DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-10-2024				6	ARK.			
				JOB NO.		040899	1	39

① HWY. 64 ARKANSAS RIVER BRIDGE PAINTING (S)

ARKANSAS DEPARTMENT OF TRANSPORTATION

BRIDGE OPERATIONS PLANS

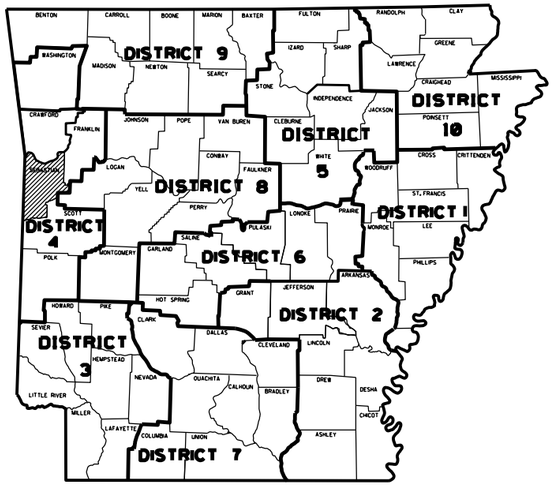
HWY. 64 ARKANSAS RIVER BRIDGE PAINTING (S)

SEBASTIAN COUNTY

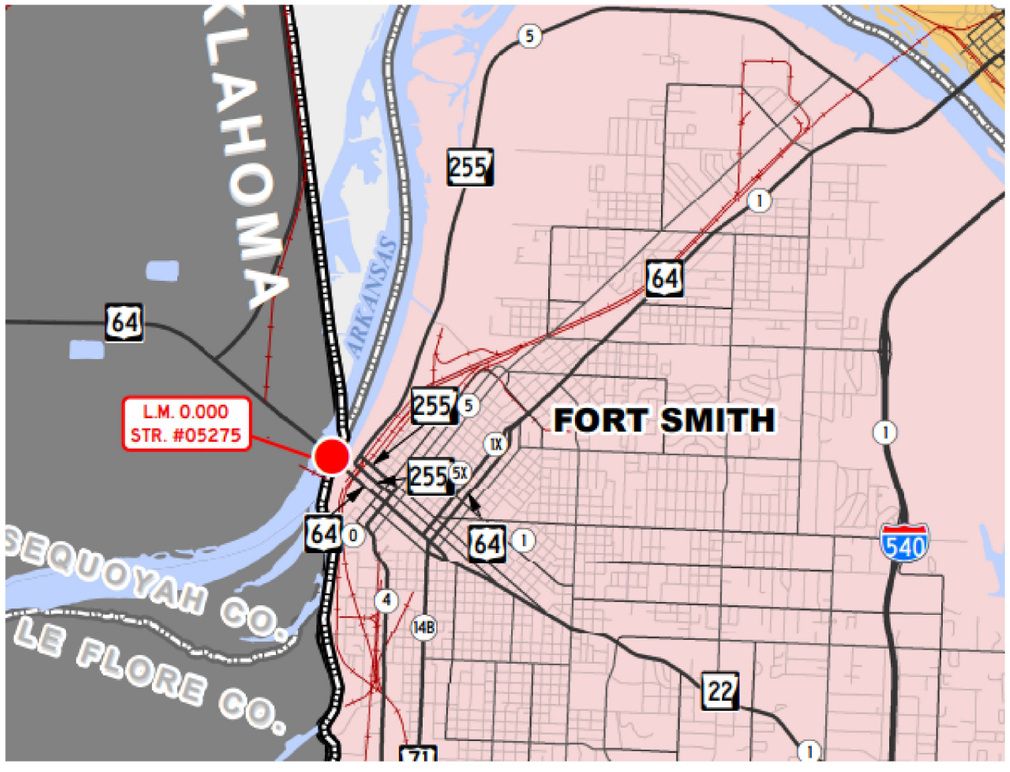
ROUTE 64 SECTION 0

JOB 040899

FEDERAL AID PROJ. ACNHPP-0065(73)



ARKANSAS HIGHWAY DIST. 4



N

RAILROAD DATA:

HWY 64 REPAINTING
AAR\DOT# 434513Y / 434512S
RR MP: 507.83/507.82

BRIDGE DATA:

1 BRIDGE NO. 05275
US 64, SEC. 0, LM 0.000
3087' CONTINUOUS WELDED STEEL GIRDER SPANS
WITH DUAL 29'-10" CLEAR ROADWAYS.
LAT. 35.39535 LONG. -94.43729

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	2	39
				INDEX OF SHEETS				

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS
3	STANDARD DRAWINGS AND GOVERNING SPECIFICATIONS
4	RAILROAD GENERAL NOTES
5 - 6	RAILROAD RIGHT-OF-WAY
7	QUANTITIES AND GENERAL NOTES
8	SUMMARY OF QUANTITIES AND REVISIONS
9	BRIDGE PICTURES - FOR INFORMATION ONLY
10	LAYOUT OF BRIDGE NO. 05275- FOR INFORMATION ONLY
11 - 39	DETAILS OF SUPERSTRUCTURE - BRIDGE NO. 05275- FOR INFORMATION ONLY

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	3	39
				D	STD. DWGS. & GOV. SPECS.			

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273_	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273_	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273_	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273_	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
102-3_____	PREQUALIFICATION OF BIDDERS
103-2_____	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4_____	MAINTENANCE DURING CONSTRUCTION
107-2_____	RESTRAINING CONDITIONS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
306-1_____	QUALITY CONTROL AND ACCEPTANCE
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
JOB 040899_	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB 040899_	BIDDING REQUIREMENTS AND CONDITIONS
JOB 040899_	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 040899_	CARGO PREFERENCE ACT REQUIREMENTS
JOB 040899_	COAST GUARD APPROVAL OF CONSTRUCTION METHOD
JOB 040899_	CONTAINMENT SYSTEM
JOB 040899_	CONTRACTOR CERTIFICATION
JOB 040899_	COORDINATION OF WORK
JOB 040899_	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 040899_	INSPECTOR'S PERSONAL PROTECTION CLOTHING
JOB 040899_	INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (A&M)
JOB 040899_	INSURANCE, CONSTRUCTION, NOTICE TO PROCEED AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (FSR)
JOB 040899_	INSURANCE, CONSTRUCTION, NOTICE TO PROCEED AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (UPRR)
JOB 040899_	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 040899_	MAINTENANCE OF TRAFFIC
JOB 040899_	MANDATORY ELECTRONIC CONTRACT
JOB 040899_	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 040899_	NESTING SITES OF MIGRATORY BIRDS
JOB 040899_	PAINT CONTRACTOR LABEL
JOB 040899_	PARTNERING REQUIREMENTS
JOB 040899_	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 040899_	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 040899_	UTILITY ADJUSTMENTS
JOB 040899_	VALUE ENGINEERING

ROADWAY STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
TC-1____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

STANDARD DRAWINGS AND GOVERNING SPECIFICATIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	4	39

RAILROAD GENERAL NOTES

SCHEDULING RR SIGNAL DIG LOCATES (SDL) - Prior to entering into, or working within, above, below, adjacent to, or within reach or potential to foul (Equipment with extendable, or fixed boom lengths that by distance from the ROW could enter into) the Railway's right-of-way, the roadway contractor will need to contact the local railroad to request railroad signal cable locates since the railroad cables are not part of the 811 one call system. Additionally, contractor must call and request utility locates through the 811 state locate system prior to commencing any work. Please note that local city, county, state may not be part of the 811 locate system and must be contacted independently to ensure all utilities are properly located before commencing any work.

SCHEDULING RR WATCHMAN/FLAGGER - Prior to entering into, or working within, above, below, adjacent to, or within reach or potential to foul (Equipment with extendable, or fixed boom lengths that by distance from the ROW could enter into) the Railway's right-of-way, the roadway contractor will need to Schedule a RR Flagger to be present during all roadway contractor / subcontractor activities within or adjacent to the Railroad right of way and corridor. To schedule a RR Flagger contractor must complete and submit the Railroad Flagging Request form (to be provided as attachment) The flagger must be scheduled a minimum of two weeks in advance of the start date for the work. To maintain a safe working environment, a flagger will have to be present anytime the roadway contractor(s) are working within or adjacent to the Railway's right-of-way. The roadway contractor will need to provide proof of insurance in the amounts required by the Railroad at the time of construction. Additionally, the use of Personal Protection Equipment (PPE) will be required by all Roadway contractors working on the Railway's right-of-way. PPE includes the following items:

- Hard Hat with reflective band.
- Safety Glasses with side protection.
- Safety vest with reflective striping.
- Steel toed boots with minimum 6" cuff and non-slip tread.
- Hearing protection as needed.

Due to the unknown schedule of the Roadway Authority's Contractor, it is not possible to estimate the time a Watchman will be required. Watchman services are charged on a "Per Day" rate and invoiced directly to the Roadway Authority at the completion of the project. As information, the cost for a watchman is approximately as shown in the below chart:

DAILY FLAT RATE **Flat rate for shifts up to 10 hours, during normal working hours of 5:00am till 4:00pm Monday to Friday. After 10 hours, time will be charged in one-hour increments at the overtime rate.**	**0-10 HOURS**		**OVERTIME RATE**
	$1,800.00	**WEEKDAY**	**$270.00/HOUR**
	$2,700.00	**SATURDAY**	**$405.00/HOUR**
	$2,700.00	**SUNDAY**	**$405.00/HOUR**
ALTERNATE SHIFT RATE **These rates apply when a job requires non-standard working hours. Non-standard hours begin at 4:00pm until 5:00am.**	**0-10 HOURS**		**OVERTIME RATE**
	$2,700.00	**WEEKDAY**	**$405.00/HOUR**
	$4,050.00	**SATURDAY**	**$607.50/HOUR**
	$4,050.00	**SUNDAY**	**$607.50/HOUR**
HOLIDAY SHIFT RATE **Railroad holidays include: New Year's Eve, New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve and Christmas Day**	**0-10 HOURS**		**OVERTIME RATE**
	$5,400.00	**HOLIDAY**	**$810.00/HOUR**

The Roadway Authority must estimate the number of days a Watchman will be required and budget for this cost.

The following items will apply to all work performed within Railway Property:

- All movements of equipment within Railway Property MUST be coordinated with the Railway Watchman.
- During Train Movements through the project location, Vehicles, Equipment, and Personnel WILL NOT be allowed to operate.
- Any damage caused by the Roadway Work to the Track or Railway Property will require repair immediately upon notification from the Railway or their designated personnel or Contractor. If the damage affects the track, track structure, railway facilities, or train operations as determined by the railway, the repairs will be performed by the Railway at the Roadway Authorities expense including all associated costs of delays of the Railway.

The Roadway Authority, or designated Contractor, shall not be allowed to perform Temporary Lane Closures, Lane Shifts, or detour routes within the Railway right-of-way without prior plan approval (provide 45-60 days for review). Additionally no lane shift shall occur without prior authorization from the Railway's Signal Department personnel. The Roadway Authority will be required to contact the following Railway Personnel to coordinate this phase of the project a minimum of 60 days in advance.

John Holladay
Assistant Vice President, Engineering (Bridge and Signals)
Patriot Rail Company, LLC
10752 Deerwood Blvd
Jacksonville, Florida 32256
Office: 904-654-8225
Mobile: 904-654-8225
E-Mail: john.holladay@patriotrail.com

Derek Metts
Public Projects Engineer
Patriot Rail Company, LLC
10752 Deerwood Blvd
Jacksonville, FL 32256
Office: 904-265-6130
Mobile: 912-237-1928
Email: Derek.Metts@patriotrail.com

THE FOLLOWING MINIMUM TEMPORARY CLEARANCES SHALL BE MAINTAINED DURING CONSTRUCTION.

- Vertical - 23 feet above top of rail (ATR) (TEMPORARY).
- Horizontal -13 feet in tangent sections of track measured perpendicular to the track (TEMPORARY).
- Horizontal - 14 feet in curved sections of track measured perpendicular to the track (TEMPORARY).

Additional horizontal clearance may be required in certain cases to be safe for operating conditions. This additional clearance will be as determined by the Railroad Engineer.

The Railway reserves the right to comment/approve the Roadway Authority construction plans affecting the Railway property or facilities any time prior to the start of construction regardless if previous construction plan approval has been granted.

This reservation will be invoked only if the Railway has either by internal policy or mandate of law revised its standards as applicable to this project. The Railway shall notify the Roadway Authority of changes as far as possible in advance of construction.

The Roadway Authority shall, prior to the start of construction, verify with the Railway if any revisions to standards are applicable to this project.

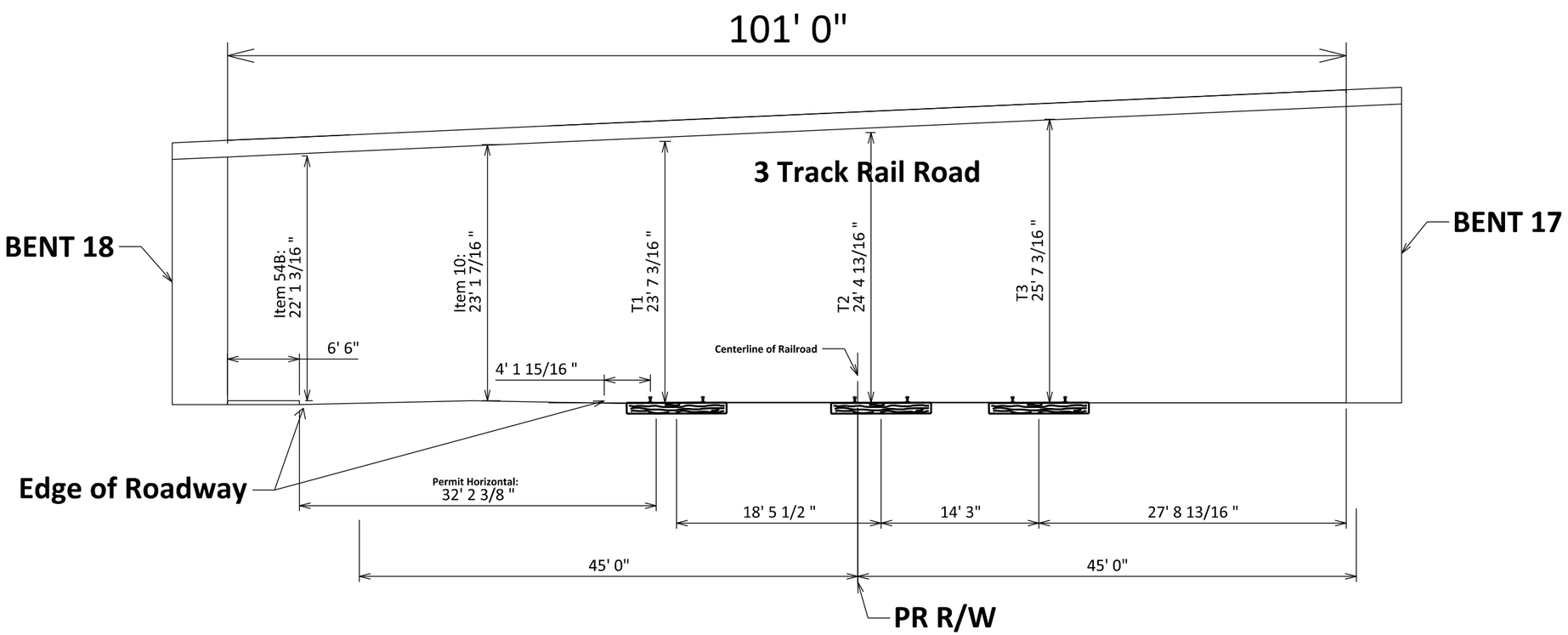
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	5	39
				RAILROAD RIGHT-OF-WAY				

Belle Point Dr

Looking Southwest

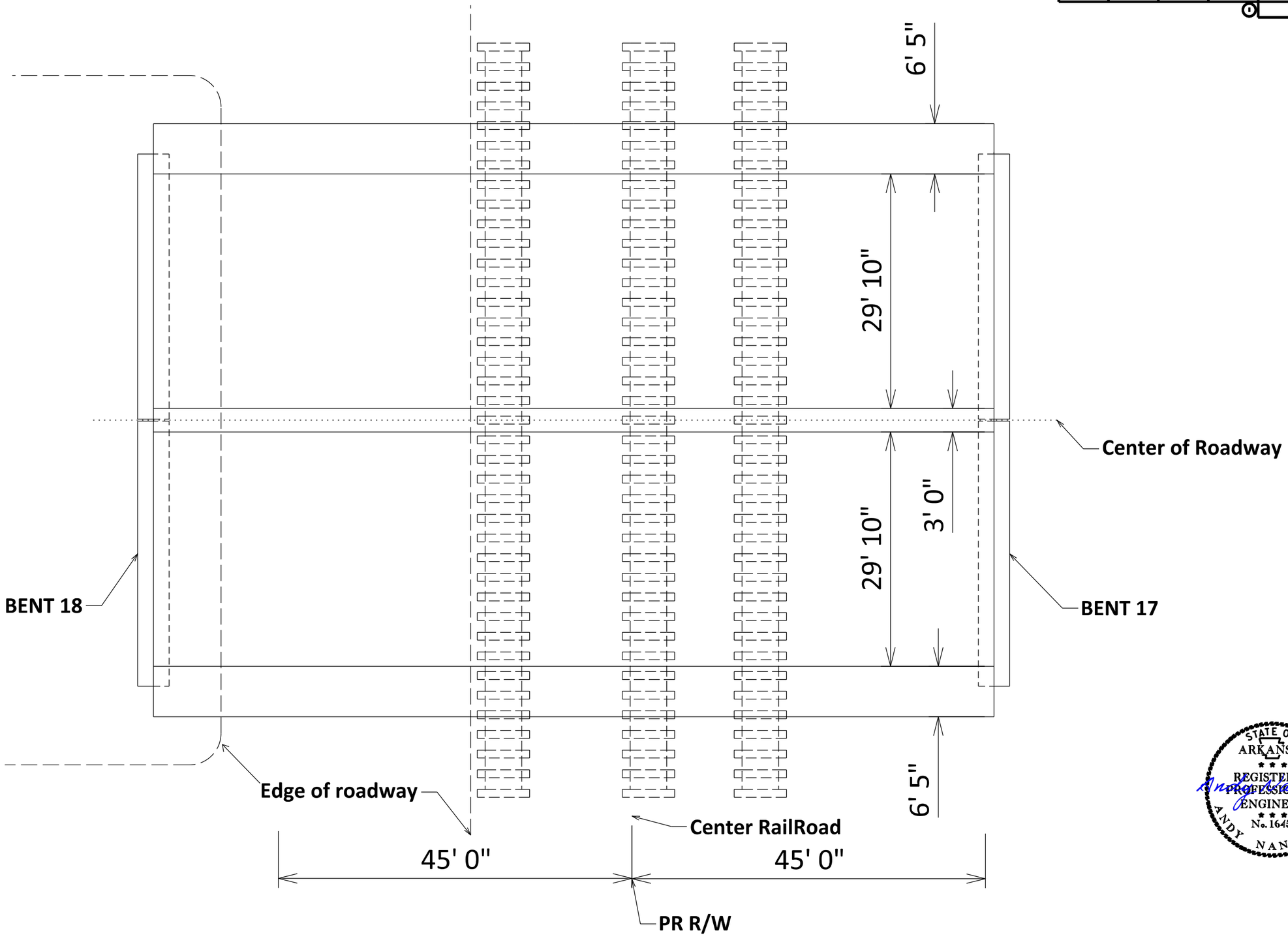


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	6	39

RAILROAD RIGHT-OF-WAY



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

RAILROAD RIGHT-OF-WAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	7	39
				QUANTITIES & GENERAL NOTES				

CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)

DESCRIPTION	QUANTITY	UNIT
BRIDGE NO. 05275	4438.3	TON
TOTAL:	4438.3	TON

**DISPOSAL OF HAZARDOUS WASTE (SITE NO. 1)

DESCRIPTION	QUANTITY NHPP-0065(73)	UNIT
BRIDGE NO. 05275	1.00	LUMP SUM

** POTENTIAL HAZARDOUS WASTE IN THE FORM OF LEAD PAINT DEBRIS WILL BE REMOVED FROM THIS STRUCTURE AND SENT TO AN APPROPRIATE TREATMENT FACILITY AS PER CODE OF FEDERAL REGULATIONS 40 CFR PART 260.

GENERAL NOTES

1. PAINT SYSTEM: SEE SECTION 807 AND 820 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
   PRIME COAT: ONE COAT OF INORGANIC ZINC, 3 MIL DFT MINIMUM UNLESS NOTED.
   INTERMEDIATE EPOXY TIE COAT: 2 MIL DFT MINIMUM
   FINISH COAT: ONE COAT URETHANE, 3 MIL DFT MINIMUM, GRAY - FEDERAL STANDARD 595B COLOR CHIP 26270
   MAXIMUM DFT FOR EACH COAT AS RECOMMENDED BY COATING MANUFACTURER.
2. ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF DUST OR OTHER OBJECTIONABLE MATTER.
3. CLEANING AND PAINTING OF BRIDGE SCAFFOLDING SYSTEM SHALL BE CONSIDERED SUBSIDIARY TO QUANTITY FOR CLEANING AND PAINTED EXISTING STRUCTURAL STEEL (TYPE II)
4. CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH THE LOCATION OF ALL UTILITIES ON THE BRIDGES BEFORE BIDDING.
5. UTILITIES ON BRIDGES SHOULD BE PROTECTED DURING THE CLEANING AND PAINTING OPERATION.
6. CONTAINMENT REQUIRED :

BRIDGE NUMBER	CLASS OF CONTAINMENT	MIGRATORY BIRDS
05275	3	YES

MOBILIZATION

DESCRIPTION	QUANTITY	UNIT
NHPP-0065(73)	1.00	LUMP SUM
TOTAL:	1.00	LUMP SUM

***MAINTENANCE OF TRAFFIC

DESCRIPTION	QUANTITY	UNIT
NHPP-0065(73)	1.00	LUMP SUM
TOTAL:	1.00	LUMP SUM

*** ALL TRAFFIC CONTROL DEVICES AND/OR PAVEMENT MARKINGS WILL BE PLACED IF AND WHERE DIRECTED BY THE ENGINEER. ALL ITEMS NECESSARY FOR TRAFFIC CONTROL IS SUBSIDIARY TO THE ITEM OF "MAINTENANCE OF TRAFFIC".

UPRR GENERAL CONSTRUCTION REQUIREMENTS:

1. ALL WORK WITHIN 25 FEET OF TRACK, OVER TRACK, OR WITH POTENTIAL TO FOUL TRACK REQUIRES UPRR FLAGMAN TO BE ON SITE.
2. ALL EQUIPMENT, CONSTRUCTION MATERIALS, AND PERSONNEL SHALL REMAIN OUTSIDE THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE, EXCEPT WHEN WITHIN PRE-DETERMINED TRACK CURFEWS.
3. ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT WITHIN 50 FEET DURING THE APPROACH AND PASSAGE OF A TRAIN.
4. EQUIPMENT SHALL NOT BE SUPPORTED BY THE TRACK BALLAST, SUB-BALLAST, TIES, OR RAILS AT ANY TIME.
5. STORAGE AND STAGING AREAS ARE PROHIBITED WITHIN UPRR RIGHT OF WAY, EXCEPT WITHIN PERMITTED ZONES SUCH AS EASEMENTS.
6. TEMPORARY TRACK CROSSINGS MUST BE APPROVED BY UPRR'S LOCAL OPERATING UNIT AND UPRR MANAGER OF PUBLIC PROJECTS PRIOR TO START OF CONSTRUCTION.
7. TRACK CROSSINGS AND USE OF UPRR ACCESS ROADS/HAUL ROADS MUST BE COORDINATED WITH UPRR'S LOCAL MANAGER OF TRACK
8. TEMPORARY DRAINAGE STRUCTURES AND/OR BMPS SHALL NOT DIRECT STORMWATER TOWARD UPRR TRACKS OR ACCESS ROADS.
9. UNATTENDED EXCAVATIONS WITHIN UPRR RIGHT OF WAY SHALL BE PROPERLY SECURED BY FENCING AND/OR COVERING(S) PER OSHA REQUIREMENTS.
10. FOR ANY CONSTRUCTION THAT INCLUDES HEAVY EQUIPMENT OR EXCAVATION, ALL UTILITIES WITHIN UPRR RIGHT OF WAY MUST BE IDENTIFIED AND MARKED PRIOR TO START OF CONSTRUCTION. UPRR CALL BEFORE YOU DIG: UP.COM/CBUD

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
0-10-2024				6	ARK.			
				JOB NO.		040899	8	39
				SUMMARY OF QUANTITIES & REVISIONS				

SUMMARY OF QUANTITIES

LOCATION			BRIDGE DATA		SP & 820	601	SP, SS, & 603	820
BRIDGE NUMBER	RT/SEC/ LOG MILE	COUNTY	ROADWAY WIDTH (FT)	BRIDGE LENGTH (FT)	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)	MOBILIZATION	MAINTENANCE OF TRAFFIC	DISPOSAL OF HAZARDOUS WASTE (SITE NO. 1)
					NHPP-0065(73)	NHPP-0065(73)	NHPP-0065(73)	NHPP-0065(73)
					TON	LUMP SUM	LUMP SUM	LUMP SUM
05275	64/0/0.000	SEBASTIAN	59.67	3087	4438.3	1.00	1.00	1.00

REVISIONS

DATE	REVISION	SHEET NO.
10/10/2024	ADDED SECTION 0 TO TITLE SHEET	1 & 8

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16451
ANDY NANNEMAN

Andy Nanneman

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040899	9	39

BRIDGE PICTURES

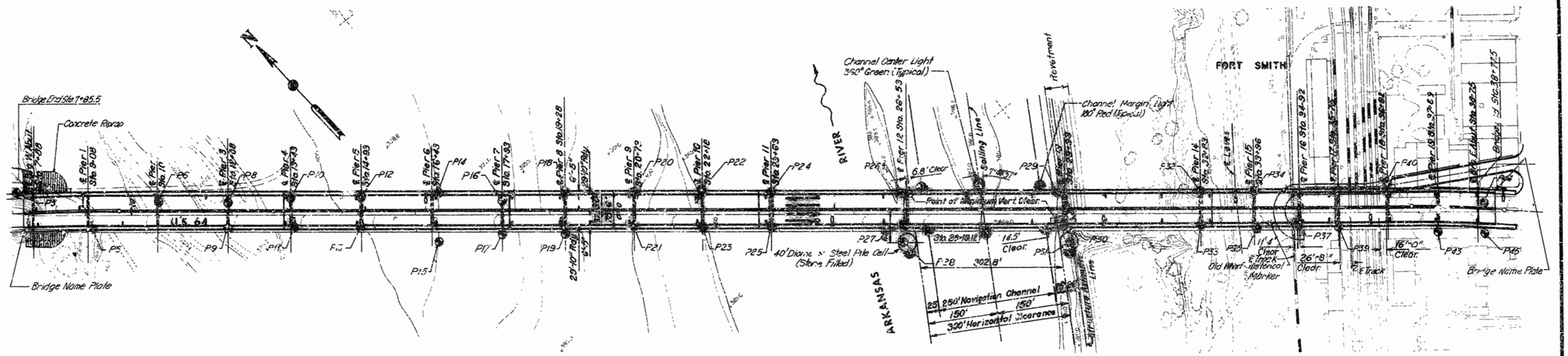
BRIDGE NO. 05275

FOR INFORMATION ONLY
BRIDGE PICTURES

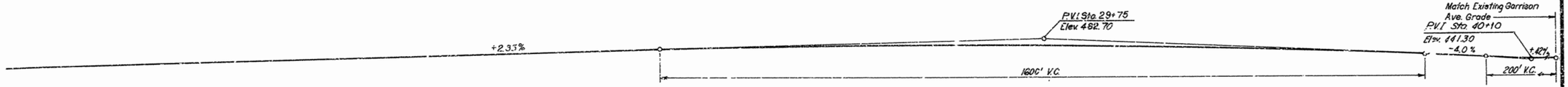
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	1	127

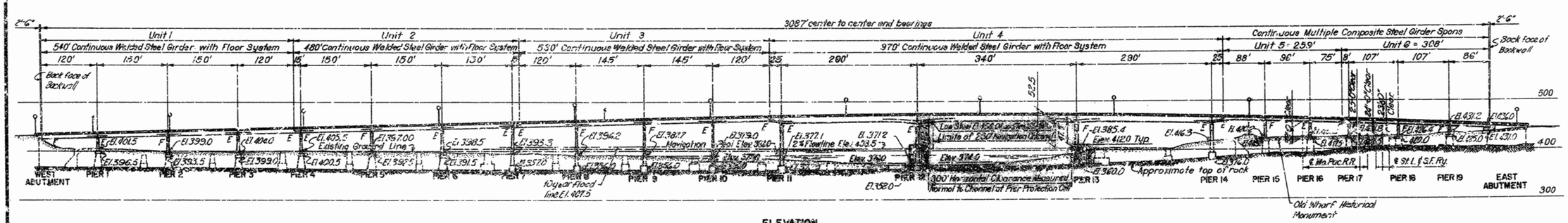
① GEN. PLAN & ELEVATIONS



PLAN



PROFILE GRADE



ELEVATION

Note:
Existing substructure units between new piers 9 and 15 shall be removed to the elevations shown. All other substructure units west of the Fort Smith levee shall be removed to existing ground line. Existing substructure units east of the Fort Smith levee shall be removed to one foot below existing ground.

Test Borings
Light Standards
Floor Drains
Overhead Signs

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
CRAWFORD COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

GENERAL PLAN AND ELEVATION

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS — HNTB

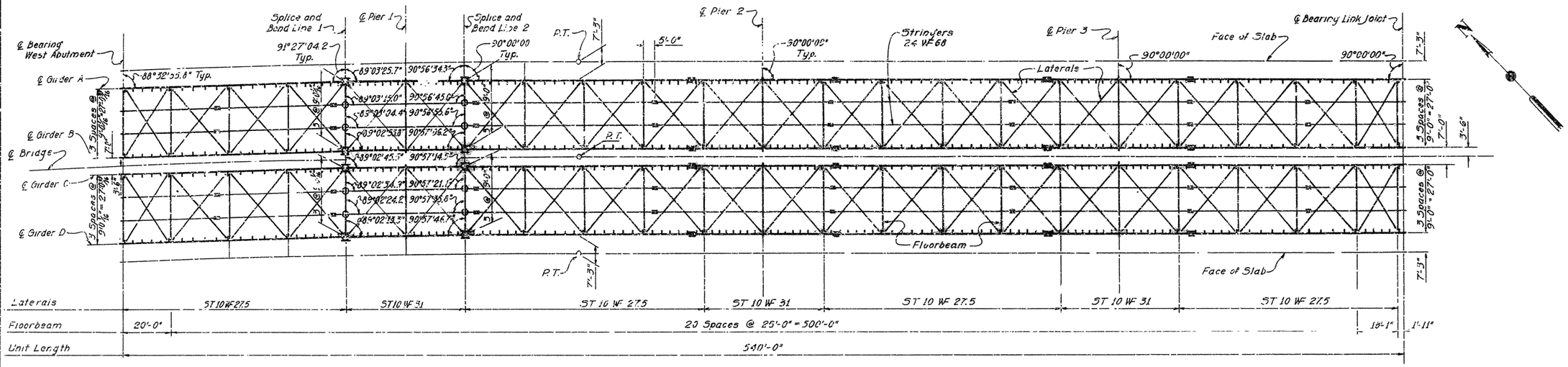
DRAWN BY [illegible] DATE 3-4-68 CHECKED BY [illegible] DATE 12-4-68
PROJECT NO. 5.75 SCALE 1:100 DRAWING NO. 10191

FOR INFORMATION ONLY

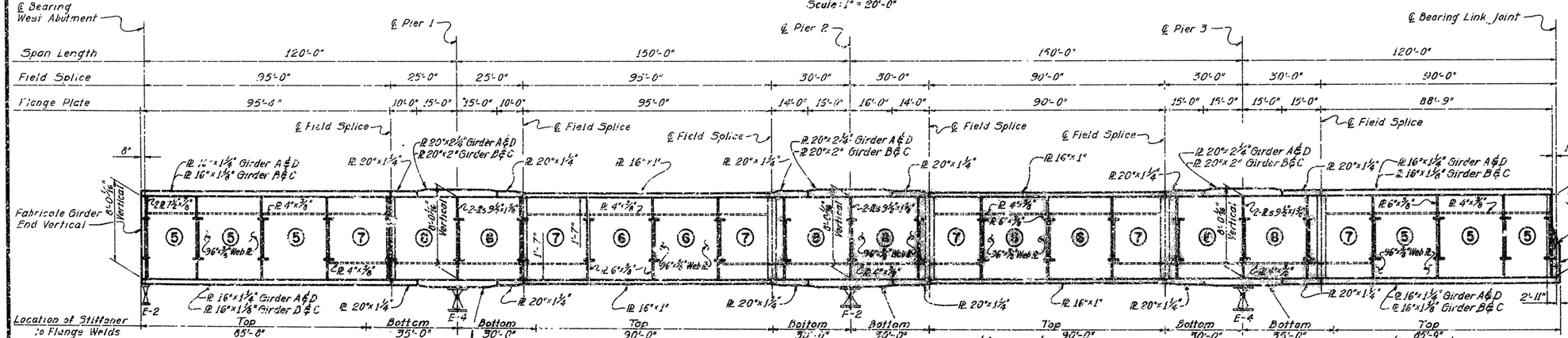
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0067

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	4584		30	127

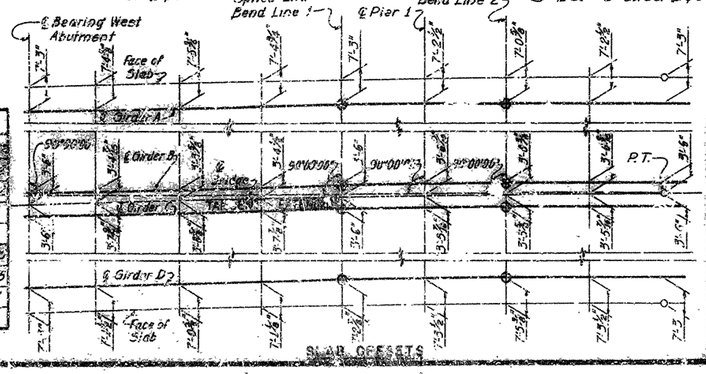
① FR. PLAN & GDR. EL. UNIT 1



FRAMING PLAN
Scale: 1" = 20'-0"



GIRDER ELEVATION



SLAB OFFSETS

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		W. ABUT.	.2	.4	.6	℄	.8	PIER 1	℄	.2	.4	.6	.8 & ℄	PIER 2	.2 & ℄	.4	.6	.8 & ℄	PIER 3	.2	℄	.4	.6	.8	LINK JT.
ELEV. GIRDER A		432.43	432.99	433.55	434.11	434.65	434.67	435.16	435.60	435.63	436.18	436.68	437.19	437.65	437.85	438.04	438.24	438.44	438.64	438.84	439.04	439.24	439.44	439.64	439.84
ELEV. GIRDER D		430.18	430.74	431.30	431.86	432.43	432.45	433.09	433.54	433.59	434.18	434.66	435.66	436.37	437.07	437.78	438.48	439.13	439.69	440.26	440.82	441.38	441.94	442.50	443.06
GIRDERS A & D	ΔT	0	.077	.109	.085	.091	.029	0	.032	.044	.114	.115	.047	0	.047	.115	.114	.044	0	.021	.033	.058	.086	.047	.057
	Δ C	0	.043	.038	.068	.025	.024	0	.026	.036	.092	.092	.035	0	.036	.092	.092	.036	0	.018	.027	.046	.071	.039	.039
ELEV. GIRDER B		431.38	431.94	432.50	433.07	433.62	433.64	434.20	434.78	434.89	435.58	436.27	436.96	437.65	437.85	438.04	438.24	438.44	438.64	438.84	439.04	439.24	439.44	439.64	439.84
ELEV. GIRDER C		431.03	431.79	432.55	433.31	433.96	433.98	434.06	434.66	434.78	435.45	436.20	436.91	437.61	438.52	439.[illegible]	439.75	440.43	441.14	441.70	442.26	442.82	443.39	443.95	
GIRDERS B & C	ΔT	0	.070	.110	.085	.032	.020	0	.030	.041	.106	.107	.043	0	.043	.107	.106	.041	0	.022	.034	.070	.088	.043	.057
	Δ C	0	.064	.096	.069	.026	.024	0	.024	.033	.085	.085	.035	0	.035	.086	.085	.033	0	.018	.028	.057	.072	.040	.050

*ΔT will be increased by 5.2% from Pier 1 to Link Joint due to the weight of the utilities.

LEGEND
= Splice and Bend Point
= Stiffeners
= Field Splice
℄ = Splice
= Bend Point

Notes:
Intermediate transverse stiffeners are on the inside of girder only. Longitudinal stiffeners are on the outside.
⑥ = Number of equal stiffener spaces per floorbeam panel for 6"x⅜" stiffener.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 1

HOWARD, NEEDLES, TAMMEN & BERGENDOFF HNTB
CONSULTING ENGINEERS

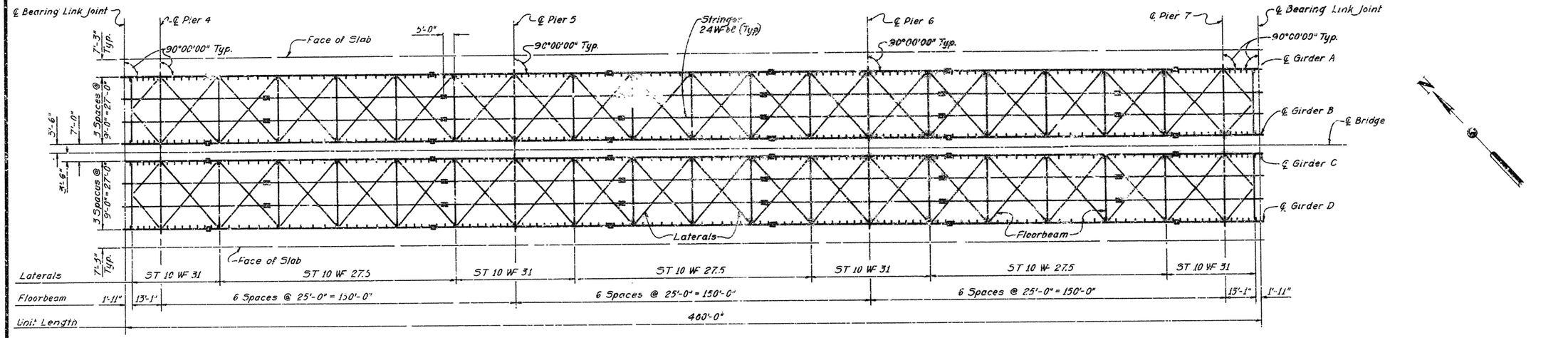
DRAWN BY J.G. DATE 6-24-68 CHECKED BY RDR DATE 7-30-68
BRIDGE NO. 3275 SCALE AS SHOWN DRAWING NO. 1330

FOR INFORMATION ONLY

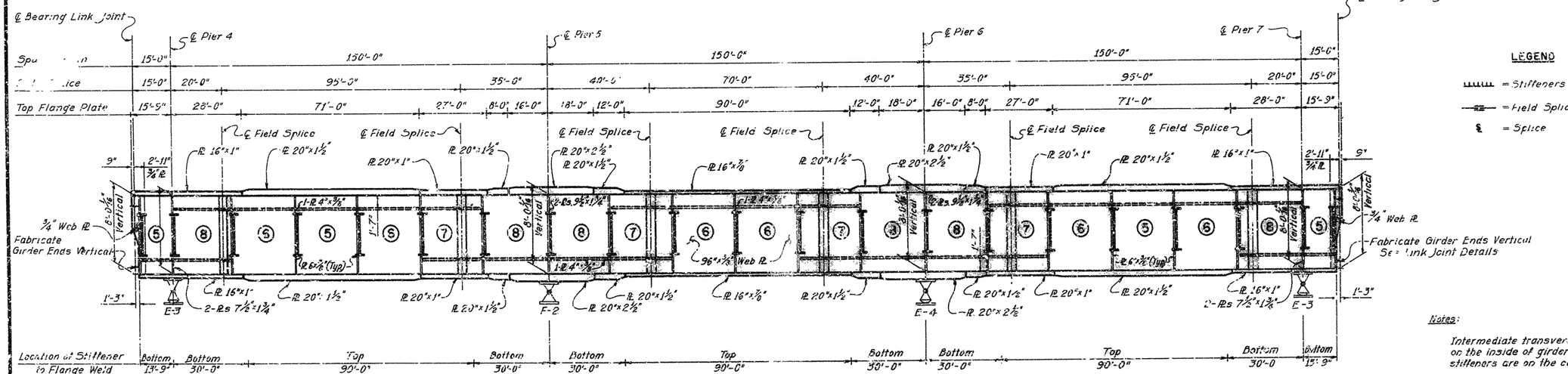
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	31	127

(D FR. PLAN & BDR. EL. UNIT 2



FRAMING PLAN
Scale: 1" = 20'-0"



GIRDER ELEVATION

LEGEND
= Stiffeners
= Field Splice
℄ = Splice

Notes:

Intermediate transverse stiffeners are on the inside of girder only. Longitudinal stiffeners are on the outside.

(6) Number of equal stiffener spaces per floorbeam panel for 6"x⅜" stiffener

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		LINK JT.	PIER 4	℄	.2	.4	.6	℄	.8	PIER 5	.2	℄	.4	.6	℄	.8	PIER 6	.2	℄	.4	.6	.8	℄	PIER 7	LINK JT.
GIRDERS A & D	ELEV.	443.42	443.77	444.24	444.47	445.18	445.88	446.48	446.59	447.29	448.00	448.23	448.70	448.71	449.43	450.11	450.82	451.52	451.64	452.23	452.91	453.64	453.87	454.34	454.71
	ΔT	-.037	0	.082	.120	.191	.170	.095	.077	0	0	.011	.042	.042	.014	0	0	.077	.095	.170	.191	.120	.082	0	-.037
	ΔC	-.050	0	.066	.097	.154	.137	.076	.062	0	0	.011	.034	.034	.011	0	0	.062	.076	.137	.154	.097	.066	0	-.050
GIRDERS B & C	ELEV.	443.96	444.31	444.78	445.01	445.72	446.42	447.01	447.13	447.83	448.54	448.77	449.24	449.25	449.95	450.42	450.65	451.36	451.48	452.17	452.39	453.07	453.30	454.01	454.24
	ΔT	-.037	0	.076	.113	.179	.159	.089	.075	0	0	.013	.059	.059	.013	0	0	.075	.089	.159	.179	.113	.076	0	-.037
	ΔC	-.050	0	.061	.090	.142	.126	.071	.058	0	0	.010	.031	.031	.010	0	0	.058	.071	.126	.142	.090	.061	0	-.050

*ΔT will be increased by 5.2% due to the weight of the utilities.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 2

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

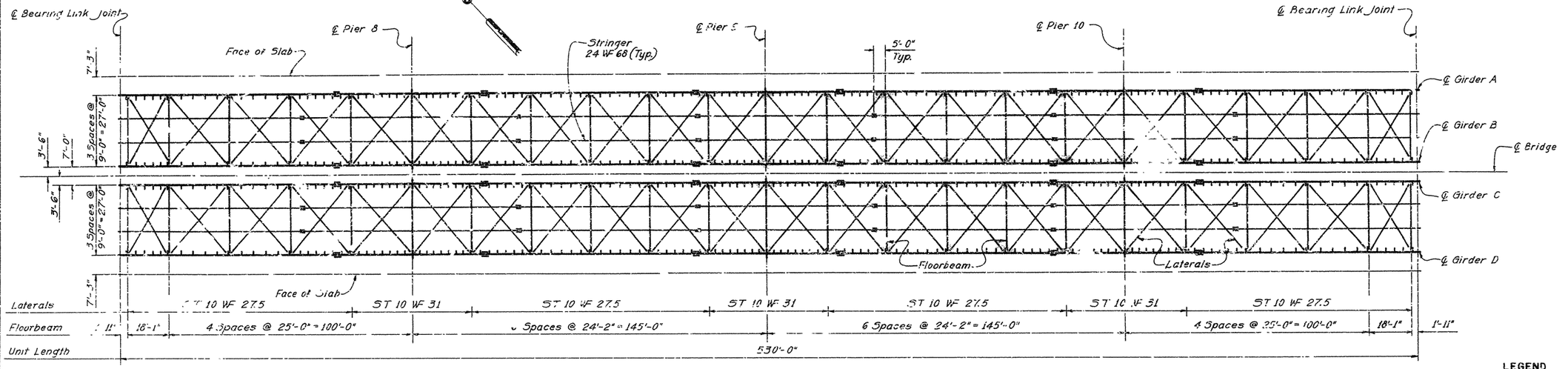
DRAWN BY J.G. DATE 4-29-68 CHECKED BY RDS DATE 5-30-68
BRIDGE NO. 5275 SCALE As Shown DRAWING NO. 16151

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

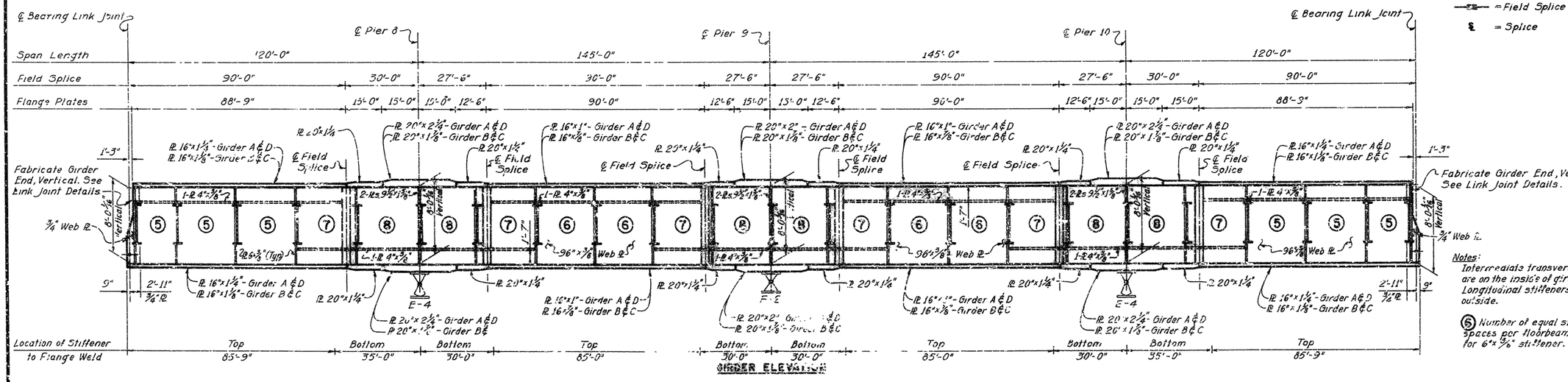
FED ROAD DIST NO	STATE	FED AID PROJECT	SHEET NO	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	32	127

(1) FR. PLAN & DR. SL. UNIT 3



FRAMING PLAN
Scale: 1" = 20'-0"

LEGEND
= Stiffeners
= Field Splice
℄ = Splice



GIRDER ELEVATION

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		LINK JT.	2	4	6	7	8	PIER 8	℄	2	4	6	8	℄	PIER 9	℄	2	4	6	8	℄	PIER 10	2	℄	4	6	8	LINK JT.
GIRDERS A & D	ELEV.	454.70	455.26	455.82	456.39	456.81	456.95	457.52	458.16	458.20	458.88	459.56	460.24	463.28	460.92	461.57	461.60	462.29	462.97	463.63	463.68	464.29	464.61	464.93	465.29	465.76	466.20	466.62
	ΔT	-.037	.051	.092	.075	.039	.026	0	.030	.033	.092	.094	.057	.034	0	.034	.037	.094	.092	.053	.030	0	.001	.007	.025	.016	-.010	-.164
	ΔC	-.030	.042	.075	.061	.032	.022	0	.025	.027	.075	.077	.050	.028	0	.028	.030	.077	.075	.027	.025	0	.005	.011	.023	.027	-.023	-.110
GIRDERS B & C	ELEV.	455.24	455.80	456.36	456.93	457.35	457.49	458.06	458.70	458.74	459.42	460.10	460.78	460.82	461.46	461.[illegible]	[illegible]7	462.14	462.83	463.51	464.19	464.22	464.83	465.35	465.47	465.85	466.30	466.74	467.16
	ΔT	-.037	.052	.094	.076	.039	.027	0	.032	.035	.095	.098	.040	.037	0	.037	.040	.096	.095	.035	.032	0	.004	.011	.030	.025	-.039	-.151
	ΔC	-.030	.042	.076	.062	.032	.022	0	.026	.028	.077	.079	.032	.030	0	.030	.032	.079	.077	.028	.026	0	.008	.015	.034	.034	-.013	-.098

*ΔT will be increased by 5.2% due to the weight of the utilities.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
CRAWFORD COUNTY, ARKANSAS — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 3

HOWARD, NEEDLES, TAMMEN & BERGENDOFF — CONSULTING ENGINEERS — HNTB

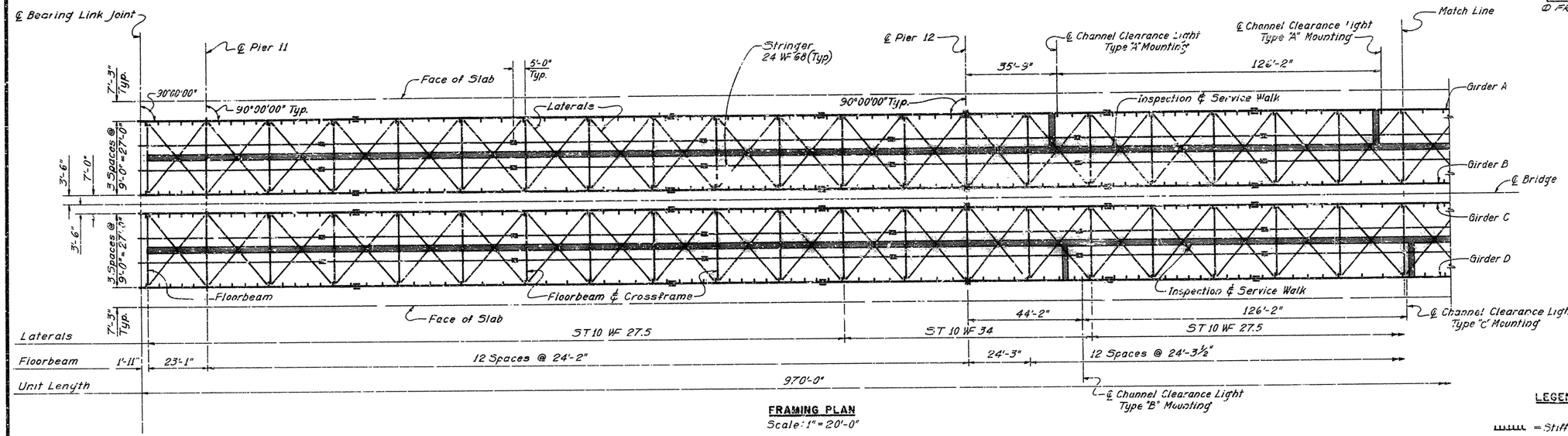
DRAWN BY J.G. DATE 5-8-68 CHECKED BY ADH DATE 9-30-68
BRIDGE NO. 5275 SCALE As Shown DRAWING NO. 1632

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

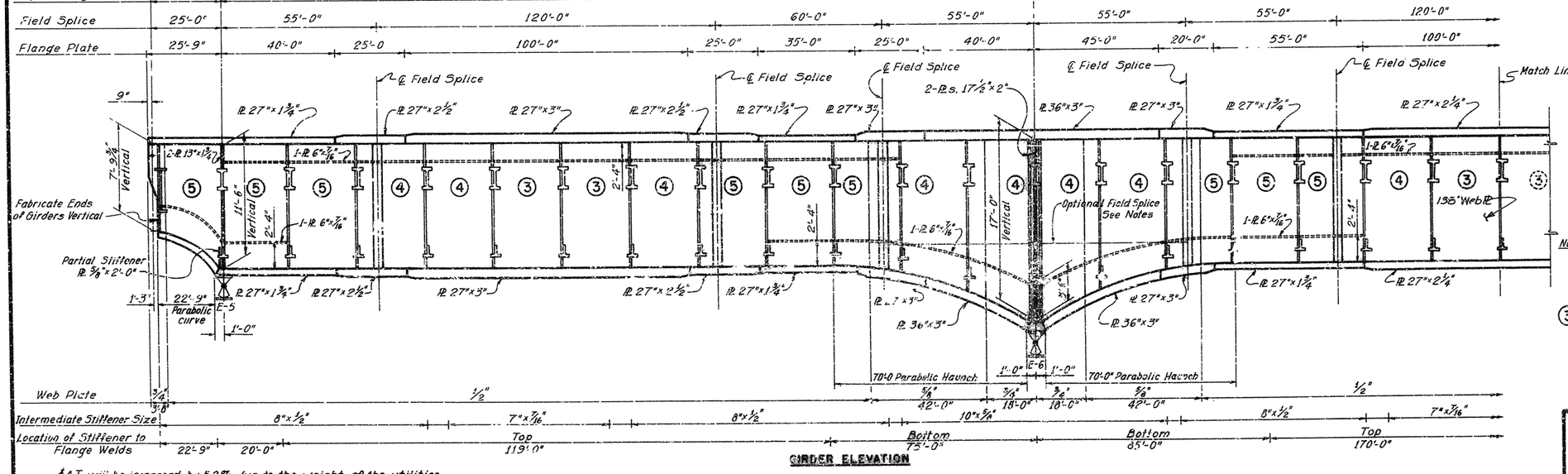
FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	33	127

℄ FR. PLAN & GDR. EL. UNIT 4.



FRAMING PLAN
Scale: 1" = 20'-0"

LEGEND
= Stiffeners
= Field Splice
℄ = Splice



GIRDER ELEVATION

Notes:

Intermediate transverse stiffeners are on the inside of girder only. Longitudinal stiffeners are on the outside.

(3) Indicates the number of equal stiffeners spaces per floorbeam panel.

See Electrical Details for Navigation Light mounting bracket.

*ΔT will be increased by 5.2% due to the weight of the utilities.

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		LINK JT.	PIER 11	.1	.2	℄	.3	.4	.5	℄	.6	.7	.8	℄	.9	PIER 12	.1	℄	.2	.3	℄	.4	.5
GIRDERS A & D	ELEV.	466.62	467.04	467.49	467.90	467.86	468.28	468.65	468.95	469.24	469.25	469.48	469.69	469.87	469.87	470.02	470.15	470.14	470.24	470.28	470.28	470.27	470.22
	ΔT	-.164	0	.213	.388	.431	.521	.577	.556	.503	.462	.333	.161	.102	.063	0	.049	.082	.169	.329	.403	.453	.498
	ΔC	-.110	0	.143	.266	.291	.351	.388	.375	.339	.317	.224	.122	.069	.042	0	.033	.055	.114	.221	.271	.305	.335
GIRDERS B & C	ELEV.	467.16	467.56	468.03	468.44	468.40	468.82	469.17	469.49	469.78	469.77	470.02	470.23	470.41	470.41	470.56	470.69	470.68	470.78	470.82	470.82	470.81	470.76
	ΔT	-.151	0	.196	.365	.398	.480	.531	.513	.464	.433	.307	.167	.094	.058	.0	.046	.075	.155	.305	.371	.418	.459
	ΔC	-.098	0	.126	.236	.267	.310	.343	.331	.293	.280	.198	.108	.061	.037	0	.029	.049	.100	.196	.240	.270	.297

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 4

HOWARD NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS — HNTB

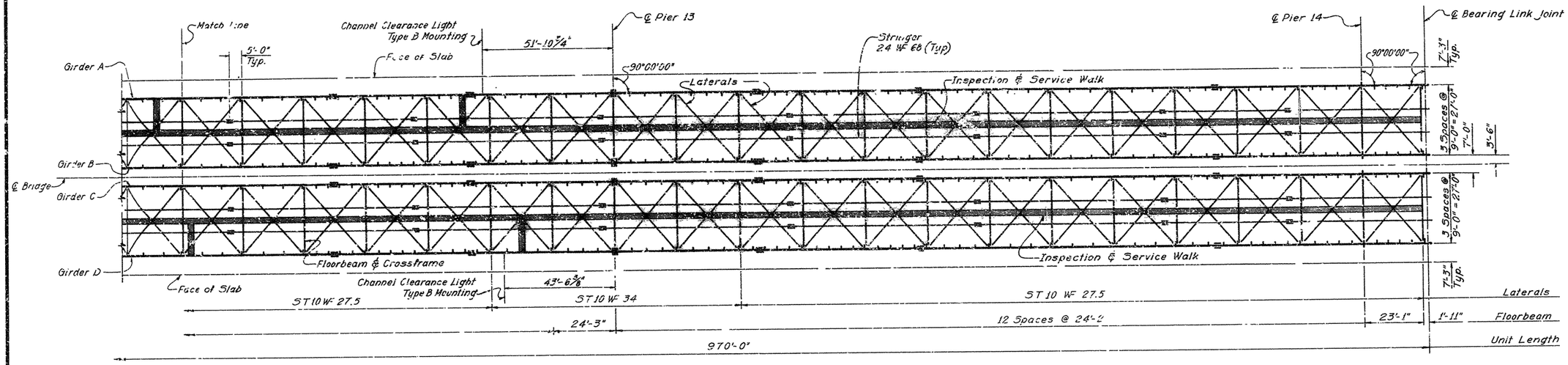
DRAWN BY J.G. DATE 5-31-68 CHECKED BY RDR DATE 7-30-68
SLIDE NO. 5275 SCALE As shown DRAWING NO. 19133

FOR INFORMATION ONLY

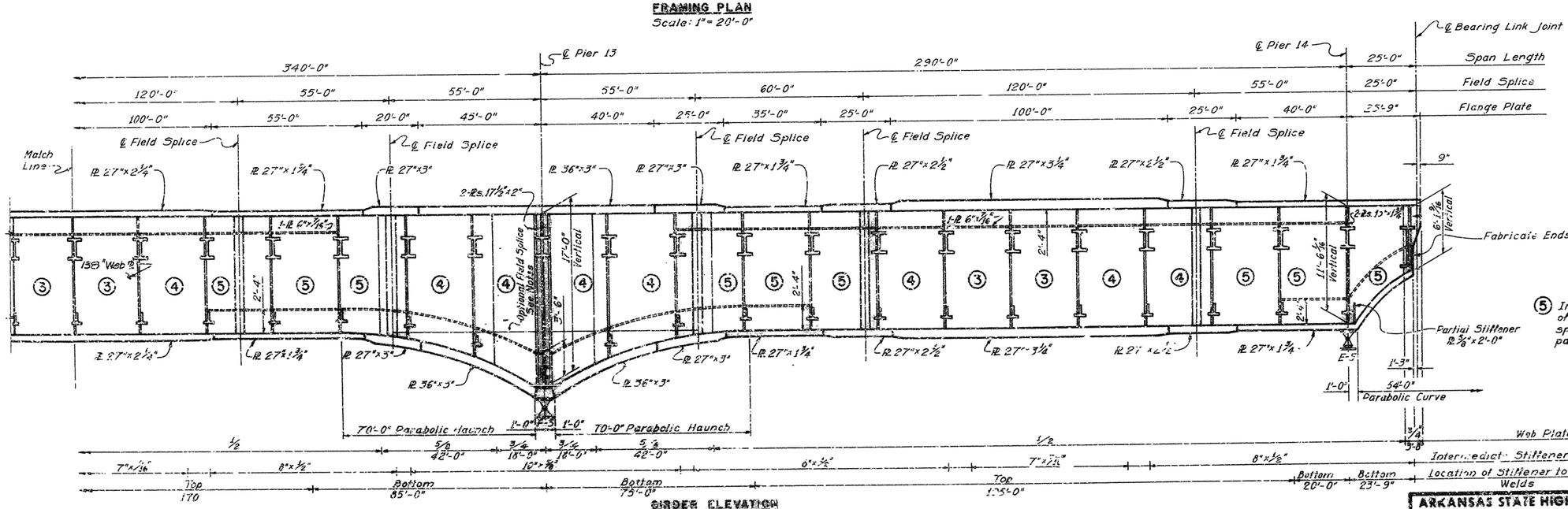
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	34	127

(1) FR. PLAN & GOR. EL. UNIT 4



FRAMING PLAN
Scale: 1" = 20'-0"



GIRDER ELEVATION

*ΔT will be increased by 5° due to the weight of the utilities.

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		.5	.6	7	.7	.8	8	.9	PIER 13	.1	.1	.2	.3	.4	.5	.6	.7	.8	.9	PIER 14	LINK JT.
GIRDERS A & D	ELEV.	470.22	470.12	470.01	469.97	469.79	469.52	469.15	469.27	469.15	469.08	468.60	468.34	467.96	467.97	467.55	467.10	466.63	466.06	466.12	465.57	465.00	464.47
	ΔT	.498	.450	.3...	.322	.162	.076	.045	0	.063	.102	.181	.325	.474	.506	.560	.581	.550	.444	.409	.224	0	.178
	ΔC	.335	.303	.268	.217	.09	.051	.030	0	.042	.069	.132	.226	.315	.341	.377	.391	.357	.299	.275	.151	0	.119
GIRDERS B* & C	ELEV.	470.76	470.66	470.55	470.51	470.32	470.06	470.08	469.81	469.93	469.92	469.22	468.88	468.70	468.31	468.09	467.64	467.17	466.61	466.66	466.11	465.54	465.01
	ΔT	.459	.414	.356	.297	.149	.070	.042	0	.058	.094	.167	.309	.430	.466	.516	.536	.480	.409	.377	.207	0	.164
	ΔC	.297	.258	.237	.192	.096	.046	.027	0	.037	.061	.108	.200	.282	.301	.333	.346	.315	.264	.243	.134	0	.105

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 4

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

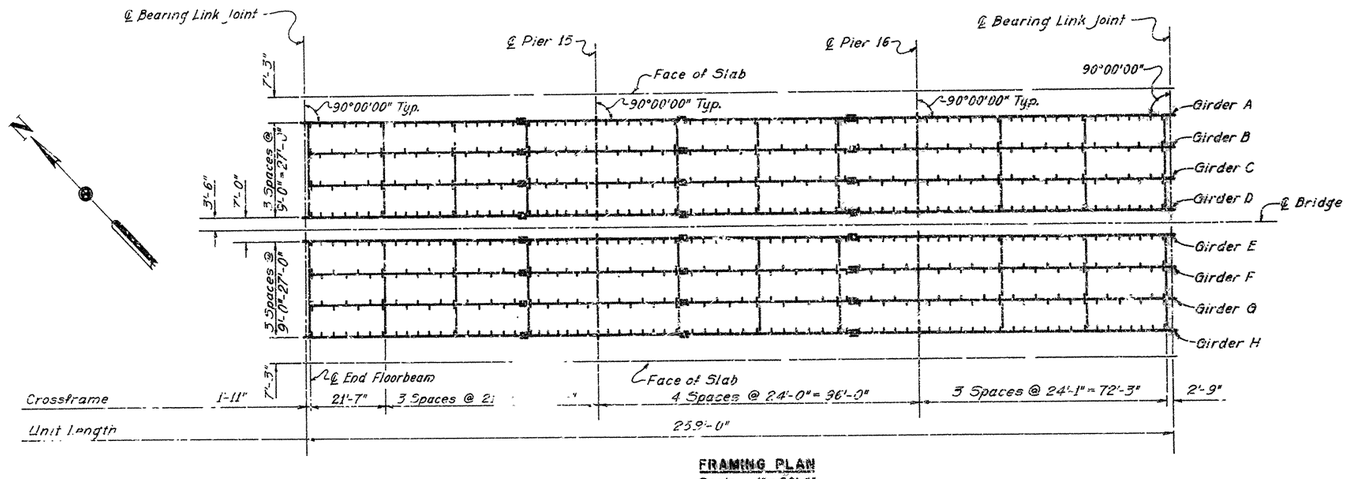
DRAWN BY J.G. DATE 5-31-68 CHECKED ... DATE 7-30-68
BRIDGE NO. 5275 SCALE As Shown DRAWING NO. 15134

FOR INFORMATION ONLY

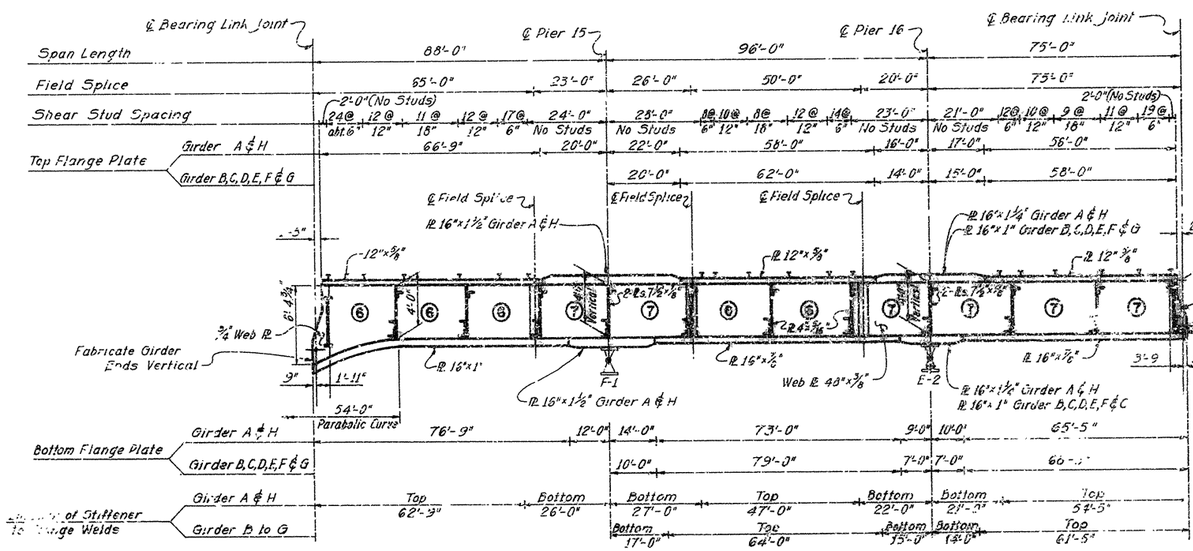
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

6	ARK			
JOB NO.		4384	35	127

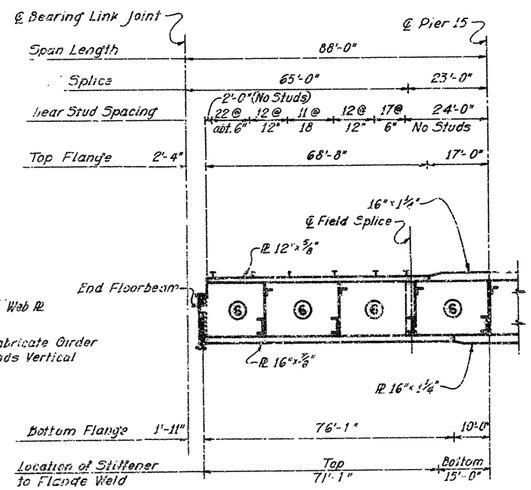
① FR. PLAN & GDR. EL. UNIT 5



FRAMING PLAN
Scale : 1" = 20'-0"

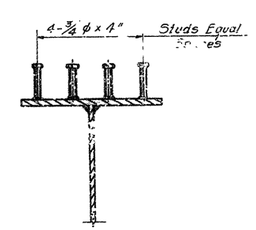


GIRDER ELEVATION



SPAN 1, GIRDERS B TO G

PART GIRDER ELEVATION



SHEAR STUD DETAIL

ADJUSTMENT ELEVATIONS AND DEAD LOAD REFLECTIONS

POINT		LINK JT.	.25	.50	.75 & ℄	PIER 15	.25	℄	.50	.75	℄	PIER 16	.25	.50	.75	LINK JT.
GIRDERS A & H	ELEV.	464.47	463.99	463.49	462.37	462.43	461.82	461.79	461.19	460.53	460.32	459.85	459.41	458.74	458.27	457.58
	ΔT	.170	.030	.032	.013	0	.006	.008	.024	.016	.010	0	.015	.037	.015	.055
	ΔC	.119	0	.014	.020	0	.005	.007	.030	.014	.009	0	.013	.032	.013	.046
GIRDERS B & G	ELEV.	464.65	464.11	463.67	463.15	462.61	462.00	461.97	461.37	460.71	460.60	460.03	459.59	458.92	458.45	457.76
GIRDERS C & F	ELEV.	464.85	464.35	463.85	463.33	462.79	462.18	462.15	461.55	460.89	460.78	460.21	459.67	459.10	458.63	457.94
GIRDERS D & E	ELEV.	465.01	464.53	464.03	463.51	462.97	462.36	462.33	461.73	461.07	460.96	460.39	459.85	459.28	458.81	458.12
GIRDERS B,C,D,E,F & G	ΔT	.164	.027	.030	.012	0	.007	.009	.035	.017	.012	0	.012	.031	.011	.049
	ΔC	.105	.002	.042	.016	0	.006	.007	.029	.015	.010	0	.011	.027	.010	.041

*ΔT will be increased 5.2% due to the weight of the stiffeners. From Link Joint near Pier 14 to Pier 15.

LEGEND

- ⑥ = Stiffeners
- ---- = Field Splice
- ℄ = Splice

Notes:

⑥ Indicates the number of equal stiffeners spaces per crossframe panel for 4"x⅜" stiffener.

Transverse intermediate stiffeners are on the inside of exterior girders and on both sides of interior girders.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS
FRAMING PLAN AND GIRDER ELEVATION
UNIT 5

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

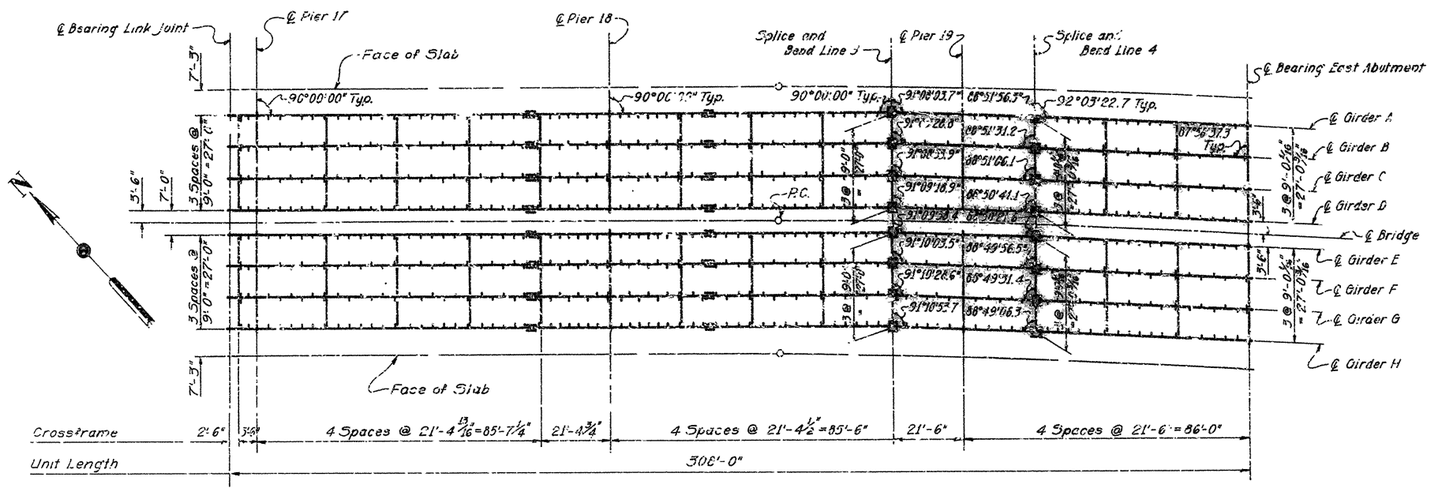
DRAWN BY J.C. DATE 6-24-68 CHECKED BY JDH DATE 9-30-68
SHEET NO. 5375 SCALE AS SHOWN DRAWING NO. 1635

FOR INFORMATION ONLY

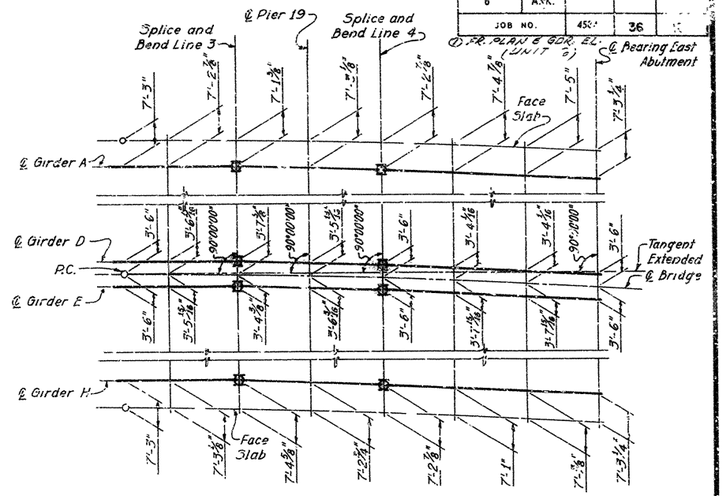
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		45[illegible]	36	

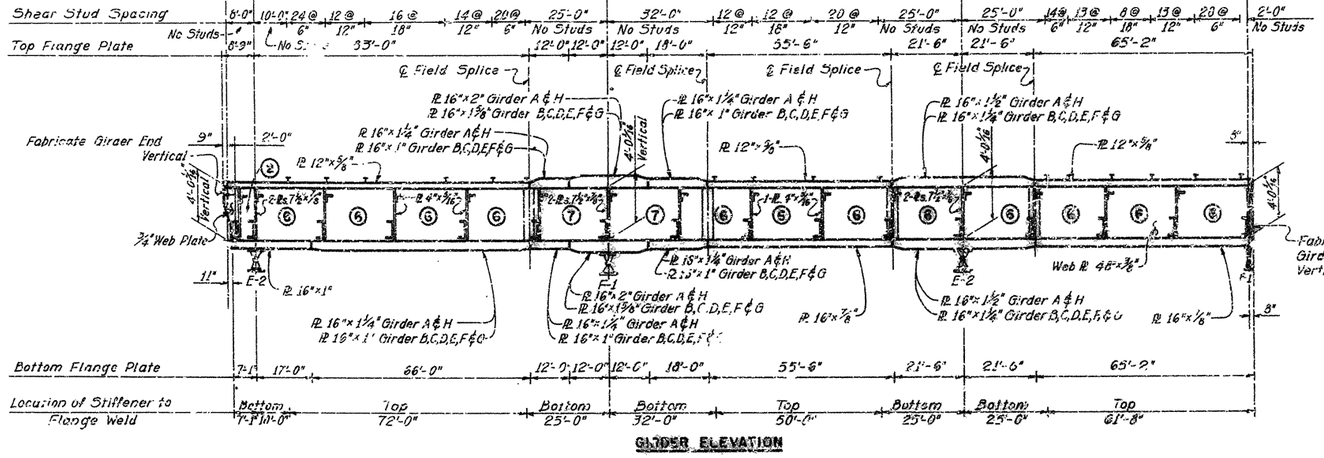
① PR. PLAN & GDR. EL. (UNIT 6)



FRAMING PLAN
Scale: 1" = 20'-0"



SLAB OFFSETS



GIRDER ELEVATION

PAVEMENT ELEVATIONS AND DEAD LOAD DEFLECTIONS

POINT		LINK JT	PIER 17	.25	.50	.75	℄	PIER 18	.25	℄	.50	.75	℄	PIER 19	25 ft ℄	.50	.75	E. ABUT
ELEV. GIRDER A		457.58	457.33	456.45	455.55	454.63	454.53	453.67	452.68	452.56	451.67	450.63	450.43	449.58	448.73	447.88	447.53	446.18
ELEV. GIRDER H		457.58	457.33	456.45	455.55	454.63	454.53	453.67	452.68	452.56	451.67	450.62	450.41	449.54	448.67	447.06	446.92	446.06
GIRDERS	ΔT	-.053	0	.172	.214	.106	.092	0	.001	.007	.044	.021	.012	0	.061	.122	.103	0
A & H	ΔC	-.046	0	.147	.162	.090	.078	0	.001	.006	.037	.018	.011	0	.052	.104	.088	0
ELEV. GIRDER B		457.76	457.51	456.63	455.73	454.61	454.71	453.85	452.86	452.74	451.85	450.80	450.60	449.76	449.24	448.39	447.19	446.67
ELEV. GIRDER C		457.94	457.69	456.81	455.91	454.99	454.89	454.03	453.04	452.92	452.03	450.99	450.78	449.93	449.07	448.22	447.36	446.50
ELEV. GIRDER D		458.12	457.87	456.99	456.09	455.17	455.07	454.21	453.22	453.10	452.21	451.21	450.96	450.10	449.25	448.39	447.55	446.67
ELEV. GIRDER E		458.12	457.87	456.99	456.09	455.17	455.07	454.21	453.22	453.10	452.21	451.21	450.96	450.10	449.26	448.37	447.51	446.65
ELEV. GIRDER F		457.94	457.69	456.81	455.91	454.99	454.89	454.03	453.04	452.92	452.03	450.99	450.78	449.91	449.05	448.18	447.3[illegible]	446.46
ELEV. GIRDER G		457.76	457.51	456.63	455.73	454.81	454.71	453.85	452.86	452.74	451.85	450.80	450.55	449.73	448.86	447.99	447.12	446.26
GIRDERS B, C, D, E, F & G	ΔT	-.049	0	.160	.200	.099	.085	0	-.001	.004	.040	.018	.010	0	.056	.115	.098	0
	ΔC	-.041	0	.132	.164	.081	.070	0	-.001	.004	.033	.015	.008	0	.046	.095	.080	0

Notes:
Transverse intermediate stiffeners are on the inside of exterior girders and on both sides of interior girders.
(6) Indicates the number of equal stiffeners spaces per crossframe panel for 4"x 3/16" stiffener.

LEGEND
= Splice and Bend Point
= Stiffeners
= Field Splice
℄ = Splice

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARK.-OKLA.
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FRAMING PLAN AND GIRDER ELEVATION
UNIT 6

HOWARD NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

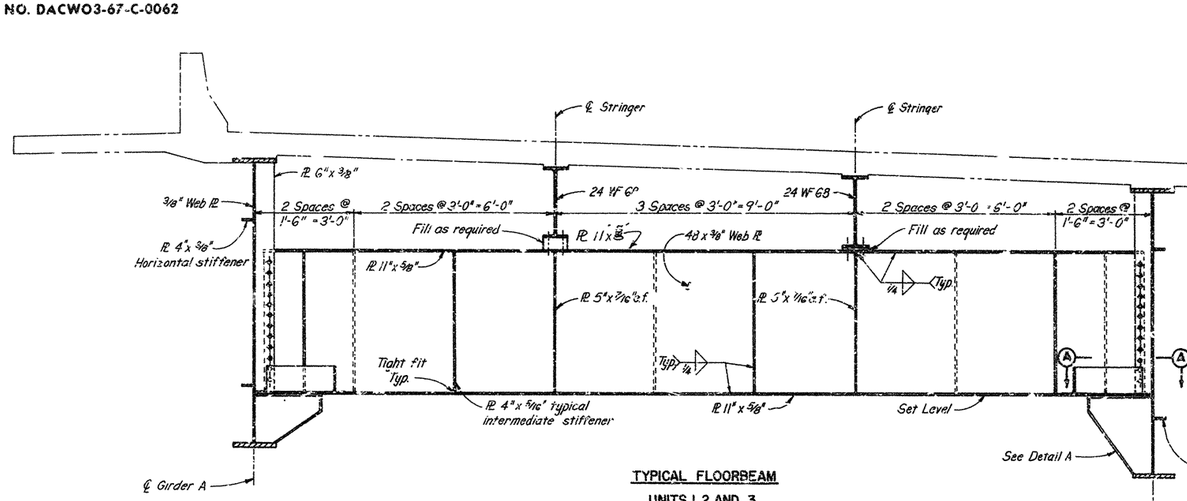
DRAWN BY J.A. DATE 7-6-68 CHECKED BY KDR DATE 7-31-68
BRIDGE NO. 3935 SCALE DRAWING NO. 16136

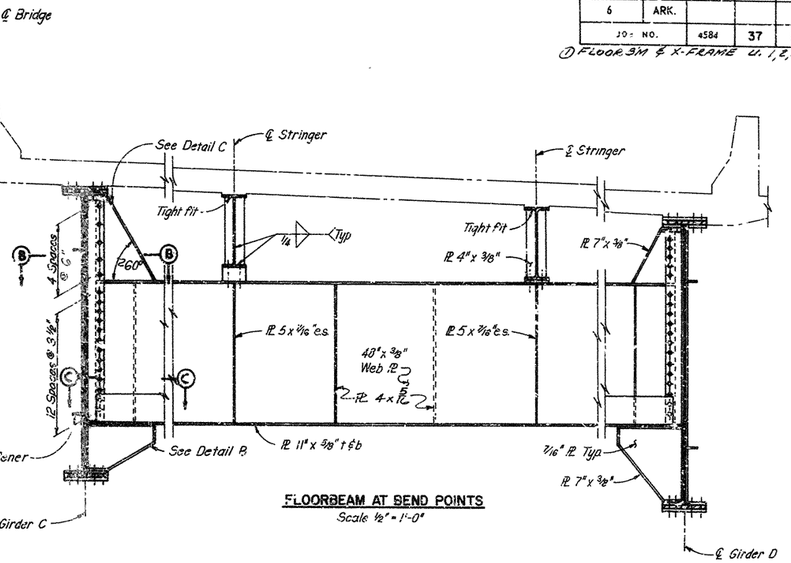
FOR INFORMATION ONLY

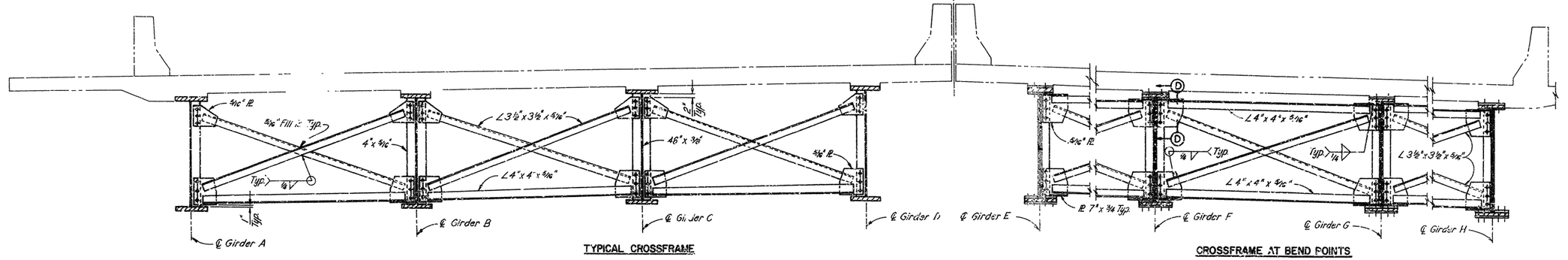
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

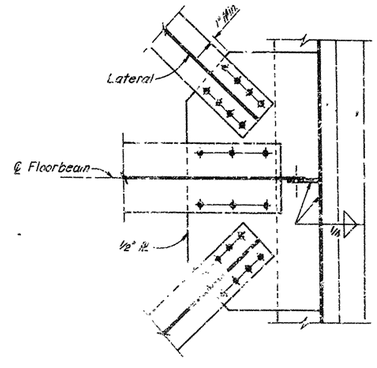
FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		458d	37	127

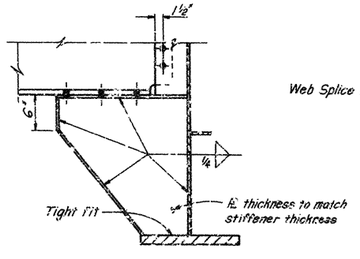
① FLOOR SYM & X-FRAME U. 1, 2, 3 SPEC

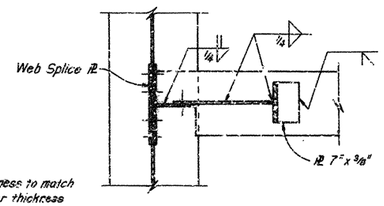


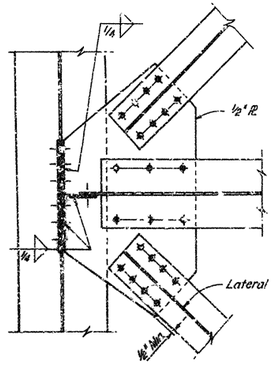


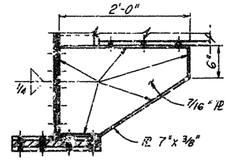


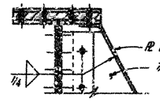


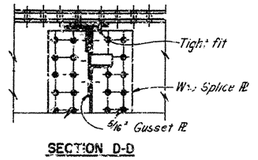












Note:
For additional details of bend point splice see Miscellaneous Splice Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

FLOORBEAM AND CROSSFRAME DETAILS
UNITS 1,2,3,5 AND 6

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

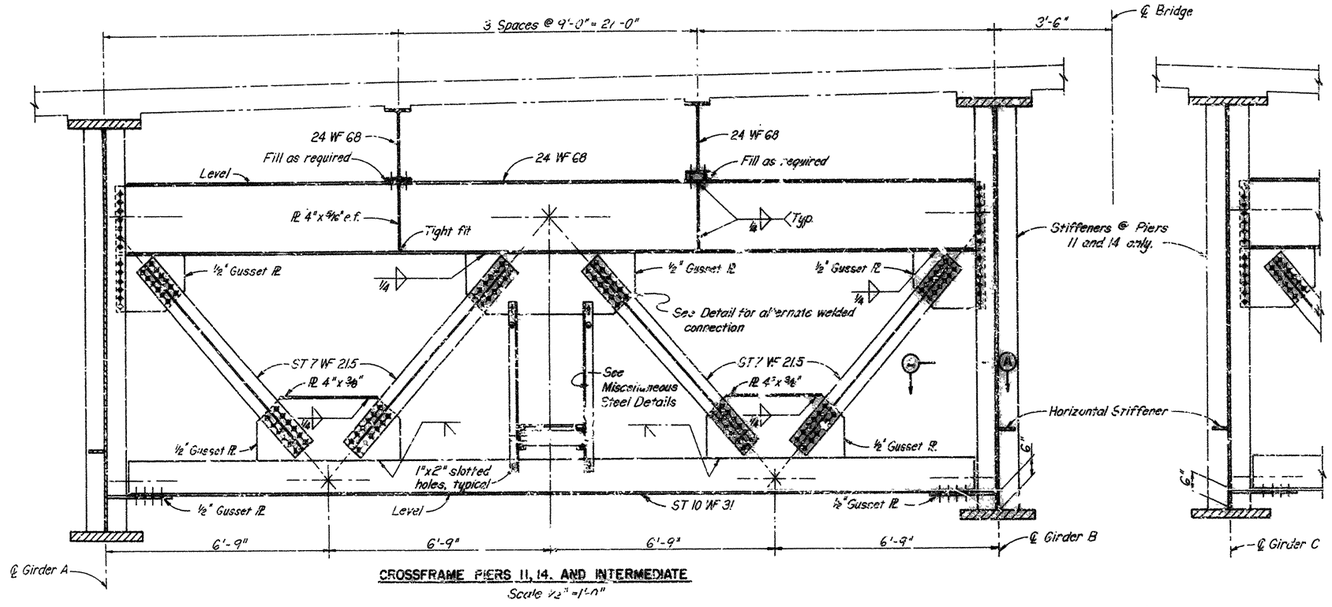
DRAWN BY GDH DATE 2-9-68 CHECKED BY FJDR DATE 4-26-68
BRIDGE NO. 3275 SCALE AS SHOWN DRAWING NO. 16137

FOR INFORMATION ONLY

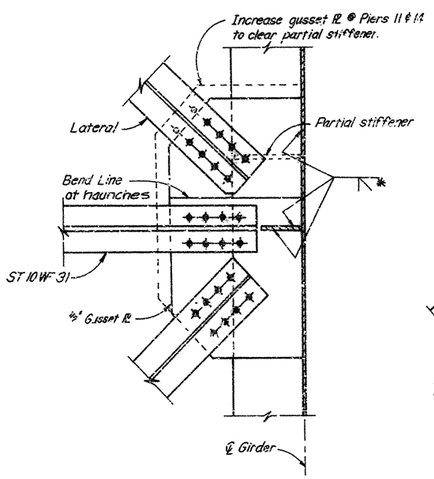
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	38	127

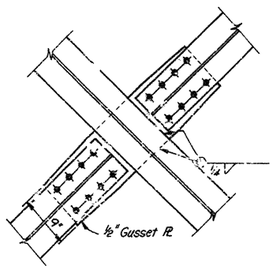
① CROSSFRAME DET. UNIT 4



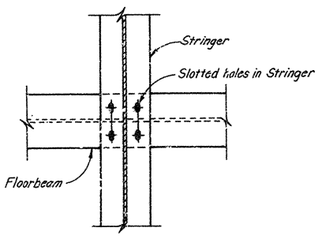
CROSSFRAME PIERS 11, 14, AND INTERMEDIATE
Scale ½" = 1'-0"



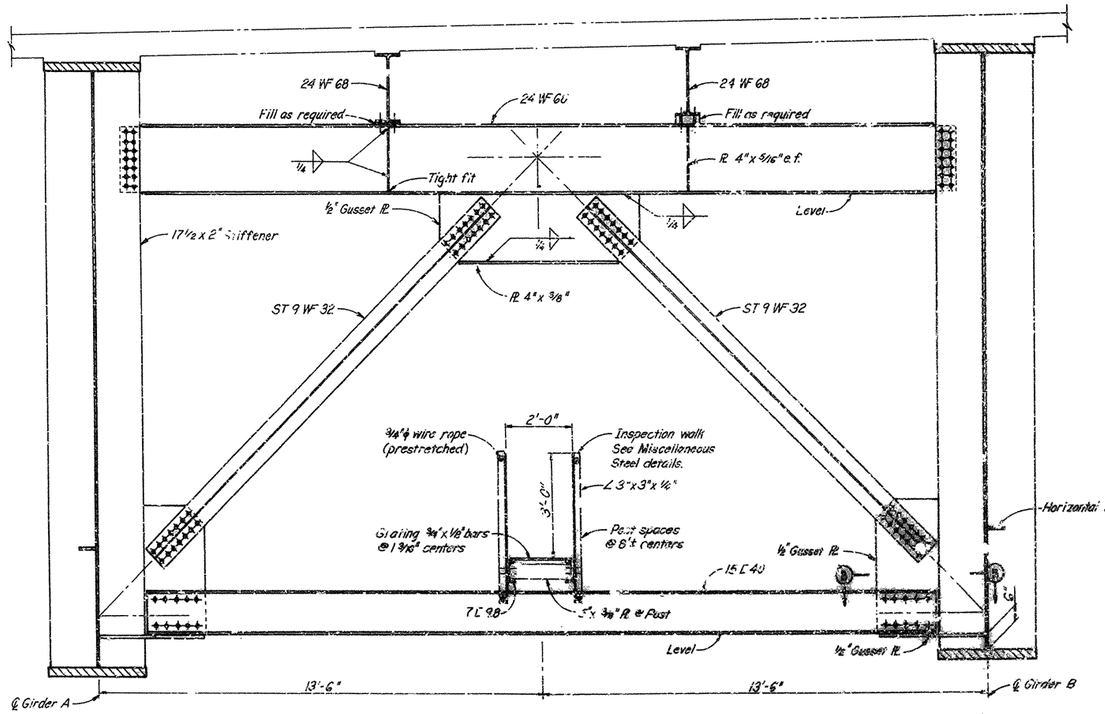
SECTION A-A
Scale 1" = 1'-0"



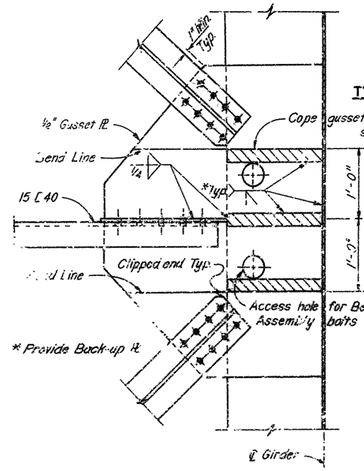
TYPICAL CENTER LATERAL CONNECTION
Scale 1" = 1'-0"



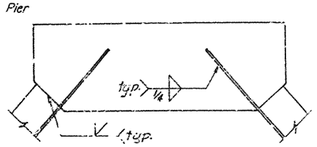
TYPICAL FLOORBEAM-STRINGER CONNECTION
Scale 1" = 1'-0"



CROSSFRAME AT PIERS 12 & 13
Scale ½" = 1'-0"



SECTION B-B
Scale 1" = 1'-0"



ALTERNATE WELDED CONNECTION
No Scale

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

CROSSFRAME DETAILS
UNIT 4

HOWARD NEEDLES TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

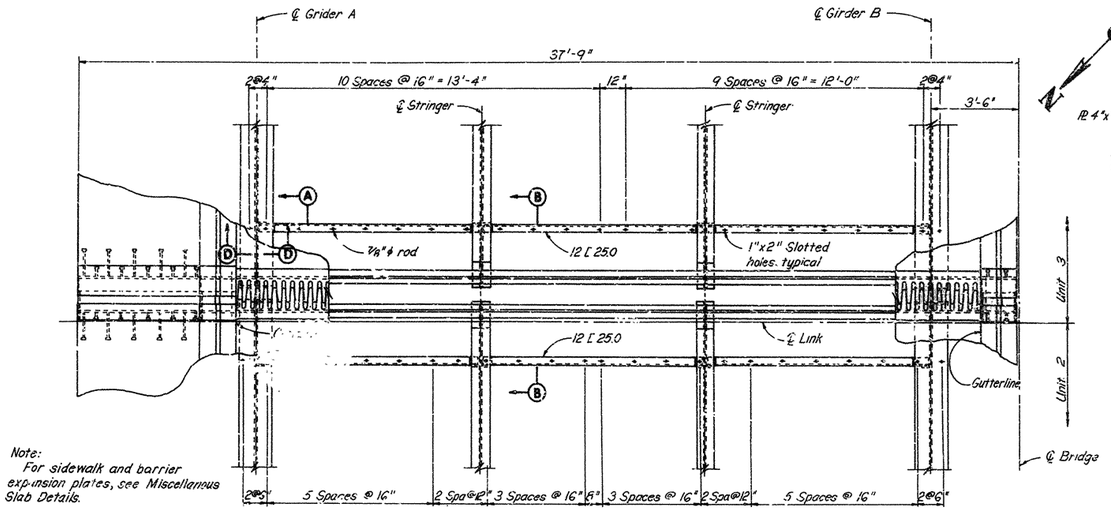
DRAWN BY GDH DATE 6-16-68 CHECKED BY RDP DATE 9-20-68
SPEC. NO. 823.5 SCALE AS SHOWN DRAWING NO. 15136

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

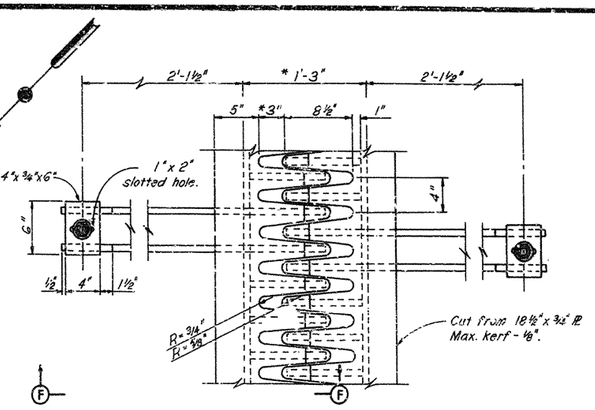
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	39	127

① LINK & EXP. JT. UNITS 1-2 & 2-3

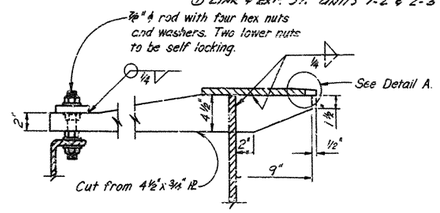


Note:
For sidewalk and barrier expansion plates, see Miscellaneous Slab Details.

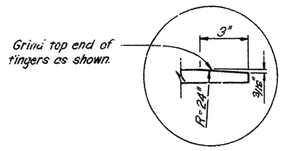
EXPANSION JOINT PLAN
UNIT 2-3



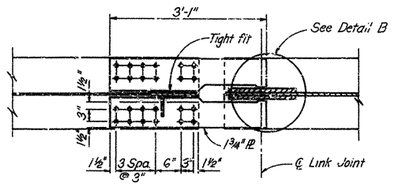
EXPANSION PLATE DETAIL
Scale 1½" = 1'-0"



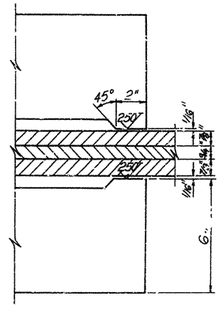
SECTION F-F
Scale 1½" = 1'-0"



DETAIL A
Scale 3" = 1'-0"

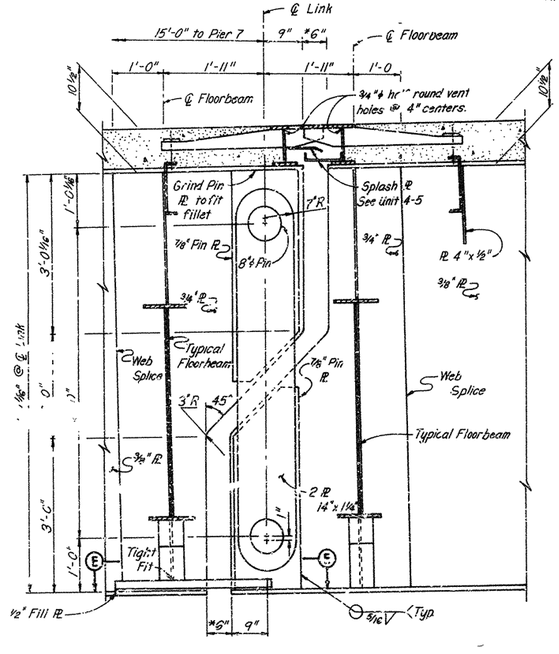


SECTION E E
Scale ¾" = 1'-0"

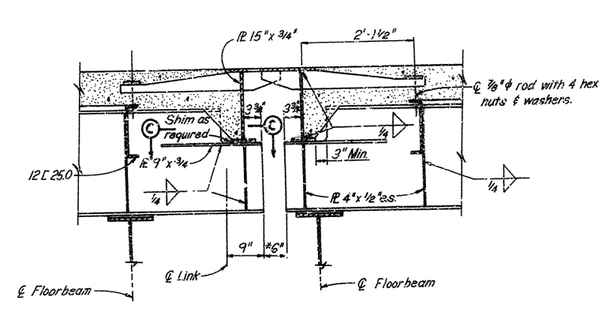


DETAIL B
Scale 3" = 1'-0"

* At 60° F

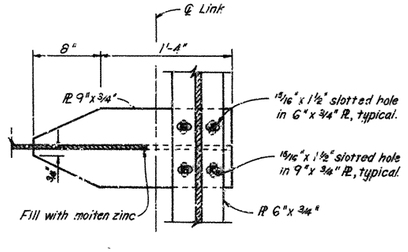


SECTION A-A
UNIT 2-3
Scale ¾" = 1'-0"

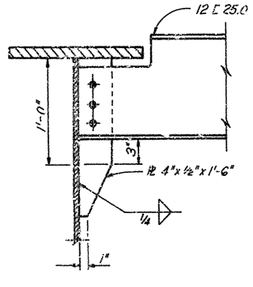


SECTION B-B
UNIT 2-3
Scale ¾" = 1'-0"

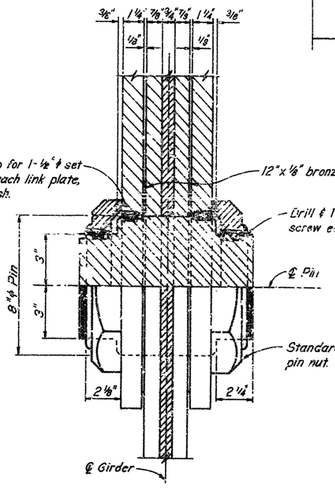
Note:
Joint 1-2 is identical to Joint 2-3, but opposite hand.



SECTION C-C
Scale 1½" = 1'-0"



SECTION D-D
Scale 1½" = 1'-0"



LINK JOINT PIN DETAIL
Scale 3" = 1'-0"

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA SEBASTIAN COUNTY, ARKANSAS

LINK AND EXPANSION JOINT DETAIL
UNITS 1-2 AND 2-3

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

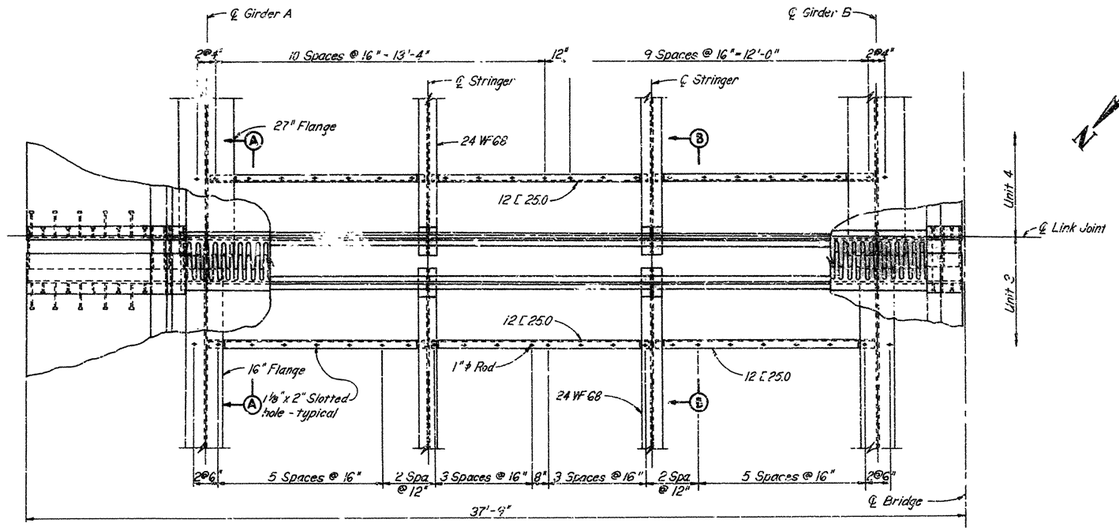
DRAWN BY GDH DATE 8-21-68 CHECKED BY KNR DATE 8-26-68
BRIDGE NO. 5275 SCALE As shown DRAWING NO. 16139

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0002

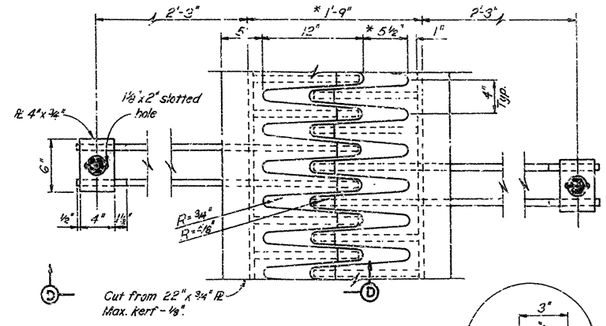
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
5	ARK.			
JOB NO.		4584	40	127

① LINK & EXP. JT. UNIT 3-4

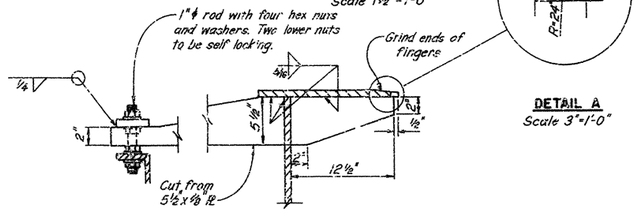


Note:
For sidewalk and barrier expansion plates, see Miscellaneous Slab Details.

EXPANSION JOINT PLAN
Scale ⅜"=1'-0"



EXPANSION PLATE DETAIL
Scale 1½"=1'-0"



DETAIL A
Scale 3"=1'-0"

SECTION D-D
Scale 1½"=1'-0"

LINK PIN ASSEMBLIES:

The pin plates, link plates and wind shear plates shall be A.S.T.M. A588 steel; the link pins A.S.T.M. A235 class C-1 steel forgings; the bronze washers A.S.T.M. B22-61 alloy E and the recessed pin nuts A.S.T.M. A-36 steel.

The diameter of the pin hole shall not exceed that of the pin by more than 1/32" and the finish of the pin and pin hole contact surfaces shall conform to A.S.A.125. The pin nuts shall be adjusted, to allow free movement of the links, before the set screws are placed.

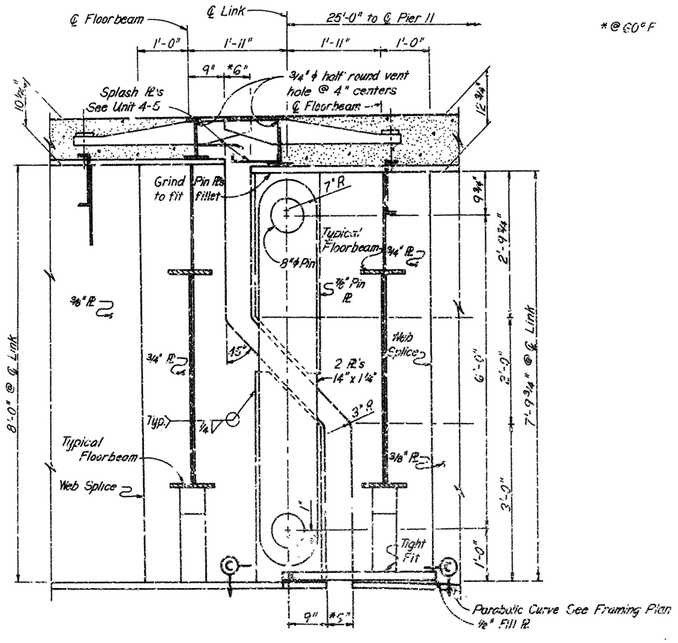
The final adjustment of the expansion joint finger plates shall be made after all the midspan and pier areas (1 and 2) of the bridge deck have been poured and immediately prior to pouring the expansion joint area (3). See Pouring Sequence.

EXPANSION JOINTS
The expansion joint shall be galvanized or painted with a zinc rich paint as follows:

The parts to be galvanized shall include finger plate, gutter plate, end dam assembly, tie down bars, protection angle, bearing plate, stop plate and the entire barrier curb expansion assembly.

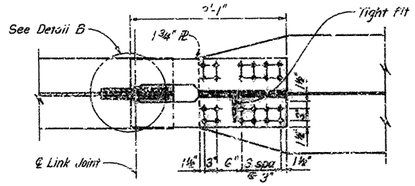
The parts to be painted with the zinc rich paint shall generally include all parts of the girders, floor beam and stringers within five feet either side of the joint as well as the links, pins and pin nuts. See Special Provisions.

Galvanizing shall be done after fabrication and in accordance with A.S.T.M. 123.

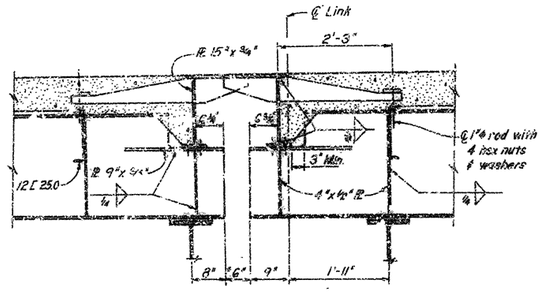


*@ 60°F

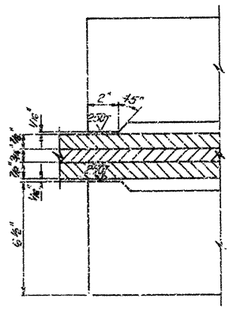
SECTION A-A
Scale ⅜"=1'-0"



SECTION C-C
Scale ¾"=1'-0"



SECTION B-B
Scale ¾"=1'-0"



DETAIL B
Scale 3"=1'-0"

Note:
For Link Pin details, see Units 1-2 and 2-3.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION AT FORT SMITH, ARKANSAS
CRAWFORD COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

LINK AND EXPANSION JOINT DETAIL
UNIT 3-4

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

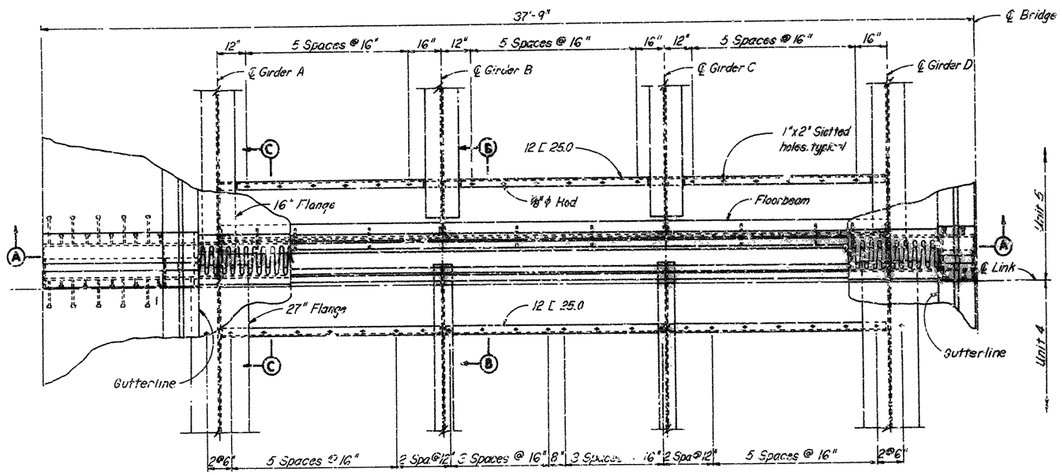
DRAWN BY GDH DATE 8-2-68 CHECKED BY RDP DATE 9-26-68
BRIDGE NO. 5975 SCALE AS SHOWN DRAWING NO. 3940

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

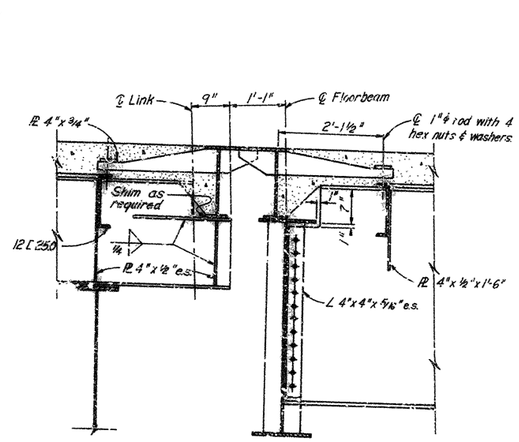
ROAD ST NO	STATE	FED AID PROJECT	SHEET NO	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	41	127

O LINK & EXP. JT. UNIT 4&5

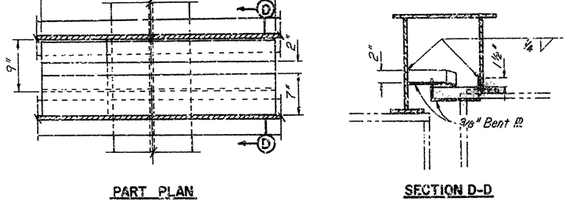


Note:
For sidewalk and barrier expansion plates, see Miscellaneous Slab Details.

EXPANSION JOINT PLAN
Scale ⅜"=1'-0"



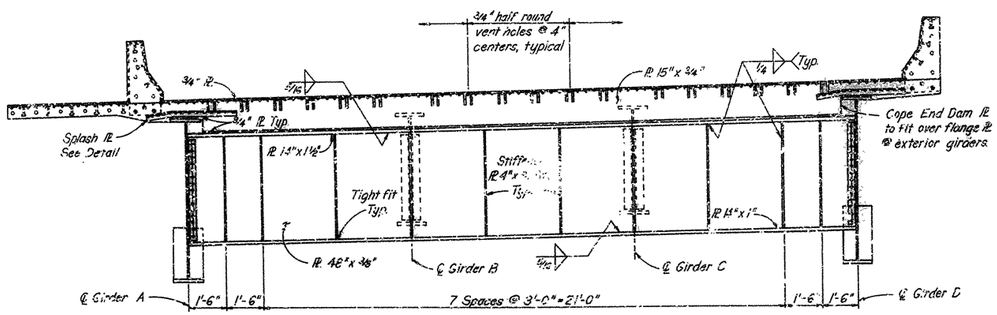
SECTION B-B
Scale ¾"=1'-0"



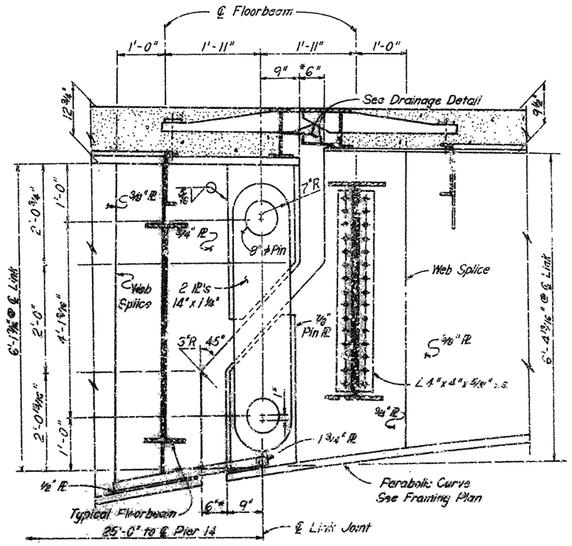
PART PLAN

SECTION D-D

SPLASH PLATE DETAILS
Scale 1"=1'-0"



SECTION A-A
Scale ⅜"=1'-0"



SECTION C-C
Scale ¾"=1'-0"

Note:
For Link Pin and Expansion Plate details, see Units 1-2 and 2-3.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
CRAWFORD COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

LINK AND EXPANSION JOINT DETAIL
UNIT 4-5

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

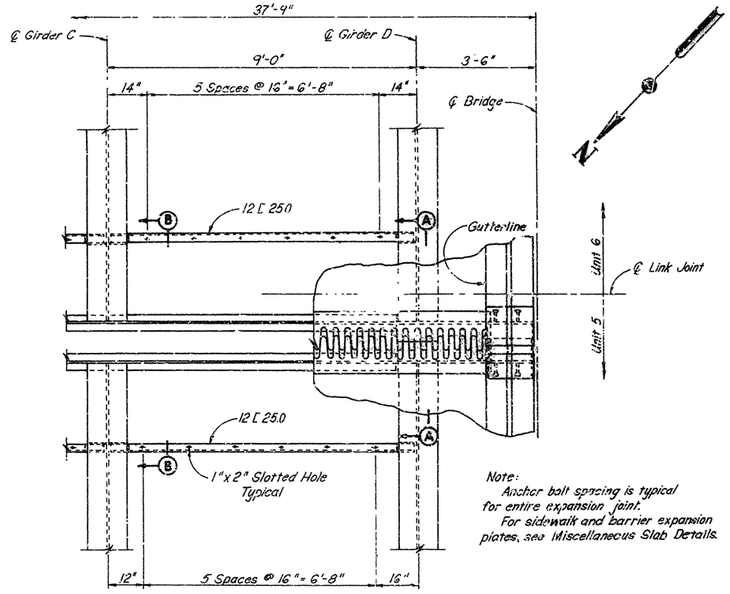
DRAWN BY GDH DATE 8-29-68 CHECKED BY [illegible] DATE 9-26-68
SERVICE NO. 3075 SCALE OF ORIG. DRAWING NO. 5141

FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACWG3-67-C-0062

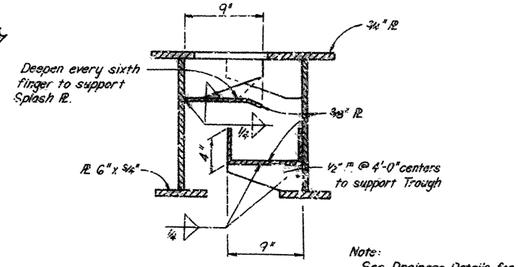
FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	42	127

℄ LINK & EXP. JT. UNIT 5-6



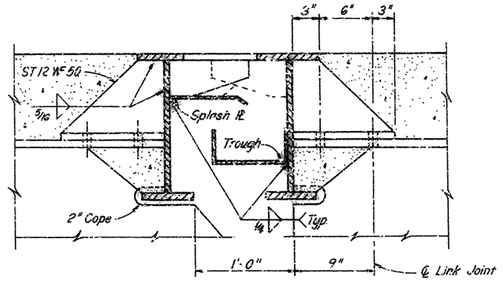
Note:
Anchor bolt spacing is typical for entire expansion joint.
For sidewalk and barrier expansion plates, see Miscellaneous Slab Details.

PART PLAN - EXPANSION JOINT
Scale ½" = 1'-0"

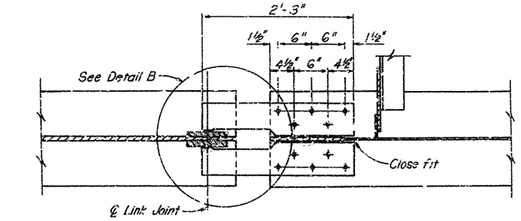


Note:
See Drainage Details for additional information.

TROUGH DETAILS
Scale 1½" = 1'-0"

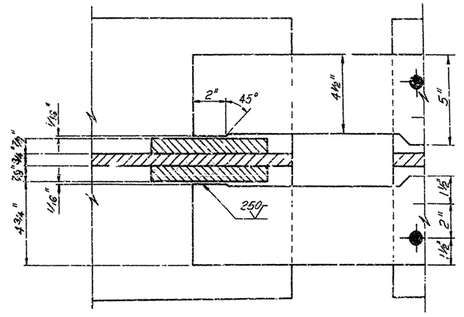


END DAM CONNECTION AT INTERIOR GIRDER
Scale 1½" = 1'-0"

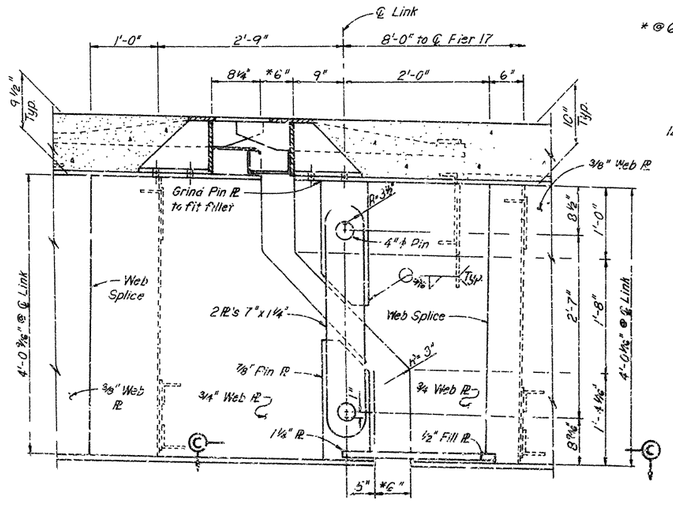


SECTION C-C
Scale 1" = 1'-0"

Note:
Wind Shear Device is on Girders A, D, E, & H only.

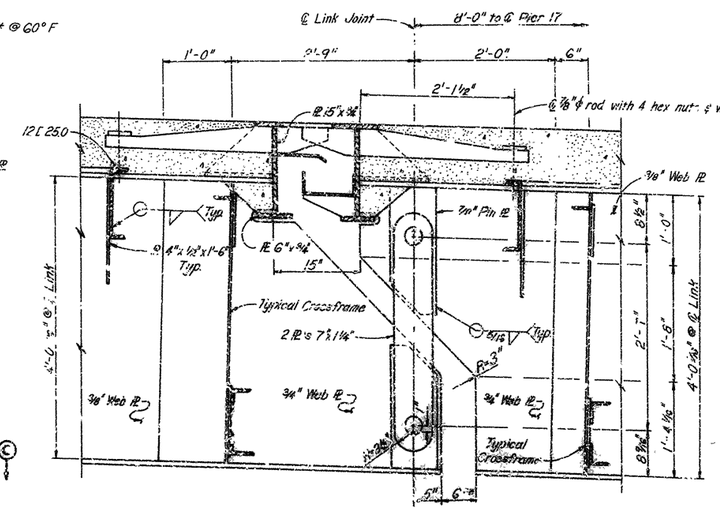


DETAIL B
Scale 3" = 1'-0"

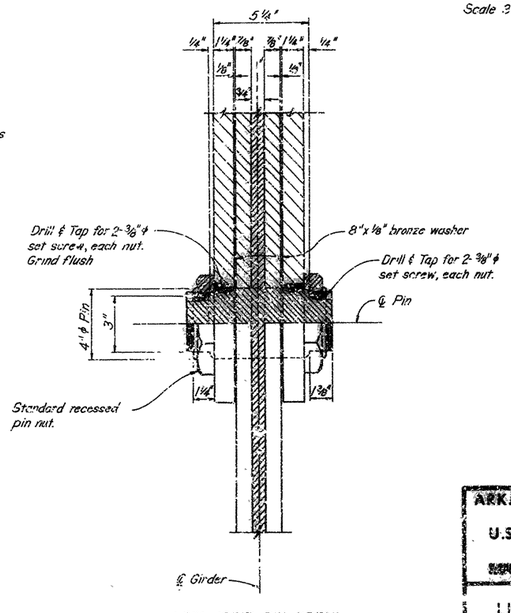


SECTION A-A
Scale 1" = 1'-0"

* @ 60° F



SECTION B-B
Scale 1" = 1'-0"



LINK JOINT PIN DETAIL
Scale 3" = 1'-0"

Note:
For Flinger Plate Details, see Units 1-2 and 2-2.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
LEFLORE COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

LINK AND EXPANSION JOINT DETAIL
UNIT 5-6

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

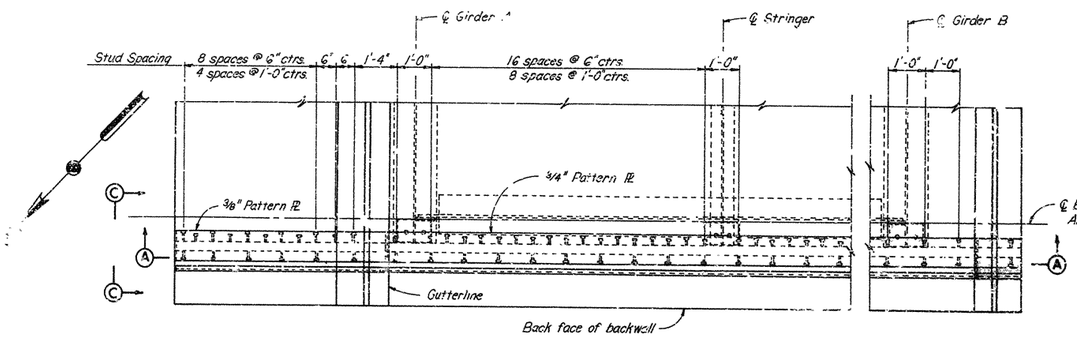
DRAWN BY GDH DATE 8-5-68 CHECKED BY RDP DATE 9-26-68
BRIDGE NO. 5275 SCALE as shown DRAWING NO. 12142

FOR INFORMATION ONLY

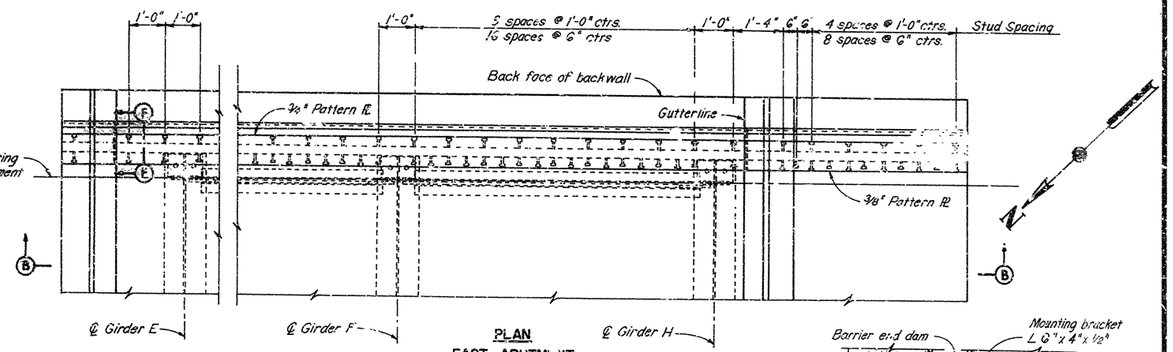
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	43	127

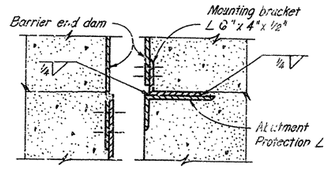
① ADD EXP. JT. DETAILS



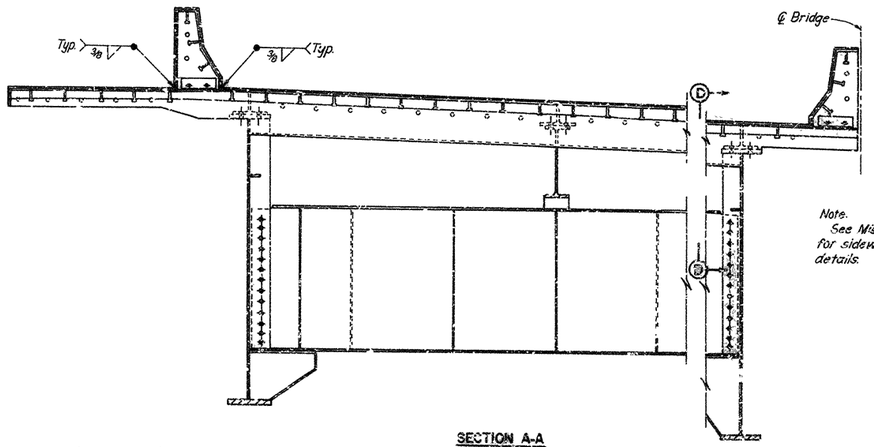
PLAN
WEST ABUTMENT
Scale ½"=1'-0"



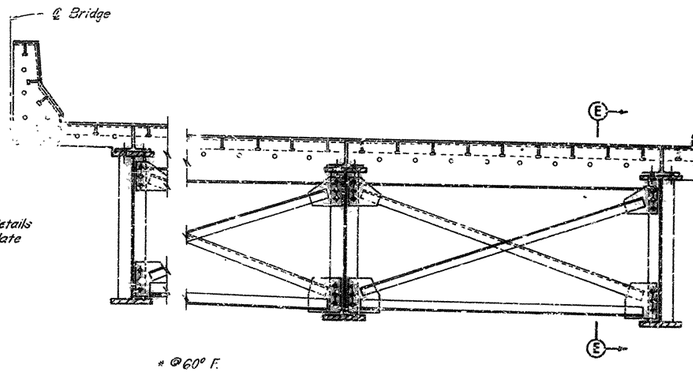
PLAN
EAST ABUTMENT
Scale ½"=1'-0"



SECTION F-F
Scale 1½"=1'-0"



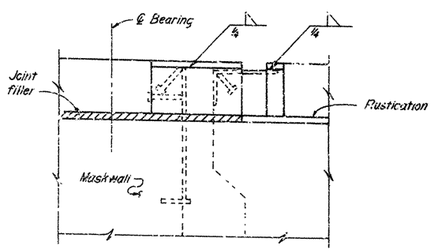
SECTION A-A
Scale ½"=1'-0"



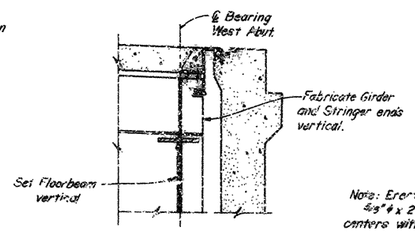
SECTION B-B
Scale ½"=1'-0"

Note.
See Miscellaneous Slab Details for sidewalk and barrier plate details.

* @ 60° F.

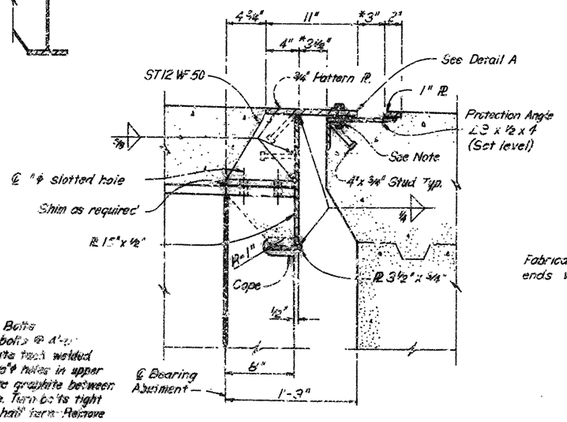


VIEW C-C
Scale 1½"=1'-0"

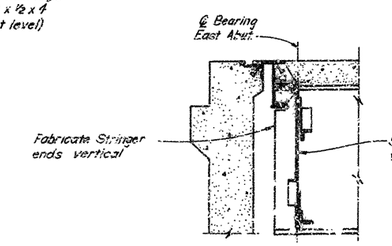


SECTION D-D
Scale ½"=1'-0"

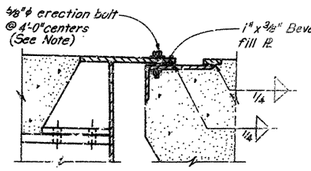
Note: Erection Bolts
⅝"ϕ x 2½" bolts @ 4'-0" centers with nuts tack welded to angle, and 1⅛"ϕ holes in upper plate. Apply fluke graphite between washer and plate. Turn bolts tight and release one half turn. Replace bolt's as soon as concrete is set, preferably within two hours after placing. Fill holes with bituminous material.



EXPANSION JOINT DETAIL
Scale 1½"=1'-0"



SECTION E-E
Scale ½"=1'-0"



DETAIL A
Scale 1½"=1'-0"

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

ABUTMENT EXPANSION JOINT DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF — CONSULTING ENGINEERS — HNTB

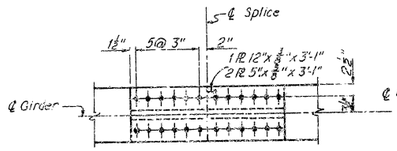
DRAWN BY GDH DATE 7-11-68 CHECKED BY HNTB DATE 7-68
BRIDGE NO. 3275 SCALE AS SHOWN DRAWING NO. 16A3

FOR INFORMATION ONLY

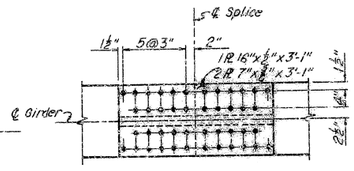
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	44	127

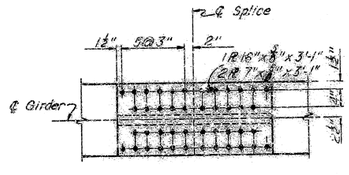
① FIELD SPLICES



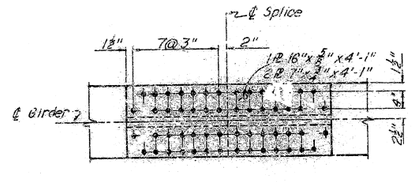
12" X ⅝" FLANGE



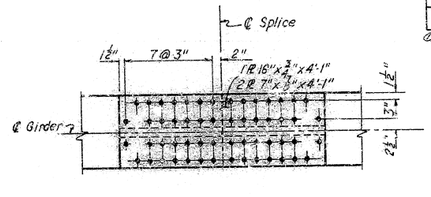
16" X ⅞" FLANGE



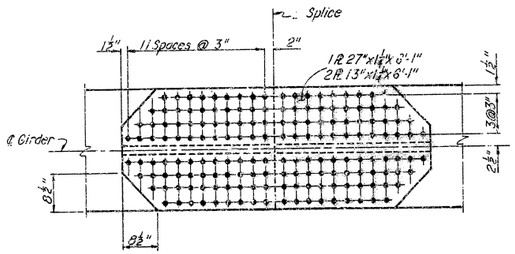
16" X 1" FLANGE



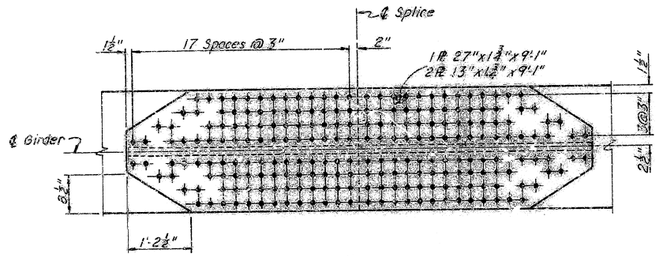
16" X 1⅛" FLANGE



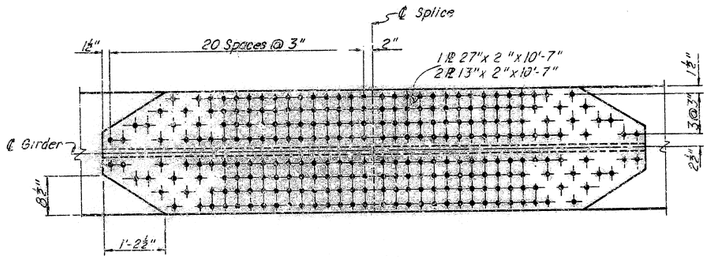
16" X 1¼" FLANGE



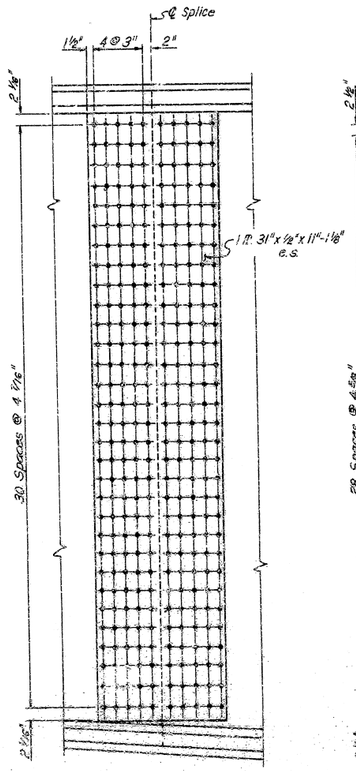
27" X 1⅜" FLANGE



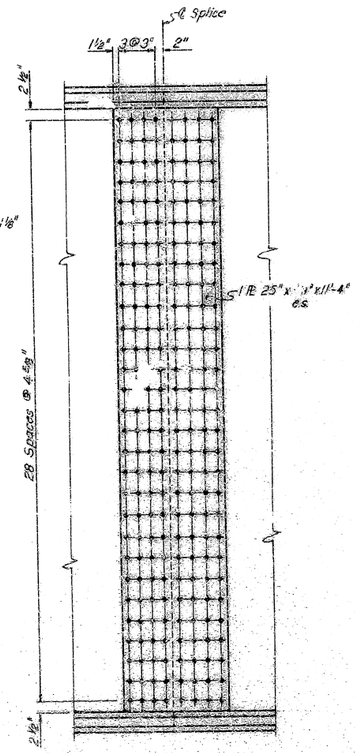
27" X 2½" FLANGE



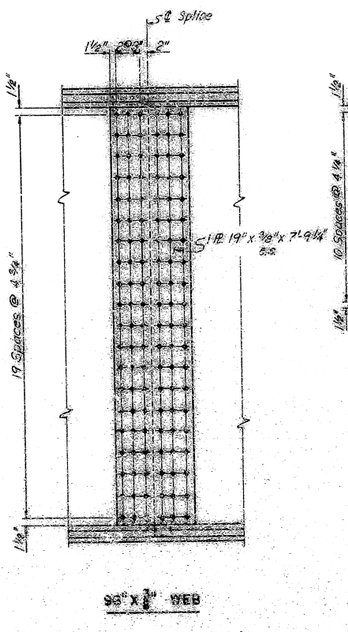
27" X 3" FLANGE



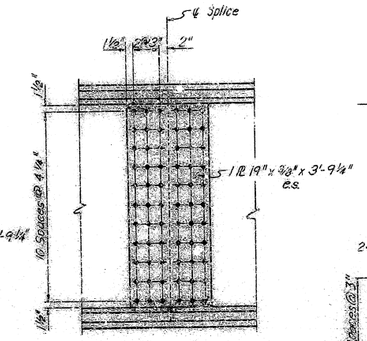
141" X ⅝" WEB



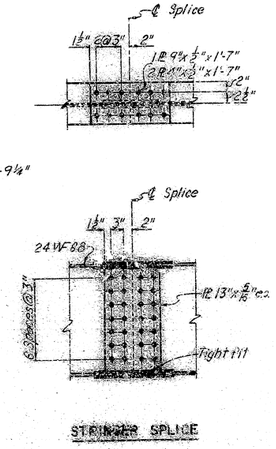
138" X ½" WEB



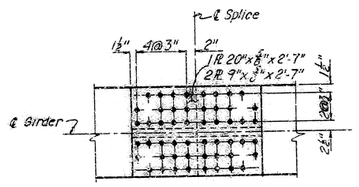
95" X ⅜" WEB



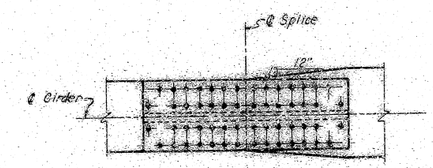
45" X ⅜" WEB



STRINGER SPLICE



20" X 1" FLANGE



SPLICE TO LARGER FLANGE DETAIL

Note:
When splicing flanges of unequal size, use the splice for the smaller flange. Use fill plates as required.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS

FIELD SPLICES

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

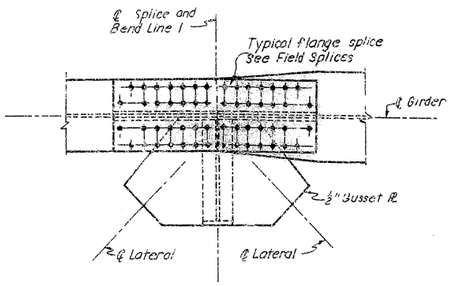
DRAWN BY RDR DATE 8-24-70 CHECKED BY [illegible] DATE 9-2-70
PROJECT NO. 1275 SCALE [illegible]

FOR INFORMATION ONLY

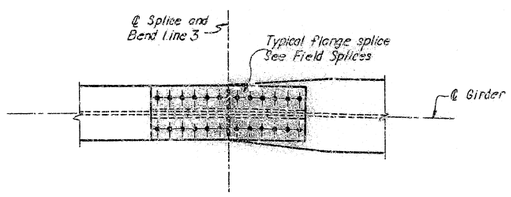
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	45	127

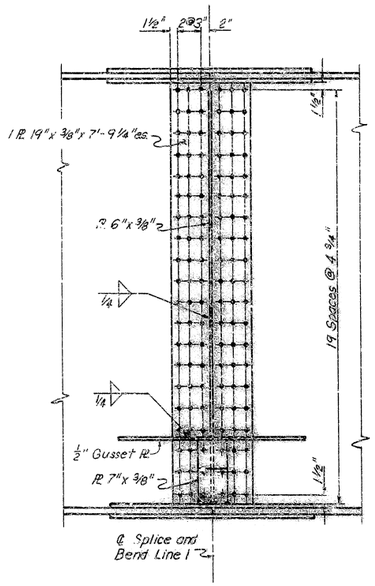
D MISC. SPLICE DETAILS



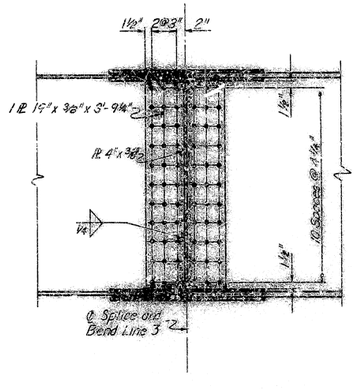
PLAN - BEND LINE 1
Bend Line 2 is similar



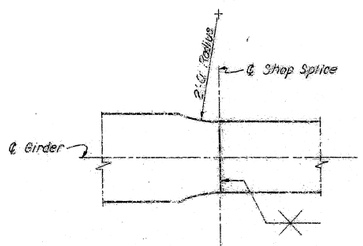
PLAN - BEND LINE 3
Bend Line 4 is similar



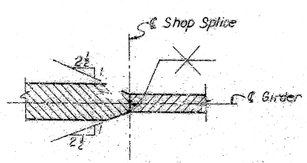
ELEVATION - BEND LINE 1
Bend Line 2 is similar



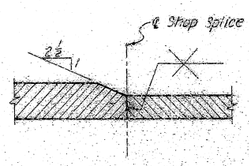
ELEVATION - BEND LINE 3
Bend Line 4 is similar



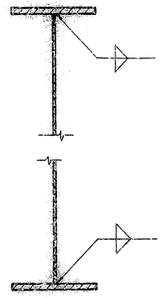
FLANGE TAPER DETAIL



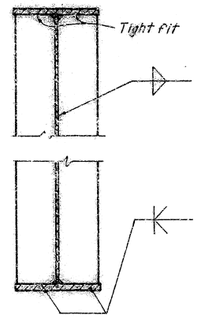
WELDED WEB SPLICE



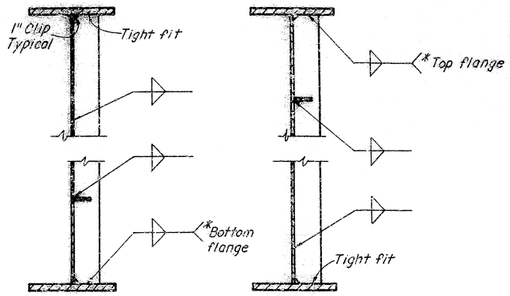
WELDED FLANGE SPLICE



FLANGE TO WEB WELDS



BEARING STIFFENER WELDS

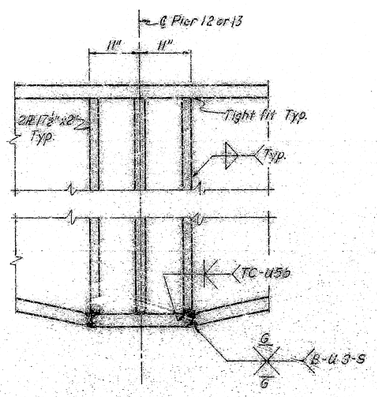


* As indicated on Girder Elevations

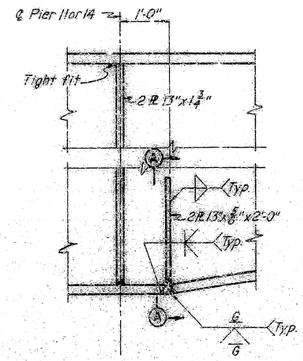
INTERMEDIATE AND LONGITUDINAL STIFFENER WELDS

TABLE OF FILLET WELDS	
MAXIMUM PLATE THICKNESS	WELD SIZE*
To ¾" inclusive	¼"
Over ¾" to 1½"	5/16"
Over 1½" to 2¼"	⅜"
Over 2¼" to 4"	½"

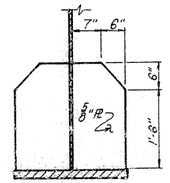
*But not greater than thinnest part joined



BEARING DETAIL



HAUNCH DETAIL



SECTION A-A

Note:
For additional details of bend line connections, see Floorbeam and Crossframe Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

MISCELLANEOUS SPLICE DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

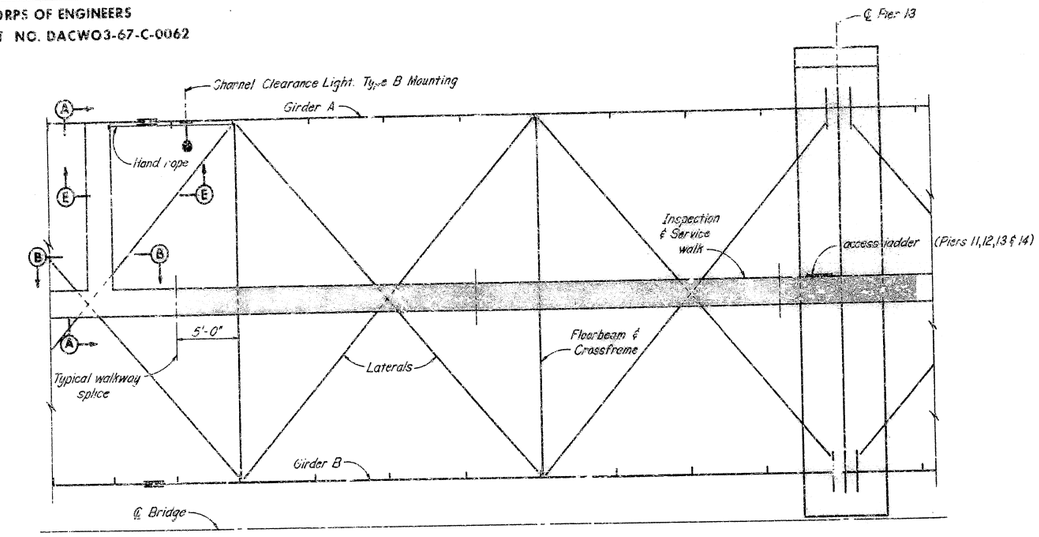
DRAWN BY RDF DATE 9-28-67 CHECKED BY [illegible] DATE 9-67
PROJECT NO. 5275 SCALE 1"=1'-0" DRAWING NO. 15145

FOR INFORMATION ONLY

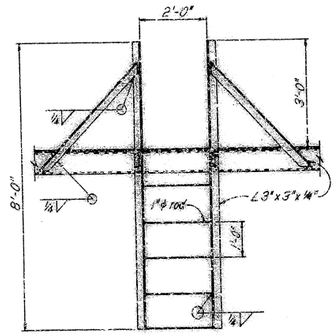
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	46	127

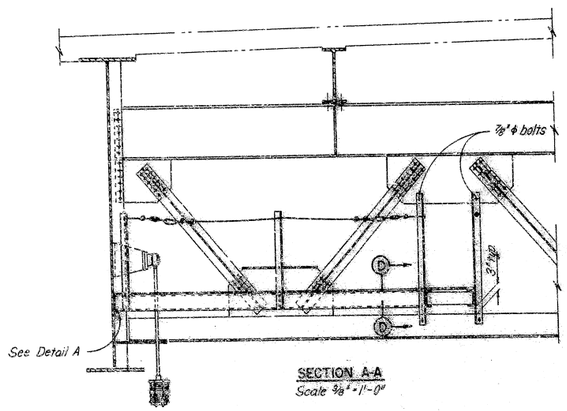
D MISC. STEEL DETAILS



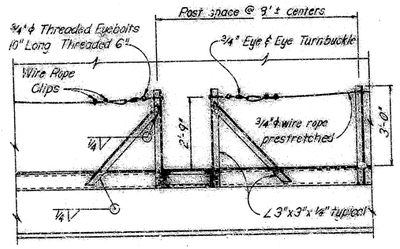
PART PLAN
Scale 3/16"=1'-0"



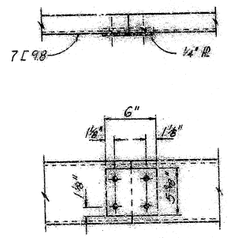
ACCESS LADDER DETAILS
Scale 1/2"=1'-0"



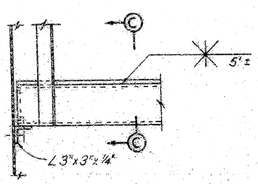
SECTION A-A
Scale 3/8"=1'-0"



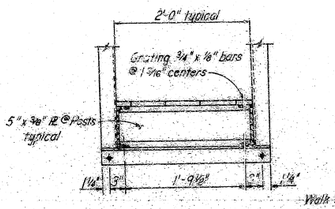
SECTION B-B
Scale 3/8"=1'-0"



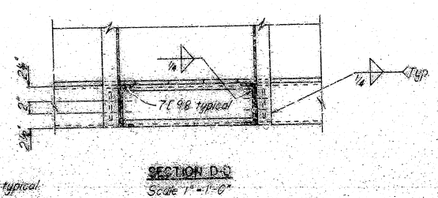
SPLICE DETAIL
Scale 1 1/2"=1'-0"



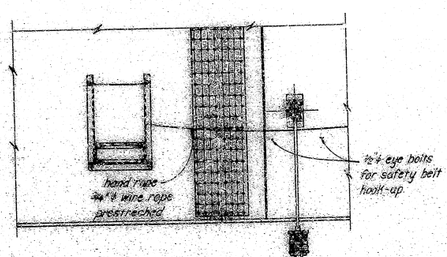
DETAIL A
Scale 1"=1'-0"



SECTION C-C
Scale 1"=1'-0"



SECTION D-D
Scale 1"=1'-0"



SECTION E-E
Scale 3/8"=1'-0"

Notes:
Connections to floorbeam at joints 3-4 and 4-5 are similar to the connection shown in Section C-C. Use 5/8" bolts for walkway connections unless otherwise noted.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA

MISCELLANEOUS STEEL DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

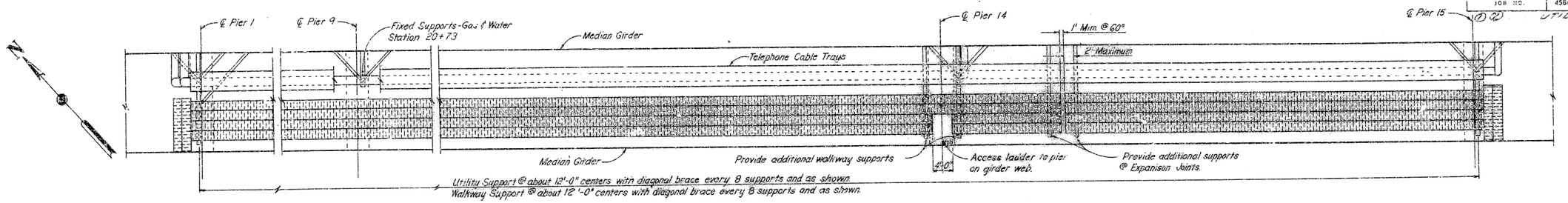
DRAWN BY GDH DATE 9-1968 CHECKED BY EDR DATE 9-20-68
APPROVED JOB NO. 3275 SCALE AS SHOWN DP & WIND NO. 16166

FOR INFORMATION ONLY

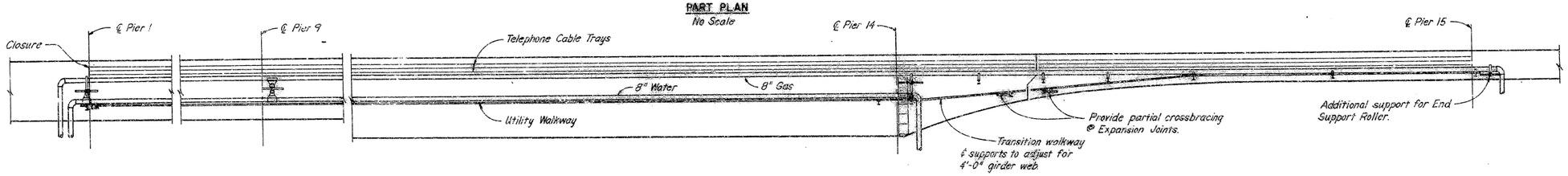
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	47	127

UTILITY DETAILS



PART PLAN
No Scale



PART ELEVATION
No Scale

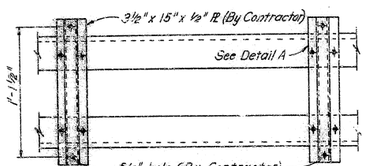
FIXED SUPPORT

VIEW A-A

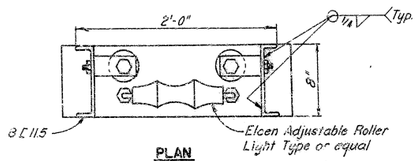
FIXED SUPPORT

DETAIL A
No Scale

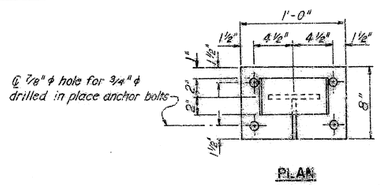
PLAN



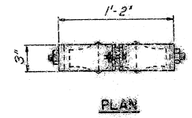
CABLE TRAY SUPPORT



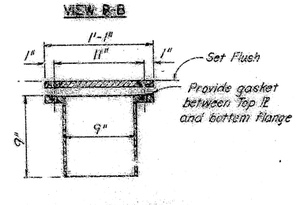
PLAN



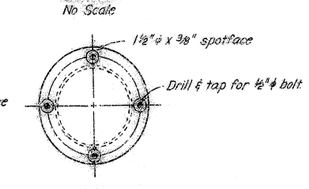
PLAN



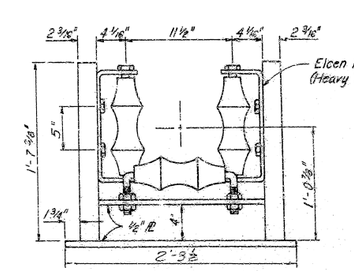
PLAN



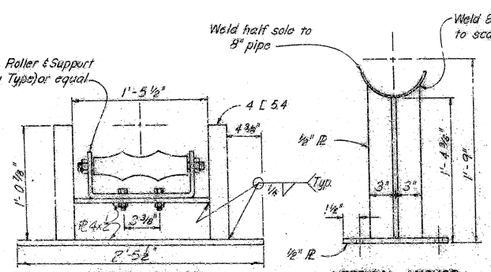
CABLE ACCESS OPENING
See Slab Plans for location



PLAN

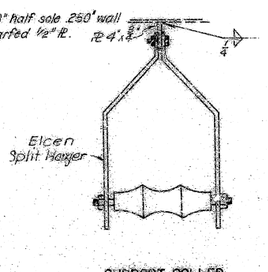


END SUPPORT ROLLER

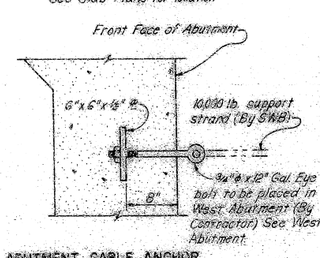


SUPPORT ROLLER

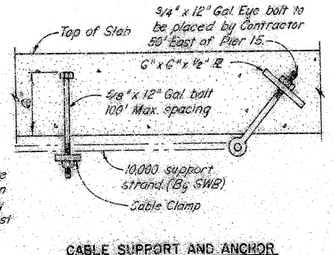
VERTICAL ANCHOR



SUPPORT ROLLER



ABUTMENT CABLE ANCHOR



CABLE SUPPORT AND ANCHOR

GAS

WATER

TELEPHONE

FOR INFORMATION ONLY

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

UTILITY DETAILS

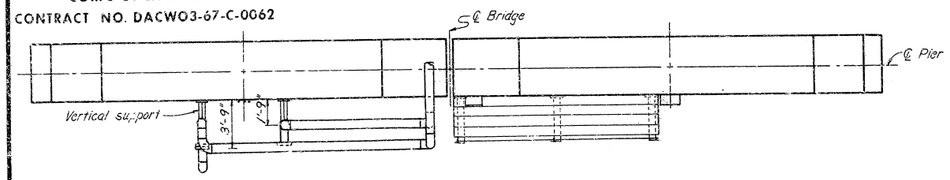
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

DRAWN BY GDH DATE 12/9/68 CHECKED BY JDT DATE 12-12-68
BRIDGE NO. 527S SCALE 1/4"=1'-0" DRAWING NO. 15137

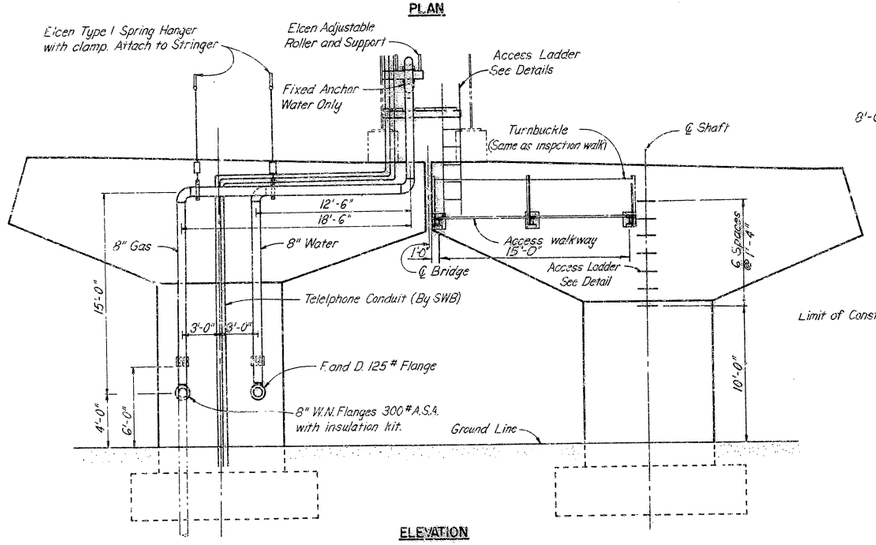
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. A.D. PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	48	127

OD UTILITY DETAILS

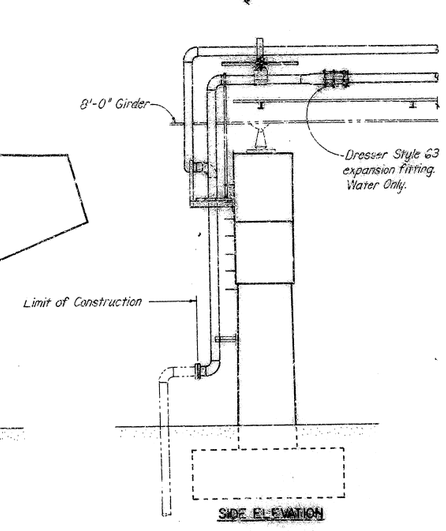


PLAN

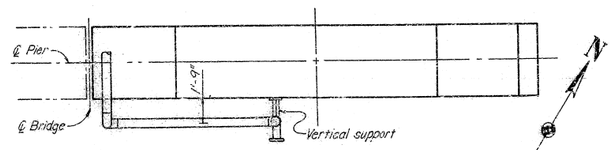


ELEVATION

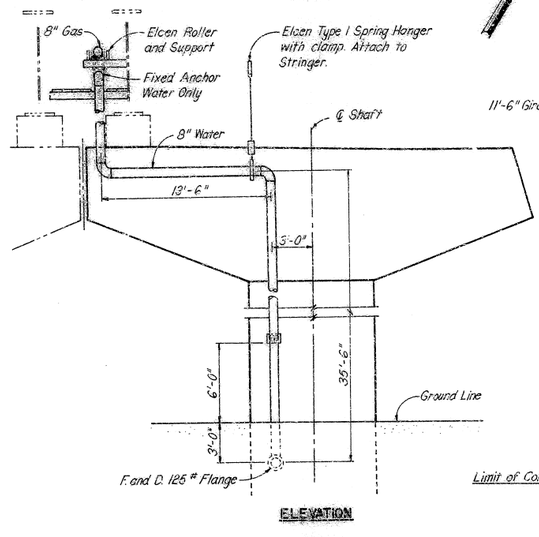
PIER 1



SIDE ELEVATION

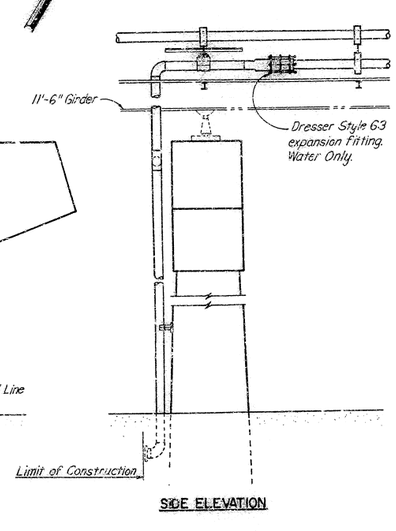


PLAN

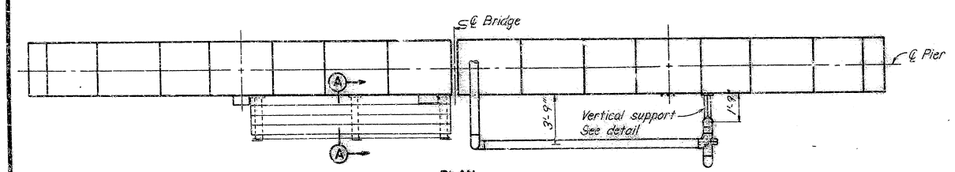


ELEVATION

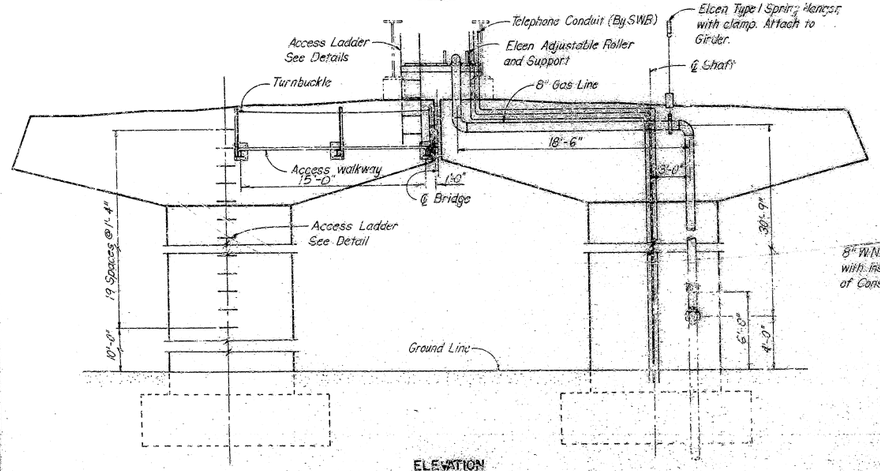
PIER 14



SIDE ELEVATION

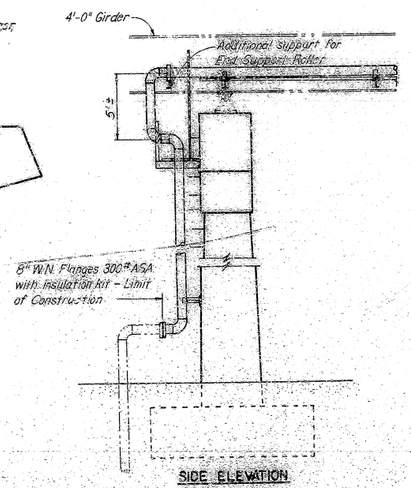


PLAN

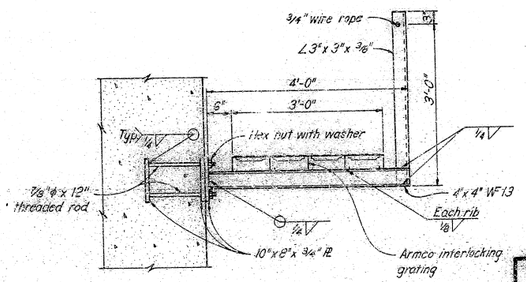


ELEVATION

PIER 15



SIDE ELEVATION



SECTION A-A
No Scale

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

UTILITY DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF — CONSULTING ENGINEERS — HNTB

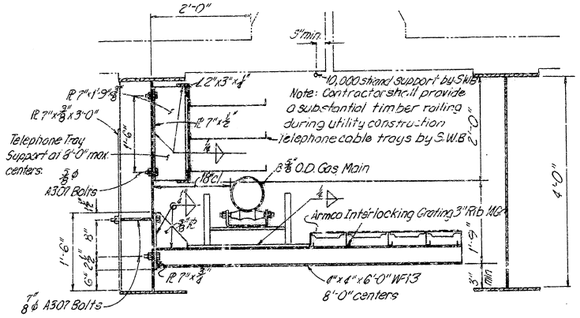
DRAWN BY GDH DATE 12/1/68 CHECKED BY [illegible] DATE [illegible]
STORK NO. 8875 SCALE 3/4"=1'-0" DRAWING NO. 15-48

FOR INFORMATION ONLY

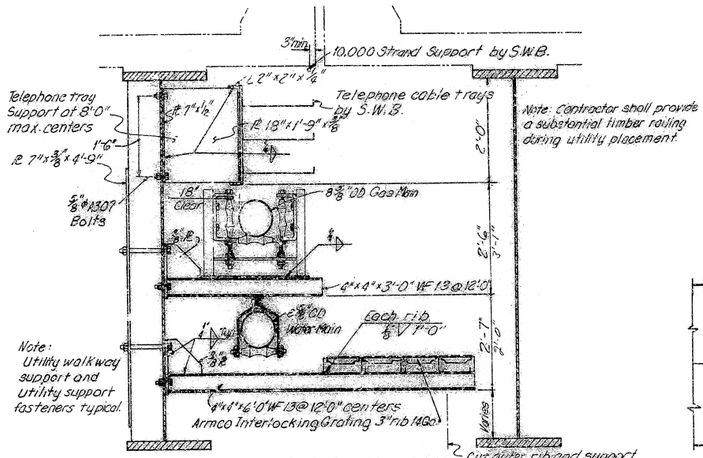
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	48	127

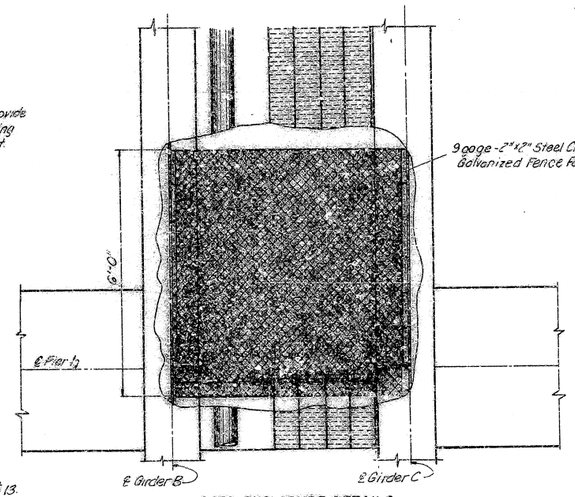
02 UTILITY DETAILS



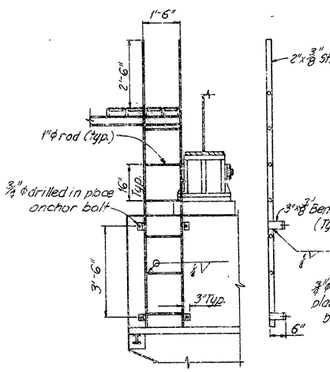
UTILITY WALKWAY AND SUPPORT
PIER 14 TO PIER 15
Scale: ⅜"=1'-0"



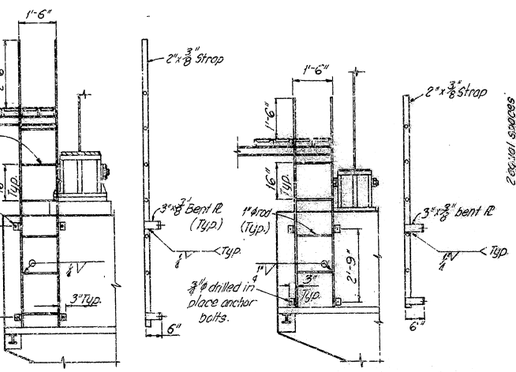
UTILITY WALKWAY AND SUPPORT
PIER 1 TO PIER 14
No Scale



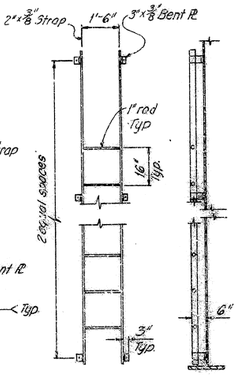
GATE ENCLOSURE DETAILS
PLAN
Scale: ⅜"=1'-0"



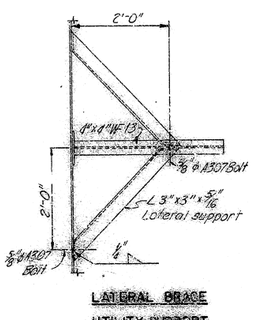
UTILITY ACCESS LADDER DETAILS
PIER 1
Scale: ⅜"=1'-0"



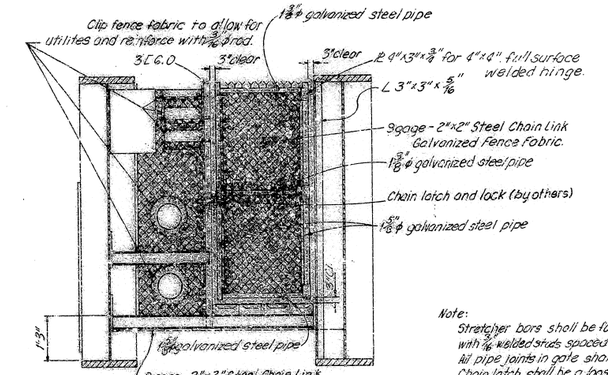
UTILITY ACCESS LADDER DETAILS
PIER 15
Scale: ⅜"=1'-0"



LADDER DETAILS
PIER 14
Scale: ⅜"=1'-0"

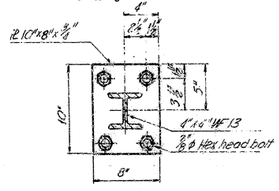


LATERAL BRACE
UTILITY SUPPORT
Scale: ⅜"=1'-0"

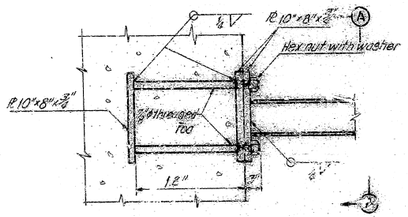


GATE ENCLOSURE DETAILS
ELEVATION
Scale: ½"=1'-0"

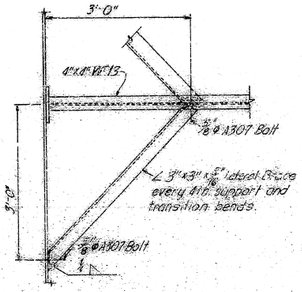
Note:
Stretcher bars shall be fastened to supports with ⅜" welded studs spaced at 1'-0" centers.
All pipe joints in gate shall be welded.
Chain latch shall be a loose connection to allow for bridge expansion.
The Chain Link fence fabric connected to the bottom of the utility walkway shall be placed loosely to allow for bridge expansion.



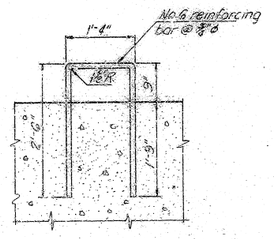
SECTION A-A
Scale: 1½"=1'-0"



PIER WALKWAY SUPPORT DETAIL
Scale: 1½"=1'-0"



LATERAL BRACE
UTILITY WALKWAY
Scale: ⅜"=1'-0"



CAST-IN-PLACE PIER LADDER DETAILS
Scale: ½"=1'-0"

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
OKLAHOMA SEBASTIAN COUNTY, ARKANSAS

UTILITY DETAILS

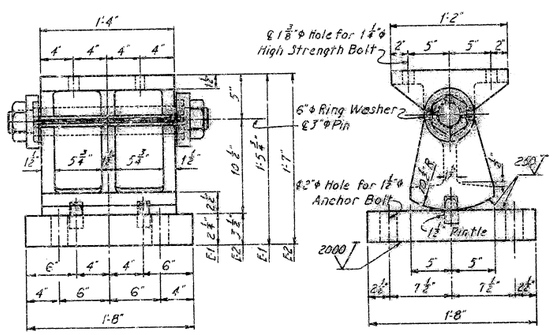
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB
DRAWN BY [illegible] DATE 12/68 CHECKED BY [illegible] DATE 12/68
PROJECT NO. 5675 SCALE AS SHOWN DRAWING NO. 15149

FOR INFORMATION ONLY

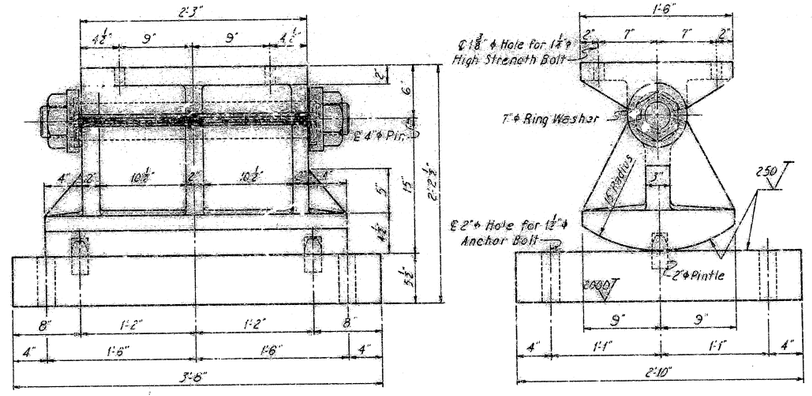
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
5	ARK.			
JOB NO.		4584	50	127

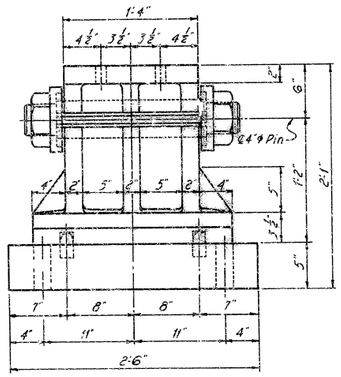
(1) BEARING ASSEMBLY DETAILS

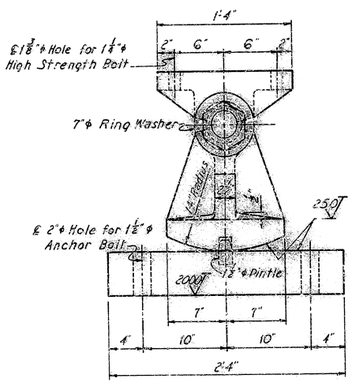


EXPANSION TYPE E-1 & E-2
8 E-1 AND 28 E-2 REQUIRED

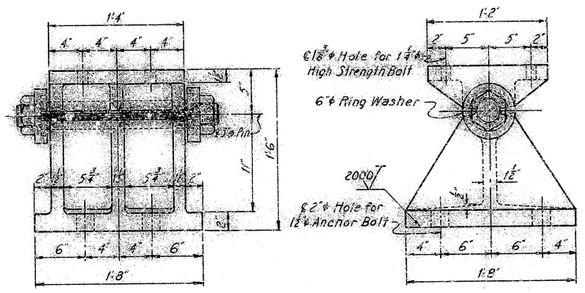


EXPANSION TYPE E-5
8 REQUIRED





EXPANSION TYPE E-3
8 REQUIRED



FIXED TYPE F-1
16 REQUIRED

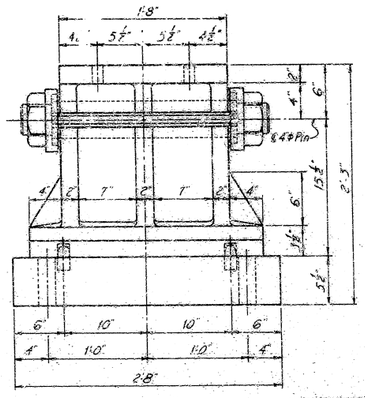
BEARING ASSEMBLIES

All castings shall be ASTM A148 grade 80-50 cast steel; the pins ASTM A235 class C1 steel forgings; the rollers either ASTM A237 class A steel forgings or ASTM A108 cold finished steel shafting; the base plates ASTM A237 class A steel forgings; the pin nuts, ring washers and anchor bolts ASTM A36 steel. The flange attachment bolts shall be ASTM A325. Base plates and castings shall be scribed with longitudinal and transverse center lines. Steel contact surfaces shall be finished in the direction of motion.

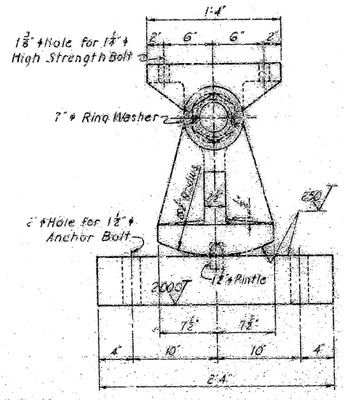
The bearing surface of the pier caps shall be ground true and level with no depressions or rises and a ⅛" pad of sheet lead shall be placed between the concrete bearing surface and the base plate. The space around the anchor bolts shall be filled with molten lead before placing nuts.

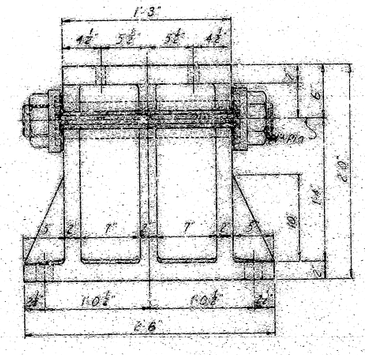
The bearing assemblies shall be [illegible] in a vertical position at 60°F.

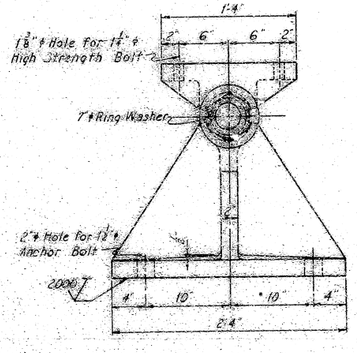
Paint the entire bearing assembly as structural steel with one shop coat and two field coats.



EXPANSION TYPE E-4
20 REQUIRED







FIXED TYPE F-2
12 REQUIRED

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS — SEBASTIAN COUNTY, ARKANSAS

BEARING ASSEMBLY DETAILS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

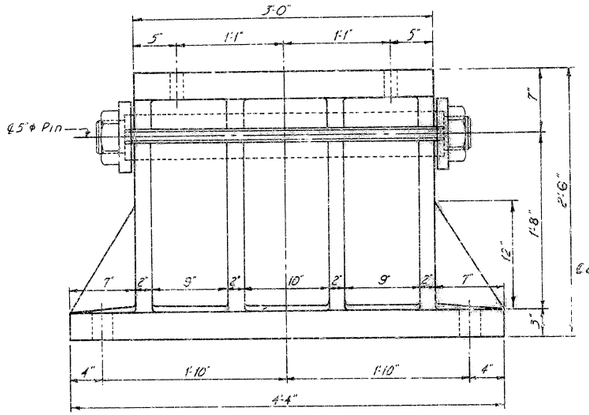
DRAWN BY KS DATE 8-21-68 CHECKED BY EDR DATE 9-20-68
TRACED BY [illegible] SCALE 1/4"=1'-0" DRAWING NO. K-50

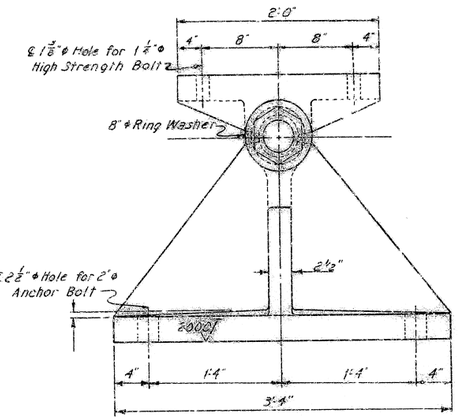
FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03 67-C-0062

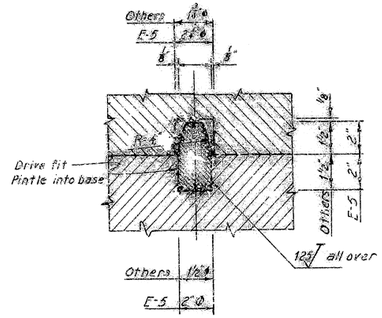
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	51	127

O BEARING ASSEMBLY DETAILS

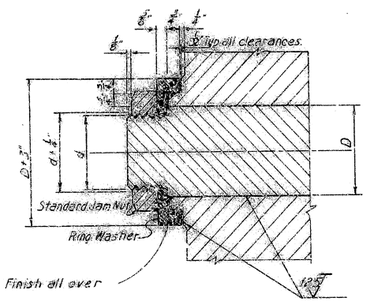




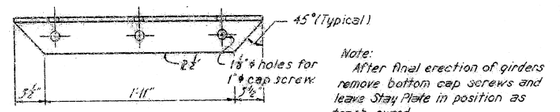
FIXED TYPE F-3
4 REQUIRED
Scale: 1½"=1'-0"



DETAIL A
No Scale

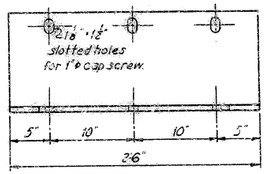


DETAIL B
No Scale

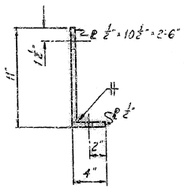


PLAN

Note:
After final erection of girders remove bottom cap screws and leave Stay Plate in position as trash guard.

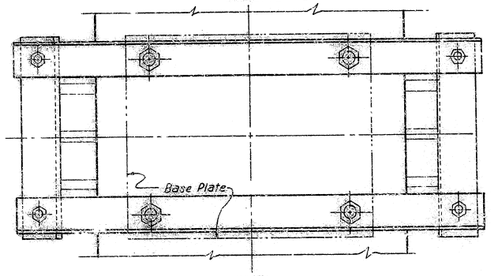


FRONT ELEVATION

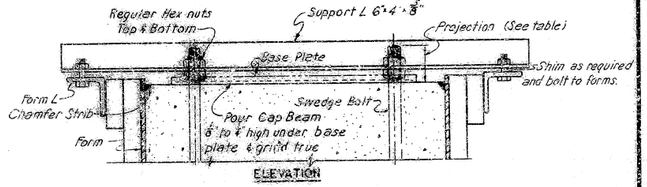


END ELEVATION

STAY PLATE DETAIL
Scale: 1½"=1'-0"

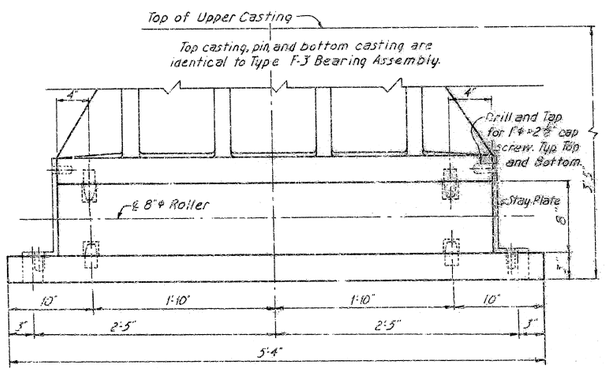


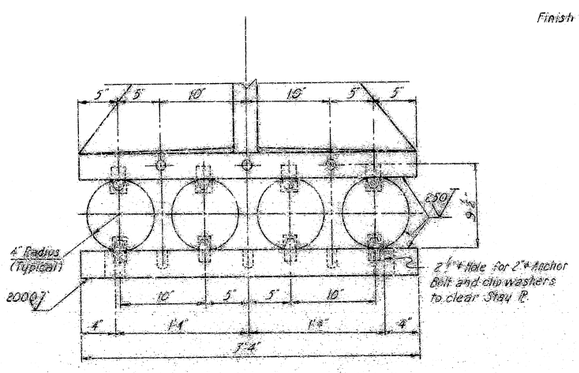
PLAN



ELEVATION

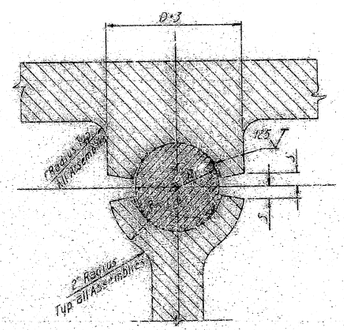
ANCHOR BOLT PLACEMENT DETAILS
Scale: 1½"=1'-0"



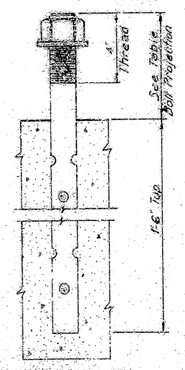


EXPANSION TYPE E-5
4 REQUIRED
Scale: 1½"=1'-0"

PIN	R	R_2	S	D	d
5"	1½"	3"	1"	5"	2¼"
4"	2½"	3½"	¾"	4"	3"
5"	2½"	4"	¾"	5"	4"



DETAIL C
No Scale



ANCHOR BOLT DETAIL
Scale: 3"=1'-0"

BOLT DETAILS		
BEARING ASSEMBLY	ANCHOR BOLT	BOLT PROJECTION
E-1 F-1 F-2	1 1/2"	5"
E-2	1 1/2"	6"
E-6 F-3	2"	6"
E-3 E-4 E-5	1 1/2"	8"

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS SEBASTIAN COUNTY, ARKANSAS

BEARING ASSEMBLY DETAILS

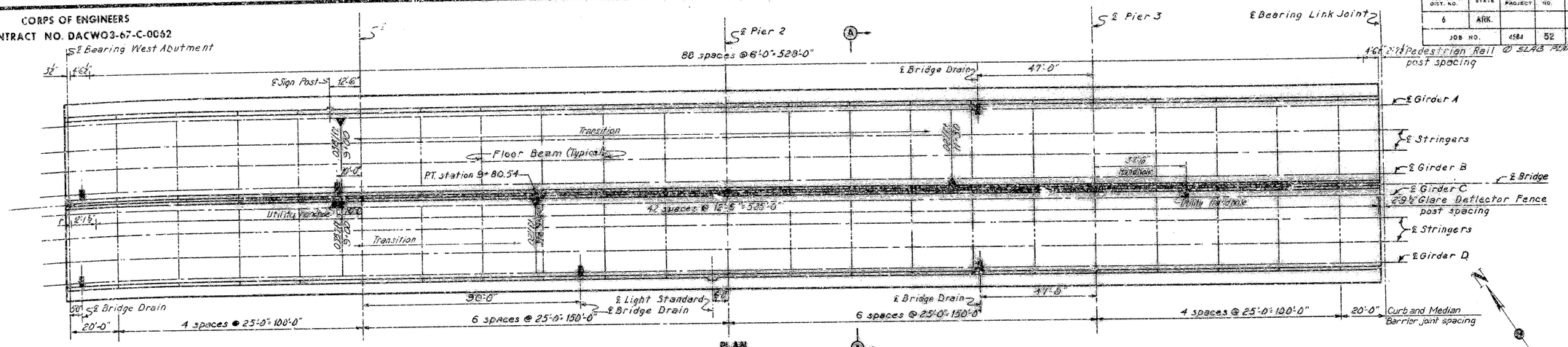
HOWARD NEEDLES TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

DRAWN BY KS DATE 7-10-68 CHECKED BY RDA DATE 9-26-68
PROJ. ID 5275 SCALE As Shown DRAWING NO. 10151

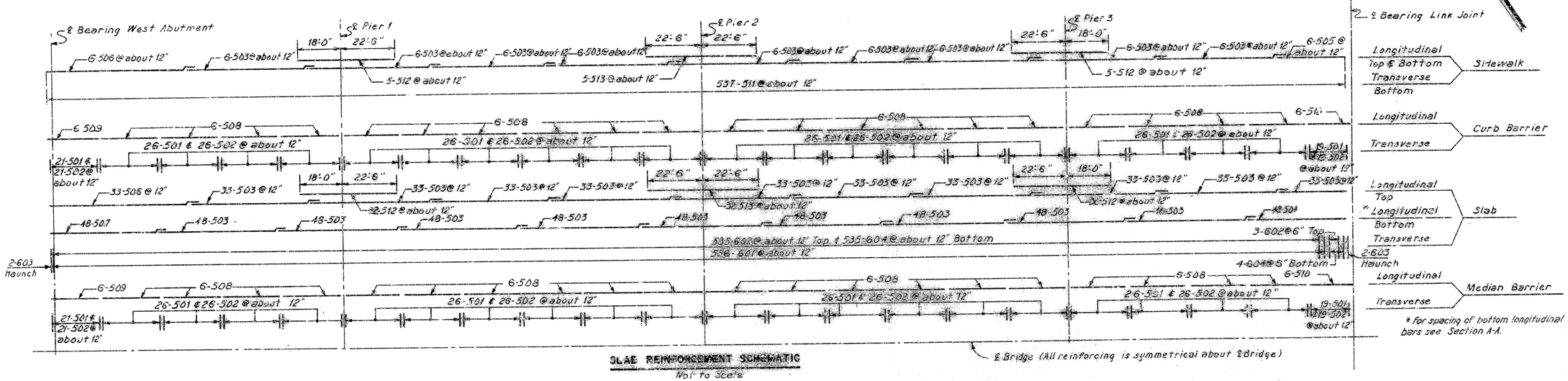
FOR INFORMATION ONLY

CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0052

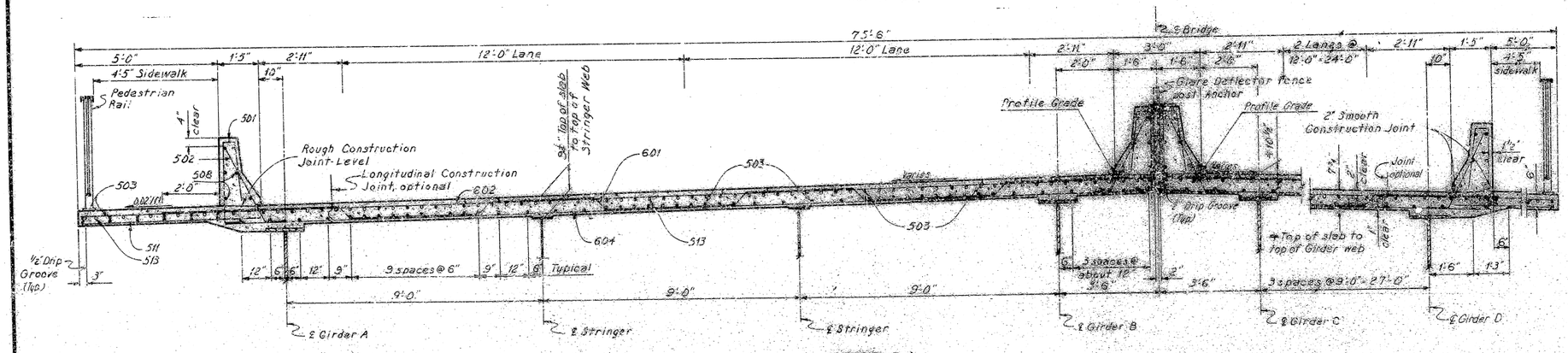
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	52	127



PLAN
Scale 1" = 20'-0"



SLAB REINFORCEMENT SCHEMATIC
Not to Scale



SECTION A-A
Scale 1" = 1'-0"

Note:
For Light Standard and Bridge Drain reinforcing see Miscellaneous Slab Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
A. FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN
UN'T 1

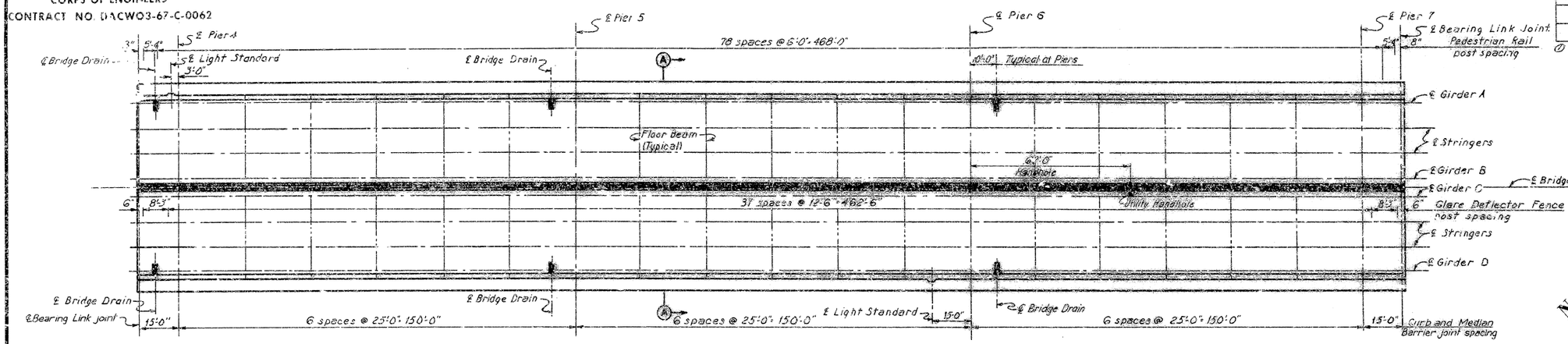
HOWARD NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS — HNTB
DRAWN BY K.S. DATE 5-21-68 CHECKED BY D.M. DATE 6-16-68
JOB NO. 5275 SCALE 1/2"=1'-0" DRAWING NO. 15152

FOR INFORMATION ONLY

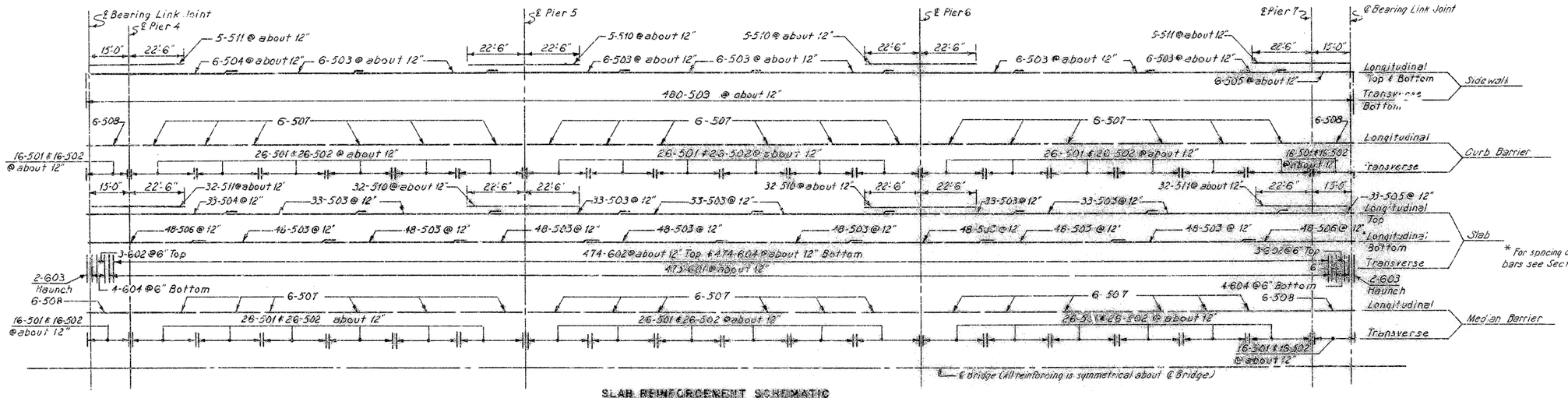
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	53	127

① SLAB PLAN - UNIT 2

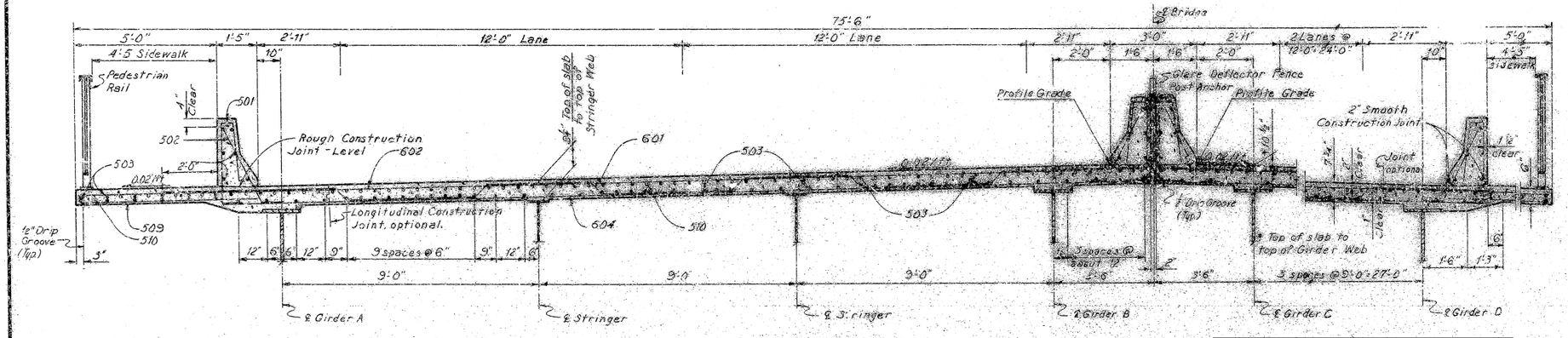


PLAN
Scale 1"=20'-0"



SLAB REINFORCEMENT SCHEMATIC
Not to Scale

* For spacing of bottom longitudinal bars see Section A-A.



SECTION A-A
Scale 1"=1'-0"

Note:
For Light Standard and Bridge Drain reinforcing see Miscellaneous Slab Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN
UNIT 2

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

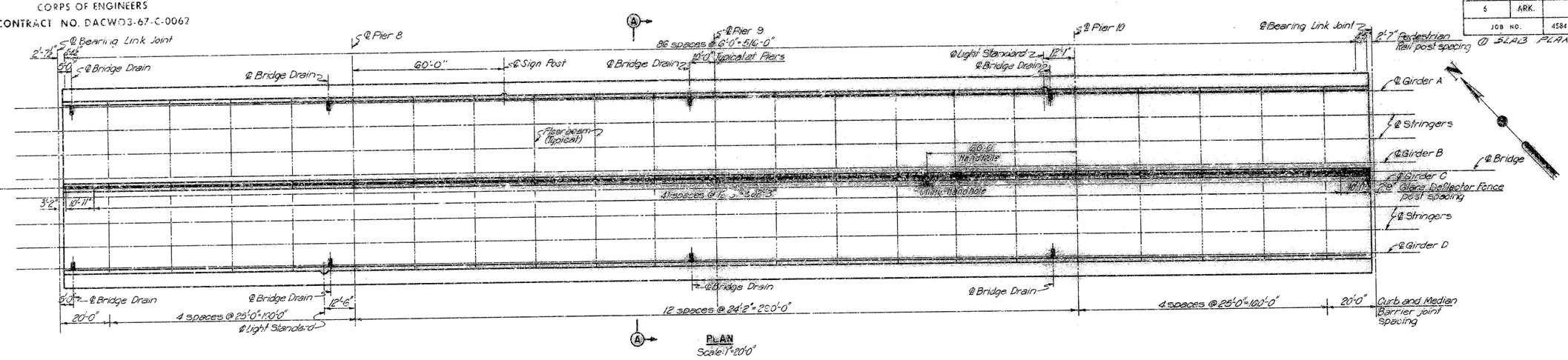
DRAWN BY KS DATE ____ CHECKED BY DTD DATE 4-6-68
CONTRACT NO. 5979 ____ SHEET 41 OF ____ SHEETS NO. 5931

FOR INFORMATION ONLY

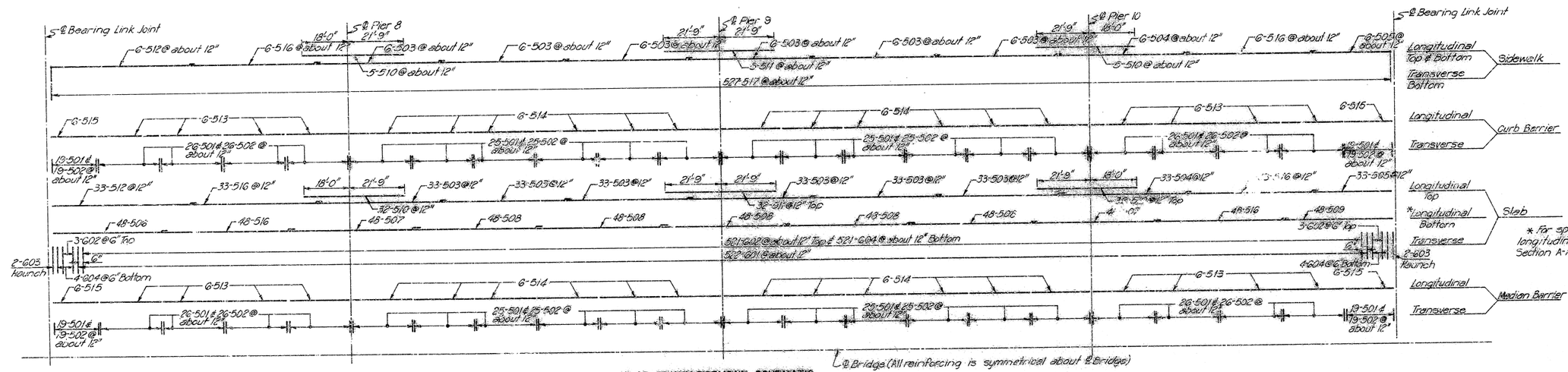
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	54	127

SLAB PLAN - UNIT 3



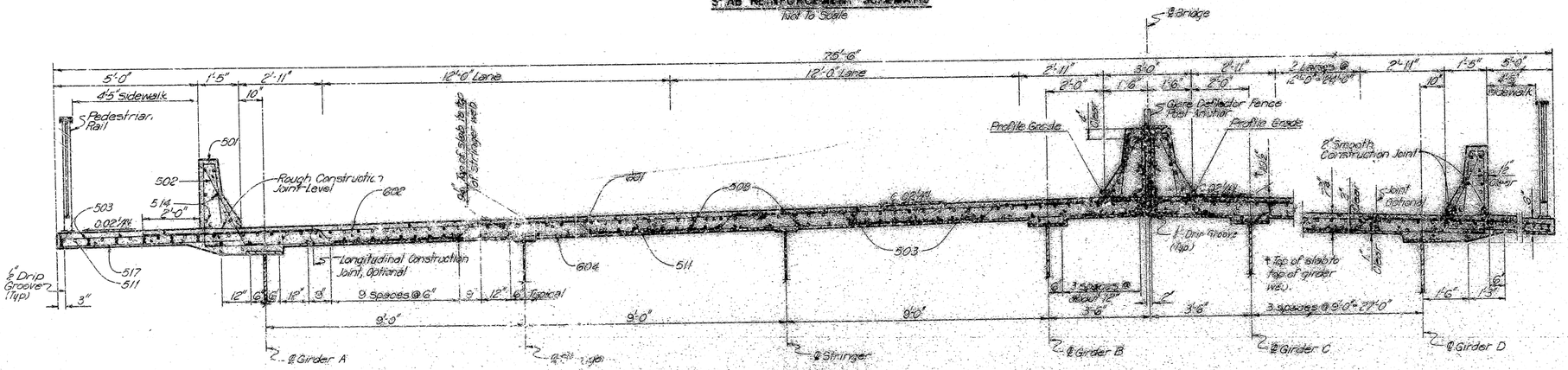
PLAN
Scale: 1" = 20'-0"



* For spacing of bottom longitudinal bars see Section A-A.

℄ Bridge (All reinforcing is symmetrical about ℄ Bridge)

SLAB REINFORCEMENT SCHEMATIC
Not To Scale



SECTION A-A
Scale: 1/4" = 1'-0"

Notes:
For Light Standard and Bridge Drain reinforcing see Miscellaneous Slab Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN
UNIT 3

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

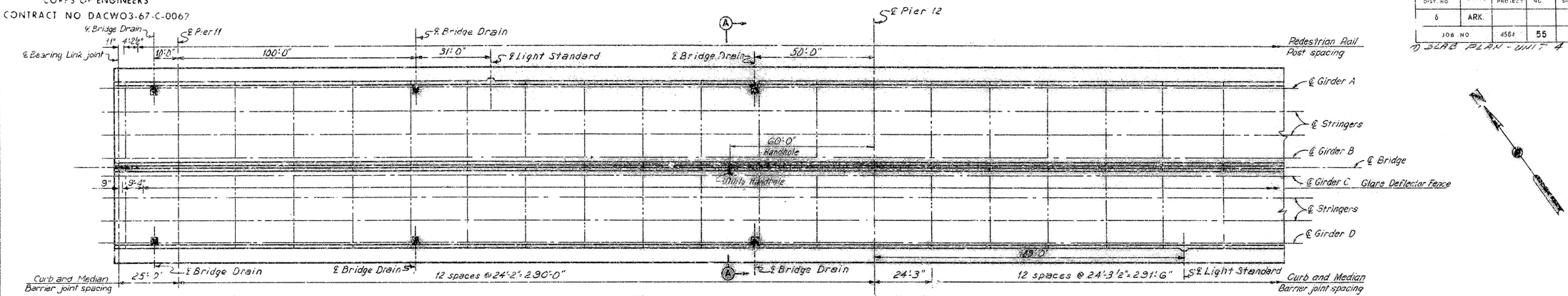
DRAWN BY LDL DATE 5-8-68 CHECKED BY Q.M. DATE 6-11-68
DRAWING NO. 3275 SHEET NO. 5 OF 12 SHEETS NO. 1951

FOR INFORMATION ONLY

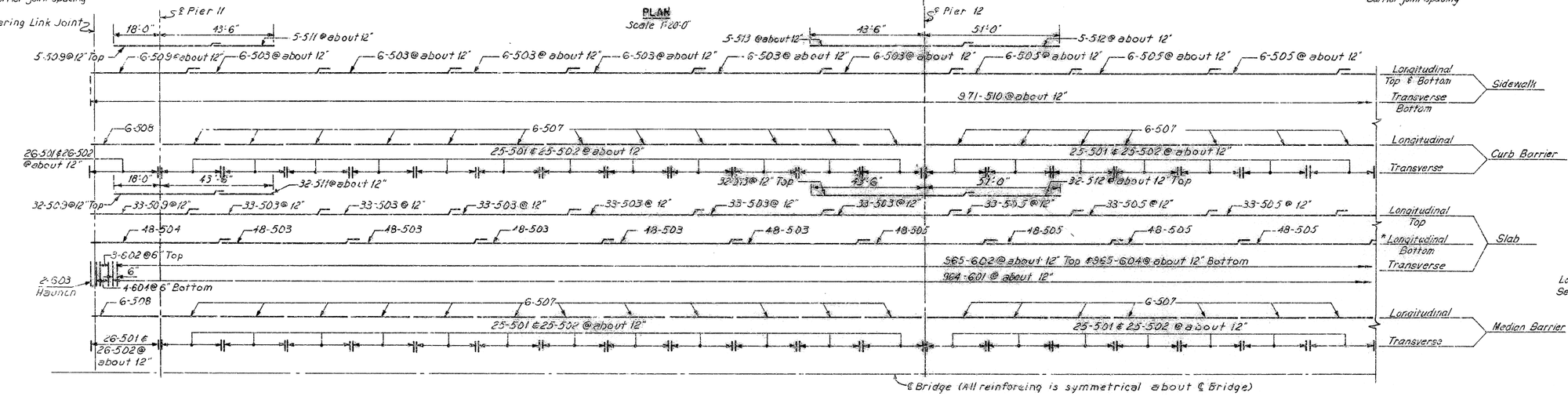
CORPS OF ENGINEERS
CONTRACT NO DACW03-67-C-0067

FED. ROAD DIST. NO	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO		4584	55	127

1) SLAB PLAN - UNIT 4

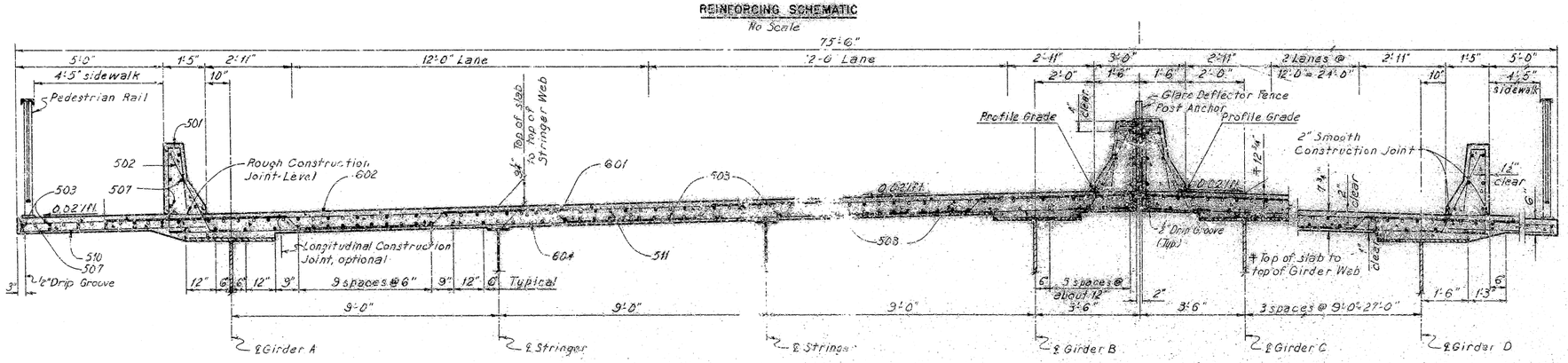


PLAN
Scale 1"=20'-0"



* For spacing of bottom Longitudinal bars see Section A-A.

REINFORCING SCHEMATIC
No Scale



SECTION A-A
Scale 1"=1'0"

Note:
For Light Standard and Bridge Drain Reinforcing, see Miscellaneous Slab Details

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN
UNIT 4

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS HNTB

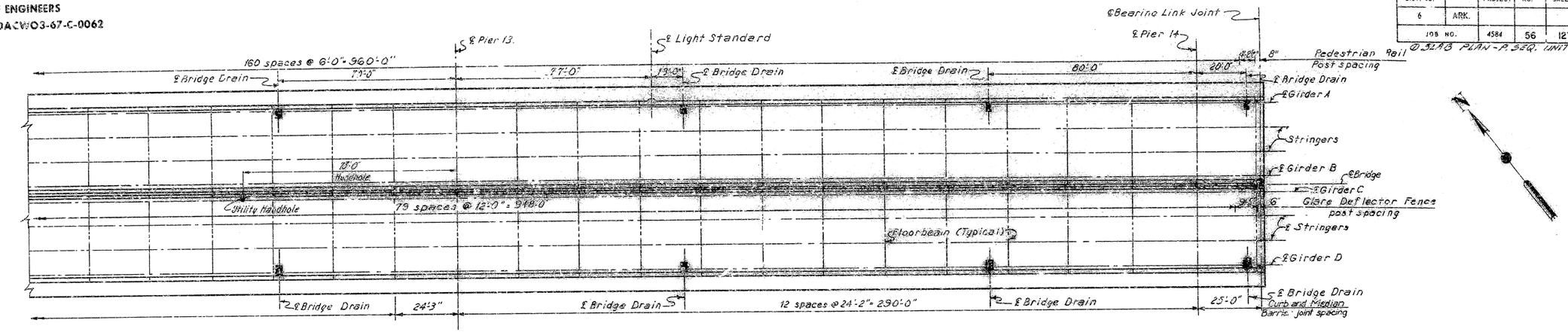
DRAWN BY K.S. DATE 6-28-68 CHECKED BY O.M. DATE 8-16-68
PROJ. NO. 3373 SCALE AS SHOWN DRAWING NO. [illegible]

FOR INFORMATION ONLY

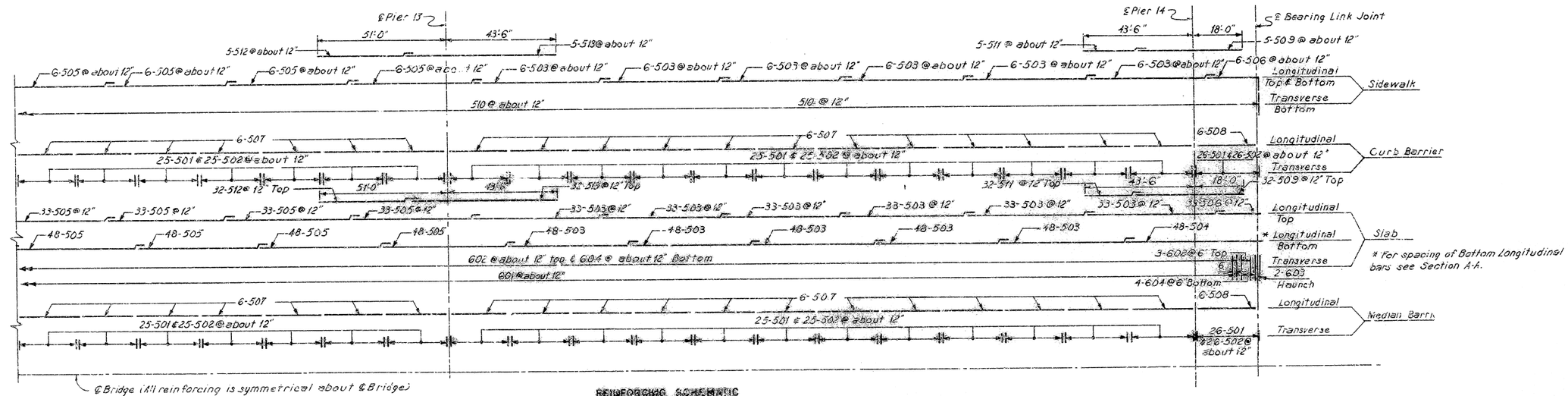
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	56	127

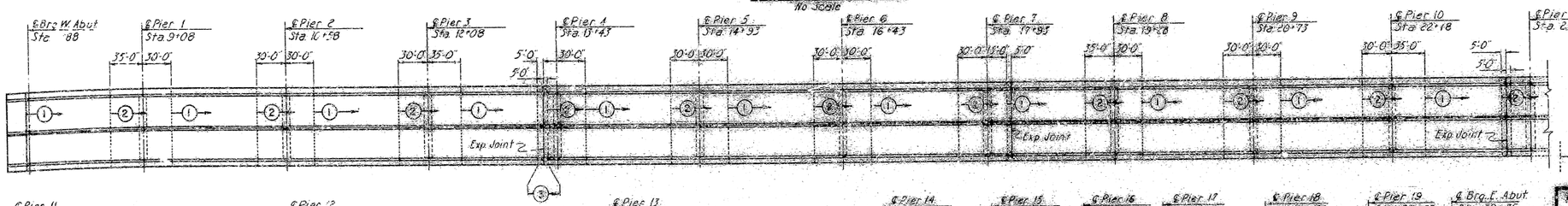
@ SLAB PLAN - P. SEQ. UNIT 4

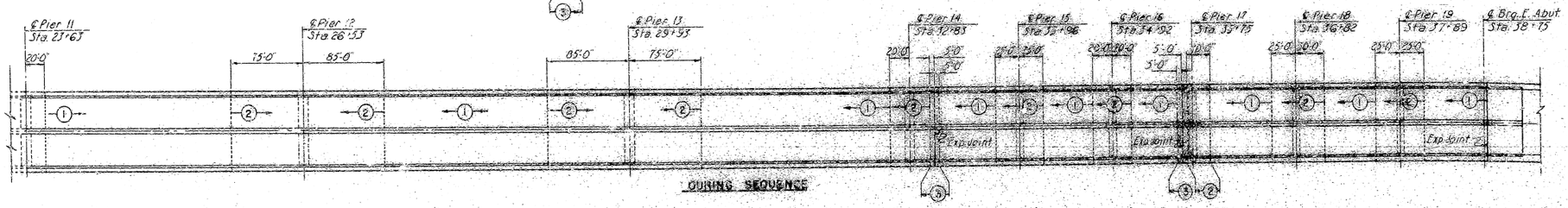


PLAN
Scale: 1"=20'-0"



REINFORCING SCHEMATIC
No Scale





POURING SEQUENCE

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
BENTON COUNTY, ARKANSAS — SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN UNIT 4
& POURING SEQUENCE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
HNTB

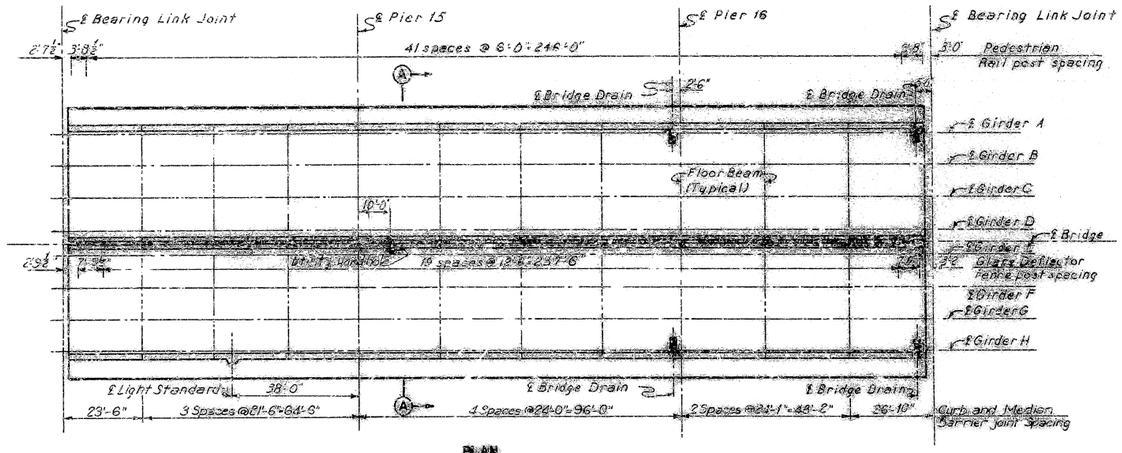
DRAWN BY K.S. DATE 9-68 CHECKED BY G.M. DATE 9-68
STATE JOB NO. [illegible]

FOR INFORMATION ONLY

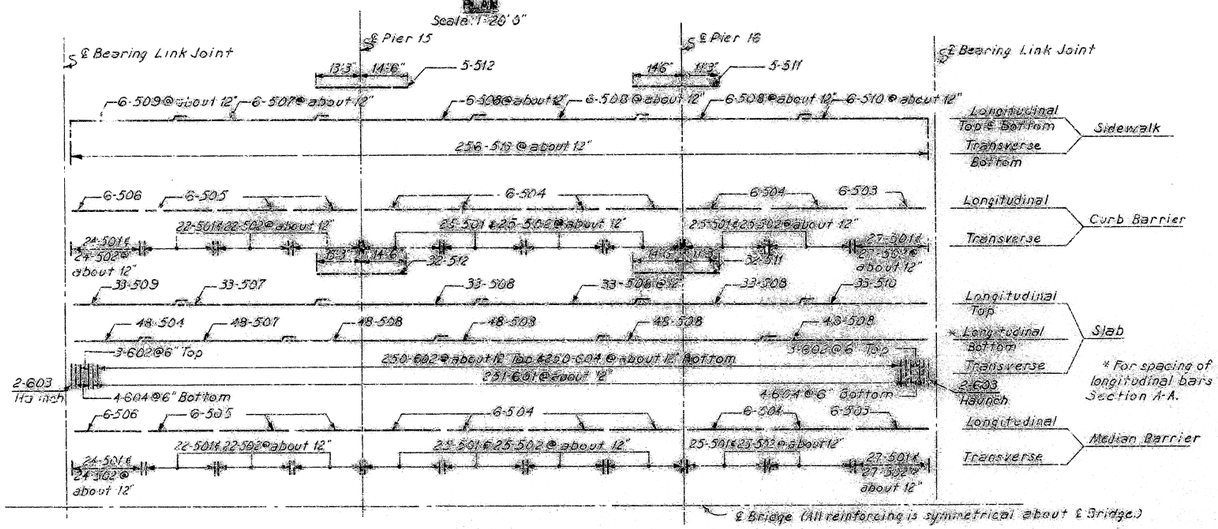
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		4584	57	127

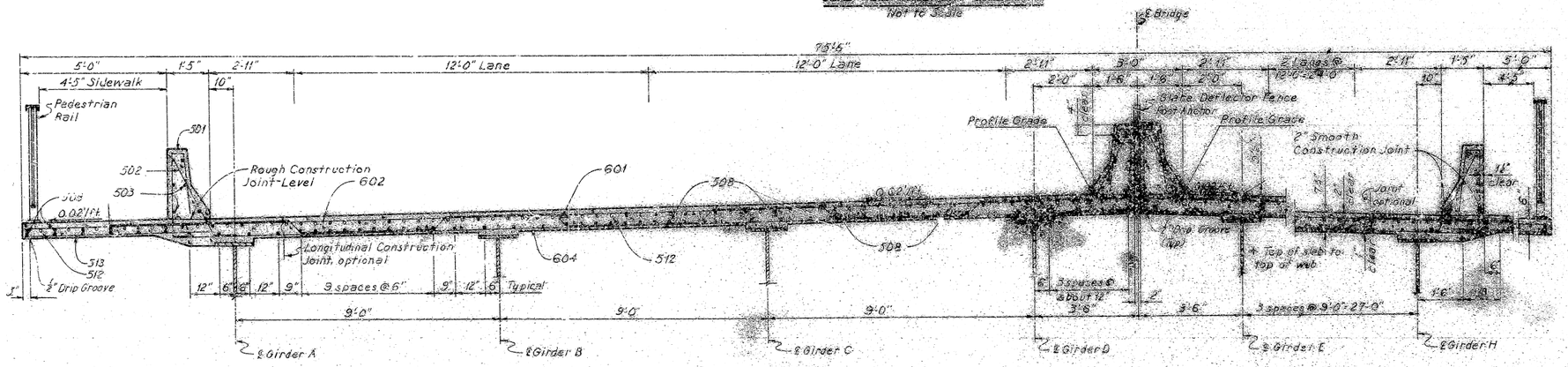
① SLAB PLAN - UNIT 5



PLAN
Scale: 1"=20'-0"



SLAB REINFORCEMENT SCHEMATIC
Not to Scale



SECTION A-A
Scale 1"=1'-0"

Note:
For Light Standard and Bridge Drain reinforcing see Miscellaneous Slab Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEBASTIAN COUNTY, OKLAHOMA — CRAWFORD COUNTY, ARKANSAS

SLAB PLAN
UNIT 5

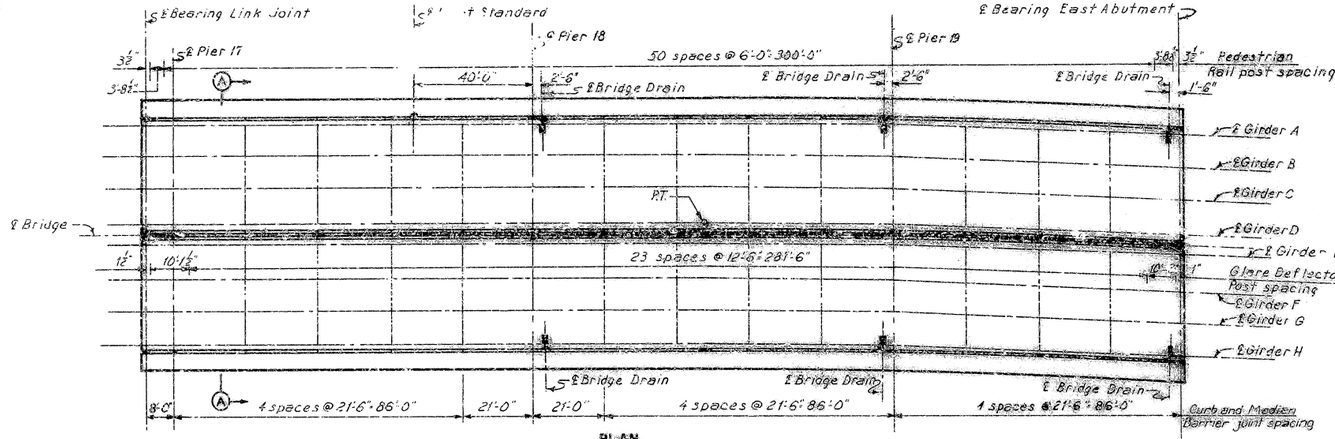
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB
DRAWN BY K.S. DATE 6-3-68 CHECKED BY Q.M. DATE 6-16-68
SCALE AS SHOWN — STRUCTURAL NO. 6167

FOR INFORMATION ONLY

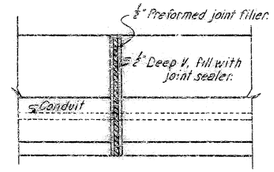
CORPS OF ENGINEERS
CONTRACT NO. DACW03-67-C-0062

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		584	38	127

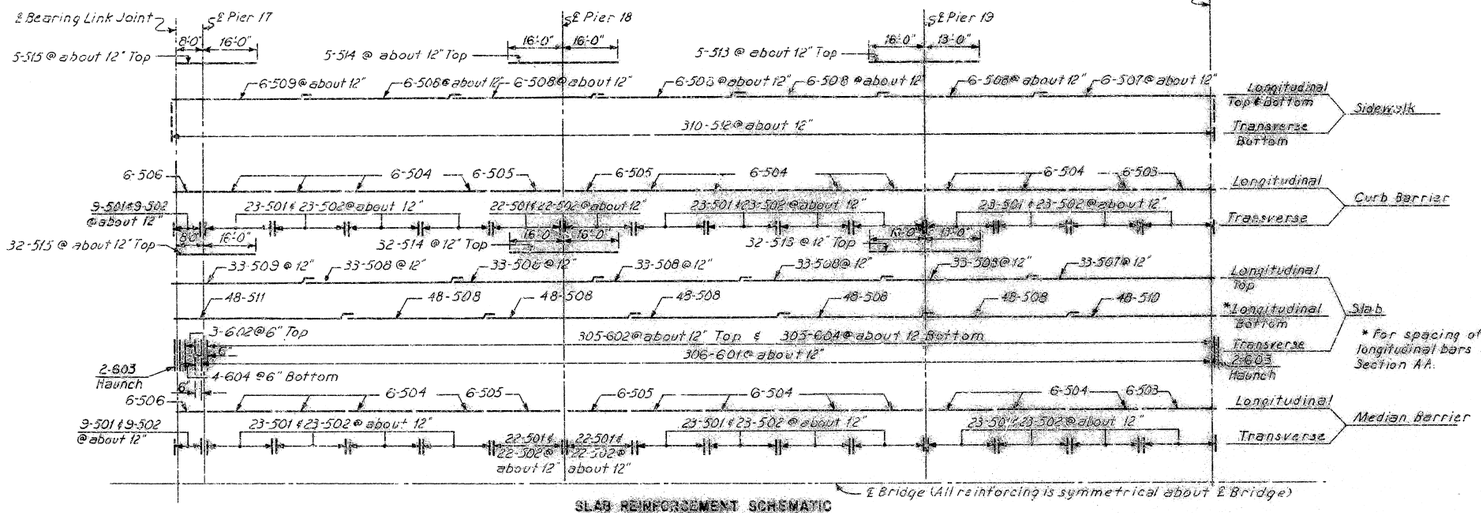
(1) SLAB PLAN - UNIT G



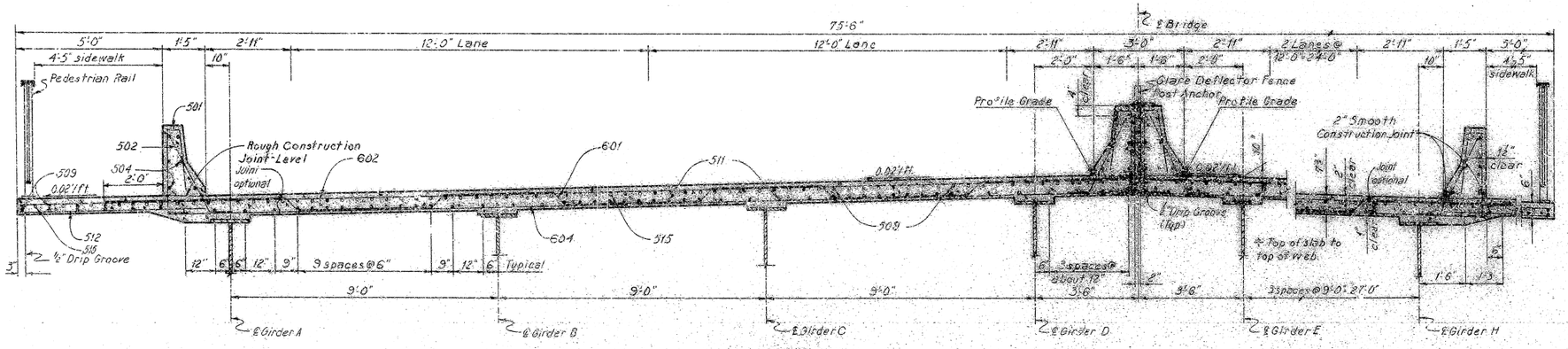
PLAN
Scale 1" = 20'-0"



JOINT DETAIL
No Scale



SLAB REINFORCEMENT SCHEMATIC
Not to Scale



SECTION A-A
Scale ½"=1'-0"

Note
For Light Standard and Bridge Drain reinforcing see Miscellaneous Slab Details.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
U.S. HIGHWAY 64 BRIDGE RELOCATION
AT FORT SMITH, ARKANSAS
SEQUOYAH COUNTY, OKLAHOMA — SEBASTIAN COUNTY, ARKANSAS

SLAB PLAN
UNIT G

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS HNTB

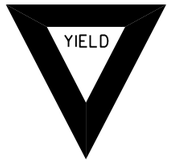
DRAWN BY K.S. DATE 7/1/68 CHECKED BY Q.M. DATE 8-16-68
BRIDGE NO. 5275 SCALE AS SHOWN DRAWING NO. 16.58

FOR INFORMATION ONLY

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

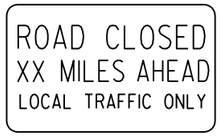
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W21-5a

STD. 36"X36"
FWY. 48"X48"

WI-1

STD. 36"X36"
FWY. 48"X48"

WI-2

STD. 36"X36"
FWY. 48"X48"

WI-3

STD. 48"X48"

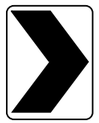
WI-4

STD. 48"X48"

WI-6

STD. 48"X24"
SPECIAL 60"X30"

WI-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

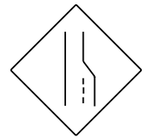
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

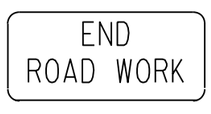
W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

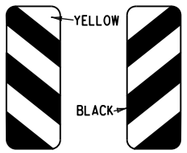
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

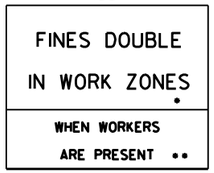
M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

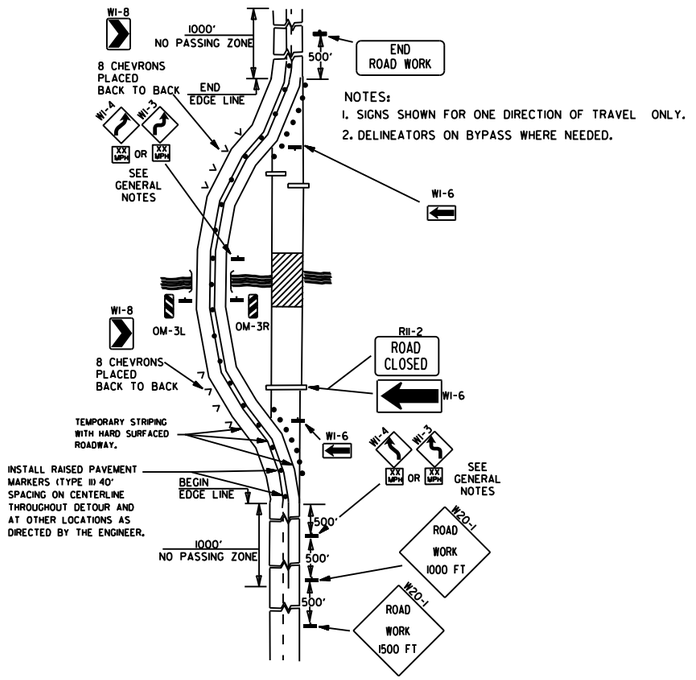
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

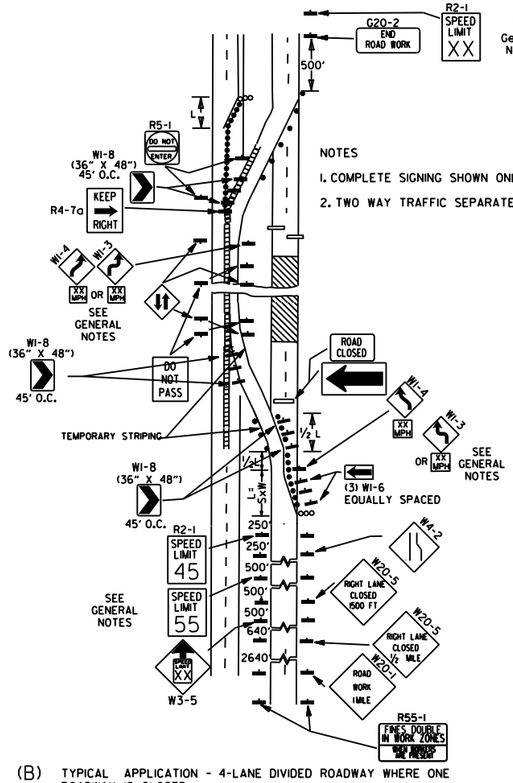
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



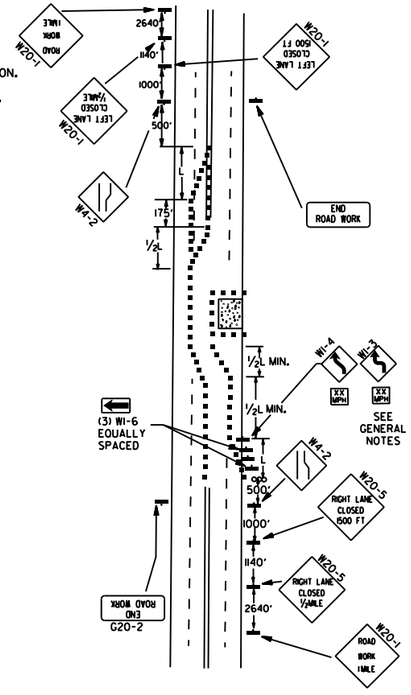
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

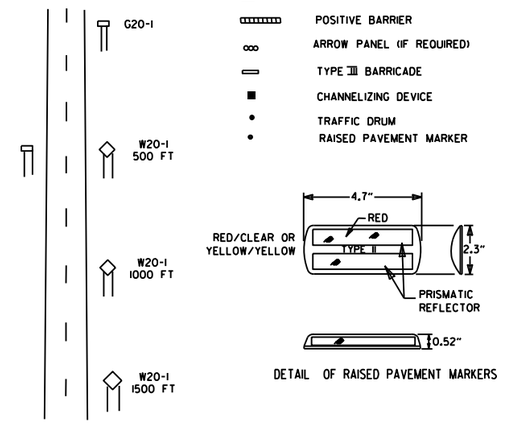


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

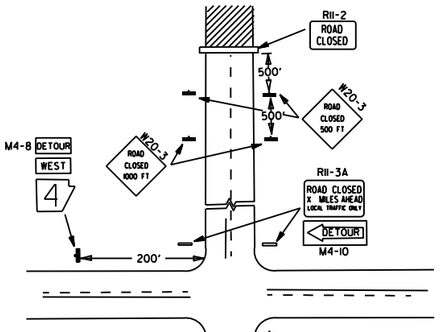
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

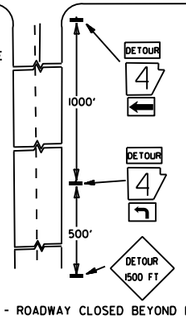
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

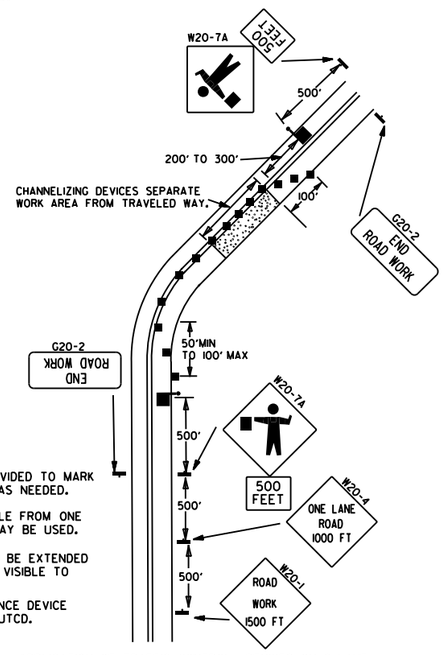
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

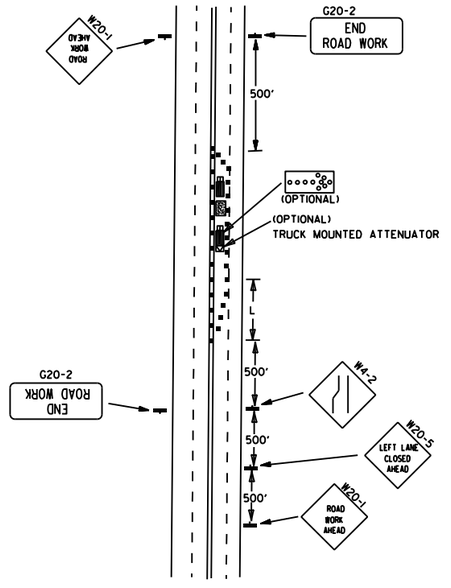


(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



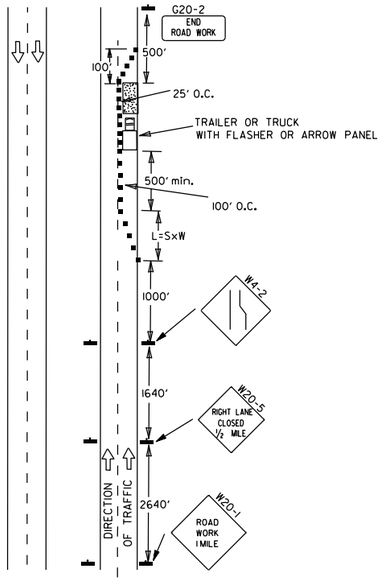
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

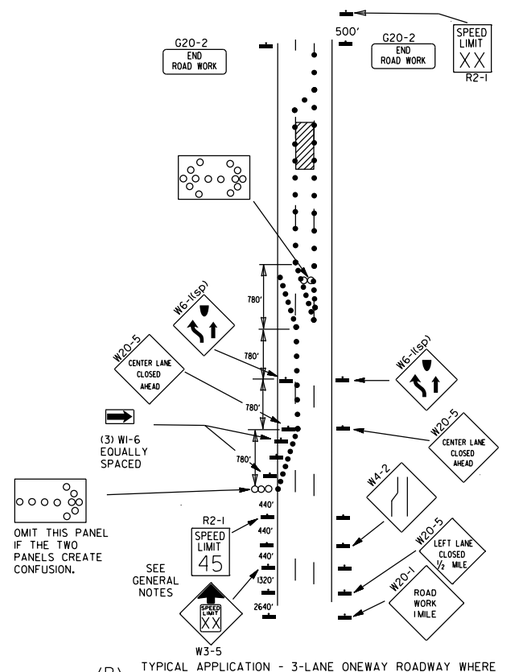
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



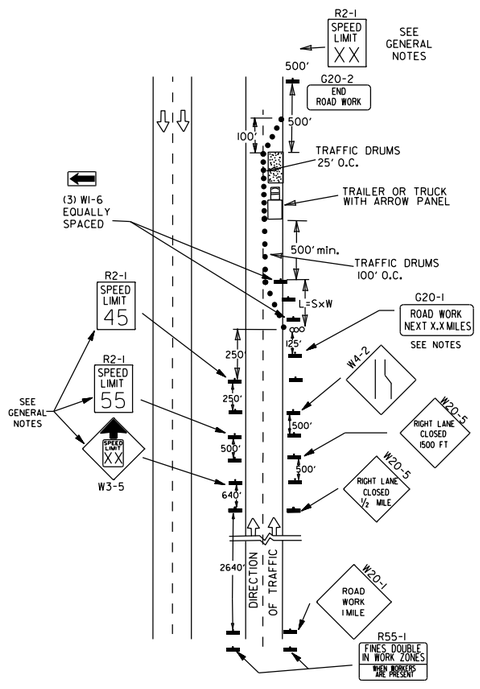
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

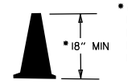
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



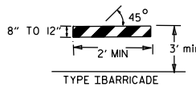
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES



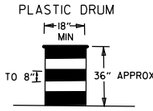
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

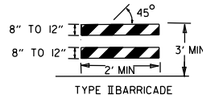
CONES



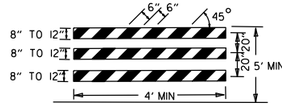
TYPE I BARRICADE

PLASTIC DRUM



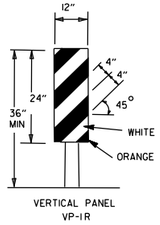


TYPE II BARRICADE



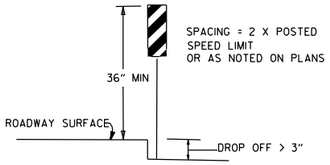
TYPE III BARRICADE

NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

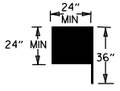


VERTICAL PANEL VP-1R

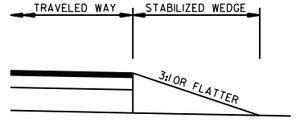
VERTICAL PANEL PLACEMENT



FLAG



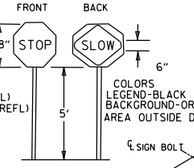
FLAG SHALL BE OF GOOD GRADE RED MATERIAL

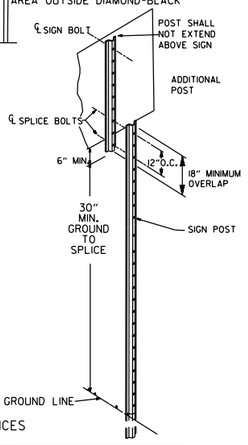


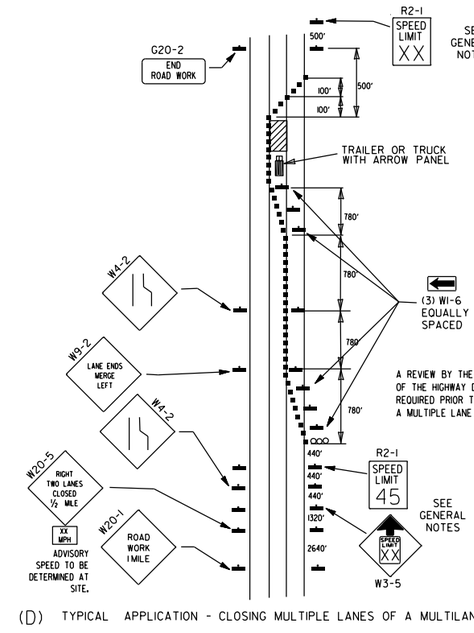
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE







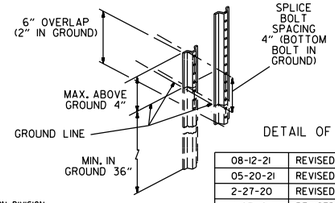
A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS[3]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

INTERSTATE AND NON-INTERSTATE

FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3