





DESIGN TRAFFIC DATA

DESIGN YEAR	_2043
2023 ADT	180
2043 ADT	220
2043 DHV	24
DIRECTIONAL DISTRIBUTION	_0.60
TRUCKS	8%
DESIGN SPEED3	Э МРН





INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 6	TYPICAL SECTIONS OF IMPROVEMENT
7 - 13	SPECIAL DETAILS
14 - 17	TEMPORARY EROSION CONTROL DETAILS
18 - 21	MAINTENANCE OF TRAFFIC DETAILS
22	PERMANENT PAVEMENT MARKING DETAILS
23 - 25	QUANTITIES
26	SUMMARY OF QUANTITIES AND REVISIONS
27 - 29	SURVEY CONTROL DETAILS
30 - 32	PLAN AND PROFILE SHEETS
33 - 38	CROSS SECTIONS

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
DR-2	_ DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
PBC-1	_PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	_ CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	_METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	_ PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	_ PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	_ PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	_ REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	_ EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	_ TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	_ TEMPORARY EROSION CONTROL DEVICES	11-03-94

DATE	DATE	FED.RD.	STATE	JOB NO.	SHEET	TOTAL
REVISED	REVISED	DIST.NO.	5		NO.	SHEETS
		6	ARK,	030530	2	38
		INDEX	of she	ETS AND STAN	DARD D	RAWINGS
				A PRO E	RKANS RKANS FESSION NGINEI	AS DDAL DAL

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE		
FRRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS		
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS		
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS		
	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)		
FHWA-1273_	_ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES		
FHWA-1273_	_ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS		
FHWA-1273_	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS		
FHWA-1273_	SUPPLEMENT - WAGE RATE DETERMINATION		
100-3			
100-4			
103-2	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS		
105-4	MAINTENANCE DURING CONSTRUCTION		
107-2	RESTRAINING CONDITIONS		
108-1	LIQUIDATED DAMAGES		
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER	1	GRADE LINE DENOTES FINE
110-1	PROTECTION OF WATER QUALITY AND WETLANDS		
210-1		2.	ALL PIPE LINES, POWER, TE
303-1			OWNERS AS PER AGREEM
400-1			
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES	3.	ANY EQUIPMENT OR APPUR
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS		MAY BE THE PROPERTY OF
400-6			OTHERWISE PROVIDED.
400-7	_ TRACKLESS TACK	4	
404-3	_ DESIGN OF ASPHALT MIXTURES	4.	SUCH & MANNER THAT THE
409-2	_ASPHALT LABORATORY FACILITY		INCLUDED IN THE PRICE BIL
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES		
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS	5.	ALL LAND MONUMENTS LOO
410-4	EVALUATION OF ACHINISUBLOT REPLACEMENT MATERIAL		WITH SECTION 107.12 OF TH
410-1			
600-2		6.	ALL TREES THAT DO NOT D
603-1	LANE CLOSURE NOTIFICATION		DIRECTED BY THE ENGINEE
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES		REMOVED SHALL BE HARM
604-3	_ TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)	7	
606-1	PIPE CULVERTS FOR SIDE DRAINS	7.	PASTURES ARE SEVERED
620-1	MULCH COVER		AT HIS OWN EXPENSE. MAY
621-1			
800-1		8.	THE SEQUENCE AS SHOWN
804.2			CONSTRUCTION OF THIS PR
JOB 030530			NOT CRITICAL TO THE CONS
JOB 030530	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT		RESIDENT ENGINEER.
JOB 030530_	BROADBAND INTERNET SERVICE FOR FIELD OFFICE	0	
JOB 030530_	BUY AMERICA - CONSTRUCTION MATERIALS	9.	
JOB 030530_	CARGO PREFERENCE ACT REQUIREMENTS		
JOB 030530_	_COLD MILLING - COUNTY PROPERTY	10.	THE EXISTING ASPHALT PA
JOB 030530_	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS		SAWING ALONG A NEAT LIN
JOB 030530_	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES		A MANNER THAT WILL NOT [
JOB 030530	DISADVANIAGED DUSINESS EINTERFRUSE DIDDER SRESFUNSIOILITIES ESTABLISHING CONTRACT TIME - WORKING DAV CONTRACT		THAT IS TO REMAIN IN PLAC
JOB 030530	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION		
JOB 030530	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS	11.	THIS PROJECT IS COVERED
JOB 030530_	MANDATORY ELECTRONIC CONTRACT		STANDARD SPECIFICATION
JOB 030530_	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL		
JOB 030530_	NESTING SITES OF MIGRATORY BIRDS		
JOB 030530_	OFF-SITE RESTRAINING CONDITIONS FOR INIDIANA AND NORTHERN LONG-EARED BATS		
JOB 030530_	PERCENT AIR VOIDS FOR NDESIGN FOR ACHM SURFACE MIX DESIGNS		
JOB 030530_			
JOB 030530			
JOB 030530_	_ FROE ADJUS IMENT FOR FOLL PROHIBITION OF CERTAIN TELECOMMI INICATIONS AND VIDEO SURVEILLANCE SERVICES OR FOLIPMENT		
JOB 030530	REMOVING AND REPLACING TOPSOIL		
JOB 030530	RESTRAINING CONDITION		
JOB 030530_	SCARIFYING AND RECOMPACTING ROADWAY		
JOB 030530_	SHORING FOR CULVERTS		
JOB 030530_	SOIL STABILIZATION		
JOB 030530_	SPECIAL CLEARING REQUIREMENTS FOR TRICOLORED BAT		
JOB 030530_	SPECIAL SEEDING REQUIREMENTS		
JOB 030530_	STORM WATER FOLLUTION PREVENTION PLAN		
JOB 030530_			
JOB 030530_			
JOB 030530	WARM MX ASPHALT		
JOB 030530	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER FOR TREE CLEARING		

- SHED GRADE WHERE SHOWN ON PLANS.
- ENT WITH SUCH OWNERS.
- FOR THE VARIOUS BID ITEMS.
- E STANDARD SPECIFICATIONS.

- ED EXCAVATION.
- IS. EDITION OF 2014, FOR PERMIT REQUIREMENTS.

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
01/23/2024		6	ARK,	030530	3	38
02/22/2024		GOVERN	ING SPE	CIFICATIONS AND	GENER	AL NOTES
				AFFFFFFF	STATE C	AS To

LICENSED PROFESSIONAL ENGINER

GENERAL NOTES

ELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE

TENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS

BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED

CATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE

RECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS R. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE ED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

I ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE ROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS STRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE

SPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE

VEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY E. AFTER SAWING. THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT E SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030530	4	38
		TYPIC/	L SECI	IONS OF IMPR	OVEMEN	IT
					1110000	•



REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL TWO INCHES (2") OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN, THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE OR MATERIAL PLACED IN EXCESS OF THE TOLERANCE

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT





cschoppe 5/25/2023 R030530.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030530	5	38
		TYPIC/	L SECI	IONS OF IMPR	OVEMEN	IT
				A PRO PRO	STATE RKANS ICENSI OFESSION NGINEI NGINEI NGINEI NGINEI NGINEI	AS ED NAL ED NAL

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL TWO INCHES (2") OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE OR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

TYPICAL SECTIONS OF IMPROVEMENT





DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK,	030530	6	38
		TYPICA	L SECI	TIONS OF IMPR	OVEMEN	IT
					RKANS ICENSI	AS ED DNAL

ENGINEER E

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL TWO INCHES (2") OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS 1" OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE OR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

TYPICAL SECTIONS OF IMPROVEMENT



- BETWEEN THE EXISTING ASPHALT RDADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
- (3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.



DETAIL FOR TRANSITIONS

		SPECIA				
		6	ARK.	030530	7	38
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS



SPECIAL DETAILS



SPECIAL DETAILS





schoppe 9/7/2021 330530_CULVERT.DGN



cschoppe 9/7/2021 B030530_CULVERT.DGN

1	MID-SECTION	-	NLET SL(OPE SE	CTION(S)	INLE	T SKEWED	END SI	ECTION	=	NLET WIN	CWALL .	TABLE	1		
A	R.C. BOX SECTION	HDV			R.C. BOX SECTION	SI		SKEW (DE	GREE)	WING B	WING A	MING	0v 38'- 1	VER ALL	WIDTH	
2 12	CLEAR SPAN (FT.)	L DEPT HD 3"		D S	CLEAR SPAN (FT.)	" "E		SLOPE STOPE		4 12	4 12	BAR SIZE MAX. SPACING	/ H 1" 8'-	CI FAR HF	TIGHT	
8 13	CLEAR HEIGHI (F1.) TOP SLAB THK.	Н		нт	CLEAR HEIGHI (F.I.) TOP SLAB THK.	k1" HD		CLEAR SP	AN (FT.)	21 X Y	21 X Y	PO. REQ'D	I 0" (1
.5 13.	BOTTOM SLAB THK.	ADD		В	BOTTOM SLAB THK.	OWL BA		➡ CLEAR HE	IGHT (FT.)	Min Max Min Max Min Max	Min Max Min Max Min Max	1 LENGTHS	WB)'-9"	FOOTING	THK.	
.5 9		DITION			SIDE WALL THK	ARS NC		T SECTION	ENGTH	3'-10 10'-1 0'-9 1'-1 3'-2 9'-0	3'-10 10'-1 0'-9 1'-1 3'-2 9'-0	VARY	CW 0'-8	/ING WALI	L THK.	
5		IAL RE		: \). REC				0" 0")" 0" 4 	BAR SIZE	- S		í L	
8 3		EINF. F 3S. 51		N	INTERIOR WALL THA.	2'D		TOP SLAB	. HK.	12	12	SPACING	т SK 0	UX SKEW	(DEG.)	1
8.92	OVER ALL WIDTH	ORH		ow	OVER ALL WIDTH	SIZ		HDWL DEF	H	7 X Y	L 7 X Y	F2	SL 3:1	SLOP	ш	
10.3	Q OVER ALL HEIGHT	DWL		Oł	OVER ALL HEIGHT			BOTTOM 5	SLAB THK.	4'-11 1'-6' 3'-6'	4'-11 1'-6' 3'-6'	LENGTHS	H 37'		нты	
5						"k2" LE		SIDE WAL	VAL THK			BAR SIZE	4"			
42	SECTION LENGTH (FT.)	BIZE 4		SL	SECTION LENGTH (FT.)	HDWL NGTH						NO. REQ'D	HL 2'-0"	HEEL	.	- 1
4 38'	T "a"	"h Y 1'-0'		SIZE	"a"	BARS			ніли	L X Y	L X Y	LENGTHS	WH 8'-10	AT HDWL	WA	14/4
-7" 8	OP SL	n" HDV LE		SIZE	LENG1	NO.			HEIGHT	- - 4	- 4	RAP SIZE	1)"		ALL HEI	
39'-	AB REI TH = (Pent "I	NGTH 2'-0"		L	⊡ = O\ ent "b"	REQ'D		1		¥ 18	18	SPACING	₩H2 2'-8"	- WING EN	IGHT	GUT
5" 8	NFOR(DW - 4' D' 번	S NC		SIZE	N - 4" +	SI		SPACING		8 N 17	8 N 17	ro. Rea'd Lengths	A	W	-	1
38'-7	CING S ' + BEN "c" L	0. REQ'I 40		L	BEND	ZE LI	M	a" RENGTHS	TOP SL	/in '-1" lax 7'-5"	/lin '-1" lax 7'-5"	VARY BAD SIZE	A J F1 30	(DEGRE	VINGW. ANGL	
" 14	STEEL SLATS	D		SPACII NO DE	S C	"h ENGTI	ax lin	VARY	LAB RE	4 18	4 18	SPACING	B AF2 30	EE) VING	ALL E	
36	VO. REQ'D			NO. KE	ď	י" HD' H		NO. REQ'D	EINFO	4	4	NO. REQ'D	요 \ 3	OTING WI	ртн ат	
4	size			L	BOTTC LE	ML BA Y		SIZE	RCIN	20'-8"	20'-8"	LENGTHS	VE -2"	WALL E	QN	
38'-7"	BOTTO LE d"			SIZE	M SL/	RS N	N I		G STEI	4 1	4 1	BAR SIZE	4'-	w	F	
4				L	AB REI I = OW t "b1"	0. RE	Max Min	VARY	EL	8 14	8 14	NO. REQ'D	WF1 3 7/8"			
39'-5"	B REII I = OW ent b1" L			SIZE	NFOR(/- 4" + "f	ם'ב		NO. REQ'D		L Ma X Mi Ma Y Mi Ma	L Mi Ma X Mi Ma Y Mi Ma	F6	4		OF W	
4 3	·FORC - 4" + "f								B	n 5'-6 K 11'- n 2'-4 K 2'-4 n 3'-3 K 9'-0	1 5'-6 11'- 1 2'-4 2'-4 1 3'-3 x 9'-0	VARY	WF2 '-3 7/8		NG HDWI	
8'-7"	ING S BENDS			NO. RE(N		OTTON		* * * *	BAR SIZE		-	F	
9	SPACING			SIZE	REI LE		lax 1in	VARY	I SLAE	8 2	8 2	PO. REQ'D	G1 1'-4	WING		
56 5	NO. REQ'D SIZE			SPACI	SIDE NFORC "1 NGTH			NO. REQ'D	B REIN	4'-10"	4'-10"	LENGTHS				
7				NO. RE	E WALI CING 10" I = OH			SIZE	FORC	6 1	6 1	BAR SIZE	01'-	win	IENSI TH HI	
14	SIDE W ORCIN "f0" GTH =			LENG.	L STEEL I - 4" 王			SPACING	ING S	8 14	8 14	NO. REQ'D	52 -4"			
4 9	VALL NG STI OH -			SIZE	II REII		Max	LENGTHS T	TEEL	Min 2'-8' Max 3'-9'	Min 2'-8' Max 3'-9'	LENGTHS VARY	A W1 21'-0	WING	LEN	
-11"	EEL "F			SPACIN	NTERI NFOR NGTH			NO. REQ'D		4	4	BAR SIZE	W 121'		GTH C	
4				NO. REI	OR WA CING S fl" I = OH			SIZE	RE	18 2	18 2	SPACING NO BEO'D	3 12 -0"	NG	DF	1
12	NTERIO NFORO NGTH			LENG.	ALL STEEL			SPACING	SID INFOF	29' 2 Ma 29'	M 29' Ma 29'	I ENGTHS	W 24'-0	WIN	LENG	
 168				SIZE	. REIN			NO. REQ'D	E WAL	lin '-0" ax '-0"	lin '-0" ax '-0"		/3 3/8"	6.4	TH OF	
9'-11	ALL STEEL I - 4"			SPACIN	TOP DISTRIE IFORC "g ENGT			LENGTH	LL STEE	4 2	4 2	NO. REQ'D	2		FOOT	
" 4	SIZE				SLAB BUTION ING ST I'' I'H = SI			SIZE	LF	21'-5	21'-5	CENGTHS	W4 24'-0 3	WING	ING H	
8	TOP : DISTRIE REINF. LENGT			NO. KE				SPACING	IN TE REINFO	- 4	* 4	BAR SIZE	/8"		EEL	
1	SLAB BUTION STEE G" TH = SI			SIZE	BOT DIST REINFO			"f1" Q. KEQ D NO. KE	ERIOR	2 22	2 22	F11 ON. REQ'D				Г
13 4				SPACI	TOM SL RIBUTIO RCING : "e" GTH =			HTON I	WALL G STEE	'-10"	'-10"		CU. 13	(Include	CLAS CONC	
4 8	BOTTC DISTRI REINF LENG			NO. RE	AB ON STEEL SL			S17F	EL	6 12	6 12	BAR SIZE SPACING	.YD .82	s apron)	S "S" CRETE	
3 1	M SLA BUTIOI S STEE re" TH = S			SIZE	S DIS REINF LEP			SPACING	TOP SI REIN	8 L X	8 X	F12 O. REO.D)	RE (Inc	1
13				SPACI	IDE WAI TRIBUT DRCING "d1" NGTH : 알			"g	AB DIS FORCI	3'-4" 1'-8"	3'-4" 1'-8"	LENGTHS	L 1	rec	INFOR ludes a	
4 1				NO. RE	LL FION S STEEL S SL			NO. REQ'D	STRIBU	, 6	, 6	REINF. STEEL	BS. 352	quired)	CING S	
1	E WALL IBUTIC 5. STEE d1" TH = S			SIZE	IN C REIN		Max Min	LENGTHS VARY	TION	76	76	GLY. PER WING (LBS)			STEEL d laps if	
18	NO. REQUD			SPACIN	ITERIOR DISTRIBU IFORCIN "d2' ENGTH			SIZE	BOTT F				-			
4				NO. REG	NG STE			SPACING	TOM SI REINFO	Thi SHE SHE SHE ST			B /	_		
12	RIBUTIC RIBUTIC F. STEE d2" GTH = S	_			EL			"e" NO. REQ'D	AB DIS DRCING	s draw ET 1 ET 3 ET 4 ANDARC	4 5 6 7 8	Req'd. 0 1 2 3	R of Long Laps	MID		
32	NO. KEQD 19	E		_			N	LENGTHS	TRIBU STEE	ing to OF 4 OF 4 OF 4 OF 4 DRA	>1 >1 >2 >2 >2 >3	>	L AF	-SE		
		T(0.36		0.36	IS. CLASS "S" CONCRETE		ax lin	VARY	TION	be u: 4, "GE , "GEN , "GEN WING WING	54.0 f 92.0 f 30.0 f 68.0 f	Section < 4 40.0 f 78.0 ft 16.0 f	Р Т s	СТ		
172.	CLASS "S" CONCRETE	DTAL		10	REINFORCING			SIZE	SIDE \ REII	sed in NERAL ERAL IERAL RCB-2 tion a	t - 192 t - 230 t - 268 t - 306 t - 344	0.0 ft t - 78.0 - 116. t - 154	ABI	ION		
50)5)5	STEEL (GR. 60)			"d	VALL D	conju DETA DETAIL DETAIL	.0 ft .0 ft .0 ft .0 ft .0 ft 0 ft) ft D ft D ft	<u>.</u> E			
23455	LBS. REINFORCING STEEL (GR. 60)							1" NO. REQ'D	ISTRIB	nction ILS OI .S OF .S OF let se						
1	_	-					LONG	LENGTH	UTION	with FR.C.I R.C.B R.C.B			N			DAT
								SIZE	R	BOX CU OX CU OX CU see Si	#4 #5 #6 #7 #8	#6 #7 #8	1in. Bar #4 #5			e Sed
	D						-	SPACING	INTERI DISTR EINFOR	JLVERT LVERT''' LVERT''	3 3/4 3 3/4 4 1/2 5 1/4 6"	2'-7 3'-6 4'-7	Lap Le 1'-9 2'-2			DAT Fill
	ЕT т		r					NO. REQ'D	OR WA	", 'GEI , 'DET , 'DET of 2.	שוע "	" "	ength "			E €D
	'AIL RIPI	Skewed Skewed Jepth s SHEETS)oto ci				SHOR	LENGTH	LL N TEEL	neral Ails (Ails (DATE REVI
SF	.S LE	End S shown i for a			De		T	_		Notes DF Mul DF Wind						e Sed
PEC	SHE OF BAR SI	n the to	25 30 35 40	2 5 10 15 20	sign Fill Depth				CLASS "S"	5 & LON TI-BARR GWALLS	TAE					DATE Filme
IAL	E T R. REL o. 1	ble, so depth	>20.0 >25.0 >30.0 >35.0	0.0 >2.0 >5.0 >10.0 >15.0	Rang				includes HDWL)	IGITUDI EL R.C , and	ULAR (CHE			OL	╞	
D	1 .C. BC	d on the ee PLA) ft - 25) ft - 30) ft - 35) ft - 40	ft - 2.0) ft - 5.0 ft - 10.) ft - 15) ft - 20	e of Ac			LBS.	REINFORCING STEEL (GR 60)	NAL SE Box (DATA BY				6 Job N	ED. ROAD IST. NO.
ΕT	01 BC DX 82	he des N AND	5.0 ft 5.0 ft 5.0 ft 5.0 ft 5.0 ft	0 ft 0 ft .0 ft 5.0 ft 0.0 ft	ctual h				An Sk co ite Ro		¥: ¥:			\$	ARK. O.	STATE
AIL	F 2)X CUL	ign fill PROFI	n (c)						ay bar kewed E onsidere em "Re oadway	LENGT RT',	CGS WTC	and the second	Å	SPECIA	0.	FED. A
S	2 CU .VEF	ILE	and						End Sec End Sec ed subsi einforcin (Grade	TH SCH	8 da da	PROI	AF LI	AL DE1	30530	ND PROJ
	LVE 8T								diary to g Steel 60)."	DULE',	ראור 12,0472 12,0870	TESSIC GINEI 0.1743 THREA	KANS.	AILS	1	, NO. SH
	RT								the the		013 6/202 7/202	ONAL ER F	AS AS		2 :	101 10 10. Se
											22 23				38)14L CE 15

·	8	ILLET SLOPE	E SECTION(S)	N	믭	T SKEWED END SECTION	N OUTLET WINGW	ALL TABLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
H 3	HDWL		R.C. BOX SECTION DESIGN FILL DEPTH (FT.)	SIZE		XEW (DEGREE)	WING B WING A WING A WING A WING BAR SIZ	OVER 38'-11"	ALL WI	ТН																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
D "	DEPTH	12 8 	 CLEAR SPAN (FT.) ■ CLEAR HEIGHT (FT.) 	L	"k1	DESIGN FILL DEPTH (FT.)	12 21 12 21	DI CLEA	R HEIGH	F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	A		TOP SLAB THK.	ENGTH	HDWL	6 CLEAR SPAN (FT.)		0'-9"	TING TH	<u> </u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			B BOTTOM SLAB THK.	N	BARS	CLEAR HEIGHT (FT.)	In 3'-' 10'- 10'- 110'- 10'- <tr td=""> <tr td=""> 110'-<td>C</td><td>T I I VM</td><td>Ě</td></tr><tr><td>l</td><td>DNAL R</td><td></td><td>O SIDE WALL THK.</td><td>10. RE</td><td></td><td>F SECTION LENGTH</td><td>10" 10" 9" 4 11" 2" 0" 10" 9" 4 10" 9" 4 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 0" 10" 9" 4 0" 0" 0" 0" 0" 0" 0" 0" 0" 0"</td><td>8" 4</td><td></td><td>ź</td></tr><tr><td>BS. 51</td><td>REINF.</td><td></td><td>▲ INTERIOR WALL THK.</td><td>Q'D</td><td></td><td>TOP SLAB THK.</td><td>NIDEAS 12 12</td><td>SXOR SK</td><td>KEW (DB</td><td>EG.)</td></tr><tr><td></td><td>FOR H</td><td></td><td>S OVER ALL WIDTH</td><td>SIZ</td><td></td><td>HDWL DEPTH</td><td>7 X 7 X 7 X 7 X 7 X 7 X</td><td>SL 3:1 F2</td><td>SLOPE</td><td></td></tr><tr><td></td><td>DWL</td><td></td><td>Q OVER ALL HEIGHT</td><td>E</td><td></td><td>BOTTOM SLAB THK.</td><td>4'-11' 1'-6" 3'-6" 4'-11' 1'-6" 3'-6"</td><td>MGH 37'- SI</td><td>L LENGT</td><td>т</td></tr><tr><td>Ş</td><td></td><td></td><td></td><td>LE</td><td>"k2" </td><td> > SIDE WALL IHK. ▲ INTERIOR WALL THK. </td><td>- BARSIZ</td><td>4" 2</td><td></td><td></td></tr><tr><td>IZE 4</td><td></td><td></td><td>75 SECTION LENGTH (FT.)</td><td>NGTH</td><td>IDWL B</td><td>9 OVER ALL WIDTH</td><td>VO. REG</td><td>HL '-0" F3</td><td></td><td></td></tr><tr><td>Y 1'-0"</td><td>"h"</td><td></td><td>LE "a"</td><td></td><td>ARS</td><td>v</td><td>LENGTH</td><td>H IV WH1 8'-10"</td><td>IDWL</td><td>WALL</td></tr><tr><td>LEN(</td><td>HDWL</td><td></td><td>ENGTH Bent</td><td>NO. RE</td><td></td><td>Q OVER ALL HEIGHT</td><td>ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS</td><td> 2 </td><td></td><td>LHEIGH</td></tr><tr><td>GTH 0"</td><td>BARS</td><td></td><td>= OW - t "b"</td><td>EQ'D</td><td>-</td><td>SIZE</td><td>8 8 81 8PACINC 8 81 8PACINC 80 80 80 80 80 80 80 80 80 80 80 80 80</td><td>VM12 VH2 2'-8" F4</td><td>IG END</td><td>HT</td></tr><tr><td>NO. R 40</td><td></td><td></td><td>4" + BE "c"</td><td>SIZE</td><td></td><td>SPACING</td><td>Min 2'-1" Max 17'-5' Min 2'-1" Max 17'-5'</td><td>WING A AF1 30</td><td>(DE</td><td>WIN</td></tr><tr><td>EQ'D 0</td><td></td><td></td><td>SPACING</td><td>LENG</td><td></td><td>P SLAB Ta" RNGTHS A Max Min</td><td></td><td>B WING B AF2 30</td><td>NGLE (GREE)</td><td>GWALL</td></tr><tr><td></td><td></td><td></td><td>NO. REQ'D</td><td>STH .</td><td>"h" HC</td><td>REINF ON ON</td><td>8 4 NO. REG.</td><td>F5</td><td>IDTI</td><td>4 AT</td></tr><tr><td></td><td></td><td></td><td>BOTTO</td><td>Y</td><td>WL BA</td><td>BIZE SIZE</td><td>20'-8"</td><td>₩E 5'-2"</td><td>ALL END</td><td></td></tr><tr><td></td><td></td><td></td><td>OM SLA</td><td>NO</td><td>RS</td><td>G STEE</td><td>4 18 BAR SIZ</td><td>WIN 4'-3</td><td>FO</td><td></td></tr><tr><td></td><td></td><td></td><td>B REIN = OW - "b1"</td><td>D, REQ</td><td></td><td>T VARY</td><td></td><td>NG A /F1 7/8" F</td><td>OTING</td><td></td></tr><tr><td></td><td></td><td></td><td>FORCII 4" + BI "f"</td><td>D</td><td></td><td>SIZE</td><td>Min Max Min Max Min Max Min Max Min Max Min Max Min Max</td><td>WIN 4'-3 6</td><td>S AT HE</td><td>OF WIN</td></tr><tr><td></td><td></td><td></td><td>NG STE ENDS</td><td></td><td>-</td><td>SPACING</td><td>5'-6" 11'-3" 2'-4" 2'-4" 3'-3" 9'-0" 5'-6" 11'-3" 2'-4" 2'-4" 2'-4" 3'-3" 9'-0"</td><td>NG B VF2 3 7/8"</td><td>OWL</td><td>G</td></tr><tr><td></td><td></td><td></td><td>NO. REQ'D</td><td></td><td></td><td>TOM S d" Max Min</td><td>ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS ZIS</td><td>W L</td><td>PAF</td><td>FO</td></tr><tr><td></td><td></td><td></td><td>SI REINFO</td><td></td><td></td><td>LAB RE Q, ON NO</td><td>24'-1</td><td>NG A G1 '-4" F7</td><td>RALLEL</td><td></td></tr><tr><td></td><td></td><td></td><td>DE WA ORCING "ID" TH = C</td><td></td><td>-</td><td></td><td>9 9 BAR SIZ</td><td></td><td>WITH H</td><td>MENS</td></tr><tr><td></td><td></td><td></td><td>ALL G STEE DH - 4"</td><td></td><td></td><td>SPACING</td><td>18 14 18 14</td><td>ING B G2 1'-4" F8</td><td>HDWL</td><td>SION</td></tr><tr><td></td><td></td><td></td><td>EL RE</td><td></td><td></td><td>STEEL The read of the second s</td><td>Mir 2'-8 4 Ma 3'-9 4 Ma 3'-9 4 Ma 3'-9</td><td>WIN A 21'-0 3</td><td>WIN</td><td>LET</td></tr><tr><td></td><td></td><td></td><td>INTER EINFOR ENGTI Sbycing</td><td></td><td></td><td>NO. REQ'D</td><td>VARY I VARY 4 VA</td><td>IG WI 1 V 0" 21</td><td>NGWAL</td><td>NGTH</td></tr><tr><td></td><td></td><td></td><td>RIOR WARCING : "f1" H = OH</td><td></td><td></td><td>REI 3ZIS</td><td>18 2 18 2 18 2</td><td>NG B N2 '-0" F</td><td>LS</td><td>OF</td></tr><tr><td></td><td></td><td></td><td>ALL STEEL I - 4"</td><td></td><td></td><td>SIDE INFORC</td><td>Mir 29'-1 29'-1 29'-1 29'-1 29'-1 29'-1</td><td>WING <u>W3</u> 24'-0 3 9 ي</td><td>LENGTI</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>WALL CING S f0" Q. VO N</td><td>BARSIZ</td><td>3/8"</td><td>1 OF F</td><td></td></tr><tr><td></td><td></td><td></td><td>TOP SLA STRIBU FORCING "g" NGTH SDACING SDACING</td><td></td><td></td><td>LENGTH</td><td>2 2 2 2 2 2</td><td>24'- F10</td><td>OOTIN</td><td></td></tr><tr><td></td><td></td><td></td><td>AB TION G STEEL</td><td></td><td></td><td>RIIN SIZE</td><td>1'-5" 4</td><td>NG B W4 ∙0 3/8"</td><td>G HEEL</td><td></td></tr><tr><td></td><td></td><td></td><td>B D REINI LE JZIS</td><td></td><td></td><td>NTERIO NFORC</td><td>44 2 44 2</td><td>F1</td><td>•</td><td>] [</td></tr><tr><td></td><td></td><td></td><td>IOTTOM DISTRIBU FORCIN "e" ENGTH</td><td></td><td></td><td>OR WALL</td><td>22'-10"</td><td>0 C 1 11</td><td>CON (Inclu</td><td>CLA</td></tr><tr><td></td><td></td><td></td><td>SLAB TION G STEEI</td><td></td><td></td><td>LENGTH</td><td>6 12 6 12 6 8 6 6 12</td><td>UTLET U.YD 5.19</td><td>NCRETE des apro</td><td>ASS "S"</td></tr><tr><td></td><td></td><td></td><td>D REINI</td><td></td><td></td><td>SIZE SIZE</td><td></td><td>F12</td><td>n)</td><td>R</td></tr><tr><td></td><td></td><td></td><td>SIDE WA ISTRIBUT FORCING "d1" ENGTH SNGTH</td><td></td><td></td><td>"g</td><td>HLONU 3'-4' 1'-8'</td><td>0l 1 2</td><td>icludes a rei</td><td>EINFOR</td></tr><tr><td></td><td></td><td></td><td>ALL TION G STEEL CO UN ON</td><td></td><td></td><td></td><td>" 66 "</td><td>UTLET</td><td>pron and quired)</td><td>CING S</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>NOIT ELLENGTHS Max Min</td><td>576 576</td><td>s WING</td><td>d laps if</td><td>STEEL</td></tr><tr><td></td><td></td><td></td><td>TERIOR XSTRIBU FORCIN "d2" ENGTH</td><td></td><td></td><td>BOTTO</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>WALL JTION NG STEE H = SL</td><td></td><td></td><td>SPACING SPACING</td><td>-</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>EL</td><td></td><td></td><td>AB DISTI RCING S "e" Q. SA SON</td><td>Vin. Ba #4 #5 #6 #7 #8</td><td></td><td></td><td></td></tr><tr><td>(</td><td></td><td></td><td>0 ASS "S"</td><td></td><td>-</td><td>RIBUTIO STEEL SHLONAT Max Min</td><td>ar Lap 1'- 2'- 2'- 3'- 4'-</td><td></td><td></td><td></td></tr><tr><td>).36</td><td>TO</td><td></td><td>CU. YDS. CONCRETE</td><td></td><td></td><td>SIZE NG</td><td>Length 9" 2" 7" 6" 7"</td><td></td><td></td><td></td></tr><tr><td>105</td><td>TAL</td><td></td><td>LBS. STEEL (GR. 60)</td><td></td><td></td><td>DE WAL REINFO</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>rcing</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>IBUTION STEEL LONG</td><td>Bar #4 #5 #6 #7 #8</td><td></td><td></td><td>R</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>SIZE -</td><td>Pin Dia</td><td></td><td></td><td>ATE EVISED</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>INTER DISTR EINFOR Sand</td><td>Table 3" 3/4" 1/2" 1/4" 6"</td><td></td><td>1</td><td>DA Fil</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>ITE LMED</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>LL N TEEEL LONG SHORT</td><td></td><td></td><td></td><td>DATE</td></tr><tr><td>~</td><td></td><td></td><td></td><td></td><td>J</td><td></td><td>O Any sha "Re</td><td></td><td></td><td>ED</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>L</td><td>CU. YDS. CONCRETE</td><td>TABUL Bar Lap II be con inforcing</td><td></td><td>C</td><td>DATE FILMED</td></tr><tr><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td>AR DA CHECK Requi sidered Steel</td><td></td><td></td><td>PE0. 0151.</td></tr><tr><td>•</td><td></td><td></td><td></td><td></td><td></td><td>LBS. STEEL (GR 60) (Includes HDWL)</td><td>TA BY: _ ED BY:_ red for d subsidi - Roade</td><td></td><td>108 NO.</td><td>1040 ST4 5 AF</td></tr><tr><td>~-</td><td></td><td></td><td></td><td></td><td></td><td></td><td>CC W1 the Si jiary to jway ()</td><td></td><td></td><td>ATE FE RK.</td></tr><tr><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Kewed End S the item Srade 60)."</td><td>ARI LIC PROF 2 ENG</td><td>030530 ECIAL DET</td><td>ed. Aid Proj.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1129 HREA 04/26 08/07</td><td>ANŠAS ENŠEI SSION</td><td>13 ILS</td><td>10. SHEET</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3 7/2022 7/2023</td><td>MAL ST</td><td>38</td><td>1014L SHEE 1</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><u>;</u></td><td>is</td></tr></tr>	C	T I I VM	Ě	l	DNAL R		O SIDE WALL THK.	10. RE		F SECTION LENGTH	10" 10" 9" 4 11" 2" 0" 10" 9" 4 10" 9" 4 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 0" 10" 9" 4 0" 0" 0" 0" 0" 0" 0" 0" 0" 0"	8" 4		ź	BS. 51	REINF.		▲ INTERIOR WALL THK.	Q'D		TOP SLAB THK.	NIDEAS 12 12	SXOR SK	KEW (DB	EG.)		FOR H		S OVER ALL WIDTH	SIZ		HDWL DEPTH	7 X 7 X 7 X 7 X 7 X 7 X	SL 3:1 F2	SLOPE			DWL		Q OVER ALL HEIGHT	E		BOTTOM SLAB THK.	4'-11' 1'-6" 3'-6" 4'-11' 1'-6" 3'-6"	MGH 37'- SI	L LENGT	т	Ş				LE	"k2"	 > SIDE WALL IHK. ▲ INTERIOR WALL THK. 	- BARSIZ	4" 2			IZE 4			75 SECTION LENGTH (FT.)	NGTH	IDWL B	9 OVER ALL WIDTH	VO. REG	HL '-0" F3			Y 1'-0"	"h"		LE "a"		ARS	v	LENGTH	H IV WH1 8'-10"	IDWL	WALL	LEN(HDWL		ENGTH Bent	NO. RE		Q OVER ALL HEIGHT	ZIS	 2 		LHEIGH	GTH 0"	BARS		= OW - t "b"	EQ'D	-	SIZE	8 8 81 8PACINC 8 81 8PACINC 80 80 80 80 80 80 80 80 80 80 80 80 80	VM12 VH2 2'-8" F4	IG END	HT	NO. R 40			4" + BE "c"	SIZE		SPACING	Min 2'-1" Max 17'-5' Min 2'-1" Max 17'-5'	WING A AF1 30	(DE	WIN	EQ'D 0			SPACING	LENG		P SLAB Ta" RNGTHS A Max Min		B WING B AF2 30	NGLE (GREE)	GWALL				NO. REQ'D	STH .	"h" HC	REINF ON ON	8 4 NO. REG.	F5	IDTI	4 AT				BOTTO	Y	WL BA	BIZE SIZE	20'-8"	₩E 5'-2"	ALL END					OM SLA	NO	RS	G STEE	4 18 BAR SIZ	WIN 4'-3	FO					B REIN = OW - "b1"	D, REQ		T VARY		NG A /F1 7/8" F	OTING					FORCII 4" + BI "f"	D		SIZE	Min Max Min Max Min Max Min Max Min Max Min Max Min Max	WIN 4'-3 6	S AT HE	OF WIN				NG STE ENDS		-	SPACING	5'-6" 11'-3" 2'-4" 2'-4" 3'-3" 9'-0" 5'-6" 11'-3" 2'-4" 2'-4" 2'-4" 3'-3" 9'-0"	NG B VF2 3 7/8"	OWL	G				NO. REQ'D			TOM S d" Max Min	ZIS	W L	PAF	FO				SI REINFO			LAB RE Q, ON NO	24'-1	NG A G1 '-4" F7	RALLEL					DE WA ORCING "ID" TH = C		-		9 9 BAR SIZ		WITH H	MENS				ALL G STEE DH - 4"			SPACING	18 14 18 14	ING B G2 1'-4" F8	HDWL	SION				EL RE			STEEL The read of the second s	Mir 2'-8 4 Ma 3'-9 4 Ma 3'-9 4 Ma 3'-9	WIN A 21'-0 3	WIN	LET				INTER EINFOR ENGTI Sbycing			NO. REQ'D	VARY I VARY 4 VA	IG WI 1 V 0" 21	NGWAL	NGTH				RIOR WARCING : "f1" H = OH			REI 3ZIS	18 2 18 2 18 2	NG B N2 '-0" F	LS	OF				ALL STEEL I - 4"			SIDE INFORC	Mir 29'-1 29'-1 29'-1 29'-1 29'-1 29'-1	WING <u>W3</u> 24'-0 3 9 ي	LENGTI								WALL CING S f0" Q. VO N	BARSIZ	3/8"	1 OF F					TOP SLA STRIBU FORCING "g" NGTH SDACING SDACING			LENGTH	2 2 2 2 2 2	24'- F10	OOTIN					AB TION G STEEL			RIIN SIZE	1'-5" 4	NG B W4 ∙0 3/8"	G HEEL					B D REINI LE JZIS			NTERIO NFORC	44 2 44 2	F1	•] [IOTTOM DISTRIBU FORCIN "e" ENGTH			OR WALL	22'-10"	0 C 1 11	CON (Inclu	CLA				SLAB TION G STEEI			LENGTH	6 12 6 12 6 8 6 6 12	UTLET U.YD 5.19	NCRETE des apro	ASS "S"				D REINI			SIZE SIZE		F12	n)	R				SIDE WA ISTRIBUT FORCING "d1" ENGTH SNGTH			"g	HLONU 3'-4' 1'-8'	0l 1 2	icludes a rei	EINFOR				ALL TION G STEEL CO UN ON				" 66 "	UTLET	pron and quired)	CING S							NOIT ELLENGTHS Max Min	576 576	s WING	d laps if	STEEL				TERIOR XSTRIBU FORCIN "d2" ENGTH			BOTTO								WALL JTION NG STEE H = SL			SPACING SPACING	-							EL			AB DISTI RCING S "e" Q. SA SON	Vin. Ba #4 #5 #6 #7 #8				(0 ASS "S"		-	RIBUTIO STEEL SHLONAT Max Min	ar Lap 1'- 2'- 2'- 3'- 4'-).36	TO		CU. YDS. CONCRETE			SIZE NG	Length 9" 2" 7" 6" 7"				105	TAL		LBS. STEEL (GR. 60)			DE WAL REINFO											rcing											IBUTION STEEL LONG	Bar #4 #5 #6 #7 #8			R							SIZE -	Pin Dia			ATE EVISED							INTER DISTR EINFOR Sand	Table 3" 3/4" 1/2" 1/4" 6"		1	DA Fil											ITE LMED							LL N TEEEL LONG SHORT				DATE	~					J		O Any sha "Re			ED						L	CU. YDS. CONCRETE	TABUL Bar Lap II be con inforcing		C	DATE FILMED	-							AR DA CHECK Requi sidered Steel			PE0. 0151.	•						LBS. STEEL (GR 60) (Includes HDWL)	TA BY: _ ED BY:_ red for d subsidi - Roade		108 NO.	1040 ST4 5 AF	~-							CC W1 the Si jiary to jway ()			ATE FE RK.	•							Kewed End S the item Srade 60)."	ARI LIC PROF 2 ENG	030530 ECIAL DET	ed. Aid Proj.								1129 HREA 04/26 08/07	ANŠAS ENŠEI SSION	13 ILS	10. SHEET								3 7/2022 7/2023	MAL ST	38	1014L SHEE 1										<u>;</u>	is
C	T I I VM	Ě	l	DNAL R		O SIDE WALL THK.	10. RE		F SECTION LENGTH	10" 10" 9" 4 11" 2" 0" 10" 9" 4 10" 9" 4 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 0" 10" 9" 4 0" 0" 0" 0" 0" 0" 0" 0" 0" 0"	8" 4		ź	BS. 51	REINF.		▲ INTERIOR WALL THK.	Q'D		TOP SLAB THK.	NIDEAS 12 12	SXOR SK	KEW (DB	EG.)		FOR H		S OVER ALL WIDTH	SIZ		HDWL DEPTH	7 X 7 X 7 X 7 X 7 X 7 X	SL 3:1 F2	SLOPE			DWL		Q OVER ALL HEIGHT	E		BOTTOM SLAB THK.	4'-11' 1'-6" 3'-6" 4'-11' 1'-6" 3'-6"	MGH 37'- SI	L LENGT	т	Ş				LE	"k2"	 > SIDE WALL IHK. ▲ INTERIOR WALL THK. 	- BARSIZ	4" 2			IZE 4			75 SECTION LENGTH (FT.)	NGTH	IDWL B	9 OVER ALL WIDTH	VO. REG	HL '-0" F3			Y 1'-0"	"h"		LE "a"		ARS	v	LENGTH	H IV WH1 8'-10"	IDWL	WALL	LEN(HDWL		ENGTH Bent	NO. RE		Q OVER ALL HEIGHT	ZIS	 2 		LHEIGH	GTH 0"	BARS		= OW - t "b"	EQ'D	-	SIZE	8 8 81 8PACINC 8 81 8PACINC 80 80 80 80 80 80 80 80 80 80 80 80 80	VM12 VH2 2'-8" F4	IG END	HT	NO. R 40			4" + BE "c"	SIZE		SPACING	Min 2'-1" Max 17'-5' Min 2'-1" Max 17'-5'	WING A AF1 30	(DE	WIN	EQ'D 0			SPACING	LENG		P SLAB Ta" RNGTHS A Max Min		B WING B AF2 30	NGLE (GREE)	GWALL				NO. REQ'D	STH .	"h" HC	REINF ON ON	8 4 NO. REG.	F5	IDTI	4 AT				BOTTO	Y	WL BA	BIZE SIZE	20'-8"	₩E 5'-2"	ALL END					OM SLA	NO	RS	G STEE	4 18 BAR SIZ	WIN 4'-3	FO					B REIN = OW - "b1"	D, REQ		T VARY		NG A /F1 7/8" F	OTING					FORCII 4" + BI "f"	D		SIZE	Min Max Min Max Min Max Min Max Min Max Min Max Min Max	WIN 4'-3 6	S AT HE	OF WIN				NG STE ENDS		-	SPACING	5'-6" 11'-3" 2'-4" 2'-4" 3'-3" 9'-0" 5'-6" 11'-3" 2'-4" 2'-4" 2'-4" 3'-3" 9'-0"	NG B VF2 3 7/8"	OWL	G				NO. REQ'D			TOM S d" Max Min	ZIS	W L	PAF	FO				SI REINFO			LAB RE Q, ON NO	24'-1	NG A G1 '-4" F7	RALLEL					DE WA ORCING "ID" TH = C		-		9 9 BAR SIZ		WITH H	MENS				ALL G STEE DH - 4"			SPACING	18 14 18 14	ING B G2 1'-4" F8	HDWL	SION				EL RE			STEEL The read of the second s	Mir 2'-8 4 Ma 3'-9 4 Ma 3'-9 4 Ma 3'-9	WIN A 21'-0 3	WIN	LET				INTER EINFOR ENGTI Sbycing			NO. REQ'D	VARY I VARY 4 VA	IG WI 1 V 0" 21	NGWAL	NGTH				RIOR WARCING : "f1" H = OH			REI 3ZIS	18 2 18 2 18 2	NG B N2 '-0" F	LS	OF				ALL STEEL I - 4"			SIDE INFORC	Mir 29'-1 29'-1 29'-1 29'-1 29'-1 29'-1	WING <u>W3</u> 24'-0 3 9 ي	LENGTI								WALL CING S f0" Q. VO N	BARSIZ	3/8"	1 OF F					TOP SLA STRIBU FORCING "g" NGTH SDACING SDACING			LENGTH	2 2 2 2 2 2	24'- F10	OOTIN					AB TION G STEEL			RIIN SIZE	1'-5" 4	NG B W4 ∙0 3/8"	G HEEL					B D REINI LE JZIS			NTERIO NFORC	44 2 44 2	F1	•] [IOTTOM DISTRIBU FORCIN "e" ENGTH			OR WALL	22'-10"	0 C 1 11	CON (Inclu	CLA				SLAB TION G STEEI			LENGTH	6 12 6 12 6 8 6 6 12	UTLET U.YD 5.19	NCRETE des apro	ASS "S"				D REINI			SIZE SIZE		F12	n)	R				SIDE WA ISTRIBUT FORCING "d1" ENGTH SNGTH			"g	HLONU 3'-4' 1'-8'	0l 1 2	icludes a rei	EINFOR				ALL TION G STEEL CO UN ON				" 66 "	UTLET	pron and quired)	CING S							NOIT ELLENGTHS Max Min	576 576	s WING	d laps if	STEEL				TERIOR XSTRIBU FORCIN "d2" ENGTH			BOTTO								WALL JTION NG STEE H = SL			SPACING SPACING	-							EL			AB DISTI RCING S "e" Q. SA SON	Vin. Ba #4 #5 #6 #7 #8				(0 ASS "S"		-	RIBUTIO STEEL SHLONAT Max Min	ar Lap 1'- 2'- 2'- 3'- 4'-).36	TO		CU. YDS. CONCRETE			SIZE NG	Length 9" 2" 7" 6" 7"				105	TAL		LBS. STEEL (GR. 60)			DE WAL REINFO											rcing											IBUTION STEEL LONG	Bar #4 #5 #6 #7 #8			R							SIZE -	Pin Dia			ATE EVISED							INTER DISTR EINFOR Sand	Table 3" 3/4" 1/2" 1/4" 6"		1	DA Fil											ITE LMED							LL N TEEEL LONG SHORT				DATE	~					J		O Any sha "Re			ED						L	CU. YDS. CONCRETE	TABUL Bar Lap II be con inforcing		C	DATE FILMED	-							AR DA CHECK Requi sidered Steel			PE0. 0151.	•						LBS. STEEL (GR 60) (Includes HDWL)	TA BY: _ ED BY:_ red for d subsidi - Roade		108 NO.	1040 ST4 5 AF	~-							CC W1 the Si jiary to jway ()			ATE FE RK.	•							Kewed End S the item Srade 60)."	ARI LIC PROF 2 ENG	030530 ECIAL DET	ed. Aid Proj.								1129 HREA 04/26 08/07	ANŠAS ENŠEI SSION	13 ILS	10. SHEET								3 7/2022 7/2023	MAL ST	38	1014L SHEE 1										<u>;</u>	is								
C	T I I VM	Ě																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
l	DNAL R		O SIDE WALL THK.	10. RE		F SECTION LENGTH	10" 10" 9" 4 11" 2" 0" 10" 9" 4 10" 9" 4 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 10" 9" 4 0" 0" 10" 9" 4 0" 0" 0" 0" 0" 0" 0" 0" 0" 0"	8" 4		ź																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
BS. 51	REINF.		▲ INTERIOR WALL THK.	Q'D		TOP SLAB THK.	NIDEAS 12 12	SXOR SK	KEW (DB	EG.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FOR H		S OVER ALL WIDTH	SIZ		HDWL DEPTH	7 X 7 X 7 X 7 X 7 X 7 X	SL 3:1 F2	SLOPE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	DWL		Q OVER ALL HEIGHT	E		BOTTOM SLAB THK.	4'-11' 1'-6" 3'-6" 4'-11' 1'-6" 3'-6"	MGH 37'- SI	L LENGT	т																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Ş				LE	"k2"	 > SIDE WALL IHK. ▲ INTERIOR WALL THK. 	- BARSIZ	4" 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
IZE 4			75 SECTION LENGTH (FT.)	NGTH	IDWL B	9 OVER ALL WIDTH	VO. REG	HL '-0" F3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Y 1'-0"	"h"		LE "a"		ARS	v	LENGTH	H IV WH1 8'-10"	IDWL	WALL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
LEN(HDWL		ENGTH Bent	NO. RE		Q OVER ALL HEIGHT	ZIS	 2 		LHEIGH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
GTH 0"	BARS		= OW - t "b"	EQ'D	-	SIZE	8 8 81 8PACINC 8 81 8PACINC 80 80 80 80 80 80 80 80 80 80 80 80 80	VM12 VH2 2'-8" F4	IG END	HT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
NO. R 40			4" + BE "c"	SIZE		SPACING	Min 2'-1" Max 17'-5' Min 2'-1" Max 17'-5'	WING A AF1 30	(DE	WIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
EQ'D 0			SPACING	LENG		P SLAB Ta" RNGTHS A Max Min		B WING B AF2 30	NGLE (GREE)	GWALL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			NO. REQ'D	STH .	"h" HC	REINF ON ON	8 4 NO. REG.	F5	IDTI	4 AT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			BOTTO	Y	WL BA	BIZE SIZE	20'-8"	₩E 5'-2"	ALL END																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			OM SLA	NO	RS	G STEE	4 18 BAR SIZ	WIN 4'-3	FO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			B REIN = OW - "b1"	D, REQ		T VARY		NG A /F1 7/8" F	OTING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			FORCII 4" + BI "f"	D		SIZE	Min Max Min Max Min Max Min Max Min Max Min Max Min Max	WIN 4'-3 6	S AT HE	OF WIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			NG STE ENDS		-	SPACING	5'-6" 11'-3" 2'-4" 2'-4" 3'-3" 9'-0" 5'-6" 11'-3" 2'-4" 2'-4" 2'-4" 3'-3" 9'-0"	NG B VF2 3 7/8"	OWL	G																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			NO. REQ'D			TOM S d" Max Min	ZIS	W L	PAF	FO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			SI REINFO			LAB RE Q, ON NO	24'-1	NG A G1 '-4" F7	RALLEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			DE WA ORCING "ID" TH = C		-		9 9 BAR SIZ		WITH H	MENS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			ALL G STEE DH - 4"			SPACING	18 14 18 14	ING B G2 1'-4" F8	HDWL	SION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			EL RE			STEEL The read of the second s	Mir 2'-8 4 Ma 3'-9 4 Ma 3'-9 4 Ma 3'-9	WIN A 21'-0 3	WIN	LET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			INTER EINFOR ENGTI Sbycing			NO. REQ'D	VARY I VARY 4 VA	IG WI 1 V 0" 21	NGWAL	NGTH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			RIOR WARCING : "f1" H = OH			REI 3ZIS	18 2 18 2 18 2	NG B N2 '-0" F	LS	OF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			ALL STEEL I - 4"			SIDE INFORC	Mir 29'-1 29'-1 29'-1 29'-1 29'-1 29'-1	WING <u>W3</u> 24'-0 3 9 ي	LENGTI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
						WALL CING S f0" Q. VO N	BARSIZ	3/8"	1 OF F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			TOP SLA STRIBU FORCING "g" NGTH SDACING SDACING			LENGTH	2 2 2 2 2 2	24'- F10	OOTIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			AB TION G STEEL			RIIN SIZE	1'-5" 4	NG B W4 ∙0 3/8"	G HEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			B D REINI LE JZIS			NTERIO NFORC	44 2 44 2	F1	•] [
			IOTTOM DISTRIBU FORCIN "e" ENGTH			OR WALL	22'-10"	0 C 1 11	CON (Inclu	CLA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			SLAB TION G STEEI			LENGTH	6 12 6 12 6 8 6 6 12	UTLET U.YD 5.19	NCRETE des apro	ASS "S"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			D REINI			SIZE SIZE		F12	n)	R																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			SIDE WA ISTRIBUT FORCING "d1" ENGTH SNGTH			"g	HLONU 3'-4' 1'-8'	0l 1 2	icludes a rei	EINFOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			ALL TION G STEEL CO UN ON				" 66 "	UTLET	pron and quired)	CING S																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						NOIT ELLENGTHS Max Min	576 576	s WING	d laps if	STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			TERIOR XSTRIBU FORCIN "d2" ENGTH			BOTTO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			WALL JTION NG STEE H = SL			SPACING SPACING	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			EL			AB DISTI RCING S "e" Q. SA SON	Vin. Ba #4 #5 #6 #7 #8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
(0 ASS "S"		-	RIBUTIO STEEL SHLONAT Max Min	ar Lap 1'- 2'- 2'- 3'- 4'-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
).36	TO		CU. YDS. CONCRETE			SIZE NG	Length 9" 2" 7" 6" 7"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
105	TAL		LBS. STEEL (GR. 60)			DE WAL REINFO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
						rcing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
						IBUTION STEEL LONG	Bar #4 #5 #6 #7 #8			R																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						SIZE -	Pin Dia			ATE EVISED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						INTER DISTR EINFOR Sand	Table 3" 3/4" 1/2" 1/4" 6"		1	DA Fil																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
										ITE LMED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						LL N TEEEL LONG SHORT				DATE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
~					J		O Any sha "Re			ED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					L	CU. YDS. CONCRETE	TABUL Bar Lap II be con inforcing		C	DATE FILMED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
-							AR DA CHECK Requi sidered Steel			PE0. 0151.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
•						LBS. STEEL (GR 60) (Includes HDWL)	TA BY: _ ED BY:_ red for d subsidi - Roade		108 NO.	1040 ST4 5 AF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
~-							CC W1 the Si jiary to jway ()			ATE FE RK.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
•							Kewed End S the item Srade 60)."	ARI LIC PROF 2 ENG	030530 ECIAL DET	ed. Aid Proj.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
							1129 HREA 04/26 08/07	ANŠAS ENŠEI SSION	13 ILS	10. SHEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
							3 7/2022 7/2023	MAL ST	38	1014L SHEE 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
									<u>;</u>	is																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

1.1 17FILENAM

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2 DETAILS OF R.C. BOX CULVERT TRIPLE BARREL BOX CULVERT Sto. 115+82

SPECIAL DETAILS





5/25/2023 cschoppe R030530.DGN









STAGE 1:

INSTALL ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING DETAILS.

CONSTRUCT TEMPORARY PIPE CULVERTS AT STA. 215+70.

CONSTRUCT TEMPORARY DETOUR FROM STA. 209+01.78 TO STA. 219+07.92

STAGE 2:

INSTALL CONSTRUCTION PAVEMENT MARKINGS AND TRAFFIC DRUMS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

SHIFT TRAFFIC TO DETOUR AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

REMOVE EXISTING BRIDGE STRUCTURE M3258.

CONSTRUCT NEW BOX CULVERT AND WINGWALLS LT. OF C.L. AT STA. 115+82.

NOTCH AND WIDEN HWY. 387 FROM STA. 111+50 TO STA. 115+55, STA. 116+15 TO STA. 116+80, AND STA. 118+45 TO STA. 120+00.

CONSTRUCT FULL DEPTH HWY. 387 FROM STA. 115+55 TO STA. 116+15 AND STA. 116+80 TO STA. 118+45.

STAGE 3:

INSTALL PRECAST BARRIER, CONSTRUCTION PAVEMENT MARKINGS, AND TRAFFIC DRUMS AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS. SHIFT TRAFFIC TO MAIN LANES.

FINISH NOTCH AND WIDEN AT TIES INS.

REMOVE TEMPORARY DETOUR.

EXIST. BOW -

CONSTRUCT BOX CULVERT WINGWALLS RT. OF C.L.

PLACE FINAL 2" LIFT OF ACHM AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

115









cschoppe 5/25/2023 R030530.DGN



cschoppe 5/25/2023 R030530.DCN

																	550.00			
															REVISED	REVISED	DIST.NO. S	TATE JOF	3 NO. 3	NO. SHEETS
																	6 A	RK. 0305	50 .	23 38
																_				
																		<u>.ə</u>		
				4 D)															ALL ST I	TE 0
	1							VICES			1			1					Jer ARK	ANSAS
SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGN	S REQUIRED	VERTICAL PANELS	TRAFFIC DRUMS	BARRICAD	ES (TYPE III)	FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. ATTEI (RE	IMPACT N.BARR. PAIR)			LICH PROFE ENC	ENSED SSIONAL INFER
				I	I	-	NO	SO FT	FA		KIGHT		<u> </u> :т	F	ACH				CAN CAN	17433 001
W20-1	ROAD WORK 1500 FT	48"x48"	2	2	2	2	2	32.0						-						REAUS
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0											101	19/10/3
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0												1 parts
W20-1	ROAD WORK AHEAD	48"x48"	1	1	1	1	1	16.0												
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	24.0												
R11-2	ROAD CLOSED	48"x30"	2	4	2	4	4	40.0												
OM-3L	OBJECT MARKER	12"x36"			3	3	3	9.0												
OM-3R	OBJECT MARKER	12"x36"			4	4	4	12.0												
W1-6	LARGE ARROW	48"x24"		2	2	2	2	16.0												
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	20.0												
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	4	4	4	4	4	36.0												
W8-1	BUMP	30"x30"	2	2	2	2	2	12.5							_					
		_	23	23	23	23			23											
		_	39	44	29	44				44										
		_	10	20	10	20					20				-					
		_	16	32	16	32					32				_					
	TYPE III BARRICADE-LT. (16)		16	32	16	32						32								
	ELIDNISHING AND INSTALLING DRECAST CONCRETE BARRIER	-			233	233							233		-					
		-			233	233							200	1						
					1	1								<u> </u>		1				
					† '	† '	1			1						·				
TOTALS:		•	•					281.5	23	44	32	32	233	1		1				

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING		
				MARKINGS			TYPE II	6"		12"
							(YELLOW/YELLOW)	WHITE	YELLOW	WHITE
	LIN. FT EACH			LIN. FT.		LIN. FT.	EACH	LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	773			773						
CONSTRUCTION PAVEMENT MARKINGS	3951	4425			8376					
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		595	910			1505				
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	25	22	14				61			
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")			3017					3017		
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")			2758						2758	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")										20
TOTALS:	1	1	1	773	8376	1505	61	3017	2758	20

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

REMOVING & REPLACING TOPSOIL

	REMOVING &									
LOCATION	REPLACING									
EUCATION	TOPSOIL									
	CU. YD.									
ENTIRE PROJECT TO BE USED IF AND										
WHERE DIRECTED BY THE ENGINEER.	500									
TOTAL:	500									

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS EACH	
			LIN. FT.		
ENTIRE PR	OJECT TO B	E USED IF AND	500	2	
WHERE DIF	RECTED BY	THE ENGINEER			
TOTALS:			500	2	

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIF
117+24.58	18" X 46' C.M. CROSS DRAIN
TOTAL:	
NOTE: QUANT	TITIES SHOWN ABOVE SHALL INCL
OF ALI	HEADWALLS AND FLARED END

5/25/2023 cschoppe R030530.DGN

STATION 111+00 TOTALS:

CLEARING AND GRUBBING

N	STATION	LOCATION	CLEARING	GRUBBING			
			STATION				
	120+00	HWY. 387	9	9			
			9	9			

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	LOCATION	LUMP SUM
115+51.62	116+13.67	MAIN LANES - (SITE NO. 1)	1.00

PTION	PIPE CULVERTS
	EACH
	1
	1
UDE REMOVAL & DISPOSAL	

SECTIONS IF APPLICABLE.

QUANTITIES

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SU COURSE (1/2 PER SQ. YD	JRFACE 2") 220 LBS. . (PG 64-22)	AGGREGATE BASE COURSE (CLASS 7)
			FEET	SQ. YD.	TON	TON
115+24	LT.	HWY. 387	16	44.80	4.93	46.29
215+12	LT.	HWY. 387 DETOUR	16	66.13	7.27	27.00
216+91	LT.	HWY. 387 DETOUR	22	197.79	21.76	80.76
* ENTIRE PRO	JECT TEMPOR	RARYDRIVES				10.00
TOTALS:				308.72	33.96	164.05

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3	
			LIN. FT.	SQ. YD.	
116+50.00	120+00.00	HWY. 387	350.00	311.11	
TOTAL:		•		311.11	

NOTE: AVERAGE WIDTH = 8'-0"

		EARTHWORK		
			UNCLASSIFIED	COMPACTED
STATION	STATION	LOCATION / DESCRIPTION	EXCAVATION	EMBANKMENT
			CU.	YD.
ENTIRE	PROJECT	STAGE 1-MAIN LANES	525	2326
ENTIRE	PROJECT	STAGE 2-MAIN LANES	138	2499
ENTIRE	PROJECT	STAGE 3-MAIN LANES	2700	300
ENTIRE	PROJECT	APPROACHES		115
ENTIRE	PROJECT	TEMPORARY APPROACHES		100
		WHITE OAK	274	497
TOTALS:			3637	5837

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

BASIS OF ESTIMATE:

* QUANTITY ESTIMATED

SEE SECTION 104.03 OF THE STD. SPECS.

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

						STRUC	TURES						
STATION	DESCRIPTION	TEMPO	ORARY /ERTS	SIDE DRAIN	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE- ROADWAY	REINF. STEEL- ROADWAY (GRADE 60)	UNCL.EXC. FOR STR ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		18"	72"	24"									
					LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
215+12	DETOUR - TEMP. PIPE CULVERT	30											PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
215+82	DETOUR - QUINT. TEMP. PIPE CULVERT		265										PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
216+88	DETOUR - TEMP. PIPE CULVERT	72											PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
300+27	STATE PARK - CONST. SIDE DRAIN			68									PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
SUBTOTAL	_S:	102	265	68									
					STR	UCTURES OV	/ER 20' - 0" S	PAN					
115+82	MAIN LANES - CONST. TRI. R.C. BOX CULVERT				12	8	42	202.23	26369	105	38	0.48	SPECIAL DETAILS, RCB-1, RCB-2
SUBTOTAL	_S:							202.23	26369	105	38	0.48	
TOTALS:		102	265	68				202.23	26369	105	38	0.48	
	STIMATE												

SIS OF ESTIMATE

WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

ACHM SURFACE COURSE (1/2")......94.6% MIN. AGGR......5.4% ASPHALT BINDER

							ERO	SION CONT	ROL									
	I STATION		PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							-			
STATION			SPECIAL SEEDING	LIME	SPECIAL MULCH	WATER	SPECIAL SECOND SEEDING	TEMPORARY SEEDING	SPECIAL MULCH	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	FILTER SOCK (18")	DUMPED RIPRAP	SEDIMENT BASIN	OBLITERATION OF SEDIMENT	*SEDIMENT REMOVAL &
					COVER		APPLICATION		COVER		(E-5)	(E-6)	(E-11) (E-13)	(E-9)	(E-13)	DASIN	DISPUSAL	
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						1.25	1.25	25.5	198	27	1164					61
ENTIRE	PROJECT	STAGE 1						0.46	0.46	9.4	110	15						10
ENTIRE	PROJECT	STAGE 2						0.75	0.75	15.3	22	3						2
ENTIRE	PROJECT	STAGE 3	1.51	3.02	1.51	154.0	1.51	1.51	1.51	30.8								1
*ENTIRE PR	OJECT TO BE	USED IF AND WHERE DIRECTED BY THE ENGINEER.	0.38	0.76	0.38	38.5	0.38	0.99	0.99	20.3	83	11	291	200	25	100	100	18
TOTALS:			1.89	3.78	1.89	192.5	1.89	4.96	4.96	101.3	413	56	1455	200	25	100	100	91
BASIS OF E	STIMATE:																	

LIME2 TONS / ACRE OF SEEDING WATER... .. 102.0 M.G. / ACRE OF SEEDING .. 20.4 M.G. / ACRE OF TEMPORARY SEEDING WATER. WATER 12.6 GAL. / SQ. YD. OF SOLID SODDING WATTLE DITCH CHECKS9 LIN. FT. / LOCATION SAND BAG DITCH CHECKS......22 BAGS / LOCATION

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

*QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS		
		6 ARK. 0305	030530	24	38			
		QUANTITIES						



BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
115+82	C.L. HWY. 387	1
TOTAL:		1

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS

SHALL BE FURNISHED AND PLACED BY STATE FORCES.

SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	* SOIL STABILIZATION TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE	50
		DIRECTED BY THE ENGINEER	
TOTALS:			50

* QUANTITY ESTIMATED.

SEE SECTION 104.03 OF THE STD. SPECS.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT		
			FEET	SQ. YD.		
110+00.00	111+00.00	MAIN LANES	24.00	266.67		
120+00.00	121+00.00	MAIN LANES	24.00	266.67		
TOTAL: 533.34						
		D MILLING STOCKPILE LOCATIONS W/		NGINEER		

STOCKPILE LOCATION SHALL BE NO FURTHER THAN FIVE MILES FROM EACH OTHER.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	таск соа
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	4	8
DIRECTED BY THE ENGINEER		
TOTALS:	4	8

BASIS OF ESTIMATE:

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC ... 25 TON/MILE TACK COAT FOR MAINTENANCE OF TRAFFIC. ..50 GAL./MILE

	TOTAL	:	
	NOTE:	QUAN	ΓΙΤΥ E
	SEE SE	ECTION	104.0
S	CARIF	YING	AND
	_		

ENTIRE PROJECT -

DIRECTED BY THE

STATION	STATION	LOCATION	SCARIFYING AND RECOMPACTING ROADWAY	
			STATION	
116+80.00	118+00.00	MAIN LANES	2	
TOTAL:			2	
		DEDTUC		

NOTE: AVERAGE MILLING DEPTH 6'

BASE AND SURFACING AGGREGATE BASE TACK COAT ACHM BINDER COURSE (1") COURSE (CLASS 7) LENGTH STATION STATION LOCATION TOTAL TON GAL. PER POUND / AVG. WID. POUND / PG 64-22 AVG. WID. TON SQ.YD. GALLON SQ.YD. SQ.YD. WID STATION SQ. YD. SQ.YD. SQ.YD. FEET FEET FEET FEET TON MAIN LANES 109+01.78 111+00.00 MAIN LANES - TRANSITION 198.22 10.00 19.82 24.00 528.59 0.17 89.86 111+00.00 115+55.00 MAIN LANES - NOTCH AND WIDEN 455.00 93.00 423.15 24.00 1213.33 0.17 206.27 115+55 00 116+15 00 MAIN LANES - FULL DEPTH 60.00 170.75 102.45 24.00 160 00 0.05 8 00 20.46 136.40 330.00 22.51 20.25 135.00 220.00 116+15.00 116+70.00 MAIN LANES - NOTCH AND WIDEN 55.00 93.00 51.15 24.00 146.67 0.17 24.93 MAIN LANES - FULL DEPTH 170.75 48.76 116+70.00 118+00.00 130.00 221.98 24 00 346 67 0.05 17.33 20.46 295.53 330.00 20.25 292.50 220.00 118+00.00 120+00.00 MAIN LANES - NOTCH AND WIDEN 200.00 93.00 186.00 24.00 533.33 0.17 90.67 120+00.00 121+00.00 MAIN LANES - TRANSITION 100.00 10.00 10.00 45.33 24.00 266 67 0.17 209+42.09 211+88.41 MAIN LANES - DETOUR 246.32 VAR. 256.15 181.25 217+48.00 MAIN LANES - DETOUR 559.59 1014.26 211+88 41 217+48.00 219+17.95 MAIN LANES - DETOUR 169.95 VAR. 119.10 ADDITIONAL FOR LEVELING 111+00.00 112+45.00 MAIN LANES - LEVELING 145.00 20.00 322.22 0.17 54.78 119 + 10.00120+00.00 MAIN LANES - LEVELING 90.00 20.00 200.00 0.17 10.00 ADDITIONAL FOR METHOD OF RAISING GRADE 115+55.00 MAIN LANES - GRADE RAISE 112+45.00 310.00 20.00 688.89 0.17 34.44 20.00 688.89 VAR. 284.17 116+15.00 116+70.00 MAIN LANES - GRADE RAISE 55.00 20.00 122.22 0.17 6.11 20.00 122.22 VAR. 50.42 VAR. 118+00.00 119+10.00 MAIN LANES - GRADE RAISE 110.00 20.00 244.44 0.17 12.22 20.00 244.44 174.77 ADDITIONAL FOR SUPERELEVATION 113+37.40 MAIN LANES - MAX SUPERELEVATION 114.46 25.75 29.47 112+22 94 113+37.40 115+37.40 MAIN LANES - SUPER. TRANSITION 200.00 13.00 26.00 116+06.29 117+05.84 MAIN LANES - SUPER. TRANSITION 99.55 12.50 12.44 117+05.84 118+05.39 MAIN LANES - SUPER. TRANSITION 99.55 12.50 12.44 120+00.00 MAIN LANES - SUPER. TRANSITION 118+05.39 194.61 15.00 29.19 WHITE OAK DR 300+00.00 300+90.61 WHITE OAK TURNOUT 90.61 VAR. 122.30 300+90.61 303+00.00 WHITE OAK 209.39 114.25 239.23 TOTALS: 2875.13 4773.03 599.94 1487.48 580.63 427.50 BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2")... .94.6% MIN. AGGR.. .5.4% ASPHALT BINDER

ACHM BINDER COURSE (1")... .95.6% MIN. AGGR4.4% ASPHALT BINDER MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22

MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

Ι	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS		
			6	ARK,	030530	25	38		
Į			QUANTITIES						

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
TO BE USED IF AND WHERE	20
ENGINEER	
	20



STIMATED.

3 OF THE STD. SPECS.

D RECOMPACTING ROADWAY

ACHM SU	ACHM SURFACE COURSE (1/2")							
PG 64-22	AVG. WID.	SQ.YD.	POUND /	PG 64-22	TOTAL PG 64-22			
TON	FEET		SQ.TD.	TON	TON			
•								
	24.00	528.59	220.00	58.14	58.14			
	24.00	1213.33	220.00	133.47	133.47			
14.85	24.00	160.00	220.00	17.60	32.45			
	24.00	146.67	220.00	16.13	16.13			
32.18	24.00	346.67	220.00	38.13	70.31			
	24.00	533.33	220.00	58.67	58.67			
	24.00	266.67	220.00	29.33	29.33			
	24.00	656.85	220.00	72.25	72.25			
	24.00	1492.24	220.00	164.15	164.15			
	24.00	453.20	220.00	49.85	49.85			
	20.00	322.22	VAR.	70.89	70.89			
	20.00	200.00	VAR.	44.00	44.00			
	20.00	688.89	220.00	75.78	75.78			
	20.00	122.22	220.00	13.44	13.44			
	20.00	244.44	220.00	26.89	26.89			
	VAR.	269.42	220.00	29.64	29.64			
	22.00	511.84	220.00	56.30	56.30			
47.03		8156.58		954.66	1001.69			

QUANTITIES

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 201	CLEARING	9	STATION
201	GRUBBING	9	STATION
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	1	EACH
SP, SS, & 210	UNCLASSIFIED EXCAVATION	3637	CU. YD.
SP & 210	COMPACTED EMBANKMENT	5837	CU. YD.
SP	REMOVING AND REPLACING TOPSOIL	500	CU. YD.
SP & 210	SOIL STABILIZATION	50	TON
SP	SCAREYING AND RECOMPACTING ROADWAY	2	STATION
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS /)	3039	TON
55 & 401		608	GAL.
SP, SS, & 406		200	
SP, 35, & 400		20	
SP SS & 407		56	TON
SP & 412		533	
SP SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	4	TON
SP. SS. & 415	ACHM PATCHING OF EXISTING BOADWAY	20	TON
601	MOBILIZATION	1	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	18" TEMPORARY CULVERT	102	LIN. FT.
603	72" TEMPORARY CULVERT	265	LIN. FT.
SS & 604	SIGNS	282	SQ. FT.
SS & 604	BARRICADES	64	LIN. FT.
SS & 604	TRAFFIC DRUMS	44	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	233	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	8376	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	1505	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	//3	LIN. FT.
55 & 604		23	EACH
5P, 55, & 600		2	
SS & 611		500	
620		4	TON
SP & 620		1 89	ACRE
SP SS & 620		6.85	ACRE
620	WATER	294.3	M. GAL.
SP & 621	TEMPORARY SEEDING	4.96	ACRE
621	SILT FENCE	1455	LIN. FT.
621	SAND BAG DITCH CHECKS	413	BAG
SS & 621	FILTER SOCK (18")	200	LIN. FT.
621	SEDIMENT BASIN	100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	91	CU. YD.
621	ROCK DITCH CHECKS	56	CU. YD.
SP & 623	ISPECIAL SECOND SEEDING APPLICATION	1.89	ACRE
624		38	SQ. YD.
626	LEKOSION CONTROL MATTING (CLASS 3)		SQ. YD.
635		1.00	
/18		3017	
710		20	
721		61	
SS & 731	TEMPORARY IMPACT ATTENI IATION BARRIER	1	FACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	1	EACH
SS & 816		25	
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	105	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-ROADWAY	202.23	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	26369	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER
1/23/2024	ADDED "CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS" SS. ADDED "PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS" SP. UPDATED "PRICE ADJUSTMENT FOR FUEL" SP. REVISED ITEM NUMBER FOR "CLEARING" AND "18" TEMPORARY PIPE" ITEMS.	3 & 26
2/22/2024	REMOVED "DELAY IN RIGHT OF WAY OCCUPANCY" SP AND "FLEXIBLE BEGINNING OF WORK" SP. ADDED "SPECIAL CLEARING REQUIREMENTS FOR TRICOLORED BAT" SP AND "WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER FOR TREE CLEARING" SP. REVISED ITEM NUMBER FOR "18" TEMPORARY CULVERT".	3 & 26

5/25/2023 cschoppe R030530.DGN



SUMMARY OF QUANTITIES AND REVISIONS

Date: 7/21/2020							
Coordinate System:	ARKANSAS STATE PLANE	– SOUTH	ZONE BA	SED ON	STATIC O	BS, PN:1	& 4
	PROJECTED TO GROUND.						
Units: U.S. SURVEY	FOOT						

										DATE DATE FED.RD. REVISED REVISED DIST.NO. STA	TE JOB NO. SHEET TOTAL NO. SHEETS
										6 AR	к. 030530 27 38
									t	SURVEY C	ONTROL DETAILS
SURVEY CC	INTROL COORDINATE	S									ARKANSAS
Project N Date: 7/2 Coordinat	Name: s030530 21/2020 Ge System: ARKANS PROJEC	SAS STATE PLAN CTED TO GROUND	E – SOUTH	ZONE BAS	ED ON STATIC OBS, PN:1 & 4						LICENSED PROFESSIONAL PROFESSIONAL PROFESSIONAL
Units: U.	S. SURVEY FOOT										CALMONT AND CON
Point Name	Northing	Fastina	Flev	Feature	Description	HWY. 387 CO	NST.				10/19/1072
 1	1687357.2767	971688.4154	238.294		ARDOT STD MON STAMPED PN:1	POINT NO.	TYPE	STATION	NORTHING	EASTING	VIIILO
2 3 4 5 6 7 900 *Note - F	1686862.6678 1686580.9737 1686294.1493 1685723.2166 1685143.2803 1684460.5583 1686278.8411	971699.9085 972256.4171 972528.9992 972568.3143 973010.6616 973503.4169 972516.8892	231.327 207.526 201.975 250.972 272.576 281.386 205.145	CTL CTL CTL CTL CTL CTL CTL TBM	ARDOT STD MON STAMPED PN:2 ARDOT STD MON STAMPED PN:3 ARDOT STD MON STAMPED PN:3 ARDOT STD MON STAMPED PN:4 ARDOT STD MON STAMPED PN:5 ARDOT STD MON STAMPED PN:6 ARDOT STD MON STAMPED PN:7 CHISELED SQ IN SE CORNER BR	8000 8001 8003 8004 8006 8007 8009 8010 8012 8013 8015	POB PC PT PC PT PC PT PC PT PC	100+00.0000 102+37.6670 103+13.4695 104+21.6762 107+19.8461 110+18.2158 114+60.3354 116+14.4698 117+97.2088 118+13.5696	1687467.2438 1687232.3416 1687157.0944 1687049.2925 1686804.5900 1686672.0237 1686392.4672 1686269.5225 1686096.2847 1686080.4804	971726.1818 971690.0356 971680.9925 971671.6411 971809.1401 972076.4425 972413.8608 972506.8233 972540.6662 972536.4354	
ALL DISTA USE CAF = A PROJECT THIS CAF GRID DIST	arkings indicated NCES ARE GROUND. = 1.0 FOR STAKEOL CAF OF 0.999925 IS INTENDED FOR ANCE = GROUND DI	JI FOR THIS PR JIFOR THIS PR JOSS HAS BEEN USE WITHIN TH STANCE X CAF.	descript OJECT. USED TO E PROJECT	COMPUTE T	he individual point). THE ABOVE GROUND COORDINATES.	BOIDS BOIDS DETOUR	POE	122+34.4772 125+99.2726	1685679.5948 1685382.6921	972609.0571 972821.0110	
GRID COOR HORIZONTA VERTICAL AT A SPEC	RDINATES ARE STOR AL DATUM: NAD 83 DATUM: NAVD 88 P CIFIC POINT.	RED UNDER FILE (2011) POSITIONAL ACC	NAME SO3 URACY THI	0530gi.CT RD ORDER,	UNLESS SPECIFIED OTHERWISE	8017 8020 8021	POB PC PT PC	205+49.9800 209+01.7836 213+43.8877 216+19.1429	1686880.0619 1686723.7548 1686444.2106 1686224.6572	971656.9609 971972.1337 972309.5426 972475.5597	
REFERENCE IF THE PR REFERENCE	POINTS (1500 SE IMARY CONTROL PO POINTS ARE NOT	RIES) ARE TO DINTS LISTED A TO BE USED FO	BE USED T BOVE HAVE R VERTICA	O ESTABLI BEEN DES L CONTROL	SH CONTROL TROYED.	8023 8024	PŤ POE	217+44.1753 219+10.9032	1686108.5285 1685941.8548	972516.1772 972520.4276	
BASIS OF	BEARING:			70005		WHITE OAK					
ARKANSAS DETERMINE	STATE PLANE GRID) BEARINGS - 0 Rol Points: St	ATIC OBS	ZUNE PN:1 & 4		POINT NO.	TYPE	STATION	NORTHING	EASTING	
CUNVERGEN GRID AZIM	NUL ANGLE: -U°3(MUTH = ASTRONOMIC	SI.4 LEFI AI CAL AZIMUTH —	CONVERGEN	N33°41 20 Ce Angle.	1.08 FO:MA2.01 05.22	8025 8026 8028 8029 8031 8032 8034 8035	POB PC PT PC PT PC PT POE	299+99.9966 300+28.0630 300+90.6907 300+91.2606 302+18.9860 302+62.5954 304+16.5557 306+10.4090	1686167.8648 1686170.6002 1686157.4393 1686157.1522 1686103.2639 1686088.5462 1686083.2091 1686135.6232	972546.5471 972574.4799 972634.6687 972635.1608 972750.7632 972791.8140 972943.2416 973129.8746	

5/25/2023 cschoppe R030530.DGN

SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS





cschoppe 5/25/2023 R030530.DGN

			FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
	REVISED	REVISED	6	ARK.	030530	30	38
			PLAN	and Pr	OFILE SHEETS	\$	
L REGISTER OF TOR SHALL NOT S TO PROTECT					PR	ARKANS OFESSIO	AS ED ONAL STORES
20•38.80 .0°30'32''LT. 2°00'00'' 25.23' 20.91' 18•13.57 22·34.48 .074'/' 50' 4 4 4 50' 8 4 1 1 1 1 1 1 1 1 1 1 1 1 1		X XX			<u>\</u>		
		L \$35	'31'21"E				
××							
1					H\	NY.	387
STING) (0.057'/')							270
							260
							250
							240
							230
							220
20+00.00 3 030530)						210
							200
							190
122+00		123+00		124	+00	125	1 <u>80</u> +00



N X X X	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK.	030530	31	38
			PLAN	and pr	OFILE SHEET	S	
ISTALL P. PIPE CULVERT EMP. APPROACH.	20 CU. Y	DS.			PR	ARKANS LICENSI OFESSI ENGINE	ED DNAL DDE 2023
					31'21″E I		
		V	<u></u>		<u></u>	<u></u>	
						DET	OUR
							270
							260
							25.0
							200
							240
							230
							220
							220
							210
							200
							200
							190
220+00		221+00		222	2+00	223	180 +00





5/3/2022 cschoppe R030530.DGN



5/3/2022 cschoppe R030530.[



5/3/2022 cschoppe R030530.DGN



	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK.	030530	36	38
			CROSS	SECTI	ONS		
						250	
						245	
						240	
						235	
0 90	100	110	120	1	130 140		
STAGE 1		2 01.11MF	43 CU	AGE 3			
FILL VOLUME	0 FILL	VOLUME	21 FI				
						240	
		- + -				235	
						230	
						200	
	100	110	120			225	
STAGE 1	STAGE	2	st	AGE 3	130 140		
CUT VOLUME FILL VOLUME	0 CUT V 0 FILL	'OLUME VOLUME	23 CU 14 FI	T VOLI	JME 0 LUME 0		
SECTIO	N ST	4.120	+00	ΤO	<u>S</u> TA. 1	21+C	0



5/3/2022 cschoppe R030530.DGN

215

210



33

209.

05.64

	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK,	030530	38	38
			CROSS	SECTI	ONS		
						215	
			— -			210	
						210	
						205	
						200	
30 90	100	110	120	1	130 140		
			F I	LL VOLU	JME 85 LUME 2		
+-			$-\uparrow$			215	
						210	
					<u> </u>	205	
					<u> </u>	200	
 30 90	100	110	120	1	130 140		
			CU F I		JME 71 UMF 13		
	от ·	700					
SECTION	51A.	302+5	5U	ΙÜ	51A. 30)-5+(0



5-19-22 DATE REV DATE FILMED I SSUED

DESCRIPTION

NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING: OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ARKANSAS STATE HIGHWAY COMMISSION DETAILS OF DRIVEWAYS & STREET TURNOUTS STANDARD DRAWING DR-2



GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF IO" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING, STELL AND CONCRETE OUANTIFIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE DAY OF THE PRECAST CONCRETE

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EOUIPMENT REOURED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS: PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85. SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS. THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE. THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND I FOOT DOWN THE SIDES OF THE

IN OUTER BARRELS, ONE WEEP HOLE IS REOUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.

ARKANSAS STATE HIGHWAY COMMISSION PRECAST CONCRETE BOX CULVERTS STANDARD DRAWING PBC-I

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

FOLITY.	SP	AN	RI	SE
DIA.	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES		INC	HES	
15	18	18	11	11
18	22	22	131/2	14
21	26	26	151/2	16
24	28½	29	18	18
30	36¼	36	221/2	23
36	433%8	44	26%	27
42	511/8	51	315/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	771/2	77
108	138	138	87½	87
120	154	154	96%	97
132	168 ¾	169	1061/2	107

MORE THAN + 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE					
	CLASS	III	CLASS IV	CLASS V		
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL		
PIPE ID (IN.)		FEE	T			
12-15	2	2.5	2	1		
18-24	2.5	3	2	1		
27-33	3	4	2	1		
36-42	3.5	5	2	1		
48	4.5	5.5	2	1		
54-60	5	7	2	1		
66-78	6	8	2	1		
84-108	7.5	8	2	1		

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

	CLASS	OF PIPE		
INSTALLATION TYPE	CLASS III CLASS			
	FE	ET		
TYPE 2 OR TYPE 3	2.5	1.5		

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL

1	THE	DIME	19210192	
	EQUIV.	AASHT	ОМ 207	
	DIA.	SPAN	RISE	
	INCHES	INC	HES	
	18	23	14	
	24	30	19	
	27	34	22	
	30	38	24	
	33	42	27	
	36	45	29	
	39	49	32	
	42	53	34	
	48	60	38	
	54	68	43	
	60	76	48	
	66	83	53	
	72	91	58	
	78	98	63	
	84	106	68	
	THE ME /	SUPER S	DAM AND DIS	c

SHALL NOT VARY MORE THAN 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

I. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT. 2. INSTALL PIPE TO GRADE. 3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE. 4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE. 5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(I).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPF.

- LEGEND -

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
INSTALLATION	CLASS III	CLASS IV	CLASS V	
TIFE	FEET			
TYPE 1	21	32	50	
TYPE 2	16	25	39	
TYPE 3	12	20	30	

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

	CLASS	OF PIPE
INSTALLATION	CLASS III	CLASS IV
ITE	FE	ET
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

TRENCH SECTION EXCAVATION LINE AS REQUIRED $D_{O}(MIN)$ 12" MIN. LOWER SIDE -3" MINIMUM (6" MIN. IN ROCK)

- (2010) WITH 2010 INTERIMS.

- WORKING CONDITIONS.
- END SECTIONS ARE USED.

2-27-14	REVISED GENERAL NOTE I.
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE
3-30-00	REVISED INSTALLATIONS
II-06-97	ISSUED
DATE	REVISION



CORRUGATED STEEL PIPE (ROUND)

DIDE	1 MINUMUM	MAX.FILL	HEIGHT "H	H" ABOVE	TOP OF PI	PE (FEET
DIAMETER	PIPE TO TOP		METAL	THICKNESS	(INCHES)	
(INCHES)	"H" (FEET)	0.064	0.079	0.109	0.138	0.168
	2⅔ RIVET	INCH BY ED, WELDE	½ INCH D, OR HEL	CORRUGATI	ON (-SEAM	
12 15 18 24 30 36 42 48	 2 2 2 2	84 67 56 42 34	91 73 61 36 30 43 37	59 47 39 67 58	41 70 61	73 64
	2 3 INCH BY RIVETE	1 INCH	OR 5 INCH BOLTED.	H BY 1 INC OR HELICA	H CORRUGA L LOCK-SE	TION AM
36 42 48 54 60 66 72 78 84 90 96 102 102 102 102 114 120	 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	48 41 36 32 29 26 24	60 51 45 36 33 30 28 26 24 22	88 72 64 59 53 47 44 41 38 35 33 31 30 28 27	III 90 77 71 64 58 53 49 45 49 45 40 38 35 34 32	118 102 85 79 71 64 59 54 51 45 44 42 39 37 35

CORRUGATED ALUMINUM PIPE (ROUND)

DIDE		MAX. FILI	HEIGHT '	'H'' ABOVE	TOP OF F	PIPE (FEET
DIAMETER	PIPE TO TOP		METAL TH	HICKNESS	IN INCHES	
(INCHES)	"H" (FEET)	0.060	0.075	0.105	0.135	0.164
		2 ²/:	INCH B	Y ½ INCH	I CORRUGA	TION
12 18 24 30 42 48 54 60 66 72	 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	45 30 22	45 30 22 18 15	52 39 31 26 43 40 35	41 32 27 43 41 37 33	34 28 44 43 38 34 31 29

CORRUGATED METAL PIPE ARCHES

			STEEL				ALUMI	NUM		
	PIPE	MINUMUM	MIN.	1 MIN. HEI	GHT OF	MAX. HE	IGHT OF	MIN.	(1) MIN. HEIGHT OF	MAX. HEIGHT OF
EQUIV.	DIMENSION	CORNER	THICKNESS	FILL, "	H"(FT.)	FILL,"	Ή"(FT.)	THICKNESS	FILL, "H" (FT.)	FILL, "H" (FT.)
DIA.	SPAN X RISE	RADIUS	REQUIRED	INSTAL	LATION	INSTAL	LATION	REQUIRED	INSTALLATION	INSTALLATION
(INCHES)	(INCHES)	(INCHES)	INCHES	TYPE	Ξ 1	TYP	E 1	INCHES	TYPE 1	TYPE 1
			2	2 3 INCH E	BY 1/2 INCH (CORRUGATION			2 3 INCH BY 1/2 IN	CH CORRUGATION
	.7.7		RIV	VETED, WELDE	U, UR HELIC	AL LUCK-SEA	11M -		RIVETED OR HELIC	AL LOCK-SEAM
15		3	0.064	2				0.060	2	15
8	21×15	2	0.064	2	-		5	0.060	2 25	1 15
21	24X10	2	0.064	2.2	5			0.060	2.20	10
30	35×24	3	0.004	3	5		>	0.075	3	12
36	42×29	31/2	0.079	3		12		0.015	3	12
42	49×33	4	0.079	3		12		0.105	3	12
48	57×38	5	0.109	3		13	5	0,135	3	13
54	64×43	6	0.109	3		4	ĺ	0.135	3	14
60	71×47	7	0.138	3		15	5	0,164	3	15
66	77×52	8	0.168	3		15	5			1
72	83×57	9	0.168	3		15	5			
			2 3 INCH RIVE	BY 1 INCH I TED, WELDE	DR 5 INCH E D, OR HELIC	3Y 1 INCH CO CAL LOCK-SE	ORRUGATION			
				INSTAL	LATION	INSTAL	LATION	0	FOR MINIMUM COVER	VALUES, "H" SHAL
				TYPE 2	TYPE 1	TYPE 2	TYPE 1	2	WHERE THE STANDAR	D 2 2/3"x ¹ /3" COF
36	40×31	5	0.079	3	2	12	15	1	WITH A 3" × 1" OR 5"	× 1" CORRUGATION
42	46×36	6	0.079	3	2	13	15	(OR GREATER THAN T	HE MAXIMUM FILL
48	53×4I	7	0.079	3	2	13	15			
54	60×46	8	0.079	3	2	13	15			
60	66×51	9	0.079	3	Z	13	15			
66	(3×55	12	0.079	3		15	15			
12	01X09	14	0.079	2 2			10			
84	01X03	14	0.079	3 7		10	10			
90	103x71	6	0.09	3	2	15	15			
96	112×75	18	0.09	3	2	15	15			
102	17x79	18	0.09	3	2	15	15			
108	128×83	18	0,138	3	2	15	15			
		•						-		

CONSTRUCTION SEQUENCE

- 1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT. 2. INSTALL PIPE TO GRADE. 3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE. 4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS
- WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE_CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

3 SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL			
ST	EEL		GAUGE NUMBER
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	4
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

TRENCH SECTION EXCAVATION LINE - LEGEND -Do = OUTSIDE DIAMETER OF PIPE 12" MIN. 🖄 Dr MAX. = MAXIMUM MIN. = MINIMUM 12" MIN = STRUCTURAL BACKFILL MATERIAL = UNDISTURBED SOIL EQUIV. DIA. = EQUIVALENT DIAMETER H = FILL COVER HEIGHT OVER PIPE (FEET) XIX IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH IN ROCK-MIN. EQUALS GREATER OF: 1/2"PER FOOT OF FILL OVER PIPE (24" MAX.) TWICE CORRUGATION DEPTH TIRAI ł BEDDING CORRUGATION.

- (2010) WITH 2010 INTERIMS.

"SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

½°CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER GATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO M FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

2-27-14	REVISED GENERAL NOTE I.
12-15-11	REVISED FOR LRFD DESIGN SPECS
3-30-00	REVISED INSTALLATIONS
II-06-97	ISSUED
DATE	REVISION



	METAL PIPE CULVERT
	FILL HEIGHTS & BEDDING
DATE FILMED	STANDARD DRAWING PCM-1

ALS (CLASS SM-1, SM-2 OR SM-	-4)
Αl	_S (CLASS SM-1, SM-2 OR SM-

AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

	TRENCH WIDTH (FEET)			
PIPE DIAMETER	"H" < 10'-0"	"H" >OR= 10'-0"		
18"	4'-6"	4'-6"		
24"	5'-0"	6'-0"		
30″	5'-6"	7'-6"		
36″	6'-0"	9'-0"		
42"	7'-0"	10'-6"		
48″	8'-0"	12'-0"		

(NOTE: 18" MIN. (18" - 30" DIAMETERS) 24" MIN. (36" - 48" DIAMETERS) MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

I. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

I. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.

- 2. INSTALL PIPE TO GRADE.
- 3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
- 4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.

PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

I. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

- 2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- 3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- 5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- 6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE, IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- 7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- 8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- 9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.) B = OUTSIDE DIAMETER OF PIPE MAX. = MAXIMUM MIN. = MINIMUM

=	STRUCTURAL	BACKFILL	MATERIAL
=	UNDISTURBED	SOIL	

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT
2-27-14	REVISED CENERAL NOTE I		
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE ISSUED		STANDARD DRAWING PCP-1
DATE	REVISION	DATE FILMED	

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18″	l'-6"
24"	2'-0"
30"	2'-6"
36″	3'-0"
42"	3'-6"
48"	4'-0"

CONSTRUCTION LOADS	MINIMUM	COVER	R FO	R
	CONSTRU	CTION	LOA	DS

	Ø MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
PIPE DIAMETER	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	II0.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3′-6″	4'-0"

MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

-	_		_
	٠	•	
	٠		
•	•	••	•

	BOTTOM OF EXCAVATION & SELECTED PIPE BEDDING PAY LIMIT
TURAL BEDDING CED	
	SELECTED PIPE BEDDING (BACKFILL OF UNDERCUT IF DIRECTED BY ENGINEER)

- STRUCTURAL BACKFILL

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-I, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

 STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH, STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OF FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

	TRENC (FE	H WIDTH EET)
PIPE DIAMETER	"H" < IO'-O"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24″	5'-0"	6'-0"
30″	5'-6"	7'-6"
36″	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18″	1'-6"
24"	2'-0"
30"	2'-6"
36″	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL



NOTE: 12" MIN. (18" - 36" DIAMETERS) MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH

I. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR C

MINIMUM COVER FOR CONSTRUCTION LOADS

	② MIN. C	COVER (FEET CONSTRUCT) FOR INDICA	ATED
PIPE DIAMETER	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	II0.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUE

- 2. INSTALL PIPE TO GRADE.
- COMPACT STRUCTURAL BEDDING OUTSIDE TH
 THE STRUCTURAL BACKFILL SHALL BE PLACI LAYERS NOT EXCEEDING 8". THE LAYERS SH AND SIMULTANEOUSLY TO THE ELEVATION OF
- 5. PIPE INSTALLATION MAY REQUIRE THE USE OR OTHER APPROVED METHODS IN ORDER T ALIGNMENT.

GENERAL NOTES

- I. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- 2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- 3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- 5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- 6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL, BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- 7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.

8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.

9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

DATE FILMED

H = FILL HEIGHT (FT.) D₀ = OUTSIDE DIAMETER OF PIPE MAX.= MAXIMUM MIN.= MINIMUM



2-27-14	REVISED GENERAL NOTE I.
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL
11-17-10	ISSUED
DATE	REVISION

MBANKMENT SECTION		
02011011		
STRUCTU	IRAL BACKFILL	
н		
	BOTTOM OF EXCAVATION & SELECTED PIPE BEDDING PAY LIMIT	
E STRUCTURAL BEDDIN LY PLACED	NG	
	SELECTED PIPE BEDDING 	
INSTALLATIO	NS	
L BEDDING MATERIAL S CLASS OF MATERIAL	SHALL BE COMPACTED TO USED.	
GRADE. DO NOT COM	MPACT.	
ACED AND COMPACTED		
OF THE MINIMUM COVI	JF EVENLT ER. HTING	
TO HELP MAINTAIN GR	ADE AND	
	ARKANSAS STATE HIGHWAY COMMISSION	J
		-
	PLASIIC PIPE CULVERI	

STANDARD DRAWING PCP-2

(PVC F949)

INSTALLATION TYPE	** MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE I	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4 OR TYPE I INSTALLATION MATERIAL

* SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH, STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE	CLEAR DISTANCE
18″	I'-6"
24"	2'-0"
36"	3'-0"
42"	4'-0"
60″	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

	TRENC (FI	H WIDTH EET)
PIPE DIAMETER	"H" < 10'-0"	"H" >OR= 10'-0"
18″	4'-6"	4'-6"
24"	5'-0"	6'-0"
30″	5'-6"	7'-6"
36″	6'-0"	9'-0"
42″	7'-0"	10'-6"
48″	8'-0"	12'-0"
60"	10'-0"	15'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

 PIPE
 18.0-50.0
 50.0-75.0
 75.0-110.0
 10.0-150.0

 DIAMETER
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)

 36" OR LESS
 2'-0"
 2'-6"
 3'-0"
 3'-0"
 3'-0"
 3'-6"
 4'-0"

② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS

 $\textcircled{O}_{\rm MINIMUM}$ cover shall be measured from top of pipe to top of the maintained construction roadway surface. The surface shall be maintained.

(I)NOTE: 12" MIN. (18" - 42" DIAMETERS) 24" MIN. (60" DIAMETER) MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



EMBANKMENT AND TRENCH INSTALLATIONS

I. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

I. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.

- 2. INSTALL PIPE TO GRADE.
- 3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
- 4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.

5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL	NOTES
---------	-------

- I. PIPE SHALL CONFORM TO AASHTO M330, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
- 3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- 5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDING" ABOVED WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- 6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- 7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- 8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- 9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT
			(POLYPROPYLENE)
02-27-20	REVISED		
II-07-19 DATE	REVISION	DATE FILMED	STANDARD DRAWING PCP-3

MAXIMUM HEIGHT OF FILL "H"

М	т
IN	

	INSTALLA	TION TYPE
PIPE DIAMETER	TYPE I	TYPE 2
18"	18′	14′
24″	16'	12'
30"	18'	14′
36″	16'	12'
42″	18'	13'
48″	15'	II'
60"	17'	12'

- LEGEND -

H = FILL HEIGHT (FT.) Do = OUTSIDE DIAMETER OF PIPE MAX. = MAXIMUM MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL



FILMED



7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: I. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-I AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	21/4″	4"
4	3 "	4 ¹ /2"
5	3¾″	5"
6	4 ¹ /2″	6″
7	5 ¹ /4″	7"
8	6"	8″



IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "D", "DI", "D2" or "D3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2³/₄ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW, THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "D", "D1", "D2" OR "D3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS. THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CLIT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "bI", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
*4	L + I' - O"	SEE "c" BAR LENGTH
*5	L + l' - 2"	SEE "c" BAR LENGTH
*6	L + l' - 4"	SEE "c" BAR LENGTH
#7	L + I' - 8"	SEE "c" BAR LENGTH
*8	L + I' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES

WINGWALL & CULVERT DRAINAGE DETAIL

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER, NO PAYMENT SHALL BE MADE FOR THIS ITEM. BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSIMANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-O" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-O" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES: BAR DIAGRAM	,
II-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	+
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	1
6-2-94	ADDED SOLID SODDING PLAN DETAIL	-
8-5-93	REVISED PIN DIAMETER TO SPECS.	+
8-15-91	DRAWN AND ISSUED	
DATE	REVISION	DAT

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

R.C. BOX CULVERT HEADWALL MODIFICATIONS

	ARKANSAS STATE HIGHWAY COMMISSION
	REINFORCED CONCRETE BOX CULVERT DETAILS
TE FILMED	STANDARD DRAWING RCB-1





								ADVANCE DISTANCES
RI-I	RI-2	R2-I	W3-5	W3-5a	R4-I	R4-2		500 FT 1/2 MILE
		SPEED		\wedge		PASS		1000 FT 94 MILE 1500 FT I MILE
CTAD	HELD	LIMIT	SPEED	XX MPH			GENERAL NOTES:	AHEAD
JUL				SPEED ZONE			I. ALL TRAFFIC CONTROL DEVICE	S USED ON ROAD CONSTRUCTION SHALL CONFORM TO AFFIC CONTROL DEVICES LATEST FDITION AND TO THE
				AHEAU	PASS		STANDARD HIGHWAY SIGNS, LAT HIGHWAY ADMINISTRATION.	TEST EDITION, OR AS APPROVED BY THE FEDERAL
				\checkmark			2. TRAFFIC CONTROL DEVICES SH	ALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION
STANDARD 30"X30"	STD 36"X36"X36"	STD. 24"X30"	STD. 36"X36"	STD. 36"X36"	STD. 24"X30"	STD. 24"X30"	OPERATIONS AND SHALL BE PP EXIST. THEY SHALL REMAIN IN	ROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
EXPRESSWAY 36"X36" SPECIAL 48"X48"	EXPWY. 48"X48"X48" EWY 60"X60"X60"	FWY. 48"X60"	FWY. 48"X48"	FWY. 48"X48"	EXPWY. 36"X48" FWY. 48"X60"	EXPWY. 36"X48" FWY. 48"X60"	3. EXISTING SIGNS AND CONSTRUC	CTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE
R5-1	RII-2	RII-3A	RII-4	W2I-5a	WI-I	WI-2	- SHALL BE REMOVED. SIGNS TH DURING CONSTRUCTION SHALL	AT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT BE CLEANED, REPAIRED, OR REPLACED.
				\wedge			• 4. SIGNS ARE USUALLY MOUNTED	ON A SINGLE POST. ALTHOUGH THOSE WIDER THAN 36"
DO NOT		(ROAD CLOSED)	(ROAD CLOSED)	RIGHT			OR LARGER THAN IO SO.FT.S BARRICADE.	HALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III
	I RUAD			SHOULDER			• 5. SIGN POSTS DIRECT BURIED IN WOOD POSTS, CHANNEL POSTS	SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"×4" S SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED
ENTER		LOCAL TRAFFIC ONLY	THRU TRAFFIC	CLOSED			WHITE. ALL POSTS SHALL BE N REPAIRED AS NEEDED FOR THE	EATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN
				\sim			2 POSTS IN A 7' PATH FOR WO SHALL BE IN ACCORDANCE WIT	00D OR CHANNEL POSTS. ANY CHANNEL POST SPLICE H STANDARD DRAWING TC-3.
STD. 30"X30" EXPWY. 36"X36"	48"X30"	60"X30"	60"X30"	STD. 36"X36" FWY. 48"X48"	STD. 36"X36"	STD. 36"X36" FWY. 48"X48"	6. POST MOUNTED SIGNS IN RURA THE SIGN FROM 6 TO 12 FEET	AL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF
SPECIAL 48"X48"						40 ×40	BARRICADE MOUNTED SIGNS SH	ALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT
WI-3	WI-4	WI-6	WI-8	W3-I	W3-2	W4-2	7. ALL POST AND BARRICADE MOL A MINIMUM DISTANCE OF 7' FRO	JNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED OM THE ROTTOM OF THE SIGN TO THE ROADWAY SURFACE.
							ALL POST AND BARRICADE MOL A MINIMUM DISTANCE OF 7' FRO	INTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED OM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE,
							EXCEPT A MINIMUM OF 6' SHAL WARNING SIGN. TEMPORARY SIG	L BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A NS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR
					$ \setminus \nabla /$		INTERMEDIATE TERM STATIONAR SHALL BE 5'. RETROREFLECTIV	RY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT E DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE
			STD. 18"X24"	$\overline{}$			CONDITIONS. THEY SHALL BE N	RTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE 10 LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY.
		STD. 48"X24" SPECIAL 60"X30"	SPECIAL 24"X30" EXPWY. 30"X36"	STD. 36"X36"	STD. 36"X36"	STD. 36"X36"	NECESSITATE THE USE OF POR PADS CONCRETE OR ROCK BAL	TABLE DE DIRECT BURIED IN SUIL, UNLESS CONDITIONS TABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE
STD. 48"X48"	STD. 48"X48"		FWY. 36"X48"	SPECIAL 48"X48"	SPECIAL 48"X48"	FWT. 48"X48"	WITH PORTABLE SIGN SUPPORT	
W5-I	W6-3	W8-7	W9-2	WI3-I	W20-I	W20-2	W20-3	PADDLES, FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
				$\langle \rangle / \rangle / \rangle$				9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE
ROAD		LOOSE	LANE ENDS		ROAD	DETOUR	ROAD	USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT RETTER CONVEY TO
NARROWS		GRAVEL	MERGE			XXXXX /		MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
				M.P.H.				IO. R55-ISIGNS SHALL BE PLACED AT LEAST ISOU BUT NOT MORE THAN IMILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN FEFECT.
STD. 36"X36"			STD. 36"X36"				, v	THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.
SPECIAL 48"X48"	EXPWY. 36"X36" SPECIAL 48"X48"	EXPWY. 36"X36" FWY. 48"X48"	FWY. 48"X48"	STD. 24"X24"	STD. 48"X48"	STD. 48"X48"	STD.48"X48"	• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND
W20-4	W20-5	W20-7a	W2I-2	W2I-5	W24-I	WI-4b	R56-I	VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR
W20-4				W21-5	\wedge			ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED, COMPLIANCE WITH THE
ONE LANE	RICHT I ANE		FRESH					REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR
							NO	II-07-19 REVISED FOR MASH
	XXXX	₩F 500		Workk			EXIT	4-15-11 DELETED RSP-1 & ADDED W21-50 9-2-15 REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES
		¹⁰ [FEET] ¹⁰ ² 24"	~					12-15-11 REVISED W24-1 11-17-10 DELETED W8-9g & ADDED W8-9
STD. 48"X48"	STD. 48"X48"	STD. 36"X36"	STD. 30"X30" SPECIAL 36"X36"	STD. 30"X30" SPECIAL 36"X36"	STD. 36"X36"	STD. 48"X48"	STD. 18"X18"	10-15-09 ADDED REFERENCE TO MASH & ADDED SIGN W24-1 4-17-08 REVISED SIGN DESIGNATIONS
		FWY. 48"X48"						II-18-04 REVISED NOTES 10-9-03 REVISED NOTE I
W8-II	W8-9		G20-2	OM-3L OM-3R	M4-9	M4-I0	R55-I	II-16-0I REVISED NOTE 7 9-28-00 REVISED NOTE
				YELLOW			FINES DOUBLE	#-18-98 ADDED NOTE 6-26-97 REVISED NOTE 5
	LOW		FND					4-03-97 REVISED NOTE 5 10-18-96 ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7
	SHOULDER					DETUUR		10-12-95 ADDED R55-1 6-8-95 REVISED TO CORRECT SIGN ILLUSTRATIONS 6-8-95
		[[NEXI XX MILES]		BLACK≁			WHEN WORKERS	2-2-95 REVISED PER PART VI, MUTCD SEPT. 3, 1993 8-15-91 DRAWN AND PLACED IN USE
	ř				STD. 30"X24"		ARE PRESENT	DATE REVISION FILMED ARKANSAS STATE HIGHWAY COMMISSION
STD. 36"X36" FWY. 48"X48"	STD. 36"X36"	60″X24″	48"X24"	I2"X36"	SPECIAL 48"X36" SPECIAL 60"X48"	48″XI8″	36″X60″	STANDARD TRAFFIC CONTROLS
	40 .40						• USE 6" C LETTERS	
							** USE 4" D LETTERS	

MILI	1/2	FT	500
MILE	3/4	FT	1000
MILE	1	FT	1500
AHE AD	4		







GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL, AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.
- MATERIALS SHALL MEET THE FOLLOWING MINIMUM REOUIREMENTS; CONCRETE: 2500 PSICOMPRESSIVE STRENGTH AT 28 DAYS. REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60 STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN. DELINEATORS: DELINEATORS SHALL BE MOUNTED AT IO'SPACING ON TOP OF PRECAST BARRIER.
 IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC

IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (I) FOOT FROM THE TOP OF THE BARRIER, DELINEATORS SHALL BE ON THE ARDOT OUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS. DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN, FJ, FOR "URINISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

- (3) OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.
- OWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.
- (5) ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.
- 6 A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

N DETAIL					
N SLOTS		ARKANSAS STATE HIGHWAY COMMISSION			
		STANDARD TRAFFIC CONTROLS			
N		FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER			
		STANDARD DRAWING TC-4			
	FILMED				



11/2" Dia. Hole for 1. Drift Pin-1' -6' 12'-0'' - ¾" Diam. Steel Bar(See Connection Loop Detail-Std. Drwg. TC-4) 2-*5 Bars 2-*5 Bars -=5 Bar 2-*5 Bar SPECIAL END UNIT No Scale shall be protected with a Manual For Assessing Safety Hardware (MASH) approved ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION -TEMPORARY PRECAST BARRIER STANDARD DRAWING TC-5





FLOW		
DUMPED RIPRAP		
AS NEEDED		
7		
ED		
DUMPED RIPRAP		
AS NEEDED		
	•	
		AKKANSAS STATE HIGHWAY COMMISSION
		CONTROL DEVICES
& Deleted E-13		
	FUMEO	STANDARD DRAWING TEC-2



N DITCH TO BE IN PLACE OPE IS COMPLETELY STABILIZED).	
FINAL PHASE EMB PHASE 2 EMBANKM PHASE 1 EMBANKME TATEST VARIOUS EROSION CONTROL DEVICE	SANKMENT MENT ENT S	
SEEDED, AND MULCHED AS AND STABILIZED IN YERTICALLY.		
T BASINS, SILT FENCES, ORARY SEEDING, KMENT CONSTRUCTION ATER THAN 21 DAYS, ORARY SEEDING, VMENT CONSTRUCTION		
ATER THAN 21 DAYS. OR TEMPORARY SEEDING. IN UNTIL ENTIRE		
	TEMPOR CONTR	ARY EROSION DL DEVICES
6-2-94 Filmed	STANDARD	DRAWING TEC-3