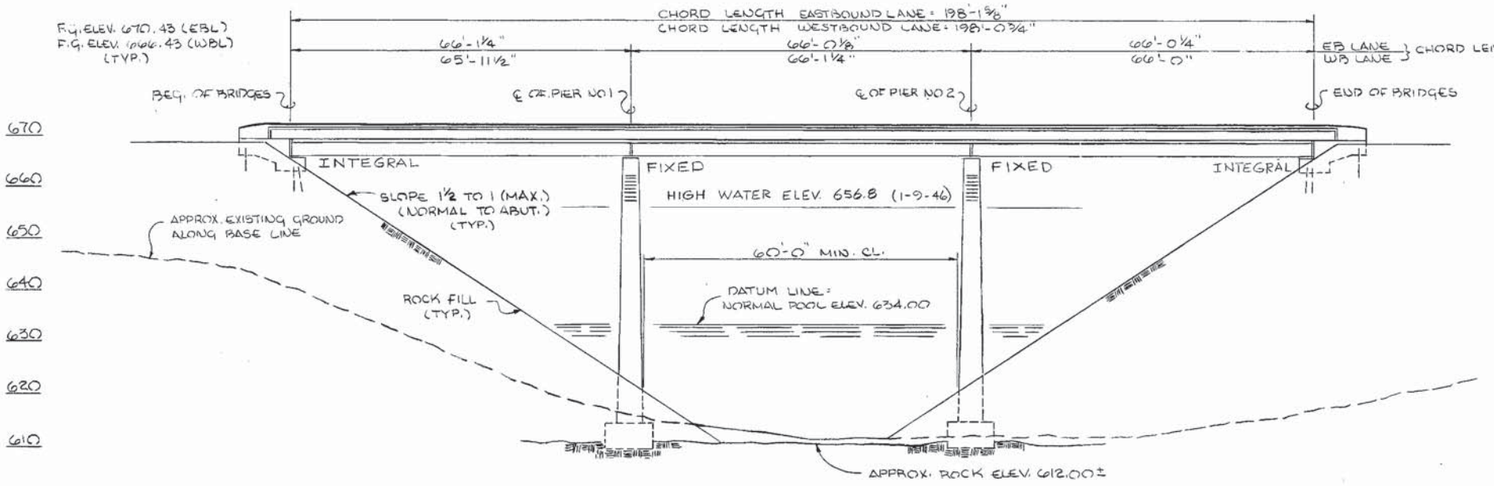


ELEVATION

(@ RIGHT ANGLES TO ℄ OF SURVEY)

CURVE DATA FWY BASELINE

P.I. STA. 272+25.73
Δ = 23°00'-48.502
D = 0° 45'
T = 1555.1969'
R = 7639.4373
L = 3068.4630
N = 12,246.9434
E = 5,297.7674

CONST. NO. 33002-3144-44

PROJECT NO.	YEAR	SHEET NO.
IR-24-3(66)171	1983	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

LIST OF DRAWINGS

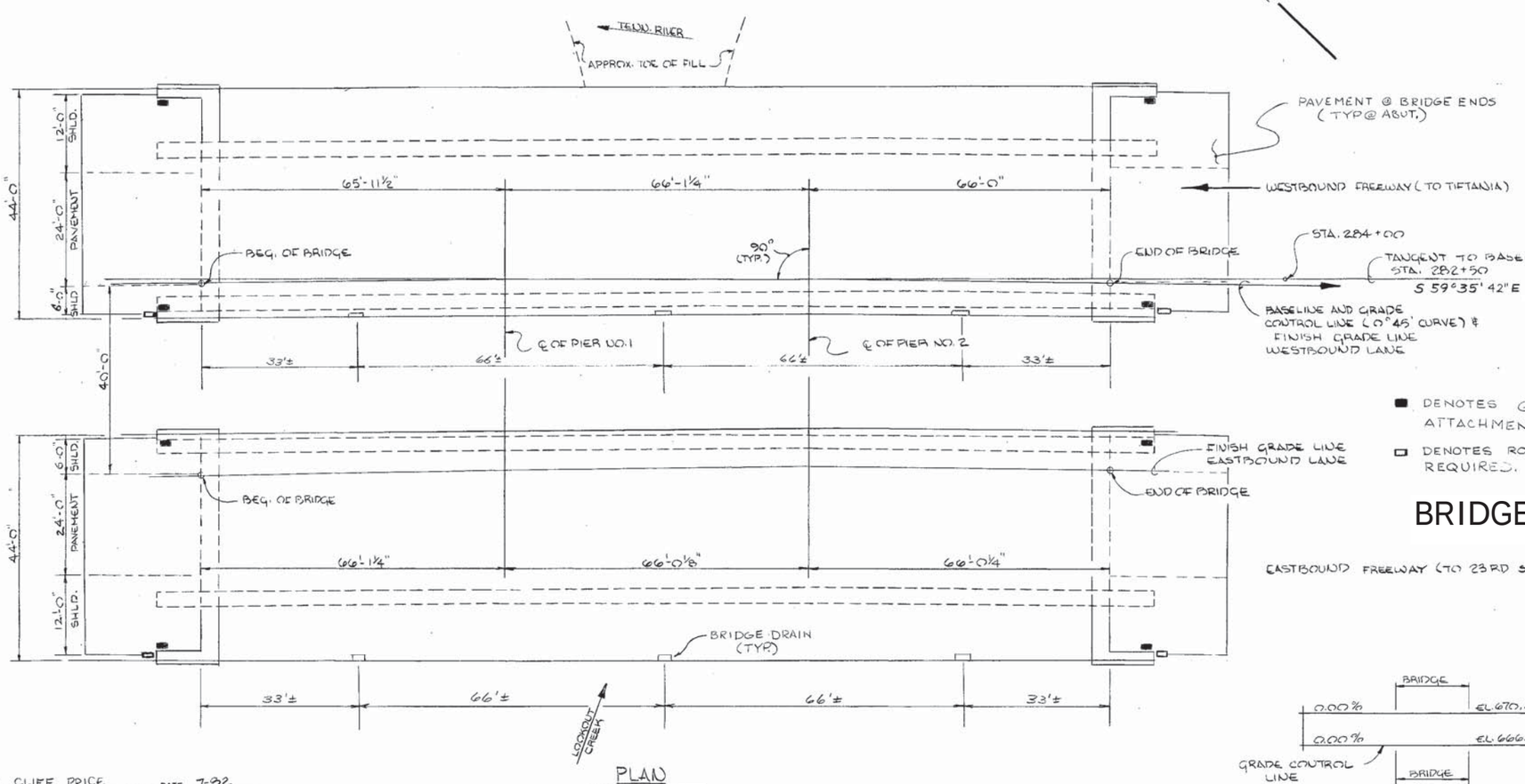
	Dwg. No.	Last Rev. Date
Layout	M-115-47	
General Notes and Estimated Quantities	M-115-48	5-16-83
Superstructure - Eastbound	M-115-49	5-16-83
Superstructure - Westbound	M-115-50	5-16-83
Details @ EB Abut #1 & WB Abut #2	M-115-51	5-16-83
Details @ EB Abut #2 & WB Abut #1	M-115-52	5-16-83
Pavement @ Bridge Ends	M-115-52A	5-16-83
Bill of Steel	M-115-53	5-16-83

LIST OF STANDARD DWGS.

	Dwg. No.	Last Rev. Date
Std. Pile Details	H-5-111	11-27-73
Std. Reinf. Bar Support	K-80-14	8-27-76
Misc. Abutment & Drainage Details	K-85-150	1-9-75
Reinf. Concrete Pavement at Bridge Ends	K-86-144	7-17-81
Bridge Railing-Concrete Parapet	M-28-1	7-17-81

LIST OF SPECIAL PROVISIONS

	Dwg. No.	Last Rev. Date
Regarding Epoxy Coated Reinforcing Steel	907A	9-8-81



PLAN

■ DENOTES GUARDRAIL ATTACHMENT REQUIRED

□ DENOTES ROADWAY DRAINS REQUIRED.

BRIDGE NOS. 33I00240009 & 33I00240010

EASTBOUND FREEWAY (TO 23RD STREET) →

FINISHED GRADE PROFILE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

DESIGNED BY CLIFF PRICE DATE 7-82
DRAWN BY [illegible] DATE 9-82
SUPERVISED BY J. FIELDS DATE
CHECKED BY DATE

CORRECT [signature] ENGINEER OF STRUCTURES
APPROVED [signature] DIRECTOR OF HIGHWAYS

M-115-47

CLASS "A" GRADING "D"

CONST. NO. 33002-3144-44

PROJECT NO.	YEAR	SHEET NO.
IR24-3(66)171	1983	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-15-83	JCP	ADDITION OF NOTE 8.
2	5-16-83	JCP	QUANTITIES SUPERSTRUCTURE ABUTS

GENERAL NOTES

SPECIFICATION: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH, 1981 EDITION).

LOADING: H520-44 WITH ALTERNATE MILITARY

DESIGN SPECIFICATIONS: AASHTO 1977 EDITION WITH ADDENDA.

CONCRETE: TO BE CLASS "A" (CAST-IN-PLACE). F'C = 3000 PSI.

PILES: TO BE HP 10x42 DRIVEN TO REFUSAL ON ROCK OR TO A MINIMUN BEARING OF 55 TONS FOR THE ABUTMENTS.

REINFORCING STEEL: TO BE ASTM A615 GRADE 60. STANDARD CRSI HOOK DETAILS APPLY UNLESS OTHERWISE NOTED ON BILL OF STEEL. BENDING DIMENSIONS SHOWN ARE BASED ON GRADE 60. SPACING DIMENSIONS ARE CENTER TO CENTER UNLESS OTHERWISE NOTED ON DETAIL DRAWINGS. THE SUFFIX E, FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT. SEE SPECIAL PROVISION 907A.

BRIDGE RAIL SYSTEM: BUILD PARAPETS ACCORDING TO STANDARD DRAWING M-28-1

LINSEED OIL PROTECTIVE TREATMENT: SURFACES RECEIVING AN APPLIED TEXTURE FINISH SHALL NOT RECEIVE A LINSEED OIL TREATMENT. SEE APPLIED TEXTURE FINISH DETAIL ON THIS SHEET.

GROUTED BARS IN DRILLED HOLES: HOLES FOR GROUTED BARS ARE TO BE DRILLED 1/2 INCH IN DIAMETER LARGER THAN THE BAR. AFTER CLEANING HOLE, PACK WITH NON-SHRINK GROUT AND DRIVE BAR TO ITS SEAT.

CLASS "A" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS EXCEPT AS FOLLOWS:

MINIMUM 28 DAY COMPRESSIVE STRENGTH	4500 PSI
MAXIMUM WATER/CEMENT	5.0 GAL/SACK OF CEMENT
AIR CONTENT	6% ± 2%

PAYMENT WILL BE UNDER ITEM 604-01.12

ESTIMATED QUANTITIES

	ITEM	604-01.12 CLASS "A" CONCRETE (BRIDGE DECK) C.Y.	604-04.01 APPLIED TEXTURE FINISH (NEW STRUCTURES) S.Y.	204-02.01 DRY EXCAVATION (BRIDGES) C.Y. (2)	604-02.03 EPOXY COATED REINFORCING STEEL (6) LBS.	604-03.01 CLASS "A" CONCRETE (BRIDGES) C.Y. (5)	604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) (6) LBS.	604-03.03 LINSEED OIL TREATMENT S.Y.	620-06 CONCRETE PARAPET L.F.	710-10 6" PERF. C.M. PIPE (18GA.) WITH POROUS BACK-FILL L.F. (1)	710-11 6" C.M. PIPE UNDERDRAINS (18GA.) L.F. (8)	606-22.03 STEEL PILES (10") (DRIVING) L.F.	606-32.03 STEEL PILES (10") (FURNISH DOMESTIC STEEL) L.F.	606-42.03 STEEL PILES (10") (FURNISH FOREIGN STEEL) L.F.
EASTBOUND	PAVEMENT @ BRIDGE ENDS				3,193	61.6	7,317							
	SUPERSTRUCTURE	166.0			69676		4,300							
	ABUTMENT NO. 1			22	70	11.6	1839			14	10	99	99	99
	PIER NO. 1													
	PIER NO. 2													
	ABUTMENT NO. 2			22	70	11.6	1839			14	10	99	99	99
	TOTAL	166.0	390	44	73009	84.8	15295	892	452.0	28	20	198	198	198
WESTBOUND	SUPERSTRUCTURE	166.0			69676		4,300							
	ABUTMENT NO 1			22	70	11.6	1839			14	10	107	107	107
	PIER NO. 1													
	PIER NO. 2													
	ABUTMENT NO. 2			22	70	11.6	1839			14	10	107	107	107
	PAVEMENT @ BRIDGE ENDS				3,193	61.6	7,317							
	TOTAL	166.0	390	44	73003	84.8	15295	892	452.0	28	20	214	214	214
	GRAND TOTAL	332.0	780	88	146018	169.6	30590	1784	904	56	40	412	412	412

(1) COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE COST OF PERFORATED C.M. PIPE.

(2) EXCAVATION BASED ON EXISTING GROUND

(3) COST OF 6 BRIDGE DECK DRAINS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE.

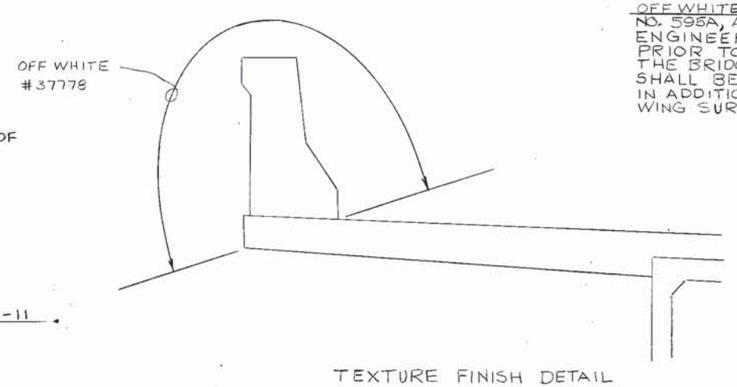
(4) THE COST OF 28 THREADED STEEL INSERTS AND 28 7/8"ϕ x4" HEX HEAD BOLTS, (A307), TO BE INCLUDED IN BRIDGE ITEMS BID ON.

(5) THE COST OF REMOVING THE EXTERIOR PORTION OF THE EXISTING SLAB, REMOVAL OF BRIDGE DECK ASPHALT AND SANDBLASTING, REMOVING PORTIONS OF THE EXISTING ABUTMENT, AND THE BRIDGERAIL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 604-03.01. ALL SALVABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(6) ALL REINFORCING STEEL IN THE TRAFFIC FACE OF PARAPETS SHALL BE EPOXY COATED. COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 620-03.

(7) COST OF LABOR AND MATERIALS FOR INSTALLATION ON GROUTED BARS IN DRILLED HOLES TO BE INCLUDED IN BRIDGE ITEMS BID ON.

(1)(8) NOTE: IF DURING CONSTRUCTION AN ABUTMENT BACKFILL DRAINAGE SYSTEM IS ENCOUNTERED, IT SHALL BE CONNECTED TO THE NEW SYSTEM USING C.M. PIPE UNDERDRAINS AT THE PRICE BID PER LINEAR FOOT FOR ITEM 710-11.



TEXTURE FINISH DETAIL

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF TENNESSEE STANDARD SPECIFICATION. AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS 2 FINISH. THE COLOR OF THE FINISH SHALL BE SIMILAR TO OFF WHITE, FEDERAL SPECIFICATION NO. 37778, FEDERAL COLOR STANDARD NO. 595A, AND A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. PAYMENT FOR THE APPLIED TEXTURE FINISH SHALL BE UNDER ITEM 604-04.01.
IN ADDITION TO THE ABOVE REQUIREMENTS, ALL EXPOSED ABUTMENT WING SURFACES SHALL RECIEVE A TEXTURE FINISH.

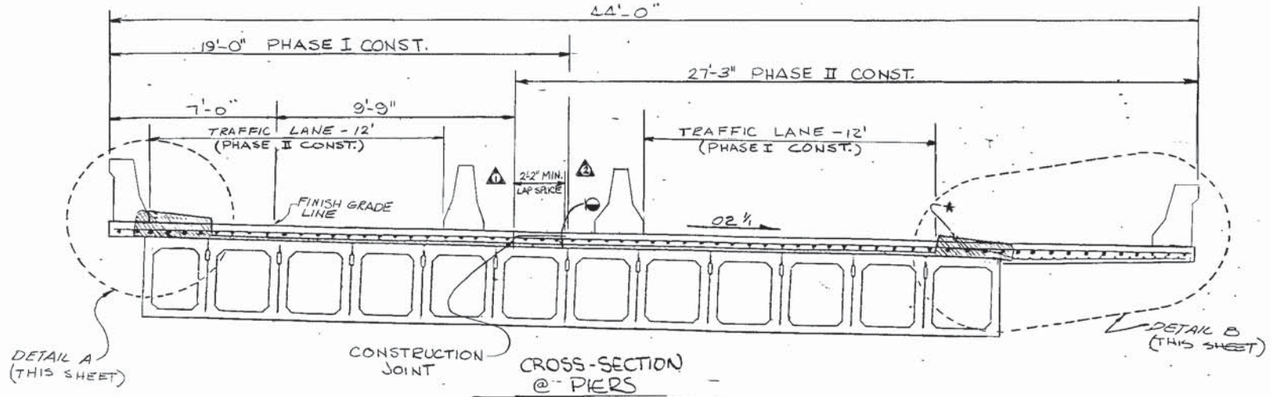
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES AND QUANITIES
BRIDGE WIDENING EAST AND WESTBOUND LANES
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

DESIGNED BY CLIFF PRICE DATE 8-82
DRAWN BY J.A. HILL JR. DATE 10-82
SUPERVISED BY FIELDS & WOODS DATE 10-82
CHECKED BY JCP & AMS DATE 12-82

CORRECT Eledon L Lovell
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

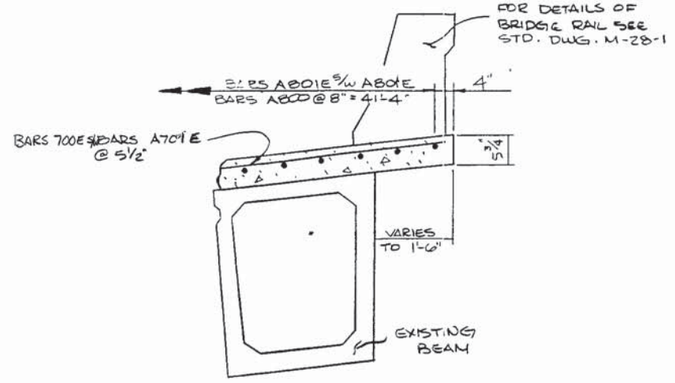
M-115-48



CROSS-SECTION @ PIERS

LOOKING EAST

⚠ NOTE: FOR LOCATION OF TRAFFIC BARRIERS SEE TRAFFIC CONTROL PLAN.



DETAIL A

LOOKING WEST

CONST. NO. 33002-3144-44

PROJECT NO.	YEAR	SHEET NO.
IR-24-3(66)111	1983	

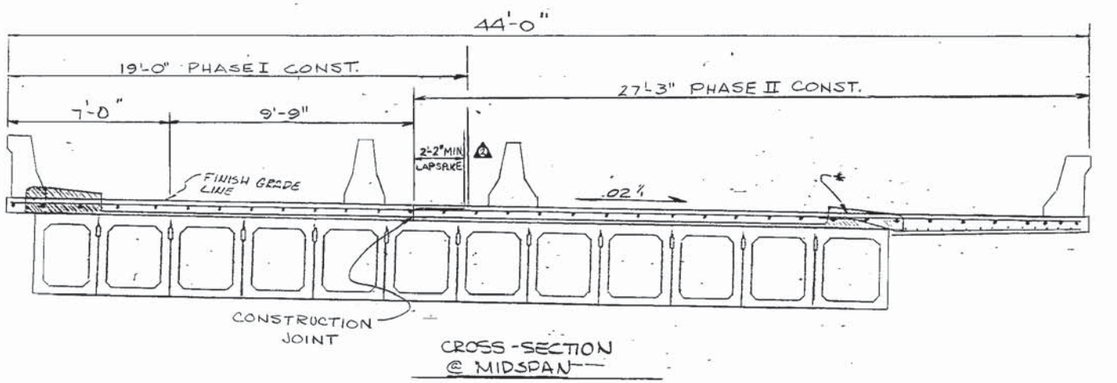
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	12-15-83	JCP	ADDITION OF BARRIERS & NOTE
2	15-16-84	JCP	REVISED PHASES & ADDED CONST JOINT

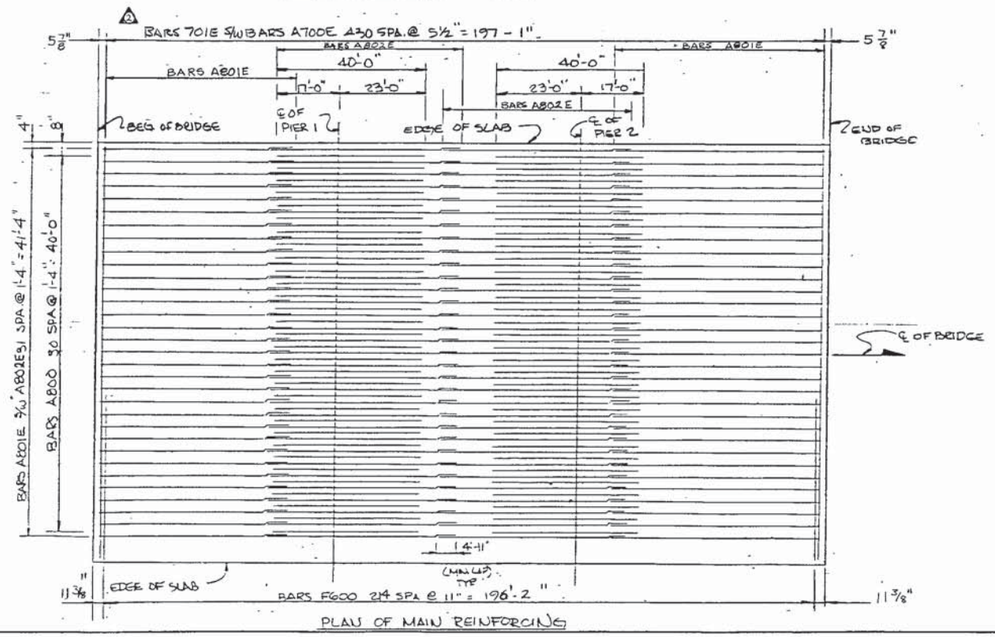
GENERAL NOTES:

OUTSIDE OF EDGE OF SLAB AND BRIDGE RAIL TO CONFORM TO HORIZONTAL CURVE. WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORING STEEL FOR BRIDGE RAIL. THE BRIDGE RAIL SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED.

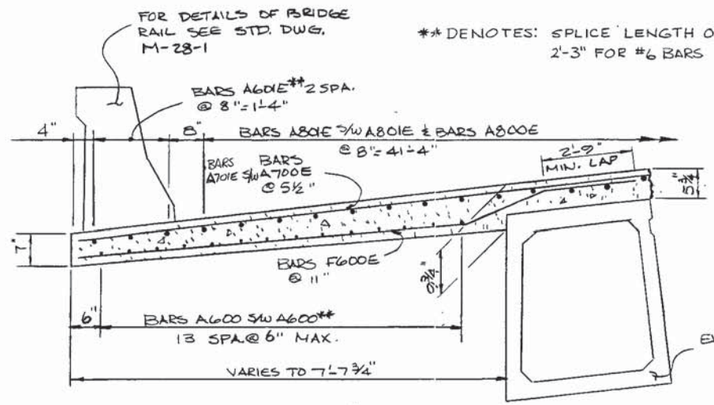
EXISTING CURBS AND ASPHALT SHALL BE REMOVED SUCH THAT EXISTING BEAMS ARE NOT DAMAGED.



CROSS-SECTION @ MIDSPAN



PLAN OF MAIN REINFORCING



DETAIL "B"

LOOKING WEST

* DENOTES: CURBS OF EXISTING BRIDGE TO BE REMOVED.

◒ NOTE: ASPHALT TO BE REMOVED. SEE ASPHALT REMOVAL NOTE ON DRAWING M-115-50.

ITEM	CLASS "A" CONCRETE C.Y.	EPOX-COATED REINF. STEEL LBS.	REINFORCING STEEL LBS.
SUPERSTRUCTURE	166.0	69676.	4300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE
BRIDGE WIDENING EASTBOUND LANE
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

DESIGNED BY	CUFF PRICE	DATE
DRAWN BY	~~J. C. PRICE~~ J. FIELDS	DATE 10/82
SUPERVISED BY		DATE 10/82
CHECKED BY		DATE

CORRECT: Clellon L. Lovell
ENGINEER OF STRUCTURES

APPROVED: Lewis Evans
DIRECTOR OF HIGHWAYS

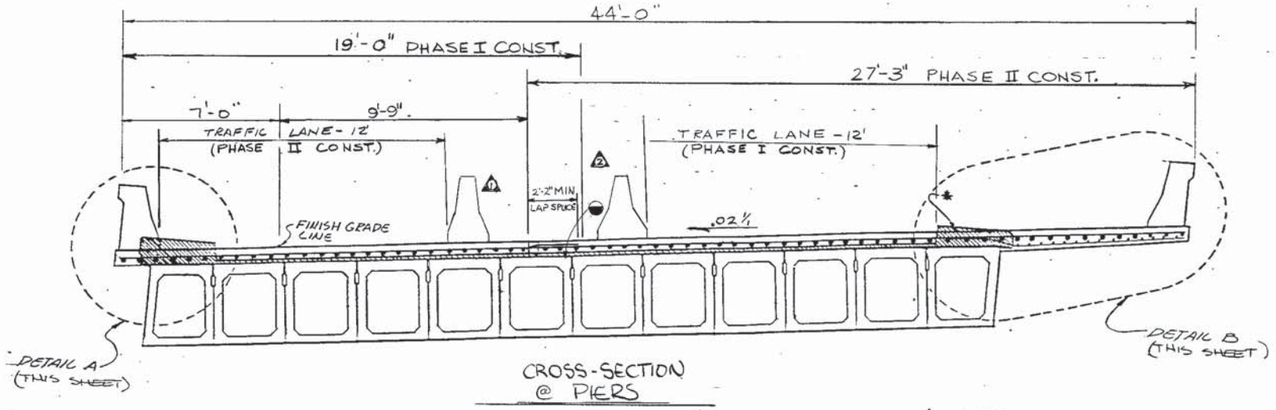
M-115-49

CONST. NO. 33002-3144-44

PROJECT NO.	YEAR	SHEET NO.
IR-24-3(62)171	1983	

REVISIONS

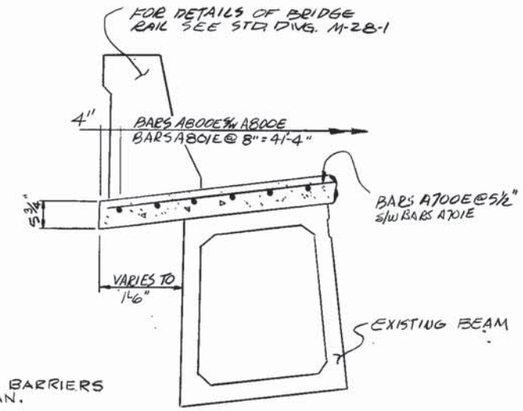
NO	DATE	BY	BRIEF DESCRIPTION
1	2-15-83	JCP	ADDITION OF BARRIERS & NOTE
2	5-16-83	JCP	REVISED PHASES & ADDED CONST JOINT



CROSS-SECTION @ PIERS

LOOKING WEST

⚠ NOTE: FOR LOCATION OF TRAFFIC BARRIERS SEE TRAFFIC CONTROL PLAN.

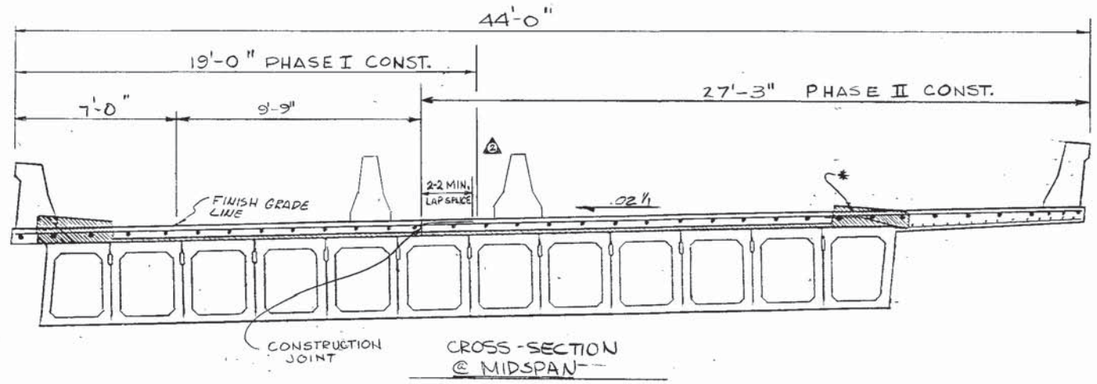


DETAIL A

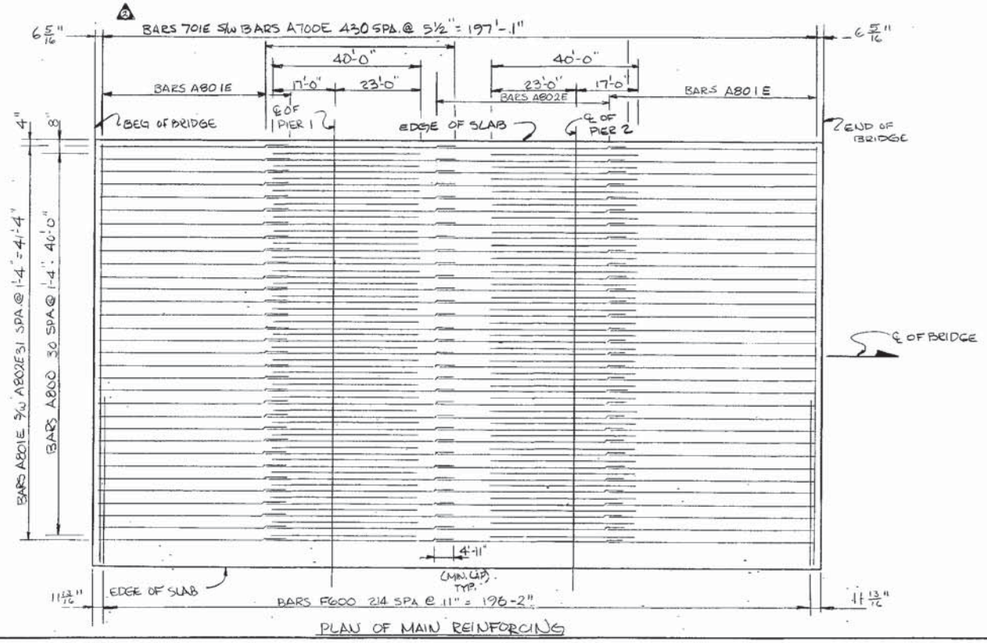
GENERAL NOTES:

OUTSIDE OF EDGE OF SLAB AND BRIDGE RAIL TO CONFORM TO HORIZONTAL CURVE. WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR BRIDGE RAIL. THE BRIDGE RAIL SHALL NOT BE POURED UNTIL THE SLAB IS POURED AND CURED.

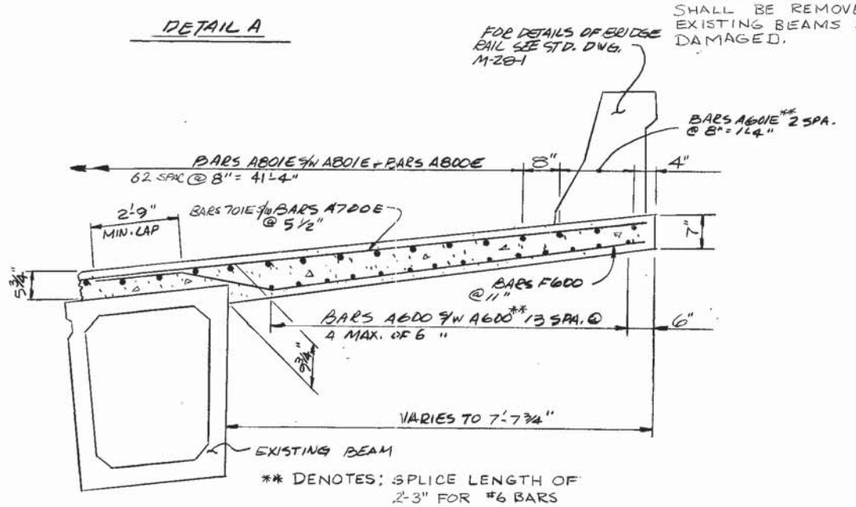
EXISTING CURBS AND ASPHALT SHALL BE REMOVED SUCH THAT EXISTING BEAMS ARE NOT DAMAGED.



CROSS-SECTION @ MIDSPAN



PLAN OF MAIN REINFORCING



** DENOTES: SPLICE LENGTH OF 2'-3" FOR #6 BARS

DETAIL B

* DENOTES: CURBS OF EXISTING BRIDGE TO BE REMOVED.

● NOTE: EXISTING ASPHALT IS TO BE REMOVED DOWN TO TOP CONCRETE. ALL GREASE, OIL, AND ASPHALT RESIDUE IS TO REMOVED. THE EXPOSED CONCRETE IS TO BE SANDBLASTED TO NEAR THE ORIGINAL COLOR OF THE CONCRETE. COST TO BE INCLUDED IN PRICE BID FOR ITEM 604-03.01.

ITEM	CLASS A CONCRETE C.Y.	EPOX-COATED REINF. STEEL LBS.	REINFORCING STEEL LBS
SUPERSTRUCTURE	166.0	69676	14300

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE
BRIDGE WIDENING WESTBOUND LANE
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

DESIGNED BY CLIFF PRICE DATE
DRAWN BY [illegible] DATE 10-82
SUPERVISED BY T. FIELDS DATE 10-82
CHECKED BY DATE

CORRECT Clifton Strand ENGINEER OF STRUCTURES
APPROVED Lewis Evans DIRECTOR OF HIGHWAYS

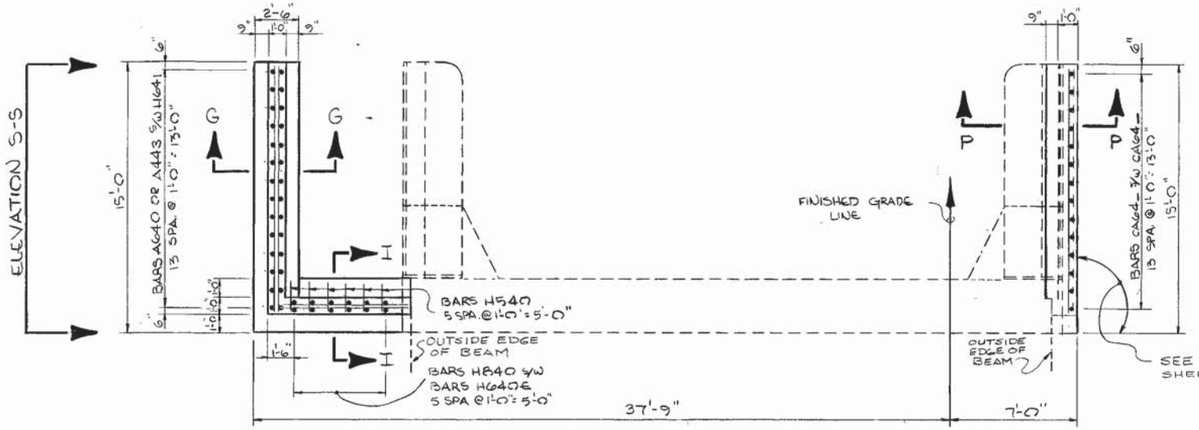
M-115-50

CONST. NO. 77002-3144-44

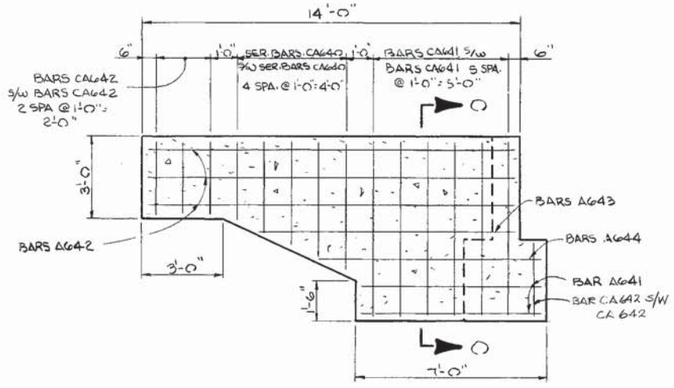
PROJECT NO.	YEAR	SHEET NO.
IE-24-3(66)171	1983	

REVISIONS

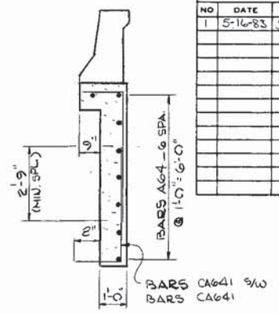
NO	DATE	BY	BRIEF DESCRIPTION
1	5-16-83	JCP	REVISED QUANTITIES & BAR #'S



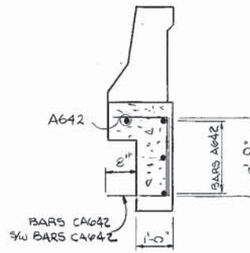
PLAN



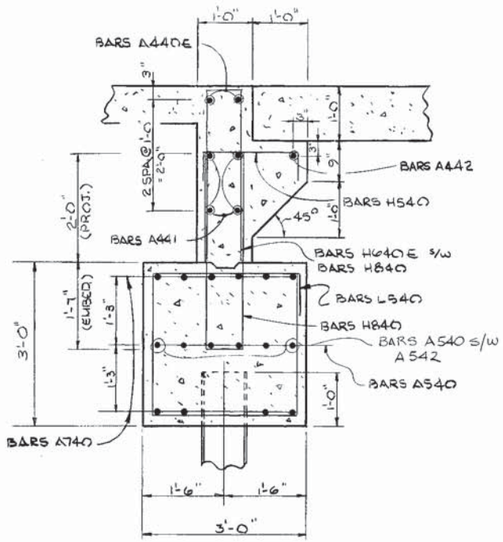
WINGWALL EXTENSION REINFORCEMENT



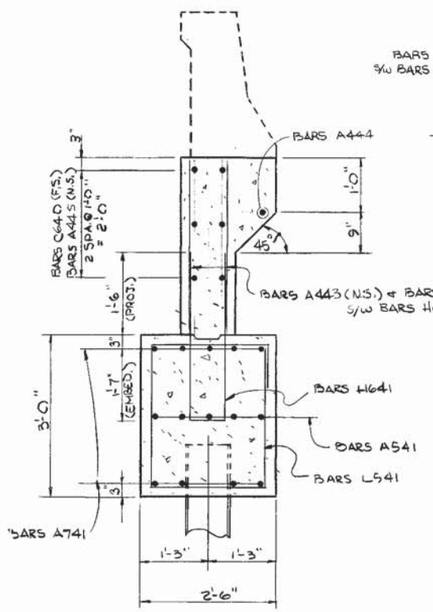
SECTION O-O



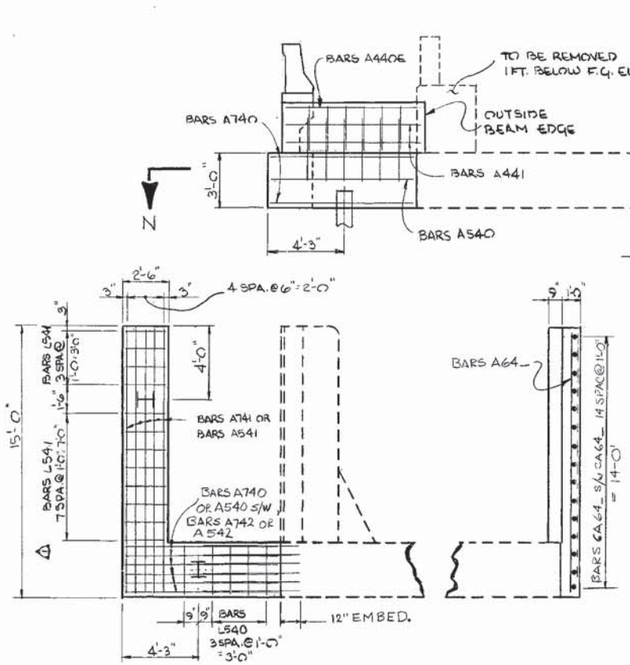
SECTION P-P



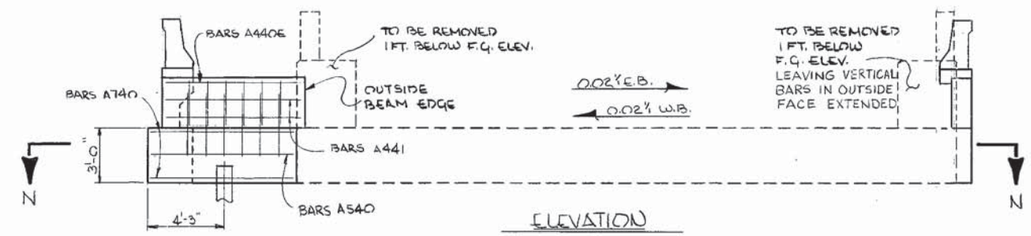
SECTION I-I



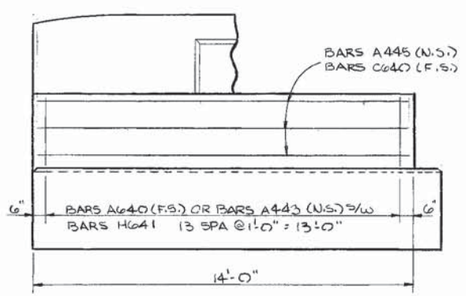
SECTION G-G



SECTION N-N



ELEVATION



ELEVATION S-S

ITEM	CLASS A CONCRETE C.Y.	REINFORCING STEEL LBS	EPOXY-COATED STEEL LBS
ABUTMENT 1 (EAST BOUND)	11.6	1839	70
ABUTMENT 2 (WESTBOUND)	11.6	1839	70

DESIGNED BY CLIFF PRICE DATE 7-82
DRAWN BY [illegible] DATE 10-82
SUPERVISED BY J. FIELDS DATE 10-82
CHECKED BY PRICE DATE 11-82

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS @ ABUTMENT NO. 1 EASTBOUND AND ABUTMENT NO. 2 WESTBOUND.
BRIDGE WIDENING
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

CORRECT Clellan L. Sorrell
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

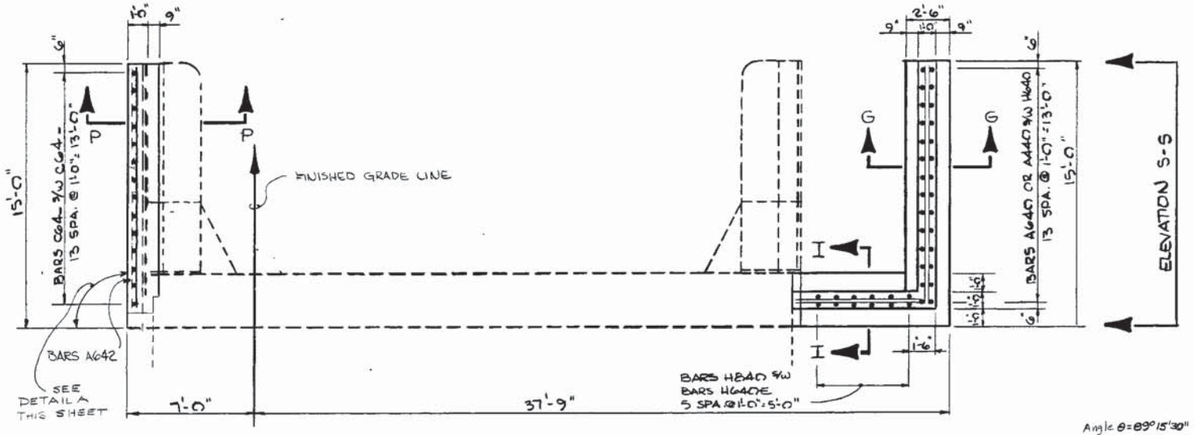
M-115-51

CONST NO. 33002-3144-44

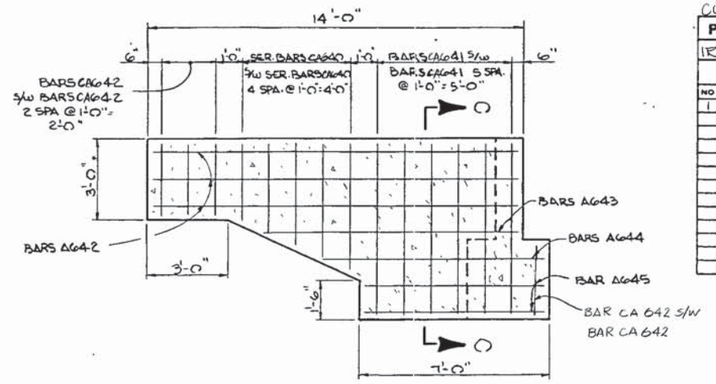
PROJECT NO.	YEAR	SHEET NO.
IE-24-3(66)171	1983	

REVISIONS

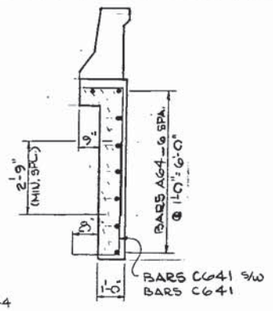
NO	DATE	BY	BRIEF DESCRIPTION
1	5-16-83	JCP	REVISED QUANTITIES & BAR #'s



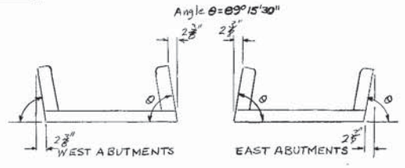
PLAN



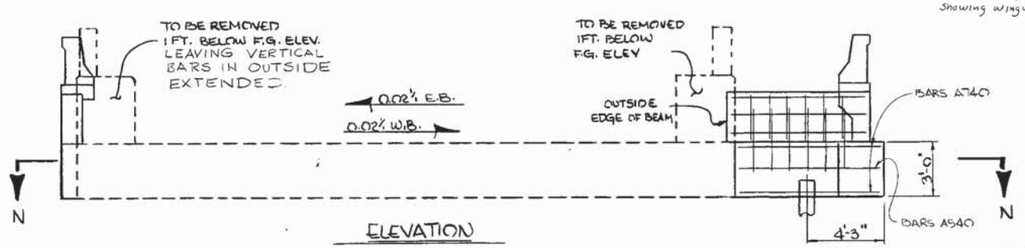
WINGWALL EXTENSION REINFORCEMENT



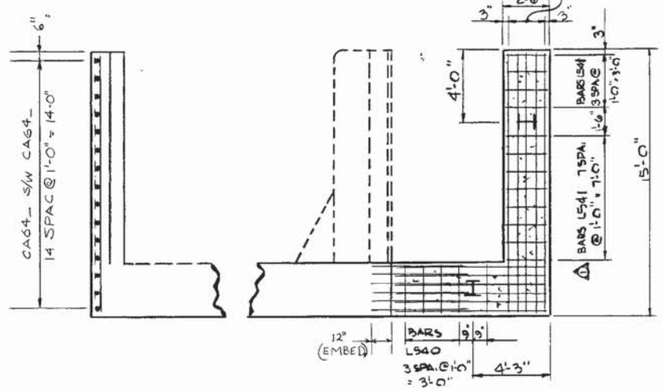
SECTION O-O



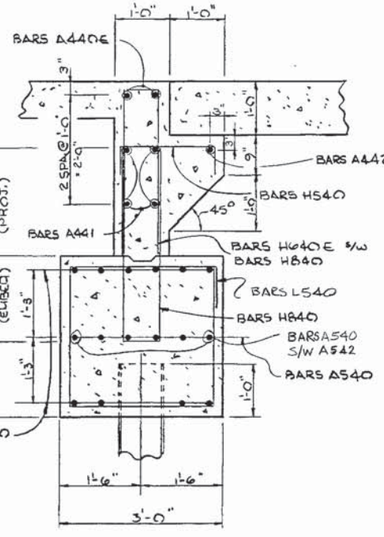
DETAIL A
Showing wingwall angles and offsets
No Scale



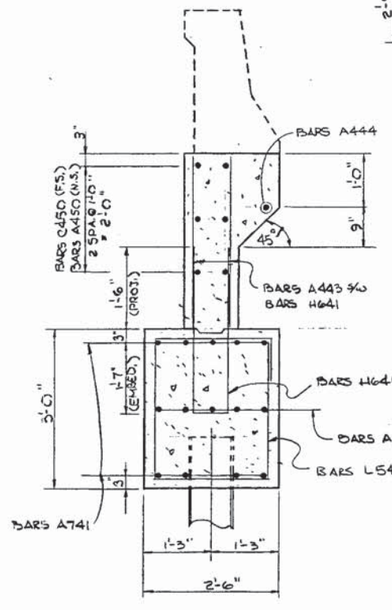
ELEVATION



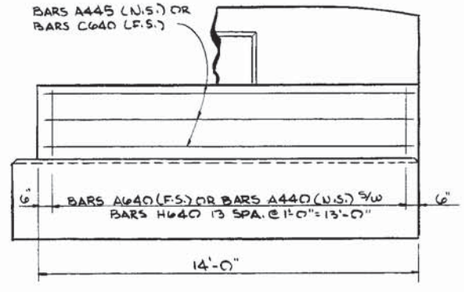
SECTION N-N



SECTION I-I

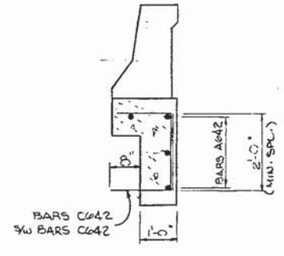


SECTION G-G



ELEVATION S-S

ITEM	CLASS "A" CONCRETE C.Y.	REINFORCING STEEL LBS	EPOXY-COATED LBS
ABUTMENT #1 (WESTBOUND)	11.6	1839	70
ABUTMENT #2 (EASTBOUND)	11.6	1839	70



SECTION R-P

DESIGNED BY CLIFF PACE DATE
DRAWN BY [illegible] DATE 10-82
SUPERVISED BY J. FIELDS DATE 10-82
CHECKED BY DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS @ ABUTMENT NO. 2 EASTBOUND AND ABUTMENT NO. 1 WESTBOUND
BRIDGE WIDENING
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

CORRECT Clifton K. Forrand
ENGINEER OF STRUCTURES
APPROVED Lewis Bowen
DIRECTOR OF HIGHWAYS

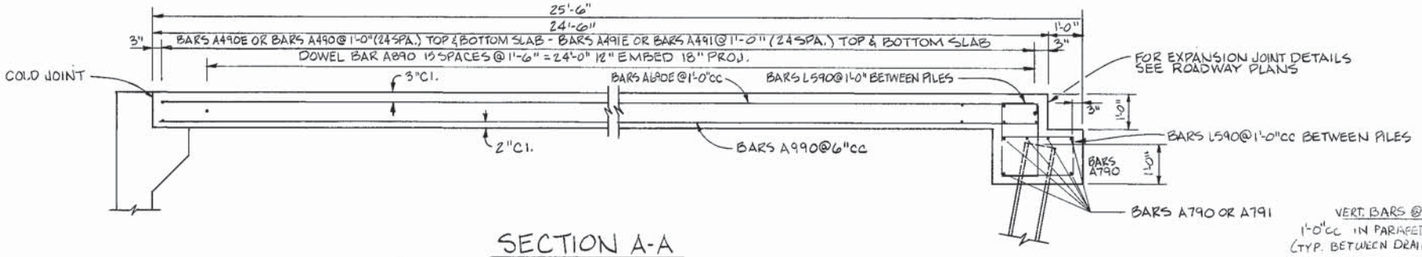
M-115-52

CONST. NO. 33002-3144-44

PROJECT NO.	YEAR	SHEET NO.
IR-24-3(66)171	1983	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5-16-83	JCP	ADDED PHASE CONST.

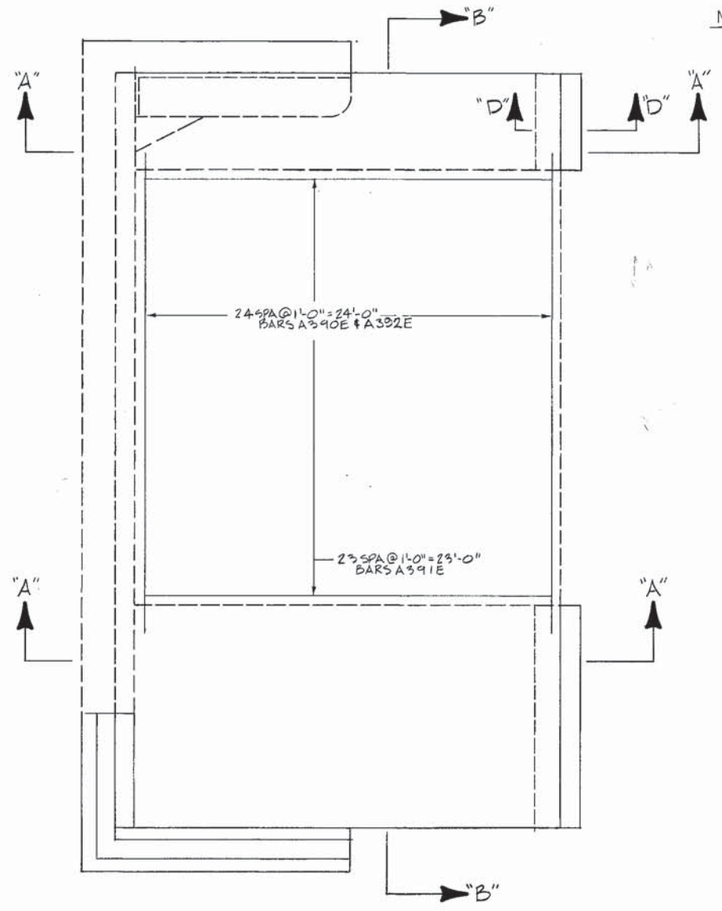


SECTION A-A

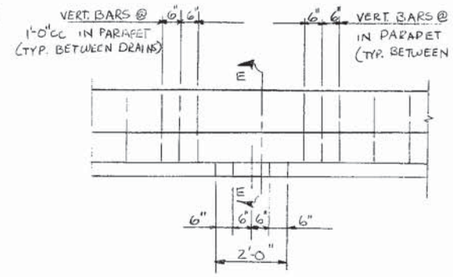
NOTE: SEE STANDARD DWG. K-86-144

NOTE: FOR FOOTING DIMENSIONS & BAR SPACING SECTION "D-D" SEE STANDARD DWG. NO. K-86-144

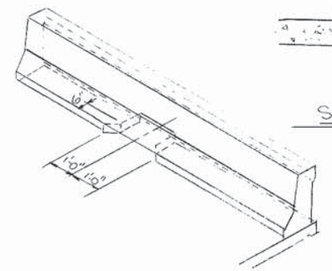
NOTE: TYPICAL @ EAST & WEST BOUND LANES



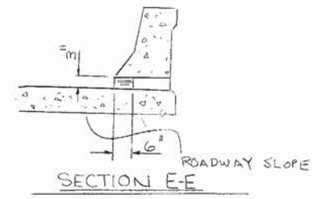
PLAN



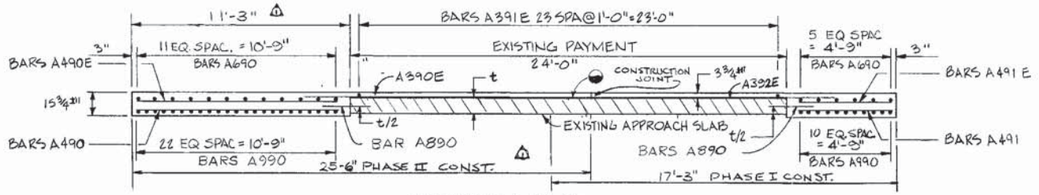
ELEVATION



ISOMETRIC OF DRAIN



SECTION E-E



SECTION B-B

NOTE: ASPHALT TO BE REMOVED. SEE ASPHALT REMOVAL NOTE ON DRAWING M-115-52.

ITEM	CLASS "A" CONCRETE C.Y.	EPOXY COATED REINFORCING STEEL-LBS	REINFORCING STEEL LBS
EAST BOUND LN. ABUT. NO. 1&2	61.6	3193	7317
WESTBOUND LN. ABUT. NO. 1&2	61.6	3193	7317

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PAVEMENT AT BRIDGE ENDS
BRIDGE WIDENING
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

DESIGNED BY C. PRICE DATE 8-82
DRAWN BY T. BENTON DATE 10-82
SUPERVISED BY FIELD & SMITH DATE 10-82
CHECKED BY JCP DATE 12-82

CORRECT Clellon L Loveall
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-115-52A

CONST. NO. 3300-3144-44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	(I-24-3(66))	1983		

BILL OF STEEL

EASTBOUND — LANE

SUPERSTRUCTURE — EPOXY

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A601E	SLAB	6	3					24'-6"
A603E	SLAB	6	9					60'-0"
A700E	SLAB	7	431					18'-10"
A701E	SLAB	7	431					27'-1"
A800E	SLAB	8	62					40'-0"
A801E	SLAB	8	64					46'-3"
A802E	SLAB	8	64					60'-0"
F600E	SLAB	6	215	21'-9"	1'-6"	7'-0"	6"	10'-11"

SUPERSTRUCTURE

A600	SLAB	6	14					24'-6"
A602	SLAB	6	42					60'-0"

ABUTMENT NO. (EPOXY)

A440E	SLAB	4	2					7'-0"
H640E	ENDWALL	6	6	8"	3'-1"			6'-8"

PAVEMENT @ BRIDGE ENDS-EPOXY

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A390E	SLAB (TOP)	3	25					15'-0"
	A391E	SLAB (TOP)	3	24					24'-2"
	A392E	SLAB (TOP)	3	25					14'-0"
	A440E	SLAB (TOP)	4	25					10'-11"
	A491E	SLAB (TOP)	4	25					4'-11"
	A690E	SLAB (TOP)	6	18					24'-2"
"L"									
	L540E	FOOTING & SLAB	5	24	11'-2"	1'-0"	2'-2"		7'-6"

PAVEMENT @ BRIDGE ENDS

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A490	SLAB (BOT.)	4	25					10'-11"
	A491	SLAB (BOT.)	4	25					4'-11"
	A790	FOOTING & SLAB	7	8					10'-11"
	A791	FOOTING & SLAB	7	8					4'-11"
	A890	SLAB	8	32					2'-6"
	A990	SLAB (BOT.)	9	34					24'-2"
	A1190	SLAB (DRAIN)	11	4					6'-0"

ABUTMENTS NO. 1

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A441	ENDWALL	4	4					7'-0"
A442	ROADWAY BRKT.	4	1					7'-0"
A443	WINGS	4	14					3'-1"
A444	ROADWAY BRKT.	4	1					12'-8"
A445	WINGWALL	4	3					13'-8"
A540	ABUT. BEAM	5	6					7'-4"
A541	ABUT. BEAM	5	5					14'-8"
A542	ABUT. BEAM	5	2					5'-4"
A640	WINGWALL	6	14					3'-1"
A641	WINGWALL	6	2					6'-8"
A642	WINGWALL	6	4					13'-8"
A643	WINGWALL	6	1					9'-6"
A644	WINGWALL	6	1					8'-3"
A740	ABUT. BEAM	7	10					7'-4"
A741	ABUT. BEAM	7	9					14'-8"
A742	ABUT BEAM	7	10					5'-4"
C640	ABUT. WING	6	3	13'8"				14'-8"
SERIES ⚠								
CA640	ABUT. WING	6	2	*	1'-5"			23'-8"

* DIM "A" VARIES FROM 2'-10" TO 3'-10" IN INC. 3" (5 BARS)

CA641	ABUT. WING	6	12	6'8"	1'5"			8'-1"
CA642	ABUT. WING	6	8	2'8"	1'5"			4'-1"
H540	WALL BRACKET	5	6	1'7"	6"			2'-6"
H641	WINGWALL	6	14	3'1"	8"			6'-7"
H840	ABUT. BEAM	8	6	3'7"	8"			7'-8"
L540	ABUT. BEAM	5	5	2'8"	1'0"	2'8"		11'-6"
L541	WINGWALL	5	12	2'2"	1'0"	2'8"		10'-6"

ABUTMENTS NO. 2

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A441	ENDWALL	4	4					7'-0"
A442	ROADWAY BRKT.	4	1					7'-0"
A443	WINGS	4	14					3'-1"
A444	ROADWAY BRKT.	4	1					12'-8"
A445	WINGWALL	4	3					13'-8"
A540	ABUT. BEAM	5	6					7'-4"
A541	ABUT. BEAM	5	5					14'-8"
A542	ABUT. BEAM	5	2					5'-4"
A640	WINGWALL	6	14					3'-1"
A641	WINGWALL	6	2					6'-8"
A642	WINGWALL	6	4					13'-8"
A643	WINGWALL	6	1					9'-6"
A644	WINGWALL	6	1					8'-3"
A740	ABUT. BEAM	7	10					7'-4"
A741	ABUT. BEAM	7	9					14'-8"
A742	ABUT BEAM	7	10					5'-4"
C640	ABUT. WING	6	3	13'8"				14'-8"
SERIES ⚠								
CA640	ABUT. WING	6	2	*	1'-5"			23'-8"

* DIM "A" VARIES FROM 2'-10" TO 3'-10" IN INC. 3" (5 BARS)

CA641	ABUT. WING	6	12	6'8"	1'5"			8'-1"
CA642	ABUT. WING	6	8	2'8"	1'5"			4'-1"
H540	WALL BRACKET	5	6	1'7"	6"			2'-6"
H641	WINGWALL	6	14	3'1"	8"			6'-7"
H840	ABUT. BEAM	8	6	3'7"	8"			7'-8"
L540	ABUT. BEAM	5	5	2'8"	1'0"	2'8"		11'-6"
L541	WINGWALL	5	12	2'2"	1'0"	2'8"		10'-6"

ABUTMENT NO. 2 (EPOXY)

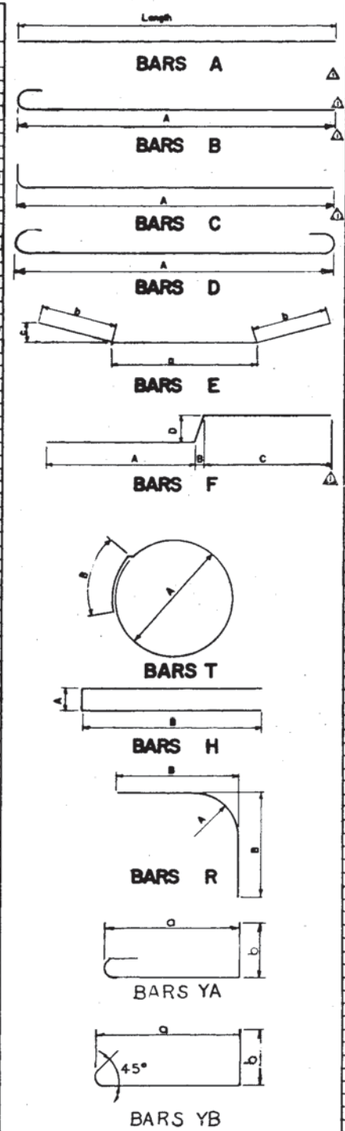
A440E	SLAB	4	2					7'-0"
H640E	ENDWALL	6	6	8"	3'-1"			6'-8"

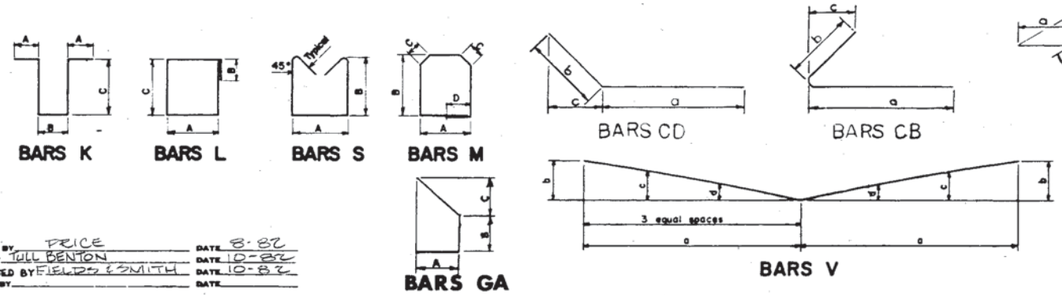
PAVEMENT @ BRIDGE ENDS-EPOXY

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A390E	SLAB (TOP)	3	25					15'-0"
	A391E	SLAB (TOP)	3	24					24'-2"
	A392E	SLAB (TOP)	3	25					14'-0"
	A440E	SLAB (TOP)	4	25					10'-11"
	A491E	SLAB (TOP)	4	25					4'-11"
	A690E	SLAB (TOP)	6	18					24'-2"
"L"									
	L540E	FOOTING & SLAB	5	24	11'-2"	1'-0"	2'-2"		7'-6"

PAVEMENT @ BRIDGE ENDS

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A490	SLAB (BOT.)	4	25					10'-11"
	A491	SLAB (BOT.)	4	25					4'-11"
	A790	FOOTING & SLAB	7	8					10'-11"
	A791	FOOTING & SLAB	7	8					4'-11"
	A890	SLAB	8	32					2'-6"
	A990	SLAB (BOT.)	9	34					24'-2"
	A1190	SLAB (DRAIN)	11	4					6'-0"





WESTBOUND — LANE

SUPERSTRUCTURE — EPOXY

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A601E	SLAB	6	3					24'-6"
A603E	SLAB	6	9					60'-0"
A700E	SLAB	7	431					18'-10"
A701E	SLAB	7	431					27'-1"
A800E	SLAB	8	62					40'-0"
A801E	"	8	64					46'-3"
A802E	"	8	64					60'-0"
F600E	SLAB	6	215	21'-9"	1'-6"	7'-0"	6"	10'-11"

SUPERSTRUCTURE

A600	SLAB	6	14					24'-6"
A602	SLAB	6	42					60'-0"

ABUTMENT NO. 1 (EPOXY)

A440E	SLAB	4	2					7'-0"
H640E	ENDWALL	6	6	8"	3'-1"			6'-8"

PAVEMENT @ BRIDGE ENDS-EPOXY

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A390E	SLAB (TOP)	3	25					15'-0"
	A391E	SLAB (TOP)	3	24					24'-2"
	A392E	SLAB (TOP)	3	25					14'-0"
	A440E	SLAB (TOP)	4	25					10'-11"
	A491E	SLAB (TOP)	4	25					4'-11"
	A690E	SLAB (TOP)	6	18					24'-2"
"L"									
	L540E	FOOTING & SLAB	5	24					7'-6"

PAVEMENT @ BRIDGE ENDS

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A490	SLAB (BOT.)	4	25					10'-11"
	A491	SLAB (BOT.)	4	25					4'-11"
	A790	FOOTING & SLAB	7	8					10'-11"
	A791	FOOTING & SLAB	7	8					4'-11"
	A890	SLAB	8	32					2'-6"
	A990	SLAB (BOT.)	9	34					24'-2"
	A1190	SLAB (DRAIN)	11	4					6'-0"

ABUTMENTS NO. 1

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A441	ENDWALL	4	4					7'-0"
A442	ROADWAY BRKT.	4	1					7'-0"
A443	WINGS	4	14					3'-1"
A444	ROADWAY BRKT.	4	1					12'-8"
A445	WINGWALL	4	3					13'-8"
A540	ABUT. BEAM	5	6					7'-4"
A541	ABUT. BEAM	5	5					14'-8"
A542	ABUT. BEAM	5	2					5'-4"
A640	WINGWALL	6	14					3'-1"
A641	WINGWALL	6	2					6'-8"
A642	WINGWALL	6	4					13'-8"
A643	WINGWALL	6	1					9'-6"
A644	WINGWALL	6	1					8'-3"
A740	ABUT. BEAM	7	10					7'-4"
A741	ABUT. BEAM	7	9					14'-8"
A742	ABUT BEAM	7	10					5'-4"
C640	ABUT. WING	6	3	13'8"				14'-8"
SERIES ⚠								
CA640	ABUT. WING	6	2	*	1'-5"			23'-8"

* DIM "A" VARIES FROM 2'-10" TO 3'-10" IN INC. 3" (5 BARS)

CA641	ABUT. WING	6	12	6'8"	1'5"			8'-1"
CA642	ABUT. WING	6	8	2'8"	1'5"			4'-1"
H540	WALL BRACKET	5	6	1'7"	6"			2'-6"
H641	WINGWALL	6	14	3'1"	8"			6'-7"
H840	ABUT. BEAM	8	6	3'7"	8"			7'-8"
L540	ABUT. BEAM	5	5	2'8"	1'0"	2'8"		11'-6"
L541	WINGWALL	5	12	2'2"	1'0"	2'8"		10'-6"

ABUTMENTS NO. 2

Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
A441	ENDWALL	4	4					7'-0"
A442	ROADWAY BRKT.	4	1					7'-0"
A443	WINGS	4	14					3'-1"
A444	ROADWAY BRKT.	4	1					12'-8"
A445	WINGWALL	4	3					13'-8"
A540	ABUT. BEAM	5	6					7'-4"
A541	ABUT. BEAM	5	5					14'-8"
A542	ABUT. BEAM	5	2					5'-4"
A640	WINGWALL	6	14					3'-1"
A641	WINGWALL	6	2					6'-8"
A642	WINGWALL	6	4					13'-8"
A643	WINGWALL	6	1					9'-6"
A644	WINGWALL	6	1					8'-3"
A740	ABUT. BEAM	7	10					7'-4"
A741	ABUT. BEAM	7	9					14'-8"
A742	ABUT BEAM	7	10					5'-4"
C640	ABUT. WING	6	3	13'8"				14'-8"
SERIES ⚠								
CA640	ABUT. WING	6	2	*	1'-5"			23'-8"

* DIM "A" VARIES FROM 2'-10" TO 3'-10" IN INC. 3" (5 BARS)

CA641	ABUT. WING	6	12	6'8"	1'5"			8'-1"
CA642	ABUT. WING	6	8	2'8"	1'5"			4'-1"
H540	WALL BRACKET	5	6	1'7"	6"			2'-6"
H641	WINGWALL	6	14	3'1"	8"			6'-7"
H840	ABUT. BEAM	8	6	3'7"	8"			7'-8"
L540	ABUT. BEAM	5	5	2'8"	1'0"	2'8"		11'-6"
L541	WINGWALL	5	12	2'2"	1'0"	2'8"		10'-6"

ABUTMENT NO. 2 (EPOXY)

A440E	SLAB	4	2					7'-0"
H640E	ENDWALL	6	6	8"	3'-1"			6'-8"

PAVEMENT @ BRIDGE ENDS-EPOXY

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A390E	SLAB (TOP)	3	25					15'-0"
	A391E	SLAB (TOP)	3	24					24'-2"
	A392E	SLAB (TOP)	3	25					14'-0"
	A440E	SLAB (TOP)	4	25					10'-11"
	A491E	SLAB (TOP)	4	25					4'-11"
	A690E	SLAB (TOP)	6	18					24'-2"
"L"									
	L540E	FOOTING & SLAB	5	24					7'-6"

PAVEMENT @ BRIDGE ENDS

	Bar	Location	Size	No. Req'd.	Bending Dimensions A	B	C	D	Length
"A"									
	A490	SLAB (BOT.)	4	25					10'-11"
	A491	SLAB (BOT.)	4	25					4'-11"
	A790	FOOTING & SLAB	7	8					10'-11"
	A791	FOOTING & SLAB	7	8					4'-11"
	A890	SLAB	8	32					2'-6"
	A990	SLAB (BOT.)	9	34					24'-2"
	A1190	SLAB (DRAIN)	11	4					6'-0"

REINFORCING STEEL CODE

Type	Size	Series
A	5	06

NOTE Dimensions shown on this sheet are outside to outside of Bar. Standard C.R.S.I. hook details shall apply, except as noted.

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5-16-83	JCP	CHANGE BAR DIMENSIONS

DESIGNED BY PRICE DATE 8-82
DRAWN BY TULL BENTON DATE 10-82
SUPERVISED BY FIELDS & SMITH DATE 10-82
CHECKED BY DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

BRIDGE WIDENING
EAST & WESTBOUND LANES
I-24 OVER LOOKOUT CREEK
STATION 282+50
HAMILTON COUNTY
1982

CORRECT Clifton L. Ewell
ENGINEER OF STRUCTURES
APPROVED Henry Evans
DIRECTOR OF HIGHWAYS

M-115-53

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(22)	ITC		76	319

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS — Tennessee Department of Highways Standard Specifications for Road and Bridge Construction, *with Supplement.*

DESIGN SPECIFICATIONS — AASHO, 1961 Edition as amended, with H20-S16-44 Live Load and Alternate Loading as per Sect. 4c of PPM 20-4.

MATERIALS

Concrete---------- All concrete, except that in precast concrete piling, prestressed concrete piling and precast prestressed concrete beams, shall be Class "A".
Concrete for precast concrete piling shall be Class "S" with Class "A" aggregates.
For concrete in prestressed concrete piling, see H-5-111 and Special Provisions.
For concrete in prestressed beams, see *Constr.* Specifications.
For materials, forms and finish, see Construction Specifications.

Reinforcing Steel---------- See Construction Specifications and Reinforcing Steel Schedules.

Prestressing Steel Cables----- See *Constr.* Specifications.

Structural Steel---------- Except as noted below or shown elsewhere, all materials shall be carbon structural steel ASTM A36-62T
Rivets shall be ASTM A141-58.
Bolts, nuts and washers shall be ASTM A36-62T or A307-61T
Nuts shall be self-locking "Stover", or approved equal.

High-tensile-strength bolts: AASHO Specifications Article 2.10.20 with amendments thereto.

Bronze Alloy---------- See Special Provisions and H-7-2.

Piling---------- See Construction Specifications, H-5-111 and Special Provisions regarding Precast-Prestressed Concrete Piles.

Prefabricated Masonry Pad---- See Special Provisions and F-10-84.

Premolded Joint Filler-------- See Construction Specifications.
Joint Sealer---------- See Special Provisions - *Class A or B.*

☒ FABRICATION (Steel) — All connections shall be riveted, bolted or welded, as shown on drawings. All rivets and bolts shall be 7/8" diameter with 15/16" diameter holes except as noted.
All bolts shall be high-tensile-strength bolts.
General reaming is required. If beam splices are used, these splices shall be reamed while assembled in correct relative position and to proper camber and then shall be match marked. Diaphragm connections shall be reamed assembled, or to a 1" metal templet. Cover plates and shear connectors shall be welded.
☒ See Fabrication of Structural Steel Note this sheet.

PAINTING (Steel) — *Basic Lead Silico Chromate.*
See Special Provisions regarding Sect. 132 steel structures (painting).
Splices and other field connections shall be cleaned and primed before forming slab.

WELDING — All welding shall conform to the current "Standard Specifications for Welded Highway and Railway Bridges" of the American Welding Society, *except as noted in Special Provisions regarding Welded Structures.*
For Stud Shear connector welding, see Special Provisions.

HANDRAILING — See H-5-110 and "Lighting and Handrailing" drawings.

ELECTRICAL LIGHTING — See K-2-246 and "Lighting and Handrailing" drawings.

BITUMINOUS SURFACING — See Construction Specifications.

CAMBER — See "Beam" drawings.

Revised 3/30/64-Fabrication of Structural Steel Note.
3-17-64 Revised notes and quantities.

ESTIMATED QUANTITIES

ITEM NO.	17-2	17-3	17-4	17-5	104-1	104-2	104-3	105-1	105-2	105-3	132-51	135-4	135-12	137-3	139-1	139-3	139-1A	139-3A	154-1	154-1A	154-1B	154-1C	154-1D	154-1E	154-1F	154-1G		704	104-1A
ITEM / BRIDGE					A.C.S.C.			S.A. or S.A.S.C. ***											Precast - Prestressed Concrete Beams ††											A.C.S.C.
	Dry Excav. *	Wet Excav. **	Rock Excav.	Rock Drilling	Mineral Agg.	Asphalt Cement	Tack Coat	Mineral Agg.	Asphalt Cement	Tack Coat	Steel Struct. ●	Class A Concrete ●●	Reinf. Steel	10 BP 42 Steel H-Piling	Precast Concrete Piling †		Precast Prestressed Concrete Piling		42"x 3'-0" 79'± •	42"x 2'-9" 79'±	42"x 3'-0" 77'± •	42"x 2'-9" 77'±	42"x 3'-0" 75'± ••	42"x 2'-9" 75'±	33"x 3'-0" 66'	33"x 2'-9" 66'	Lighting	Concrete Handrail	Mineral Filler
															Test	Size 1	Test	Size 1											
BRIDGE	C.Y.	C.Y.	C.Y.	L.F.	Tons	Tons	Tons	Tons	Tons	Tons	Lump Sum	C.Y.	Lbs.	L.F.	L.F.	L.F.	L.F.	L.F.	Each	Each	Each	Each	Each	Each	Each	Each	Lump Sum	L.F.	Tons
BRIDGES ACROSS TRACKS AT 24th ST. BRIDGE 1	387										Lump Sum	650.9	157,623		220	3,910											Lump Sum ●●●	394	
BRIDGES ACROSS TRACKS AT 24th ST. BRIDGE 2	463										do	680.2	135,026		220	3,855											do ●●●	408	
BRIDGES ACROSS TRACKS AT 24th ST. BRIDGE 3	505										do	702.1	148,230		184	3,495											do ●●●	486	
CHATTANOOGA CREEK BRIDGES EAST-BOUND FREEWAY	51	657	31	36	69.3	5.1	0.3	72.3	5.1	0.3		516.6	63,268	670			80	2,320	11	1	11	1	10	2			do ⊙	456	3.0
CHATTANOOGA CREEK BRIDGES WEST-BOUND FREEWAY	51	306	15	36	69.3	5.1	0.3	72.3	5.1	0.3		479.5	58,268	710			80	2,500	11	1	11	1	10	2			do ⊙	456	3.0
LOOKOUT CREEK BRIDGES EAST-BOUND FREEWAY	48	315	40	72	60.0	4.5	0.3	62.7	4.5	0.3		400.8	51,321	1,090											30	6	do ⊙	396	2.7
LOOKOUT CREEK BRIDGES WEST-BOUND FREEWAY	48		37	72	60.0	4.5	0.3	62.7	4.5	0.3		388.5	49,966	1,060											30	6	do ⊙	396	2.7
BROWN'S FERRY EAST BOUND	322										do	378.8	78,834	1,630													do ⊙	274	
BROWN'S FERRY WEST BOUND	322										do	377.7	78,433	1,775													do ⊙	274	
KELLEY'S FERRY EAST BOUND	276		18	144							do	318.4	70,450	510													do ⊙	226	
KELLEY'S FERRY WEST BOUND	324		18	144							do	321.7	71,579	573													do ⊙	226	
TOTALS	2,799	1,278	159	504	258.6	19.2	1.2	270.0	19.2	1.2	Lump Sum	5,215.2	962,998	8,018	624	11,260	160	4,820	22	2	22	2	20	4	60	12		3,992	11.4

* All structure excavation above El. 634, not classified as rock excavation, shall be measured and paid for as dry excavation.

** All structure excavation below El. 634, not classified as rock excavation, shall be measured and paid for as wet excavation.

*** S.A. or S.A.S.C. may be used as alternates for A.C.S.C. bituminous surface materials.

● Lump sum includes expansion dam, shear connectors, bearings for beams, complete with bronze alloy plates and anchor bolts, and painting of structural steel.

Estimated weights of structural steel are:

		Total All Bridges
Bridge 1----------	214,000 pounds	Brown's Ferry East Bound.....182,400 LBS.	790,800 LBS.
Bridge 2----------	236,500 pounds	Brown's Ferry West Bound.....182,400 LBS.	589,600 LBS.
Bridge 3----------	340,300 pounds	Kelley's Ferry East Bound.....112,500 LBS.	1,380,600 LBS.
Total	790,800 pounds	Kelley's Ferry West Bound.....112,500 LBS.	
		TOTAL 589,600 LBS.	

●● Cost of cofferdams and of all embedded material such as joint fillers, drains, etc. shall be included in the unit price of Class "A" concrete. Concrete and reinforcement quantities include concrete safety curbs. That part of the concrete replaced by the embedded parts of the concrete piles is not included in the estimated quantities shown.

† Alternates will be permitted for the piling only where noted on the substructure drawings.

†† Prestressed concrete members complete in place with tie-rods, dowels (and drilling for dowels), bearing pads, joint fillers, etc. but not including concrete safety curbs.

• Includes 3 taper width beams, varying in width from 3'-0" to 2'-9".

•• Includes 2 taper width beams, varying in width from 3'-0" to 2'-9".

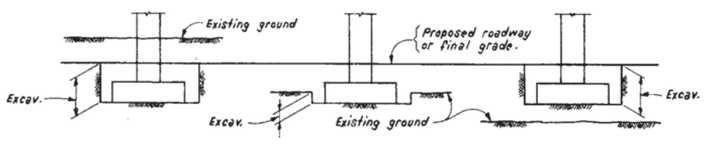
••• Lump sum for lighting complete shall include furnishing and placing all conduits, conductors, cables, junction boxes, lighting standards (including anchor bolts) and all other accessories as shown or noted on drawings.

⊙ *Lump sum for lighting shall include furnishing and placing all Conduits and Junction Boxes only.*

FABRICATION OF STRUCTURAL STEEL

No fabrication shall be started until the materials involved have been approved by the Tennessee Highway Division of Test or, in the case of a railroad structure, by that company. Heat numbers on main material must be preserved or transferred during fabrication and shop painting so that they will be identifiable in the field.

NOTE:
All elevations shown for the footings on these bridges are based on best available foundation information. After the foundations are uncovered, they will be adjusted to fit actual conditions. No increase in the unit price bid for excavation will be permitted due to the raising or lowering of the footings.



EXCAVATION DETAILS

LIST OF DRAWINGS

DRAWING NO.	TITLE
K-12-53	General Notes and Specifications.
F-10-84	Standard Prestressed Concrete Bridge - Pretensioned
F-10-85	Standard Prestressed Concrete Bridge - Pretensioned.
F-10-85A	Details for Required Prestressing Patterns.
H-5-110	Standard Concrete Handrail - 1960
H-5-111	Standard Pile Details
H-7-2	Standard Bearings for Steel Beam Bridges
K-2-246	Standard Electrical Lighting Details for Bridges with Concrete Handrailing
	Bridges Across Tracks at 24th Street
K-12-54	General Layout Plan
K-12-55	Sounding Data
K-12-56 to K-12-67	Bridge 1
K-12-68 to K-12-84	Bridge 2
K-12-85 to K-12-99	Bridge 3
K-12-100 to K-12-112	Chattanooga Creek Bridges, East-Bound and West-Bound Freeways
K-12-113 to K-12-120	Lookout Creek Bridges, East-Bound and West-Bound Freeways
K-12-2 to K-12-13	Brown's Ferry Road Underpasses
K-12-14 to K-12-23	Kelley's Ferry Road Underpasses

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

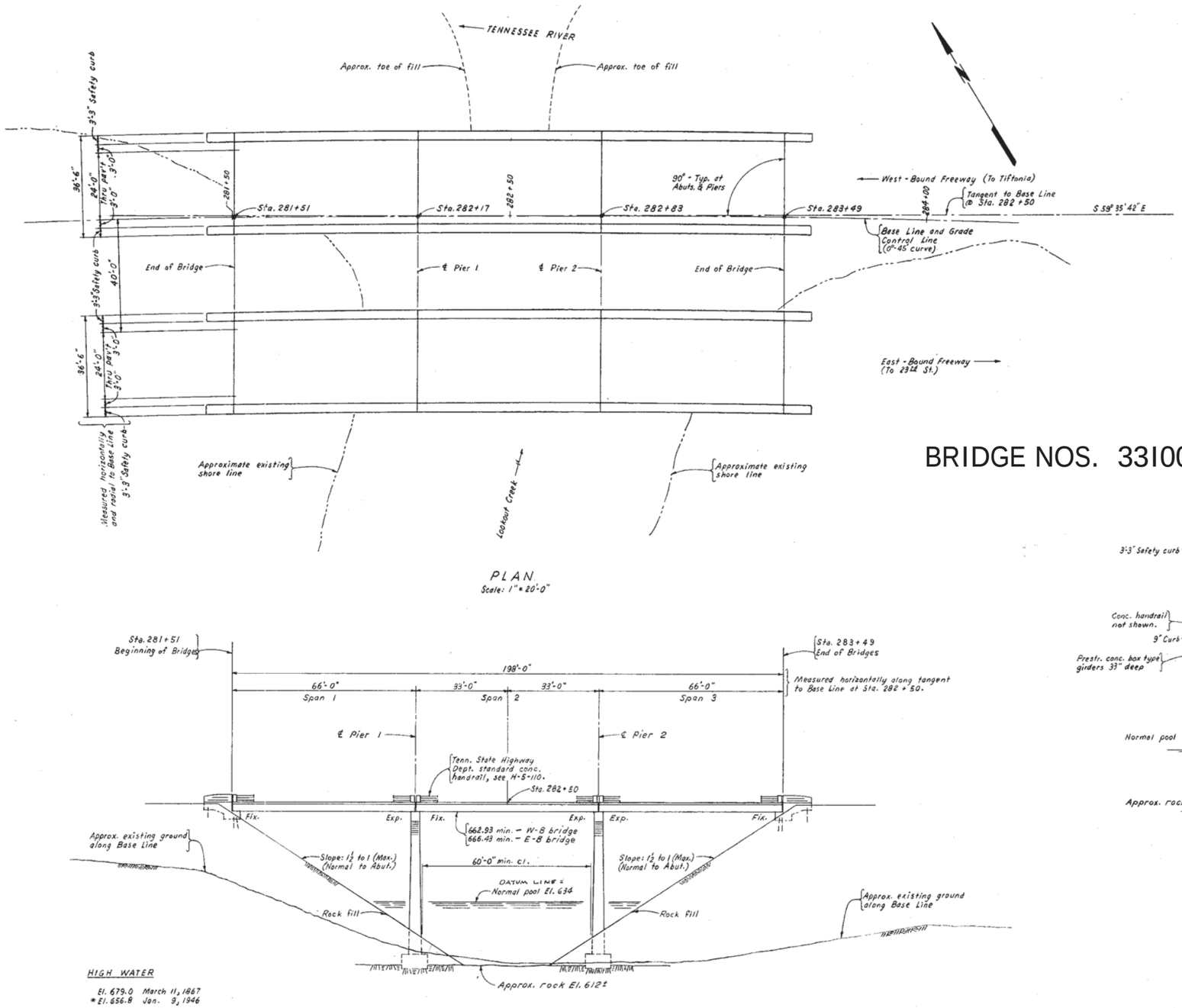
GENERAL NOTES AND SPECIFICATIONS

SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN:	DRWN:	SCALE: NONE	DATE: 11-1-63
CHKD:	CHKD:	FILE NO. 57.77	SHEET NO. K-12-53
	SUPV:		

SHEET2020 30. 1270 DRAFTEX

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(5)	ILO		136	319



PLAN
Scale: 1" = 20'-0"

HIGH WATER

El. 679.0 March 11, 1867
*El. 656.8 Jan. 9, 1946

*Highest elevation after construction of TVA dams.

Drainage Area - 187 square miles

ELEVATION
LOOKING NORTH
Scale: 1" = 20'-0"

Note:
For pile cut-offs in abutments, see K-12-115.

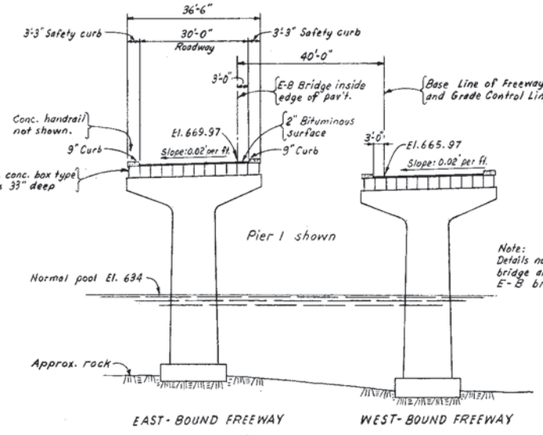
Note:
Rock Fill included in roadway quantities. Provisions shall be made so that piles will not be driven though rock fill.

ESTIMATED QUANTITIES

ITEM NO.	17-2	17-3	17-4	17-5	104-1	104-2	104-3	105-1	105-2	105-3	135-4	135-12	137-3	154-1F	154-1G		704	104-1A
ITEM	Dry Excav.	Wet Excav.	Rock Excav.	Rock Drilling	A.G.S.C. Mineral Agg.	A.G.S.C. Asphalt Cement	A.G.S.C. Tack Coat	S.A or S.A.S.C. Mineral Agg.	S.A or S.A.S.C. Asphalt Cement	S.A or S.A.S.C. Tack Coat	Class "A" Conc.	Reinf. Steel	10BP42 Steel H-piling	Prestr. Conc. Beams Length 66' 3'-0"	Prestr. Conc. Beams Length 66' 2'-9"	Lighting ⊙	Conc. Handrail	A.C.S.C. Mineral Filler
STRUCT.	C.Y.	C.Y.	C.Y.	L.F.	Ton	Ton	Ton	Ton	Ton	Ton	C.Y.	Lbs.	L.F.	Each	Each	Lump Sum	L.F.	Ton
West Abutment	24										21.9	2,939						
Pier 1, W-B			20	36							151.2	21,543						
Pier 2, W-B			17	36							135.5	19,800						
Pier 1, E-B		175	19	36							145.0	21,349						
Pier 2, E-B		140	21	36							149.0	21,349						
East Abutment	24										26.9	2,339						
Span 1					20.0	1.5	0.1	20.9	1.5	0.1	15.0	900		10	2		132	0.9
Span 2					20.0	1.5	0.1	20.9	1.5	0.1	15.0	945		10	2		132	0.9
Span 3					20.0	1.5	0.1	20.9	1.5	0.1	15.0	900		10	2		132	0.9
Total, W-B Freeway	48		37	72	60.0	4.5	0.3	62.7	4.5	0.3	388.5	49,966	1060	30	6	Lump Sum	396	2.7
Total, E-B Freeway	48	315	40	72	60.0	4.5	0.3	62.7	4.5	0.3	409.8	51,321	1090	30	6	Lump Sum	396	2.7

⊙ NO LIGHTS STANDARDS OR WIRING IN THIS STRUCTURE.

BRIDGE NOS. 33I00240009 & 33I00240010



TYPICAL CROSS SECTION
LOOKING WEST
Scale: 1" = 20'-0"

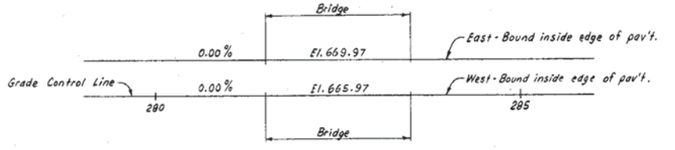
Note:
Details not shown for W-B bridge are same as shown for E-B bridge.

Abbreviations:
W-B West-Bound Freeway
E-B East-Bound Freeway

LIST OF DRAWINGS

Drawing No.	Title
K-12-112	General Drawing
K-12-114	Layout Plan and Soundings & Borings
K-12-115	Abutments
K-12-116	Piers - Outline
K-12-117	Piers - Reinforcement
K-12-118	Deck Cross-Section and Safety Curbs
K-12-119	Lighting, Handrailing and Drains
K-12-120	Reinforcing Steel

NOTES:
For General Notes and Specifications, see K-12-53.



FINISHED GRADE PROFILE
No Scale

One 30' roadway with two safety curbs, per bridge

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES EAST-BOUND & WEST-BOUND FREEWAYS GENERAL DRAWING

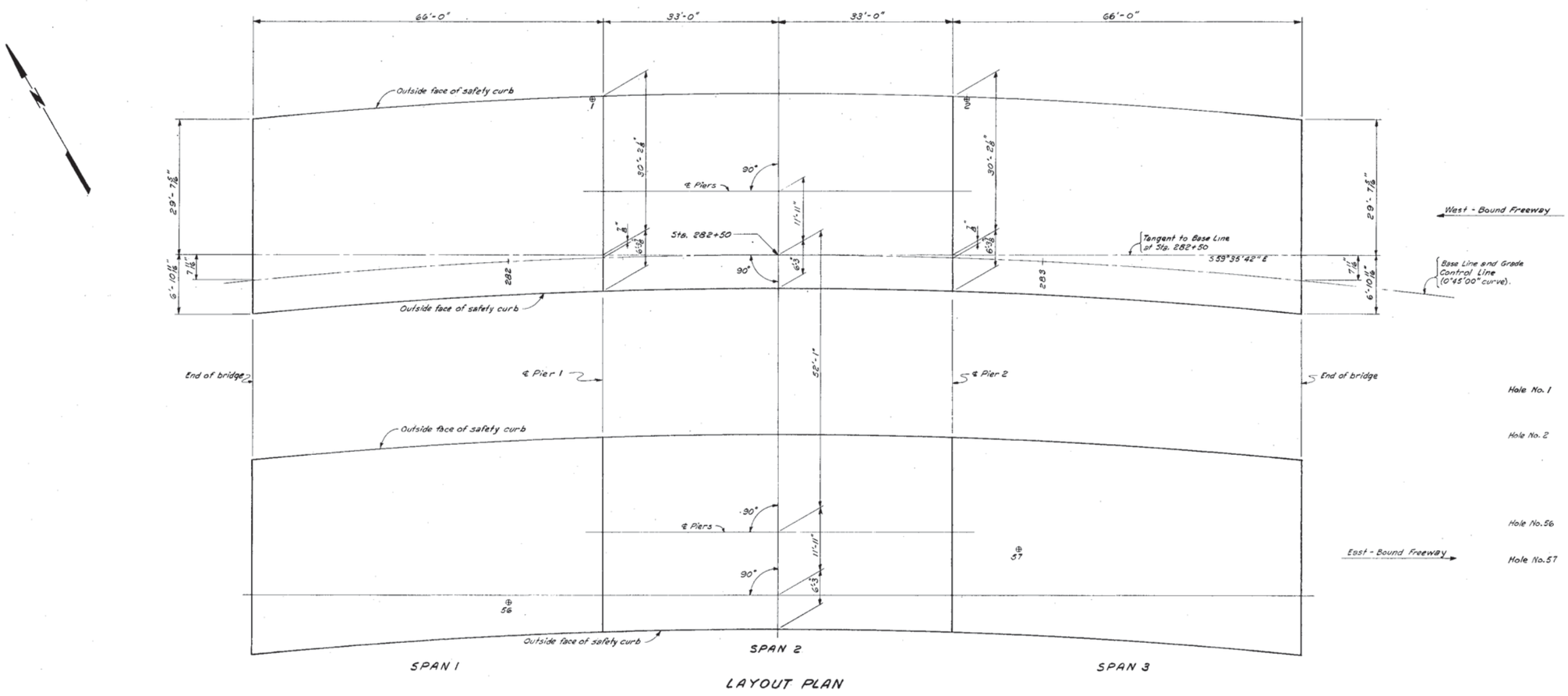
SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: FAM	DRWN: JFB	SCALE: AS NOTED	DATE:
CHKD: AC	CHKD: AC	FILE NO. 57.77	SHEET NO. K-12-113
	SUP'R: AC		

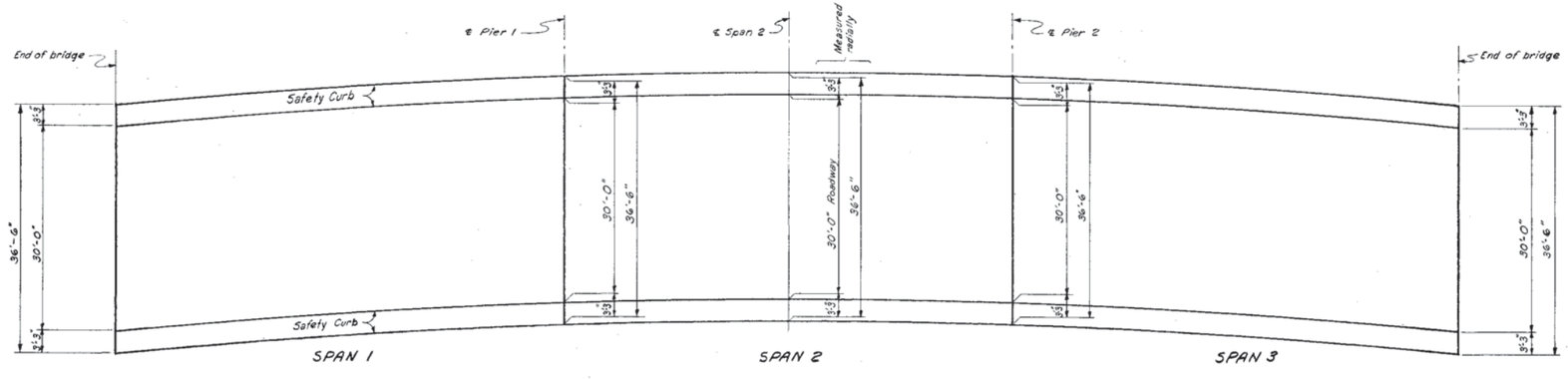
MICROFILMED
3-17-64 REVISED

DIETZGEN NO. 1178 DRAFTEX

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(2)	120		137	319



LAYOUT PLAN



DECK PLAN

BORING DATA

(Borings made January 31, 1962.)

Hole No. 1	Water El. 635.0	Rock El. 608.1
	0' to 26.9'	Water
	26.9' to 33.9'	Hard siliceous limestone, good core, no overburden.
Hole No. 2	Water El. 635.0	Rock El. 613.8
	0' to 21.2'	Water
	21.2' to 31.8'	Hard gray limestone, good core, dip 15° East, no overburden.

SOUNDING DATA

(Soundings made August 8, 1956).

Hole No. 56	Water El. 633.7	Rock El. 612.0
	0' to 3'	Water
	3' to 21.7'	Sand, silt and gravel.
Hole No. 57	Water El. 633.8	Rock El. 612.3
	0' to 6.5'	Water
	6.5' to 21.5'	Sand, silt and gravel.

NOTES:
For General Notes and Specifications, see K-12-53.
All dimensions are measured horizontally.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

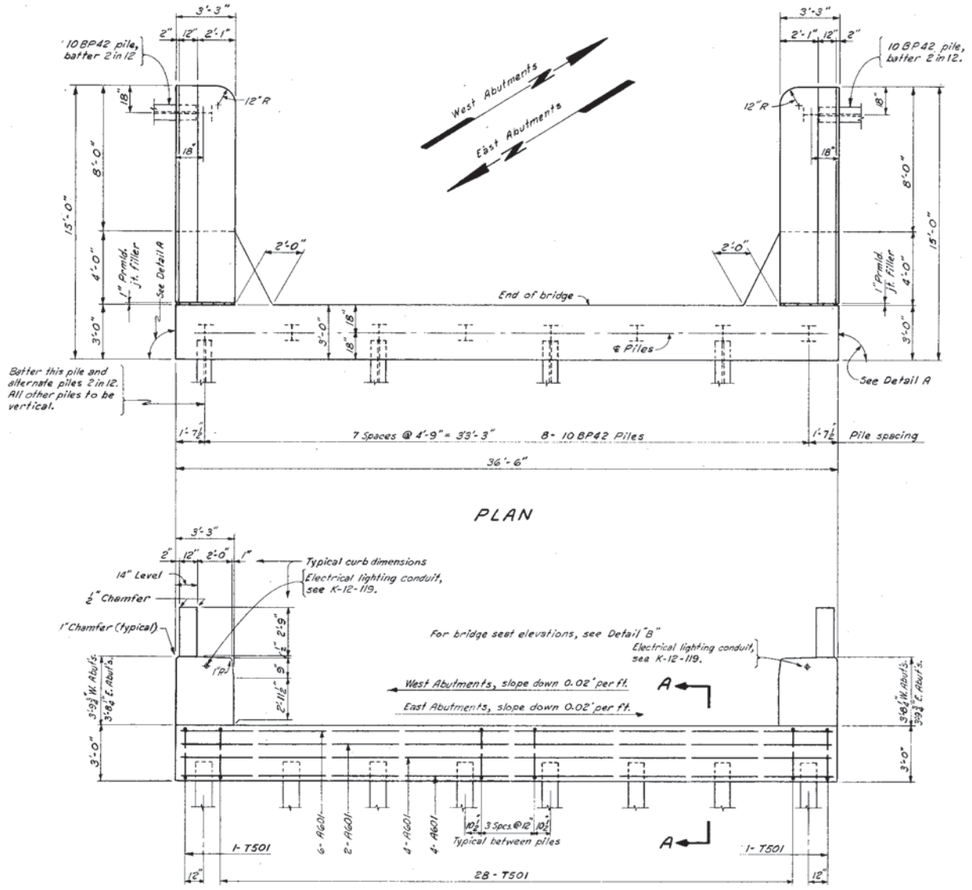
LOOKOUT CREEK BRIDGES
EAST-BOUND & WEST-BOUND FREEWAYS
LAYOUT PLAN AND SOUNDINGS & BORINGS

SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: AC	DRWN: IRT	SCALE: NONE	DATE:
CHKD: FAM	CHKD: AC SUPV: AC	FILE NO. 57.77 SHEET NO.	K-12-114

DIETZGEN NO. 1075 DRAFTEX

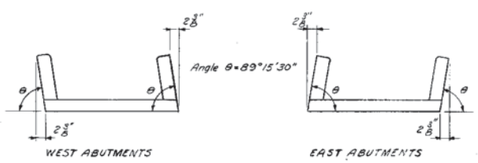
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(22)	120		138	319



PLAN

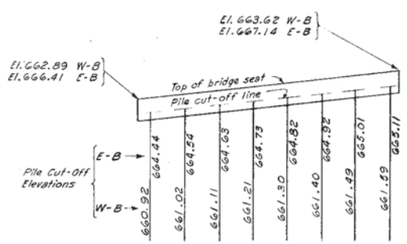
ELEVATION

WEST ABUTMENTS - LOOKING WEST
EAST ABUTMENTS - LOOKING EAST
Scale : 1/8" = 1'-0"

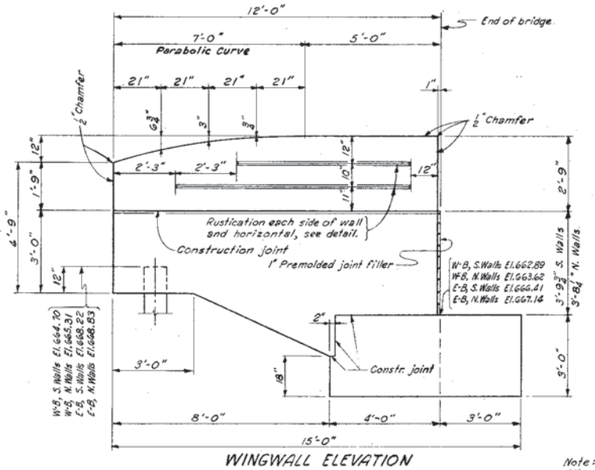


PLAN

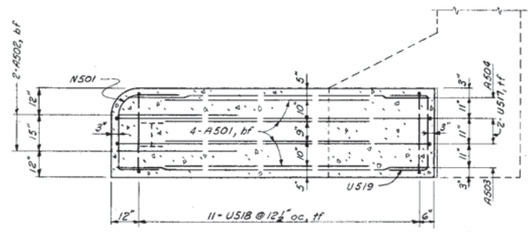
DETAIL A
Showing wingwall angles and offsets
No Scale



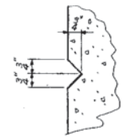
EAST AND WEST ABUTMENTS
DETAIL "B"
ELEVATION
LOOKING WEST
Showing Bridge Seat Elevations and Pile Cut-Off Elevations
No Scale



WINGWALL ELEVATION
OUTLINE DETAILS
Scale : 3/8" = 1'-0"

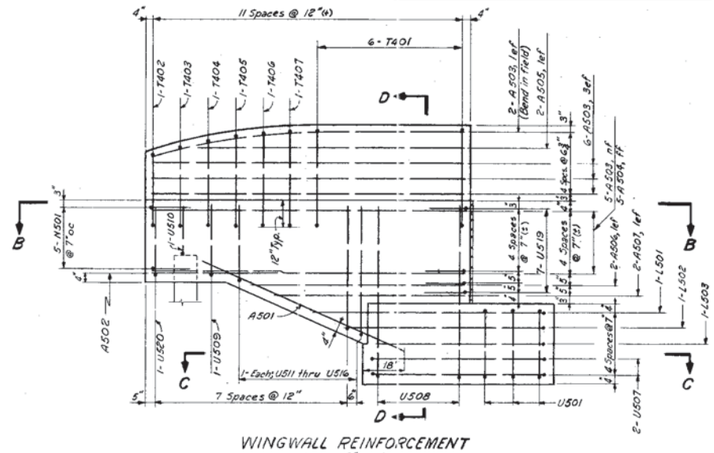


SECTION B-B
Scale : 3/8" = 1'-0"

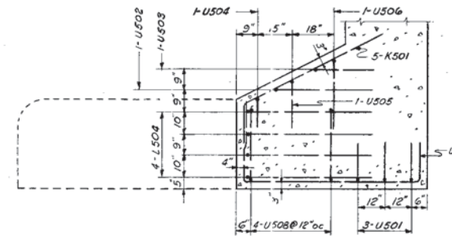


RUSTICATION DETAIL
No Scale

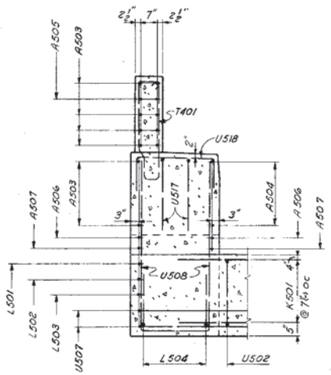
Note:
All reinforcing steel shall have 2" min. cover, except as noted.
Minimum bar lap = 12".



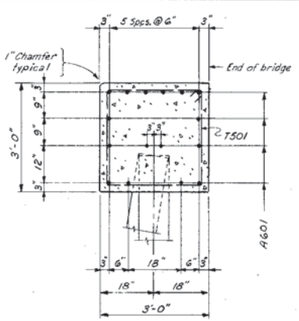
WINGWALL REINFORCEMENT
Scale : 3/8" = 1'-0"



SECTION C-C
Scale : 3/8" = 1'-0"



SECTION D-D
Scale : 3/8" = 1'-0"



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

Holes are to be drilled in top of bridge seat for dowels for beams, therefore, exceptional care shall be exercised in placing longitudinal reinforcing steel in the bridge seat as shown, to avoid possible interference with these dowels.
Finish top of bridge seat to provide a smooth bearing surface for the full length of abutment.

NOTES REGARDING PILES:
All piles shall be 10BP42 steel piles, with no alternates.
All piles shall be driven to refusal on rock.
The maximum design load for basic unit stresses is 31 tons per pile.
For details of piles, see H-5-111 and Construction Specifications.

ABBREVIATIONS:
W-B West-Bound Freeway
E-B East-Bound Freeway
tf Top face
bf bottom face
nf near face
ff far face
ef each face

NOTES:
For General Notes and Specifications, see K-12-53.
For location of abutments, see K-12-114.
For electrical conduit details, see K-12-119.
For reinforcing steel and bending diagrams, see K-12-120.
Holes for beam dowels to be drilled after placing precast beams, see F-10-84 and 1'-12-118.
All dimensions relative to spacing of reinforcing steel are to centers of bars, except as noted.
Marks to all reinforcing steel in the Abutment shall have suffix "A", (thus : A601-A, T501-A, etc.).
Chamfer all exposed edges 3/4", except as noted.

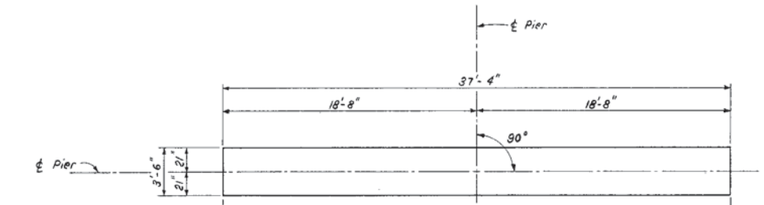
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F. A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES
EAST-BOUND & WEST-BOUND FREEWAYS
ABUTMENTS

SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

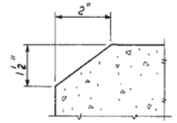
DSGN: AC	DRWN: RRT	SCALE: AS NOTED	DATE:
CHKD: FAM	CHKD: JRP		
	SUPV: AC	FILE NO. 57.77 SHEET NO.	K-12-115

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(22)	120		139	319

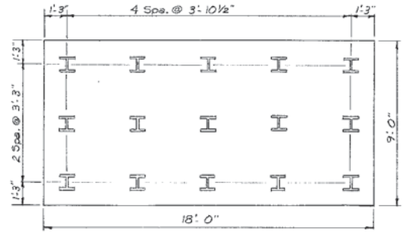


PLAN OF CAP
Scale: 3/16" = 1'-0"

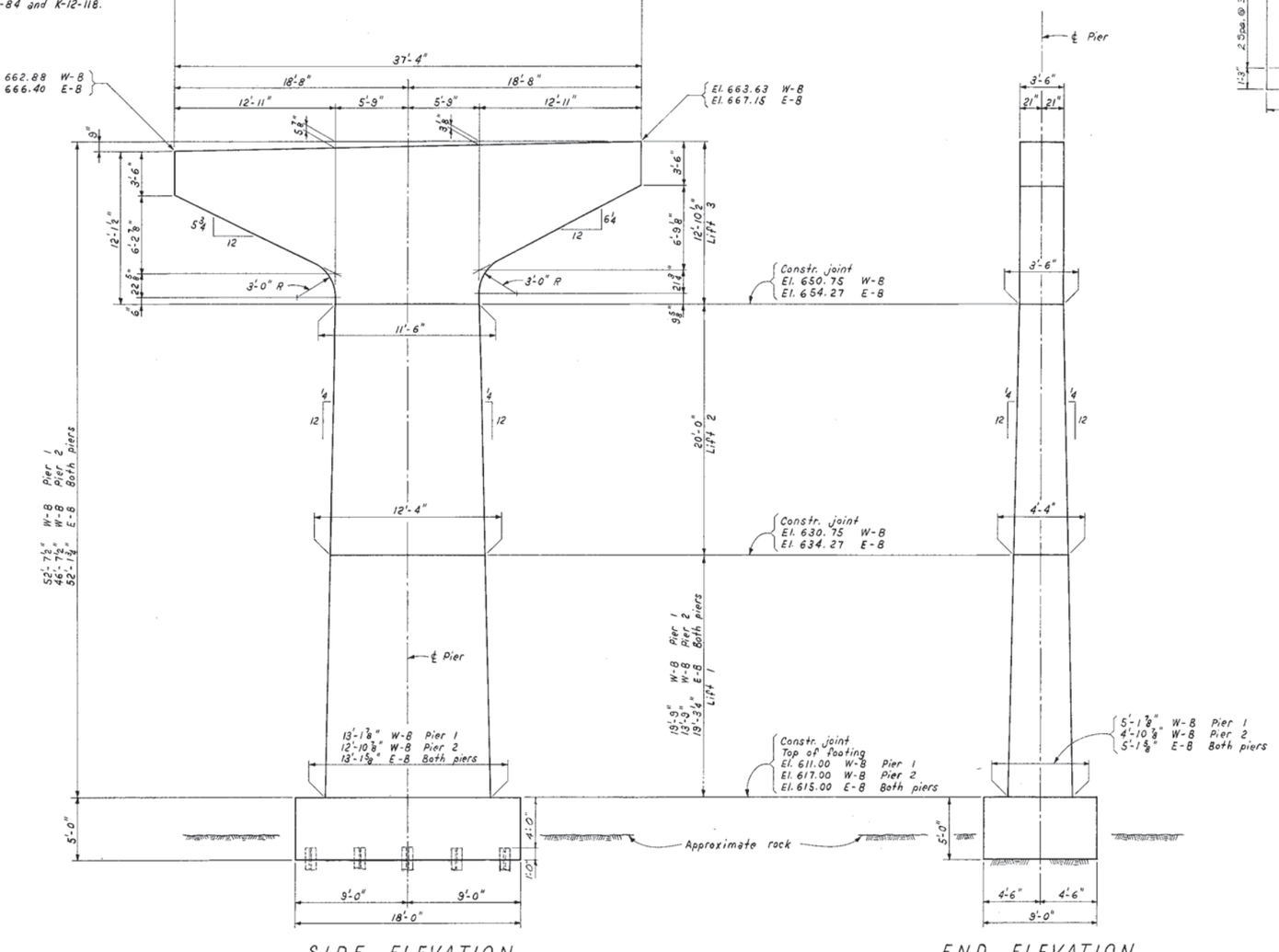
NOTE:
Finish top of cap to provide a smooth bearing surface for the full length of the cap. Holes for beam dowels shall be drilled after erection of beams. See F-10-84 and K-12-118.



CHAMFER DETAIL
(Typical for top of cap.)
No Scale



PILE PATTERN ⚠
For E. B. Lane Piers.
Piles to be 10 BP 42 Driven to refusal on rock or a minimum bearing of 50 Tons.



SIDE ELEVATION
LOOKING WEST
Scale: 3/16" = 1'-0"
Pile encasement shown for E.B. Piers

END ELEVATION
Scale: 3/16" = 1'-0"

FOUNDATION NOTES:
The top of footing elevations are based upon the available sub-surface data furnished by the Tenn. State Highway Dept.
All footings shall be spread footing type on rock.
The maximum design bearing pressure for basic unit stresses is 12,000 pounds per square foot.
When rock is exposed during the excavation, test holes shall be drilled as directed by the Engineer to determine the soundness of the rock. Excavation shall then be continued until a foundation approved by the Engineer is secured.
All footings shall extend into rock a minimum of 6".
IF THE PIER HEIGHT IS INCREASED MORE THAN 3', THE ENGINEER SHALL BE NOTIFIED.

ABBREVIATIONS:
W-B West-Bound Freeway
E-B East-Bound Freeway

NOTES:
For General Notes and Specifications, see K-12-53.
For location of piers, see K-12-114.
For pier reinforcement, see K-12-117.
Chamfer all exposed edges 1", except as noted.

⚠ 3-14-66 Added Pile Pattern
⚠ 3-17-64 Revised Foundation Notes:

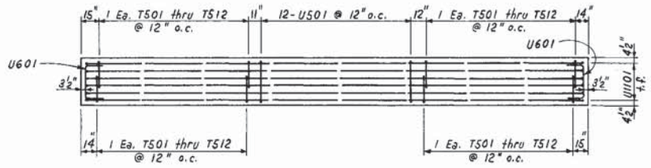
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES
EAST-BOUND & WEST-BOUND FREEWAYS
PIERS - OUTLINE

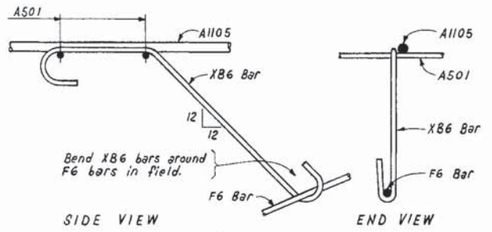
SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: FAM	DRWN: RP	SCALE: AS NOTED	DATE:
CHKD: JM-BJ	CHKD: FAM SUPV: AC	FILE NO. 57.77 SHEET NO.	K-12-116

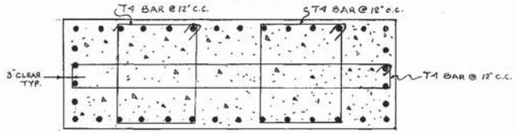
FED. ROAD D. ST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(2)	120		140	319



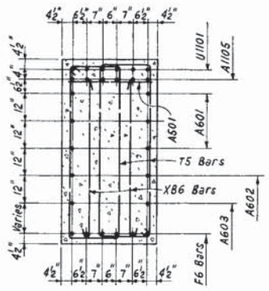
PLAN OF CAP
Scale: 3/16" = 1'-0"



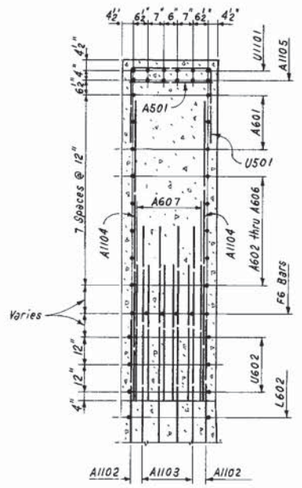
DETAIL OF INCLINED STIRRUPS
No Scale



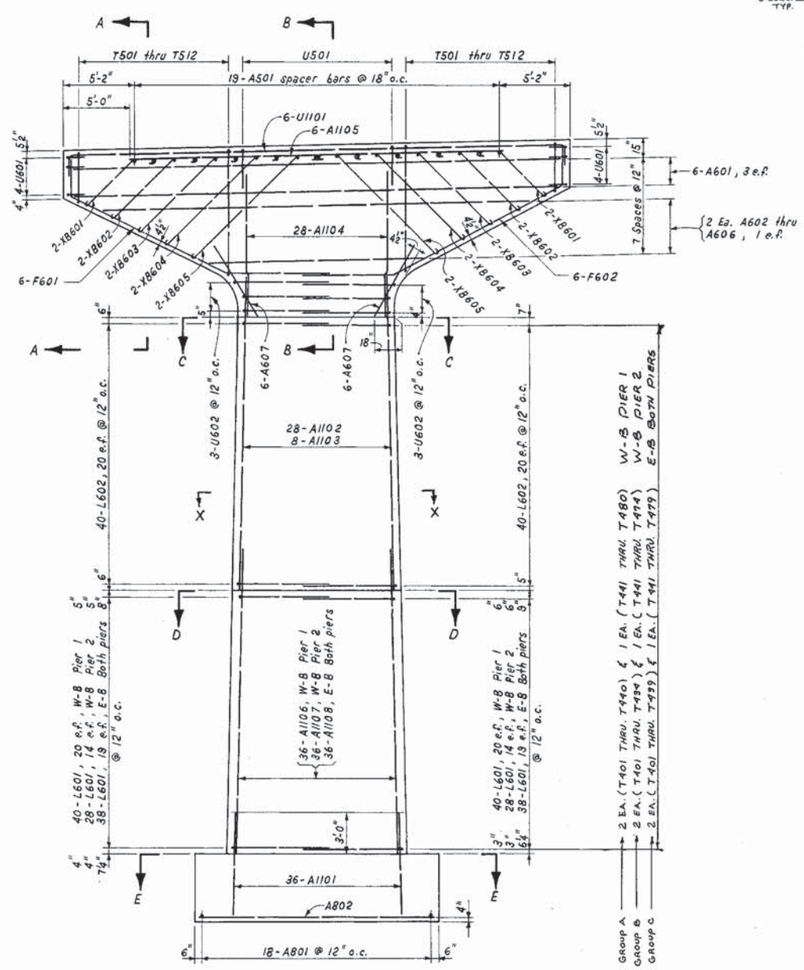
SECTION PLAN X-X
Scale 3/8" = 1'-0"
(L601 & L602 BARS NOT SHOWN)



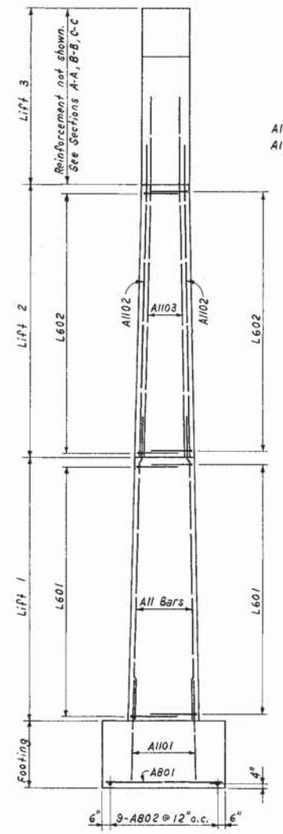
SECTION A-A
Scale: 3/8" = 1'-0"



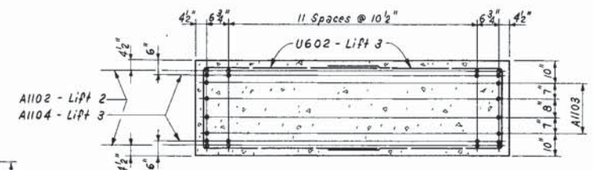
SECTION B-B
Scale: 3/8" = 1'-0"



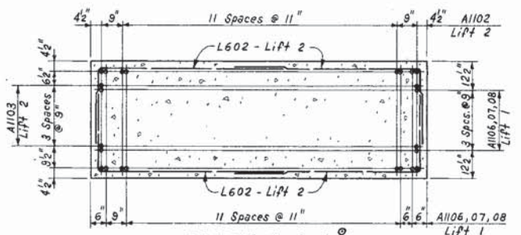
SIDE ELEVATION
LOOKING WEST
Scale: 3/16" = 1'-0"



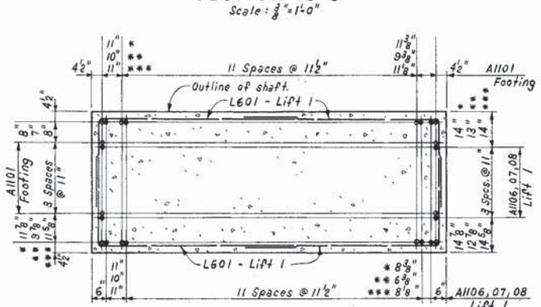
END ELEVATION
Scale: 3/16" = 1'-0"



SECTION C-C ⊙
Scale: 3/8" = 1'-0"



SECTION D-D ⊙
Scale: 3/8" = 1'-0"



SECTION E-E ⊙
Scale: 3/8" = 1'-0"

* W-B Pier 1
** W-B Pier 2
*** E-B Both piers
⊙ See "Sect. plan X-X" for arrangement of auxiliary ties.

NOTE:
Holes for beam dowels shall be drilled in top of pier caps after erection of beams. Therefore, exceptional care shall be exercised in placing reinforcing steel in top of caps, as shown in Sections A-A and B-B, to avoid possible interference with these dowels.

ABBREVIATIONS:
W-B West-Bound Freeway
E-B East-Bound Freeway
e.f. each face
t.f. top face

NOTES:
For General Notes and Specifications, see K-12-53.
For pier outline details, see K-12-116.
For reinforcing steel and bending diagrams, see K-12-120.
All dimensions relative to spacing of reinforcing steel are to centers of bars.
Marks to all reinforcing steel in the piers shall have suffix "P" (thus: A1101-P, U501-P, etc.).

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F. A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES
EAST-BOUND & WEST-BOUND FREEWAYS
PIERS - REINFORCEMENT

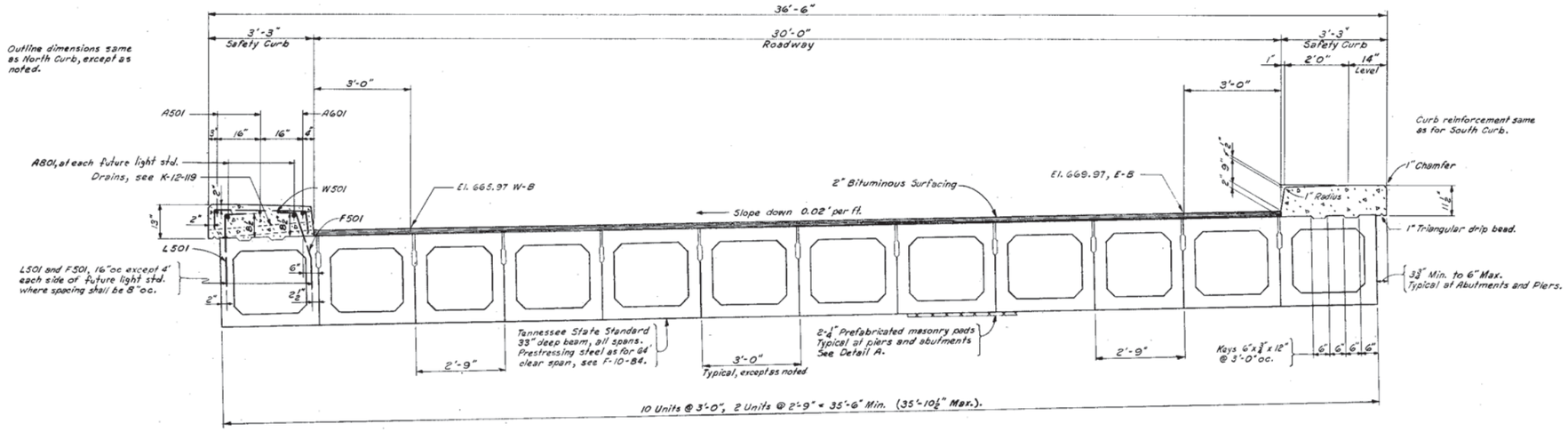
SULLIVAN & HOEFEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: FAM	DRWN: RP	SCALE: AS NOTED	DATE:
CHKD: JM-BJ	CHKD: FAM SUPV: AC	FILE NO. 57.77	SHEET NO. K-12-117

3-17-64 ADDED AUXILLARY TIES:

DIETZGEN NO. 1278 DRAFTEX

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-243(22)	110		141	319

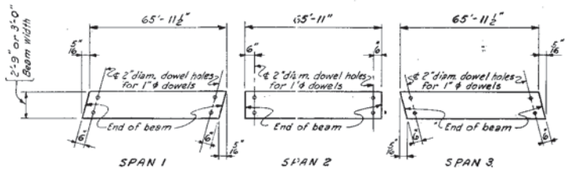


TYPICAL CROSS SECTION
LOOKING WEST
Scale: 1/2" = 1'-0"

PRESTRESSED BEAM QUANTITIES

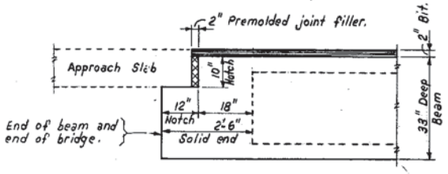
Location	Concrete Cu. Yds.	Reinforcing Steel Lbs.	Prestressing Steel Lbs.
Span 1	121.7	11,095	7,808
Span 2	121.7	11,095	7,808
Span 3	121.7	11,095	7,808
Total	365.1	33,285	23,424

Quantities shown are for one bridge only.

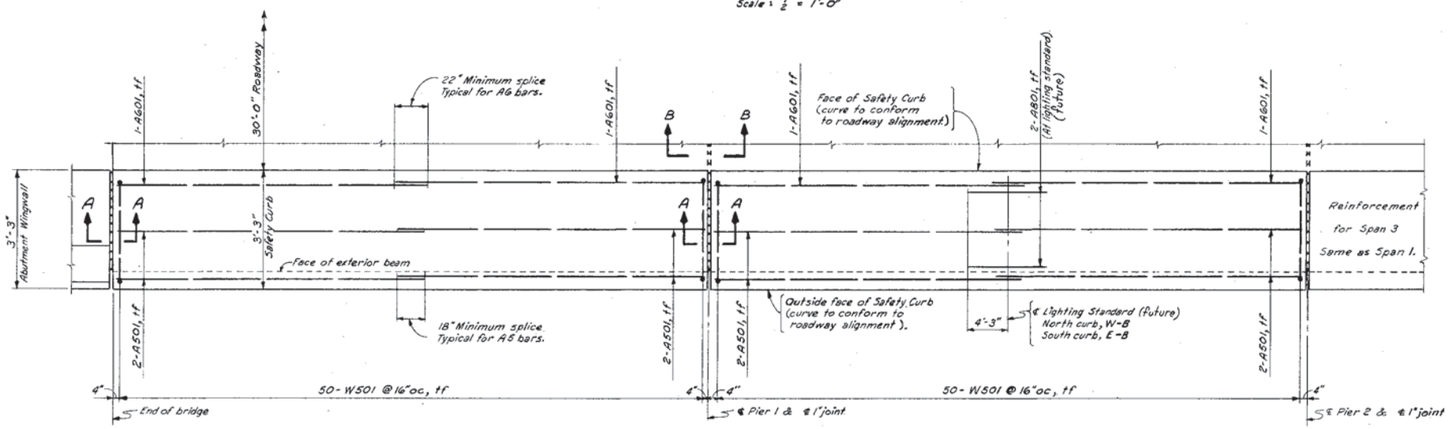


BEAM DETAILS
No Scale

The 2'-9" wide beams shall be the same as standard beams except for width and voids, and shall be designed to carry the same superimposed moment and shear as the standard 3'-0" wide beam.



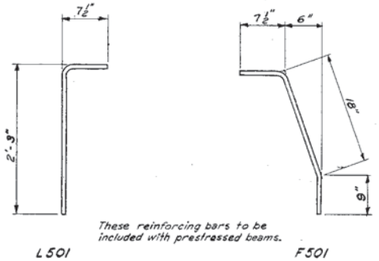
TYP. BEAM DETAIL AT ABUTMENTS
Scale: 1/2" = 1'-0"



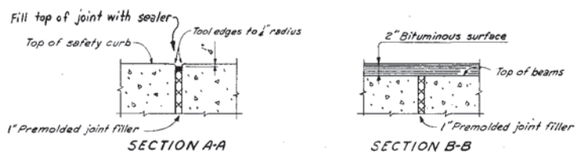
PARTIAL PLAN
TYPICAL SAFETY CURB
No Scale

ABBREVIATIONS:
tf = top face
E-B = East-Bound Freeway
W-B = West-Bound Freeway

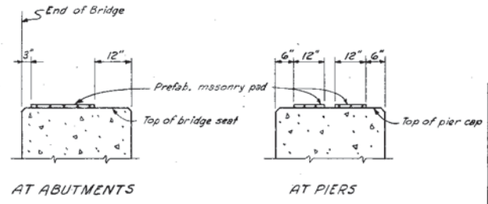
NOTES:
For General Notes and Specifications, see K-12-53.
For lighting, handrailing, and drains, see K-12-118.
For reinforcing steel and bending diagrams for bars in safety curbs, see K-12-120.
All beams shall be standard precast prestressed concrete girders, box type as indicated and noted.
All beams shall be in accordance with the Tennessee State Highway Department's drawing F-10-84 and F-10-85, except as shown and noted on this sheet.
The outside faces of exterior beams in all spans shall line up.
All reinforcing steel shown embedded in the prestressed concrete beams shall be furnished with these beams, and the cost of the steel shall be included in the contract unit price per beam.
All dimensions relative to spacing of reinforcing steel are to centers of bars.
Chamfer all exposed edges of safety curbs 3/4", except as noted.
Marks to all reinforcing steel in the Deck shall have the suffix "D" (thus A501-D, W501-D, etc.).



BENDING DIAGRAM
No Scale



TYPICAL DETAILS AT 1" TRANSVERSE JOINT
No Scale



DETAIL A
Showing Location of Prefabricated Masonry Pads
No Scale

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

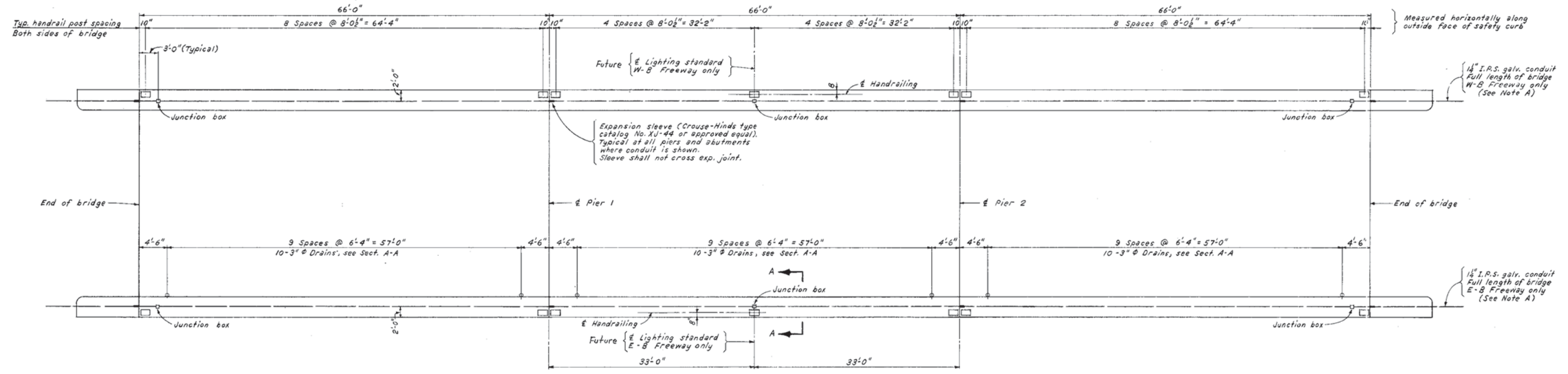
LOOKOUT CREEK BRIDGES EAST-BOUND & WEST-BOUND FREEWAYS DECK CROSS SECTION AND SAFETY CURBS

SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

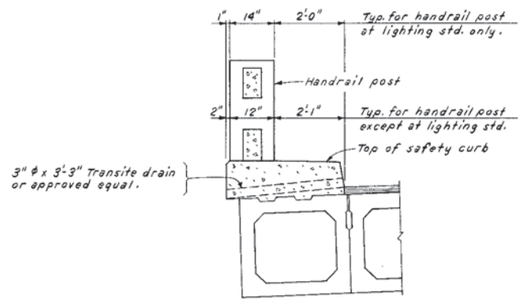
DSGN: AC	DRWN: FRT	SCALE: AS NOTED	DATE:
CHKD: FAM	CHKD: AC	FILE NO. 57.77	SHEET NO. K-12-118
	SUPV: AC		

DIETZGEN NO. 1276 DRAFTEX

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(11)	120		142	319



PLAN
Scale: 1" = 1'-0"



(Same as Section A-A on H-S-110, except as noted)

SECTION A-A
Scale: ½" = 1'-0"

LIGHTING NOTES:
For lighting specifications and details, see K-2-246.
All junction boxes shall be 6"x 6"x 8" deep.
No lighting standards or conductors in this STRUCTURE.

HANDRAILING NOTES:
All handrailing shall be Tenn. State Hwy. Dept. standard concrete handrailing, except as noted on this dwg. see H-S-110.
Handrail posts supporting lighting standard shall have vertical reinforcement consisting of 8 bars C500 each face (see H-S-110). Provide 12" square level bearing area on top of post for lighting standard.

NOTE A:
Extend conduit about 5' beyond end of wingwall and cap until connection is made by others.
The 1¼" conduit shall be dropped in elevation from 6" below top of safety curb at end of bridge to about 2'-3" below top of safety curb at end of wingwall.

NOTES:
For General Notes and Specifications, see K-12-53.
All dimensions shown in plan are measured horizontally.
Location of junction boxes and drains may be shifted slightly, so as to avoid interference with reinf. steel.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY-F.A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES EAST-BOUND & WEST-BOUND FREEWAYS LIGHTING, HANDRAILING AND DRAINS

SULLIVAN & HOLBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: RRT	DRWN: WRA	SCALE: AS NOTED	DATE:
CHKD: AC	CHKD: AC SUPV: AC	FILE NO. 57.77 SHEET NO.	K-12-119

3-17-64 REVISED

DIETZGEN NO. 1078 DRAFTEX

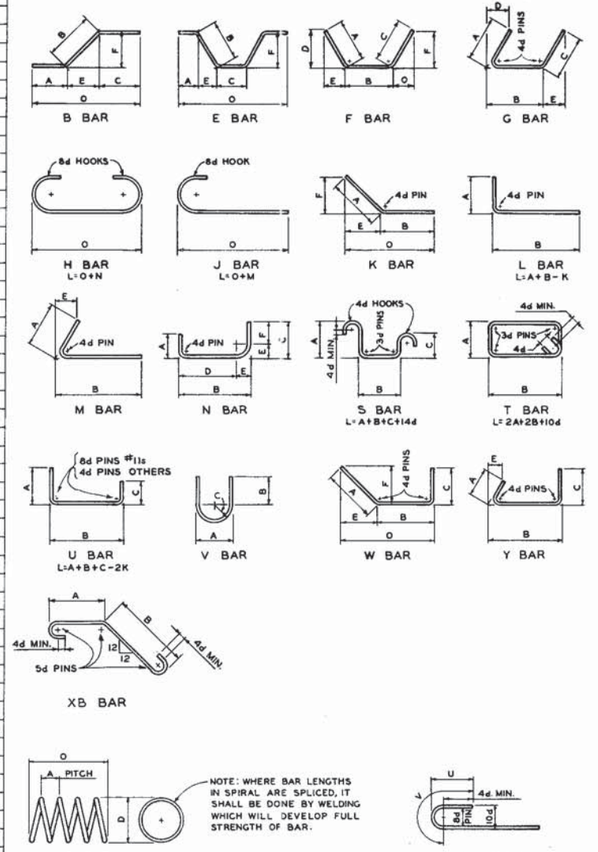
LOCATION	MARK	NO. UNITS	PER UNIT	TOTAL NO. REQ'D.	BENDING DIMENSIONS - FEET & INCHES A	B	C	D	E	F	O	LENGTH BAR FEET & INCHES	WEIGHT LBS.
				ONE ABUTMENT									
Bridge Seat	A601	1	16	16								36-0	865
	T501	1	30	30	2-8	2-8						11-3	352
Wingwalls	A501	2	4	8								8-6	71
	A502	2	2	4								4-6	19
	A503	2	13	26								11-6	312
	A504	2	5	10								10-9	112
	A505	2	2	4								9-9	41
	A506	2	2	4								8-0	33
	A507	2	2	4								7-0	29
	K501	2	5	10	1-6	5-7			0-8			7-0	73
	L501	2	1	2	1-5½	8-11						10-3	21
	L502	2	1	2	1-6½	7-7						9-0	19
	L503	2	1	2	1-5½	6-5						7-9	16
	L504	2	4	8	2-0	4-7½						6-6	54
	N501	2	5	10	1-6	2-9	2-3	2-0	0-9	1-6		6-0	63
	U501	2	3	6	1-6	2-6	1-6					5-3	33
	U502	2	1	2	3-5	2-4	3-6					9-0	19
	U503	2	1	2	2-1	2-4	2-1					6-3	13
	U504	2	1	2	1-0	2-6	1-0					4-3	9
	U505	2	1	2	1-9	2-6	1-9					5-9	12
	U506	2	1	2	2-6	2-6	2-6					7-3	15
	U507	2	2	4	2-11	6-6	1-7					10-9	45
	U508	2	4	8	6-2	2-8	6-2					14-9	123
	U509	2	1	2	2-6½	2-8	2-6½					7-6	16
	U510	2	1	2	1-9½	2-8	1-9½					6-0	13
	U511	2	1	2	2-8	2-8	2-8					7-9	16
	U512	2	1	2	3-0½	2-8	3-0½					8-6	18
	U513	2	1	2	3-6½	2-8	3-6½					9-6	20
	U514	2	1	2	4-0½	2-8	4-0½					10-6	22
	U515	2	1	2	4-5	2-8	4-5					11-3	23
	U516	2	1	2	4-8	2-8	4-8					11-9	25
	U517	2	2	4	3-5	11-7	2-6					17-3	72
	U518	2	11	22	1-7	2-10	1-7					5-9	132
	U519	2	7	14	1-6	2-9	1-6					5-6	80
	U520	2	1	2	2-6	2-3	2-6					7-0	15
	T401	2	6	12	0-8½	3-7						9-0	72
	T402	2	1	2	0-8½	2-8						7-3	10
	T403	2	1	2	0-8½	2-11						7-9	10
	T404	2	1	2	0-8½	3-1½						8-3	11
	T405	2	1	2	0-8½	3-3½						8-6	11
	T406	2	1	2	0-8½	3-5						8-9	12
	T407	2	1	2	0-8½	3-6						9-0	12
				TOTAL WEIGHT- ONE ABUTMENT									2,939
				4 ABUTMENTS REQUIRED									11,756
				SPAN 1									
Safety Curb	A601	2	2	4								33-9	203
	A501	2	4	8								33-6	280
	W501	2	50	100	0-8	2-11	0-7½		0-1	0-8	3-0	4-0	417
				TOTAL WEIGHT - SPAN 1									900
				SPAN 2									
Safety Curb	A801	1	2	2								8-6	45
	A601	2	2	4								33-9	203
	A501	2	4	8								33-6	280
	W501	2	50	100	0-8	2-11	0-7½		0-1	0-8	3-0	4-0	417
				TOTAL WEIGHT-SPAN 2									945
				SPAN 3									
				TOTAL WEIGHT-SPAN 3-SAME AS SPAN 1									900
				Reinforcing steel shown above for safety curbs is for one bridge only.									
				Reinforcing steel is required for two bridges.									

9-17-69 ADDED AUXILIARY COLUMN TIES:

LOCATION	MARK	NO. UNITS	PER UNIT	TOTAL NO. REQ'D.	BENDING DIMENSIONS - FEET & INCHES A	B	C	D	E	F	O	LENGTH BAR FEET & INCHES	WEIGHT LBS.
				PIER 1 WEST-BOUND FREEWAY									
Footing	A1101	1	36	36								7-6	1,435
	A801	1	18	18								8-6	409
	A802	1	9	9								17-6	421
													(2,265)
Lift 1	A1106	1	36	36								22-9	4,351
	L601	1	80	80	3-3½	7-4						10-6	1,262
Lift 2	A1102	1	28	28								23-0	3,422
	A1103	1	8	8								26-0	1,105
	L602	1	80	80	2-11	6-11½						9-9	1,172
													(5,699)
Lift 3	A1104	1	28	28								11-0	1,636
	A1105	1	6	6								27-6	877
	U1101	1	6	6	1-9	36-8	1-9					39-6	1,259
	A601	1	6	6								36-6	329
	A602	1	2	2								32-6	98
	A603	1	2	2								28-6	86
	A604	1	2	2								24-6	74
	A605	1	2	2								20-6	62
	A606	1	2	2								16-6	50
	A607	1	12	12								6-0	108
	F601	1	6	6	2-6	12-7	7-10	2-3	1-1	3-5	7-1	22-9	205
	F602	1	6	6	2-6	13-7	7-2	2-2½	1-2	3-4	6-4	23-0	207
	U601	1	8	8	1-3½	2-7½	1-4					5-0	60
	U602	1	6	6	6-6	3-0	6-6					15-9	142
	XB601	1	4	4	1-9½	4-9						7-9	47
	XB602	1	4	4	1-9½	6-3						9-3	56
	XB603	1	4	4	1-9½	7-8						10-9	65
	XB604	1	4	4	1-9½	9-1						12-0	72
	XB605	1	4	4	1-9½	10-6						13-6	81
	A501	1	19	19								3-0	59
	T501	1	4	4	1-10½	3-7						11-6	48
	T502	1	4	4	1-10½	4-1						12-6	52
	T503	1	4	4	1-10½	4-7						13-6	56
	T504	1	4	4	1-10½	5-1						14-6	60
	T505	1	4	4	1-10½	5-7						15-6	65
	T506	1	4	4	1-10½	6-1						16-6	69
	T507	1	4	4	1-10½	6-7						17-6	73
	T508	1	4	4	1-10½	7-1						18-6	77
	T509	1	4	4	1-10½	7-7						19-6	81
	T510	1	4	4	1-10½	8-1						20-6	86
	T511	1	4	4	1-10½	8-7						21-6	90
	T512	1	4	4	1-10½	9-1						22-6	94
	U501	1	12	12	2-6	3-0	2-6					7-9	97
													(6,521)
BAR GROUP A*				2 EA. (T401 THRU T440) & 1 EA. (T441 THRU T480)									1,445
				TOTAL WEIGHT PIER 1 W-B									21,543
				PIER 2 WEST-BOUND FREEWAY									
Footing and Lifts 2 and 3				Same as for Pier 1 W-B									14,485
Lift 1	A1107	1	36	36								16-9	3,204
	L601	1	56	56	3-3½	7-4						10-6	883
BAR GROUP B*				2 EA. (T401 THRU T434) & 1 EA. (T441 THRU T474)									1,228
				TOTAL WEIGHT PIER 2 W-B									19,800

LOCATION	MARK	NO. UNITS	PER UNIT	TOTAL NO. REQ'D.	BENDING DIMENSIONS - FEET & INCHES A	B	C	D	E	F	O	LENGTH BAR FEET & INCHES	WEIGHT LBS.
				PIER 1 EAST-BOUND FREEWAY									
Footing and Lifts 2 and 3				Same as for Pier 1 W-B									14,485
Lift 1	A1108	1	36	36								22-3	4,256
	L601	1	76	76	3-3½	7-4						10-6	1,199
BAR GROUP C*	2 EA. (T401 THRU T439) & 1 EACH (T441 THRU T479)												1,409
				TOTAL WEIGHT PIER 1 E-B									21,349
				PIER 2 EAST-BOUND FREEWAY									
				Same as for Pier 1 E-B									21,349
*				BENDING DIMENSIONS VARY UNIFORMLY:									
BAR GROUP A, B, C.				FROM (A= 2'-10", B= 3'-0½") FOR T401 TO (A= 3'-1", B= 4'-7½") FOR T440									
				FROM (A= 10'-10½", B= 11'-0½") FOR T441 TO (A= 11'-1½", B= 12'-7½") FOR T480									

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-24-3(11)	120		143	319



GAIN "K" IN LENGTH FOR 1-90° BEND									
BAR NO	3	4	5	6	7	8	9	10	11
8d PIN	1"	1½"	2"	2"	2½"	3"	3½"	3 1/4"	4"
4d PIN	1"	1"	1½"	1½"	2"	2"	2½"	2½"	3"
3d PIN	1"	1"	1"	1½"	1½"	2"	2"	2½"	2½"

8d HOOKS AND H & J BARS									
BAR NO	3	4	5	6	7	8	9	10	11
M	8"	9"	9"	11"	12"	13"	15"	17"	20"
N	13"	15"	17"	20"	23"	26"	30"	34"	38"
U	4½"	5½"	6"	7"	8"	9"	10½"	11½"	13"
V	8"	10"	11½"	14"	16"	18"	20½"	23"	26"

NOTES:

MATERIAL: REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS, EXCEPT THAT STRUCTURAL GRADE IS NOT PERMITTED. SPIRALS TO BE PLAIN, BUT TO SAME SPECIFICATIONS.

FABRICATION: ALL BENDS SHALL BE MADE COLD. MINIMUM PIN DIAMETER SHALL BE 8d, UNLESS SPECIFIED OTHERWISE. TOLERANCES SHALL BE ± 1", EXCEPT THAT HOOKS MAY HAVE A GREATER OVERRUN TO ABSORB CUTTING LENGTH. THE NOMINAL DIAMETER OF ANY BAR, d, IS ASSUMED TO BE THE BAR NUMBER X ⅛". LENGTHS ARE CENTER LINE LENGTHS OF BARS - DESIGNATED AS "L" ON DIAGRAMS.

GENERAL: BENDING DIAGRAMS SHOWN WITH SYMBOLS FOR VARIABLE DIMENSIONS ARE STANDARD TYPES OF BARS. SOME TYPES SHOWN MAY NOT BE BILLED IN THE SCHEDULES. ALL BARS "MARK A" ARE STRAIGHT. BARS ARE SYMMETRICAL, UNLESS OTHERWISE SHOWN. ON SLOPING BENDS, THE "F" DIMENSION IS OMITTED, EXCEPT WHERE CLEARANCES ARE LIMITED. ALL BARS ARE SPECIFIED BY NUMBERS, INSTEAD OF SIZE, AND THE BAR MARKS ARE MADE UP FROM THE FOLLOWING CODE:

(1) THE LETTER REPRESENTS THE TYPE OF BAR - A, B, L, ETC. - SPECIAL TYPE BARS ARE DESIGNATED BY LETTERS "XA", "XB", ETC.

(2) THE FIRST FIGURE TO THE RIGHT OF THE LETTER, OR LETTERS, REPRESENTS THE BAR NUMBER 4, 5, 6, 7, 8, 9, 10, OR 11.

(3) THE FIGURES TO THE RIGHT OF THE BAR NUMBER REPRESENT THE BAR MARK. THE FIRST BAR IN A GROUP OF BARS OF THE SAME BAR NUMBER AND THE SAME TYPE, BUT OTHERWISE DIFFERENT, IS MARKED 01, THE NEXT 02, ON THROUGH 09, 10, 11 AND SO ON.

(4) FABRICATOR SHALL SUFFIX THE BAR MARKS FOR THE REINFORCING STEEL IN THE ABUTMENTS, PIERS AND DECK BY THE LETTERS "A", "P" AND "D" RESPECTIVELY. (THUS: A601-A, ETC. FOR ABUTMENTS; A601-P, ETC. FOR PIERS; AND A601-D, ETC. FOR THE DECK).

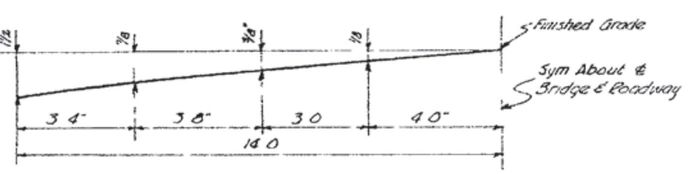
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
CHATTANOOGA FREEWAY
HAMILTON COUNTY F. A. PROJ. NO. I-24-3( )

LOOKOUT CREEK BRIDGES
EAST-BOUND & WEST-BOUND FREEWAYS
REINFORCING STEEL

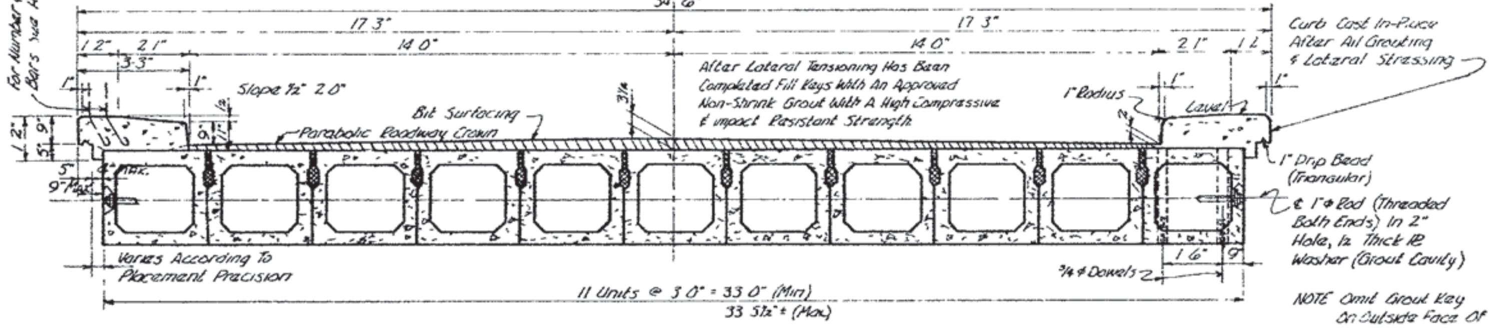
SULLIVAN & HOEBEL - CONSULTING ENGINEERS - KNOXVILLE, TENN.
AAKE F. HEDMAN - CONSULTING ENGINEERS - CHATTANOOGA, TENN.

DSGN: RT, JP	DRWN: WA, JP	SCALE: NONE	DATE:
CHKD: JP, FM	CHKD: JP, BJ	FILE NO. 57.77	SHEET NO. K-12-120
	SUPV.: AC		

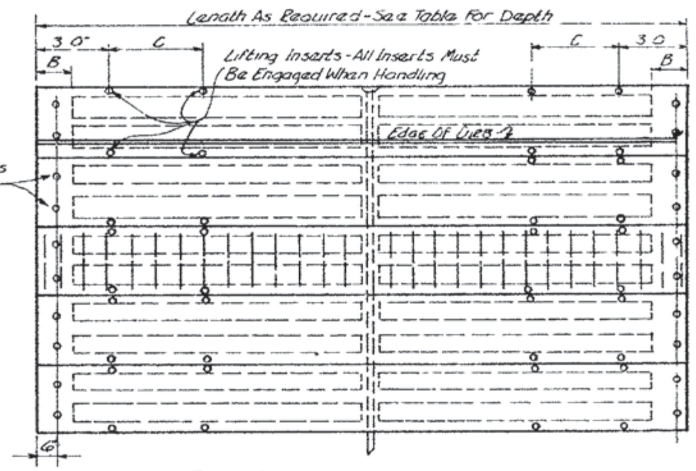
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN				



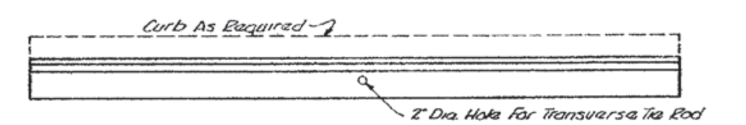
DETAIL OF ROADWAY TEMPLATE



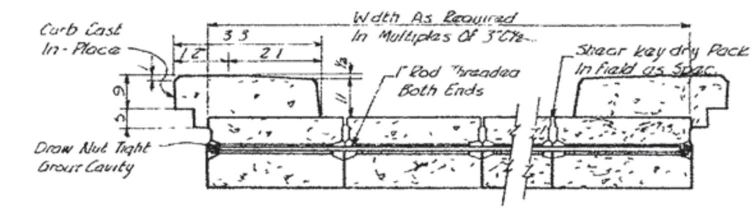
SECTION NEAR MIDSPAN — SECTION NEAR BEARINGS



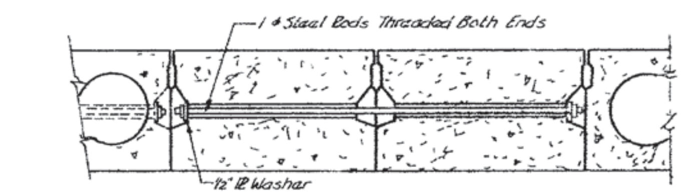
PART PLAN - 90° SKEW
(Clear Span Under 44')



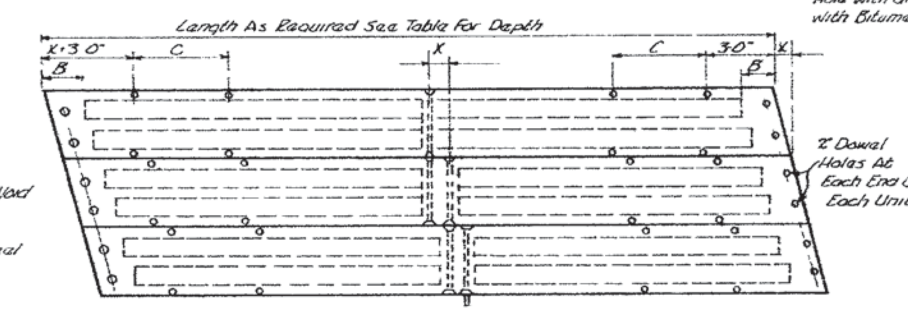
ELEVATION



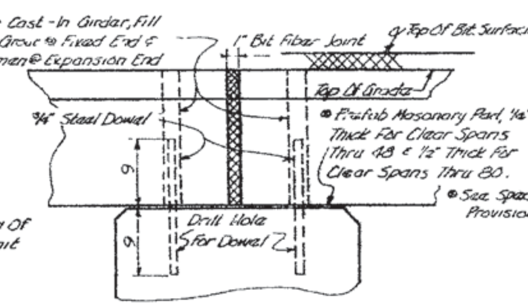
SECTION AT TRANSVERSE TIE
90° SKEW



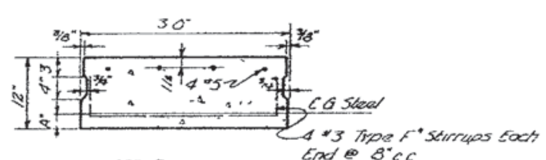
SECTION AT TRANSVERSE TIE
SKEW AS REQUIRED



PART PLAN - SKEW AS REQUIRED

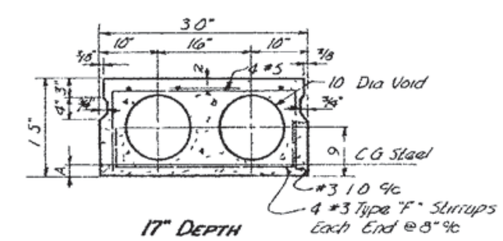


ELEVATION AT ABUTMENT - PIER OR BENT



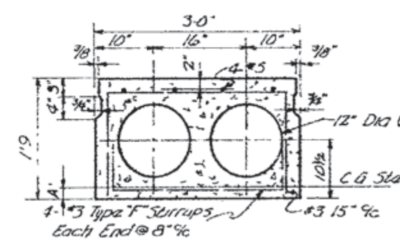
12" DEPTH

CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
14	225	OMIT		0.96	12	7,050	12"
16	216	"		1.20	15	[illegible]	
18	244	"		1.52	19	8,500	
20	264	"		1.76	22	9,700	
22	284	"		2.08	26	10,600	



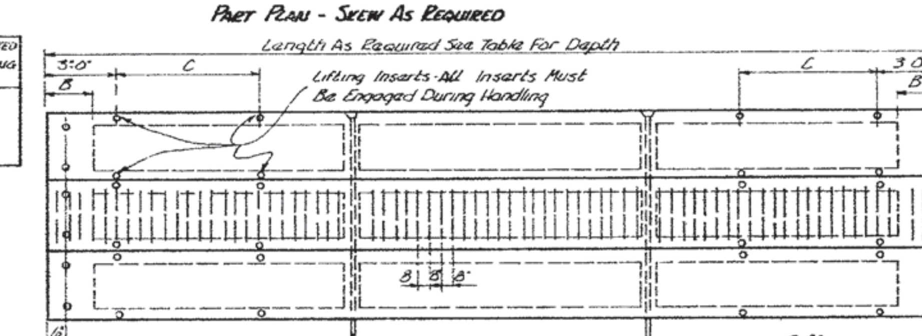
17" DEPTH

CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
24	222	18		[illegible]	[illegible]	[illegible]	12"
26	220			1.36	17	13,450	
28	225			1.60	20	14,400	
30	230			1.76	22	15,350	
32	262			2.00	25	16,300	
34	275			2.16	27	17,250	

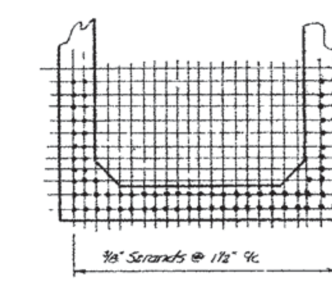


21" DEPTH

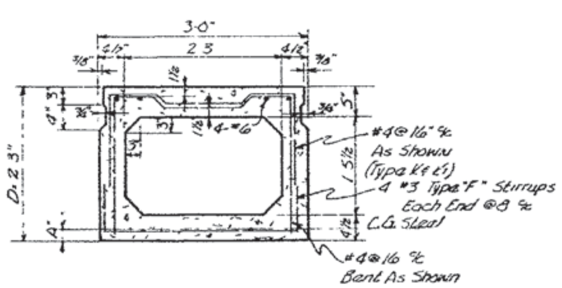
CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
36	230	18		1.76	22	22,100	12"
38	231			1.92	24	23,200	
40	264			2.16	27	24,350	
42	320			2.48	31	255[illegible]	



PART PLAN - 90° SKEW
(Clear Span Over 44')

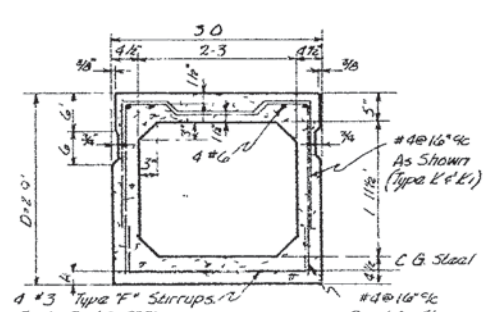


TYPICAL PATTERN FOR PRESTRESSING STEEL



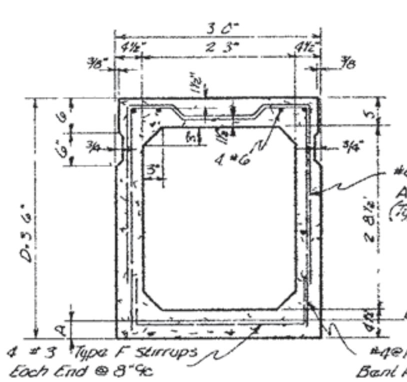
27" DEPTH

CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
44	230	18		1.76	22	27,100	12"
46	226			1.84	23	28,200	
48	227			2.00	25	29,300	
50	235			2.24	28	30,500	
52	263			2.40	30	31,600	
54	293			2.56	32	32,800	
56	323			2.80	35	33,400	



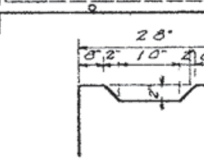
33" DEPTH

CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
58	247	18		2.32	29	39,900	12"
60	263			2.48	31	41,300	
62	303			2.64	33	42,600	
64	338			2.88	36	43,900	
66	363			3.04	38	45,200	
68	390			3.28	41	46,500	

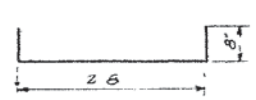


42" DEPTH

CLEAR SPAN FEET	A INCHES	B INCHES		PRESTRESSED STEEL AREA	NO. 3/8" STRANDS	WEIGHT BASIC MEMBER	SUGGESTED BEARING
70	312	18		2.72	34	51,300	18" 12" Min
72	328			2.88	36	52,960	
74	369			3.04	38	54,620	
76	407			3.20	40	56,280	
78	43[illegible]			3.36	42	57,940	
80	4[illegible]2			3.52	44	59,600	



No.4 Bars Type K and K1



#3 TYPE "F" STIRRUP

GENERAL NOTES.

SPECIFICATIONS Standard Road & Bridge Specifications Of The Tennessee Department Of Highways
LOADING H20-S16-44
CONCRETE (Cast in Place) To Be Class "A"
PRECAST, PRETENSIONED CONCRETE See Specifications
REINFORCING STEEL See Specifications.
FORMS & FINISH See Specifications.
HANDLING PRE-TENSIONED DECK-UNIT See Specifications.
LATERAL TENSIONING Prior To Grouting Longitudinal, Keys Of In-Place Deck Units, The Nuts Of The Transverse Rods Shall Be Given Two Full Turns From Hand Tight Position, To Develope A Stress Of 30,000 PSI, In Rods
PRETENSIONING STEEL: An Initial Force Of 14,000 Lbs. Shall Be Applied To Each Strand In All Beams
The Design Is Based On Federal Bureau Criteria & Special Provision.

DESIGNED BY ______ DATE ______
DRAWN BY A. BURKS DATE 6 26 57
RETRACED BY B BAUMAN DATE 8 30 60
CHECKED BY ______ DATE ______

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

STANDARD
PRESTRESSED CONCRETE BRIDGE
PRETENSIONED
CLEAR SPANS 14'-0" TO 80'-0"
28'-0" ROADWAY WITH SAFETY CURBS
1957

CORRECT: Fred Greene — BRIDGE ENGINEER
APPROVED: C.W. Long — STATE HIGHWAY ENGINEER

F-10-84

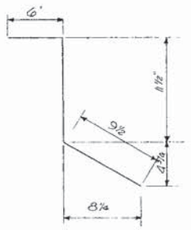
WITH STD. DWG. F-10-85 & 86.

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN		19		

QUANTITIES FOR CAST CURB BOTH SIDES

Clear Span	Concrete Cu Yds	Reinf Steel Lbs	No Of Bars D1	No Of Bars C2	No Of Bars C1
14	36	266	24	22	12
16	40	295	28	26	12
18	45	265	30	28	2
20	49	264	34	32	12
22	54	324	36	34	12
24	58	384	40	38	12
26	63	382	42	40	12
28	67	412	46	44	12
30	71	441	48	46	12
32	76	470	52	50	12
34	80	500	54	52	12
36	85	526	58	56	12
38	89	584	60	58	12
40	94	582	62	60	12
42	98	612	66	64	12
44	103	647	68	66	12
46	107	676	72	70	12
48	112	706	74	72	12
50	116	735	78	76	12
52	121	764	80	78	12
54	125	794	84	82	12
56	130	823	86	84	12
58	134	853	90	88	24
60	138	882	92	90	24
62	143	911	96	94	24
64	147	941	98	96	24
66	152	970	102	100	24
68	156	1000	106	104	24
70	163	1029	110	108	24
72	167	1059	112	110	24
74	172	1088	116	114	24
76	176	1117	118	116	24
78	181	1147	122	120	24
80	185	1176	124	122	24

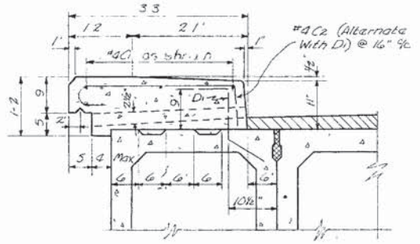
NOTE Above Quantities Apply To All Skews
* For Skewed Bridge Less Than 90° Curb Bars To Be Flared At Each End Of Span
NOTE Bars D1 To Be Included In Unit Price Bid For Girders



BARS D1 (To Be ½"ø)
Total Length = 2.3

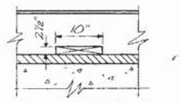
BARS C2
Total Length = 4

NOTE Length Of Longitudinal Bars C1 To Be Total Span Length Minus 6 Also Lap Bars C1 10' When Splice Is Required



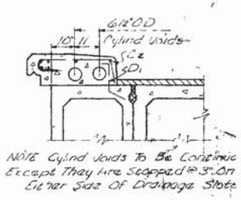
TYPICAL SECTION FOR CURB AND EXTERIOR BOX

NOTE Curb To Be Cast In Place Provisions May Be Made In The Fascia Of Ext Units For Approved Inserts To Facilitate Forming Of Curbs



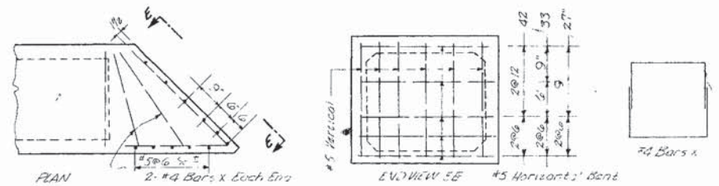
Located Drain Slots @ Center Of Every Other Railing Panel

DRAINAGE SLOT DETAIL

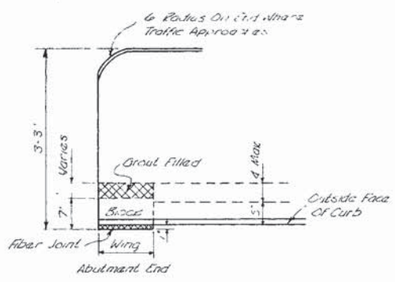


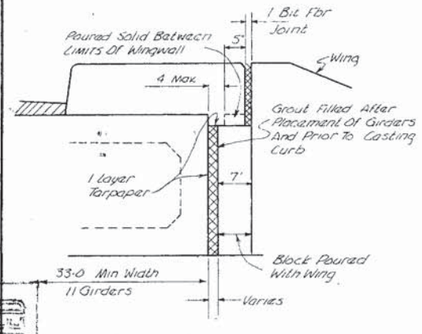
NOTE Cylind Voids To Be Continuous Except They Are Stopped @ 3'-0" On Either Side Of Drainage Slots

ALTERNATE CURB

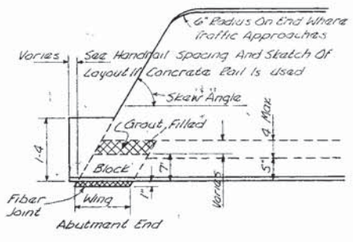


SKETCH SHOWING ADDITIONAL REINFORCEMENT TO BE PLACED IN ACUTE CORNERS OF PRESTRESSED BOX BEAM





SKETCH SHOWING CURB DETAIL AT ABUTMENT END



DESIGNED BY		DATE 6-28-57
DRAWN BY	A. BURKE	DATE 8-30-60
TRACED BY	B. BRAUMAN & Q. PIPPENGER	DATE
CHECKED BY		DATE

Revised 6-15-60 Varied Ht Acute Corner
Revised 4-17-58 Bar D1 Detailed From Reinf Steel Quantities
Revised 3-10-58 End Detail Section Changed

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

STANDARD

PRESTRESSED CONCRETE BRIDGE

PRETENSIONED

CLEAR SPANS 14'-0" - 80'-0"

28'-0" ROADWAY - WITH SAFET CURBS

1957

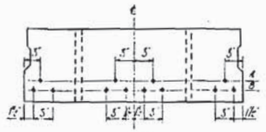
CORRECT: Fred Gumm
BRIDGE ENGINEER

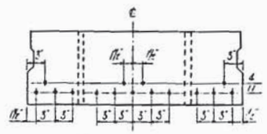
APPROVED: Chas D Long
STATE HIGHWAY ENGINEER

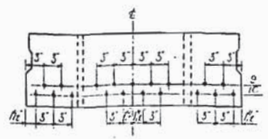
F-10-58

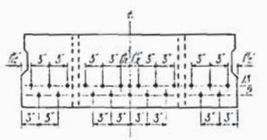
With Std. Dwg. F-10-58 - Sht. 2 of 2

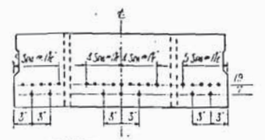
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
8	TENN.		19	

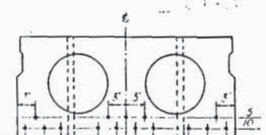

12' DEPTH – 16' CLEAR SPAN
12 STRANDS

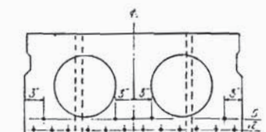

12' DEPTH – 17' CLEAR SPAN
15 STRANDS

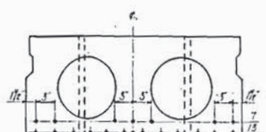

12' DEPTH – 18' CLEAR SPAN
17 STRANDS

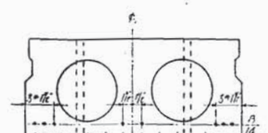

12' DEPTH – 20' CLEAR SPAN
22 STRANDS

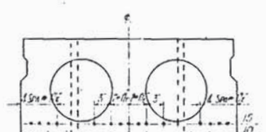

12' DEPTH – 22' CLEAR SPAN
24 STRANDS

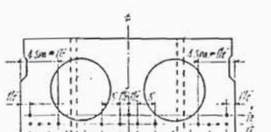

12' DEPTH – 24' CLEAR SPAN
15 STRANDS

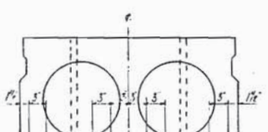

17' DEPTH – 26' CLEAR SPAN
17 STRANDS

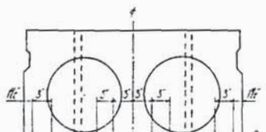

17' DEPTH – 28' CLEAR SPAN
20 STRANDS

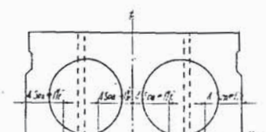

17' DEPTH – 30' CLEAR SPAN
22 STRANDS

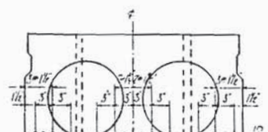

17' DEPTH – 32' CLEAR SPAN
25 STRANDS

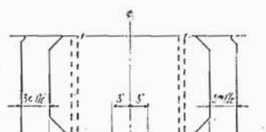

17' DEPTH – 34' CLEAR SPAN
27 STRANDS

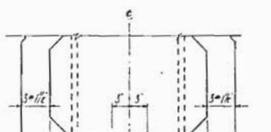

21' DEPTH – 34' CLEAR SPAN
27 STRANDS

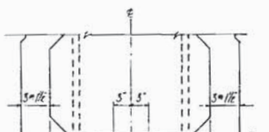

21' DEPTH – 38' CLEAR SPAN
24 STRANDS

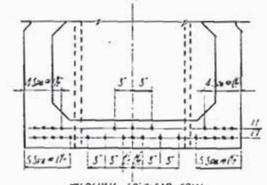

21' DEPTH – 40' CLEAR SPAN
27 STRANDS

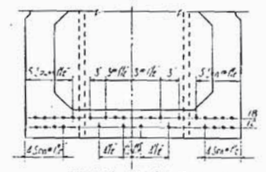

21' DEPTH – 42' CLEAR SPAN
31 STRANDS

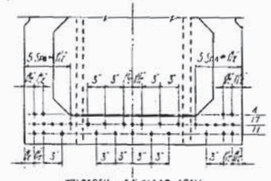

27' DEPTH – 44' CLEAR SPAN
22 STRANDS

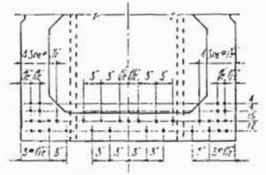

27' DEPTH – 46' CLEAR SPAN
23 STRANDS

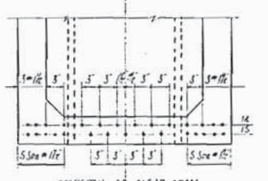

27' DEPTH – 48' CLEAR SPAN
25 STRANDS

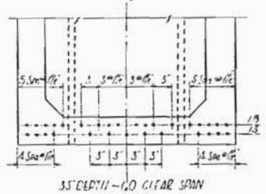

27' DEPTH – 50' CLEAR SPAN
28 STRANDS

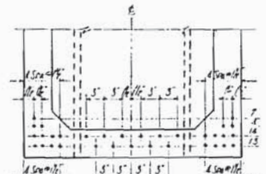

27' DEPTH – 52' CLEAR SPAN
31 STRANDS

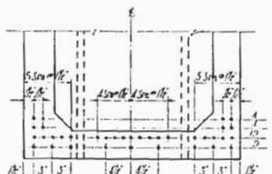

27' DEPTH – 54' CLEAR SPAN
32 STRANDS

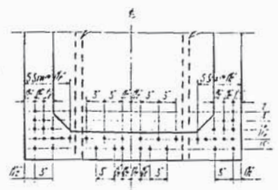

27' DEPTH – 56' CLEAR SPAN
35 STRANDS

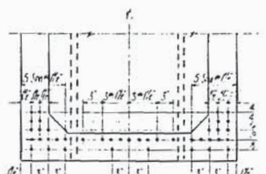

33' DEPTH – 58' CLEAR SPAN
29 STRANDS

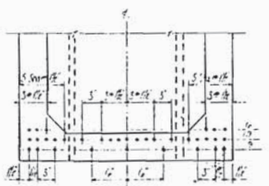

33' DEPTH – 60' CLEAR SPAN
31 STRANDS

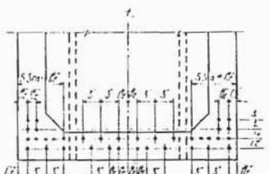

35' DEPTH – 62' CLEAR SPAN
33 STRANDS

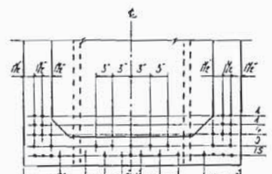

35' DEPTH – 64' CLEAR SPAN
36 STRANDS

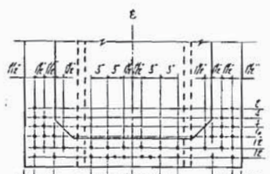

35' DEPTH – 66' CLEAR SPAN
38 STRANDS

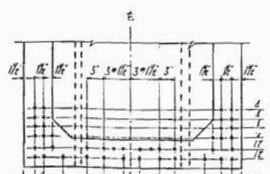

35' DEPTH – 68' CLEAR SPAN
41 STRANDS

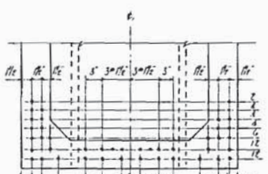

42' DEPTH – 70' CLEAR SPAN
34 STRANDS


42' DEPTH – 72' CLEAR SPAN
36 STRANDS


42' DEPTH – 74' CLEAR SPAN
38 STRANDS


42' DEPTH – 76' CLEAR SPAN
40 STRANDS


42' DEPTH – 78' CLEAR SPAN
42 STRAND


42' DEPTH – 80' CLEAR SPAN
44 STRANDS

OBSOLETE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

STANDARD
PRESTRESSED CONCRETE BRIDGE

DETAILS FOR REQUIRED PRESTRESSING PATTERNS

CLEAR SPANS 14'-0" - 80'-0"
28'-0" ROADWAY - WITH SAFETY CURBS
1958

F-10-85A

CORRECT Fred Groves
BRIDGE ENGINEER

APPROVED Charles D. McFarland
STATE HIGHWAY ENGINEER

F-10-85A

CHECKED BY
DRAWN BY A. Burke DATE 3-13-58
TRACED BY B. Burke DATE 3-17-58
CHECKED BY DATE