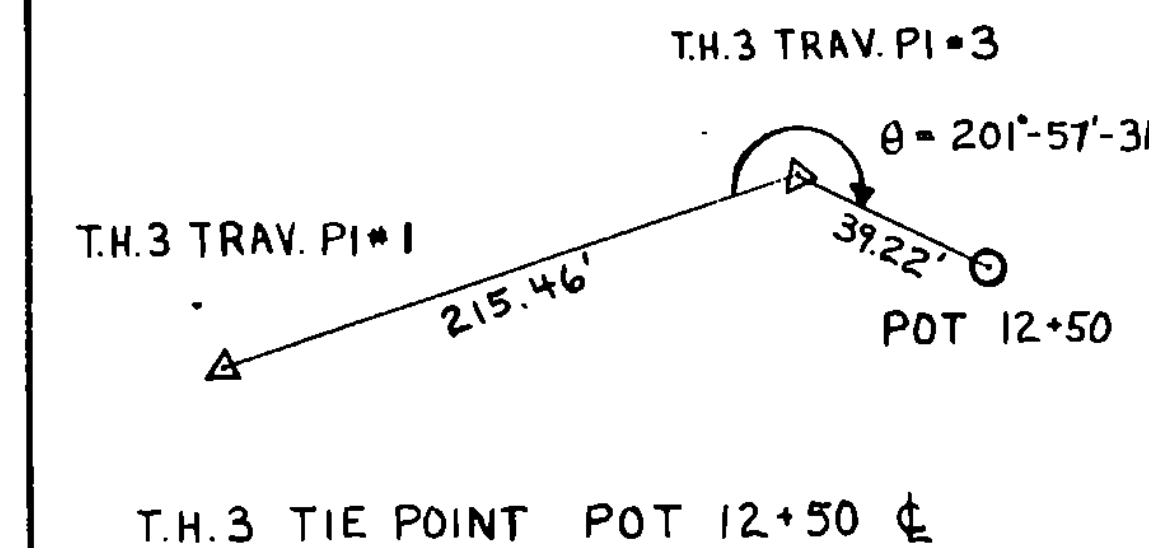
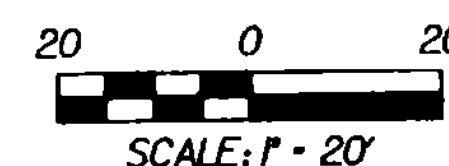
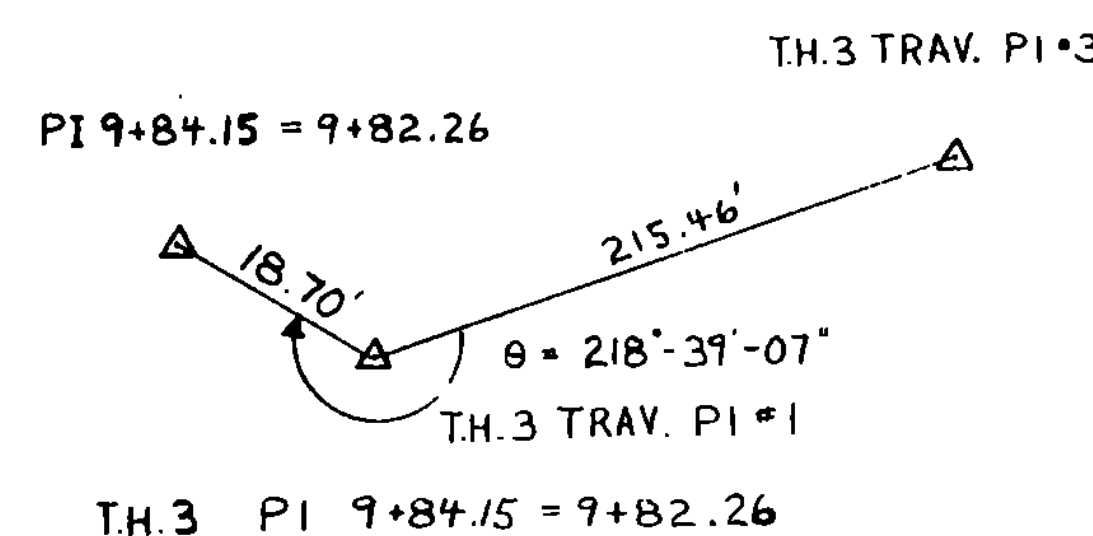
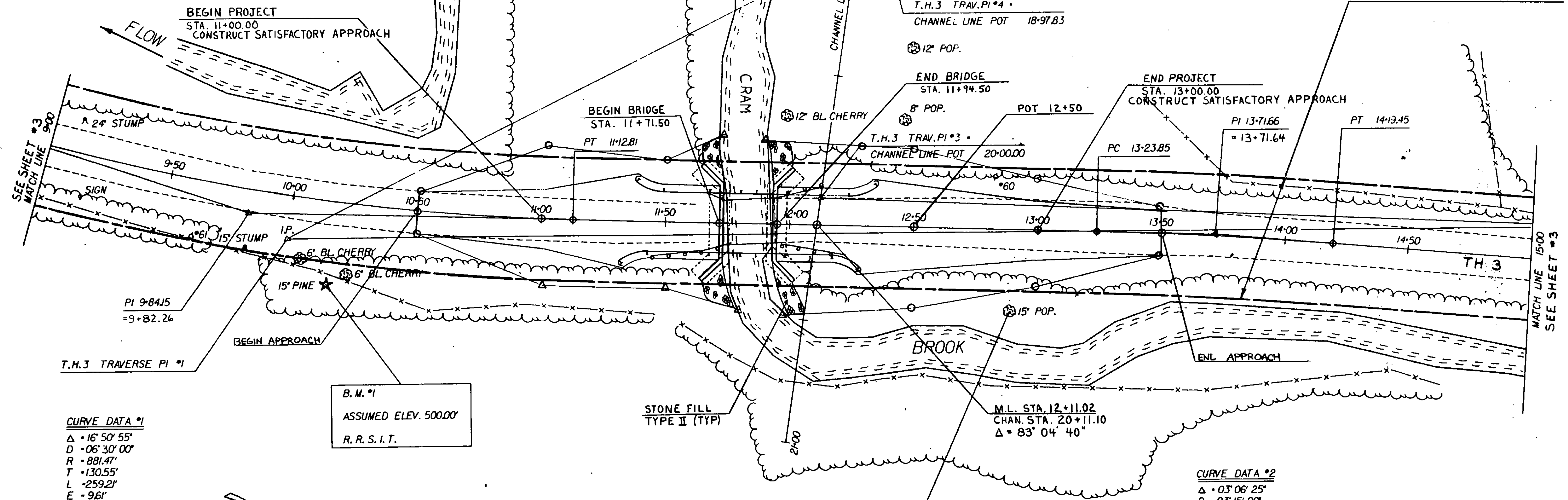
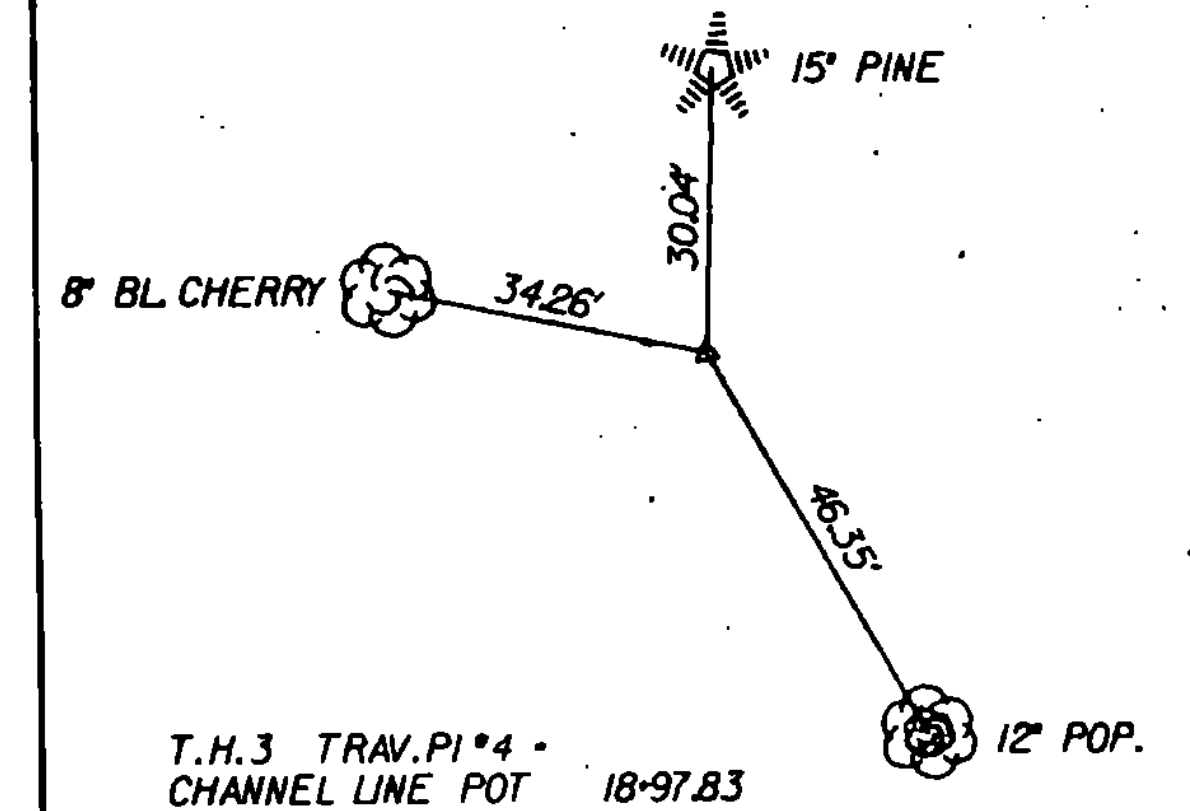
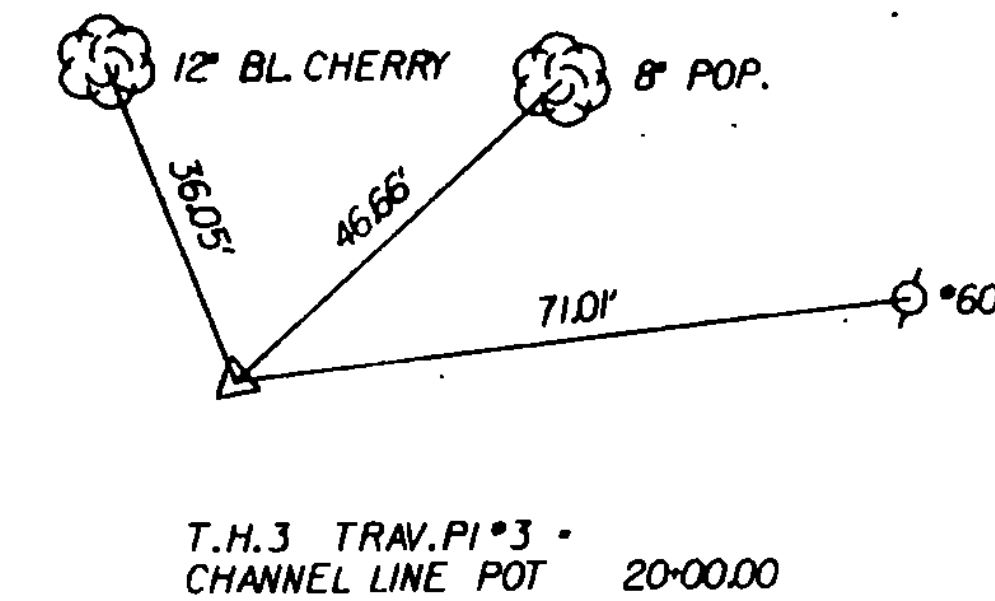
BY: J. CLARK ZFA: [30,57] 87JH9.DGN:1



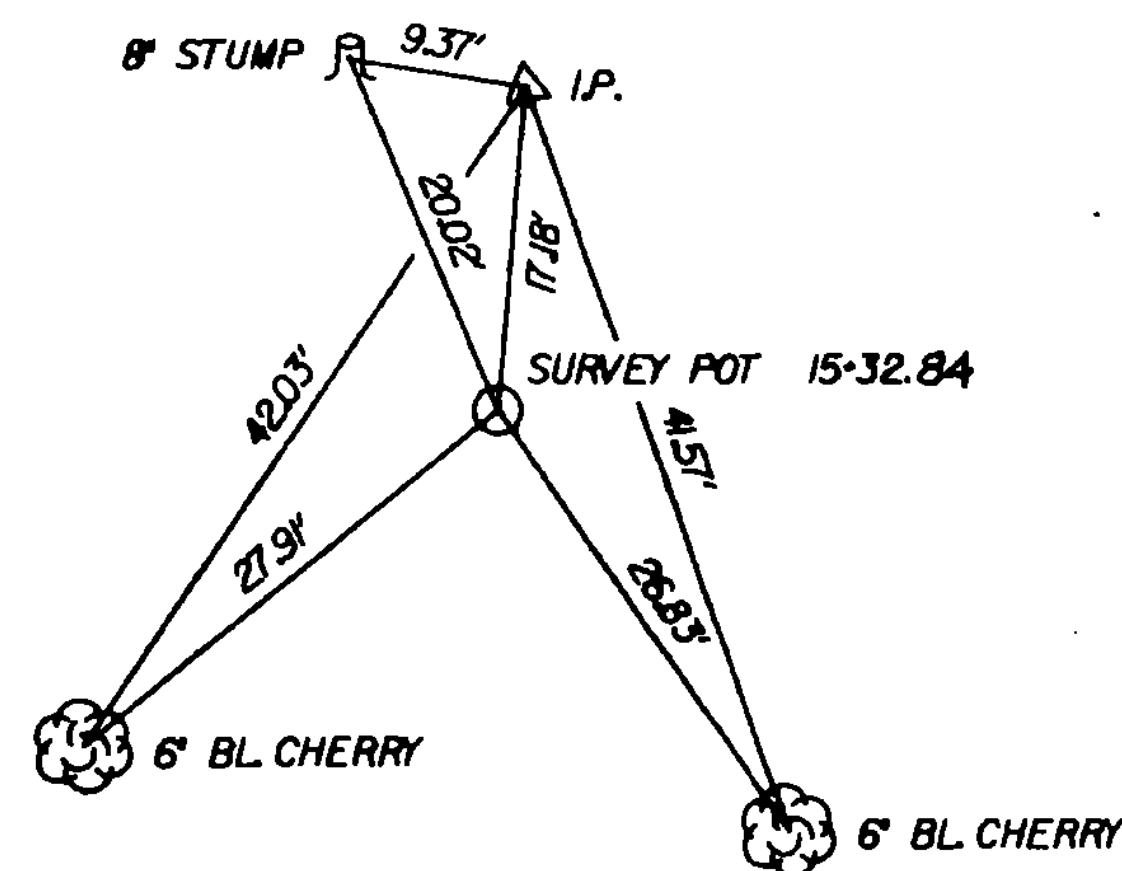
HEAVY DUTY STEEL BEAM GUARD RAIL
 LT. 11+37-11+67 11+99-12+35
 RT. 11+31-11+67 11+99-12+28

ANCHOR FOR STEEL BEAM RAIL
 11+50 LT 11+43 RT
 12+24 LT 12+18 RT

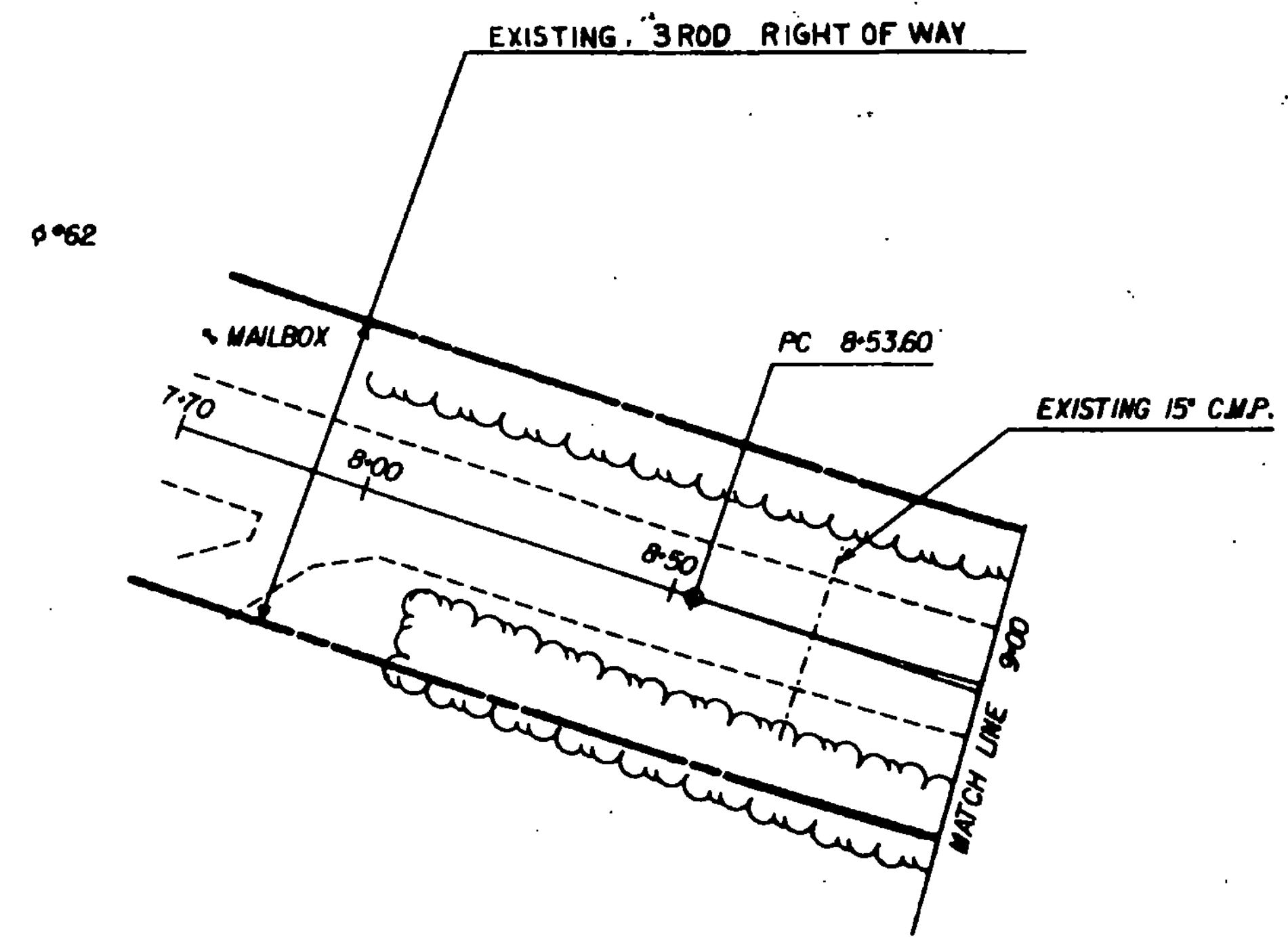
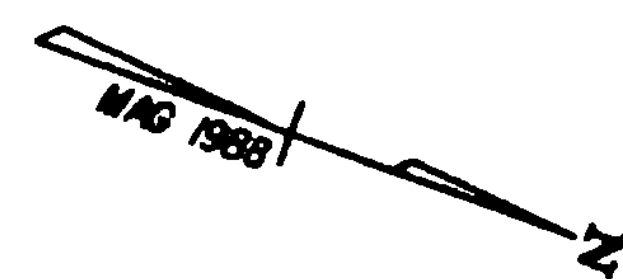
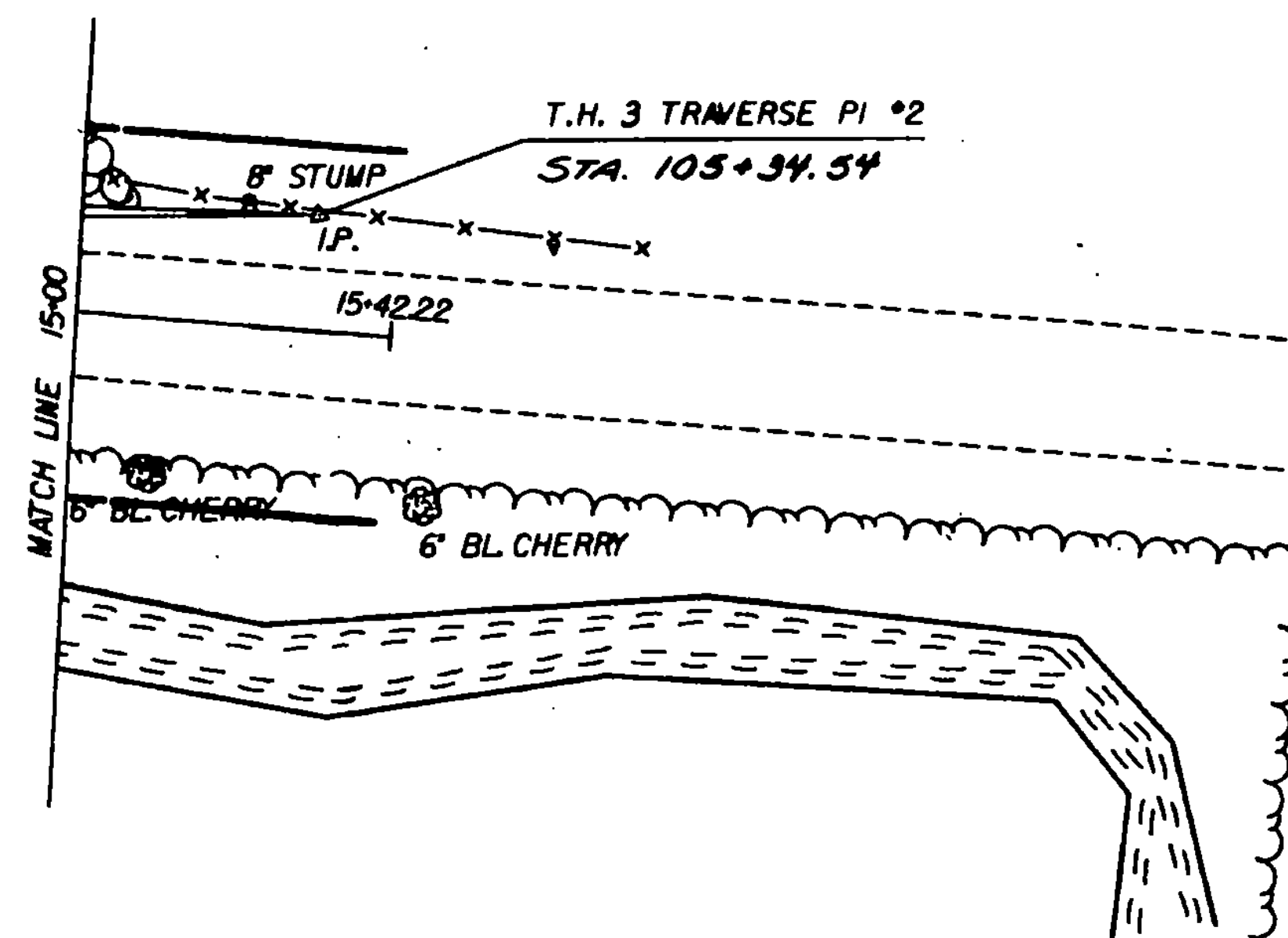
BRIDGE RAILING - STANDARD STEEL BEAM/FASCIA MOUNTED /STEEL TUBING
 LT. & RT. 11+67-11+99



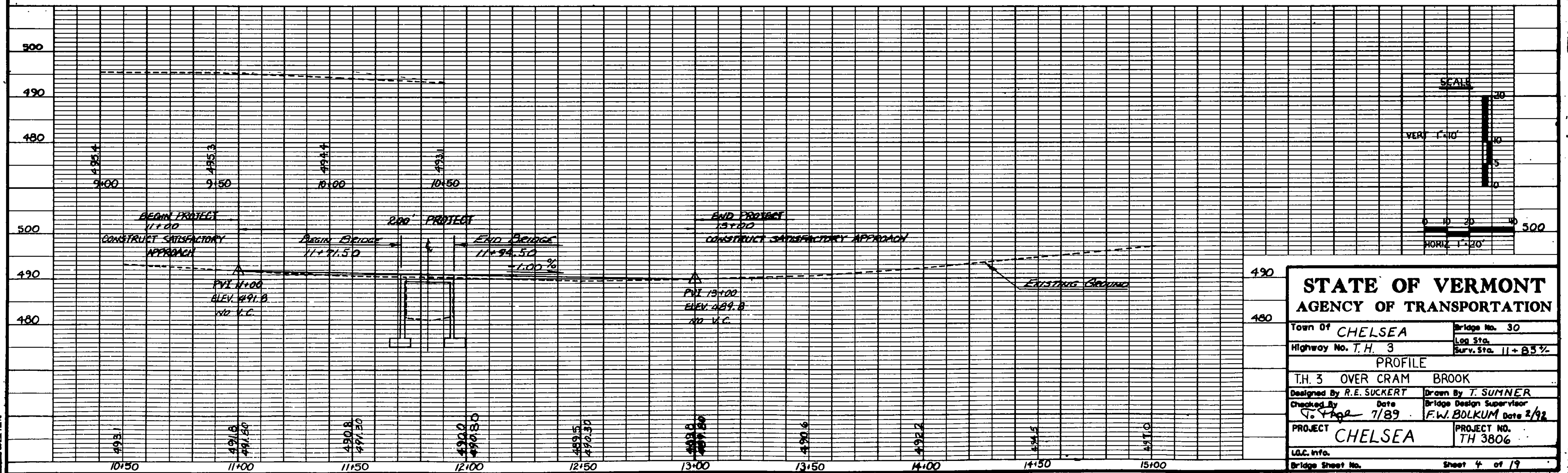
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CHELSEA	Bridge No.	30
Highway No.	T. H. 3	Log Sta.	
		Surv. Sta.	11+83 1/2
LAYOUT			
T. H. 3 OVER CRAM BROOK			
Designed By	R.E. SUCKERT	Drawn By	J. CLARK
Checked By	C.P. WILLIAMS	Bridge Design Supervisor	F.W. BOLKUM
	2/92	Date	2/92
PROJECT	CHELSEA	PROJECT NO.	T H 3806
I.G.C. Info.	ZFAH[30.57] 87J149.DGN		
Bridge Sheet No.	Sheet 2 of 19		



T.H. 3 TRVERSE PI *2



STATE OF VERMONT			
AGENCY OF TRANSPORTATION			
Town Of	CHelsea	Bridge No.	30
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	11+83.2
LAYOUT			
T.H. 3 OVER CRAM BROOK			
Designed By	R.E. Suckert	Drawn By	J. Clark
Checked By	Y. S. Papp	Date	8/89
		Bridge Design Supervisor	F.W. Bolkum Date 2/92
PROJECT	CHelsea	PROJECT NO.	T H 3806
L.C. Info.		ZFA1230571 87J149DGNJ	
Bridge Sheet No.		Sheet	3 of 19



STATE OF VERMONT AGENCY OF TRANSPORTATION

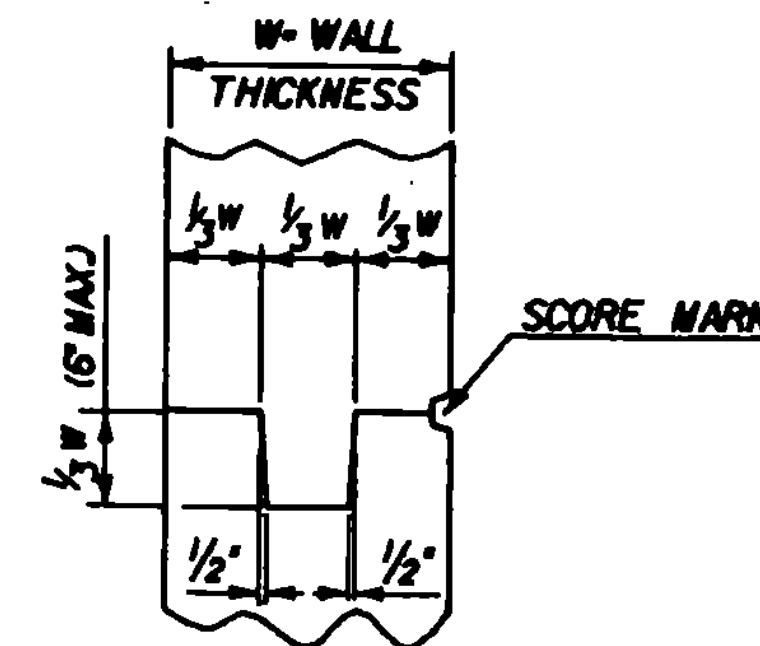
Town of CHELSEA	Bridge No. 30
Highway No. T.H. 3	Log Sta. 11+85.5
PROFILE	
T.H. 3 OVER CRAM BROOK	
Designed By R.E. SUCKERT	Drawn By T. SUMNER
Checked By T. Page	Bridge Design Supervisor F.W. BOLKUM
Date 7/89	Date 2/92
PROJECT CHELSEA	PROJECT NO. TH 3806
L.C.C. Info.	
Bridge Sheet No.	Sheet 4 of 19

[illegible][illegible]

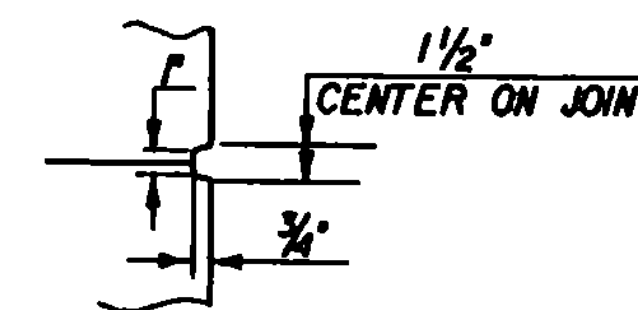
**STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION**

GENERAL NOTES

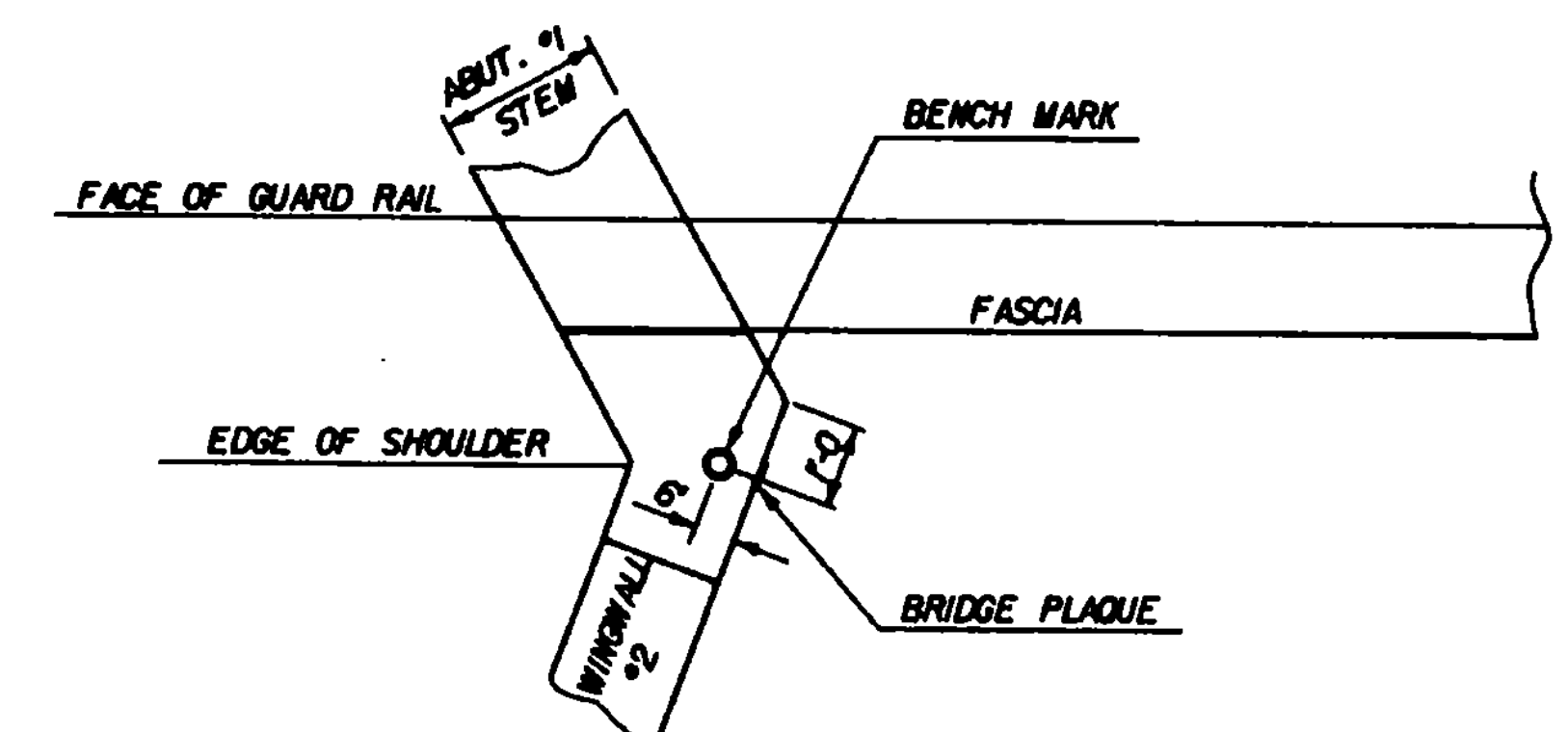
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1990, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1989, AND ITS LATEST REVISIONS.
- DESIGN IS FOR HS-20-44 LIVE LOADING, WITH ALLOWANCE FOR 1 INCH FUTURE PAVEMENT.
- TEN CUBIC YARDS OF STONE FILL (3 TO 5 FOOT DIAMETER BOULDERS) WILL BE PLACED APPROXIMATELY 25 FEET DOWNSTREAM OF THE NEW STRUCTURE AS DIRECTED BY THE RESIDENT ENGINEER AND THE DISTRICT FISHERIES MANAGER FOR FISHERIES HABITAT MITIGATION. THIS ITEM WILL BE PAID FOR UNDER THE ITEM "STONE FILL, TYPE II".
- THE EXISTING STRUCTURE SHALL BE REMOVED UNDER THE ITEM "REMOVAL OF STRUCTURE". THIS INCLUDES THE SUPERSTRUCTURE AND PORTIONS OF THE SUB-STRUCTURE NOT REMOVED UNDER THE ITEMS "COFFERDAM" OR "UNCLASSIFIED CHANNEL EXCAVATION".
- THE HEIGHT OF FILL BEHIND ABUTMENTS SHALL BE LIMITED TO 2 FEET BELOW BRIDGE SEAT ELEVATION (ELEV. 487.0+/-) UNTIL THE SLAB HAS BEEN POURED AND CURED.
- THE FORM WORK FOR THE CONCRETE SLAB SHALL BE CONSTRUCTED WITH A 1- 3/4 INCH CAMBER AT MIDSPAN. THE CAMBER SHALL APPROXIMATE A SIMPLE CIRCULAR CURVE FROM SUPPORT TO SUPPORT.
- ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
- MINIMUM COVER FOR REINFORCING STEEL (EXCEPT IN DECKS) SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE.
- ALL ON-PROJECT SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.
- THE SUBSTRUCTURES HAVE BEEN DESIGNED USING AN ALLOWABLE BEARING CAPACITY OF 3.10 KSF.
- THE BENCH MARK AND BRIDGE PLAQUE SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR AS SHOWN ON THE DETAIL ON THIS SHEET. THE TOP OF THE BRIDGE PLAQUE SHALL BE LOCATED TWO FEET BELOW TOP OF WINGWALL.
- REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING +/- 1"
CLEARANCE +/- 1/4"
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
- WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.
- ALL CONCRETE SHALL BE CONCRETE, CLASS B UNLESS NOTED OTHERWISE.
- NEITHER BORINGS NOR ANY OTHER TYPE OF SUB-SURFACE INVESTIGATION HAS BEEN CONDUCTED ON THIS PROJECT. LEDGE AND/OR BOULDERS MAY OR MAY NOT BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS.
- TOWN HIGHWAY 3 WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. THE TOWN OF CHELSEA SHALL BE NOTIFIED BY THE CONTRACTOR, IN WRITING, TWO WEEKS PRIOR TO THE CLOSING. SEE SPECIAL PROVISIONS.



TYPICAL CONCRETE CONSTRUCTION JOINT



SCORE MARK DETAIL

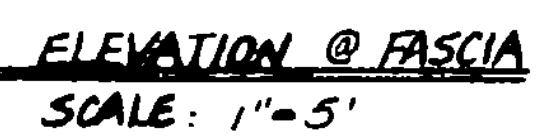
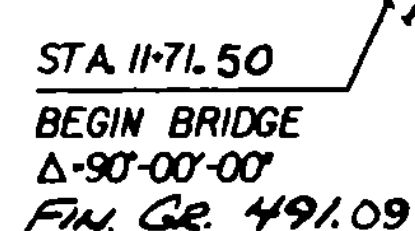


LOCATE BENCH MARK AND BRIDGE PLAQUE

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CHELSEA	Bridge No.	30
Highway No.	TH 3	Log Sta.	-
		Surv. Sta.	11+83
TOWN HIGHWAY 3 OVER GRAM BROOK			
GENERAL NOTES & MISCELLANEOUS DETAILS			
Designed By	R.E. SICKERT	Drawn By	WILLIAMS
Checked By	R.E. SICKERT	Bridge Design Supervisor	F.W. BOLKUM
Date	2/92	Date	2-92
PROJECT	CHELSEA	PROJECT NO.	TH 3806
Log. Info.	ZH11.30.46187.114988.DGN	BY	WILLIAMS
Bridge Sheet No.		Sheet	6 of 19

PLOTTED 24-FEB-92



1. STRUCTURE TYPE CONCRETE SLAB BRIDGE OVERALL LENGTH 22' INVENTORY RATING _____
2. SPAN LENGTH(S) TO CENTER TO CENTER OF BEARINGS _____
3. CLEAR SPAN LENGTH(S) IS NORMAL TO STREAM 18' N/A
4. WATERWAY AREA OF FILL PROVIDING PROTECT. TO STREAM 12.5' VERTICAL CLEARANCE ABOVE STREAMED 7'
5. WATER SURFACE ELEVATION @ 0.2.33 _____ WATER SURFACE ELEVATION @ 0 _____
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD N/A YEAR 1927 ESTIMATED DISCHARGE N/A
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE NO IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?
ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF _____
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL N/A
9. DISPOSITION OF STRUCTURE REPAIR

STRUCTURE GEOMETRY:

1. STRUCTURE TYPE	CONCRETE SLAB BRIDGE	OVERALL LENGTH	23'
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	B N/A		
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER	20'		
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	160 30. Ft.		
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	N/A		
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?			

ALLOWABLE STRESSING

1. DESIGN LIVE LOAD ASHTO H15-20-44

2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 3.10 KSF ON LEDGE N/A

3. ALLOWABLE LOAD FOR PILING _____ TYPE _____ ESTIMATED LENGTH _____

4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASHTO M 222 _____ TENSION _____

5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24,000 PSI COMPRESSION 30,000 PSI

6. ALLOWABLE STRESS FOR CONCRETE CLASS A f_c _____
CLASS B f_c 3500 PSI f_c 1400 PSI

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED: NO IF YES, ON EXISTING STRUCTURE N/A OR ON TEMPORARY BRIDGE N/A

2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY _____ TRAFFIC CONTROL SIGNALS REQUIRED _____

MINIMUM CLEAR SPAN _____ MINIMUM CLEAR HEIGHT _____ MINIMUM WATERWAY AREA _____

ARE SIDEWALKS REQUIRED: _____ IF SO, ON WHAT SIDE: _____

HYDRAULIC DATA						
1.	0.233	5.2 cfs	WATER ELEVATION	483.9	VELOCITY	—
	0.15	7.0 cfs	WATER ELEVATION	486.0	VELOCITY	—
	0.25	8.0 cfs	WATER ELEVATION	487.6	VELOCITY	—
	0.50	8.8 cfs	WATER ELEVATION	489.0	VELOCITY	—
	0.100	7.4 cfs	WATER ELEVATION	490.2	VELOCITY	—

0. DRAINAGE AREA 66.92 AC. CHARACTER OF TERRAIN HILLY VELOCITY _____
1. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? N/A YES _____ IS ORDINARY RISE RAPID? YES
2. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? _____
3. NATURE OF NATURAL STREAMBED GRAVEL AND COBBLES
4. ESTIMATED SCOUR DEPTH 3' COMMENT ON DRIFT SLIGHT ICE MODERATE
5. WILL ALL WATER PASS THROUGH NEW STRUCTURE? NO IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? 100 - 420'
6. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF ROADWAY WILL OVERFLOW
7. VERTICAL CLEARANCE ABOVE 0.5 - 1.5
8. ALLOWABLE WATER SURFACE ELEVATION 489.1 LIMITED BY BOTTOM OF SLAB
9. IS DESIGN STATE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE _____
10. AVERAGE DAILY _____ FLOW 15 cfs DEPTH 0.8' AVERAGE DAILY HIGH FLOW 35 cfs DEPTH 3.0'
11. STREAMBANK OR CHANNEL PROTECTION REQUIRED STONE PILING, TYPE II
12. DISTANCE TO EXISTING UPSTREAM STRUCTURE 5000' SPAN 12' WATERWAY AREA OF FULL OPENING 140 SF 0 =
13. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE 5000' SPAN 17' WATERWAY AREA OF FULL OPENING 110 SF 0 =

RECOMMENDED FOR APPROVAL _____	STRUCTURES ENGINEER	DATE _____
RECOMMENDED FOR APPROVAL _____	CHIEF OF DESIGN	DATE _____
APPROVED BY _____	CHIEF ENGINEER	DATE _____

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CHELSEA	Bridge No.	30
Highway No.	T. H. 3	Log Sta.	
		Surv. Sta.	11+83 1/2

T. H. 3 OVER CRAM BROOK

	PRELIMINARY INFORMATION
--	-------------------------

Designed By R.E. SUCKERT	Drawn By J. CLARK
--------------------------	-------------------

Checked By	Date	Bridge Design Supervisor
------------	------	--------------------------

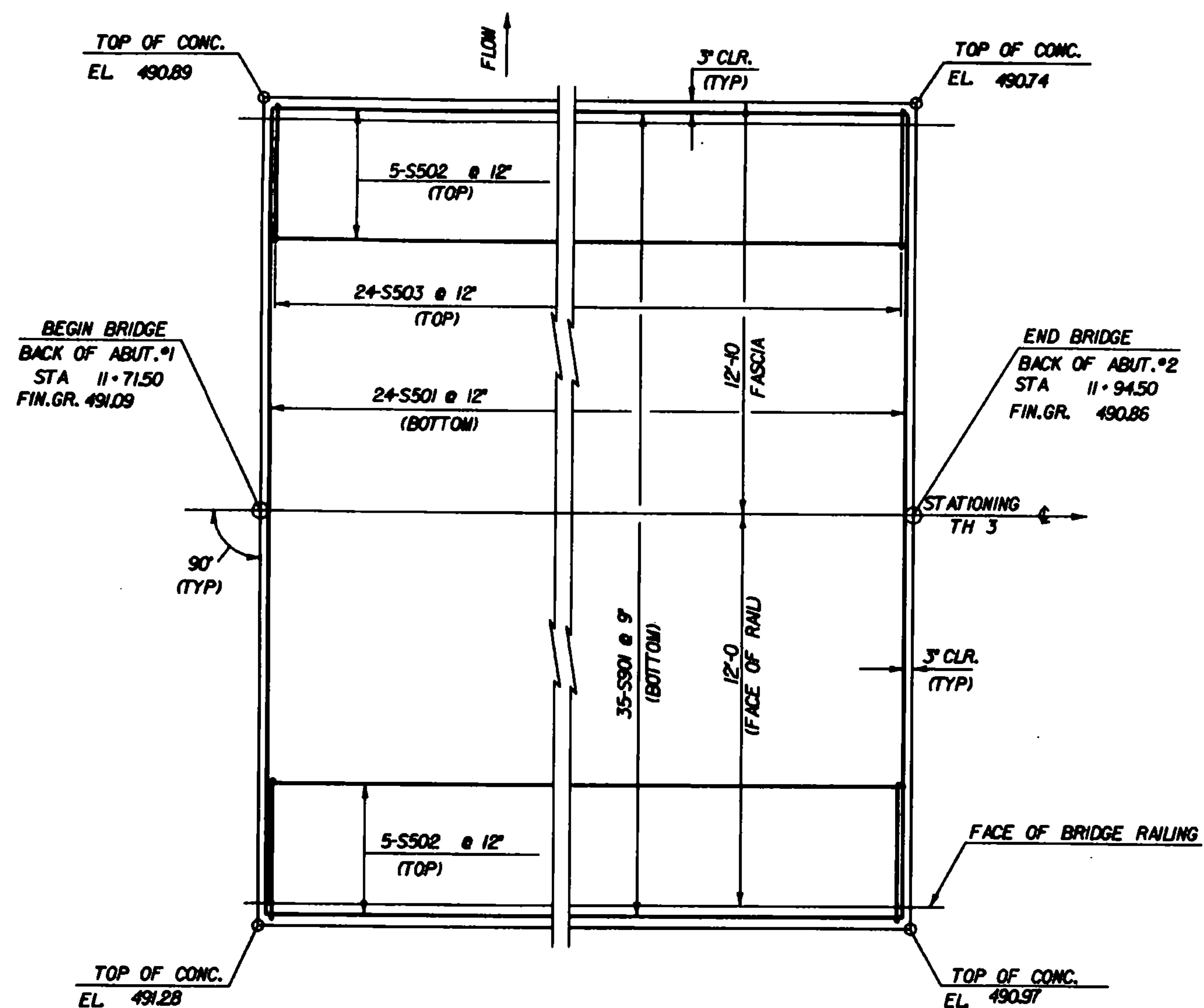
C.P. WILLIAMS 2-92 F.W. BOLKUM Date 2/92

PROJECT	CHELSEA	PROJECT NO.	7-44-7300
---------	---------	-------------	-----------

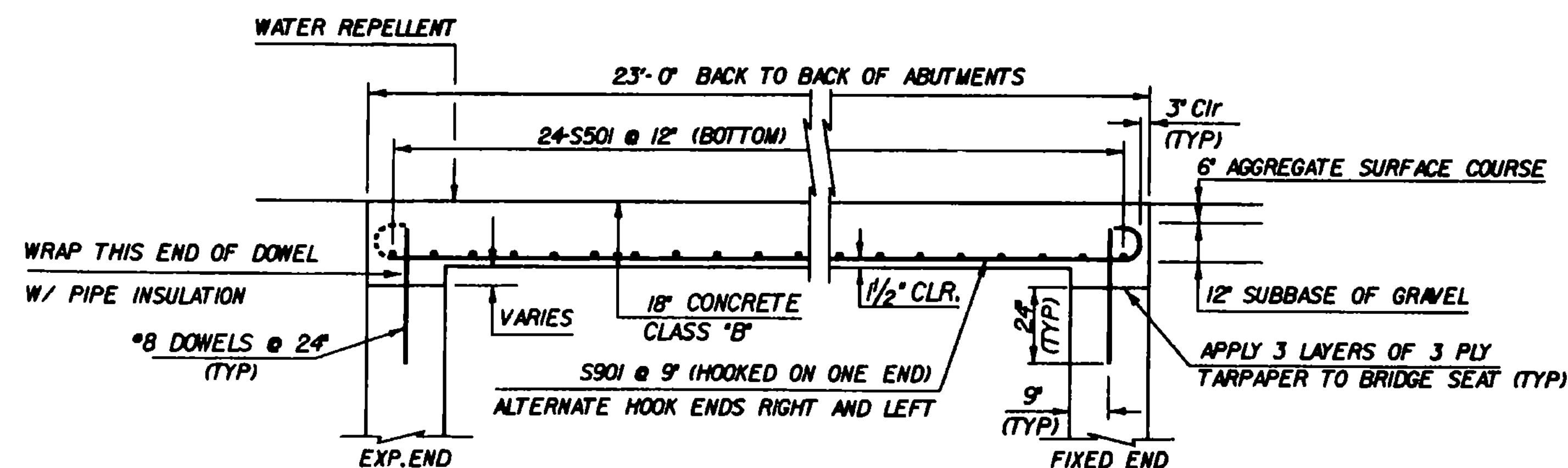
CHELSA	TH 3806
--------	---------

LAC. Info. ZFA:[30,57] 87JI49.DGN:I

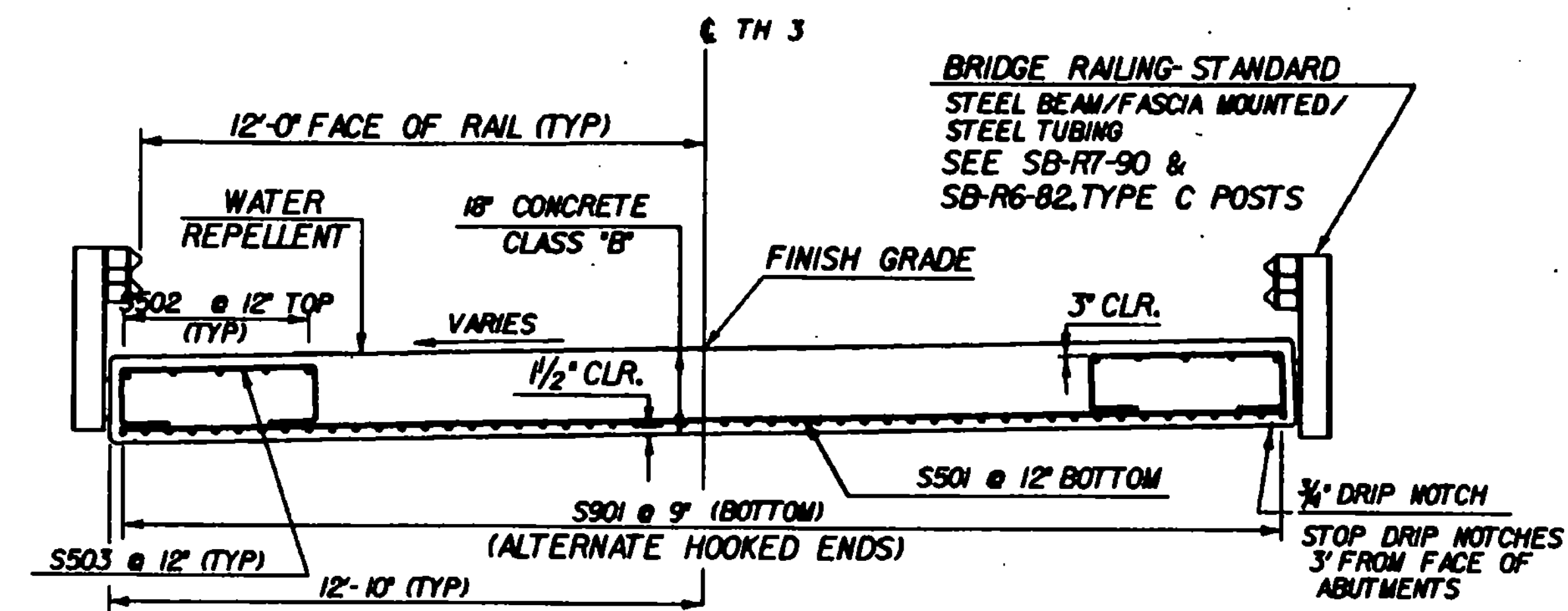
Bridge Sheet No. Sheet 7 of 19



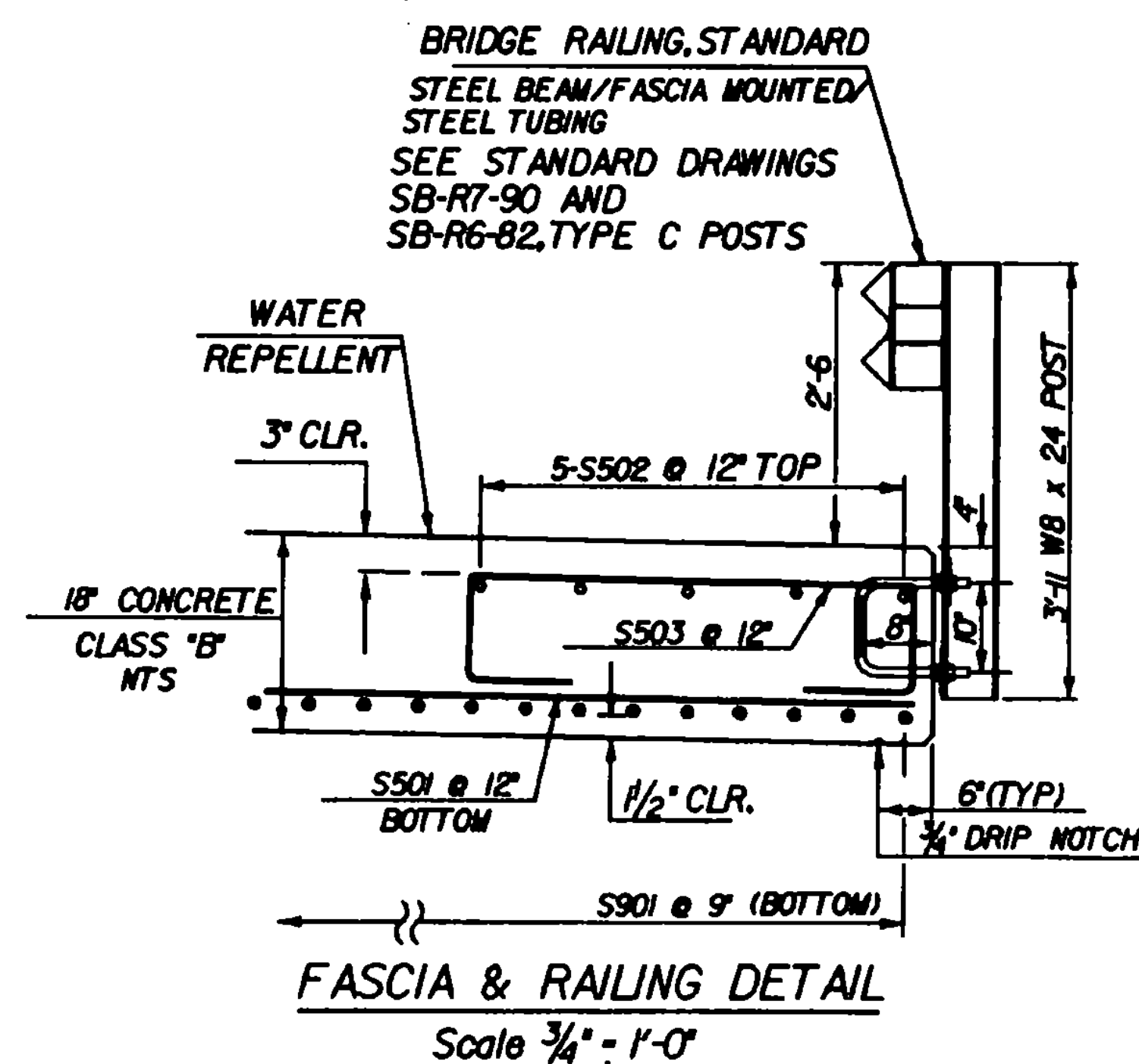
PLAN
NTS



ELEVATION ALONG C OF ROADWAY
NTS



TYPICAL SECTION
NTS

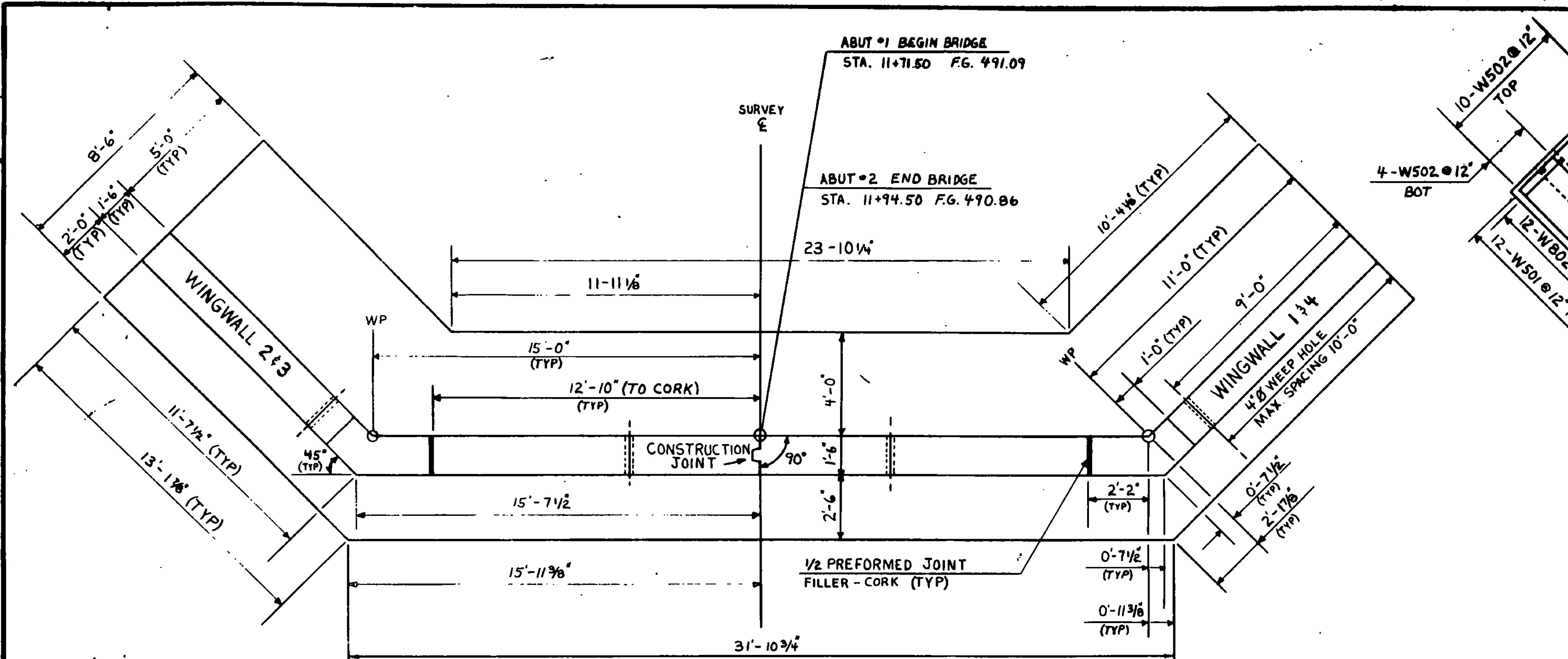


FASCIA & RAILING DETAIL
Scale 3/4" = 1'-0"

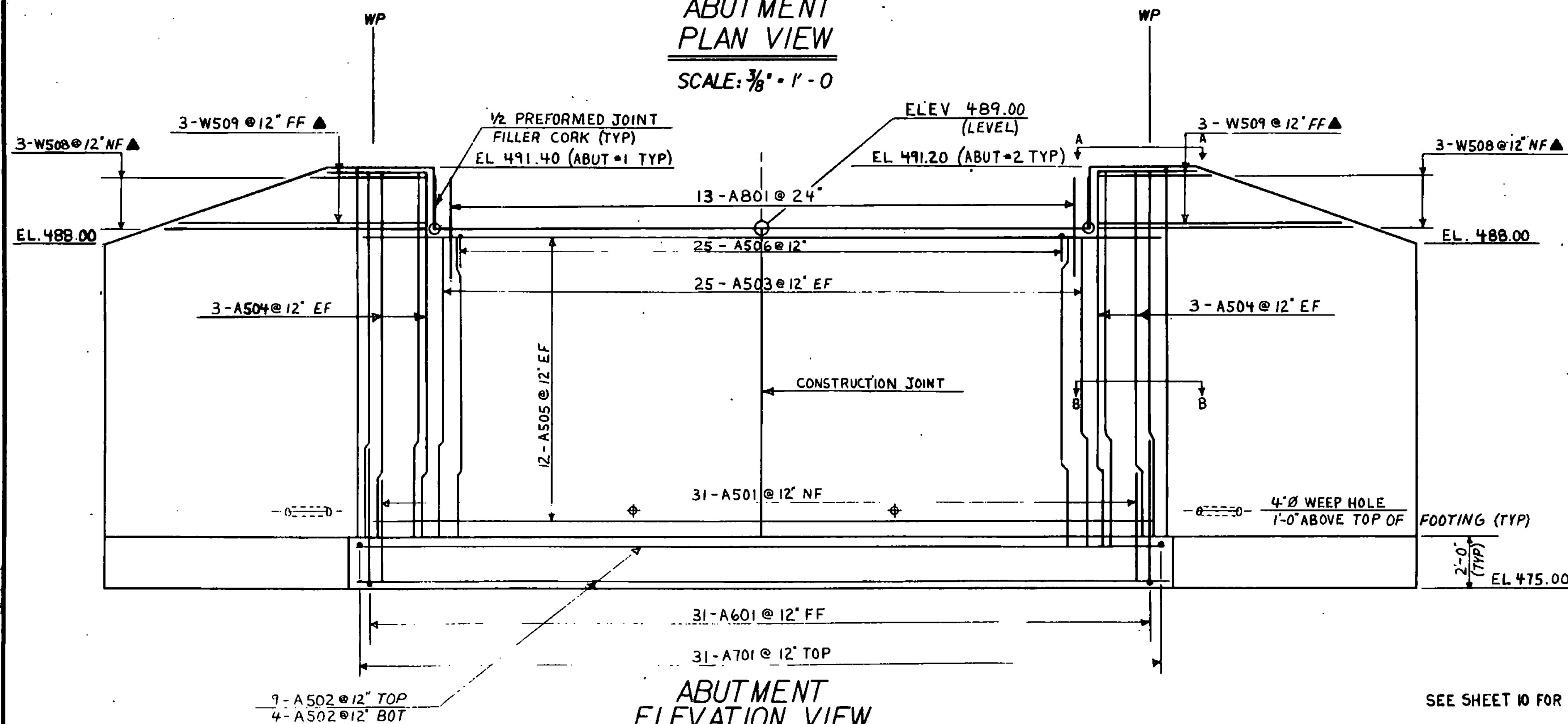
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town of	CHELSEA	Bridge No.	30
Highway No.	TH 3	Leg. No.	1785
TOWN HIGHWAY 3 OVER CRAM BROOK			
SLAB DETAILS			
Designed By	R.E. SICKERT	Drawn By	WILLIAMS
Checked By	R.E. SICKERT	Bridge Design Supervisor	F.W. BOLKUM
PROJECT	CHELSEA	PROJECT NO.	TH 3806
U.S.C. Info.	TH 30.6187.1488000	BY 16518.PRF	
Bridge Sheet No.		Sheet	8 of 19

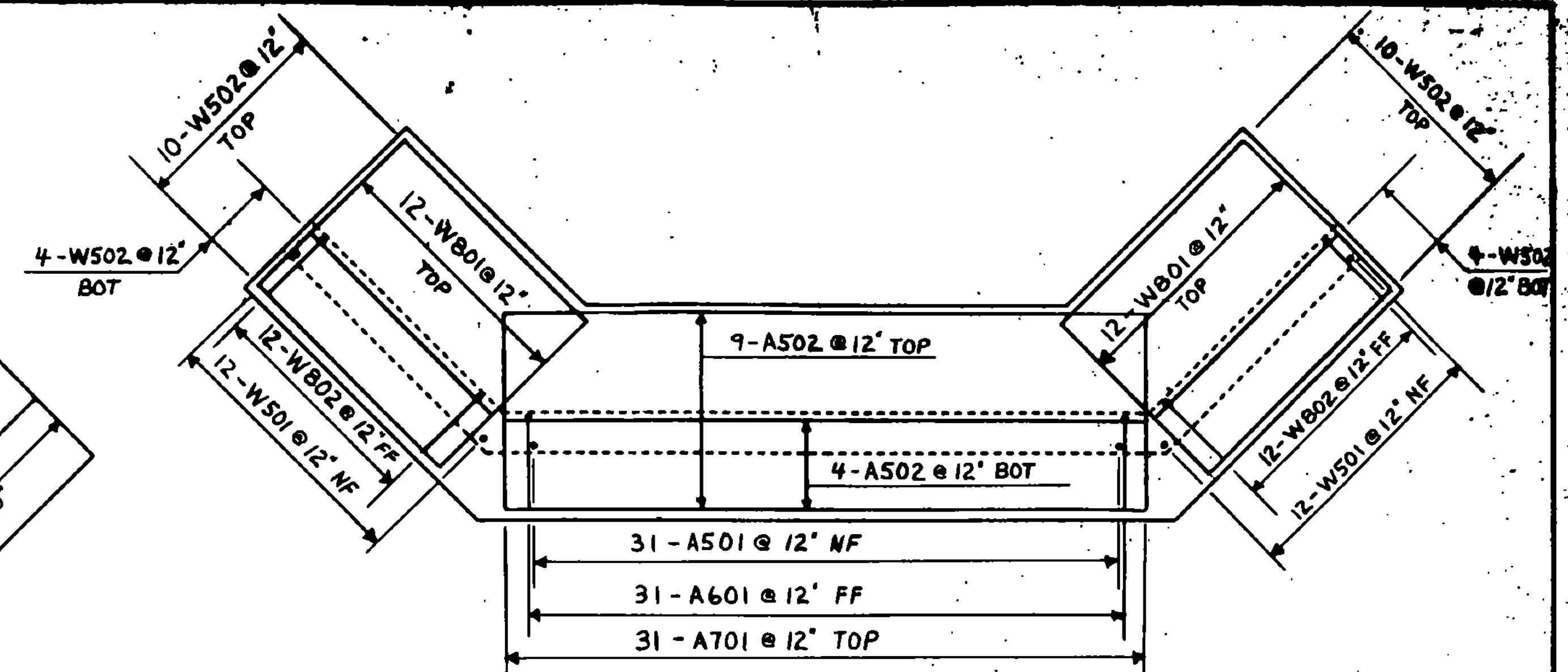
PRINTED 8-FEB-92



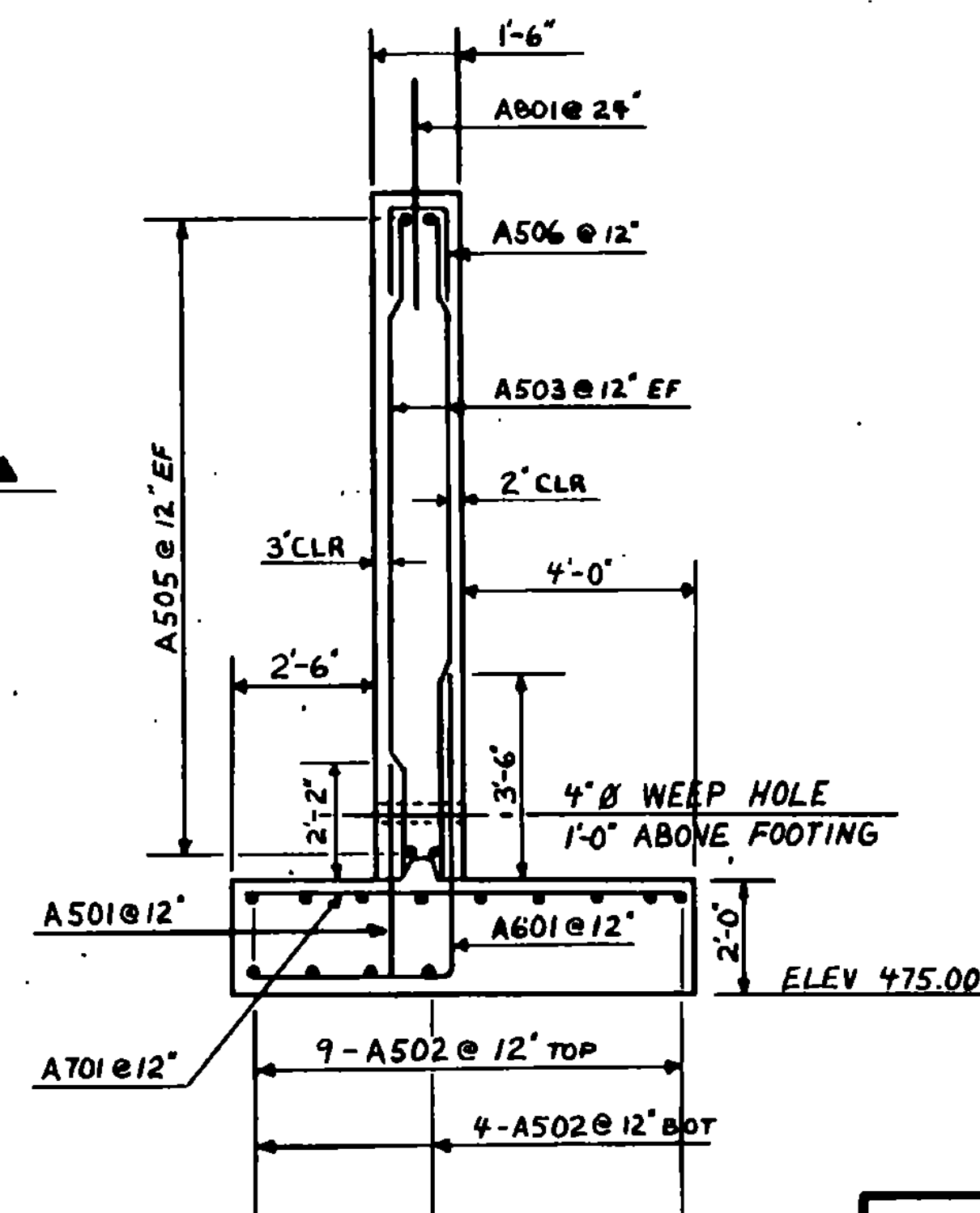
ABUTMENT
PLAN VIEW
SCALE: $\frac{3}{8}$ " = 1' - 0"



ABUTMENT
ELEVATION VIEW
SCALE: $\frac{3}{8}$ " = 1' - 0"



FOOTING REINFORCING PLAN
NTS



ABUTMENT
TYPICAL SECTION
SCALE: $\frac{3}{8}$ " = 1' - 0"

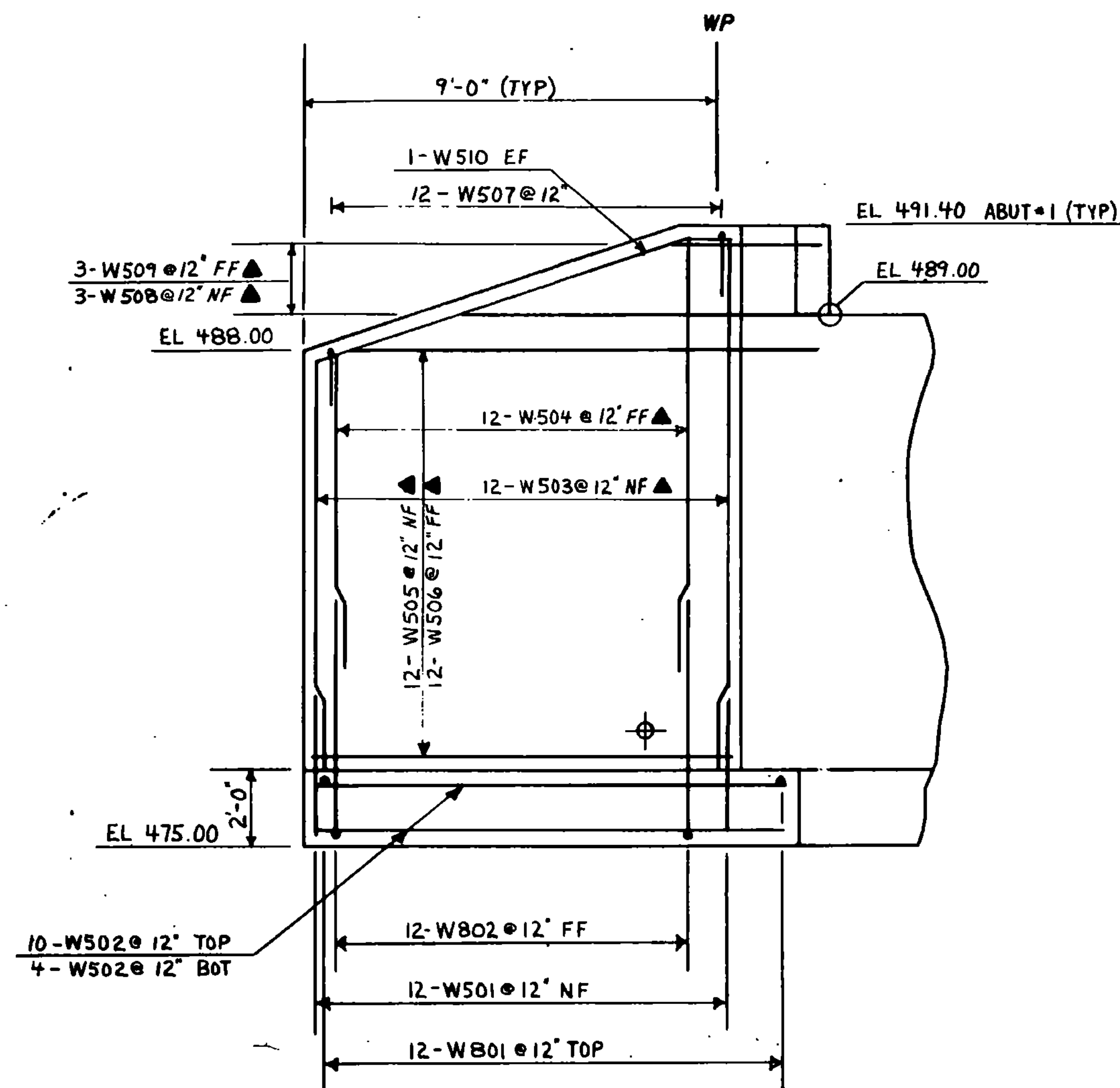
NOTE:
THERE SHALL BE A MINIMUM
OF 3 DAYS DELAY BETWEEN
ADJACENT WALL STEM POURS.

▲ = CUT TO FIT IN FIELD

SEE SHEET 10 FOR SECTIONS A-A & B-B

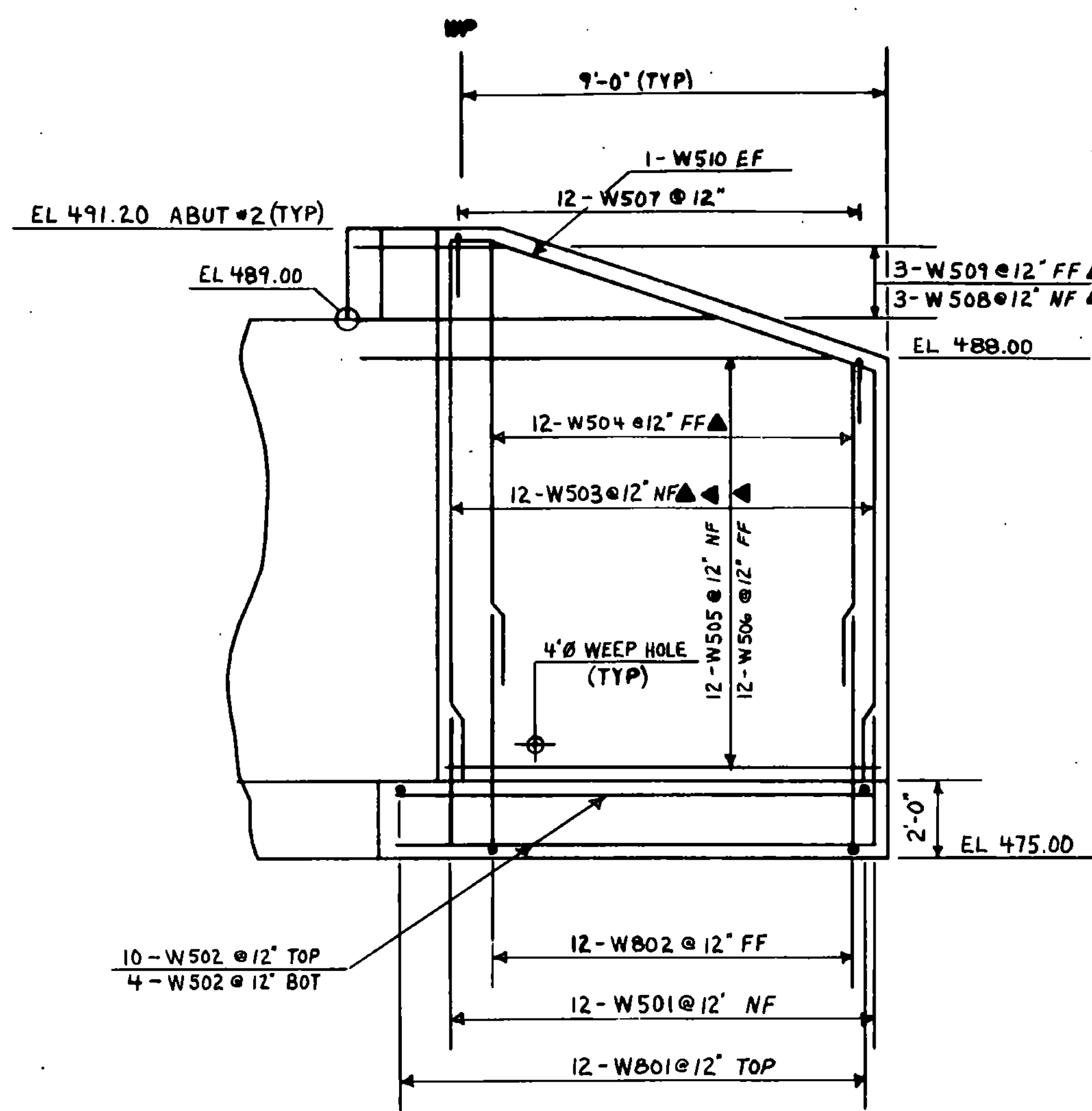
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CHELSEA	Bridge No.	30
Highway No.	TH 3	Log Sta.	—
TOWN HIGHWAY 3 OVER CRAM BROOK			
ABUTMENT DETAILS			
Designed By	R.E. SICKERT	Drawn By	R.E. SICKERT
Checked By	C.P. WILLIAMS	Bridge Design Supervisor	F.W. BOLKUM
Date	2/92	Date	2/92
PROJECT	CHELSEA	PROJECT NO.	TH 3806
L.C. Info.	ZNH 30.46.187.1198.BDGN	Bridge Sheet No.	9 of 19

PRINTED 30-MAR-92



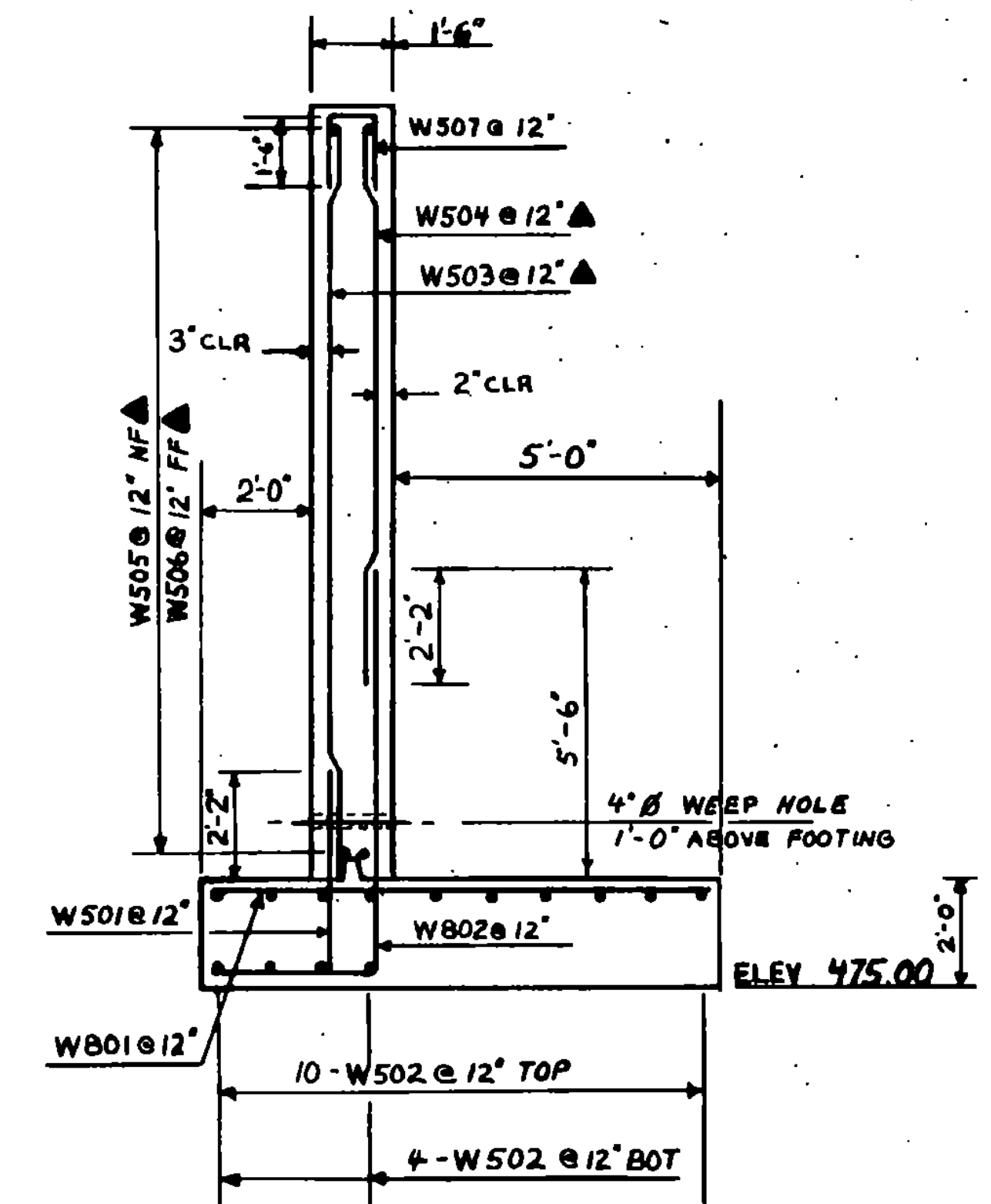
WINGALL 2 OR 3 ELEVATION

SCALE: $\frac{3}{8}" = 1'-0"$



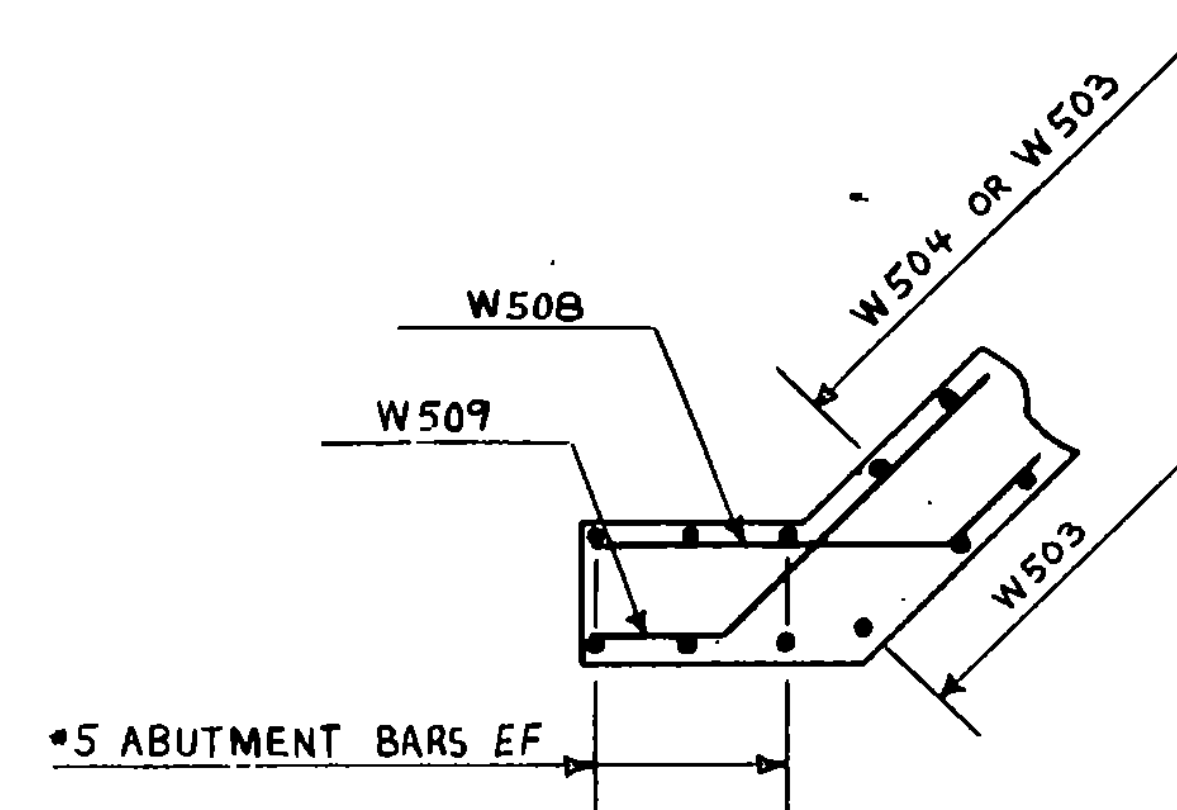
WINGALL 1 OR 4 ELEVATION

SCALE: $\frac{3}{8}" = 1'-0"$



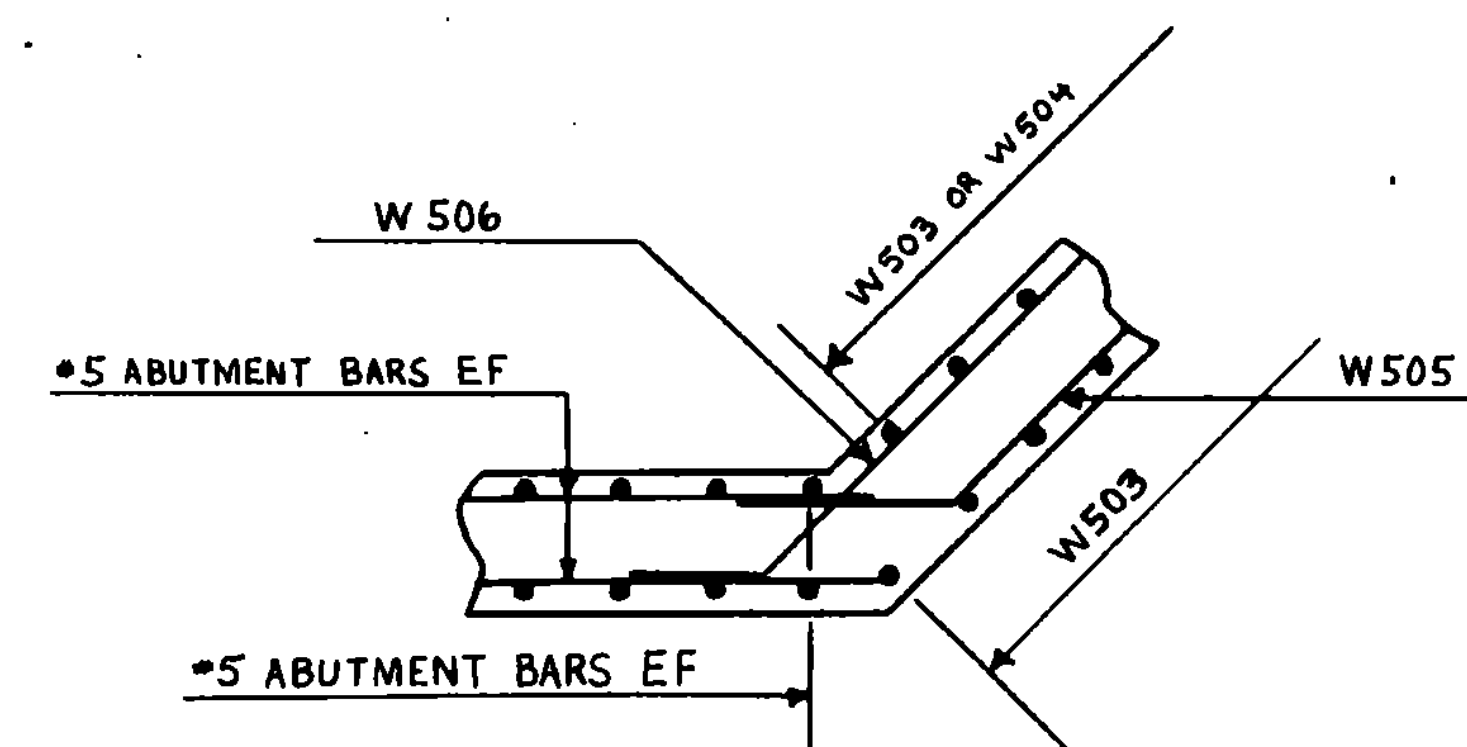
WINGWALL
TYPICAL SECTION

SCALE: $\frac{3}{8}" = 1'-0"$



SECTION A-A (FROM SHEET 9)

SCALE: $\frac{1}{2}" = 1'-0"$



SECTION B-B (FROM SHEET 9)

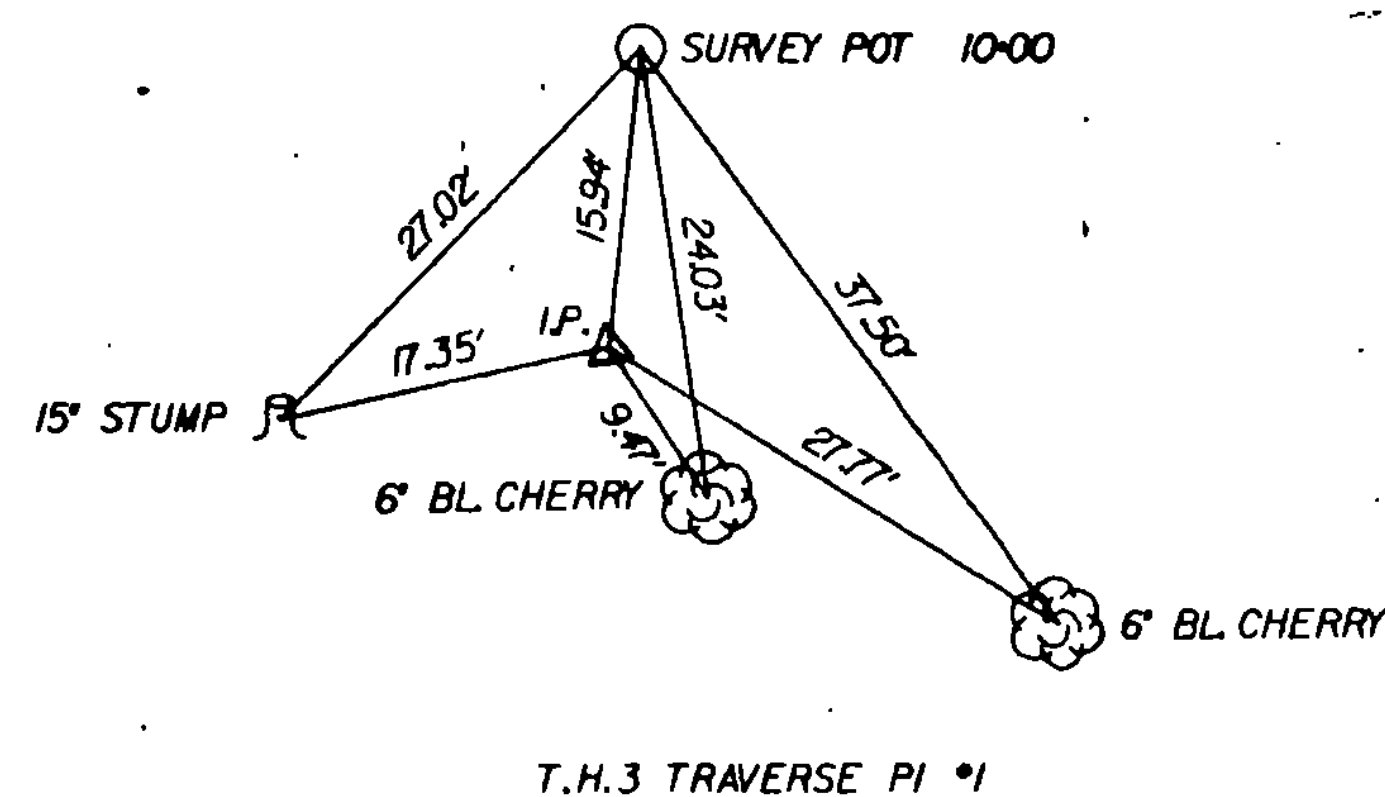
SCALE: $\frac{1}{2}" = 1'-0"$

▲ - CUT TO FIT IN FIELD

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	CHELSEA	Bridge No.	30
Highway No.	TH 3	Log Sta.	—
		Surv. Sta.	11+83.7
TOWN HIGHWAY 3 OVER CRAW BROOK			
WINGWALL DETAILS			
Designed By	R.E. SICKERT	Drawn By	R.E. SICKERT
Checked By	C. P. WILLIAMS	Bridge Design Supervisor	F. W. BOLKUM
	2-92	Date	2/92
PROJECT	CHELSEA	PROJECT NO.	TH 3806
L&C Info.	ZHIX3045187-1428100	BY	JH/PM/PWF
Bridge Sheet No.		Sheet	10 of 19

PLOTTED 10-11-1992

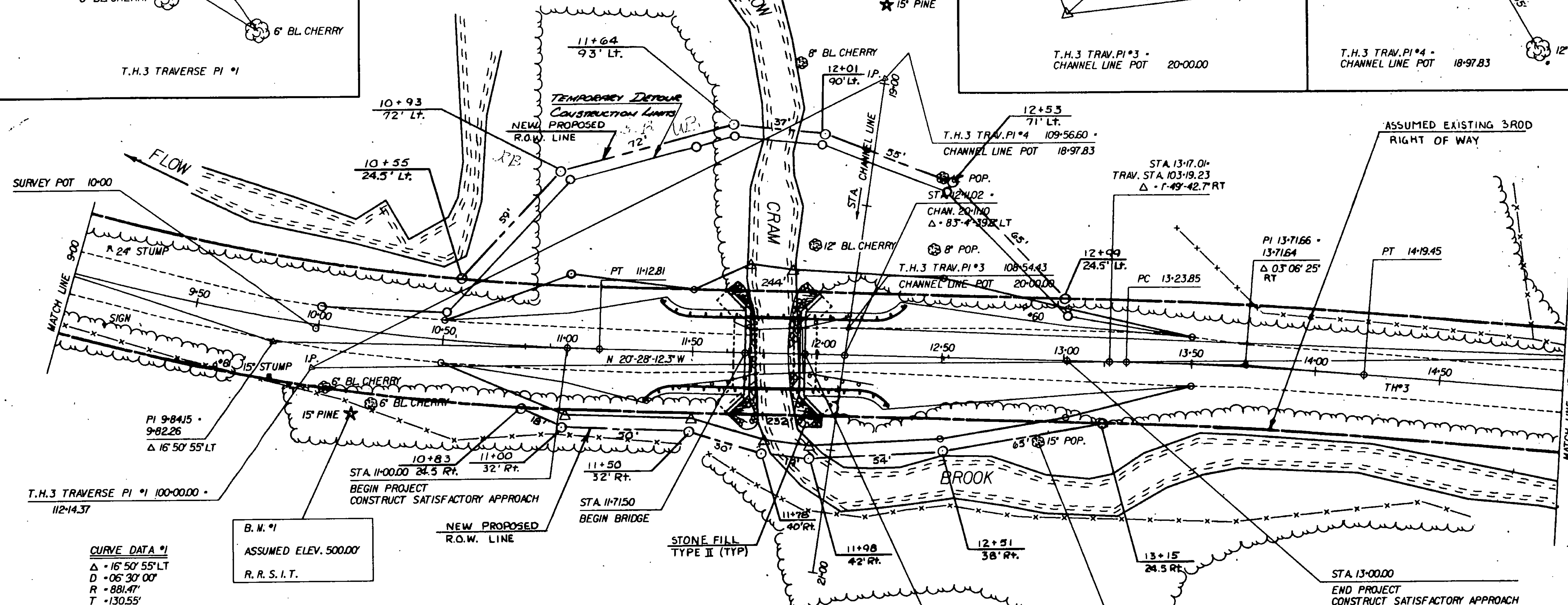
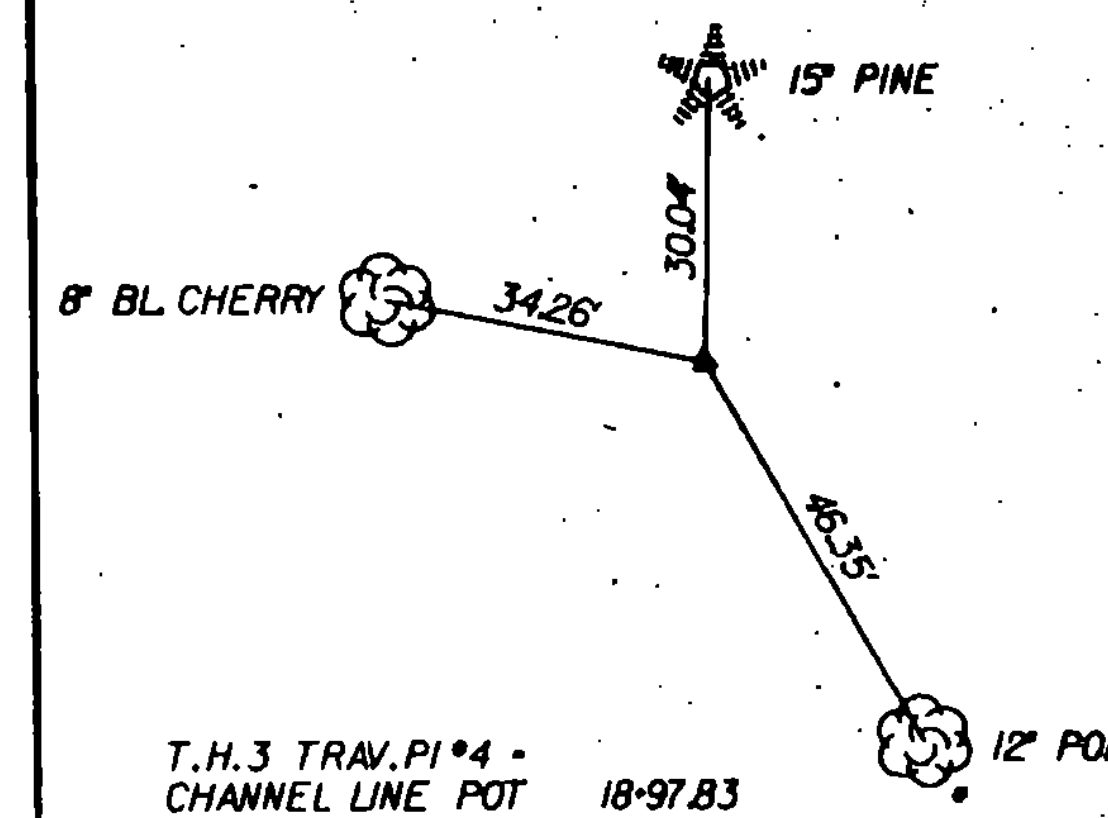
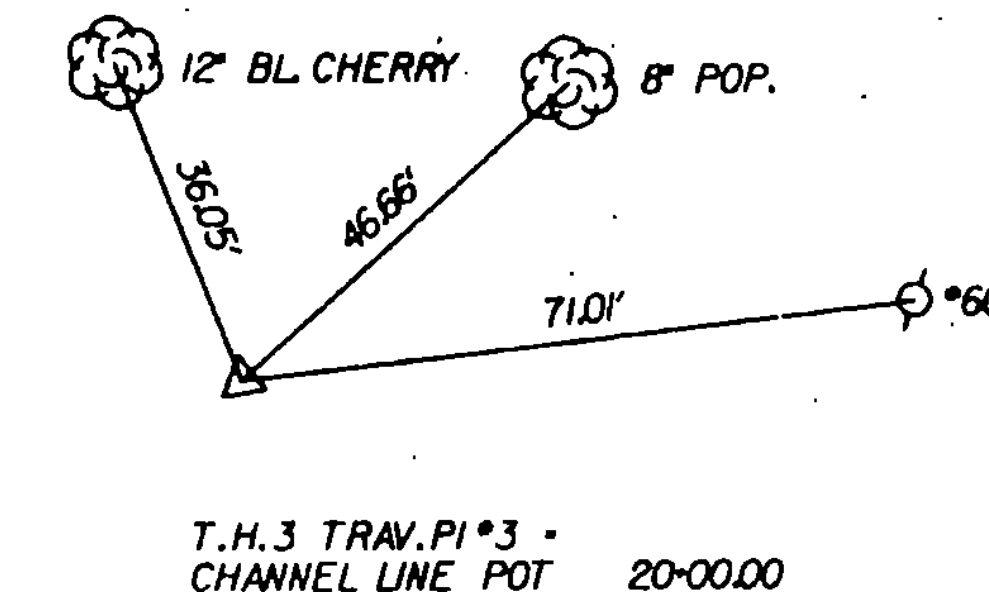


HEAVY DUTY STEEL BEAM GUARD RAIL

LT. 11-37-11-67 11-99-12-35
RT. 11-31-11-67 11-99-12-29

BRIDGE RAILING - HEAVY DUTY STEEL BEAM/FASCIA MOUNTED

LT. & RT. 11-67-11-99



CURVE DATA #1

Δ - 16° 50' 55" LT
D - 06' 30' 00"
R - 881.47'
T - 130.55'
L - 259.21'
E - 9.61'

B.M. #1

ASSUMED ELEV. 500.00'

R. R. S. I. T.

B.M. #2

ASSUMED ELEV. 488.50'

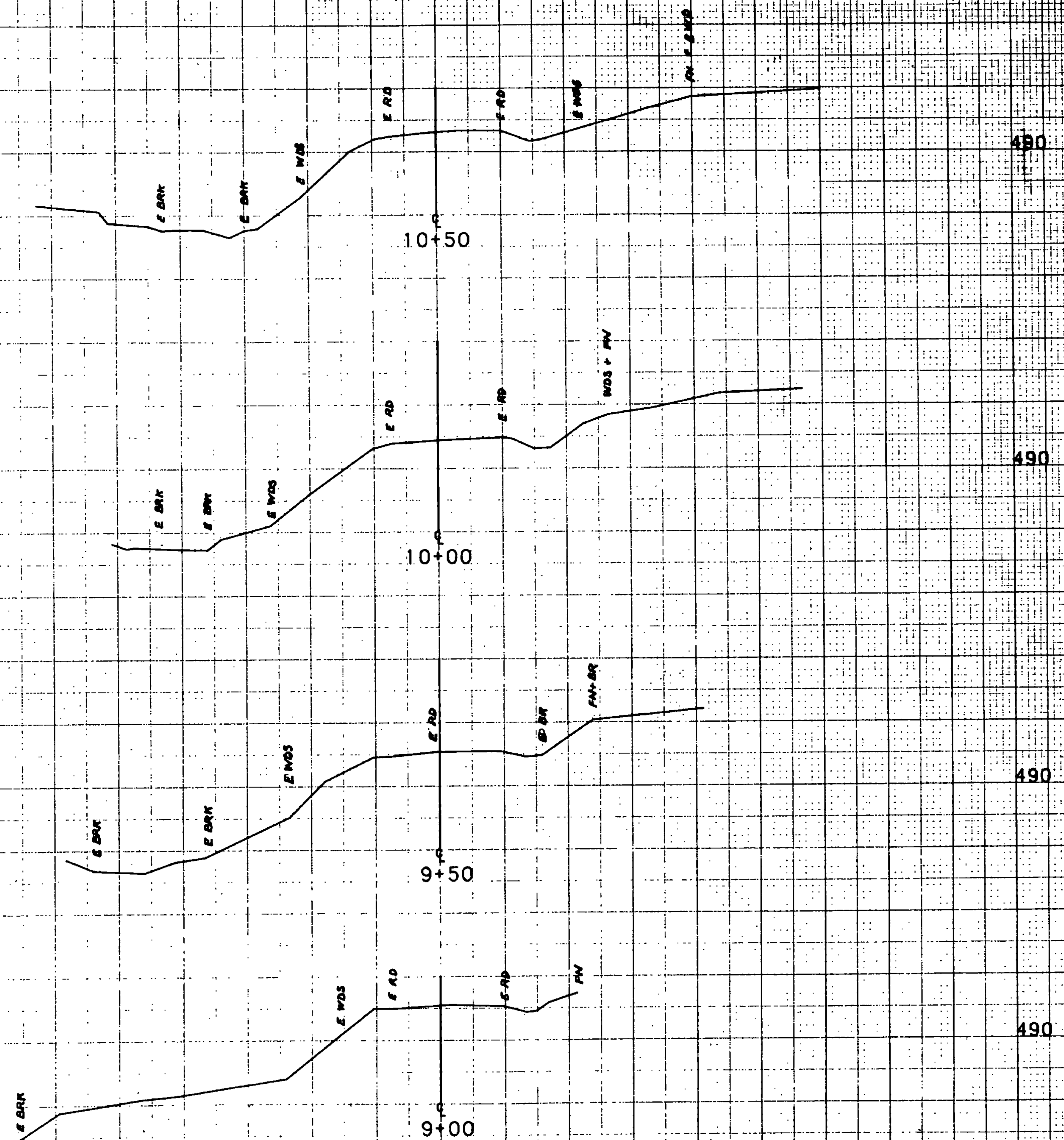
R. R. S. I. T.

CURVE DATA #2

Δ - 03° 06' 25" RT
D - 03' 15' 00"
R - 1762.95'
T - 47.81'
L - 95.60'
E - 0.65'

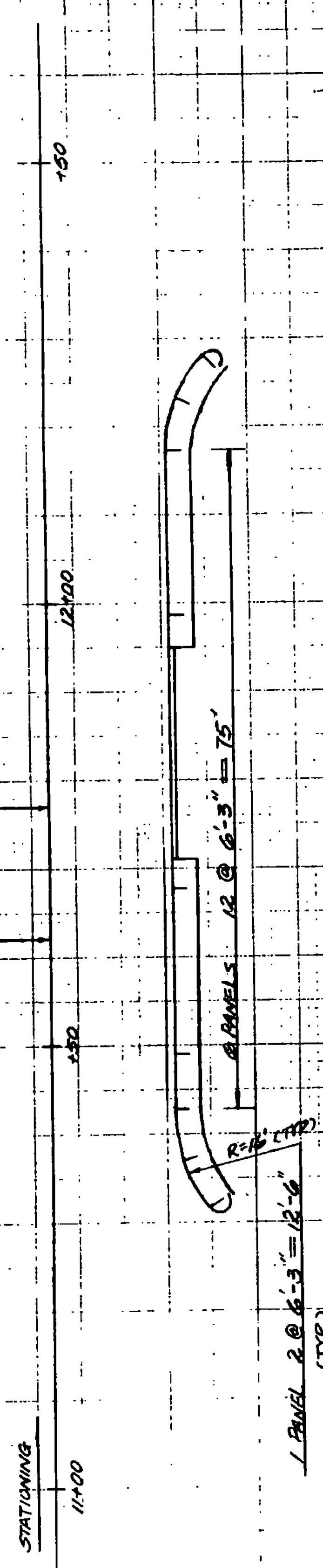
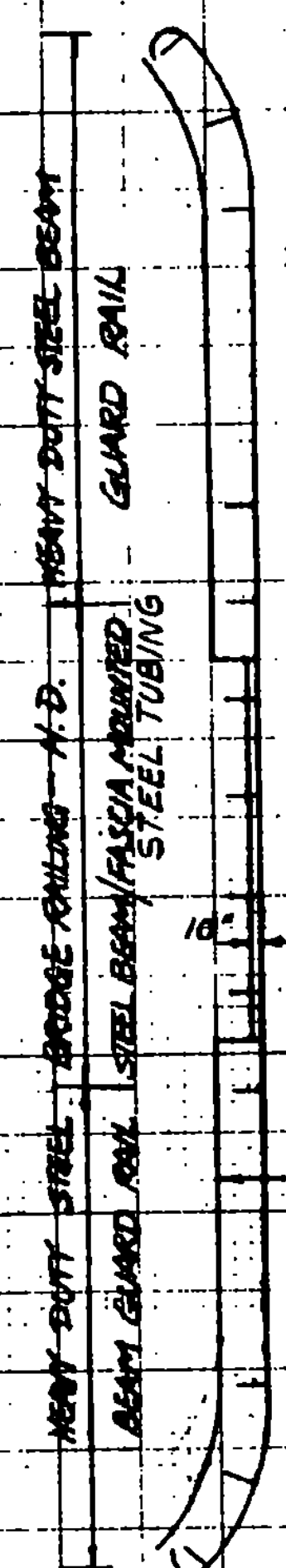
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CHELSEA	Bridge No.	30
Highway No.	T. H. 3	Log Sta.	—
		Surv. Sta.	11185 ±
R.O.W. LAYOUT ONLY			
T. H. 3 OVER CRAM BROOK			
Designed By	O. GAO	Drawn By	J. CLARK
Checked By	T. PAGE	Date	7/10/89
		Bridge Design Supervisor	F.W. BOLKUM Date 2/92
PROJECT	CHELSEA	PROJECT NO.	T H 3806
I&C. Info.	ZFNA3057J BTJ149.DGNJ		
Bridge Sheet No.	Sheet 12 of 19		

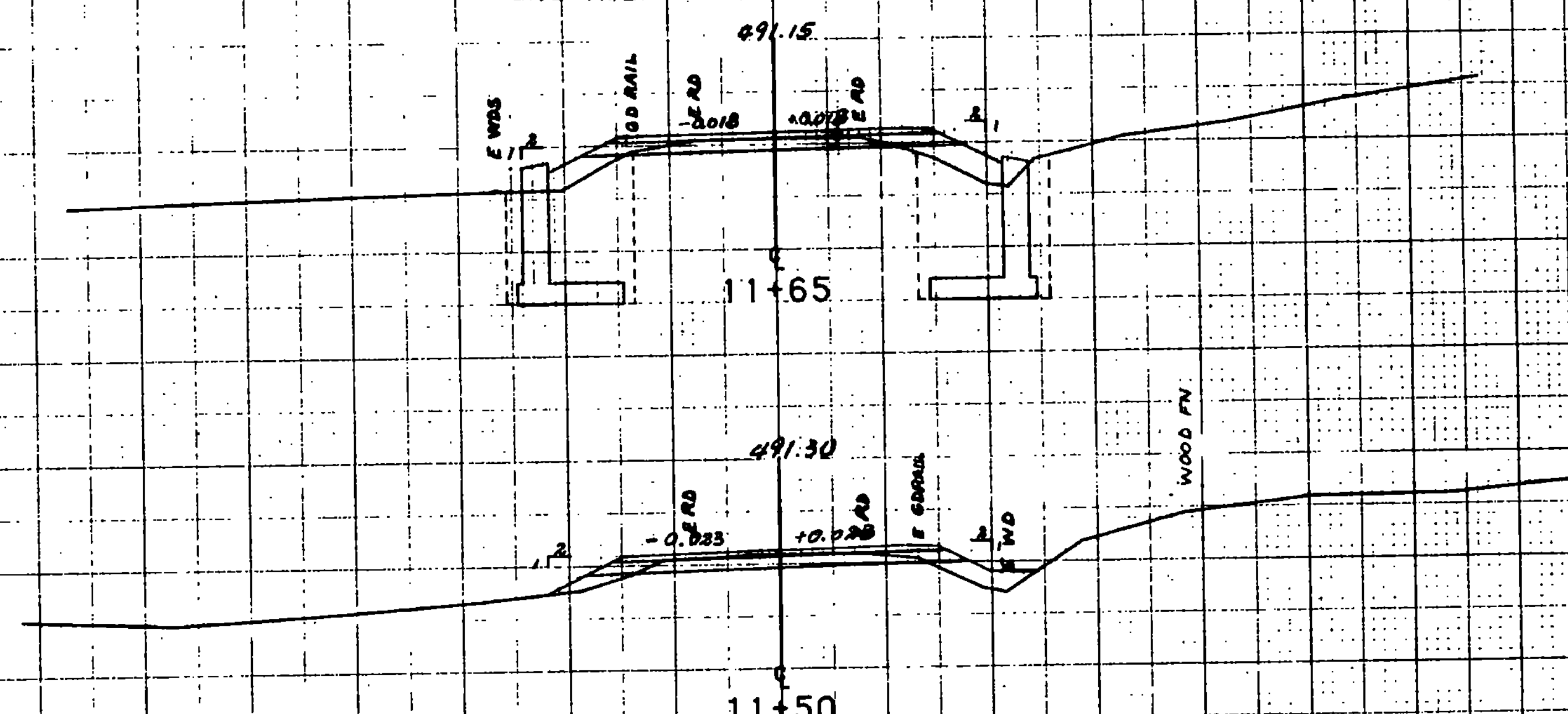
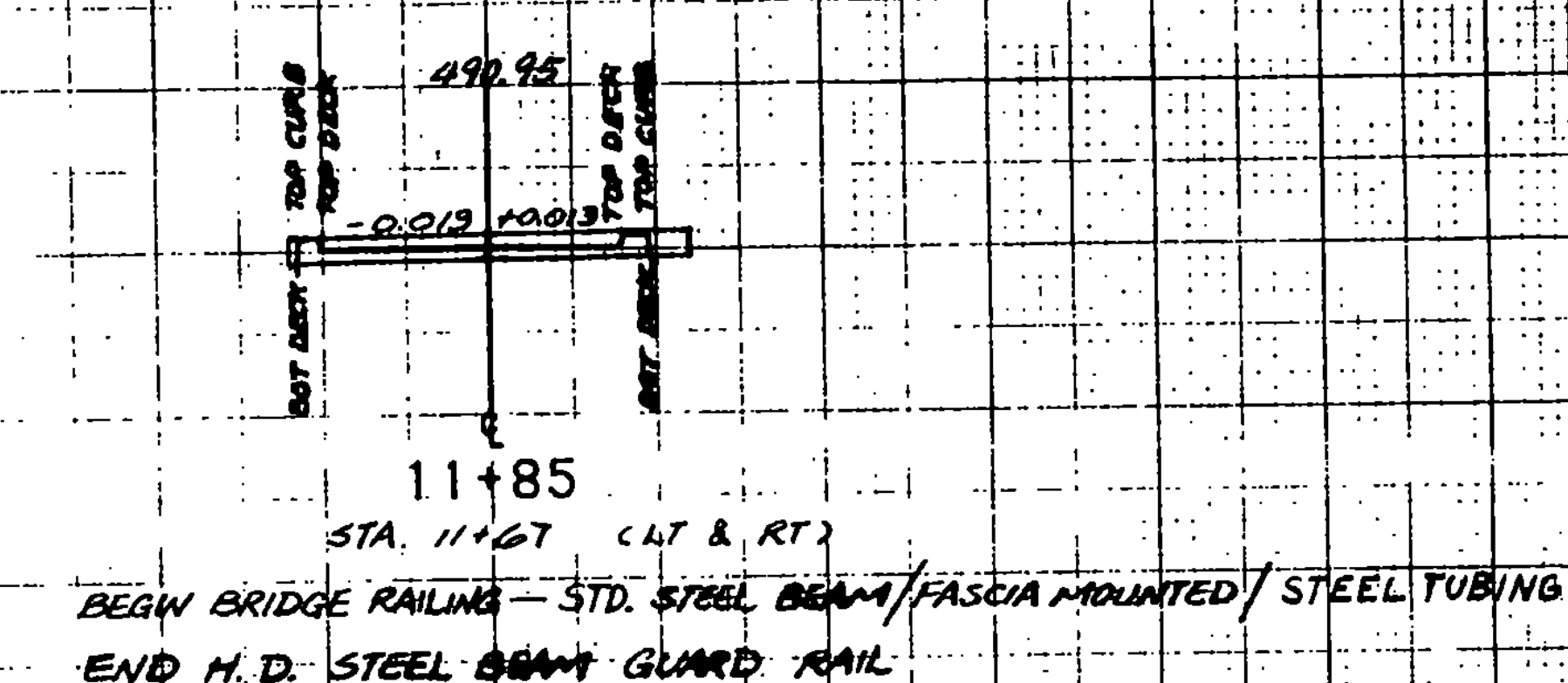


FROM STA.	9+00	TO STA.	10+50
PROJECT NAME	CHelsea MAIN	NO.	TH3808
SURVEYED BY	P. HYE	PLOTTED	04/19/54
SHEET	15 OF 16	SHEET	02788 0113

SCALE 1" = 10' HORIZ

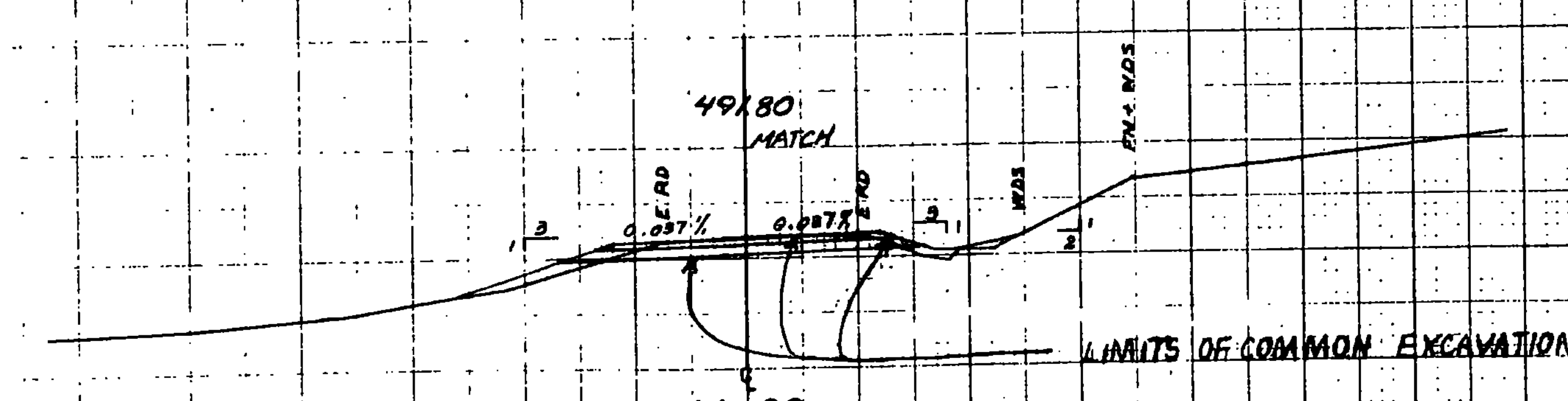


STA. 11+99 (LT & RT)
END BRIDGE RAILING - STD. STEEL BEAM / FASCIA MOUNTED / STEEL TUBING
BEGIN H.D. STEEL BEAM GUARD RAIL



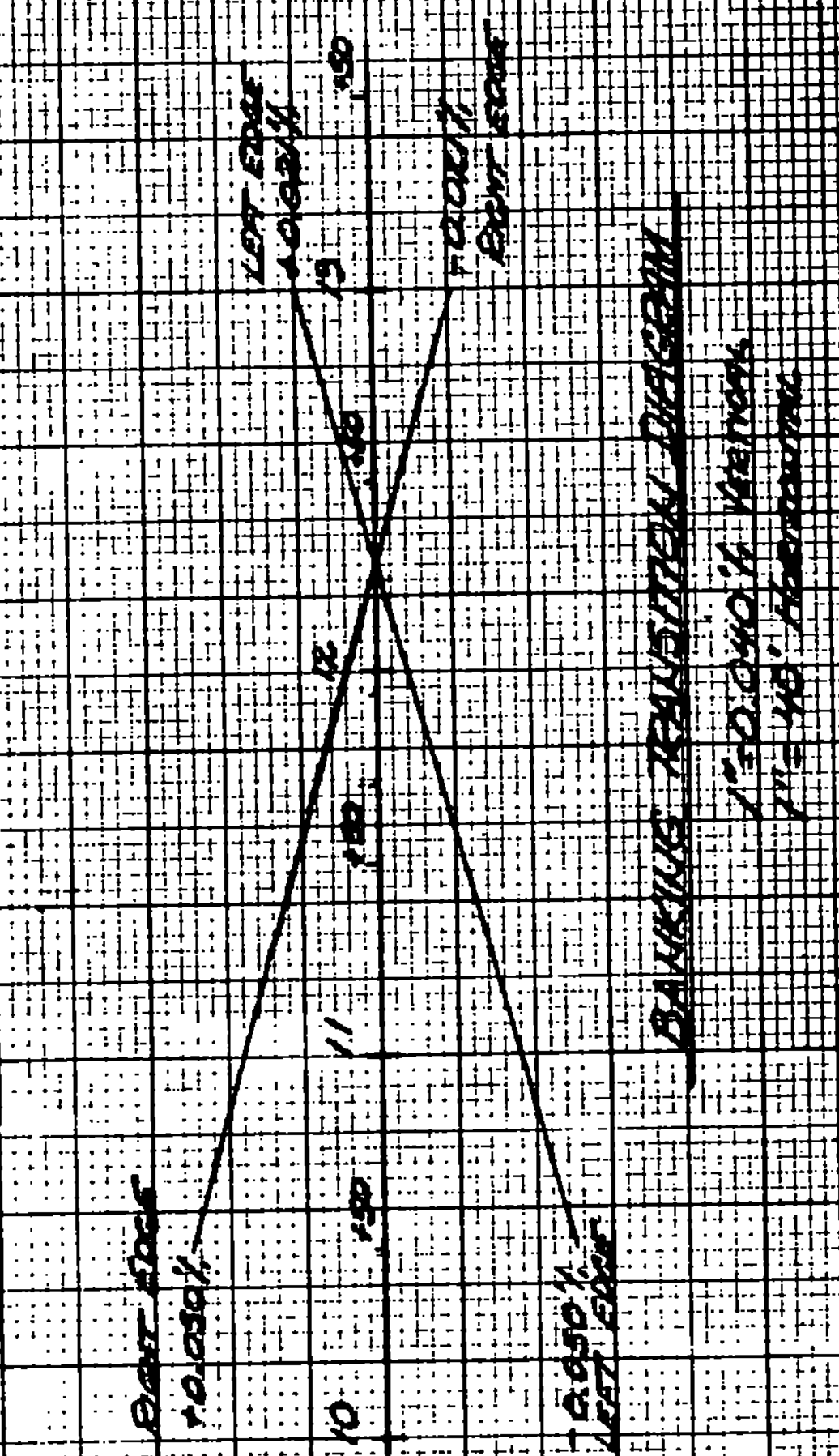
STA. 11+37 (LT)
BEGIN H.D. STEEL BEAM GUARD RAIL

STA. 11+31 (RT)
BEGIN H.D. STEEL BEAM GUARD RAIL



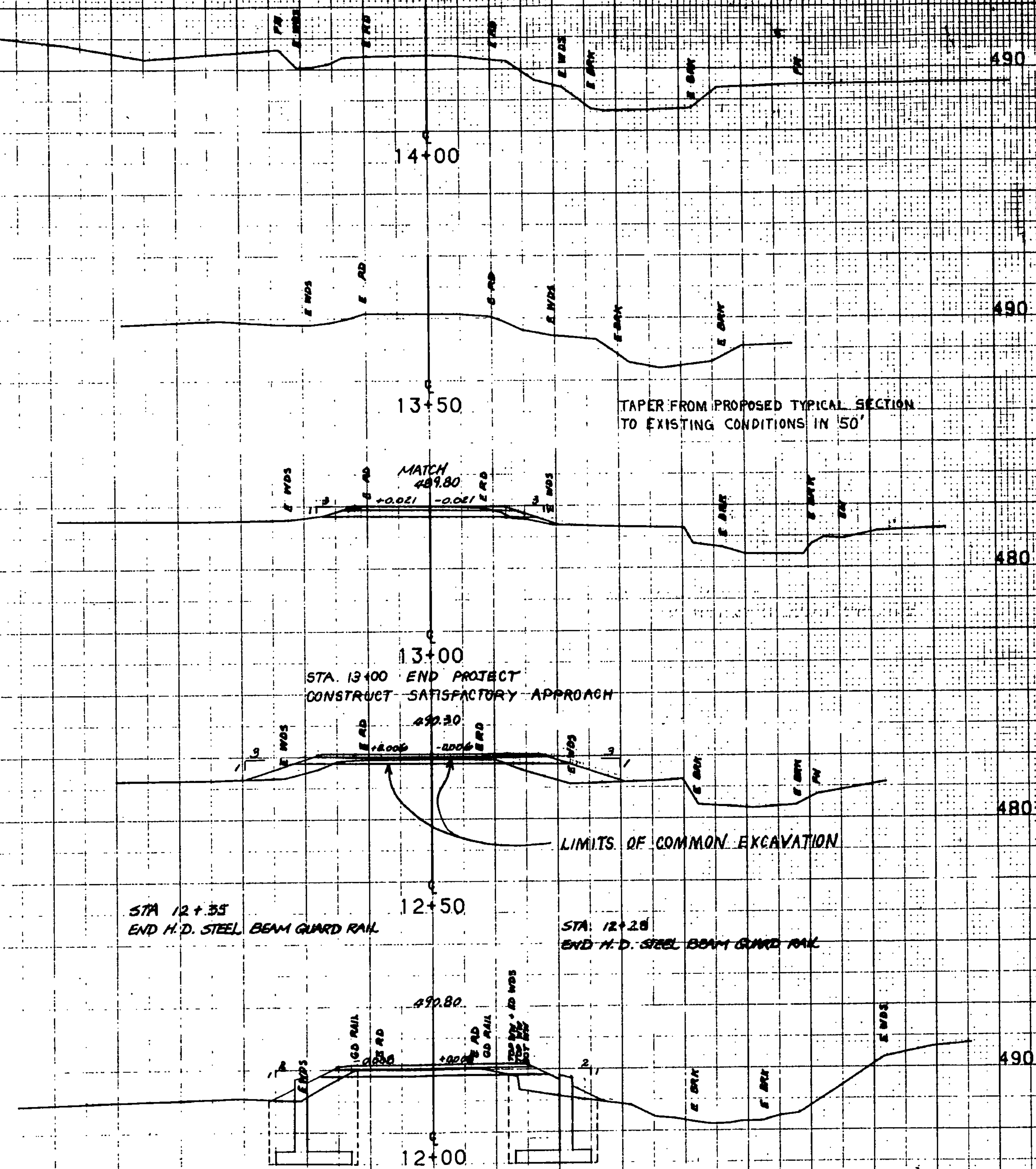
STA. 11+00 BEGIN PROJECT
CONSTRUCT SATISFACTORY APPROACH

TAPER FROM EXISTING CONDITIONS
TO PROPOSED TYPICAL IN 50'



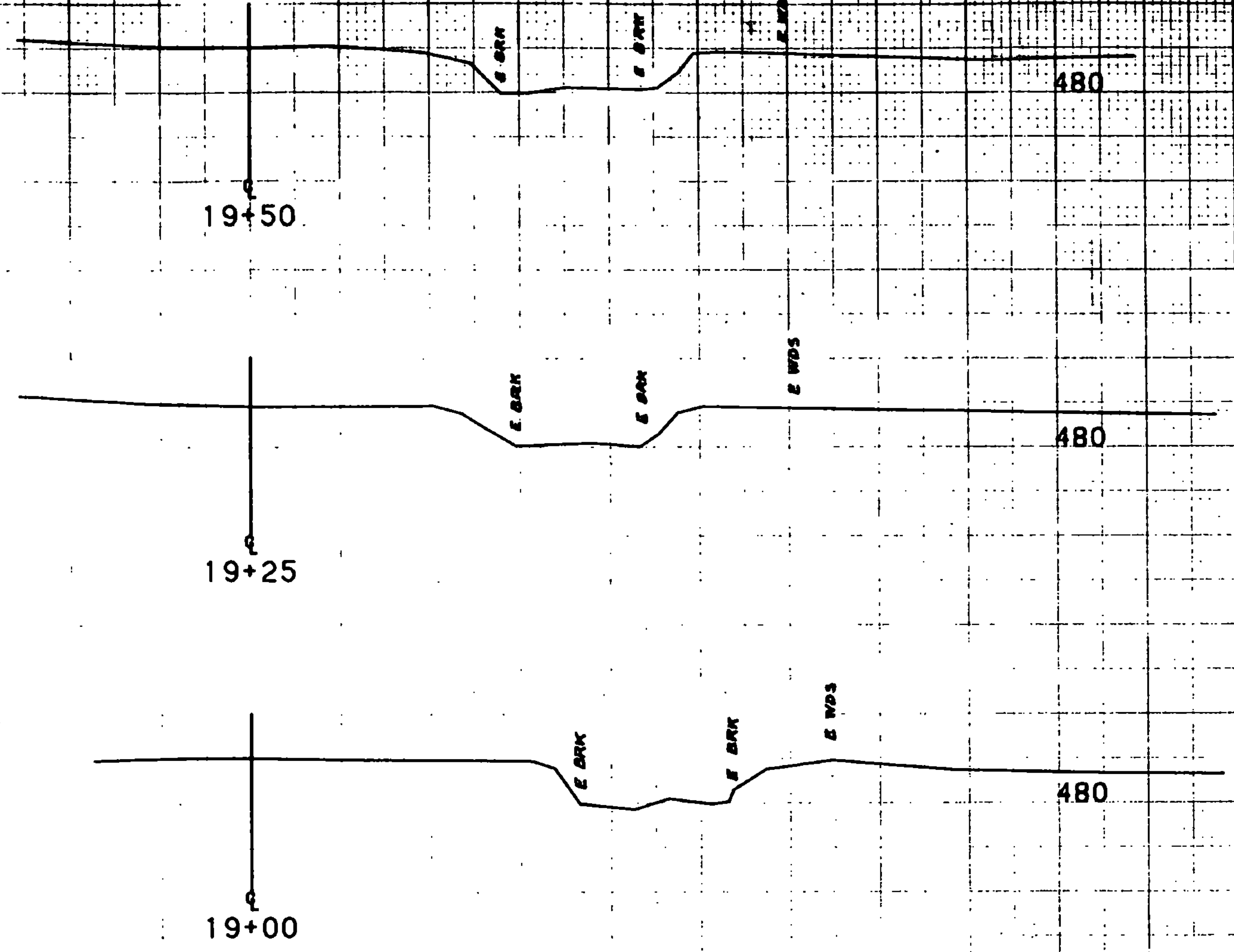
FROM STA.	11+00	TO STA.	11+85
PROJECT NAME	CHELSEA MAIN		
NO.	THS006		
SURVEYED BY	P. RYE		
SHEET	14	OF	14
DATE	04/28/07		

SCALE 1" = 10 FEET



FROM STA.	12+00	TO STA.	14+00
PROJECT NAME	CHELSEA MAIN		
NO.	TH3808		
SURVEYED BY	P. NTE		
SHEET	75	OF	75
PLOTTED	04/18/88	DATE	04/18/88

SCALE 1" = 10 FEET

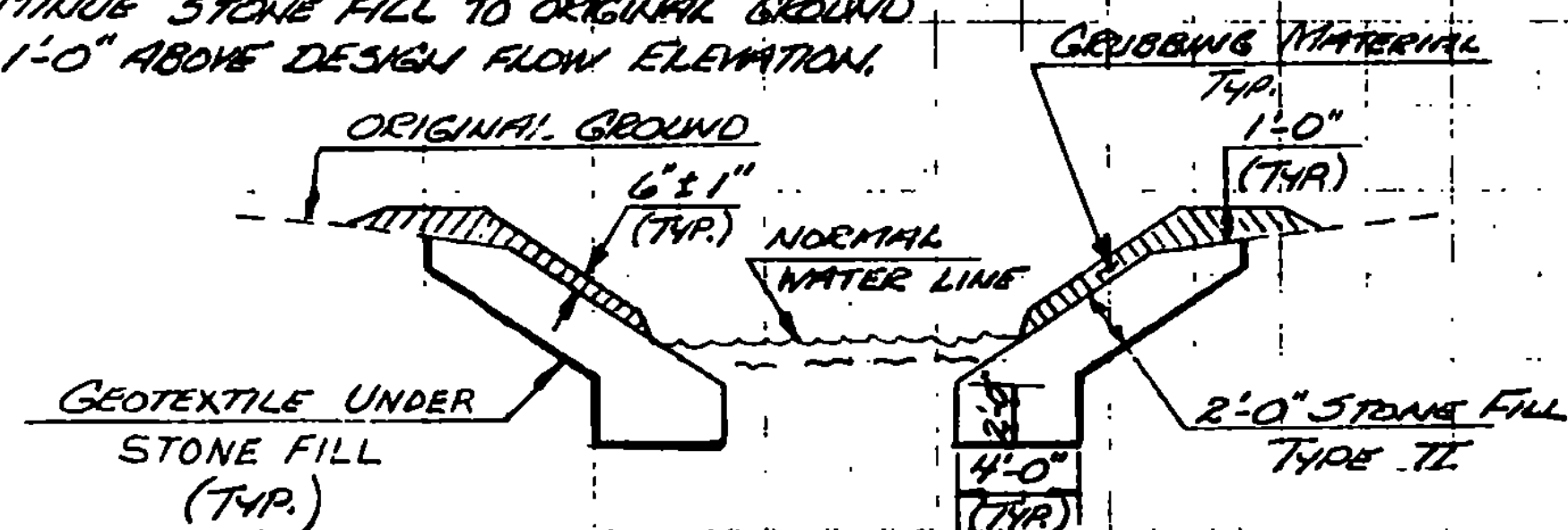


FROM STA.	19+00	TO STA.	19+50
PROJECT NAME	CHelsea	CHANNEL	SECTIONS
NO.	TH3808		PLOTTED 04/19/88
SURVEYED BY	P. NYE		02/88 0119
SHEET	16	OF	21 SHEETS

SCALE 10 FEET

GRUBBING MATERIAL SHALL CONSIST OF GRUBBED OR STRIPPED EARTH MATERIAL CONTAINING ROOTS OF NATIVE STREAMBANK VEGETATION. PROVIDE FOR *TEMPORARY EROSION CONTROL BY APPLYING SEED, FERTILIZER AND HAY MULCH TO THE FINISH SURFACE.

CONTINUE STONE FILL TO ORIGINAL GROUND OR 1'-0" ABOVE DESIGN FLOW ELEVATION.

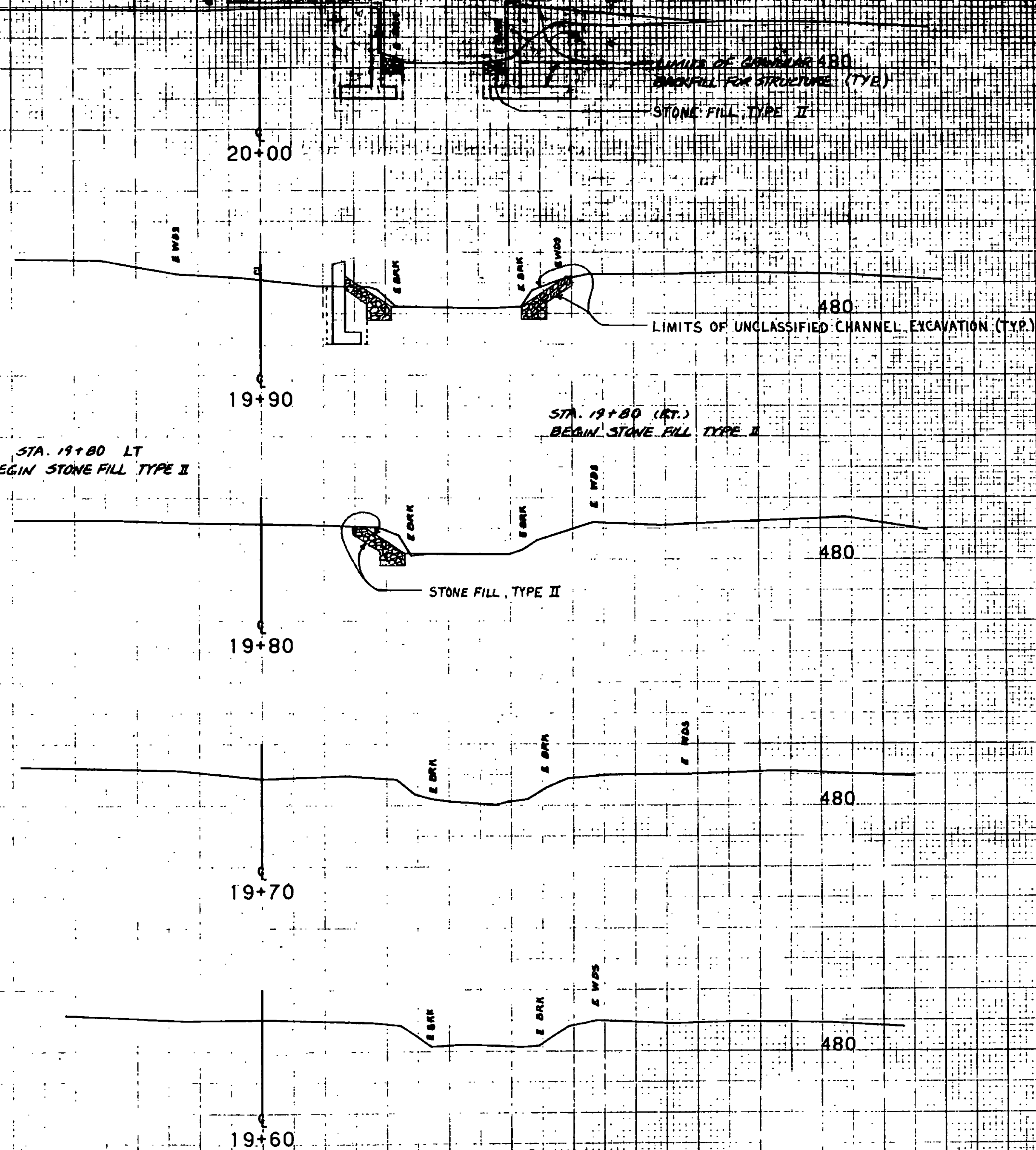


TYPICAL CHANNEL SECTION
HTS

* TEMPORARY EROSION CONTROL TO BE PAID AS SUBSIDIARY TO OTHER ITEMS IN CONTRACT.

STA. 19+80 LT
BEGIN STONE FILL TYPE II

STA. 19+80 (RT.)
BEGIN STONE FILL TYPE II



FROM STA.	19+60	TO STA.	20+00
PROJECT NAME	CHelsea CHANNEL	SECTION	TH3808
NO.	TH3808	PLOTTED	04/19/88
SURVEYED BY	P. NYE	02788	10118
SHEET	77	OF	79

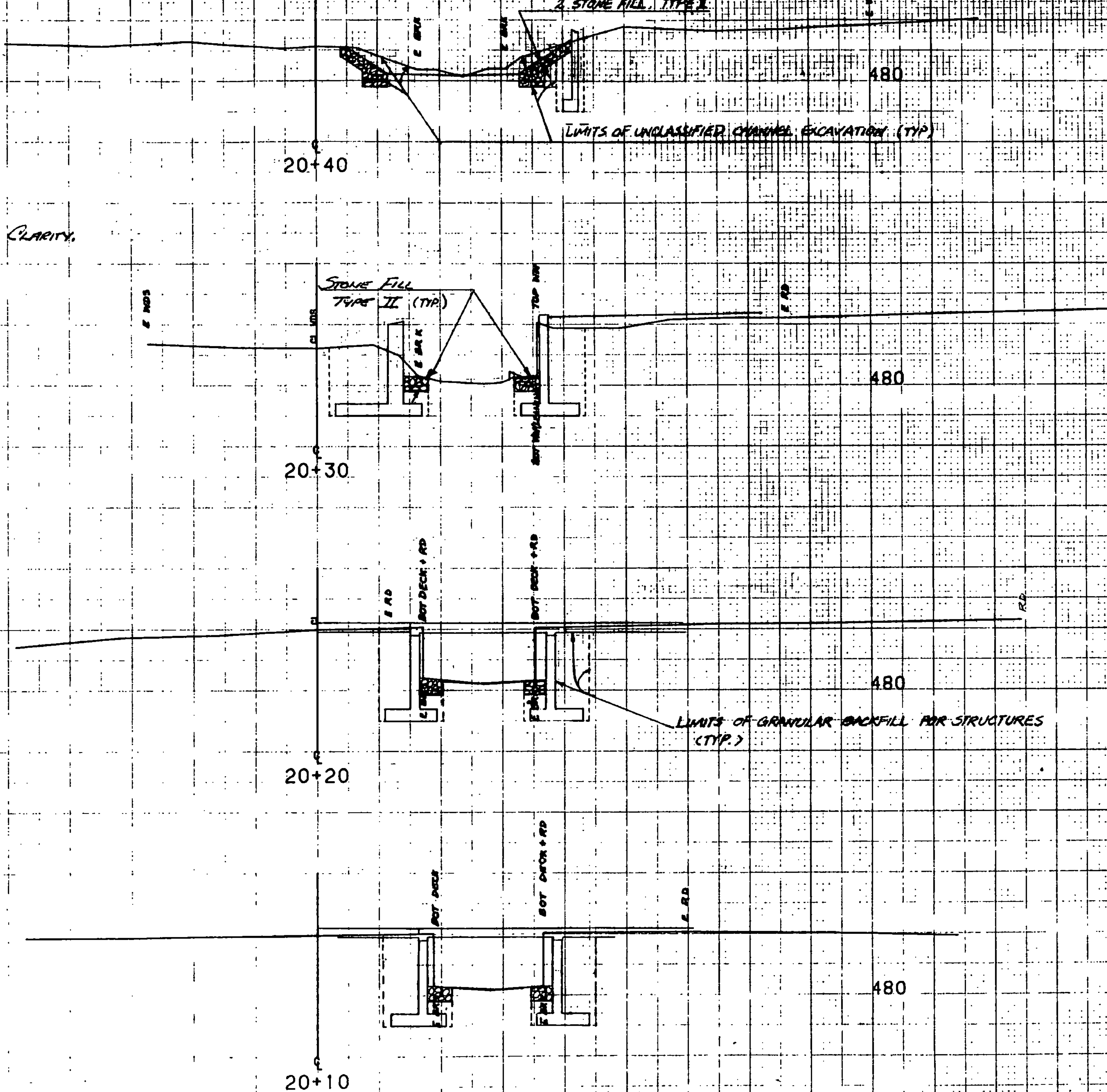
SCALE 1" = 10 FEET

STA 20+50 (L.T. & R.T.)
END UNCLASSIFIED CHANNEL EXCAVATION

STA 20+49 L.T.
END STONE FILL TYPE I

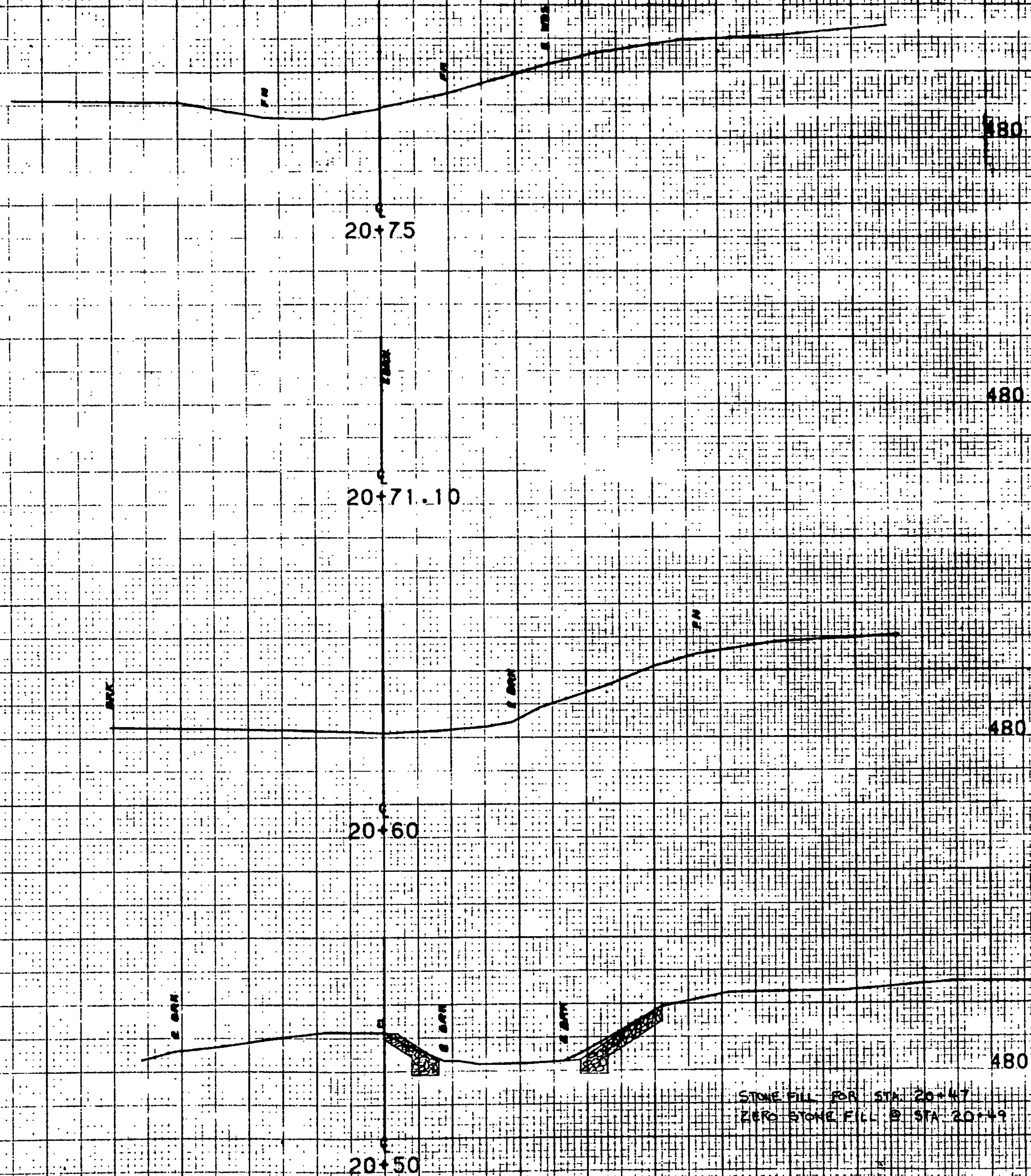
STA 20+47 (R.T.)
END STONE FILL TYPE II
STA 20+46 (R.T.) END STRUCTURE EXCAVATION
2 STONE FILL TYPE I

NOTE: GRUBBING MATERIAL AND
GEOTEXTILE FABRIC FOR
FILTER NOT SHOWN FOR CLARITY.

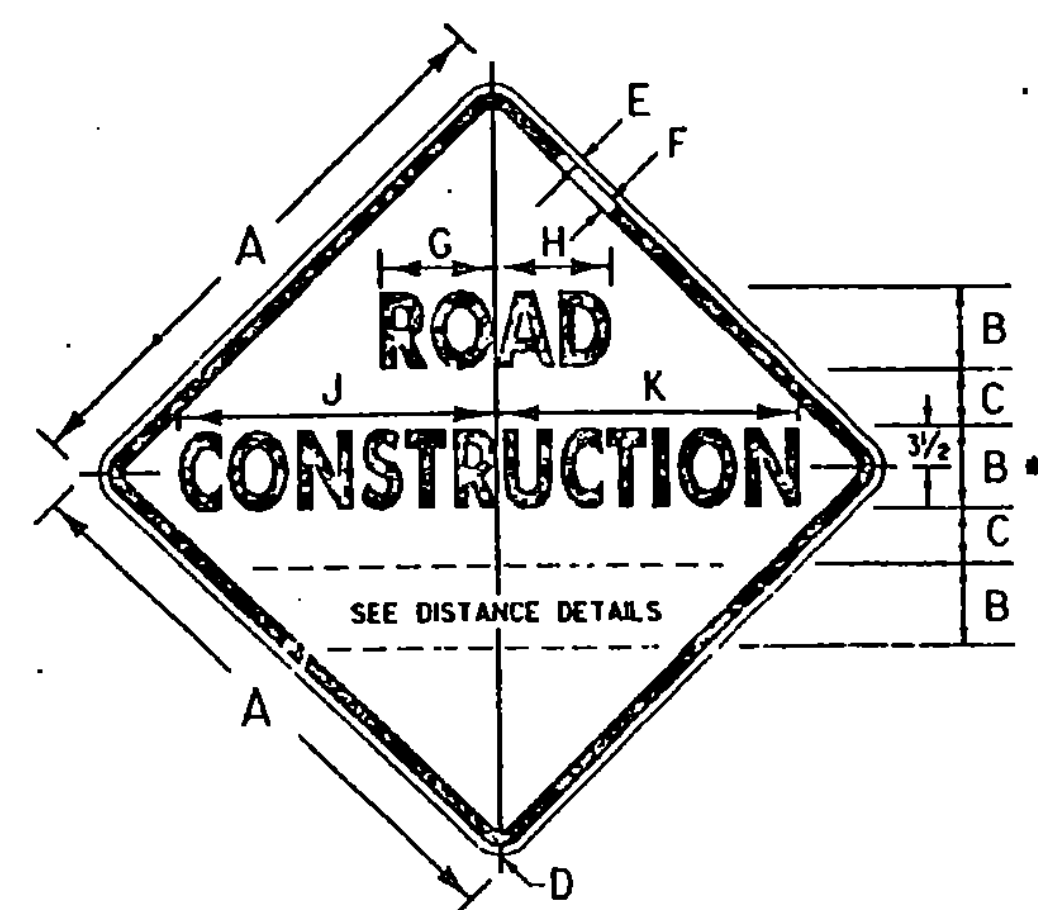


FROM STA. 20+10 TO STA. 20+40
PROJECT NAME: CHELSEA CHANNEL SECTIONS
NO. TH3806 PLOTTED: 04/12/88
SURVEYED BY: P. NYE
SHEET 78 OF 78

SCALE: 1" = 10 FEET

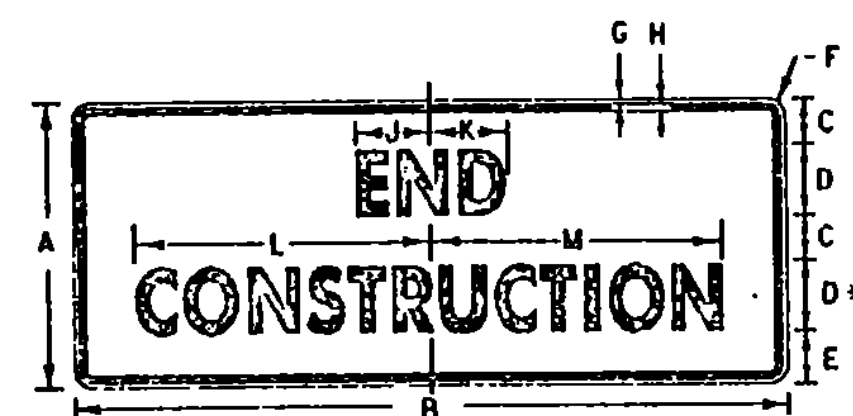


FROM STA.	20+50	TO STA.	20+75
PROJECT NAME	CHELSEA CHANNEL SECTION		
NO.	13808	DATE	10/19/77
CHECKED BY	DATE	02/20/01	
SCALE	1" = 10 FEET		



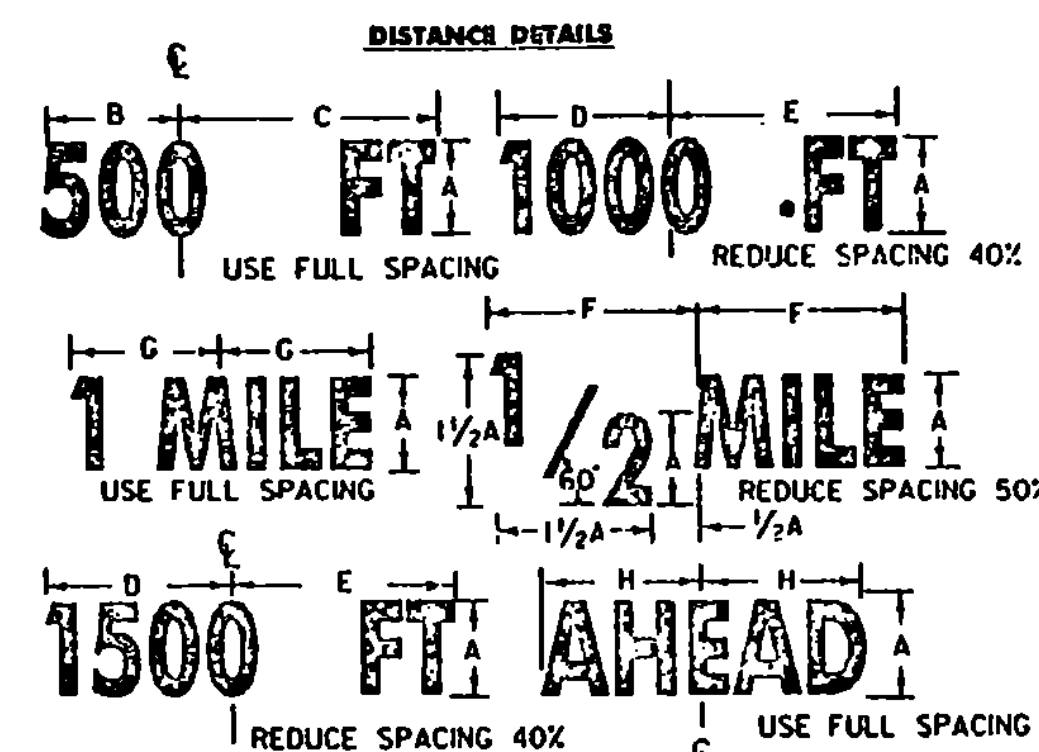
DIMENSIONS (INCHES)										
STD.	A	B	C	D	E	F	G	H	J	K
STD.	48	7C*	4 3/4	3" R.	3/4	1 1/4	9 1/2	9 3/8	26	25 1/2
URBAN	36	5C	3 3/8	2 1/4 R.	3/8	1/2	6 3/8	7 1/8	20 3/8	20 1/4

* FOR THE STD. SIGN REDUCE SPACING 40%

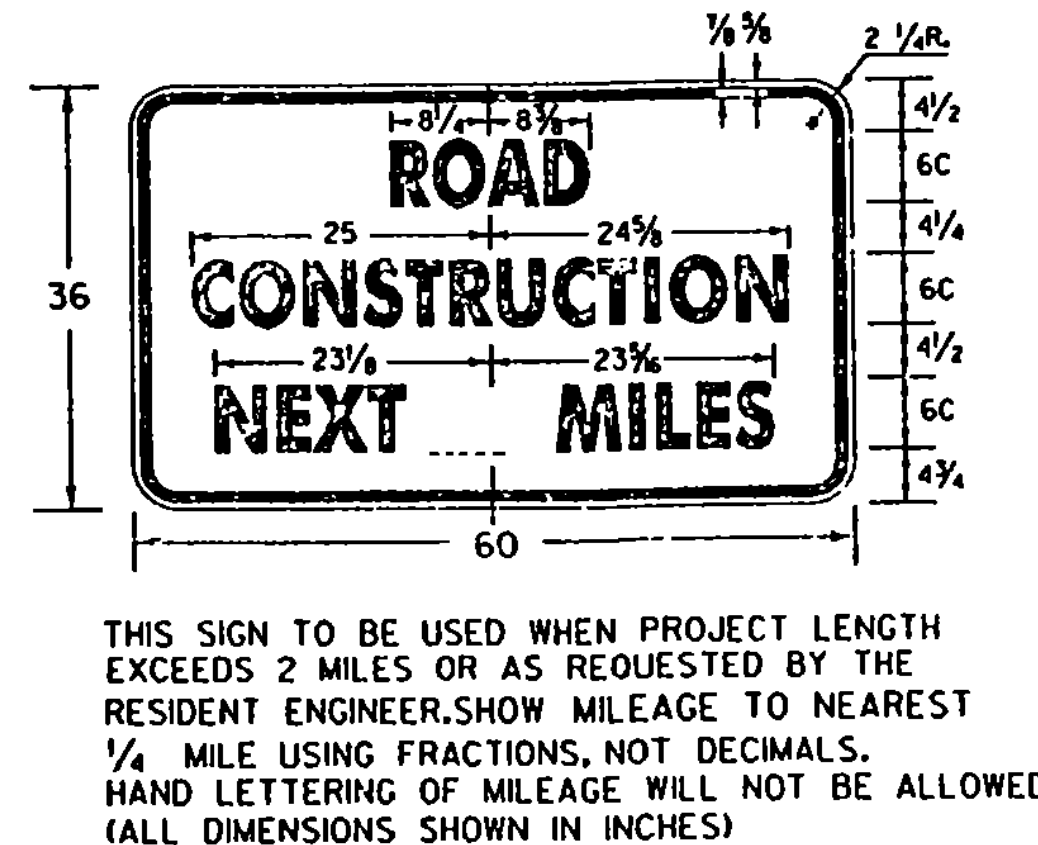


DIMENSIONS (INCHES)												
STD.	A	B	C	D	E	F	G	H	J	K	L	M
STD.	24	60	3 3/4	6C	4 1/2	1 1/2 R.	3/8	3/8	6 1/4	6 3/8	25	24 3/8
URBAN	24	36	4 1/4	5B*	4 1/2	1 1/2 R.	1/2	3/4	3 3/4	3 3/8	15	14 3/4

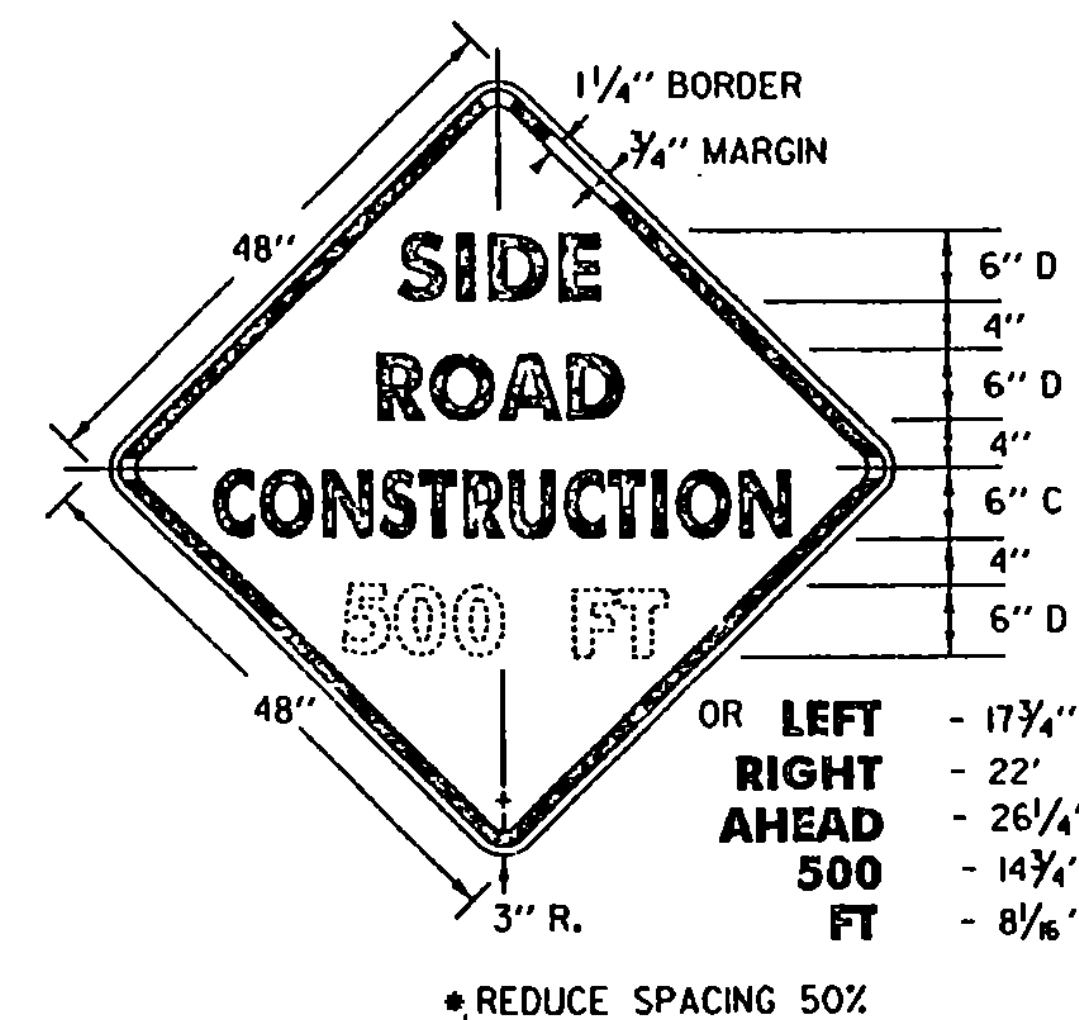
* FOR THE URBAN SIGN REDUCE SPACING 50%



DIMENSIONS (INCHES)							
A	B	C	D	E	F	G	H
50	10 3/8	10 3/8	11 3/8	11 1/4	11 1/4	9 1/2	10 3/8
6C	10 3/8	10 3/8	11 1/4	12	12 1/2	9 3/8	10 1/2
7C	12	12 3/8	13 1/4	14	14 3/8	10 3/8	12 1/4
8D	16 1/4	17 1/4	17	18	18	14 3/8	17 3/8



THIS SIGN TO BE USED WHEN PROJECT LENGTH EXCEEDS 2 MILES OR AS REQUESTED BY THE RESIDENT ENGINEER. SHOW MILEAGE TO NEAREST 1/4 MILE USING FRACTIONS, NOT DECIMALS. HAND LETTERING OF MILEAGE WILL NOT BE ALLOWED. (ALL DIMENSIONS SHOWN IN INCHES)



NOTES

THE APPROACH CONSTRUCTION SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.

APPLICATION OF STANDARDS

SINCE IT IS NOT POSSIBLE TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL OF THE SITUATIONS THAT MAY CONCEIVABLY ARISE ON A CONSTRUCTION PROJECT, REFERENCE SHALL BE MADE TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR THE PRINCIPLES, PROCEDURES, AND STANDARDS THAT WILL BE REQUIRED IN CONNECTION WITH ADVANCED WARNING AND ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. THE SIGNS SHOWN IN E-101 AND E-102 REPRESENT A SAMPLE OF THOSE MORE COMMONLY USED.

LOCATION

CONSTRUCTION APPROACH SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE EXACT PLACEMENT OF ANY SIGN WILL DEPEND UPON THE ALIGNMENT INTENDED TO INDICATE THE SEQUENCE TO BE FOLLOWED AND THE APPROXIMATE SPACING TO BE OBSERVED. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

DESIGN

THE DESIGN OF THE SIGNS SHALL CONFORM WITH THE DETAILS SHOWN ON THIS SHEET AND WITH THE STANDARDS PRESCRIBED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

MATERIALS

THE SIGN BASE MATERIAL USED FOR THE WARNING SIGNS ON THIS SHEET MAY BE ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED.

FLAT SHEET ALUMINUM	0.125 INCHES
HIGH DENSITY OVERLAPPED PLYWOOD	3/4 INCHES
GALVANIZED SHEET STEEL	12 GAGE

REFLECTORIZATION

ALL REFLECTORIZED MATERIAL SHALL CONSIST OF ENCAPSULATED LENS REFLECTIVE SHEETING.

COLORS

THE COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. COLORS SHOWN ON THIS SHEET CONSIST OF BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND.

INSTALLATION

THE SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK, SIGNS MAY BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON POSTS SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST 7 FEET ABOVE ROAD LEVEL, AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST 6 FEET OUTSIDE THE SHOULDER POINT OR 2 FEET OUTSIDE GUARD RAIL, CURBING, OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST 7 FEET ABOVE THE SIDEWALK.

MAINTENANCE

SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED, OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

NOTES CONT.

GENERAL

THE COST OF FURNISHING, ERECTING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS WILL BE CONSIDERED SUBSIDIARY WORK PERTAINING TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT. DURING ALL PHASES OF CONSTRUCTION THE REQUIREMENTS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER.

SIGN COVERS

SIGN COVERS SHALL CONSIST OF A PANEL PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

CONTRACTORS SHALL COORDINATE THEIR SIGNING ACTIVITIES WITH OTHER CONTRACTORS WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE REGIONAL CONSTRUCTION ENGINEER.

SIGN POSTS

WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARD RAIL OR OTHER APPROVED TRAFFIC BARRIERS, THE POSTS ON WHICH THE SIGNS ARE MOUNTED SHALL BE YIELDING METAL POSTS AS DESIGNATED IN THE E SERIES OF STANDARD DRAWINGS OR YIELDING WOODEN POSTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

WOODEN POSTS ARE ACCEPTABLE FOR USE WITH CONSTRUCTION SIGNS. THESE POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL BE MADE FROM GRADE 2, AIR-DRIED SOUTHERN YELLOW PINE OR ANOTHER EQUIVALENT SOFTWOOD. AN ACCEPTABLE EQUIVALENT SOFTWOOD SHALL HAVE AN EXTENSIVE FIBER IN BENDING "FB" DESIGN VALUE NOT TO EXCEED 1400 PSI AND HORIZONTAL SHEAR "FV" DESIGN VALUE NOT TO EXCEED 90 PSI AS ESTABLISHED BY THE NATIONAL FOREST PRODUCTS IN THEIR NATIONAL DESIGN SPECIFICATION, "DESIGN VALUES FOR WOOD CONSTRUCTION" AND RELATED SUPPLEMENT, DATED 1986.

THE FOLLOWING ARE CONSIDERED TO BE ACCEPTABLE WOODEN POSTS:

- 4' x 4' (ACTUAL DIMENSIONS ARE 3.5' x 3.5')
 - ACCEPTABLE FOR SINGLE OR DUAL POSTS INSTALLATION WITH NO MODIFICATIONS.
 - ACCEPTABLE FOR THREE POSTS (OR MORE) INSTALLATION ONLY WHEN THERE ARE NO MORE THAN TWO POSTS IN A 7 FOOT PATH.
- 4' x 6' (ACTUAL DIMENSIONS ARE 3.5' x 5.5')
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 1 1/2" DIAMETER HOLES, ONE AT 4' AND THE OTHER AT 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POSTS (TWO OR MORE) INSTALLATIONS ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.
- 6' x 6' (ACTUAL DIMENSIONS ARE 5.5' x 5.5')
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 2" DIAMETER HOLES, ONE AT 4' AND THE OTHER AT 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POST INSTALLATION ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.
- 6' x 8' (ACTUAL DIMENSIONS ARE 5.5' x 7.5')
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 3" DIAMETER HOLES, ONE AT 4' AND THE OTHER AT 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POST INSTALLATIONS ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.

ADDITIONAL DESIGN CRITERIA

THE LONGER DIMENSION OF THE POST(S), SUCH AS THE 6' DIMENSION OF THE 4' x 6' POST, SHALL BE PLACED PARALLEL TO THE ROADWAY CENTERLINE.

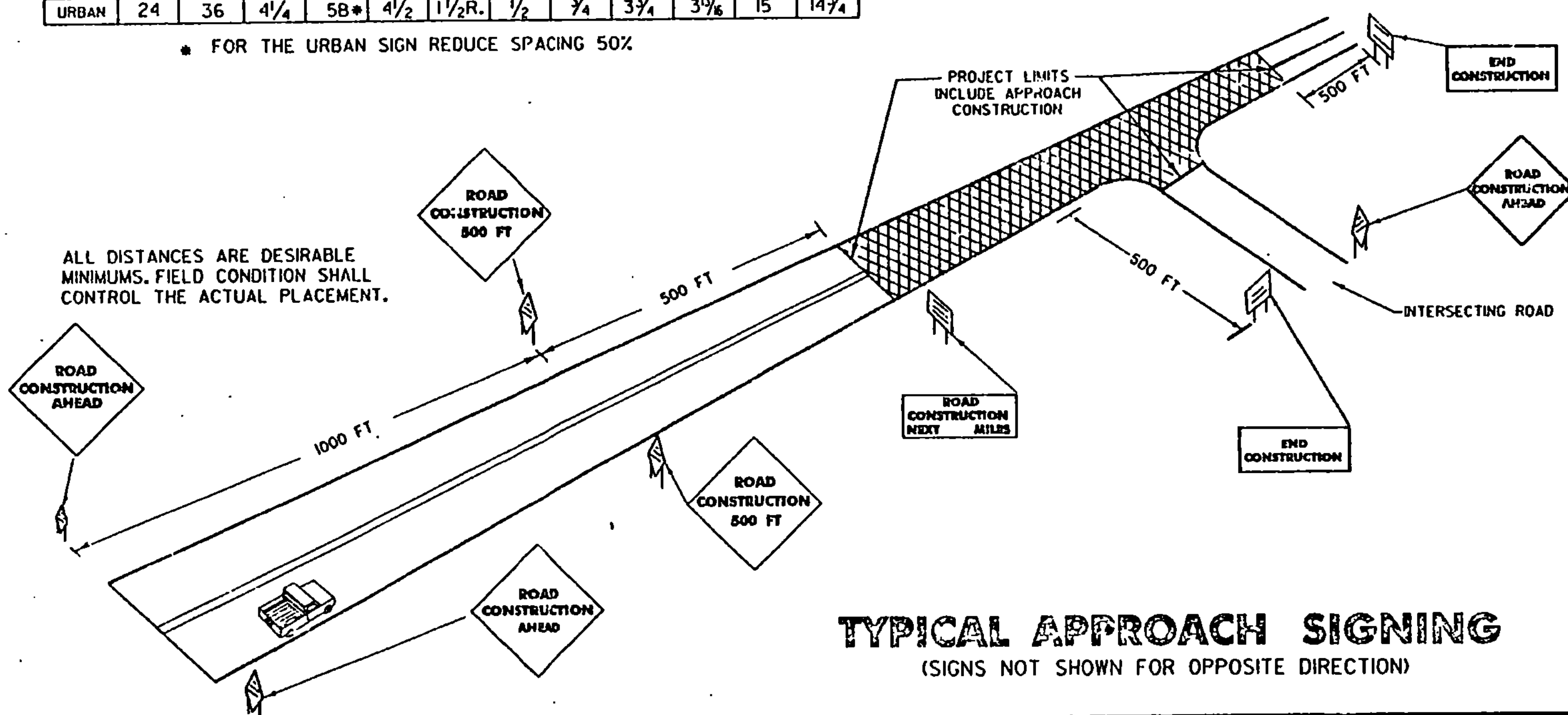
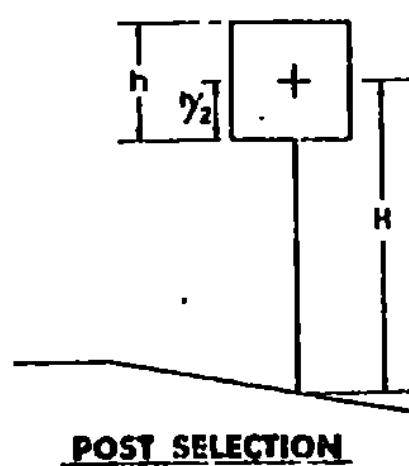
ALL WOODEN POSTS SHALL HAVE AN EMBEDMENT DEPTH OF 4 FEET.

NO CROSS-BRACING OR BACK-BRACING TO KEEP THE POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED.

CONSTRUCTIONS SIGNS SHALL BE PLACED ON TWO OR MORE POSTS WHEN ANY OF THE FOLLOWING CONDITIONS GOVERN:

- THE SIGN WIDTH (HORIZONTAL DIMENSIONS FOR DIAMOND SHAPED SIGNS) EXCEEDS 3 1/2 FEET.
- THE EXPOSED SIGN AREA OF ANY SINGLE SIGN OR ASSEMBLY EXCEEDS 12 1/2 SQ. FEET.
- THE SV OF A SINGLE POST IS EXCEEDED. (SEE THE POST SELECTION CHART BELOW).

WOOD POST SELECTION CHART		
SIGN AREA (FT ²) x HEIGHT (FT) < SV (SELECTION VALUE)		
POST SIZE	SV	DESIGN CRITERIA:
4' x 4'	64	WIND SPEED = 60 MPH (10-YEAR MEAN OCCURRENCE INTERVAL)
4' x 6'	147	WIND PRESSURE = 13 psf
6' x 6'	216	ALLOWABLE BENDING STRESS F _b = 400 psi
6' x 8'	389	



TYPICAL APPROACH SIGNING
(SIGNS NOT SHOWN FOR OPPOSITE DIRECTION)

REVISIONS AND CORRECTIONS

MAY 26, 1989 - SIGN POST NOTES ADDED

OCT 21, 1992 - REVISED WOOD POST REQUIREMENTS, ADDED SIGN DETAILS, & REVISED TITLE BLOCK

APPROVED FOR THIS PROJECT
AND/OR DESIGN, IMPLEMENTATION,
FIELD APPROVAL PENDING.

APPROVED

SEPT. 10, 1987
DATE

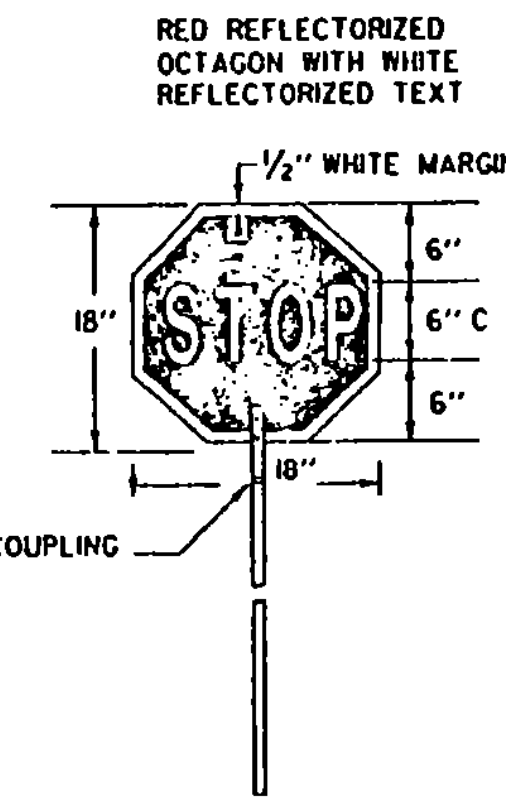
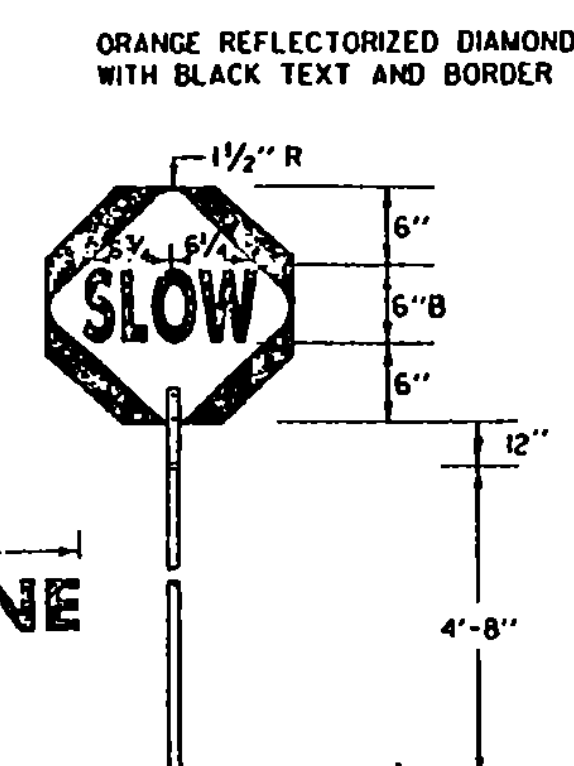
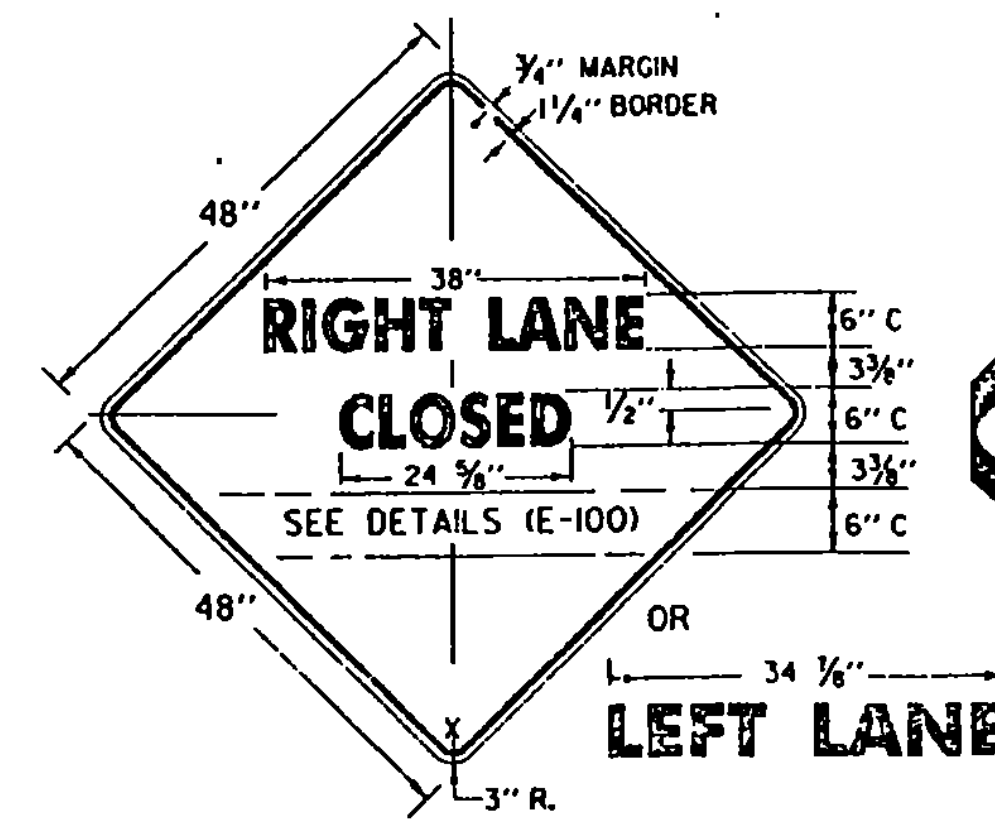
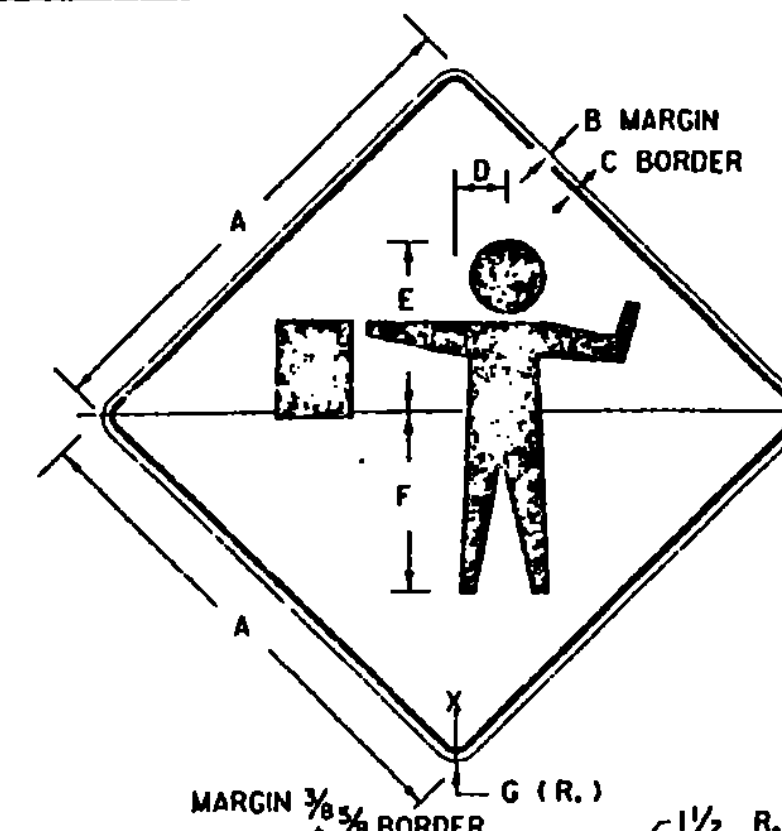
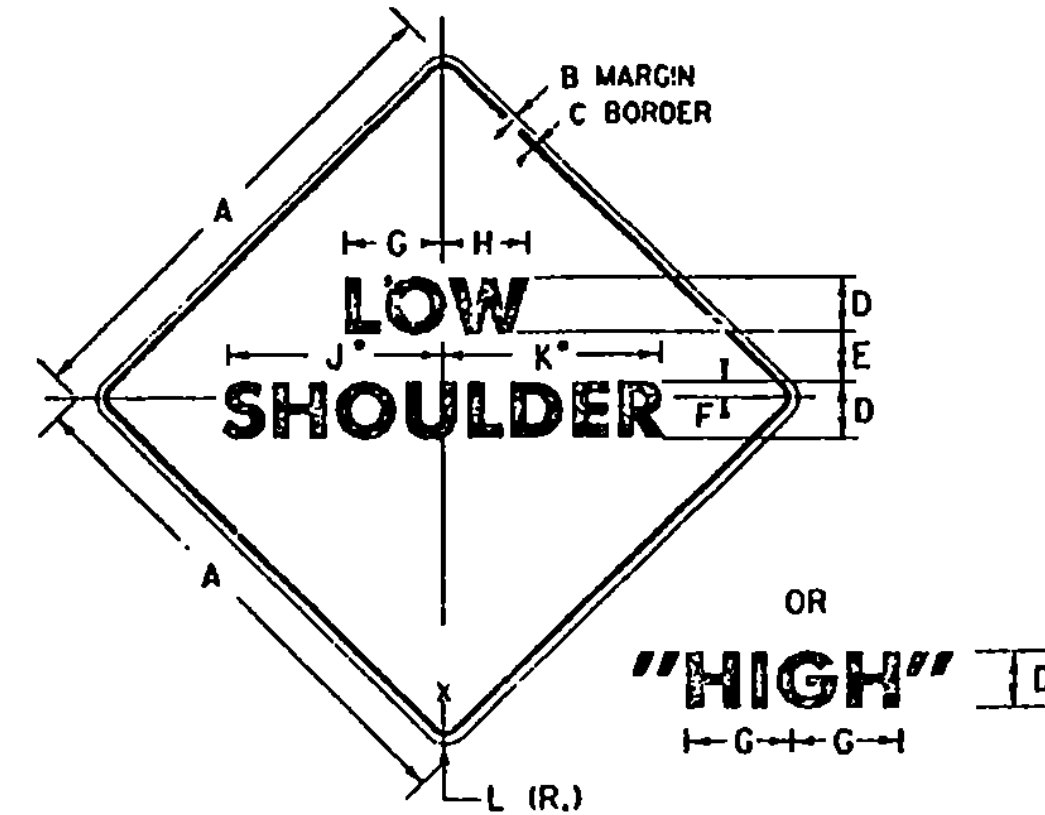
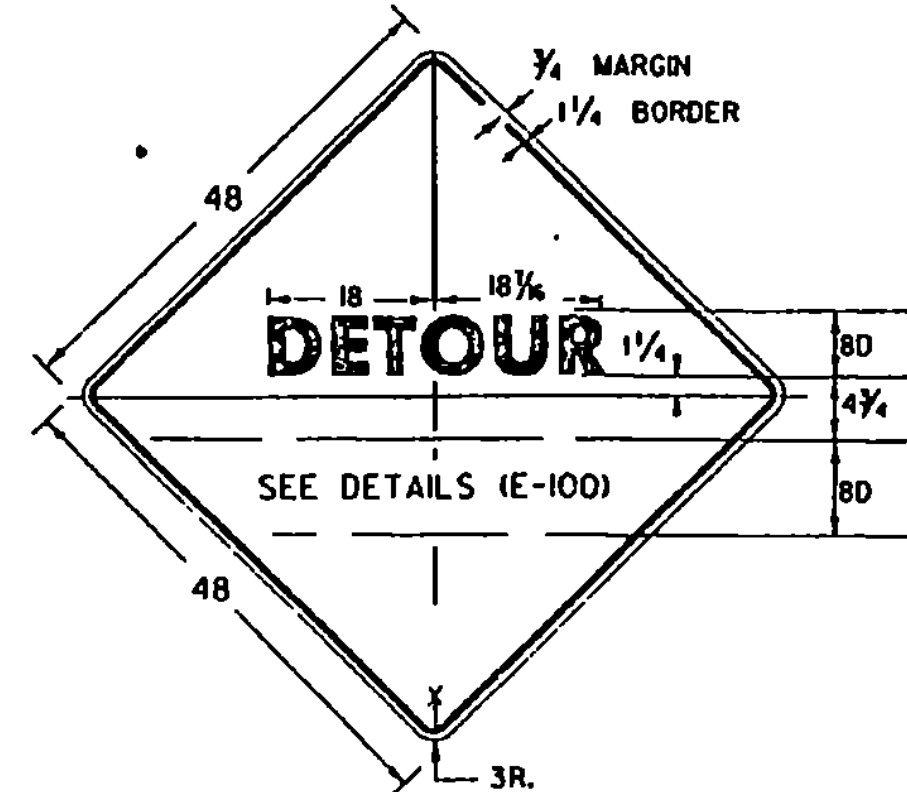
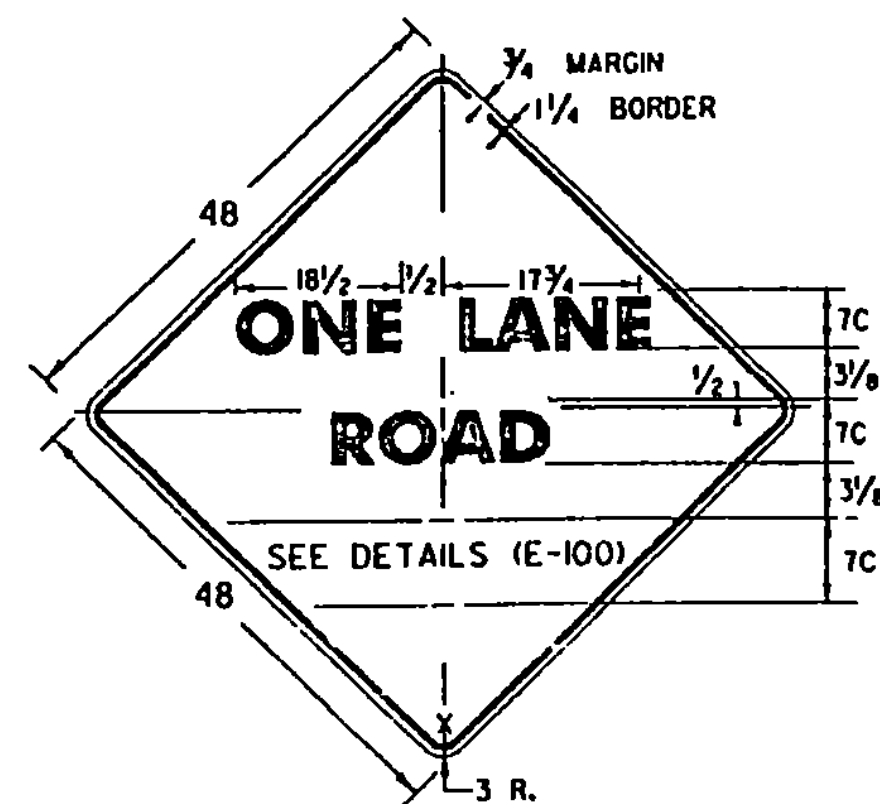
James B. MacArthur
DIRECTOR OF ENGINEERING

David O. Brown
TRAFFIC AND SAFETY ENGINEER

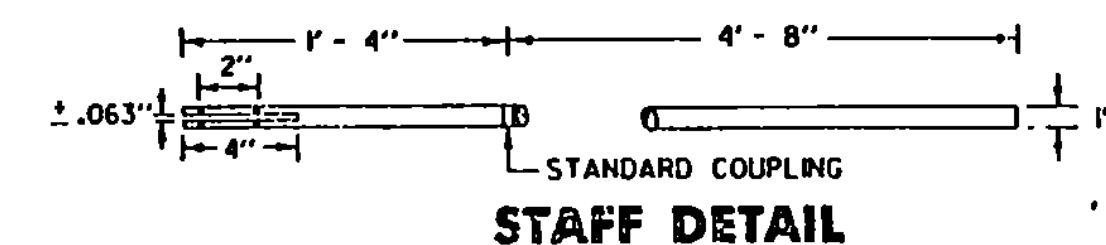
CONSTRUCTION APPROACH SIGNS



STANDARD
E-100



SIGN DETAIL

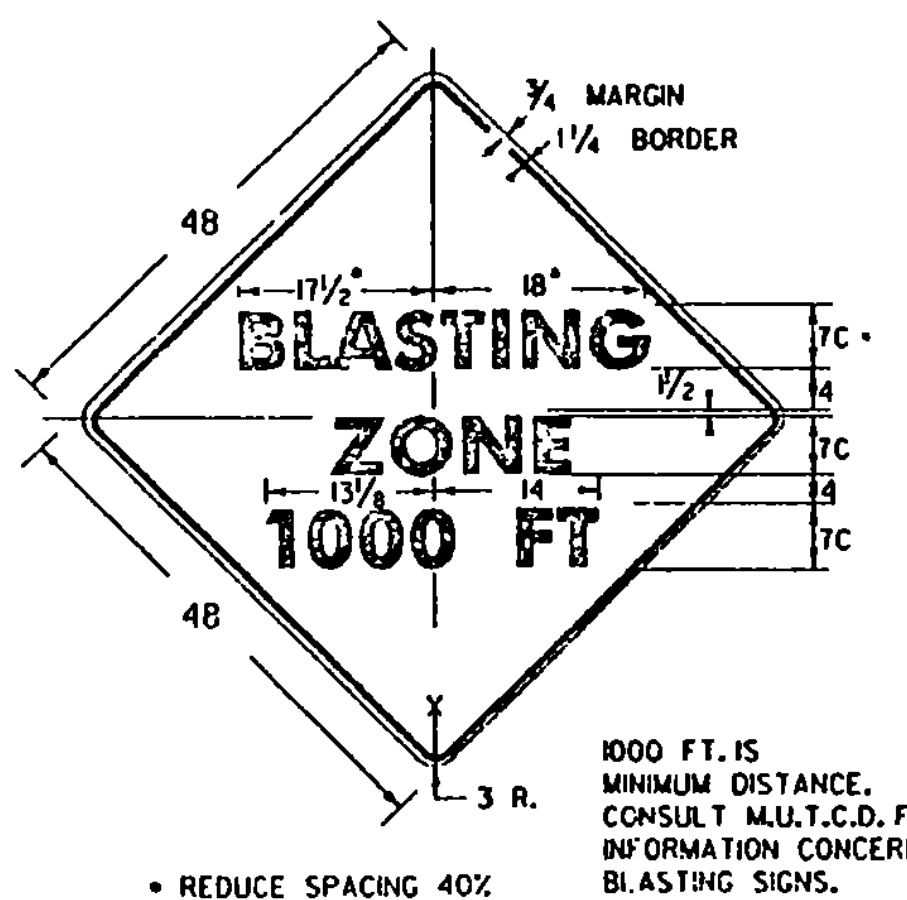
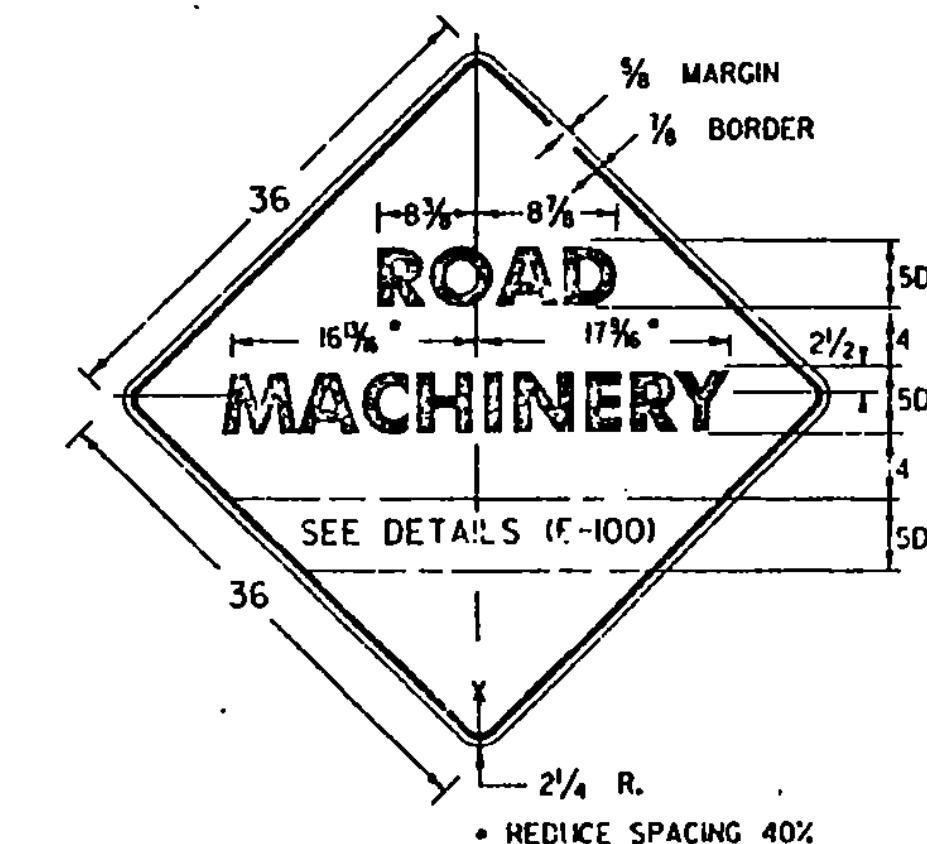


STAFF DETAIL

MATERIALS
THE SIGN MATERIALS SHALL BE 0.063" ALUMINUM WITH COLORS AS INDICATED ON DETAILS.
THE STAFF SHALL BE 1" RIGID ALUMINUM CONDUIT OR TUBING WITH A WALL THICKNESS OF 0.125".

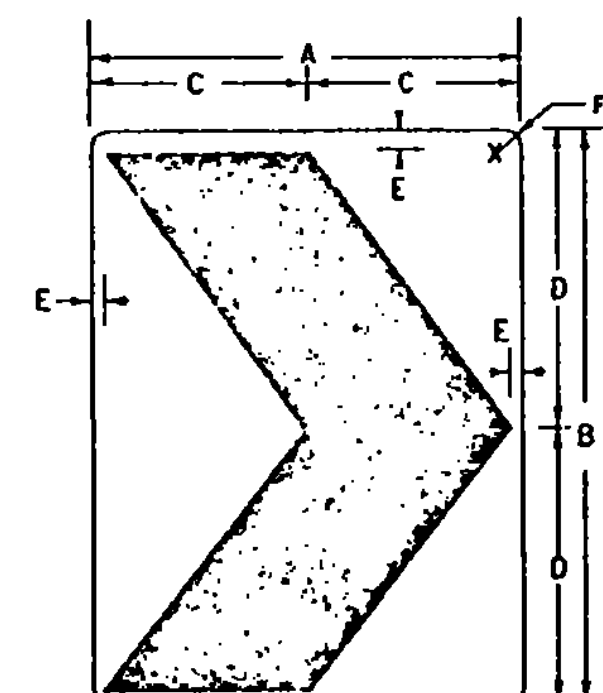
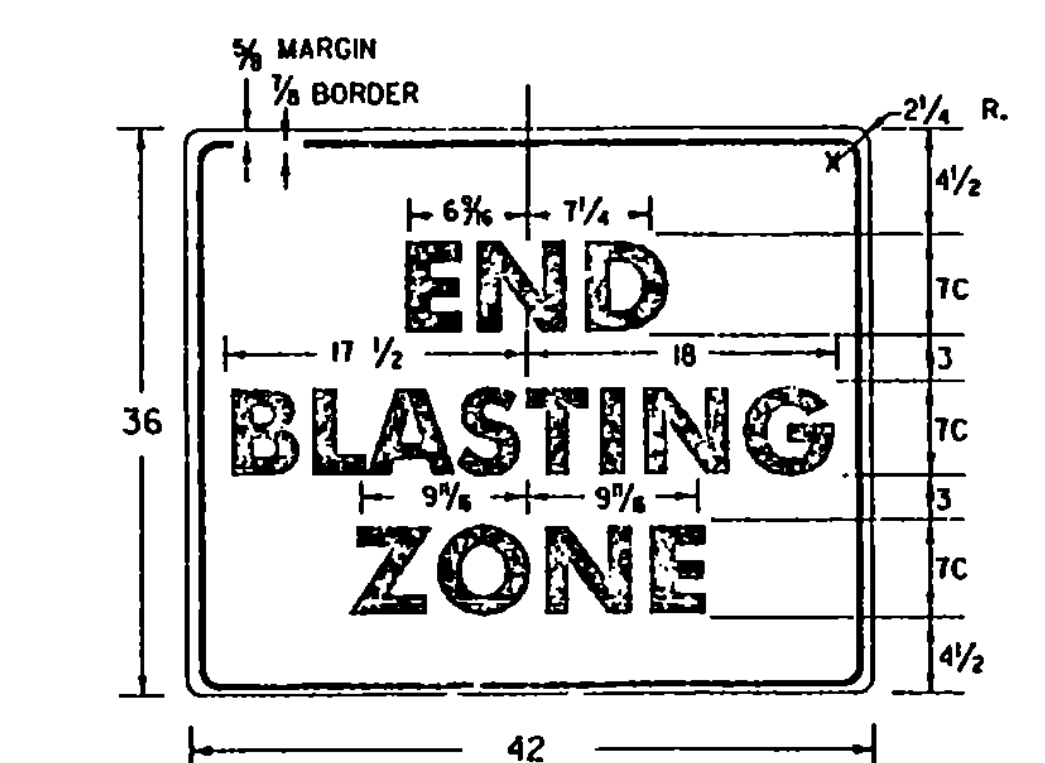
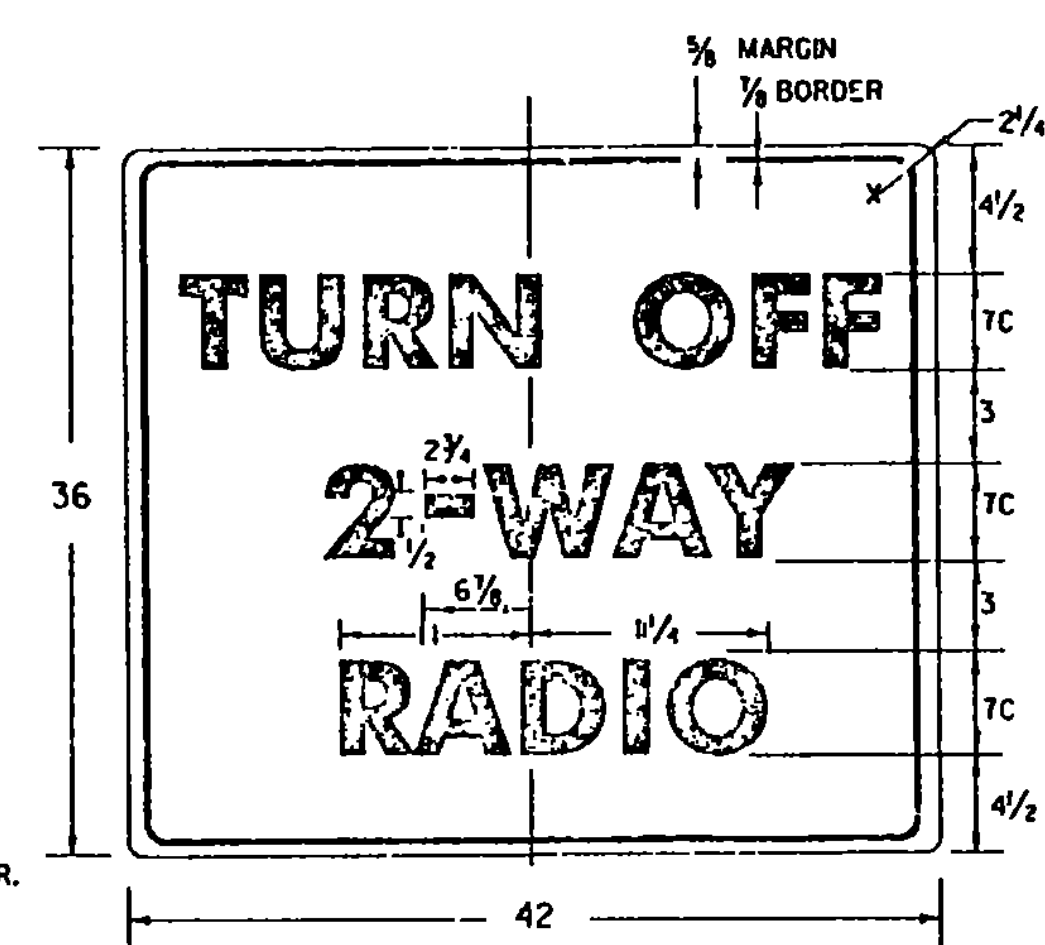
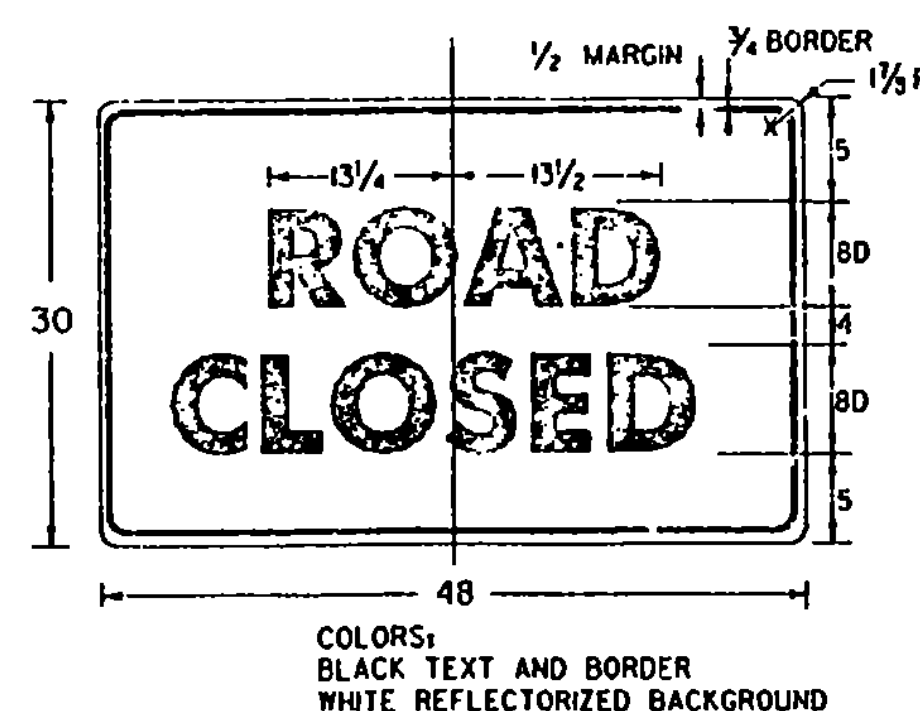
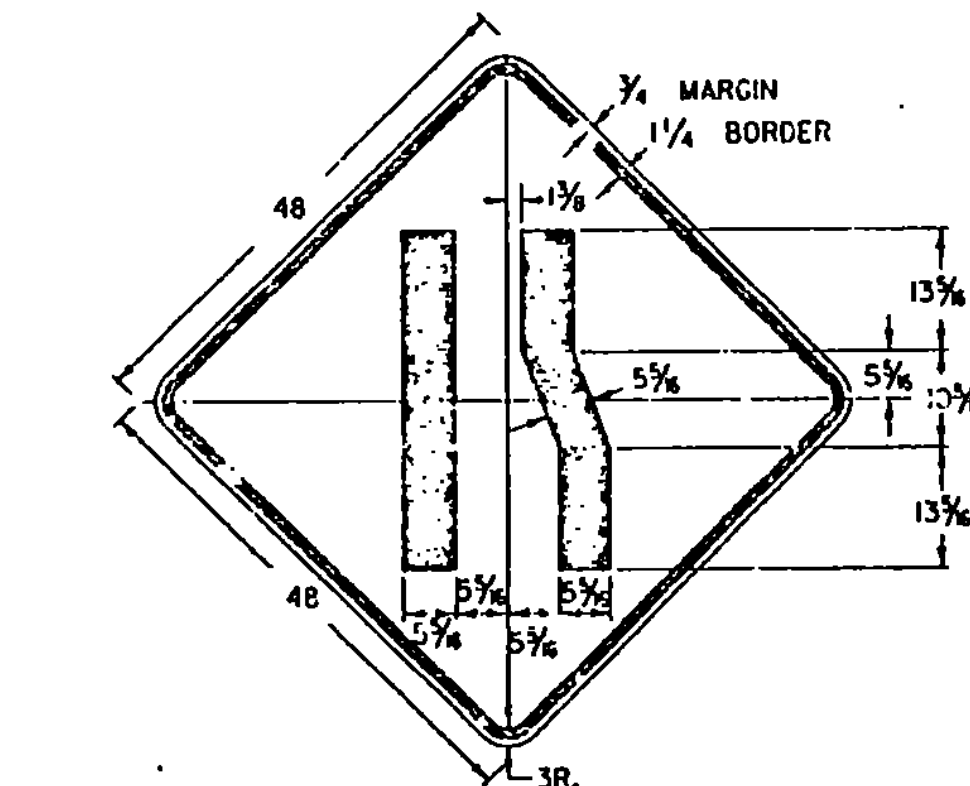
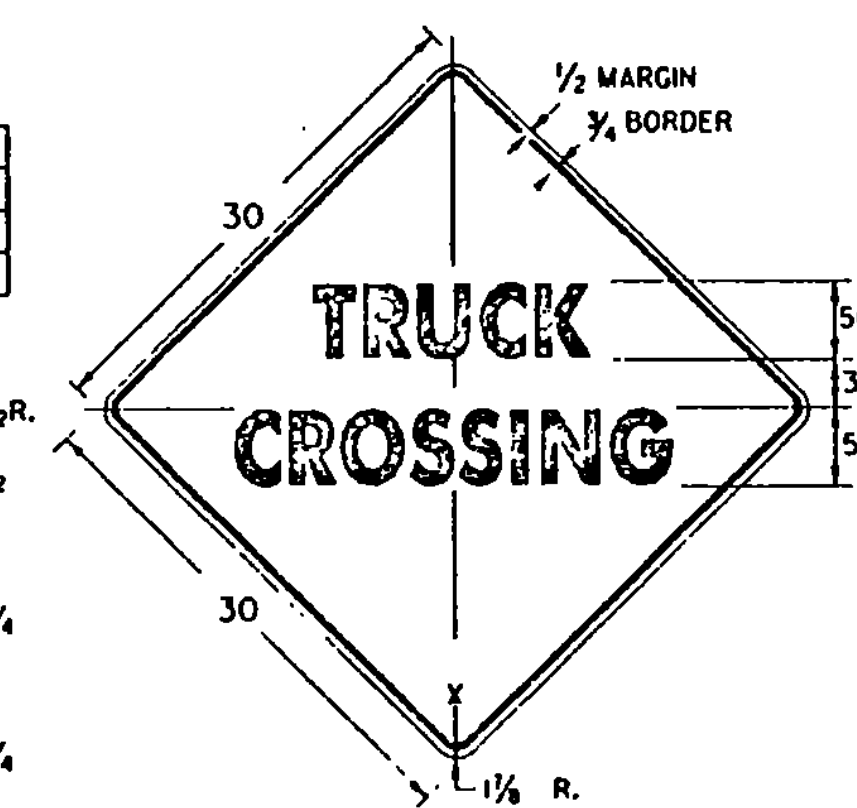
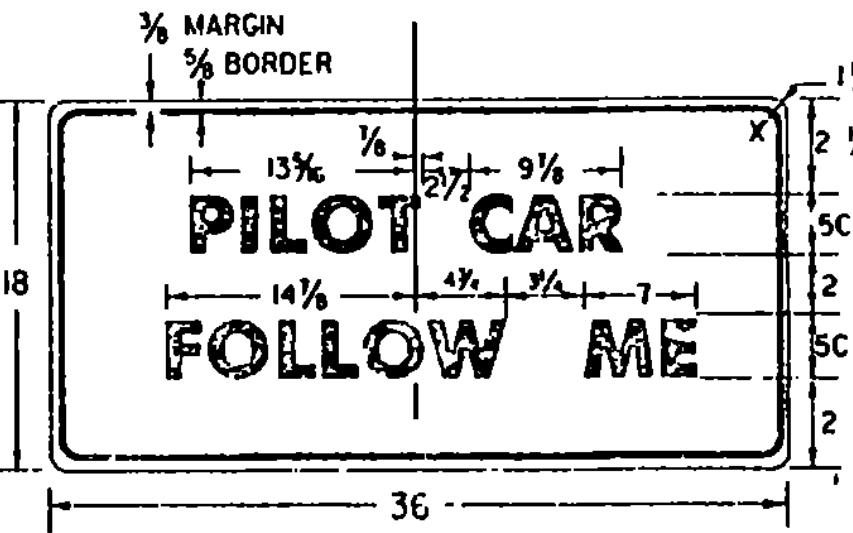
MOUNTING
THE STAFF SHALL BE MOUNTED WITH EITHER TWO 1/2" DIAMETER ALUMINUM BOLTS OR TWO 1/4" DIAMETER ALUMINUM RIVETS.

SIGN PADDLE FOR FLAGPERSON

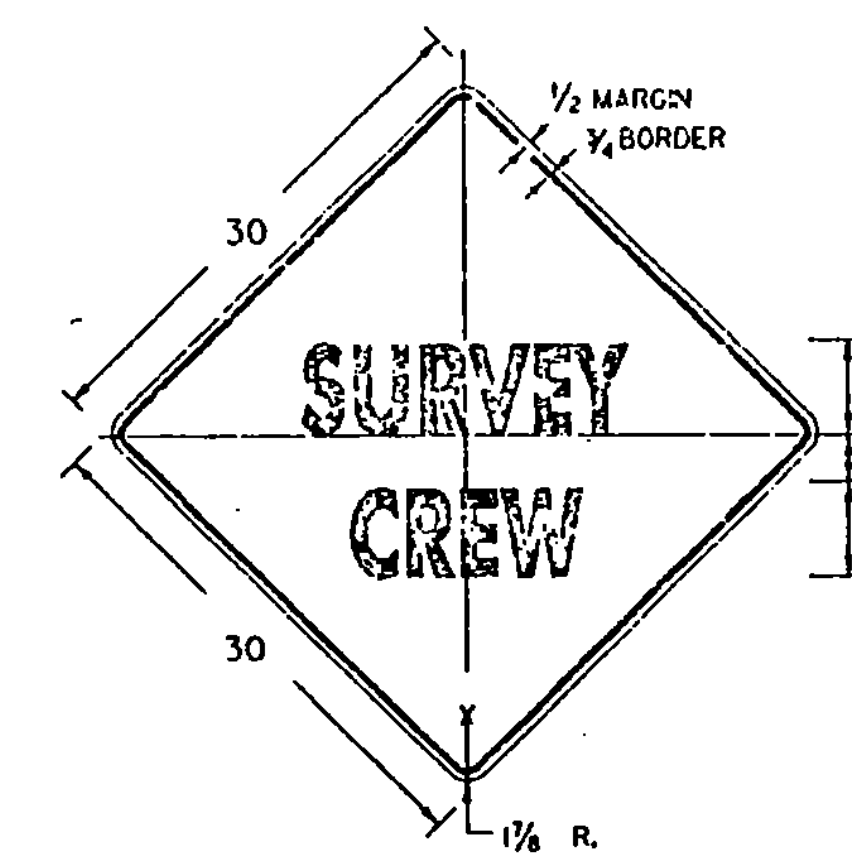
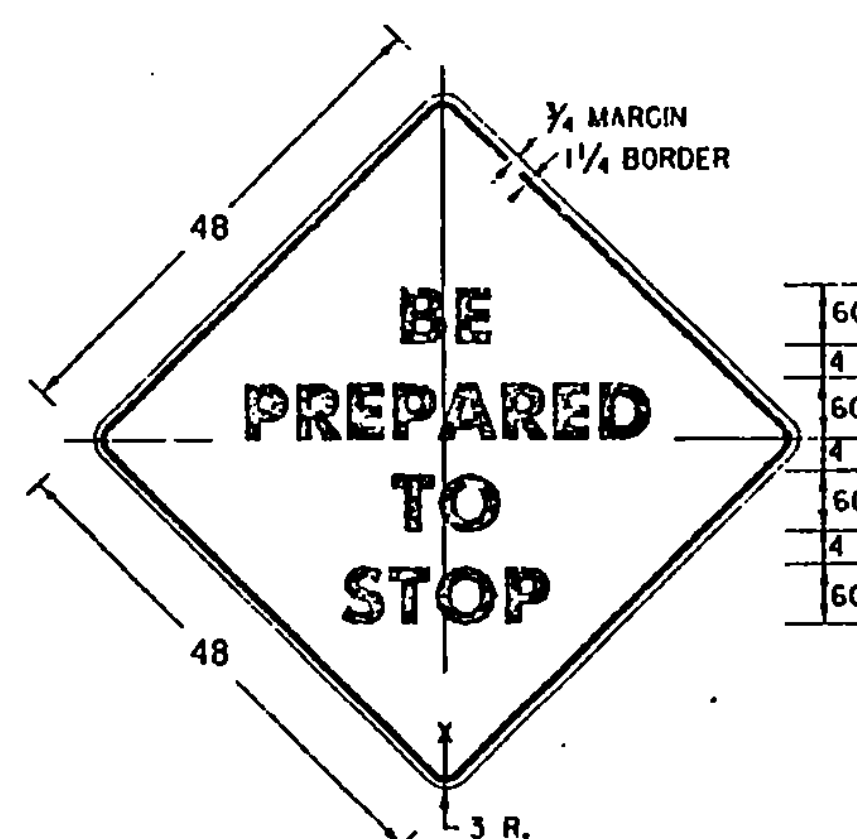


DIMENSIONS (INCHES)											
SIGN	A	B	C	D	E	F	G	H	J	K	L
STD.	30	1 1/2	3/4	5/8	3	3/4	5 3/4	5 3/4	13 3/4	13 3/4	1 1/4
FWY.	48	3/4	1 1/4	5/8	5	1 1/4	8 1/4	9	21	20 3/4	3

DIMENSIONS (INCHES)						
SIGN	A	B	C	D	E	F
STD.	36	3/4	1/4	2 1/4	13 1/2	2 1/4
FWY.	48	3/4	1 1/4	3 3/4	18	19 1/2



DIMENSIONS (INCHES)					
SIGN	A	B	C	D	E
STD.	18	24	9	12	1 1/2
SPECIAL	24	30	12	15	1 1/2
EXPWY.	30	36	15	18	1 1/2
FRWY.	36	48	18	24	2 1/4



NOTES

SEE STANDARD SHEET E-100 FOR NOTES AND TEXT DETAILS
COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS ON A REFLECTORIZED (ENCAPSULATED LENS) ORANGE BACKGROUND, UNLESS OTHERWISE NOTED. THE EXCEPTIONS ARE THE ROAD CLOSED AND PADDLE SIGNS.
SIGN DETAILS INDICATE THE APPROPRIATE COLOR.
EXISTING "BRIDGE" SIGNS MAY BE USED UNTIL THE SIGN NEEDS REPLACEMENT. NEW SIGNS SHALL SHOW REFERENCE TO "ROAD" CONSTRUCTION, HOWEVER, SIGN TEXT SHALL BE CONSISTENT THROUGHOUT THE PROJECT.
SIGNS USED ONLY FOR DAYTIME MAINTENANCE OPERATIONS DO NOT NEED TO BE REFLECTORIZED, HOWEVER, THESE SIGNS SHALL BE LABELED "DAYTIME USE ONLY" ON THE BACK OF THE SIGN PANEL WITH 3" SERIES C LETTERS.

(ALL DIMENSIONS ARE IN INCHES)

REVISIONS AND CORRECTIONS
OCT 21, 1992 - ADDED ADDITIONAL SIGN DIMENSIONS, REVISED CHEVRON BACKGROUND TO ORANGE, & REVISED TITLE BLOCK

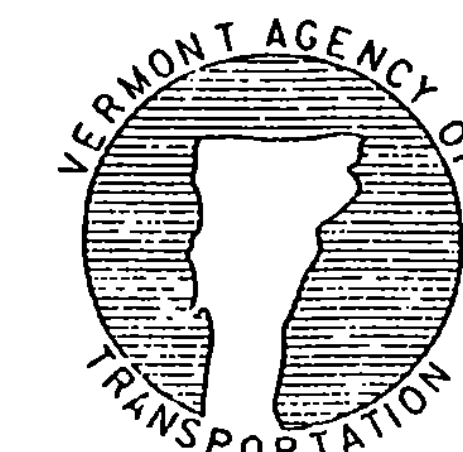
APPROVED OCT. 30, 1987
DATE

James B. McArthur
DIRECTOR OF ENGINEERING

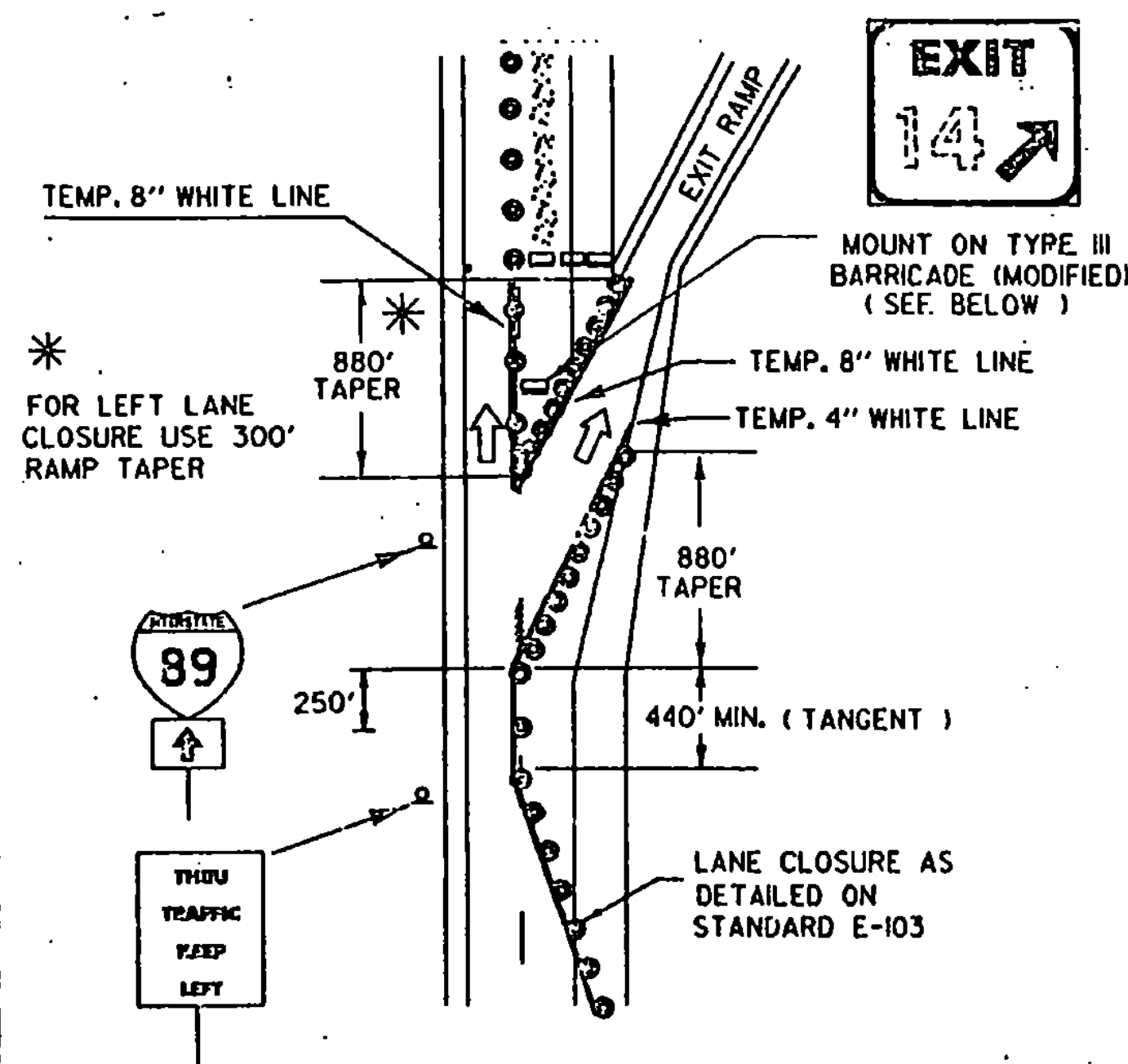
David A. Ross
TRAFFIC AND SAFETY ENGINEER

APPROVED FOR THIS PROJECT
AND/OR DESIGN REPRESENTATION
FINAL FINAL APPROVAL PENDING.

CONSTRUCTION SIGN DETAILS



STANDARD
E-101



THIS DETAIL TO BE USED WHEN THE WORK ZONE BEGINS AT THE CORE OR THE MAINLINE LANE CLOSURE DRUM PLACEMENT INTERFERES WITH THE EXIT RAMP.

MAINLINE LANE CLOSURE AT AN EXIT RAMP

NOTES:

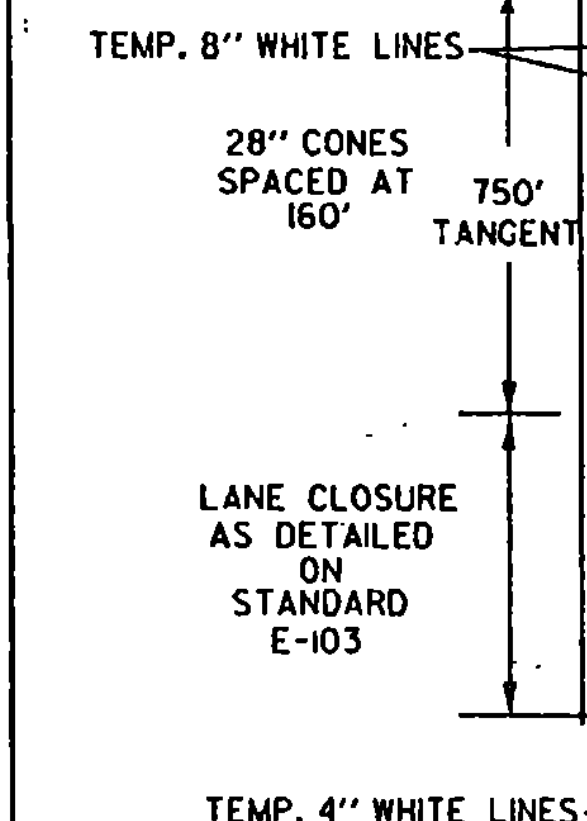
- 1) REFLECTORIZED DRUMS SHALL BE SPACED AT 40' C-C IN TAPERS AND 160' C-C WHEN PLACED ON TANGENT
- 2) ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITION SHALL CONTROL THE ACTUAL PLACEMENT.
- 3) TAPER RATES ARE BASED ON A 40 M.P.H. ASSUMED EXIT SPEED.
- 4) TEMPORARY PAVEMENT MARKINGS ARE REQUIRED WHEN THE LAYOUT IS TO BE IN EFFECT FOR THREE DAYS OR MORE.

NOT TO SCALE

LEGEND

- REFL. PLASTIC DRUMS
- TYPE III BARRICADE
- ▬ PAVEMENT MARKING REMOVAL
- ↑ INDICATE TRAFFIC FLOW
- ▨ WORK AREA

TEMPORARY LETTER IN WORD MARKING, REMOVE AFTER PROJECT. PLACEMENT SHALL NOT INTERFERE WITH MAINLINE TRAFFIC.



MAINLINE LANE CLOSURE AT AN ENTRANCE RAMP

THIS DETAIL TO BE USED WHEN THE WORK ZONE BEGINS AT THE END OF THE ACCELERATION LANE OR THE MAINLINE LANE CLOSURE DRUM PLACEMENT INTERFERES WITH THE ON-RAMP TRAFFIC.

* FOR LEFT LANE CLOSURE USE 300' RAMP TAPER.

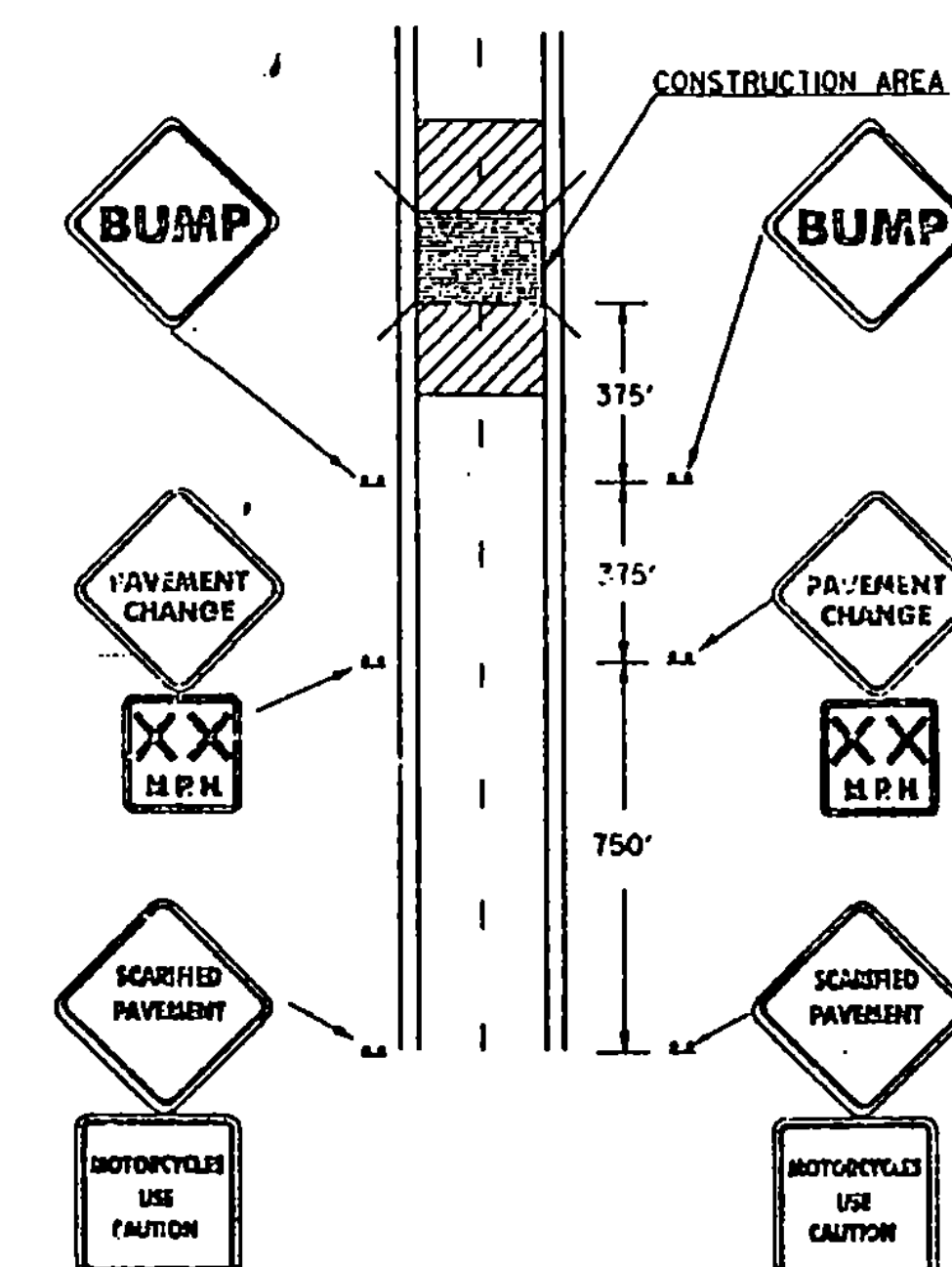
NOTES:

- 1) ALL SIGNS MOUNTED ON FIXED POSTS (YIELDING TYPE) UNLESS NOTED OTHERWISE.
- 2) ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITION SHALL CONTROL THE ACTUAL PLACEMENT.
- 3) TAPER RATES ARE BASED ON A 40 M.P.H. ASSUMED ENTRANCE SPEED.
- 4) TEMPORARY PAVEMENT MARKINGS ARE REQUIRED WHEN THE LAYOUT IS TO BE IN EFFECT FOR THREE DAYS OR MORE.

NOT TO SCALE

LEGEND

- 28" CONES (REFLECTORIZED)
- REFL. PLASTIC DRUMS
- TYPE III BARRICADE
- ▬ PAVEMENT MARKING REMOVAL
- ↑ INDICATE TRAFFIC FLOW
- ▨ WORK AREA

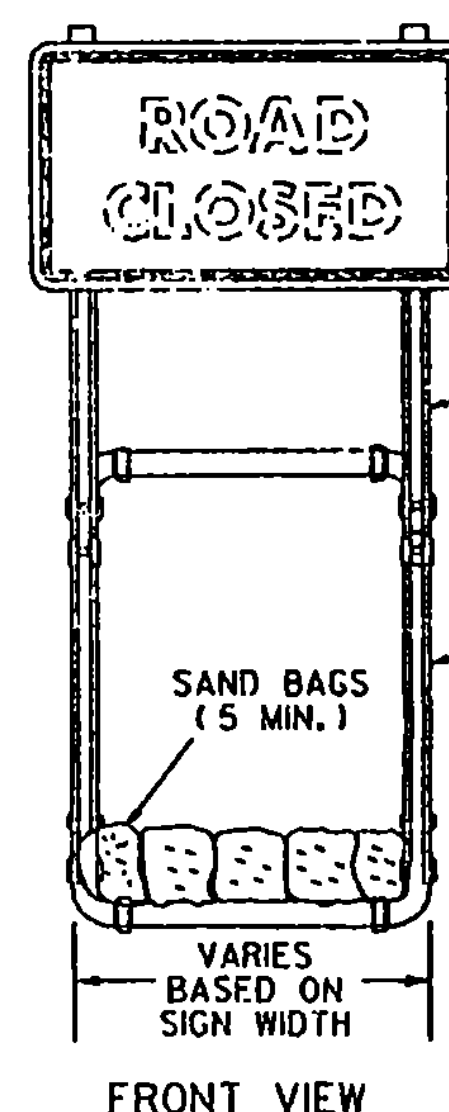


- NOTES:**
- 1) ADVISORY SPEED AS DETERMINED BY RESIDENT ENGINEER (40 M.P.H. MINIMUM RECOMMENDED)
 - 2) SIGNS MOUNTED ON FIXED POSTS (YIELDING TYPE)
 - 3) ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITION SHALL CONTROL THE ACTUAL PLACEMENT.
 - 4) THE BUMP SIGN MAY BE ELIMINATED WHEN THERE IS NO BUMP. WHEN THE CONTRACTOR IS WORKING IN THE CONSTRUCTION AREA THE APPROPRIATE ADVANCED WARNING SIGN PACKAGE SHALL BE USED, SEE STD.E-103.

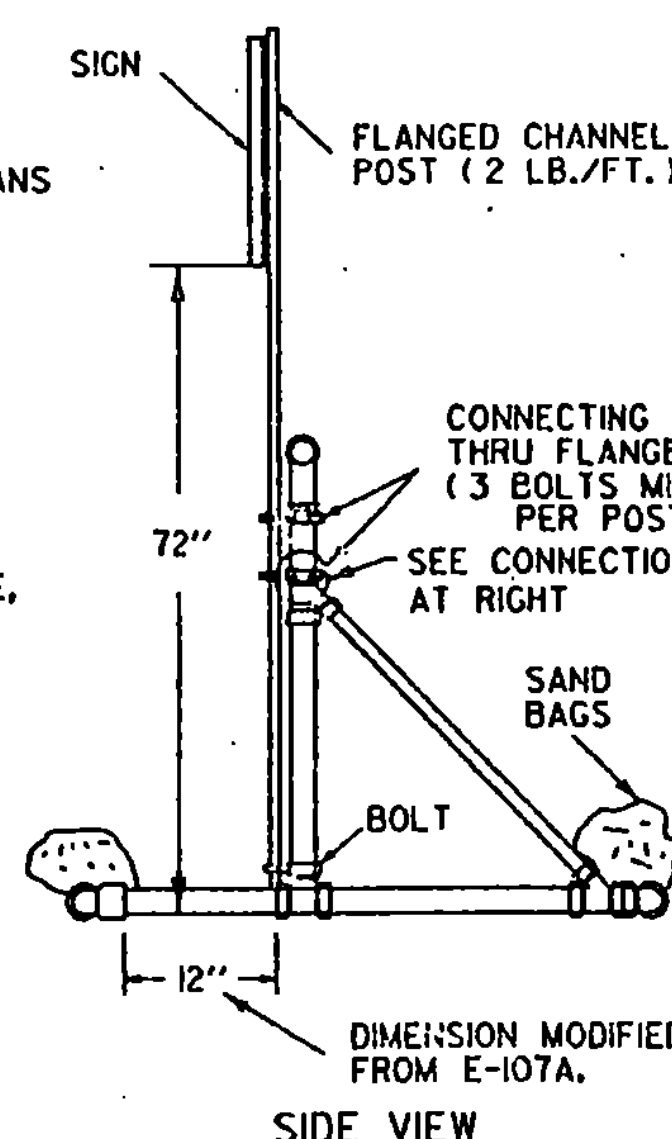
NOT TO SCALE

LEGEND

- ▨ PAVEMENT TRANSITION

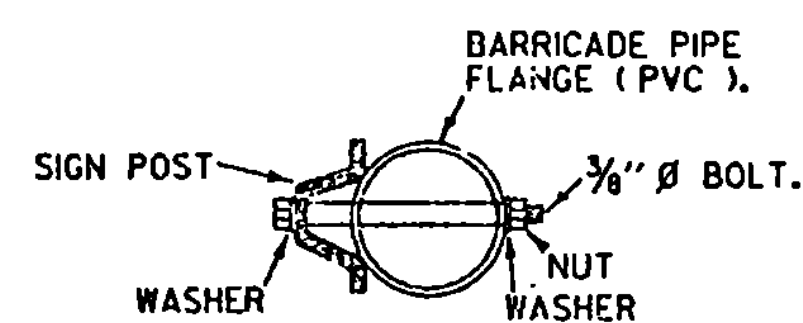


SIGN MOUNTING ON TYPE III BARRICADE (MODIFIED)

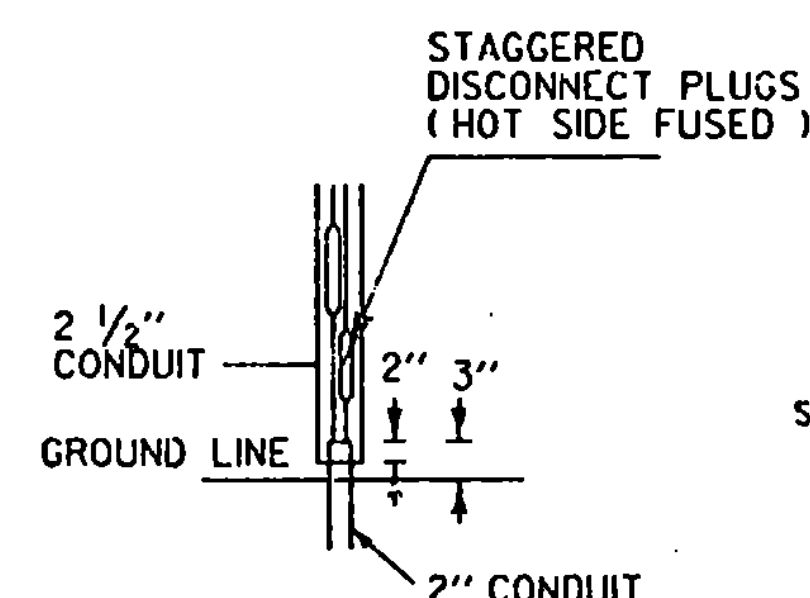


NOTES:

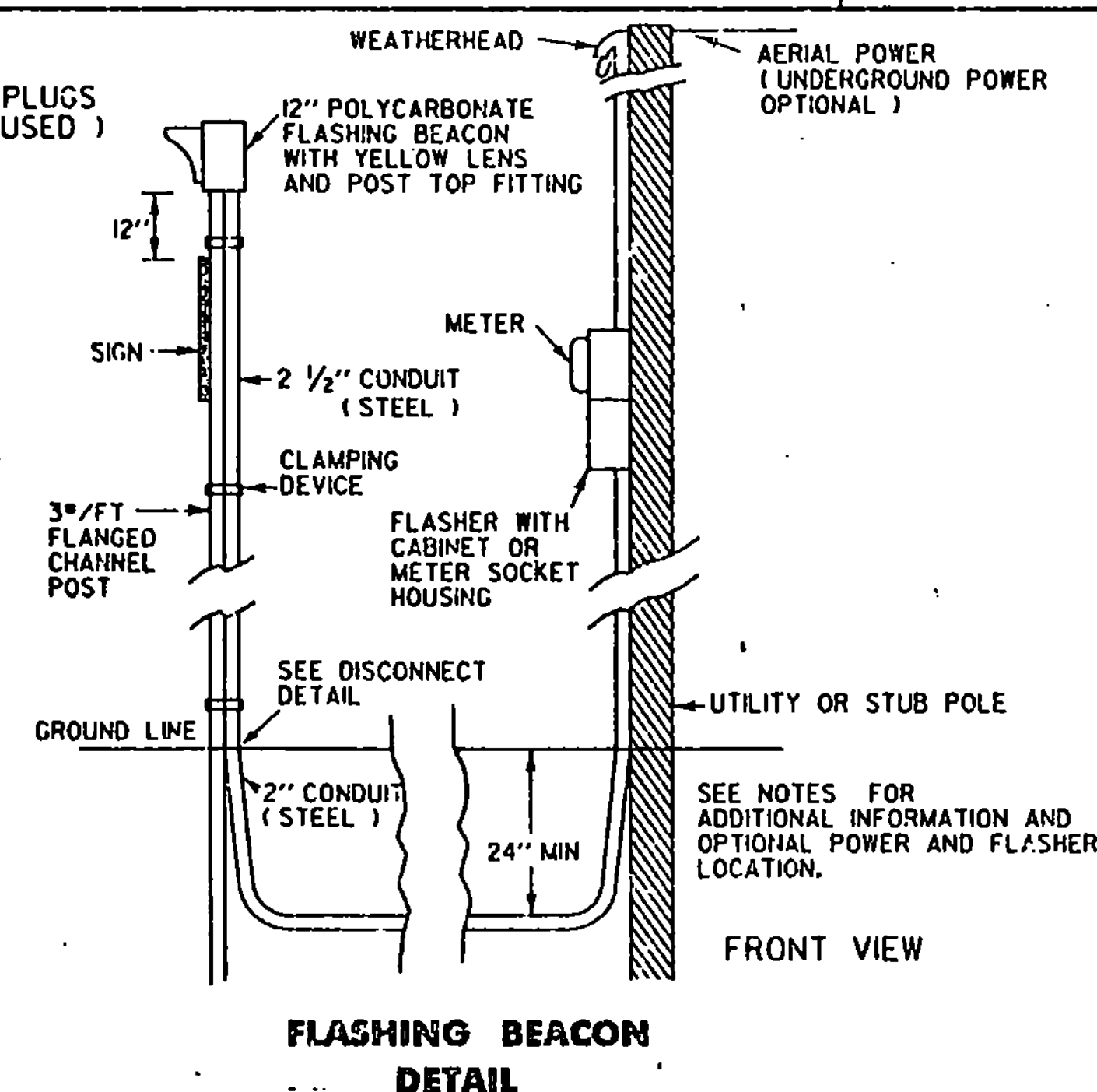
- 1) REFER TO STANDARD E-107A FOR BARRICADE DETAIL.
- 2) ALL BARRICADE JOINTS SHALL BE GLUED.
- 3) FIVE SAND BAGS ARE REQUIRED BOTH FRONT AND BACK, 50 LB. MINIMUM EACH.



CONNECTION DETAIL



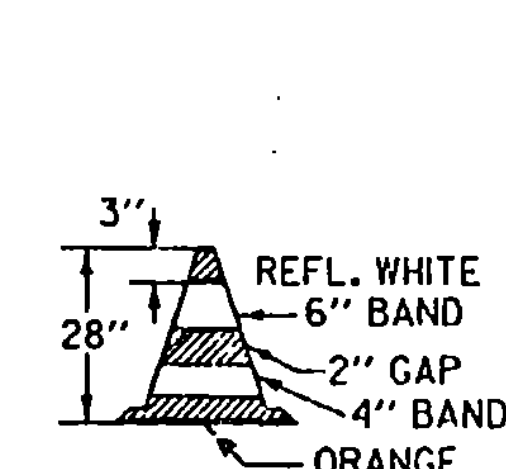
DISCONNECT DETAIL



FLASHING BEACON DETAIL

FLASHING BEACON NOTES

- 1) WIRE CONNECTIONS AT THE BASE OF THE POST SHALL BE FUSED WITH A WATER-TIGHT DISCONNECT PLUG-IN TYPE CONNECTOR WHICH WILL DISCONNECT WITHOUT DAMAGE DURING A KNOCKDOWN. EACH INSTALLATION SHALL BE GROUNDED.
- 2) AT THE CONTRACTOR'S OPTION:
 - A. THE POWER SUPPLY MAY BE AERIAL OR UNDERGROUND
 - B. POWER MAY BE COMBINED WITH THE TRAFFIC SIGNAL OR SEPARATE.
 - C. THE FLASHER MAY BE INSTALLED ON A STUB POLE NEAR THE SIGN, ON A UTILITY POLE (WITH UTILITY COMPANY APPROVAL) OR AT THE SAME LOCATION AS THE TRAFFIC SIGNAL CONTROLLER.
- 3) THE FLASHER UNIT SHALL BE ONE CIRCUIT AND INCLUDE A RADIO INTERFERENCE FILTER.
- 4) THE FLASHING BEACON INSTALLATION SHALL BE PAID AS NOTED ON THE PLANS.
- 5) BATTERY OPERATED FLASHERS SHALL NOT BE ALLOWED.

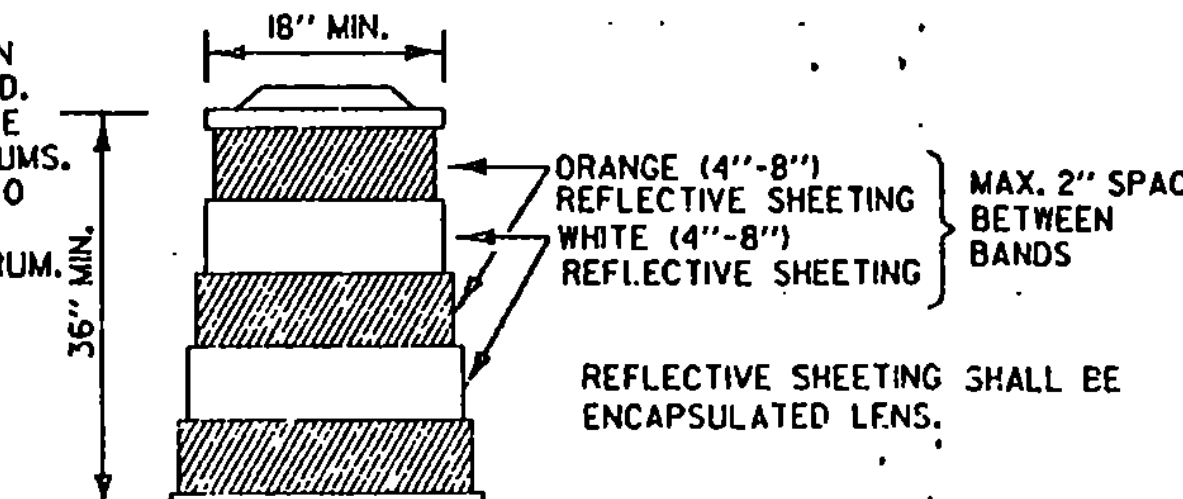


28\"/>

NOTES:

- 1) 28" CONES SHALL BE USED ON ROADWAYS WITH SPEED LIMITS OF 35 MPH OR MORE AND ON ALL ROADWAYS DURING HOURS OF DARKNESS.
- 2) CONES MAY BE WEIGHTED TO PREVENT OVERTURNING, HOWEVER THE WEIGHTS SHALL NOT PRESENT A HAZARD IF THE CONE IS STRUCK.

DRUMS SHALL REMAIN UPRIGHT AS DESIGNED. SAND BAGS SHALL BE USED TO WEIGHT DRUMS. ALL WEIGHTS ARE TO BE PLACED IN THE BOTTOM OF THE DRUM.



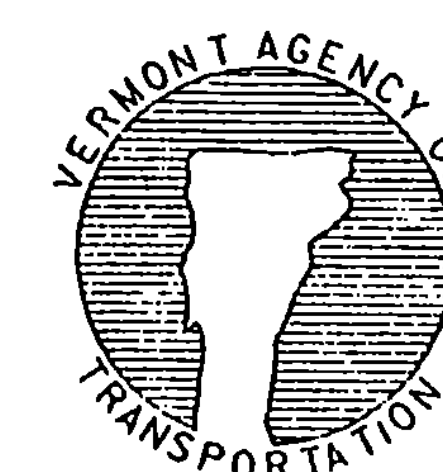
REFLECTORIZED PLASTIC DRUM

REVISIONS AND CORRECTIONS
JAN. 23, 1989 REVISED EXIT SIGN - CLARIFIED EXIT TAPER

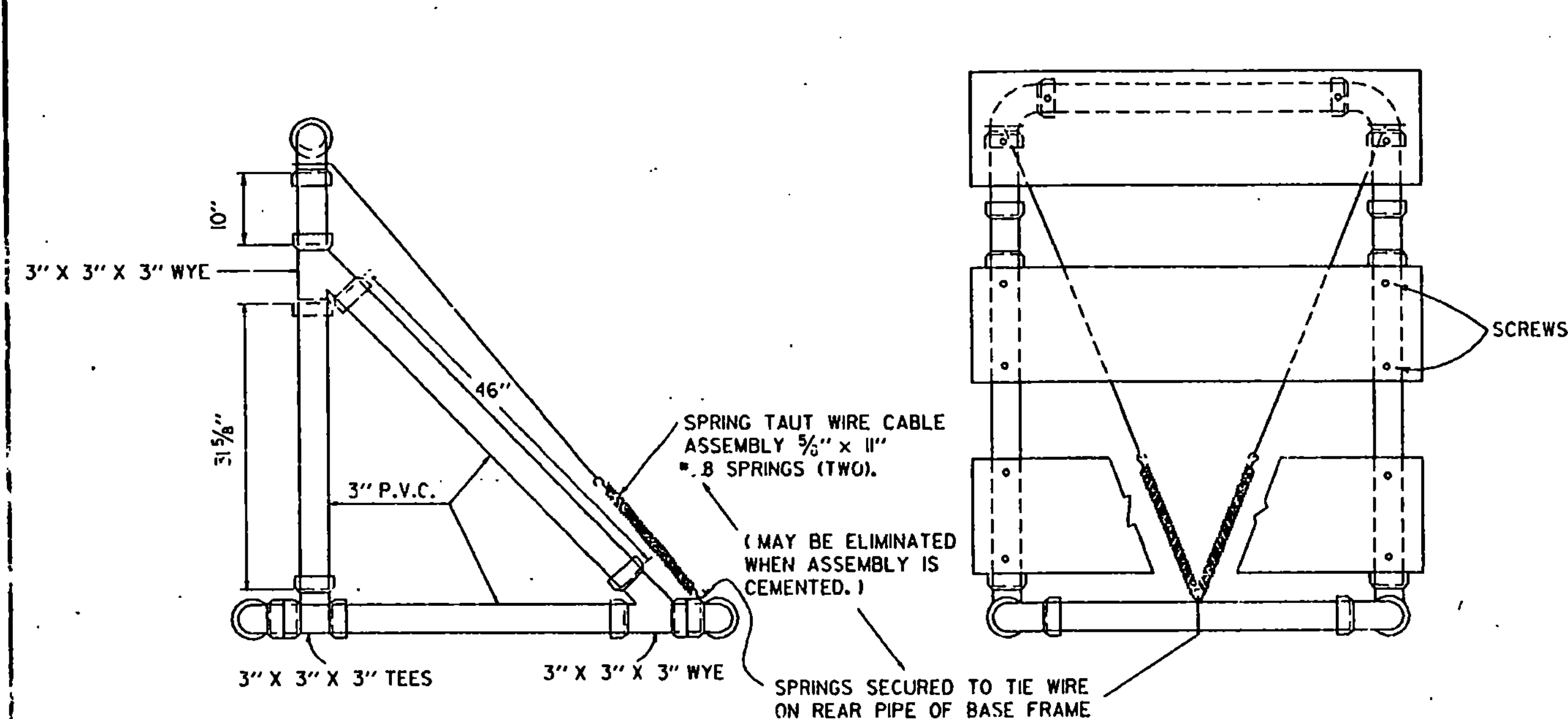
APPROVED

APRIL 22, 1988
DATE
David M. Kelley
CHIEF ENGINEER
Arthur J. Ryan
DIRECTOR OF PLANNING
AND PRECONSTRUCTION
Gordon S. MacArthur
TRAFFIC AND SAFETY ENGINEER

TRAFFIC CONTROL MISCELLANEOUS DETAILS

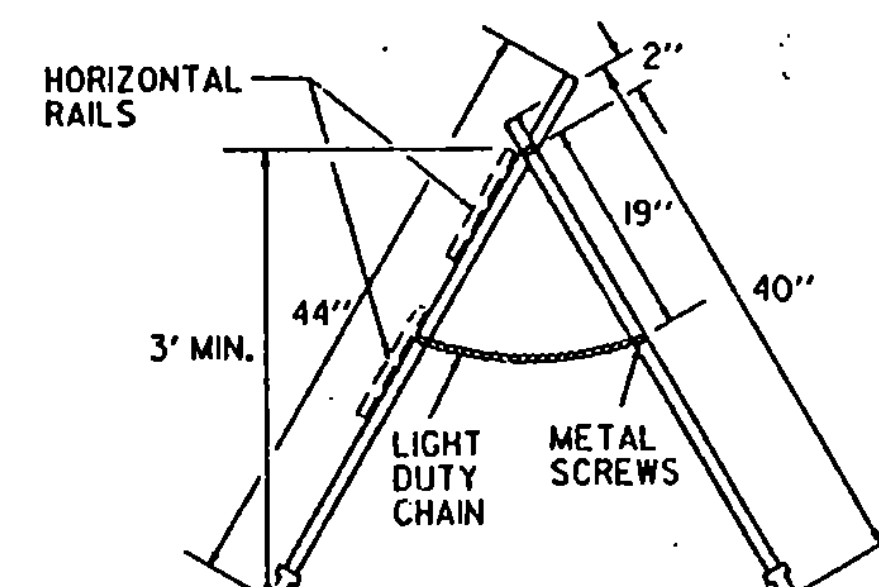
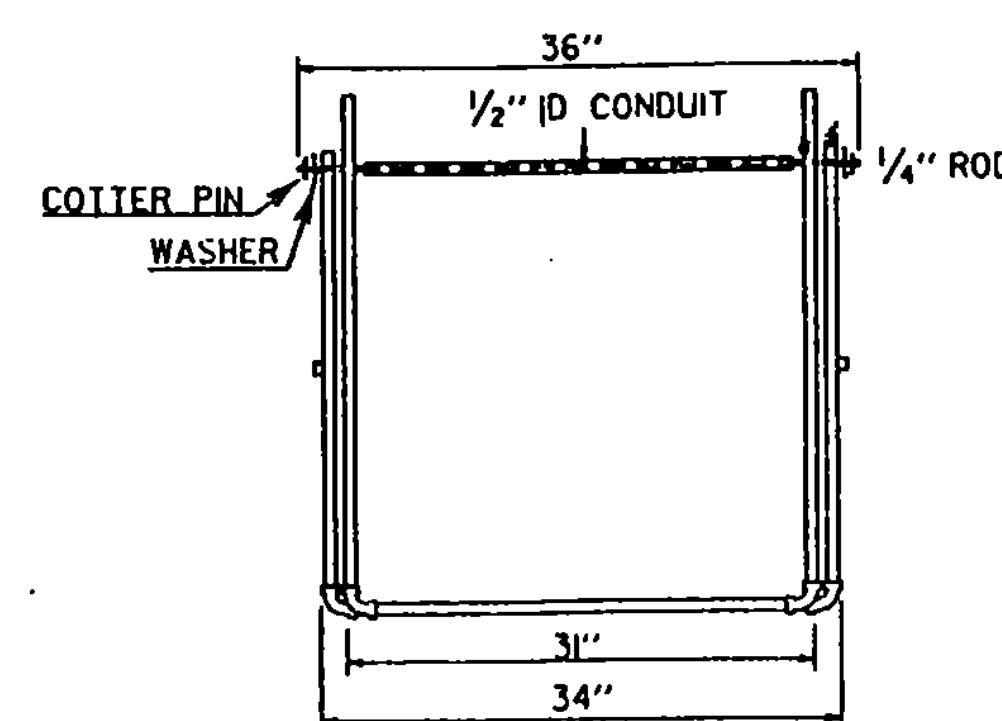


STANDARD
E-106

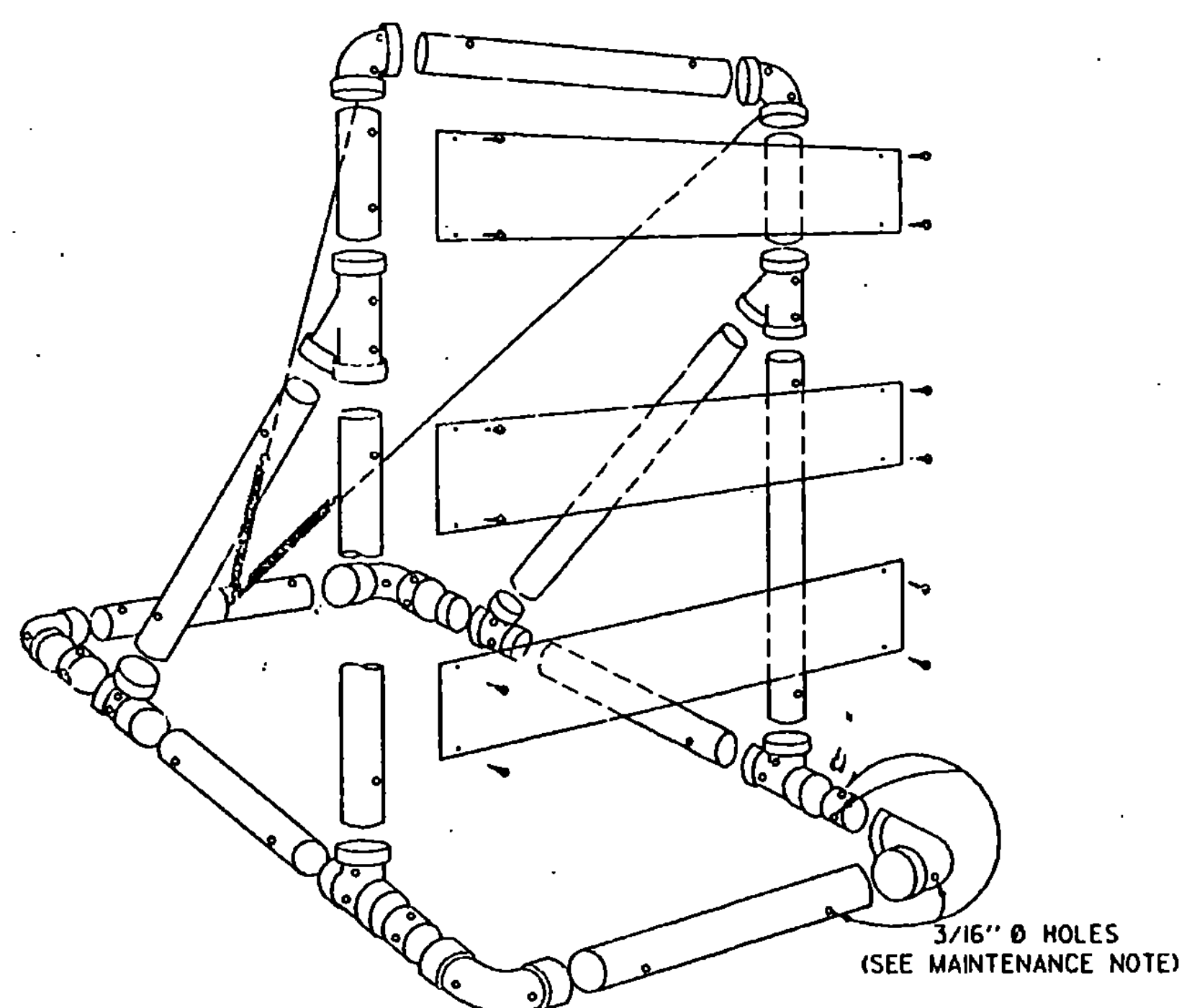


SIDE VIEW
TYPE III BARRICADE

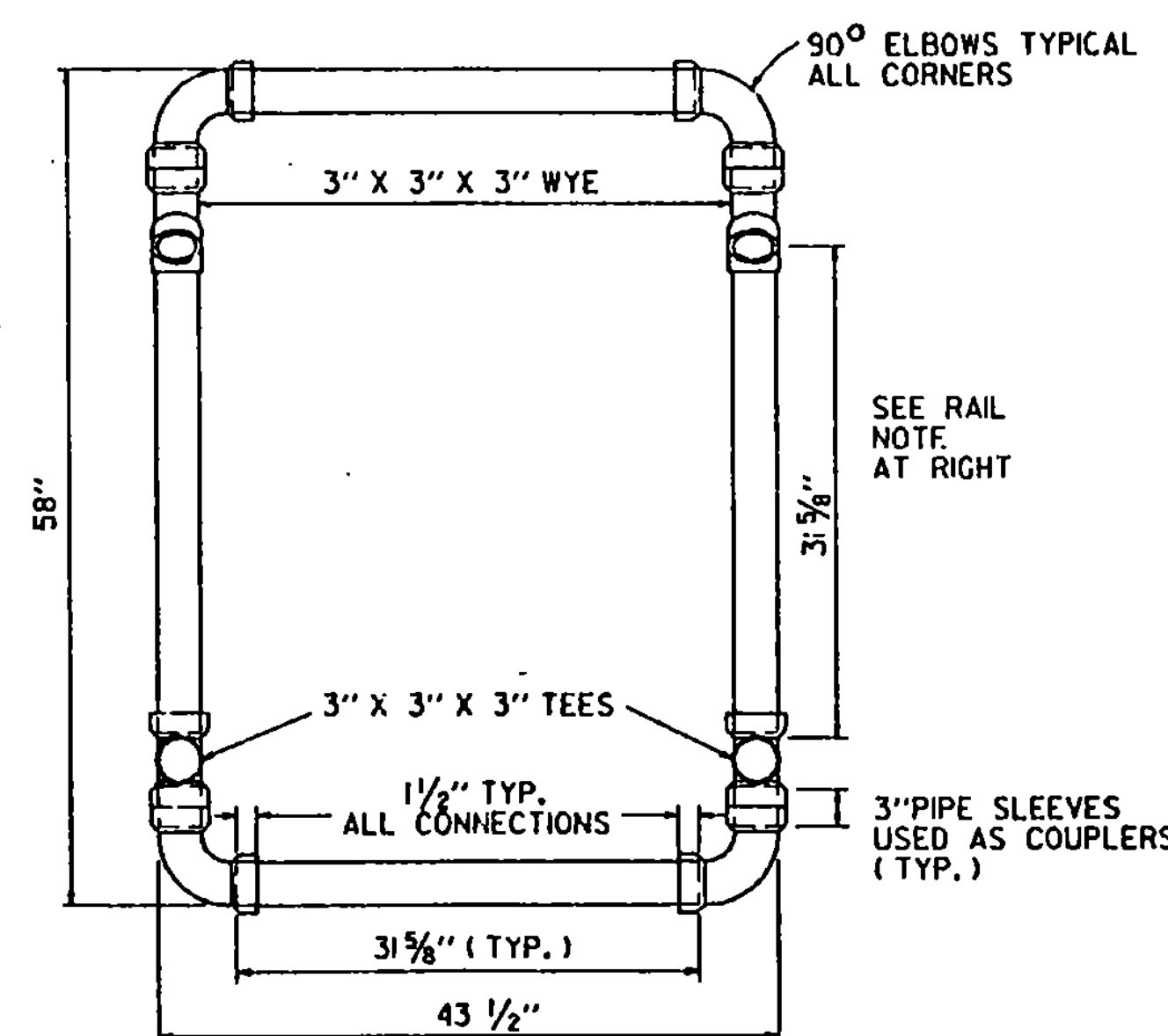
FRONT VIEW
TYPE III BARRICADE



TYPE I AND II BARRICADE DETAIL



TYPE III BARRICADE ASSEMBLY
EXPLODED VIEW



TYPE III BARRICADE
TOP VIEW OF
BASE

MATERIALS FOR TYPE I AND II BARRICADES

- 20' - 1" PVC
- 4 - 1" PVC 90° ELBOWS
- 30' - 1/2" ID THINWALL CONDUIT
- 36' - 1/4" STEEL ROD
- 4 - 1" WASHERS
- 24' - LIGHT DUTY CHAIN
- METAL SCREWS (AS REQUIRED)
- 2 - 3/4" COTTER PINS

MATERIALS FOR TYPE III BARRICADE

- 30' - 3" I.D. PVC PIPE
- 6 - 3" 90° ELBOWS
- 2 - 3" TEES
- 4 - 3" WYES
- 4 - 8" x 48" x 0.025" BARRICADE RAILS
- 2 - 3/8" x 11" .8 SPRING (IF ASSEMBLY IS NOT CEMENTED)
- 12 - 1" # 14 PAN HEAD METAL SCREWS
- 15 LF - # 14 BLACK ANNEALED TIE WIRE (IF ASSEMBLY IS NOT CEMENTED)

MATERIALS

THE PIPE, WYES, TEES AND ELBOWS USED TO CONSTRUCT BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241 FOR P.V.C. 1120 OR 1220 SDR-21, PRESSURE RATING 200 PSI. THE WYES, TEES AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2466, TYPE II, GRADE I. ALL JOINTS SHALL BE SLIP-FIT AND MAY BE LIGHTLY CEMENTED. THE BARRICADE RAILS SHALL BE FABRICATED FROM 0.025" ANODIZED ALUMINUM AND SHALL HAVE REFLECTORIZED ALTERNATING ORANGE AND WHITE STRIPS (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER. THE P.V.C. PIPE AND FITTINGS SHALL BE WHITE IN COLOR. AT LEAST TWO (2) HOLES SHALL BE DRILLED (3/16") IN EACH SECTION OF PIPE AND FITTINGS IF THE ASSEMBLY IS NOT CEMENTED.

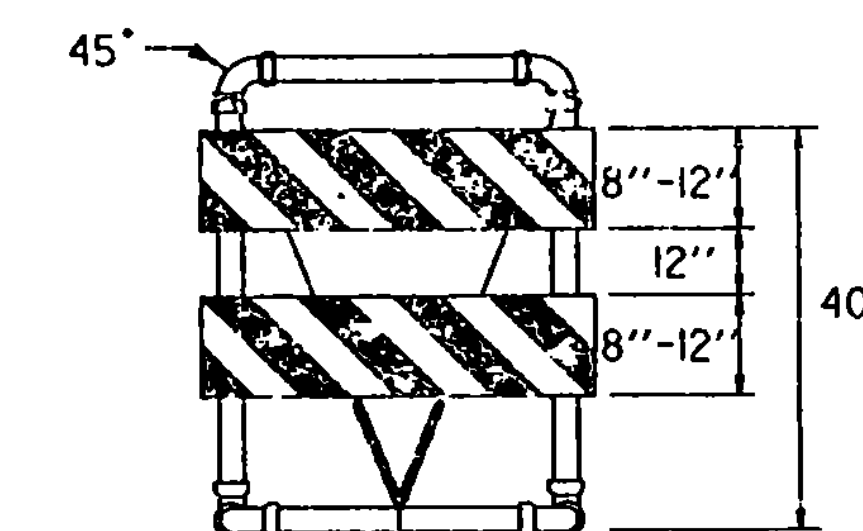
BARRICADES SHALL BE STABILIZED WITH SAND BAGS OF MINIMUM WEIGHT WHICH WILL NOT CONSTITUTE A HAZARD IF THE BARRICADE IS HIT. THESE SHALL BE PLACED ONLY ON THE FRONT AND REAR PIPES OF THE BASE FRAME OF THE BARRICADE. SAND BAG STABILIZERS SHALL BE SO PLACED AS NOT TO BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE. IF BARRICADE REPLACEMENT COSTS CAN BE CONSIDERED NEGLIGIBLE, GLUED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.

TYPE I BARRICADES SHALL UTILIZE ONE HORIZONTAL RAIL.

TYPE II BARRICADES SHALL CONSIST OF AN ADDITIONAL HORIZONTAL RAIL MOUNTED BELOW THE OTHER.

TYPE III BARRICADES (MODIFIED) SHALL CONSIST OF THE BREAKAWAY 3" PVC DESIGN SHOWN ON THIS SHEET WITH THE TWO RAIL LAYOUT DETAILED BELOW.

SEE STD E-107 FOR ADDITIONAL INFORMATION.



TYPE III (MODIFIED) BARRICADE
(STRIPING DOWN WHERE TRAFFIC PASSES ON RIGHT).

SEE STANDARD E-107 FOR RAIL DETAILS.
RAILS ATTACHED WITH 1" NO.14 PAN HEAD METAL SCREWS.

REVISIONS AND CORRECTIONS

APPROVED

SEPT. 10, 1987
DATE

David W. Kelley
CHIEF ENGINEER

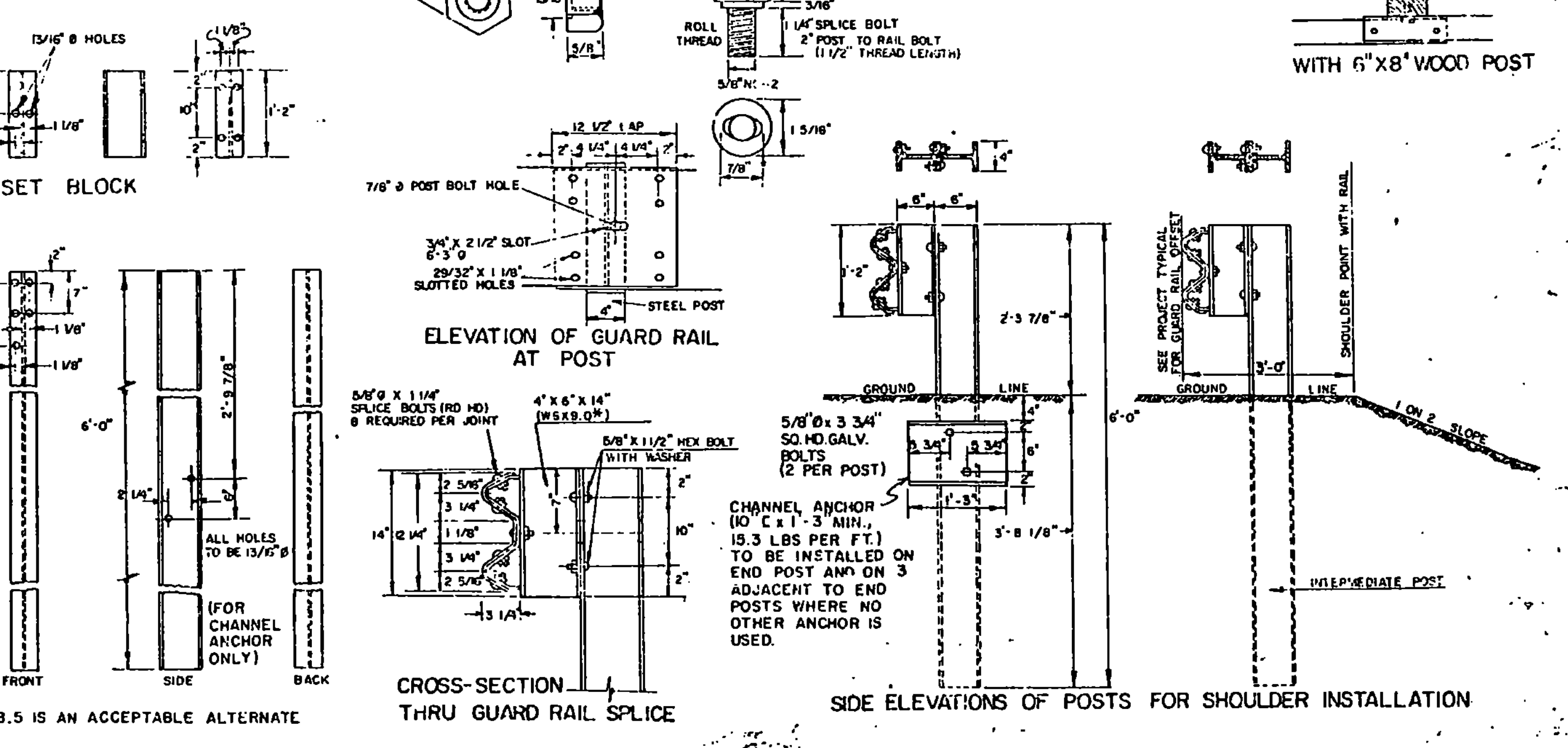
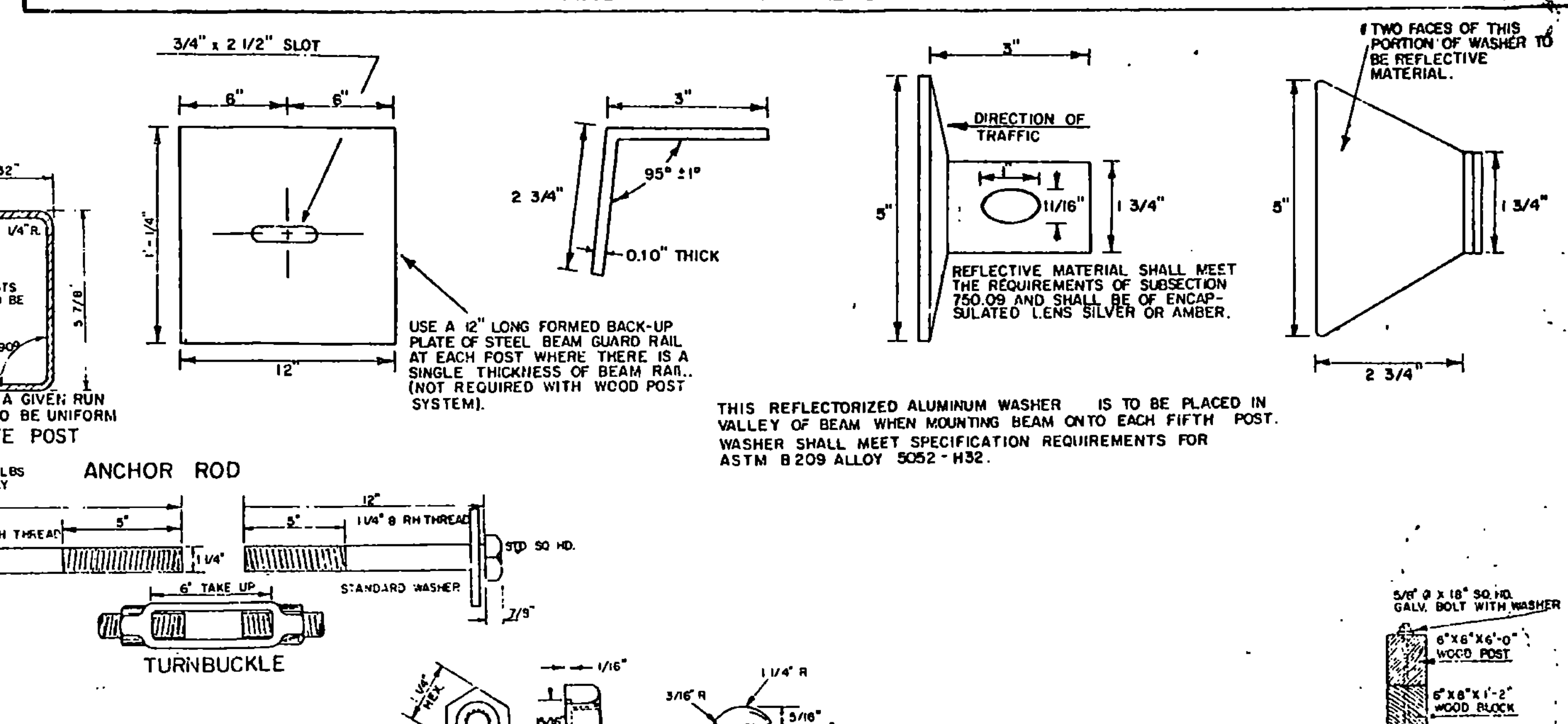
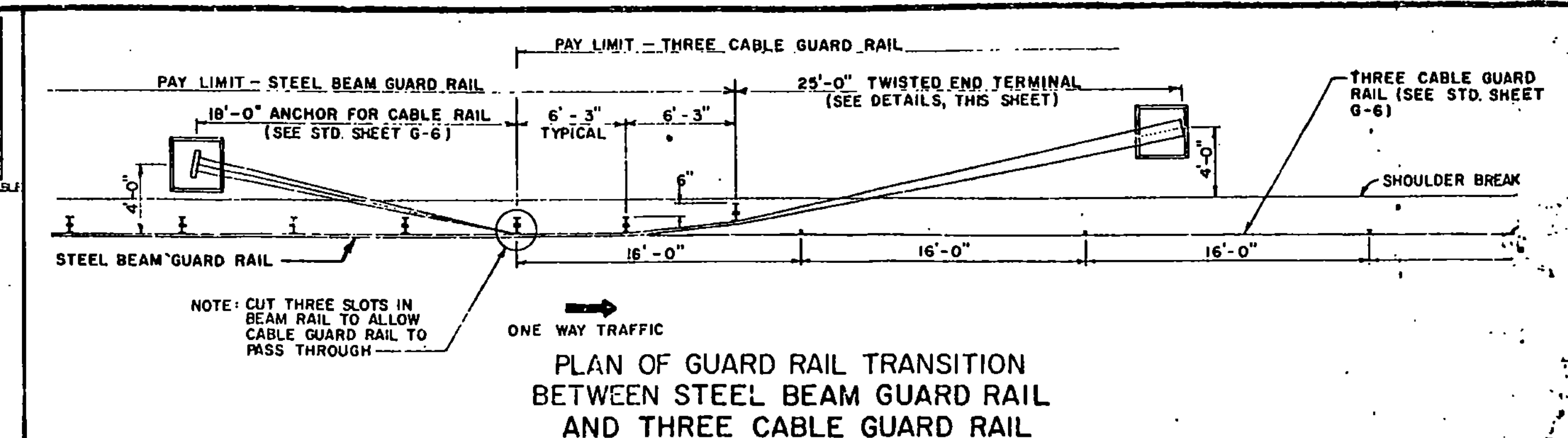
Arthur J. Jones
DIRECTOR OF PLANNING
AND PRECONSTRUCTION

Gordon R. MacArthur
TRAFFIC AND SAFETY ENGINEER

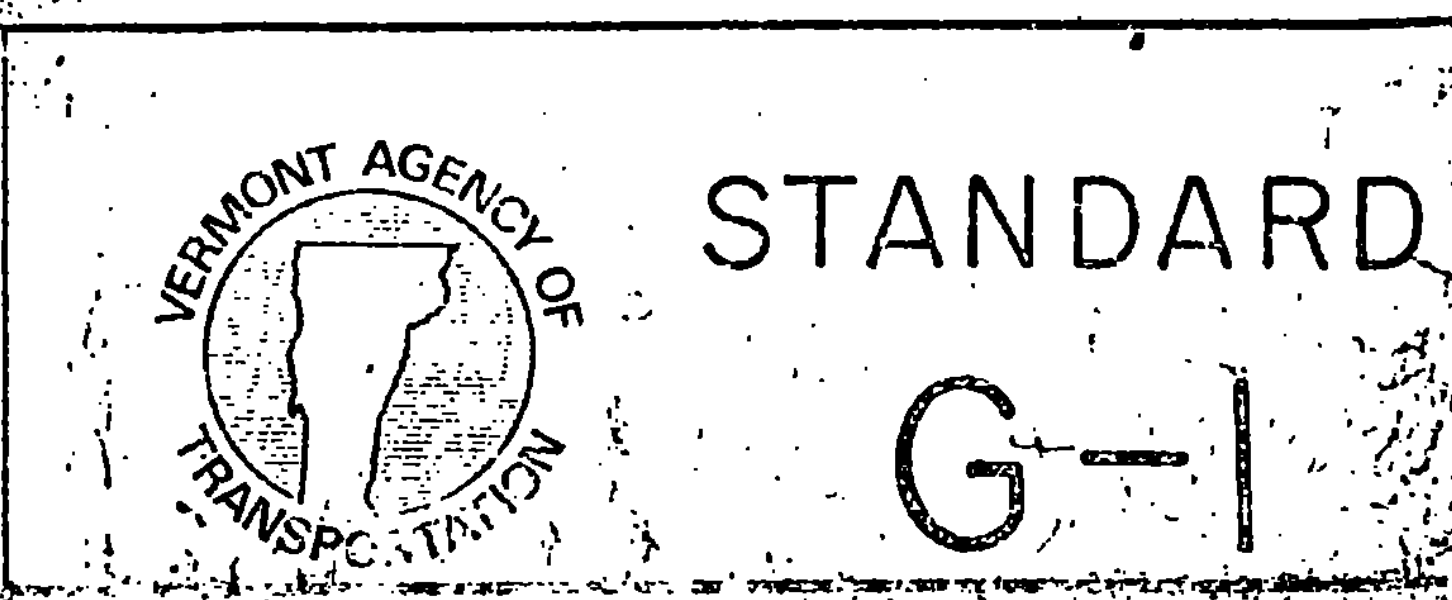
BREAKAWAY BARRICADE DETAILS

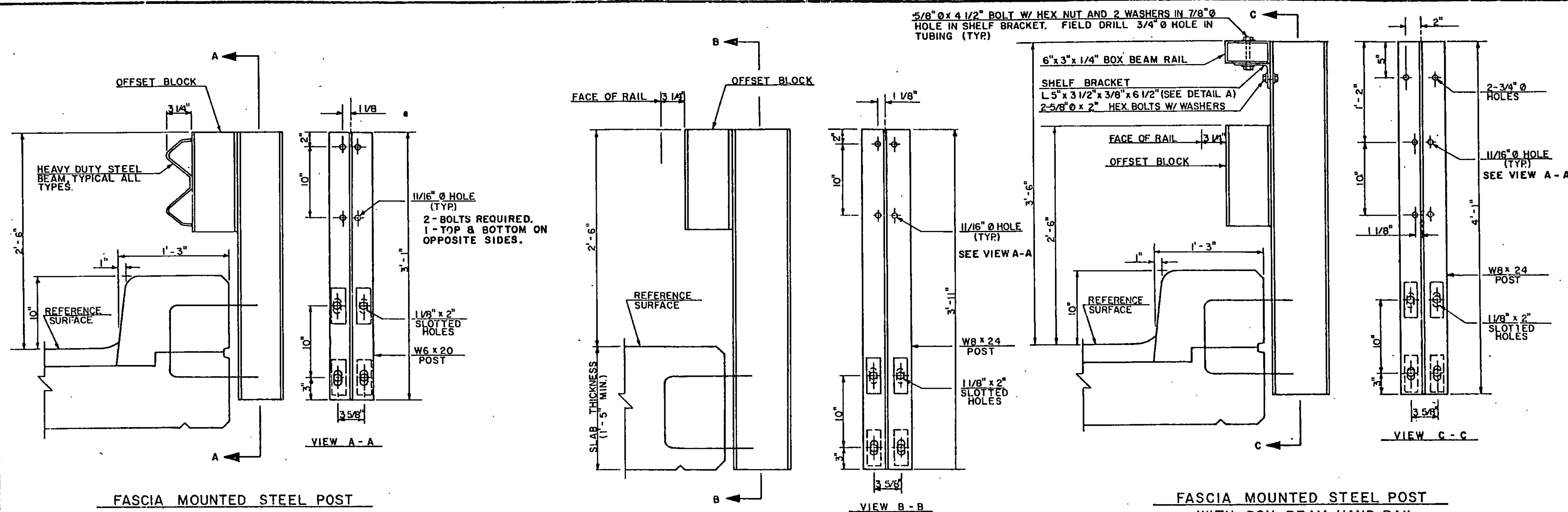


STANDARD
E-107a



STEEL BEAM GUARD RAIL
HEAVY DUTY STEEL BEAM GUARD RAIL
TWISTED END TERMINAL
ANCHOR FOR STEEL BEAM RAIL





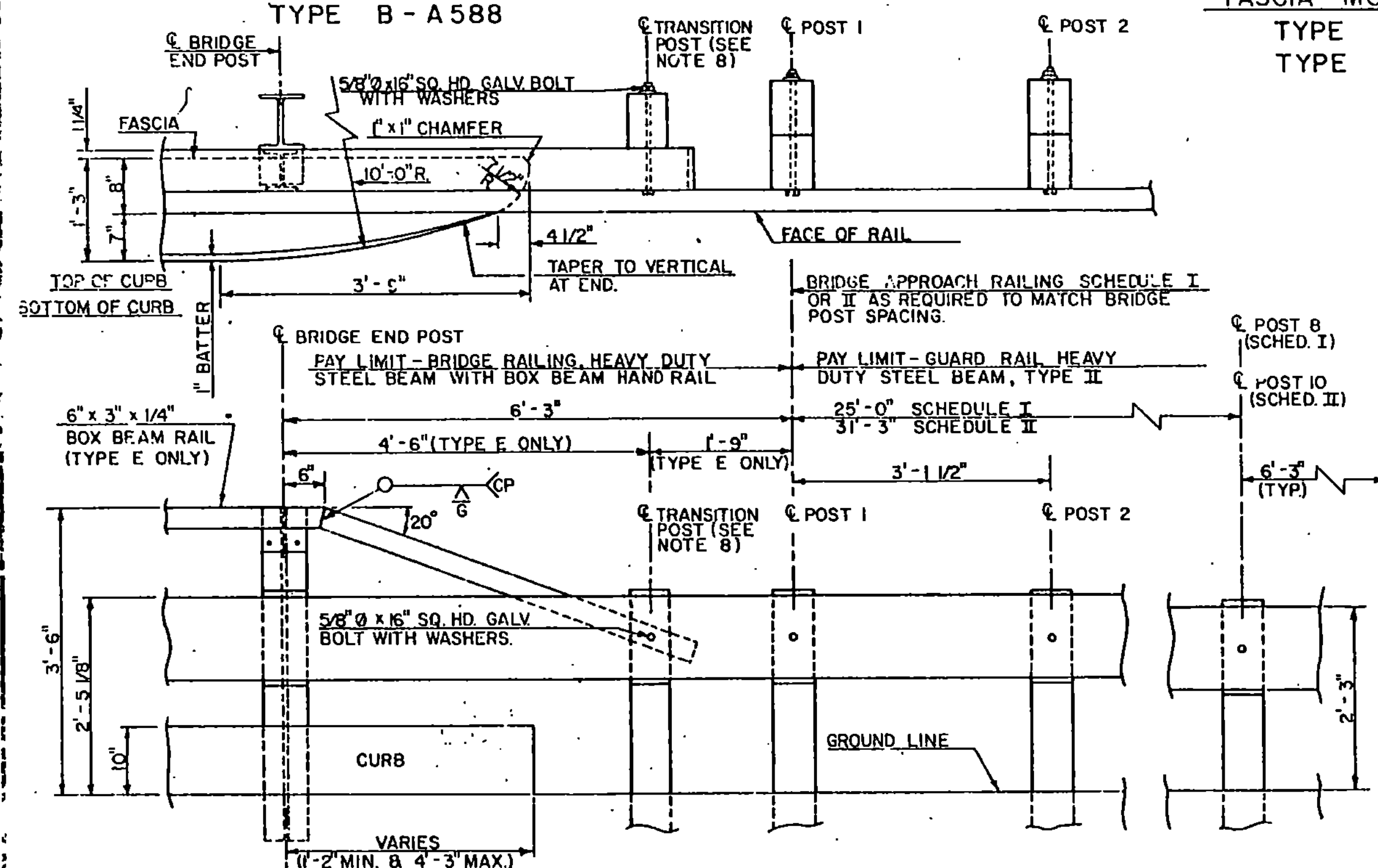
NOTES

- SEE STANDARD DRAWING G-1 & G-1d FOR ADDITIONAL DETAILS OF STEEL BEAM GUARD RAIL AND STANDARD SB-R46-82 FOR ADDITIONAL DETAILS OF BOX BEAM RAIL.
- ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM WITH SECTION 714.16.
- BRIDGE RAIL TYPES A, C, & E: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M 180, CLASS B-TYPE 2. POSTS, BRACKETS AND PLATE WASHER SHALL BE ASTM A 36 STEEL. BOLTS SHALL BE ASTM A 307. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION TO ASTM A123.
- BRIDGE RAIL TYPE B & D: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M 180, CLASS B-TYPE 4. POSTS, BRACKETS & PLATE WASHER SHALL BE ASTM A 588 STEEL. BOLTS SHALL BE ASTM A 325 TYPE III.
- ALL POSTS SHALL BE SET NORMAL TO GRADE.
- BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25 FEET.
- APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR 50 FEET FROM THE END OF THE BRIDGE.
- FOR THE TYPE A, B, C, OR D BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID-POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST I.
- SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
- SEE STANDARD SHEET G-1 FOR DELINEATOR DETAILS AND PLACEMENT.
- ERECT DELINEATOR ON EVERY FIFTH POST OR APPROXIMATELY 30 FEET APART. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.

FASCIA MOUNTED STEEL POST
TYPE A - GALVANIZED
TYPE B - A588

FASCIA MOUNTED STEEL POST
TYPE C - GALVANIZED
TYPE D - A588

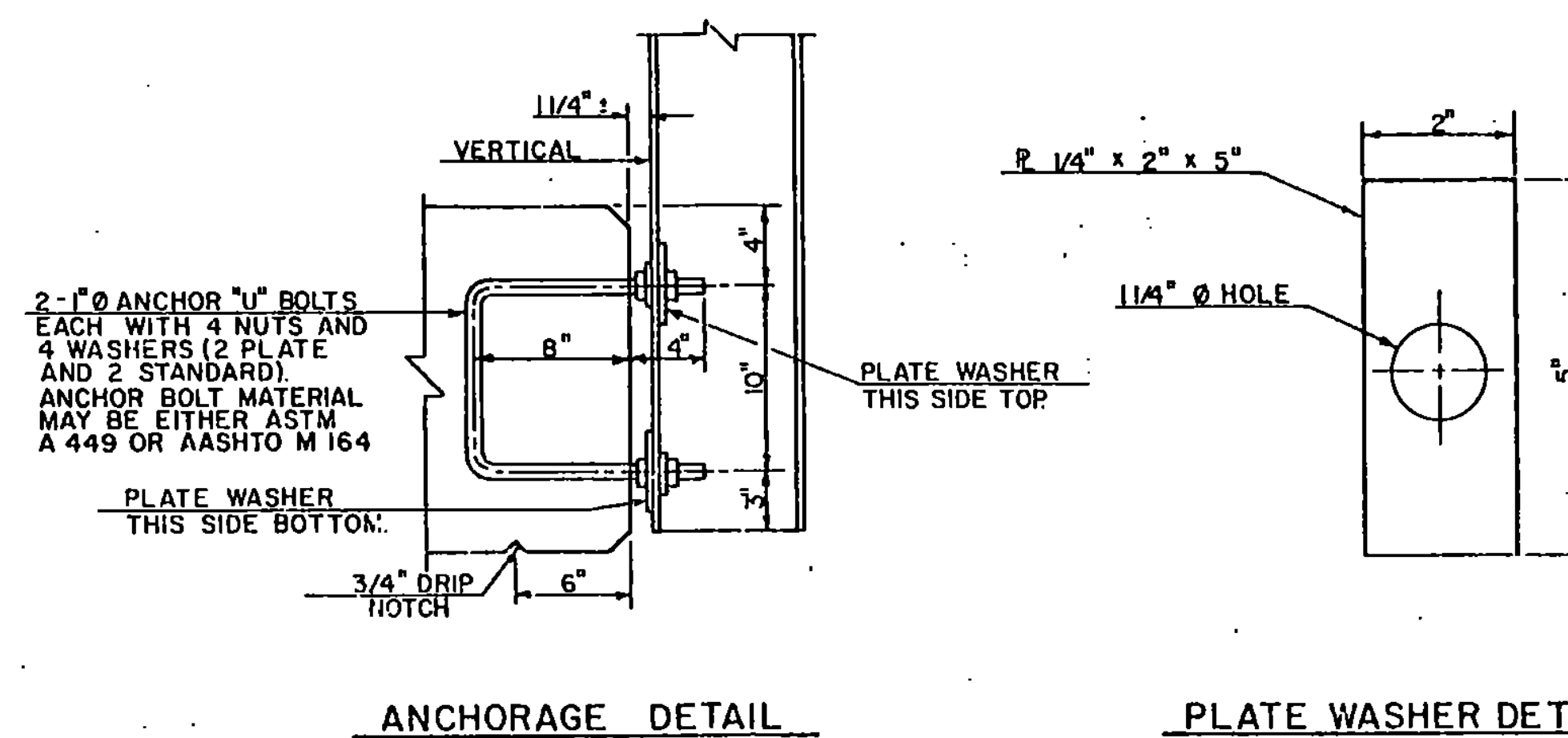
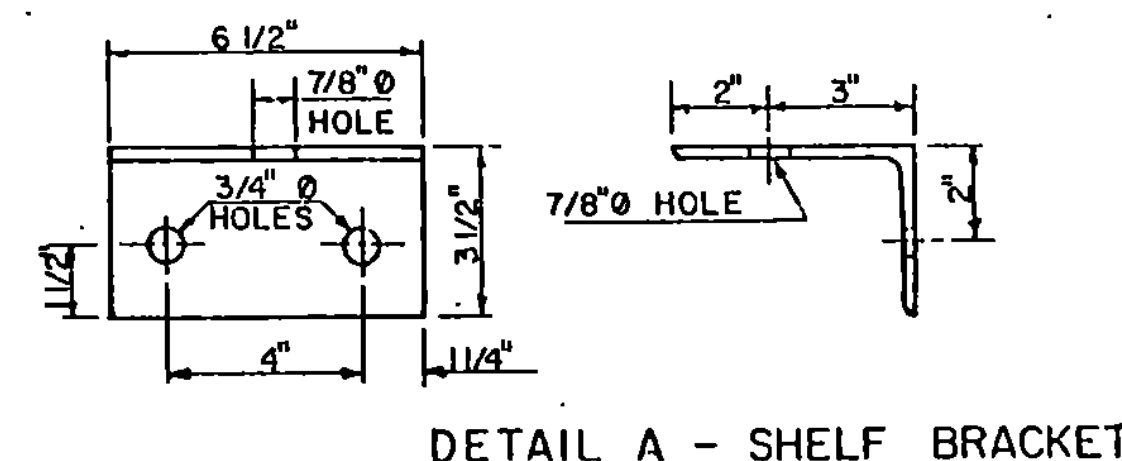
FASCIA MOUNTED STEEL POST
WITH BOX BEAM HAND RAIL
TYPE E - GALVANIZED



BRIDGE APPROACH RAILING
WHEN A RAIL PANEL SPLICE OCCURS AT POST NO. 1 USE SCHEDULE I FOR APPROACH RAILING.
WHEN A RAIL PANEL SPLICE OCCURS AT BRIDGE END POST USE SCHEDULE II FOR APPROACH RAILING.

POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 x 12'-6"
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	4'-2"	1.2 x 12'-6"
6	4'-2"	
7	4'-2"	
8	4'-2"	
9	6'-3" (TYP)	1.0 (TYP)

POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 x 18'-9"
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	3'-1 1/2"	1.2 x 12'-6"
6	3'-1 1/2"	
7	4'-2"	
8	4'-2"	
9	4'-2"	1.0 (TYP)
10	6'-3" (TYP)	
11	6'-3" (TYP)	1.0 (TYP)



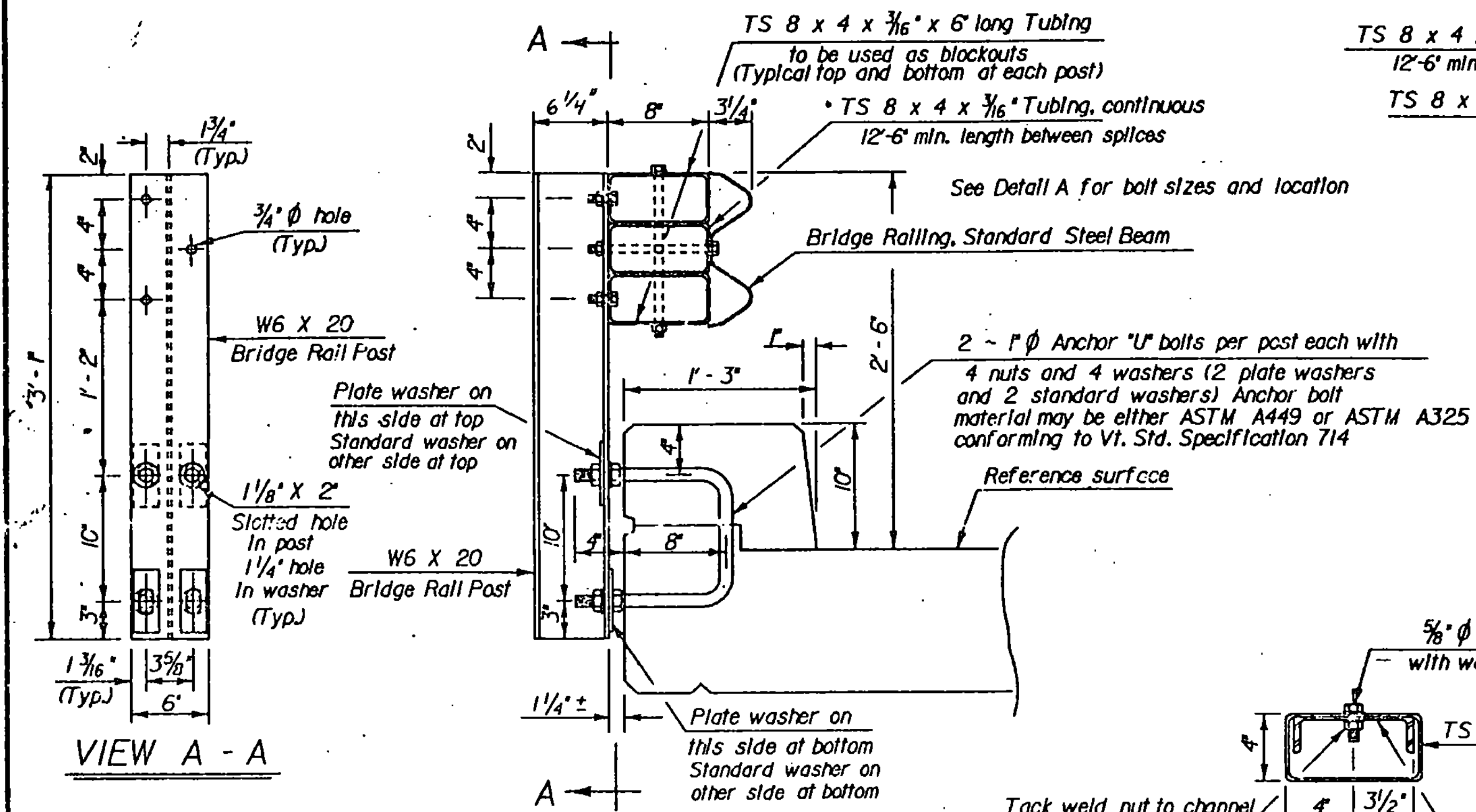
REVISIONS AND CORRECTIONS
REVISION DELINEATORS ADDED D.A.R. 6-18-82
REVISION, BOLTS THRU BOX BEAM RAIL R.S.H. 12-13-84
REVISION, CHANGED BOLT HOLE THROUGH SHELF BRACKET R.S.H. 12-13-84
CLARIFIED OFFSET BLOCK BOLT INSTALLATION H.P.G. 11-13-91.

APPROVED: DECEMBER 28, 1981
DATE
Chief of Design
Structures Engineer
Director of Engineering and Construction

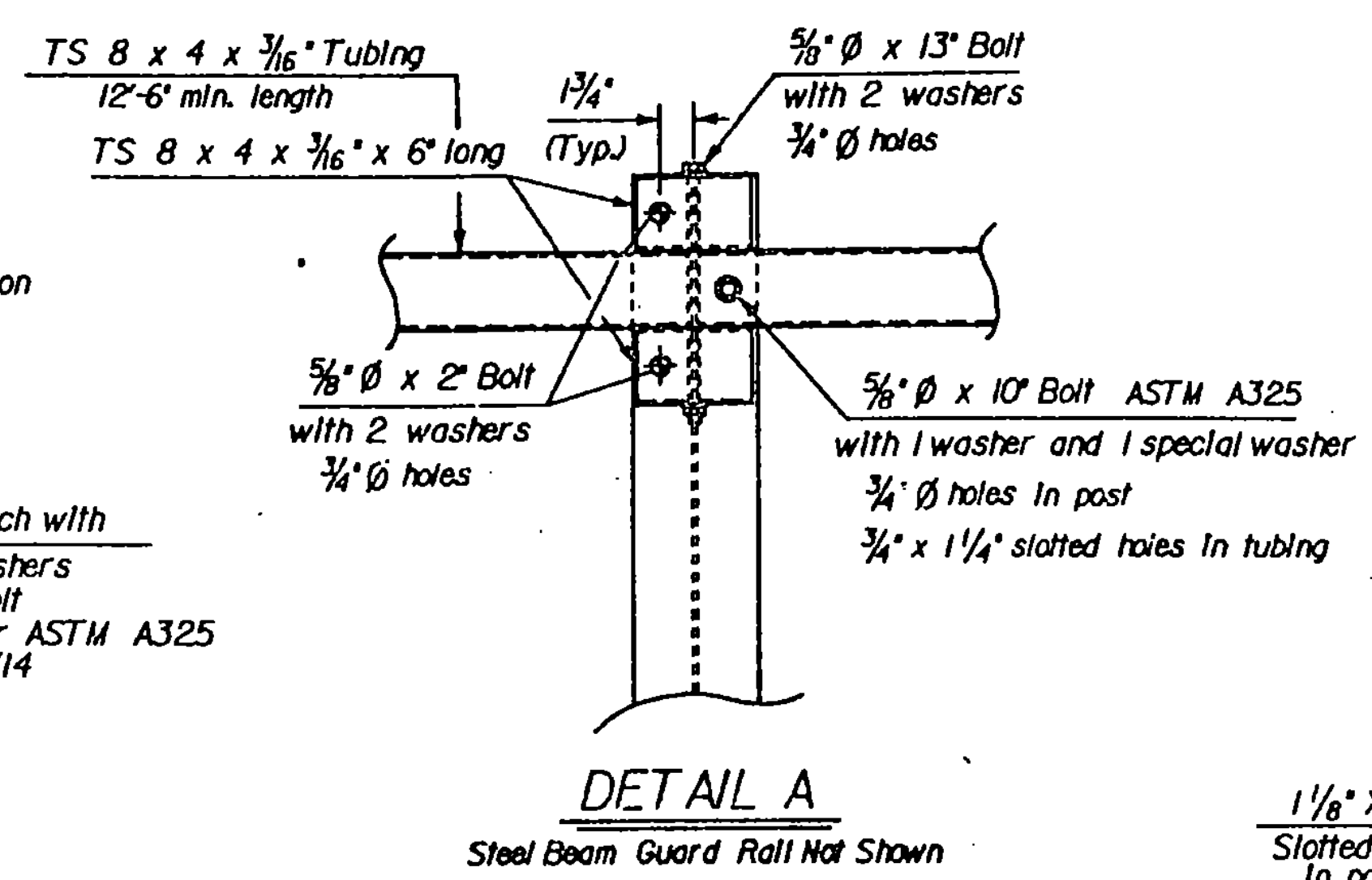
BRIDGE RAILING HEAVY DUTY STEEL BEAM
(TYPE A, TYPE B, TYPE C, AND TYPE D)
BRIDGE RAILING HEAVY DUTY STEEL BEAM
WITH BOX BEAM HAND RAIL (TYPE E)



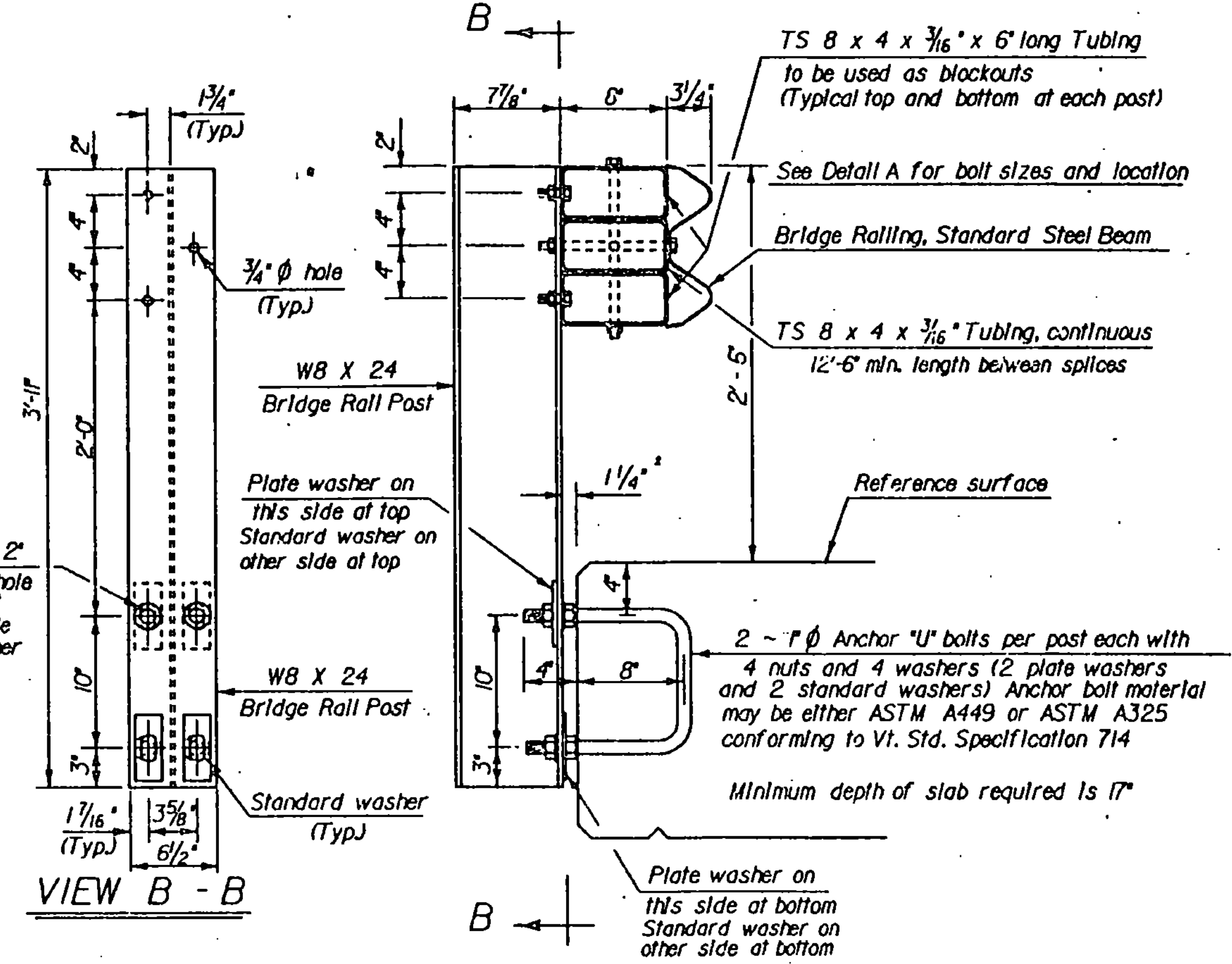
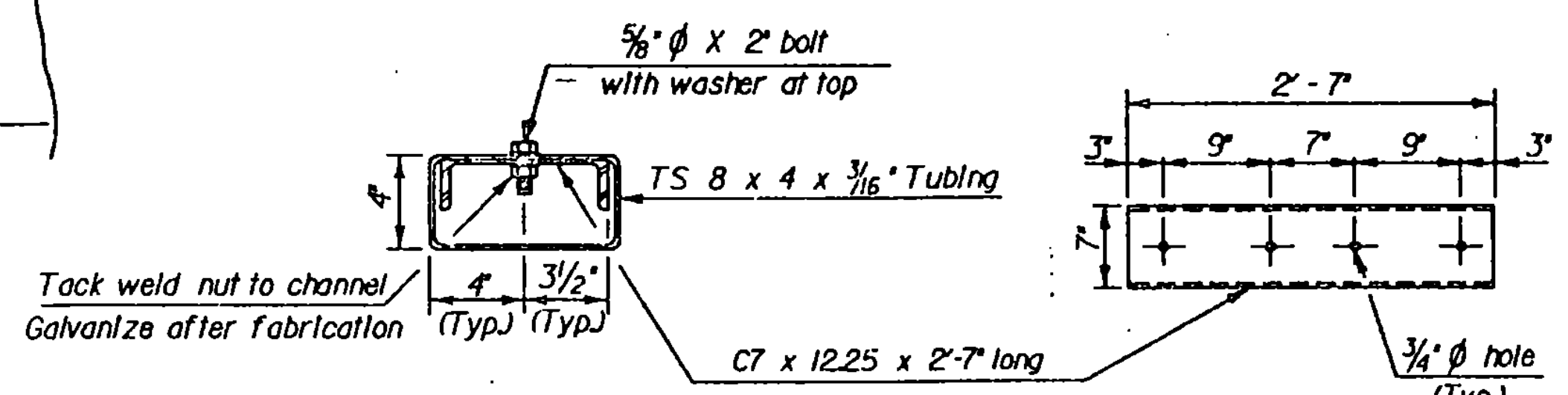
STANDARD
SB-R6-82



FASCIA MOUNTED WITH CURB



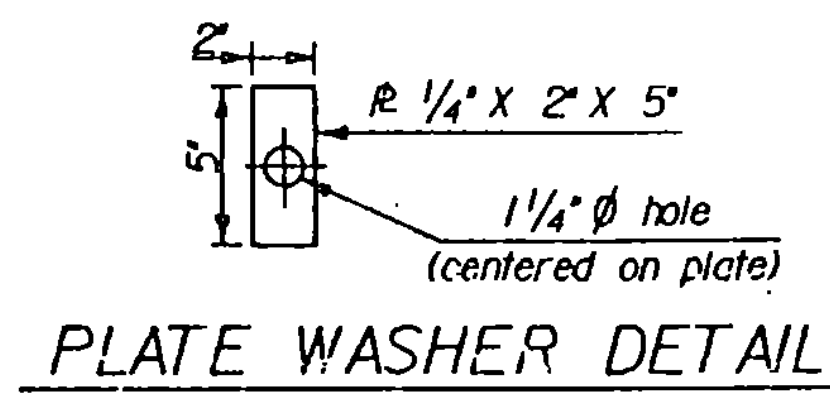
SPLICE BAR DETAILS



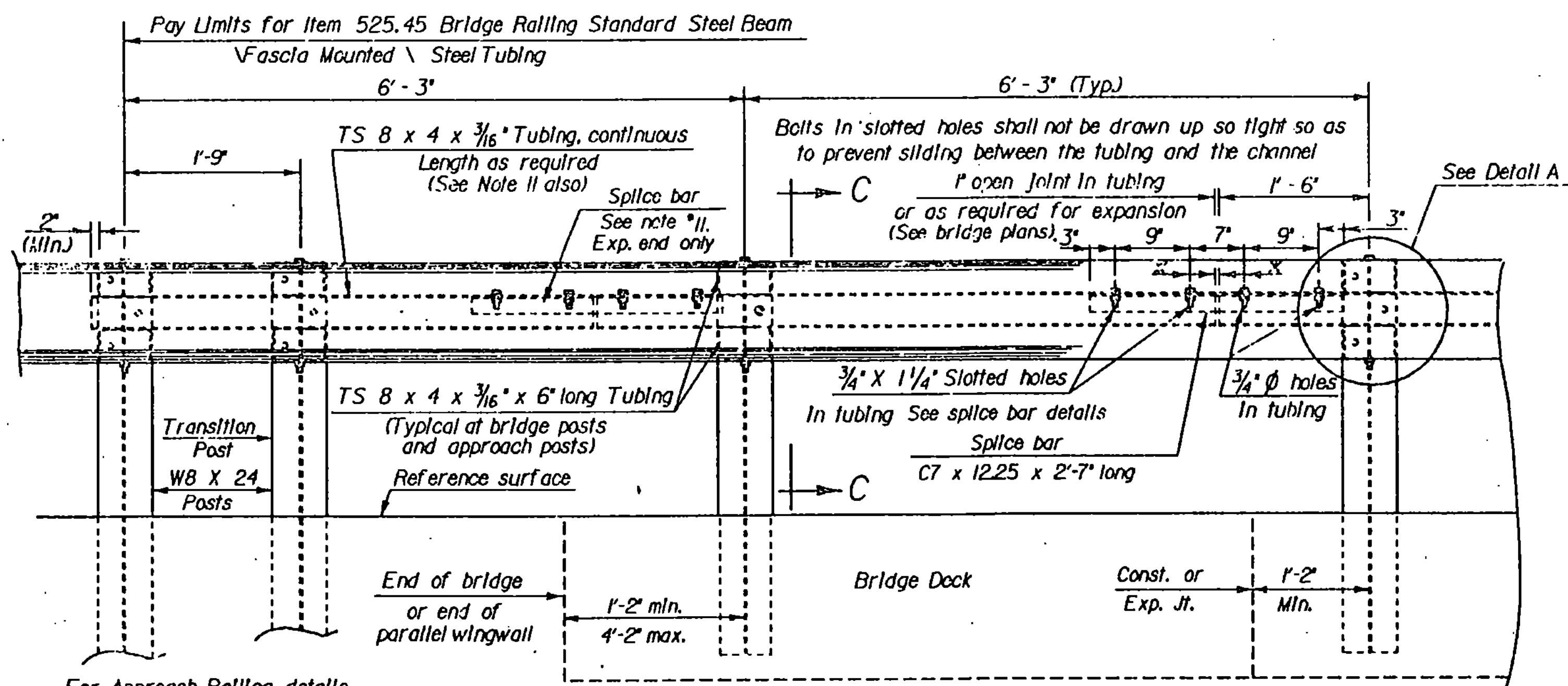
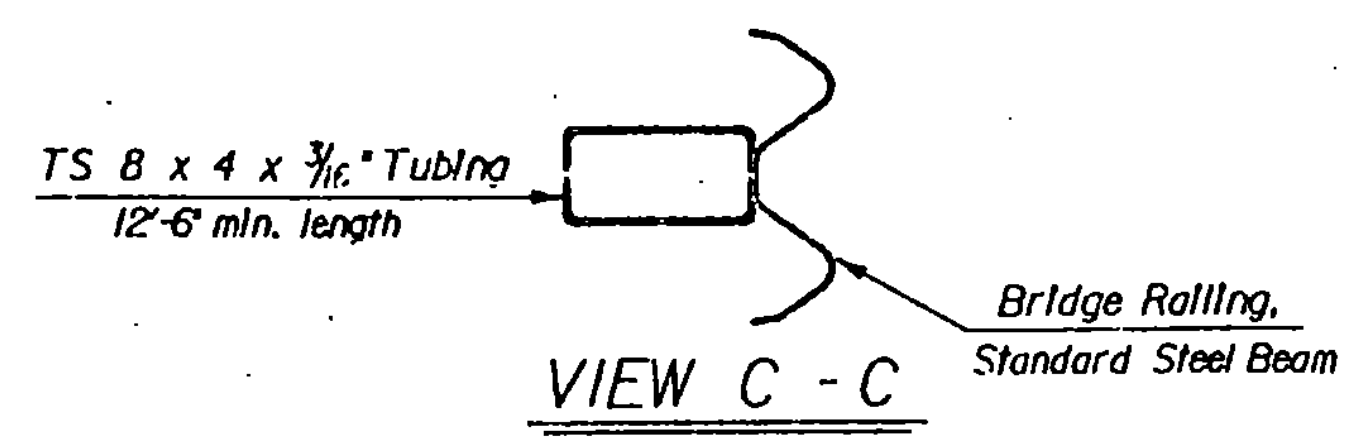
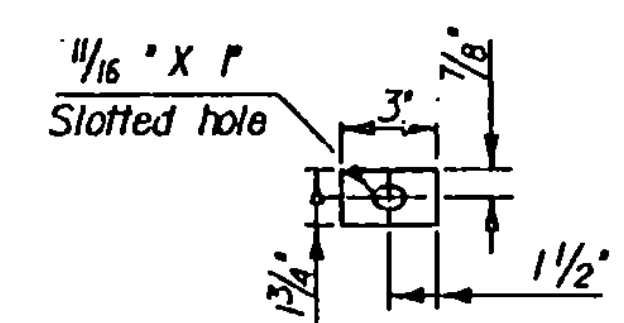
FASCIA MOUNTED WITHOUT CURB

NOTES

1. STANDARD STEEL BEAM GUARD RAIL SHALL CONFORM TO VT. SPECIFICATION 732.
2. STRUCTURAL STEEL TUBING SHALL CONFORM TO VT. SPECIFICATION 732 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (AASHTO M11).
3. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (AASHTO M232) AND SHALL CONFORM TO VT. SPECIFICATION 714 UNLESS OTHERWISE NOTED.
4. BRIDGE RAIL POSTS, PLATE WASHERS AND SPLICE BARS SHALL CONFORM TO VT. SPECIFICATION 728 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (AASHTO M11).
5. ALL BOLTS AND RELATED HARDWARE SHALL CONFORM TO VT. SPECIFICATION 728 GALVANIZED AFTER FABRICATION.
6. SEE STANDARD DRAWING G-1 AND G-1d FOR ADDITIONAL DETAILS CONCERNING GUARD RAIL.
7. SEE STANDARD DRAWING SB-R6-82 FOR APPROACH RAIL DETAILS.
8. ALL POSTS SHALL BE SET NORMAL TO GRADE.
9. SPLICES FOR THE STEEL BEAM GUARD RAIL SHALL LAP IN THE DIRECTION OF TRAFFIC.
10. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE LOCATED AT EVERY FIFTH POST. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.
11. A RAILING JOINT SPLICE SHALL BE PROVIDED AT EACH SUPERSTRUCTURE EXPANSION JOINT.
12. ALL FIELD CUT OR DRILLED AREAS SHALL BE COATED WITH ZINC RICH PAINT.
13. FOR RADII LESS THAN 950 FEET, THE STEEL TUBING SHALL BE SHOP BENT TO FIT THE APPLICABLE CURVE.
14. THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING ON THIS STANDARD.



DETAIL OF SPECIAL WASHER

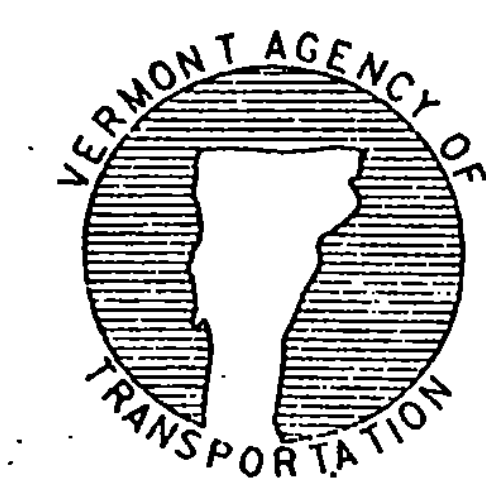


RAILING ELEVATION VIEW (SHOWN LOOKING FROM Q WITHOUT CURB)

REVISIONS AND CORRECTIONS
THE WIDTH OF THE W6 X 20 BRIDGE POST WAS
CHANGED FROM 7 1/4" TO 6 1/4" - 3/10/92.

APPROVED
April 16, 1991
DATE
Director of Construction and Maintenance
Director of Planning and Preconstruction
Structures Engineer

BRIDGE RAILING, STANDARD STEEL BEAM
/FASCIA MOUNTED/ STEEL TUBING



STANDARD
SB-R7-90