

DESIGN DESIGNATION

A.D.T. - 1999 = 6200
A.D.T. - 2019 = 10,200
PEAK HOUR = 9%
D = 55%
T = 17%
V = 110 km/h
FUNCTIONAL CLASSIFICATION -
PRINCIPAL ARTERIAL

LIMITED ACCESS HIGHWAY

THIS SHALL BE A LIMITED ACCESS HIGHWAY, BETWEEN STA. 0+000 AND STA. 1+435 EXCEPT AT LOCATIONS AND AS OTHERWISE SPECIFICALLY SHOWN ON THESE PLANS, NO ABUTTER'S RIGHTS IN, OR OF DIRECT ACCESS TO, FROM, OR ACROSS THE HIGHWAY OR ITS RIGHT-OF-WAY SHALL ATTACH OR BELONG TO ANY PROPERTY ABUTTING ON SAID SECTION OF HIGHWAY, OR TO ANY PERSON MERELY BECAUSE OF OWNERSHIP OF SUCH ABUTTING PROPERTY. THERE SHALL BE THE USUAL RIGHT OF ACCESS OVER ANY LOCATION SHOWN ON THESE PLANS EITHER AS (1) AN ENTRANCE OR (2) A PRIVATE UNDERPASS, WHEREVER AN ADJACENT OUTER ROADWAY OR SERVICE ROAD IS SHOWN, THERE SHALL BE THE USUAL RIGHT OF DIRECT ACCESS BETWEEN THE ABUTTING PROPERTY AND SUCH OUTER ROADWAY OR SERVICE ROAD (EXCEPT WHERE ACCESS IS SPECIFICALLY PROHIBITED BY THE SPECIAL SYMBOL DENOTING NO RIGHT OF ACCESS) AND ALONG IT TO AND FROM THE NEAREST LANE OF THE THRUWAY OF A PUBLIC HIGHWAY, OUTER ROADWAYS AND SERVICE ROADS, AS THE CASE MAY BE, ARE SO DESIGNATED ON THE PLANS.

- BEGINNING AND ENDING OF LIMITED ACCESS
- +— LIMITED ACCESS
- |||— NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.

CONVENTIONAL SYMBOLS

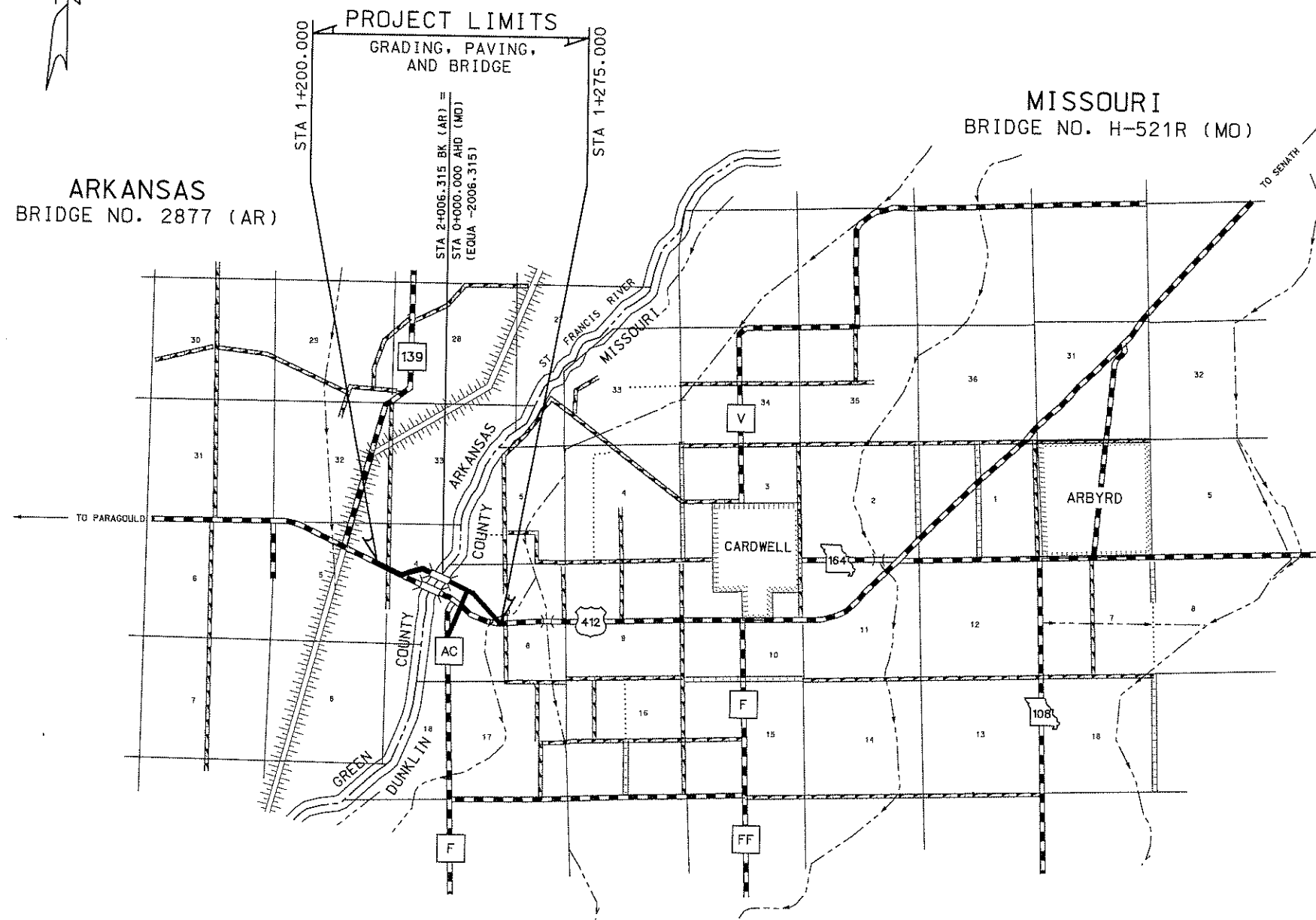
(USED IN PLANS)

- BUILDINGS AND STRUCTURES
- GUARD RAIL
- CONCRETE RIGHT-OF-WAY MARKER
- STEEL RIGHT-OF-WAY MARKER
- FENCE
- CHAIN LINK
- WOVEN WIRE
- GATE
- UTILITIES
- TELEPHONE
- POWER
- GAS
- WATER
- MANHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- DROP INLET
- DITCH BLOCK
- GROUND MOUNTED SIGN
- LIGHT POLE
- H-FRAME POWER POLE
- ITEM TO BE REMOVED
- ITEM TO BE REMOVED BY OTHERS
- GRS SYMBOL
- GATE

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

DESIGNER: DAVE PRUITT
TECHNICIAN: DAVE PRUITT
SQUAD LEADER: ANDY MEYER
PROJECT MANAGER: DAWNRAE CLARK

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION PLANS FOR STATE HIGHWAY DUNKLIN COUNTY MISSOURI - GREENE COUNTY ARKANSAS



ST. FRANCIS RIVER STR. & APPRS. (S)
ARKANSAS JOB NO 100451
ARKANSAS F.A.P. BRN-0028(25)
RTE. 412 SECTION 9
GREEN COUNTY

0 1/2 1 2
SCALE IN KILOMETERS

ROUTE 412	STATE MO	DISTRICT 10
JOB NO. JOP0334		
PROJECT NO. FAF-412-1(2)		
COUNTY GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI		

Contract ID# 010720-X02
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (2 SHEETS)	2
CONCRETE PAVING (4 SHEETS)	2-AA
SUMMARY (2 SHEETS)	2-A
SUMMARY (2 SHEETS)	2-B
PLAN-PROFILE	3-7
REFERENCE POINTS	8
SPECIAL SHEETS	9-14
SIGNING	15-16
CULVERT SECTIONS	29-31
BRIDGE DRAWINGS	B1-B44

LENGTH OF PROJECT

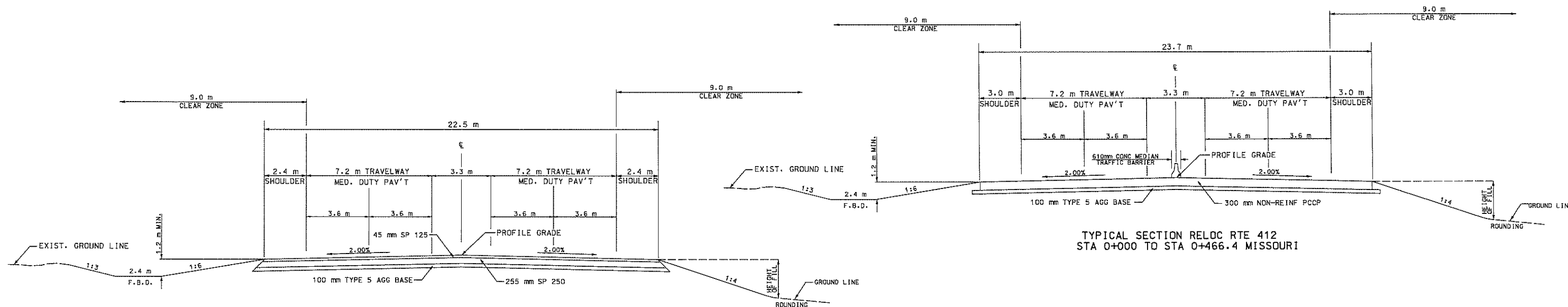
END OF PROJECT	STA. 1+275.000
BEGINNING OF PROJECT	STA. 1+200.000
APPARENT LENGTH	75 m
EQUATIONS AND EXCEPTIONS	
Sta. 2+006.315 Bk. =	+ 2006.315
0+000.0 Ah.	
TOTAL CORRECTIONS	+ 2006.315
NET LENGTH OF PROJECT	2081.315 m
STATE LENGTH	2.081 km
FEDERAL LENGTH	2.081 km

SUBMITTED

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

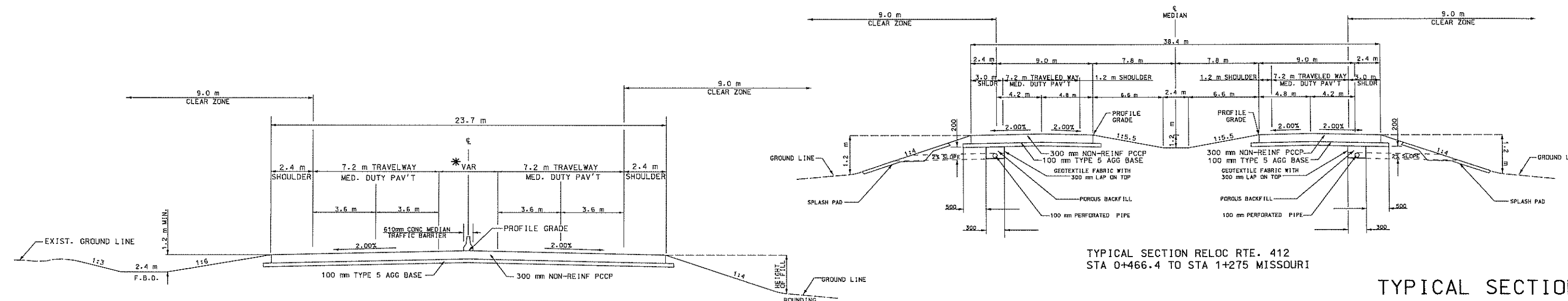
DATE

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 1
JOB NO. JOP0334			
PROJECT NO. FAF-412-1(2)			
COUNTY GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI			DATE
Contract ID# 010720-X02			



TYPICAL SECTION RELOC RTE. 412
STA 1+609.415 TO STA 1+739 ARKANSAS

TYPICAL SECTION RELOC RTE 412
STA 0+000 TO STA 0+466.4 MISSOURI

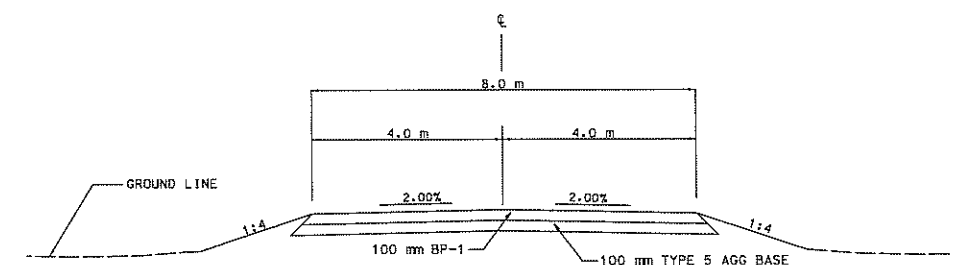
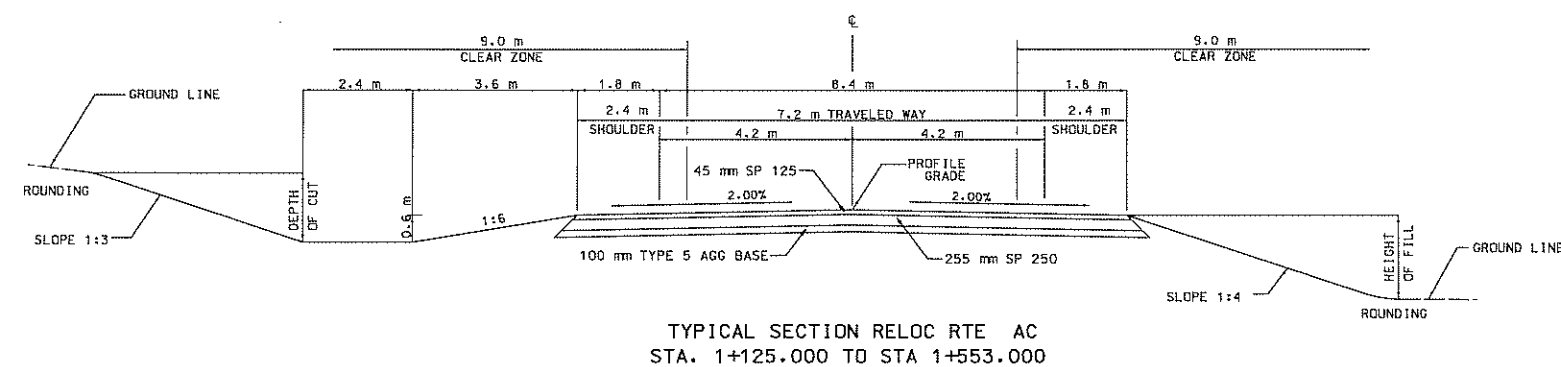
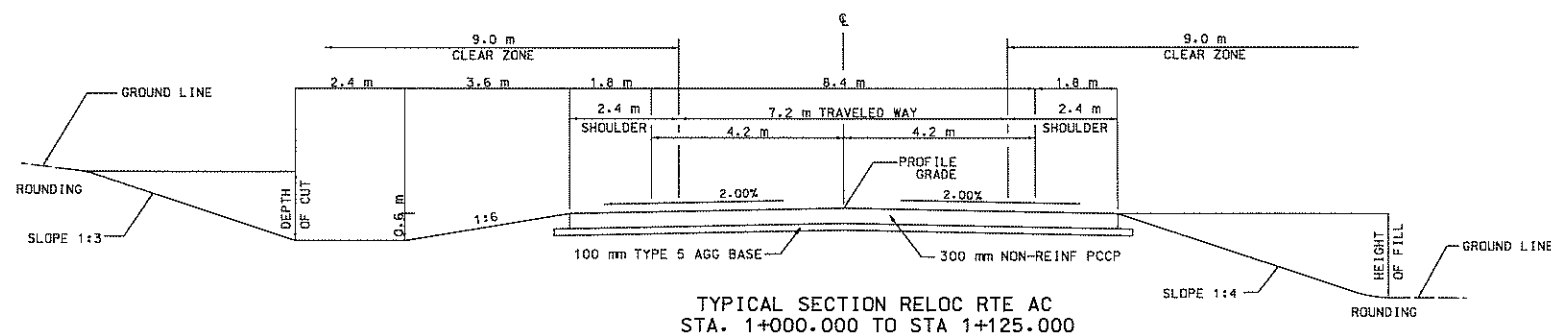
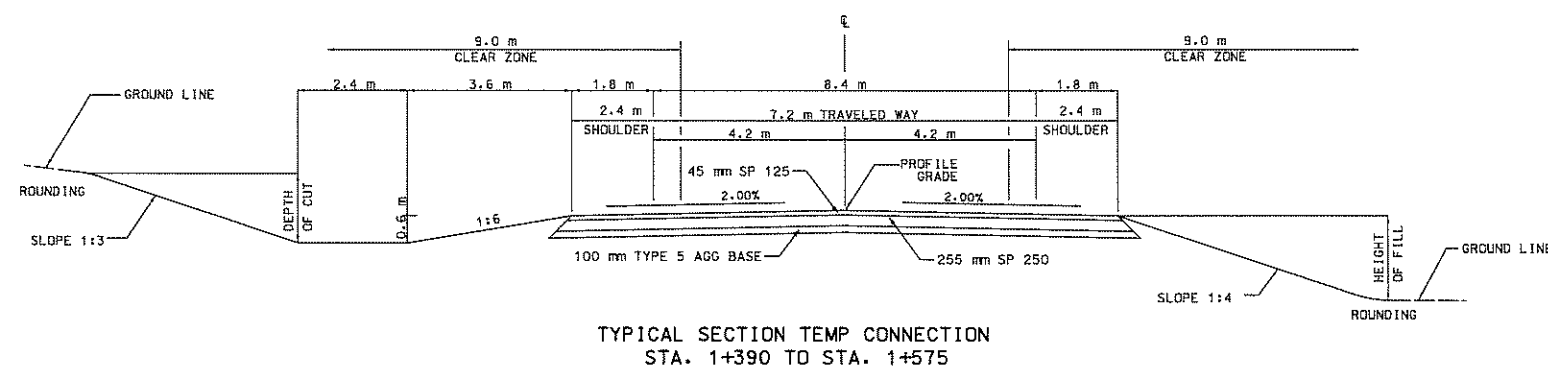
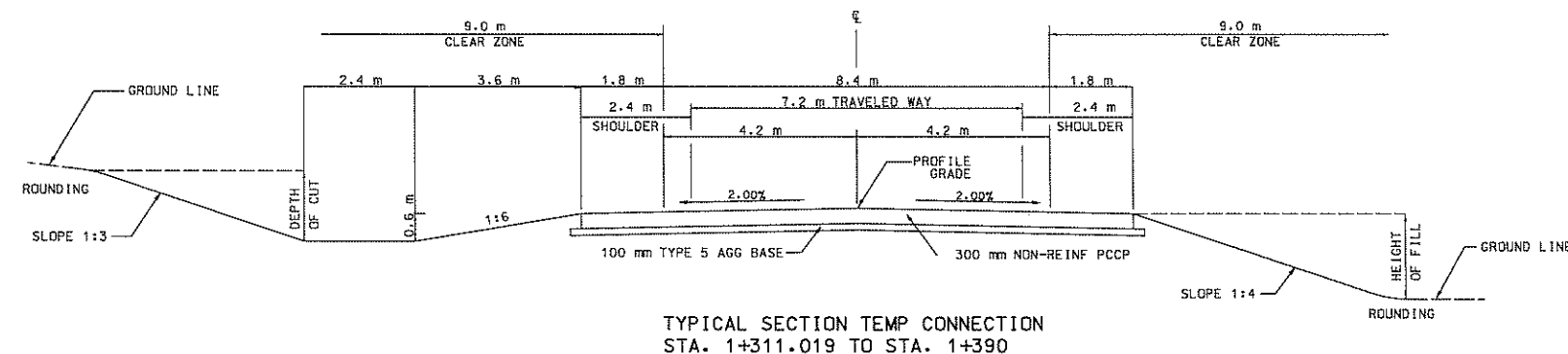


TYPICAL SECTION RELOC RTE 412
STA 1+739 TO STA 2+006.315 ARKANSAS
* MEDIAN VARIES FROM 3.3 m AT STA 1+672 TO
4.2 m AT STA 1+756

TYPICAL SECTION RELOC RTE. 412
STA 0+466.4 TO STA 1+275 MISSOURI

TYPICAL SECTION
SHEET 1 OF 2
DRAWING NOT TO SCALE

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 2
JOB NO. JOP0334			
PROJECT NO. FAF-412-1(2)			
COUNTY DUNKLIN			DATE
Contract ID# 010720-X02			



TYPICAL SECTION
SHEET 2 OF 2
DRAWING NOT TO SCALE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

REV. APRIL 99

SHEET 1 OF 2

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 2A
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY DUNKLIN			DATE

THESE PLANS ACCURATELY DEPICT THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL APPURTENANCE FEATURES, INCLUDING MODIFICATIONS DESIGNATED OR AUTHORIZED BY THE ENGINEER OF RECORD.

RESIDENT ENGINEER *Brian Holt* DATE 2/13/07

ITEM	DESCRIPTION	UNIT	QUANTITY
*	ROADWAY - JOP0334		
105-10.00	CONSTRUCTION SURVEYING	LS	0.95
201-10.10	CLEARING	HEC	6.65
201-20.10	GRUBBING	HEC	6.65
202-20.10	REMOVAL OF IMPROVEMENTS	LS	1
203-10.05	CLASS A EXCAVATION	CUM	73619
203-55.05	EMBANKMENT IN PLACE	CUM	55182
203-60.05	COMPACTING EMBANKMENT	CUM	57043
206-30.05	CLASS 3 EXCAVATION	CUM	211
207-20.05	LINEAR GRADING CLASS 2	M	723.1
301-20.05	MINERAL AGGREGATE (BITUMINOUS BASE) PG64-22	MG	0
301-60.19	ASPHALT BINDER (BITUMINOUS BASE) PG64-22	MG	0
304-05.05	TYPE 5 AGGREGATE FOR BASE (100 MM THICK)	SQM	44027
390-90.05	TEMPORARY SURFACING	CUM	62
401-11.12	ASPHALT BINDER (BITUMINOUS PAVEMENT) PG64-22(BP-1 MIX)	MG	19.7
401-20.15	MINERAL AGGREGATE (BITUMINOUS PAVEMENT) PG64-22(BP-1 MIX)	MG	338
403-90.75	BITUMINOUS TEST STRIP	EA	1
403-97.34	ASPHALT BINDER (ASPHALTIC CONCRETE)	MG	0
	PG 64-22 (SP125MC MIX)		
	PG 64-22 (SP125MC MIX)		
403-97.35	MINERAL AGGREGATE (ASPHALTIC CONCRETE)	MG	0
	PG 64-22 (SP125MC MIX)		
	PG 64-22 (SP125MC MIX)		
403-98.58	ASPHALT BINDER (ASPHALTIC CONCRETE)	MG	0
	PG 64-22 (SP250MC MIX)		
	PG 64-22 (SP250MC MIX)		
403-98.59	MINERAL AGGREGATE (ASPHALTIC CONCRETE)	MG	0
	PG 64-22 (SP250MC MIX)		
	PG 64-22 (SP250MC MIX)		
407-10.00	TACK COAT	L	1300
502-13.22	CONCRETE PAVEMENT (300 MM NON-REINFORCED, 4.5 M JOINTS)	SQM	26230.5
504-10.10	CONCRETE APPROACH PAVEMENT	SQM	427
601-20.00	SPECIAL FIELD LABORATORIES	LS	0
602-40.00	GEOGRAPHIC REFERENCE SYSTEM MONUMENT	EA	0
605-30.35	PIPE AGGREGATE PAVEMENT UNDERDRAIN	M	2451
605-40.20	OUTLET PIPES AND SPLASH PADS	EA	34
606-10.15	GUARDRAIL TYPE A	M	454
606-22.00	BRIDGE ANCHOR SECTION, 1830 MM POSTS (SAFETY	EA	4
	BARRIER CURB) (ROADWAY AND REHABILITATION WORK ONLY)		
	AND REHABILITATION WORK ONLY)		
606-23.05	TRANSITION SECTION, 1830 MM POSTS	EA	4
606-30.15	TYPE A CRASHWORTHY END TERMINAL	EA	4
606-30.17	TYPE C CRASHWORTHY END TERMINAL	EA	2
607-99.02	MISC.	EA	2
	DRIVE GATE, TUBULAR STEEL		
608-15.00	CONCRETE MEDIAN	SQM	13.6
609-10.53	CURB AND GUTTER TYPE A	M	27.5
609-40.10	DRAIN BASIN	EA	4
609-75.00	ROCK LINING	CUM	13
611-30.25	FURNISHING TYPE 2 ROCK BLANKET	CUM	511
611-30.45	PLACING TYPE 2 ROCK BLANKET	CUM	511
611-60.15	CONCRETE SLOPE PROTECTION	SQM	6
612-10.30	TYPE III MOVEABLE BARRICADE	EA	14

ITEM	DESCRIPTION	UNIT	QUANTITY
614-10.15	GRATES AND BEARING PLATES	KG	275
616-10.06	CONSTRUCTION SIGNS	SQM	49.8
616-10.11	RELOCATED SIGNS	SQM	2.9
616-10.20	CHANNELIZER (DRUM-LIKE)	EA	43
616-10.52	WARNING LIGHT, TYPE B	EA	0
616-11.31	INSTALLING GIVE EM A BRAKE 1200 MM X 1200 MM SIGN	EA	3
616-11.32	INSTALLING 'SHOW ME PROGRESS' SIGN ASSEMBLY	EA	3
616-99.02	MISC.	EA	15
	RELOCATE EXIST. SIGNS		
618-10.00	MOBILIZATION	LS	1
620-53.11	PREFORMED REMOVABLE MARKING TAPE 100 MM SOLID WHITE	M	0
620-53.13	PREFORMED REMOVABLE MARKING TAPE 100 MM SOLID YELLOW	M	49
620-80.65	TEMPORARY RAISED PAVEMENT MARKER, TYPE 2	EA	175
622-40.20	MODIFIED COLD MILLING (DEPTH TRANSITIONS)	SQM	685
624-01.13	GEOTEXTILE FABRIC, TYPE 3	SQM	613
626-20.05	PORTLAND CEMENT CONCRETE RUMBLE STRIP	SQM	688
703-40.22	CLASS B-1 CONCRETE (CULVERTS)	CUM	39.2
706-10.35	REINFORCING STEEL (CULVERTS)	KG	2580
725-08.18	450 MM PIPE CULVERT GROUP B	M	94
726-18.18	450 MM CLASS III REINFORCED CONCRETE PIPE CULVERT	M	108
732-05.18	450 MM GROUP B FLARED END SECTION	EA	16
802-50.05	TYPE 3 MULCH	HEC	8.3
805-10.05	SEEDING	HEC	5
805-20.05	NATIVE PLANT SEEDING	HEC	4.1
806-10.21	TYPE I DITCH CHECK	EA	34
806-10.35	SEDIMENT BASIN	CUM	21
806-10.36	SEDIMENT REMOVAL	CUM	512
806-10.37	TEMPORARY SEEDING AND MULCHING	HEC	7.5
806-10.38	STRAW BALES (FENCE)	M	0
806-10.39	SILT FENCE	M	280
808-01.12	PIN OAK	EA	72
808-01.18	COMMON BALD CYPRESS	EA	72
808-02.05	WILLOW SPECIES	EA	72
808-99.02	MISC.	EA	72
	WILLOW OAK		
903-50.15	TYPE IV OBJECT MARKER	EA	3
903-50.20	FLEXIBLE DELINEATOR, ELONGATED WHITE	EA	0
903-50.22	FLEXIBLE DELINEATOR, YELLOW	EA	118
806-10.30	TYPE B BERM	M	300
601-10.00	FIELD LABORATORIES	LS	1
403-97.34	ASPHALT BINDER (ASPHALTIC CONCRETE)	MG	39.9
	PG 64-22 (SP125MC MIX)		
403-97.35	MINERAL AGGREGATE (ASPHALTIC CONCRETE)	MG	728
	PG 64-22 (SP125MC MIX)		
403-98.58	ASPHALT BINDER (ASPHALTIC CONCRETE)	MG	100.4
	PG 64-22 (SP250MC MIX)		
403-98.59	MINERAL AGGREGATE (ASPHALTIC CONCRETE)	MG	2235
	PG 64-22 (SP250MC MIX)		
109-99.02	MISC.	EA	1
	Value Engineering Costs Savings		
622-99.05M	MISC.	SQM	157.2
	Bit. Pavement for Removal of Surfacing (		
620-70.15A	PAVEMENT MARKING REMOVAL (PAINT)	M	4790

SHEET 2 OF 2

RESIDENT ENGINEER: David P. O.
DATE: 2/13/07

[illegible]

PROJ. ACCEPT:	October 13, 2006
PREPARED BY:	INDB, SA
CHECKED BY:	[Signature]
REVIEWED BY:	Donna Holt
DIST. OFFICE:	Asst. Atty. Gen. 6-14-07
SUPPORT CTR:	Cheryl E. Holt

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
SUMMARY OF QUANTITIES

REV. SEPT. 8, 97

ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	2B
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	DATE		
GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI			

SHEET OF 1 OF 5

SHEET		STA	LOCATION	REMOVAL OF IMPROVEMENTS		DESCRIPTION	REMARKS												
3	1+212±	8 m RT				LOAD LIMIT SIGN	EXIST RTE 412 (AR)												
3	1+320±	8 m LT				ICE WARNING SIGN	EXIST RTE 412 (AR)												
3	1+472±	8 m LT				COMM. GROWTH SIGN	EXIST RTE 412 (AR)												
3	1+565±	8 m LT				WEIGHT STA. SIGN	EXIST RTE 412 (AR)												
3	1+594±	8 m RT				LOAD LIMIT SIGNS	EXIST RTE 412 (AR)												
3	1+627±	8 m RT				ICE WARNING SIGN	EXIST RTE 412 (AR)												
3	1+650±	8 m LT				SPEED LIMIT SIGN	EXIST RTE 412 (AR)												
3	1+677±	8 m LT				NO LITTERING SIGN	EXIST RTE 412 (AR)												
3	1+720±	8 m LT				WELCOME TO AR SIGN	EXIST RTE 412 (AR)												
4	1+737±	APPROX 23 m	1+760±			GUARD RAIL	EXIST RTE 412 LT (AR)												
4	1+737±	APPROX 23 m	1+760±			GUARD RAIL	EXIST RTE 412 RT (AR)												
4	1+759±	8 m RT & LT				CAUTION SIGN	EXIST RTE 412 (AR)												
4	1+760± (AR)	RT		0+345± (MO)		CONC SLAB FROM ORIGINAL BRIDGE DECK	EXIST BRIDGE RTE 412 (MO/AR)												
4	0+345±	APPROX 38 m	0+383±			GUARD RAIL	EXIST RTE 412 LT (MO)												
4	0+345±	APPROX 19 m	1+364±			GUARD RAIL	EXIST RTE 412 RT (MO)												
4	0+347±	8 m RT & LT				CAUTION SIGN	EXIST RTE 412 (MO)												
5	0+467±	8 m RT				JCT AC SIGN	EXIST RTE 412 (MO)												
5	0+525±	34 m LT				MOBILE HOME & SLAB	EXIST RTE 412 (MO)												
5	0+555±	10 m RT				450 mm CMP	RELOC RTE 412 (MO)												
5	0+557±	8 m LT				STOP SIGN	EXIST RTE 412 (MO)												
5	0+562±	14 m RT				450 mm CMP	RELOC RTE 412 (MO)												
5	0+580±	8 m LT				LOAD LIMIT SIGNS	EXIST RTE 412 (MO)												
5	0+585±	20 m LT				450 mm CMP	RELOC RTE 412 (MO)												
5	1+010±	8 m RT				GIVEN A BREAK SIGN	EXIST RTE 412 (MO)												
5	1+020±	8 m LT				LOAD LIMIT SIGNS	EXIST RTE 412 (MO)												
6	1+447±	8 m RT				USE SEAT BELT SIGN	EXIST RTE 412 (MO)												
6	1+493±	15 m LT				COUNTY ROAD SIGN	EXIST RTE 412 (MO)												
7	1+012±	8 m LT				STOP SIGN	EXIST RTE AC												
7	1+084±	15 m LT				300 mm CMP	RELOC RTE AC												
7	1+348±	7 m RT				300 mm CMP	RELOC RTE AC												
7	1+360±	3 m RT				300 mm CMP	RELOC RTE AC												
PAY TOTAL - LUMP SUM 1				✓															
RELOCATED SIGNS										CONC PAVEMENT (300 mm NON-REINF)									
4	1+755±	8 m LT				ST. FRAN RIVER SIGN	EXIST RTE 412 (AR)												
4	2+006±	LOC. ON BR. RAIL				AR. STATE LINE SIGN	ARKANSAS STATE LINE ON BRIDGE												
4	0+000±	LOC. ON BR. RAIL				MO. STATE LINE SIGN	MISSOURI STATE LINE ON BRIDGE												
4	0+350±	8 m RT				ST. FRAN RIVER SIGN	EXIST RTE 412 (MO)												
5	0+400±	8 m RT				WELCOME TO MO. SIGN	EXIST RTE 412 (MO)												
5	0+589±	8 m RT				DIRECTIONAL SIGN	EXIST RTE 412 (MO)												
5	0+663±	8 m LT				ROUTE SIGN	EXIST RTE 412 (MO)												
5	0+680±	8 m RT				DIRECTIONAL SIGN	EXIST RTE 412 (MO)												
5	0+700±	8 m LT				DIRECTIONAL SIGN	EXIST RTE 412 (MO)												
5	0+930±	8 m LT				DIRECTIONAL SIGN	EXIST RTE 412 (MO)												
6	1+140±	8 m LT				JCT AC SIGN	EXIST RTE 412 (MO)												
6	1+140±	8 m RT				SPEED LIMIT SIGN	EXIST RTE 412 (MO)												
7	1+135±	8 m LT				DIRECTIONAL SIGN	EXIST RTE AC												
7	1+225±	8 m RT				SPEED LIMIT SIGN	EXIST RTE AC												
7	1+235±	8 m LT				JCT 412 SIGN	EXIST RTE AC												
PAY TOTALS				15	✓														
EXCAVATION										EMBANK									
STA	STA	LOC	CL. A	BORROW	COMP. EMBANK	IN PLACE	REMARKS												
1+175	1+756	RELOC RTE 412 (AR)	1908	0	1526	55182													
0+347.99	1+275	RELOC RTE 412 (MO)	18541	36133	46163	0													
1+311.019	1+575	TEMP CONN	2222	4913	5708	0	CROSS-OVER AMOUNT INCLD												
1+025	1+553.465	RELOC RTE AC	8543	0	3645	0													
ROUNDING ESTIMATED AT 250 CUBIC METERS PER KILOMETER				SUBTOTAL	30248	41046	57035	55182											
SHRINKY-SWELL FACTOR OF 1.25 USED IN THESE AMOUNTS				DRY FILL	784														
				ROUNDING	575														
PAY TOTALS				73619	✓	41046	✓	57043	✓	55182	✓								
										200 mm PMBB									
STA	STA	LOC	CL. A	BORROW	COMP. EMBANK	IN PLACE	REMARKS	SHEET	STA	STA	LOC	LENGTH METERS	WIDTH METERS	S.M.	REMARKS				
1+175	1+756	RELOC RTE 412 (AR)	1908	0	1526	55182		3	1+609.415	1+756	RELOC RTE 412 (AR)	146.585	VAR	3474					
0+347.99	1+275	RELOC RTE 412 (MO)	18541	36133	46163	0		5	0+684.4	0+986.5	RELOC RTE 412 (MO)	CALCULATED	CALCULATED	3439.77	TYPE II MEDIAN OPENING				
1+311.019	1+575	TEMP CONN	2222	4913	5708	0	CROSS-OVER AMOUNT INCLD	5.6	0+347.99	1+275	RELOC RTE 412 (MO)	927	VAR	24373					
1+025	1+553.465	RELOC RTE AC	8543	0	3645	0		6	1+311.019	1+390	TEMP CONN (MO)	78.981	12.8	1011					
								7	1+000	1+553.465	RELOC RTE AC (MO)	553.465	12.8	7084					
				</															

SUMMARY OF QUANTITIES

SHEET OF 2 OF 5

[illegible]

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
SUMMARY OF QUANTITIES

REV. SEPT. 8, 97

ROUTE	412	STATE	MO	DISTRICT	10	SHEET NO.	2B
JOB NO.		JOP0334					
CONTRACT ID.		010720-X02					
PROJECT NO.		FAF-412-1(2)					
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI					DATE	

SHEET OF 3 OF 5

RIGHT-OF-WAY MARKERS (TO BE INSTALLED BY OTHERS)

SHEET	STA.	LOC. METERS	STEEL EACH	REMARKS
3	1+260.486	17.4 m RT	1	RTE 412 (AR)
3	1+260.486	32.4 m LT	1	RTE 412 (AR)
3	1+419.8	28.8 m RT	1	RTE 412 (AR)
3	1+457	28.085 m LT	1	RTE 412 (AR)
3	1+473.057	32 m LT	1	RTE 412 (AR)
3	1+489.1	43.5 m RT	1	RTE 412 (AR)
3	1+489.8	37.4 m RT	1	RTE 412 (AR)
3	1+550	46.825 m LT	1	RTE 412 (AR)
3	1+609.415	45 m LT	1	RTE 412 (AR)
4	1+750	45 m LT	1	RTE 412 (AR)
4	1+759.4	44.3 m RT	1	RTE 412 (AR)
4	1+759.4	50.4 m RT	1	RTE 412 (AR)
4	1+825	38 m LT	1	RTE 412 (AR)
4	0+100	44.3 m RT	1	RTE 412 (MO)
4	0+100	38 m LT	1	RTE 412 (MO)
4	0+311.5	44.3 m RT	1	RTE 412 (MO)
4	0+332.2	50.4 m RT	1	RTE 412 (MO)
4	0+400	51.3 m RT	1	RTE 412 (MO)
5	0+450	38 m LT	1	RTE 412 (MO)
5	0+451.2	52.1 m RT	1	RTE 412 (MO)
5	0+467.5	44.3 m RT	1	RTE 412 (MO)
5	0+500	35 m LT	1	RTE 412 (MO)
5	0+542.9	45.6 m RT	1	RTE 412 (MO)
5	0+650	35 m LT	1	RTE 412 (MO)
5	0+682.3	67.9 m RT	1	RTE 412 (MO)
5	0+700	55 m LT	1	RTE 412 (MO)
5	0+702.8	73.8 m LT	1	RTE 412 (MO)
5	0+768	94.8 m RT	1	RTE 412 (MO)
5	0+786.4	100.9 m RT	1	RTE 412 (MO)
5	0+825	55 m LT	1	RTE 412 (MO)
5	0+846.9	118.9 m RT	1	RTE 412 (MO)
5	0+850	43 m LT	1	RTE 412 (MO)
5	0+874	87.6 m RT	1	RTE 412 (MO)
5	0+883	43 m RT	1	RTE 412 (MO)
6	1+075	43 m RT	1	RTE 412 (MO)
6	1+075	43 m LT	1	RTE 412 (MO)
6	1+275	43 m LT	1	RTE 412 (MO)
6	1+350.122	43 m RT	1	RTE 412 (MO)
6	1+380.5	43 m RT	1	RTE 412 (MO)
6	1+435.331	43 m LT	1	RTE 412 (MO)
6	1+466.7	1.5 m RT	1	RTE AC (MO)
7	1+128.3	24 m RT	1	RTE AC (MO)
7	1+128.3	24 m LT	1	RTE AC (MO)
7	1+184.731	24 m RT	1	RTE AC (MO)
7	1+184.731	24 m LT	1	RTE AC (MO)
7	1+248.731	24 m RT	1	RTE AC (MO)
7	1+248.731	20 m LT	1	RTE AC (MO)
7	1+359.7	24 m RT	1	RTE AC (MO)
7	1+489.465	12.5 m RT	1	RTE AC (MO)
7	1+489.465	20 m LT	1	RTE AC (MO)
7	1+553.465	10.6 m RT	1	RTE AC (MO)
7	1+553.465	10.6 m LT	1	RTE AC (MO)
TOTAL			52	✓

PORTLAND CEMENT RUMBLE STRIPS

SHEET	STA	STA	LOC	LENGTH METERS	STRIPS m ²	REMARKS
5	0+347.99	0+475	EBL	127.01	45.72	4-LANE NON-DIVIDED / RELOC RTE 412 (MO)
5	0+347.99	0+475	WBL	127.01	45.72	4-LANE NON-DIVIDED / RELOC RTE 412 (MO)
5.6	0+475	1+275	EBL (OUTSIDE)	800	144.00	4-LANE DIVIDED / RELOC RTE 412 (MO)
5.6	0+475	1+105	EBL (INSIDE)	630	115.00	4-LANE DIVIDED / RELOC RTE 412 (MO)
5.6	0+475	1+275	WBL (OUTSIDE)	800	144.00	4-LANE DIVIDED / RELOC RTE 412 (MO)
5.6	0+475	1+015	WBL (INSIDE)	540	96.90	4-LANE DIVIDED / RELOC RTE 412 (MO)
6	1+150	1+275	WBL (INSIDE)	125	22.50	4-LANE DIVIDED / RELOC RTE 412 (MO)
6	1+311.019	1+390	EBL	78.981	14.58	TEMP CONN / RELOC RTE 412 (MO)
6	1+311.019	1+390	WBL	78.981	14.58	TEMP CONN / RELOC RTE 412 (MO)
6	1+125	1+250	EBL	125	22.50	4 MED RELOC RTE 412 (MO) / CROSS OVER
3	1+050	1+175	WBL	125	22.50	4 MED RELOC RTE 412 (MO) / CROSS OVER
TOTALS					688	
PAY TOTALS					688	✓

TEMP RAISED PAV'T MARKERS

STA	STA	LOC	WHITE	YELLOW	REMARKS
1+260.486 (AR)	TD	1+756 (AR)	75		
1+260.486 (AR)	TD	1+756 (AR)		38	
1+311.019 (MO)	TD	1+390 (MO)	51		
1+311.019 (MO)	TD	1+390 (MO)		11	
NOTE: TEMP RAISED PAV'T MARKERS ARE AT 12 METER SPACING.			TOTALS	126	49
			PAY TOTALS	126	49

LINEAR GRADING (CLASS 2)

SHEET	STA	STA	LOC	LENGTH METERS	REMARKS
4	0+345.1	0+368.7	EXIST RTE 412 (MO)	23.6	OBLIT AREA (PAVEMENT)
5.6	0+925	1+450	EXIST RTE 412 (MO)	525	OBLIT AREA (PAVEMENT)
22.23	1+336	1+510.5	LT & RT	174.5	INCL REMOVAL
TOTALS				723.1	
PAY TOTALS				723.1	✓

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
SUMMARY OF QUANTITIES

SHEET OF 4 OF 5

ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	2B
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	DATE		
GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI			

REINFORCED CONCRETE PIPE										TREES																			
				CL III	FLARED			CL 3	ROCK																				
				450 mm	END			EXC	LINING																				
SHEET	STA.	LOC.		METER	450 mm			C.M.	C.M.	REMARKS		SHEET	TREE	EACH		REMARKS													
5	0+800	Q WBL		19.90	1			24.179	2.834	RELOC RTE 412 (MO)		13	BLACK WILLOW	72	✓	1200 - 1800 mm	HEIGHT- 16mm DIA.	150mm	ABOVE ROOT COLLAR										
6	1+378	34m RT Q TEMP CONN		19.92	0			35.114	2.834	REMOVED & GIVEN TO COMMISSION		13	BALD CYPRESS	72	✓	1200 - 1800 mm	HEIGHT- 16mm DIA.	150mm	ABOVE ROOT COLLAR										
6	1+100	Q EBL		23.10	1			28.067	2.834			13	PIN OAK	72	✓	1200 - 1800 mm	HEIGHT- 16mm DIA.	150mm	ABOVE ROOT COLLAR										
7	1+060	Q RELOC RTE AC		22.90	2			27.824				13	WILLOW OAK	72	✓	1200 - 1800 mm	HEIGHT- 16mm DIA.	150mm	ABOVE ROOT COLLAR										
7	1+150	Q RELOC RTE AC		22.00	2			26.730				NOTE: SEE SPECIAL SHEET 5 OF 6 FOR DETAILS																	
				TOTALS	107.82	6		141.91	8.502																				
				PAY TOTALS	108	6	✓	142	9.0	✓																			
CONCRETE BOX CULVERT																													
				WING	LENGTH	CL B	REINF	CL 3	ROCK																				
				SLOPE	METERS	CONC	STEEL	EXC	LINING																				
SHEET	STA.	LOC.		STD	SIZE	C.M.	kg	C.M.	C.M.	REMARKS																			
5	1+425	Q TEMP CONN RTE 412 (MO)		703.10	1:2 1.829m ²	15.41	35.8	2496	18.8	3.87	BOX EXTENDED LT STRAIGHT WINGS																		
				TOTALS		35.8	2496	18.8	3.87																				
				PAY TOTALS		35.8	2500	19	4.0																				
GEOLOGICAL REFERENCE SYSTEM MONUMENTS										PREFORMED REMOVABLE PAV'T MARKING TAPE																			
SHEET	STA.	LOC.		EACH								SHEET	STA.	STA.	LOC.		REMARKS												
												22	1+225	1+425	Q		AR 412 TIE-IN												
												22	1+025	1+100	Q		RELOC. RT. AC												
				PAY TOTALS	0											0	49												
CLEARING AND GRUBBING																													
SHEET	STA.	STA.	LOC.		CLEARING	GRUBBING	REMARKS																						
					HECTARES	HECTARES																							
3	1+450	2+006	LT		3.34	3.34	RELOC RTE 412 (AR)																						
4	0+000	0+450	LT		2.70	2.70	RELOC RTE 412 (MO)																						
5	0+525	0+700	LT		0.61	0.61	RELOC RTE 412 (MO)																						
				TOTALS	6.65	6.65																							
				PAY TOTALS	6.65	6.65																							
CONCRETE MEDIAN (ISLANDS)										FLEXIBLE DELINEATOR																			
SHEET	STA.	STA.	LOC.		150mm	REMARKS						SHEET	STA.	STA.	LOC.		REMARKS												
					MEDIAN																								
5	0+830.8	0+833.3	Q MED RELOC RTE 412 (MO) / RT		4.0	TYPE II MED OPENING						17	0+475	0+750	Q RELOC RTE 412 (MO)		C/L EBL												
5	0+839.2	0+841.7	Q MED RELOC RTE 412 (MO) / LT		4.0	TYPE II MED OPENING							0+850	1+275	TEMPORARY CONNECTION														
5.7	1+019.2	1+021.8	Q RELOC RTE AC (MO) / LT		5.51	TYPE V DRWY										0	70												
5.7	1+087.8	1+090.4	Q EXISTING RTE 412 (MO) / LT		5.51	TYPE V DRWY										0	48												
5.7	1+097.6	1+100.2	Q EXISTING RTE 412 (MO) / RT		5.51	TYPE V DRWY										0	118												
				TOTALS				24.53																					
				PAY TOTALS				24.53																					
TYPE S HEADWALLS										GATE & FENCE																			
SHEET	STA.	LOC.		TYPE	kg	CL B	GRATES AND	CL 3		REMARKS		SHEET	STA.	LOC.		DRIVE													
						CONC	BEARING PLATES	EXC								GATE													
5	0+800	Q MED RELOC RTE 412 (MO)		S-3	39.0	1.7	136	3.87		1 - 450mm OPENING		4.12	1+340	25m RT Q RELOC RTE 412		EACH													
5	1+100	Q MED RELOC RTE 412 (MO)		S-3	39.0	1.7	136	3.87		1 - 450mm OPENING		4.12	1+764	25m RT Q RELOC RTE 412															
				TOTALS	78.0	3.4	272	7.74								2													
				PAY TOTALS	80.0	3.4	275	8.0																					
MOBILIZATION																													
										PAY TOTAL - LUMP SUM																			
										11																			

SUMMARY OF QUANTITIES

EFFECTIVE: 08-01-2000
M-D-2BS

SHEET 5 OF 5

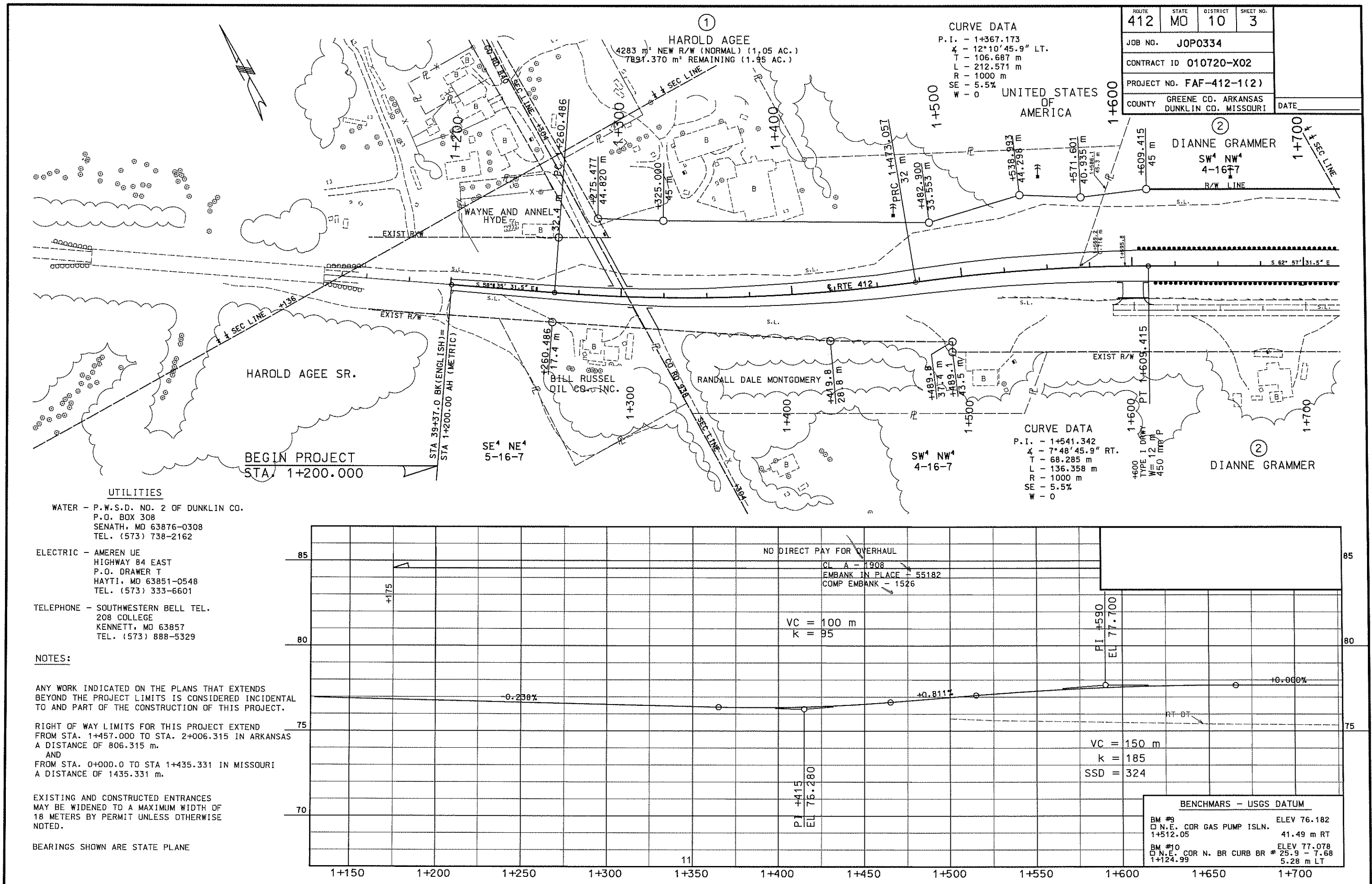
ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	2B
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI		
DATE			

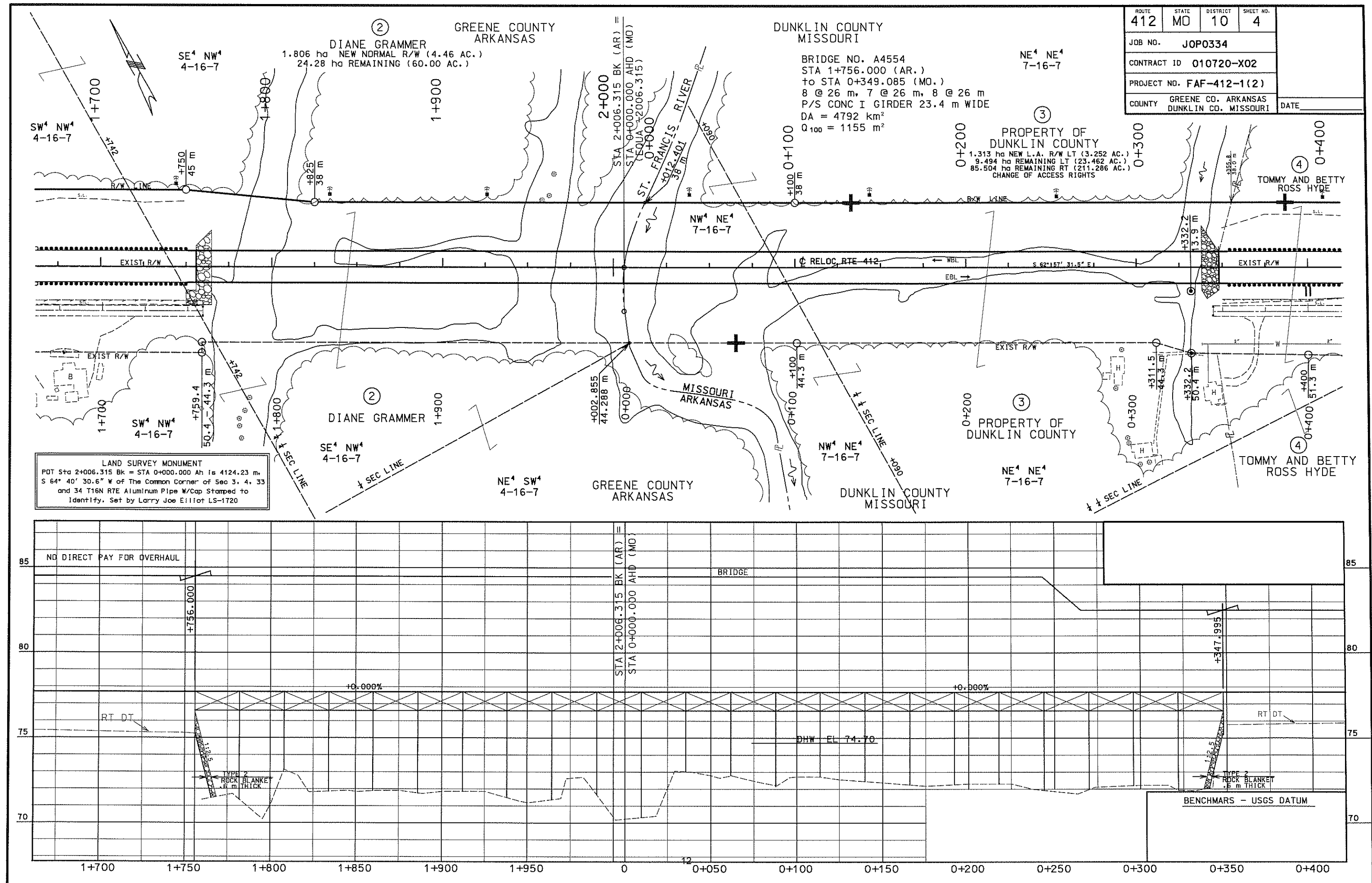
SIGN	SIZE (mm)	AREA (m ²)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
WARNING SIGNS							
WF20-4	900X900	0.81					ONE LANE ROAD AHEAD
WF20-5	900X900	0.81					RIGHT LANE/CENTER LANE/LEFT LANE CLOSED AHEAD
WF20-6a	900X900	0.81					RIGHT/CENTER/LEFT LANE CLOSED
WF21-4	900X900	0.81					ROAD WORK AHEAD
WF22-6e	525X375	0.20					WET PAINT (ARROW PIVOTS)
WD1-1L	1200X1200	1.44					TURN (SYMBOL LEFT ARROW)
WD1-1R	1200X1200	1.44					TURN (SYMBOL RIGHT ARROW)
WD1-2L	1200X1200	1.44					CURVE (SYMBOL LEFT ARROW)
WD1-2R	1200X1200	1.44					CURVE (SYMBOL RIGHT ARROW)
WD1-3L	1200X1200	1.44					REVERSE TURN (SYMBOL LEFT ARROW)
WD1-3R	1200X1200	1.44					REVERSE TURN (SYMBOL RIGHT ARROW)
WD1-4L	1200X1200	1.44	1	1.44			REVERSE CURVE (SYMBOL LEFT ARROW)
WD1-4R	1200X1200	1.44	1	1.44			REVERSE CURVE (SYMBOL RIGHT ARROW)
WD1-4bL	1200X1200	1.44					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WD1-4bR	1200X1200	1.44					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WD1-4cL	1200X1200	1.44					TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WD1-4cR	1200X1200	1.44					TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WD1-6	1200X600	0.72					HORIZONTAL ARROW (SYMBOL)
WD1-6a	1800X900	1.62					HORIZONTAL ARROW (SYMBOL ON BARRICADE)
WD1-7	1200X600	0.72					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WD1-7a	1800X900	1.62					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL ON BARRICADE)
WD1-8	450X600	0.27					CHEVRON (SYMBOL)
WD1-8a	900X1200	1.08					CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WD3-1	1200X1200	1.44					STOP AHEAD
WD3-2	1200X1200	1.44					YIELD AHEAD
WD3-3	1200X1200	1.44					SIGNAL AHEAD (SYMBOL)
WD4-1L	1200X1200	1.44					MERGE (SYMBOL FROM LEFT)
WD4-1R	1200X1200	1.44					MERGE (SYMBOL FROM RIGHT)
WD5-1	1200X1200	1.44					ROAD NARROWS
WD5-3	1200X1200	1.44					ONE LANE BRIDGE
WD5-5	1200X1200	1.44					NARROW LANES
WD6-1	1200X1200	1.44					DIVIDED HIGHWAY (SYMBOL)
WD6-2	1200X1200	1.44					DIVIDED HIGHWAY ENDS (SYMBOL)
WD6-3	1200X1200	1.44					TWO WAY TRAFFIC (SYMBOL)
WD7-3a	600X450	0.27					NEXT XX MILES (PLAQUE)
WD8-1	1200X1200	1.44					BUMP
WD8-2	1200X1200	1.44					DIP
WD8-3	1200X1200	1.44					PAVEMENT ENDS
WD8-4	1200X1200	1.44					SOFT SHOULDER
WD8-5	1200X1200	1.44					SLIPPERY WHEN WET (SYMBOL)
WD8-6	1200X1200	1.44	2	2.88			TRUCK CROSSING
WD8-6c	1200X1200	1.44					TRUCK ENTRANCE
WD8-7	900X900	0.81					LOOSE GRAVEL
WD8-9	1200X1200	1.44					LOW SHOULDER
WD8-9a	1200X1200	1.44					SHOULDER DROP-OFF
WD8-11	1200X1200	1.44					UNEVEN LANES
WD8-12	900X900	0.81					NO CENTER STRIPE
W10-1	1050 RND.	1.11					RAILROAD CROSSING
WD12-1	600X600	0.36					DOUBLE DOWN ARROW (SYMBOL)
WD12-2	1200X1200	1.44					LOW CLEARANCE (SYMBOL)
WD12-2x	600X450	0.27					LOW CLEARANCE (PLAQUE)
WD12-3a,b	3600X600	2.16					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
SPECIAL	3000X1500	4.50					LOW CLEARANCE XX' XX" XX MILES AHEAD
SPECIAL	3000X1500	4.50					WIDTH RESTRICTION XX' XX" XX MILES AHEAD
WD13-1	600X600	0.36					ADVISORY SPEED (PLAQUE)
WD20-2	1200X1200	1.44					DETOUR AHEAD
WD20-3	1200X1200	1.44					ROAD CLOSED AHEAD
WD20-4	1200X1200	1.44	2	2.88	1	1.44	ONE LANE ROAD AHEAD
WD20-5	1200X1200	1.44					RIGHT LANE/CENTER LANE/LEFT LANE CLOSED AHEAD
WD20-6a	1200X1200	1.44					RIGHT/CENTER/LEFT LANE CLOSED
WD20-7a	1200X1200	1.44	4	5.76	1	1.44	FLAGGER (SYMBOL)
WD20-7x	600X450	0.27					500 FT/1000 FT (PLAQUE)
WD20-7b	1200X1200	1.44	2	2.88			BE PREPARED TO STOP
WD20-9c	1200X1200	1.44					OPEN TRENCH
WD21-2	1200X1200	1.44					FRESH OIL
WD21-4	1200X1200	1.44	6	8.64			ROAD WORK AHEAD
WD21-5b	1200X1200	1.44	2	2.88			SHOULDER WORK AHEAD
WD21-7	900X900	0.81					SAND BLASTING
WD22-1	1200X1200	1.44					BLASTING ZONE 1000 FT

SIGN	SIZE (mm)	AREA (m ²)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
WARNING SIGNS (CONT.)							
WD22-2	1050X900	0.95					TURN OFF 2-WAY RADIOS AND CELLULAR PHONES
WD22-3	1050X900	0.95					END BLASTING ZONE
WD25-5	750X300	0.23					1/2 MILE/1 MILE (PLAQUE)
REGULATORY SIGNS							
R1-1	1200X1200	1.44	4	5.76			STOP
R1-2	1200 TRI.	0.62	1	0.62			YIELD
R1-3	500X225	0.11					4-WAY (PLAQUE)
R1-5	500X225	0.11					3-WAY (PLAQUE)
R2-1	900X1200	1.08	3	3.24			SPEED LIMIT XX
R2-5a	900X1200	1.08	3	3.24			REDUCED SPEED AHEAD
R3-1	1200X1200	1.44					NO RIGHT TURN (SYMBOL)
R3-2	1200X1200	1.44					NO LEFT TURN (SYMBOL)
R3-3	900X900	0.81					NO TURNS
R3-4	1200X1200	1.44					NO U-TURN (SYMBOL)
R3-7L	750X750	0.56					LEFT LANE MUST TURN LEFT
R3-7R	750X750	0.56					RIGHT LANE MUST TURN RIGHT
R4-1	900X1200	1.08					DO NOT PASS
R4-2	900X1200	1.08					PASS WITH CARE
R4-7aL	900X1200	1.08					KEEP LEFT (HORIZONTAL ARROW)
R4-7a	900X1200	1.08					KEEP RIGHT (HORIZONTAL ARROW)
R4-17aL	900X900	0.81					KEEP LEFT
R4-17aR	900X900	0.81					KEEP RIGHT
R5-1	750X750	0.56					DO NOT ENTER
R5-1a	900X600	0.54					WRONG WAY
R6-1L	1200X450	0.54	1	0.54			ONE WAY ARROW (LEFT)
R6-1R	1200X450	0.54	1	0.54			ONE WAY ARROW (RIGHT)
R6-2L	600X750	0.45					ONE WAY (LEFT)
R6-2R	600X750	0.45					ONE WAY (RIGHT)
R10-6	600X900	0.54					STOP HERE ON RED (45° ARROW)
R11-2	1200X750	0.90					ROAD CLOSED
R11-3a	1500X750	1.13					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	1500X750	1.13					ROAD CLOSED TO THRU TRAFFIC
R12-3b	900X900	0.81					TO ONCOMING TRAFFIC (PLAQUE)
S4-4	900X375	0.34					WHEN FLASHING
STOP/SLOW	450 OCT.						STOP/SLOW PADDLE (STOP/SLOW)
SUPPLEMENTAL PLATES FOR WARNING SIGNS							
WF25-6	500X150	---					BRIDGE/RAMP PLATE (USE WITH WF21-4)
WD25-1a	650X225	---					1000 FT/1500 FT PLATE
WD25-1b	950X225	---					500 FT/1000 FT PLATE
WD25-1c	850X225	---					500 FT/1000 FT PLATE
WD25-6	700X225	---					BRIDGE/RAMP PLATE (USE WITH WD21-4 OR WD5-1)
GUIDE SIGNS							
EO5-1	1800X1500	2.70					GORE EXIT
G020-1	1500X600	0.90	3	2.70			ROAD WORK NEXT XX MILES
G020-2a	1200X600	0.72	6	4.32			END ROAD WORK
G020-4	900X450	0.41					PILOT CAR FOLLOW ME
M04-1	600X300	0.18					ALTERNATE (PLAQUE)
M04-8	600X300	0.18					DETOUR (PLAQUE)
M04-8a	600X450	0.27					END DETOUR
M04-9L	1200X900	1.08					DETOUR (LEFT ARROW)
M04-9R	1200X900	1.08					DETOUR (RIGHT ARROW)
M04-10L	1200X450	0.54					DETOUR (ARROW LEFT)
M04-10R	1200X450	0.54					DETOUR (ARROW RIGHT)
M5-1L	525X375	0.20					ADVANCE LEFT TURN ARROW
M5-1R	525X375	0.20					ADVANCE RIGHT TURN ARROW
M6-1	525X375	0.20					TURN ARROW
M6-3	525X375	0.20					STRAIGHT ARROW
MISCELLANEOUS SIGNS							
OM4			3	EACH			TYPE IV OBJECT MARKERS
OM4							OUTER ROAD SIGNS
W04-2	900X900						RIGHT LANE/CENTER LANE/LEFT LANE CLOSED AHEAD (SYMBOL)
616-10.06 CONSTRUCTION SIGNS TOTAL 49.8							
616-10.11 RELOCATED SIGNS TOTAL 2.9							

*NOTE: SEE 2B SHEET 3 OF 5

ITEM NUMBER	TOTAL QTY	DESCRIPTION
612-10.10		TEMPORARY BARRICADE
612-10.20		RELOCATED TEMPORARY BARRICADE
612-10.30	14 ✓	MOVEABLE BARRICADE (THREE RAILS)
612-10.40		PERMANENT BARRICADE
612-10.50		FLASHER SIGN
612-10.60		RELOCATED FLASHER SIGN
612-20.08		IMPACT ATTENUATOR (8 SAND BARRELS)
612-20.09		IMPACT ATTENUATOR (9 SAND BARRELS)
612-20.10		IMPACT ATTENUATOR (10 SAND BARRELS)
612-20.12		IMPACT ATTENUATOR (12 SAND BARRELS)
612-20.14		IMPACT ATTENUATOR (14 SAND BARRELS)
612-20.17		IMPACT ATTENUATOR (17 SAND BARRELS)
612-20.19		IMPACT ATTENUATOR (19 SAND BARRELS)
612-20.20		REPLACEMENT SAND BARREL
612-20.30		IMPACT ATTENUATOR (RELOCATION)
612-30.00		TRUCK MOUNTED ATTENUATOR (TMA)
616-10.20	43 ✓	CHANNELIZER (DRUM)
616-10.35		TYPE I BARRICADE (ONE RAIL)
616-10.36		TYPE II BARRICADE (TWO RAILS)
616-10.40		FLASHING ARROW PANEL
616-10.45		TYPE I OBJECT MARKER
616-10.46		TYPE II OBJECT MARKER
616-10.47		TYPE III OBJECT MARKER
616-10.50		FLASHING ELECTRIC LIGHT
616-10.51		WARNING LIGHT TYPE A
616-10.52		WARNING LIGHT TYPE B
616-10.53		WARNING LIGHT TYPE C
616-10.54		STROBE LIGHT
616-10.60		TYPE I CHANNELIZER/MARKER
616-10.70		TUBULAR MARKER
616-10.91		RADAR SPEED ADVISORY SYSTEM OPERATION
616-10.95		RADAR SPEED ADVISORY SYSTEM
616-10.96		CHANGEABLE MESSAGE SIGN.
616-10.98		COMMISSION FURNISHED CHANGEABLE MESSAGE SIGN.
		CONTRACTOR FURNISHED, CONTRACTOR RETAINED
616-11.00		CHANGEABLE MESSAGE SIGN.
		SOLAR POWERED, CONTRACTOR FURNISHED, COMMISSION RETAINED
616-11.31	3 ✓	INSTALLING GIVE EM A BRAKE.
616-11.32	3 ✓	1200 mm X 1200 mm SIGN
616-11.40		INSTALLING SHOW ME PROGRESS SIGNS
616-12.00		INSTALLING NO CENTER STRIPE SIGN
619-10.05		LAW ENFORCEMENT
620-80.65	175* ✓	PAVEMENT EDGE TREATMENT
901-94.00		TEMPORARY RAISED PAVEMENT MARKER
902-94.00		TEMPORARY LIGHTING
902-94.01		TEMPORARY TRAFFIC SIGNALS
		AND LIGHTING
902-94.12		TEMPORARY TRAFFIC SIGNALS
902-94.15		RELOCATION OF PORTABLE TRAFFIC SIGNAL SYSTEM (COMMISSION RETAINED)
		SIGNAL SYSTEM





ROUTE 412
STATE MO
DISTRICT 10
SHEET NO. 5

JOB NO. JOP0334
CONTRACT ID 010720-X02
PROJECT NO. FAF-412-1(2)
COUNTY DUNKLIN
DATE

CLAYTON S. AND VEDA ELLENE LESTER
 4.969 ha NEW LIMITED ACCESS R/W (12.28 AC.)
 40.425 ha REMAINING LT (99.892 AC.)
 3348 m² REMAINING RT (0.8275 AC.)
 1844 m² TEMP ESM'T (CONST) (0.46 AC.)

TOMMY & BETTY ROSS HYDE
 1.098 ha NEW LIMITED ACCESS R/W (2.71 AC.)
 9956 m² NEW R/W (NORMAL) (2.46 AC.)
 358.12 m² TEMP ESM'T (CONST) (0.09 AC.)
 6.80 ha REMAINING RT (16.80 AC.)
 541.90 m² REMAINING LT (0.13 AC.)

RIVERSIDE & CO. INC.

BOBBY LEE & BONIDA ANN POYNER
 SEE SHEET NO 7

SEE SHEET 7 FOR RTE AC DETAILS

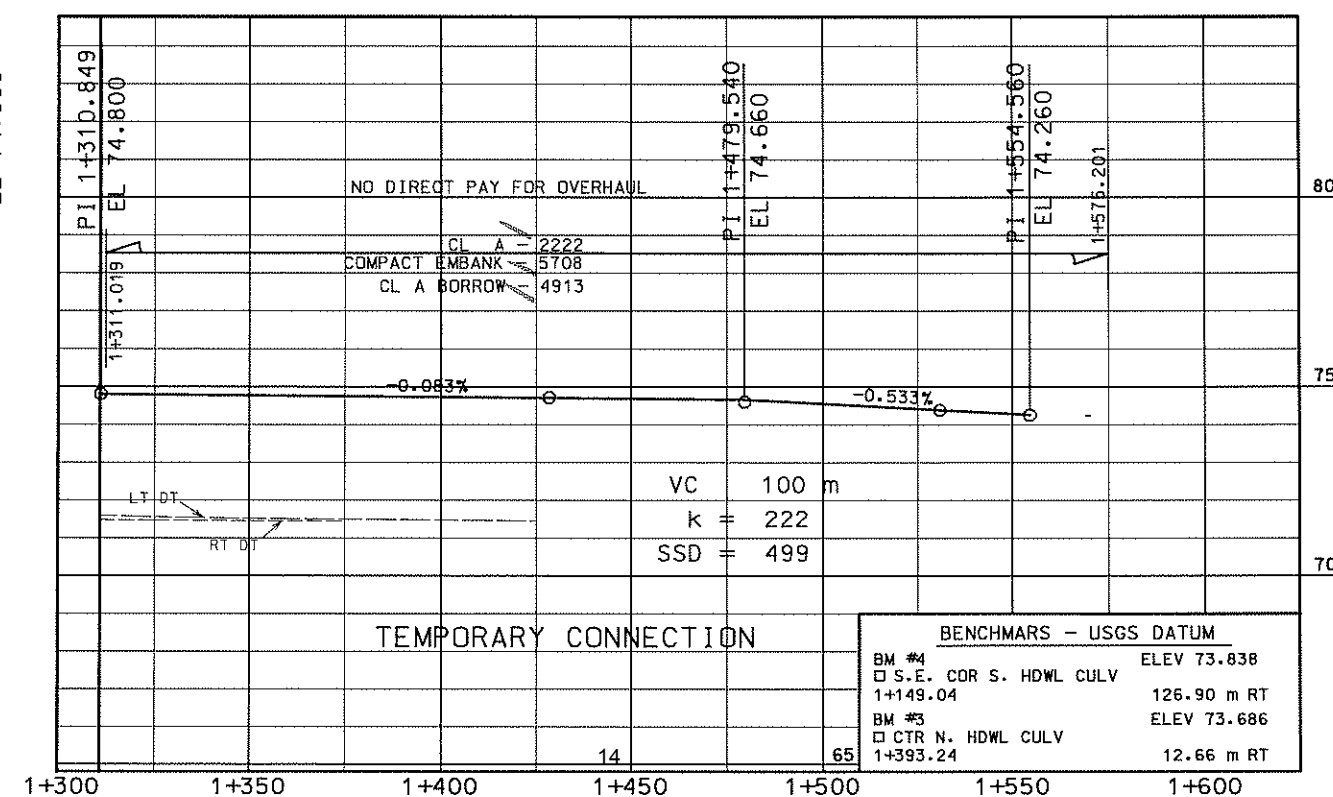
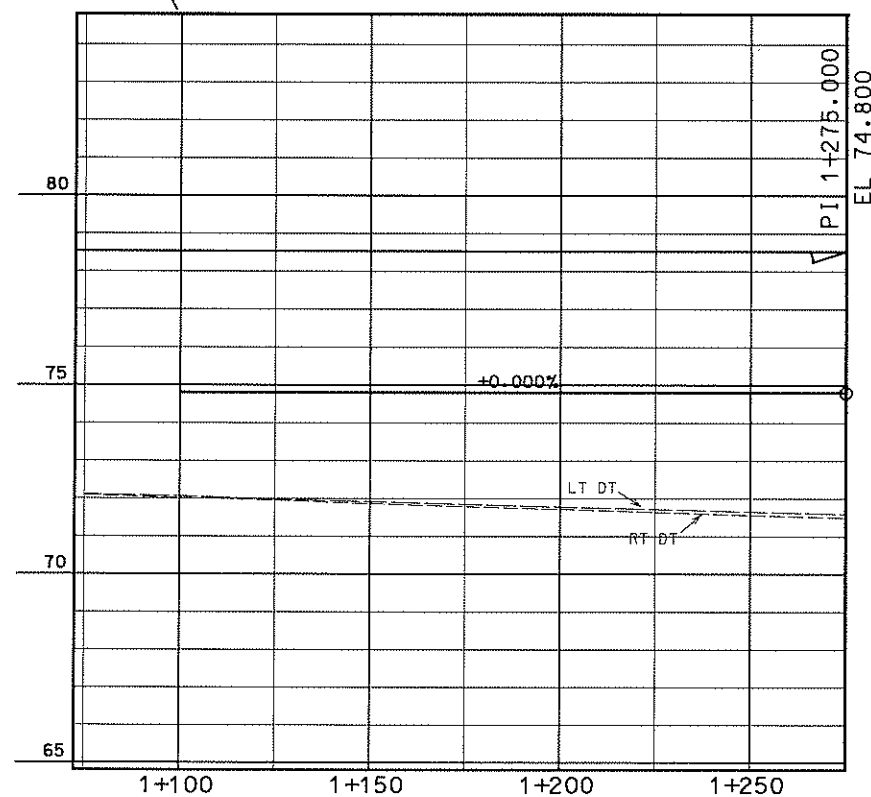
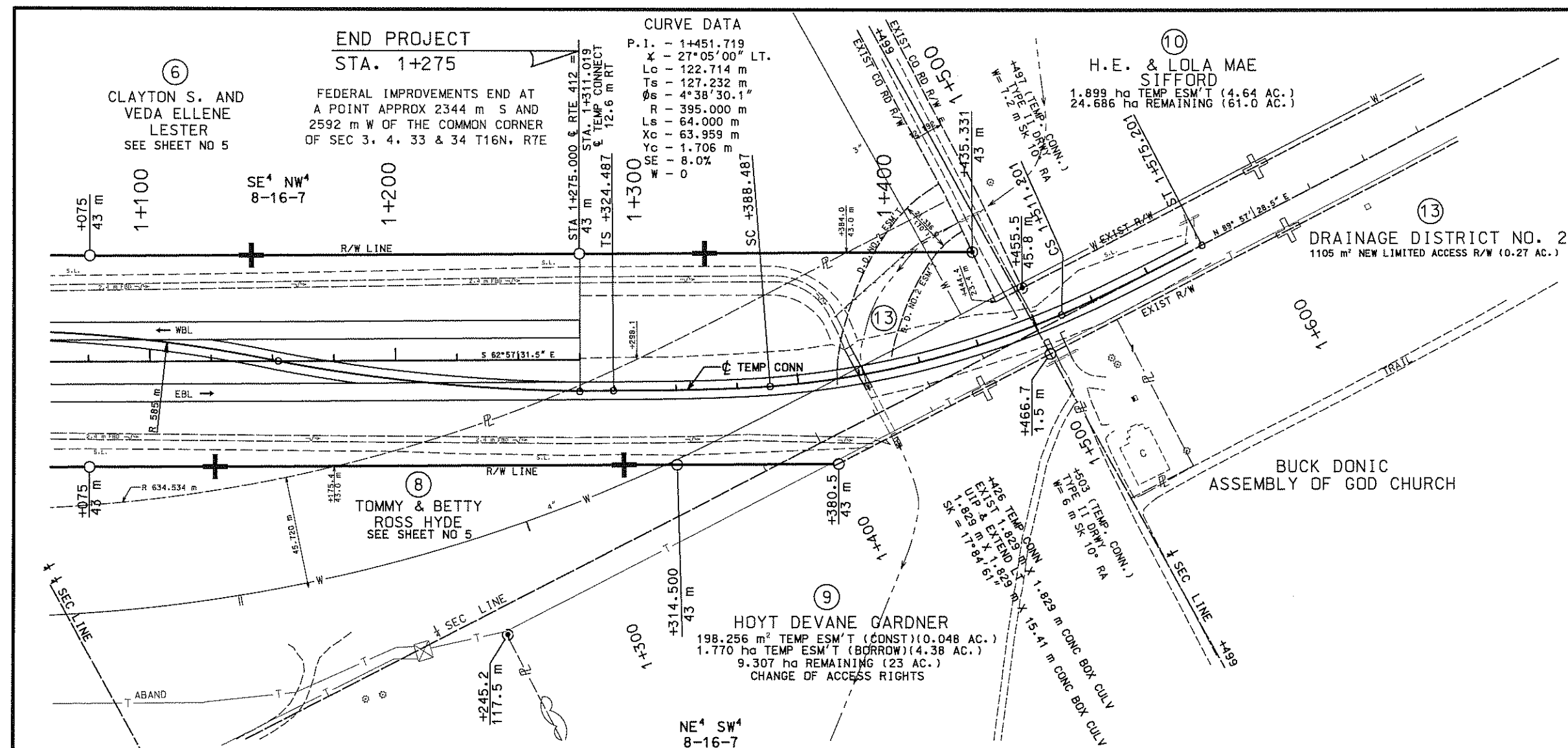
NO DIRECT PAY FOR OVERHAUL

CL A = 18.541
COMPACT EMBANK = 46.163
BORROW = 36.133

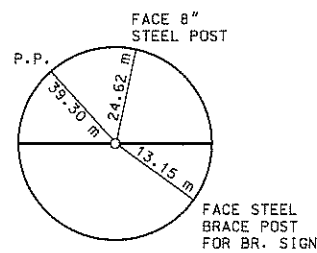
OBTAIN 3987 C.M. CL A
STA 1+025 TO STA 1+583.465
RELOC RTE AC

BENCHMARKS - USGS DATUM
BM #5
N.E. COR GAS PUMP ISL
0+638.01
ELEV 74.883
62.23 m RT

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 6
JOB NO. JOP0334			
CONTRACT ID 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY DUNKLIN			DATE

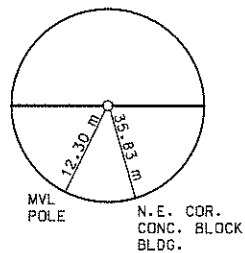


ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	8
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI		
DATE _____			



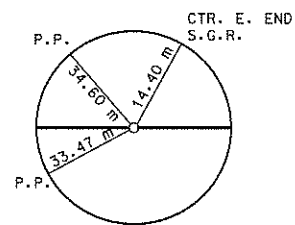
X 263484.32189
Y 23813.20853
Z 76.17818

80d NAIL BURIED 4" DEEP
LOCATED 0.9 MI WEST OF
JCT. AC & IN N.E. QUAD.
JCT. CO. RD. 840 GREENE CO.
AR. & 16.2 FT N. OF N. EDGE
CONC. & ON N. SHLD. RTE. 412
POINT #100



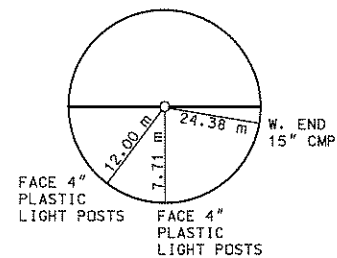
X 263805.42690
Y 23618.07361
Z 76.43326

80d NAIL BURIED 2" DEEP
LOCATED 250± WEST OF AR.
BR. #25-9 +7.68 & 9.18 METERS
S. OF S. EDGE CONC.
POINT #110



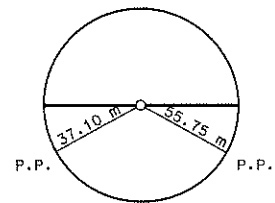
X 264432.28811
Y 23306.37086
Z 76.63490

80d NAIL BURIED 6" DEEP
LOCATED 31 METERS± E. OF
E. END BR. #1521R & 2.12
METERS S. OF S. EDGE CONC.
POINT #120



X 264717.00668
Y 23108.87070
Z 74.65850

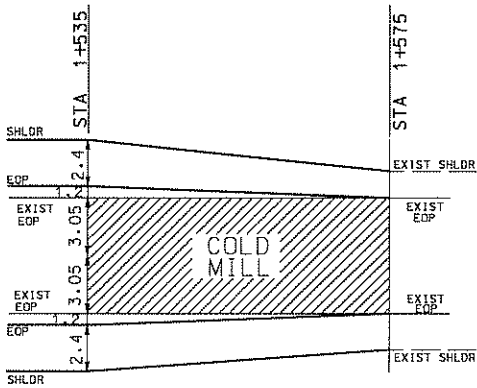
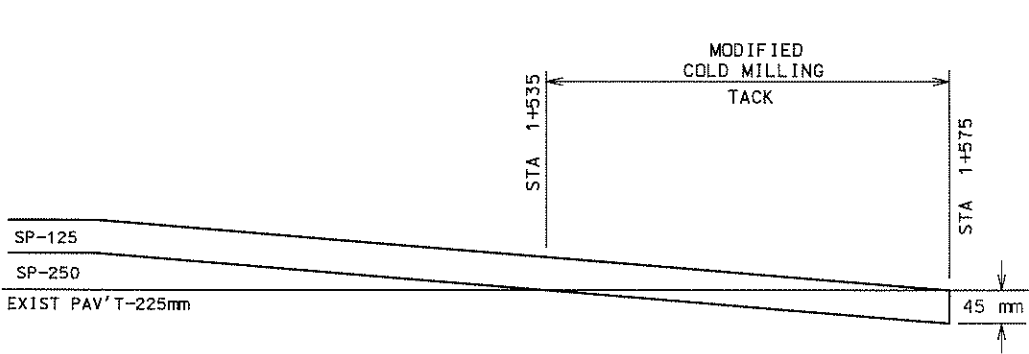
80d NAIL BURIED 3" DEEP
LOCATED IN THE S.E. QUAD.
JCT. RTE. 412 & RTE. AC
POINT #140



X 265236.37254
Y 22846.78341
Z 75.11874

80d NAIL BURIED 4" DEEP
LOCATED ON S. SHLD. RTE. 412
& 3 METERS S. OF S. EDGE
CONC. & APPROX. 90 METERS
W. OF S.T. STA 46+22.0
POINT #160

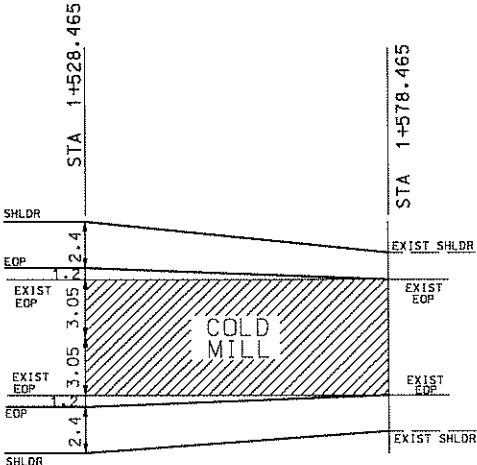
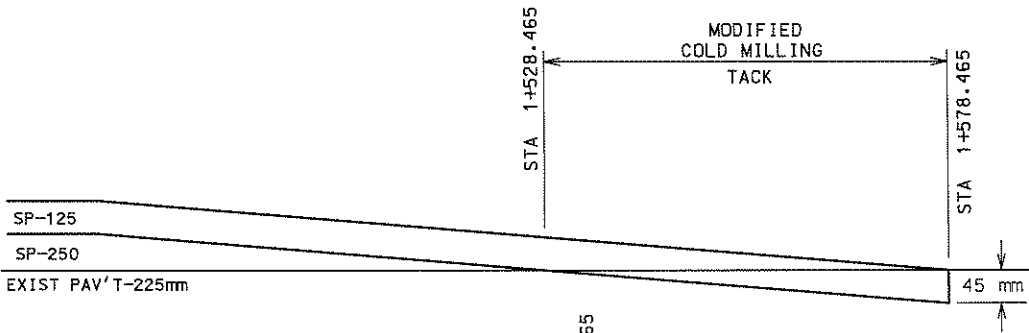
ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 9	
JOB NO.		JOP0334		
CONTRACT ID.		010720-X02		
PROJECT NO.		FAF-412-1(2)		
COUNTY	GREENE CD. ARKANSAS DUNKLIN CD. MISSOURI			
				DATE _____



RTE 412 (MO)

COLD MILLING DETAIL
(DRAWING NOT TO SCALE)

17

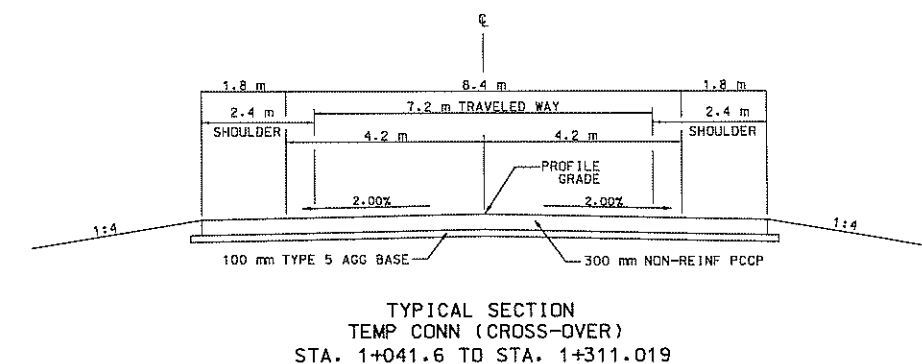
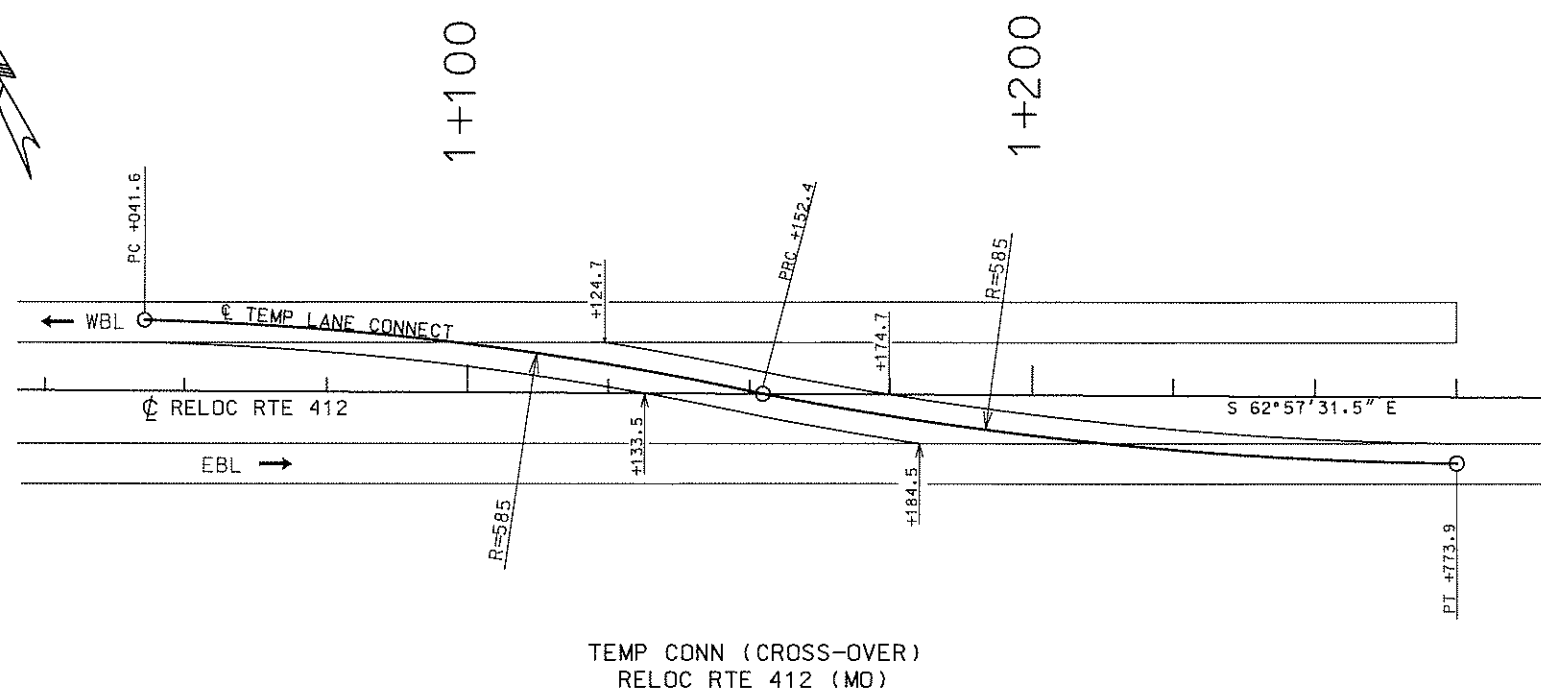
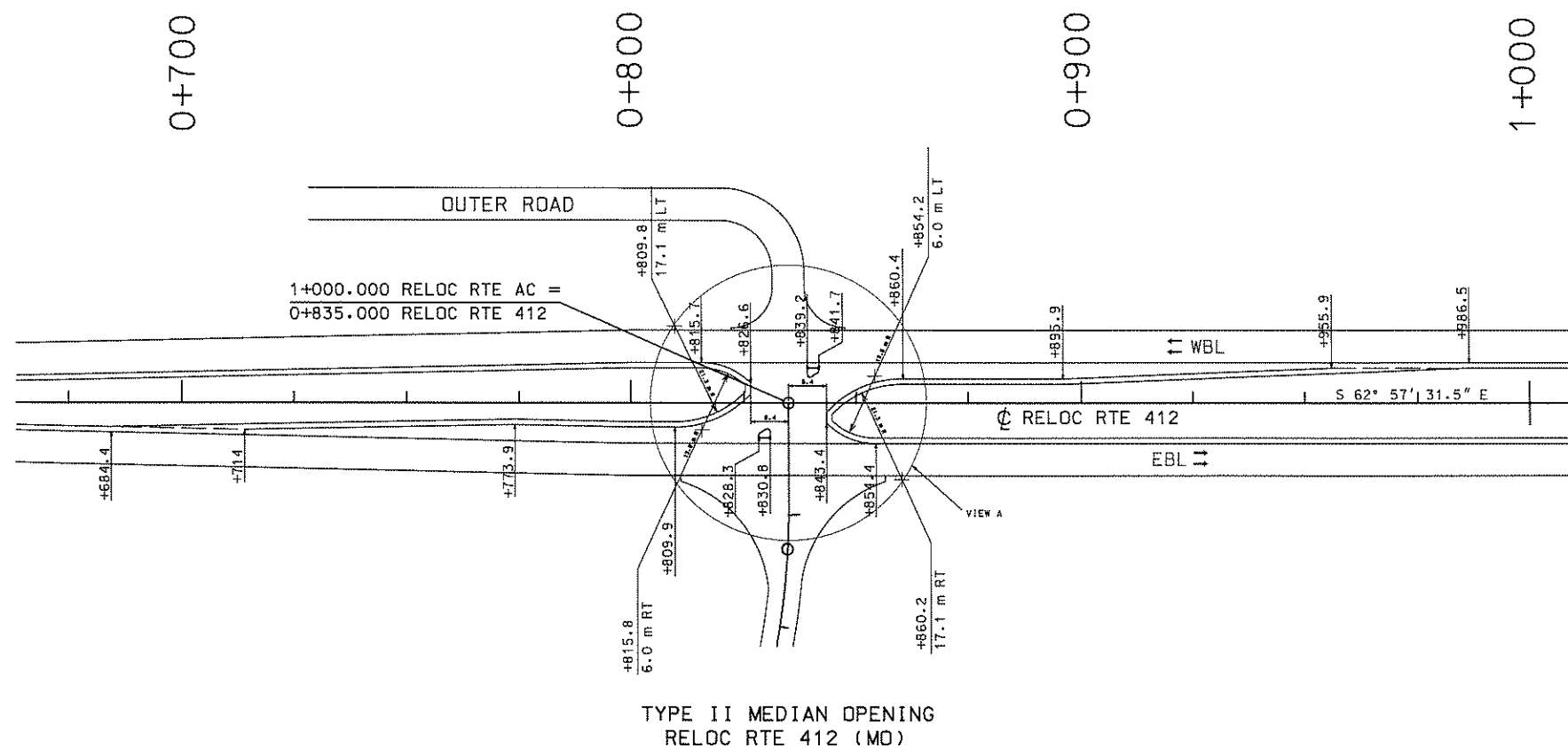


RTE AC

COLD MILLING
&
WIDTH TRANSITION DETAIL
SPECIAL SHEET 1 OF 5

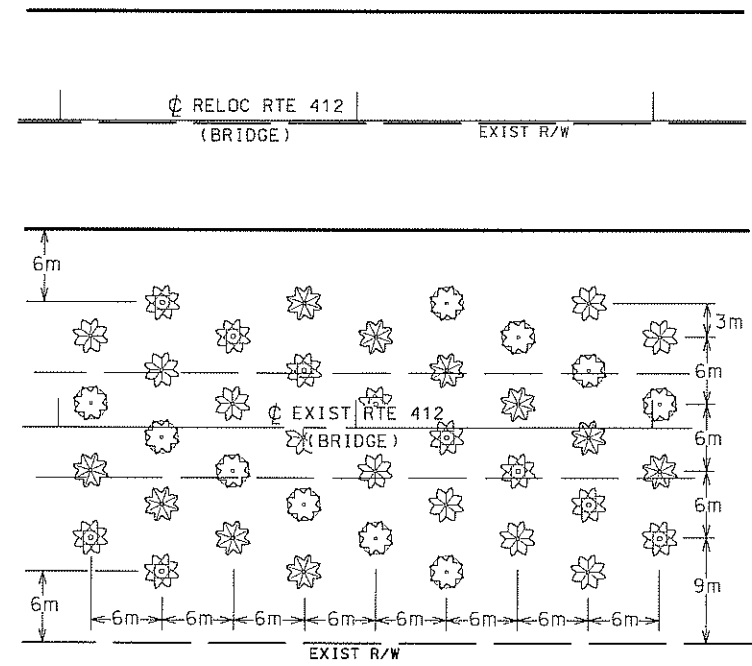
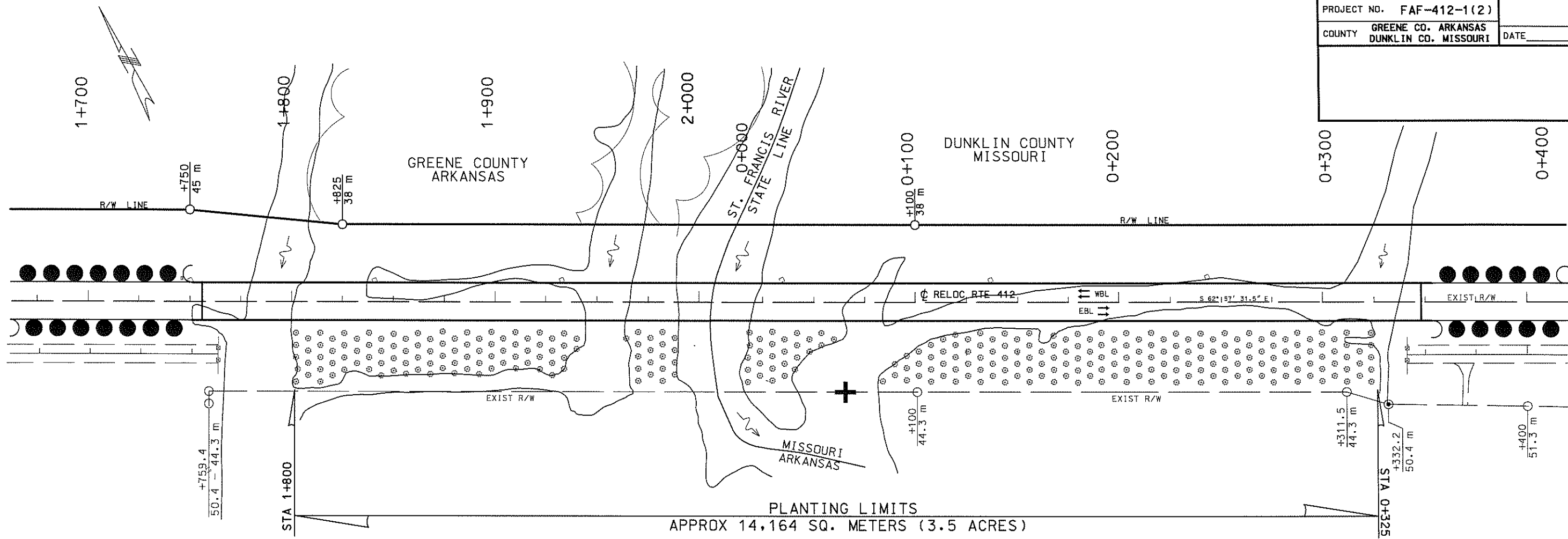
REV.

ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	10
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY DUNKLIN			DATE



MEDIAN OPENING
&
CROSS-OVER DETAIL
SPECIAL SHEET 2 OF 5

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 13
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI		
			DATE



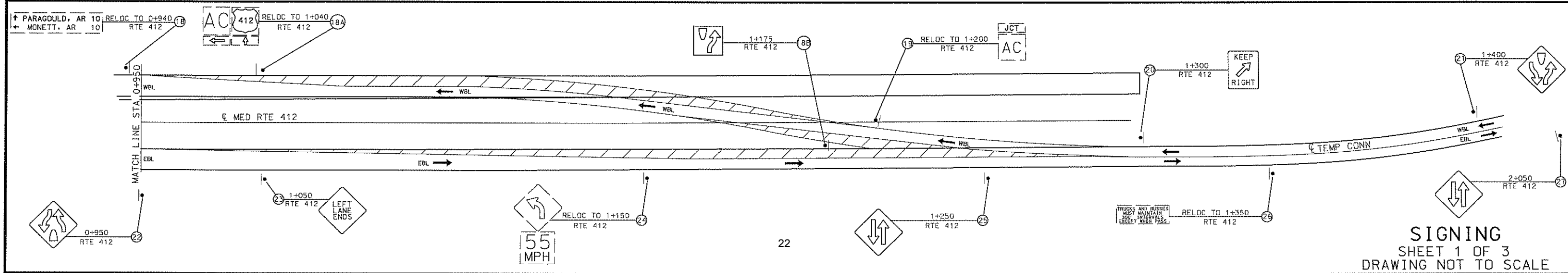
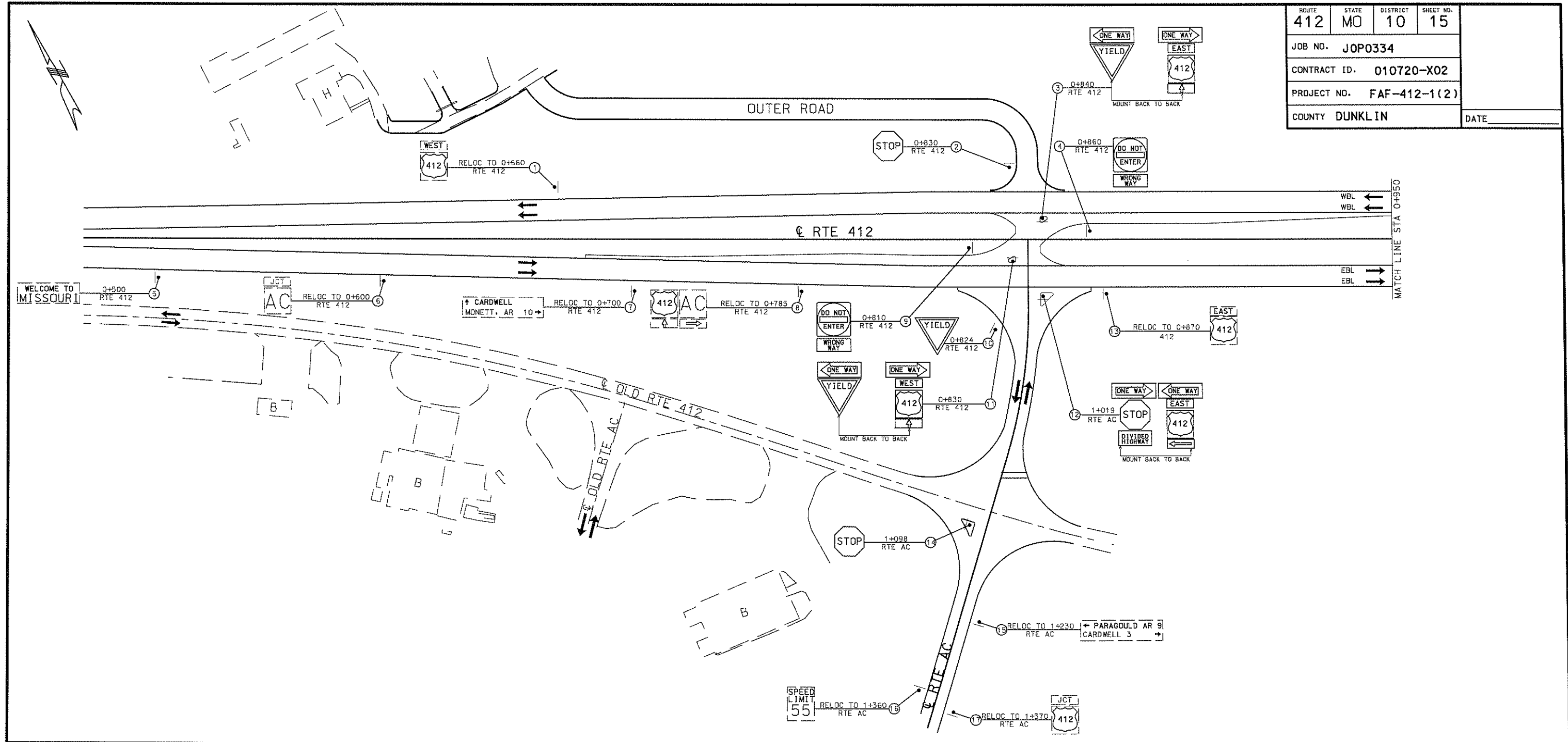
- LEGEND
- BLACK WILLOW
 - BALD CYPRESS
 - PIN OAK
 - WILLOW OAK

NOTE: THE FOUR SPECIES OF TREES SHALL BE PLANTED IN STAGGERED ROWS WITH 6.0m OR CLOSER SPACING BETWEEN THE INDIVIDUAL PLANTED TREES

SPACING DETAIL
(DRAWING NOT TO SCALE)

TREE PLANTING DETAIL
SPECIAL SHEET 4 OF 5

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 15
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY DUNKLIN			DATE



SIGNING
SHEET 1 OF 3
DRAWING NOT TO SCALE

EFFECTIVE 01-01-2003

HIGHWAY SIGNING
SHEET 2 OF 3

[illegible]

ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	29
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	DUNKLIN		
			DATE

STA 0+815 @ MEDIAN
450 mm X 19.9 m CL 3 RCP
1 - TYPE S HDWL (STD M604.50C)
1 - 450 mm FES
CL 3 EXC 24.179 CM
ROCK LINING 2.834 CM
1.524 m x 3.048 m x 0.610 m

RELOC ROUTE 412 (MO)
0+800

STA 1+426 TEMP CONN
EXIST 2.134 m x 1.829 m CONC BOX CULV
UIP AND EXTEND LEFT
2.100m x 1.829m x 15.41 CONC BOX CULV
SK = 17°84'61"
CL 3 EXC 18.8 CM

ROCK LINING 40 CM

TEMP CONN
ROUTE 412 (MO)
1+426

RELOC ROUTE AC
1+060

STA 0+060 RTE AC
450 mm X 22.9 m RCP
2 - FES
CL 3 EXC 27.824 CM

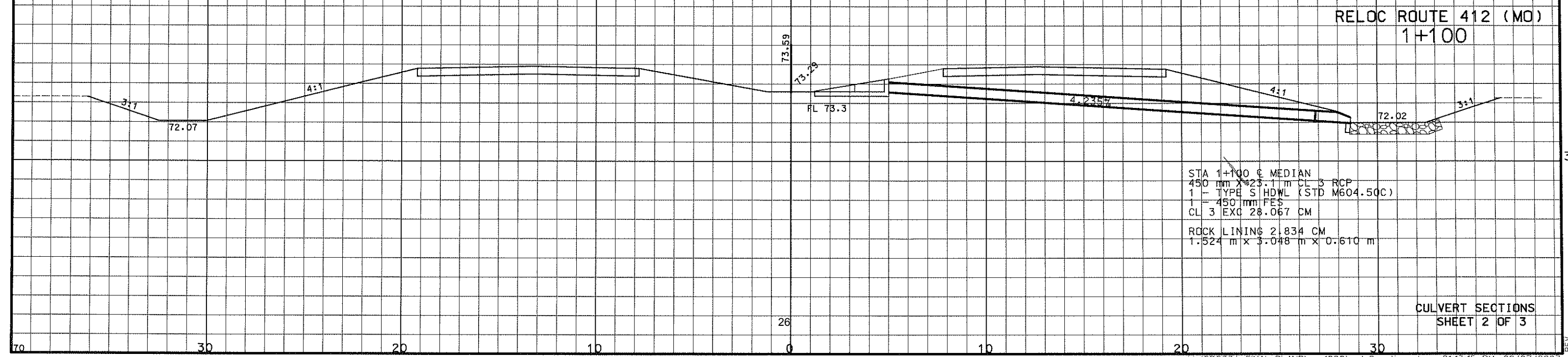
RELOC ROUTE AC
1+150

STA 0+150 RTE AC
450 mm X 22.0 m RCP
2 - FES
CL 3 EXC 26.730 CM

CULVERT SECTIONS
SHEET 1 OF 3

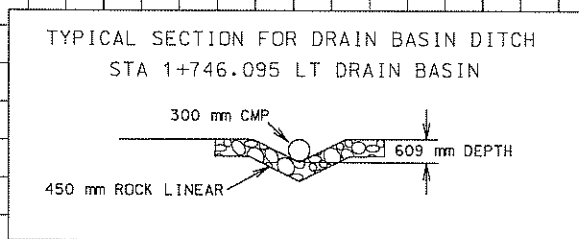
ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	30
JOB NO. JOP0334			
CONTRACT ID- 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	DUNKLIN		
DATE			

20

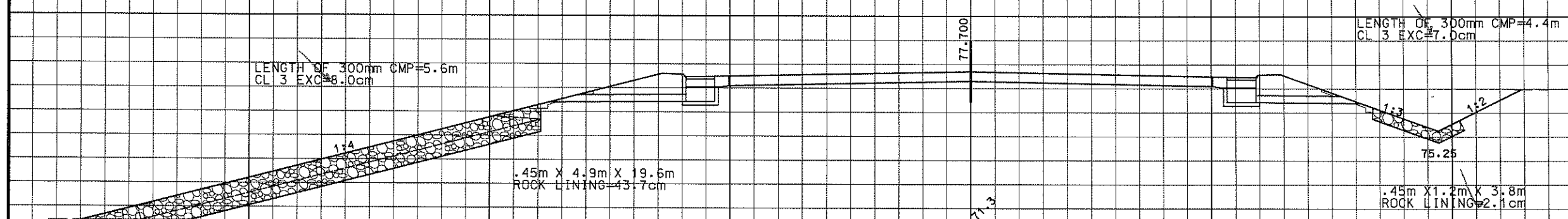


CULVERT SECTIONS
SHEET 2 OF 3

ROUTE 412	STATE MO	DISTRICT 10	SHEET NO. 31	
JOB NO.		JOP0334		
CONTRACT I.D.		010720-X02		
PROJECT NO.		FAF-412-1(2)		
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI			
DATE				



STA 1+746.095
11.248m RT & LT @ RELOC RTE 412 (AR)
(2) TYPE A 12.9mm X 610mm PC DI, D=0.600m
(4) CURVED VANE GRATE AND FRAME=90 KG EACH
1-300mm PIPE OPENING EACH DI
CL 3 EXC=3cm EACH DI

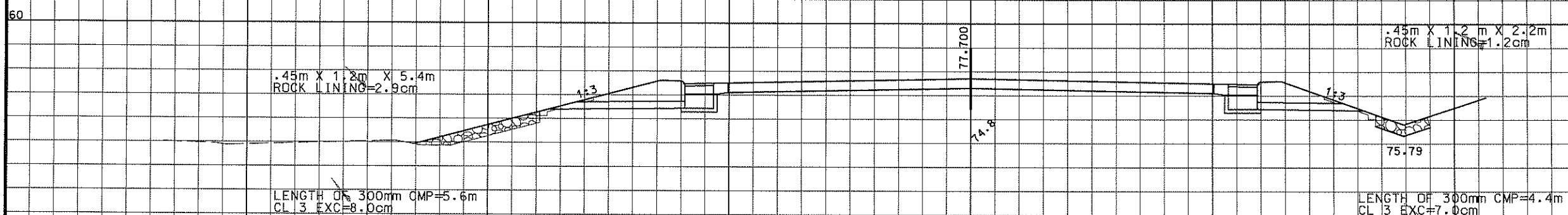


RELOC ROUTE 412 (AR)
1+746.095

FOR MORE DETAIL ON CONC SLOPE PROTECTION
SEE STD DWG M609.40H AND STD DWG M611.606
(PAYMENT FOR MATERIAL, EXCAVATION, AND PLACING
OF THE CONC SLOPE PROTECTION WILL BE PAID
FOR AT THE CONTRACT UNIT PRICE PER SQUARE METER)

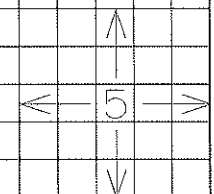
CONCRETE SLOPE PROTECTION=1.5 SM

SEE STD DWG M609.40H FOR MORE INFORMATION
(PAYMENT FOR DROP INLET, GRATE, CMP, PERMANENT
EROSION CONTROL MATERIAL AND INSTALATION TO BE
PAID AT THE CONTRACT UNIT PRICE PER DRAIN BASIN
PER EACH)



RELOC ROUTE 412 (MO)
0+357.895

STA 0+357.895
11.248m RT & LT @ RELOC RTE 412 (MO)
(2) TYPE A 12.9mm X 610mm PC DI, D=0.600m
(4) CURVED VANE GRATE AND FRAME=90 KG EACH
1-300mm PIPE OPENING EACH DI
CL 3 EXC=3cm EACH DI



CULVERT SECTIONS
SHEET 3 OF 3

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
METRIC STANDARD PLANS

EFFECTIVE 04-01-2001

ROUTE	STATE	DISTRICT	SHEET NO.
412	MO	10	32
JOB NO. JOP0334			
CONTRACT ID. 010720-X02			
PROJECT NO. FAF-412-1(2)			
COUNTY	GREENE CO. ARKANSAS DUNKLIN CO. MISSOURI		
DATE			

✓	NO.	DESCRIPTION
✓	M203.00E	EXCAVATION & EMBANKMENT
	M203.02E	UNDERGRADING (2 SHEETS) *
✓	M203.20E	SUPERELEVATION SPIRALS AND WIDENING (UNDIVIDED HIGHWAY)
✓	M203.21F	SUPERELEVATION SPIRALS AND WIDENING (DIVIDED HIGHWAY)
	M203.35A	MAILBOX TURNOUTS
	M203.40F	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (OTHER THAN 1:6 FORESLOPE)
	M203.41F	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (1:6 FORESLOPE)
✓	M203.50L	TYPICAL MEDIAN OPENINGS (DIVIDED HIGHWAYS)
✓	M203.61	DRIVEWAY TYPE I
✓	M203.62A	DRIVEWAY TYPE II
	M203.63A	DRIVEWAY TYPE III
	M203.64A	DRIVEWAY TYPE IV
✓	M203.65A	DRIVEWAY TYPE V
	M204.00D	EMBANKMENT CONTROL MEASURING DEVICES
	M204.30	PORE PRESSURE MEASURING DEVICES
✓	M502.05D	CONCRETE PAVEMENT & BASE APPURTENANCES FOR 4.5 m JOINT SPACING (2 SHEETS)
	M502.10F	DOWEL SUPPORTING UNITS
✓	M504.00E	CONCRETE APPROACH PAVEMENT (2 SHEETS)
	M602.00A	RIGHT-OF-WAY DRAIN MARKERS
✓	M602.40	GEOGRAPHIC REFERENCE SYSTEM MONUMENT
✓	M604.05C	PIPE CULVERT HEADWALLS - TYPE S
	M604.10D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-450 mm PIPE
	M604.11D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-600 mm PIPE
	M604.12D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-750 mm PIPE
	M604.13D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-900 mm PIPE
	M604.14D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-1050 mm PIPE
	M604.15D	PIPE CULVERT HEADWALL WITH ENERGY DISSIPATOR-1200 mm PIPE
	M604.20B	DROP INLET - TYPE B
	M604.21B	DROP INLET - TYPE C
	M604.22B	DROP INLET - TYPE D
	M604.23B	DROP INLET - TYPE E
	M604.24B	DROP INLET - TYPE EE
	M604.25C	DROP INLET - TYPE F
	M604.26D	DROP INLET - TYPE G
✓	M604.27E	DROP INLET - TYPE S (3 SHEETS)
	M604.28E	DROP INLET - TYPE T (ALSO INCLUDE M614.30)
	M604.29C	DROP INLET - TYPE X
	M604.30F	CONCRETE MANHOLES (ALSO INCLUDE M614.30)
	M604.40F	PIPE COLLARS
	M604.70	SLOTTED DRAIN (2 SHEETS)
✓	M605.10D	PAVEMENT UNDERDRAINAGE (2 SHEETS) *
✓	M606.00AJ	GUARDRAIL (8 SHEETS) *
✓	M606.22P	BRIDGE ANCHOR SECTION (SAFETY BARRIER CURB ON BRIDGE) (ALSO INCLUDE M606.00)(2 SHEETS)
	M606.23E	BRIDGE ANCHOR SECTION (THREE BEAM RAIL ON BRIDGE) (ALSO INCLUDE M606.00)(2 SHEETS)
✓	M606.30E	TERMINAL SECTION (ALSO INCLUDE M606.00)
	M606.40B	GUARD CABLE - ONE STRAND
	M606.41C	GUARD CABLE - THREE STRAND (4 SHEETS)
	M607.10S	CHAIN LINK FENCE
	M607.11D	CHAIN LINK FENCE FOR RETAINING WALLS *
	M607.20F	WOVEN WIRE FENCE (ALSO INCLUDE M607.10)

✓	NO.	DESCRIPTION
	M608.00E	PAVED APPROACHES (2 SHEETS)
	M608.10J	CONCRETE SIDEWALK AND CURB RAMPS (2 SHEETS)
	M608.20D	CONCRETE STAIRS
✓	M609.00I	CONCRETE CURB - CURB AND GUTTER - GUTTER
	M609.15C	PAVED DITCHES
✓	M609.40H	DRAIN BASIN, SHOULDER PAVING AND FILL SLOPES AT BRIDGE ENDS (2 SHEETS)
	M609.60C	ROCK DITCH LINER
✓	M609.70C	ROCK LINING FOR CULVERT OUTLETS
	M610.20E	BRICK MANHOLES (2 SHEETS) (ALSO INCLUDE M614.30)
✓	M611.60M	CONCRETE SLOPE PROTECTION
✓	M612.10M	BARRICADES
	M612.20	SAND FILLED IMPACT ATTENUATORS
	M613.00F	PAVEMENT REPAIR (2 SHEETS)
✓	M614.10S	CURB INLETS, GRATES & BEARING PLATES
	M614.11A	CURVED VANE GRATE AND FRAME
	M614.30E	MANHOLE FRAMES AND COVERS
	M615.00A	OFFICE FOR ENGINEER
✓	M616.10X	TRAFFIC CONTROL DEVICES (4 SHEETS) (ALSO INCLUDE M903.01)
✓	M617.00AC	CONCRETE TRAFFIC BARRIER - TYPE A & B (2 SHEETS)
	M617.10A	CONCRETE TRAFFIC BARRIER - TYPE C
	M617.20	CONCRETE TRAFFIC BARRIER - TYPE D
	M619.10B	PAVEMENT EDGE TREATMENT
✓	M620.00A	PAVEMENT MARKING
	M625.00A	HOLE PATTERN FOR PAVEMENT SLAB STABILIZATION *
✓	M626.00A	RUMBLE STRIPS *
	M702.02C	CAST-IN-PLACE CONCRETE PILES (APPROVED TYPES)
✓	M703.10B	CONCRETE SINGLE BOX STRUCTURE (STRAIGHT WINGS-SQUARE)(3 SHEETS) (ALSO INCLUDE M706.35) *
	M703.11B	CONCRETE SINGLE BOX STRUCTURE (FLARED WINGS-SQUARE)(3 SHEETS) (ALSO INCLUDE M706.35) *
	M703.12B	CONCRETE SINGLE BOX STRUCTURE (CUT SECTIONS) *
	M703.13B	CONCRETE SINGLE BOX STRUCTURE (STRAIGHT WINGS-SKEWED)(3 SHEETS) (ALSO INCLUDE M706.35) *
	M703.14B	CONCRETE SINGLE BOX STRUCTURE (FLARED WINGS-SKEWED)(3 SHEETS) (ALSO INCLUDE M706.35) *
	M703.15A	CONCRETE SINGLE BOX STRUCTURE (MEMBER SIZES AND REINFORCEMENTS) (13 SHEETS) (ALSO INCLUDE M706.35) *
	M703.37B	CONCRETE BOX CULVERTS (EXTERIOR WING REINFORCEMENT)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.38A	CONCRETE BOX CULVERTS (CUTTING DETAILS)(2 SHEETS)(INCL. M706.35)
	M703.40B	CONCRETE DOUBLE BOX STRUCTURE (STRAIGHT WINGS-SQUARE)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.41B	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS-SQUARE)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.42B	CONCRETE DOUBLE BOX STRUCTURE (CUT SECTIONS)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.43B	CONCRETE DOUBLE BOX STRUCTURE (STRAIGHT WINGS-SKEWED)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.44B	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS-SKEWED)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.45	CONCRETE DOUBLE BOX STRUCTURE (MEMBER SIZES AND REINFORCEMENT) (13 SHEETS) (ALSO INCLUDE M706.35)
	M703.60D	CONCRETE BOX STRUCTURE PIPE INLET
	M703.80B	CONCRETE TRIPLE BOX STRUCTURE (STRAIGHT WINGS-SQUARE)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.81B	CONCRETE TRIPLE BOX STRUCTURE (FLARED WINGS-SQUARE)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.82B	CONCRETE TRIPLE BOX STRUCTURE (CUT SECTIONS)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.83B	CONCRETE TRIPLE BOX STRUCTURE (STRAIGHT WINGS-SKEWED)(2 SHEETS) (ALSO INCLUDE M706.35) *
	M703.84B	CONCRETE TRIPLE BOX STRUCTURE (FLARED WINGS-SKEWED)(2 SHEETS) (ALSO INCLUDE M706.35) *

✓	NO.	DESCRIPTION
	M703.85	CONCRETE TRIPLE BOX STRUCTURE (MEMBER SIZES AND REINFORCEMENT) (13 SHEETS) (ALSO INCLUDE M706.35)
✓	M706.35F	BAR SUPPORTS FOR CONCRETE REINFORCEMENT
	M712.40F	STEEL DAMS AT EXPANSION DEVICES (ALSO INCLUDE M706.35)
	M725.00	CORRUGATED METAL PIPE INSTALLATION METHODS
	M725.31C	METAL CURTAIN WALL AND METAL INLETS
✓	M726.30D	CULVERT INSTALLATION METHODS (2 SHEETS)
	M730.00	CORRUGATED POLYETHYLENE PIPE INSTALLATION METHODS
	M731.00T	PRECAST MANHOLES (ALSO INCLUDE M614.30) *
✓	M731.10N	PRECAST DROP INLETS (4 SHEETS) (ALSO INCLUDE M614.10 AND M614.30)
✓	M732.00M	FLARED END SECTION (2 SHEETS)
	M732.05C	BEVELED PIPE END TREATMENT (2 SHEETS) *
	M732.10D	SAFETY SLOPE END SECTION (2 SHEETS)
	M806.02A	STAPLE PLACEMENT FOR PLASTIC NETTING
✓	M806.10B	TEMPORARY EROSION CONTROL MEASURES (6 SHEETS)
		HIGHWAY LIGHTING
	M901.00T	POLES, FOUNDATIONS & APPURTENANCES FOR 9.0 m MOUNTING HEIGHT (2 SHEETS)
	M901.01Y	POLES, FOUNDATIONS & APPURTENANCES FOR 13.5 m MOUNTING HEIGHT (3 SHEETS) *
	M901.02A	CABLE, CONDUIT AND TRENCHING (ALSO INCLUDE M902.20)
	M901.30D	BASE MOUNTED CONTROL STATION (2 SHEETS)
	M901.80C	POWER SUPPLY ASSEMBLY - SECONDARY SERVICE
		TRAFFIC SIGNALS
	M902.00J	SIGNAL HEADS - LENSES - MOUNTING
	M902.10M	CONTROLLERS, CONDUIT LOCATION
	M902.15H	POWER SUPPLY ASSEMBLY (2 SHEETS)
	M902.20A	PULL BOXES
	M902.21C	TELEPHONE INTERCONNECT
	M902.30M	POST BASES (2 SHEETS)
	M902.40L	TUBULAR STEEL POSTS (2 SHEETS)
	M902.50I	DETECTORS
	M902.70J	SPAN WIRE DETAILS (2 SHEETS) *
	M902.80C	TRAFFIC SIGNAL SYMBOLS
		HIGHWAY SIGNING
✓	M903.01G	SPECIAL SIGNING CHARACTERS *
	M903.02AC	HIGHWAY SIGNING (9 SHEETS)
	M903.03AS	SIGN MOUNTING DETAILS (5 SHEETS)
	M903.04E	WEIGH STATION SIGNING
	M903.05F	TUBULAR SUPPORT STEEL - TYPE S, ONE TUBE (SPAN)
	M903.06F	TUBULAR SUPPORT STEEL - TYPE S, TWO TUBE (SPAN)
	M903.07F	TUBULAR SUPPORT STEEL - TYPE C (CANTILEVER)
	M903.08E	TUBULAR SUPPORT STEEL - TYPE B (BUTTERFLY)
	M903.09D	SIGN LIGHTING - LIGHTING SUPPORT BRACKET
	M903.10W	OVERHEAD SIGN TRUSSES - ALUMINUM (6 SHEETS) (ALSO INCLUDE M903.03)
	M903.12R	OVERHEAD SIGN TRUSSES-BUTTERFLY & CANTILEVER-STRUCTURAL STEEL (5 SHEETS) (ALSO INCLUDE M903.03)
	M903.60W	OVERHEAD SIGN TRUSSES-STRUCTURAL STEEL (5 SHEETS) (ALSO INCLUDE M903.03)
	M903.60W	OVERHEAD SIGN TRUSSES-STRUCTURAL STEEL (5 SHEETS) (ALSO INCLUDE M903.03)

NOTES:

PLANS FOR THIS PROJECT WERE DEVELOPED USING DRAWINGS FROM THIS INDEX

* - REVISED -- SEE DRAWING FOR EFFECTIVE DATE

State	Proj. No.	Sheet No.
MO	JOP0334	B1
Sec./Sur. 7 Twp. 16N Rge. 7E		

ST. FRANCIS RIVER BRIDGE ROUTE 412

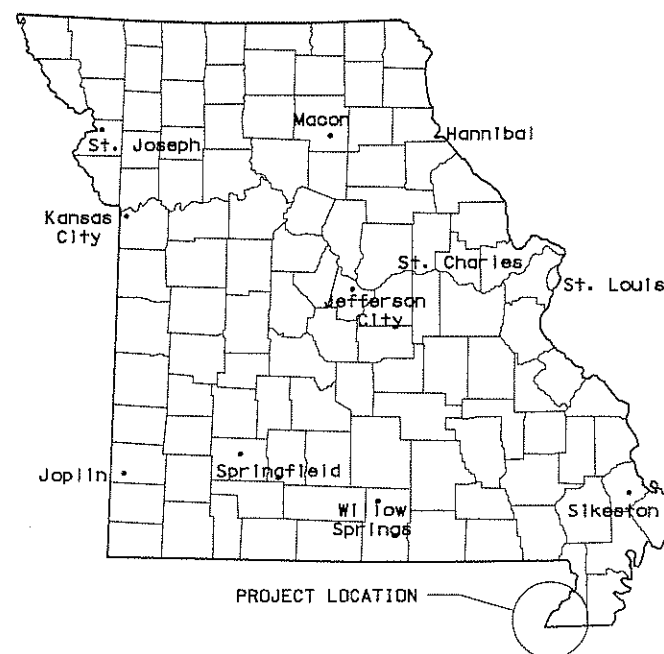
DUNKLIN COUNTY, MO. AND GREENE COUNTY, AR.

MISSOURI BRIDGE NO. A4554

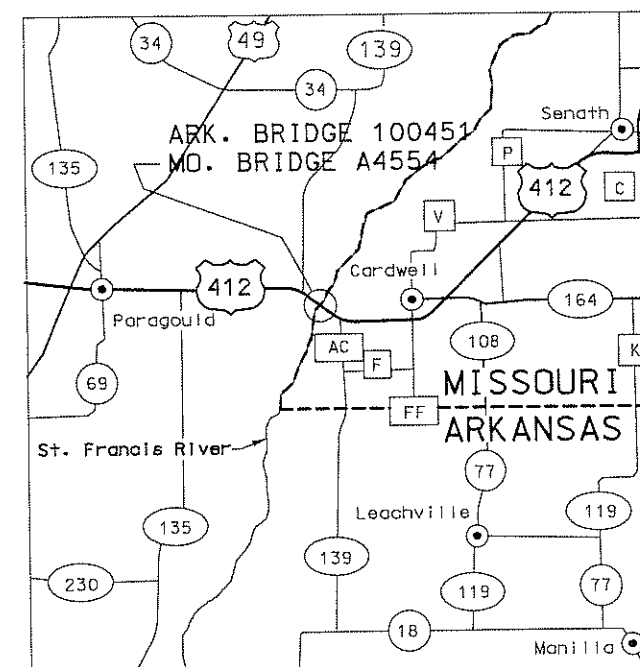
JOB NO. JOPO334

ARKANSAS BRIDGE NO. 06831

JOB NO. 100451



VICINITY MAP



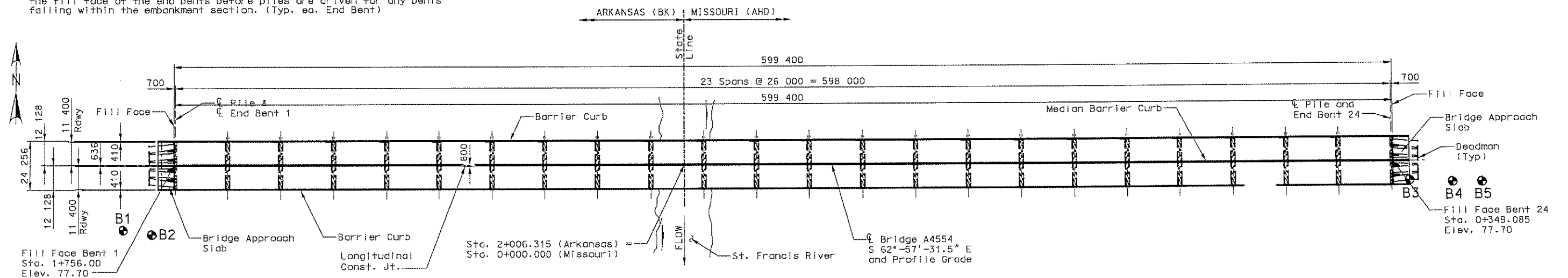
LOCATION MAP

State	Proj. No.	Sheet No.
MO	JOP0334	B2

Plan view of the bridge showing spans, bents, and units. The bridge is divided into five units with a total length of 598.000. The spans are numbered 1 through 24, and the bents are numbered 1 through 24. The bridge is supported by 24 bents. The bridge is divided into five units: Unit 1 (104.000), Unit 2 (130.000), Unit 3 (130.000), Unit 4 (130.000), and Unit 5 (104.000). The bridge is supported by 24 bents. The bridge is divided into five units: Unit 1 (104.000), Unit 2 (130.000), Unit 3 (130.000), Unit 4 (130.000), and Unit 5 (104.000). The bridge is supported by 24 bents. The bridge is divided into five units: Unit 1 (104.000), Unit 2 (130.000), Unit 3 (130.000), Unit 4 (130.000), and Unit 5 (104.000). The bridge is supported by 24 bents.

ELEVATION

All elevations are specified in meters except as noted.



" " indicates location of borings.

The locations of all subsurface boring for this structure are shown on the bridge plan sheet(s) for this structure.

No greater significance or weight should be given to the boring data depicted on the plan sheets than is subsurface data available from the district or elsewhere.

The commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project.

A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the commission.

For pile spacing, see sheet 5.

State Rte 412 from Cardwell, Missouri in Dunklin County to Paragould, Arkansas in Greene County approximately 4.8 Km west of Cardwell and 8 Km east of Paragould

STA. 0+000.000 (MoDOT Stationing)

RTE. 412

HYDROLOGICAL DATA	
Drainage Area	= 4792 Square Kilometers
Design Discharge	= 1155 Cu. Meters/ sec. (100 yrs.
Design H.W. Elevation	= 74.70 Meters
Estimated Backwater	= Negligible

HORNER & SHIFRIN, INC.
ENGINEERS • ARCHITECTS • PLANNERS
2020 Oakleaf Ave., St. Louis, Missouri 63116

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS

DUNKLIN CO. MO - GREENE CO. AR

STD.	M706.35
STD.	M611.60
STD.	M609.00
A4554	

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS:

Missouri Standard Specification for Highway Construction, 1999 Edition, or latest revision thereof, and Special Provisions.

DESIGN SPECIFICATIONS:

In accordance with Division I and I-A of the AASHTO Standard Specifications for Highway Bridges, Sixteenth Edition, 1996, including interim specifications thru 1998, as modified and interpreted by the Missouri Highway and Transportation Commission's Bridge Manual of design section and as noted below and on the plans.

DESIGN LOADING:

Load Factor Design Method - All elements except piling.

Live Load: Roadway

MS18 modified or Military 106 kN Tandem Axle, whichever governs.

Substructure design based on the governing superstructure framing loads.

Dead Load: Roadway

An allowance of 185 kg/m² of roadway for future wearing surface is included in the dead load. Dead load also includes the drainage collection system filled with water (Avg. 91 kg/m).

Superstructure: Simple-Supported, Non-Composite for Dead Load. Continuous Composite for Live Load.

Reinforced Concrete weight - 2480 kg/m³.

Earth weight - 1900 kg/m³.

Equivalent Fluid Pressure - 7.0 kPa/m

Stream current - based on 0.8 m/s and applied according to AASHTO 3.18.1.

Seismic design - Seismic performance Category C using a seismic accelerator coefficient A=0.23 with soil profile Type II. Seismic performance Category C requirements for detailing all bent, cap and foundation reinforcing.

BEARINGS:

PTFE Bearing pads designed to accommodate thermal and seismic displacements.

DESIGN UNIT STRESSES:

Concrete (Class B) - $f_c = 8$ MPa
 $f'_c = 21$ MPa
 $n = 10$

Concrete (Class B1) - $f_c = 11$ MPa
 $f'_c = 28$ MPa
 $n = 8$

Concrete (Class B2) (Superstructure, except Prestressed Girders and Barrier Curbs) - $f_c = 11$ MPa
 $f'_c = 28$ MPa
 $n = 8$

C.I.P. Piles - 500 mm

Concrete (Class B1) - $f_c = 11$ MPa
 $f'_c = 28$ MPa
 $n = 8$

Welded Steel Pipes (ASTM A-252M Grade 3) $f_y = 310$ MPa

Closure Plates - 20 mm (AASHTO M183)

Reinforcing Steel (Grade 420) $f_y = 420$ MPa

For Prestressed Girder stresses, see sheets 13 thru 15.

For Precast Prestressed Girder Panel stresses, see sheet 25.

JOINT FILLER

All joint filler shall meet the requirements of Section 1057.2.4 of the Missouri Standard Specifications, except as noted.

REINFORCING STEEL

Minimum clearance to reinforcing steel shall be 40mm, except as noted.

All dimensions to reinforcing on detail drawings are to the centerline of the bar except where clear distance is noted from the face of concrete.

(E) Denotes epoxy coated bar.

NEOPRENE PADS:

Neoprene for Laminated Neoprene Bearing Pads shall be 60 durometer.

Neoprene for Type "N" PTFE bearings shall be 70 durometer.

The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

MISCELLANEOUS:

All dimensions are shown in millimeters (mm), unless otherwise specified.

All elevations are shown in meters (m), except as noted

Drawings are not to scale. Follow dimensions.

All exposed surfaces of cast-in-place piles shall be painted with a calcium sulfonate system in accordance with the Special Provisions

INDEX OF DRAWINGS:

- | | |
|--|---|
| 1 - COVER SHEET | 18 - FRAMING PLAN AND INTERMEDIATE STEEL DIAPHRAGMS |
| 2 - GENERAL PLAN AND ELEVATION | 19 - DIAPHRAGM AT END BENTS (TYP.) |
| 3 - GENERAL NOTES AND INDEX OF DRAWINGS | 20 - DIAPHRAGM AT FIXED BENTS (TYP.) |
| 4 - ESTIMATED QUANTITIES AND FOUNDATION DATA | 21 - DIAPHRAGM AT EXPANSION BENTS (TYP.) |
| 5 - SUBSTRUCTURE LAYOUT | 22 - SLAB PLAN |
| 6 - BORING LOGS | 23 - TYPICAL SLAB CROSS SECTION |
| 7 - END BENT 1 AND 24 PLAN AND ELEVATION | 24 - SLAB POURING SEQUENCE |
| 8 - END BENT 1 AND 24 WING WALL DETAILS | 25 - PRECAST PRESTRESSED PANELS |
| 9 - DEADMAN END BENT 1 AND 24 | 26 - PREFORMED COMPRESSION JOINT SEAL END BENT 1 AND END BENT 24 |
| 10 - VERTICAL DRAIN END BENT 1 AND 24 | 27 - FINGER PLATE EXPANSION DEVICE INTERIOR BENTS 5, 10, 15, & 20 |
| 11 - INTERMEDIATE FIXED BENTS 2-4, 6-9, 11-14, 16-19 & 21-23 | 28 - NEOPRENE DRAINAGE TROUGH INT. EXP. BENTS 5, 10, 15, & 20 |
| 12 - INTERMEDIATE EXPANSION BENTS 5, 10, 15, & 20 | 29 - SLAB DRAINS |
| 13 - PRECAST PRESTRESSED I-GIRDERS SPANS 1 AND 23 | 30 - SAFETY BARRIER CURB ELEVATION AND DETAILS |
| 14 - PRECAST PRESTRESSED I-GIRDERS SPANS 2, 3, 6-8, 11-13, 16-18, 21, & 22 | 31 - SAFETY BARRIER CURB AT END BENTS (TYP.) |
| 15 - PRECAST PRESTRESSED I-GIRDERS SPANS 4, 5, 9, 10, 14, 15, 19, & 20 | 32 - MEDIAN BARRIER CURB ELEVATION AND DETAILS |
| 16 - HAUNCHING AND CAMBER DIAGRAM AND BEARING PAD DETAILS | 33 - SLIP FORM OPTION |
| 17 - PTFE BEARING DETAILS | 34 - APPROACH SLAB DETAILS |
| | 35-39 - BILL OF REINFORCING |
| | 40-44 - "AS BUILT" PILE DATA |

State	Proj. No.	Sheet No.
MO	JOP0334	B3

ROUTE 412 OVER ST. FRANCIS RIVER

GENERAL NOTES AND
INDEX OF DRAWINGS

DUNKLIN CO. MO - GREENE CO. AR

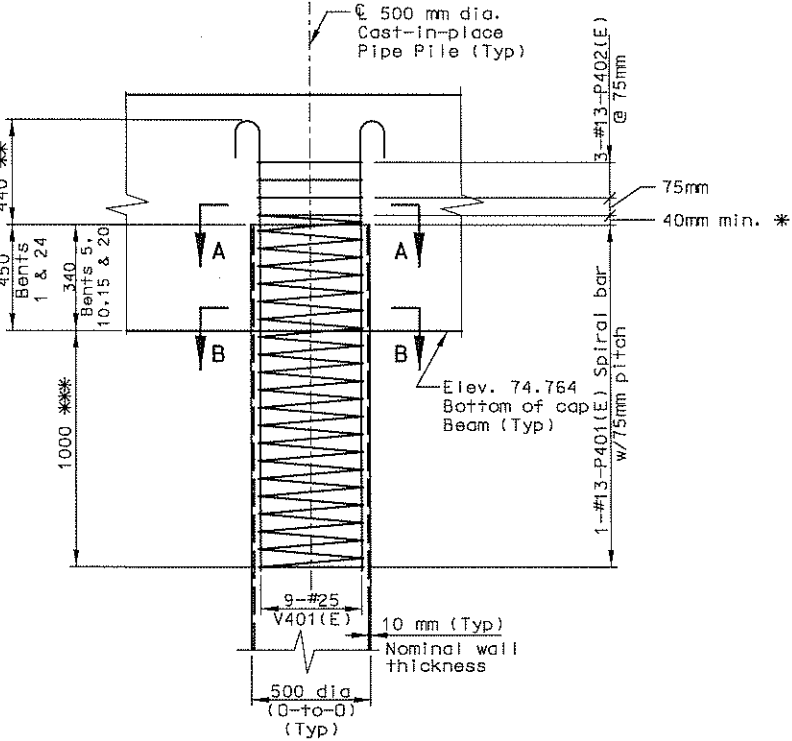
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

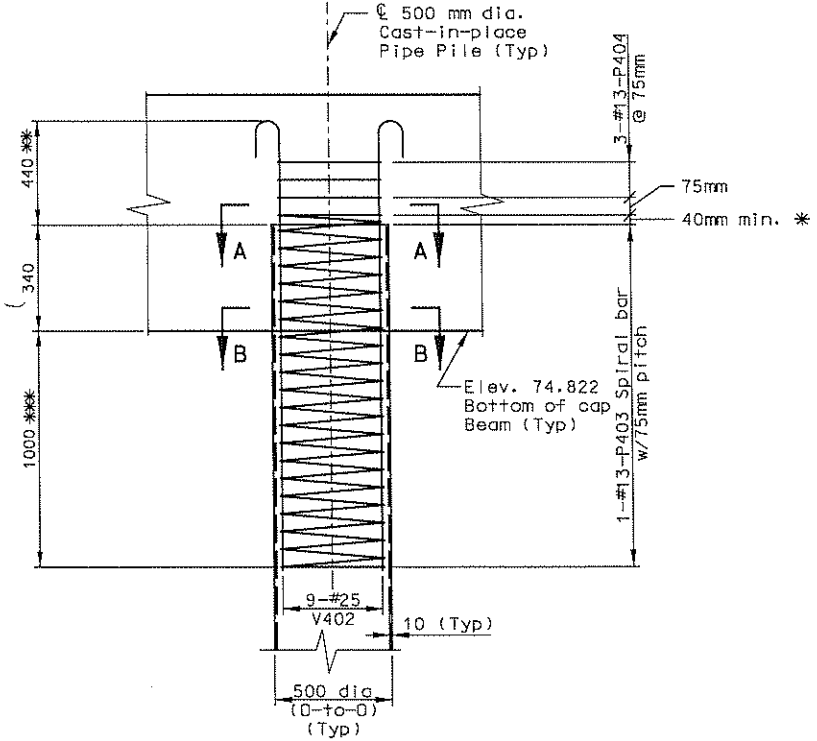
State	Proj. No.	Sheet No.
MO	JOP0334	B4

FINAL QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Removal of Bridges (H-521 R)	lump sum		1
Removal of Existing Timber Piles	each	180	180
Bridge Approach Slab (Bridge)	sq. meter	381.0	381.0
(4) 500 mm Cast-in-Place Concrete Piles	meter	11691.5	11691.5
(1) Loading Tests	each	2	2
Pre-Bore for Piling	meter	0	0
Class B Concrete (Substr.)	cu. meter	1434.4	1434.4
Deadman Anchorage Assembly	each	2	2
Protective Coating - Conc. Bents (Deleterious Agents)	lump sum		1
Slab on Concrete I-Girder	sq. meter	14493	14493
(2) Safety Barrier Curb	meter	1213.0	1213.0
(3) Median Barrier Curb	meter	614.5	614.5
Laminated Neoprene Bearing Pad	each	324	324
Type N PTFE Bearing	each	90	90
Preformed Compression Expansion Joint Seal (102mm)	meter	48.5	48.5
Prestressed Concrete I-Girder (26.0 m Span)	each	207	207
Reinforcing Steel (Bridges)	kilogram	101 900	101 900
Reinforcing Steel (Epoxy Coated)	kilogram	48 765	48 765
Expansion Device (Finger Plate)	meter	91.2	91.2
Slab Drain	each	368	368
Vertical Drain at End Bents	each	2	2
Earthquake Restrainer Assemblies	each	96	96

- (1) Test pile shall be driven in a permanent position, one each at bents 5 and 20.
- (2) Safety barrier curb shall be slip-form option.
- (3) Median barrier curb shall be slip-form option.
- The cost of furnishing, fabricating and installing Neoprene Bearing Pads, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads per each.
- (4) Contractor elected to drive supplied length of pile instead of cutting pile off once minimum tip elevation was reached. Lengths driven past minimum tip were at contractor's expense & not paid for.



PIPE PILE REINFORCING
TYPICAL @ BENTS 1, 5, 10, 15, 20 & 24



PIPE PILE REINFORCING
TYPICAL @ BENTS 2 THRU 4, 6 THRU 9, 11 THRU 14, 16 THRU 19 & 21 THRU 23

Bent No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Type	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE	TRESTLE
Kind	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.	C.I.P.
Number	15	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	15
Length	14.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	14.5
Total Length	217.5	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	548.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	217.5
Design Bearing	KN	439.4	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	419.1	439.4
Min. Tip Penetration elev. (m)	60.74	56.68	56.68	56.68	56.68	56.68	56.68	56.68	56.68	56.68	55.68	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	60.74
Hammer Energy Required	KN-m	15.5	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	20.9	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	15.5

Minimum energy requirement of hammer is based on plan length of piles.

All piles shall be driven to the minimum penetration and to not less than the design bearing noted.

Fluted type cast-in-place pile shall not be permitted.

All bents are parallel.

No direct payment will be made for cleaning and painting of exposed surfaces of shell for cast-in-place piles. The cost of painting shall be included in the cast-in-place concrete piles price per meter.

All concrete for cast-in-place piles shall be Class B1.

Welded steel piles shall meet the requirements of ASTM specification A-252M, Grade 3, and the 20mm closure plates shall meet the requirements of AASHTO M183, Grade 3 $f_y = 310$ MPa.

Where 20 mm closure plates are required for tips of pipe piles they shall not project beyond the outside diameter of the pipe piles. Satisfactory weldments may be made by beveling tip ends of pipe or by use of inside backing rings. In either case proper gaps shall be used to obtain weld penetration full thickness of pipe.

Cost of reinforcing for Pipe Piles shall be included in the contract unit price for 500 mm Cast-in-Place Concrete Piles per meter.

All splices of shells for cast-in-place concrete piles shall be made watertight and to the full strength of shell above and below the splice to permit hard driving without damage. All shells damaged during driving shall be replaced without cost to the State. Shell sections used for splicing shall be at least 1500 mm in length.

Waterjetting and vibrating hammers permitted with 500 mm or 600 mm piles.

Final Quantities for Slab on Concrete I-Girder		
Item		Total
Reinforcing Steel (Epoxy Coated)	kilogram	441 020
Reinforcing Steel (Bridges)	kilogram	6440
Concrete	cu. meter	2933.9

Notes:

The table of Final Quantities for Slab on Concrete I-Girder represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these final quantities, but these variations cannot be used for an adjustment in the contract unit price per square meter of Slab on Concrete I-Girder.

*** Based on minimum top flange thickness and minimum joint filler thickness.

The prestressed panel quantities are not included in the table of Final Quantities for Slab on Concrete I-Girder.

See Special Provisions for method of forming slabs.

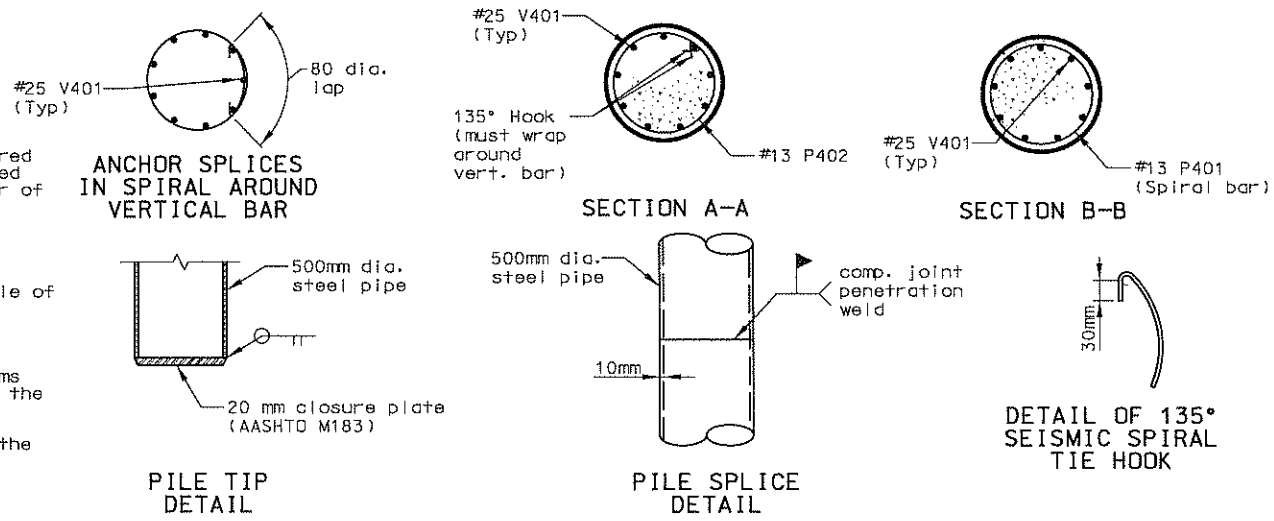
All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Final Quantities for Slab on Concrete I-Girder.

All concrete above the intermediate beam cap is included in the Final Quantities for Slab on Concrete I-Girder.

Concrete above the upper construction joint in backwall at End Bents No. 1 and 24 is included with Class B2 Concrete (Slab on Concrete I-Girder) Quantities.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 25 mm from 20 mm vertical plate at expansion device.

Cost of any required excavation for bridge shall be included in the contract unit price for other items.

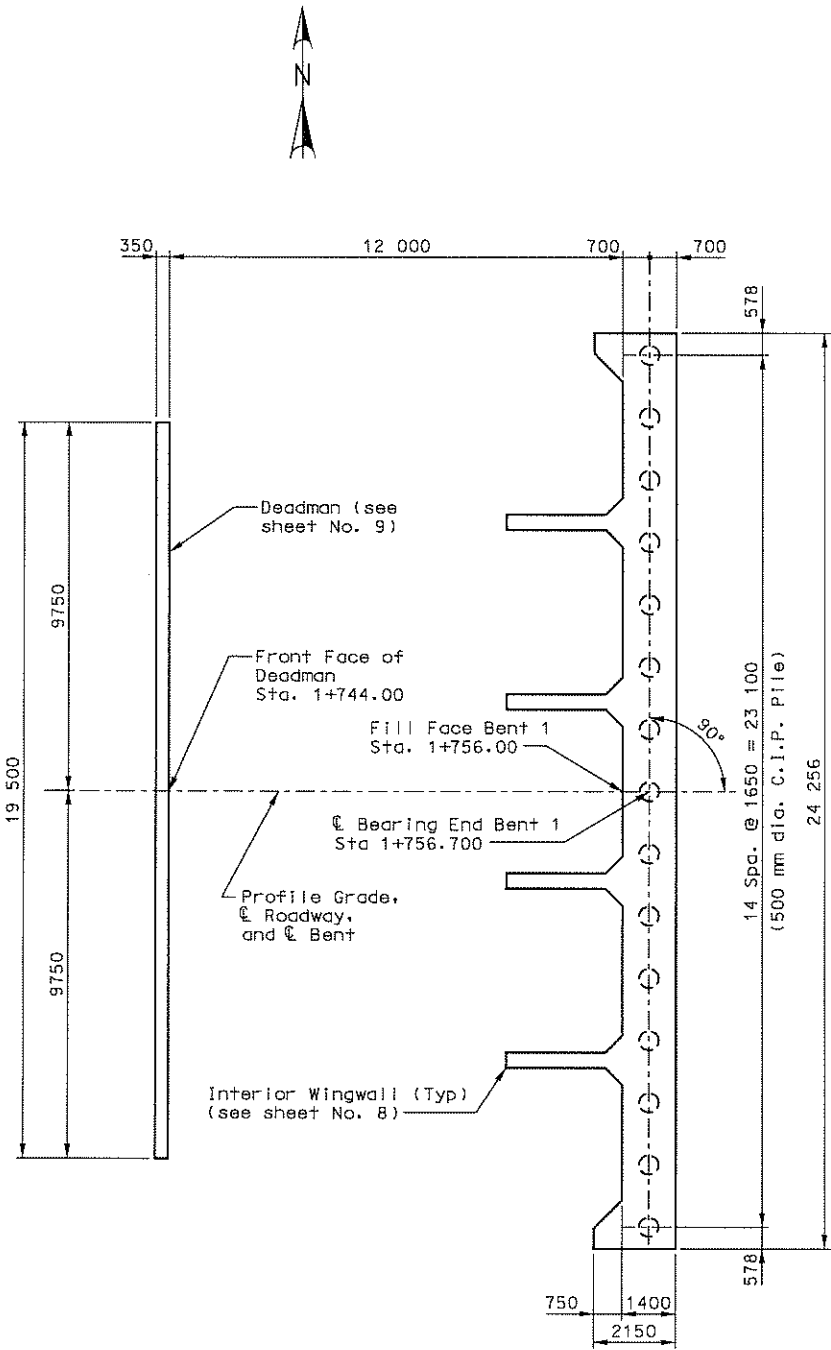


ROUTE 412 OVER ST. FRANCIS RIVER

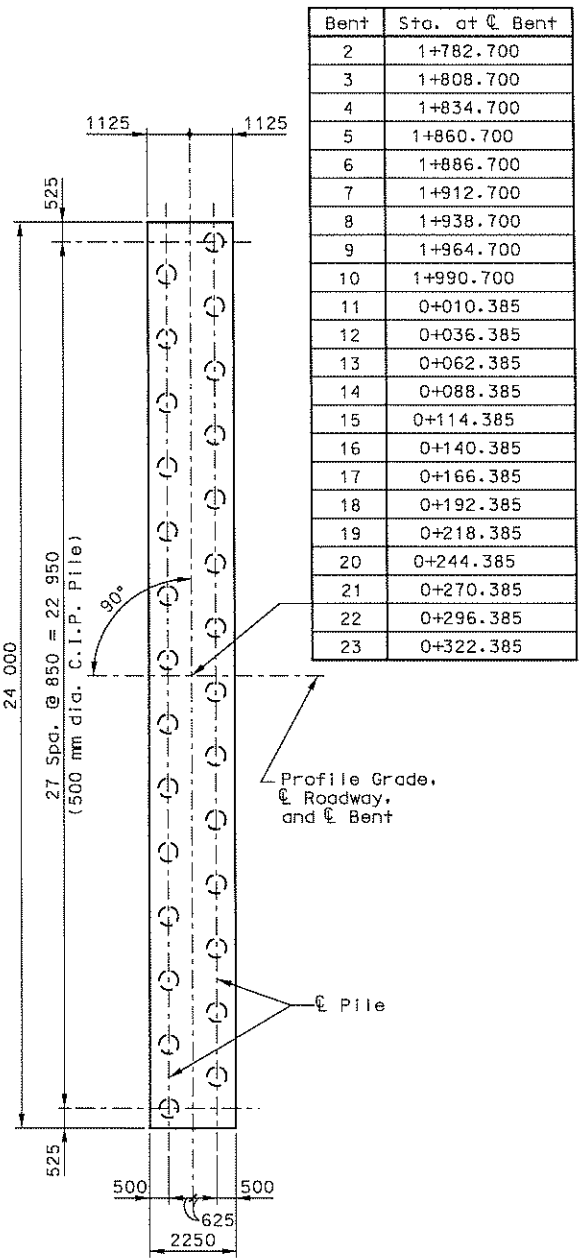
FINAL QUANTITIES
AND FOUNDATION DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

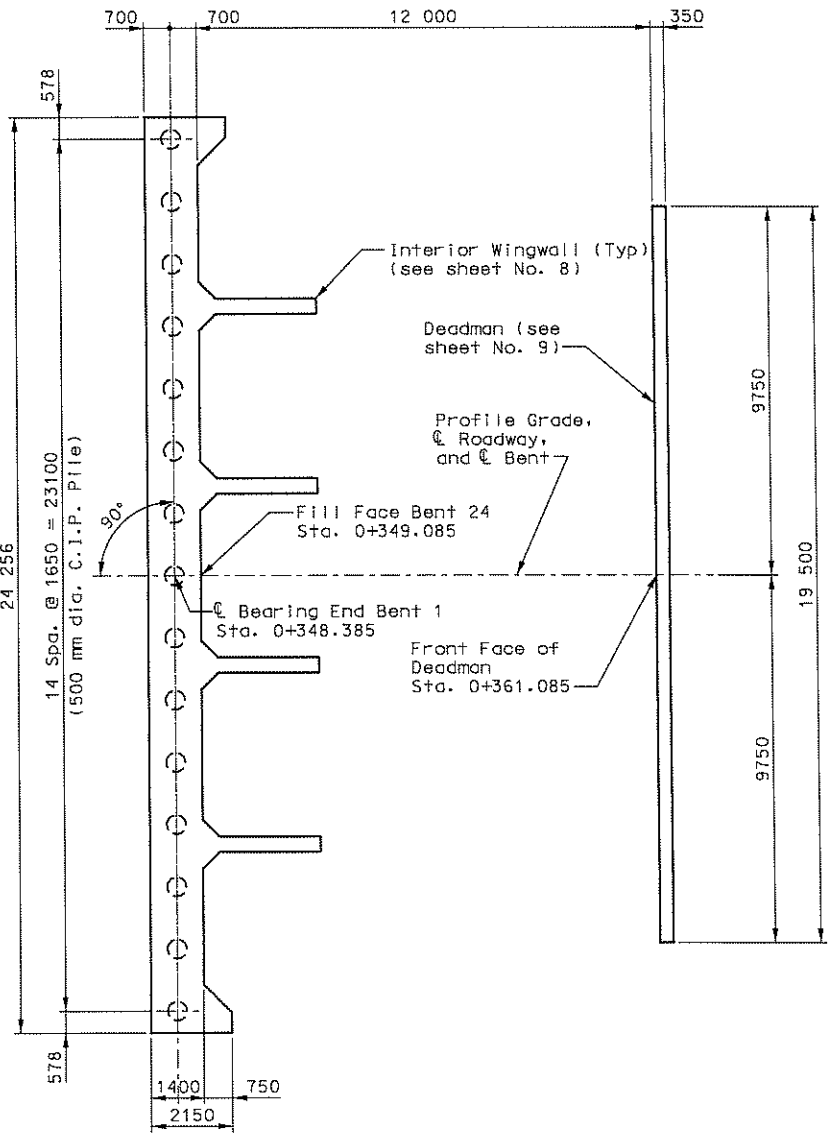


END BENT 1



INTERMEDIATE BENTS 2-23 (TYPICAL)

Bent	Sta. at C. Bent
2	1+782.700
3	1+808.700
4	1+834.700
5	1+860.700
6	1+886.700
7	1+912.700
8	1+938.700
9	1+964.700
10	1+990.700
11	0+010.385
12	0+036.385
13	0+062.385
14	0+088.385
15	0+114.385
16	0+140.385
17	0+166.385
18	0+192.385
19	0+218.385
20	0+244.385
21	0+270.385
22	0+296.385
23	0+322.385



END BENT 24

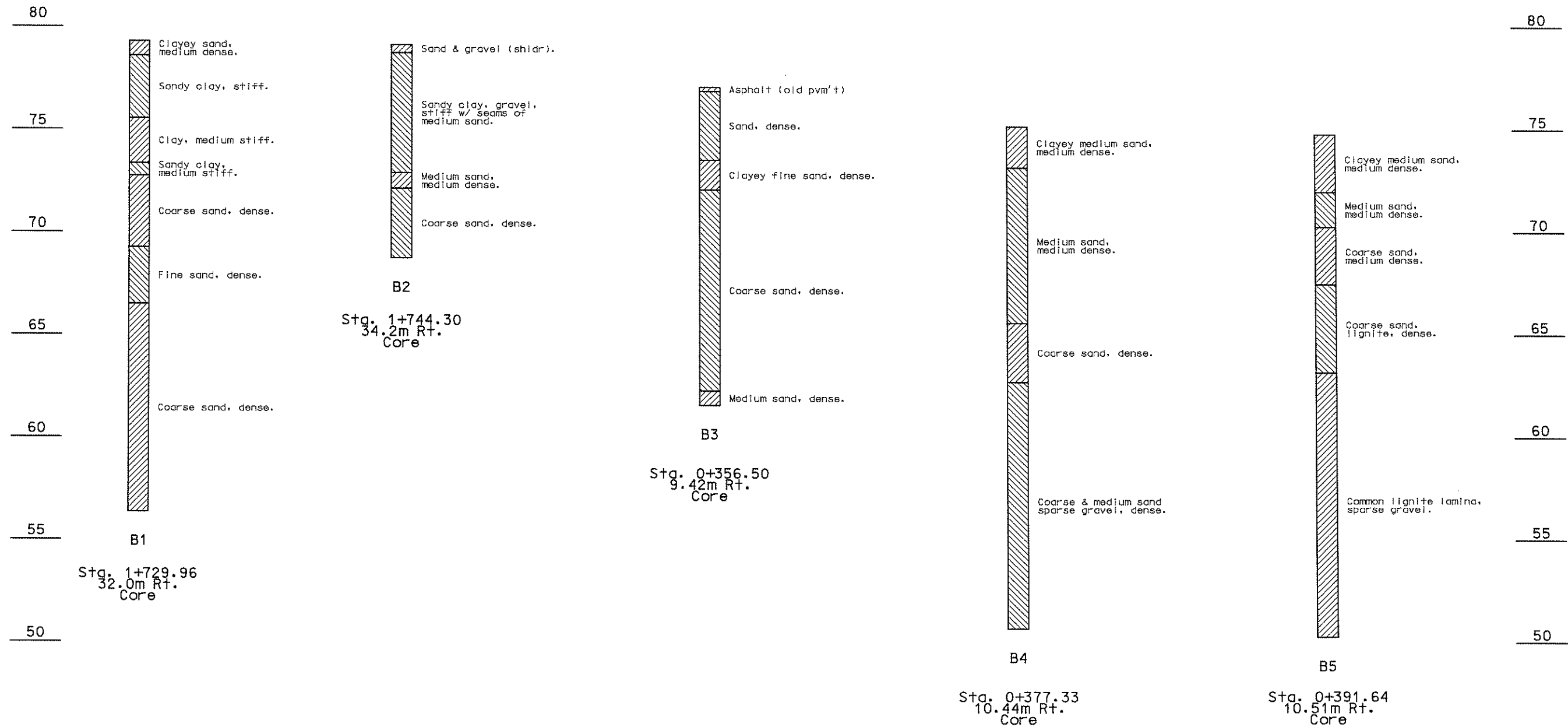
ROUTE 412 OVER ST. FRANCIS RIVER
SUBSTRUCTURE LAYOUT

DUNKLIN CO. MO - GREENE CO. AR

A4554

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B6



For location of Borings, see sheet No. 2.
Boring locations are relative to centerline Route 412.

ROUTE 412 OVER ST. FRANCIS RIVER
BORING LOGS

Detailed: JDG
Checked: KCK

HORNER & SHIFRIN, INC.
ENGINEERS IN ARCHITECTS IN PLANNERS
2000 Oakland Ave. St. Louis, Missouri 63107

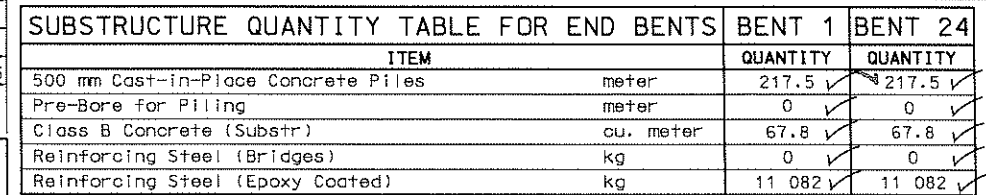
NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 6 of 44

DUNKLIN CO. MO - GREENE CO. AR

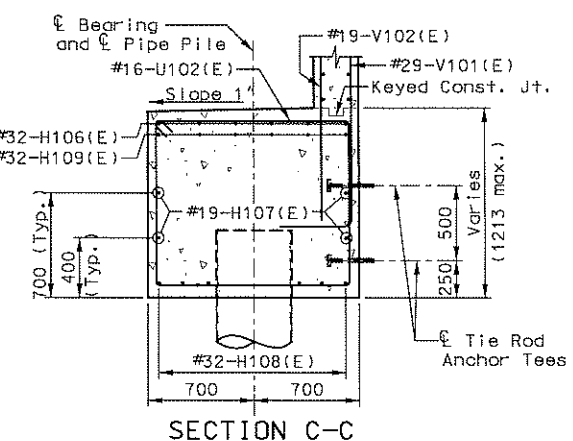
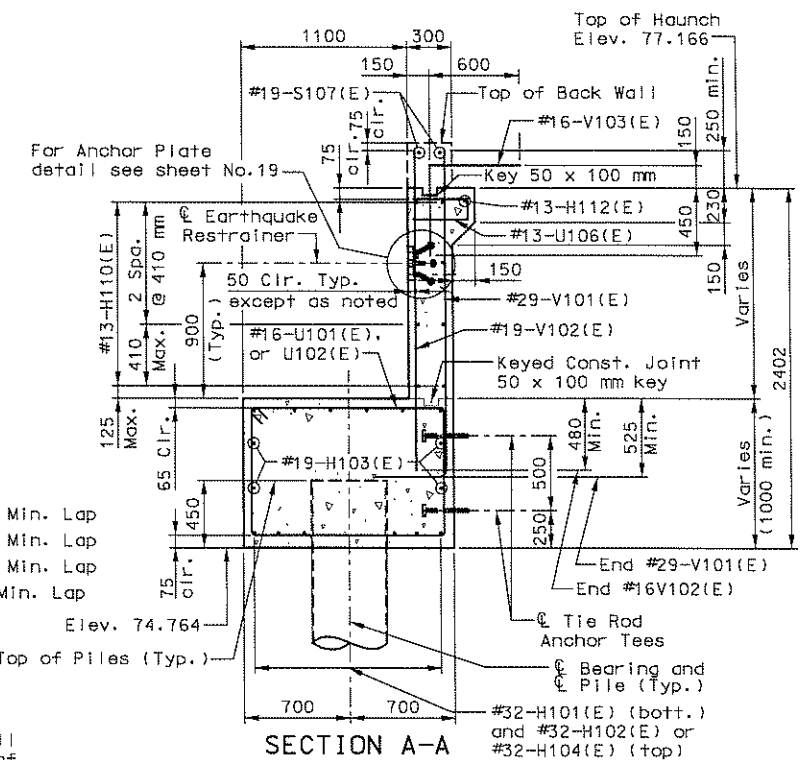
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State	Proj. No.	Sheet No.
MO	JOP0334	B7



Top of backwall and expansion device for End Bents No. 1 and 24 shall conform to the crown of roadway slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

For reinforcement of the safety barrier curb,
See Sheet No. 30.



SECTION C-C

END BENT 1 AND END BENT 24
PLAN AND ELEVATION

A4554



**HORNER &
SHIFRIN, INC.**
ENGINEERS ■ ARCHITECTS ■ PLANNERS

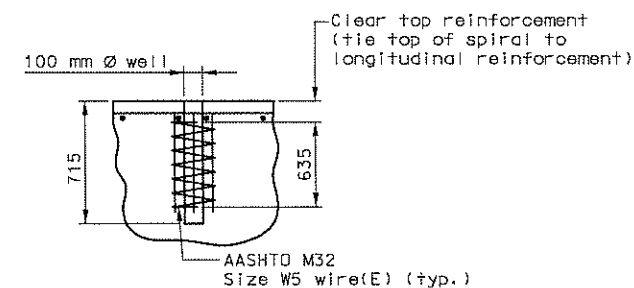
Shear blocks not shown for clarity, See sheet No. 8.
Shift backwall reinforcing as needed to clear Anchor plates.

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 7 of 44

J:\JOPO334 FINAL PLANS\BRIDGE PLANS\JOPO334_B01PLAN_...D.dwg 01:40:11 PM 06/07/2007

State	Proj. No.	Sheet No.
MO	JOP0334	B8

[illegible]

SECTION K-K

[illegible]

410

10 mm Chamfer

#19-H114(E)

#19-V107(E)

#19-H117(E)

50 Cir. (Typ.)

#19-T100(E)

#16-K3(E)

#32-H116(E)

#32-H115(E)

419

1482

600

Keyed Const. Jt.
50 x 100 mm key

546

Technical drawing of a lower bearing seat elevation. The drawing shows a cross-section of a concrete structure with reinforcement bars. Key dimensions and details include:

- Overall width: 1600 mm.
- Overall height: 945 mm.
- Top reinforcement: 10-#25-U111(E) @ 160 mm.
- Bottom reinforcement: 1-#19-H122(E).
- Vertical dimensions on the left: 860 mm (total height), 130 mm (bottom section height), 1000 mm (middle section height), and 2 spd. @ 410 mm (spacing of reinforcement).
- Horizontal dimensions at the top: 570 mm (left side), 80 mm (middle section), 10-#25-U111(E) @ 160 mm (main reinforcement), 80 mm (middle section), and 570 mm (right side).
- Labels: "Girder" (pointing to the top horizontal reinforcement), "Lower bearing seat elevation" (pointing to the bottom horizontal reinforcement), "Keyed Const. Jt. (50 (Min.) x 225 mm Key)" (pointing to the bottom right corner), and "E.F." (pointing to the bottom right corner).

1400

700 700

675 425

400 275

#25-U111(E)

Cast shear Block against front face of backwall

50 Clr. (Typ.)

Bearing and End Bent

1000 (lower step)

945 (upper step)

Top of cap

#19-H122(E) (typ.)

860 Min.

Keyed Const. Jt. @ Shear Key (50 (Min.) x 225 mm Key) (Typ.)

Technical drawing of a 10 mm Chamfer detail. The drawing shows a cross-section of a component with a chamfered edge. Key dimensions and part numbers are indicated:

- Overall width: 410
- Chamfer angle: 10 mm Chamfer
- Part numbers: #16-K4(E), #16-K8(E), #19-H114(E), #19-V105(E), #19-H117(E), #32-H116(E), #32-H115(E), #19-T100(E)
- Vertical dimension: 419
- Vertical dimension: 546
- Vertical dimension: Varies
- Bottom dimension: 50 Cir. (TyD.)

[illegible]

SECTION G-G

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B9

NOTES:

All anchor tees, tie rods, clevises, turnbuckles, pins, etc. shall be fabricated from ASTM A709 Grade 250 steel and shall be galvanized and repaired in accordance with section 712 of the Standard Specifications.

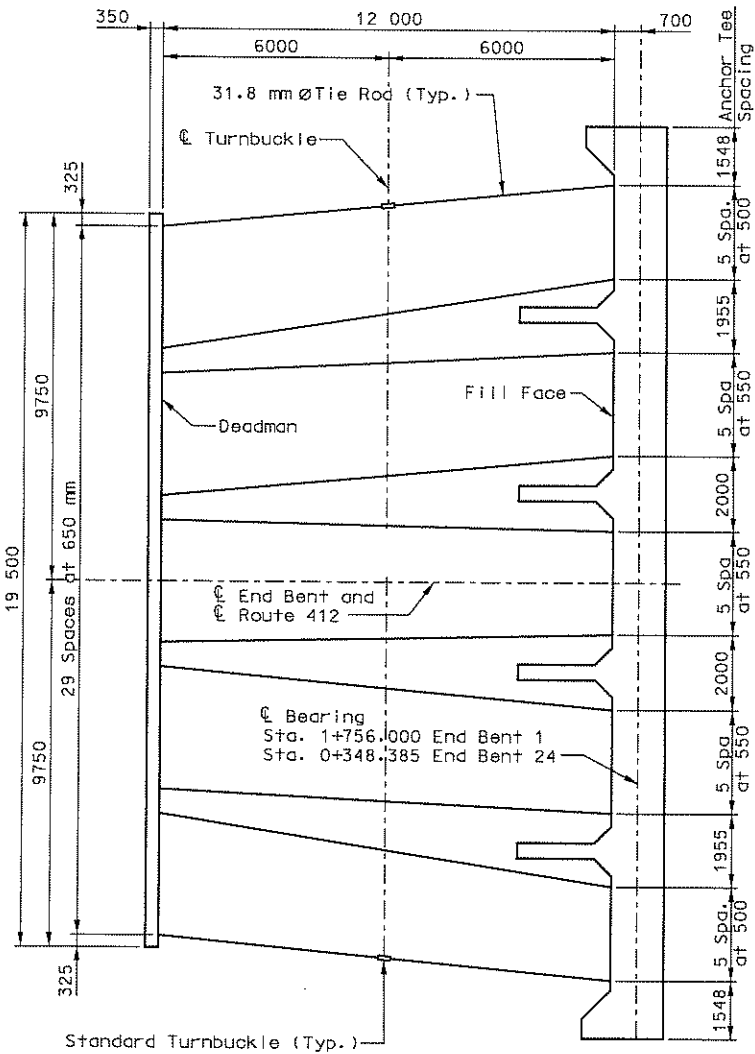
All anchor tees, tie rods, clevises, turnbuckles, pins, etc. shall be coated with a heavy coating of an approved bituminous paint.

CONSTRUCTION SEQUENCE:

- Construct end bent with anchor tees in place.
- Construct deadman with anchor tees in place.
- Machine compact fill up to elevation 300mm (Min.) below lower tie rod and turnbuckle.
- Machine compact sand up to elevation of lower tie rod and turnbuckle (300mm Min.).
- Install lower 31.8mm Ø rod, clevis and turnbuckle assembly. Tighten turnbuckle until snug.
- Hand compact sand for 500mm (Min.) over lower 31.8mm Ø rod and turnbuckle.
- Install upper 31.8mm rod, clevis and turnbuckle assembly. Tighten turnbuckle until snug.
- Hand compact sand for 300mm (Min.) over upper 31.8mm rod and turnbuckle.
- Machine compact remaining fill.

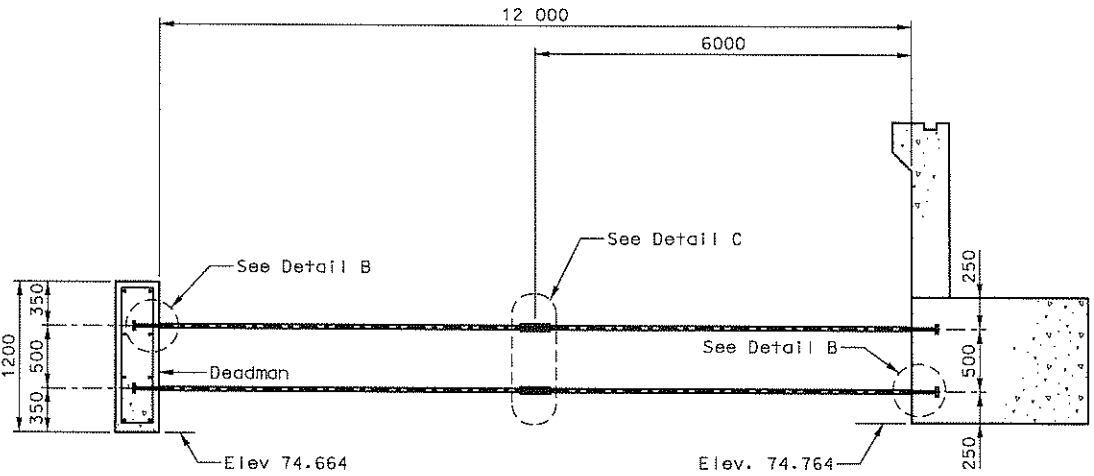
BILL OF REINFORCING STEEL (EACH DEADMAN)		
NUMBER	SIZE & MARK	LENGTH
130	#13-U114	2880
8	#13-H124	10 070

NOTE: Above reinforcing bars are not included in the quantities on sheet 4

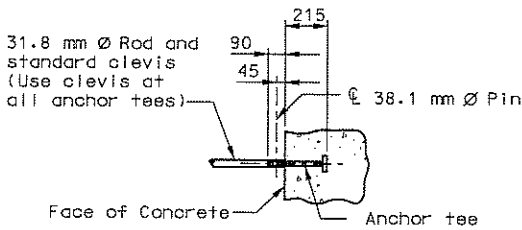


PLAN

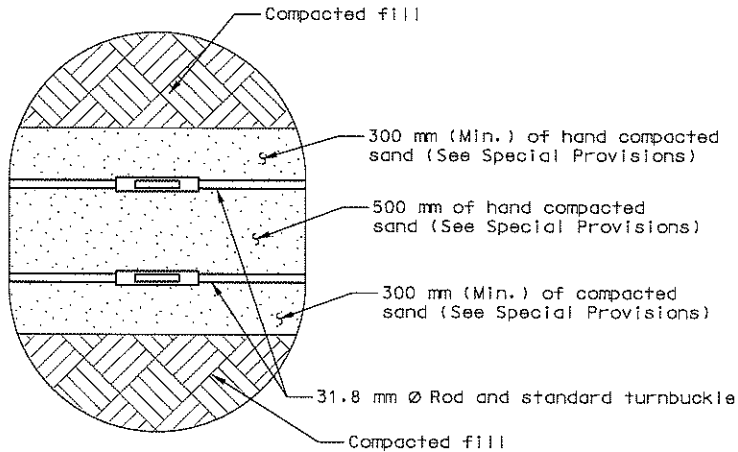
Note: End Bent 1 Shown, End bent 24 Opposite Hand



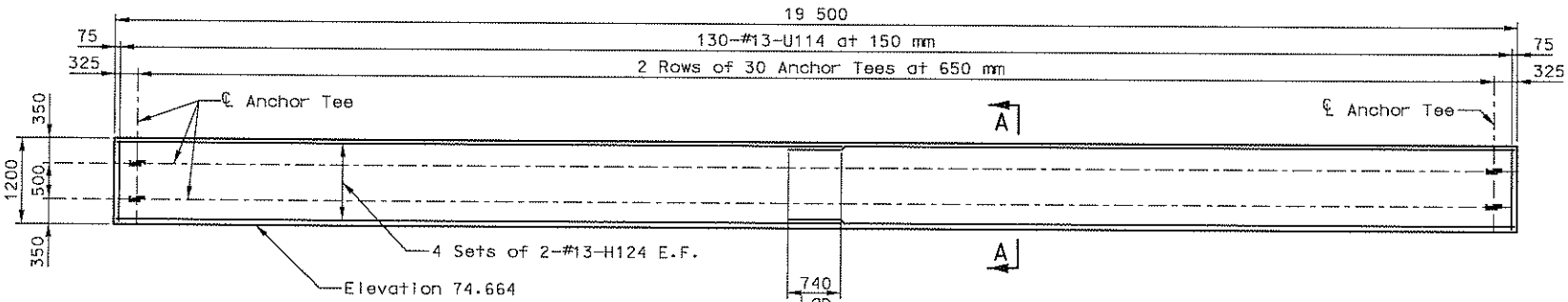
SECTION THRU END BENT



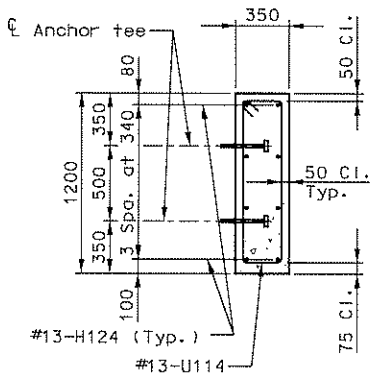
DETAIL "B"



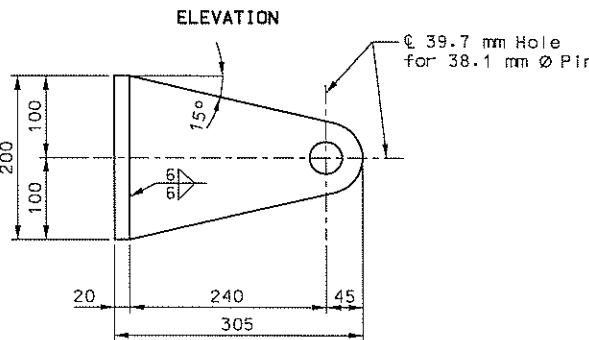
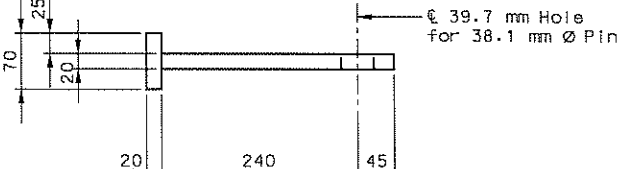
DETAIL "C"



DEADMAN ELEVATION



SECTION A-A



PLAN

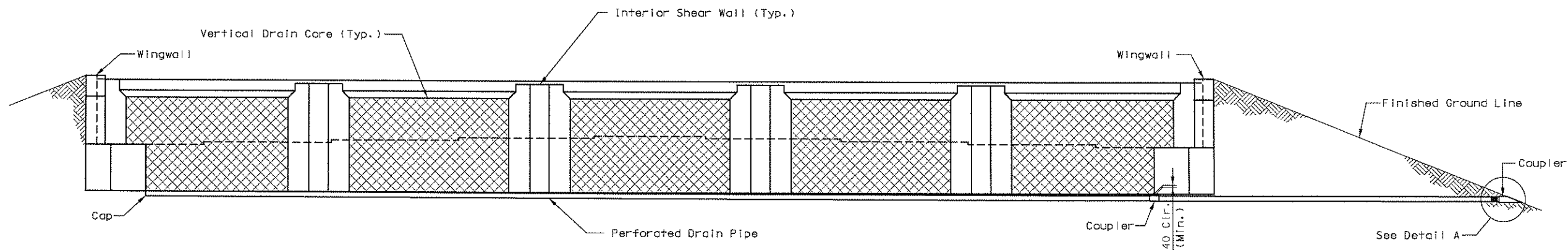
DETAIL OF ANCHOR TEE

ROUTE 412 OVER ST. FRANCIS RIVER

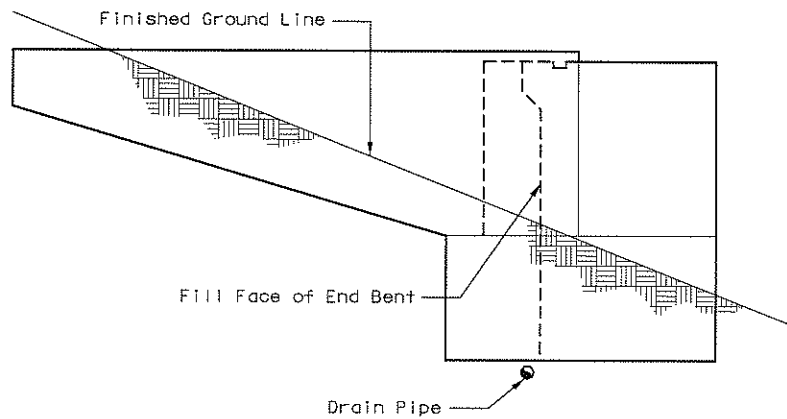
DEADMAN
END BENT 1 AND 24

DUNKLIN CO. MO - GREENE CO. AR

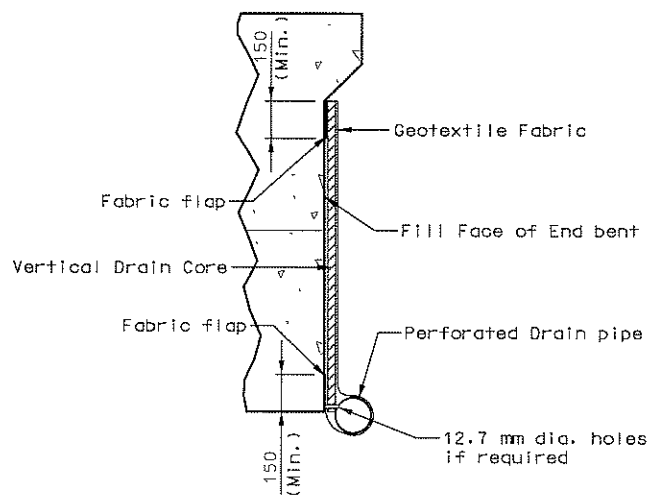
A4554



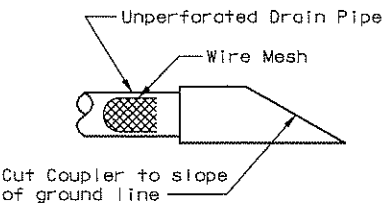
ELEVATION AT END BENT
Looking at Fill Face



ELEVATION OF WINGWALL



TYPICAL SECTION THRU VERTICAL DRAIN



DETAIL "A"

NOTES:
Drain pipe 100mm diameter corrugated polyethyl(PE) drain pipe.
Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 40 mm. (See Elevation at End Bent.)
Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

ROUTE 412 OVER ST. FRANCIS RIVER

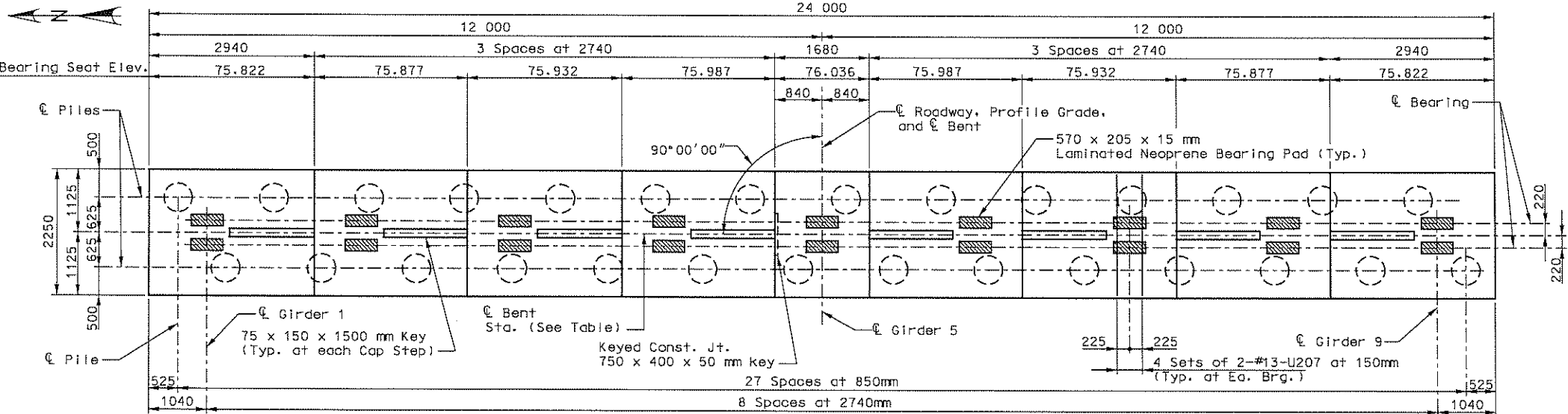
VERTICAL DRAIN
END BENT 1 AND 24

DUNKLIN CO. MO - GREENE CO. AR

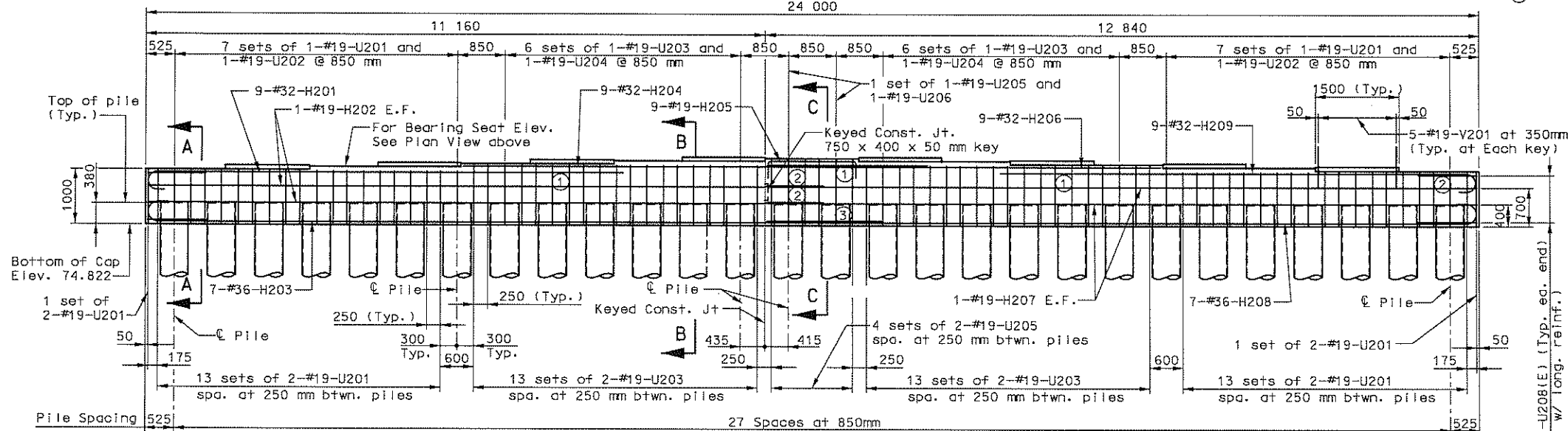
A4554

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B11



PLAN
Note: 28-500mm Ø CIP Piles Required



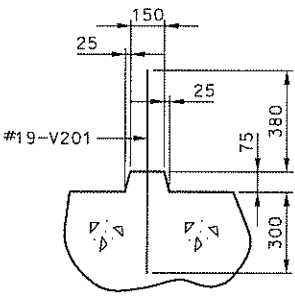
ELEVATION

SUBSTRUCTURE QUANTITY TABLE (PER BENT)		
ITEM		QUANTITY
500 mm Cast-in-Place Concrete Piles	meter	See Note(1)
Class B Concrete (Substr)	cu. meter	59.0
Reinforcing Steel (Bridges)	kg	5661
Reinforcing Steel (Epoxy Coated)	kg	79

NOTE: (1) Refer to sheet No. 4 for length and quantity of Structural Steel Piles (500 mm) for each individual bent.

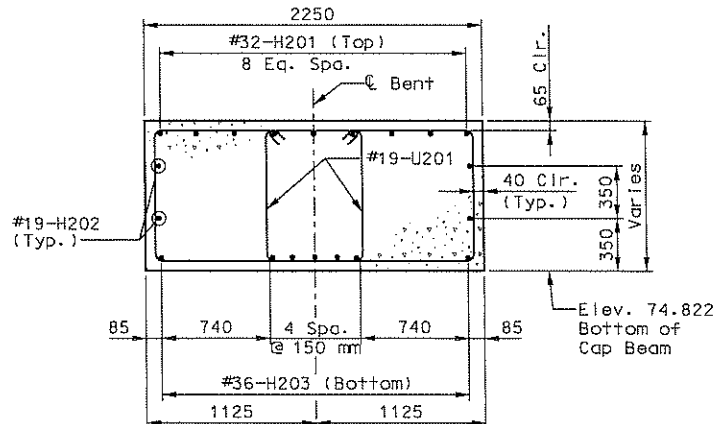
These quantities are included in the Final Quantities table on sheet No. 4.

For Bearing Details, see sheet No. 16.

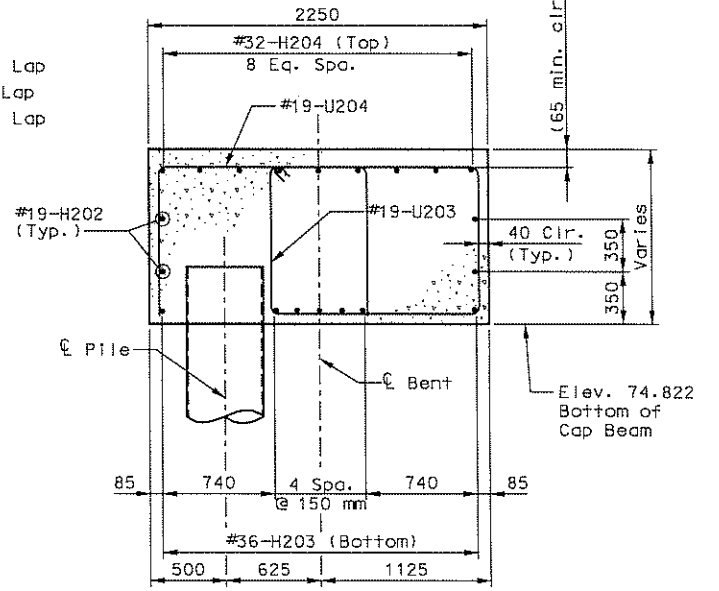


SECTION THRU KEY

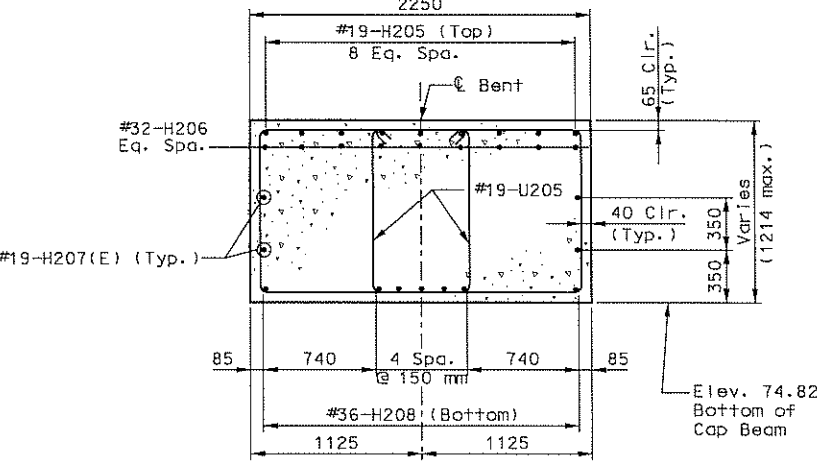
BENT	STATION AT C BENT
2	1+782.700
3	1+808.700
4	1+834.700
6	1+886.700
7	1+912.700
8	1+938.700
9	1+964.700
11	0+010.385
12	0+036.385
13	0+062.385
14	0+088.385
16	0+140.385
17	0+166.385
18	0+192.385
19	0+218.385
21	0+270.385
22	0+296.385
23	0+322.385



SECTION A-A



SECTION B-B

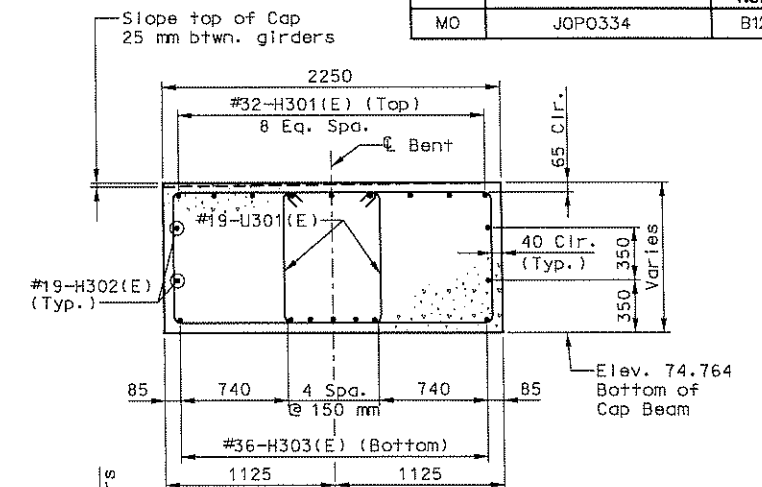


SECTION C-C

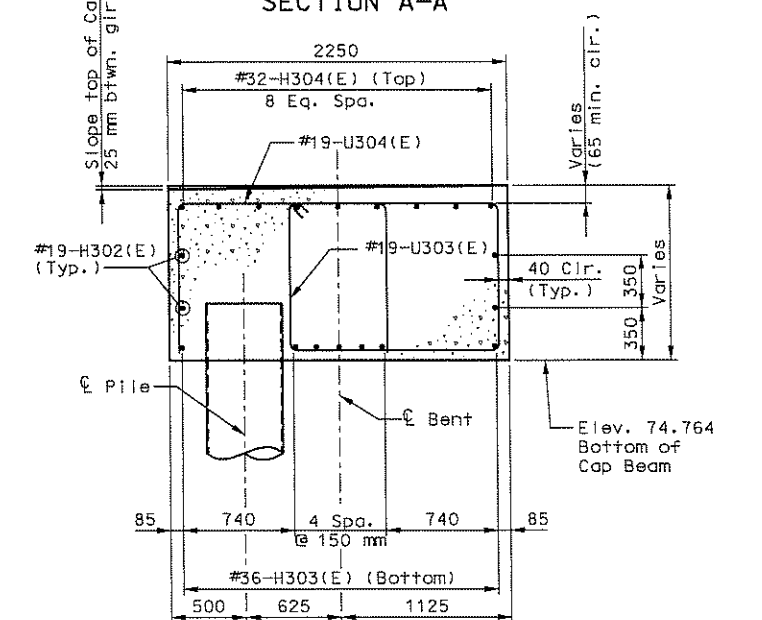
ROUTE 412 OVER ST. FRANCIS RIVER
INTERMEDIATE FIXED BENTS 2-4, 6-9, 11-14, 16-19, and 21-23
PLAN AND ELEVATION

DUNKLIN CO. MO - GREENE CO. AR A4554

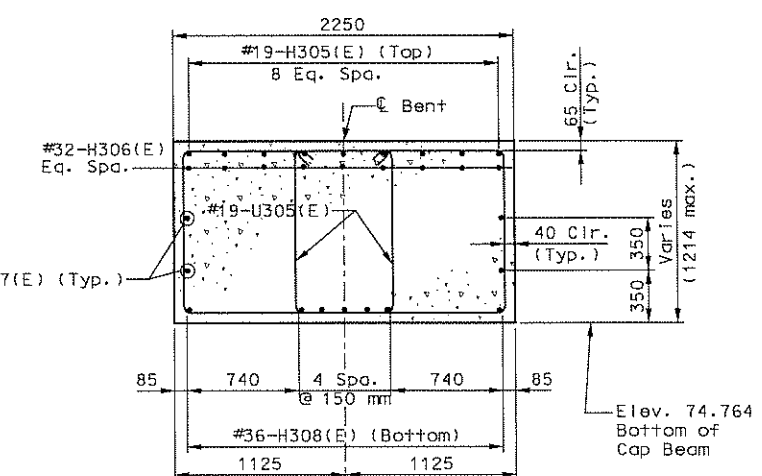
State	Proj. No.	Sheet No.
MO	JOPO334	B12



SECTION B-B

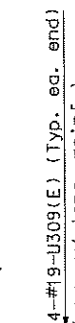


SECTION B-B



SECTION C-C

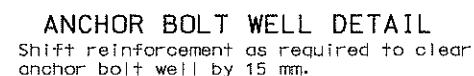
- ① 3290 mm Min. Lap
- ② 1140 mm Min. Lap
- ③ 3760 mm Min. Lap



ELEVATION

NOTE: (1) Refer to Sheet 4 for length and quantity of Structural Steel Piles (500 mm) for each individual bent.

For Bearing Details, See Sheet No. 16.



BENT	STATION AT & BENT
5	1+782.700
10	1+808.700
15	1+834.700
20	1+886.700

DUNKLIN CO. MO - GREENE CO. AR

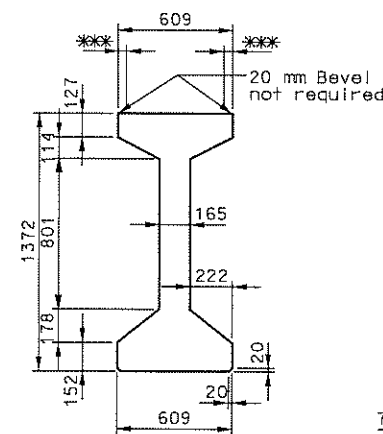
A4554

Concrete for prestressed girders shall be Class A1 with $f'_c = 35$ MPa and $f'_{ci} = 28$ MPa.

Use 28 strands with an initial prestress force of 3862 kN.

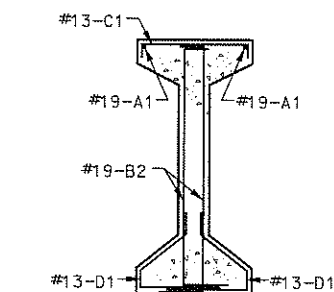
(+) Indicates prestressing strand

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 12.7 mm dia. conforming to AASHTO M203, grade 1860. See Section 705.4.8 Missouri Standard Specifications.



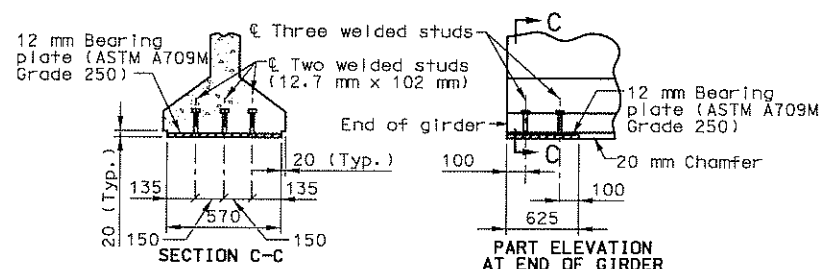
GIRDER DIMENSIONS BEAM TYPE 6

At the contractor's option, a 40 mm to 45 mm smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.



SECTION A-A
Strands not shown for clarity.

250 mm @ End Bent 1 and 24
128 mm @ Bents 2 and 23



BEARING PLATE DETAILS

Galvanize the 12 mm bearing plate (ASTM A709M Grade 250) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 12 mm bearing plate (ASTM A709M Grade 250) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder.

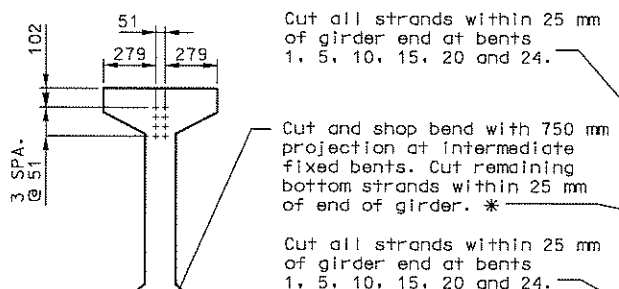
Detailed: KCK
Checked: JAZ

HORNER & SHIFRIN, INC.
ENGINEERS • ARCHITECTS • PLANNERS
2000 Oakland Ave. St. Louis, Missouri 63107

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

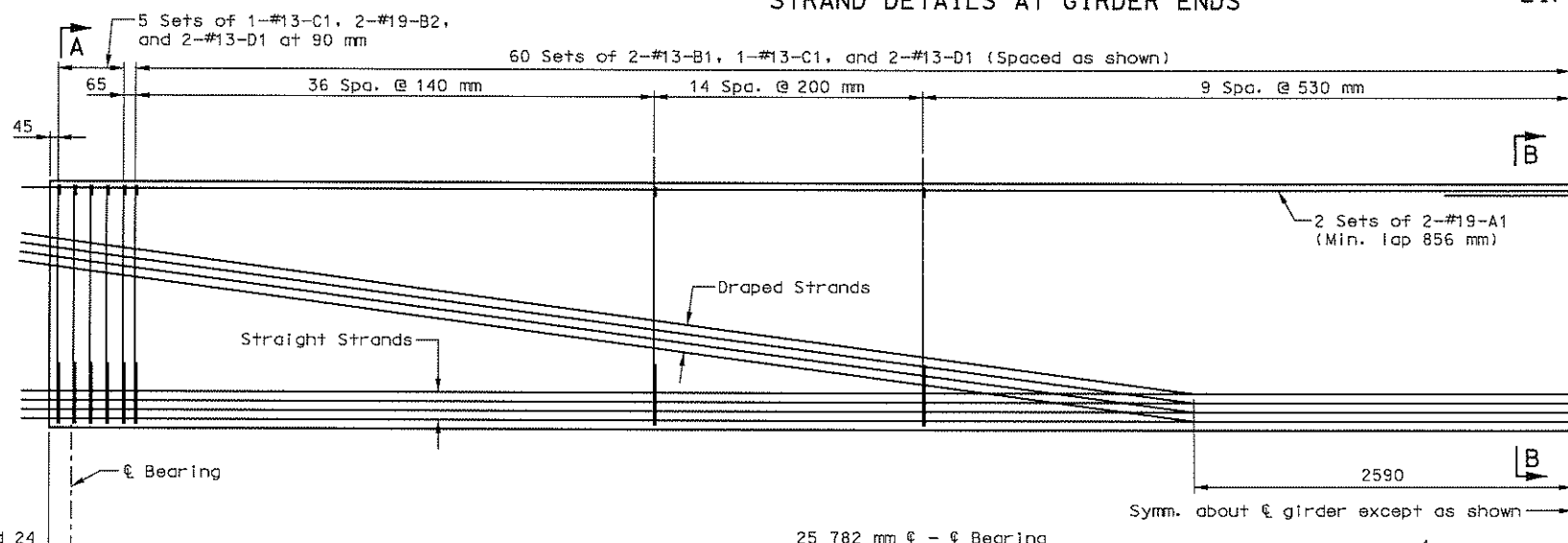
Prestressing strands at End Bents No. 1 and 24 Bents No. 5, 10, 15 and 20 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased.

Exposed ends of girders shall be given 2 coats of an asphalt paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.



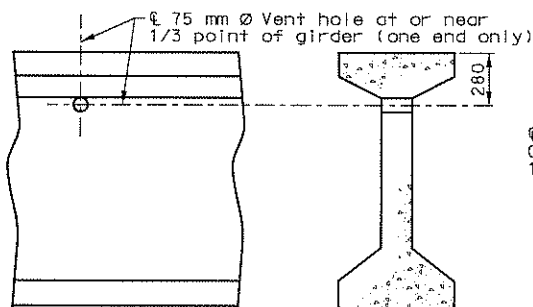
STRAND ARRANGEMENTS

END BENT 1 AND 24
INT. EXP. BENTS 5, 10, 15, AND 20
STRAND DETAILS AT GIRDER ENDS



PART ELEVATION OF GIRDER SPANS (1-2) (23-24)

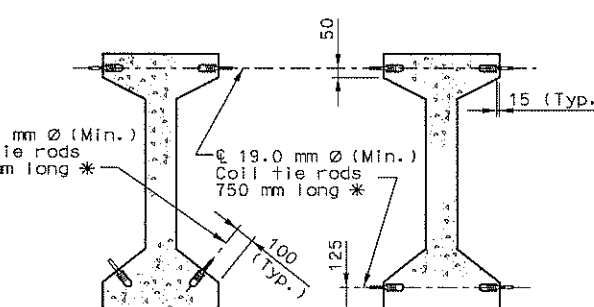
Exterior and interior girders are the same except for coil ties.



PART ELEVATION OF GIRDER NEAR VENT HOLE

Place vent holes at or near 1/3 point of girders (one end only) and clear reinforcing steel or strands by 40 mm minimum and steel intermediate diaphragm bolt connection by 150 mm minimum.

41

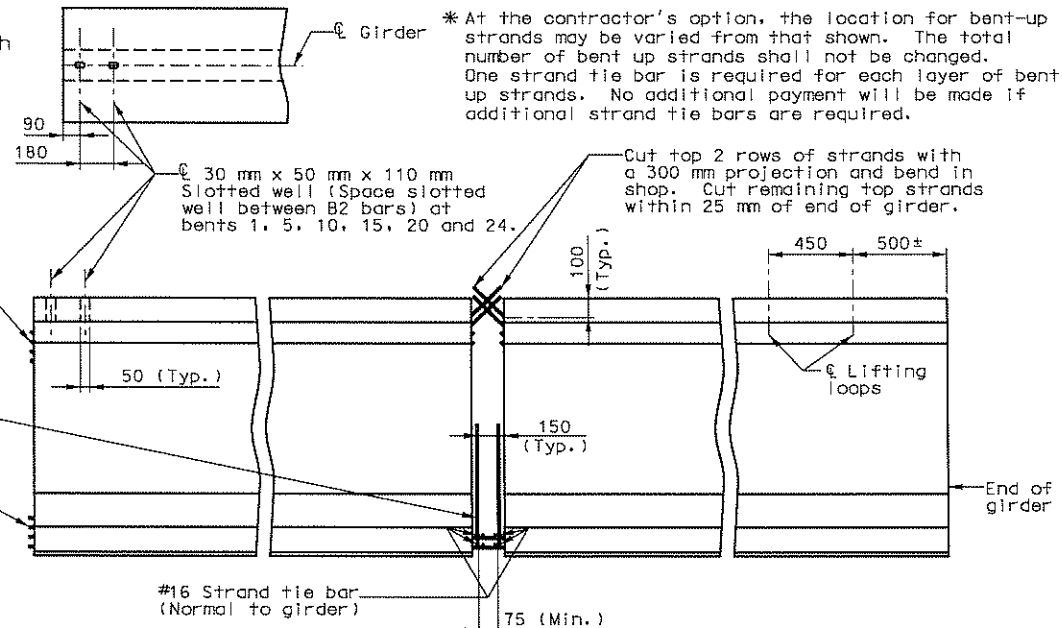


INTERIOR GIRDERS AT END BENTS 1 AND 24
INTERIOR GIRDERS AT BENTS 2 AND 23
DETAILS OF COIL TIES
Exterior Girders are similar with coil inserts on inside face of Girder only.

Sheet No. 13 of 44

State	Proj. No.	Sheet No.
MO	JOP0334	B13

*At the contractor's option, the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent up strands. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	#19-A1	13 280 mm	20	SHAPE 10
288	#13-B1	1800 mm	11	
16	#19-B2	1590 mm	11	SHAPE 9
127	#13-C1	650 mm	10	
254	#13-D1	920 mm	9	SHAPE 20

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures Stirrup and Tie Dimensions.

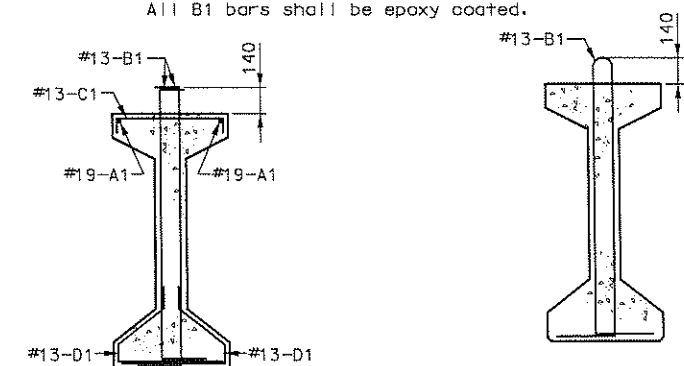
Actual lengths are measured along centerline bar to the nearest 5 mm.

Minimum clearance to reinforcing shall be 25 mm.

All reinforcement shall be Grade 420.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



SECTION B-B
Strands not shown for clarity.

B1 BAR PERMISSIBLE ALTERNATE SHAPE

Cost of 19.0 mm diameter coil tie rods placed in diaphragms is included in the contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of diaphragms, see sheets No. 19 & 20.

For location of coil inserts at slab drains, see sheet No. 29.

The 40 mm holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Girder Camber Diagram, see sheet No. 16.

For location of coil ties, see sheets No. 19 & 20.

For Details of Steel Intermediate Diaphragm, see sheet No. 18.

ROUTE 412 OVER ST. FRANCIS RIVER

PRECAST PRESTRESSED I-GIRDER SPANS 1 AND 23

DUNKLIN CO. MO - GREENE CO. AR

A4554

Concrete for prestressed girders shall be Class A1 with $f'_c = 35$ MPa and $f'_{ci} = 28$ MPa.

Use 28 strands with an initial prestress force of 3862 kN.

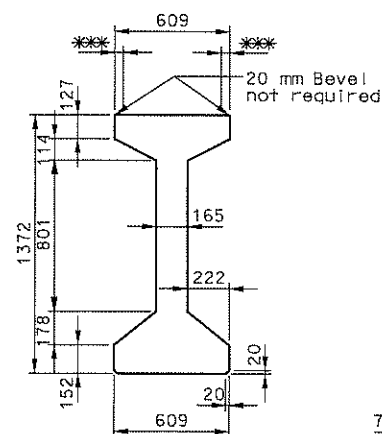
(+) Indicates prestressing strand

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 12.7 mm dia. conforming to AASHTO M203, grade 1860. See Section 705.4.8 Missouri Standard Specifications.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

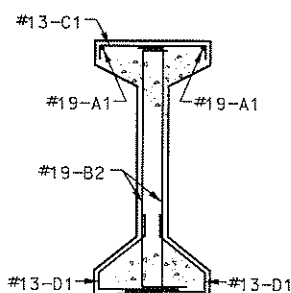
State	Proj. No.	Sheet No.
MO	JOP0334	B14

* At the contractor's option, the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent up strands. No additional payment will be made if additional strand tie bars are required.



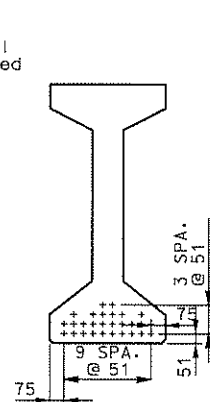
GIRDER DIMENSIONS BEAM TYPE 6

*** At the contractor's option, a 40 mm to 45 mm smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

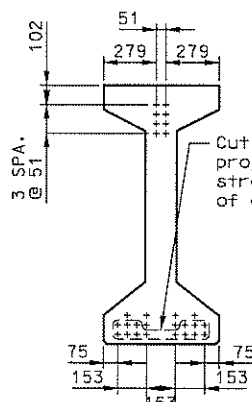


SECTION A-A

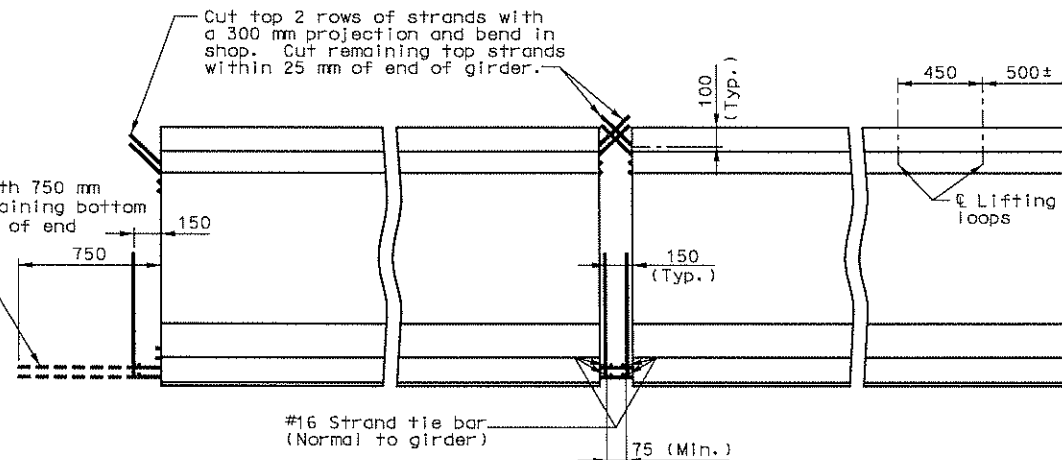
Strands not shown for clarity.



@ MID SPAN



@ GDR. ENDS

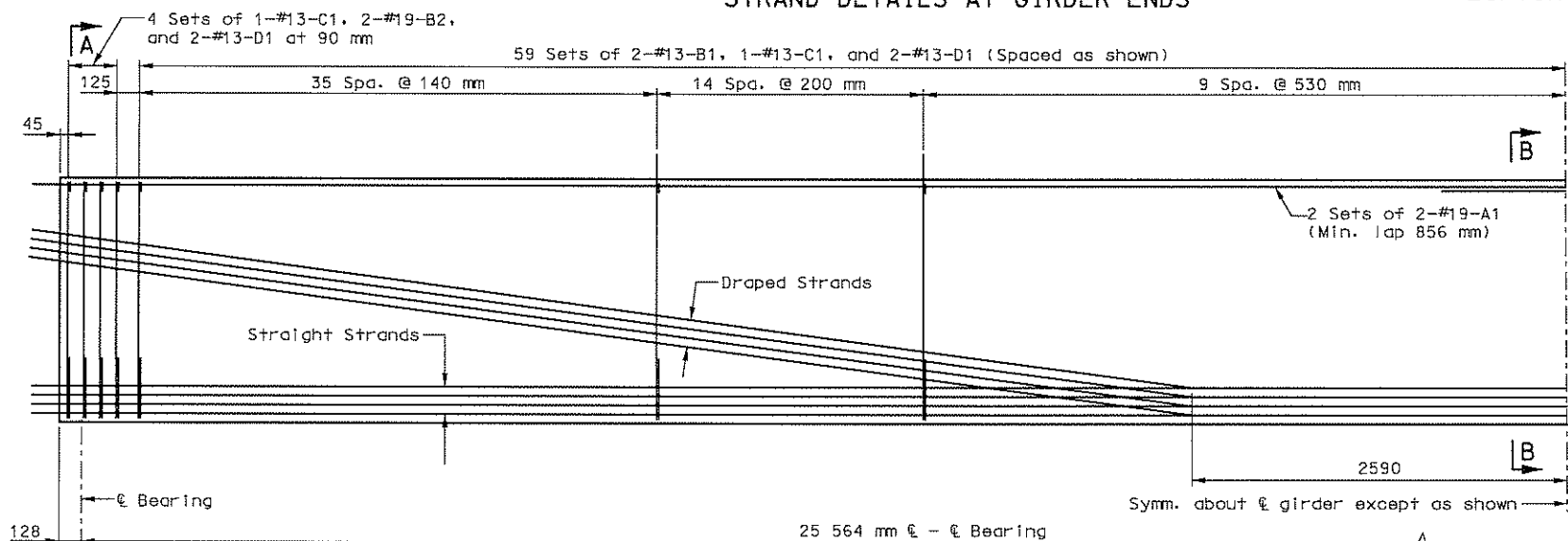


INT. FIXED BENT

INT. FIXED BENT

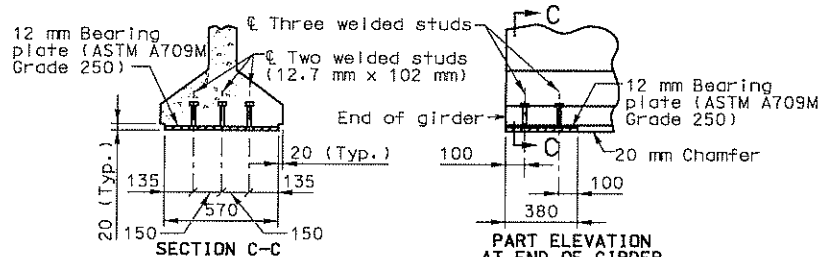
LOCATION OF LIFTING LOOPS

STRAND DETAILS AT GIRDER ENDS



PART ELEVATION OF GIRDER SPANS (2-3)(3-4)(6-7)(7-8)(8-9)(11-12)(12-13)(13-14)(16-17)(17-18)(18-19)(21-22)(22-23)

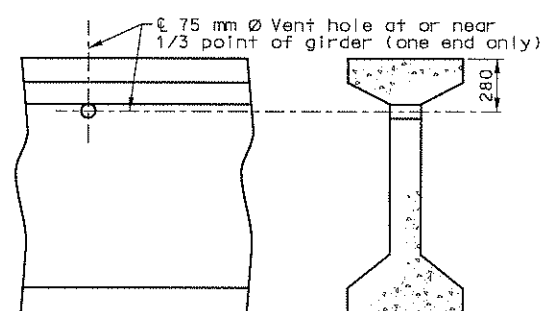
Exterior and interior girders are the same except for coil ties.



BEARING PLATE DETAILS

Galvanize the 12 mm bearing plate (ASTM A709M Grade 250) in accordance with ASTM A123.

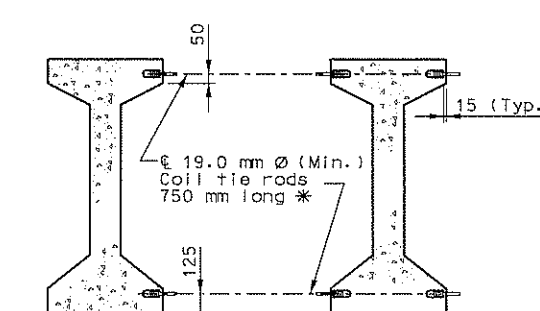
Cost of furnishing, galvanizing, and installing the 12 mm bearing plate (ASTM A709M Grade 250) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder.



PART ELEVATION OF GIRDER

PART SECTION NEAR VENT HOLE

Place vent holes at or near 1/3 point of girders (one end only) and clear reinforcing steel or strands by 40 mm minimum and steel intermediate diaphragm bolt connection by 150 mm minimum.



EXTERIOR GIRDERS AT ALL BENTS

INTERIOR GIRDERS AT ALL BENTS

DETAILS OF COIL TIES

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	#19-A1	13 475 mm	20	SHAPE 10
234	#13-B1	1800 mm	11	SHAPE 9
16	#19-B2	1590 mm	11	SHAPE 11
125	#13-C1	650 mm	10	SHAPE 20
250	#13-D1	920 mm	9	SHAPE 11

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures Stirrup and Tie Dimensions.

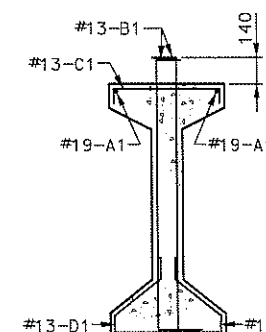
Actual lengths are measured along centerline bar to the nearest 5 mm.

Minimum clearance to reinforcing shall be 25 mm.

All reinforcement shall be Grade 420.

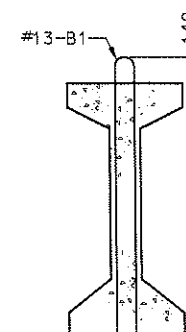
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



SECTION B-B

Strands not shown for clarity.



B1 BAR PERMISSIBLE ALTERNATE SHAPE

Cost of 19.0 mm diameter coil tie rods placed in diaphragms is included in the contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of diaphragm, see sheet No. 20.

For location of coil inserts at slab drains, see sheet No. 29.

The 40 mm diameter holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Girder Camber Diagram, see sheet No. 16.

For location of coil ties, see sheet No. 20.

For Details of Steel Intermediate Diaphragm, see sheet No. 18.

ROUTE 412 OVER ST. FRANCIS RIVER

PRECAST PRESTRESSED I-GIRDER SPANS 2, 3, 6-8, 11-13, 16-18, 21, AND 22

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detail: KCK
Checked: JAZ

HORNER & SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2200 Cahoon Ave., St. Louis, Missouri 63103

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 14 of 44

J:\JOP0334_FINAL_PLANS\BRIDGE_PLANS\JOP0334_S18PLAN_0000.dwg 3/31/2007 06/13/2007

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B15

Concrete for prestressed girders shall be Class A1 with $f'c = 35$ MPa and $f'ci = 28$ MPa.

Use 28 strands with an initial prestress force of 3862 kN.

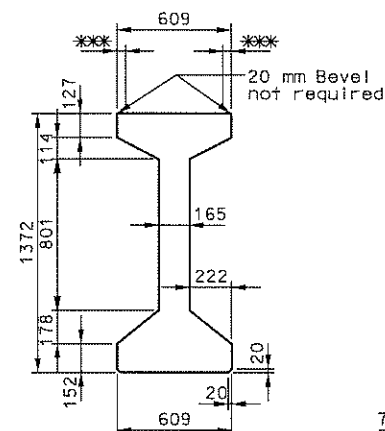
(+) Indicates prestressing strand

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 12.7 mm dia. conforming to AASHTO M203, grade 1860. See Section 705.4.8 Missouri Standard Specifications.

Prestressing strands at End Bents No. 1 and 24 Bents No. 5, 10, 15 and 20 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased.

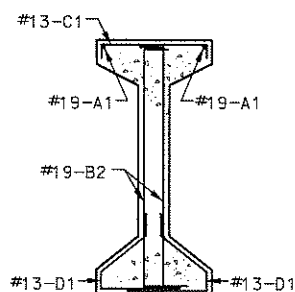
Exposed ends of girders shall be given 2 coats of an asphalt paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

* At the contractor's option, the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent up strands. No additional payment will be made if additional strand tie bars are required.



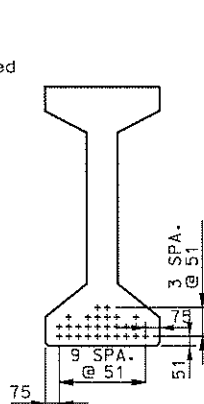
GIRDER DIMENSIONS BEAM TYPE 6

*** At the contractor's option, a 40 mm to 45 mm smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

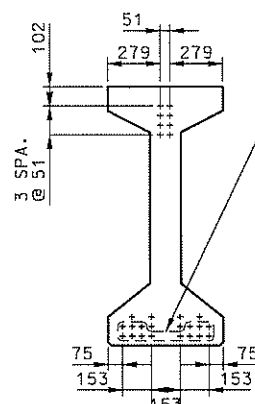


SECTION A-A

Strands not shown for clarity.



@ MID SPAN



@ GDR. ENDS

Cut all strands within 25 mm of girder end at bents 1, 5, 10, 15, 20 and 24.

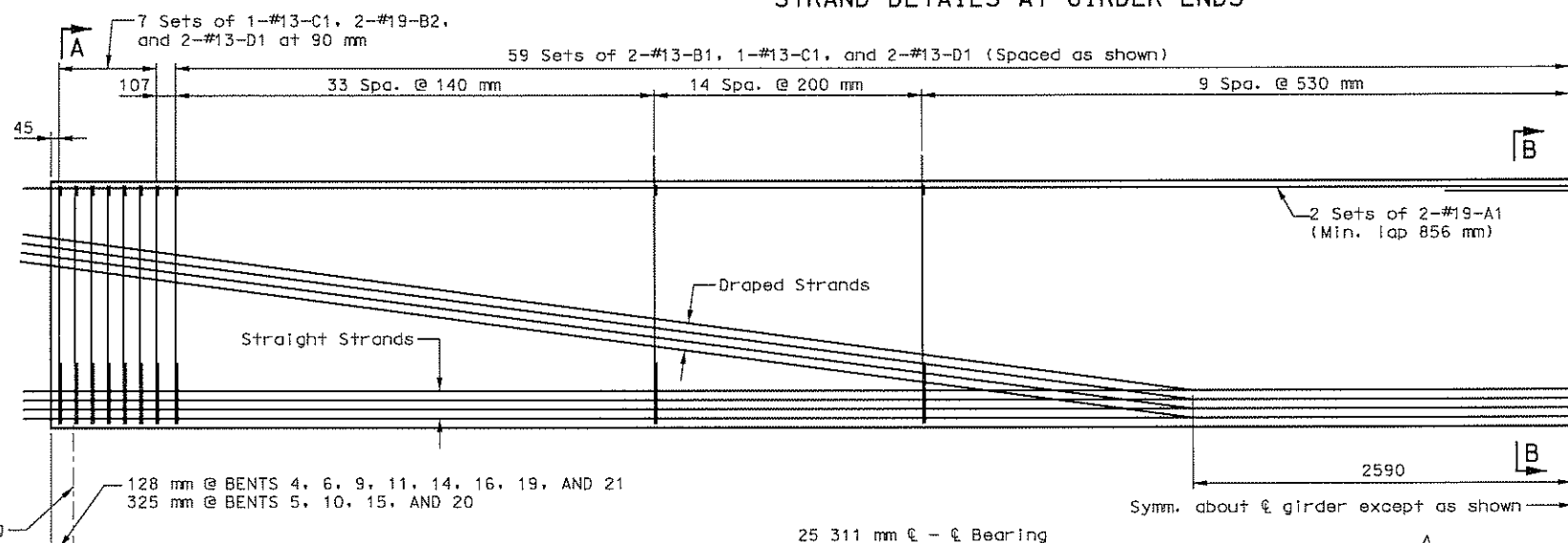
Cut and shop bend with 750 mm projection at intermediate fixed bents. Cut remaining bottom strands within 25 mm of end of girder. *

Cut all strands within 25 mm of girder end at bents 1, 5, 10, 15, 20 and 24.

INT. EXP. BENTS 5, 10, 15, AND 20

INT. FIXED BENT

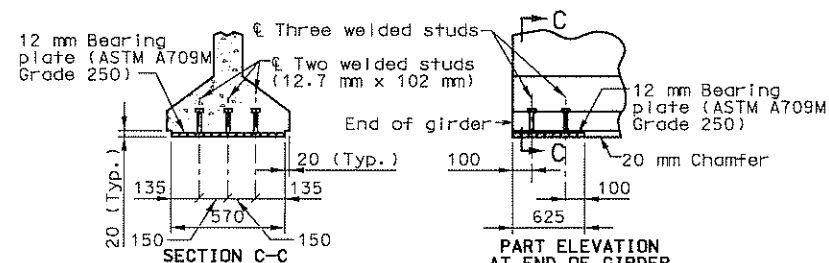
STRAND DETAILS AT GIRDER ENDS



PART ELEVATION OF GIRDER

SPANS (4-5)(5-6)(9-10)(10-11)(14-15)(15-16)(19-20)(20-21)

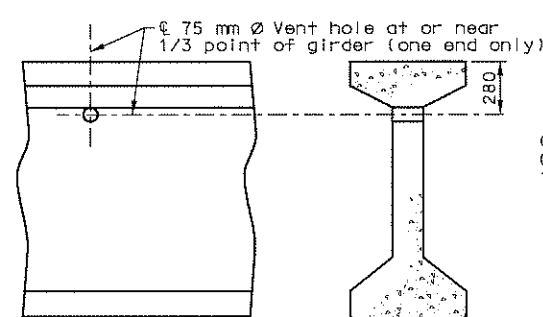
Exterior and interior girders are the same except for coil ties.



BEARING PLATE DETAILS

Galvanize the 12 mm bearing plate (ASTM A709M Grade 250) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 12 mm bearing plate (ASTM A709M Grade 250) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder.

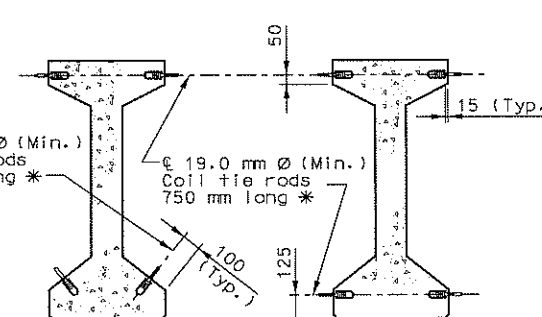


PART ELEVATION OF GIRDER

PART SECTION NEAR VENT HOLE

Place vent holes at or near 1/3 point of girders (one end only) and clear reinforcing steel or strands by 40 mm minimum and steel intermediate diaphragm bolt connection by 150 mm minimum.

43



INTERIOR GIRDERS AT BENTS 5, 10, 15, AND 20

INTERIOR GIRDERS AT BENTS 4, 6, 9, 11, 14, 16, 19, AND 21

DETAILS OF COIL TIES

Exterior Girders are similar with coil inserts on inside face of Girder only.

LOCATION OF LIFTING LOOPS

BILL OF REINFORCING STEEL - EACH GIRDER				BENDING DIAGRAMS	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
4	#19-A1	13 280 mm	20	SHAPE 10	SHAPE 11
234	#13-B1	1800 mm	11		
16	#19-B2	1590 mm	11	SHAPE 9	SHAPE 11
125	#13-C1	650 mm	10		
250	#13-D1	920 mm	9	SHAPE 20	SHAPE 11

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures Stirrups and Tie Dimensions.

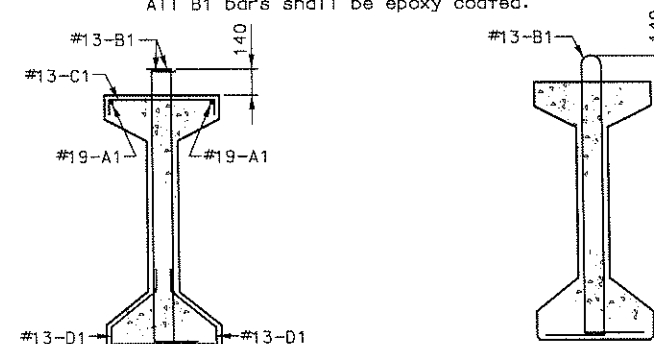
Actual lengths are measured along centerline bar to the nearest 5 mm.

Minimum clearance to reinforcing shall be 25 mm.

All reinforcement shall be Grade 420.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



SECTION B-B

Strands not shown for clarity.

B1 BAR PERMISSIBLE ALTERNATE SHAPE

Cost of 19.0 mm diameter coil tie rods placed in diaphragms is included in the contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of diaphragms, see sheets No. 20 & 21.

For location of coil inserts at slab drains, see sheet No. 29.

The 40 mm Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Girder Camber Diagram, see sheet No. 16.

For location of coil ties, see sheets No. 20 & 21.

For Details of Steel Intermediate Diaphragm, see sheet No. 18.

ROUTE 412 OVER ST. FRANCIS RIVER

PRECAST PRESTRESSED I-GIRDER SPANS 4, 5, 9, 10, 14, 15, 19, AND 20

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KCK
Checked: JAZ

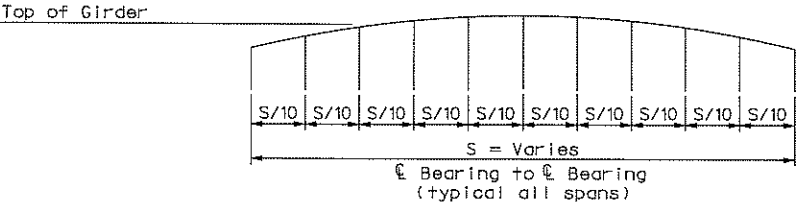
HORNER & SHIFRIN, INC.
ENGINEERS ARCHITECTS PLANNERS
3000 N. 10th Street, Suite 100, Lincoln, NE 68504

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS

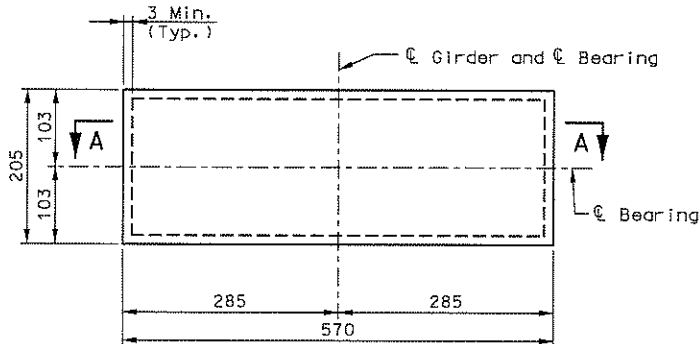
Sheet No. 15 of 44

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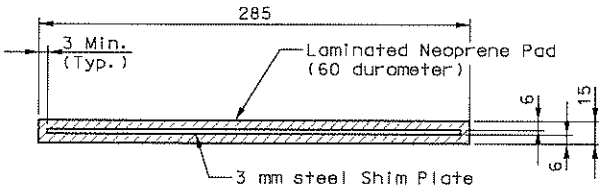
Girders 1 to 9	52	43	36	30	26	25	26	30	36	43	52
Bottom of Slab											



THEORETICAL SLAB HAUNCHING DIAGRAM

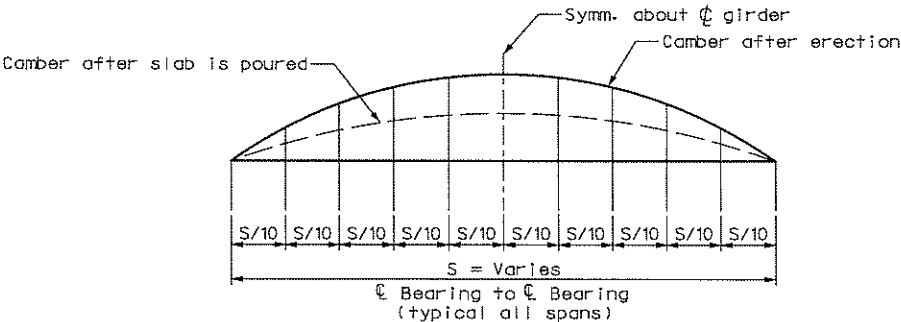


LAMINATED NEOPRENE BEARING PADS
(INT. FIXED BENTS 2-4, 6-9, 11-14, 16-19, AND 21-23)
18 each required per bent



SECTION A-A

Camber After Erection	17	31	43	50	53	50	43	31	17
Camber After Slab is Poured	9	16	22	26	27	26	22	16	9



GIRDER CAMBER DIAGRAM

- NOTES:
1. Conversion factors for girder camber
0.1 pt. = 0.314 x 0.5 pt.
0.2 pt. = 0.593 x 0.5 pt.
0.3 pt. = 0.813 x 0.5 pt.
0.4 pt. = 0.952 x 0.5 pt.
 2. If girder camber is different from that shown in the camber diagram, it shall be necessary to adjust the slab haunches, increase the slab thickness or raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.
 3. Concrete in the slab haunches is included in the Final Quantities for Slab on Concrete I-Girders.

Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab) **											
	Spans 1 Thru 23 (Typical)										
	℄ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ brg.
Girder no. 1	77.261	77.269	77.276	77.282	77.285	77.287	77.285	77.282	77.276	77.269	77.261
Girder no. 2	77.316	77.324	77.331	77.337	77.340	77.342	77.340	77.337	77.331	77.324	77.316
Girder no. 3	77.370	77.378	77.385	77.391	77.394	77.396	77.394	77.391	77.385	77.378	77.370
Girder no. 4	77.425	77.433	77.440	77.446	77.449	77.451	77.449	77.446	77.440	77.433	77.425
Girder no. 5	77.474	77.482	77.489	77.495	77.498	77.500	77.498	77.495	77.489	77.482	77.474
Girder no. 6	77.425	77.433	77.440	77.446	77.449	77.451	77.449	77.446	77.440	77.433	77.425
Girder no. 7	77.370	77.378	77.385	77.391	77.394	77.396	77.394	77.391	77.385	77.378	77.370
Girder no. 8	77.316	77.324	77.331	77.337	77.340	77.342	77.340	77.337	77.331	77.324	77.316
Girder no. 9	77.261	77.269	77.276	77.282	77.285	77.287	77.285	77.282	77.276	77.269	77.261

** Elevations are based on a constant slab thickness of 220 mm and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb.

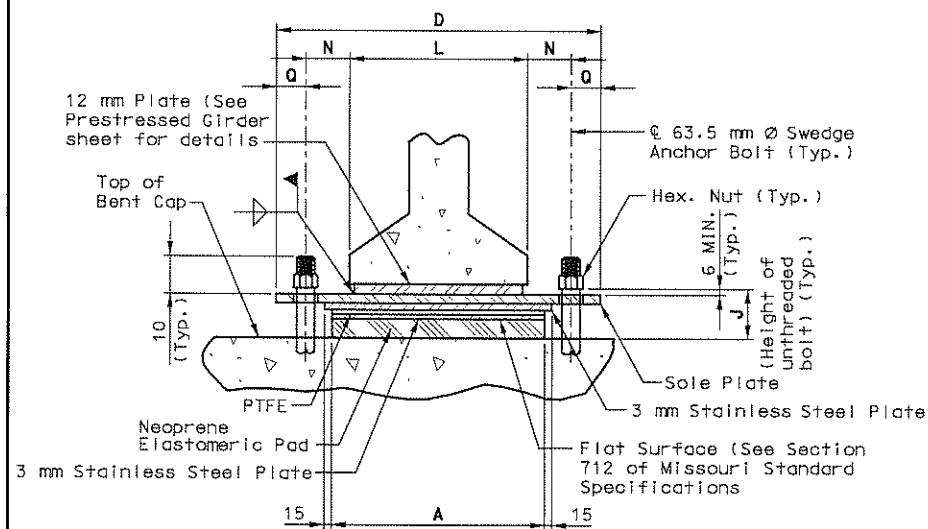
ROUTE 412 OVER ST. FRANCIS RIVER
HAUNCHING AND CAMBER DIAGRAMS
AND BEARING PAD DETAILS

DUNKLIN CO. MO - GREENE CO. AR

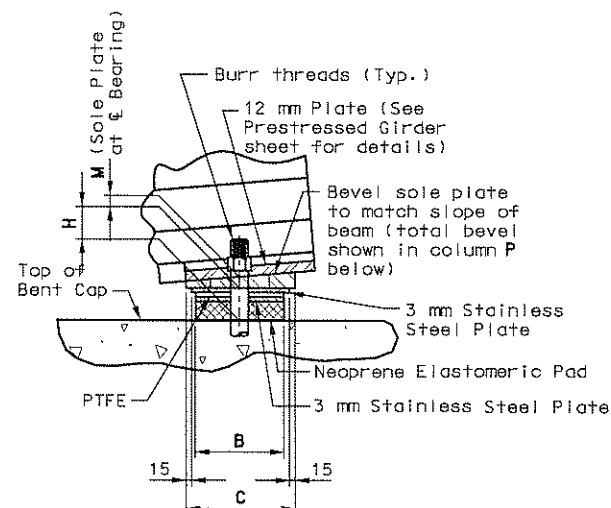
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

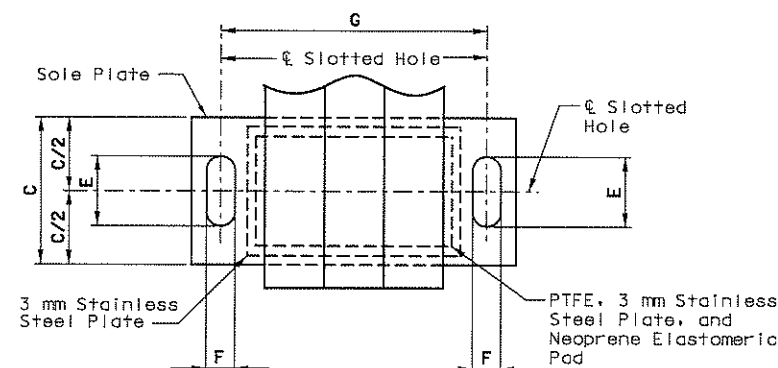
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MO	JOP0334	B17



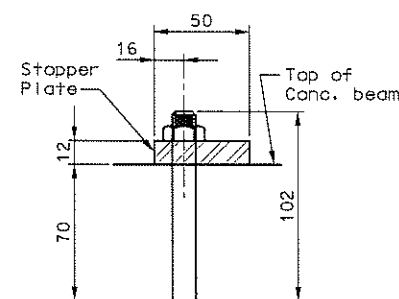
END VIEW



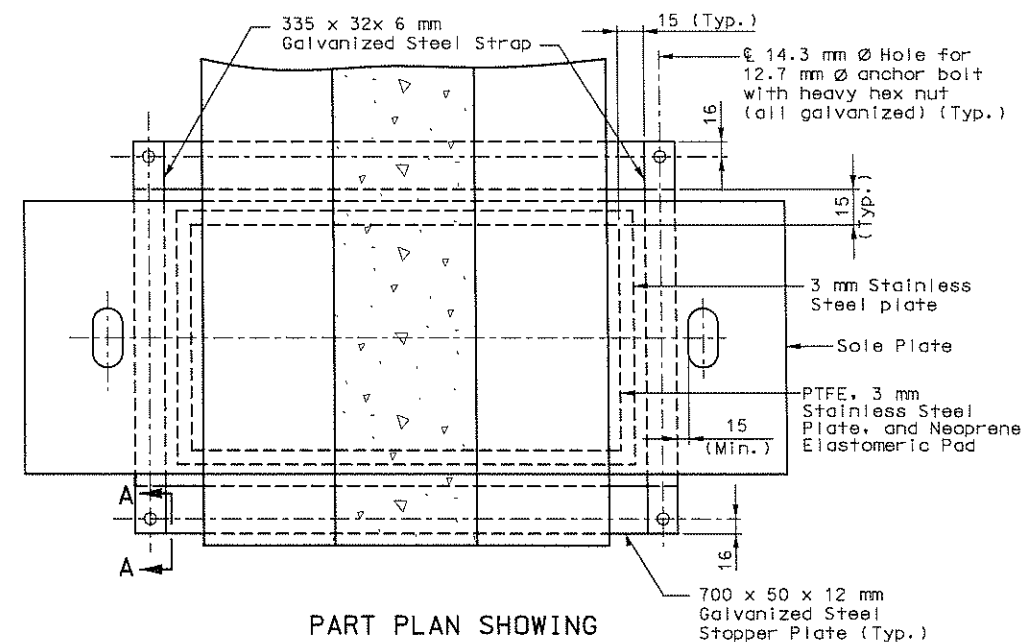
SIDE VIEW



PART PLAN



SECTION A-A



PART PLAN SHOWING STOPPER PLATE

NOTES:

Anchor bolts shall be 63.5 mm diameter, ASTM A709M Grade 345W steel swaged bolts and shall extend 600 mm into the concrete with ASTM A194M-2, 2H or ASTM A563M-C, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 25 mm less than extension into concrete.

All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers minimum thickness) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 70 durometer.

The sole plate shall be furnished with the bearing and field welded to the girders.

Structural steel for sole plate shall be ASTM A709M Grade 250 / 345W and shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers minimum thickness).

The accepted quantity of elastomeric bearing assemblies, complete in place, will be paid for at the contract unit price for Type N PTFE Bearings, each.

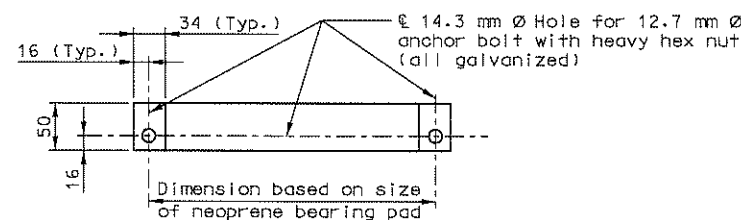
Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

Provide a 12 mm stopper plate to prevent loss of support due to creeping of PTFE bearings from under girder at expansion bearings.

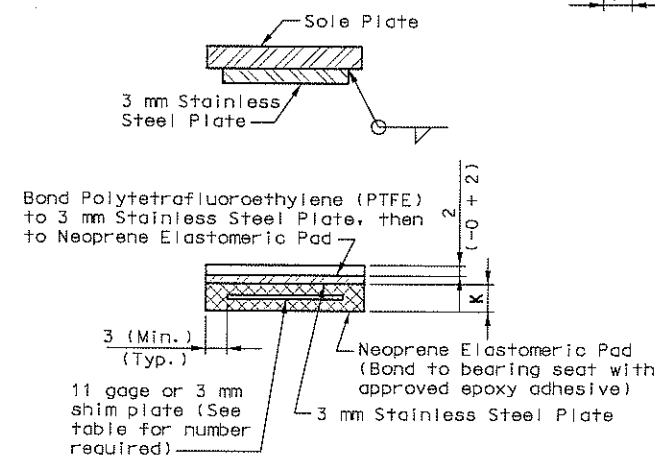
To prevent sliding, the neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

Payment for all galvanized material shall be included in the cost of PTFE Bearings per each.

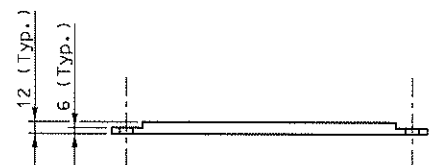
The bottom face of the 3 mm stainless steel plate that is welded to the sole plate shall be lubricated with a lubricant that is approved by the bearing manufacturer.



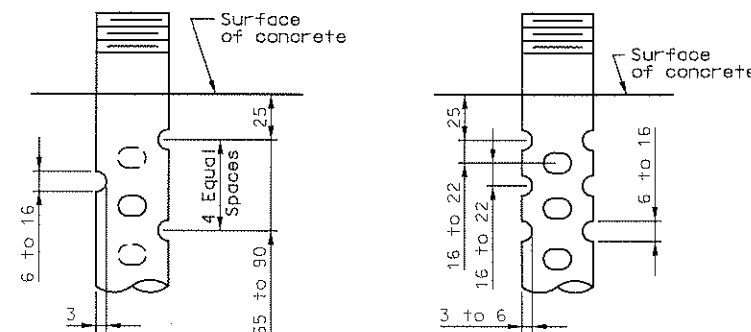
PLAN OF GALVANIZED STEEL STOPPER PLATE



NEOPRENE ELASTOMERIC PAD



ELEVATION OF GALVANIZED STEEL STOPPER PLATE



TYPICAL DETAIL
63.5 mm ϕ SWEDGE ANCHOR BOLT DETAILS

OPTIONAL DETAIL

PTFE SLIDING BEARINGS																
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES (*)
1	570	205	470	960	230	75	760	35	79	27	610	38	75	---	100	1
5	570	205	600	960	520	75	760	35	79	27	610	38	75	---	100	18
10	570	205	600	960	520	75	760	35	79	27	610	38	75	---	100	18
15	570	205	600	960	520	75	760	35	79	27	610	38	75	---	100	18
20	570	205	600	960	520	75	760	35	79	27	610	38	75	---	100	18
24	570	205	470	960	230	75	760	35	79	27	610	38	75	---	100	9
TOTAL BEARINGS																90

(*) The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

Detailed: KCK
Checked: JAZ

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2000 Oakleaf Drive, Suite 200, St. Louis, MO 63103

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 17 of 44

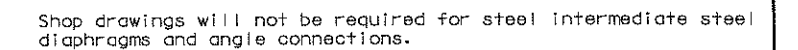
ROUTE 412 OVER ST. FRANCIS RIVER

PTFE BEARING DETAILS

DUNKLIN CO. MO - GREENE CO. AR

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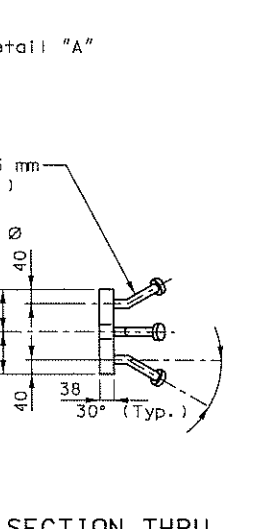
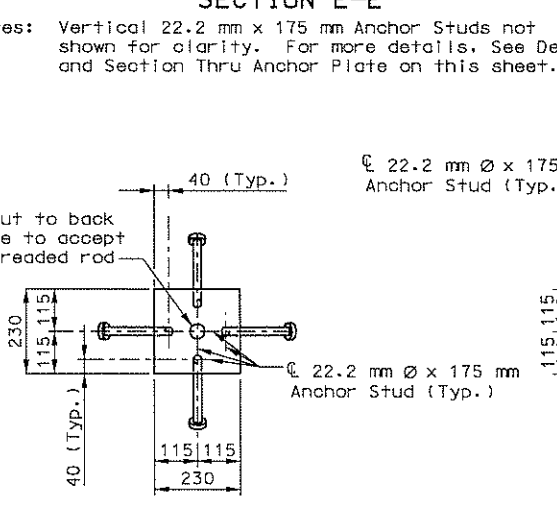
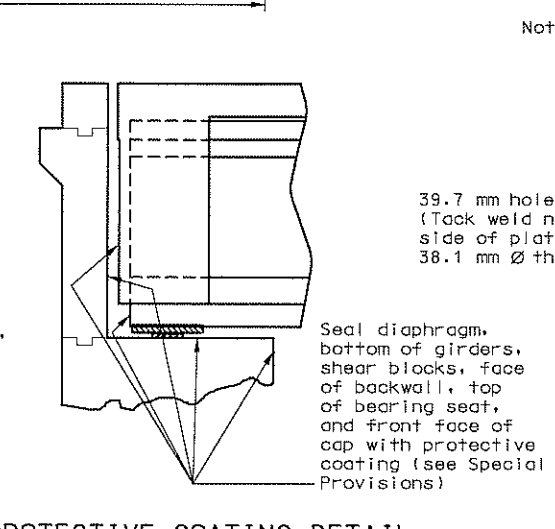
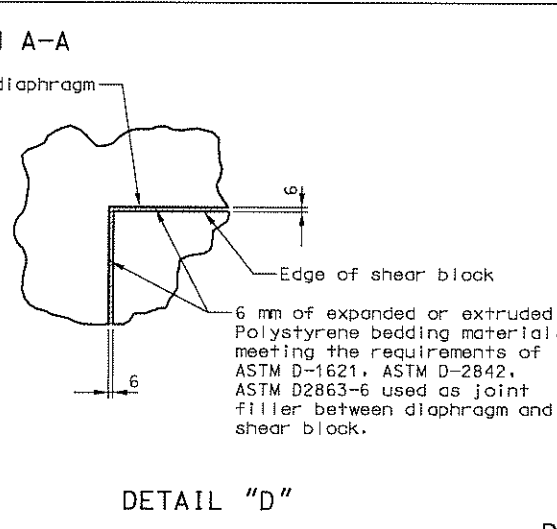
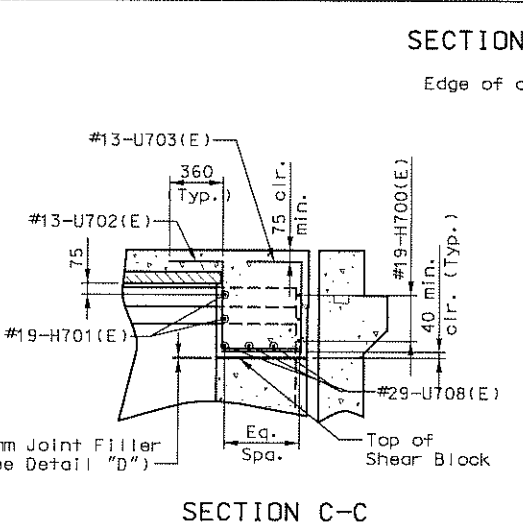
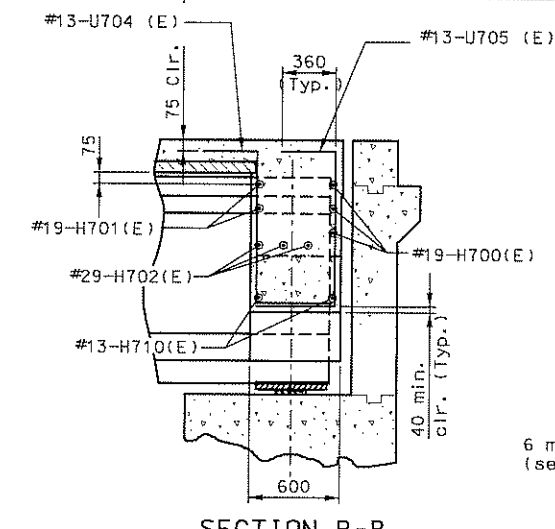
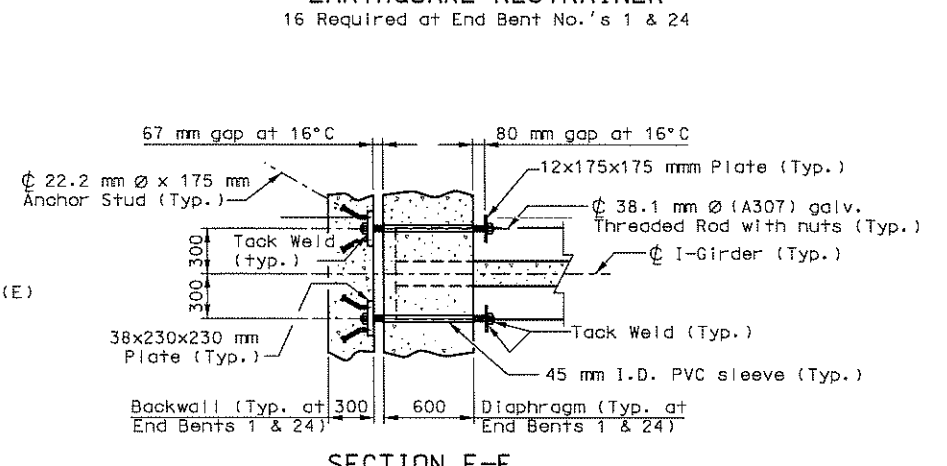
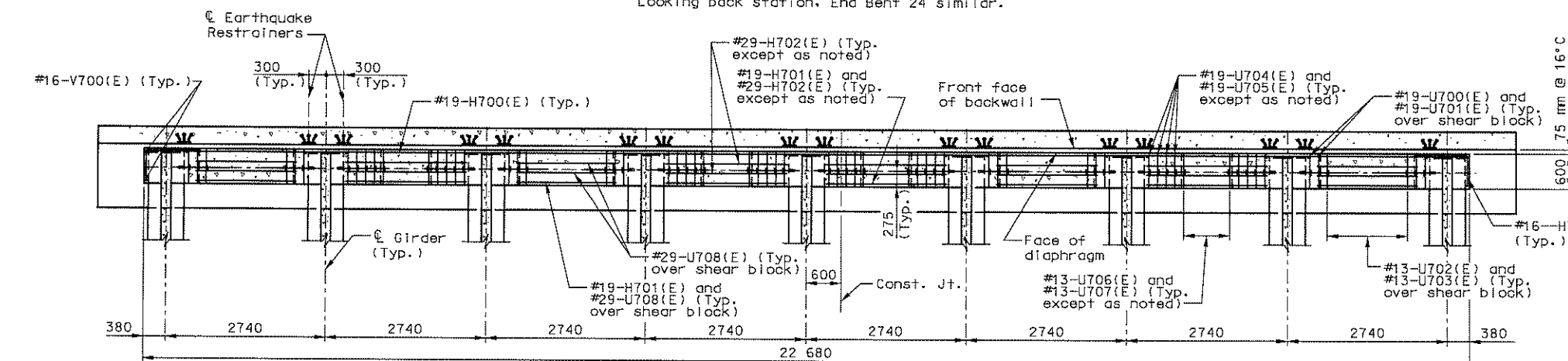
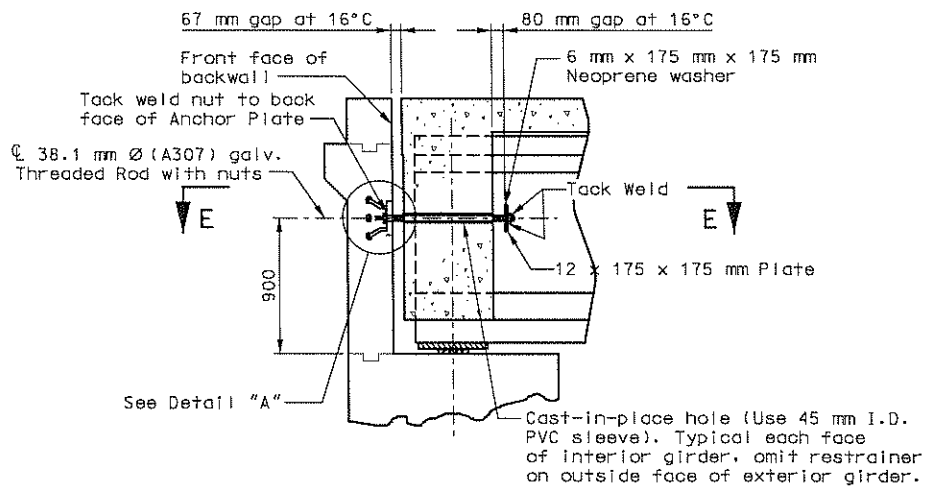
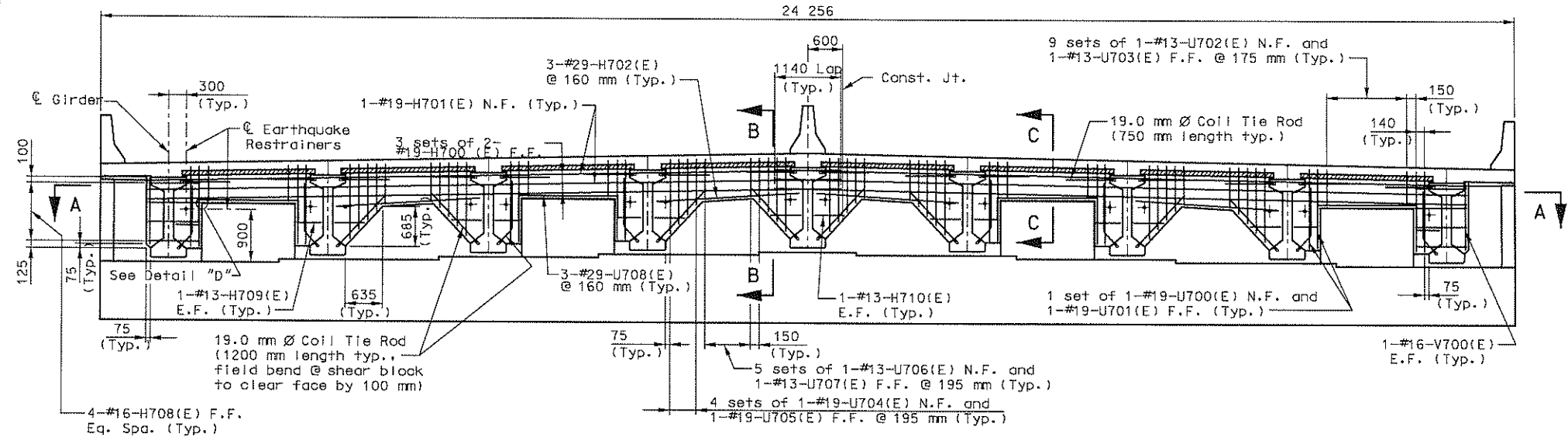
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

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GENERAL NOTES:
A temporary threaded plug shall be inserted into each embedded hex nut in the backwall before concrete is poured. Plugs shall extend 4 mm into backwall concrete as shown in SECTION E-E.
Threaded rods shall be parallel to grade.

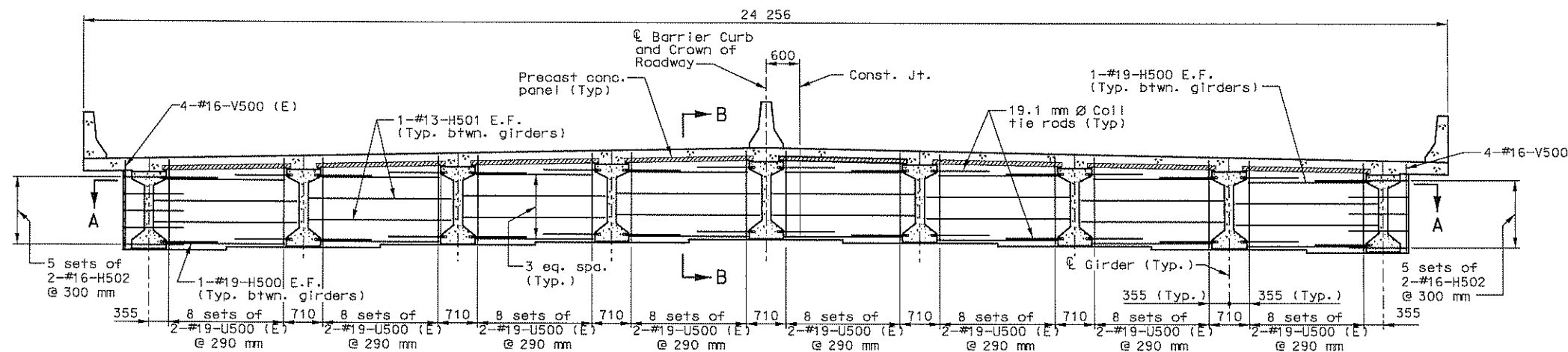
Interior girders are shown, exterior girders are similar. Omit earthquake restrainer assembly on exterior side of exterior girders.
All plates, anchor studs, and washers shall be ASTM A709M Grade 250 Steel.

All bolts, nut and washers shall be galvanized in accordance with ASTM A153. All plates and studs shall be galvanized in accordance with ASTM A123.
All materials for the fabrication of earthquake restrainers shall be included in the contract unit price of Earthquake Restrainer Assemblies, Each.

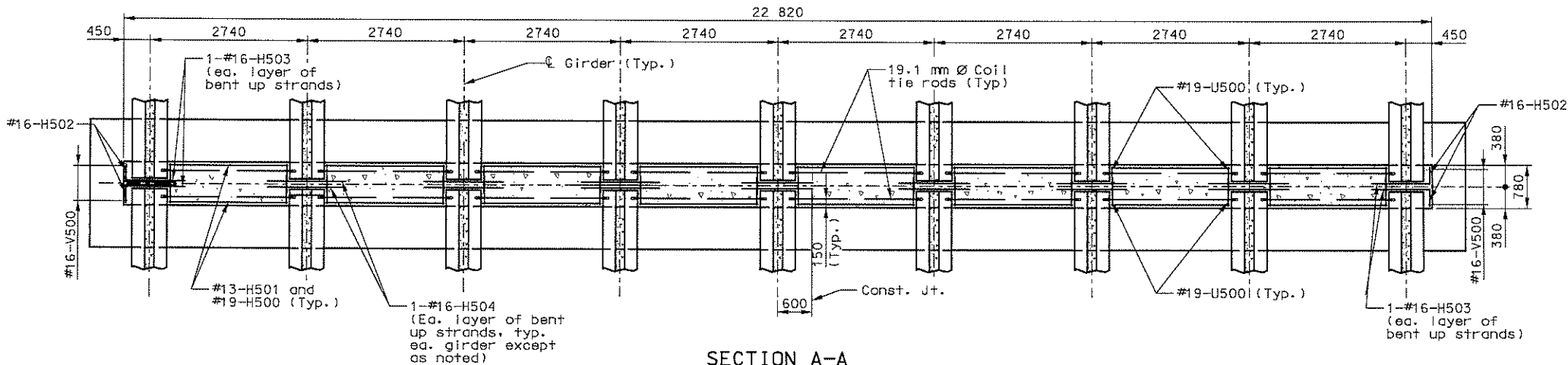
ROUTE 412 OVER ST. FRANCIS RIVER
DIAPHRAGM AT END BENT (TYP.)
DUNKLIN CO. MO - GREENE CO. AR
A4554

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

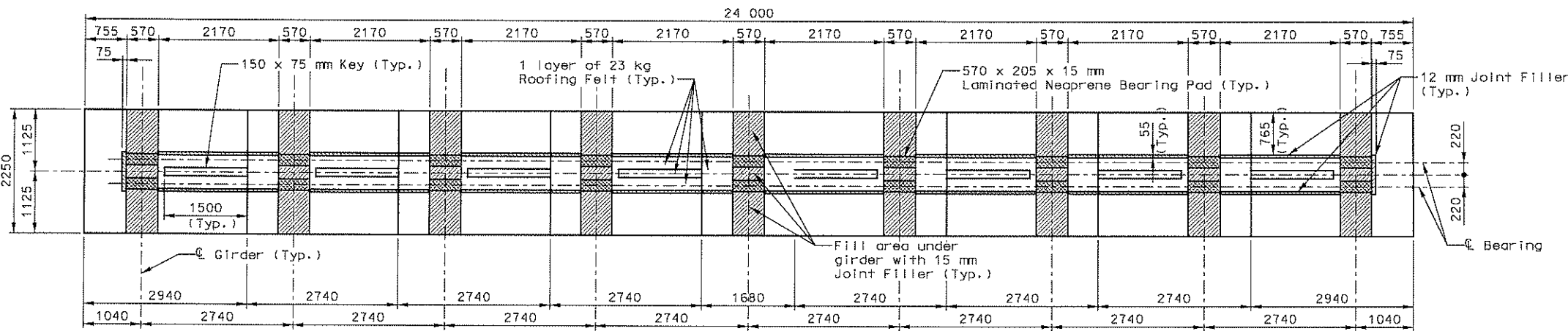
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MO	JOP0334	B20



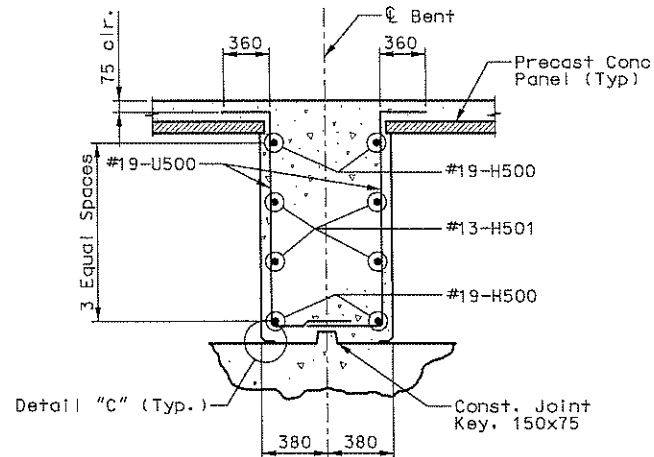
TYPICAL SECTION NEAR INT. BENTS



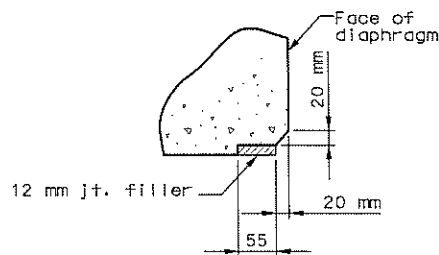
For location of #16-H503 and #16-H504 Strand Tie bars, see sheets 13-15.



PLAN BEARING BEAM LAYOUT



SECTION B-B



DETAIL "C"

NOTES:

- For steps 50 mm or more, use 55 mm x 12 mm joint filler up vertical face.
- Diaphragms at Intermediate Bents shall be built vertical.

ROUTE 412 OVER ST. FRANCIS RIVER

DIAPHRAGM AT FIXED BENTS (TYP.)

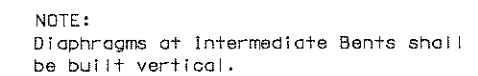
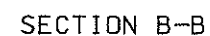
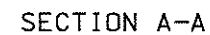
DUNKLIN CO. MO - GREENE CO. AR

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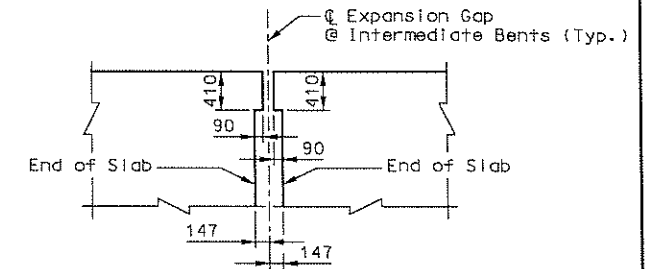
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5001 Oakleaf Ave., St. Louis, Missouri 63110

State	Proj. No.	Sheet No.
MO	JOP0334	B21

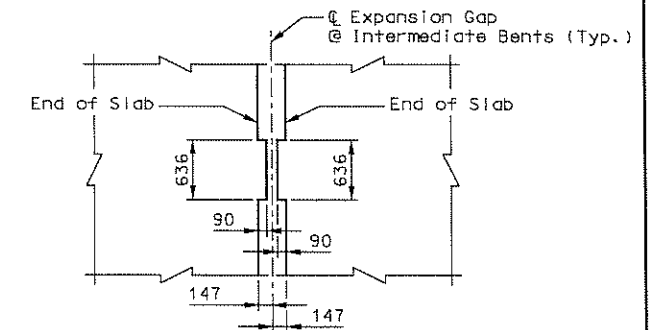


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State	Proj. No.	Sheet No.
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Typical at Safety Barrier Curbs
(Finger Plate Expansion Devices Only)



Typical at Median Barrier Curbs
(Finger Plate Expansion Devices Only)

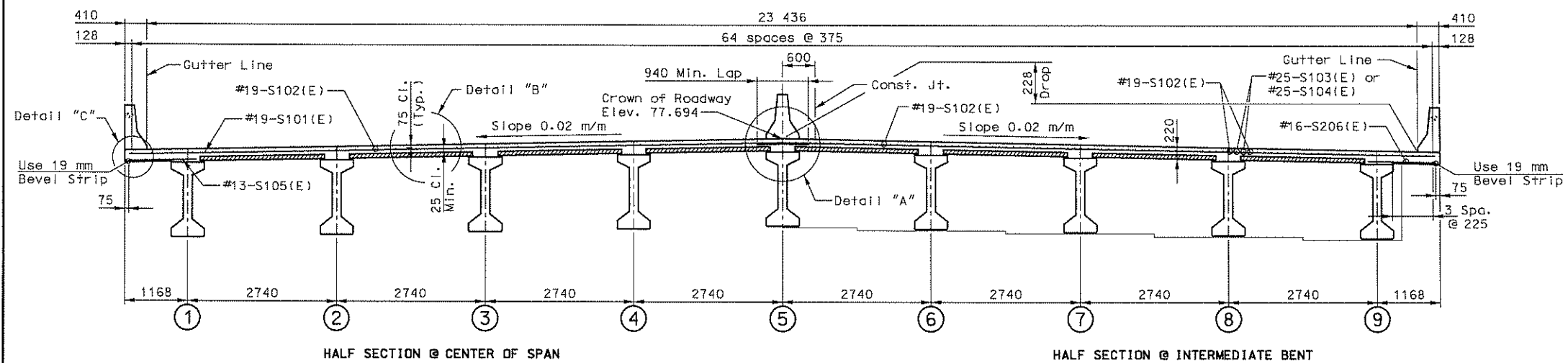
End of Slab to End of Slab 129 706 mm



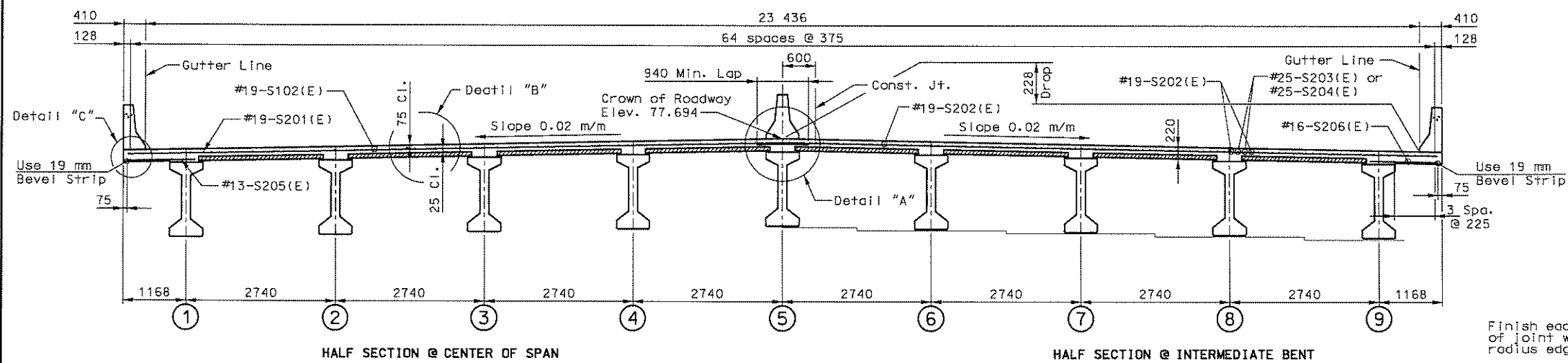
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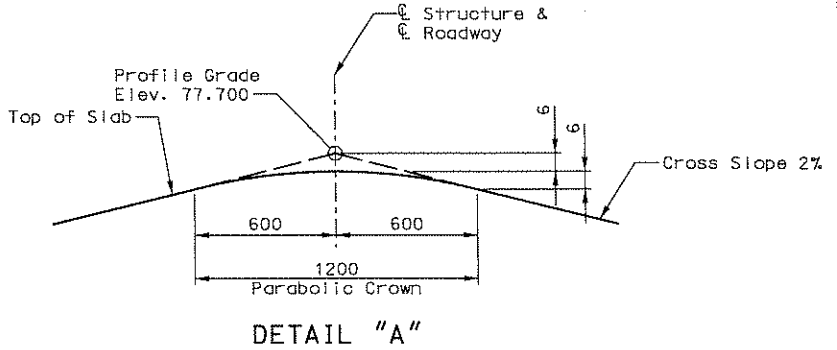
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MO	JOP0334	B23



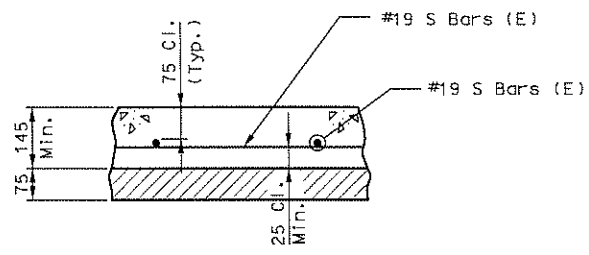
TYPICAL SECTION THRU SLAB
(UNIT 1 SHOWN, UNIT 5 SIMILAR)



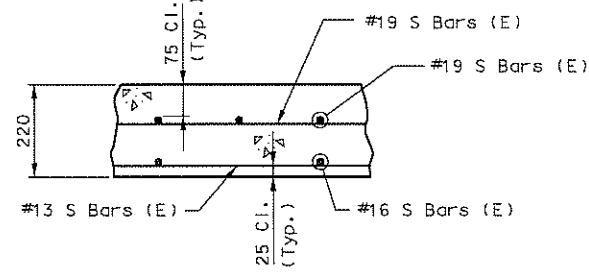
TYPICAL SECTION THRU SLAB
(UNIT 2 SHOWN, UNITS 3 AND 4 SIMILAR)



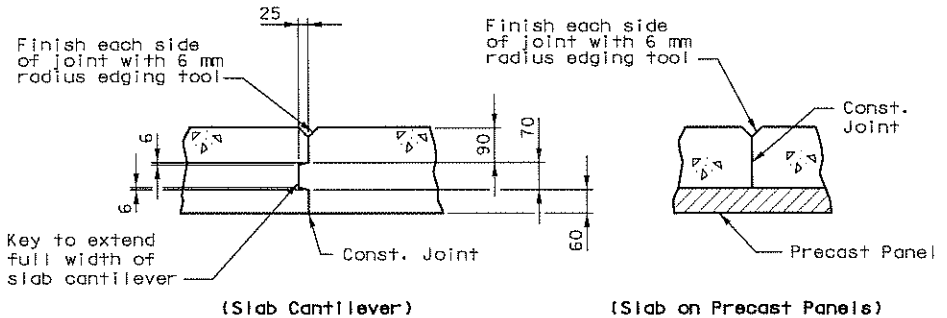
DETAIL "A"



DETAIL "B"



DETAIL "C"



SLAB CONSTRUCTION JOINT DETAILS

Note: The longitudinal construction joint may be omitted with the approval of the Engineer. When the longitudinal construction joint is omitted, the minimum rate of pour for alternate pouring sequence shall be increased by a factor of 0.5.

ROUTE 412 OVER ST. FRANCIS RIVER

TYPICAL SLAB CROSS SECTION

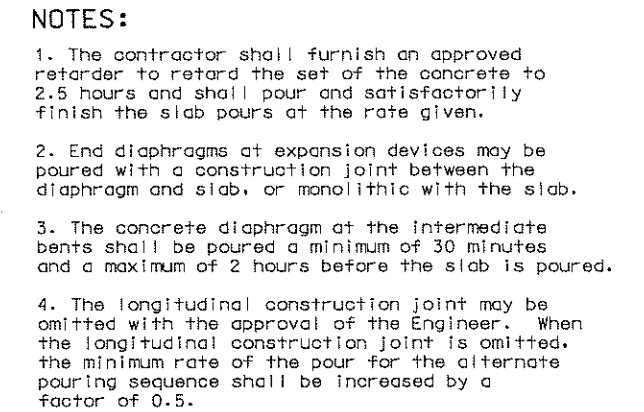
DUNKLIN CO. MO - GREENE CO. AR

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Detailed: JDG
Checked: JAZ

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2300 Oakleaf Ave., St. Louis, Missouri 63110

State	Proj. No.	Sheet No.
MO	JOP0334	B24



Face of Expansion Angle Bent 5

24 256

12 728 Stage I Pouring

11 528 Stage II Pouring

1 9 2 8 3 7 4 6 5

1 9 2 8 3 7 4 6 5

Longitudinal Const. Jt.

Const. Joint

3900 3900 3900 3900 3900 3900

15 453 10 400 25 853 26 000 26 000 26 000 25 853

SPAN (5-6) SPAN (6-7) SPAN (7-8) SPAN (8-9) SPAN (9-10)

Bent 6 Bent 7 Bent 8 Bent 9

Face of Expansion Angle Bent 10

	Sequence of Pours	Min. rate of pour cu. m/hr.		
	Direction	With retarder	No retarder	
		Stage I	Stage II	N/A
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.				
Alternate "D"	1 + 7 + 2 + 6 + 3 + 5 + 4 End to end	31	31	N/A

	Sequence of Pours								Min. rate of pour cu. m/hr.		No retarder
	Direction								With retarder		
									Stage I	Stage II	
											N/A
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.											
Alternate "p" pours											
	1 + 9 + 2 + 8 + 3 + 7 + 4 + 6 + 5										
	End to end										
									31	31	N/A

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GENERAL NOTES:

PRESTRESSED PANELS:

Concrete for prestressed panels shall be Class A1 with $f'_c = 42$ MPa, $f'_{ci} = 24.5$ MPa.

The top surface of all panels shall receive a scored finish with a depth of scoring of 3 mm perpendicular to the prestressing strands in the panels (see Special Provisions).

Prestressing tendons shall be high-tensile strength uncoated seven (7) wire, low-relaxation strands for prestressed concrete conforming to AASHTO M203M Grade 1860, with nominal diameter of strand = 9.53 mm and nominal area = 54.84 sq. mm. and minimum ultimate strength = 102.3 kN (1860 MPa). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 76.5 kN per strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided they are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When square end panels are used at skewed bents, it is required that the skewed portion be cast full depth. No separate payment will be made for the additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 21 MPa compressive strength.

Minimum joint filler or polystyrene bedding material thickness shall be 19 mm. Thicker joint filler or polystyrene bedding material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness, within tolerances. No more than 50 mm total thickness of joint filler or polystyrene bedding material shall be used.

The same thickness of joint filler material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 6 mm. The polystyrene bedding materials may be cut to match haunch height above top of flange.

Slab thickness over prestressed panels varies due to girder camber.

At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

REINFORCING STEEL:

All dimensions are out to out.

Minimum clearance to reinforcing steel shall be 40 mm unless otherwise shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest 5 mm.

The prestressed panel quantities are not included in the table of Final Quantities for Slab on Concrete I-Girder.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Welded wire fabric or welded deformed bar mats providing a minimum area of reinforcing perpendicular to strands of 466 sq. mm/m, with spacing parallel to strands sufficient to insure proper handling, may be used in lieu of the #10-P2 bars shown. Wire or bar diameter shall not be larger than 10 mm. The above alternative reinforcement criteria may be used in lieu of the #10-P3 bars, when required, and placed over a width of not less than 600 mm.

The reinforcing steel shall be tied securely to the 9.53 mm ϕ strands with the following maximum spacing in each direction: #10-P2 bars at 400 mm and welded wire fabric or welded deformed bar mats at 600 mm.

Tie the #10-U1 bars to the #10-P2 bars, to the welded wire fabric or the welded deformed bar mats at about 900 mm centers.

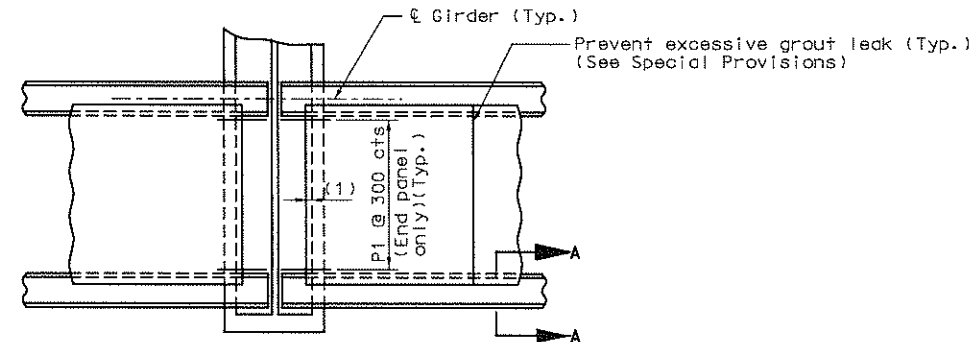
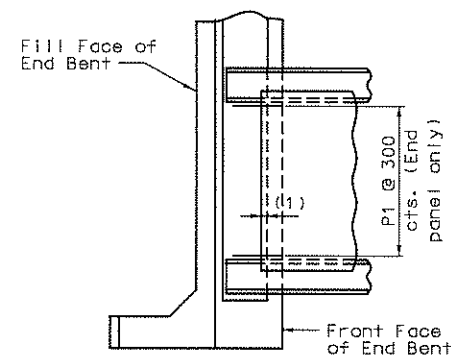
All reinforcement other than prestressing strands shall be epoxy coated.

ROUTE 412 OVER ST. FRANCIS RIVER

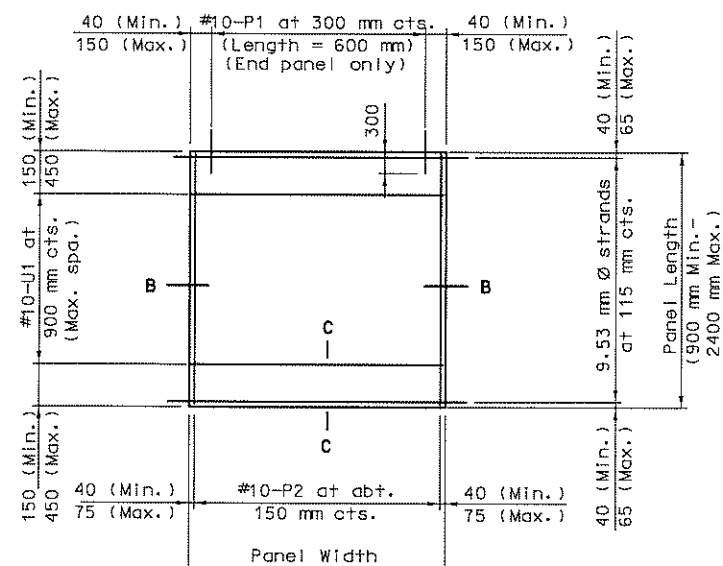
PRECAST PRESTRESSED PANELS

DUNKLIN CO. MO - GREENE CO. AR

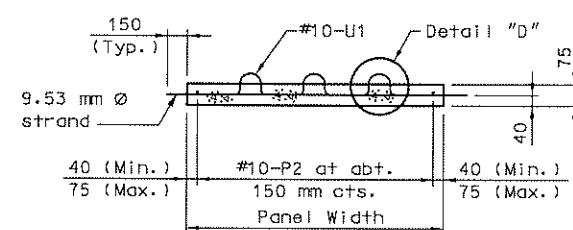
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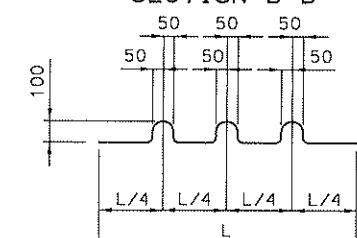
PLAN OF PRECAST PRESTRESSED PANEL PLACEMENT



PLAN OF PRECAST PRESTRESSED PANEL

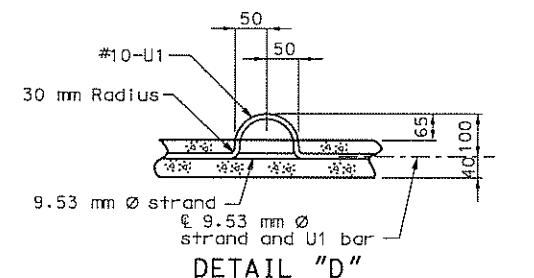


SECTION B-B

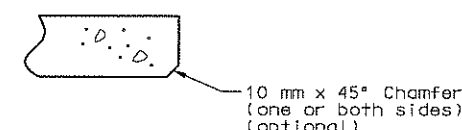


BENDING DIAGRAM FOR U1 BAR

(U1 bars may be oriented at right angles to location and spacing shown. U1 bars shall be placed between P1 bars.)



DETAIL "D"



SECTION C-C

NOTES:

Cost of S bars shall be included in the price bid for Slab on Concrete I-Girder per square meter.

S bars are not listed in the bill of reinforcing.

(1) End panels shall be dimensioned 25 mm min. to 40 mm max. inside the face of the diaphragm.

(2) S bars shown are bottom steel in slab between panels and used with squared end panels only.

(3) Extend S bars 500 mm beyond the front face of end bents.

(4) In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(5) Any strand 610 mm or shorter shall have a #13 reinforcing bar on each side of it centered between strands. Strands 610 mm or shorter may then be deboned at the fabricator's option.

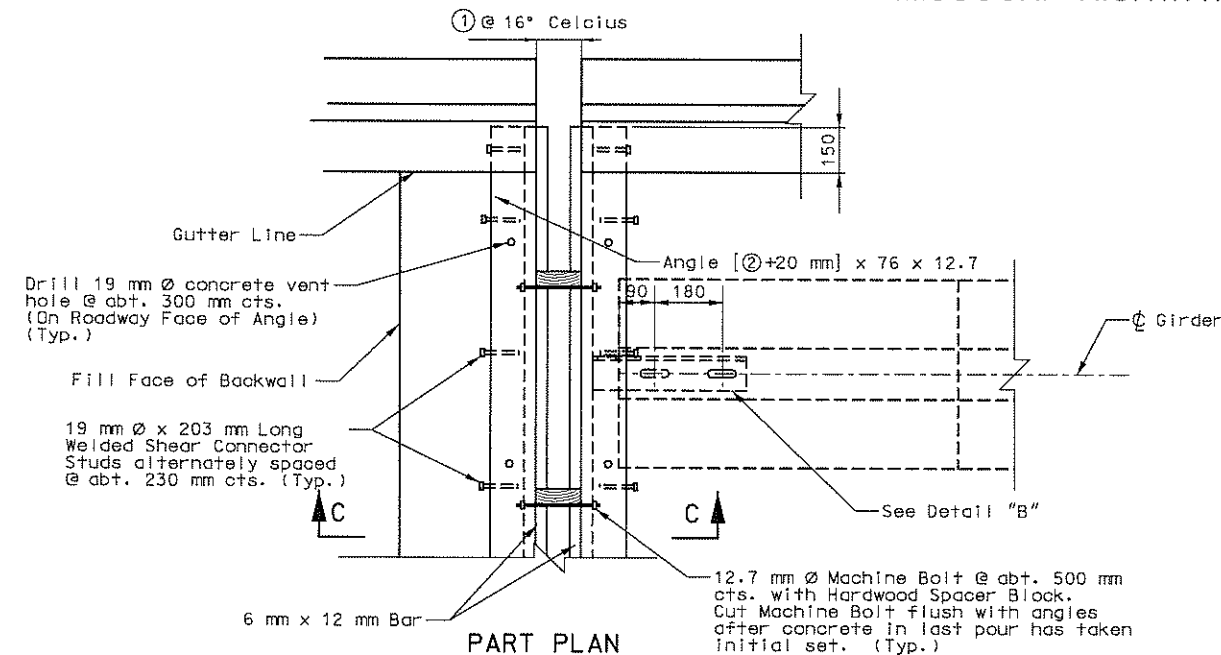
(6) All panel support pads shall be glued to the girder. When support thickness exceeds 40 mm, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pads manufacturer.

(7) Use #10-P3 bars if panel is skewed 45° or greater.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

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Note:
Concrete shall be forced under armor angle and around studs. Proper consolidation of the concrete shall be achieved by localized internal vibration. Longitudinal reinforcing steel shall be placed so that ends shall not be more than approximately 25 mm from vertical leg of angle at expansion device.

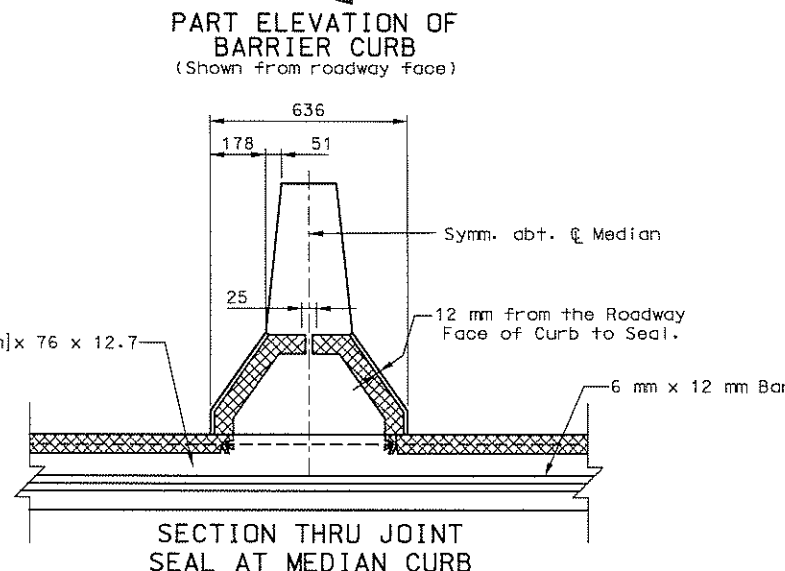
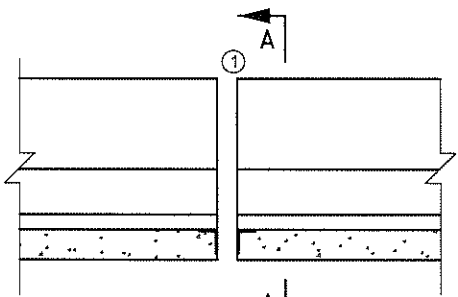
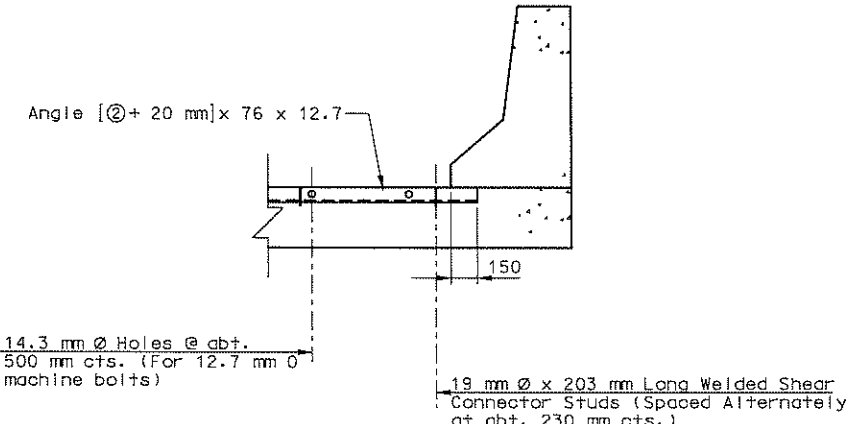
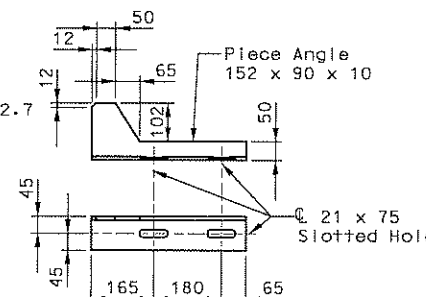
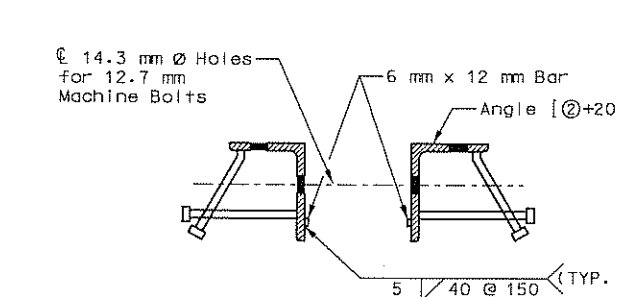
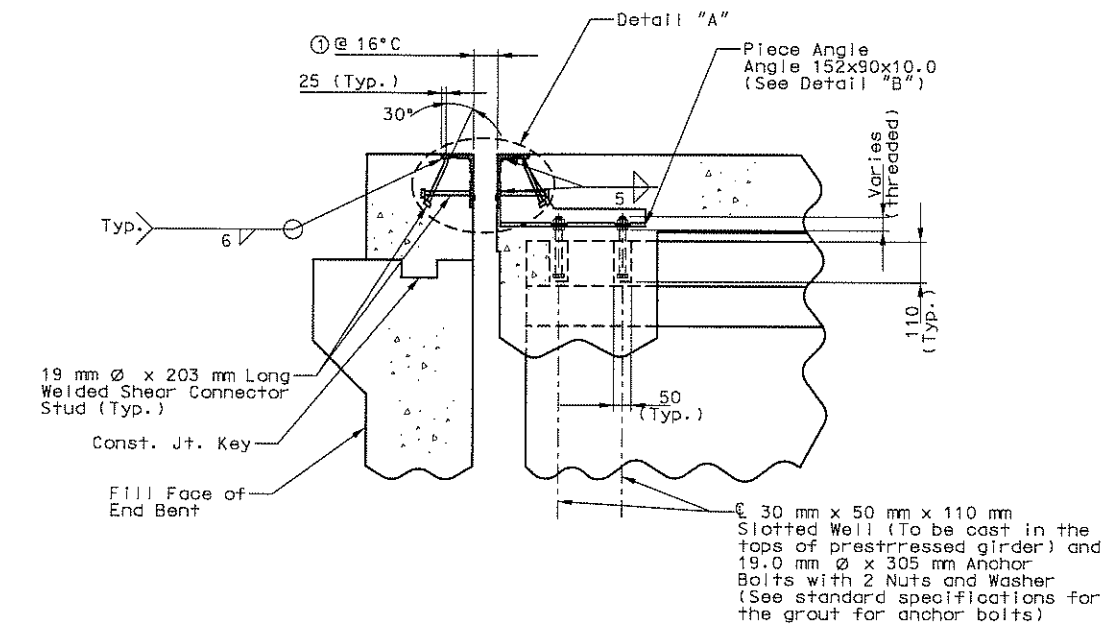


TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (WIDTH)	①	②	Required Movement Range
102mm	67mm	Mfg.'s recommended hgt.	41mm

Note: Depth of seal shall not be less than width of seal.

Size of armor angle: Vertical leg of angle shall be a minimum of ② + 20 mm. Horizontal leg of angle shall be a minimum of 75 mm. Minimum thickness of angle shall be 12.7 mm.

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 16° Celcius and all dimensions for the armor angle shall be shown on the shop drawings.

NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 15 meters, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709M Grade 250.

Plan dimensions are based on installation at 16° Celcius.

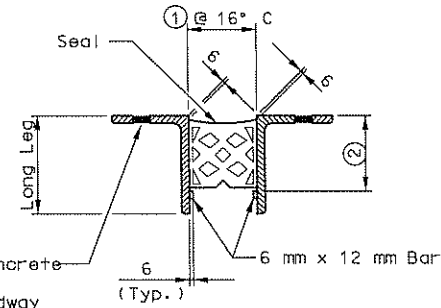
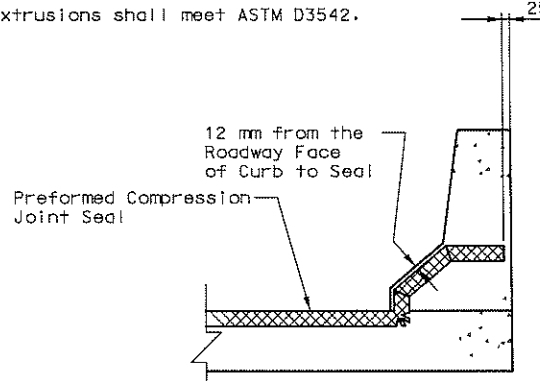
Dimension ① shall be increased 3mm for each 5° Celcius fall in temperature and decreased 3mm for each 5° rise in temperature at installation.

See special provisions for the requirements of compression joint seal.

Structural steel for the expansion device shall be coated with a minimum of two coats of inorganic zinc primer (125 micrometers min. thickness) or galvanized in accordance with ASTM A123. Anchors need to be protected from overspray.

Furnishing, coating, and installing structural steel armored joint shall be included in the contract unit price for Performed Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.



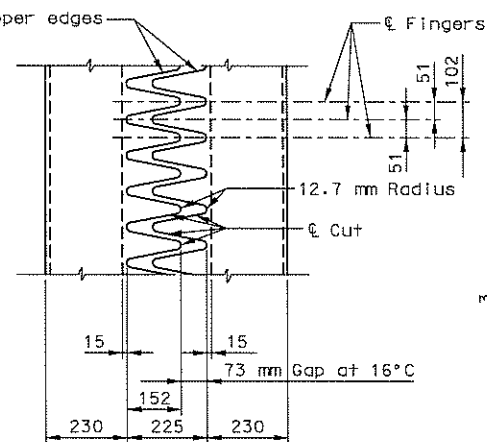
Drill 19.0 mm Ø Concrete Vent Holes at abt. 300 mm cts. on Roadway Face at Angle (Typ.)

ROUTE 412 OVER ST. FRANCIS RIVER

PREFORMED COMPRESSION JOINT SEAL
END BENT 1 AND END BENT 24

DUNKLIN CO. MO - GREENE CO. AR

A4554



Technical drawing showing two views of a finger detail:

- OPTIONAL FINGER DETAIL:** Shows a finger with a width of 76 and a height of 32. A bend line is indicated, showing the finger is curved.
- FINGER DETAIL:** Shows a finger with a width of 76 and a height of 32. This view shows a straight finger.

12 mm Beveled Barrier Curb Bent Plate

19.0 mm $\varnothing$ x 152 mm long Welded Shear connector stud (Typ.)

Shop or field weld

8°

Const. Joint

32 mm Finger Plate

Finger plate may extend 25 mm outside of gutterline

SECTION A-A
AT EXT. BARRIER CURB

Location	Gap @ 16° C	Fail (A)	Rise (B)
Bent 5	73	7	7
Bent 10	73	8	8
Bent 15	73	8	8
Bent 20	73	7	7

Symm. abt. ϕ median barrier curb

178

30

76

12 mm Beveled Barrier Curb Bent Plate with 19.0 mm x 152 mm long welded shear connectors

Shop or field weld

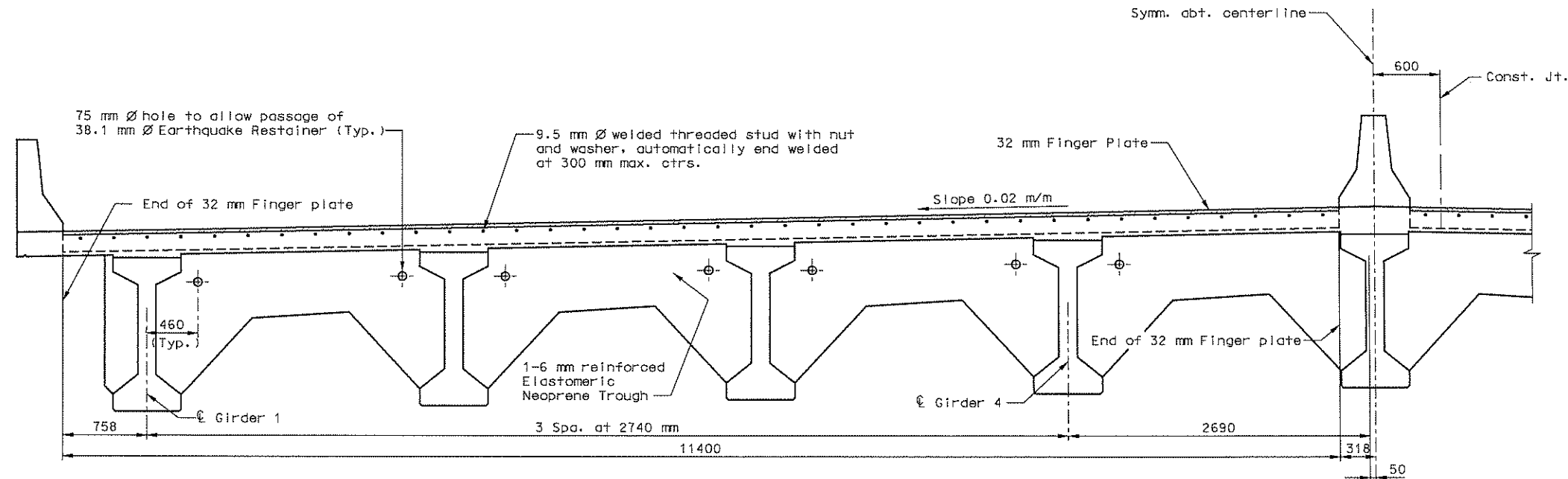
32 mm Finger Plate (Typ)

extend median (Typ)

Sheet No. 27 of 44

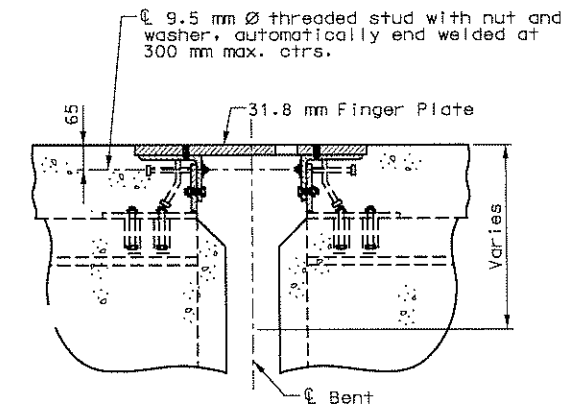
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

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ELEVATION OF DRAINAGE TROUGH (NOT USED)
AT EXP. BENTS 5, 10, 15, AND 20
Looking back station

For details of Finger Plate expansion device see sheet No. 27.



TYPICAL SECTION THRU DRAINAGE TROUGH (NOT USED)

ROUTE 412 OVER ST. FRANCIS RIVER
NEOPRENE DRAINAGE TROUGH
INTERIOR EXP. BENTS 5, 10, 15, AND 20
DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KCK
Checked: JAZ

HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2229 CHADWICK AVE. ST. LOUIS, MISSOURI 63103

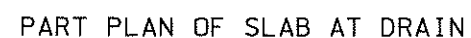
56

Sheet No. 28 of 44

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

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State	Proj. No.	Sheet No.
MO	JOPO334	B29



Slab drains may be fabricated of either 6 mm welded sheets of ASTM A709M Grade 250 steel or from 6.4 mm structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 204 mm x 102 mm.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing steel in field where necessary to clear drains.

The drains, coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

The coil insert required for the bracket assembly attachment shall be located on the Prestresses I-Girder shop drawings.

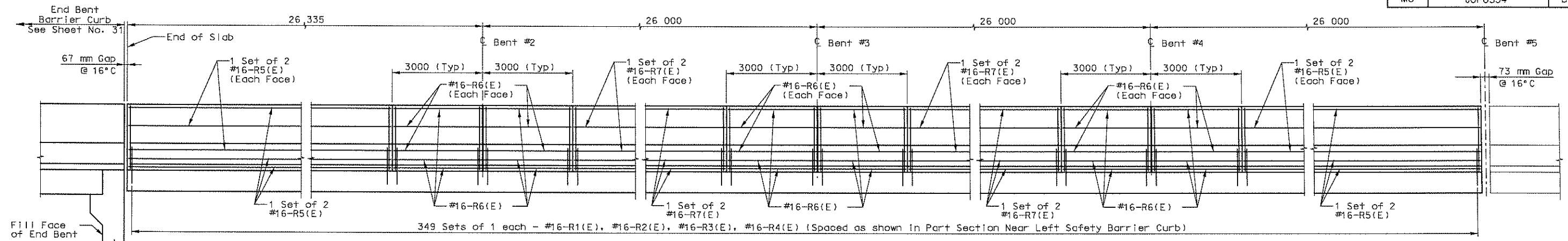
Shop drawings will not be required for the slab drains and the bracket assembly.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 11.1 kN in 35 MPa concrete.

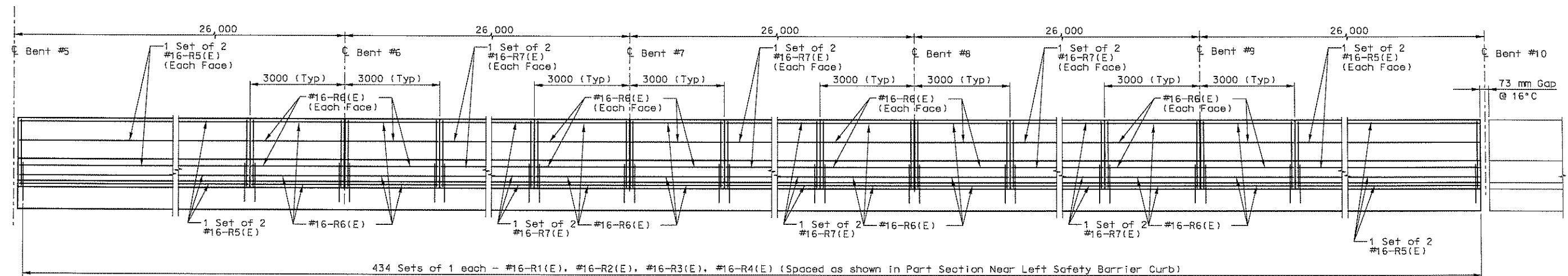
The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-Girder fabricator.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

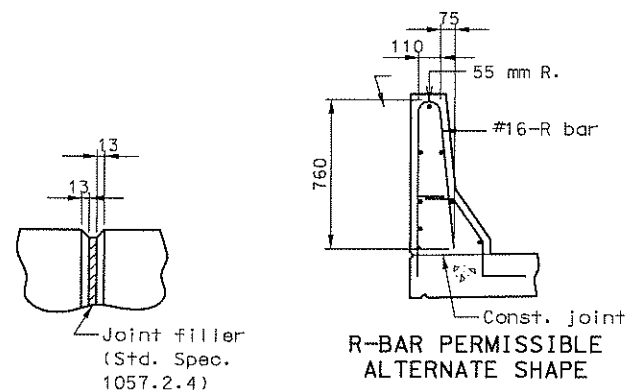
State	Proj. No.	Sheet No.
MO	JOP0334	B30



UNIT1 SAFETY BARRIER CURB ELEVATION
(UNIT 5 SIMILAR)



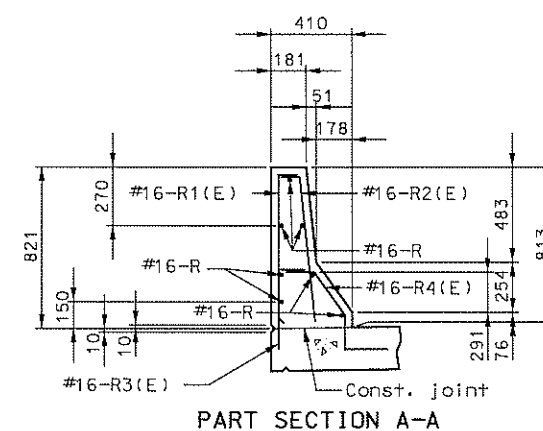
UNIT 2 SAFETY BARRIER CURB ELEVATION
(UNITS 3 AND 4 SIMILAR)



FILLED JOINT DETAIL

R-BAR PERMISSIBLE
ALTERNATE SHAPE

The R1 and R2 bar combination may be furnished as one bar, as shown, at the contractor's option.
(All dimensions are out to out.)



PART SECTION A-A

Note: Use a minimum lap of 925 mm for #16 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 213 500 sq. mm.

NOTES:

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints normal to grade.

All exposed edges of safety barrier curb shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted.

When the safety barrier curb is bid per meter, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.

Concrete in the safety barrier curb shall be Class B1 with $f'_c = 28$ MPa.

Measurement of safety barrier curb is to the nearest half meter for each structure, measured along the outside top of slab from end of wing to end of wing.

ROUTE 412 OVER ST. FRANCIS RIVER

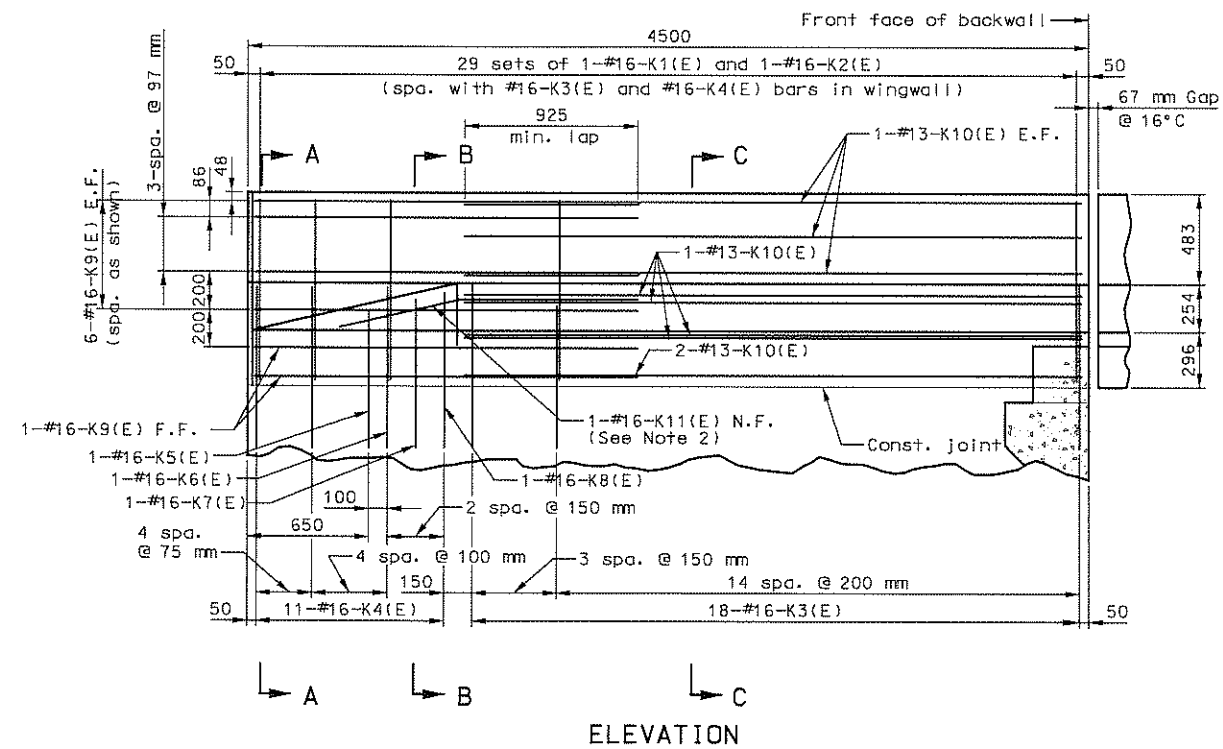
SAFETY BARRIER CURB
ELEVATION AND DETAILS

DUNKLIN CO. MO - GREENE CO. AR

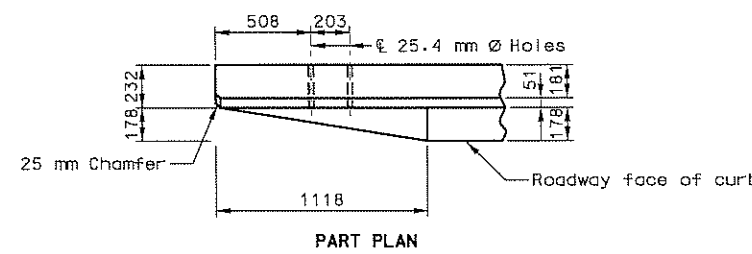
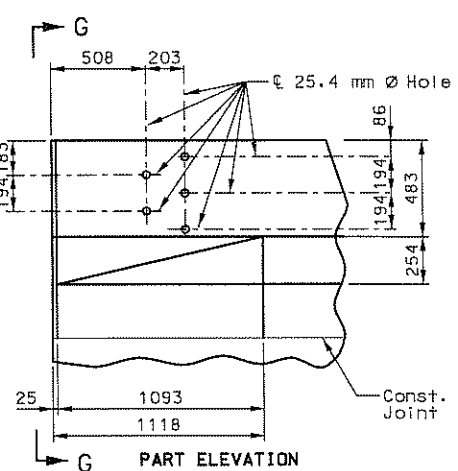
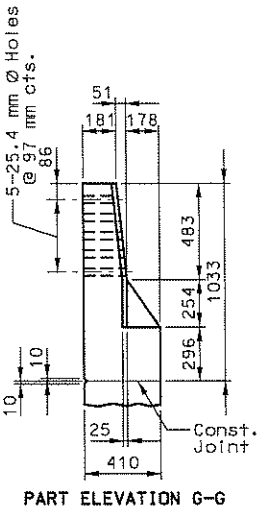
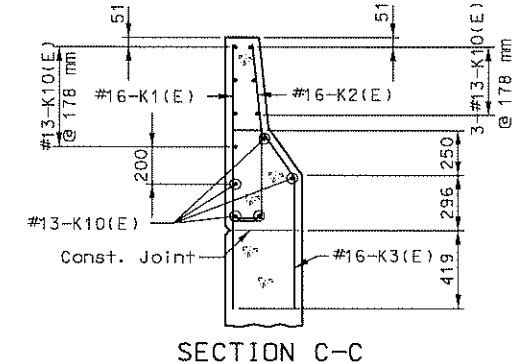
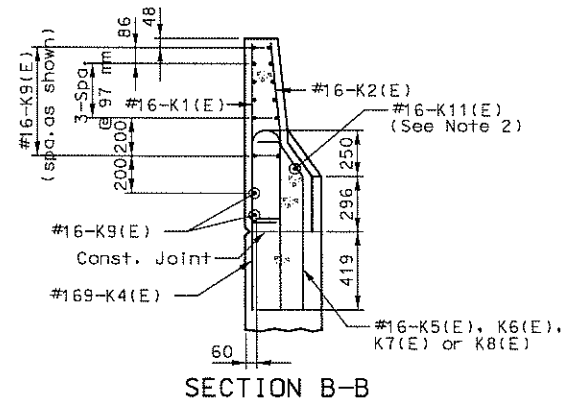
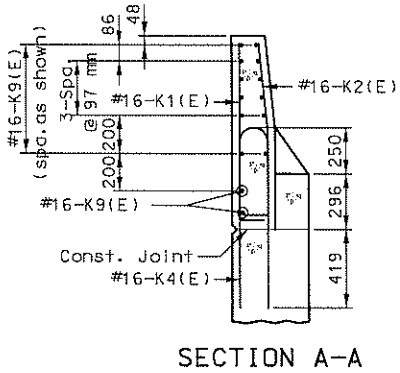
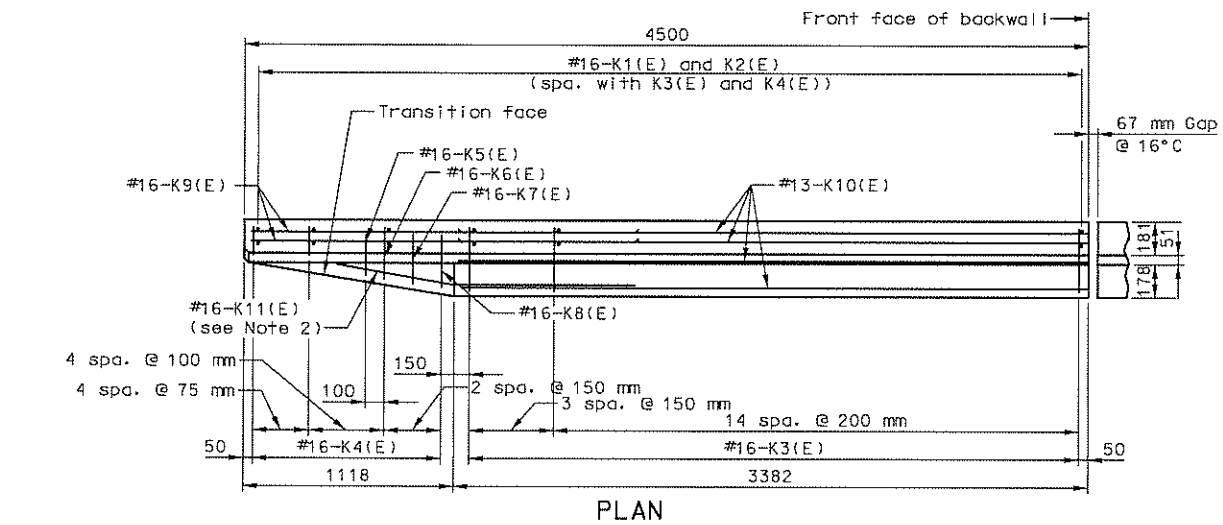
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Detailed: KBF
Checked: JAZ

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SHIFRIN, INC.
ENGINEERS & ARCHITECTS - ST. LOUIS, MISSOURI 63105



Notes:
1. #16-K5, K6, K7 and K8 bars spaced with K4(E) bars.
2. Fit bar to follow transition face of curb.



DETAILS OF GUARD RAIL ATTACHMENT

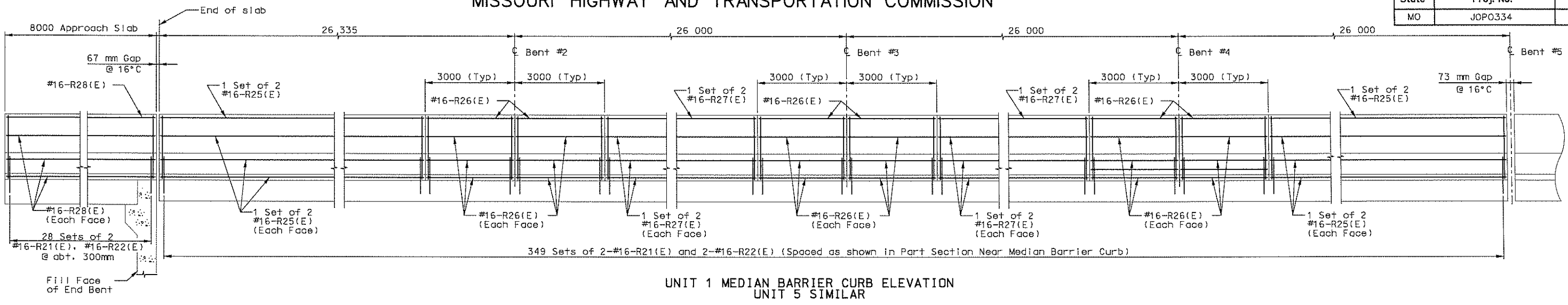
ROUTE 412 OVER ST. FRANCIS RIVER
BARRIER CURB AT END BENTS (TYP.)

DUNKLIN CO. MO - GREENE CO. AR

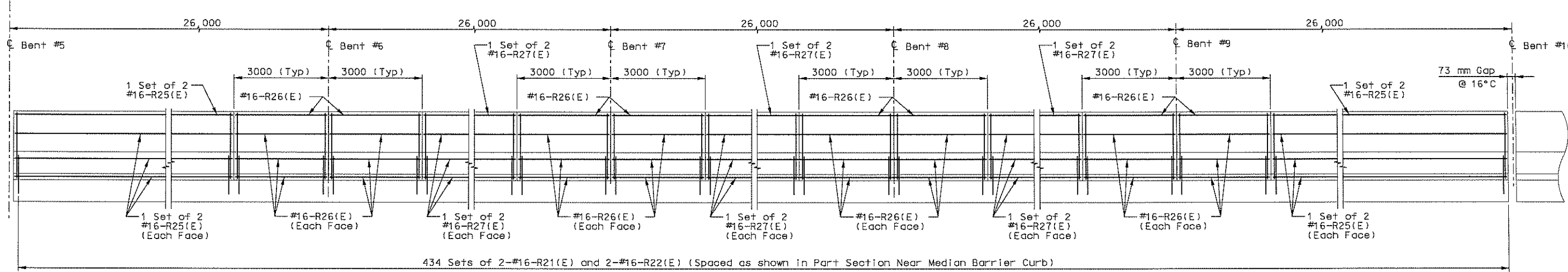
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

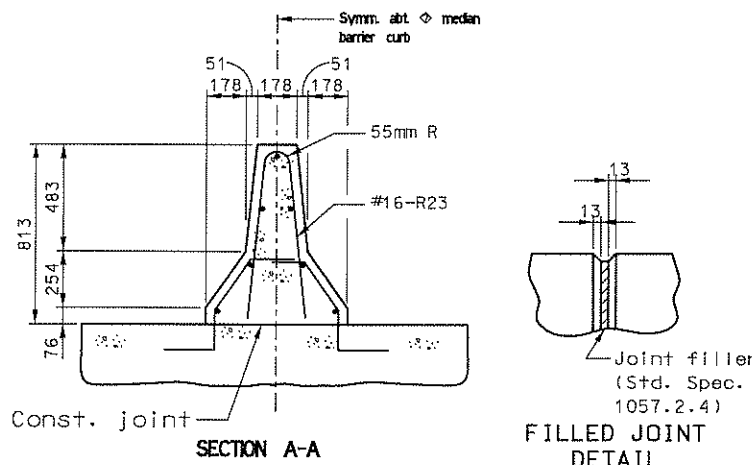
State	Proj. No.	Sheet No.
MO	JOP0334	B32



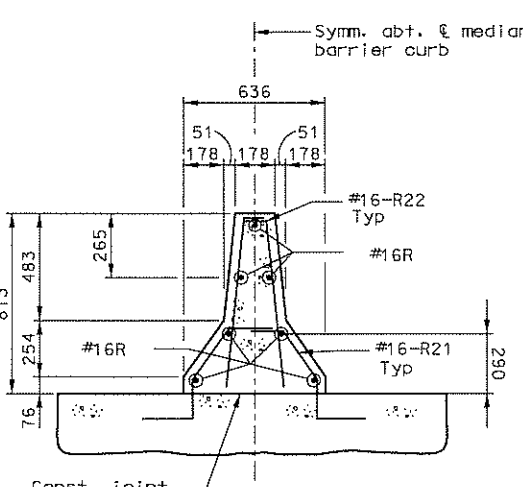
UNIT 1 MEDIAN BARRIER CURB ELEVATION
UNIT 5 SIMILAR



UNIT 2 MEDIAN BARRIER CURB ELEVATION
UNIT 3 AND 4 SIMILAR



R-BAR PERMISSIBLE ALTERNATE SHAPE
The 2 - R22 bar combination may be furnished as one bar, as shown, at the contractor's option.
(All dimensions are out to out.)



PART SECTION A-A
Note: Use a minimum lap of 925 mm for #16 horizontal safety barrier curb bars.
The cross-sectional area above the slab = 274 500 sq. mm.

NOTES:
Top of median barrier curb shall be built parallel to grade with median barrier curb joints normal to grade.
All exposed edges of median barrier curb shall have either a 15 mm radius or a 10 mm bevel, unless otherwise noted.
When the median barrier curb is bid per meter, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.
Concrete in the median barrier curb shall be Class B1 with $f'c = 28$ MPa.
Measurement of median barrier curb is to the nearest half meter for each structure, measured along the top of slab from end of approach slab to end of approach slab.

ROUTE 412 OVER ST. FRANCIS RIVER

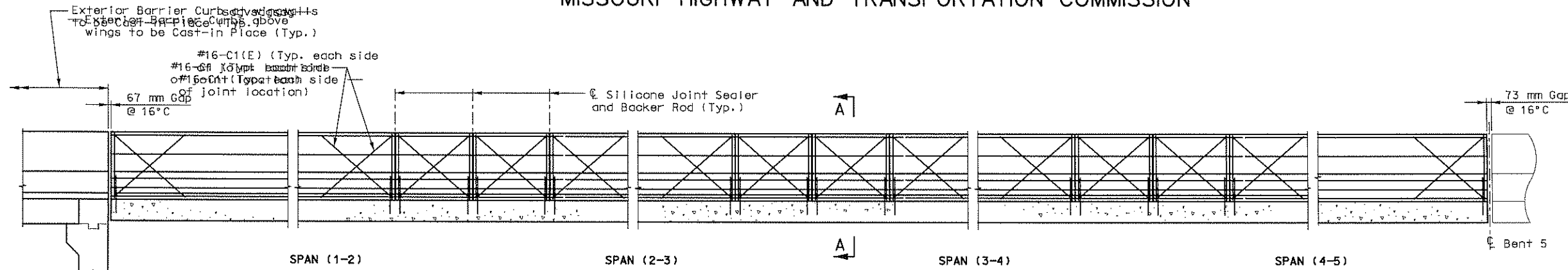
MEDIAN BARRIER CURB
ELEVATION AND DETAILS

DUNKLIN CO. MO - GREENE CO. AR

A4554

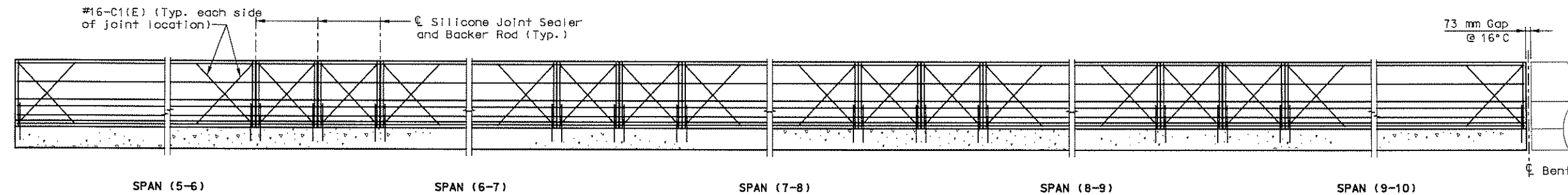
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B33



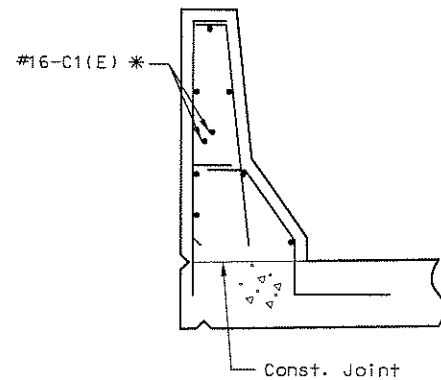
UNIT 1 SAFETY BARRIER CURB ELEVATION (SLIP FORM OPTION)
(UNIT 5 SIMILAR)

Left exterior Barrier Curb shown, right exterior Barrier Curb and Median Barrier Curb similar.

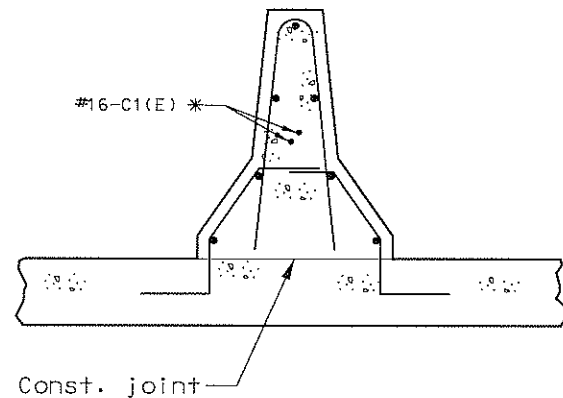


UNIT 2 SAFETY BARRIER CURB ELEVATION (SLIP FORM OPTION)
(UNITS 3 AND 4 SIMILAR)

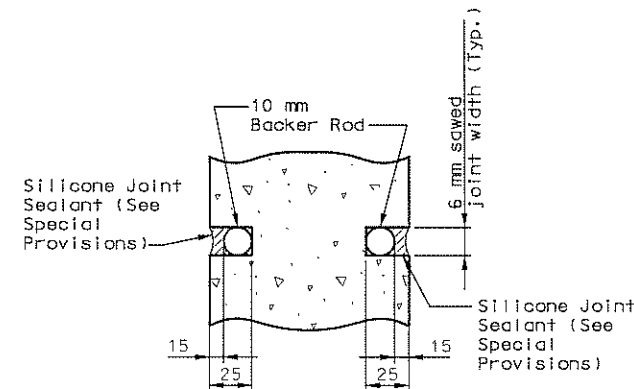
Left exterior Barrier Curb shown, right exterior Barrier Curb and Median Barrier Curb similar.



**SECTION A-A
@ EXT. BARRIER CURB**
Note: * Each side of joint location.

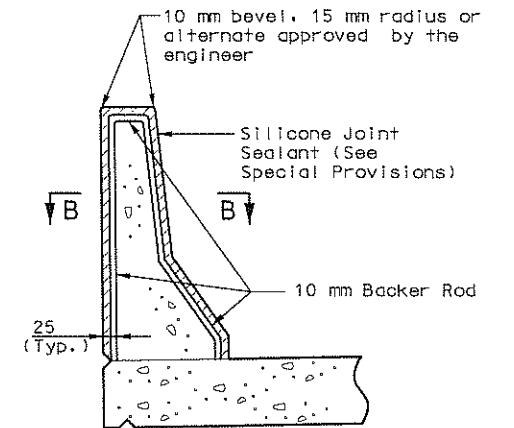


**SECTION A-A
@ MEDIAN BARRIER CURB**
Note: * Each side of joint location.

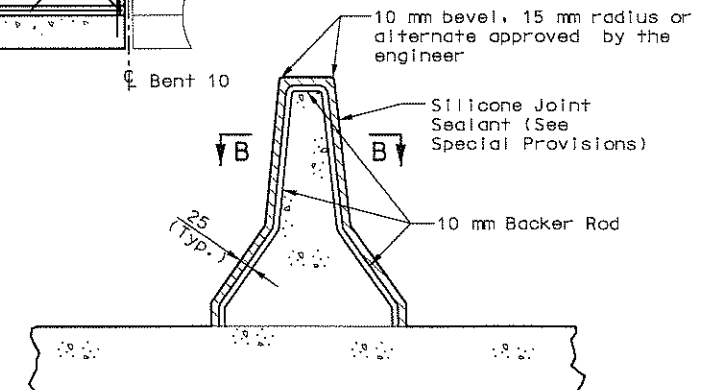


SECTION B-B

NOTE: Cost of silicone joint sealant and backer rod complete in place to be included in the contract unit price for Safety Barrier Curb and Median Barrier Curb



**SECTION THRU JOINT
@ EXTERIOR BARRIER CURB**



**SECTION THRU JOINT
@ MEDIAN BARRIER**

NOTES:

Joint sealant and backer rods shall be used at all slip-form bridge safety barrier curbs instead of joint filler.

Plastic waterstop shall not be used with slip-form option.

C bars (slip-form option) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curbs.

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade

When the safety / median barrier curb is bid per meter, the contract unit price shall include the cost of all concrete and reinforcement, complete in place.

Concrete in the safety / median barrier curb shall be Class B1.

Measurement of safety barrier curb is to the nearest half meter for each structure, measured along the outside top of slab from end of wing to end of wing.

ROUTE 412 OVER ST. FRANCIS RIVER

**BARRIER CURB
SLIP FORM OPTION**

DUNKLIN CO. MO - GREENE CO. AR

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Detailed: KCK
Checked: JAZ

**HORNER &
SHIFRIN, INC.**
ENGINEERS & ARCHITECTS & PLANNERS
1201 Oakview Ave., St. Louis, Missouri 63102

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

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MO	JOP0334	B34

NOTES:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 28 MPa) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 420 with Fy = 420 MPa.

Minimum clearance to reinforcing steel shall be 40 mm, unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #13 & #19 bars 700 mm and 1055 mm respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for standard specifications.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 1055 mm for traverse approach slab bar splices.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

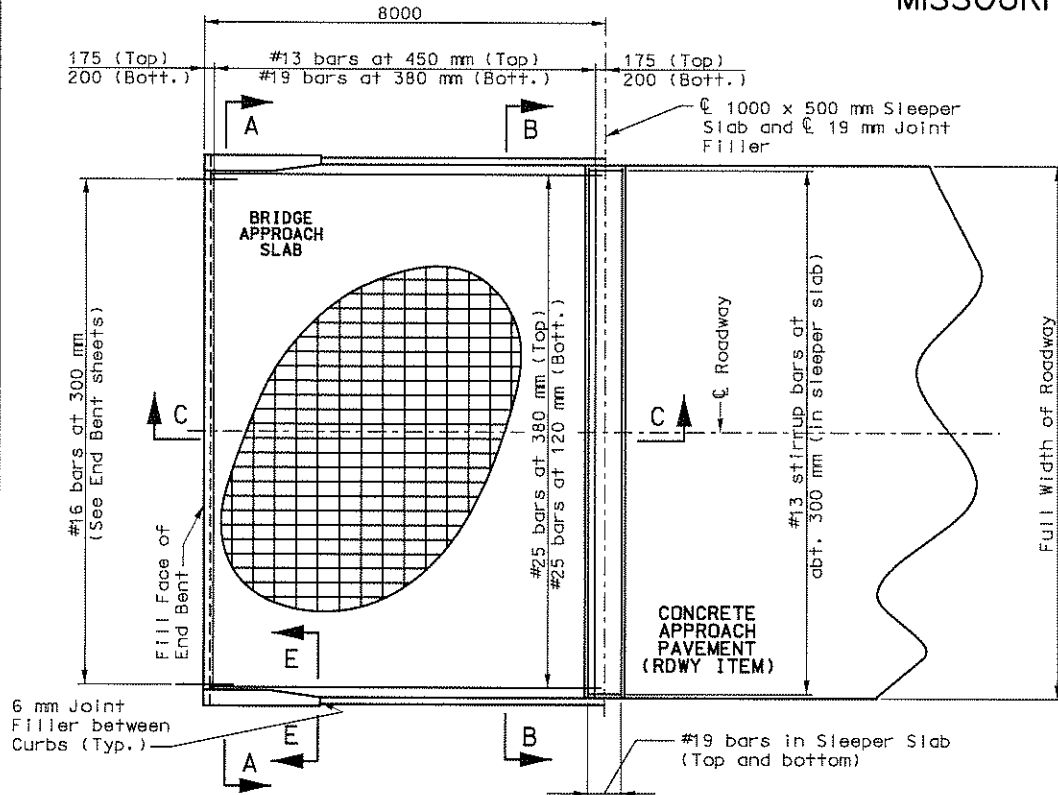
Payment for furnishing all materials, labor and excavation necessary to construct the approach slab including the timber header, sleeper slab, underdrain, base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per square meter.

See Missouri Standard Plans Drawing M609.00 for details of Type A Barrier Curb.

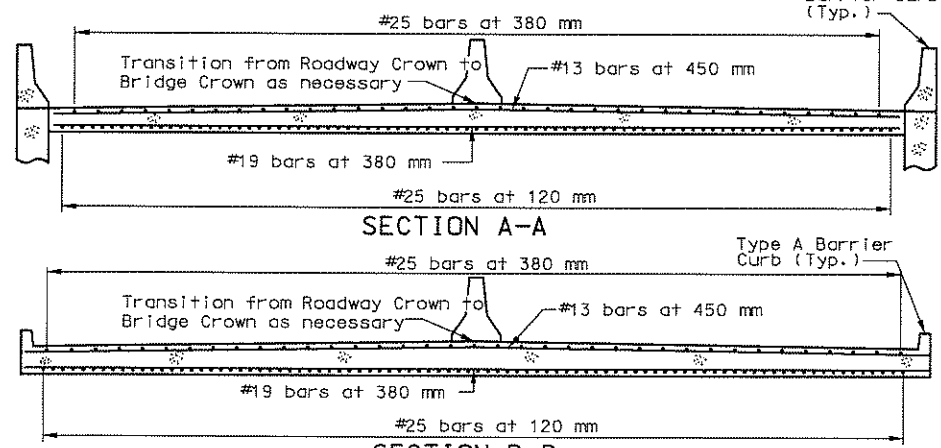
At the contractor's option, Grade 300 reinforcement may be substituted for the Grade 420 #16 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 300 reinforcement is substituted for the Grade 420 #16 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 50 mm minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.

Drain pipe may be either 150 mm diameter corrugated metallic-coated pipe underdrain, 100 mm diameter corrugated polyvinyl chloride (PVC) drain pipe, or 100 mm diameter corrugated polyethylene (PE) drain pipe.



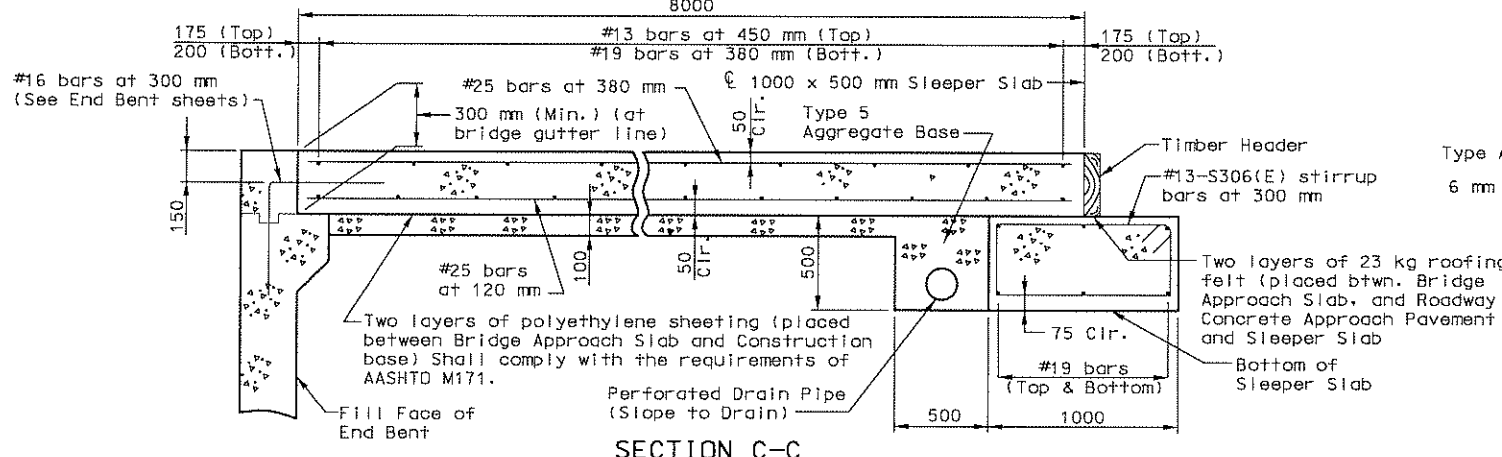
PART PLAN SHOWING REINFORCEMENT



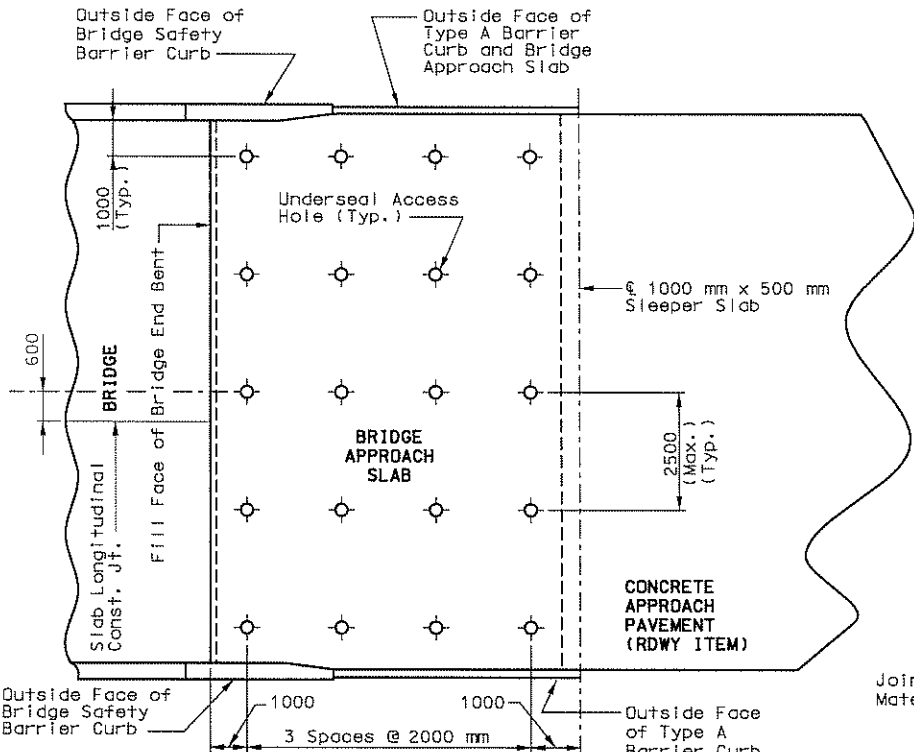
SECTION A-A

SECTION B-B

Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

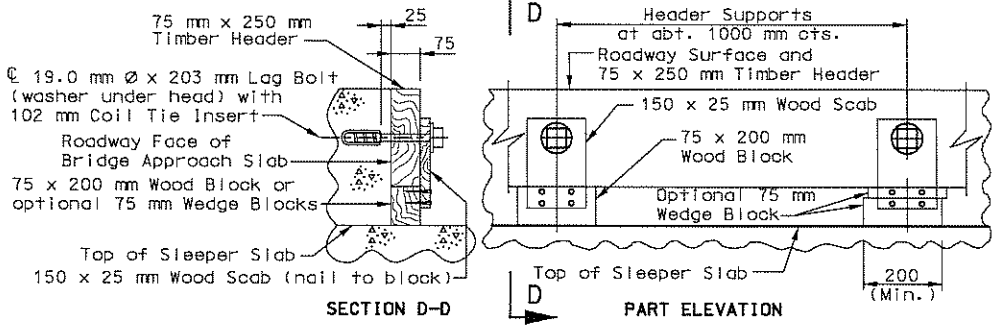


SECTION C-C



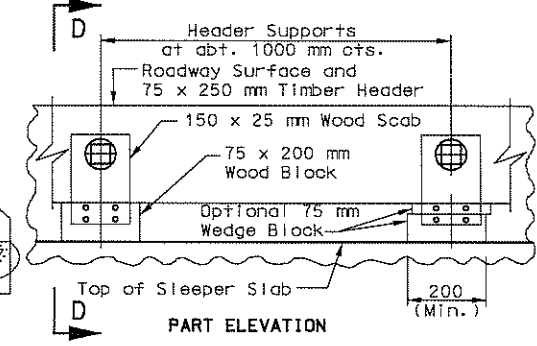
PART PLAN

(Showing typical underseal access hole locations)

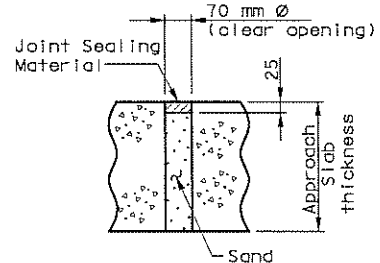


DETAILS OF TIMBER HEADER

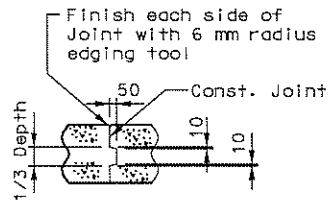
Note: Remove timber header when concrete pavement is placed.



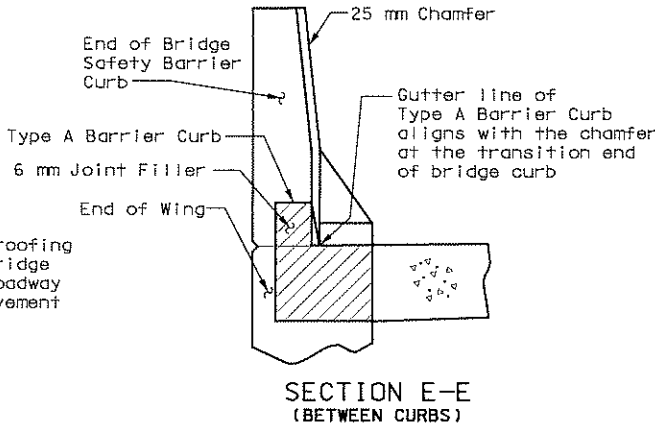
PART ELEVATION



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



CONST. JOINT DETAIL (IF REQUIRED)



SECTION E-E (BETWEEN CURBS)

ROUTE 412 OVER ST. FRANCIS RIVER

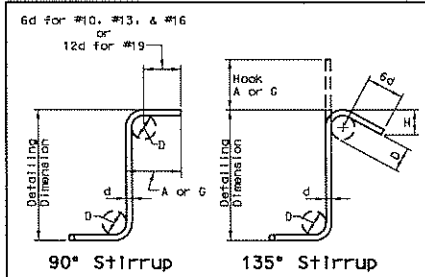
APPROACH SLAB DETAILS

DUNKLIN CO. MO - GREENE CO. AR

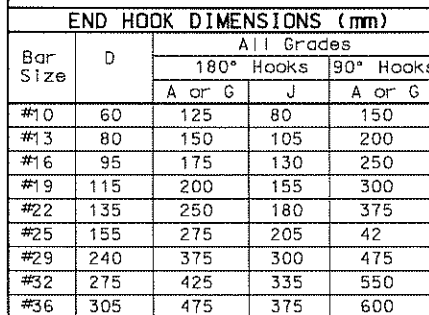
A4554

Detailed: KCK
Checked: AAA

HORNER & SHIFRIN, INC.
ENGINEERS, ARCHITECTS, PLANNERS
3000 Oakland Ave. St. Louis, Missouri 63108



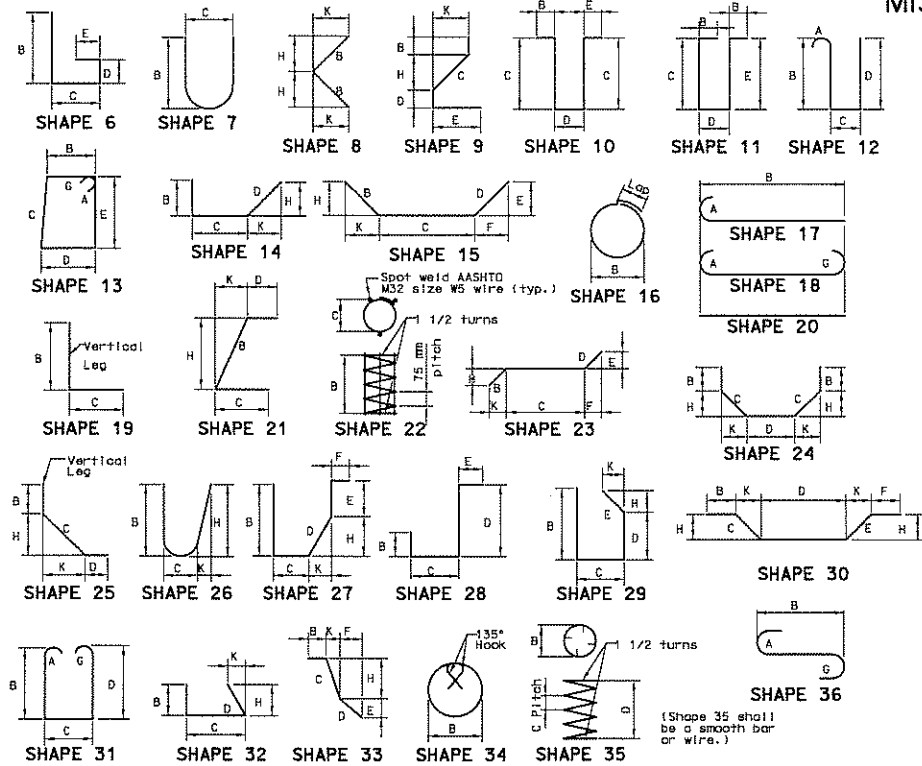
Bar Size	D	90° Hook	135° Hook	
		Hook A or G	Hook A or G	Approx. H
#10	40	105	105	65
#13	50	115	115	80
#16	65	155	140	95
#19	115	305	205	115
#22	135	355	230	135
#25	155	410	270	155



J:\JOPO334 FINAL PLANS\BRIDGE PLANS\JOPO334_S37REBAR1__D.dgn 05:06 AM 06/13/2007

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B36



BENDING DIAGRAMS

Notes:

All standard hooks and bends other than 180 degree to be bent with the same procedure as for 90 degree standard hooks.

Hooks and bends shall be in accordance with the procedures as shown on this sheet.

E = epoxy coated reinforcement
S = stirrup
X = bar is included in substructure quantities
V = bar dimensions vary in equal increments between dimensions shown on this line and the following line
No. Ea. = number of bars of each length

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed for fabricators use (nearest 5 mm).

Actual lengths are measured along centerline bar to the nearest 5 mm.

Payweights are based on actual lengths.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and mass of column spirals do not include splices or spacers.

All reinforcing steel shall be (Grade 420) = FY 420 MPa.

6d for #10, #13, & #16
or
12d for #19

Hook A or G

90° Stirrup

135° Stirrup

STIRRUP HOOK DIMENSIONS (mm)				
Grades 300 & 420 MPa				
Bar Size	D	90° Hook	135° Hook	
		Hook A or G	Hook A or G	Approx. H
#10	40	105	105	65
#13	50	115	115	80
#16	65	155	140	95
#19	115	305	205	115
#22	135	355	230	135
#25	155	410	270	155

Detailing Dimension

90°

180°

END HOOK DIMENSIONS (mm)				
Bar Size	D	All Grades		
		180° Hooks		90° Hooks
		A or G	J	A or G
#10	60	125	80	150
#13	80	150	105	200
#16	95	175	130	250
#19	115	200	155	300
#22	135	250	180	375
#25	155	275	205	42
#29	240	375	300	475
#32	275	425	335	550
#36	305	475	375	600

Note: Unless otherwise noted, diameter "D" is the same for all hooks and bends on a bar

BILL OF REINFORCING STEEL

No. Req'd.	Mark No.		Location	Epoxy (E)	Shape No.	Stirrup (S)	Substr. (X)	Varies (V)	No. Each	Dimensions						Nominal Length	Actual Length	Mass	
	Size	Mark								B	C	D	E	F	H				K
										mm	mm	mm	mm	mm	mm				mm
BENT 3 (SAME AS BENT 2)																			

Two additional #36-H308(E) are included in the bar bill for testing.

BILL OF REINFORCING STEEL

No. Req'd.	Mark No.		Location	Epoxy (E)	Shape No.	Stirrup (S)	Substr. (X)	Varies (V)	No. Each	Dimensions							Nominal Length	Actual Length	Mass
	Size	Mark								B	C	D	E	F	H	K			
BENT 5 (EXPANSION BENT TYPICAL 4 LOCATIONS)																			
9	32	H301	Cap Beam	E 17		X				9300							9725	9725	561
4	19	H302	Cap Beam	E 20		X				12300							12300	12300	110
7	36	H303	Cap Beam	E 17		X				14920							15395	15395	852
9	32	H304	Cap Beam	E 20		X				8500							8500	8500	490
9	19	H305	Cap Beam	E 10		X					310	1580					2200	2105	42
9	32	H306	Cap Beam	E 20		X				6800							6800	6800	392
4	19	H307	Cap Beam	E 20		X				12740							12740	12740	114
9	36	H308	Cap Beam	E 17		X				12740							13215	13215	940
9	32	H309	Cap Beam	E 17		X				9500							9925	9925	572
8	13	H310	Cap Beam	E 20		X				2150							2150	2150	17
70	19	U301	Cap Beam	E 13	S	X				1380	870	1380	870				4910	4765	745
14	19	U302	Cap Beam	E 10	S	X					870	1380					3120	3025	95
64	19	U303	Cap Beam	E 13	S	X				1380	980	1380	980				5130	4985	713
12	19	U304	Cap Beam	E 10	S	X					980	1380					3340	3245	87
10	19	U305	Cap Beam	E 13	S	X				1380	1085	1380	1085				5340	5195	116
2	19	U306	Cap Beam	E 10	S	X					1085	1380					3550	3455	15
72	13	U307	Cap Beam	E 10	S	X					150	1380					1680	1630	117
44	19	U308	Cap Beam	E 10	S	X					750	250					1750	1655	163
8	19	U309	Cap Beam	E 10	S	X					1200	2095					4495	4400	79
36	W5	W5	Cap Beam	E 22		X				635	235						8500	8270	75

ROUTE 412 OVER ST. FRANCIS RIVER

BILL OF REINFORCING

DUNKLIN CO. MO - GREENE CO. AR

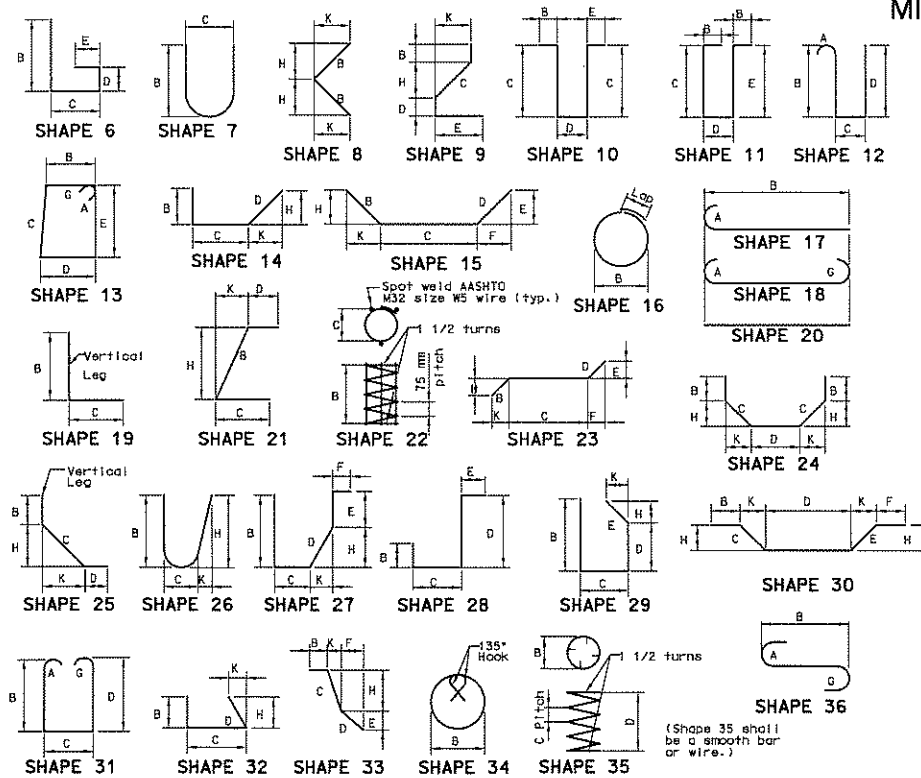
A4554

Detailed: KCK
Checked: JAZ

HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2001 Shawnee Mission, MO 64153

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B37



BENDING DIAGRAMS

Notes:

All standard hooks and bends other than 180 degree to be bent with the same procedure as for 90 degree standard hooks.

Hooks and bends shall be in accordance with the procedures as shown on this sheet.

E = epoxy coated reinforcement

S = stirrup

X = bar is included in substructure quantities

V = bar dimensions vary in equal increments between dimensions shown on this line and the following line

No. Ea. = number of bars of each length

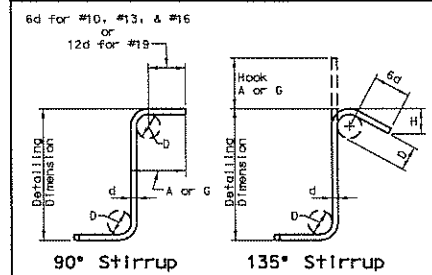
Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed for fabricators use (nearest 5 mm).

Actual lengths are measured along centerline bar to the nearest 5 mm.

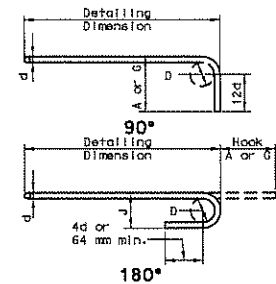
Payweights are based on actual lengths.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and mass of column spirals do not include splices or spacers.

All reinforcing steel shall be (Grade 420) = FY 420 MPa.

STIRRUP HOOK DIMENSIONS (mm)
Grades 300 & 420 MPa

Bar Size	D	90° Hook Hook A or G	135° Hook Hook A or G	Approx. H
#10	40	105	105	65
#13	50	115	115	80
#16	65	155	140	95
#19	115	305	205	115
#22	135	355	230	135
#25	155	410	270	155



END HOOK DIMENSIONS (mm)

Bar Size	D	All Grades		
		180° Hooks A or G	90° Hooks J	90° Hooks A or G
#10	60	125	80	150
#13	80	150	105	200
#16	95	175	130	250
#19	115	200	155	300
#22	135	250	180	375
#25	155	275	205	42
#29	240	375	300	475
#32	275	425	335	550
#36	305	475	375	600

Note: Unless otherwise noted, diameter "D" is the same for all hooks and bends on a bar

BILL OF REINFORCING STEEL

No. Req'd.	Mark No.		Location	Epoxy (E)	Shape No.	Stirrup (S)	Substr. (X)	Varies (V)	No. Each	Dimensions							Nominal Length	Actual Length	Mass
	Size	Mark								B	C	D	E	F	H	K			
										mm	mm	mm	mm	mm	mm	mm			
BENT 16 (SAME AS BENT 2)																			
														</					

ROUTE 412 OVER ST. FRANCIS RIVER

BILL OF REINFORCING

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KCK
Checked: JAZ

HORNER &
SHIFRIN, INC.
ENGINEERS • ARCHITECTS • PLANNERS
SPECIALTY DESIGN • 30 DAYS • 100% SATISFACTION

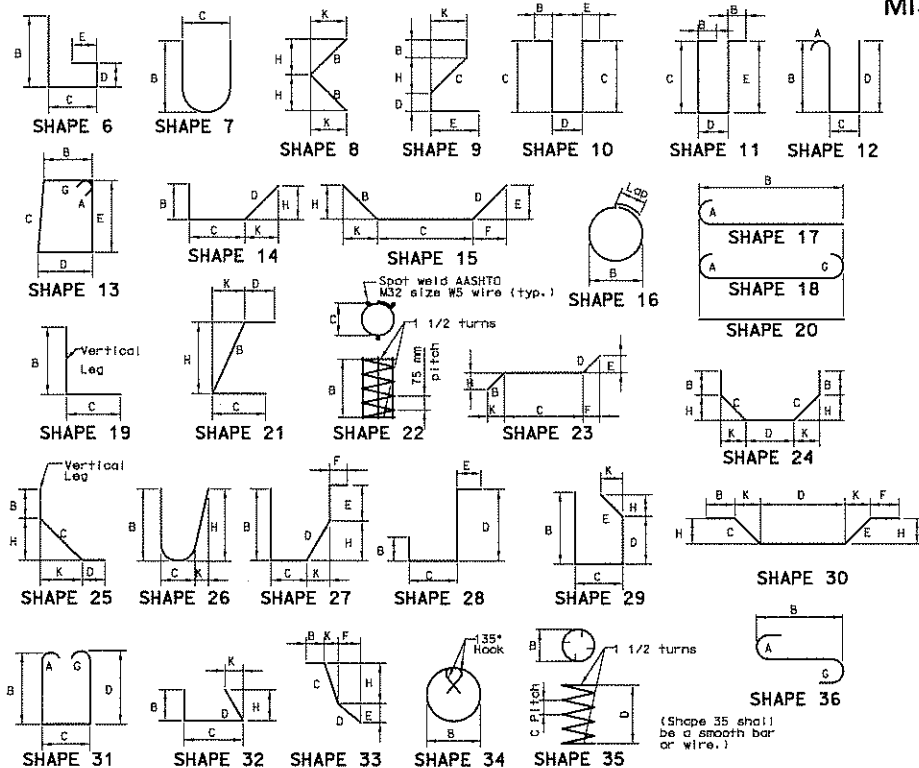
65

Sheet No. 37 of 44

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B38



BENDING DIAGRAMS

Notes:

All standard hooks and bends other than 180 degree to be bent with the same procedure as for 90 degree standard hooks.

Hooks and bends shall be in accordance with the procedures as shown on this sheet.

E = epoxy coated reinforcement
S = stirrup
X = bar is included in substructure quantities
V = bar dimensions vary in equal increments between dimensions shown on this line and the following line
No. Ea. = number of bars of each length

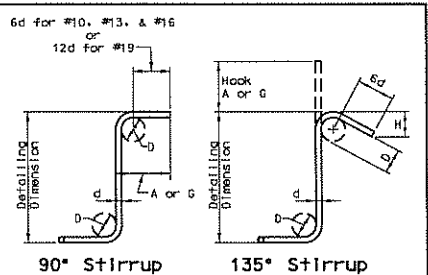
Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed for fabricators use (nearest 5 mm).

Actual lengths are measured along centerline bar to the nearest 5 mm.

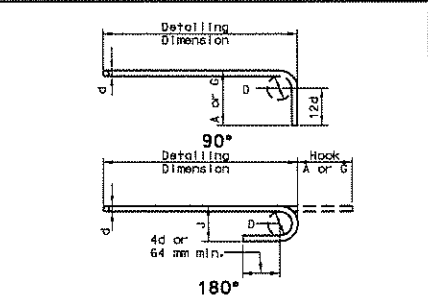
Payweights are based on actual lengths.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and mass of column spirals do not include splices or spacers.

All reinforcing steel shall be (Grade 420) = FY 420 MPa.



STIRRUP HOOK DIMENSIONS (mm)				
Grades 300 & 420 MPa				
Bar Size	D	90° Hook	135° Hook	Approx. H
#10	40	105	105	65
#13	50	115	115	80
#16	65	155	140	95
#19	115	305	205	115
#22	135	355	230	135
#25	155	410	270	155



END HOOK DIMENSIONS (mm)				
All Grades				
Bar Size	D	180° Hooks	90° Hooks	
#10	60	125	80	150
#13	80	150	105	200
#16	95	175	130	250
#19	115	200	155	300
#22	135	250	180	375
#25	155	275	205	42
#29	240	375	300	475
#32	275	425	335	550
#36	305	475	375	600

Note: Unless otherwise noted, diameter "D" is the same for all hooks and bends on a bar

BILL OF REINFORCING STEEL

No.	Req'd.	Mark No.		Location	Epoxy (E)	Shape No.	Stirrup (S)	Substr. (X)	Varies (V)	No. Each	Dimensions							Nominal Length	Actual Length	Mass	
		Size	Mark								B	C	D	E	F	H	K				
																					mm
PIPE PILE (FIXED BENT TYPICAL 504 LOCATIONS) *																					
9	25	V402	Pipe Piles	17		X				1800								2075	2075	74	
1	13	P403	Pipe Piles	35		X				350	75	1490						25195	24285	24	
3	13	P404	Pipe Piles	34		X				350								1330	1290	4	
																				106	
																				102	
																</					

SUPERSTRUCTURE

2976	19	S101	Slab	E	20						12550							12550	12550	83475	
780	19	S102	Slab	E	20						18140							18140	18140	31623	
512	25	S103	Slab	E	20						8550							8550	8550	17392	
258	25	S104	Slab	E	20						7500							7500	7500	7688	
1392	13	S105	Slab	E	20						1300							1300	1300	1799	
144	16	S106	Slab	E	20						12300							12300	12300	2749	
8	19	S107	Slab	E	20						12290							12290	12290	220	
5556	19	S201	Slab	E	20						12550							12550	12550	155 842	
1560	19	S202	Slab	E	20						17030							17030	17030	59377	
768	25	S203	Slab	E	20						8550							8550	8550	26088	
768	25	S204	Slab	E	20						7500							7500	7500	22884	
2598	13	S205	Slab	E	20						1300							1300	1300	3357	
288	16	S206	Slab	E	20						11550							11550	11550	5163	
576	19	H500	Fixed Diap	E	20						2050							2050	2050	2639	
576	13	H501	Fixed Diap	E	20						2475							2475	2475	1417	
360	16	H502	Fixed Diap	E	19	S					315	1030						1345	1310	732	
144	16	H503	Fixed Diap	E	20						1105							1105	1105	247	
504	16	H504	Fixed Diap	E	20						1370							1370	1370	1072	
2304	19	U500	Fixed Diap	E	28	S						630	1490	360				2480	2385	12281	
144	16	V500	Fixed Diap	E	20						1490							1490	1490	333	
24	19	H600	Exp. Diaph	E	20						11860							11860	11860	636	
128	16	H601	Exp. Diaph	E	20						2030							2030	2030	403	
194	29	H602	Exp. Diaph	E	20						2475							2475	2475	2430	
256	13	H603	Exp. Diaph	E	20						500							500	500	127	
64	16	H604	Exp. Diaph	E	19	S					370	645						1015	980	97	
32	16	V600	Exp. Diaph	E	20						1125							1125	1125	56	
512	19	U600	Exp. Diaph	E	28	S			V	128		370	800	360				1530	1435		
		Incr. = 165										370	1295	360				2025	1930	1920	
512	19	U601	Exp. Diaph	E	27	S			V	128		370	490	440	360		310	310	1660	1590	
		Incr. = 165										370	985	440	360		310	310	2455	2085	2103
320	13	U602	Exp. Diaph	E	28	S						370	690	360				1420	1370	436	
320	13	U603	Exp. Diaph	E	27	S						370	380	440	360		310	310	1550	1510	480
14	19	H700	End Diaph.	E	20						11860							11860	11860	371	
32	19	H701	End Diaph.	E	20						2030							2030	2030	145	
24	29	H702	End Diaph.	E	20						2475							2475	2475	301	
16	16	H708	End Diaph.	E	19	S					500	845						1345	1310	33	
32	13	H709	End Diaph.	E	20						405							405	405	13	
32	13	H710	End Diaph.	E	20						500							500	500	16	
8	16	V700	End Diaph.	E	20						1125							1125	1125	14	
32	19	U700	End Diaph.	E	28	S						360	1345	500				2205	2110	151	
32	19	U701	End Diaph.	E	28	S					500	1365	360					2225	2130	152	
72	13	U702	End Diaph.	E	28	S						360	585	500				1445	1395	100	
72	13	U703	End Diaph.	E	28	S					500	585	360					1445	1395	100	
64	19	U704	End Diaph.	E	28	S			V	16		360	800	500				1655	1560		
		Incr. = 16		E	28	S						360	1295	500				2150	2055	259	

Two additional #19-H700(E), #25-S104(E), and #29-H602(E) are included in the bar bill for testing.

* Cost of reinforcing steel for Pipe Piles shall be included in the contract unit price for 500 mm Cast-in-Place Concrete Piles per meter.

Two additional #19-H700(E), #25-S104(E), and #29-H602(E) are included in the bar bill for testing. The reinforcing quantity shown on this sheet is not included in the Quantities Table on sheet No. 4.

Detailed: KCK
Checked: JAZ

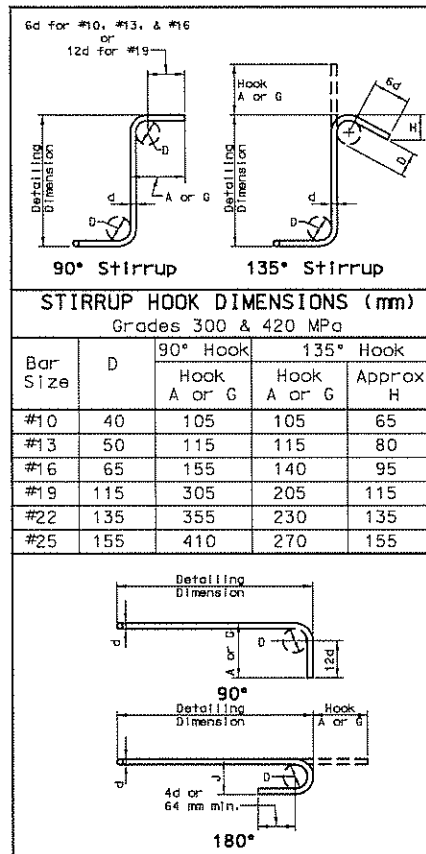
HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2200 Oakland Ave., St. Louis, Missouri 63103

ROUTE 412 OVER ST. FRANCIS RIVER

BILL OF REINFORCING

DUNKLIN CO. MO - GREENE CO. AR

A4554



Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed for fabricators use (nearest 5 mm).

Actual lengths are measured along centerline bar to the nearest 5 mm.

Payweights are based on actual lengths.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and mass of column spirals do not include splices or spacers.

All reinforcing steel shall be (Grade 420) = FY 420 MPa.

END HOOK DIMENSIONS (mm)				
Bar Size	D	All Grades		
		180° Hooks		90° Hooks
		A or G	J	A or G
#10	60	125	80	150
#13	80	150	105	200
#16	95	175	130	250
#19	115	200	155	300
#22	135	250	180	375
#25	155	275	205	42
#29	240	375	300	475
#32	275	425	335	550
#36	305	475	375	600

Note: Unless otherwise noted, diameter "D" is the same for all hooks and bends on a bar

[illegible]

Two additional #16-R26(E) are included in the bar bill for testing.
The reinforcing quantity shown on this sheet is not included in the Quantities Table on sheet No. 4.

No.	Req'd.	Mark No.		Location	Epoxy (E)	Shape No.	Stirrup (S)	Substr. (X)	Varies (V)	No. Each	Dimensions						Nominal Length	Actual Length	Mass	
		Size	Mark								B	C	D	E	F	H				K
SUPERSTRUCTURE (CONT'D)																				
64	19	U705	End Diaph.	E 28	S		S	V	16	500	800	360					1655	1560		
			Incr. = 16	E 28	S					500	1295	360					2150	2055	259	
40	13	U706	End Diaph.	E 28	S						360	690	500				1550	1500	60	
40	13	U707	End Diaph.	E 28	S					500	690	360					1550	1500	60	
24	29	U708	End Diaph.	E 10	S						715	1700					3130	2955	359	
4000	16	R1	Barrier	E 19	S					760	90						850	815	5060	
4000	16	R2	Barrier	E 15	S						90	765	760	75			855	825	5122	
4000	16	R3	Barrier	E 19	S					430	150						580	545	3383	
4000	16	R4	Barrier	E 27	S						150	285	180	300	235	160	915	865	5370	
280	16	R5	Barrier	E 20						12080							12080	12080	5249	
504	16	R6	Barrier	E 20						2900							2900	2900	2268	
364	16	R7	Barrier	E 20						10415							10415	10415	5884	
116	16	K1	Barrier	E 19	S					940	130						1070	1035	186	
116	16	K2	Barrier	E 14	S					130	485	460			50	455	1075	1040	187	
72	16	K3	Barrier	E 27	S					965	130	305	715		250	175	2115	2065	231	

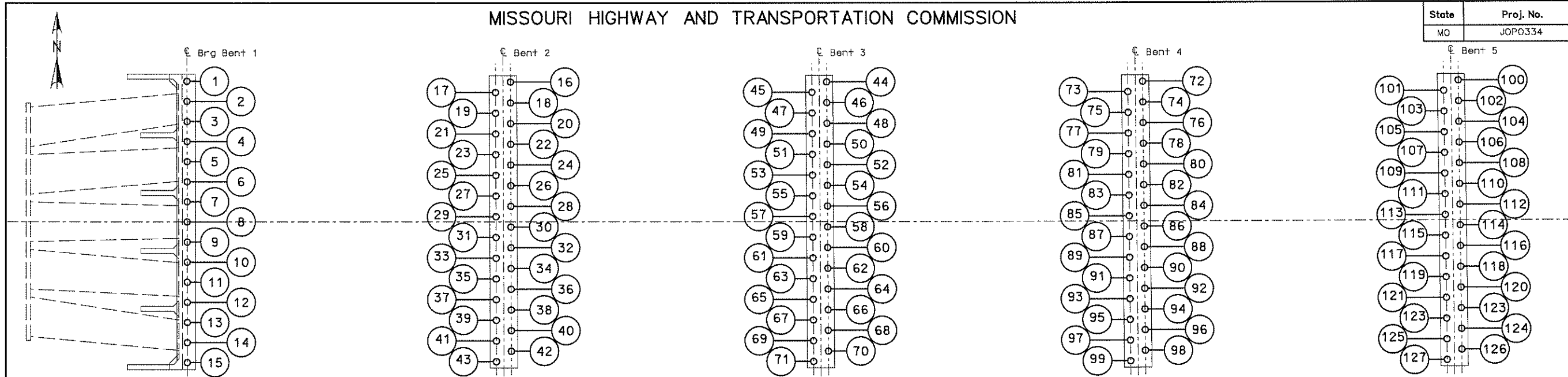
HORNER & SHIFRIN, INC.
ENGINEERS ■ ARCHITECTS ■ PLANNERS
5700 Oakland Ave. • St. Louis, MO 63130

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS

A4554

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOPO334	B40



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
1	14.6	996.9	500 mm CIP Conc. Pile 10 mm
2	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
3	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
4	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
5	14.6	1042.0	500 mm CIP Conc. Pile 10 mm
6	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
7	14.6	905.6	500 mm CIP Conc. Pile 10 mm
8	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
9	14.6	1042.0	500 mm CIP Conc. Pile 10 mm
10	14.6	996.9	500 mm CIP Conc. Pile 10 mm
11	14.6	996.9	500 mm CIP Conc. Pile 10 mm
12	14.6	996.9	500 mm CIP Conc. Pile 10 mm
13	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
14	14.6	1091.3	500 mm CIP Conc. Pile 10 mm
15	14.6	1205.4	500 mm CIP Conc. Pile 10 mm
16	18.6	977.9	500 mm CIP Conc. Pile 10 mm
17	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
18	18.6	893.2	500 mm CIP Conc. Pile 10 mm
19	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
20	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
21	18.6	977.7	500 mm CIP Conc. Pile 10 mm
22	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
23	18.6	977.7	500 mm CIP Conc. Pile 10 mm
24	18.6	893.2	500 mm CIP Conc. Pile 10 mm
25	18.6	977.7	500 mm CIP Conc. Pile 10 mm
26	18.6	977.7	500 mm CIP Conc. Pile 10 mm
27	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
28	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
29	18.6	977.7	500 mm CIP Conc. Pile 10 mm
30	18.6	977.7	500 mm CIP Conc. Pile 10 mm
31	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
32	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
33	18.6	977.7	500 mm CIP Conc. Pile 10 mm
34	18.6	977.7	500 mm CIP Conc. Pile 10 mm
35	18.6	1079.9	500 mm CIP Conc. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
36	18.6	977.7	500 mm CIP Conc. Pile 10 mm
37	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
38	18.6	893.2	500 mm CIP Conc. Pile 10 mm
39	18.6	977.7	500 mm CIP Conc. Pile 10 mm
40	18.6	977.7	500 mm CIP Conc. Pile 10 mm
41	18.6	977.7	500 mm CIP Conc. Pile 10 mm
42	18.6	1396.1	500 mm CIP Conc. Pile 10 mm
43	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
44	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
45	18.6	977.7	500 mm CIP Conc. Pile 10 mm
46	18.6	977.7	500 mm CIP Conc. Pile 10 mm
47	18.6	977.7	500 mm CIP Conc. Pile 10 mm
48	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
49	18.6	977.7	500 mm CIP Conc. Pile 10 mm
50	18.6	977.7	500 mm CIP Conc. Pile 10 mm
51	18.6	977.7	500 mm CIP Conc. Pile 10 mm
52	18.6	977.7	500 mm CIP Conc. Pile 10 mm
53	18.6	977.7	500 mm CIP Conc. Pile 10 mm
54	18.6	893.2	500 mm CIP Conc. Pile 10 mm
55	18.6	977.7	500 mm CIP Conc. Pile 10 mm
56	18.6	977.7	500 mm CIP Conc. Pile 10 mm
57	18.6	977.7	500 mm CIP Conc. Pile 10 mm
58	18.6	977.7	500 mm CIP Conc. Pile 10 mm
59	18.6	977.7	500 mm CIP Conc. Pile 10 mm
60	18.6	977.7	500 mm CIP Conc. Pile 10 mm
61	18.6	977.7	500 mm CIP Conc. Pile 10 mm
62	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
63	18.6	977.7	500 mm CIP Conc. Pile 10 mm
64	18.6	977.7	500 mm CIP Conc. Pile 10 mm
65	18.6	1026.3	500 mm CIP Conc. Pile 10 mm
66	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
67	18.6	933.5	500 mm CIP Conc. Pile 10 mm
68	18.6	977.7	500 mm CIP Conc. Pile 10 mm
69	18.6	933.5	500 mm CIP Conc. Pile 10 mm
70	18.6	1079.9	500 mm CIP Conc. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
71	18.6	977.7	500 mm CIP Conc. Pile 10 mm
72	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
73	18.6	1139.5	500 mm CIP Conc. Pile 10 mm
74	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
75	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
76	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
77	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
78	18.6	1396.1	500 mm CIP Conc. Pile 10 mm
79	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
80	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
81	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
82	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
83	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
84	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
85	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
86	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
87	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
88	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
89	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
90	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
91	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
92	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
93	18.6	977.7	500 mm CIP Conc. Pile 10 mm
94	18.6	977.7	500 mm CIP Conc. Pile 10 mm
95	18.6	1396.1	500 mm CIP Conc. Pile 10 mm
96	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
97	18.6	1614.2	500 mm CIP Conc. Pile 10 mm
98	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
99	18.6	1396.1	500 mm CIP Conc. Pile 10 mm
100	18.6	822.1	500 mm CIP Conc. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
101	18.6	893.2	500 mm CIP Conc. Pile 10 mm
102	18.6	977.7	500 mm CIP Conc. Pile 10 mm
103	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
104	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
105	18.6	822.1	500 mm CIP Conc. Pile 10 mm
106	18.6	822.1	500 mm CIP Conc. Pile 10 mm
107	18.6	977.7	500 mm CIP Conc. Pile 10 mm
108	18.6	880.5	500 mm CIP Conc. Pile 10 mm
109	18.6	977.7	500 mm CIP Conc. Pile 10 mm
110	18.6	977.7	500 mm CIP Conc. Pile 10 mm
111	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
112	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
113	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
114	18.6	977.7	500 mm CIP Conc. Pile 10 mm
115	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
116	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
117	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
118	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
119	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
120	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
121	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
122	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
123	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
124	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
125	18.6	1229.9	500 mm CIP Conc. Pile 10 mm
126	18.6	1079.9	500 mm CIP Conc. Pile 10 mm
127	18.6	1229.9	500 mm CIP Conc. Pile 10 mm

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY
MCDOT CONSTRUCTION PERSONNEL.

ROUTE 412 OVER ST. FRANCIS RIVER

UNIT 1 "AS BUILT PILE" DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KBF
Checked: KCK

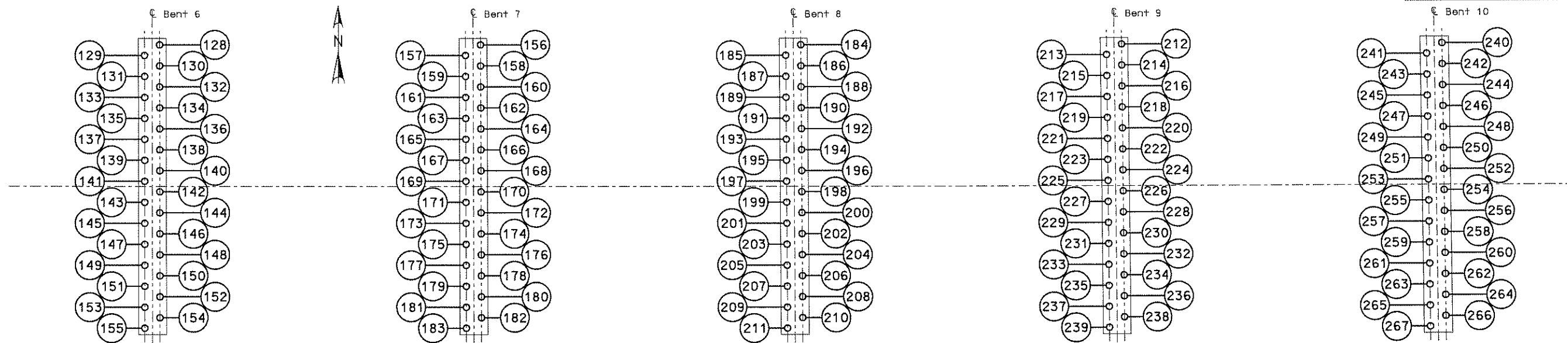
HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2000 DALLAS AVE., SUITE 100, DALLAS, TEXAS 75201

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 40 of 44

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOPO334	B41



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
128	18.6	893.6	500 mm CIP CONC. Pile 10 mm
129	18.6	1615.0	500 mm CIP CONC. Pile 10 mm
130	18.6	978.2	500 mm CIP CONC. Pile 10 mm
131	18.6	978.2	500 mm CIP CONC. Pile 10 mm
132	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
133	18.6	978.2	500 mm CIP CONC. Pile 10 mm
134	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
135	18.6	1026.7	500 mm CIP CONC. Pile 10 mm
136	18.6	978.2	500 mm CIP CONC. Pile 10 mm
137	18.6	893.6	500 mm CIP CONC. Pile 10 mm
138	18.6	978.2	500 mm CIP CONC. Pile 10 mm
139	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
140	18.6	1026.7	500 mm CIP CONC. Pile 10 mm
141	18.6	1498.0	500 mm CIP CONC. Pile 10 mm
142	18.6	978.2	500 mm CIP CONC. Pile 10 mm
143	18.6	811.7	500 mm CIP CONC. Pile 10 mm
144	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
145	18.6	978.2	500 mm CIP CONC. Pile 10 mm
146	18.6	978.2	500 mm CIP CONC. Pile 10 mm
147	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
148	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
149	18.6	978.2	500 mm CIP CONC. Pile 10 mm
150	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
151	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
152	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
153	18.6	978.2	500 mm CIP CONC. Pile 10 mm
154	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
155	18.6	978.2	500 mm CIP CONC. Pile 10 mm
156	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
157	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
158	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
159	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
160	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
161	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
162	18.6	978.2	500 mm CIP CONC. Pile 10 mm
163	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
164	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
165	18.6	978.2	500 mm CIP CONC. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
166	18.6	978.2	500 mm CIP CONC. Pile 10 mm
167	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
168	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
169	18.6	978.2	500 mm CIP CONC. Pile 10 mm
170	18.6	978.2	500 mm CIP CONC. Pile 10 mm
171	18.6	1615.0	500 mm CIP CONC. Pile 10 mm
172	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
173	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
174	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
175	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
176	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
177	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
178	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
179	18.6	1615.0	500 mm CIP CONC. Pile 10 mm
180	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
181	18.6	1615.0	500 mm CIP CONC. Pile 10 mm
182	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
183	18.6	1393.7	500 mm CIP CONC. Pile 10 mm
184	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
185	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
186	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
187	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
188	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
189	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
190	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
191	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
192	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
193	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
194	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
195	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
196	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
197	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
198	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
199	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
200	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
201	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
202	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
203	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
204	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
205	18.6	1230.5	500 mm CIP CONC. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
206	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
207	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
208	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
209	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
210	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
211	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
212	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
213	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
214	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
215	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
216	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
217	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
218	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
219	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
220	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
221	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
222	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
223	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
224	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
225	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
226	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
227	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
228	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
229	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
230	18.6	1396.7	500 mm CIP CONC. Pile 10 mm
231	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
232	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
233	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
234	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
235	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
236	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
237	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
238	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
239	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
240	18.6	978.2	500 mm CIP CONC. Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
241	18.6	978.2	500 mm CIP CONC. Pile 10 mm
242	18.6	978.2	500 mm CIP CONC. Pile 10 mm
243	18.6	978.2	500 mm CIP CONC. Pile 10 mm
244	18.6	978.2	500 mm CIP CONC. Pile 10 mm
245	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
246	18.6	978.2	500 mm CIP CONC. Pile 10 mm
247	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
248	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
249	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
250	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
251	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
252	18.6	978.2	500 mm CIP CONC. Pile 10 mm
253	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
254	18.6	978.2	500 mm CIP CONC. Pile 10 mm
255	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
256	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
257	18.6	1080.4	500 mm CIP CONC. Pile 10 mm
258	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
259	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
260	18.6	978.2	500 mm CIP CONC. Pile 10 mm
261	18.6	978.2	500 mm CIP CONC. Pile 10 mm
262	18.6	978.2	500 mm CIP CONC. Pile 10 mm
263	18.6	978.2	500 mm CIP CONC. Pile 10 mm
264	18.6	978.2	500 mm CIP CONC. Pile 10 mm
265	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
266	18.6	1230.5	500 mm CIP CONC. Pile 10 mm
267	18.6	1615.0	500 mm CIP CONC. Pile 10 mm

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY
MODOT CONSTRUCTION PERSONNEL.

ROUTE 412 OVER ST. FRANCIS RIVER

UNIT 2 "AS BUILT" PILE DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KBF
Checked: KCK

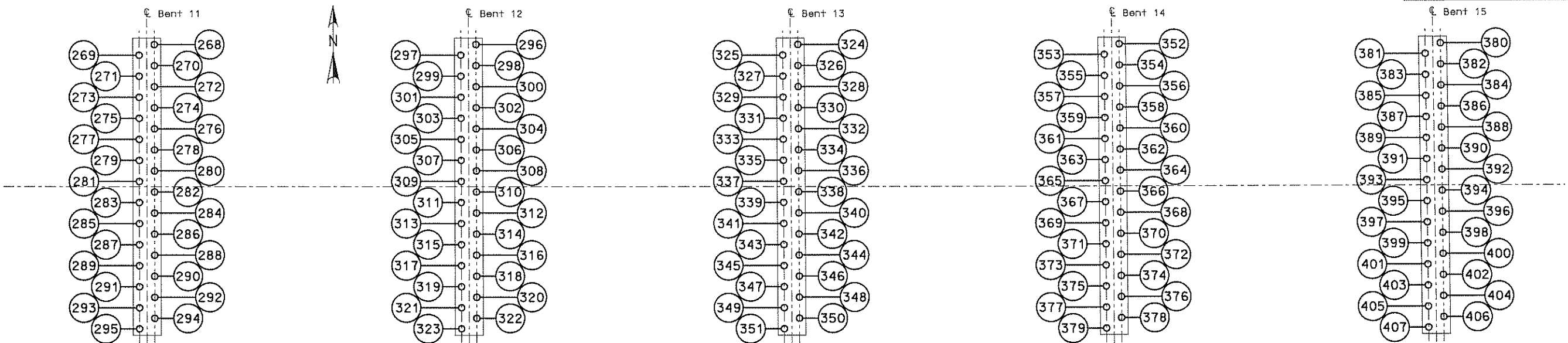
HORNER & SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
3500 Caldwell Ave. St. Louis, Missouri 63103

NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 41 of 44

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B42



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
268	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
269	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
270	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
271	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
272	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
273	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
274	19.6	1571.4	500 mm C.I.P. Conc. Pile 10mm
275	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
276	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
277	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
278	19.6	1921.8	500 mm C.I.P. Conc. Pile 10mm
279	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
280	19.6	1571.4	500 mm C.I.P. Conc. Pile 10mm
281	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
282	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
283	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
284	19.6	1571.4	500 mm C.I.P. Conc. Pile 10mm
285	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
286	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
287	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
288	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
289	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
290	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
291	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
292	19.6	1571.4	500 mm C.I.P. Conc. Pile 10mm
293	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
294	19.6	1571.4	500 mm C.I.P. Conc. Pile 10mm
295	19.6	1197.3	500 mm C.I.P. Conc. Pile 10mm
296	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
297	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
298	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
299	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
300	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
301	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
302	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
303	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
304	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
305	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
306	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
307	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
308	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
309	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
310	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
311	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
312	18.1	1047.2	500 mm C.I.P. Conc. Pile 10mm
313	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
314	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
315	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
316	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
317	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
318	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
319	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
320	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
321	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
322	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
323	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
324	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
325	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
326	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
327	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
328	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
329	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
330	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
331	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
332	18.1	1047.2	500 mm C.I.P. Conc. Pile 10mm
333	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
334	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
335	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
336	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
337	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
338	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
339	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
340	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
341	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
342	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
343	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
344	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
345	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
346	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
347	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
348	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
349	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
350	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
351	18.1	997.7	500 mm C.I.P. Conc. Pile 10mm
352	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
353	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
354	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
355	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
356	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
357	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
358	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
359	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
360	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
361	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
362	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
363	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
364	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
365	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
366	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
367	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
368	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
369	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
370	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
371	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
372	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
373	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
374	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
375	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
376	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
377	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
378	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
379	18.1	1647.2	500 mm C.I.P. Conc. Pile 10mm
380	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
381	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
382	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
383	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
384	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
385	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
386	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
387	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
388	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
389	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
390	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
391	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
392	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
393	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
394	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
395	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
396	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
397	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
398	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
399	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
400	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
401	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
402	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
403	18.1	1101.9	500 mm C.I.P. Conc. Pile 10mm
404	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
405	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
406	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm
407	18.1	1255.0	500 mm C.I.P. Conc. Pile 10mm

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY
MODOT CONSTRUCTION PERSONNEL.

ROUTE 412 OVER ST. FRANCIS RIVER

UNIT 3 "AS BUILT" PILE DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KBF
Checked: KCK

HORNER &
SHIFRIN, INC.
ENGINEERS IN ARCHITECTS & PLANNERS
2000 COLLEGE BLVD., SUITE 1000, ST. LOUIS, MO 63103

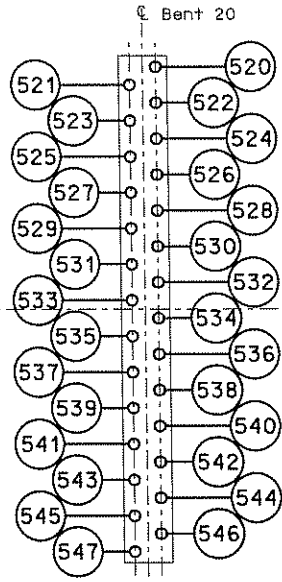
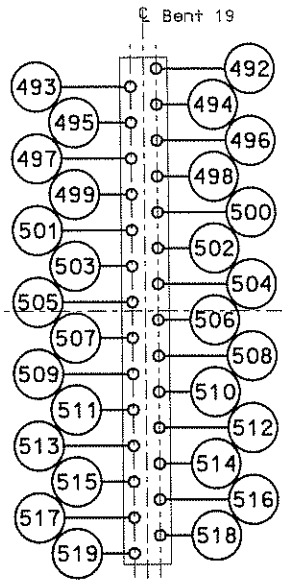
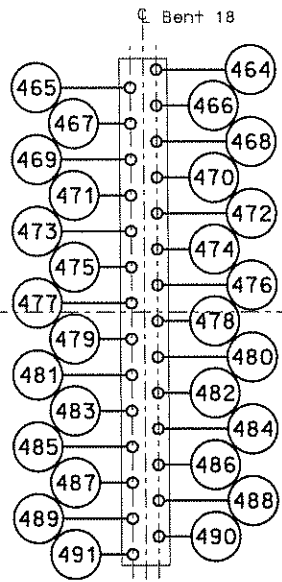
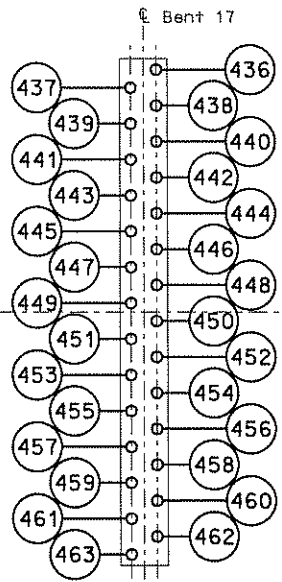
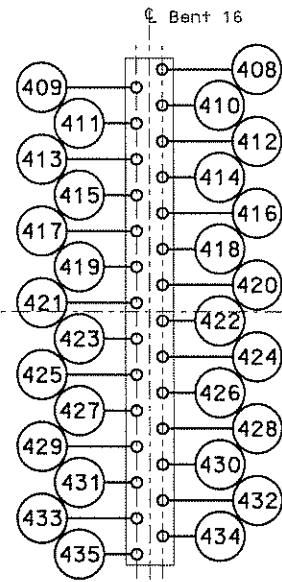
NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 42 of 44

J:\JOP0334_FINAL PLANS\BRIDGE PLANS\JOP0334_A01ASBUILT3D.dgn:22:12 PM 06/07/2007

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B43



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (KN)	REMARKS
408	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
409	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
410	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
411	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
412	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
413	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
414	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
415	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
416	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
417	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
418	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
419	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
420	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
421	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
422	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
423	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
424	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
425	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
426	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
427	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
428	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
429	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
430	18.1	2014.4	500 mm C.I.P. Concrete Pile 10 mm
431	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
432	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
433	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
434	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
435	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
436	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
437	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
438	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
439	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
440	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
441	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
442	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
443	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
444	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
445	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
446	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
447	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (KN)	REMARKS
448	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
449	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
450	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
451	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
452	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
453	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
454	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
455	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
456	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
457	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
458	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
459	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
460	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
461	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
462	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
463	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
464	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
465	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
466	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
467	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
468	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
469	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
470	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
471	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
472	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
473	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
474	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
475	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
476	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
477	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
478	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
479	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
480	18.1	1101.9	500 mm C.I.P. Concrete Pile 10 mm
481	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
482	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
483	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
484	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
485	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
486	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
487	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (KN)	REMARKS
488	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
489	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
490	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
491	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
492	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
493	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
494	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
495	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
496	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
497	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
498	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
499	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
500	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
501	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
502	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
503	18.1	997.7	500 mm C.I.P. Concrete Pile 10 mm
504	18.1	1424.6	500 mm C.I.P. Concrete Pile 10 mm
505	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
506	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
507	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
508	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
509	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
510	18.1	1101.9	500 mm C.I.P. Concrete Pile 10 mm
511	18.1	1101.9	500 mm C.I.P. Concrete Pile 10 mm
512	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
513	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
514	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
515	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
516	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
517	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
518	18.1	1647.2	500 mm C.I.P. Concrete Pile 10 mm
519	18.1	1255.0	500 mm C.I.P. Concrete Pile 10 mm
520	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
521	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
522	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (KN)	REMARKS
523	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
524	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
525	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
526	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
527	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
528	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
529	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
530	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
531	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
532	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
533	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
534	18.1	2905.7	500 mm C.I.P. Concrete Pile 10 mm
535	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
536	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
537	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
538	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
539	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
540	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
541	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm
542	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
543	18.1	1943.8	500 mm C.I.P. Concrete Pile 10 mm
544	18.1	1760.0	500 mm C.I.P. Concrete Pile 10 mm
545	18.1	2513.1	500 mm C.I.P. Concrete Pile 10 mm
546	18.1	2513.1	500 mm C.I.P. Concrete Pile 10 mm
547	18.1	2213.9	500 mm C.I.P. Concrete Pile 10 mm

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY
MoDOT CONSTRUCTION PERSONNEL.

ROUTE 412 OVER ST. FRANCIS RIVER

UNIT 4 "AS BUILT" PILE DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KBF
Checked: KCK

HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS
2200 Chouteau Ave., St. Louis, Missouri 63103

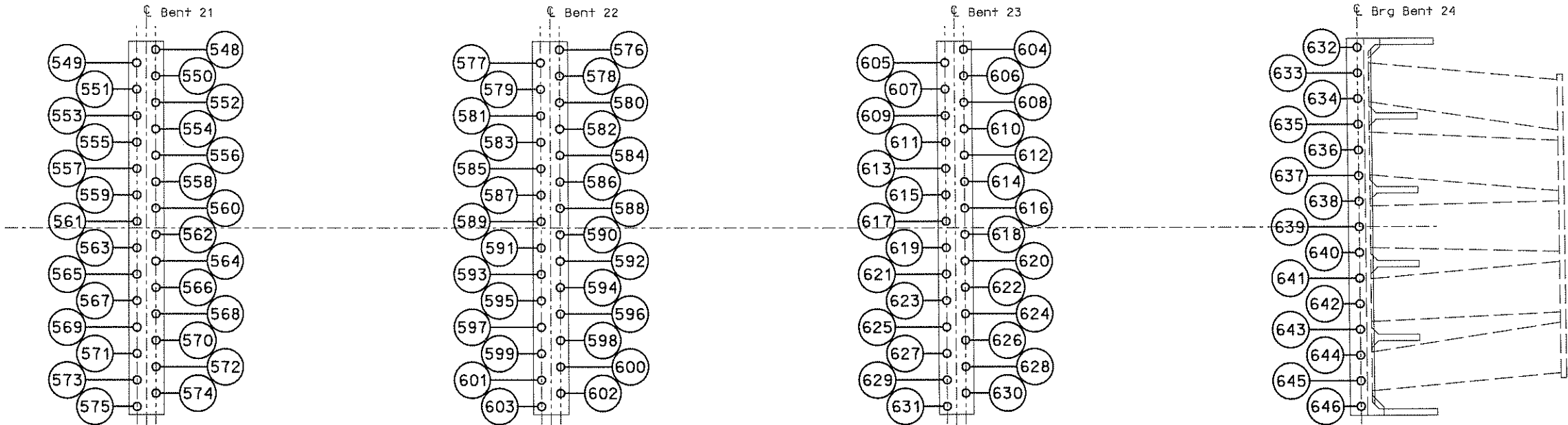
NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS

Sheet No. 43 of 44

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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO	JOP0334	B44



PART PLAN SHOWING
PILE NUMBERING FOR RECORDING
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
548	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
549	18.1	1101.9	500 mm C.I.P Concrete Pile 10mm
550	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
551	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
552	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
553	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
554	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
555	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
556	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
557	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
558	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
559	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
560	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
561	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
562	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
563	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
564	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
565	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
566	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
567	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
568	18.1	1101.9	500 mm C.I.P Concrete Pile 10mm
569	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
570	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
571	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
572	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
573	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
574	18.1	1101.9	500 mm C.I.P Concrete Pile 10mm
575	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
576	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
577	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
578	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
579	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
580	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
581	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
582	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
583	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
584	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
585	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
586	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
587	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
588	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
589	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
590	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
591	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
592	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
593	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
594	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
595	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
596	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
597	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
598	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
599	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
600	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
601	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
602	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
603	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
604	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
605	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
606	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
607	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
608	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
609	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
610	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
611	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
612	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
613	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
614	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
615	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
616	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
617	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (m)	COMPUTED BEARING (kN)	REMARKS
618	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
619	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
620	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
621	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
622	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
623	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
624	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
625	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
626	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
627	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
628	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
629	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
630	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
631	18.1	1255.0	500 mm C.I.P Concrete Pile 10mm
632	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
633	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
634	14.5	1604.7	500 mm C.I.P Concrete Pile 10mm
635	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
636	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
637	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
638	14.5	1241.3	500 mm C.I.P Concrete Pile 10mm
639	14.5	1241.3	500 mm C.I.P Concrete Pile 10mm
640	14.5	1241.3	500 mm C.I.P Concrete Pile 10mm
641	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
642	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
643	14.5	944.9	500 mm C.I.P Concrete Pile 10mm
644	14.5	1241.3	500 mm C.I.P Concrete Pile 10mm
645	14.5	1241.3	500 mm C.I.P Concrete Pile 10mm
646	14.5	944.9	500 mm C.I.P Concrete Pile 10mm

NOTE: INDICATE IN REMARKS COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

NOTE: THIS SHEET TO BE COMPLETED BY
MODOT CONSTRUCTION PERSONNEL.

ROUTE 412 OVER ST. FRANCIS RIVER

UNIT 5 "AS BUILT PILE" DATA

DUNKLIN CO. MO - GREENE CO. AR

A4554

Detailed: KBF
Checked: KCK

HORNER &
SHIFRIN, INC.
ENGINEERS & ARCHITECTS & PLANNERS
2202 Oakland Ave., St. Louis, Missouri 63103

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS