

93

"AS BUILT"

FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 1 OF 46

D-93-012-00

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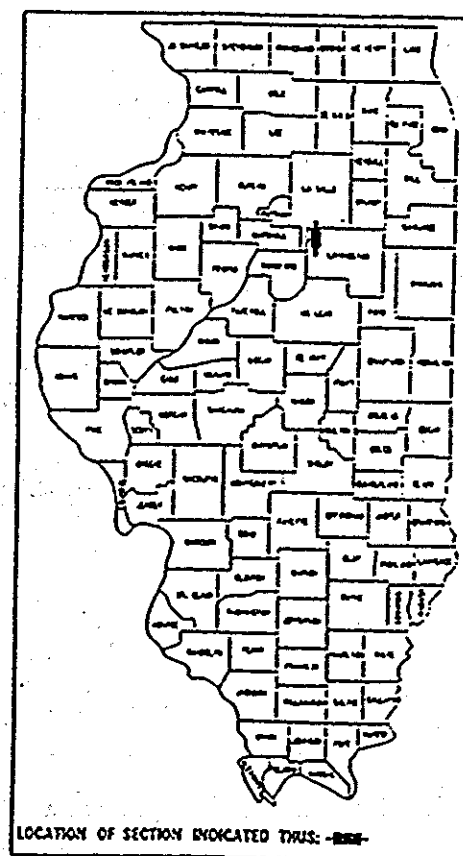
STANDARDS

- 420001 -02 PAVEMENT JOINTS
- 701321 -03 LANE CLOSURE, 2-L, 2-W, BRIDGE REPAIR FOR SPEEDS
≥ 45 MPH
- 702001 -01 TRAFFIC CONTROL DEVICES
- 704001 TEMPORARY CONCRETE BARRIER
- 780001-01 TYPICAL PAVEMENT MARKINGS

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED HIGHWAY

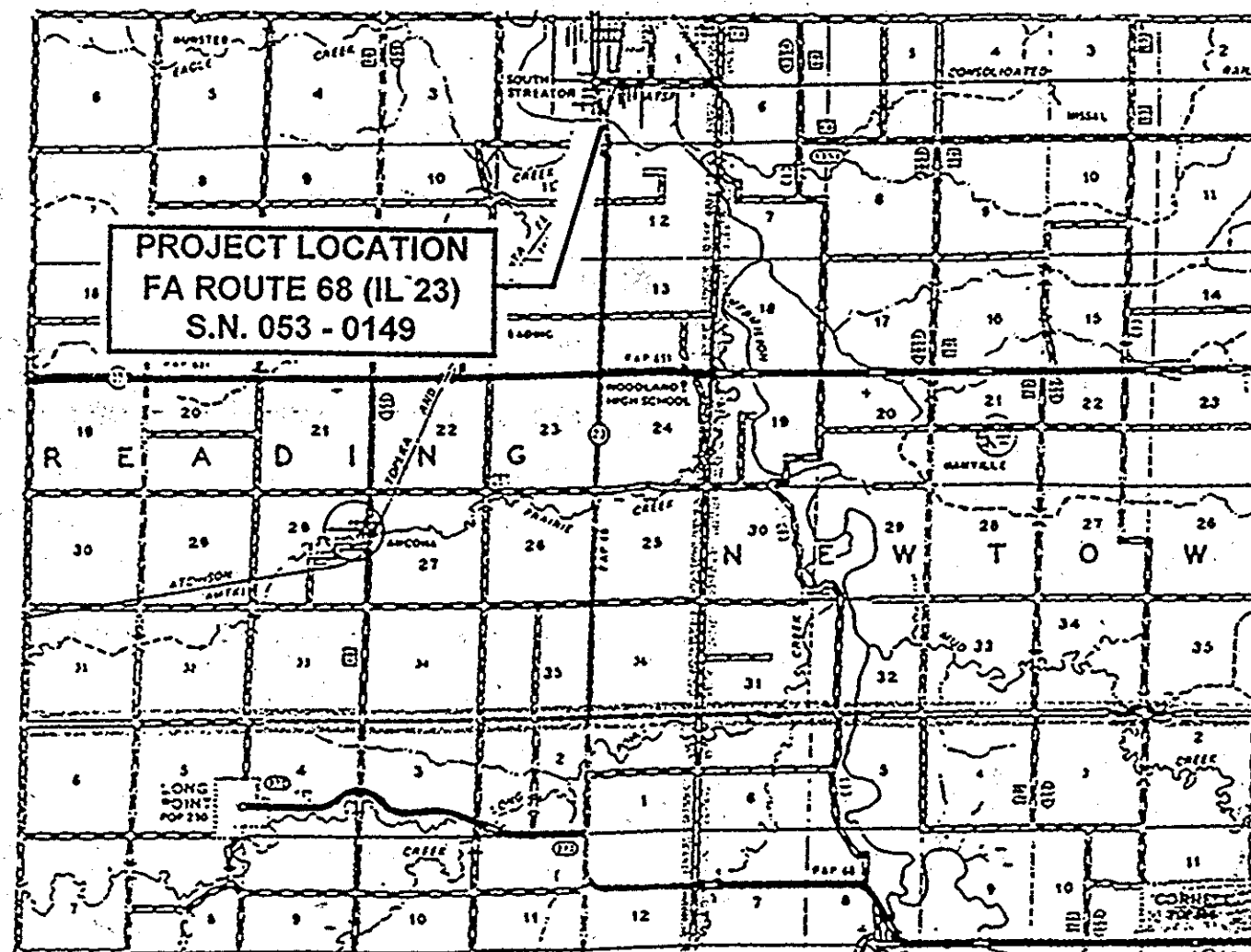
FAP ROUTE 68 (IL 23)
SECTION (37, 101)BVB-1
LIVINGSTON COUNTY
C-93-139-99

3-157



2000 ADT 5900
%P.V. 92.0 %S.U. 2.2 %M.U. 6.8

RESIDENT ENGINEER STEVEN J. SCHINDLER
MARCH 12, 2001- MAY 30, 2001



I.D.O.T. Dist.#3: (815) 434-6131
JULIE (800) 892-0123
PROJECT ENGINEER: TOM SCHAEFER (815) 434-8446
SQUAD CHIEF: ROYCE DAVIS (815) 434-8419
TOWNSHIP: READING
CONTRACT NO.: 86956

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

SUBMITTED 4/19 2000
James J. Jacobson
DISTRICT ENGINEER
May 12, 2000
Michael Nine
ENGINEER OF DESIGN AND ENVIRONMENT
May 12, 2000
James C. Sliemers
DIRECTOR, DIVISION OF HIGHWAYS

"AS BUILT" AS BUILT

GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED IN THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE JULIE NUMBER IS 800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCE NOTICE IS REQUIRED.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

UNLESS DIRECTED BY THE ENGINEER, PAVEMENT MARKING LINES SHALL NOT BE LAID DIRECTLY OVER A LONGITUDINAL CRACK OR JOINT NOR OVER A TAR OR ASPHALT PAINTED LINE. THE EDGE OF A CENTERLINE OR LANE LINE SHALL BE OFFSET A MINIMUM DISTANCE OF 2" FROM LONGITUDINAL CRACK OR JOINT. EDGE LINES SHALL BE APPROXIMATELY 2" FROM THE EDGE OF PAVEMENT.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

BITUMINOUS SHOULDERS
BITUMINOUS MATERIALS PRIME COAT

112 POUNDS/SQ YD/IN
0.08 GALS/SQ YD

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: *James L. Muehlen*
DISTRICT OPERATIONS ENGINEER

DATE:

EXAMINED BY: *Hubert K. Jung*
DISTRICT CONSTRUCTION ENGINEER

Lyle Schaefer
DISTRICT STUDIES & PLANS ENGINEER

Herbert R. Long
DISTRICT MATERIALS ENGINEER

SUMMARY OF QUANTITIES

100%
STATE

CONSTRUCTION CODE TYPE: - SFTY-2A

FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 3 OF 46

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RURAL
				LIVINGSTON COUNTY SN 053-0149
20200100	EARTH EXCAVATION	CU YD	13	13
20700220	POROUS GRANULAR EMBANKMENT	CU YD	32	32
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GAL	12	12
40600850	BITUMINOUS CONCRETE SURFACE CSE. MIX D, CL I, TY 2	TON	335	335
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	158	158
44000700	APPROACH SLAB REMOVAL	SQ YD	160	160
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	3835	3835
44000920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQ YD	133	133
48200600	BITUMINOUS SHOULDERS 8"	SQ YD	133	133
48301000	PROTECTIVE COAT	SQ YD	74	74
50102400	CONCRETE REMOVAL	CU YD	34	34
50200100	STRUCTURE EXCAVATION	CU YD	19	19
50300255	CONCRETE SUPERSTRUCTURE	CU YD	39	39
50300330	ELASTOMERIC BEARING ASSEMBLY, TYPE III	EACH	12	12
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5320	5320
51205200	TEMPORARY SHEET PILING	SQ FT	91	91
51500200	RELOCATING NAME PLATES	EACH	1	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	3787	3787
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	152	152
66101100	BITUMINOUS CONCRETE CURB	FOOT	76	76
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4
67100100	MOBILIZATION	L SUM	1	1
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70400100	TEMPORARY CONCRETE BARRIER	FOOT	590	590
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	618	618
70400300	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	4	4
* 78001110	PAINT PAVEMENT MARKING LINE 4"	FOOT	3544	3544
* 78001130	PAINT PAVEMENT MARKING LINE 6"	FOOT	443	443
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	12	12
X0321781	MECHANICAL SPLICE	EACH	96	96
X4067400	QC/QA BITUMINOUS	TON	395	395
X5050715	JACK AND REMOVE EXISTING BEARINGS	EACH	12	12
Z0002600	BAR SPLICERS	EACH	50	50
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	96	96
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1
Z0022400	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	102	102
⊙ Z0056200	SAND MODULE IMPACT ATTENUATOR RELOCATE	EACH	36	36
⊙ Z0056400	SAND MODULE IMPACT ATTENUATOR (TEMPORARY)	EACH	36	36

⊙ SFTY-3N

* SPECIALTY ITEMS

BITUMINOUS SCHEDULE

STAGE	BITUMINOUS CONCRETE REMOVAL (DECK)	BITUMINOUS SHOULDER REMOVAL	WATERPROOFING MEMBRANE SYSTEM	BITUMINOUS MATERIALS PRIME COAT	BITUMINOUS CONCRETE SURFACE CSE MIX D, CL I, TY 2	BITUMINOUS SHOULDER 8"	BITUMINOUS CONCRETE CURB
	SQ YD	SQ YD	SQ YD	GAL	TON	SQ YD	FOOT
STAGE I	2017	66.5	1903	6	168	66.5	38
STAGE II	1818	66.5	1884	6	167	66.5	38
TOTAL	3835	133	3787	12	335	133	76

PAVEMENT MARKING SCHEDULE

LOCATION	PAINT PAVEMENT MARKING LINE 4"	PAINT PAVEMENT MARKING LINE 6"	RAISED REFLECTIVE PVMT MARKER REMOVAL
	FOOT	FOOT	EACH
STAGE I	1772	0	12
STAGE II	1772	443	0
TOTAL	3544	443	12

CONCRETE BARRIER SCHEDULE

STAGE	TEMPORARY CONCRETE BARRIER	TEMPORARY CONCRETE BARRIER TERMINAL SEC.	RELOCATE TEMPORARY CONCRETE BARRIER
	FOOT	EACH	FOOT
STAGE I	590	4	
STAGE II			618
TOTAL	590	4	618

EARTHWORK SCHEDULE

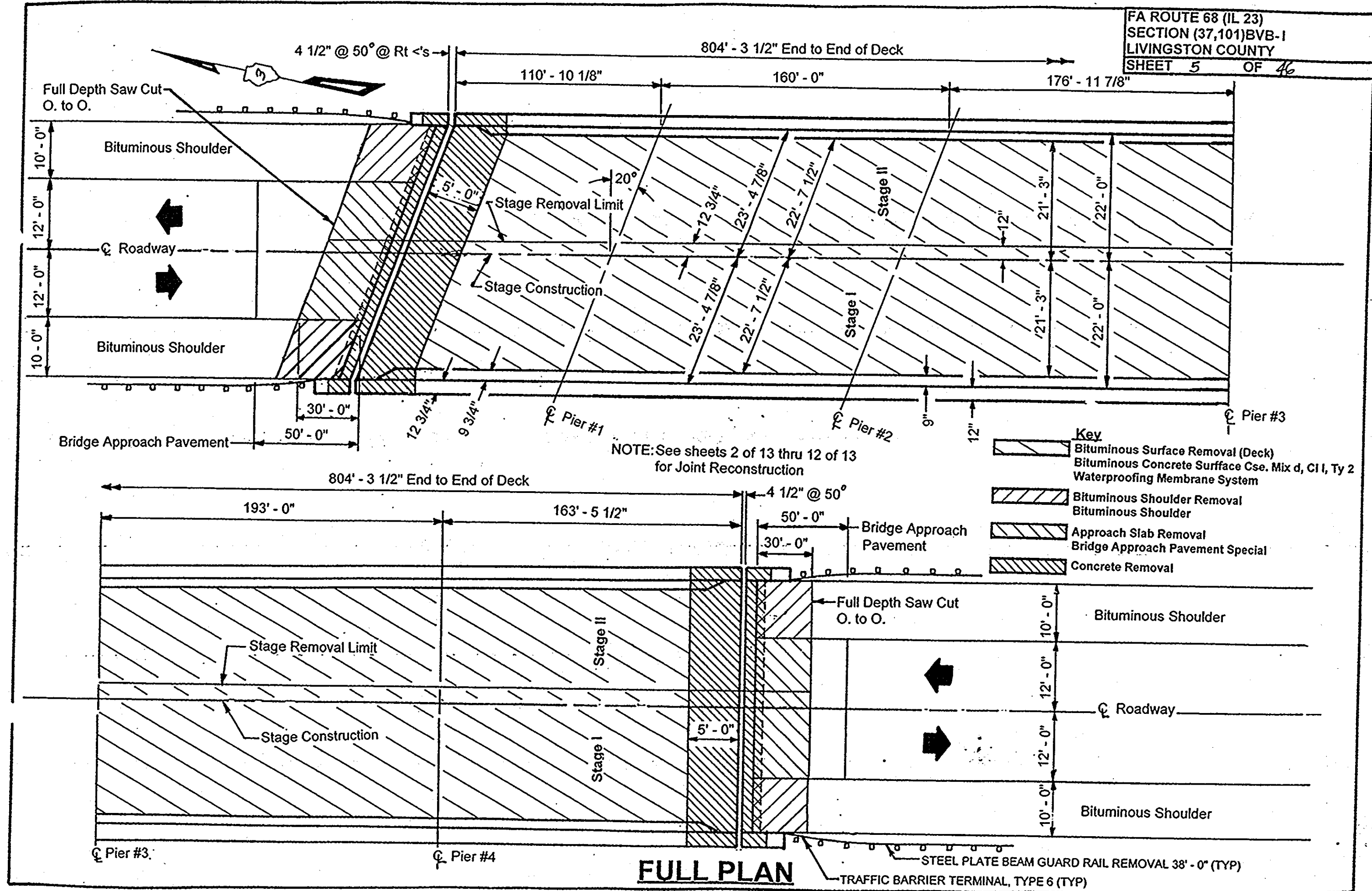
STAGE	EARTH EXCAVATION	STRUCTURE EXCAVATION	POUROUS GRANULAR EMBANKMENT
	CU YD	CU YD	CU YD
STAGE I	7	9.9	17
STAGE II	6	9.1	15
TOTAL	13	19	32

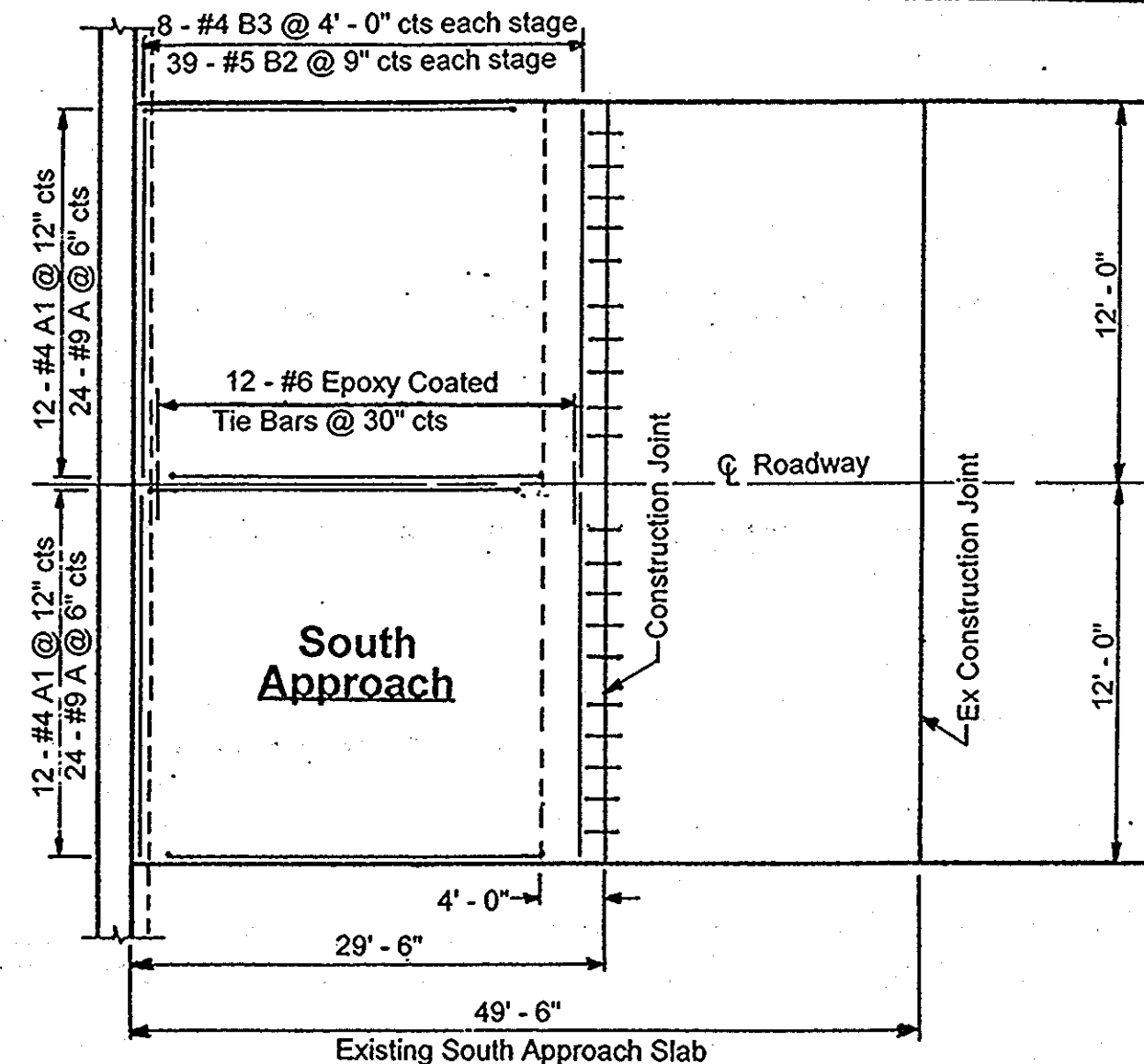
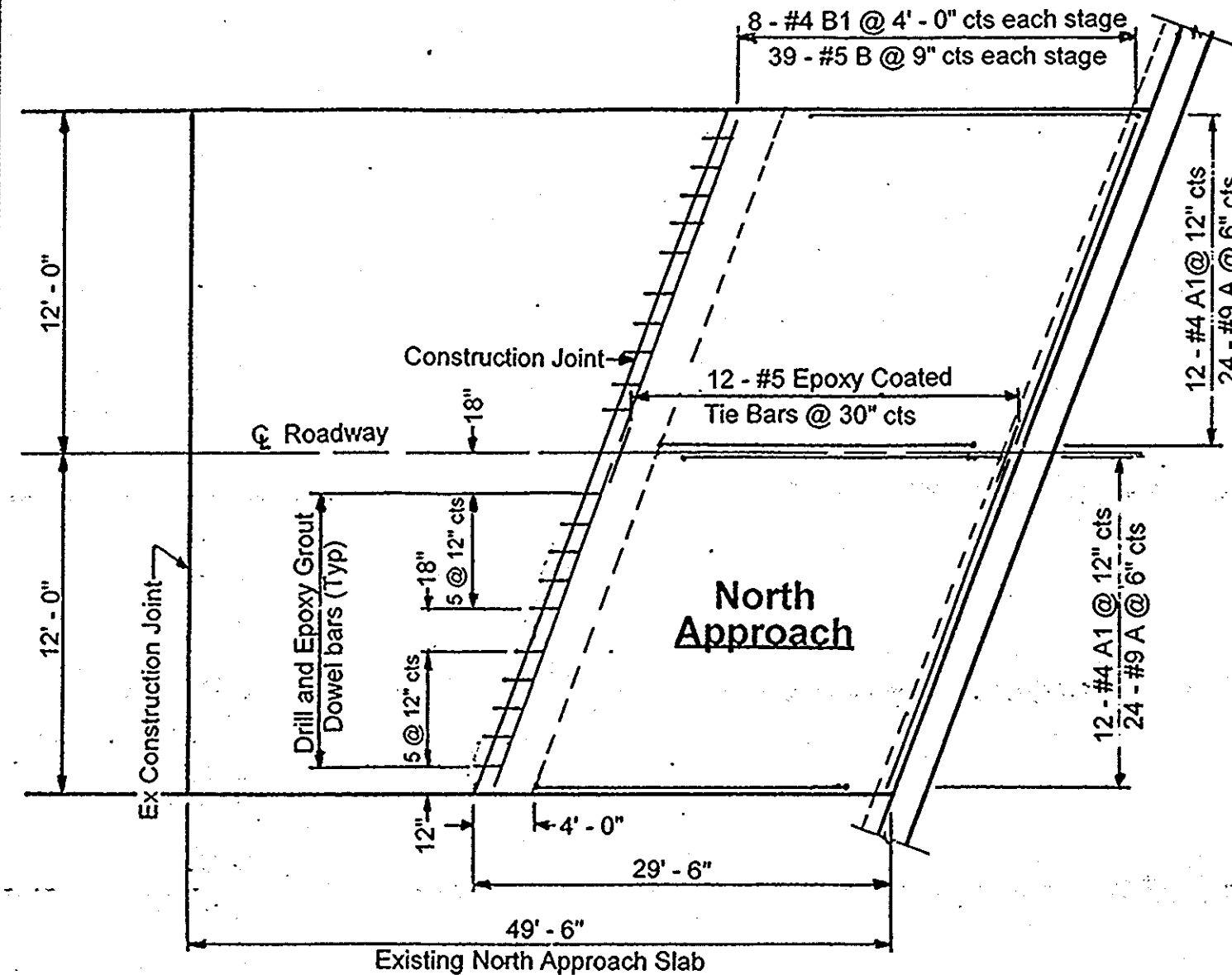
QC/QA BITUMINOUS SCHEDULE

BITUMINOUS CONCRETE SURFACE COURSE	335 TON	112 POUNDS/SQ YD IN	335 TON
BITUMINOUS SHOULDERS	133 SQ YD	112 POUNDS/SQ YD IN	60 TON
TOTAL			395 TON

SCHEDULE OF TEMPORARY SHEET PILE

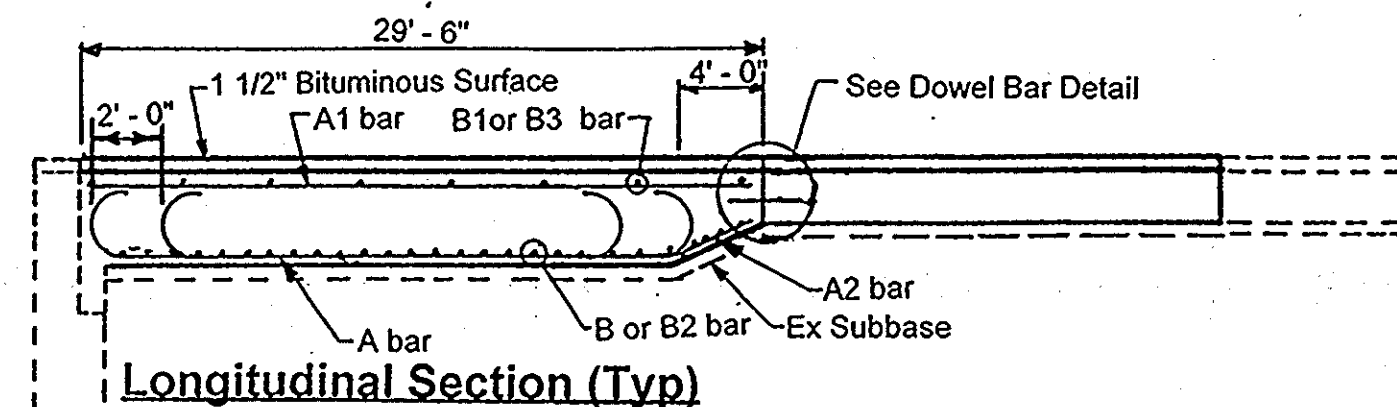
LOCATION	TEMPORARY SHEET PILE SQ FT
STAGE II	
NORTH ABUTMENT	46
SOUTH ABUTMENT	45
TOTAL	91



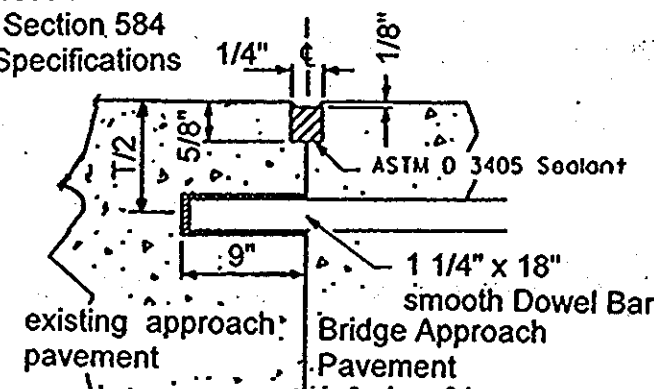


NOTES: Construction of the Bridge Approach Pavement Special shall be in accordance with plan details and applicable portions of Section 420 of the Standard Specifications
All tie bars, dowel bars, reinforcement bars and chair supports shall be epoxy coated
The unit bid price per square yard for BRIDGE APPROACH PAVEMENT SPECIAL shall include all work necessary to complete this item of work.
The unit bid price shall include tie bars, dowel bars, reinforcement bars, chair supports, granular subbase and excavation necessary to complete the construction of BRIDGE APPROACH PAVEMENT SPECIAL

BRIDGE APPROACH PAVEMENT SPECIAL



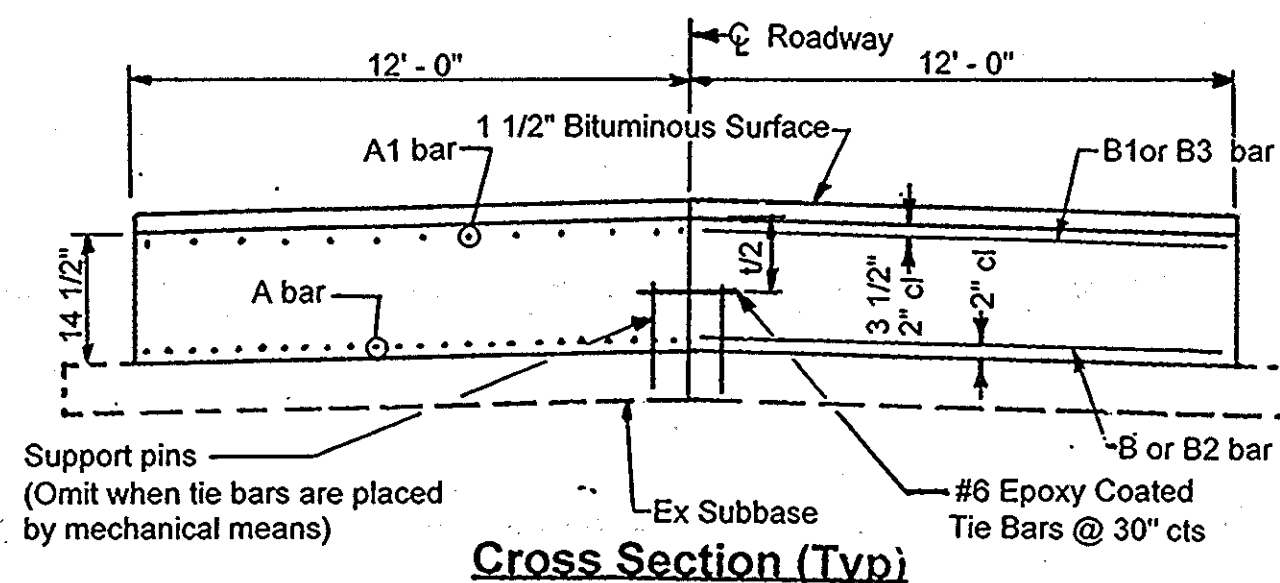
Drill and epoxy grout in accordance with Section 584 of the Standard Specifications



Dowel Bar Detail

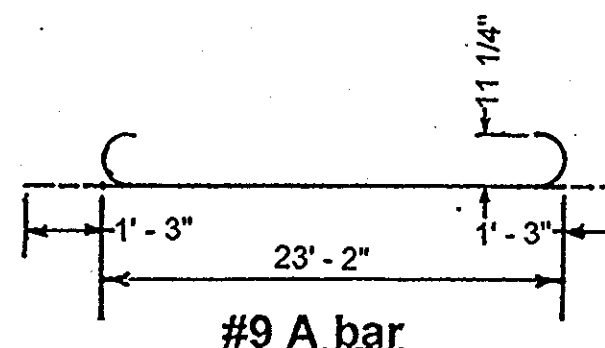
REINFORCEMENT SCHEDULE

LOCATION	BAR	SIZE	LENGTH	NO.	WEIGHT	BAR
			FOOT		POUND	SHAPE
STAGE I CONSTRUCTION						
NORTH APPROACH	A	#9	25'-8"	24	2095	U
	A1	#4	29'-3"	12	234	—
	B	#5	12'-6"	39	508	—
	B1	#4	12'-6"	8	67	—
SOUTH APPROACH	A	#9	25'-8"	24	2095	U
	A1	#4	29'-3"	12	234	—
	B2	#5	11'-9"	39	478	—
	B3	#4	11'-9"	8	63	—
SUBTOTAL					5774	
STAGE II CONSTRUCTION						
NORTH APPROACH	A	#9	25'-8"	24	2095	U
	A1	#4	29'-3"	12	234	—
	B	#5	12'-6"	39	508	—
	B1	#4	12'-6"	8	67	—
SOUTH APPROACH	A	#9	25'-8"	24	2095	U
	A1	#4	29'-3"	12	234	—
	B2	#5	11'-9"	39	478	—
	B3	#4	11'-9"	8	63	—
SUBTOTAL					5774	
TOTAL					11548	

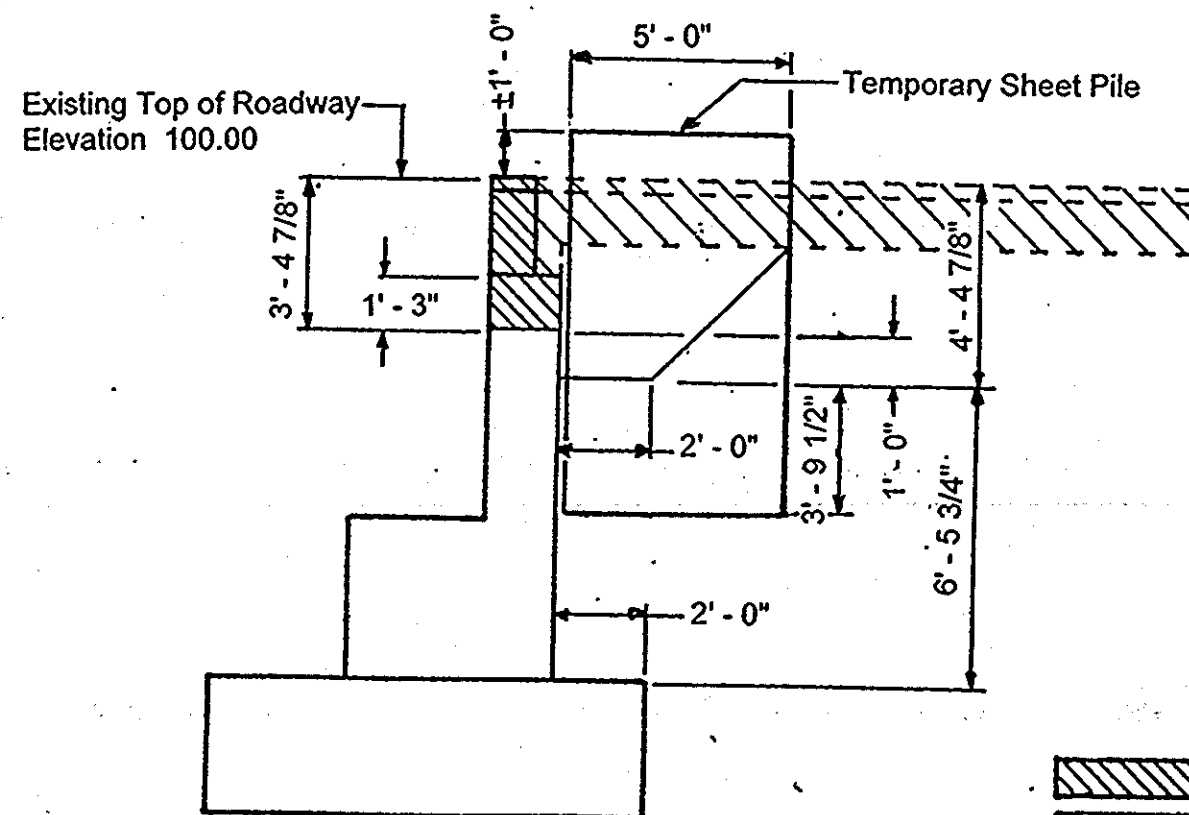


BILL OF MATERIALS

LOCATION	APPROACH SLAB REMOVAL	BRIDGE APPROACH PAVEMENT SPECIAL	REINFORCEMENT BARS	TIE BARS	DRILL & EPOXY GROUT DOWEL BARS
	SQ YD	SQ YD	POUND	EACH	EACH
STAGE I CONSTRUCTION					
NORTH APPROACH	40	39.3	2904	12	10
SOUTH APPROACH	40	39.3	2870	12	10
SUBTOTAL	80	78.6	5774	24	20
STAGE II CONSTRUCTION					
NORTH APPROACH	40	39.3	2904		10
SOUTH APPROACH	40	39.3	2870		10
SUBTOTAL	80	78.6	5774	0	20
TOTAL	160	157	11548	24	40



BRIDGE APPROACH PAVEMENT SPECIAL DETAILS



NORTH ABUTMENT

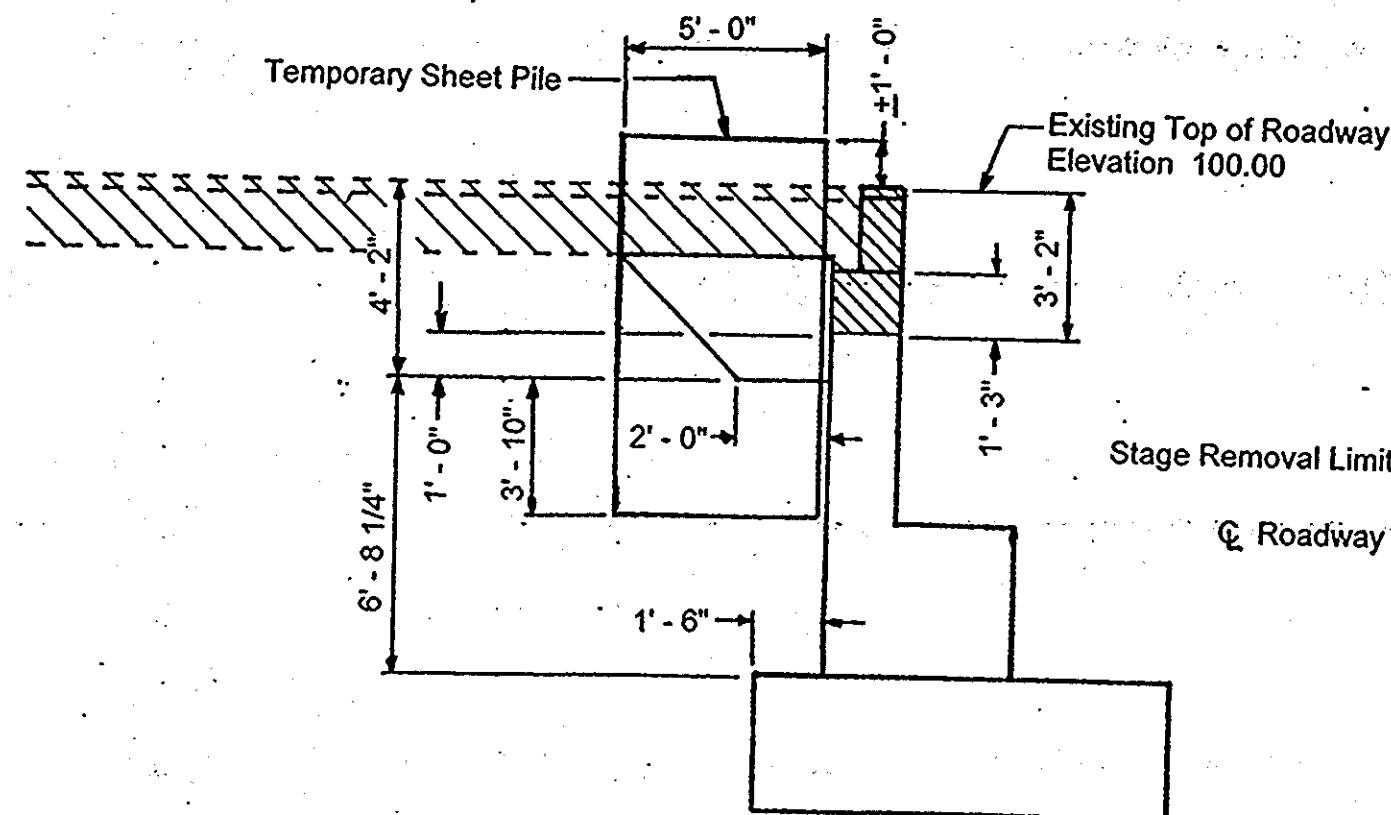
CONCRETE REMOVAL
APPROACH SLAB REMOVAL

TEMPORARY SHEET PILE DESIGN NORTH ABUTMENT			
Qu Value	1.5	UNITS	
Required Section Modulus	Cu. In./Ft.	1.00	
Min. Depth of Embedment	Feet	3.80	
Top Elevation	Feet	101.00	
Bottom Elevation	Feet	91.80	

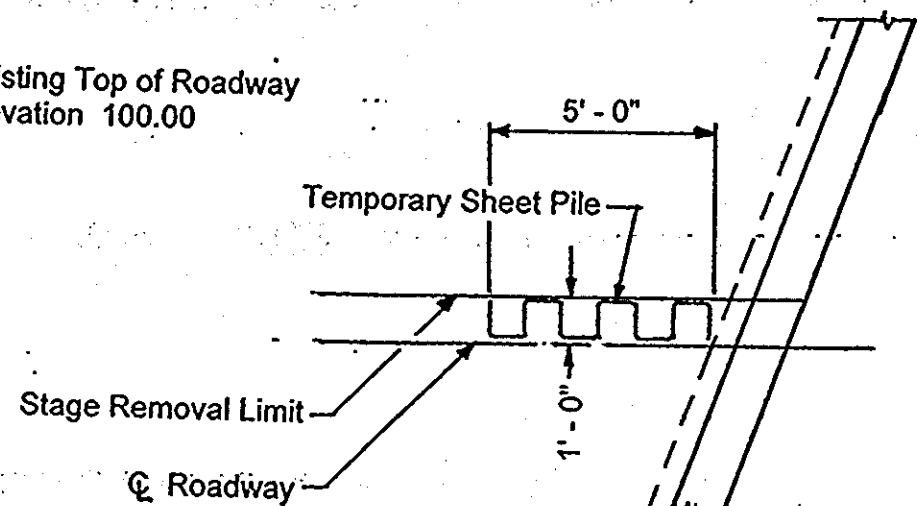
TEMPORARY SHEET PILE DESIGN SOUTH ABUTMENT			
Qu Value	1.6	UNITS	
Required Section Modulus	Cu. In./Ft.	1.00	
Min. Depth of Embedment	Feet	3.80	
Top Elevation	Feet	101.00	
Bottom Elevation	Feet	92.00	

"If the contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full submittals with required seals will be expected by the Department, for review and approval."

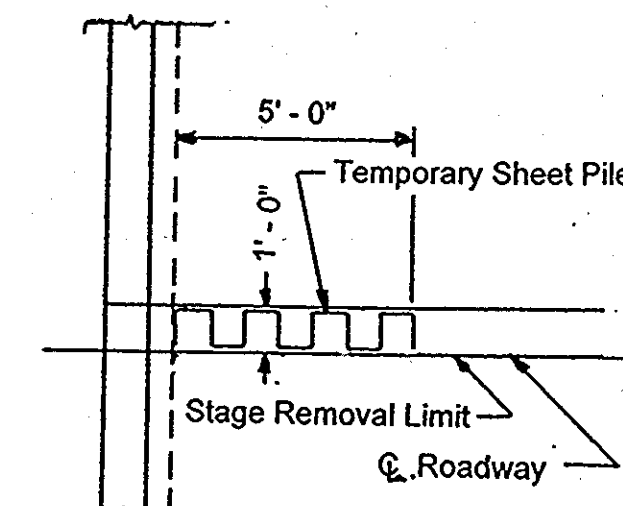
Assumed Datum: Elevation 100.00 = existing elevation at centerline of roadway



SOUTH ABUTMENT



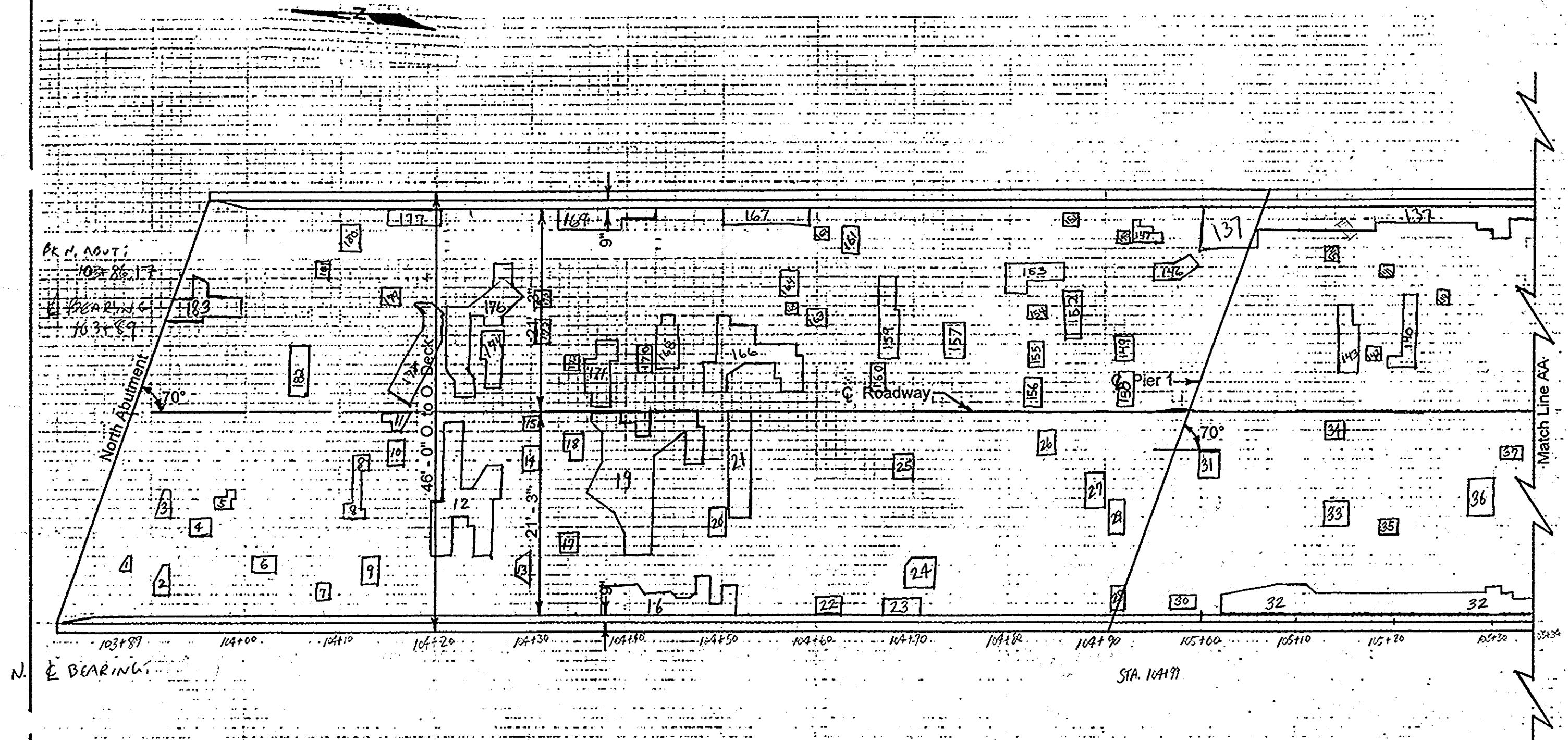
NORTH ABUTMENT



SOUTH ABUTMENT

PLAN

TEMPORARY SHEET PILE DETAILS

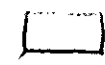


PARTIAL DEPTH DECK REPAIR RECORD

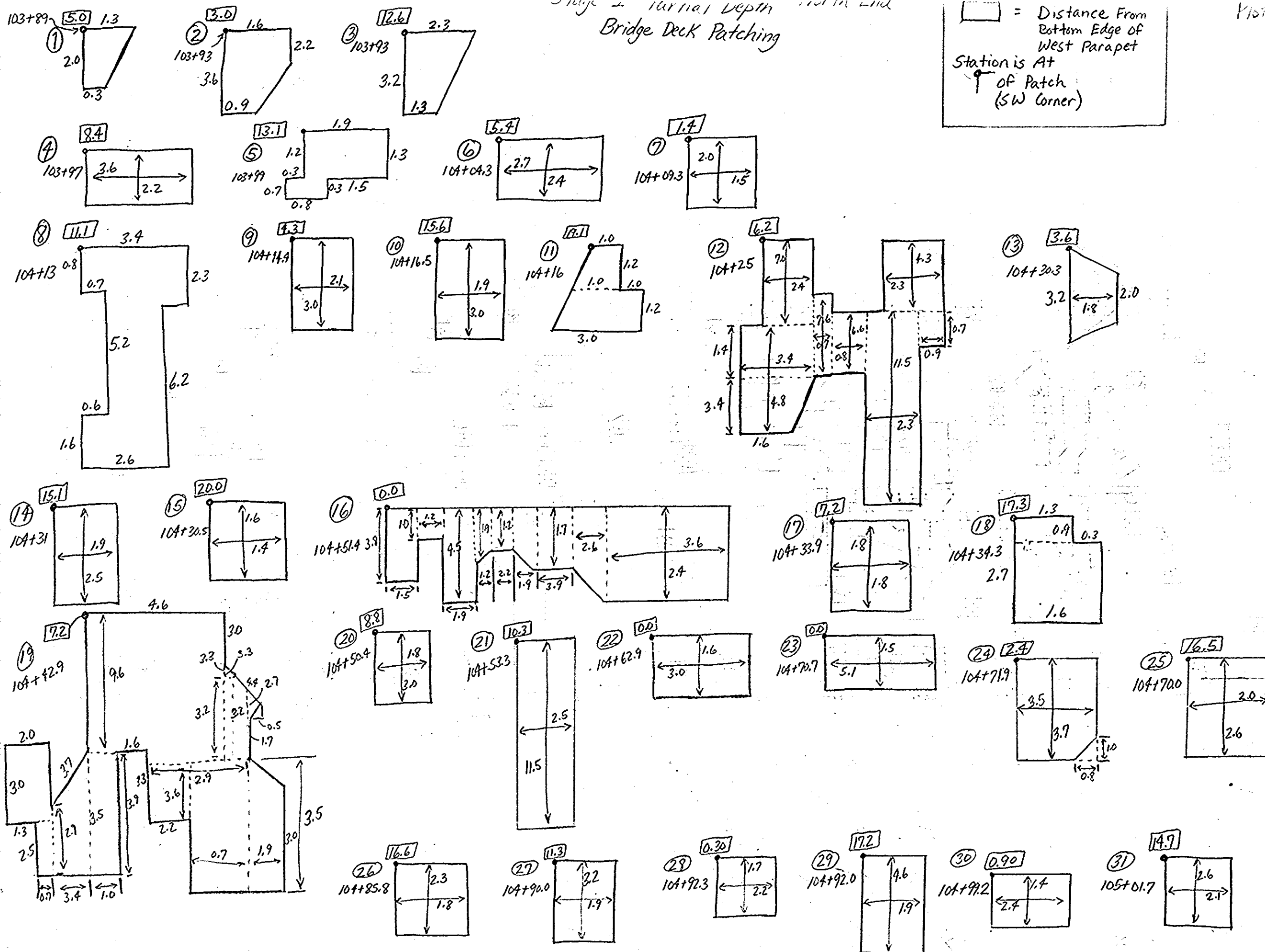
* Measurements On Back

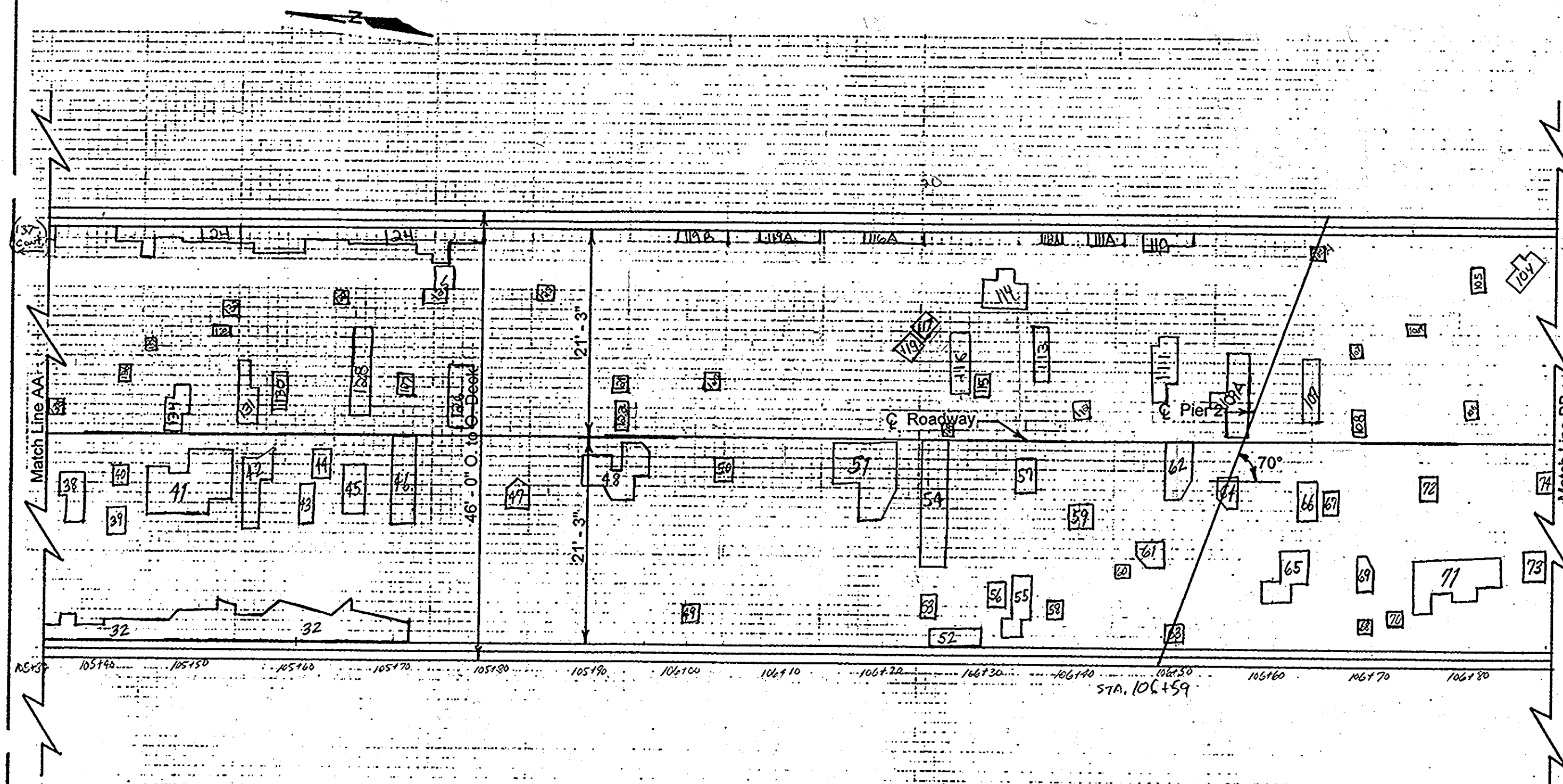
* Patch #175 + 158 were Deleted

Bridge Deck Patching

 = Distance From Bottom Edge of West Parapet
 Station is At
 of Patch
 (SW Corner)

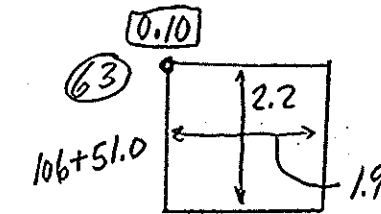
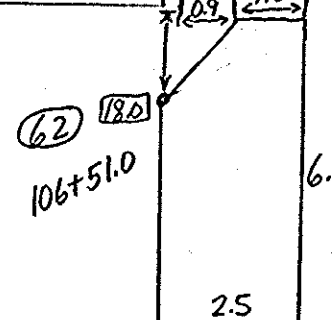
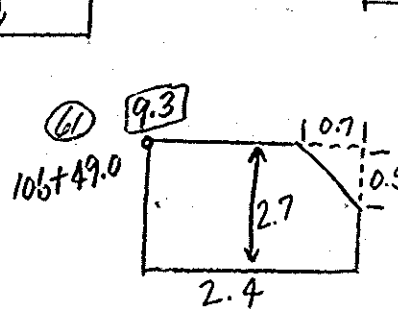
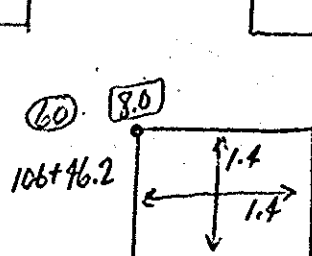
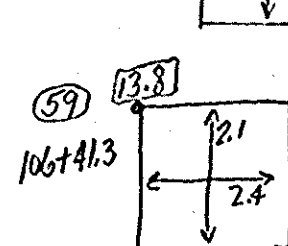
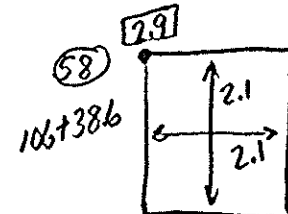
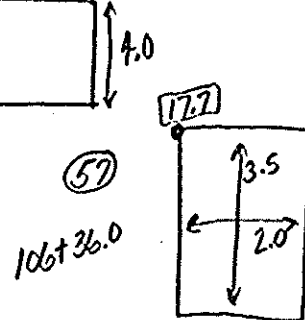
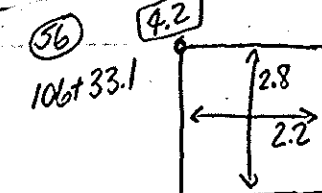
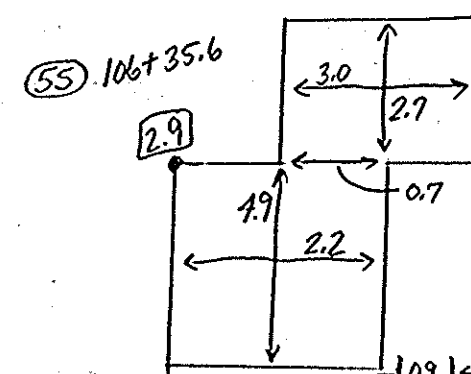
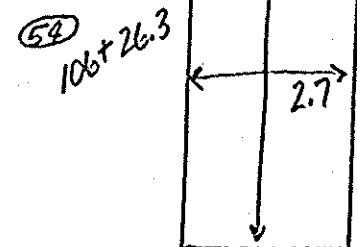
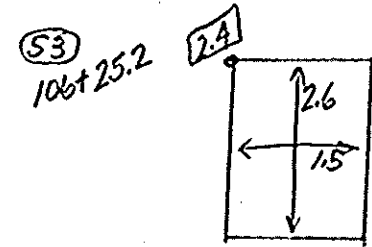
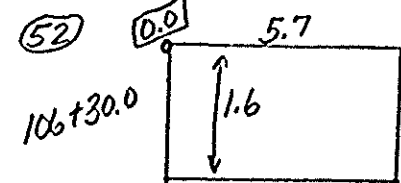
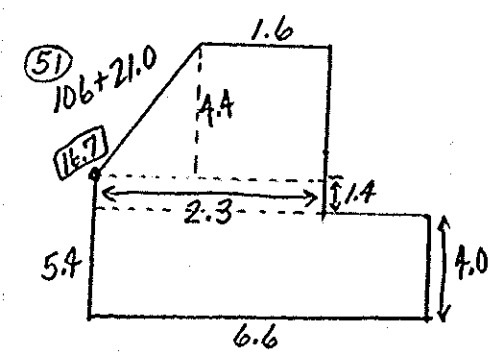
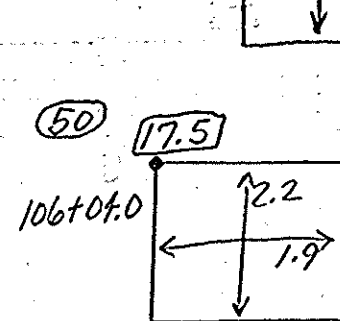
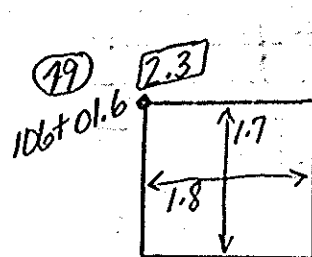
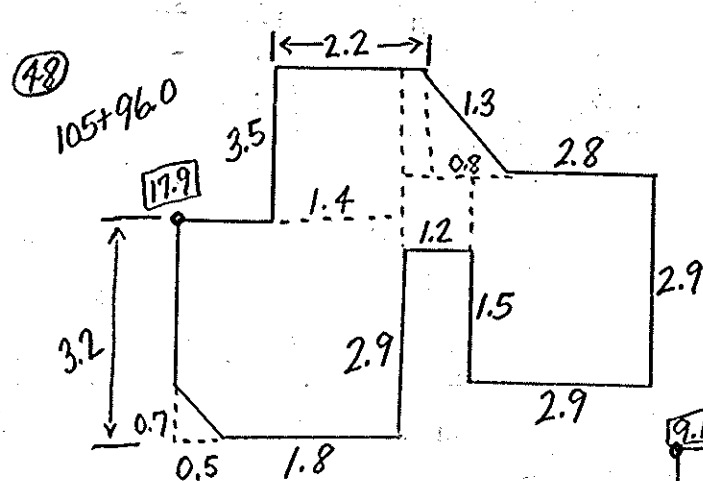
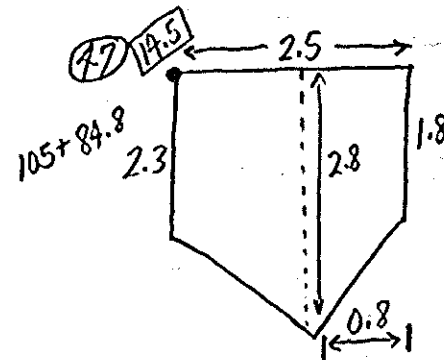
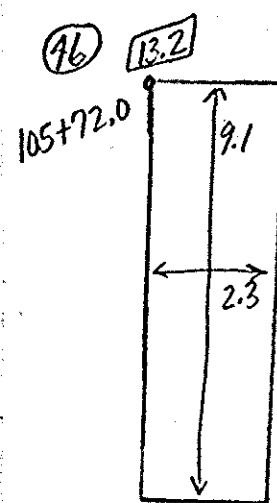
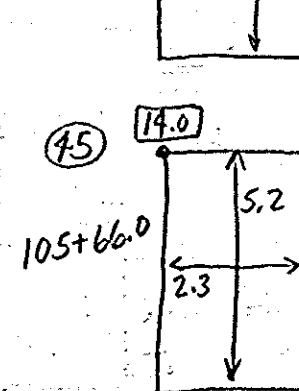
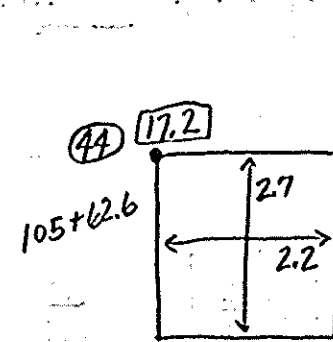
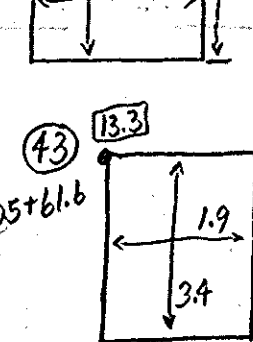
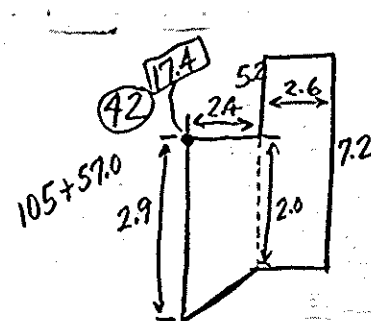
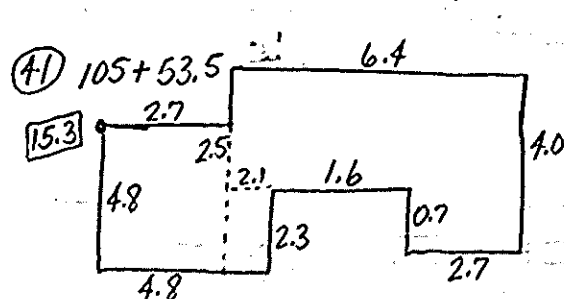
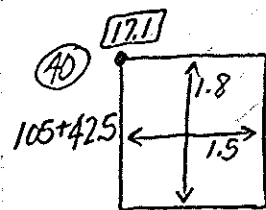
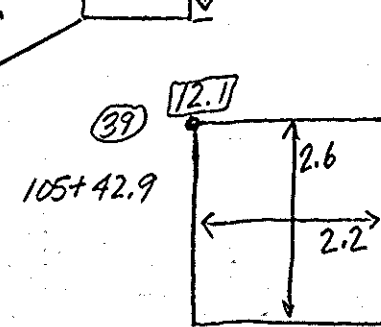
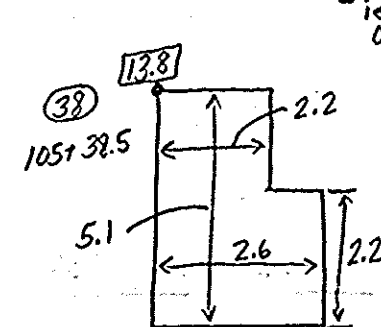
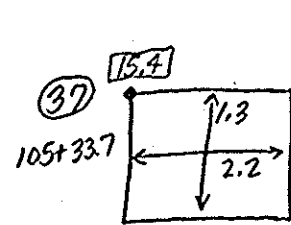
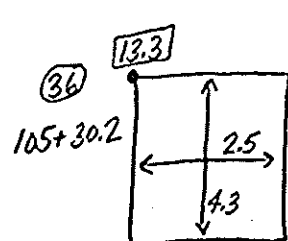
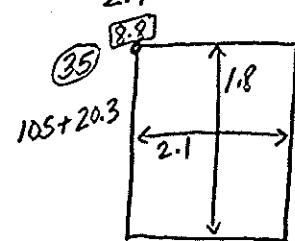
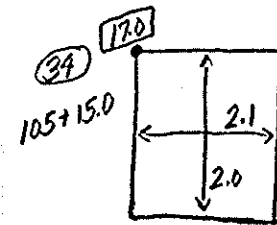
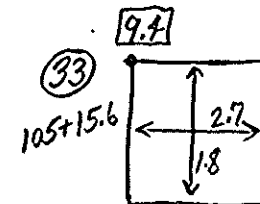
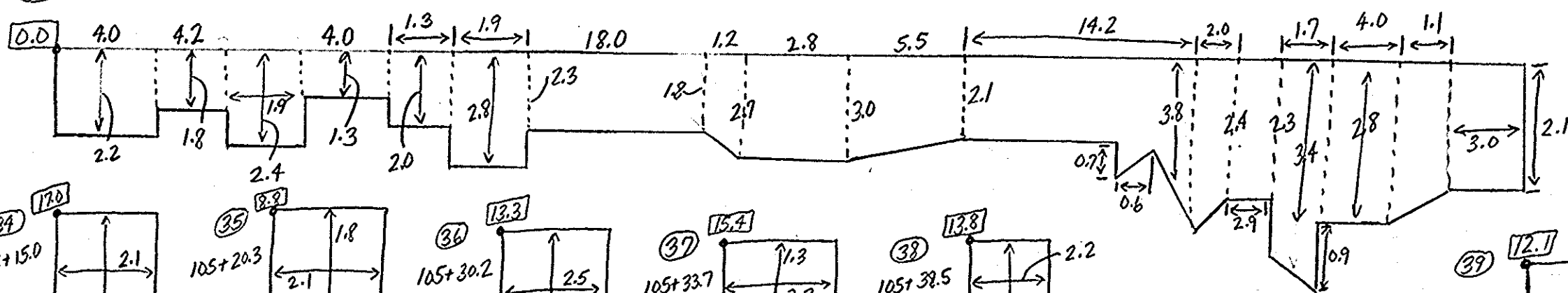
Plotting by MNS 6/25/01

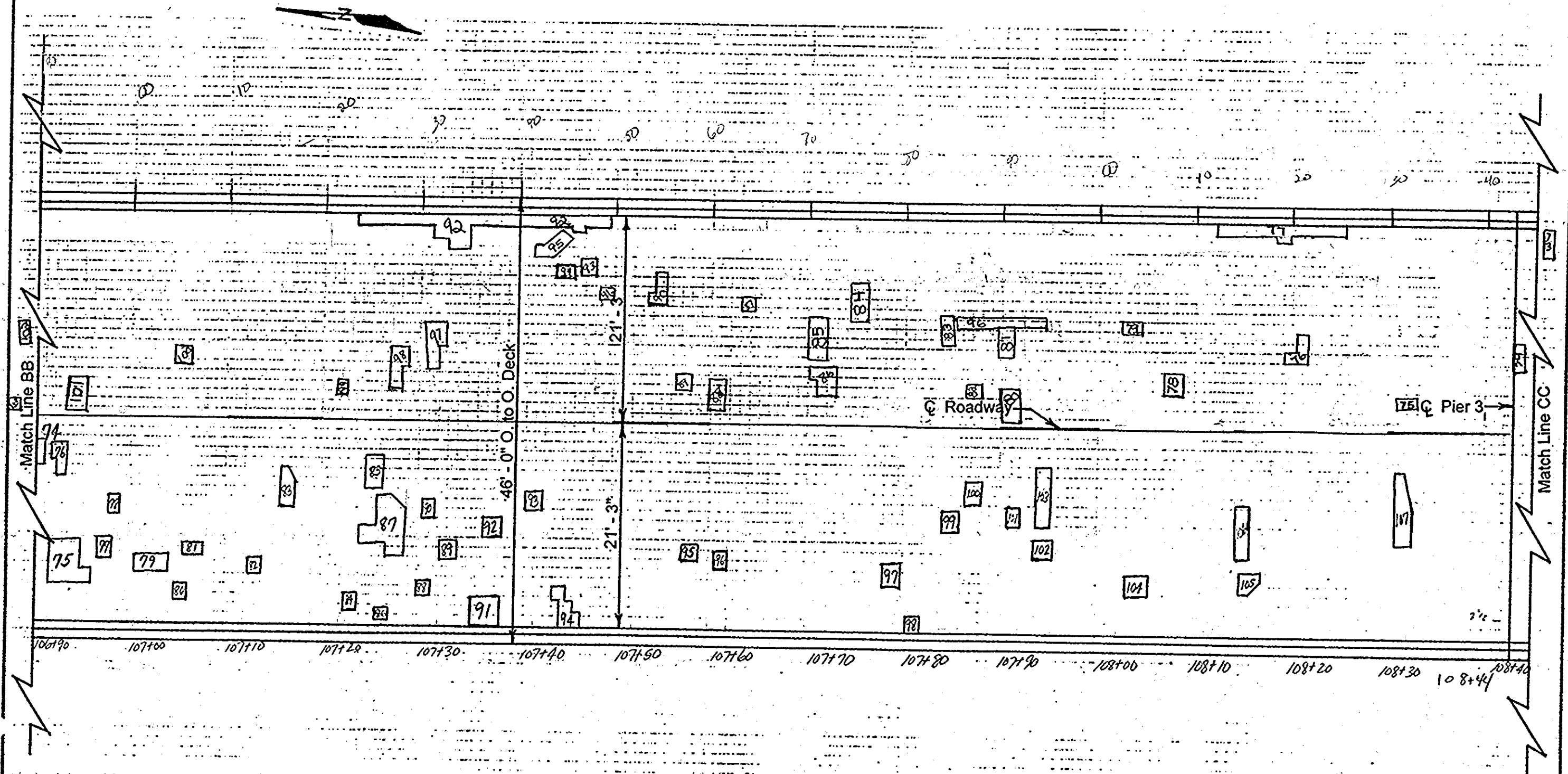




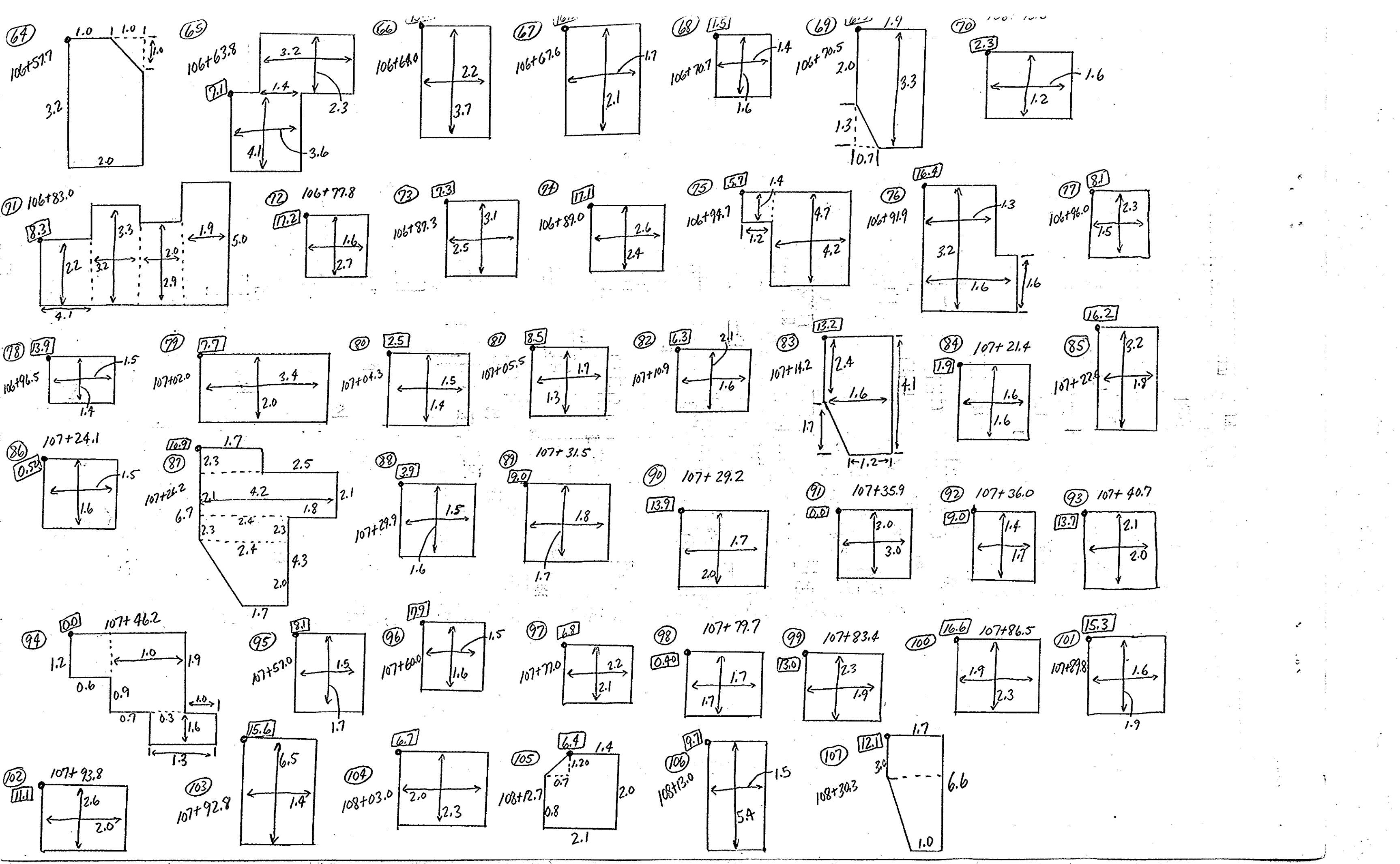
PARTIAL DEPTH DECK REPAIR RECORD

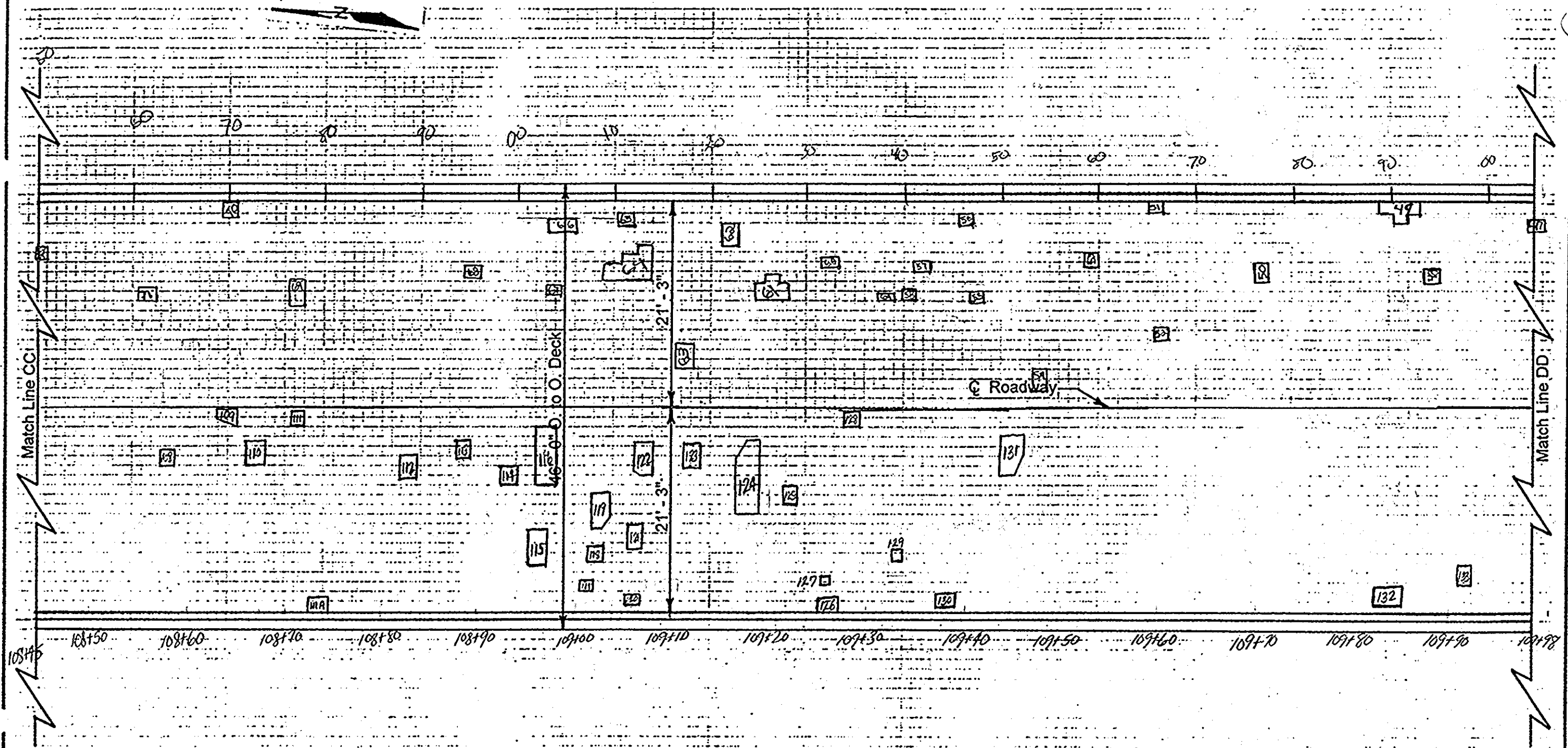
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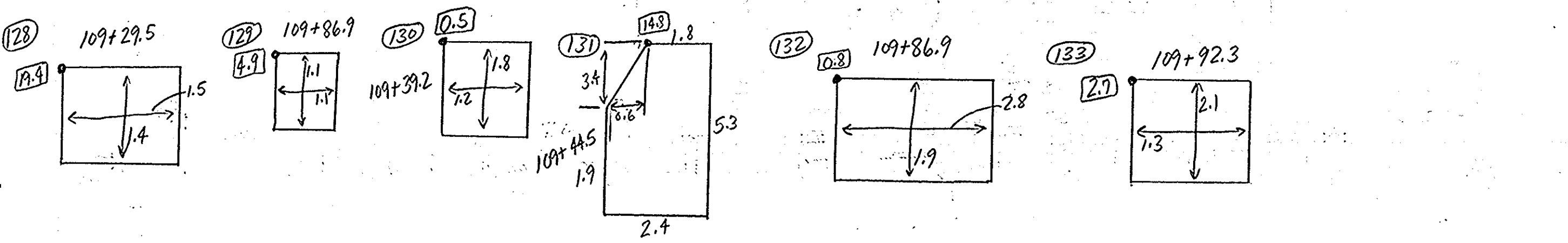
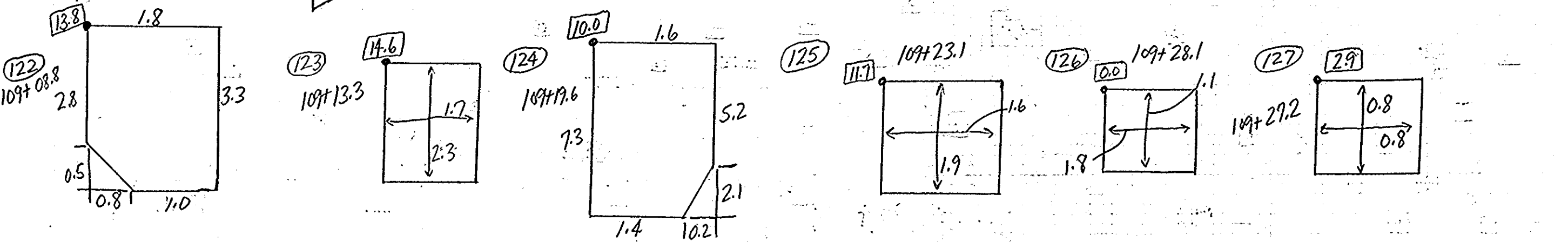
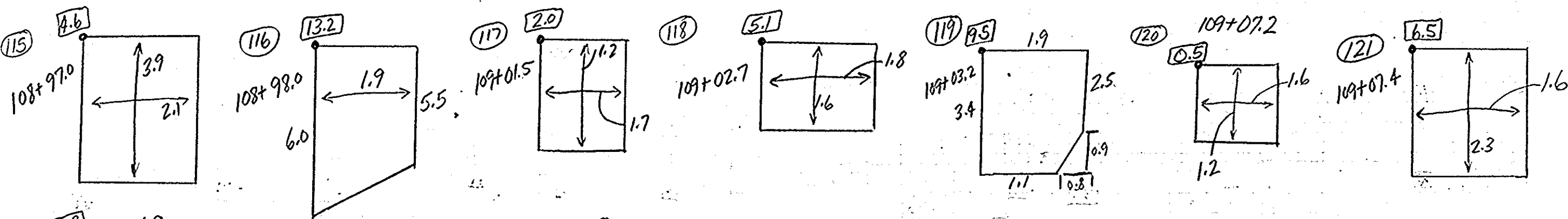
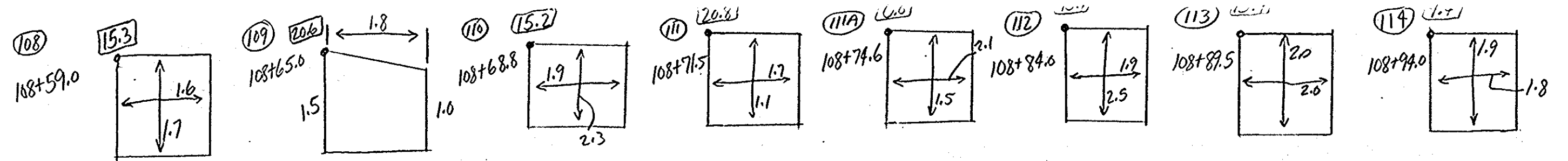


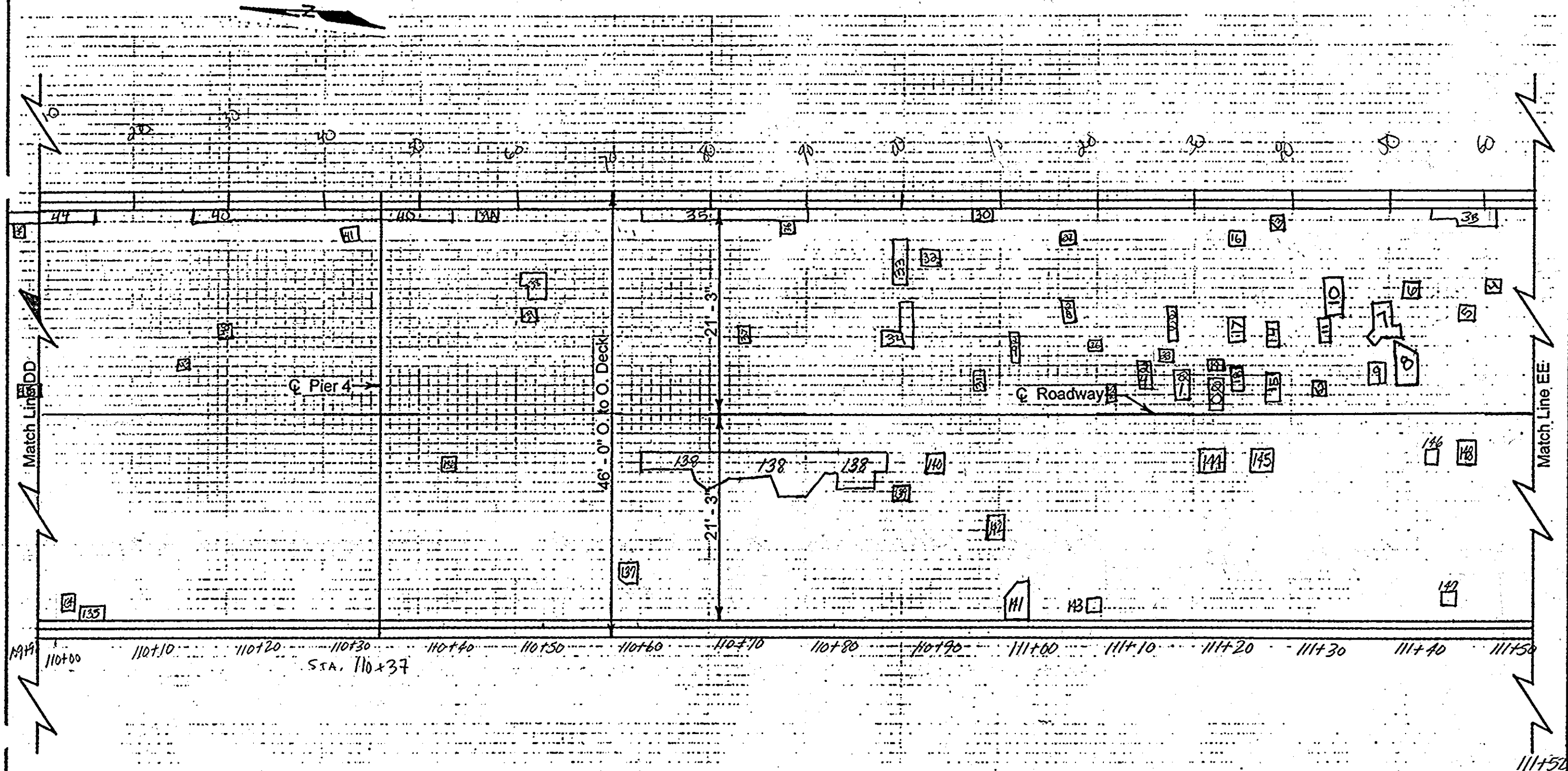
PARTIAL DEPTH DECK REPAIR RECORD



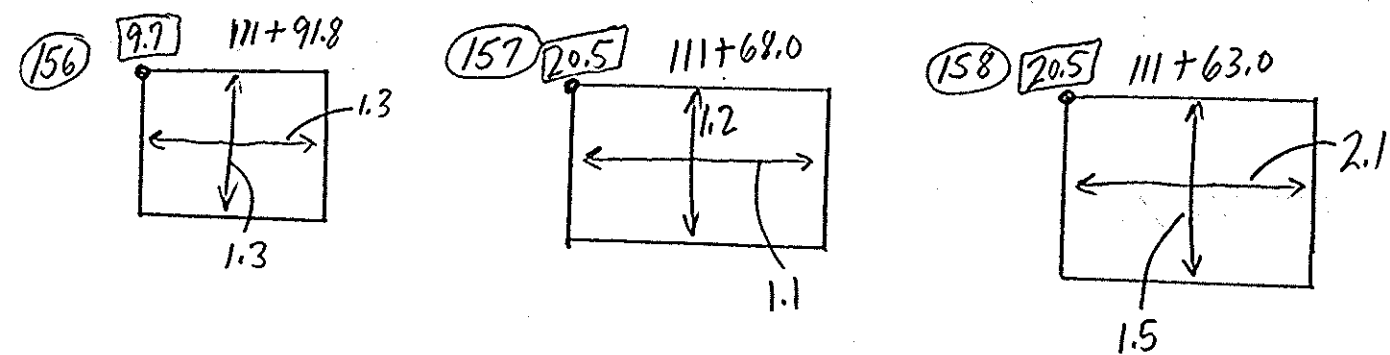
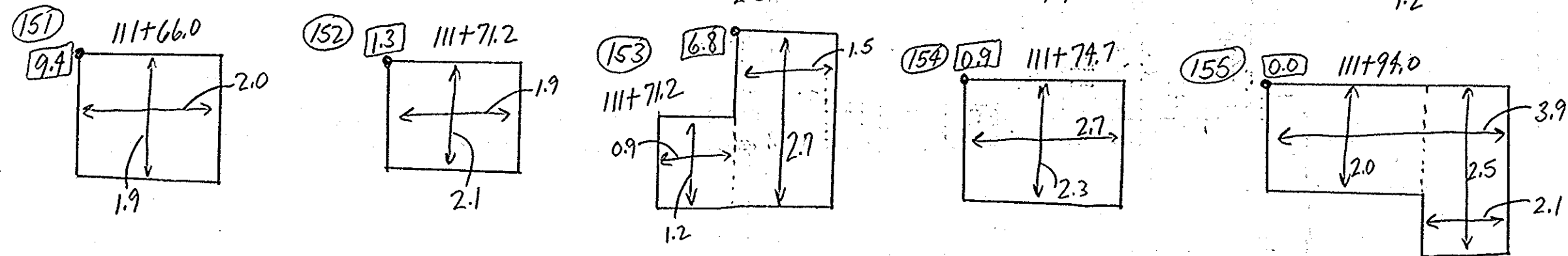
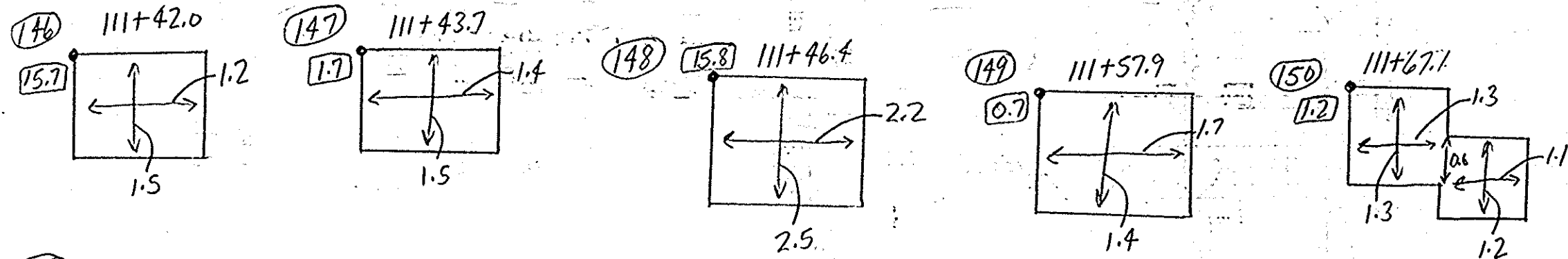
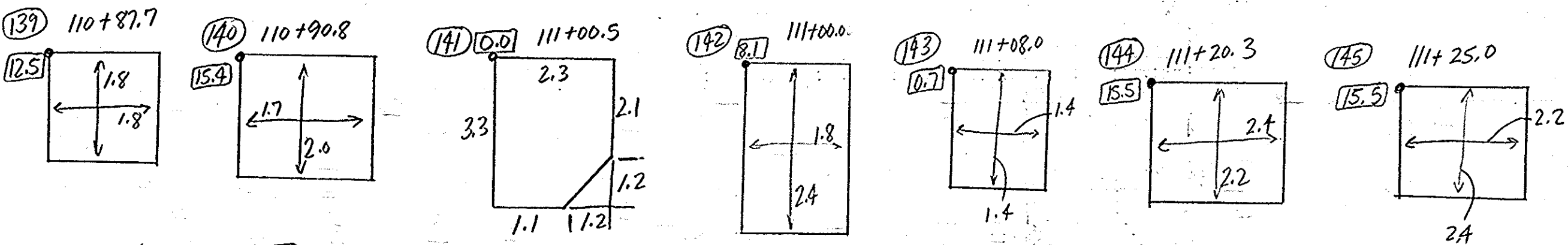
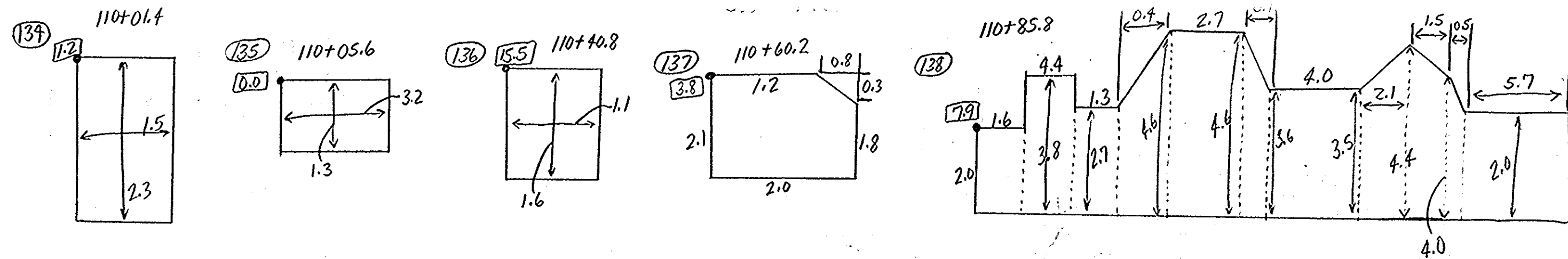


PARTIAL DEPTH DECK REPAIR RECORD

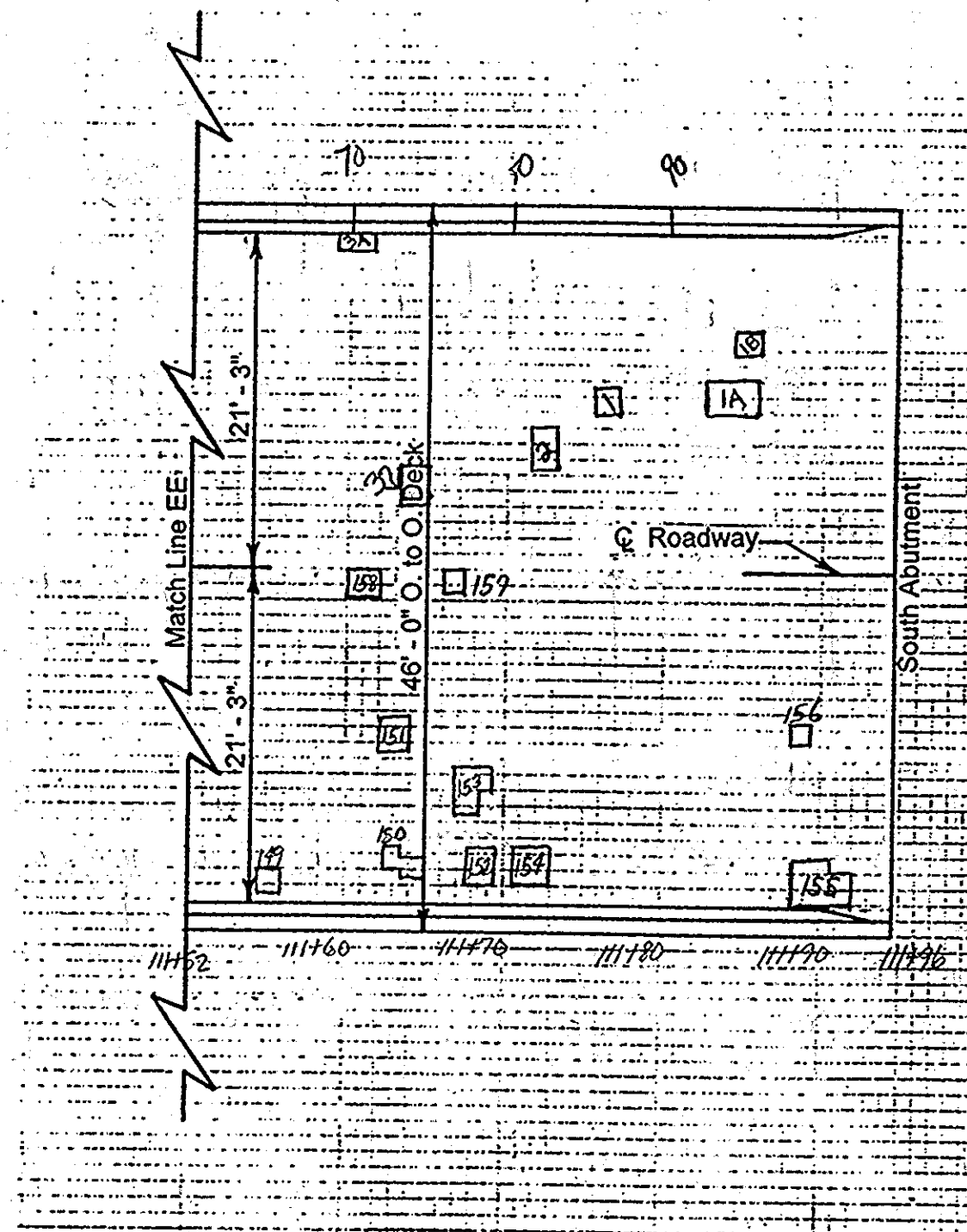




PARTIAL DEPTH DECK REPAIR RECORD

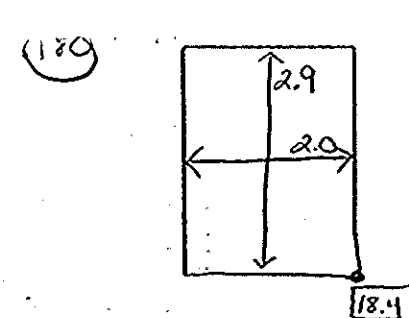
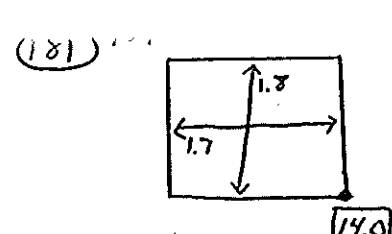
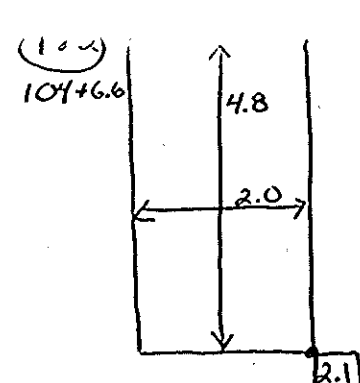
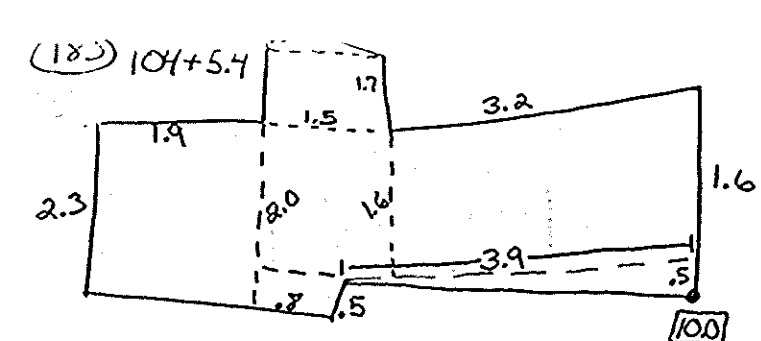


End of Stage 1 Patching
Stage 2 Patching See Back of Pages 14 thru 18

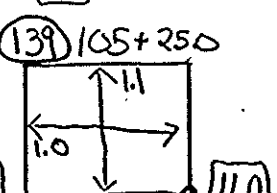
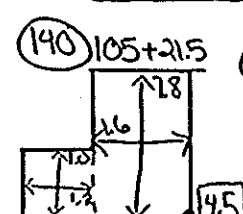
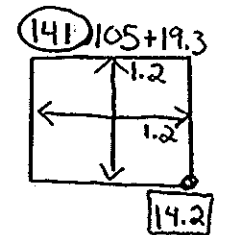
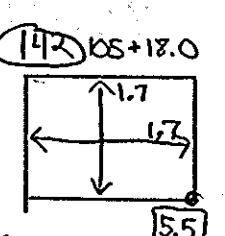
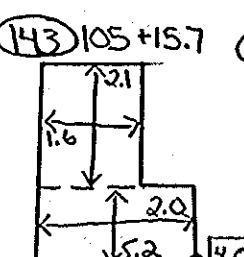
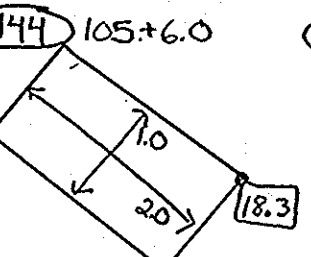
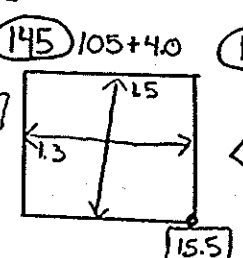
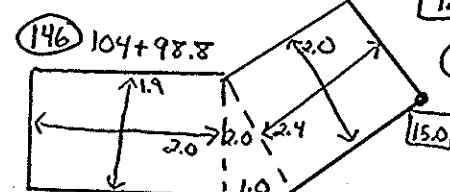
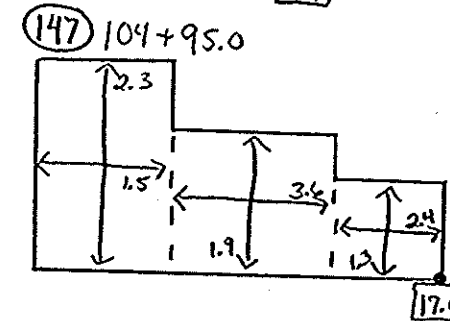
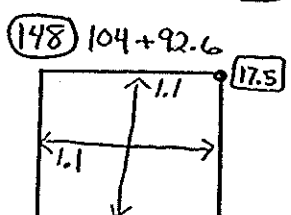
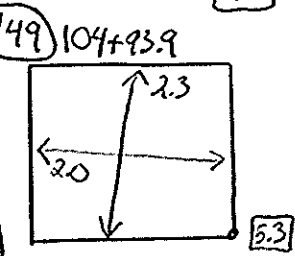
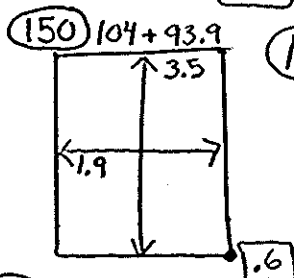
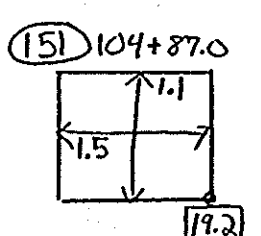
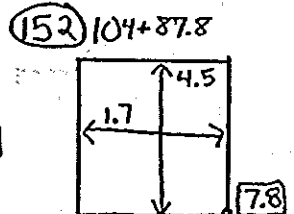
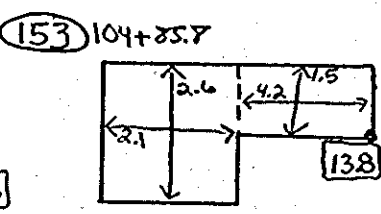
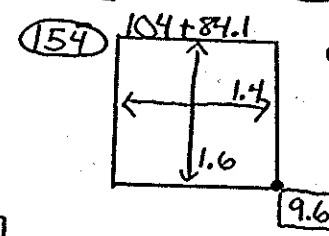
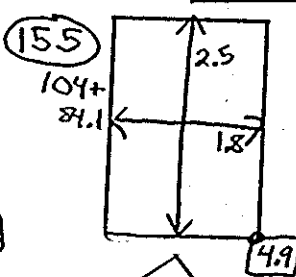
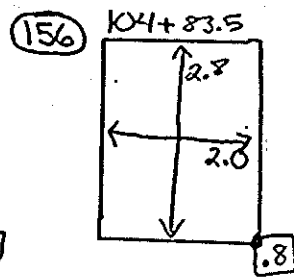
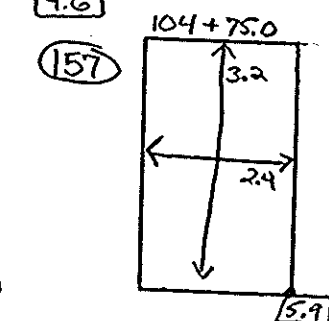
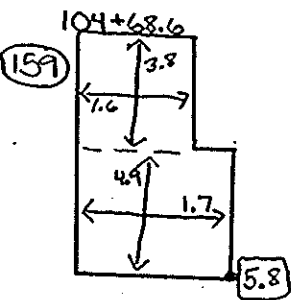
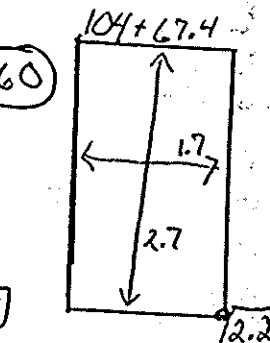
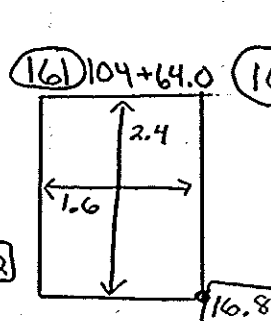
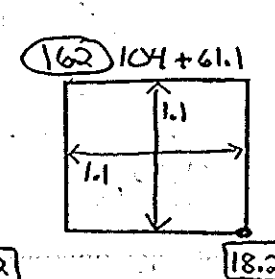
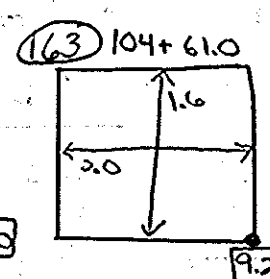
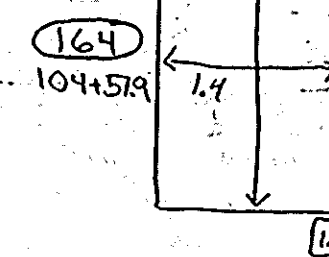
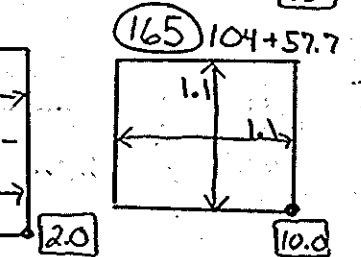
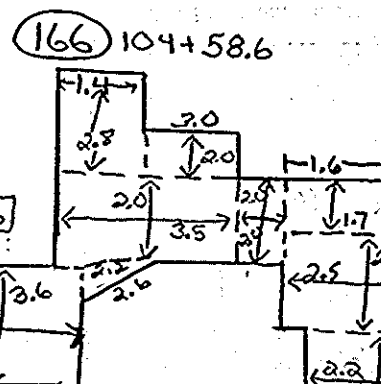
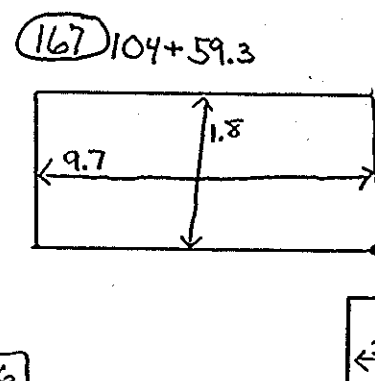
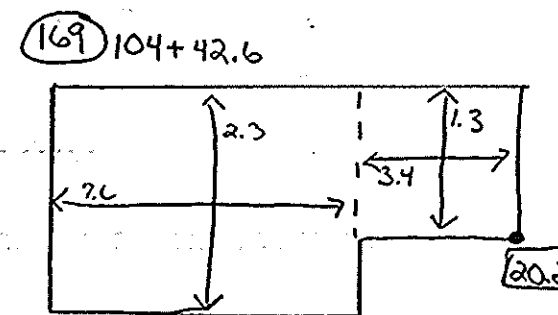
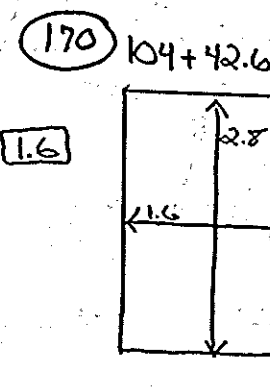
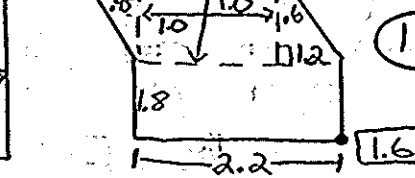
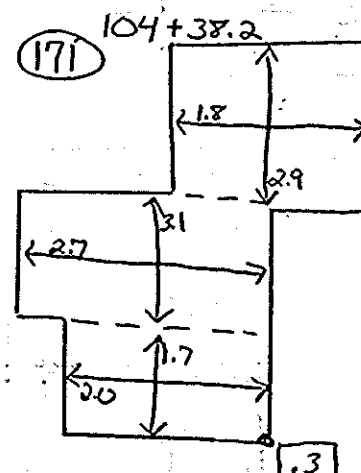
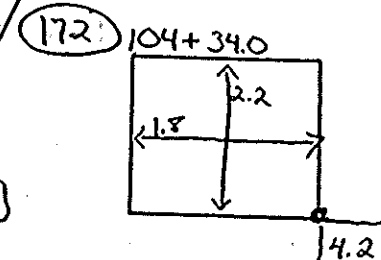
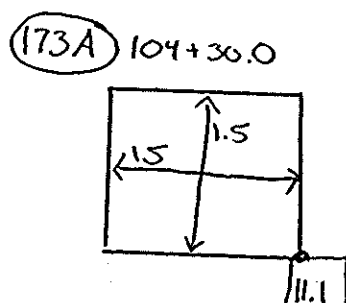
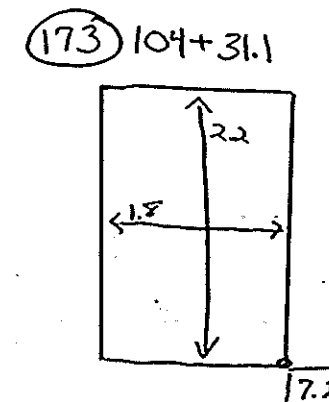
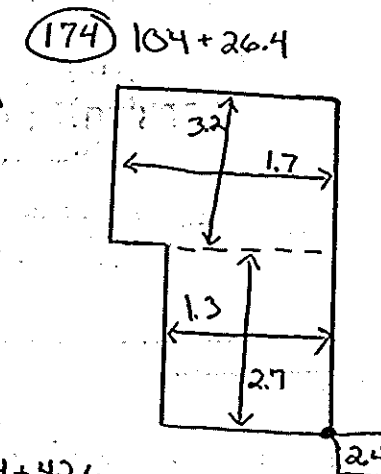
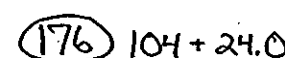
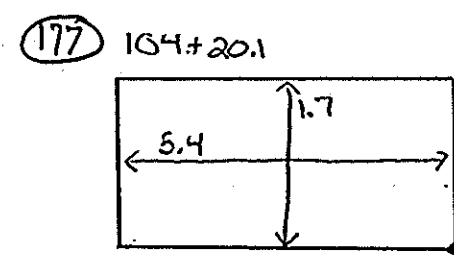
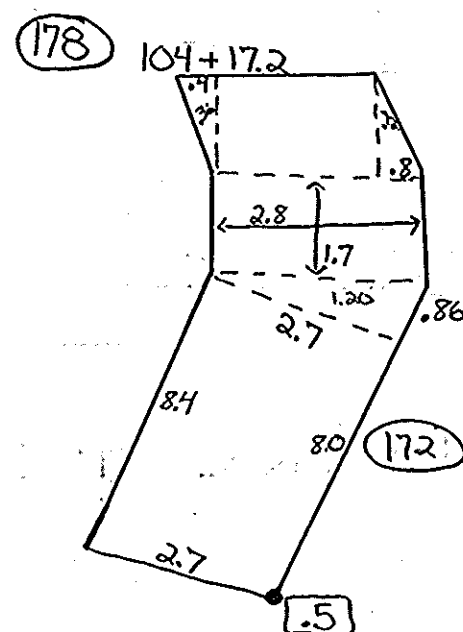
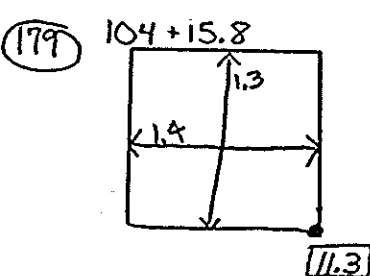


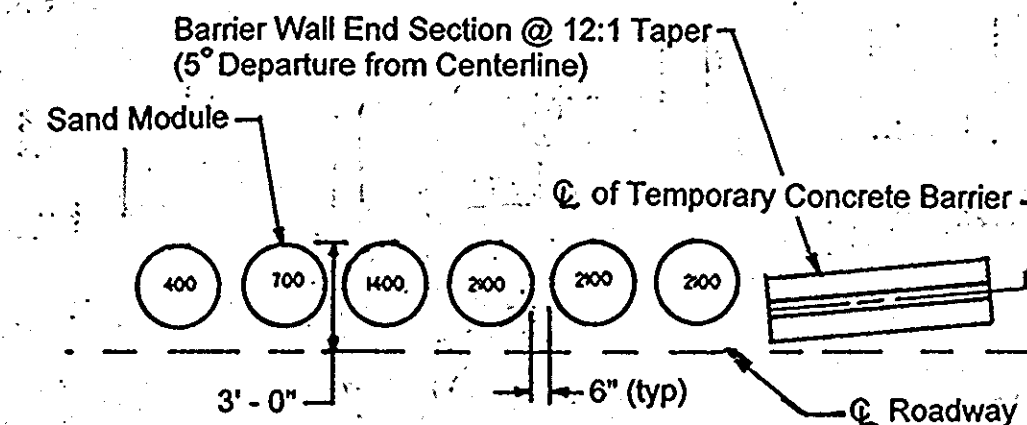
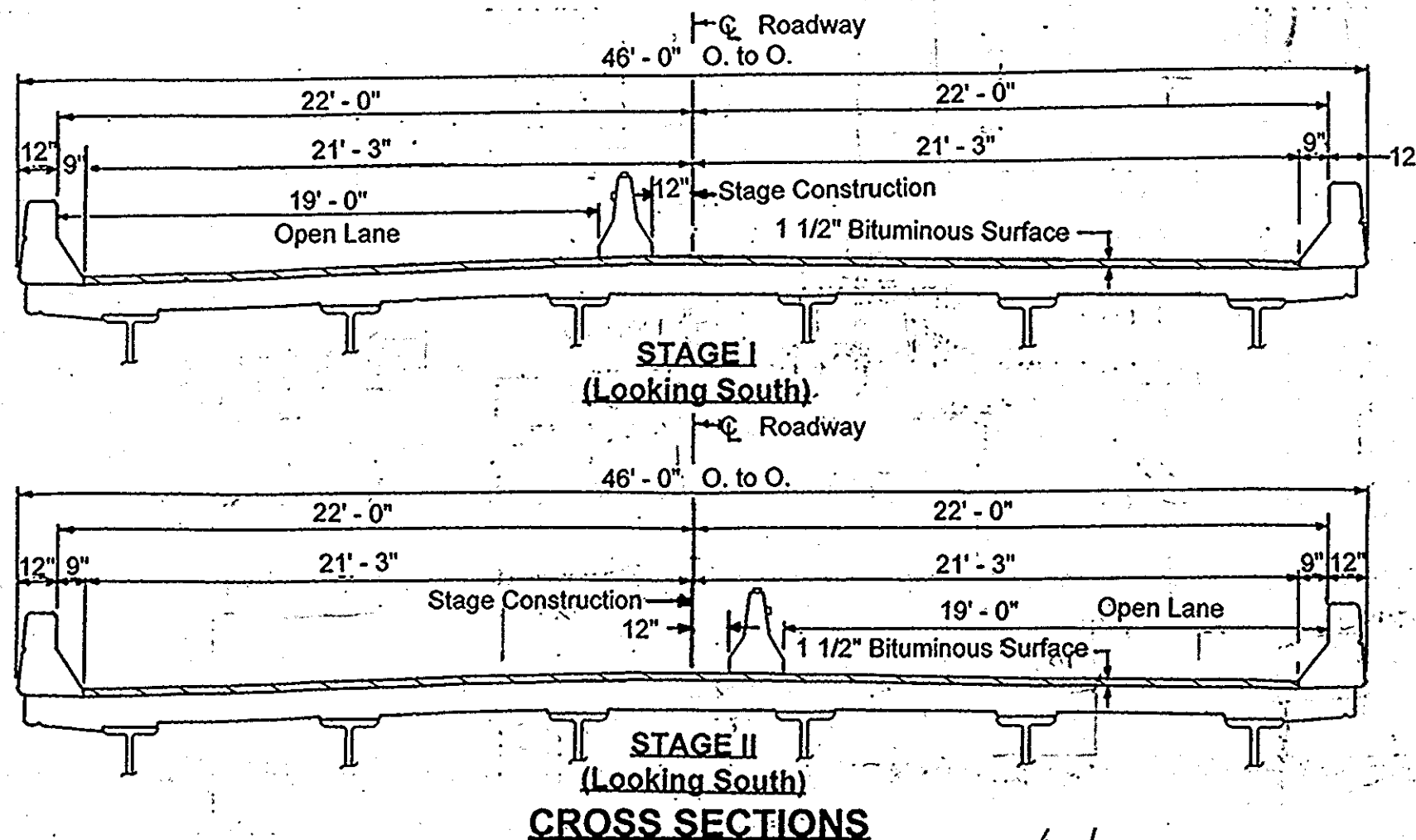
BR S. ABUT: 112+02.33
E. BEARING: 112+00

PARTIAL DEPTH DECK REPAIR RECORD



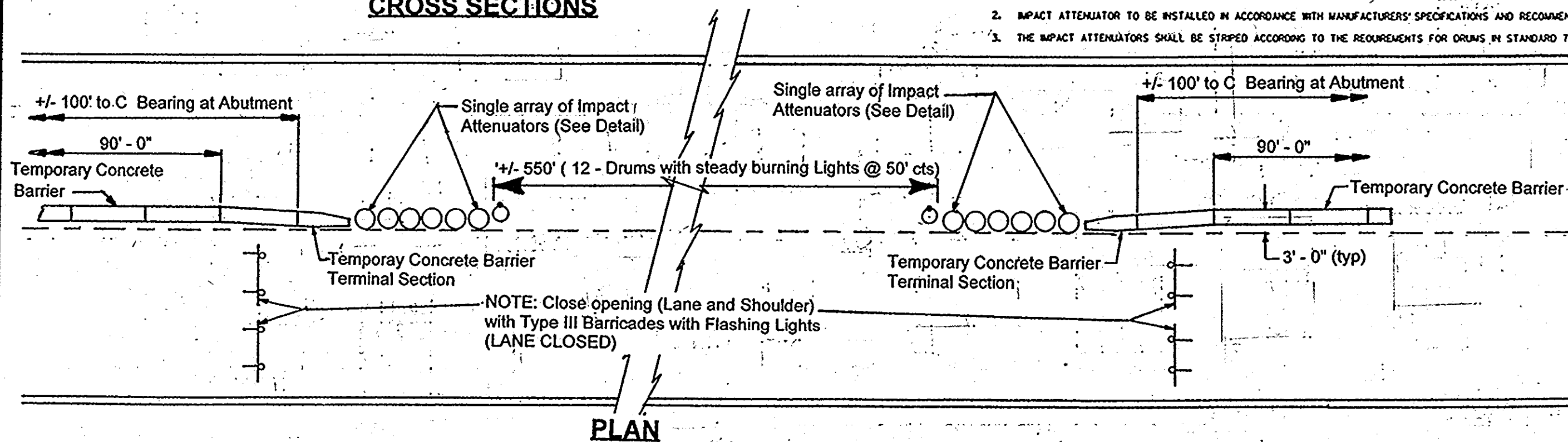
□ = Distance from
Center line
Station is at
(SW) corner
of Patch





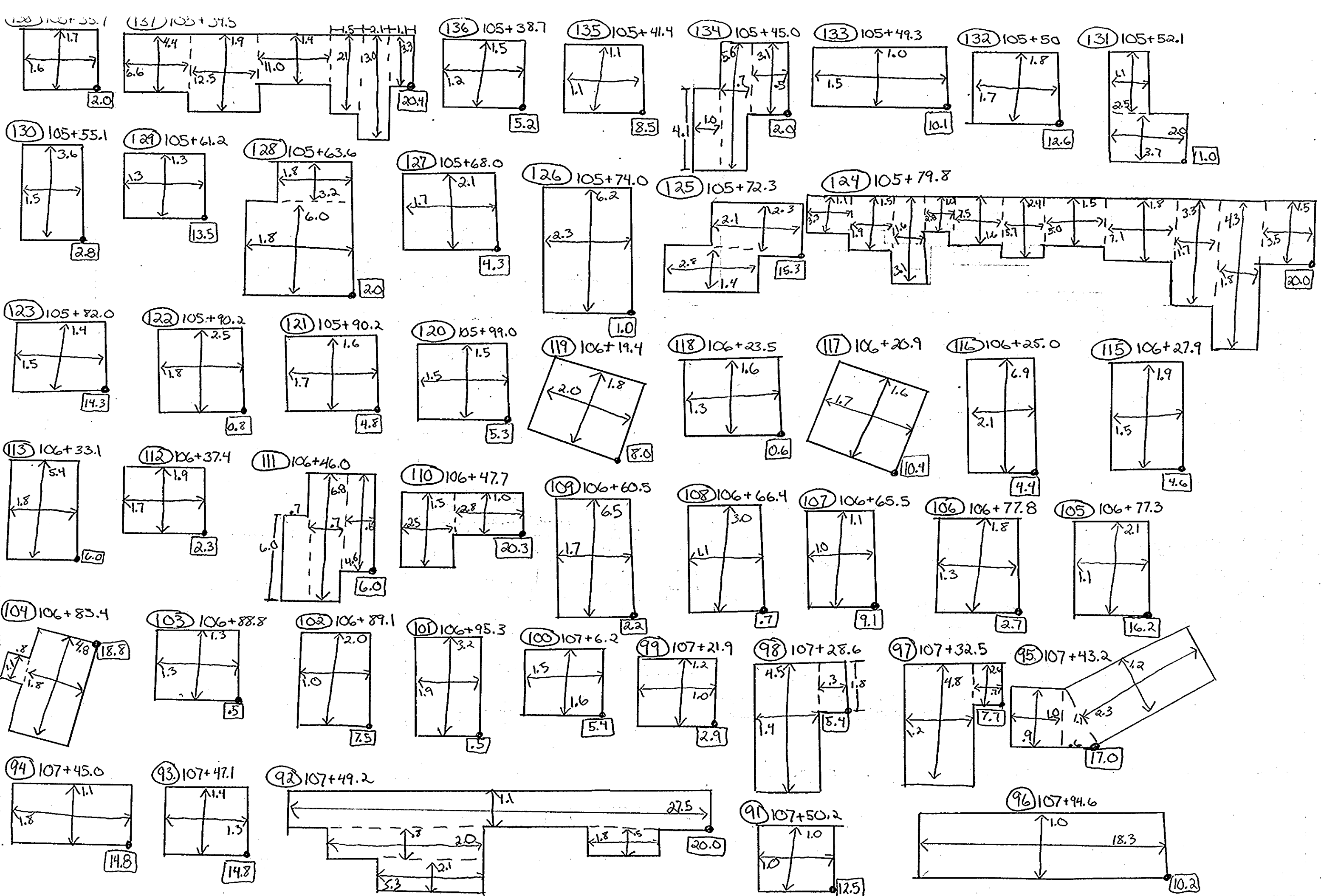
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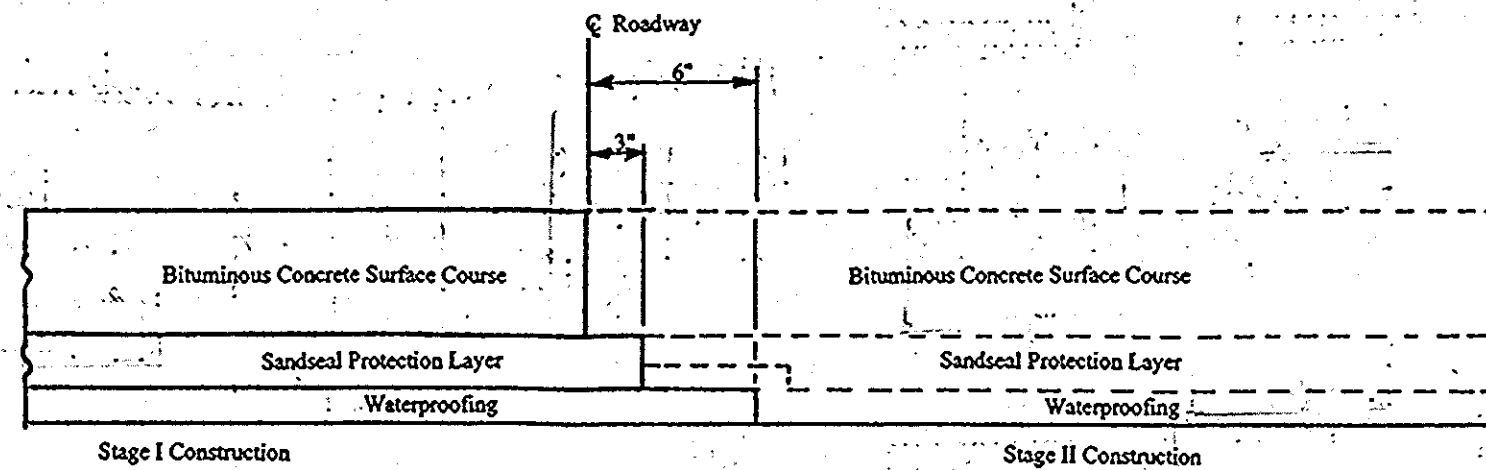
1. NUMBER SHOWN INSIDE MODULE INDICATES THE WEIGHT IN POUNDS OF SAND. ALL MODULES ARE APPROXIMATELY 36 INCHES IN DIAMETER WITH HEIGHT RANGING FROM 3' - 0" TO 3' - 9".
2. IMPACT ATTENUATOR TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS AND RECOMMENDATIONS.
3. THE IMPACT ATTENUATORS SHALL BE STRIPED ACCORDING TO THE REQUIREMENTS FOR DRUMS IN STANDARD 70200.



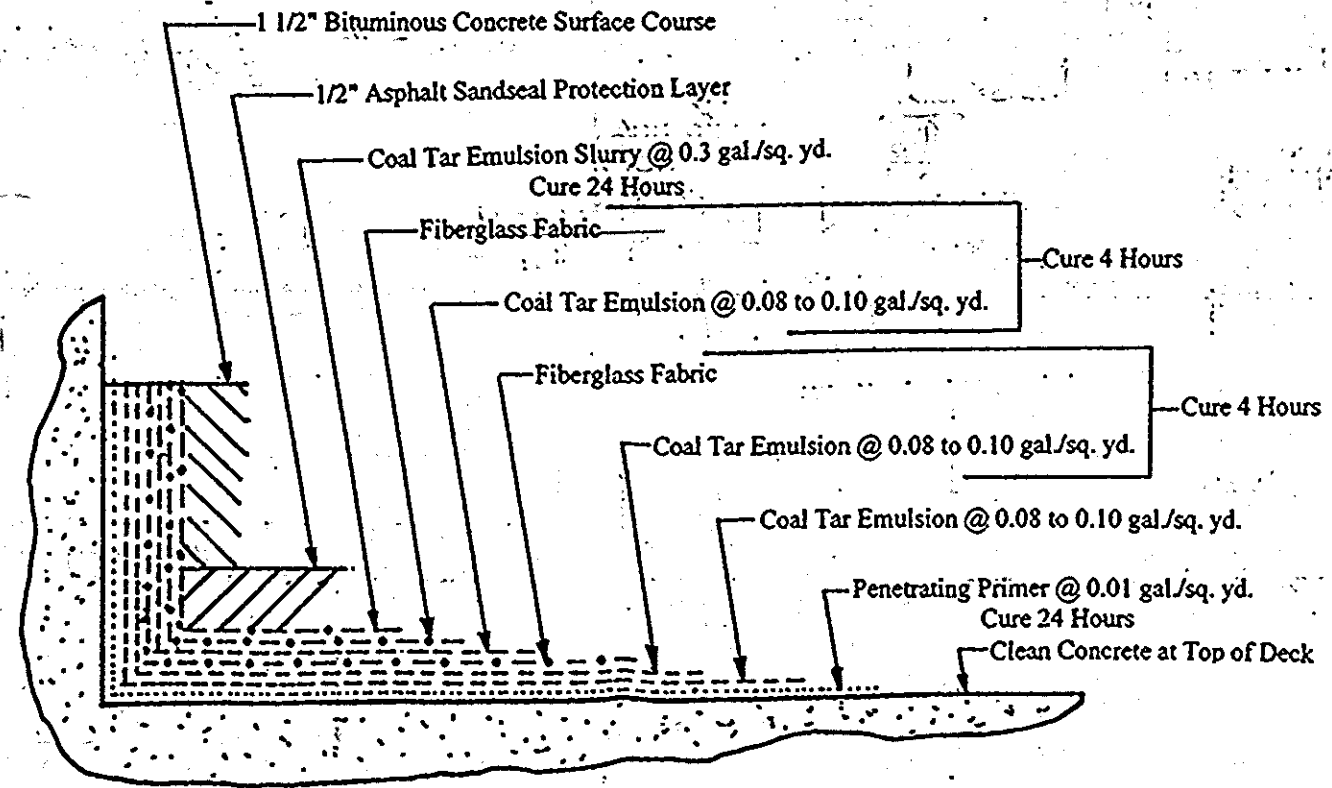
TEMPORARY CONCRETE BARRIER PLACEMENT DETAILS

NOTE: THIS DETAIL SUPPLEMENTS TRAFFIC CONTROL STANDARD 701321



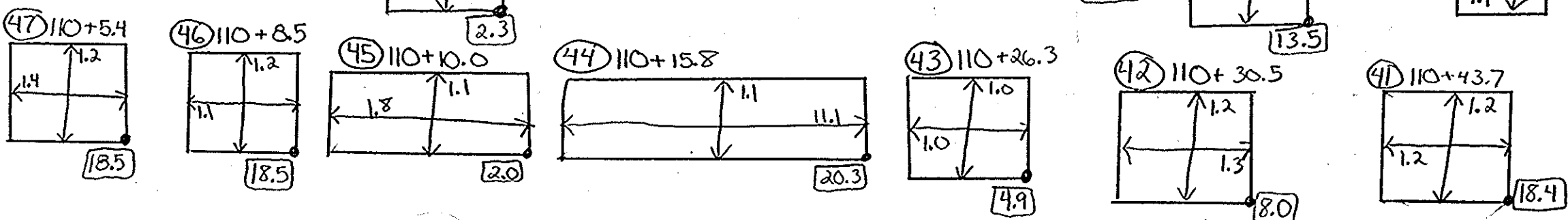
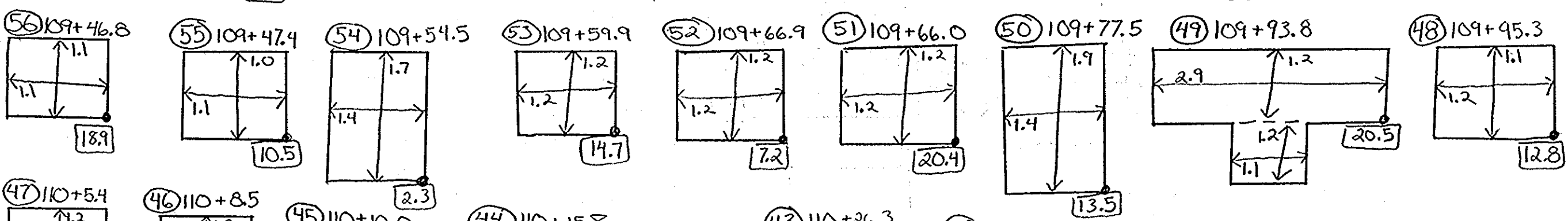
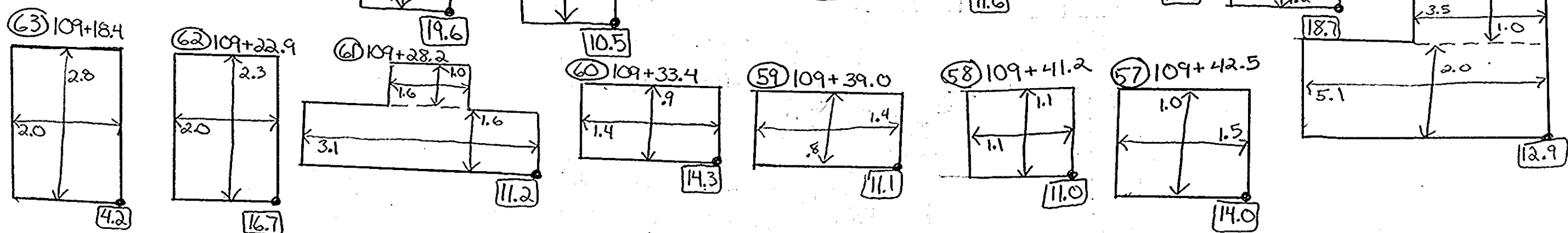
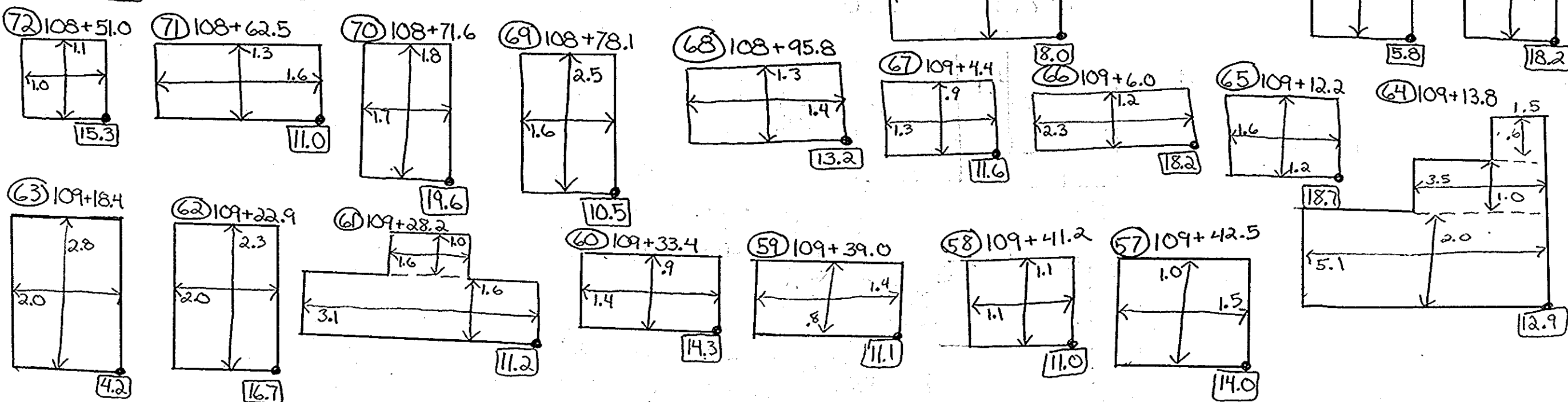
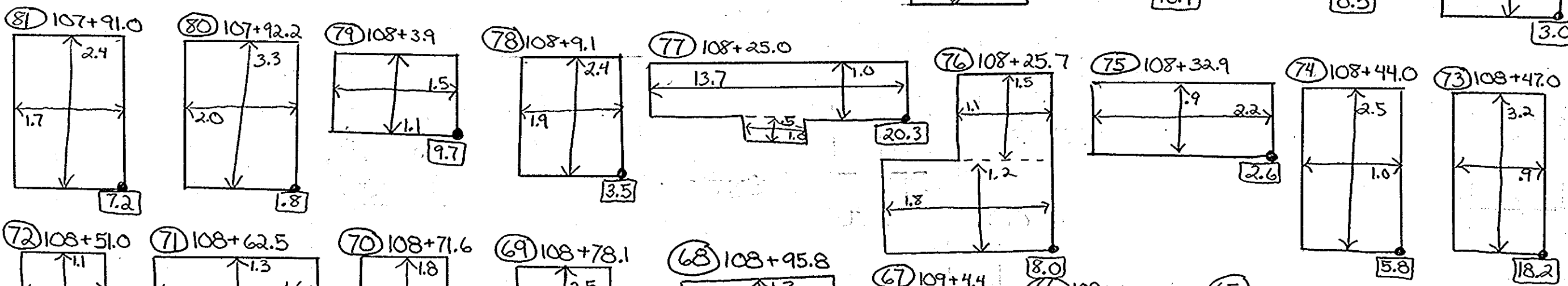
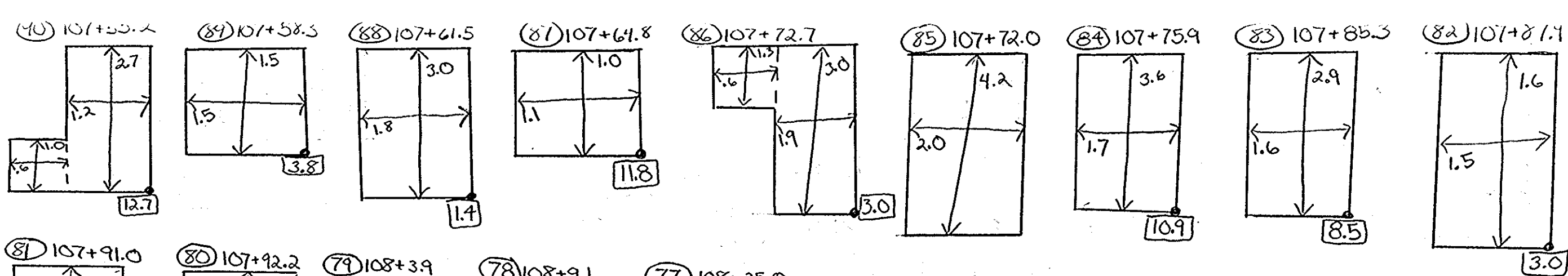


Lapping Detail



Waterproofing Detail

WATERPROOFING MEMBRANE SYSTEM DETAILS



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

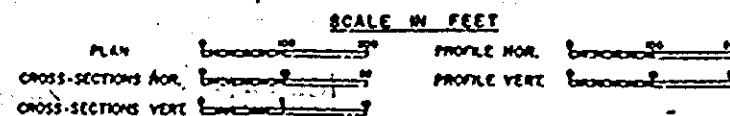
FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 17 OF 46

SHEET NO.	INDEX OF SHEETS
1	Cover Sheet
2-3	Typical Sections
4-5	Details
6	Summary of Quantities
7-11	Quantity Schedule
12-16	Plan & Profile - F.A. 24
17-18	Plan & Profile - S.R. Sta. 125 + 50
19-20	Bridge Plans
41-45	Cross Sections - F.A. 24
66-67	Cross Sections - S.R. Sta. 125 + 50

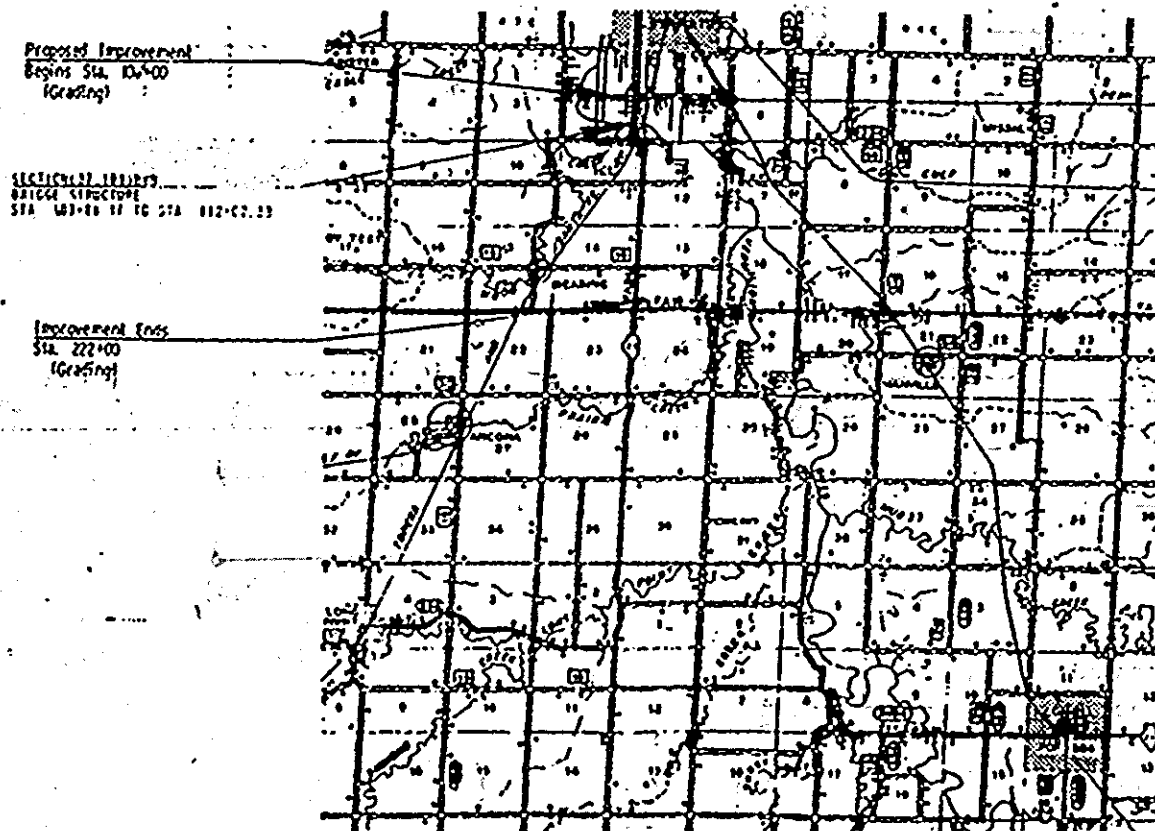
STANDARDS

1666-4	Standard Symbols and Abbreviations
1744-4	Right-of-Way Markers
2111-1	Name Plate for Bridges
2117-1	Blumstein Patching Details
2135	Permanent Survey Markers
2228-4	Metal End Section for Pipe Culvert
2237-40	Shoulder Detail
2249-4	Inlet Box
2258-3	Paved Ditch
2262-5	Precast R.C. Flared End Section
2298-4	Typical Application of Traffic Control Devices
2299-7	Design of Traffic Control Devices
2300-1	Flagman Traffic Control Sign
2301-3	Traffic Control Devices
2302-3	Traffic Control Devices
2303-4	Traffic Control Devices
2305-3	Traffic Control Devices
2307-4	Traffic Control Devices
2322-1	Bituminous Curb and Concrete Inlet for Stabilized Shoulders

*for Information Only



F.A. ROUTE 68
SECTION (37,101)BVB
PROJECT BR-F-F-68(24)
LIVINGSTON COUNTY
C-93-019-78



Net Length of Sections 137,101, W & R S (Pregrade) • 1133.8 FL • 2.156 Miles
137,101 BVB • 515.15 FL • 0.955 Miles
Gross Length of Improvement 12200.00 FL • 2.341 Miles
Net Length of Improvement 12200.00 FL • 2.341 Miles

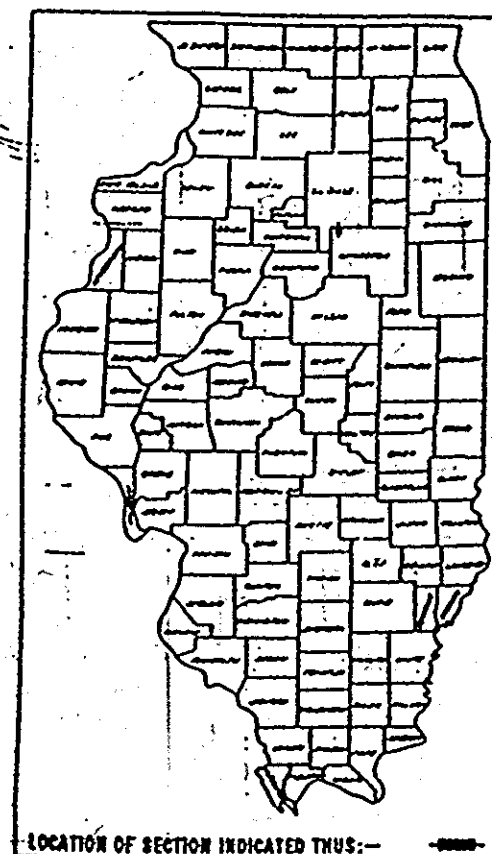
SCALE IN MILES

CONTRACT NO. 30400

FOR INFORMATION ONLY

SECTION	SECTION	SECTION	SECTION
CA 68	37,101	LIVINGSTON	67
P-93-031-86			

F.A. Route 68
Formerly F.A. Route 24



LOCATION OF SECTION INDICATED THUS:—

Design Designation
S75031 Major D. 66(B-15)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

5/12/86
SHEETS
THOMAS R. BRYANT
JULY 1986

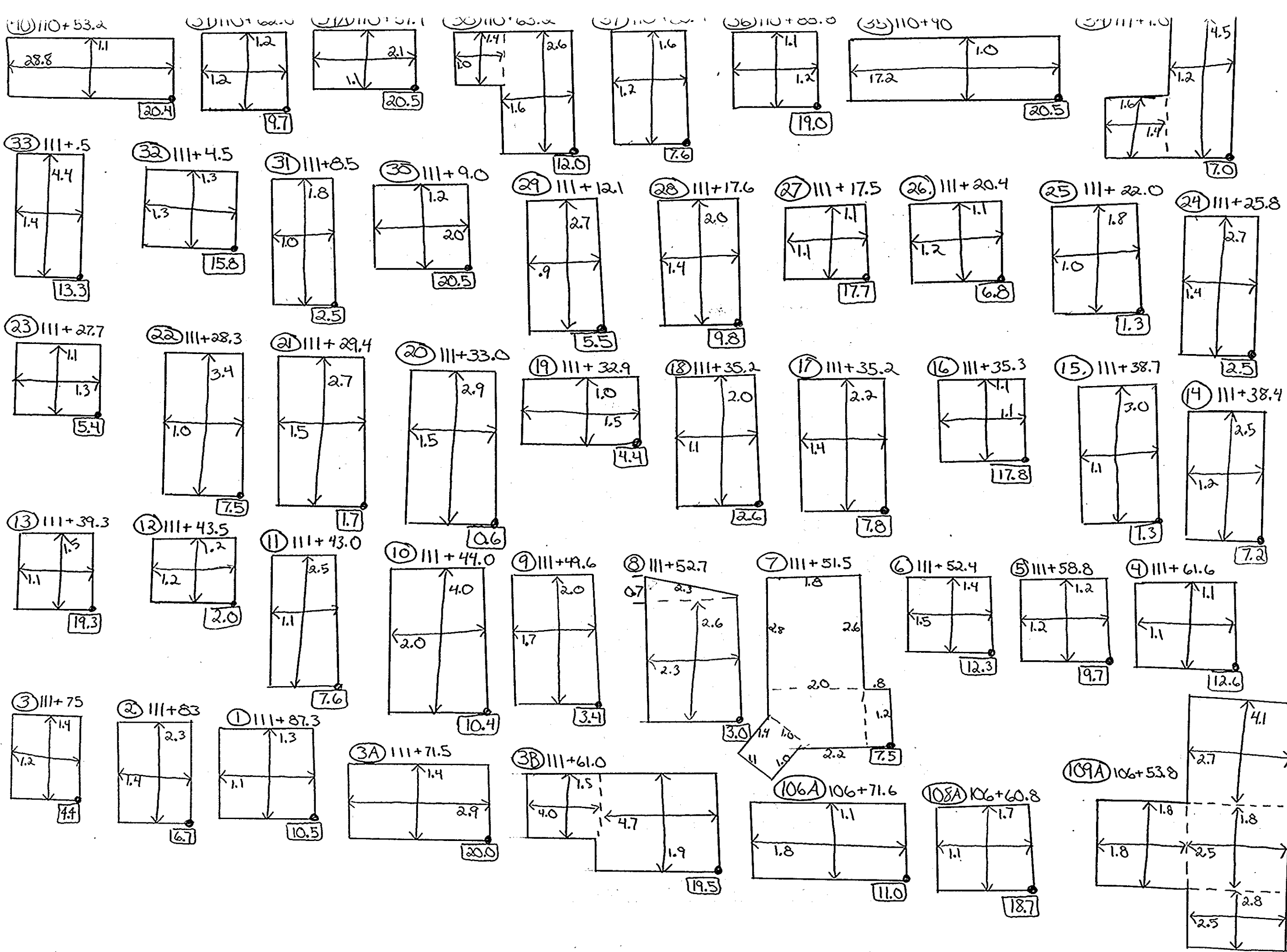
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

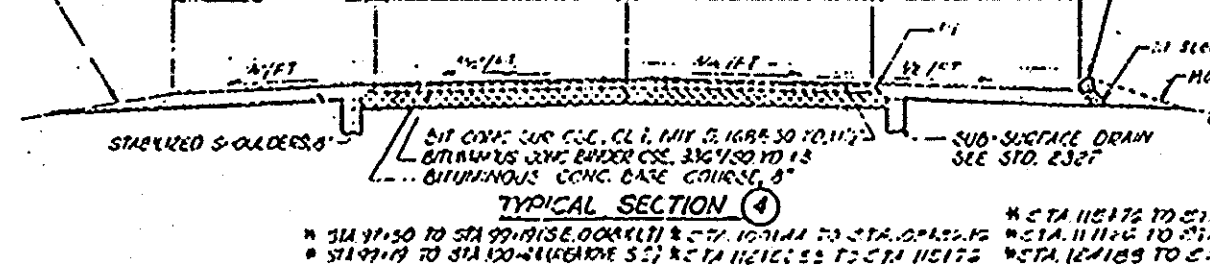
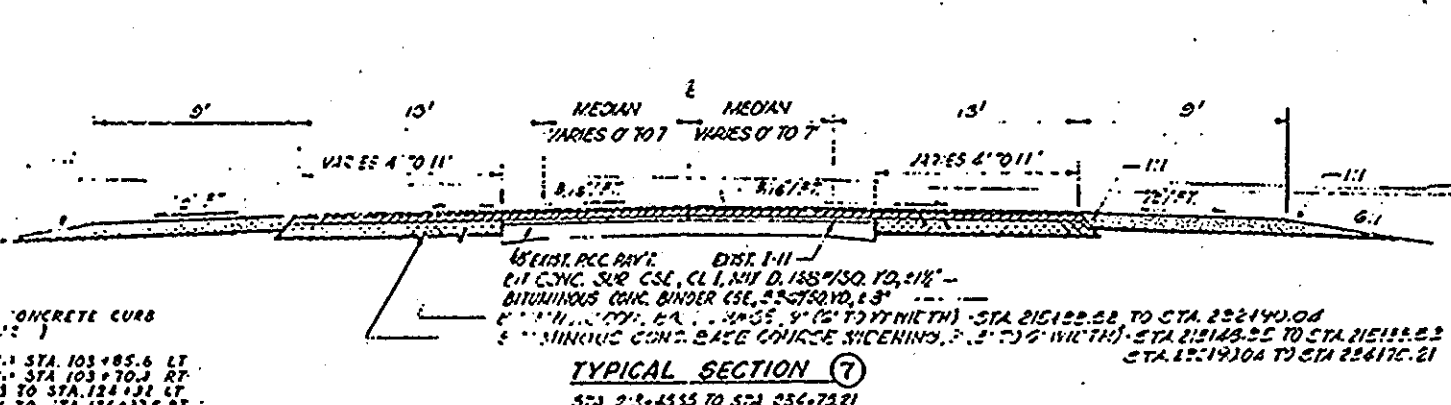
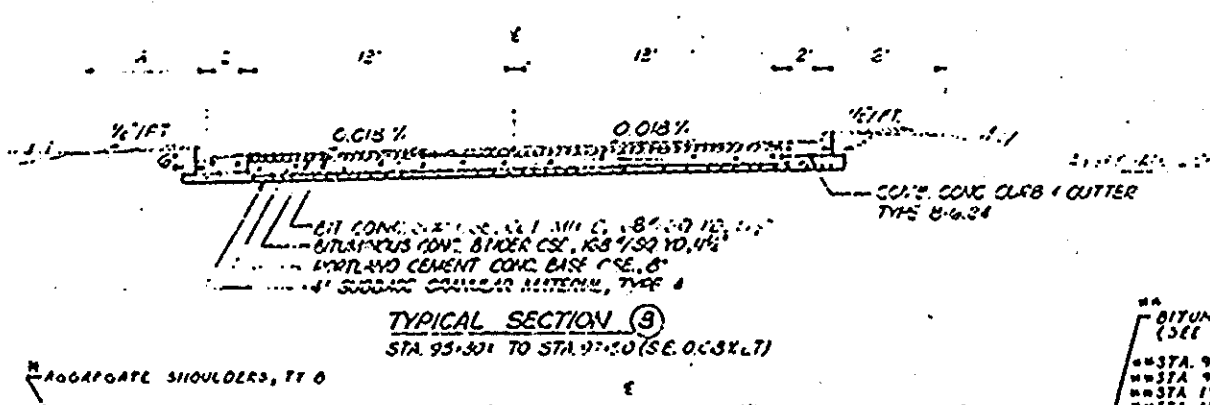
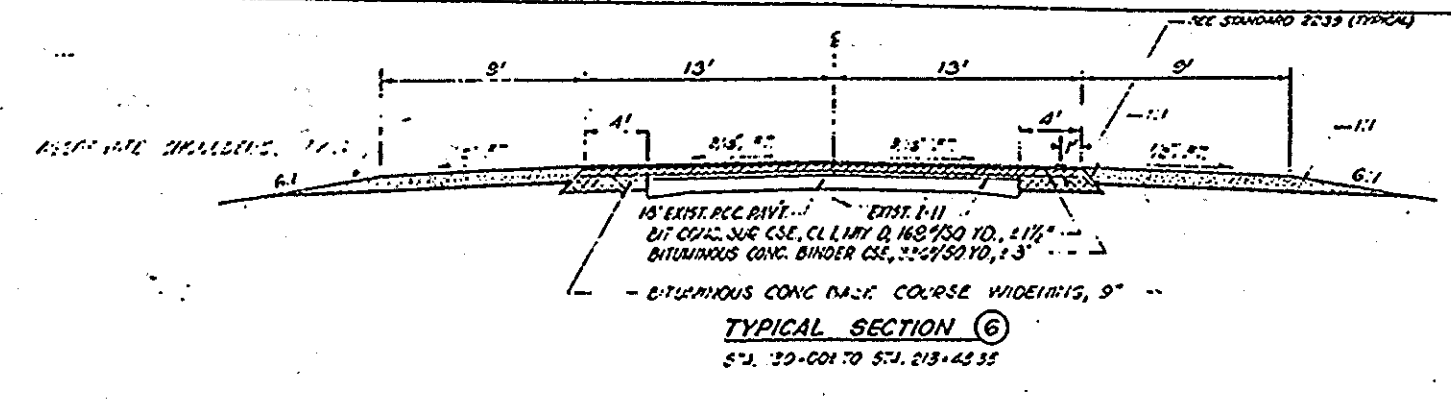
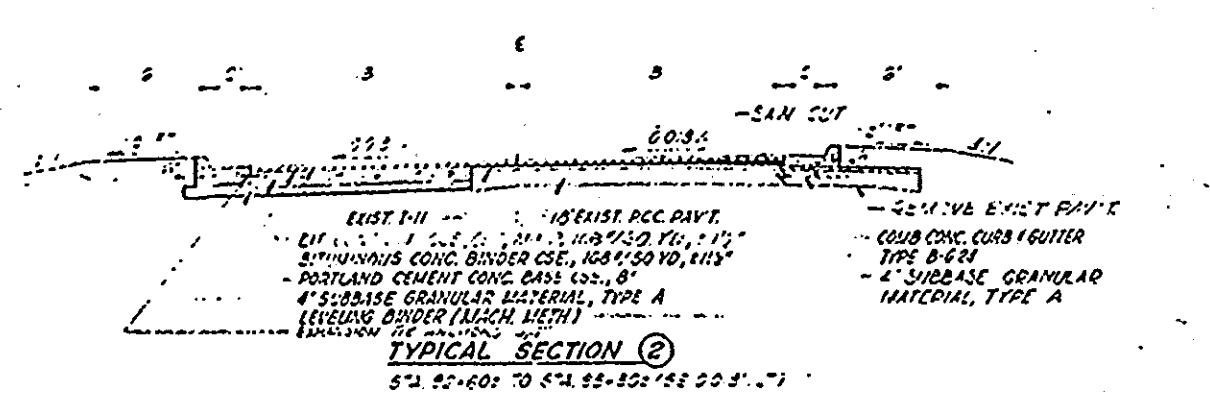
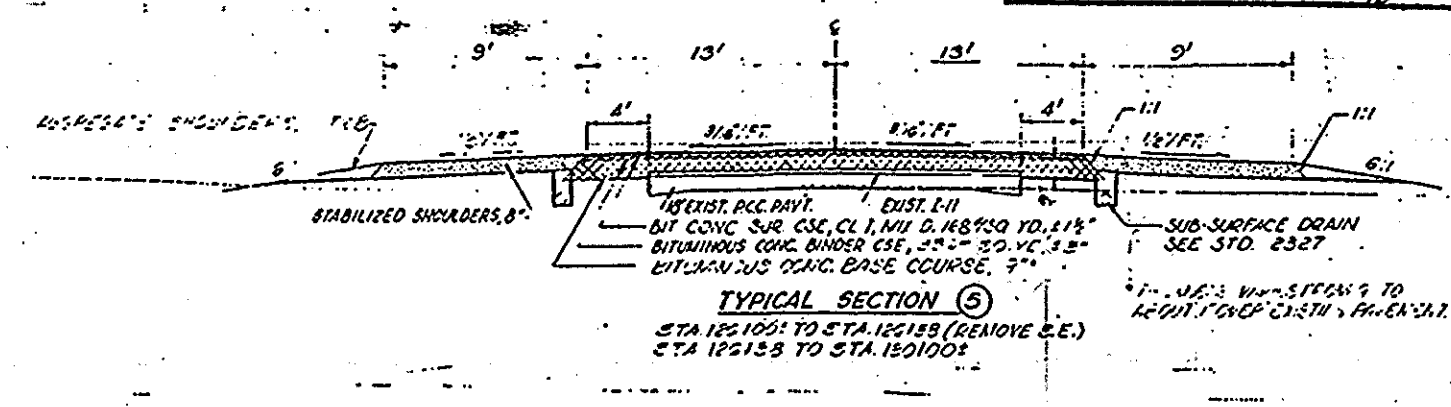
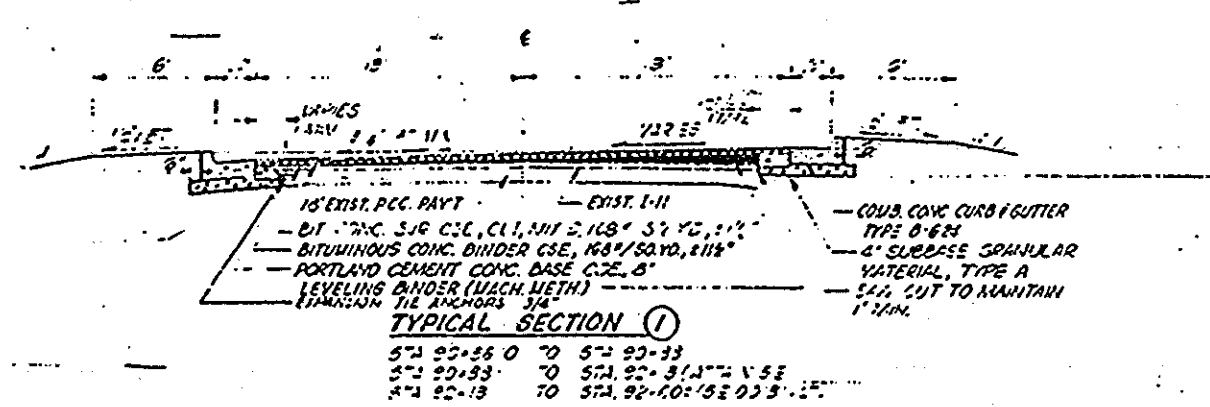
APPROVED

DISTRICT ADMINISTRATOR DATE

SEEDING & PARCELING ASSOCIATES, INC.
ENGINEERS - ARCHITECTS
ST. LOUIS, MISSOURI

John A. Bryant



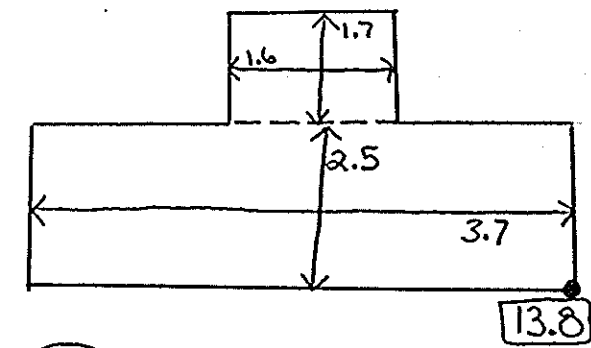


ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
24	37,101	LIVINGSTON	18	46

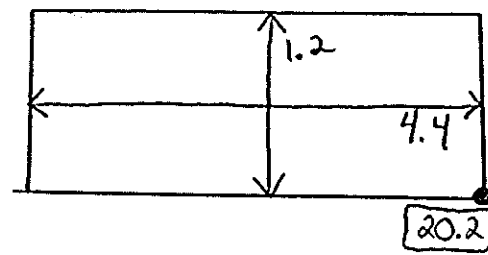
TYPICAL SECTIONS
FA. ROUTE 24

FOR INFORMATION ONLY

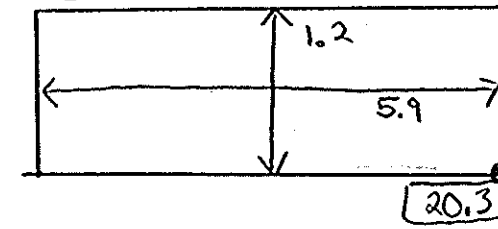
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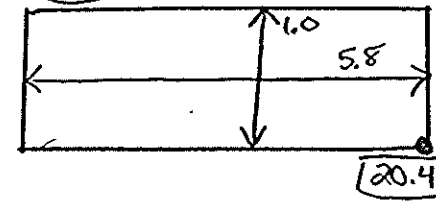
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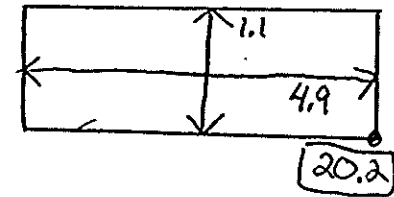
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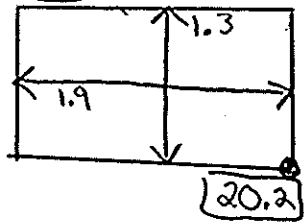
(119A) 106+4.6



(119B) 106+00



(112A) 106+34.2

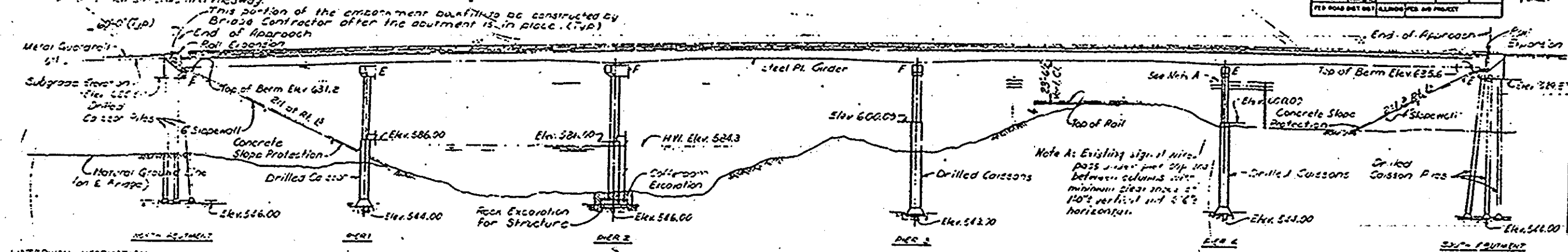


FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 19 OF 46

ROUTE NO.	SECTION	COUNTY	POST MILES	SHEET NO.
68	24	LIVINGSTON	20	21
SHEET NO. 1				

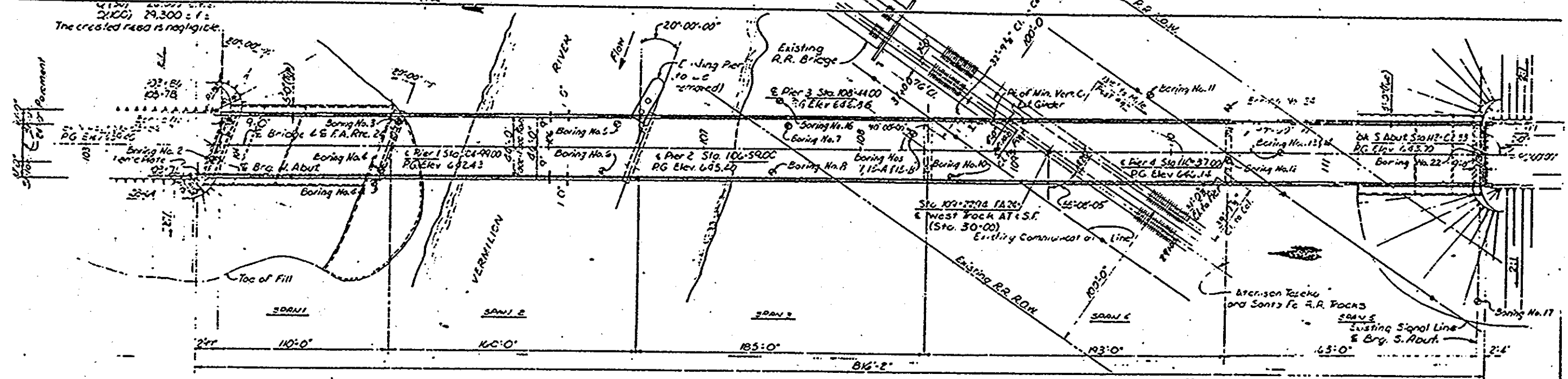
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

B.M. "5" Top Helicell of R.R. Bridge 50' L.S. Sta. 106+20 Elev. 655.53.
Existing Structure: S.A. B.C. 16A, Sec. 9350 built in 1924. Rein. Concrete
Deck Girders 4'-0" spaced. Abutment Bridge to be removed.



WATERWAY INFORMATION
Drainage Area: 1090 sq. mi.
Present Opening: 2972 sq. ft. (24' x 124' x 10' H.W.)
Required Opening: 5200 sq. ft. (24' x 217' x 10' H.W.)
Proposed Opening: 6100 sq. ft. (24' x 254' x 10' H.W.)
Clearance: 21000' 29,300' = 1:2
The created ratio is negligible.

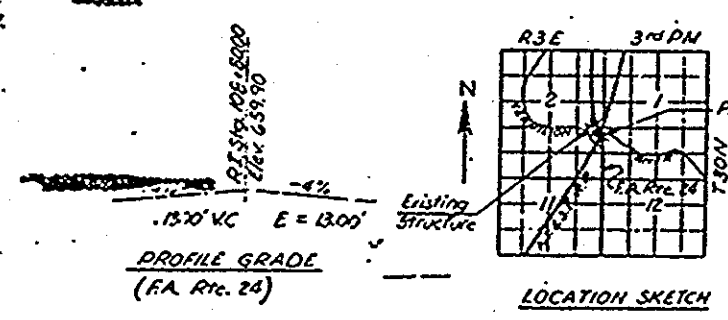
THIS SHEET FOR
INFORMATION ONLY



LIST OF DRAWINGS

- | | |
|---|---------------------------------------|
| 1. GENERAL PLAN AND ELEVATION | 12. SLAB |
| 2. GENERAL NOTES, ESTIMATED QUANTITIES & FOOTING LAYOUT | 13. SLAB |
| 3. STRUCTURAL STEEL | 14. PARAPET AND SLAB POURING SEQUENCE |
| 4. STRUCTURAL STEEL | 15. ALUMINUM RAILING |
| 5. STRUCTURAL STEEL | 16. NORTH ABUTMENT |
| 6. STRUCTURAL STEEL | 17. SOUTH ABUTMENT |
| 7. BEARINGS | 18. PIER 1 |
| 8. MOMENTS AND REACTIONS | 19. PIER 2 |
| 9. DECK ELEVATIONS | 20. PIER 3 |
| 10. DECK ELEVATIONS | 21. PIER 4 |
| 11. DECK ELEVATIONS | 22. NEOPRENE EXPANSION JOINT |

PLAN



STATION 106+39
BUILT 197
STATE OF ILLINOIS
FA. RT. 24 SEC. (37,101) BVB
F.A. PROJ.
LOADING HS20
NAME PLATE
(See Std. 2113)

NOTES
For Boring Data, see Special Provisions.
Abutment bents shall be sloped 6" per foot to draft.
For details on sections thru slope walls, see Sheet 2.
For General Notes and Estimated Quantities, see Sheet 2.

GENERAL PLAN AND ELEVATION
FA. ROUTE 24 (IL 23) OVER
VERMILION RIVER AND THE ATCHAFALAYA
TOPEKA & SANTA FE RAILROAD
FA. RT. 24 SEC. (37,101) BVB
LIVINGSTON COUNTY
STATION 106+39

DESIGNED: C. W. Anderson
CHECKED: S. F. Fink
CREATED: G. Fink
DRAWN: D. Ammons
CHECKED: G. Lee

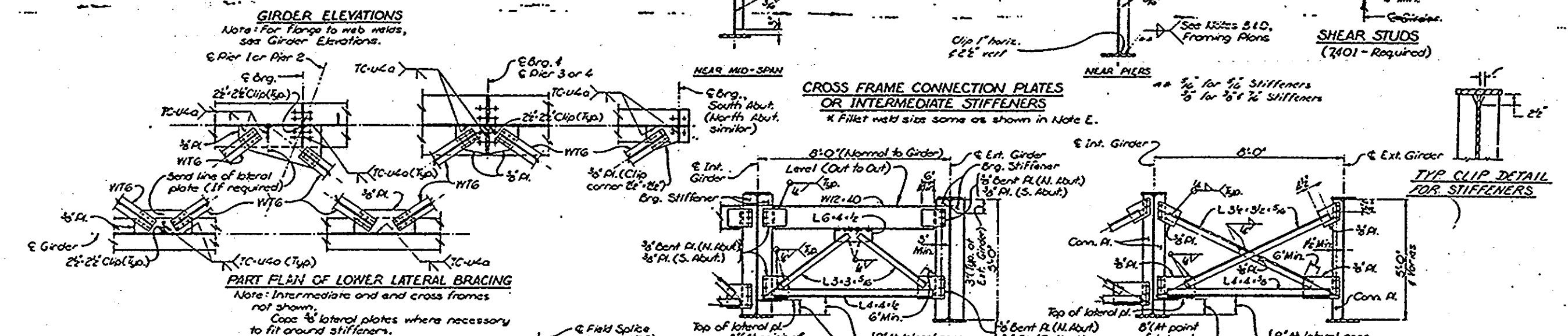
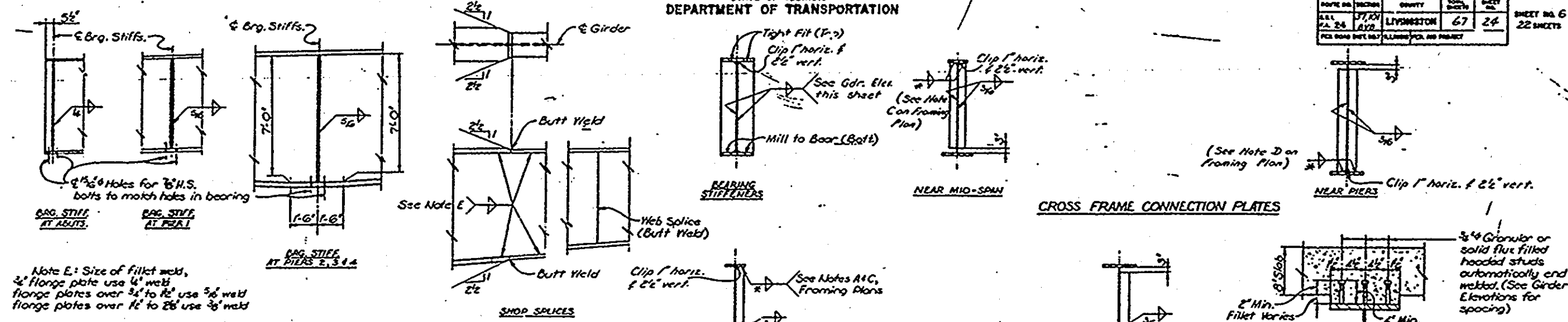
Note: Do not scale this drawing. Follow dimensions.

FOR INFORMATION ONLY

DATE	BY	CHKD	QTY	NO.	REV.
11/24/77	AVB	AVB	67	24	

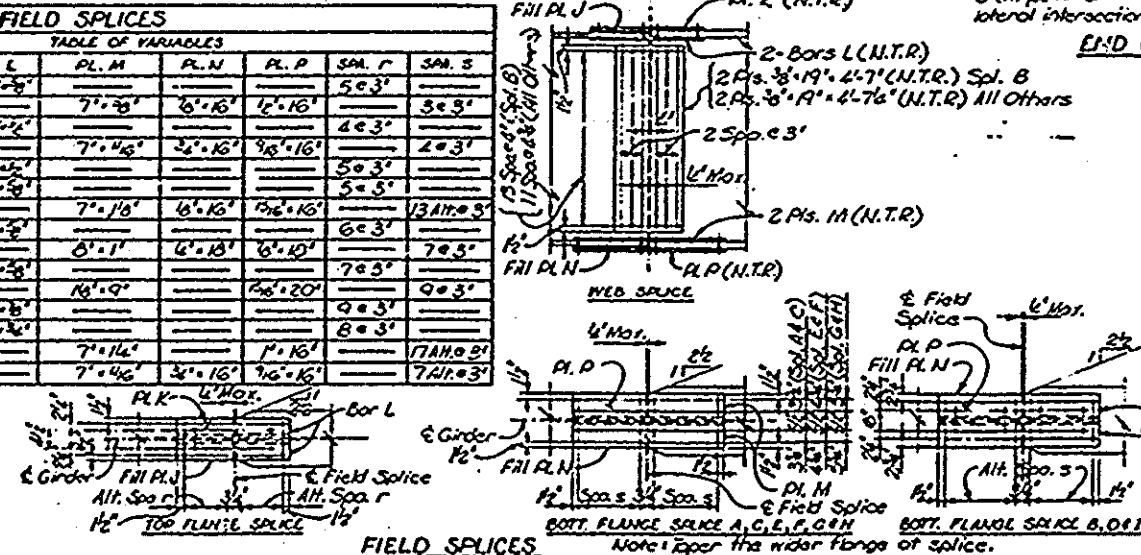
PCB ROAD DIST. DIV. ILL. HIGHWAY PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FIELD SPICES									
TABLE OF VARIABLES									
SPICE	PL. J	PL. K	DM. L	PL. M	PL. N	PL. P	SM. R	SM. S	
A (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
A (Bot. Flg.)									
B (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	4'3"	4'3"	
B (Bot. Flg.)									
C (Top Flg.)	24'12"	5'12"	5'12"	7'10"	6'10"	12'10"	5'3"	5'3"	
C (Bot. Flg.)									
D (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
D (Bot. Flg.)									
E (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
E (Bot. Flg.)									
F (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
F (Bot. Flg.)									
G (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
G (Bot. Flg.)									
H (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
H (Bot. Flg.)									
I (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
I (Bot. Flg.)									
J (Top Flg.)	18'12"	4'12"	5'6"	7'0"	6'10"	12'10"	5'3"	5'3"	
J (Bot. Flg.)									

DESIGNED BY: C. WISSEMEYER
CHECKED BY: S. FRANKLIN
DRAWN BY: G. DOW
IN CHARGE: R. QUINN-FIELD



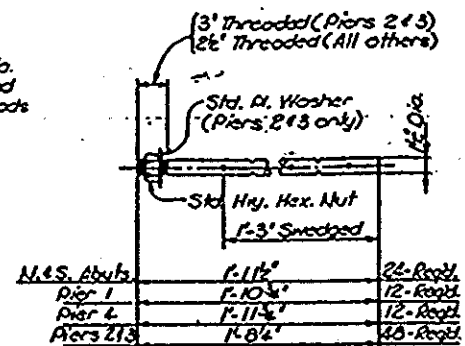
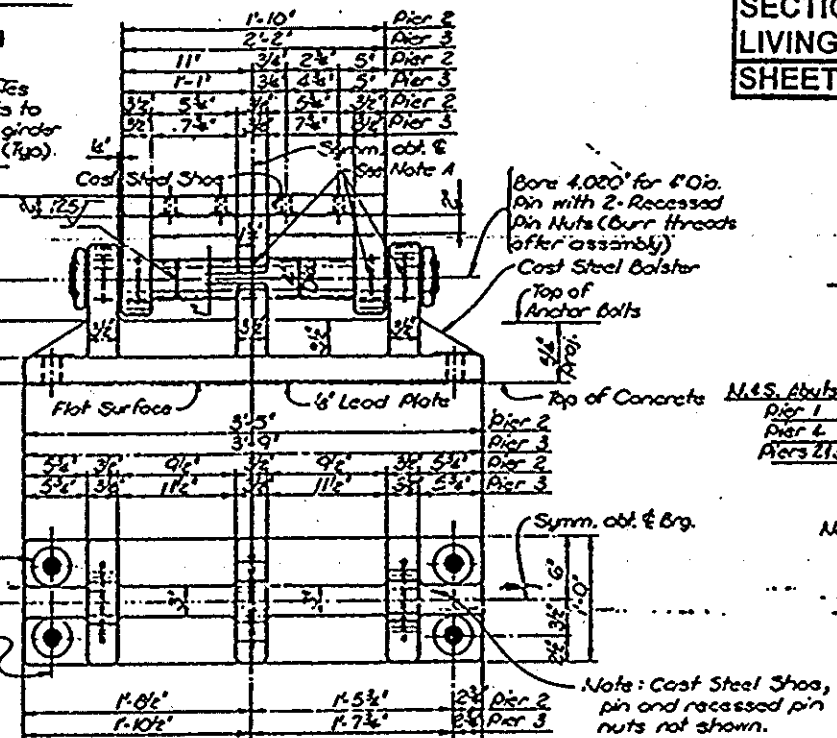
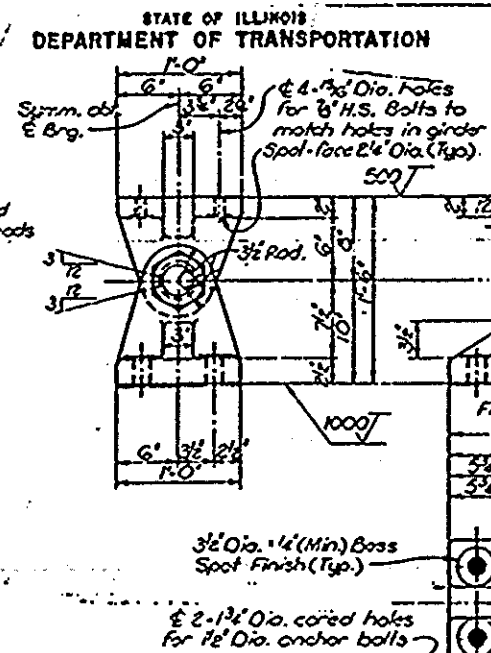
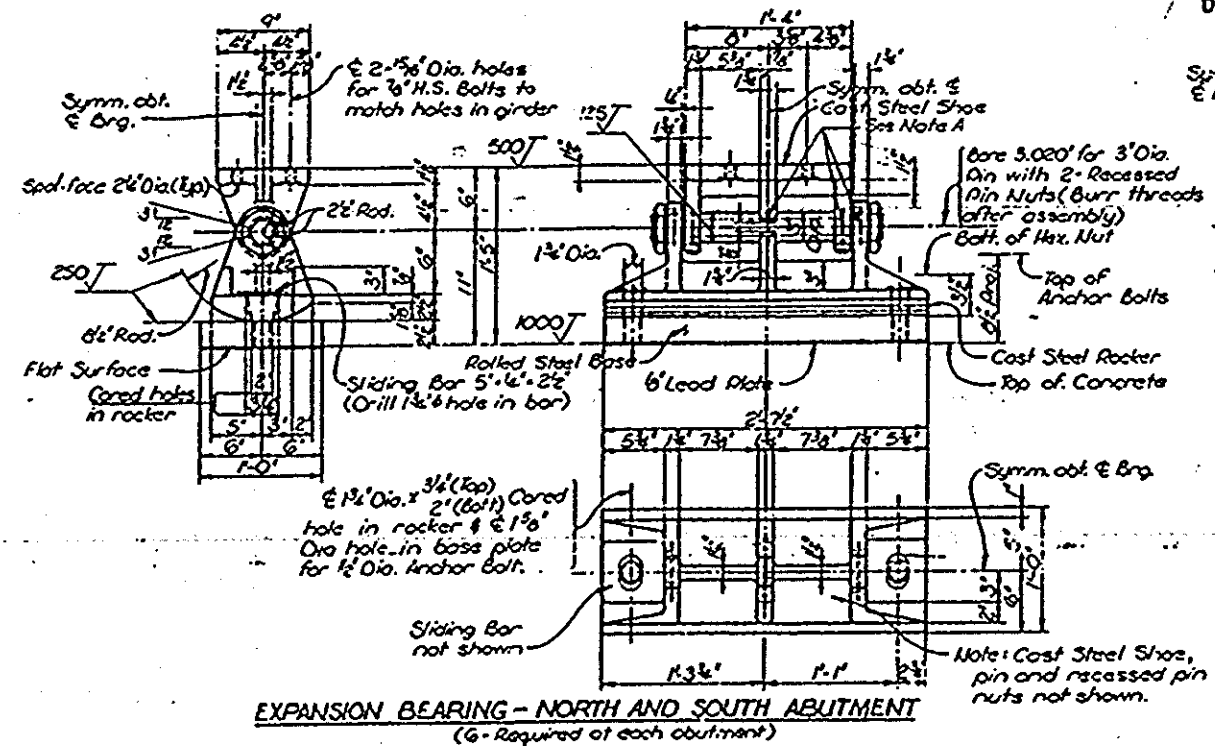
STRUCTURAL STEEL NOTES

GENERAL NOTES: See Sheet 2.
CAMBER: All girders to be cambered as shown on Sheet 5.
MATERIALS: All structural carbon steel shall conform to A.A.S.H.T.O.
M103.
FIELD CONNECTIONS: All field splices and connections to be bolted with 7/8" High Strength bolts conforming to A.A.S.H.T.O.
M104.
Notes shall be 1/8" in all lower lateral connection plates and gusset plates of cross frames for 7/8" High Strength Bolts. Hardened washers shall be required over holes in laterals and gusset plates.
All other holes shall be 1/4" dia.
DETAILS: All longitudinal and transverse dimensions are measured horizontally at a normal temperature of 50°F.

NOTES
For Bearing Details, see Sheet 7.
For exact location of stiffeners, see Framing Plans.

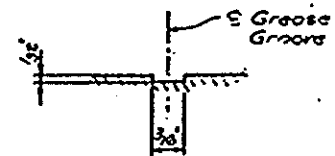
STRUCTURAL STEEL
FA. ROUTE 24 (ILL. 23) OVER
VERMILION RIVER AND THE ATCHISON
TOPEKA & SANTA FE RAILROAD
FA. RT. 24 SEC. (37101) BVB
LIVINGSTON COUNTY
STATION 106+39

FOR INFORMATION ONLY



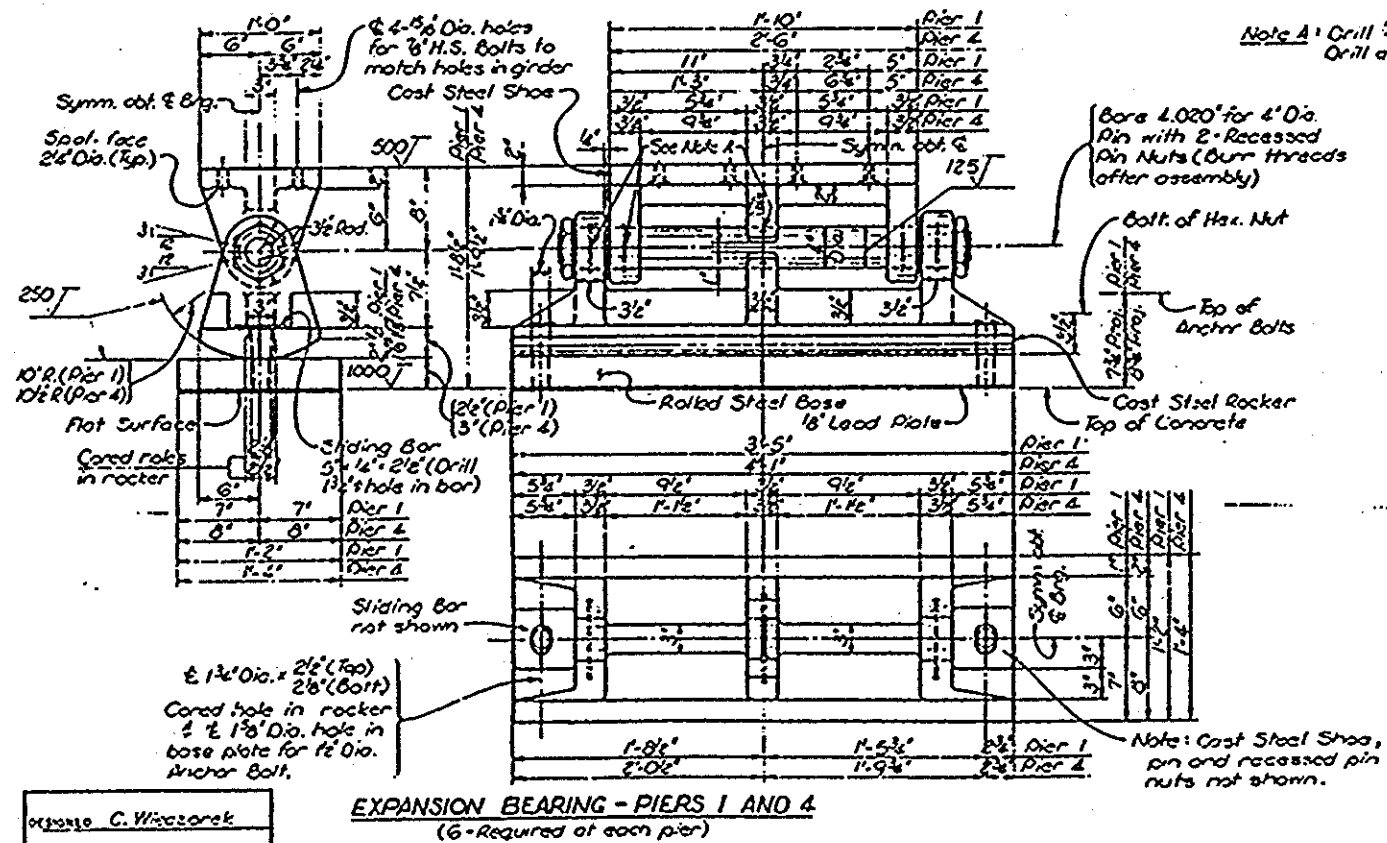
ANCHOR BOLTS

Note: Number of anchor bolts shown are total for both piers or abutments.



GREASE GROOVE ON SADDLE

Note: Grease bearing assembly with molybdenum grease before installation.



Note A: Drill $\frac{1}{8}$ " Hole to grease groove.
Drill and tap for grease fitting (Typ.)

BEARING NOTES

For Structural Steel Notes, see Sheet 6.
All fillets to be $\frac{1}{4}$ " radius unless otherwise shown.

Structural steel weldments of equal sections and strength may be substituted for the castings.

Lead plates shall conform to A.A.S.H.T.O. M112
Weight of lead plates shall be included in weight
of Structural Steel.

All material shall conform A.A.S.H.T.O M183
except as otherwise noted.

Castings shall conform to A.A.S.H.T.O
M 192, Class 70.

Anchor bolts shall conform to A.S.T.M. A307.
Weight of castings shall be computed on

the basis of the minimum thickness of material shown. Drafts supplied at the convenience of the fabricator shall not be included in payment.

Where finished surfaces are indicated on the drawings, the surface finishes shall conform to the American National Standards Institute surface roughness requirements in A.N.S.I. 846.1.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\pm 1/8$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. Pins shall conform to SAE 8620 material and shall be heat treated and case hardened to a depth of 0.12" to 0.15" to a hardness of 58 HRC. Pins shall be polished to a smooth finish after case hardening.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.E.C. R.A. 26	<u>SECTOR C.V.B.</u>	LIVINGSTON	67	25
FED. ROAD DIST. NO. 1 ALLEMAN, FID. AND PROJECT				

SHEET NO. 7
22 SHEETS

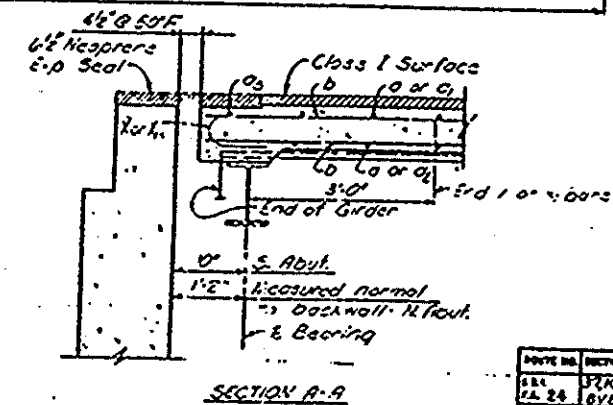
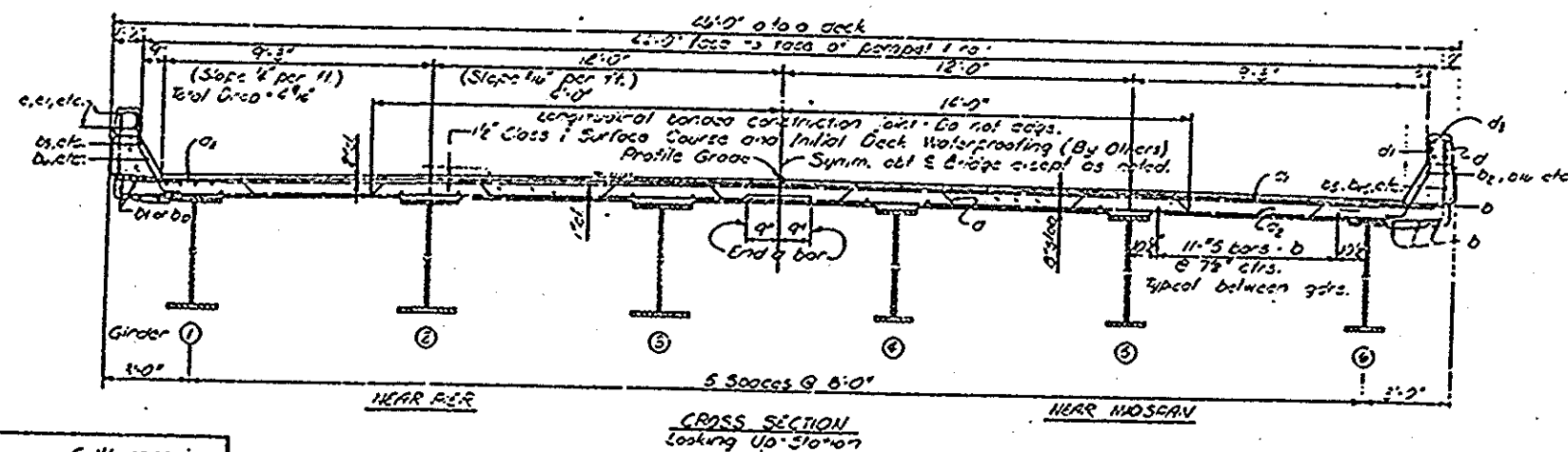
BEARINGS

F.A. ROUTE 24 (ILL. 23) OVER
VERMILION RIVER AND THE ATCHISON
TOPEKA & SANTA FE RAILROAD
F.A. RT. 24 SEC. (37/01) BYB
LIVINGSTON COUNTY
STATION 106+39

Note: Do not scale this drawing. Follow dimensions.

FOR INFORMATION ONLY

DESIGNED C. Winczorek
DESIGNED S. Franklin
DRAWN G. Doe
CHECKED P. Edwards



ROUTE NO.	DISTRICT	COUNTY	PRIN. SHEET	SHEET NO.
SRA F.A. 24	SPRIN BYB	LIVINGSTON	67	30
FED. ROAD DIST. NO.				
SHEET NO. 2 22 SHEETS				

NOTES
Work this sheet with Sheet 13.

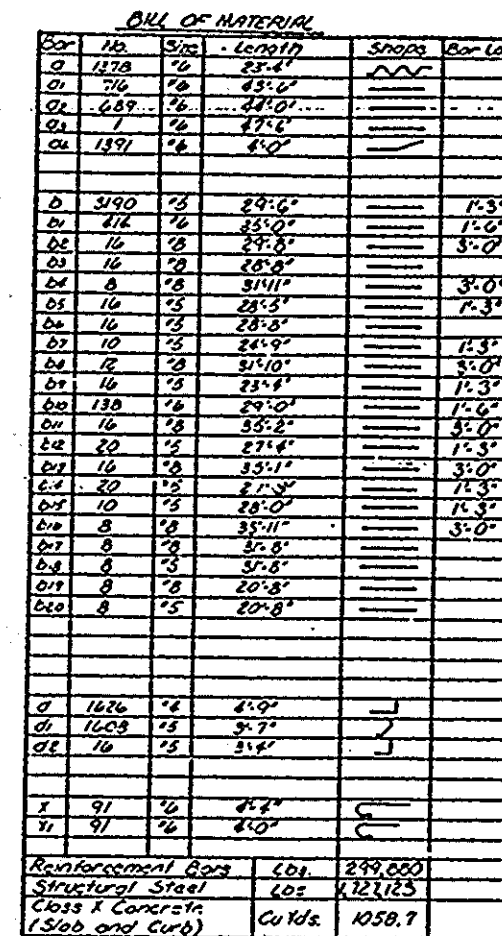
SLAB
F.A. ROUTE 24 (ILL. 23) OVER
VERMILION RIVER AND THE TICHISON
TOPENA & SANTA FE RAILROAD
F.A. RT. 24 SEC. (37, 40) BYB
UNIONSTOWN COUNTY
STATION 100+39

Note: Do not scale this drawing. Follow dimensions.

FOR INFORMATION ONLY

DEPOSED C. Wiczorek
 DEPOSED S.R. Franklin
 DEPOSED J.O. Smith Jr.
 DEPOSED R.V. Butterfield

FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 23 OF 40



NOTES

DOVE NO.	SECTION	COUNTY	FEET SHEET	SHEET NO.
S.E. 24	37, 40 D.V.	LIVINGSTON	67	31
PER ROAD DIST. NO. 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100				

SHEET NO. 13
22 SHEETS

SLAB
F.A. ROUTE 26 (LL. 23) OVER
VERMILION RIVER AND THE RICHISON
TOPEKA - SANTA FE RAILROAD
F.A. RT. 24 SEC. (37, 40) BYB
LIVINGSTON COUNTY
STATION 100 + 39

DEPTO C. Hecchorek
DEPTO S.R. Franklin
DEPTO J.O. Smith Jr
DEPTO R.V. Butterfield

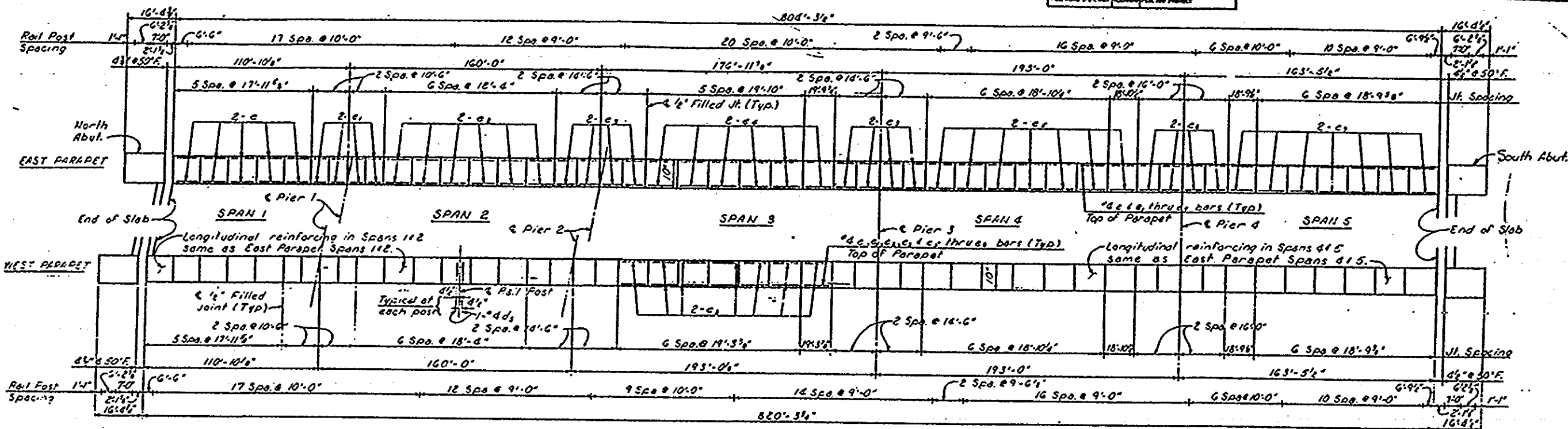
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
FA 24	37.101	LIVINGSTON	67	32
FOR ROAD DIST. ONLY. ALL DIMENSIONS ARE IN FEET AND INCHES.				

SHEET NO. 14
22 SHEETS

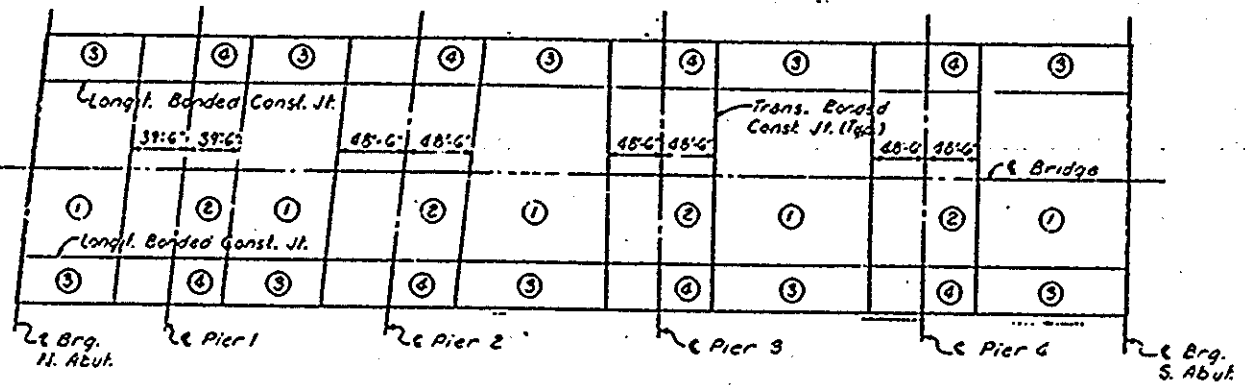
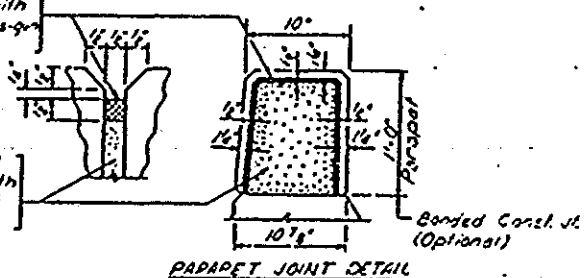
FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY
SHEET 24 OF 46



PLAN OF PARAPET
Note: All joints in parapet shall be vertical.
All longitudinal dimensions are measured
along inside face of parapet.

Two component non-solaining
gray sealing compound with
polyamide liquid polymers-gr
grade with primer.

1" Preformed Core Joint
Filler (In accordance with
Articles 715.01 or 715.08)
Cost incidental.



SLAB POURING SEQUENCE
Note: Pouring shall begin preferably at either or both abutments and proceed
successively toward the other end. Pours shall be made in order indicated
by numbers in circles. If longitudinal joint is omitted, follow pouring
sequence for center section of slab.

BILL OF MATERIAL				
Bar	No.	Size	Length	Shade
d ₁	542	"d	2'-1"	---
e	60	"d	17'-7"	---
e ₁	32	"d	10'-2"	---
e ₂	48	"d	18'-0"	---
e ₃	64	"d	18'-2"	---
e ₄	20	"d	18'-6"	---
e ₅	56	"d	18'-6"	---
e ₆	32	"d	15'-8"	---
e ₇	36	"d	18'-3"	---
e ₈	28	"d	18'-11"	---
Aluminum Railing				Lin. Ft. 1,686
Glass & Concrete				Cu. Yds. 32.2
Reinforcement Bars				Lbs. 4,730

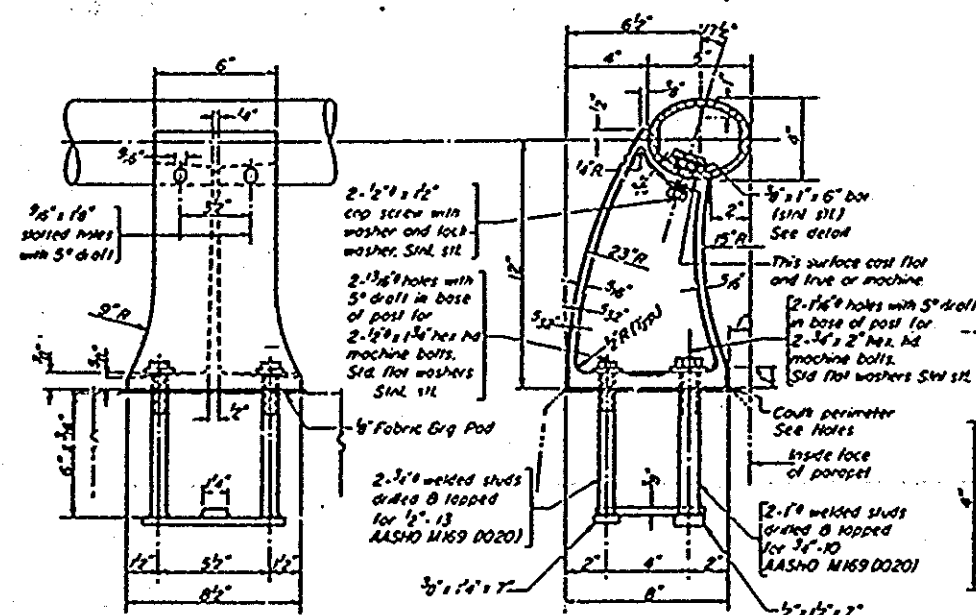
PARAPET AND
SLAB POURING SEQUENCE
FA. ROUTE 24 (ILL. 23) OVER
VERMILION RIVER AND THE ARCHISON
TOPEKA & SANTA FE RAILROAD
FA. RT. 24 SEC. (37.101) BVB
LIVINGSTON COUNTY
STATION 106+39

DESIGNED C. Wicceorah
CHECKED S. Franklin
DRAWN D. Richardson
INCHES G. Ode

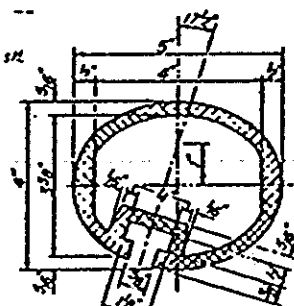
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FOR INFORMATION ONLY

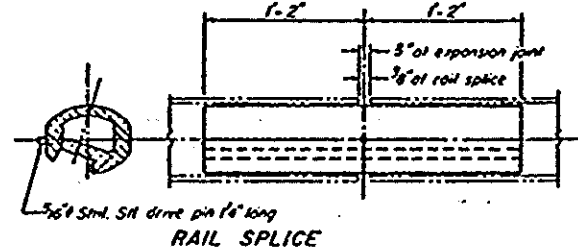
ROUTE NO.	SECTION	COUNTY	SCALE	SHEET NO.	TOTAL SHEETS
FA 68	37,101	LIVINGSTON	67 33	25	46
LIVINGSTON COUNTY, ILL.					



RAIL POST DETAILS

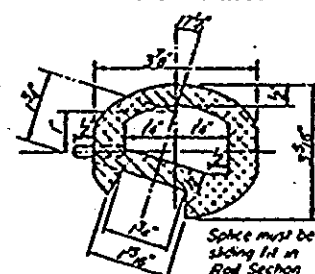


SEC. THRU ELLIPTICAL RAIL SECTION



RAIL SPLICE

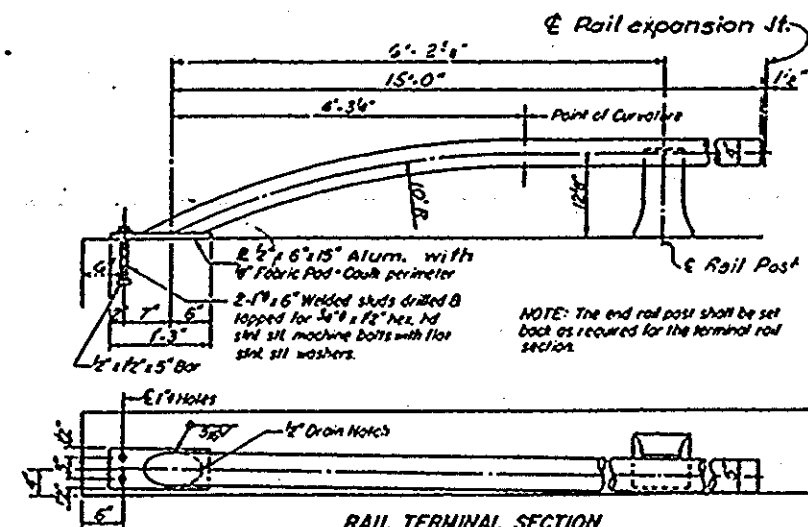
Stainless steel machine bolts or cap screws shall be in accordance with Article 710.37(a) of the Std. Specs. except Grade B8 or B8M may be furnished.



SEC. THRU SPLICE



CLAMP BAR



RAIL TERMINAL SECTION

Quantity:
Neoprene Expansion Jt. (6') = 93 Lin. Ft.

NOTES

For Rail Post Spacing and Estimated Quantity of Rail, see Sheet 14.
For Neoprene Expansion Joint, see Sheet 22.

NOTES:

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
All joints in rail shall be spaced per detail.
Provide 1-1/2\"/>

ALUMINUM RAILING
FA ROUTE 23 (ILL. 23) OVER
VERMILION RIVER AND THE ATCHISON
TOPEKA & SANTA FE RAILROAD
FA RT. 23 SEC. 137.101A/B
LIVINGSTON COUNTY
STATION 106+39

DESIGNED BY	C. Wicczorek
CHECKED BY	S. Franklin
APPROVED BY	D. Richardson
DATE	G. Oze

Note: Do not scale this drawing. Follow dimensions.

FOR INFORMATION ONLY

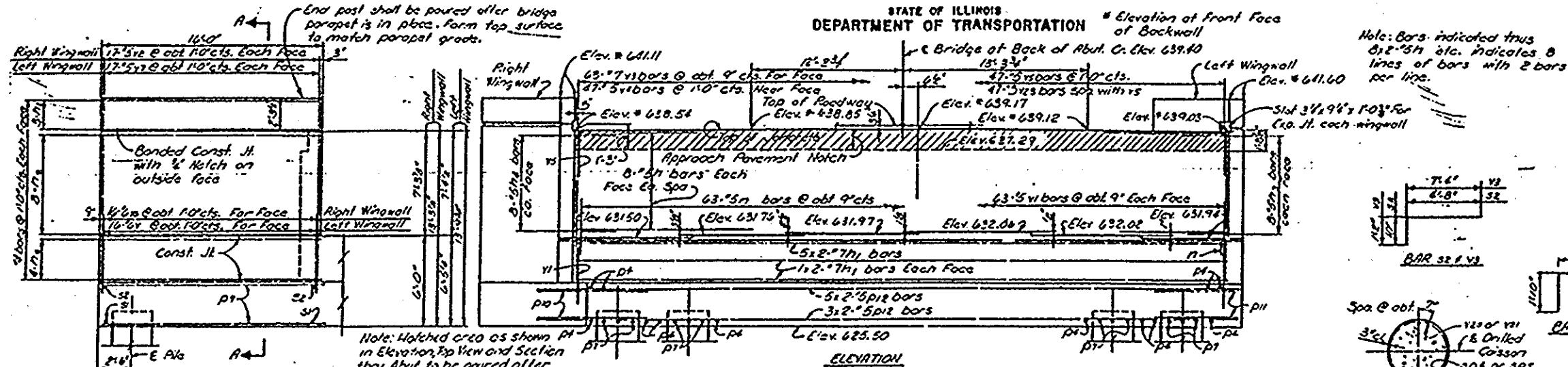
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Elevation at front face of Backwall

FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-1
LIVINGSTON COUNTY

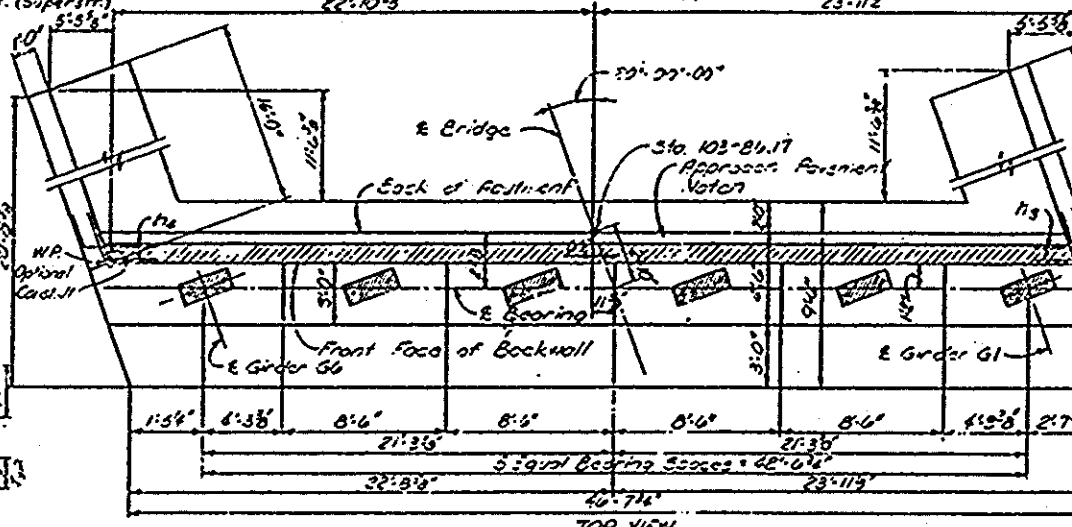
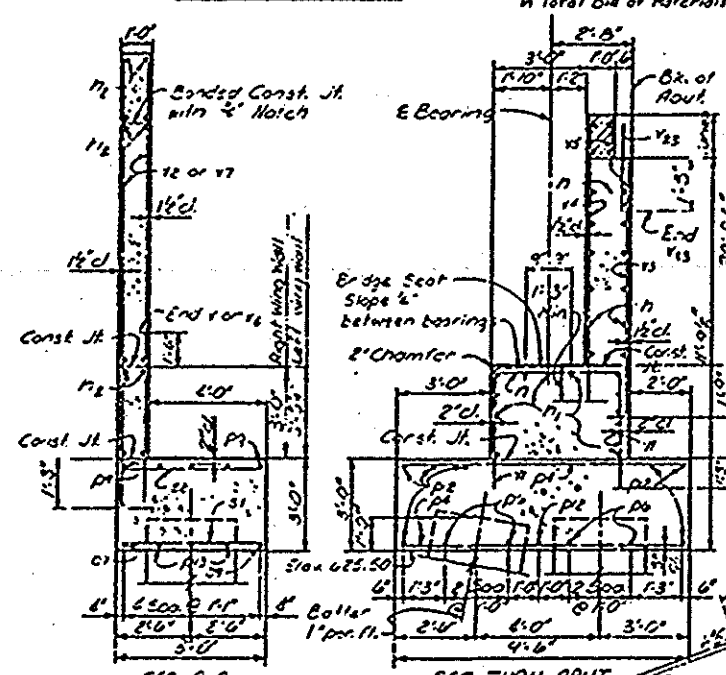
SHEET 26 OF 46

DATE	BY	CHECKED	DATE	BY	CHECKED	SHEET NO.	TOTAL SHEETS
11/10/10	J.A.	J.A.	11/10/10	J.A.	J.A.	26	46

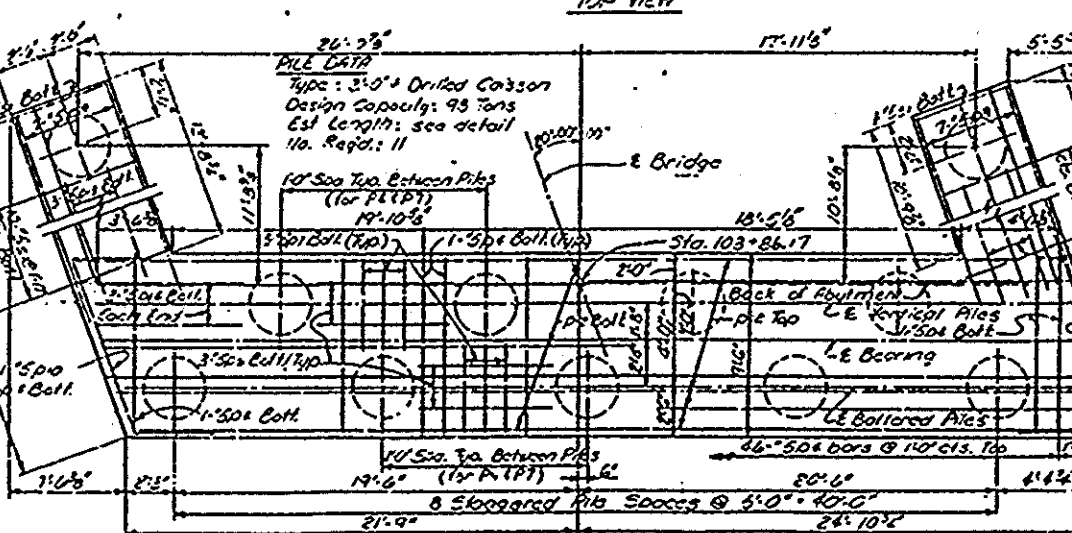


Note: Watched area as shown in Elevation, Top View and Section thru Abut. to be poured after superstructure forms are removed. Class 1 concrete (3.0 cu. yd.) is included in Total Bill of Materials. (Superstr.)

WING WALL ELEVATION

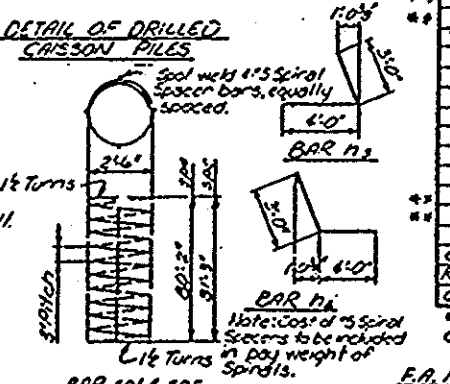
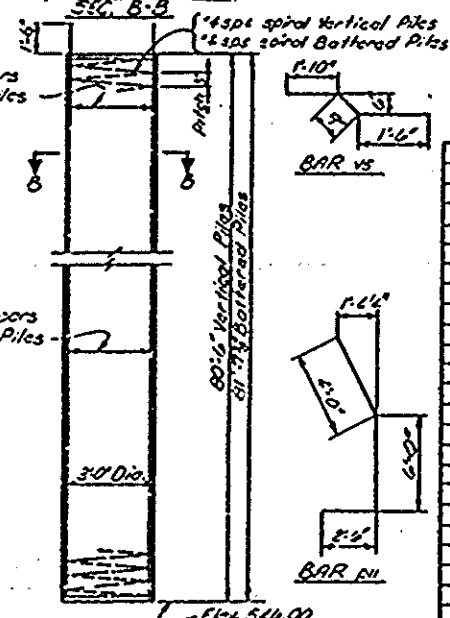
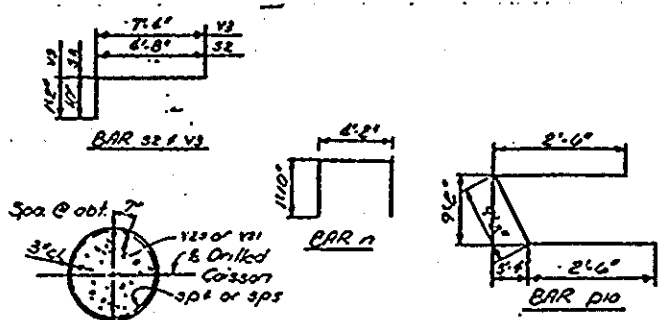


TOP VIEW



PLAN-PILE CAP

Note: Do not scale this drawing. Follow dimensions.



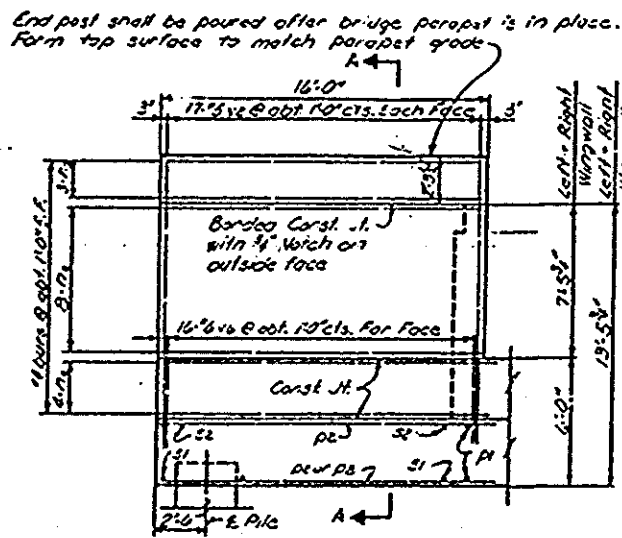
NORTH ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Weight	Notes
1	10	5	44'-4"	1.00	
2	10	7	23'-3"	1.00	
3	10	8	15'-8"	1.00	
4	10	10	1'-0"	1.00	
5	10	12	7'-0"	1.00	
6	10	14	7'-0"	1.00	
7	10	16	7'-0"	1.00	
8	10	18	7'-0"	1.00	
9	10	20	7'-0"	1.00	
10	10	22	7'-0"	1.00	
11	10	24	7'-0"	1.00	
12	10	26	7'-0"	1.00	
13	10	28	7'-0"	1.00	
14	10	30	7'-0"	1.00	
15	10	32	7'-0"	1.00	
16	10	34	7'-0"	1.00	
17	10	36	7'-0"	1.00	
18	10	38	7'-0"	1.00	
19	10	40	7'-0"	1.00	
20	10	42	7'-0"	1.00	
21	10	44	7'-0"	1.00	
22	10	46	7'-0"	1.00	
23	10	48	7'-0"	1.00	
24	10	50	7'-0"	1.00	
25	10	52	7'-0"	1.00	
26	10	54	7'-0"	1.00	
27	10	56	7'-0"	1.00	
28	10	58	7'-0"	1.00	
29	10	60	7'-0"	1.00	
30	10	62	7'-0"	1.00	
31	10	64	7'-0"	1.00	
32	10	66	7'-0"	1.00	
33	10	68	7'-0"	1.00	
34	10	70	7'-0"	1.00	
35	10	72	7'-0"	1.00	
36	10	74	7'-0"	1.00	
37	10	76	7'-0"	1.00	
38	10	78	7'-0"	1.00	
39	10	80	7'-0"	1.00	
40	10	82	7'-0"	1.00	
41	10	84	7'-0"	1.00	
42	10	86	7'-0"	1.00	
43	10	88	7'-0"	1.00	
44	10	90	7'-0"	1.00	
45	10	92	7'-0"	1.00	
46	10	94	7'-0"	1.00	
47	10	96	7'-0"	1.00	
48	10	98	7'-0"	1.00	
49	10	100	7'-0"	1.00	

Class 1 Concrete: 3.0 cu. yd.
Reinforcement Bars: 63'-5 1/2" @ 10' cts. For Face
Caisson Concrete: 3.0 cu. yd.

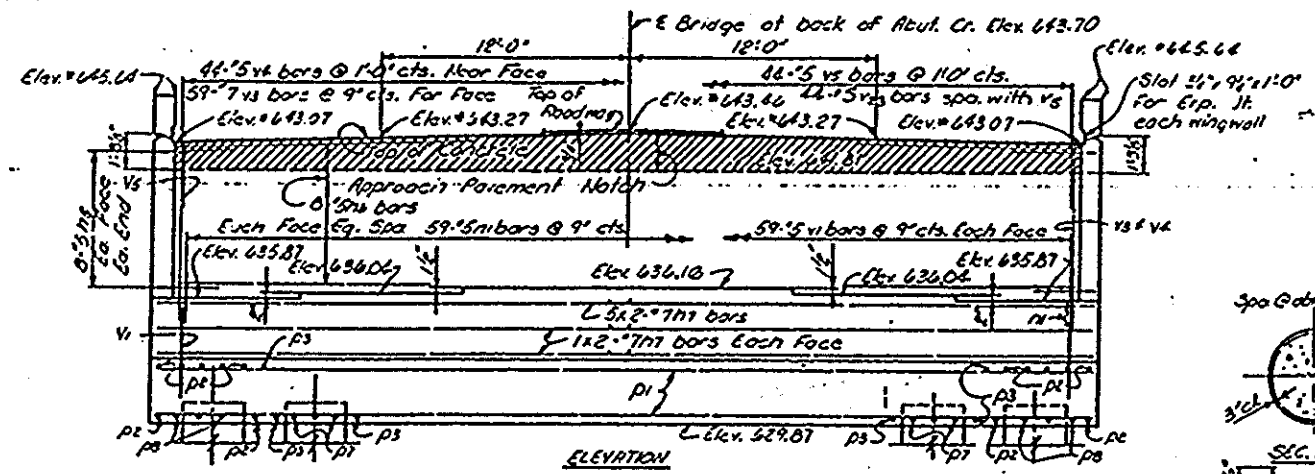
DESIGNED BY: G.J. Roush
CHECKED BY: J.A. Luedsen
DESIGNED BY: J.O. Smith Jr.
CHECKED BY: R.V. Butterfield

FOR INFORMATION ONLY

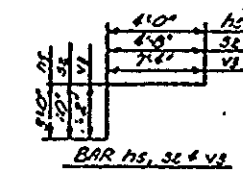
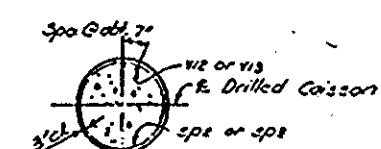


WALL ELEVATION

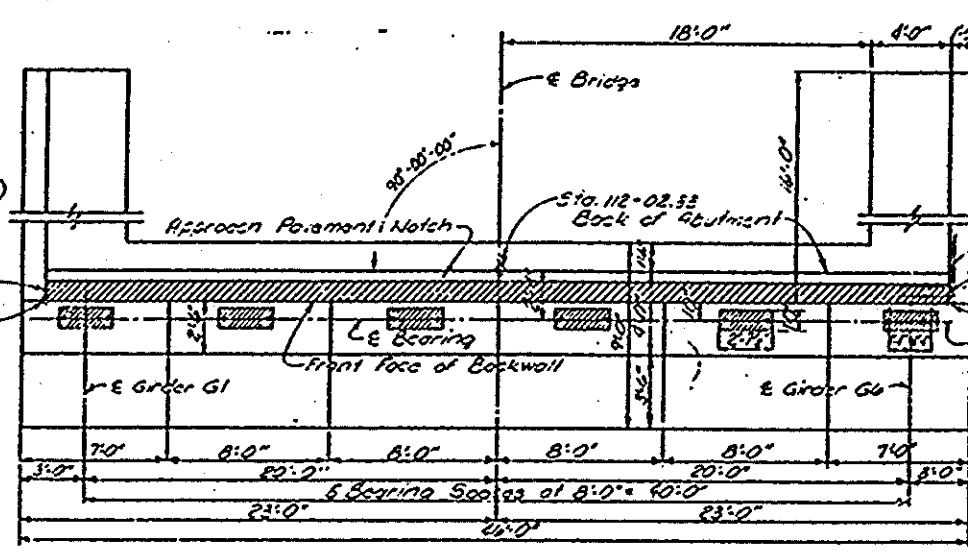
Note: Bars indicated thus 8x2.5ha etc. indicates 8 lines of bars with 2 bars per line.



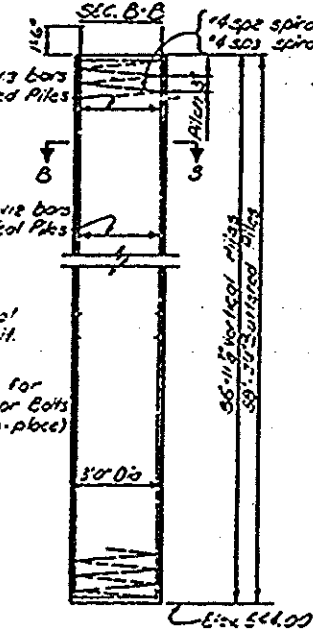
ELEVATION



Note: Hatched area as shown in Elevation, Top view and Section thru Abut. to be poured after superstructure forms are removed. Class X Concrete (2.3 Cu.Yd.) is included in Total Bill of Material (Superstr.)



TOP VIEW

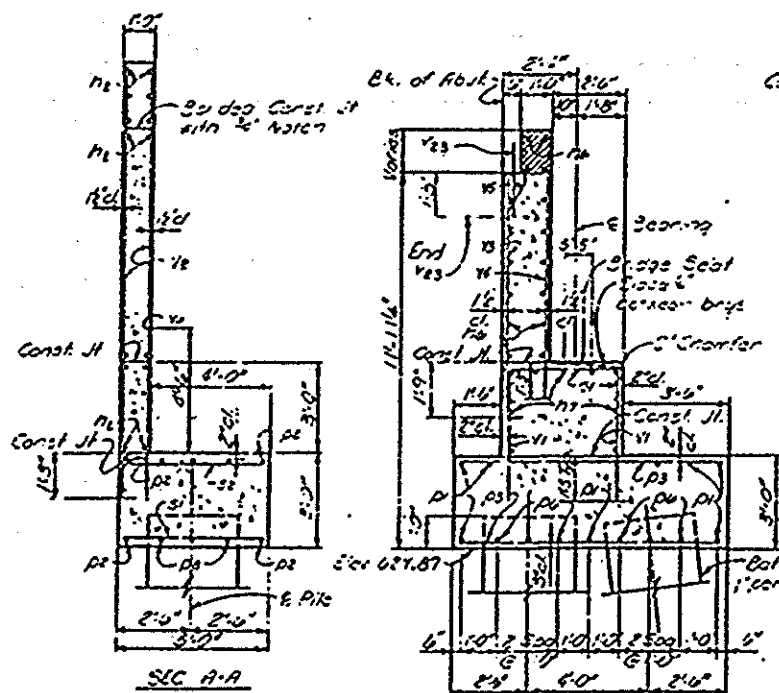


SECTION B-B

SOUTH ABUT. BILL OF MATERIAL

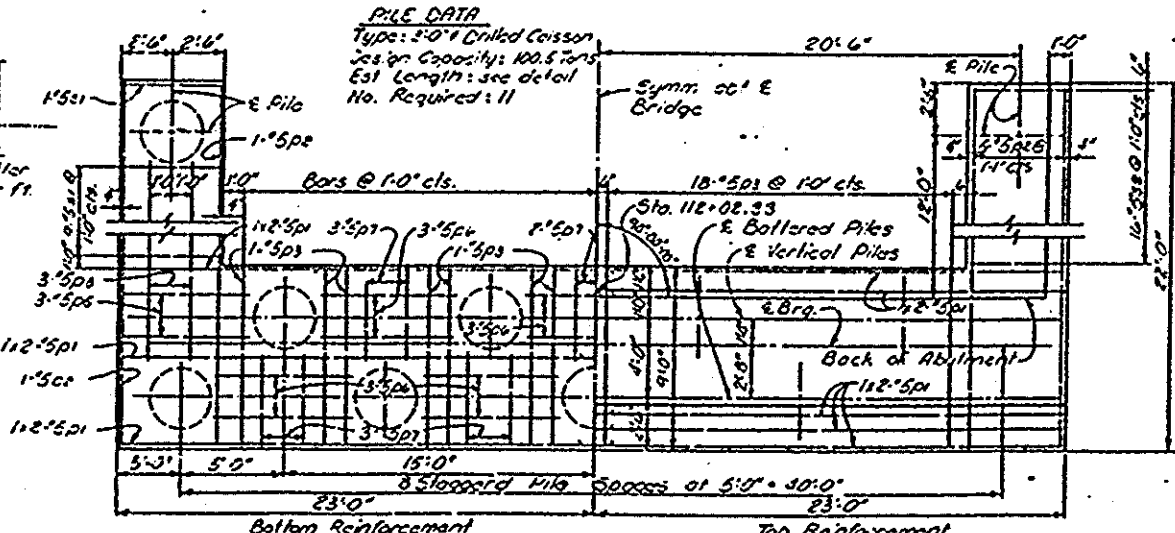
Bar	No	Size	Length	Spool	Notes
M1	60	#8	15'0"		
M2	32	#8	7'0"		
M3	16	#8	4'0"		
M4	10	#7	2'0"		
M5	59	#5	6'8"		
D1	16	#5	4'0"		
D2	16	#5	4'0"		
D3	30	#5	4'0"		
D4	6	#5	4'0"		
D5	21	#5	4'0"		
D6	21	#5	4'0"		
D7	6	#5	4'0"		
S1	20	#5	4'0"		
S2	32	#5	4'0"		
S3	6	#5	4'0"		
S4	5	#5	4'0"		
M1	112	#5	4'0"		
M2	48	#5	4'0"		
M3	59	#5	4'0"		
M4	24	#5	4'0"		
M5	16	#5	4'0"		
M6	32	#5	4'0"		
M7	20	#5	4'0"		
M8	16	#5	4'0"		

Class X Concrete Cu.Yds 1085
Reinforcement Bars Lbs. 8350
Caisson Concrete Cu.Yds 232.1
* Bars included in cost of Caisson Concrete.



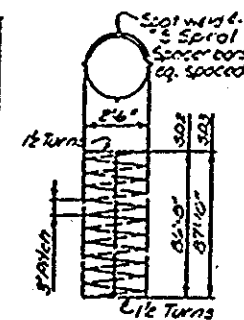
SECTION A-A

Note: Space reinf. in bridge seat to miss anchor bolts.



PLAN - PILE CAP

DETAIL OF DRILLED CAISSON PILES



BAR SPS & SPS

Note: Bar size and sps. may be spliced. Lap bar 12' additional turns at splice. Pay weight to be based on length shown on plans. Cost of 5' Spool Spacers to be included in pay weight of spools.

SOUTH ABUTMENT
FA ROUTE 24 (IL 23) OVER
VERMILION RIVER AND THE NICHOLSON
TOWNSHIP & SANTA FE RAILROAD
F.A. RT. 24 SEC. (37,101) BVB
LIVINGSTON COUNTY
STATION 106+39

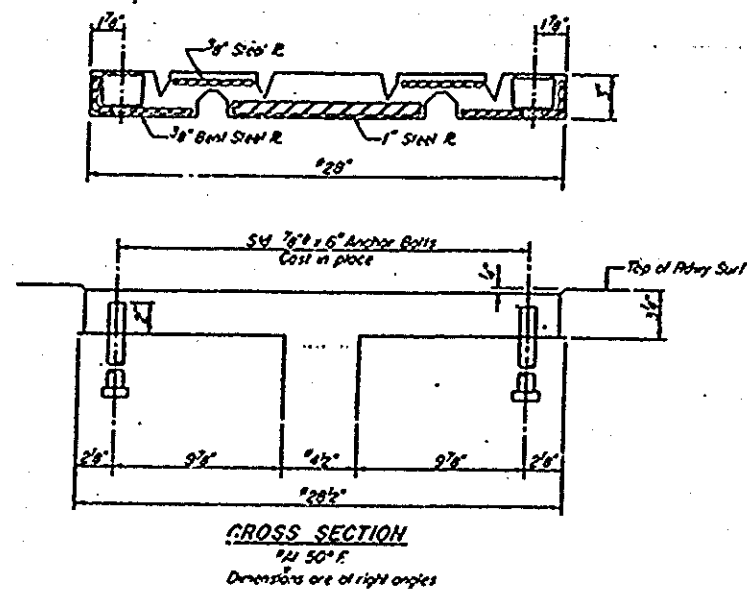
DESIGNED G. J. Roufa
CHECKED J. R. Liebman
DRAWN J. O. Smith Jr.
CHECKED R. V. Butterfield

11.12. Do not scale this drawing. Follow dimensions.

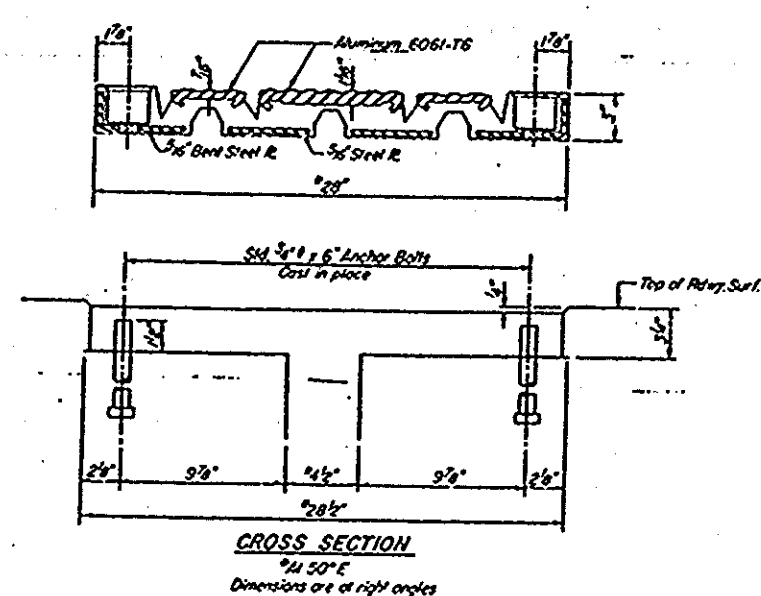
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

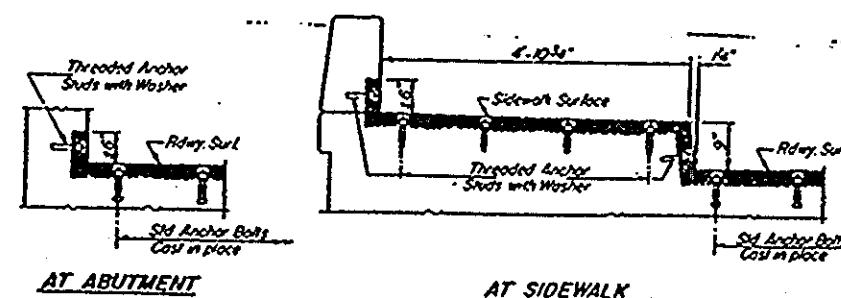
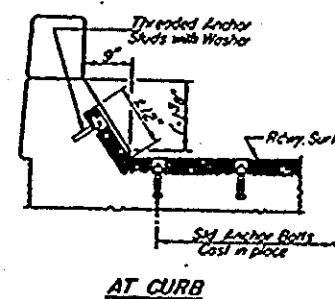
FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-I
LIVINGSTON COUNTY
SHEET 28 OF 46



TRANSFLEX MODEL 650
(Structural Rubber Products Co.)



WABOFLEX MODEL SR 6.5
(Watson-Bowman Associates Inc.)



TYPICAL END TREATMENTS

NOTE:
Joint openings shall be adjusted in accordance with Article 503.07 (c) of the Std. Specs. when the deck is poured at an ambient temperature other than 50°F.

Sheet No.	Project	Location	Sheet No.	Sheet No.
24	37,101	LIVINGSTON	67	40
SHEET NO. 28				
22 SHEETS				

NEOPRENE EXPANSION JOINTS (6 1/2")
FOR EXPANSION LENGTH OF DECK = 32011 IN 52011

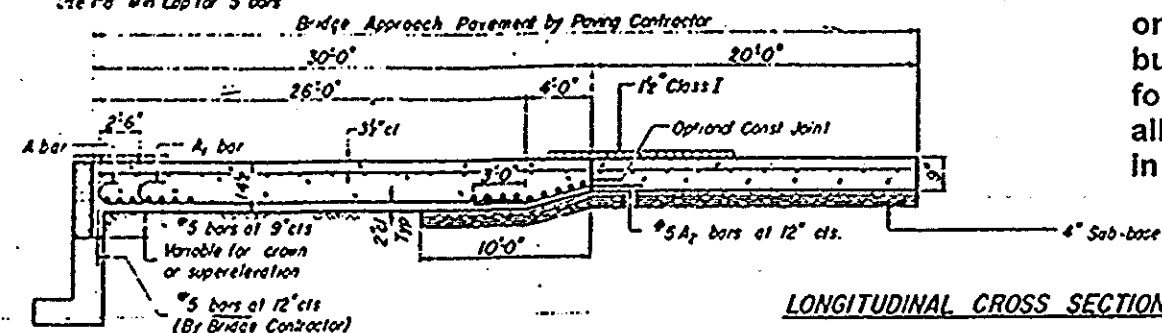
FA. ROUTE 24 (ILL. 23) OVER
VERMILION RIVER AND THE ATCHISON
TOPEKA & SANTA FE RAILROAD
FA. RT 24 SEC. 03, 101) BVB
LIVINGSTON COUNTY
STATION 106+39

DESIGNED	_____
CHECKED	_____
DRAWN	_____
CHECKED	_____

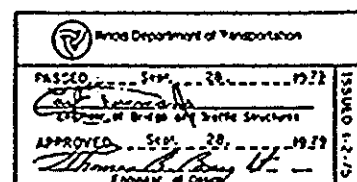
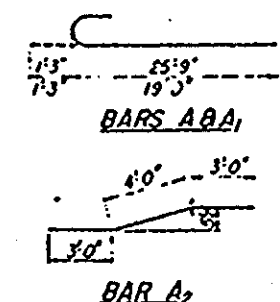
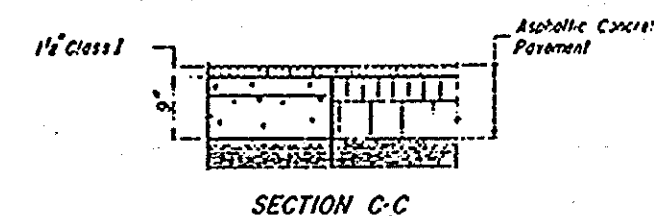
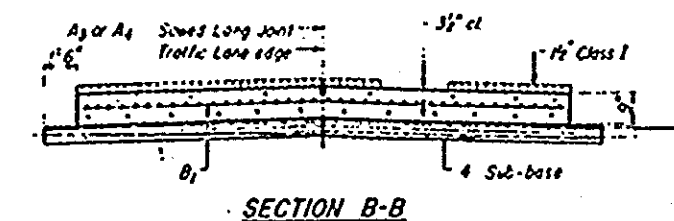
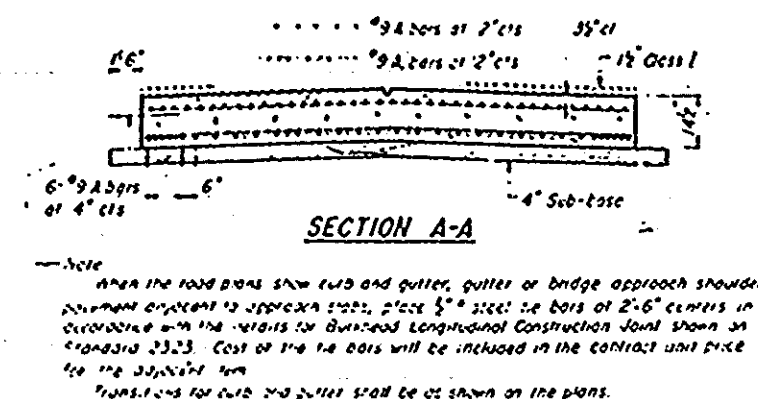
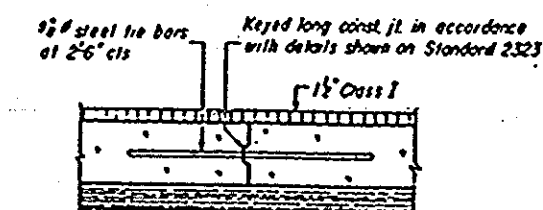
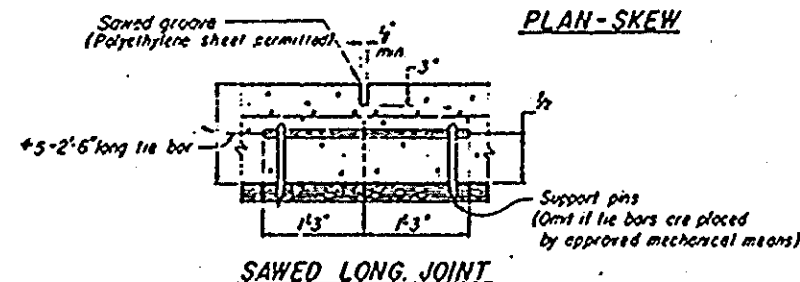
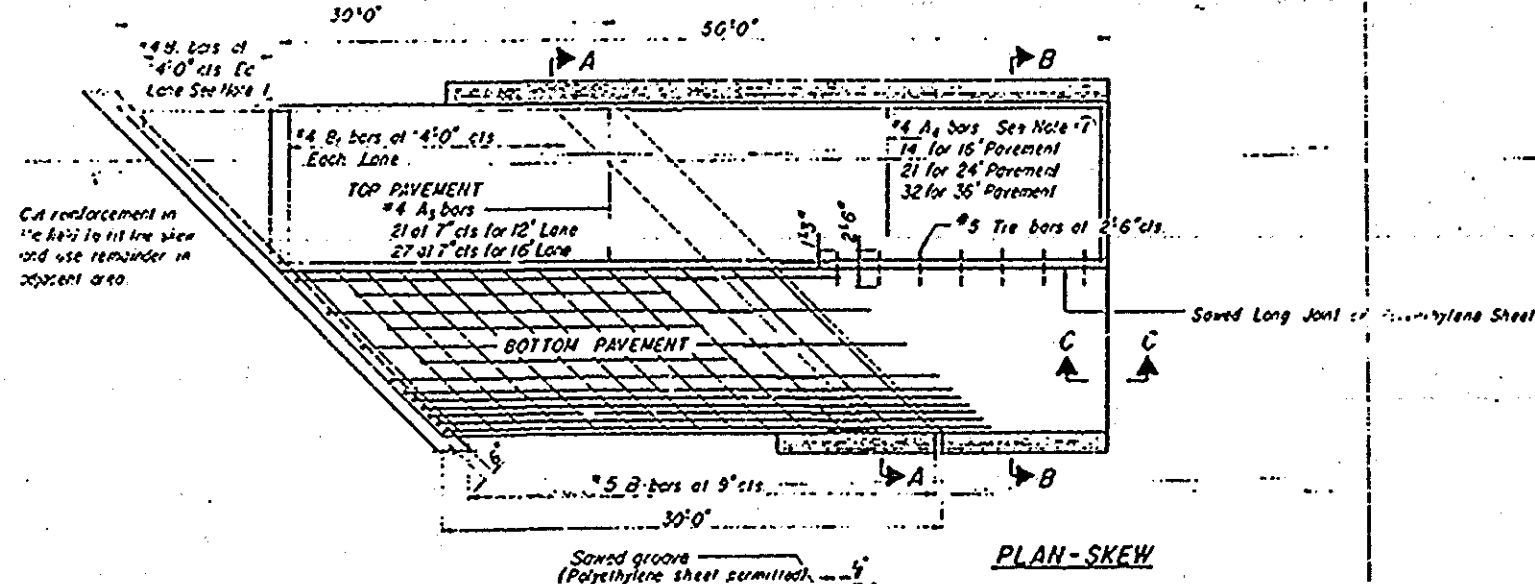
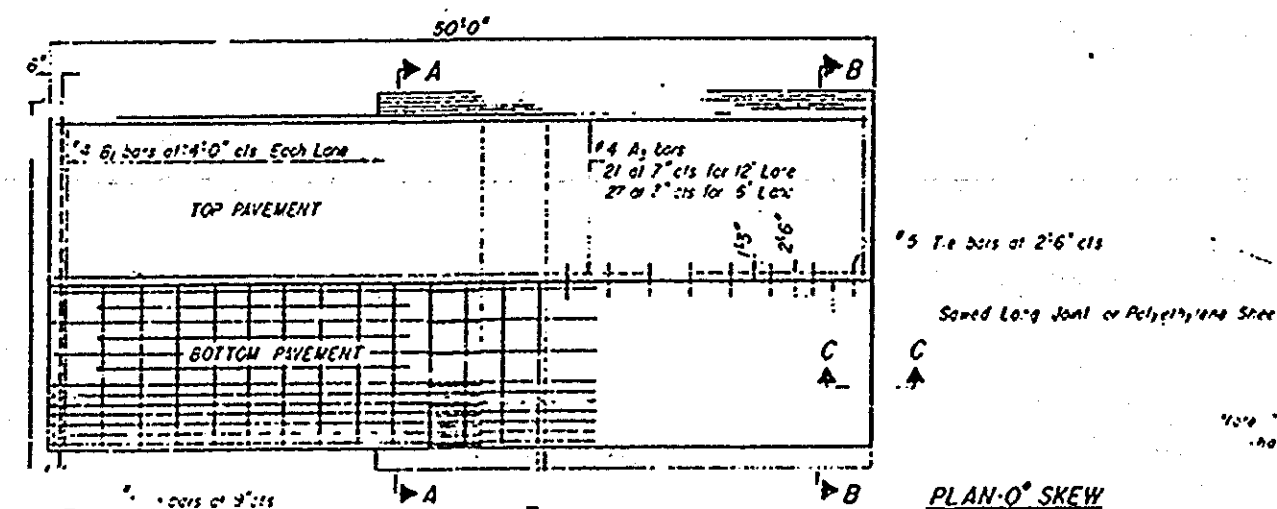
EJ-4 4-15-73

FOR INFORMATION ONLY

Note: 7" x 11" x 1/2" bars for 2' cl. Use 1" x 4" Min. Lap for #4 bars.
Use 6' x 6" Min. Lap for #5 bars



NOTE: The removal of the existing bituminous concrete surface on the approach slab shall not be paid for separately, but shall be included in the unit bid price per square yard for **APPROACH SLAB REMOVAL**, which price shall include all necessary work to remove the existing approach slabs in accordance with plan details.



**EXISTING APPROACH PAVEMENT DETAILS
FOR INFORMATION ONLY**

QUANTITIES FOR 50-FOOT APPROACH SLAB

FA ROUTE 68 (IL 23)
SECTION (37,101)BVB-I
LIVINGSTON COUNTY
SHEET 30 OF 46

Bottom Reinforcement				Top Reinforcement				Total Weight bars-lbs.	
Slope	#3 B bars		A ₁ A ₂	B ₁	#4 A ₃ bars		#4 A ₄ bars		
	No.	Length			No.	Length	No.		Length

Bottom Reinforcement				Top Reinforcement				Total Weight bars-lbs.	
Stem Angle	#3 B bars		A ₁ A ₂	B ₁	#4 A ₃ bars		#4 A ₄ bars		
	No.	Length			No.	Length	No.		Length

Bottom Reinforcement				Top Reinforcement				Total Weight bars-lbs.	
Stem Angle	#3 B bars		A A ₁ A ₂	B ₁	#4 A ₃ bars		#4 A ₄ bars		
	No.	Length			No.	Length	No.		Length

16-FOOT WIDTH PAVEMENT

0°	40	15'-6"		54	25'-6"			4910
5°	40	15'-7"		54	25'-6"	14	3'-11"	4950
10°	40	15'-7"		54	25'-0"	14	5'-2"	4950
15°	40	16'-1"		54	24'-9"	14	6'-5"	4970
20°	40	16'-6"		54	24'-5"	14	7'-9"	4990
25°	40	17'-1"		54	24'-0"	14	9'-2"	5010
30°	40	17'-11"		54	23'-8"	14	10'-9"	5050
35°	40	18'-11"		54	23'-3"	14	12'-6"	5120
40°	40	20'-3"		54	22'-5"	14	14'-5"	5150
45°	40	21'-11"		54	22'-2"	14	16'-8"	5210
50°	40	24'-1"		54	21'-6"	14	19'-4"	5310
55°	40	27'-0"		54	20'-8"	14	22'-8"	5410
60°	40	30'-3"		54	19'-8"	14	26'-11"	5600

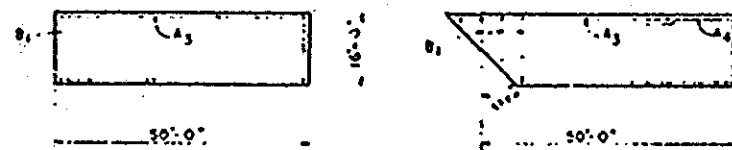
24-FOOT WIDTH PAVEMENT

0°	40	23'-6"		84	25'-6"			7190
5°	40	23'-7"		84	25'-2"	21	4'-9"	7240
10°	40	23'-10"		84	24'-8"	21	6'-11"	7250
15°	40	24'-4"		84	24'-0"	21	9'-1"	7270
20°	40	25'-0"		84	23'-6"	21	11'-5"	7300
25°	40	25'-11"		84	22'-10"	21	13'-10"	7340
30°	40	27'-2"		84	22'-3"	21	16'-6"	7350
35°	40	28'-8"		84	21'-6"	21	19'-6"	7450
40°	40	30'-8"		84	20'-8"	21	22'-10"	7540
45°	40	32'-2"		84	19'-8"	21	26'-8"	7640
50°	40	34'-1"		42	35'-3"	21	31'-3"	7800
55°	40	37'-5"		42	32'-6"	21	36'-11"	7990
60°	40	40'-9"						

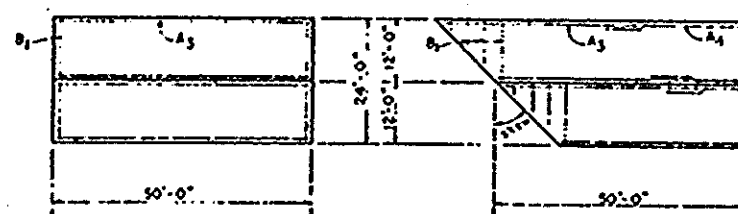
36-FOOT WIDTH PAVEMENT

0°	40	35'-6"		126	25'-6"			10560
5°	40	35'-8"		126	24'-11"	32	5'-10"	10640
10°	40	36'-0"		126	24'-1"	32	9'-0"	10650
15°	80	19'-4"		126	23'-3"	32	12'-4"	10770
20°	80	19'-10"		126	22'-5"	32	15'-9"	10810
25°	80	20'-7"		126	21'-6"	32	19'-6"	10880
30°	80	21'-6"		126	20'-6"	32	23'-6"	10950
35°	80	22'-8"		126	19'-4"	32	27'-10"	11050
40°	80	24'-2"		63	34'-6"	32	32'-10"	11100
45°								
50°								
55°								
60°								

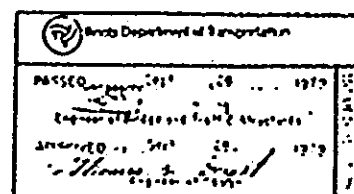
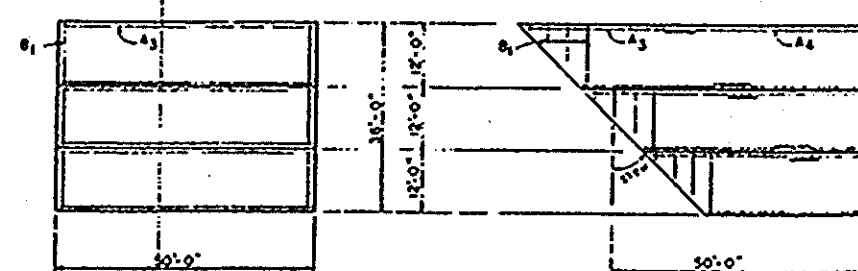
TOP OF SLAB BAR ARRANGEMENT



TOP OF SLAB BAR ARRANGEMENT



TOP OF SLAB BAR ARRANGEMENT



EXISTING APPROACH PAVEMENT DETAILS
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	APP'D	REV	SHEET NO.
68		LIVINGSTON	46	31	16
* 037.008/8-1					

GENERAL NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " open holes $\frac{5}{8}$ " unless otherwise noted.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.

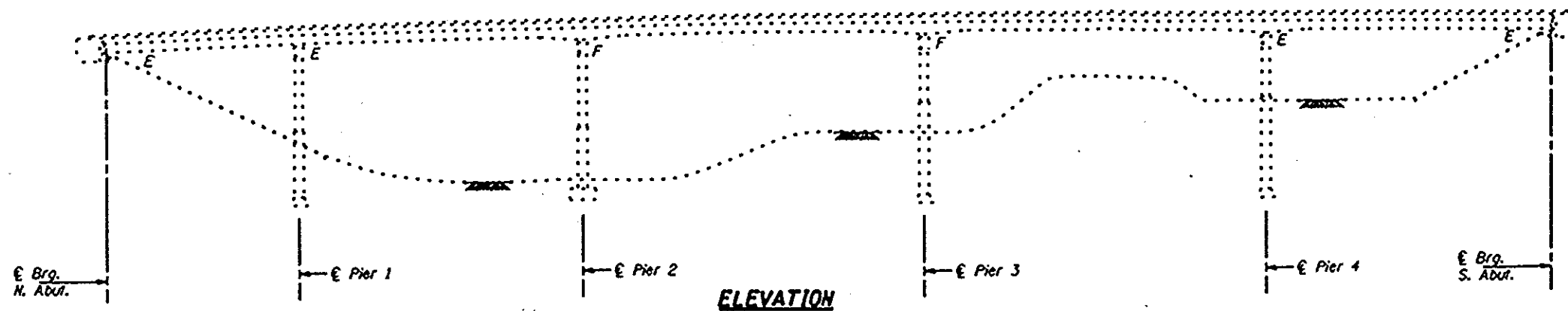
All structural steel shall be shop painted with the Inorganic zinc rich primer per AASHTO M 300, Type I. Cost shall be included in the cost of Furnishing and Erecting Structural Steel.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

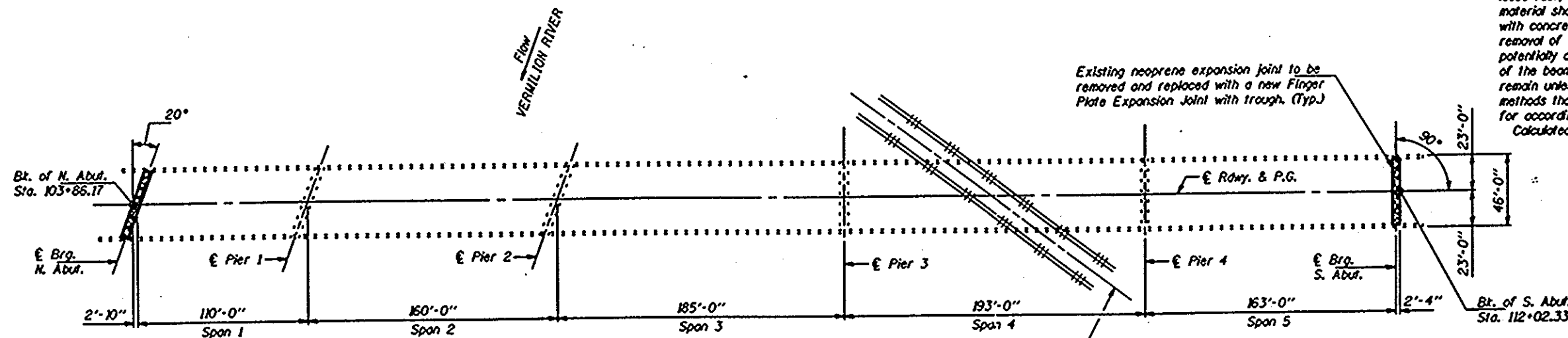
Joint openings shall be adjusted according to Article 503.10(c) of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

Prior to pouring the new concrete deck or placing the new finger plates, all loose rust, loose mill scale and other loose, potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. A heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

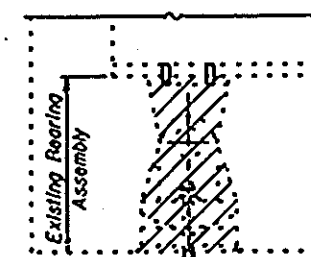
Calculated weight of new structural steel = 25,410 Pounds (M-270 Gr. 36)
= 21,550 Pounds (M-270 Gr. 50)



ELEVATION



PLAN



Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost shall be included with Jack and Remove Existing Bearings.

EXISTING BEARING REMOVAL DETAIL

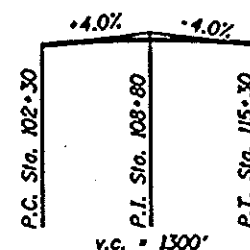
Minimum Jack Capacity:
70 Tons (N. Abut.)
95 Tons (S. Abut.)

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	33.8
Concrete Superstructure	Cu. Yd.	39.1
Reinforcement Bars, Epoxy Coated	Pound	5320
Furnishing & Erecting Structural Steel	L.S.	1
Mechanical Splicers	Each	96
Fabric Reinforced Elastomeric Trough	Foot	100
Bar Splicers	Each	50
Protective Coat	Sq. Yd.	74
Elastomeric Bearing Assembly Type III	Each	12
Removal of Existing Bearings	Each	12

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr.	Mike Gidello
DRAWN	
CHECKED	J.L.C. N.J.S.

DATE	MAY 3, 2000
EXAMINED	John A. Morris
APPROVED	
CONTRACT NO.	053-0149



PROFILE GRADE
F.A. RTE. 24

BRIDGE REPAIRS
F.A. RTE. 24 SEC. 137.008VB
LIVINGSTON COUNTY
S.N. 053-0149

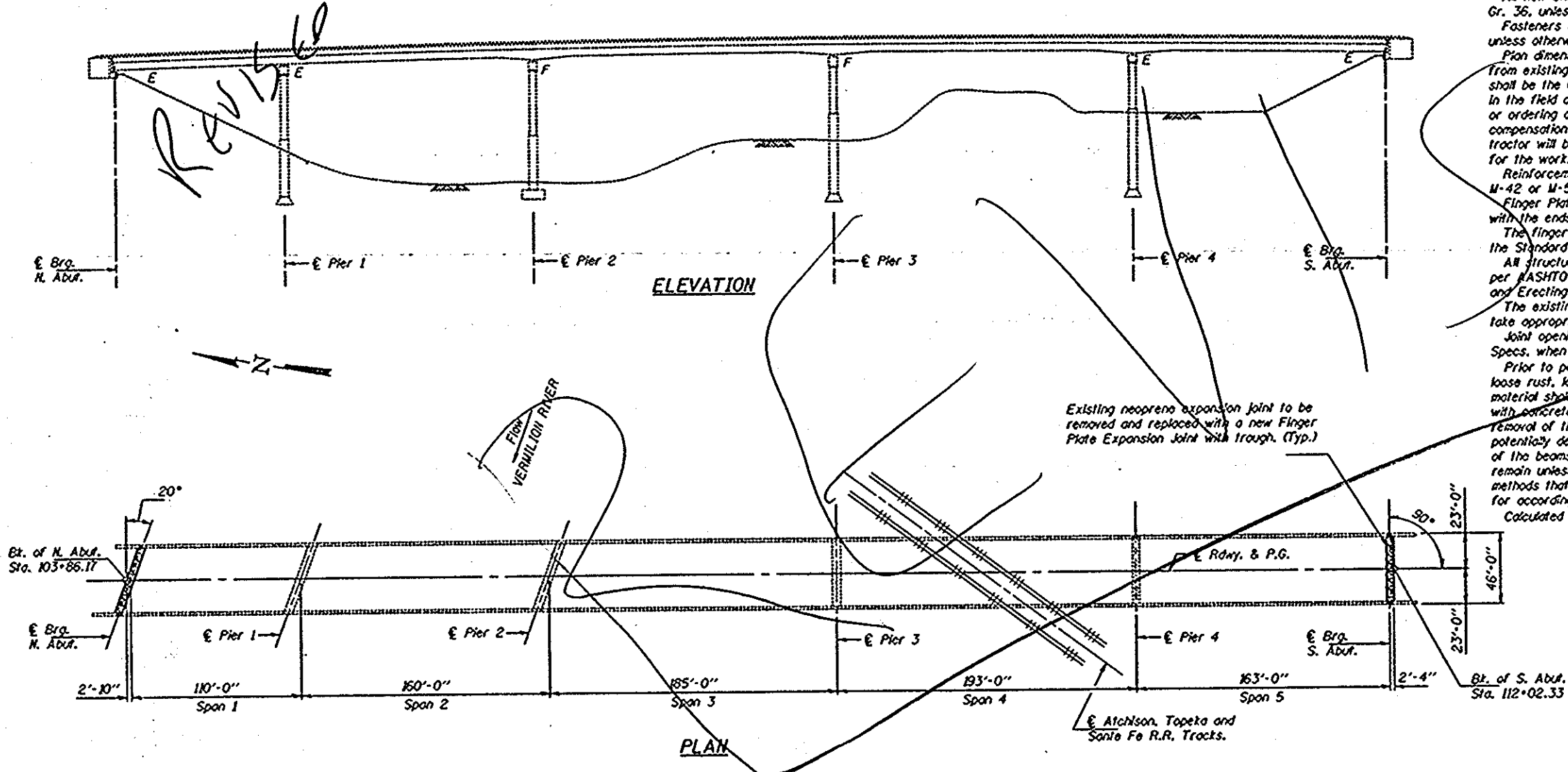
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DISTRICT	COUNTY	SECTION	SHEET NO.
68	#	LIVINGSTON	46	31
SHEET NO. 1 16 SHEETS				

(37,101) 6VB-1

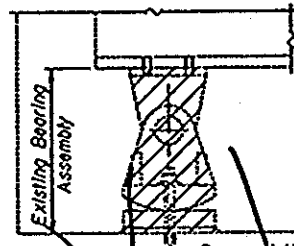
GENERAL NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " open holes $\frac{1}{8}$ " unless otherwise noted.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
The finger plates shall be flame cut as provided in Article 505.04(x) of the Standard Specifications.
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M-300, Type I. Cost shall be included in the cost of furnishing and erecting structural steel.
The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Joint openings shall be adjusted according to Article 503.10(c) of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.
Prior to pouring the new concrete deck or placing the new finger plates, all loose rust, loose scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.
Calculated weight of new structural steel = 24,620 Pounds (M-270 Gr. 36)
= 21,550 Pounds (M-270 Gr. 50)



TOTAL BILL OF MATERIAL

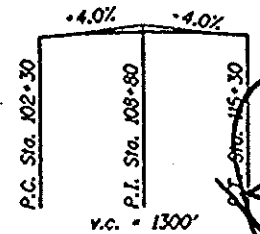
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	33.8
Concrete Superstructure	Cu. Yd.	39.1
Reinforcement Bars, Epoxy Coated	Pound	5320
Furnishing & Erecting Structural Steel	L.S.	1
Mechanical Splice	Each	96
Fabric Reinforced Elastomeric Trough	Foot	100
Bor Spacers	Each	50
Protective Coat	Sq. Yd.	74
Elastomeric Bearing Assembly Type III	Each	12
Jack & Remove Existing Bearings	Each	12



Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cast shall be included with Jack and Remove Existing Bearings.

EXISTING BEARING REMOVAL DETAIL

Minimum Jack Capacity:
70 Tons (M. Abut.)
95 Tons (S. Abut.)



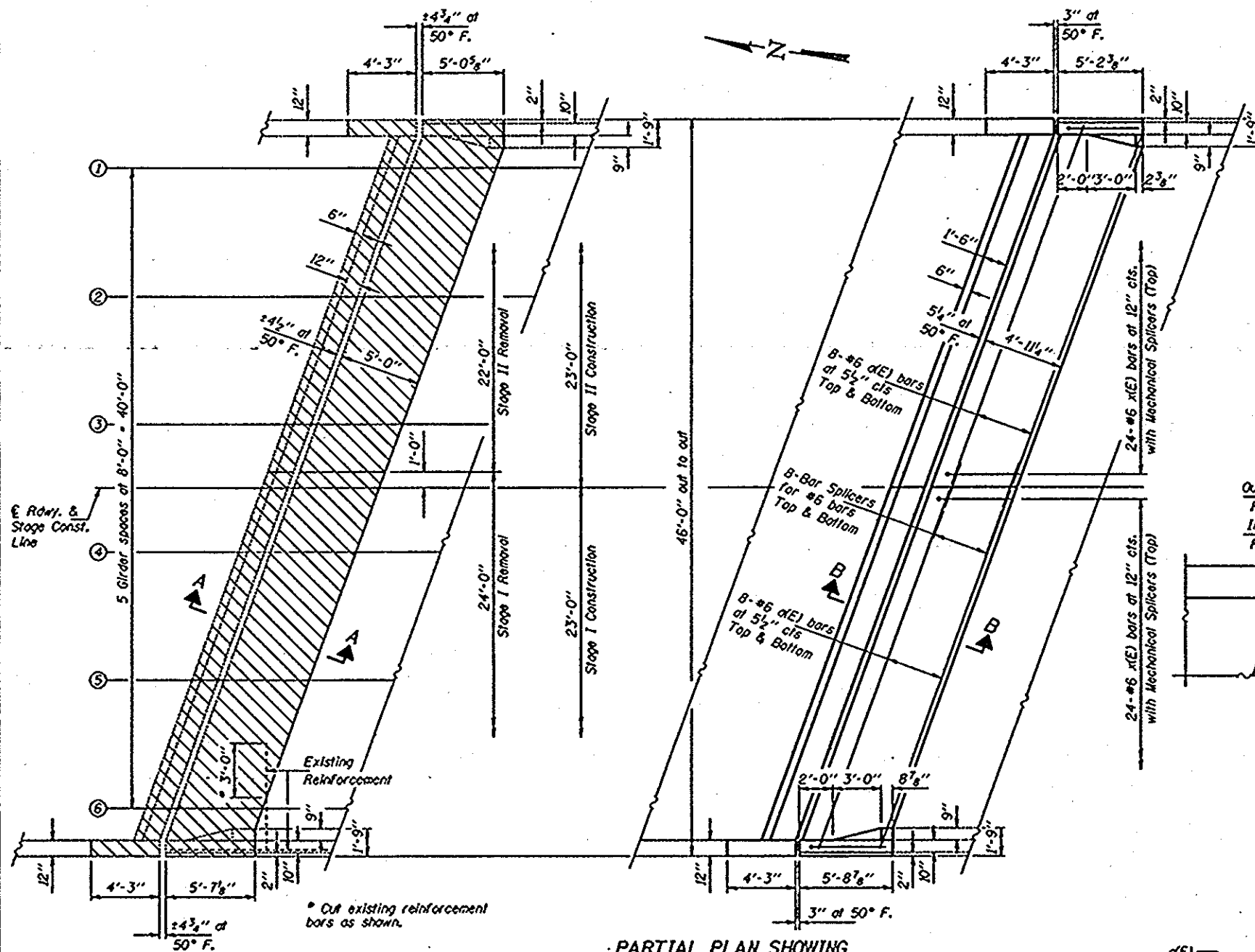
PROFILE GRADE
F.A. RTE. 24

DESIGNED John C. Cline
CHECKED N. J. S. Jr.
DRAWN M. G. Zelle
CHECKED JLC
MAY 3, 2000
EXAMINED John A. Morris
PASSED
SUPERVISOR OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
F.A. RTE. 24 SEC. (37,10)DBVB
LIVINGSTON COUNTY
S.N. 053-0149

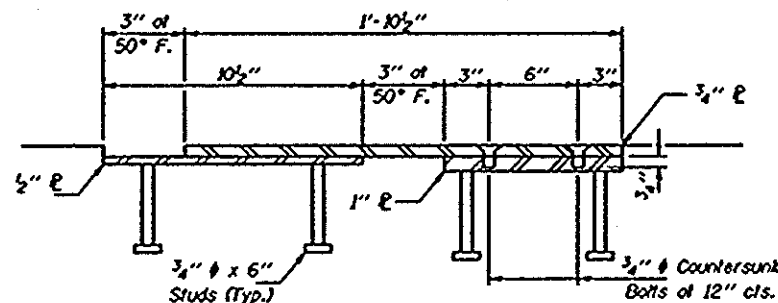
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHKD.	APP'D.	SHEET NO.	TOTAL SHEETS
111-1000	32	4/10/00	J.L.C.	N.J.S.		2	16

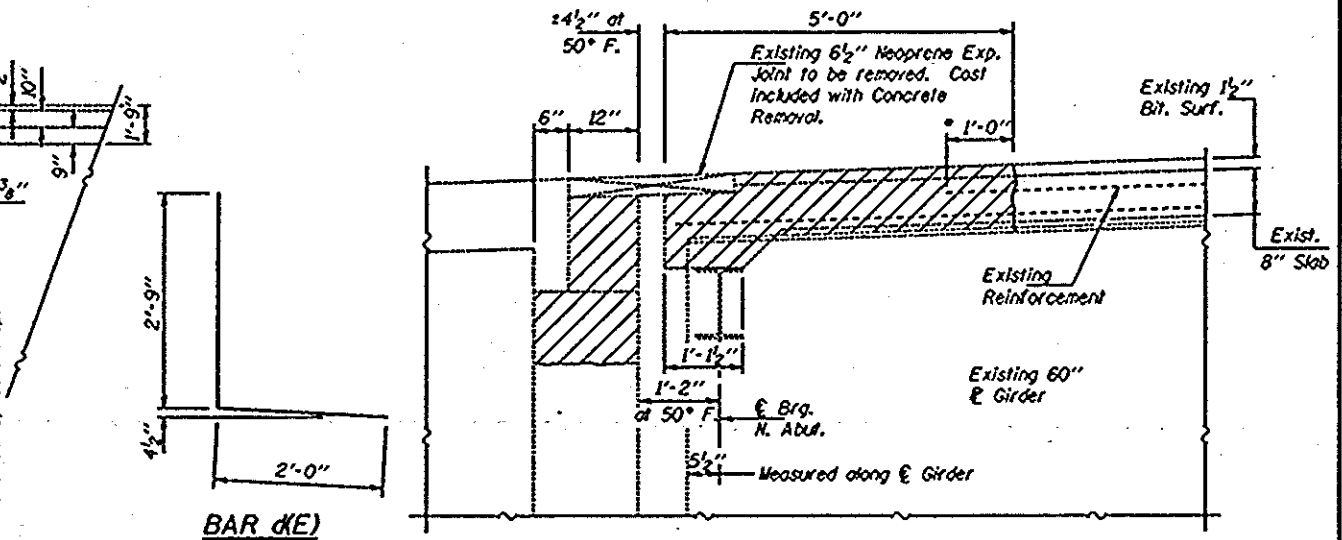


PARTIAL PLAN SHOWING
CONCRETE REMOVAL
(At North Abut.)

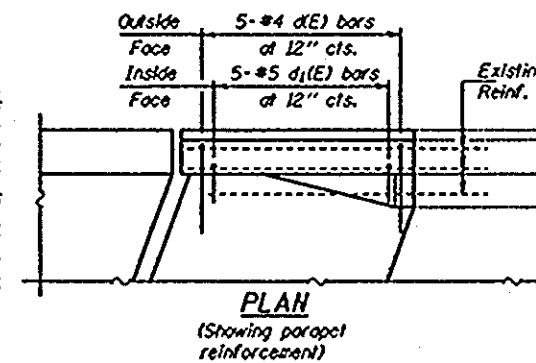
PARTIAL PLAN SHOWING
CONCRETE REPLACEMENT
(At North Abut.)



PARAPET PLATE ASSEMBLY DETAIL



BAR d(E)



SECTION A-A

Horizontal dimensions are measured normal to backwall of N. Abutment except as noted.

Notes:

- Hatched area indicates Concrete Removal.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the cost of Concrete Removal.
- Existing aluminum railing and posts over removal area shall be measured in the field before removal and re-erected in the same location. Cost included in the cost of Concrete Removal.
- For concrete removal details at the abutments see sheet 10 of 16.
- For new concrete and reinforcement details at the abutments see sheet 11 of 16.
- For Section B-B see sheet 3 of 16.
- For existing approach pavement removal details see Roadway Plans.
- For Bar Splicer details see sheet 13 of 16.

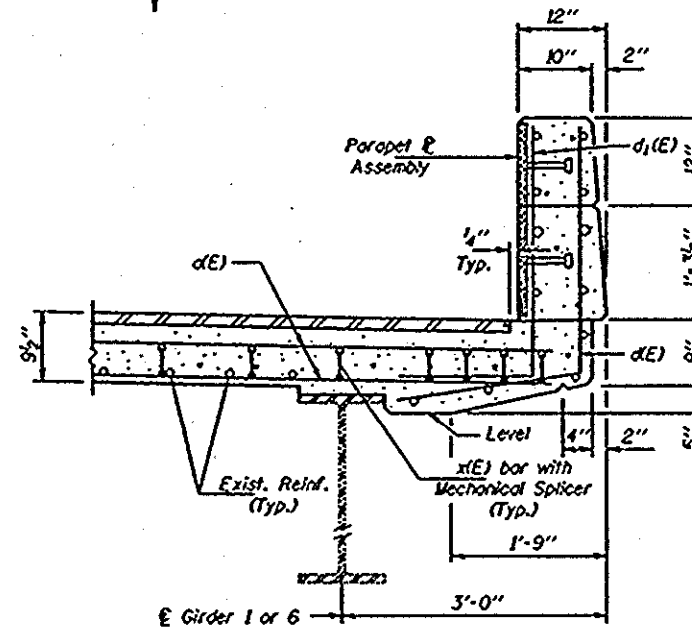
** BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#6	23'-11"	—
d(E)	10	#4	4'-9"	L
d(E)	10	#5	3'-4"	L
x(E)	48	#6	4'-2"	—
Concrete Removal		Cu. Yd.	9.8	
Concrete Superstructure		Cu. Yd.	10.0	
Reinforcement Bars, Epoxy Coated		Lbs.	1520	

Reinforcement bars designated (E) shall be epoxy coated.

** Quantities for deck only.

JOINT DETAILS AT
NORTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149



SECTION AT CURB

BAR d(E)

BAR x(E)

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr.	
DRAWN	Mike Gillette
CHECKED	J.L.C. N.J.S.

MAY 3, 2000

DESIGNED John A. Morris

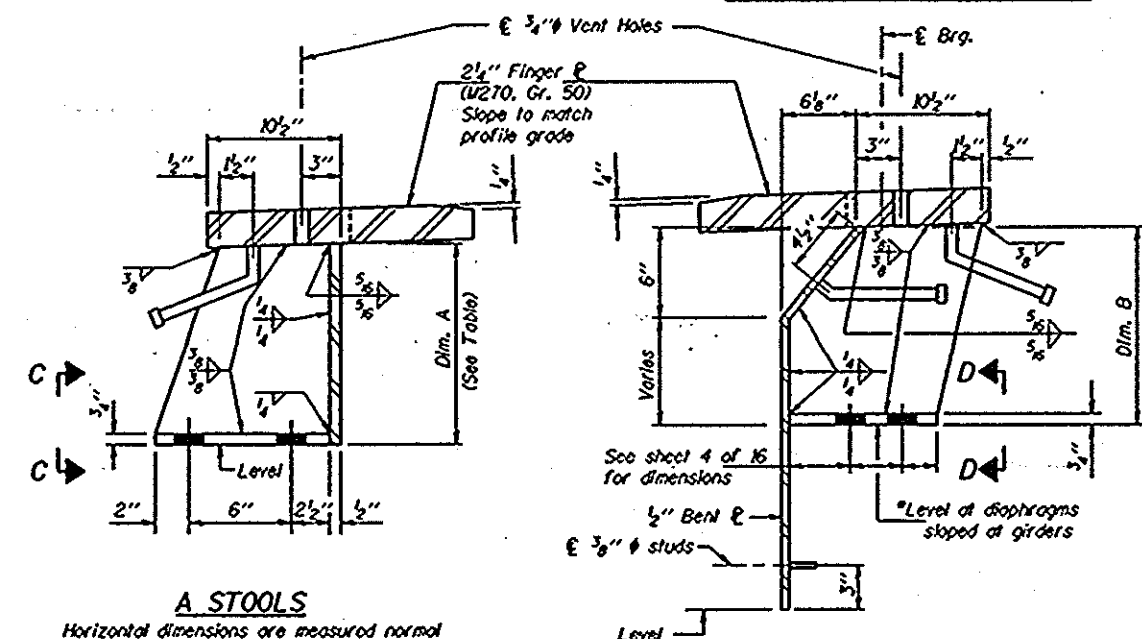
EXPERIENCE OF STRUCTURAL SUPPORTS

PASSED

DEPARTMENT OF PUBLIC WORKS

ROUTE NO.	DISTRICT	SUBJECT	YEAR	MO.
		LIVINGSTON	46	33
FED. ROAD DIST. NO. 7		BLANK	FED. RD. PROJECT-	

SHEET NO. 3
16 SHEETS



B STOOLS

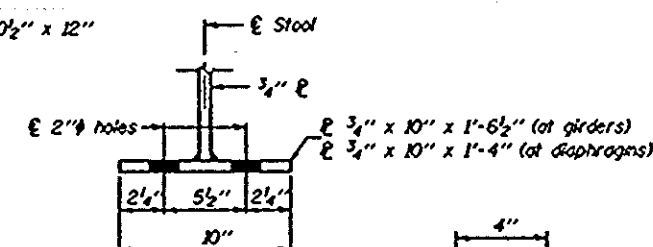
Horizontal dimensions are measured normal to back of finger plate.

Stool No.	Dim. A	Stool No.	Dim. B
A1	15 $\frac{1}{8}$ "	B1	7 $\frac{1}{4}$ "
A2	16 $\frac{1}{8}$ "	B2	16 $\frac{1}{8}$ "
A3	16 $\frac{1}{8}$ "	B3	16 $\frac{1}{8}$ "
A4	16 $\frac{1}{8}$ "	B4	16 $\frac{1}{8}$ "
A5	16 $\frac{1}{8}$ "	B5	17"
A6	16 $\frac{1}{8}$ "	B6	7 $\frac{1}{4}$ "
A7	17 $\frac{1}{8}$ "	B7	17 $\frac{1}{8}$ "
A8	17 $\frac{1}{8}$ "	B8	17 $\frac{1}{8}$ "
A9	17 $\frac{1}{8}$ "	B9	17 $\frac{1}{8}$ "
A10	17 $\frac{1}{8}$ "	B10	17 $\frac{1}{8}$ "
A11	17 $\frac{1}{8}$ "	B11	7 $\frac{1}{4}$ "
A12	17 $\frac{1}{8}$ "	B12	17 $\frac{1}{8}$ "
A13	17 $\frac{1}{8}$ "	B13	17 $\frac{1}{8}$ "
A14	16 $\frac{1}{8}$ "	B14	17 $\frac{1}{8}$ "
A15	16 $\frac{1}{8}$ "	B15	17 $\frac{1}{8}$ "
A16	15 $\frac{1}{8}$ "	B16	7 $\frac{1}{4}$ "
A17	15"	B17	16 $\frac{1}{8}$ "
A18	14 $\frac{1}{8}$ "	B18	15 $\frac{1}{8}$ "
A19	13 $\frac{1}{8}$ "	B19	15 $\frac{1}{8}$ "
A20	13"	B20	14 $\frac{1}{8}$ "
A21	12 $\frac{1}{8}$ "	B21	7 $\frac{1}{4}$ "
A22	11 $\frac{1}{8}$ "	B22	13 $\frac{1}{8}$ "
A23	11 $\frac{1}{8}$ "	B23	12 $\frac{1}{8}$ "
A24	10 $\frac{1}{8}$ "	B24	12 $\frac{1}{8}$ "
		B25	11 $\frac{1}{8}$ "
		B26	7 $\frac{1}{4}$ "

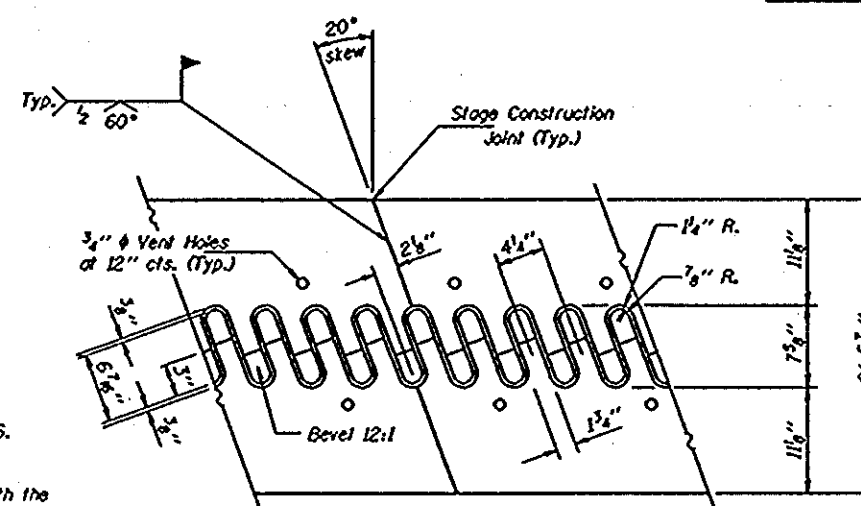
Horizontal Dimensions are measured normal to dockwall of N. Abut. except as noted.

** Provide $\frac{1}{2}$ " normal shims, two $\frac{1}{4}$ " shims, one $\frac{3}{8}$ " shim and one $\frac{1}{16}$ " shim for height adjustment. Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost shall be included in the cost of Furnishing and Erecting Structural Steel.

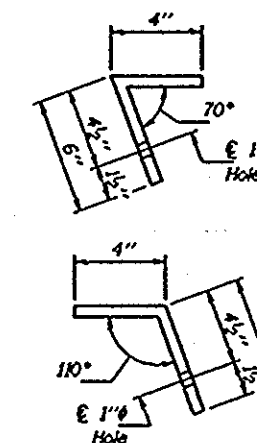
Notes: For Stool locations, see sheet 4 of 16.
For View E-E see sheet 5 of 16.
For Detail "A" see sheet 5 of 16.
Existing shear studs that interfere with the
finger plate stools shall be removed using the
air-arc method and grind smooth all weld
material remaining on the top flange. Cost
included with Furnishing and Erecting
Structural Steel.



VIEW D-D



Cut from
 @ 2' 1/4" x 2'-5 7/8" x 47'-8 1/4" (W270-Gr. 50)



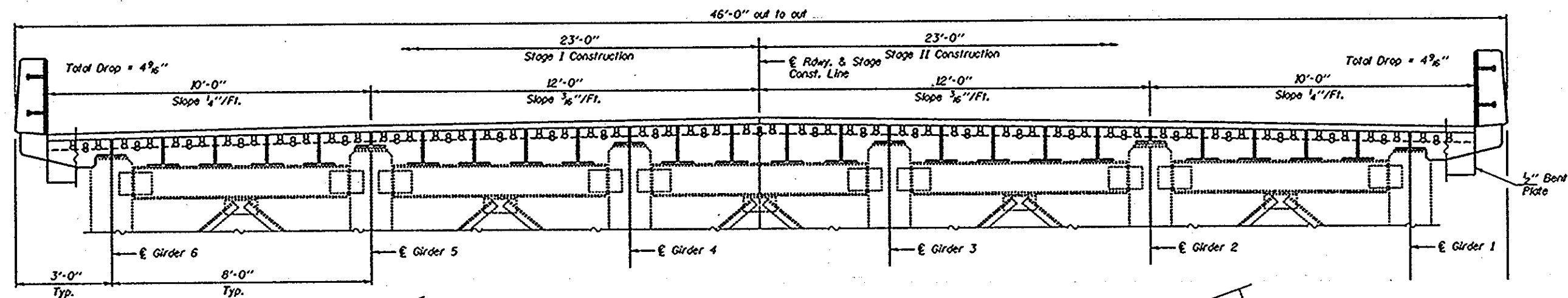
BENT CONNECTION
PLATE DETAILS

JOINT DETAILS AT
NORTH ABUTMENT
F.A. RTE. 24 SEC. (37.10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	M.J.S.
J.P.S. Jr. DRAWN	Mike Giffetto
CHECKED	J.L.C. M.J.S.

MAY 3, 2000
 EXAMINED John A. Morris
 PASSED ENGINEER OF STRUCTURAL SERVICES

ROUTE NO.	DISTRICT	COUNTY	SEC.	TWP.	SHEET NO. 4 16 SHEETS
		LIVINGSTON	46	34	
FEDERAL ROAD DIST. NO. 1		LANDING	FEDERAL PROJECT NO.		



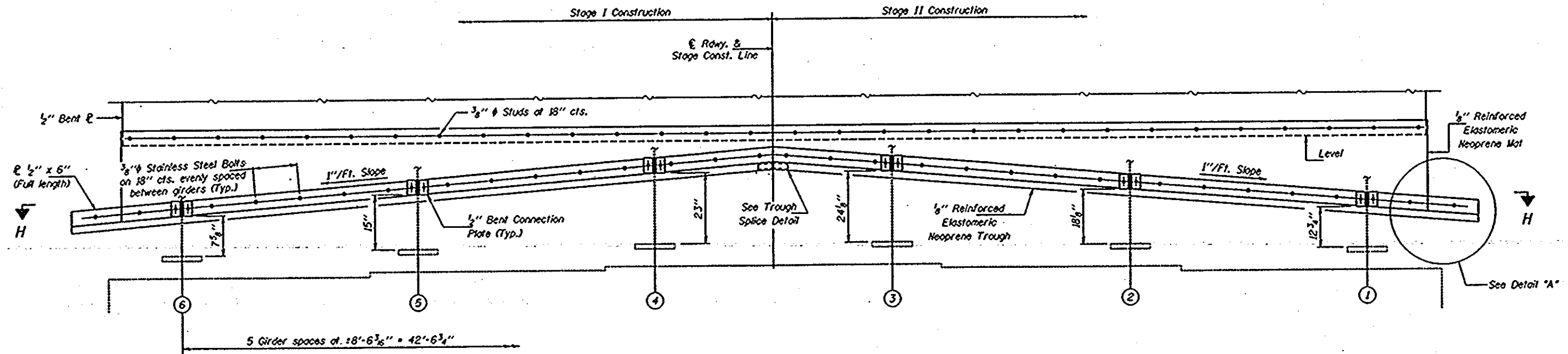
JOINT DETAILS AT
NORTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr. DRAWN	Mike Gizelle
CHECKED	J.L.C. N.J.S.

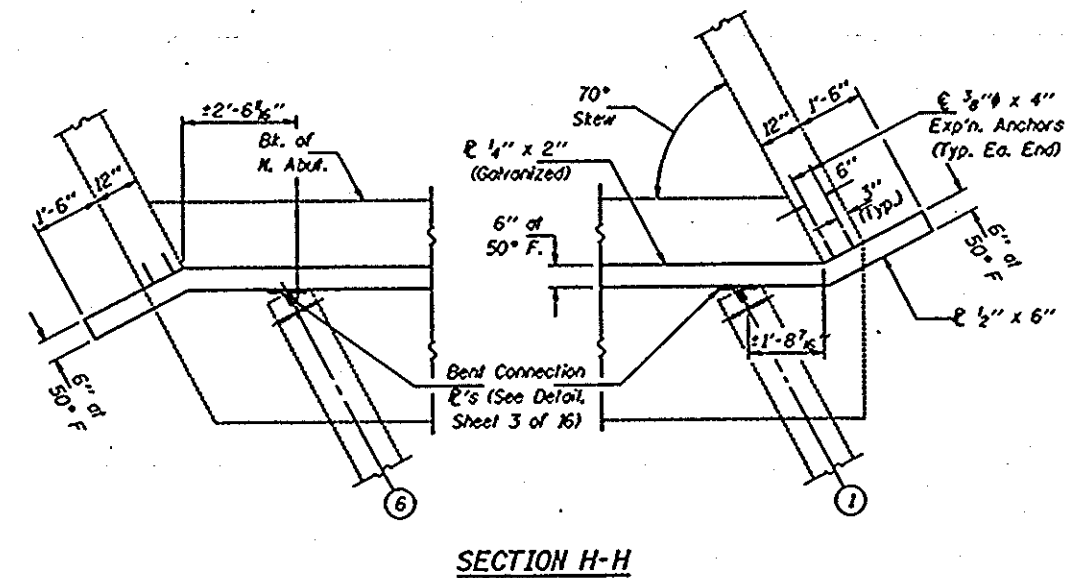
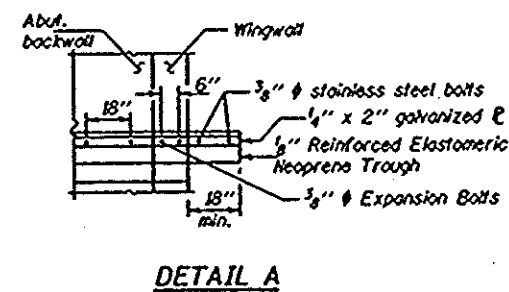
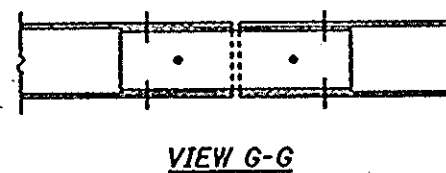
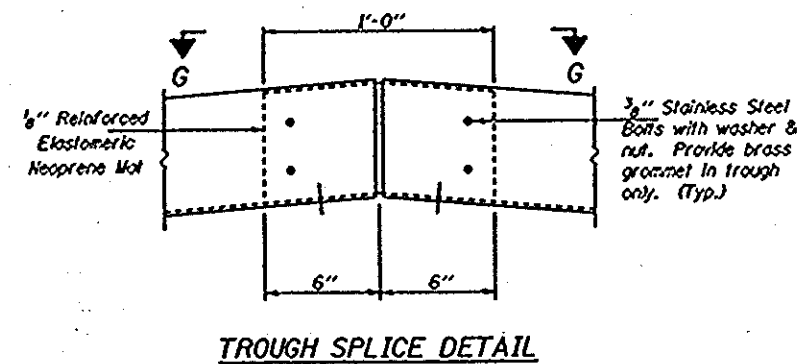
MAY 3, 2000
 EXAMINED John A. Morris
 PASSED Member of Structural Steel
 CHIEF OF BRIGADE AND STRUCTURAL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHECKED	APPROVED
LIVINGSTON	40	35			
SHEET NO. 5 16 SHEETS					



VIEW E-E
(Horizontal dimensions are measured along skew.)



DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S.Jr.	Mto Gillette
DRAWN	
CHECKED	J.L.C. N.J.S.

MAY 3, 2000

EXAMINED *John A. Morris*

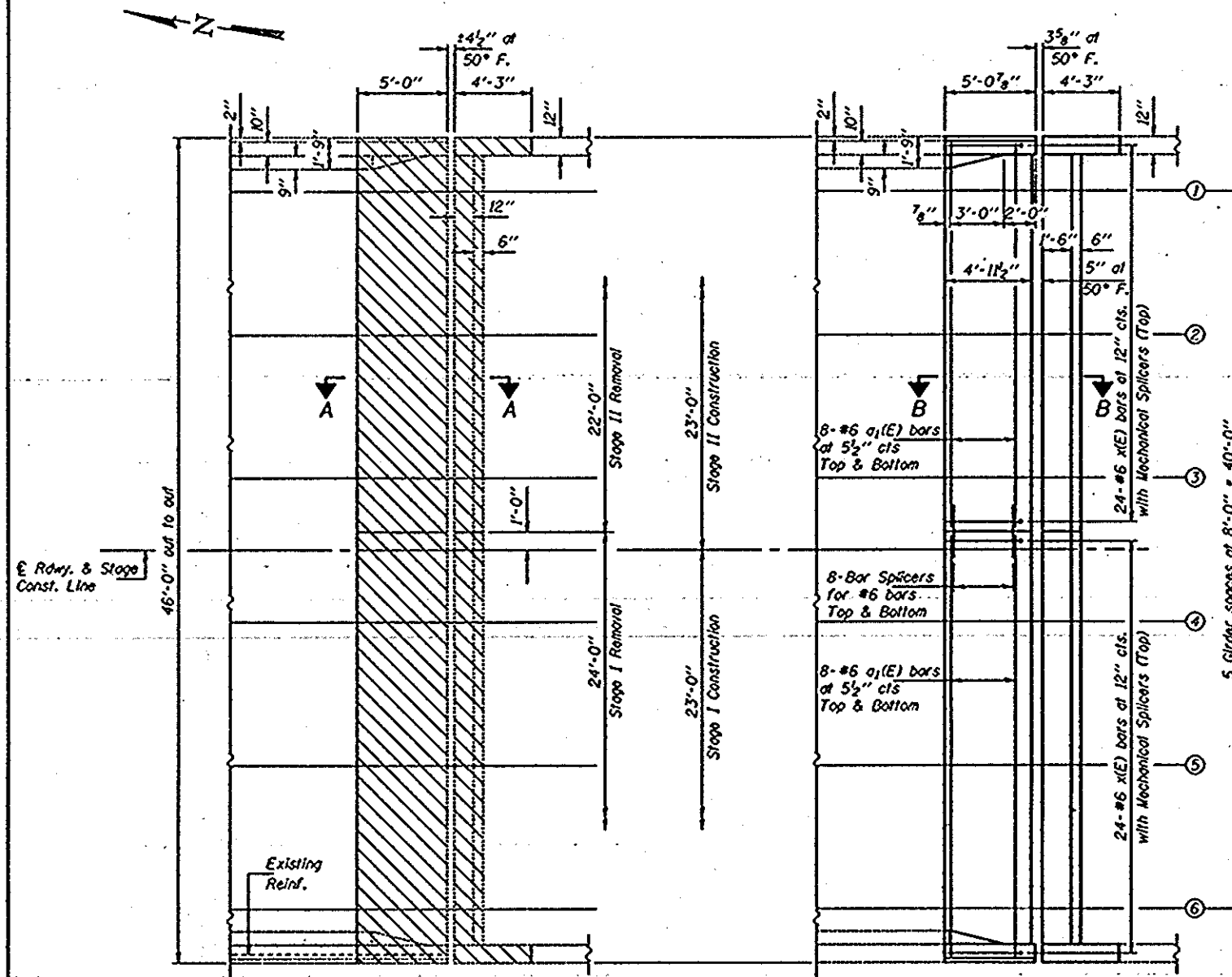
PASSED

CHIEF OF BRIDGES AND STRUCTURES

**TROUGH DETAILS AT
NORTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149**

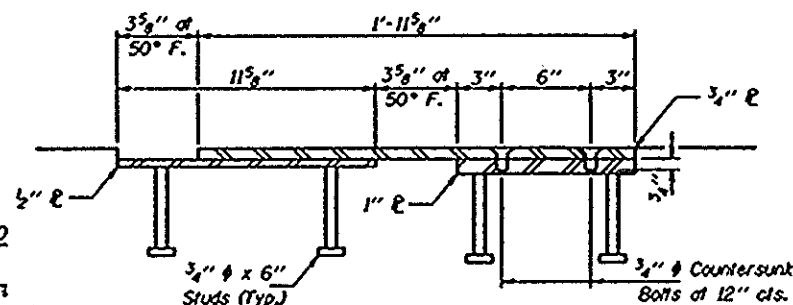
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	APP'D	SHEET NO.
	LIVINGSTON	46	36	16 SHEETS

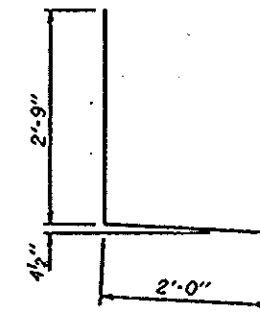


PARTIAL PLAN SHOWING
CONCRETE REMOVAL
(At South Abut.)

PARTIAL PLAN SHOWING
CONCRETE REPLACEMENT
(At South Abut.)

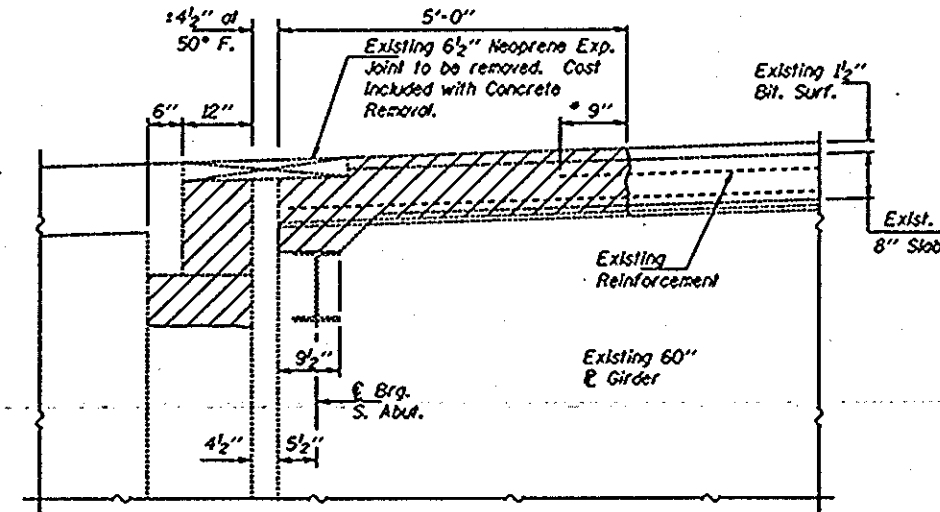


PARAPET PLATE ASSEMBLY DETAIL



BAR d1(E)

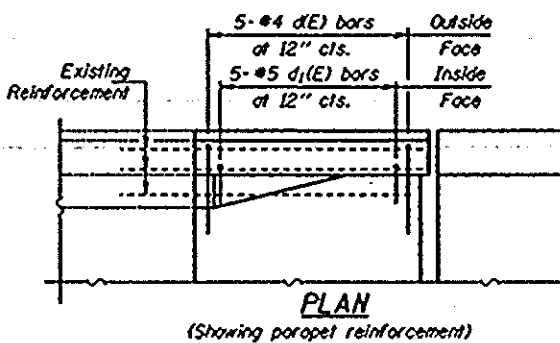
* Cut existing reinforcement bars as shown.



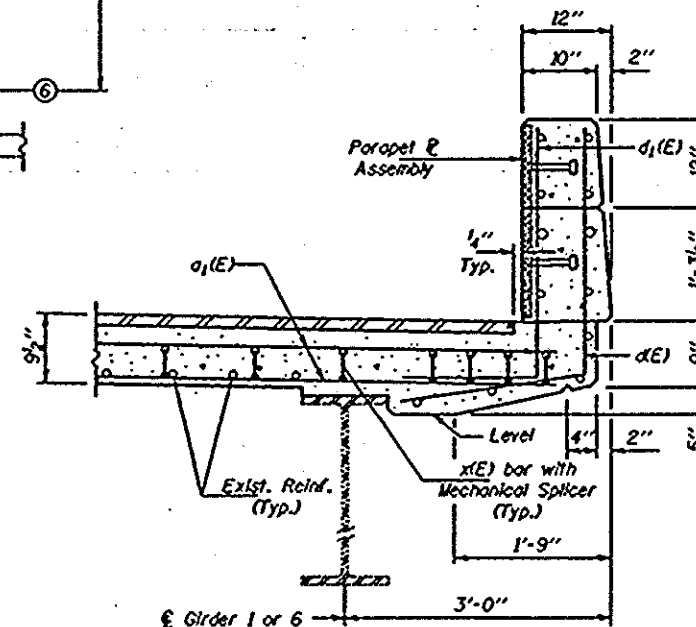
SECTION A-A

Notes:

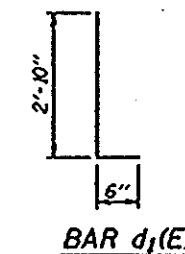
- Hatched area indicates Concrete Removal.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the cost of Concrete Removal.
- Existing aluminum railing and posts over removal area shall be measured in the field before removal and re-erected in the same location. Cost included in the cost of Concrete Removal.
- For concrete removal details at the abutments see sheet 10 of 16.
- For new concrete and reinforcement details at the abutments see sheet 12 of 16.
- For Section B-B see sheet 7 of 16.
- For existing approach pavement removal details see Roadway Plans.
- For Bar Splicer details see sheet 13 of 16.



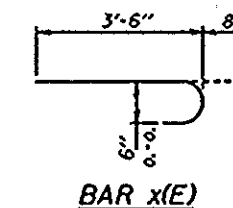
PLAN
(Showing parapet reinforcement)



SECTION AT CURB



BAR d1(E)



BAR x(E)

** BILL OF MATERIAL

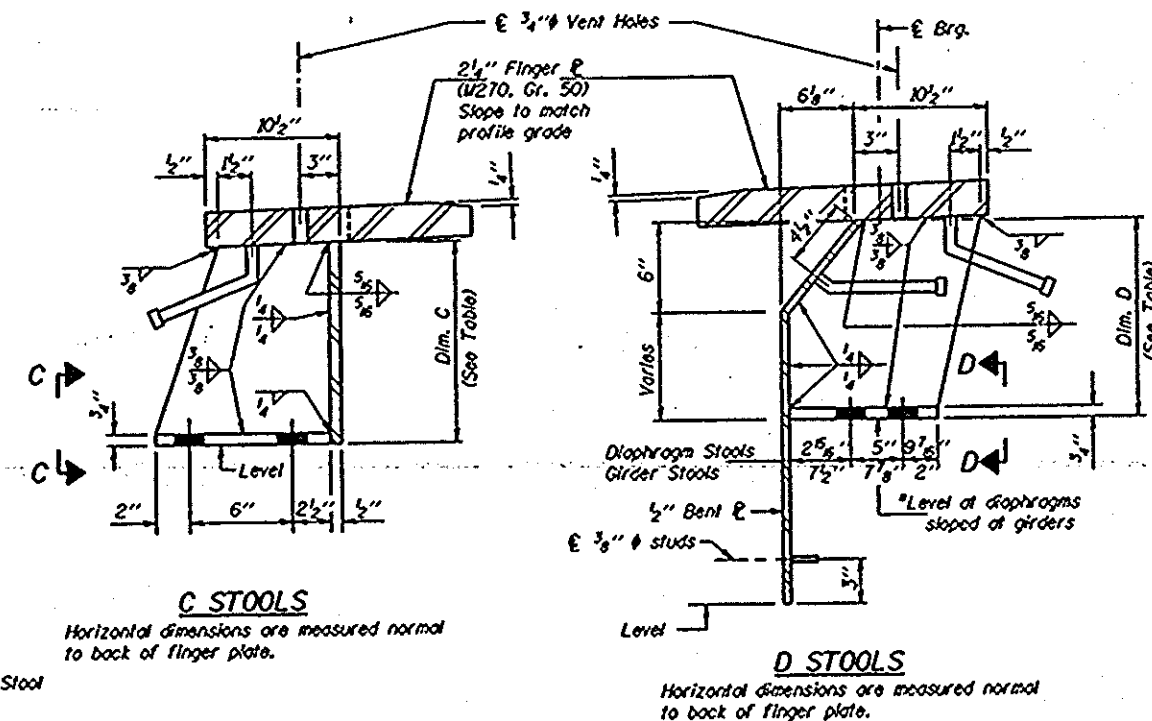
Bar	No.	Size	Length	Shops
d1(E)	32	#6	22'-6"	
d(E)	10	#4	4'-9"	L
d1(E)	10	#5	3'-4"	L
x(E)	48	#6	4'-2"	
Concrete Removal			Cu. Yd.	8.9
Concrete Superstructure			Cu. Yd.	9.6
Reinforcement Bars, Epoxy Coated			Lbs.	1450

Reinforcement bars designated (E) shall be epoxy coated.
** Quantities for deck only.

JOINT DETAILS AT
SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)DBVB
LIVINGSTON COUNTY
S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	N.J.S.
DRAWN	Mike Gilette
CHECKED	J.L.C. N.J.S.

MAY 3, 2000
EXAMINED John A. Morris
PASSED
EXCERPTS OF SPECIALS AND STRUCTURES



C STOOLS

Horizontal dimensions are measured normal to back of finger plate.

D STOOLS

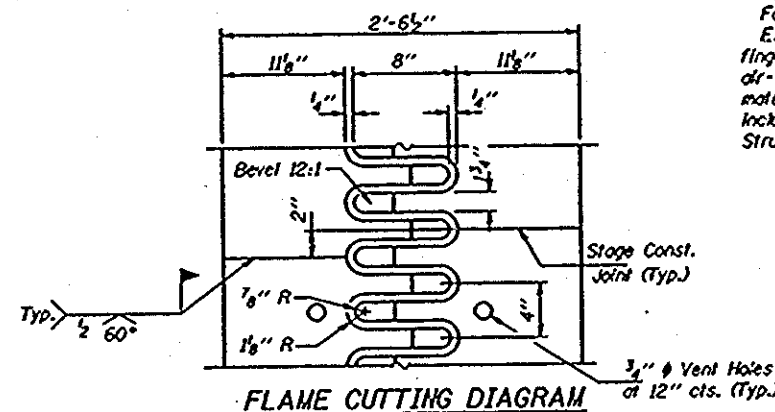
Horizontal dimensions are measured normal to back of finger plate.

TABLE FOR DIMENSION C & D

Stool No.	Dim. C	Stool No.	Dim. D
C1	10 $\frac{1}{2}$ "	D1	7 $\frac{1}{2}$ "
C2	10 $\frac{1}{2}$ "	D2	12"
C3	11 $\frac{1}{2}$ "	D3	12 $\frac{1}{2}$ "
C4	11 $\frac{1}{2}$ "	D4	13"
C5	12 $\frac{1}{2}$ "	D5	7 $\frac{1}{2}$ "
C6	12 $\frac{1}{2}$ "	D6	13 $\frac{1}{2}$ "
C7	13 $\frac{1}{2}$ "	D7	14 $\frac{1}{2}$ "
C8	13 $\frac{1}{2}$ "	D8	14 $\frac{1}{2}$ "
C9	13 $\frac{1}{2}$ "	D9	7 $\frac{1}{2}$ "
C10	14 $\frac{1}{2}$ "	D10	15 $\frac{1}{2}$ "
C11	14 $\frac{1}{2}$ "	D11	15 $\frac{1}{2}$ "
C12	14 $\frac{1}{2}$ "	D12	15 $\frac{1}{2}$ "
C13	14 $\frac{1}{2}$ "	D13	15 $\frac{1}{2}$ "
C14	13 $\frac{1}{2}$ "	D14	7 $\frac{1}{2}$ "
C15	13 $\frac{1}{2}$ "	D15	14 $\frac{1}{2}$ "
C16	13 $\frac{1}{2}$ "	D16	14 $\frac{1}{2}$ "
C17	12 $\frac{1}{2}$ "	D17	13 $\frac{1}{2}$ "
C18	12 $\frac{1}{2}$ "	D18	7 $\frac{1}{2}$ "
C19	11 $\frac{1}{2}$ "	D19	13"
C20	11 $\frac{1}{2}$ "	D20	12 $\frac{1}{2}$ "
C21	10 $\frac{1}{2}$ "	D21	12"
C22	10 $\frac{1}{2}$ "	D22	7 $\frac{1}{2}$ "

Dimension "C" is measured at front face of backwall.
Dimension "D" is measured at E Brg.

Notes: For Stool locations, see sheet 8 of 16.
For View E-E see sheet 9 of 16.
For Detail "A" see sheet 9 of 16.
For Detail "B" see sheet 9 of 16.
Existing shear studs that interfere with the
finger plate stools shall be removed using the
air-arc method and grind smooth all weld
material remaining on the top flange. Cost
included with Furnishing and Erecting
Structural Steel.



FLAME CUTTING DIAGRAM

Out from
P. 2 1/4" x 2'-6 1/2" x 43'-11 1/2" (U270. Gr. 50)

SECTION B-B

- According to existing plans the end of girders and bearing stiffeners are vertical and the diaphragms are level. The Contractor shall verify in the field before ordering materials.

** Provide $\frac{1}{2}$ " normal shims, two $\frac{1}{4}$ " shims, one $\frac{1}{8}$ " shim and one $\frac{1}{16}$ " shim for height adjustment. Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint. Cost shall be included in the cost of Furnishing and Erecting Structural Steel.

*** The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes (3" Min. depth) according to the manufacturer's recommendations and procedures.

- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr. DRAWN	M.R. GIBELLO
CHECKED	J.L.C. N.J.S.

MAY 3, 2000

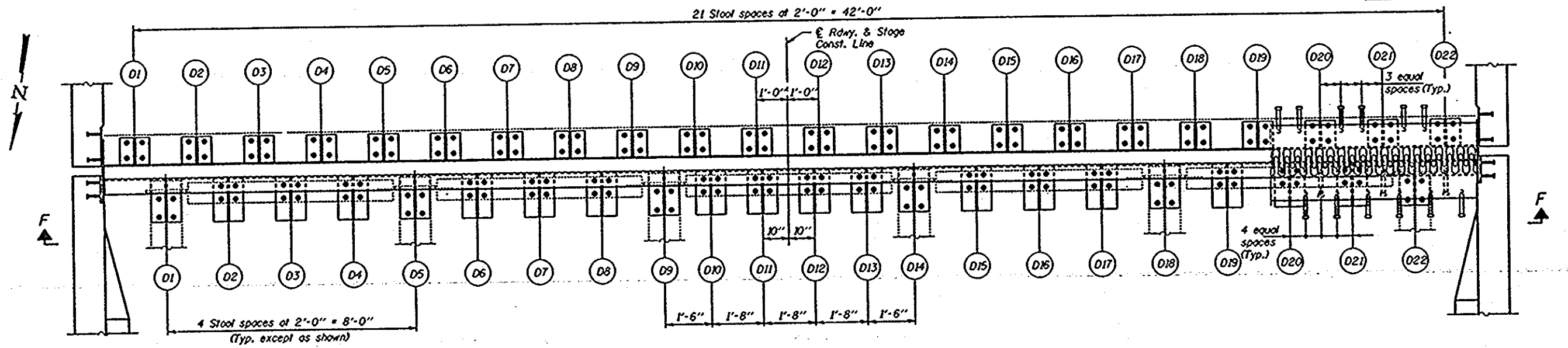
EXAMINED	<i>John A. Morris</i> CHIEF OF STRUCTURAL SERVICES
PASSED	CHIEF OF BRIDGES AND STRUCTURES

JOINT DETAILS AT
SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

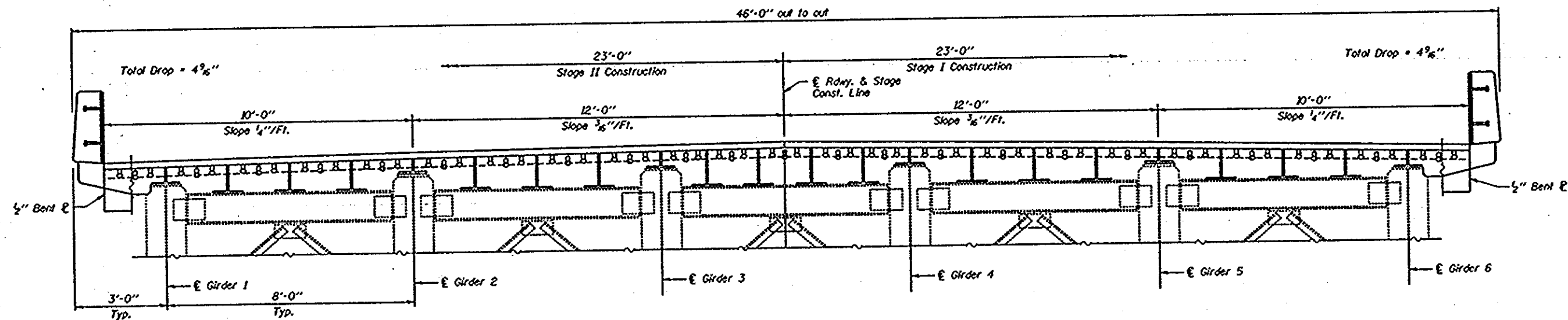
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHKD.

SHEET NO. 8
16 SHEETS



PLAN



SECTION F-F

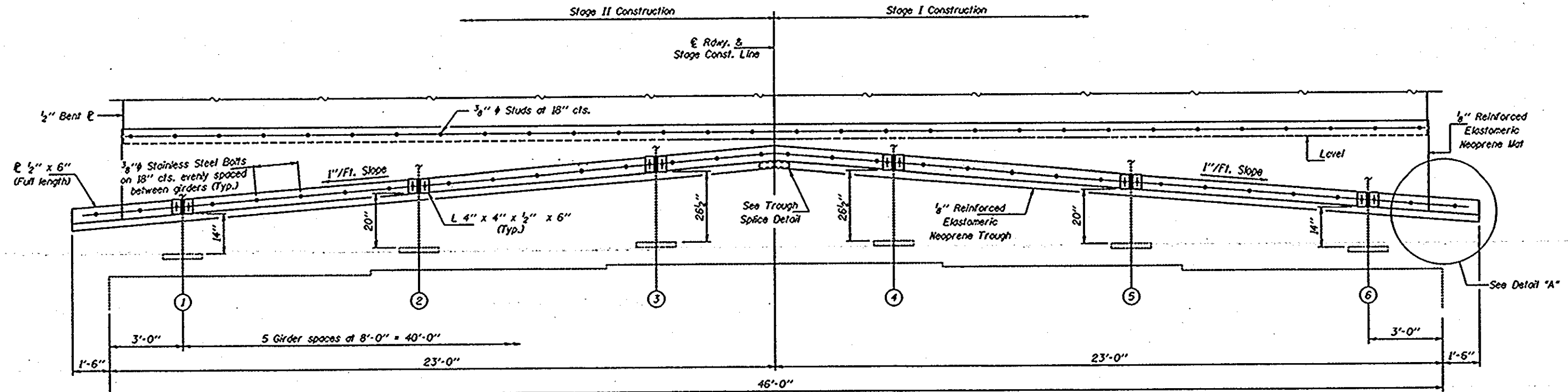
DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr.	Mike Giffelle
DRAWN	
CHECKED	J.L.C. N.J.S.

MAY 3, 2000
EXAMINED *John A. Morris*
PASSED
SUPERVISOR OF BRIDGES AND STRUCTURES

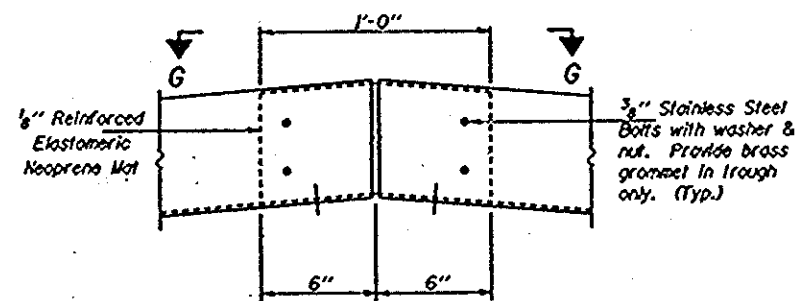
JOINT DETAILS AT
SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)DBVB
LIVINGSTON COUNTY
S.N. 053-0149

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

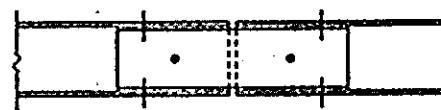
PROJECT NO.	SHEET NO.	DATE	BY	CHECKED	APPROVED
46	39	4/6	3/9		
SHEET NO. 9 16 SHEETS					



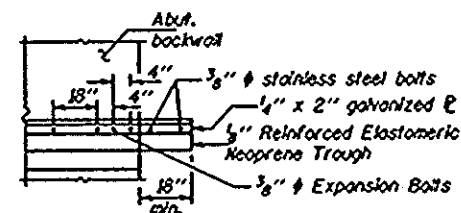
VIEW E-E



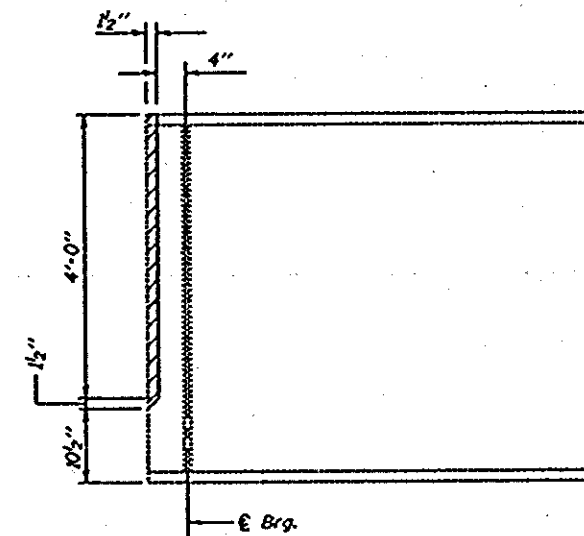
TROUGH SPLICE DETAIL



VIEW G-G



DETAIL A



DETAIL B

Cost of cutting existing girder ends is included with Furnishing and Erecting Structural Steel.

TROUGH DETAILS AT
SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr.	Mike Glatte
ORAYN	
CHECKED	J.L.C. N.J.S.

MAY 3, 2000

DESIGNED *John A. Morris*

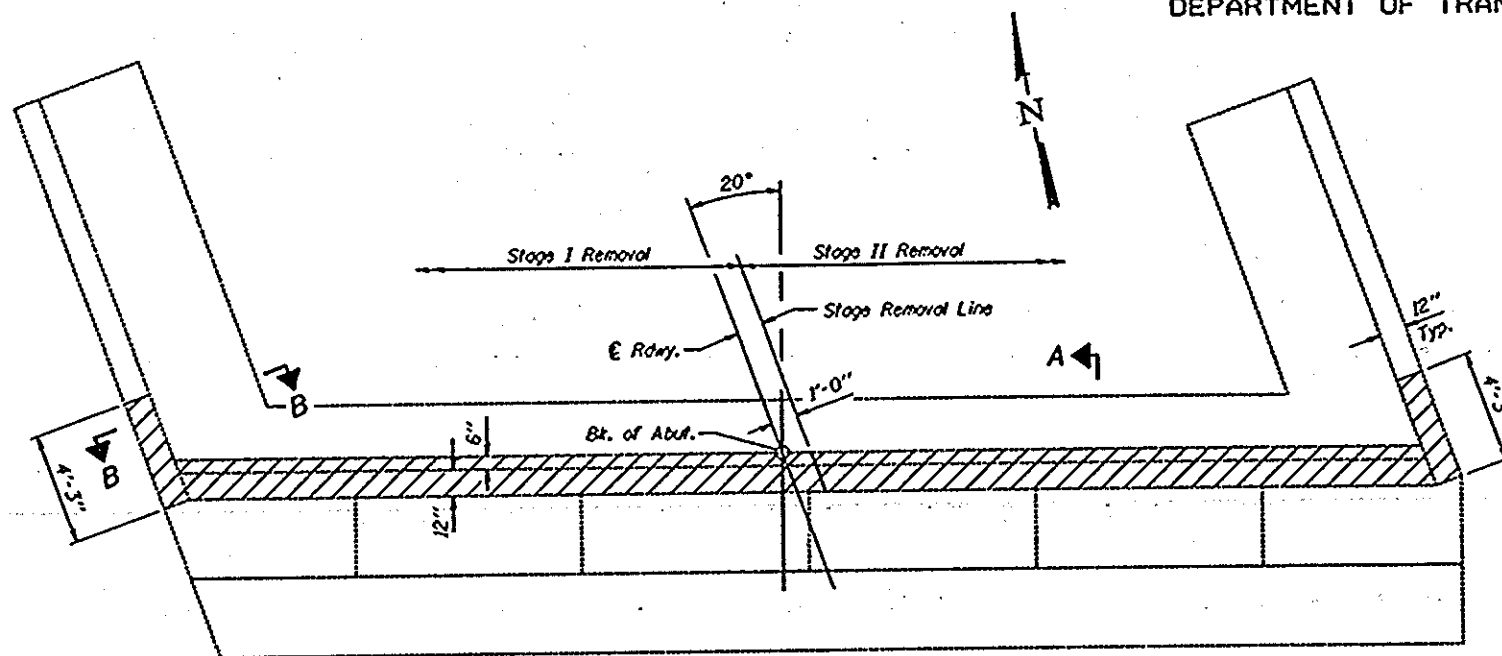
ENGINEER OF STRUCTURAL SERVICES

PASSED

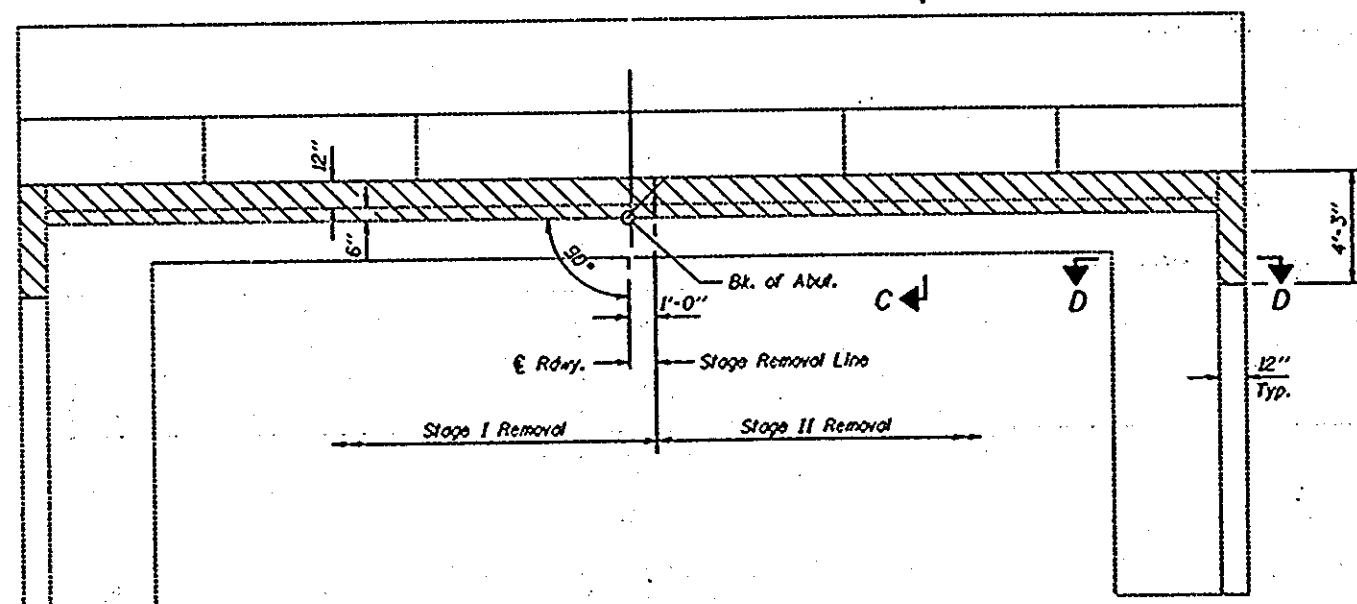
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

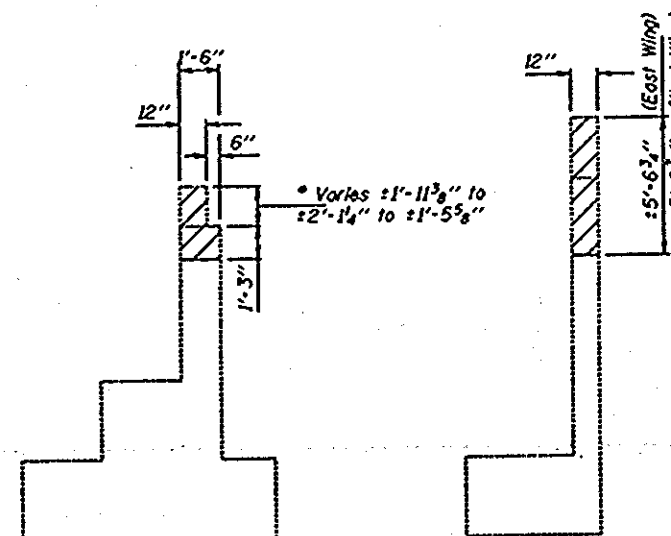
ROUTE NO.	DISTRICT	PROJECT	SHEET NO.	TOTAL SHEETS
		LIVINGSTON	46	40
SHEET NO. 10				
16 SHEETS				



PLAN - NORTH ABUTMENT



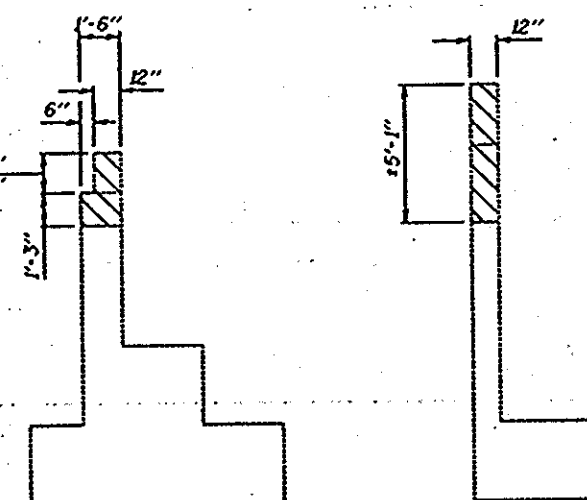
PLAN - SOUTH ABUTMENT



SECTION A-A

SECTION B-B

* Measured at Back of Abutment.



SECTION C-C

SECTION D-D

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	15.1

DESIGNED	J.L.C.
CHECKED	N.J.S.
DRAWN	J.P.S. Jr.
	Mike Giffelle
CHECKED	J.L.C. N.J.S.

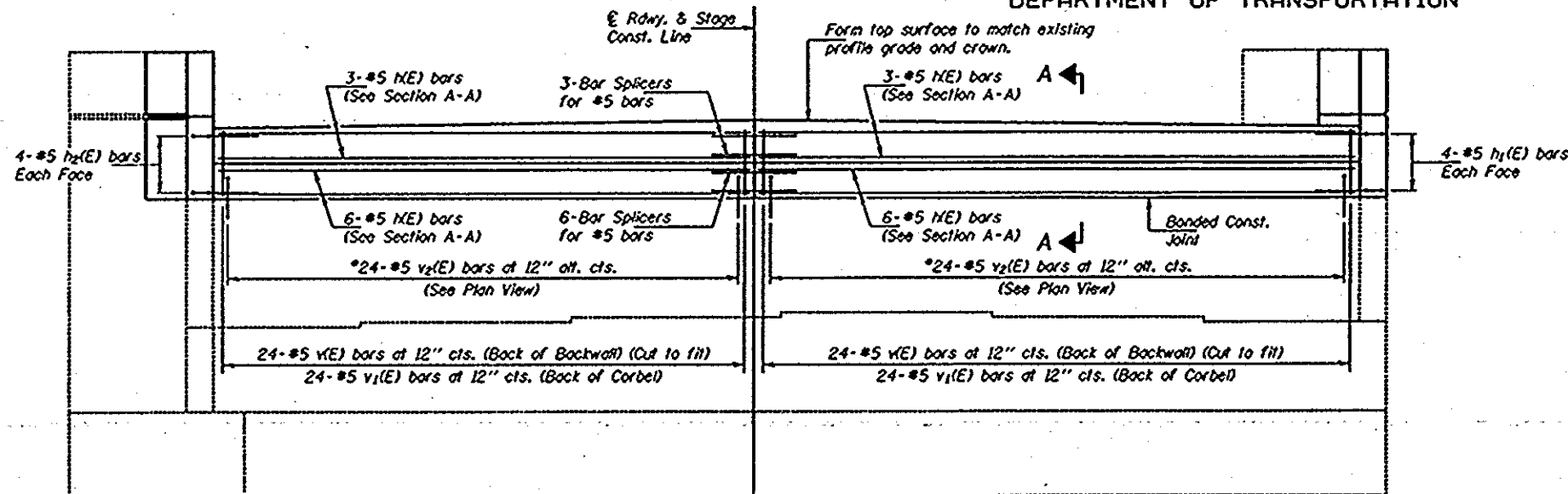
MAY 3, 2000
 EXAMINED *John A. Morris*
 CHIEF OF STATE ROAD SURVEY
 PASSED
 ENGINEER OF BRIDGES AND STRUCTURES

Notes:
 Hatched area indicates Concrete Removal.
 Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar spacer or anchorage system. Cost shall be included in the cost of Concrete Removal.

CONCRETE REMOVAL DETAILS
 F.A. RTE. 24 SEC. (37.10)BVB
 LIVINGSTON COUNTY
 S.N. 053-0149

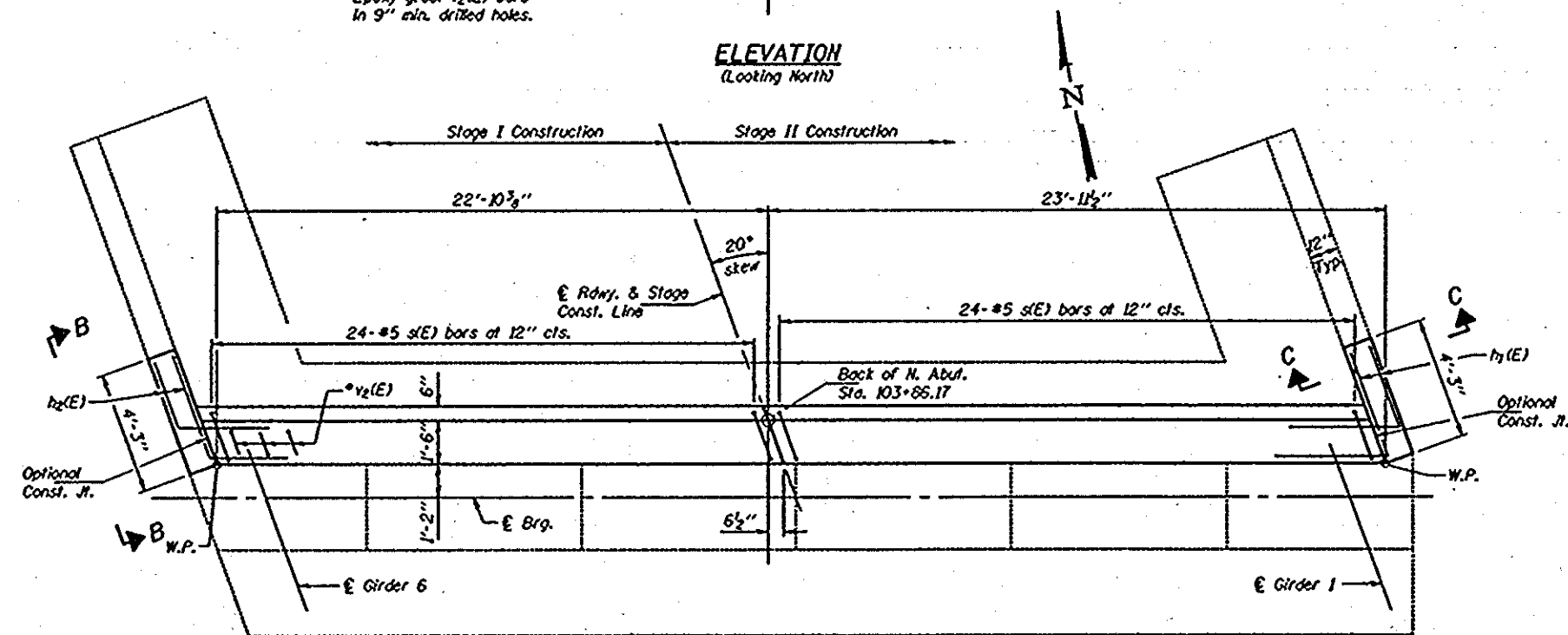
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	APP'D	SHEET NO.
				11
				16 SHEETS

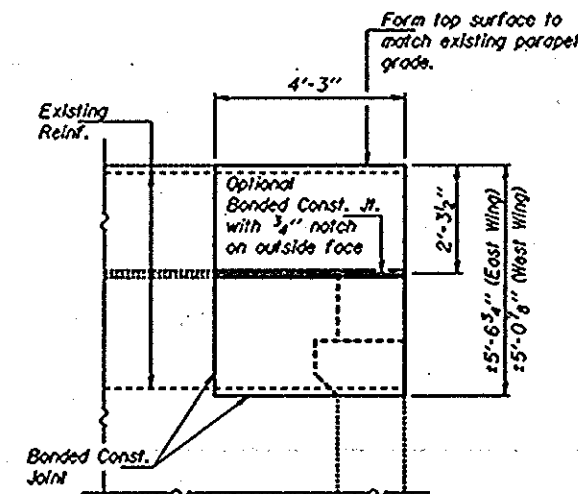


*Epoxy grade vE(E) bars in 9" min. drilled holes.

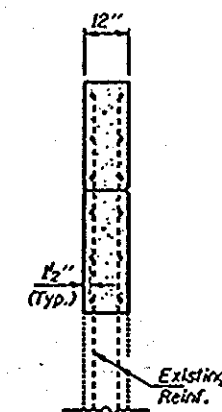
ELEVATION
(Looking North)



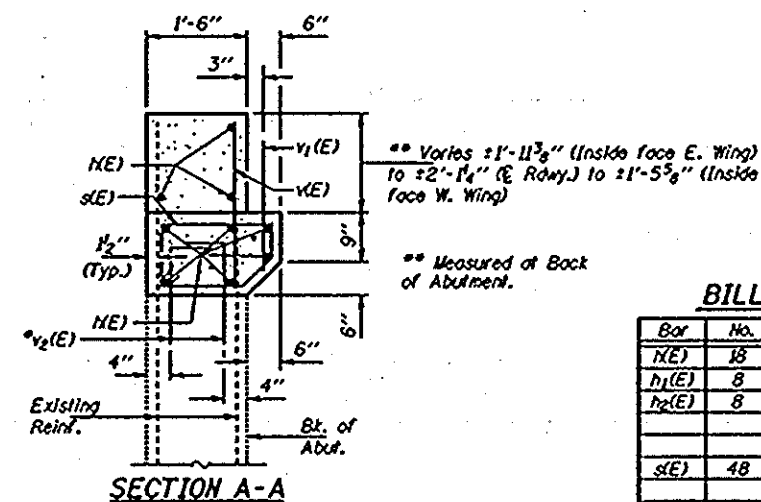
PLAN



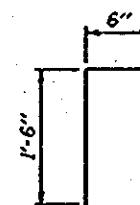
VIEW B-B



SECTION C-C



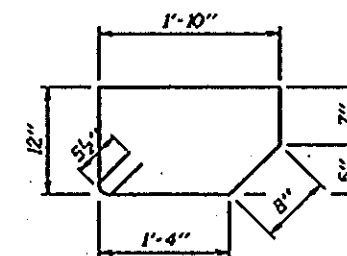
SECTION A-A



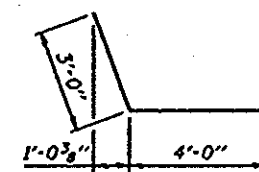
BAR v2(E)

BILL OF MATERIAL

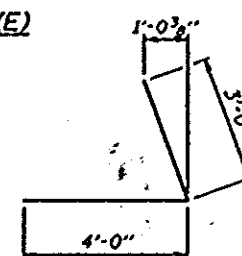
Bar	No.	Size	Length	Shape
hE(E)	18	#5	25'-2"	—
h1(E)	8	#5	7'-0"	J
h2(E)	8	#5	7'-0"	L
sE(E)	48	#5	6'-4"	□
vE(E)	48	#5	3'-0"	—
v1(E)	48	#5	2'-0"	—
v2(E)	48	#5	2'-0"	I
Concrete Superstructure			Cu. Yd.	10.2
Reinforcement Bars, Epoxy Coated			Pound	1220



BAR s(E)



BAR h2(E)



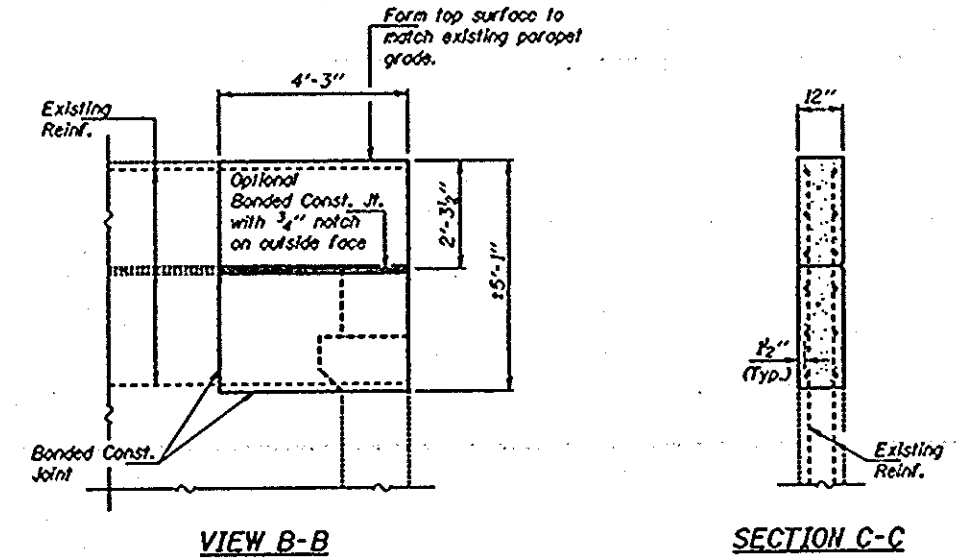
BAR h1(E)

DESIGNED	J.L.C.
CHECKED	N.J.S.
DRAWN	Mike Gizele
CHECKED	J.L.C. N.J.S.

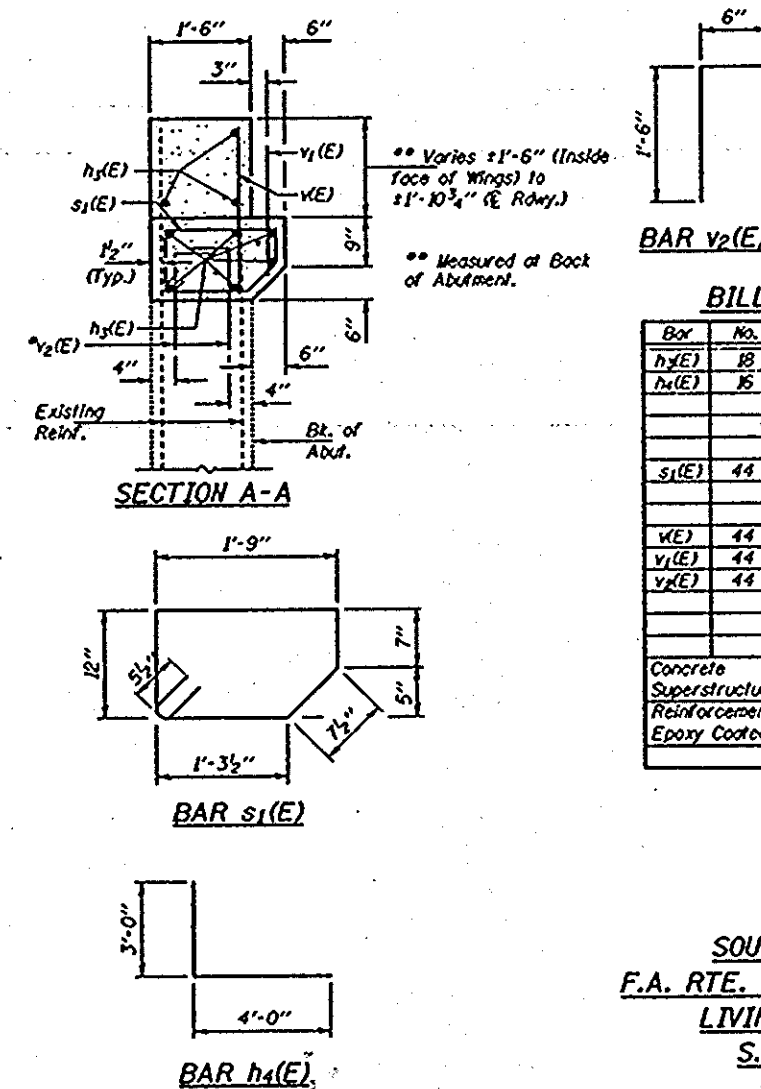
APPROVED	John A. Morris
PASSED	

Notes:
Reinforcement bars designated (E) shall be epoxy coated.
For concrete removal details see sheet 10 of 16.
For bar spacer details see sheet 13 of 16.

NORTH ABUTMENT
F.A. RTE. 24 SEC. (37.10)BVB
LIVINGSTON COUNTY
S.N. 053-0149



ELEVATION
(Looking South)



PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_2(E)$	18	#5	21'-9"	—
$h_4(E)$	16	#5	7'-0"	L
$s_1(E)$	44	#5	6'-2"	D
$w(E)$	44	#5	3'-0"	—
$v_1(E)$	44	#5	2'-0"	—
$v_2(E)$	44	#5	2'-0"	I
Concrete Superstructure			Cu. Yd.	9.3
Reinforcement Bors. Epoxy Coated			Pound	1130

SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S. Jr. ORAYN	Mike Gizette
CHECKED	J.L.C. - N.J.S.

MAY 3, 2000
 EXAMINED John A. Morris
 PASSED OWNER OF STRUCTURAL BUSINESS
OWNER OF BRICKS AND STRUCTURES

Notes:
Reinforcement bars designated (E) shall be epoxy coated.
For concrete removal details see sheet 10 of 16.
For bar splicer details see sheet 13 of 16.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	APP'D	SHEET NO.
				13
				16 SHEETS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

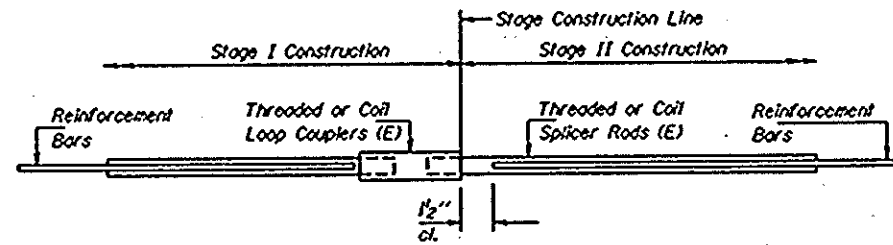
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_s$
- ② Minimum "Pull-out Strength" (Tension in kips) = $1.25 \times f_{s_{allow}} \times A_s$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_s = Tensile stress area of lapped reinforcement bars.
• = 28 day concrete

BAR SPLICER ASSEMBLIES

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



SPLICER DETAIL

Bar Size	No. Assemblies Required	Location
#6	32	Deck
#5	18	Abutments

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



ONE PIECE

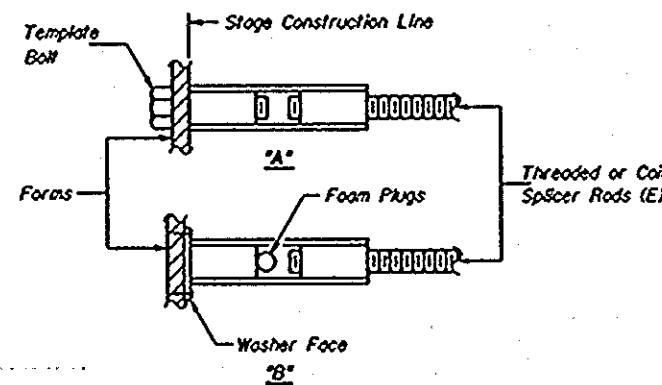
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

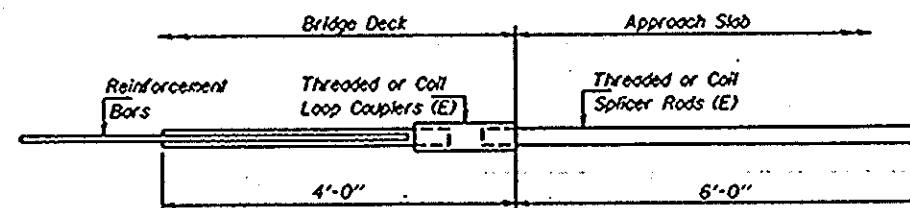
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #5 BAR

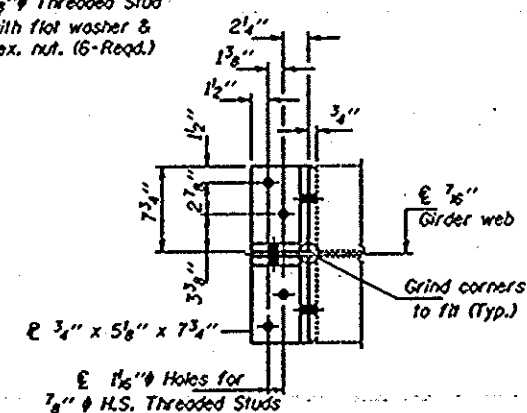
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =

DESIGNED	J.L.C.
CHECKED	N.J.S.
J.P.S.Jr.	Mike Giletto
DRAWN	
CHECKED	J.L.C. N.J.S.

BSD-1 4-30-99

MAY 3, 2000
DRAWN *John A. Morris*
PASSED
DIRECTOR OF HIGHWAYS AND STRUCTURES

BAR SPLICER ASSEMBLY DETAILS
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149



PLAN

Technical drawing of a mechanical assembly, showing two views of a bracket or support structure.

Left View (Side Elevation):

- Vertical dimension: 7 3/4"
- Horizontal dimension: 3"
- Base thickness: 1 1/2"
- Material: 3/4" x 7" x 7 3/4"
- Material: 3/4" x 4 3/8" x 7"
- Note: Grind corners to fit (Typ.)

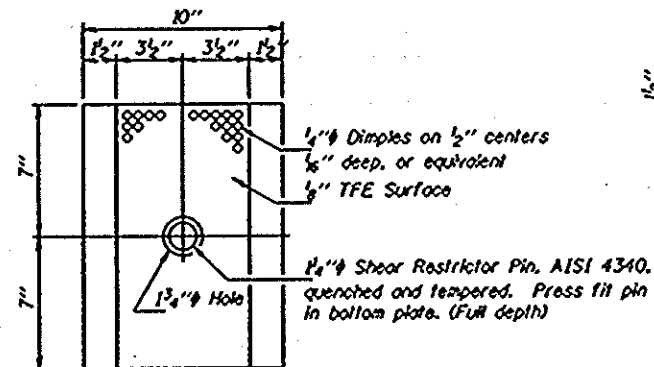
Right View (Top View):

- Vertical dimension: 5 1/2"
- Horizontal dimension: 3 1/2"
- Base thickness: 2"
- Material: 3/4" x 7" x 7 3/4"
- Material: 3/4" x 4 3/8" x 7"
- Note: Grind corners to fit (Typ.)
- Note: Slope to Match Grade

Notes:

- 6 5/8" Holes for
- 6 5/8" Holes for
- 6 5/8" Holes for

(Grids 3, 4 & 6)



Technical drawing of a rectangular plate with dimensions and hole locations. The plate is 9 1/2" wide and 1-1/2" high. There are two 1/8" diameter holes for threaded studs, spaced 4 1/2" apart. The distance from the left edge to the first hole is 3 1/2", and from the second hole to the right edge is 3 1/2". The distance from the bottom edge to the holes is 2". The distance from the right edge to the center of the holes is 6 1/2".

RR	(K)	58.3
RL	(K)	51.2
Imp.	(K)	10.9
R (Total)	(K)	120.4

Notes:
Cross-frame removal and reinstallation may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.

New steel extensions, side retainers, end of girder repair plates, shim plates, connection bolts, and anchor bolts are included with furnishing and erecting structural steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

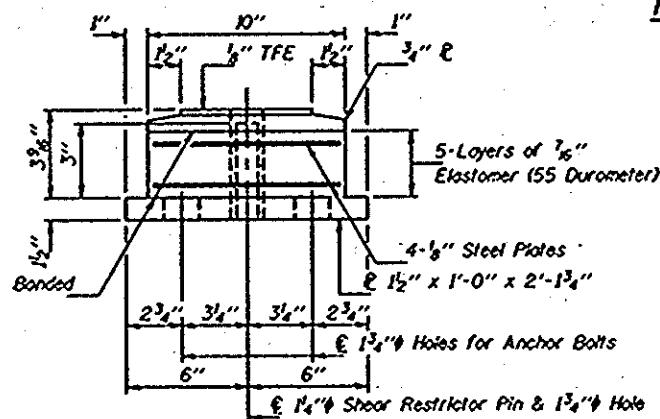
See Sheet 16 of 16 for Anchor Bolt Installation.
For Existing Bearing Removal Detail see sheet
1 of 16.

Item	Unit	Total
Elastomeric Bearing Assembly Type III	Each	6

NORTH ABUTMENT

LIVINGSTON COUNTY

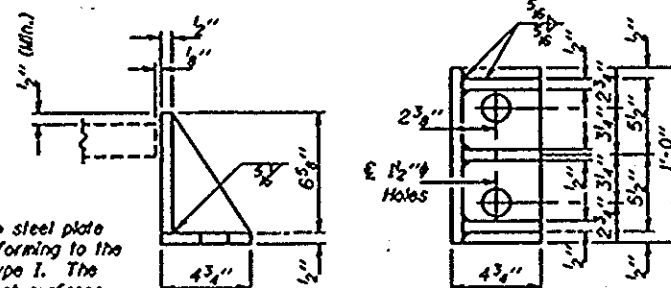
S.N. 053-0149



BOTTOM BEARING ASSEMBLY

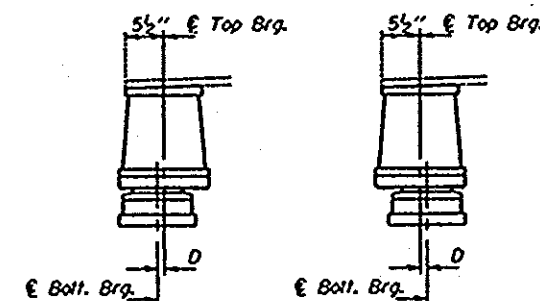
Note:
The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification WWM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SIDE RETAINER

*Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.*



BELOW 50°F.
(Move bottom brg.
away from fixed brg.)

ABOVE 50°F.
(Move bottom brg.
toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

$D = \frac{1}{8}$ " per each 100' of expansion for every 15° temperature change from the normal temp. of 50°F.

DESIGNED	J.L.C.
CHECKED	A.T.H.
DRAWN	John F. Schneller Jr.
CHECKED	J.L.C. A.T.H.

MAY 3, 2000

EX-109 John A. Morris

PASSED

EXAMPLES OF BRICKS AND STRIP PILES

TYIII/REPS 01-27-2000

ROUTE NO.	SECTION	SHAFT	IN	FEET
		LIVINGSTON	45	45A
FILL AND SHIP, NO. 7		SLABES	FILL NO. PROJECT	

SHEET NO. 15A
16 SHEETS



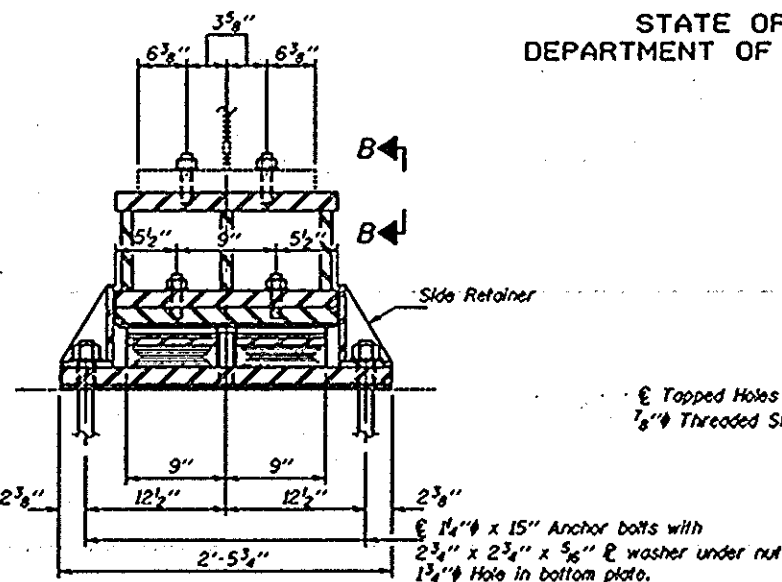
Notes:
Hatched area indicates Structural Steel Removal. Cost Included with
Furnishing and Erecting Structural Steel.
~~The cost of all field drilling for the installation of the steel members~~
~~included with Furnishing and Erecting Structural Steel.~~

DESIGNED	V.H.V.
CHECKED	J.F.S. Jr.
DRAWN John F. Schneller Jr.	
CHECKED	V.H.V. J.F.S. Jr.

JULY 3, 2001
 EXAMINED *John A. Morris*
 PASSED
 CHIEF OF BUREAU OF INVESTIGATION

GIRDER END REPAIR-GIRDER G3
F.A. RTE. 24 SEC. 137.011BYB
LIVINGSTON COUNTY
S.N. 053-0149

REPORT NO.	DATE	COUNTY	SEA	2"	SHEET NO. 15 16 SHEETS
		LIVINGSTON	46	45	
FOR ROAD DIST. NO. 1		SECTION	FOR ROAD PROJECT		



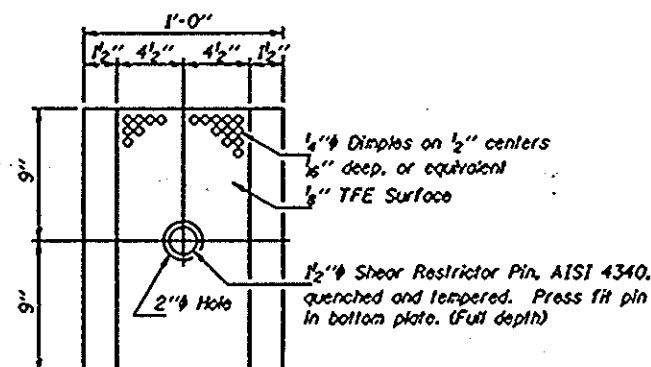
SECTION A-A

Technical drawing of a girder connection. The drawing shows a cross-section of a girder with a web and flanges. The web is labeled "Girder" and has a width of 1'-8". The flanges are labeled "Flange" and have a thickness of 1". The connection is made using 1/2" diameter threaded studs (labeled "1/2\"") and 1/2" diameter bolts (labeled "1/2\""). The bolts are spaced 8" apart. The connection is labeled "New Br" (New Bridge).

Dimensions and components shown in the drawing:

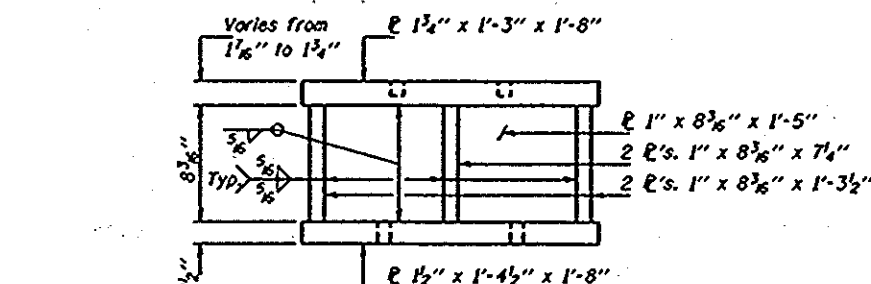
- Girder width: 1'-8"
- Flange thickness: 1"
- Threaded studs: 1/2"
- Bolts: 1/2"
- Flange width: 8"
- Web width: 8"
- Connection label: New Br

TOP PLATE

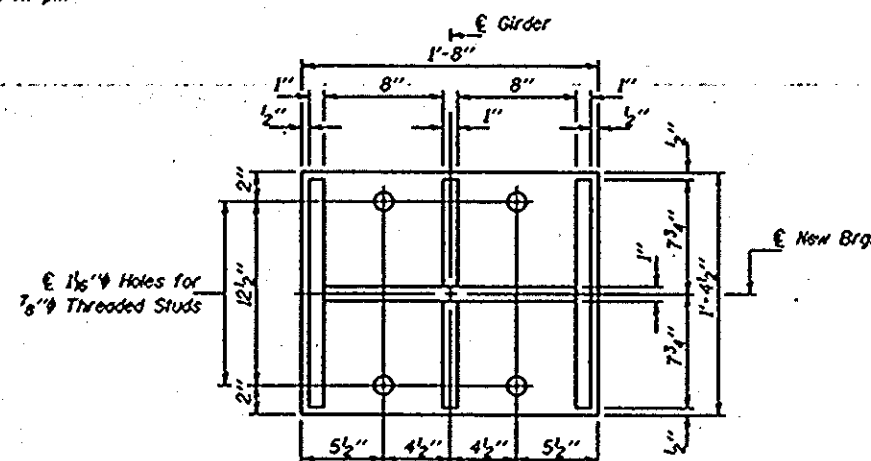


PLAN-TFE ELASTOMERIC BRG.

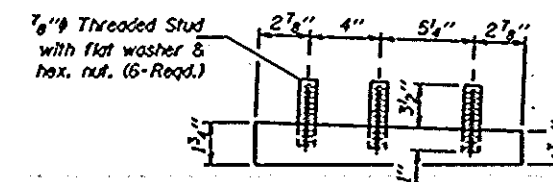
SECTION THRU TFE



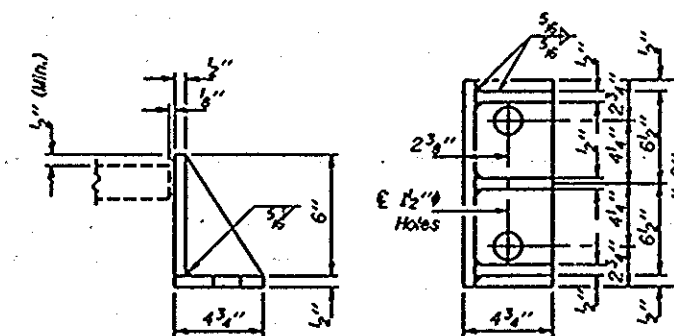
ELEVATION



BOTTOM PLATE

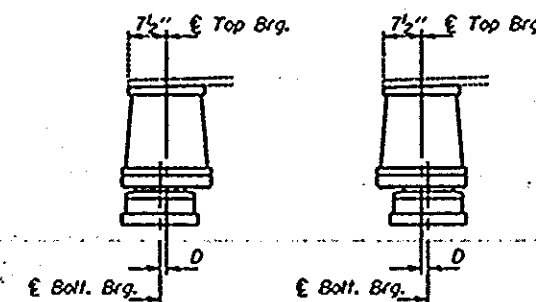


VIEW B-B



SIDE RETAINER

Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.



BELOW 50°F.
(Move bottom brg.
away from fixed brg.)

ABOVE 50°F.
(Move bottom brg.
toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.
D=1/8" per each 100' of expansion for every 15° temperature change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type III	Each	6

Notes

Cross-frame removal and reinstallation may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.

New steel extensions, side retainers, shim plates, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. See Sheet 16 of 16 for Anchor Bolt installation. For Existing Bearing Removal Detail see sheet 1 of 16.

GIRDER REACTIONS

RR	(K)	91.7
Rt	(K)	57.5
Imp.	(K)	10.0
R (Total)	(K)	159.2

Notes:

The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification WUU-A-134, Type 1. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

BOTTOM BEARING ASSEMBLY

DESIGNED	J.L.C.
CHECKED	A.T.H.
DRAWN John F. Schneller Jr.	
CHECKED	J.L.C. A.T.H.

MAY 3, 2000

EXAMINED John A. Morris
PASSED CHIEF OF STATE MARSH SERVICE

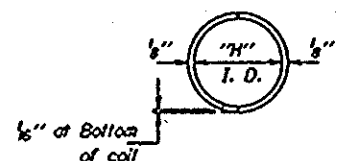
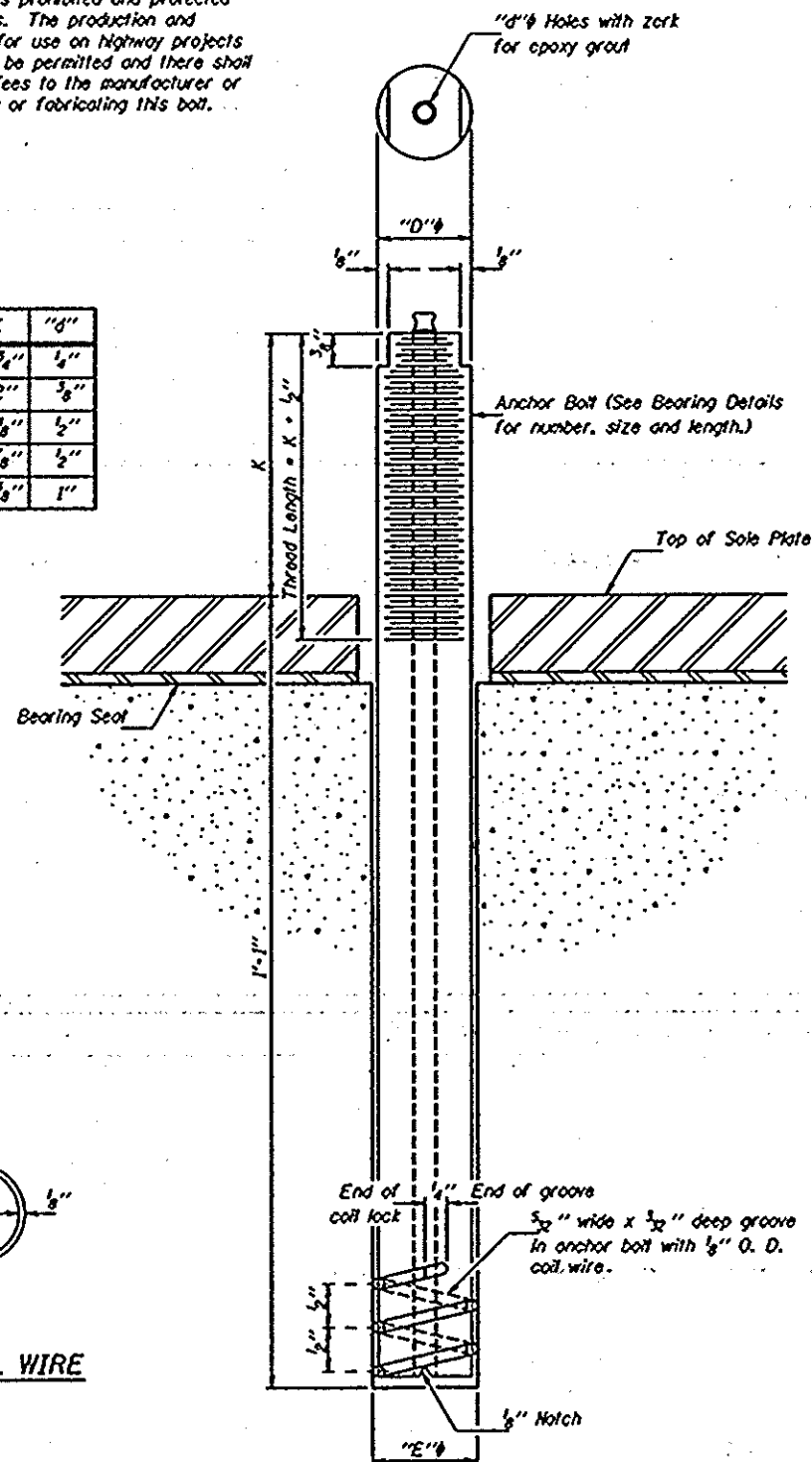
TYIII/REPS 01-27-2000

BEARING DETAILS

SOUTH ABUTMENT
F.A. RTE. 24 SEC. (37,10)BVB
LIVINGSTON COUNTY
S.N. 053-0149

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	3/8"	1 3/4"	1/4"
1 1/4"	1 3/8"	1/2"	2"	3/8"
1 1/2"	1 5/8"	1 5/8"	2 1/8"	1/2"
2"	2 1/8"	1 3/4"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/8"	3 3/8"	1"



PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

MATERIALS FOR ILLINOIS COIL-LOCK

ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CN and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade I and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A 307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

PROJECT NO.	SECTION	DATE	REV.	SHEET NO.
68	8	LIVINGSTON	46	46
SHEET NO. 16				16 SHEETS

(37,101)8VB-I

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

ANCHOR BOLT DETAILS

FOR BEARINGS

F.A. RTE. 24 SEC. (37,10)8VB

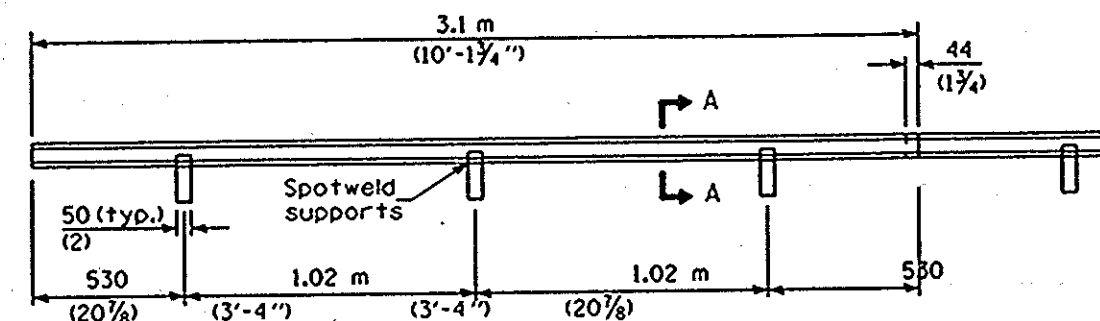
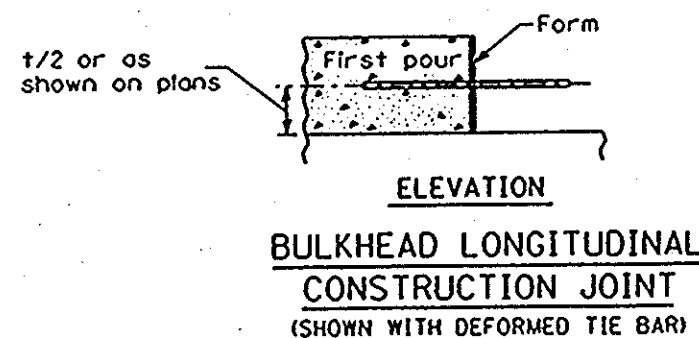
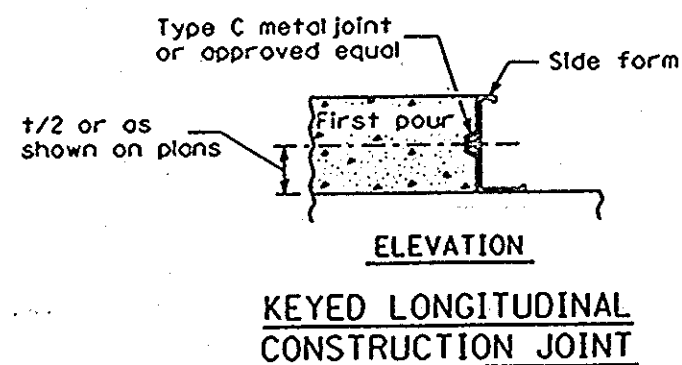
LIVINGSTON COUNTY

S.N. 053-0149

DESIGNED	J.L.C.
CHECKED	A.T.H.
DRAWN	John F. Schaeffer Jr.
CHECKED	J.L.C. A.T.H.

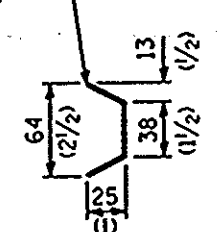
ABB-1 4-30-99

APPROVED	MAY 3, 2000
EXAMINED	John A. Morris
PASSED	

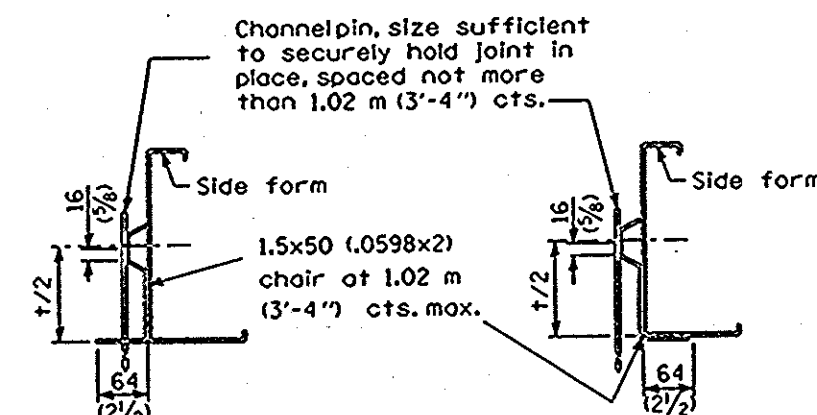


ELEVATION

Sheet steel of suitable thickness to form keyway as detailed or approved equal.



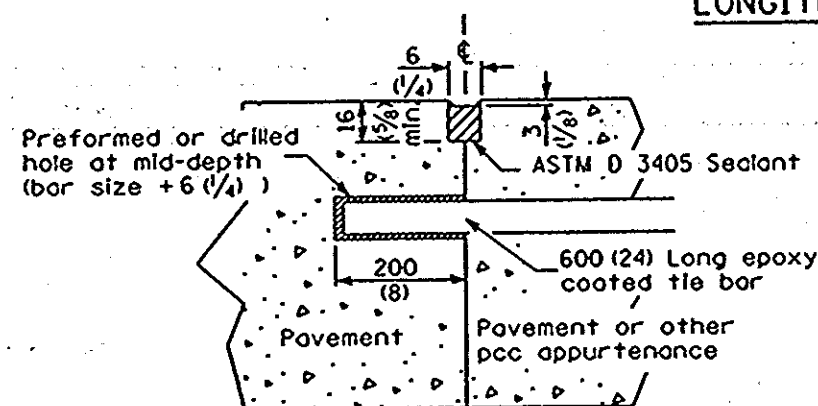
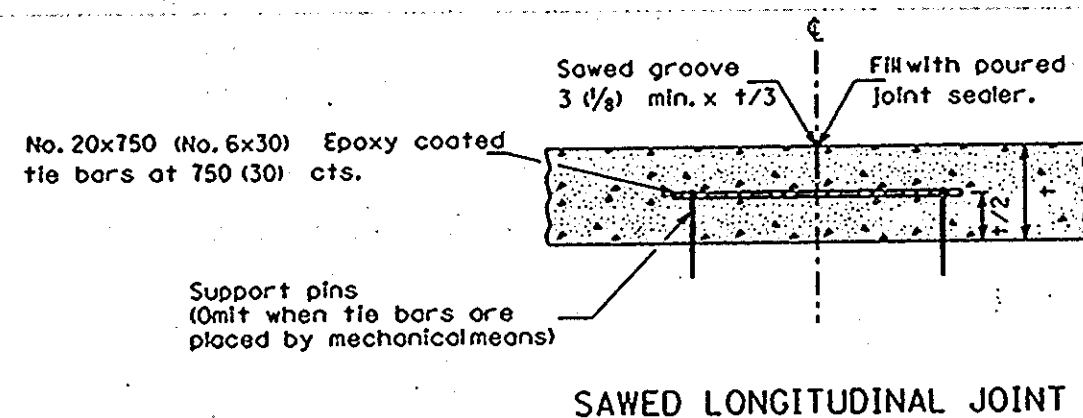
SECTION A-A



SUPPORTING CHAIR ALTERNATE

SUPPORTING CHAIR ALTERNATE

LONGITUDINAL METAL JOINT TYPE C



LONGITUDINAL CONSTRUCTION JOINT GROUTED-IN-PLACE TIE BAR

GENERAL NOTES

Dowelbar caps shall be placed on opposite end of adjacent dowelbars.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-00	Rev. EXPANSION JOINT dimensions. Add GENERAL NOTE.
1-1-98	Del. HINGE JOINT detail.
	Rev. sawed groove for SAWED CONT. JT.

PAVEMENT JOINTS

(Sheet 1 of 2)

STANDARD 420001-02



(For pavements with unequal thickness)
See DETAIL OF EXPANSION JOINT below
for notes and dimensions not shown.

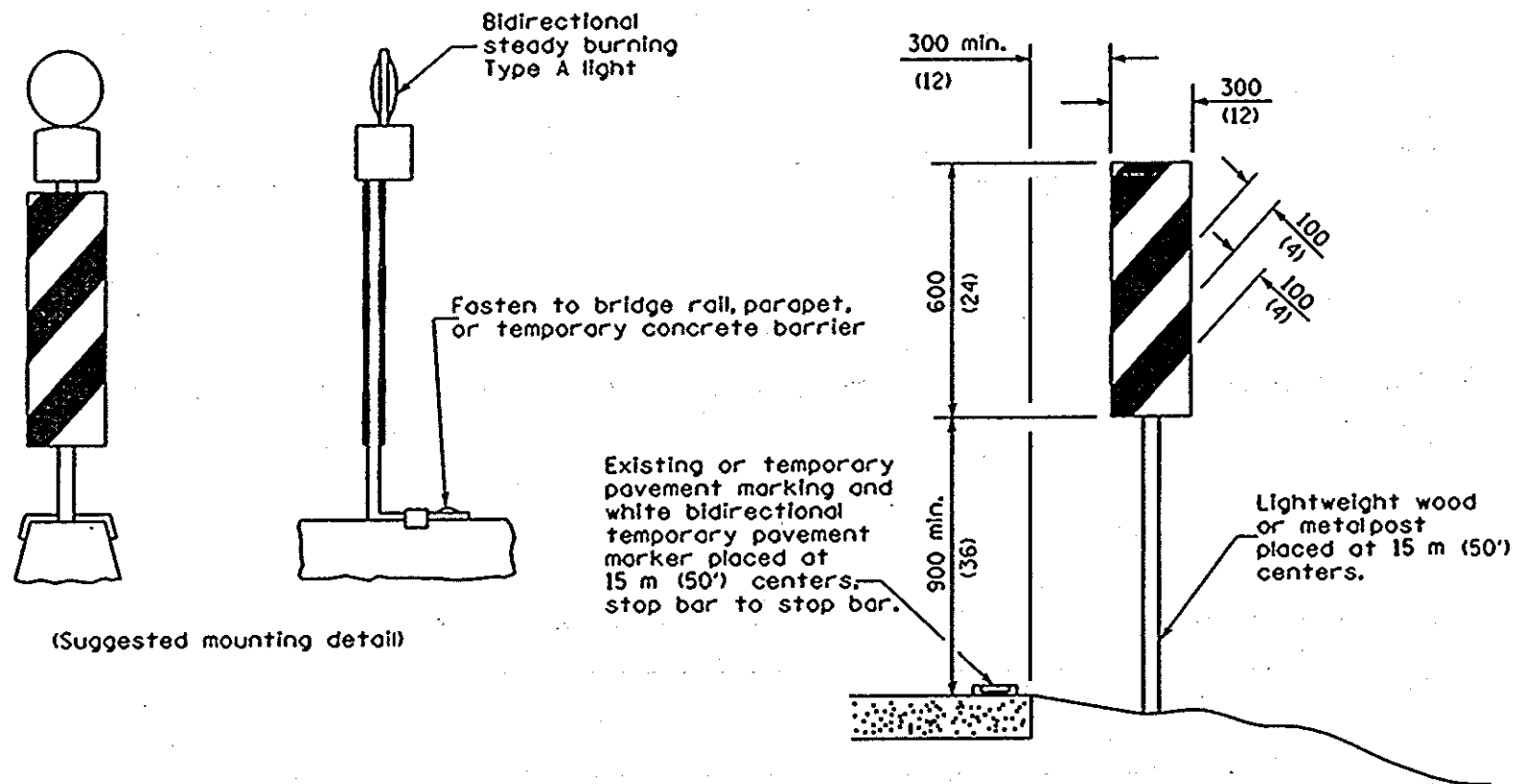
CONCRETE THICKNESS	DOWEL BAR DIAMETER
200(8) or greater	38 (1½)
175(7) thru 199 (7.99)	32 (1¼)
Less than 175(7)	25 (1)



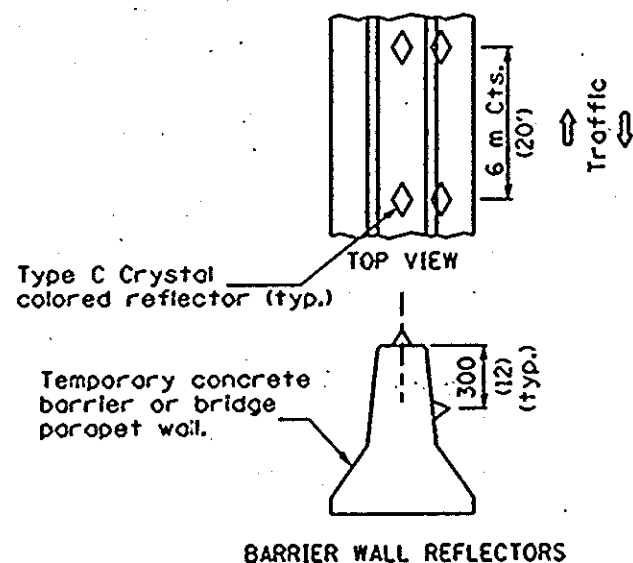
(For pavements with equal thickness)



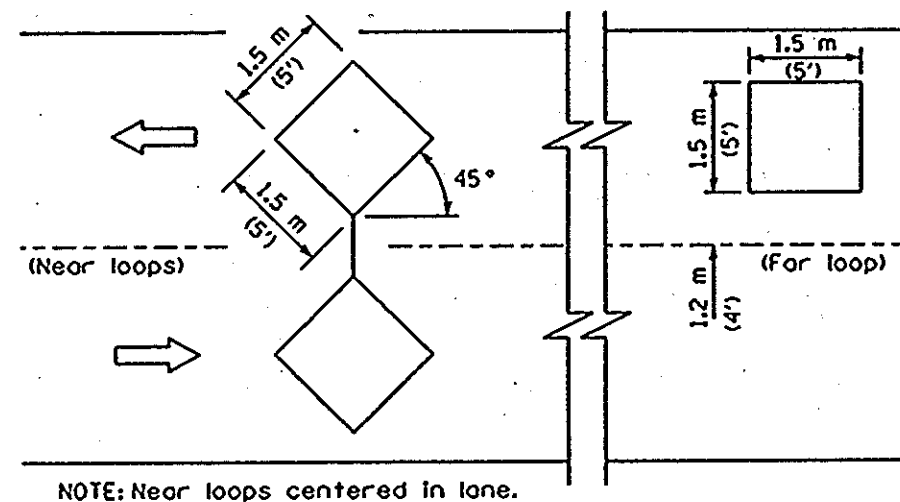
(For CAM, CFA and LFA Base Course Mixtures)



PAVEMENT MARKERS AND VERTICAL PANELS



DETAIL A



INDUCTION LOOP DETECTOR (TYPICAL)

(See traffic control plan for placement)

Illinois Department of Transportation

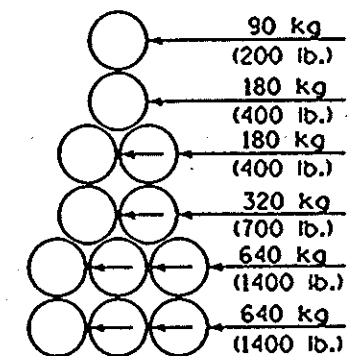
APPROVED January 1, 2000

ENGINEER OF OPERATIONS

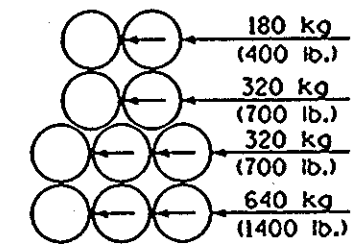
APPROVED January 1, 2000

ENGINEER OF DESIGN AND ENVIRONMENT

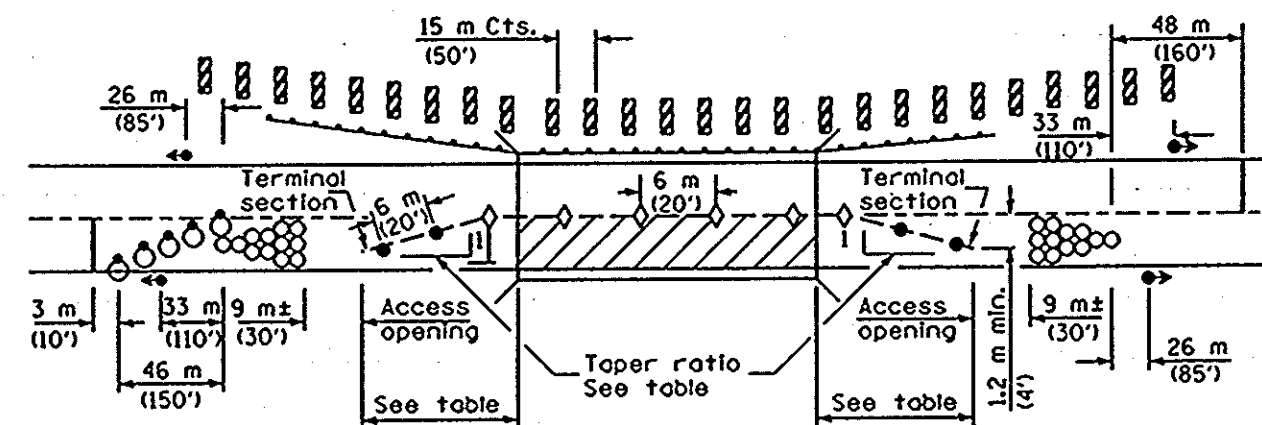
16-1-1 Q70551



POSTED SPEED 70 km/h (40 mph) OR MORE



POSTED SPEED LESS THAN 70 km/h (40 mph)



NOTES

The impact attenuators may be placed directly on the pavement or on pallets or skids. (Max pallet/skid height 60 (2 1/4'))

The impact attenuators shall be striped in accordance with the requirements for drums in Standard 702001.

A minimum of 3 barricades or drums with bidirectional steady burning lights delineating the closed lane shall be placed in the access opening during nonworking hours.

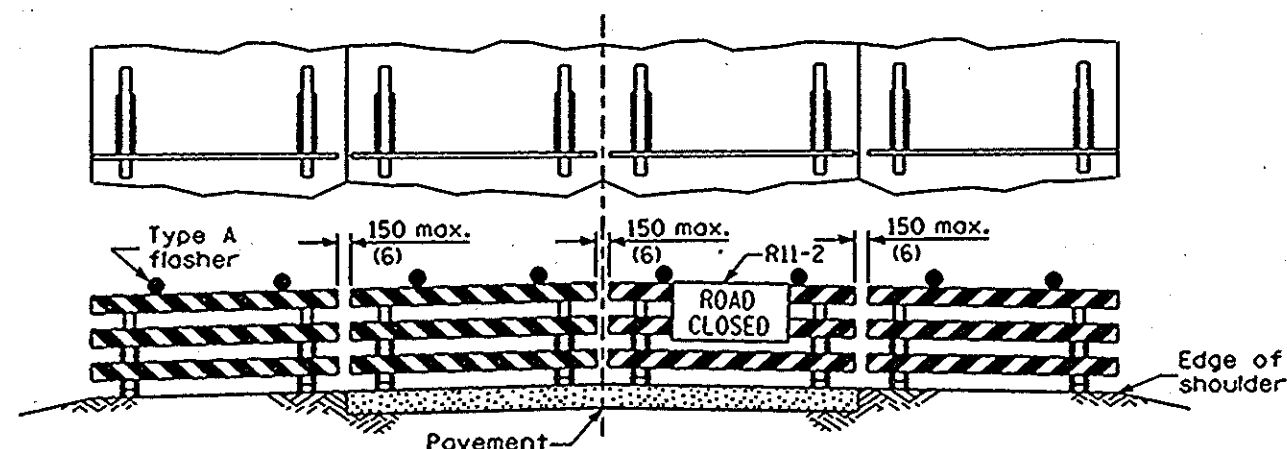
SAND MODULE IMPACT ATTENUATOR CONFIGURATION

All dimensions are in millimeters (inches) unless otherwise shown.

LANE CLOSURE 2L, 2W
BRIDGE REPAIR WITH BARRIER

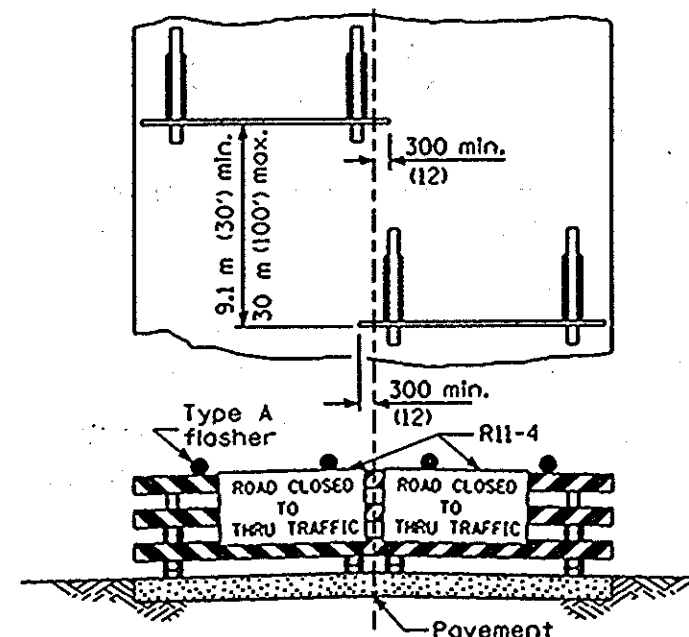
(Sheet 2 of 2)

STANDARD 701321-03



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. The barricades shall be to the edge of the shoulders except when otherwise directed by the Engineer or shown on the detailed construction plans.



ROAD CLOSED TO ALL THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. The barricades shall be to the edge of the pavement except when otherwise directed by the Engineer or shown on the detailed construction plans.

ROAD
CONSTRUCTION
NEXT X MILES

G20-1(K)-6036

END
CONSTRUCTION

G20-2a(K)-6024

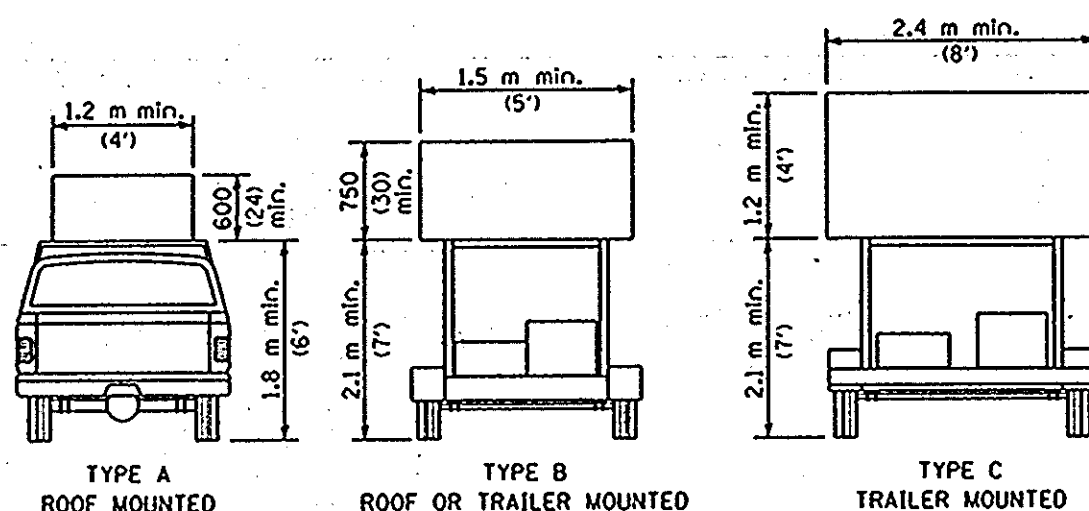
This signing is required for all projects over 3200 m (2 miles) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 150 m (500') in advance of project.

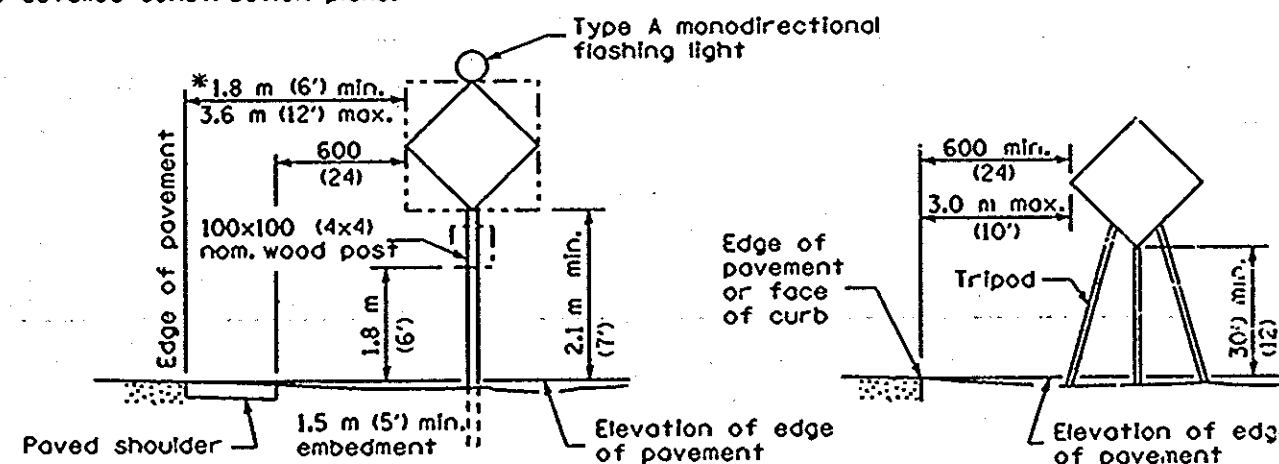
END CONSTRUCTION sign shall be erected at the of the job unless another job is within 3200 m (2 miles).

WORK LIMIT SIGNING

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD



ARROW BOARDS



TYPICAL SIGN INSTALLATIONS

GENERAL NOTES

* When curb or paved shoulder are present this dimension shall be 600 mm (24") to the face of curb or 1.8 m (6') to the outside edge of the paved shoulder.

All heights shown shall be measured above the pavement surface.

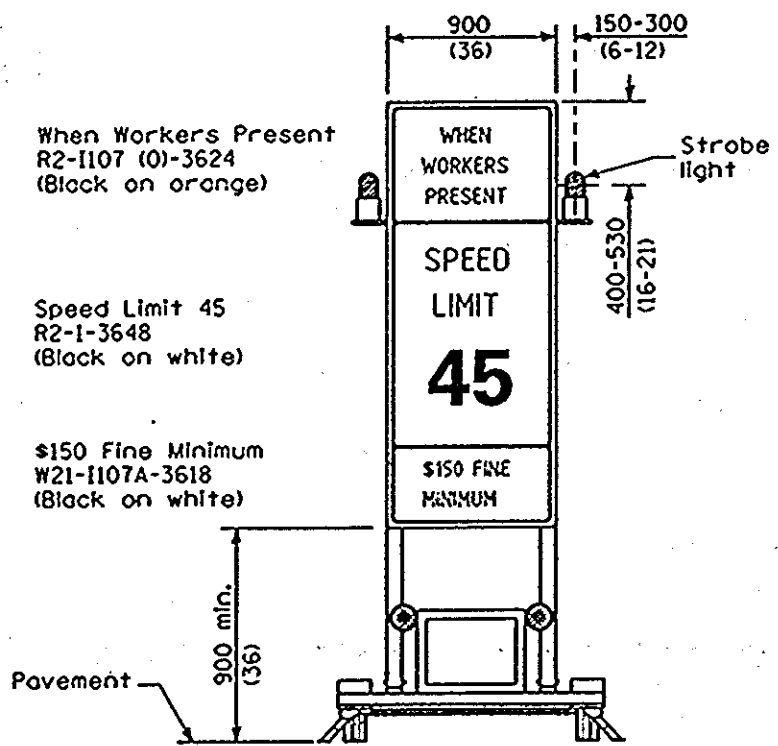
All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
1-1-00	Rev. max. tripod sign offset & END CONST. sign number.
10-1-97	Renum. Standard 2298-12. Revised construction speed limit sign.

TRAFFIC CONTROL DEVICES

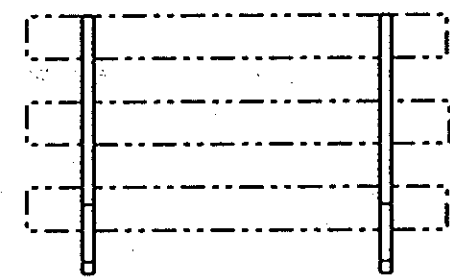
(Sheet 1 of 3)

STANDARD 702001-01

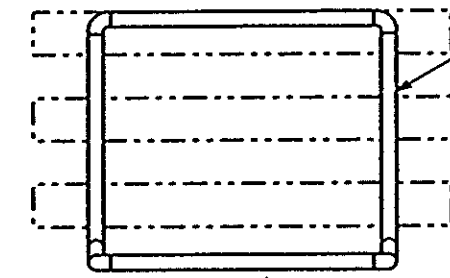
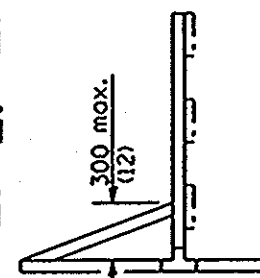


CONSTRUCTION SPEED LIMIT SIGN

Frames shall be no heavier than:
100x100 (4x4) (nom. dim.) wood or
50x50x3 (2x2x $\frac{1}{8}$) steel tubing or
50x50x5 (2x2x $\frac{1}{4}$) steel angles

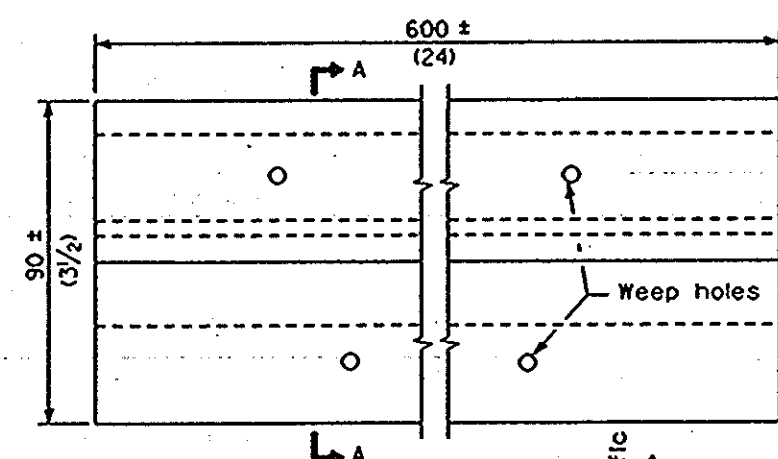


WOOD OR METAL SUPPORTS

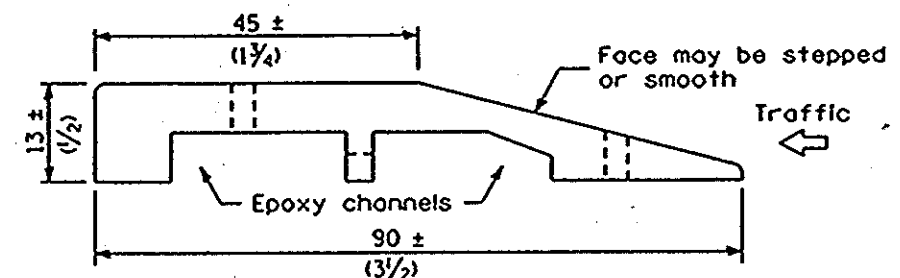


PVC PIPE SUPPORTS

WING BARRICADES

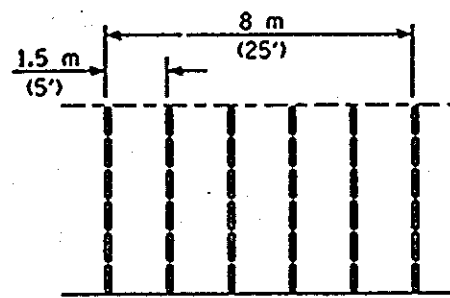
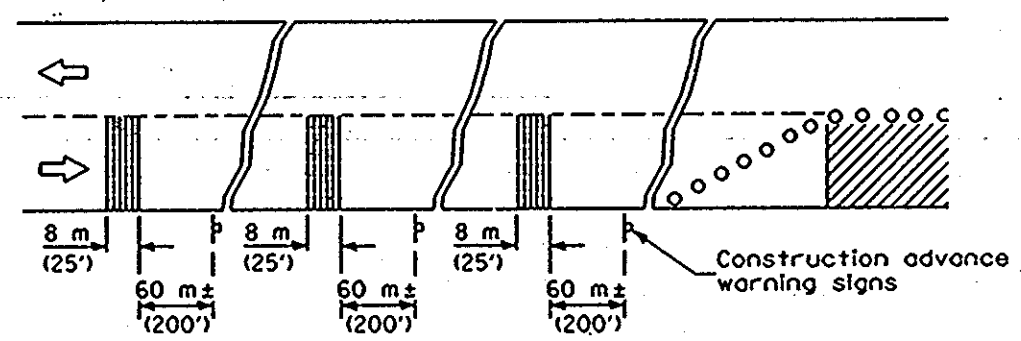


PLAN

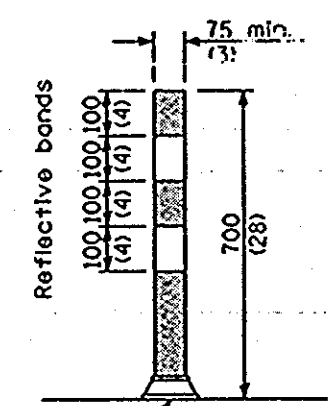


SECTION A-A

TEMPORARY RUMBLE STRIPS

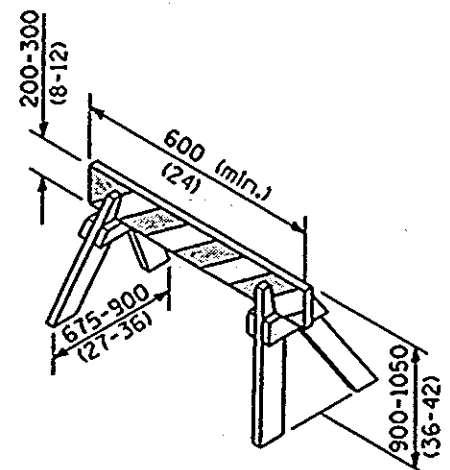


TYPICAL INSTALLATION

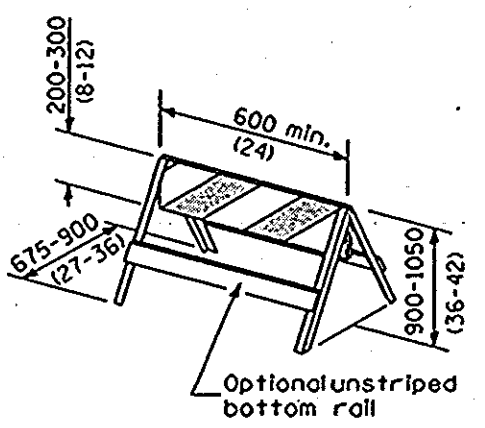


FLEXIBLE DELINEATORS

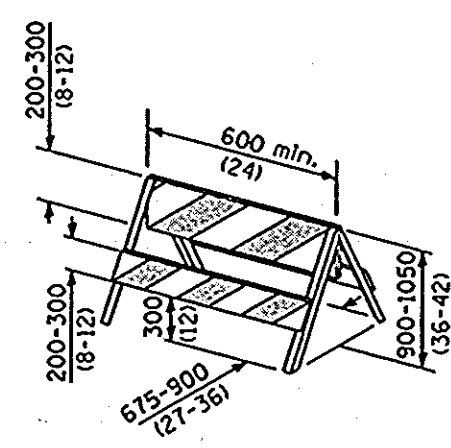
All dimensions are in millimeters (inches)
unless otherwise shown.



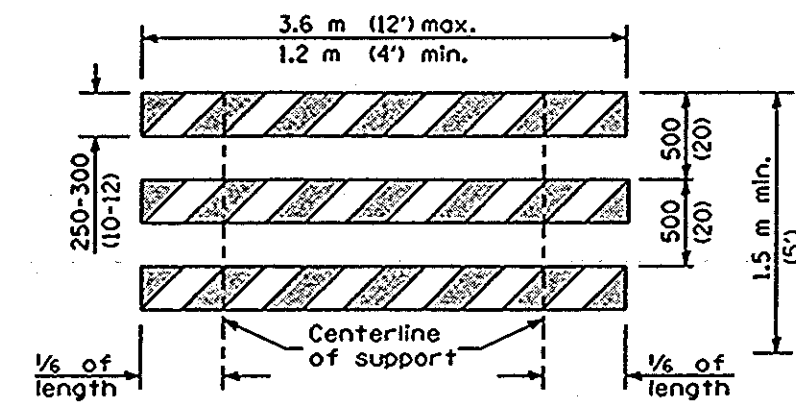
TYPE 1A BARRICADE



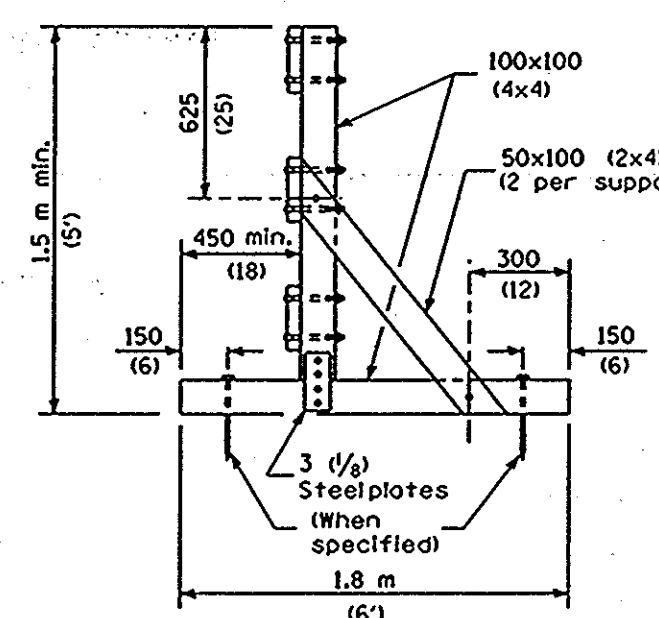
TYPE 1 BARRICADE



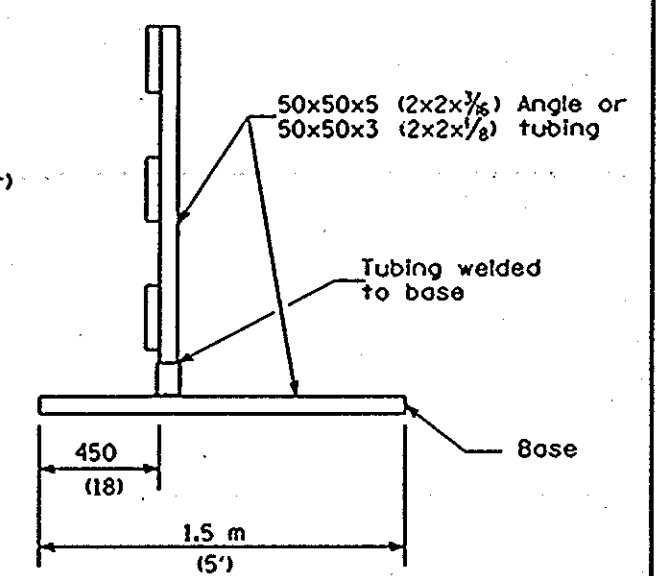
TYPE II BARRICADE



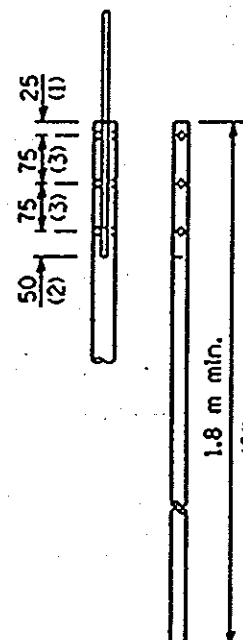
TYPE III BARRICADES



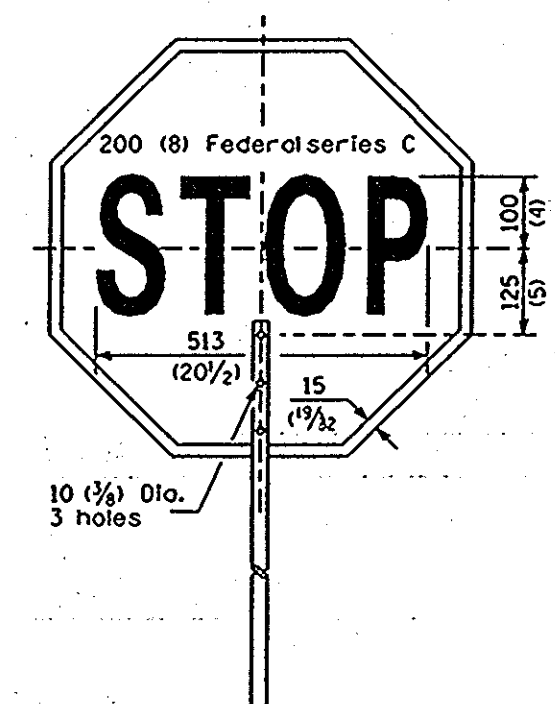
TYPICAL WOOD SUPPORT



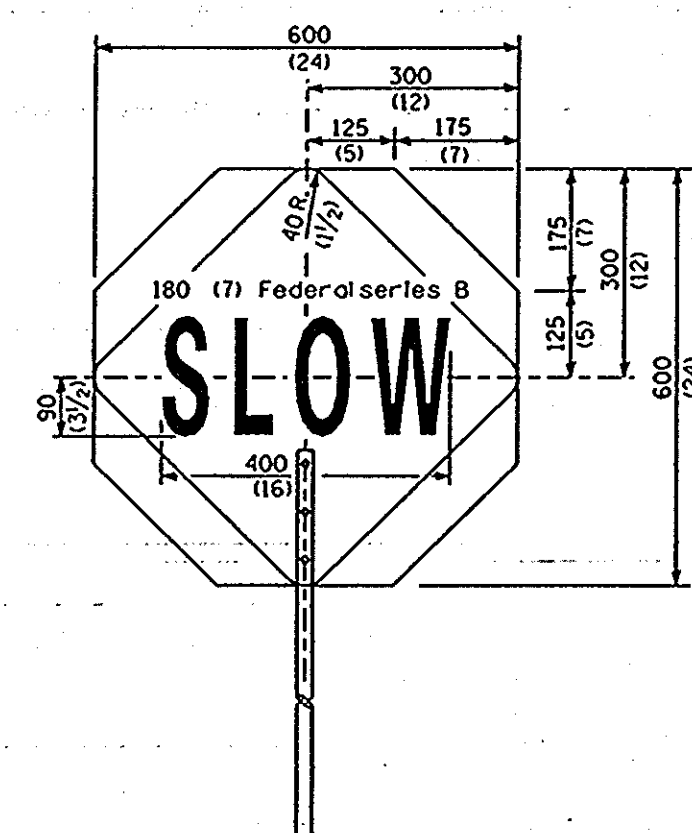
TYPICAL STEEL SUPPORT



STAFF

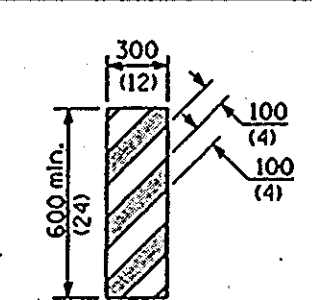


FRONT SIDE

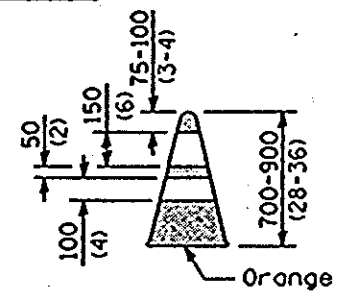


REVERSE SIDE

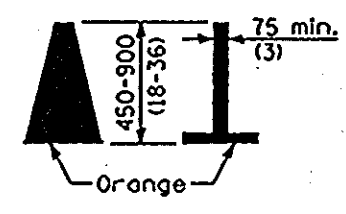
FLAGGER TRAFFIC CONTROL SIGN



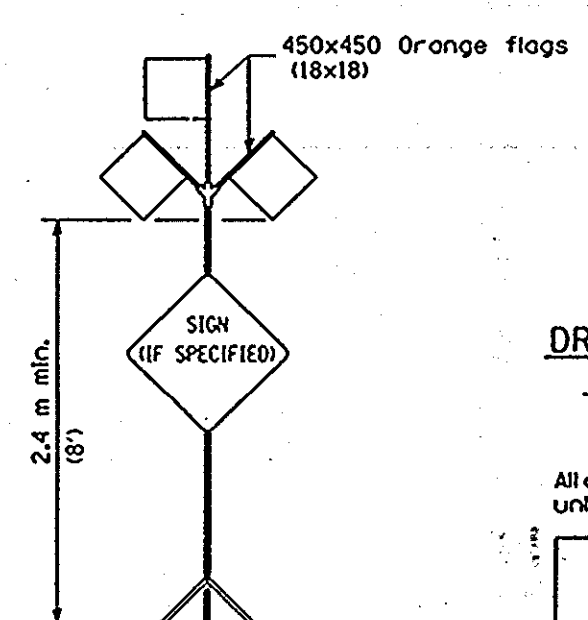
VERTICAL PANELS



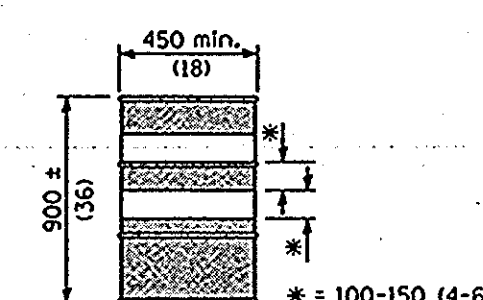
REFLECTORIZED CONES



CONES

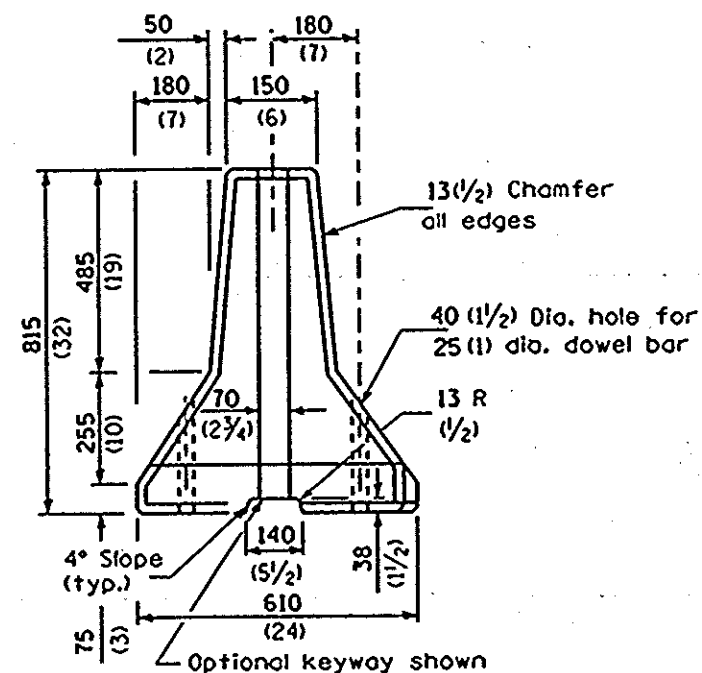


HIGH LEVEL WARNING DEVICE

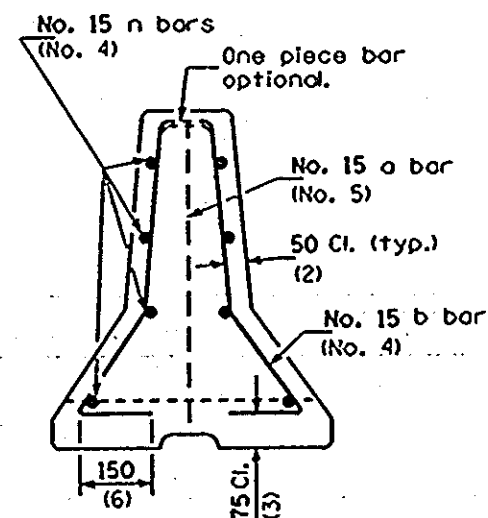


DRUMS AND SAND MODULE
IMPACT ATTENUATORS

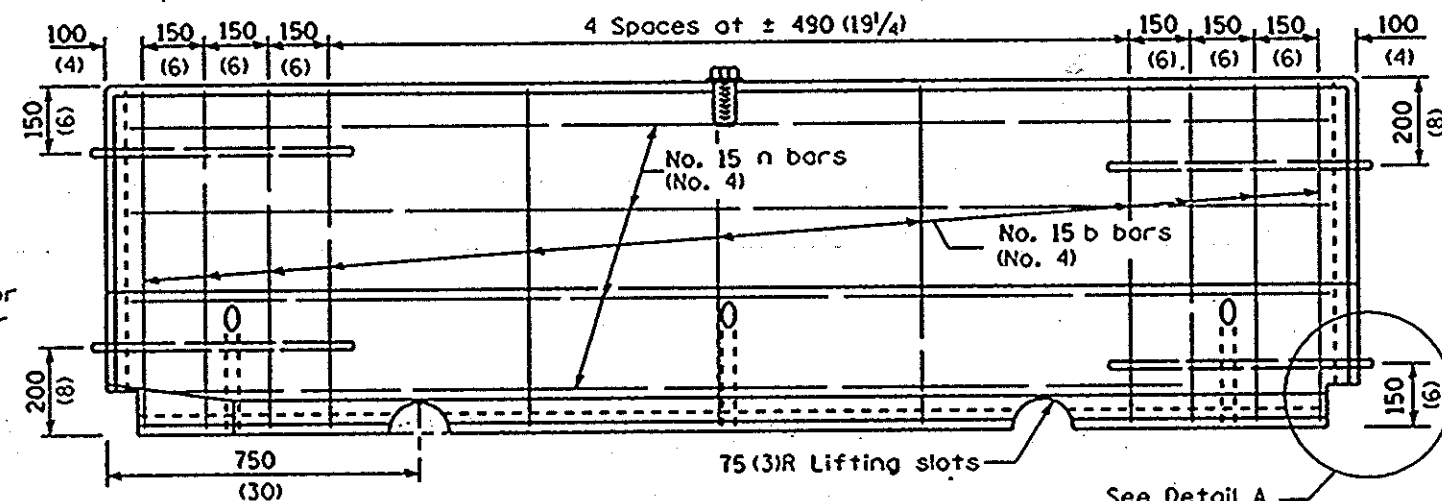
All dimensions are in millimeters (inches) unless otherwise shown.



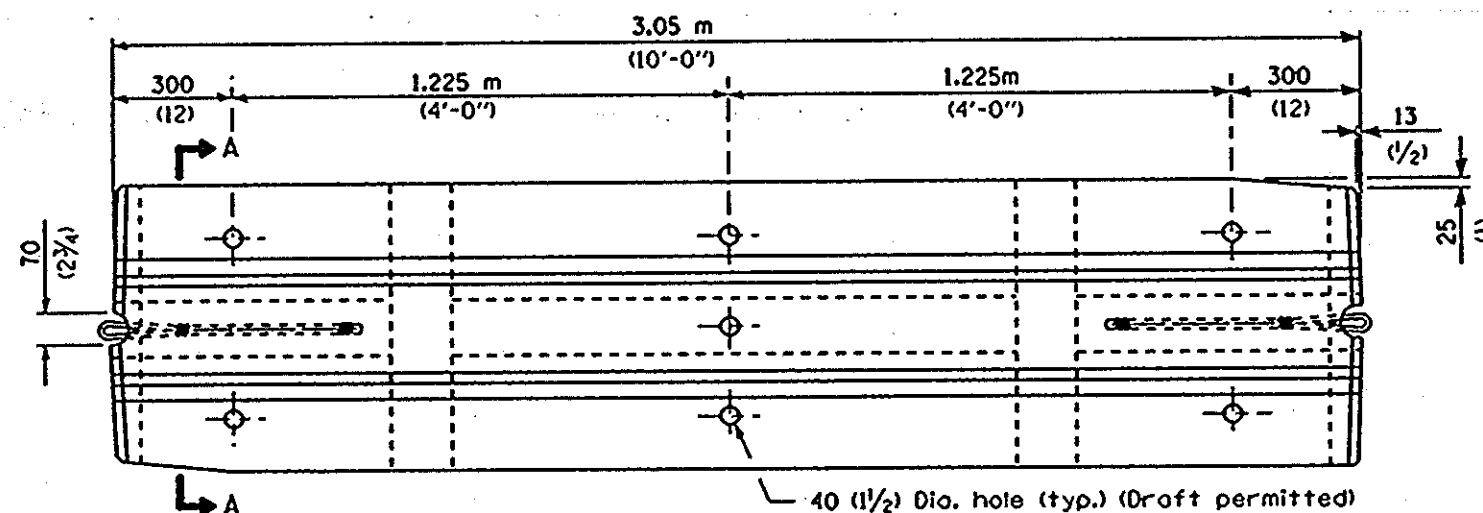
END VIEW



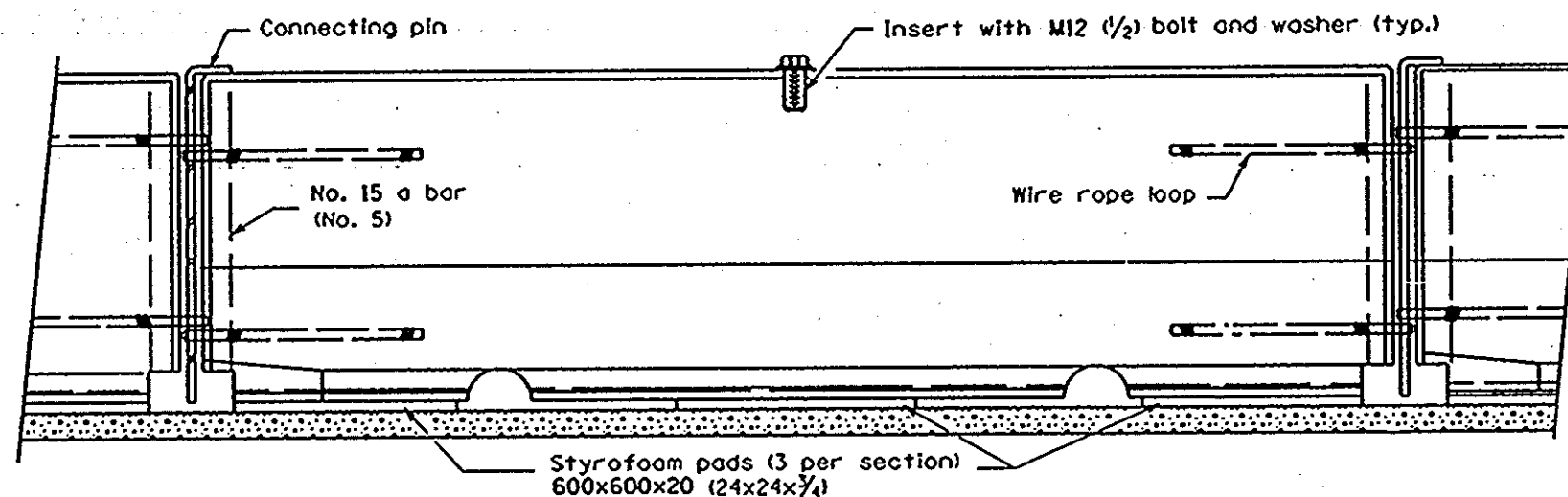
SECTION A-A
(Showing bar reinforcement)



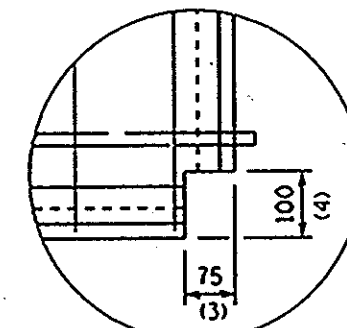
ELEVATION



PLAN

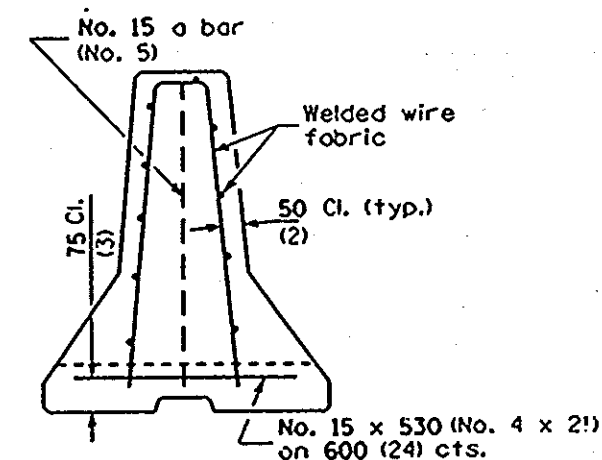


TYPICAL INSTALLATION WITH STYROFOAM PADS



DETAIL A

(Typical for both ends of the barrier and the terminal section)



SECTION A-A

(Showing alternate welded wire reinforcement)

GENERAL NOTES

Barriers manufactured before 1-1-98 according to DOT standards 705001 and 2383 may be used.

Alternate lifting devices meeting the approval of the Engineer may be substituted for the lifting slots shown.

The #15 (#5) bar may be omitted if two continuous wire ropes are substituted for the four wire rope loops shown. The continuous ropes shall be looped and fastened on each end as shown in the WIRE ROPE LOOP DETAIL.

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 1998

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 1998

ENGINEER OF DESIGN AND ENVIRONMENT

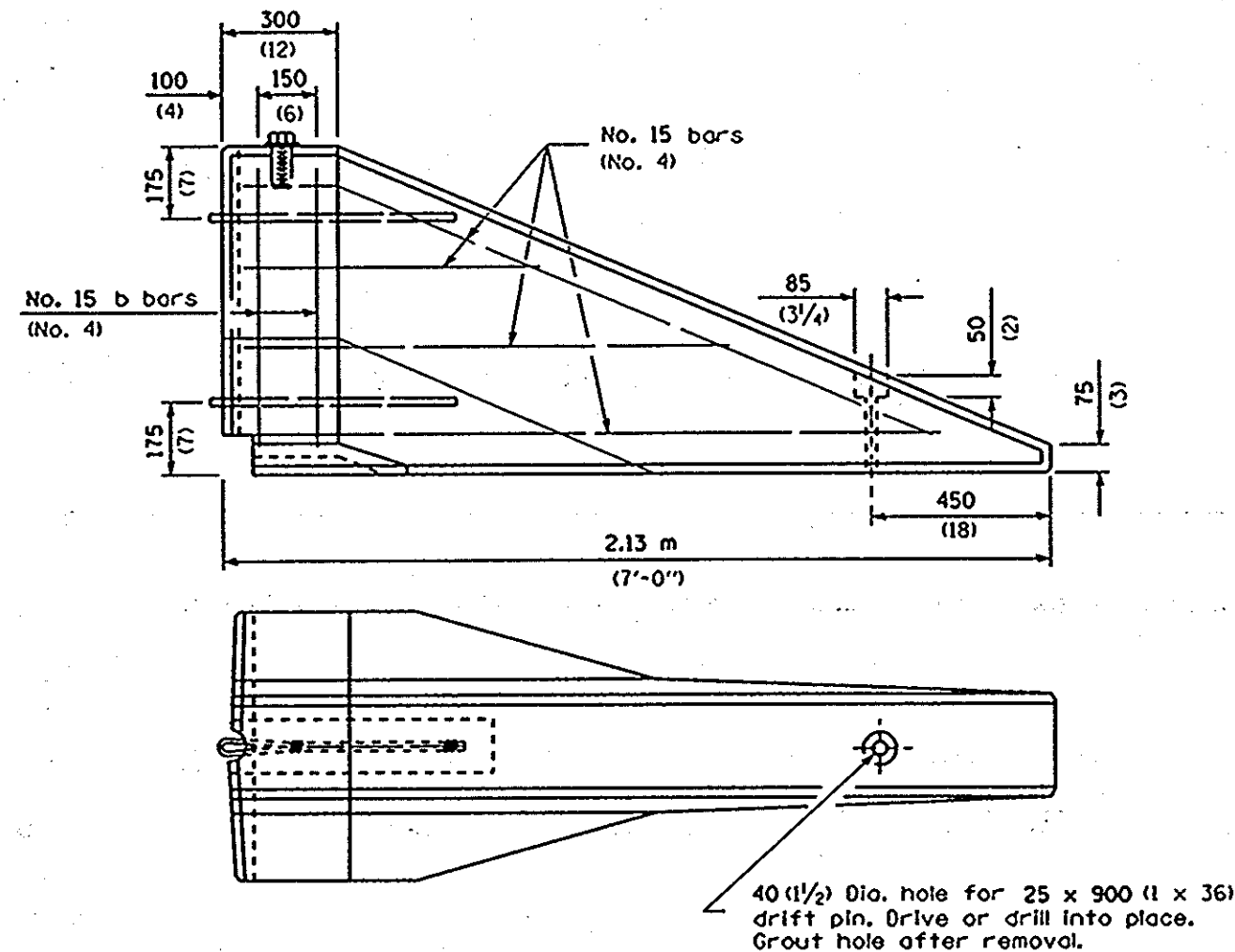
86-1-1 03/95

DATE	REVISIONS
1-1-98	Renum. Standard 705001.
	Added block out.
1-1-97	Renum. Standard 2383-4.
	Deleted DN Symbol.
	Rev. hole dia. in PLAN.

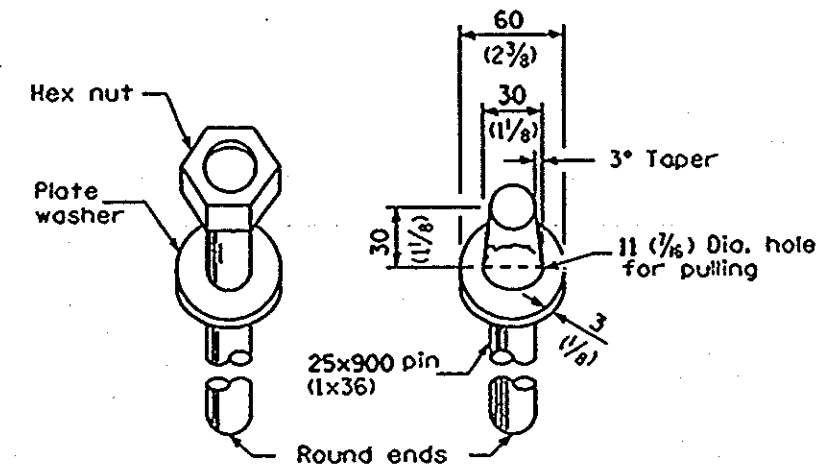
TEMPORARY CONCRETE
BARRIER

(Sheet 1 of 2)

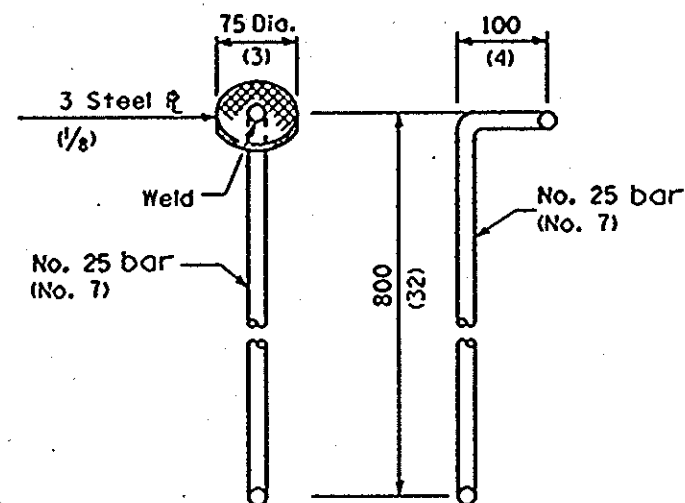
STANDARD 704001



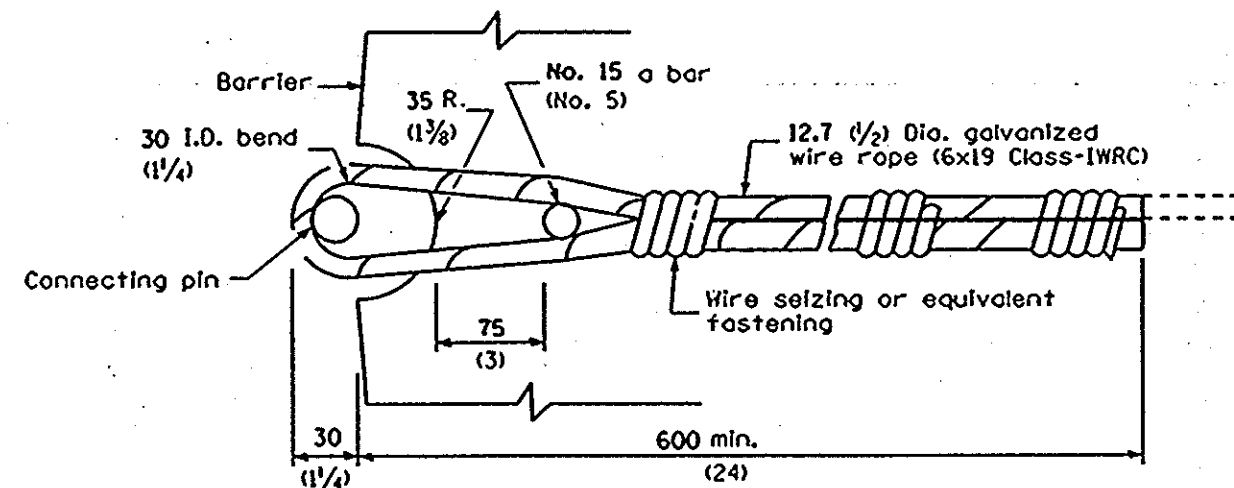
TERMINAL SECTION



ALTERNATE DRIFT PINS



ALTERNATE CONNECTING PINS



WIRE ROPE LOOP DETAIL

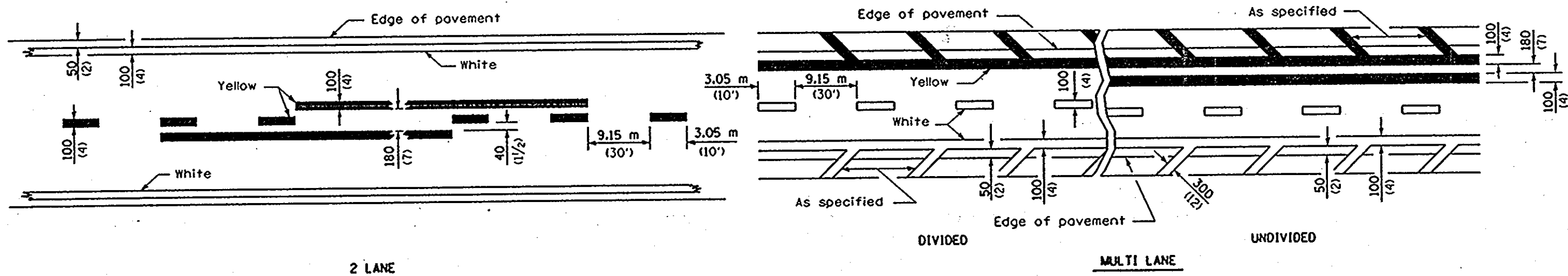
9000 kg (20,000 lbs.) min. breaking strength

All dimensions are in millimeters (inches) unless otherwise shown.

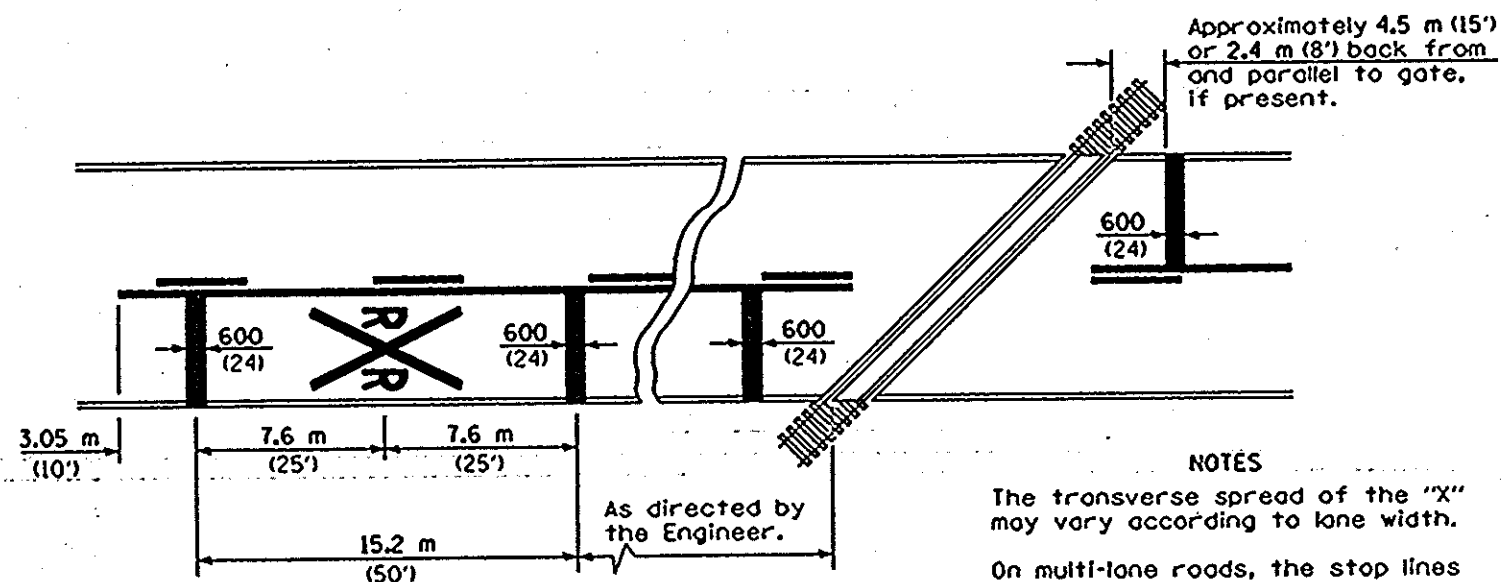
TEMPORARY CONCRETE BARRIER

(Sheet 2 of 2)

STANDARD 704001



LANE AND EDGE LINES

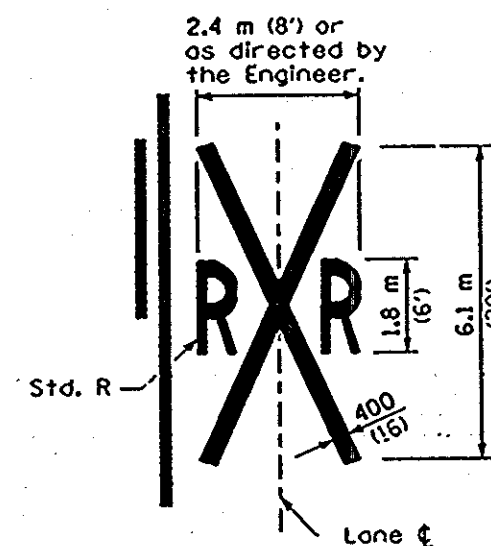


NOTES

The transverse spread of the "X" may vary according to lane width.

On multi-lane roads, the stop lines shall extend across all approach lanes and separate RRR symbols shall be placed adjacent to each other in each lane.

When the pavement marking symbol is used, a portion of the symbol should be located directly adjacent to the Advance Warning Sign (W10-1) as placed by Table II-1, condition B of the MUTCD.



PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

All dimensions are in millimeters (inches) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 1999

ENGINEER OF OPERATIONS

APPROVED January 1, 1999

ENGINEER OF DESIGN AND ENVIRONMENT

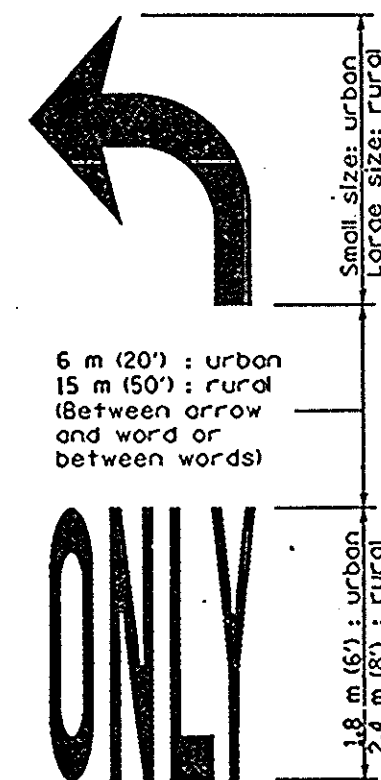
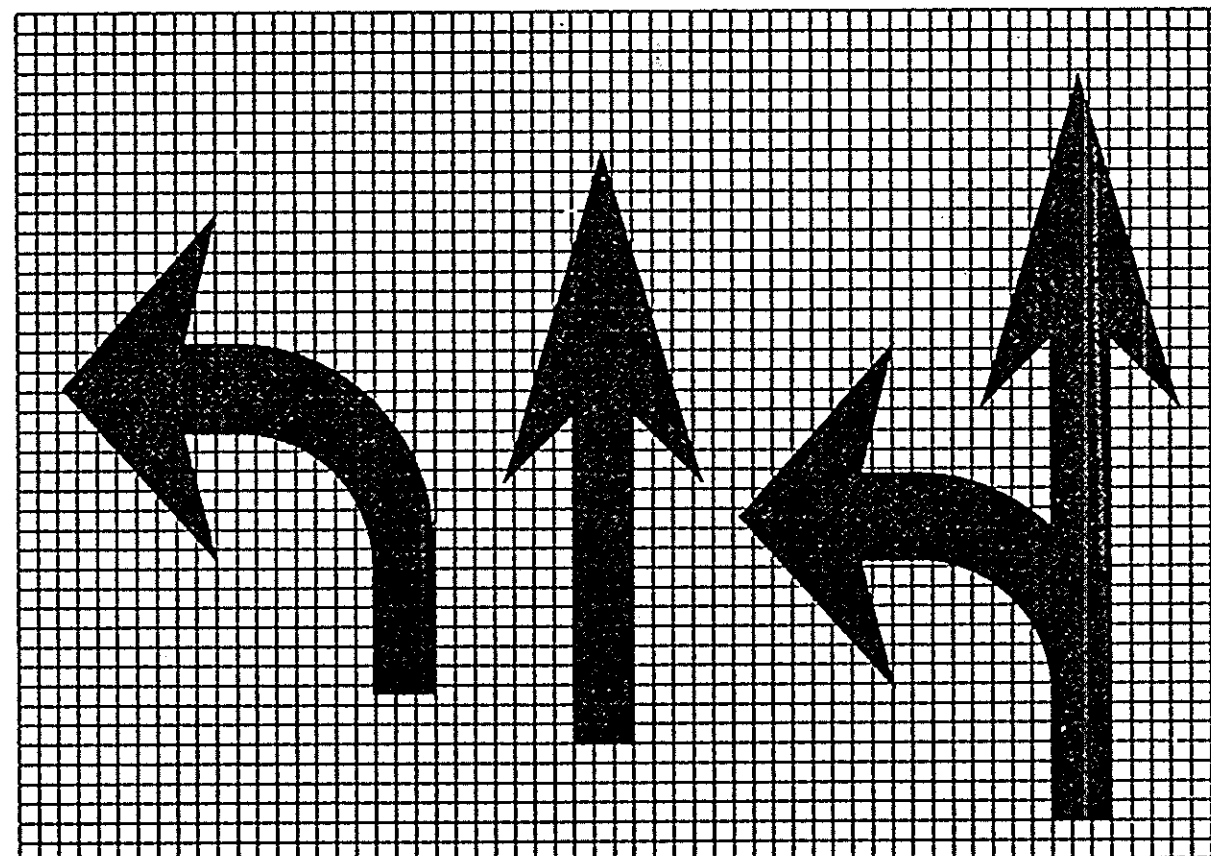
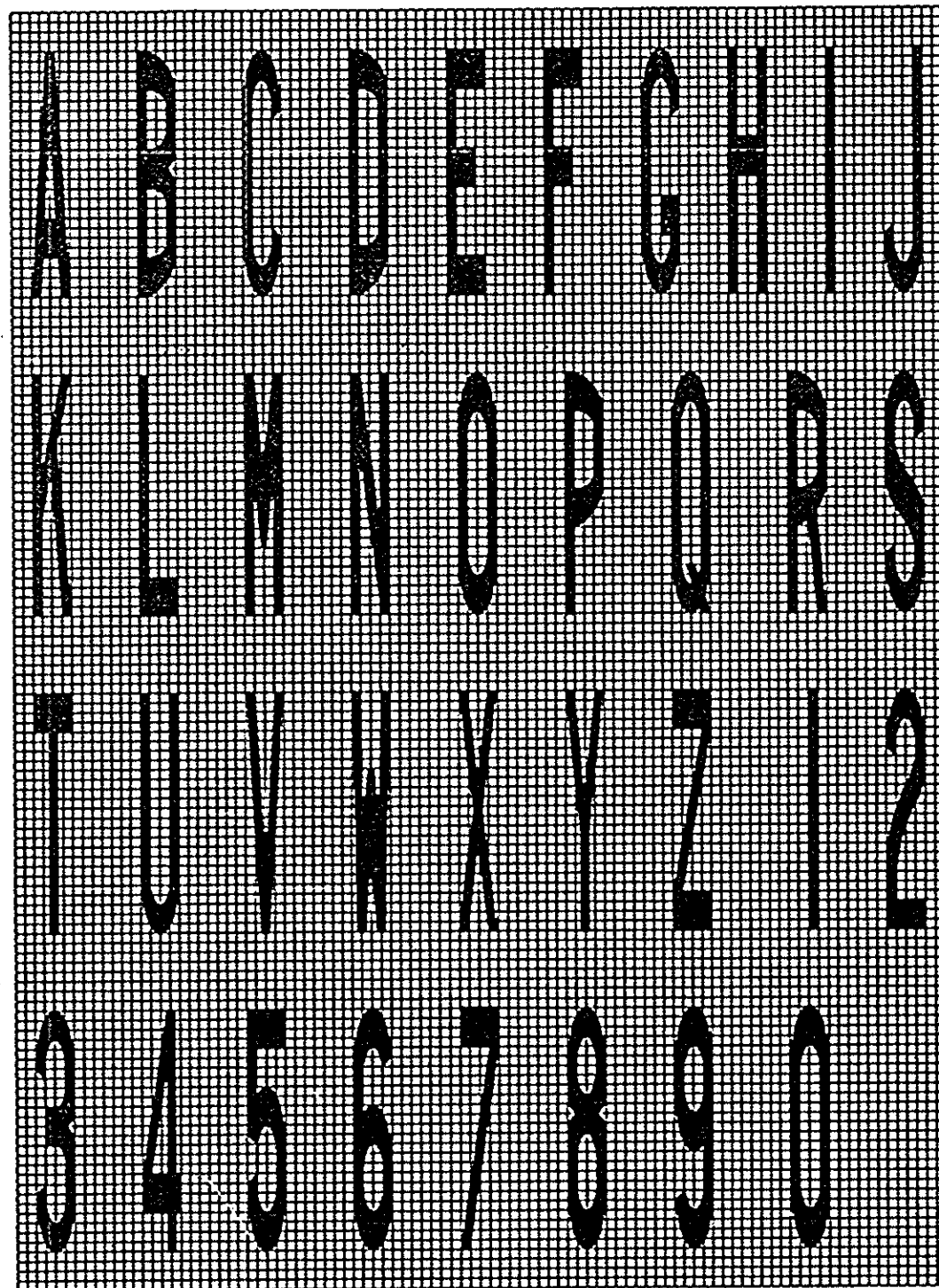
ISSUED 1-1-97

DATE	REVISIONS
1-1-99	Rev. dimen. & added 3rd note to pav't markings
	of RR-Hwy grade Xing.
1-1-97	Renum. Standard 2396-1;
	Revised metric values.

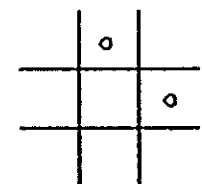
TYPICAL PAVEMENT MARKINGS

(Sheet 1 of 2)

STANDARD 780001-01



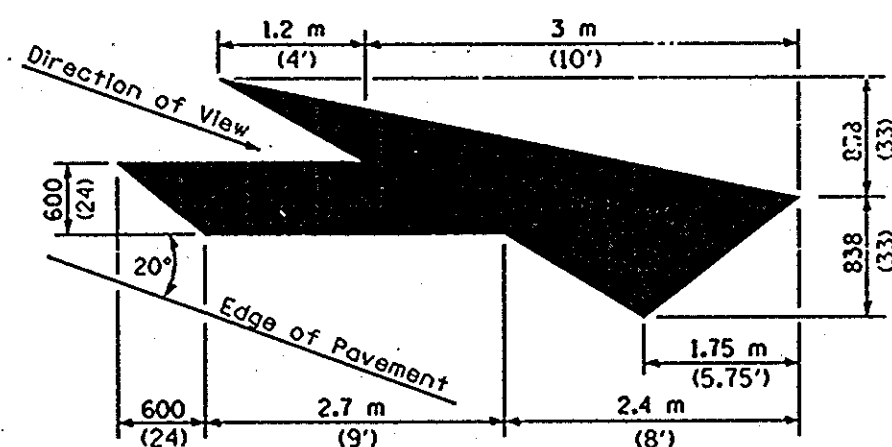
WORD AND ARROW LAYOUT



Legend Height	Arrow Size	o
1.8 m (6')	Small	74 (2.9)
2.4 m (8')	Large	96 (3.8)

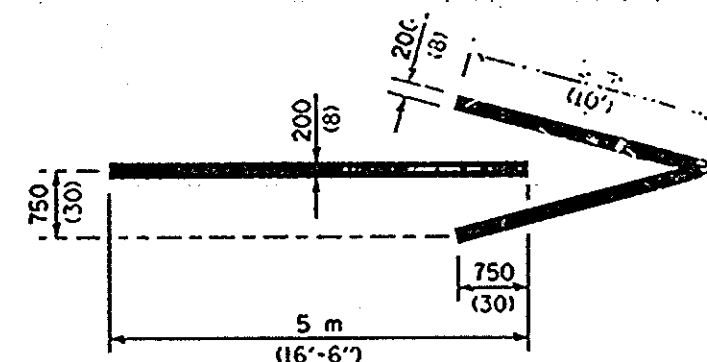
The space between adjacent letters or numerals should be approximately 75 (3) for 1.8 m (6') legend and 100 (4') for 2.4 m (8') legend.

LETTER AND ARROW GRID SCALE



LANE DROP ARROW

Right lane drop arrow shown.
Use mirror image for left lane.



WRONG WAY ARROW

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL PAVEMENT MARKINGS

(Sheet 2 of 2)

STANDARD 780001-01