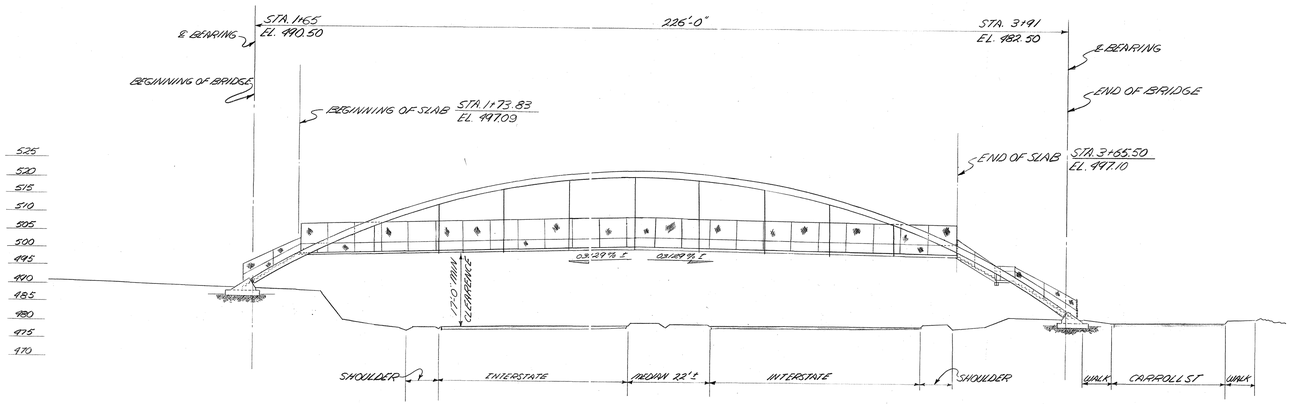
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40.9(23)209	19		

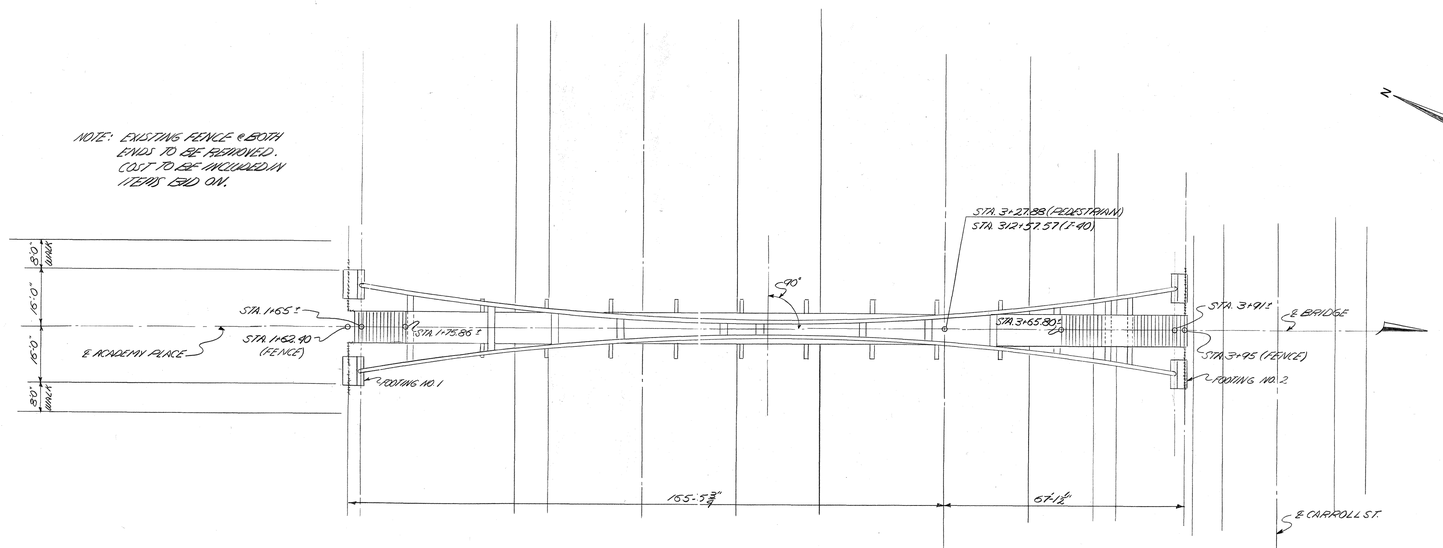
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	19-MAR-68	F.A.W.	ACCEPTANCE AND NOTE ADDED.
2	3-5-69	J.L.S.	FIELD REVISIONS

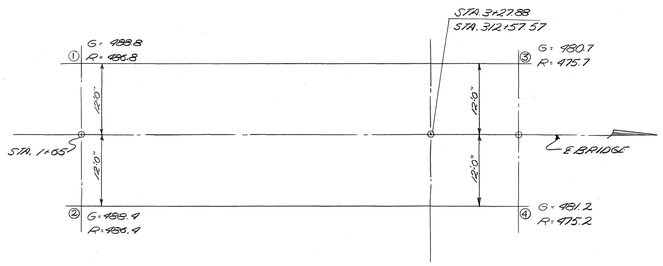


~ELEVATION~

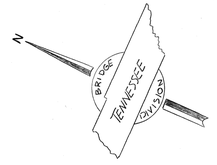
NOTE: EXISTING FENCE @ BOTH ENDS TO BE REMOVED. COST TO BE INCLUDED IN ITEMS BELOW.



~PLAN~



SOUNDING SKETCH NOTE: G = GROUND R: ROCK



~ESTIMATED QUANTITIES~

ITEM	EXCAVATION (UNCL) CU. YDS	EXCAVATION ROCK CU. YDS.	CONCRETE CLASS "A" CU. YDS	REINFORCING STEEL LBS. ①	STEEL ② STRUCTURES LUMP SUM	ROCK DRILLING LIN. FT.	LINSEED OIL TREATMENT SQ. YDS.	9'0 GALVANIZED FENCE & SUPPORTS LIN. FT. ③	PIPE HAND RAIL LIN. FT. ④	6'0 GALVANIZED FENCE & SUPPORTS LIN. FT. ④
SUPERSTRUCTURE			35.7	6,601			192			
FOOTING NO. 1	16	1	6.9	772		12				
FOOTING NO. 2	46	2	13.9	1,922		12				
TOTAL	(62)	3	(55.6)	(9,795) ②	②	24	192	382 ③	476 ④	94 ④

(78) (78.5) ⚠2

① REINFORCING STEEL INCLUDES 1,620.50 FT. OF 6'X6'-9/9 WIRE FABRIC. (10,952) ⚠2

② LUMP SUM: TOTAL ESTIMATED WEIGHT STRUCTURAL STEEL 20,232 LBS. INCLUDES SHEAR CONNECTORS, CLEVISES, HANGER RODS AND STEPS.

③ INCLUDES STEEL BASE PLATES, ALUMINUM MACHINE BOLTS, MACHINE BOLT IRON EXPANSION SHIELD AND ALL ITEMS NECESSARY FOR INSTALLATION.

④ INCLUDES ALL NECESSARY ITEMS FOR INSTALLATION.

⚠1 NOTE: Cost of Neoprene pads to be included in items bid on.

~GENERAL NOTES~

SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways.
DESIGN CRITERIA: Design Criteria for Pedestrian Bridges over Interstate.

LOADING: Sidewalk.
CONCRETE: To be Class "A"
REINFORCING STEEL: To be Intermediate or Hard Grade. Standard hook details as recommended by C.R.S.I. shall apply.
STRUCTURAL STEEL: See notes on dwg. no. K-72-8
DESIGN SPECIFICATIONS: A.A.S.H.O 1965
WELDING: See Special Provision regarding Welded Structures.
HIGH STRENGTH BOLTS: See notes on dwg. no. K-72-8
RADIOGRAPHIC AND MAGNETIC PARTICAL INSPECTION: See Special Provisions regarding Welded Structures.
GALVANIZED FENCE: See dwg no. K-72-9
PAINT: Basic Lead Silico Chromate. See Special Provisions regarding Section 132 Steel Structures (Painting)
SHOP INSPECTION OF STEEL STRUCTURES: The Contractor, as soon as he receives his work orders, shall notify the Bridge Engineer, in writing, who will supply the structural steel and the location of the plant where it will be fabricated.
APPROVAL OF MATERIALS: No fabrication shall be started until the materials involved have been approved by the TENNESSEE HIGHWAY DIVISION OF TESTS.
STUD SHEAR CONNECTORS: SEE A.A.S.H.O. Specifications 2.10.3 and 2.10.23.
IDENTITY OF MAIN MATERIALS: Heat numbers on main material must be preserved or transferred during fabrication and shop painting so that they will be identifiable in the field.
DESIGN BEARING PRESSURE = 5 KSF.
⚠1 NEOPRENE PADS: See Special Provisions.

~FOUNDATION NOTE~

After excavating to the elevations shown; holes 6 ft. deep shall be drilled at points designated by the engineer and from the results obtained the engineer shall determine the final footing elev. NO SUBSTRUCTURE STEEL shall be ordered until final footing elevations have been established.

~LIST OF DRAWINGS~

LAYOUT OF BRIDGE ____ K-72-7
ARCH GEOMETRY & DETAILS ____ K-72-8
DETAILS ____ K-72-9
FRAMING PLAN ____ K-72-10

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGE
PEDESTRIAN OVERPASS OVER I-40
STATION 312+57.57
DAVIDSON CO.
1968

CORRECT _____ BRIDGE ENGINEER

APPROVED _____ STATE HIGHWAY ENGINEER

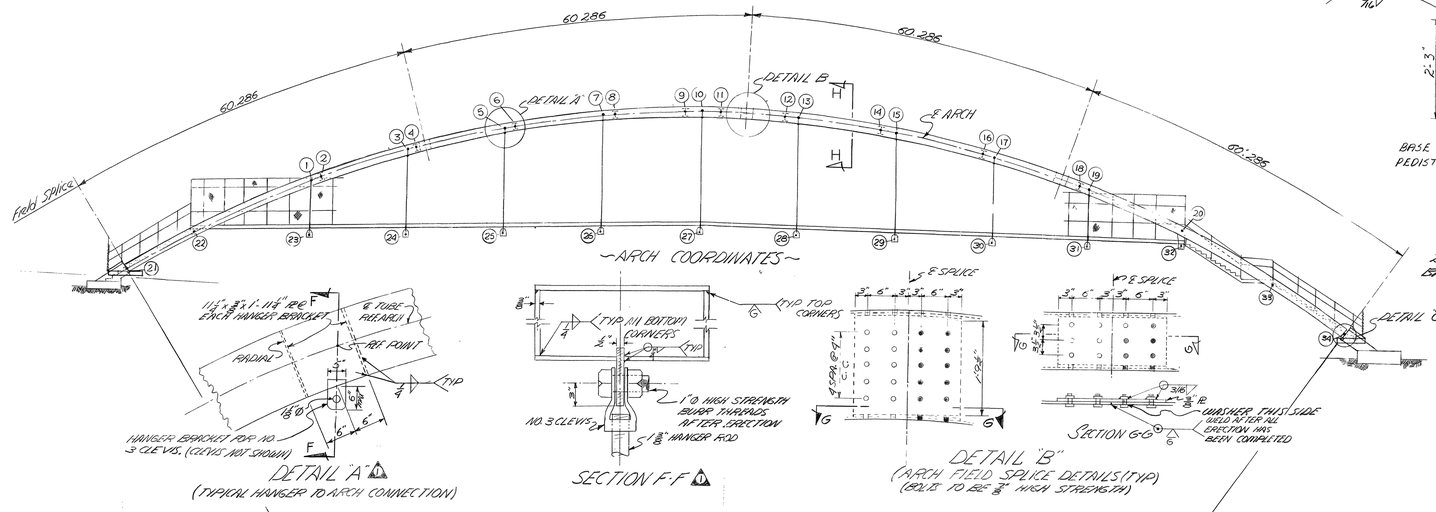
DESIGNED BY C.M. NILES DATE NOV. 67
DRAWN BY T.A. UTLEY DATE DEC. 67
TRACED BY _____ DATE _____
CHECKED BY _____ DATE JAN 68

K-72-7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	F-40-4(28)209	19	1	

REVISIONS

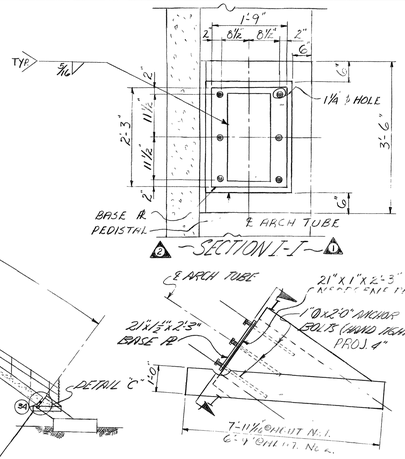
NO.	DATE	BY	BRIEF DESCRIPTION
1	13-MAY-68	T.H.U.	WELDING SYMBOLS CHANGED, DIMENSIONS ADDED, STEEL QUANTITIES REVISED.
2	3-5-69	J.L.S.	FIELD REVISIONS



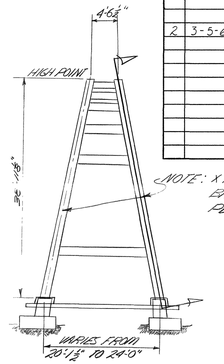
~DETAIL "A"~ ⚠1
(TYPICAL HANGER TO ARCH CONNECTION)

~SECTION F-F~ ⚠1

~DETAIL "B"~
(ARCH FIELD SPLICE DETAILS (TYP.)
(BOLTS TO BE ⅞" HIGH STRENGTH)

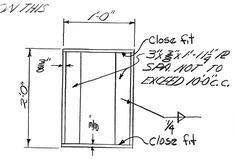


⚠2 ~DETAIL "C"~



~END ELEV.~ ⚠1

NOTE: XY COORDINATE BASED ON THE PLANE.



SECTION H-H
(ARCH TUBE CROSS SECTION)

~POINT COORDINATE TABLE~

POINT	X	Y	POINT	X	Y
1	27.359	23.003	18	185.097	29.000
2	29.621	29.000	19	187.359	23.003
3	47.359	30.687	20	200.167	16.687
4	49.621	31.901	21	0.000	8.000
5	67.359	35.987	22	9.100	13.667
6	69.621	36.996	23	27.359	14.236
7	87.359	39.097	24	47.359	14.862
8	89.621	39.317	25	67.359	15.488
9	109.621	40.109	26	87.359	16.113
10	107.359	40.123	27	107.359	16.739
11	110.097	40.109	28	127.359	16.113
12	125.097	39.317	29	147.359	15.488
13	127.359	39.097	30	167.359	14.862
14	145.097	38.996	31	187.359	14.236
15	147.359	35.987	32	200.167	13.767
16	165.097	31.901	33	216.774	6.658
17	167.359	30.687	34	226.000	0.000

℄ ARCH EQUATION $(x-107.35863)^2+(y+185.34639)^2=195.48954^2$

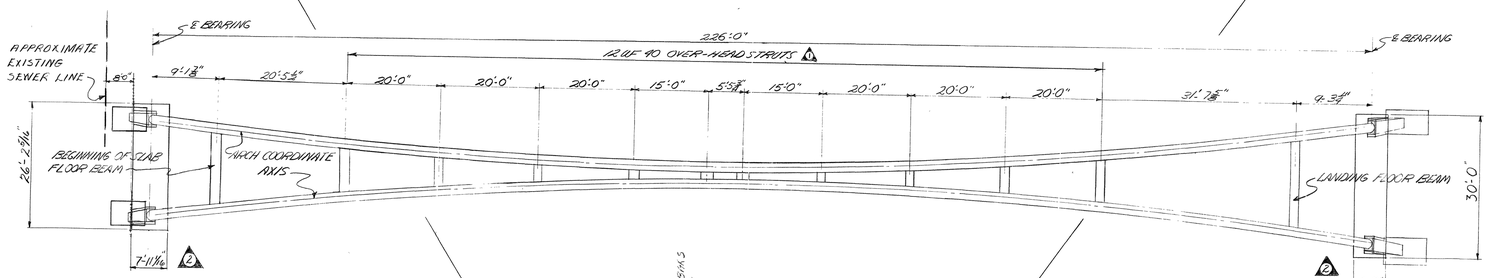
~STRUCTURAL STEEL NOTES~

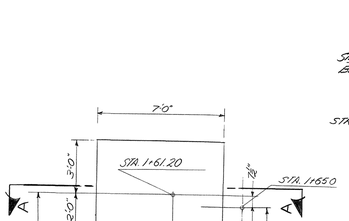
STRUCTURAL STEEL SHALL CONFORM TO ASTM-A36 UNLESS OTHERWISE NOTED.

FIELD CONNECTIONS SHALL BE ⅞"Ø HIGH TENSILE STRENGTH BOLTS ASTM A325 UNLESS OTHERWISE SHOWN, SEE AASHO. SPECS. ART. 2.10.20. ALL CONNECTIONS ARE FRICTION TYPE.

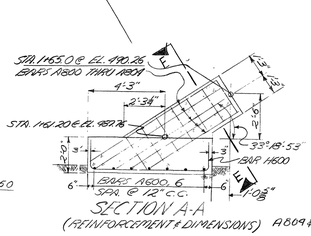
WELDING & RWS CURRENT SPEC. AND SPECIAL PROVISION REGARDING WELDED STRUCTURES. THE COST OF RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION IS TO BE INCLUDED IN THE PRICE BID FOR STRUCTURAL STEEL.

PAINT & BASIC LEAD SILICO CHROMATE. SEE SPECIAL PROVISION. NO SHOP PAINT SHALL BE APPLIED TO ANY POINT OF FIELD WELDED OR BOLTED CONNECTION. SPLICES AND OTHER FIELD CONNECTIONS SHALL BE CLEANED AND PRIMED BEFORE FORMING SLAB.

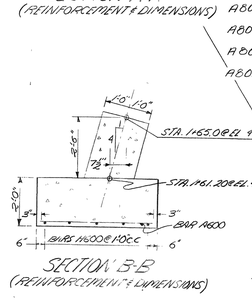




FOOTING PLAN NO. 1

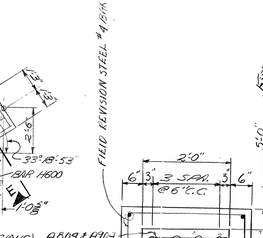


SECTION A-A
(REINFORCEMENT & DIMENSIONS)

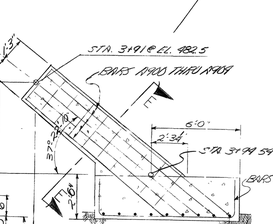


SECTION B-B
(REINFORCEMENT & DIMENSIONS)

FIELD REVISION STEEL #4 BARS



SECTION E-E
(Typical)
A800 & A900

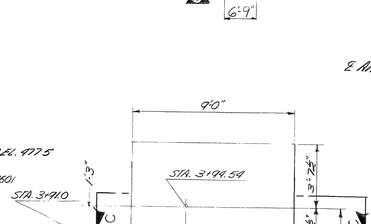


SECTION D-D
(REINFORCEMENT & DIMENSION)

70° 41' 03.2

PAVING = 195.970
X = 107.359
Y = -155.346

NOTE: XY COORDINATE BASED ON ARCH AXIS.



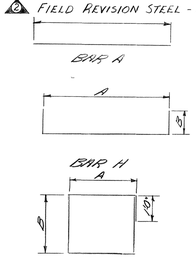
FOOTING PLAN NO. 2

NOTE: DURING EXCAVATION OF FOOTING CARE SHALL BE TAKEN AS NOT TO DAMAGE EXISTING SEWER LINE

~BILL OF STEEL FOR FOOTING~ ⚠1

FOOTING NO. 1						FOOTING NO. 2					
BAR	SIZE	NO	DIMENSION A	DIMENSION B	LENGTH	BAR	SIZE	NO.	DIMENSION A	DIMENSION B	LENGTH
A600	6	14			4'-6"	A801	6	18			5'-6"
A800	8	8			9'-3"	A900	9	8			13'-4"
A801	8	4			8'-6"	A901	9	4			12'-8"
A802	8	4			7'-9"	A902	9	4			12'-0"
A803	8	4			7'-0"	A903	9	4			11'-4"
A804	8	8			6'-3"	A904	9	8			10'-8"
A500	6	10	6'-6"	1'-0"	8'-6"	A601	6	12	8'-6"	1'-0"	10'-6"
L900	9	14	1'-8"	2'-2"	8'-6"	L900	9	20	1'-8"	2'-2"	8'-6"

⚠2 FIELD REVISION STEEL - NO. 4 BARS, TOTAL LBS. 2,184.36



STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ARCH GEOMETRY & DETAILS
PEDESTRIAN OVERPASS OVER I-40
STATION 312+57.57
DAVIDSON CO.
1968

DESIGNED BY C.W. HILLES DATE NOV. 67
DRAWN BY T.A. UTLEY DATE DEC 67
TRACED BY DATE
CHECKED BY DATE JAN 68

CORRECT _____ BRIDGE ENGINEER
APPROVED _____ STATE HIGHWAY ENGINEER

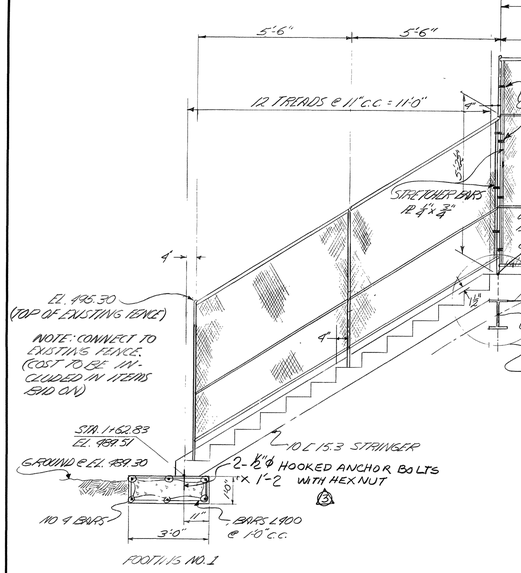
4-72-8

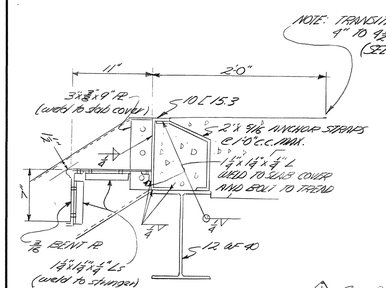
STATE LIBRARIES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I40-1(23)209	19		

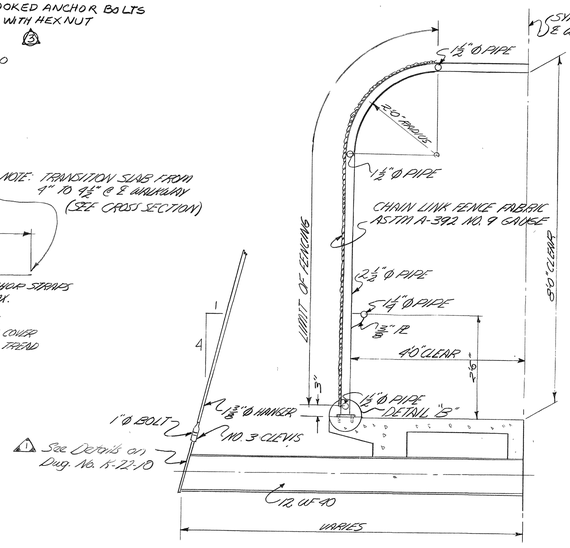
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	13-MAR 68	T.A.U.	DIMENSIONS CHANGED, WEIR SYMBOL CHANGED, NOTE CHANGED.
2	20 May 68	C.M.H	Add Field Weld Size
3	19 July	C.M.H	Added Step Anchor Bolt Details
4	5 Sept 68	C.M.H	Rev. Slab Cantilever

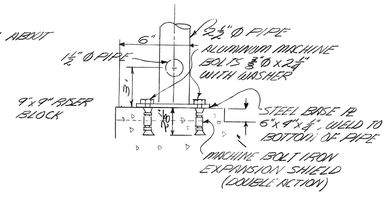




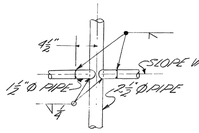
DETAIL "A" (ELEV)



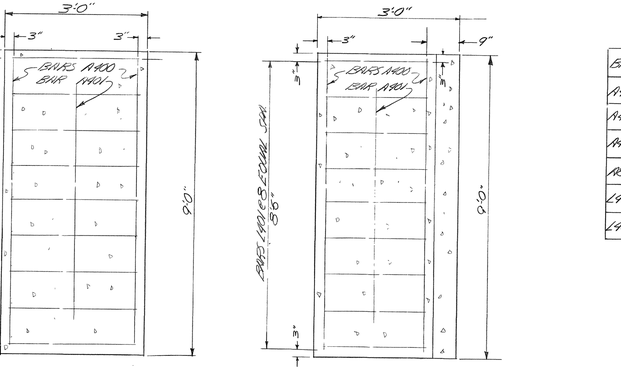
SECTION A-A



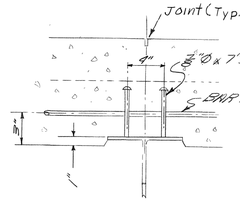
DETAIL "B"



LONGITUDINAL PIPE CONNECTION



SLAB HALF CROSS SECTION @ FLOOR BEAMS

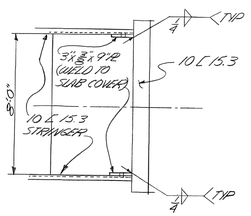


SLAB SECTION (OVER BEAM)

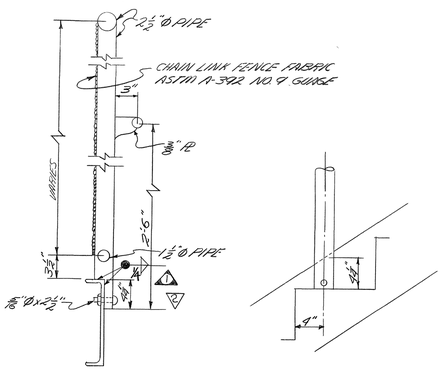
⚠ NOTE: STAIR TREADS AND LANDINGS TO BE RAISED PATTERN SURFACE BOLTED TO RISERS FRONT AND BACK AND TO CARRIER ANGLES. RISERS TO BE ⅜" BENT PLATES BOLTED TO CARRIER ANGLES. BOLTS TO BE ⅝" STOVE BOLTS @ 1'0" C.C. MAXIMUM.

-GALVANIZED FENCE AND SUPPORTS-

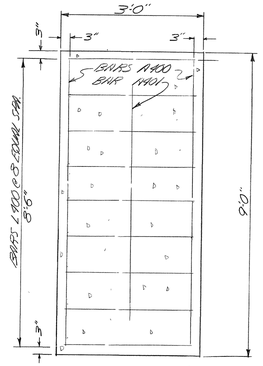
CHAIN LINK FENCE FABRIC, CONFORMING TO ASTM A-392, SHALL BE NO. 9 GAGE WIRE WOVEN IN A 2" MESH AND GALVANIZED AFTER WEAVING WITH A CLASS B ZINC COATING. GALVANIZED STEEL PIPE POSTS AND FENCE SUPPORTS SHALL CONFORM TO ASTM A-53, GRADE B, TYPE E OR S. ASTM A-36 STEEL SHALL BE USED FOR ALL STRUCTURAL STEEL AND HARDWARE, AND AFTER FABRICATION, SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AND A-153. ALL WELDING AND ERECTION DAMAGE TO THE GALVANIZING SHALL BE RESTORED WITH MATERIAL THAT CONFORMS TO MILITARY SPECIFICATION MIL-P-21035 (SHIP).



DETAIL "A" (PLAN)



SECTION B-B



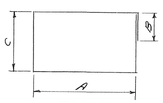
FOOTING NO. 1

FOOTING NO. 2

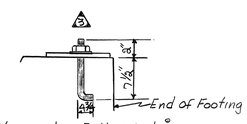
-BILL OF STEEL-

BAR	SIZE	NO	DIMENSION A	B	C	LENGTH
A900	4	8				8'6"
A401	4	9				7'10"
A402	4	766				2'0"
A800	8	95				40'0"
L900	4	9	2'8"	6"	9"	7'9"
L401	4	9	2'2"	6"	9"	6'9"

BAR A



BAR L



"Step Anchor Bolt Details" (Two at each End)

DESIGNED BY C.M. HILLES DATE NOV. 67
DRAWN BY T.A. UTLEY DATE DEC. 67
TRACED BY DATE
CHECKED BY DATE JAN 68

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DETAILS
PEDESTRIAN OVERPASS OVER I-40
STATION 312+57.57
DAVIDSON CO.
1968

CORRECT _____ BRIDGE ENGINEER

APPROVED _____ STATE HIGHWAY ENGINEER

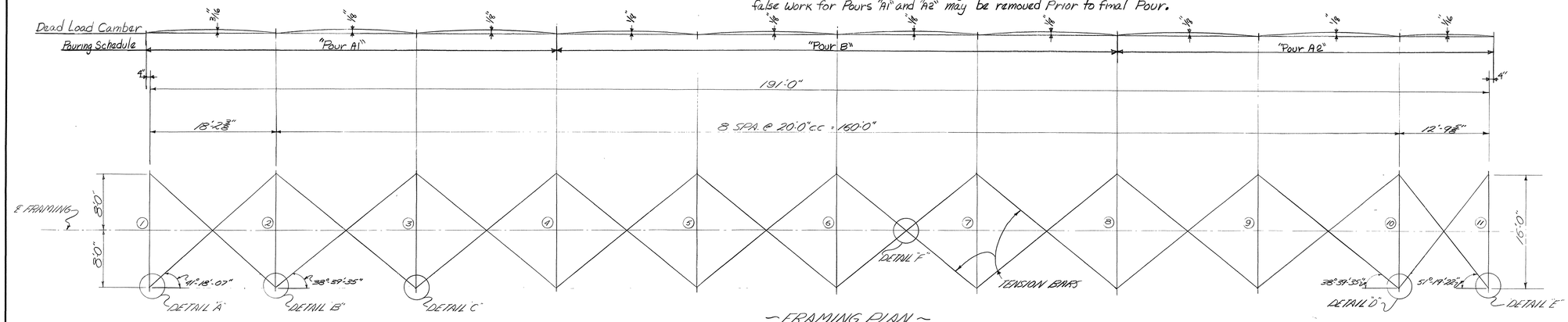
K-72-9

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-4(23)209	19		

REVISIONS

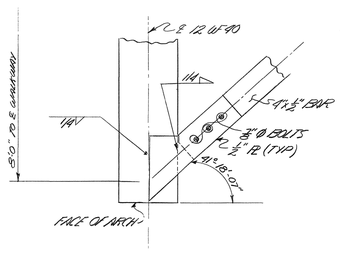
NO.	DATE	BY	BRIEF DESCRIPTION
1	17 JUNE 68	T.H.H.	ARCH CONNECTION DETAIL CHANGED, WELDING SYMBOLS CHANGED, ADDED OR DELETED, IR THICKNESS SHOWN.
2	20 May 68	C.M.H.	U bolt dimension & 11323 dim. Side CC
3	5 Sept 68	C.M.H.	Pouring Schedule & Camber Curve Add

Note: All false work within each Pouring Schedule must be Placed and removed Symmetrically about Center of Arch. false work for Pours "A1" and "A2" may be removed Prior to final Pour.

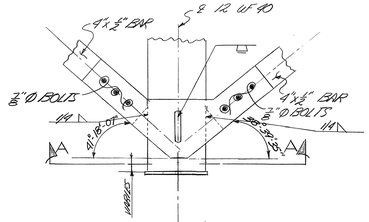


~ FRAMING PLAN ~

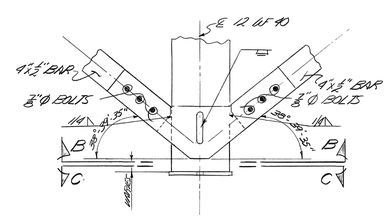
NOTE: TENSION BARS TO ABOVE BENEATH STRINGER BEAMS. STRAP TO CENTER STRINGER. (SEE DETAIL "F")



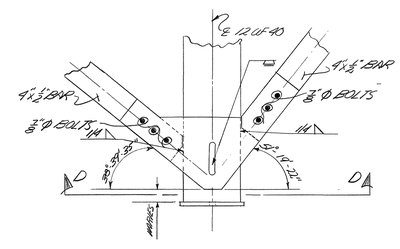
~ DETAIL "A" ~ ⚠1



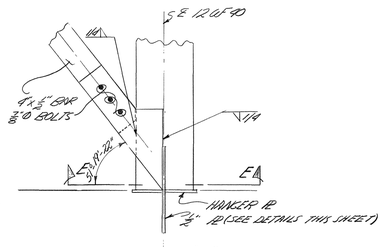
~ DETAIL "B" ~



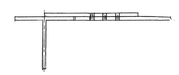
~ DETAIL "C" ~



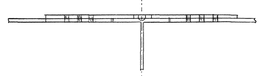
~ DETAIL "D" ~



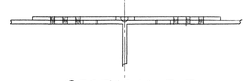
~ DETAIL "E" ~



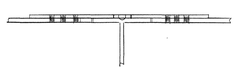
~ EL. DETAIL "A" ~



~ SECTION A-A ~

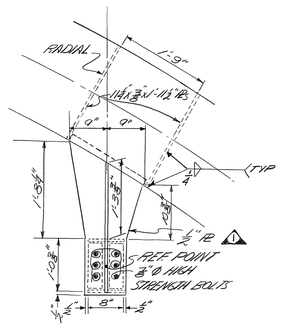


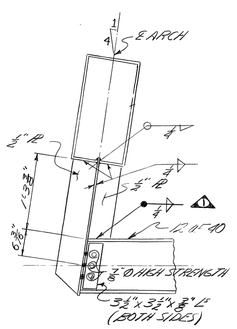
~ SECTION B-B ~



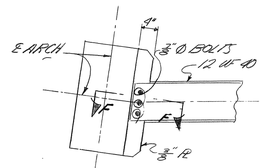
~ SECTION D-D ~

~ SECTION E-E ~

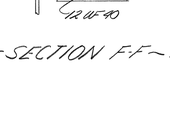




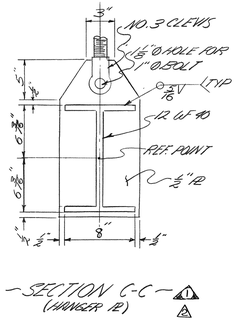
~ END OF SLAB FLOOR BEAM TO HANGER CONNECTION ~



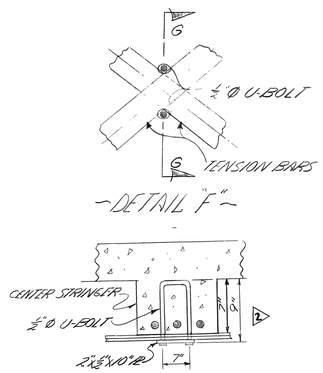
~ FLOOR BEAM & OVERHEAD STRUT TO ARCH CONNECTION ~



~ SECTION F-F ~ ⚠1



~ SECTION C-C ~ ⚠1 ⚠2
(HANGER IR)



~ DETAIL "F" ~

~ SECTION G-G ~

~ FLOOR BEAM LENGTHS ~

NO.	LENGTH	NO	LENGTH
1	16'-9 5/8"	7	17'-11 1/4"
2	17'-0"	8	17'-7 1/2"
3	17'-3 3/4"	9	17'-3 3/4"
4	17'-7 1/2"	10	17'-0"
5	17'-11 1/4"	11	16'-9 5/8"
6	18'-3"		

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

FRAMING PLAN & DETAILS
PEDESTRIAN OVERPASS OVER I-40
STATION 312+57.57
DAVIDSON CO
1968

DESIGNED BY C.M. HILES DATE NOV. 67
DRAWN BY T.A. UTLEY DATE DEC. 67
TRACED BY DATE
CHECKED BY DATE JAN 68

CORRECT _____ BRIDGE ENGINEER
APPROVED _____ STATE HIGHWAY ENGINEER

K-72-10