

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
					ARK.				
						JOB NO.	040694	1	32

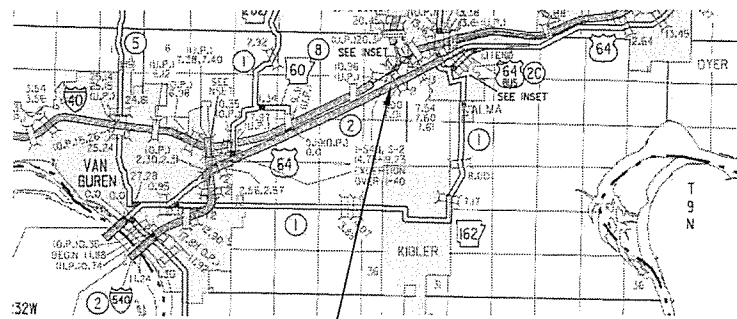
2 ALMA VIRTUAL WEIGH STATION INSTALLATION(S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS

ALMA VIRTUAL WEIGH STATION
INSTALLATION(S)

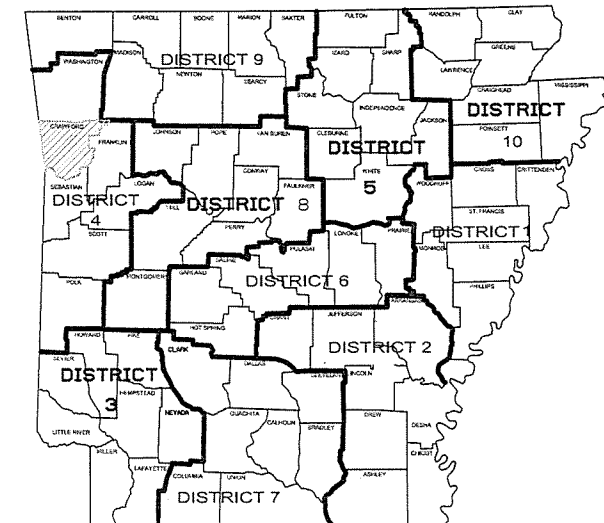
CRAWFORD COUNTY
ROUTE 64 SECTION 2

JOB NO. 040694

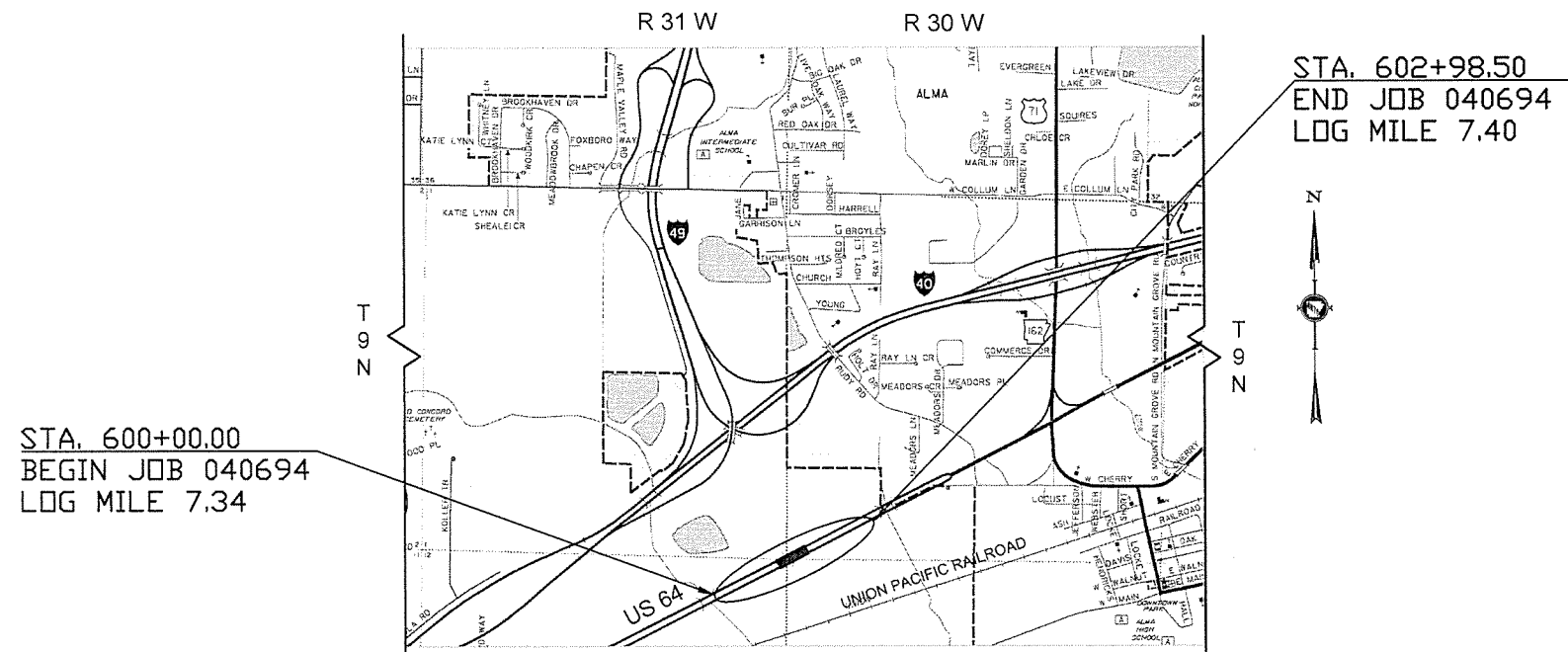


PROJECT LOCATION

VICINITY MAP



ARKANSAS HIGHWAY DISTRICT 4



LOCATION MAP
(NOT TO SCALE)

LENGTH COMPUTED ALONG CL EB HWY. 64 LANES		
GROSS LENGTH PROJECT	298.50 L.F.	0.057 MILE
NET LENGTH OF ROADWAY	298.50 L.F.	0.057 MILE
NET LENGTH OF BRIDGE	0.00 L.F.	00.00 MILE
NET LENGTH OF PROJECT	298.50 L.F.	0.057 MILE



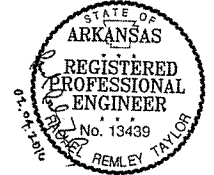
MID-POINT OF HWY. 64 VIRTUAL
WEIGH IN MOTION PROJECT
LAT. = N 35° 28' 41"
LONG. = W 94° 14' 19"

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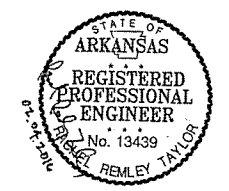
INDEX OF SHEETS - ROADWAY

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GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
JOB 040694	BIDDING REQUIREMENTS AND CONDITIONS
JOB 040694	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040694	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 040694	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 040694	HIGH PERFORMANCE PAVEMENT MARKING
JOB 040694	MANDATORY ELECTRONIC CONTRACT
JOB 040694	REMOVAL AND RELOCATION OF SIGN
JOB 040694	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040694	VIRTUAL WEIGH STATION SYSTEM
JOB 040694	WARM MIX ASPHALT
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER

GENERAL NOTES:

1. ALL REFERENCES TO ELEVATION DENOTE FINISHED GRADE UNLESS OTHERWISE NOTED. PROFILE ELEVATIONS OF ROADWAY ARE TO FINAL GRADE AT CENTERLINE.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. TREES AND SHRUBBERY THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL NOT BE DISTURBED. CARE SHALL BE USED TO PROTECT ALL TREES AND SHRUBS. AREAS MORE THAN TEN FEET BEYOND THE DAYLIGHT LIMITS (TOP OR TOE OF SLOPES) ARE DESIGNATED AS PRESERVED VEGETATION.
6. CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT'S STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION, AND THE SPECIAL PROVISIONS.
7. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210-UNCLASSIFIED EXCAVATION.

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2 GENERAL NOTES - SITE & UTILITIES



GENERAL SITE NOTES:

1. CAUTION: UNDERGROUND UTILITIES LIE WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS, HOWEVER ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL MARK THE VISIBLE UTILITIES & THE UTILITIES SHOWN ON THE PLANS IN THE FIELD. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKING UNTIL THEY ARE NO LONGER NECESSARY. USE EXTREME CAUTION WHEN EXCAVATING.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE APPROPRIATE BARRICADES AND SAFETY PRECAUTIONS IN ALL EXCAVATED AREAS. EXCAVATED AREAS SHALL BE ADEQUATELY FILLED OR COVERED BY THE CONTRACTOR BEFORE LEAVING THE JOB SITE EACH DAY.
3. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO EXISTING STRUCTURES, PAVEMENTS, AND UTILITIES.
4. CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS TO THE SITE DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL MAINTAIN THE SITE IN AN ORDERLY AND CLEAN FASHION.
6. ALL WASTE MATERIALS GENERATED FROM CONSTRUCTION BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE WASTE MATERIALS FROM THE SITE AND DISPOSE OF IN A LEGAL MANNER.
7. ALL REINFORCING STEEL SHALL BE GRADE A-60.

GENERAL UTILITY NOTES:

1. CAUTION: UNDERGROUND UTILITIES LIE WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS; HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.
2. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION AND SIZE FOR ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, UTILITIES, PAVEMENT, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
4. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARD OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE, BUT NOT LIMITED TO, ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH PERFORMANCE CRITERIA FOR OSHA.
5. CONTRACTOR SHALL ON ALL UTILITIES, COORDINATE INSPECTION WITH THE APPROPRIATE AUTHORITIES PRIOR TO COVERING TRENCHES AT INSTALLATION.
6. CONTRACTOR SHALL COORDINATE UTILITY INSTALLATIONS WITH LOCAL GOVERNING AUTHORITIES. PAYMENT OF FEES REGARDING THE INSTALLATION OF UTILITIES (I.E. TAPPING FEES, PERMIT FEES, ETC.) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

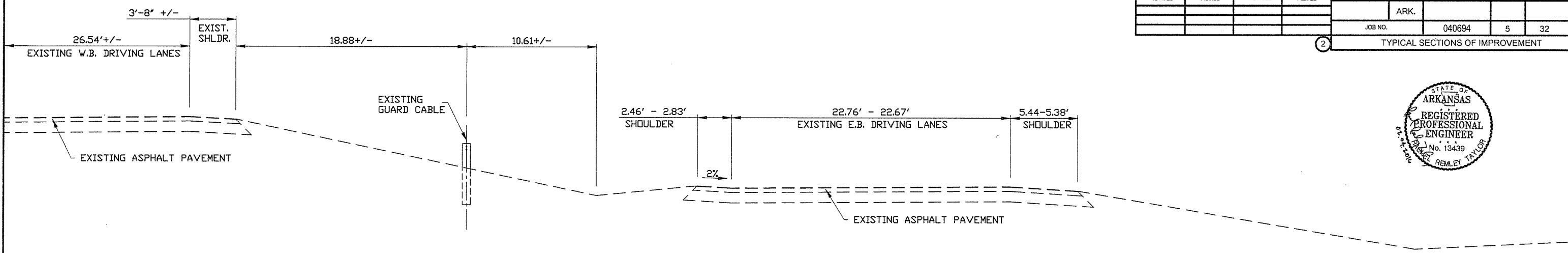
GENERAL GRADING/DRAINAGE NOTES:

1. PAVEMENT MARKINGS SHALL COMPLY WITH THE STANDARDS SET FORTH IN THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE U. S. DEPARTMENT OF TRANSPORTATION AND THE AHTD STANDARD DRAWINGS & SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATE EROSION CONTROL MEASURES. THESE MEASURES WILL SATISFY THE REQUIREMENTS OF THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY. EROSION CONTROL DEVICES WILL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. HYDROSEED, FERTILIZE AND MULCH AREAS DISTURBED BY CONSTRUCTION. COMPLY WITH THE STANDARDS SET FORTH IN THE AHTD STANDARD SPECIFICATIONS, 2014 EDITION.
4. CONTRACTOR SHALL EMPLOY A QUALIFIED MATERIALS TESTING LABORATORY, ACCEPTABLE TO THE ENGINEER, TO PROVIDE TESTING SERVICES DURING CONSTRUCTION. TEST RESULTS SHALL BE PROMPTLY SENT TO THE OWNER/ENGINEER.
5. CONTRACTOR SHALL MAINTAIN BENCHMARKS ON SITE UNTIL THE END OF CONSTRUCTION.
6. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
7. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING CONSTRUCTION OPERATIONS.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 201-UNCLASSIFIED EXCAVATION.
9. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

NOTE:
FOR ARCHITECTURAL PLANS, REFERENCE SPECIFIC BUILDING PACKAGE FOR ALMA WEIGH STATIONS RECONSTRUCTION(S) - JOB NO. 040086.

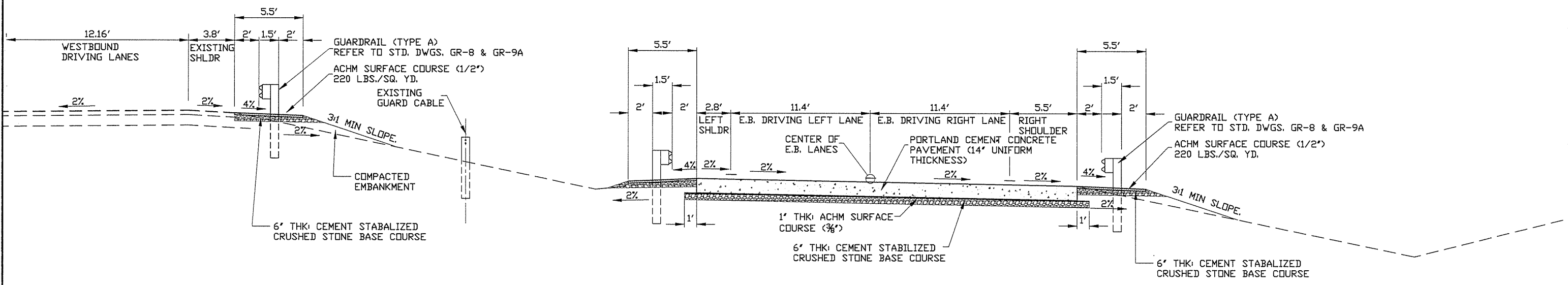
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2 TYPICAL SECTIONS OF IMPROVEMENT



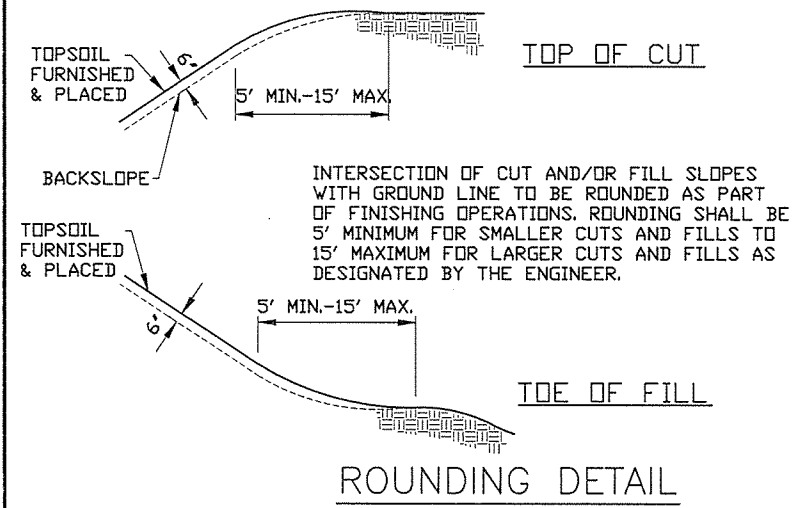
EXISTING TYPICAL SECTION EASTBOUND U.S. 64
N.T.S.

EXISTING TYPICAL SECTION EASTBOUND U.S. 64
N.T.S.



TYPICAL SECTION WESTBOUND U.S. 64
N.T.S.

TYPICAL SECTION EASTBOUND U.S. 64
N.T.S.



STORM WATER POLLUTION PREVENTION NOTES:

1. THE TOTAL AREA OF THE SITE IS APPROXIMATELY 2.0 ACRES. THE AREA DISTURBED BY IMPROVEMENTS IS APPROXIMATELY 0.50 ACRES. CLEARING AND GRUBBING WILL BE 0.21 ACRES FOR THE TOTAL PROJECT.
2. GRADING SHALL BE PERFORMED IN ONE CONTINUOUS OPERATION OF HWY. 64.
3. WHERE CUT AND FILL ACTIVITY IS GREATER THAN 6' VERTICAL HEIGHT. SLOPES ARE AS SHOWN ON THE PLANS.
4. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR UPON DISTURBANCE OF THE LAND. THESE MEASURES WILL SATISFY THE REQUIREMENTS OF THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY AND SHALL INCLUDE AS A MINIMUM:
 - A. ON DISTURBED SLOPES LEFT OPEN & UNMAINTAINED FOR A PERIOD OF MORE THAN TWO (2) WEEKS, MULCH COVER WITH HAY (TACKED, ANCHORED, OR TIED) AT THE RATE OF 1.5 TONS PER ACRE.
 - B. PROTECT TOES OF SLOPE WITH SILT FENCE WHERE INDICATED. SILT FENCE SHALL BE A MINIMUM OF 24" HIGH AND CONSTRUCTED OF FILTER FABRIC SUPPORTED BY POSTS AT NOT MORE THAN 4'-0" ON CENTER. INTEGRAL REINFORCED FILTER FABRIC OR EXTERNAL WIRE FENCING REINFORCEMENT SHALL BE PROVIDED. TRENCH ALONG BOTTOM OF EDGE OF SILT FENCE AND BURY A MINIMUM OF 4" OF FILTER FABRIC.
 - C. SAND BAG DITCH CHECKS WILL BE USED IF AND WHERE DIRECTED BY THE ENGINEER AROUND SWALES AND IN DITCHES.
 - D. IN THE OCCASION THAT WIND EROSION BECOMES EVIDENT, THE CONTRACTOR SHALL SPRINKLE THE CONSTRUCTION SITE WITH WATER TO CONTROL DUST.
 - E. CONTRACTOR SHALL KEEP VEHICLE TRACKING OF SEDIMENT TO A MINIMUM AND SHALL CLEAN HAUL ROUTES IF TRACKING BECOMES EXCESSIVE AS DETERMINED BY THE LOCAL GOVERNMENT OR AHTD ENGINEER.
5. PERMANENT VEGETATION COVER TO BE INSTALLED BY THE CONTRACTOR. COVER WILL BE:
 - A. ON ALL DISTURBED AREAS NOT TO BE PAVED, USE APPROPRIATE COVER.
 - B. TEMPORARY EROSION CONTROL MEASURES FOR SEDIMENTATION AND EROSION CONTROL WILL BE MAINTAINED UNTIL PERMANENT COVER IS ESTABLISHED.
6. CONTRACTOR SHALL OBTAIN ALL GRADING PERMITS FROM THE APPROPRIATE AUTHORITIES HAVING JURISDICTION.

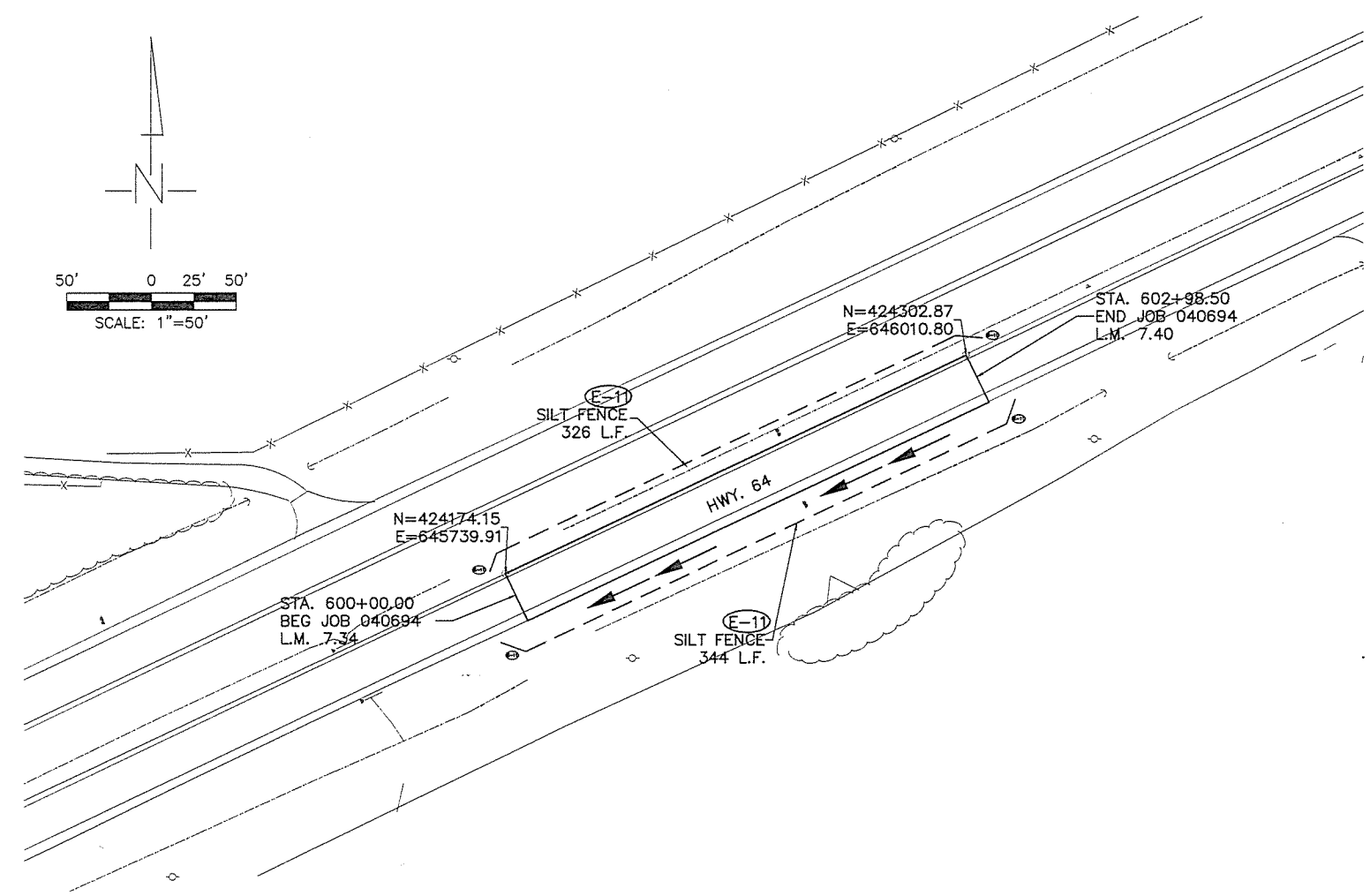
TEMPORARY EROSION CONTROL ITEMS:

SILT FENCE = 670 L.F.
 *SAND BAG DITCH CHECKS = 66 BAGS
 *QUANTITIES ESTIMATED. PLACEMENT TO BE IF AND WHERE DIRECTED BY THE ENGINEER.

NOTE: ADDITIONAL EROSION CONTROL ITEMS ARE SHOWN ON PLAN SHEET 11.

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2 TEMPORARY EROSION CONTROL DETAILS



EROSION LEGEND

- → → FLOW ARROWS
- — — LIMITS OF CONSTRUCTION
- * E-5 SAND BAG DITCH CHECKS
- E-11 SILT FENCE

REVISIONS		
DATE	REVISION	SHEET NUMBER



NOTE: TEMPORARY MAINTENANCE OF TRAFFIC DETAILS SHOWN BELOW DEPICT THE TYPICAL APPLICATION FOR CONSTRUCTION OPERATIONS ON A 4-LANE DIVIDED HIGHWAY WHERE HALF OF THE ROADWAY IS CLOSED IN ACCORDANCE WITH STANDARD DRAWING TC-3 FOR ONE OF THE EASTBOUND LANE CLOSURES. THESE SAME MAINTENANCE OF TRAFFIC DETAILS APPLY TO THE WESTBOUND LANE CLOSURE AND BOTH OF THE EASTBOUND LANE CLOSURES.

NOTE: IF REQUESTED BY THE CONTRACTOR AND WITH WRITTEN APPROVAL FROM THE ENGINEER, A SINGLE LANE CLOSURE WILL BE PERMITTED IN EACH SET OF LANES. IF SIMULTANEOUS CLOSURES ARE APPROVED, ALL ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE PROVIDED, MAINTAINED, AND REMOVED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT.

STAGE 1

- TWO (2) LANES OF WESTBOUND TRAFFIC WILL BE NARROWED TO ONE (1) LANE AND SHIFTED ONTO THE WESTBOUND OUTSIDE LANE.
1. INSTALL MAINTENANCE OF TRAFFIC ITEMS SHOWN ON PLANS BELOW FOR CLOSURE OF WESTBOUND INSIDE LANE AND SHIFT WESTBOUND TRAFFIC ONTO OUTSIDE WESTBOUND LANE.
 2. NOTCH AND WIDEN WESTBOUND SHOULDER FOR GUARDRAIL.
 3. INSTALL GUARDRAIL.
 4. INSTALL EDGE LINE PAVEMENT MARKING ALONG WIDENED INSIDE WESTBOUND SHOULDER.
 5. OPEN BOTH WESTBOUND LANES TO NORMAL TRAFFIC.

STAGE 2

- TWO (2) LANES OF EASTBOUND TRAFFIC WILL BE NARROWED TO ONE (1) LANE AND SHIFTED ONTO THE EASTBOUND INSIDE LANE.
1. RELOCATE MAINTENANCE OF TRAFFIC ITEMS SHOWN ON PLANS BELOW FOR CLOSURE OF EASTBOUND OUTSIDE LANE AND SHIFT EASTBOUND TRAFFIC ONTO EASTBOUND INSIDE LANE.
 2. INSTALL WEIGH IN MOTION ITEMS IN OUTSIDE LANE OF EB U.S. 64.
 3. CONSTRUCT CONCRETE PAVEMENT AND ACHM SHOULDER WIDENING ON EASTBOUND OUTSIDE LANE.
 4. INSTALL GUARDRAIL.

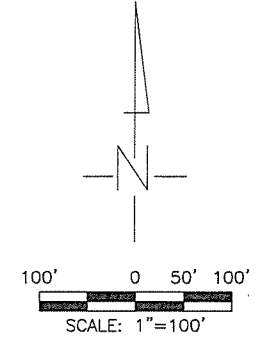
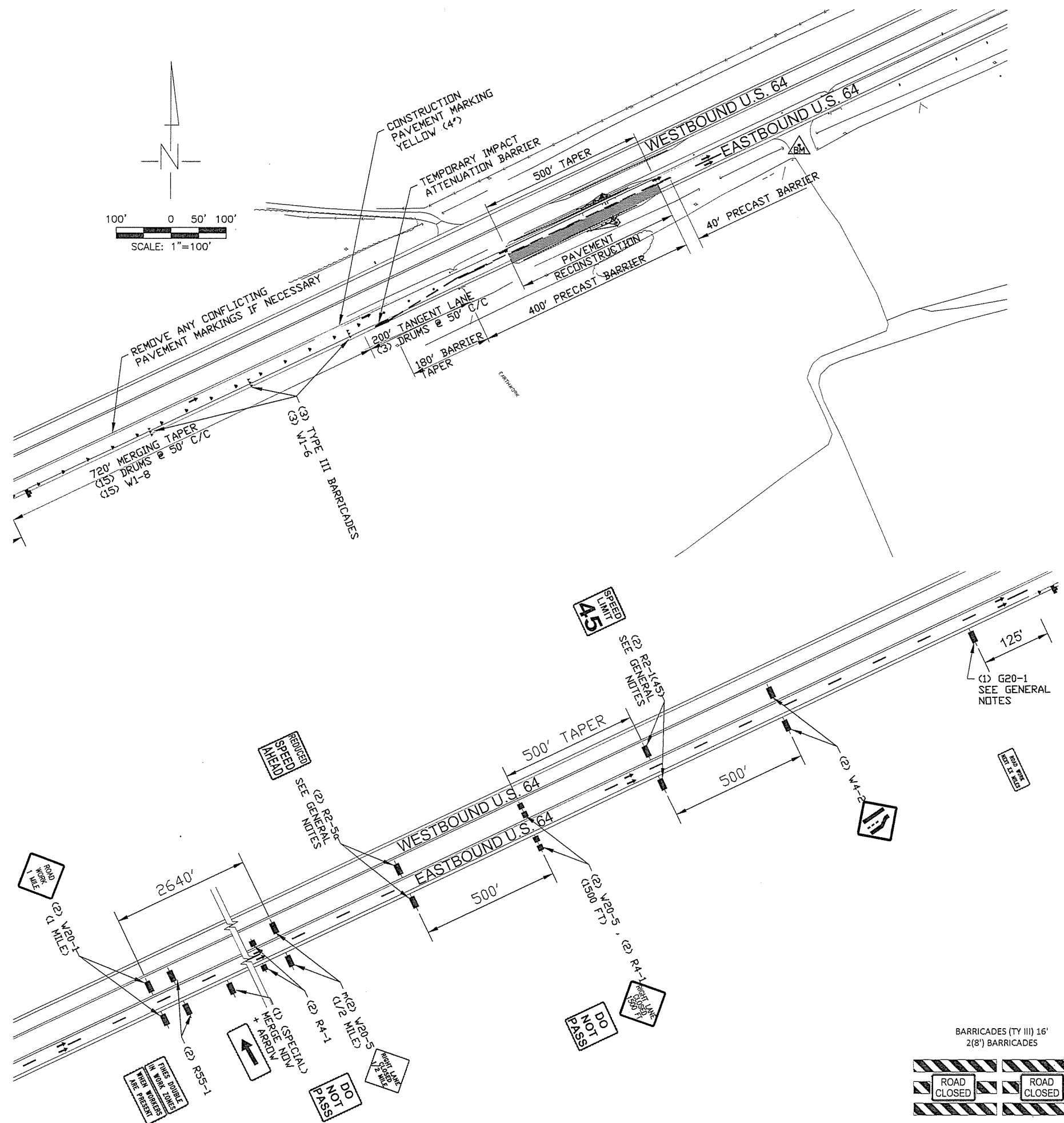
STAGE 3

- TWO (2) LANES OF EASTBOUND TRAFFIC WILL BE NARROWED TO ONE (1) LANE AND SHIFTED ONTO THE EASTBOUND OUTSIDE LANE.
1. RELOCATE MAINTENANCE OF TRAFFIC ITEMS SHOWN ON PLANS BELOW FOR CLOSURE OF EASTBOUND INSIDE LANE AND SHIFT EASTBOUND TRAFFIC ONTO EASTBOUND OUTSIDE LANE.
 2. COMPLETE INSTALLATION OF WEIGH IN MOTION ITEMS ON INSIDE LANE OF EB U.S. 64.
 3. CONSTRUCT CONCRETE PAVEMENT AND ACHM SHOULDER WIDENING ON EASTBOUND INSIDE LANE.
 4. INSTALL GUARDRAIL.
 5. CONDUCT SHORT-TERM LANE CLOSURES TO INSTALL PERMANENT PAVEMENT MARKINGS ON EASTBOUND LANES.
 6. REMOVE MAINTENANCE OF TRAFFIC ITEMS AND OPEN BOTH EASTBOUND LANES TO TRAFFIC.

NOTE: FOR INSIDE LANE CLOSURE REVERSE LAYOUT.

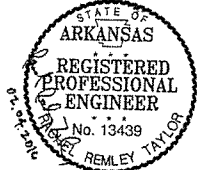
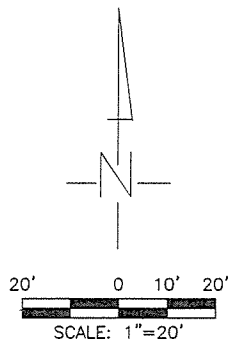
SIGNS			
NAME	SIZE	NUMBER	SQ. FT.
G20-1	60"X24"	1	10
W4-2	48"X48"	2	32
R2-1 (45)	48"X60"	2	40
W20-5	48"X48"	4	64
R2-5a	48"X60"	2	40
R4-1	48"X60"	4	80
R55-1	36"X60"	2	30
W20-1	48"X48"	2	32
W1-8	36"X48"	15	180
W1-6	48"X24"	3	24
S. MERGE NOW	60"X30"	1	13
TOTAL		38	545

TRAFFIC DRUMS	BARRICADES	CONSTR. PAVEMENT MARKINGS	REMOVAL OF CONSTR. PVMT MARKINGS	FURN. & INSTALL PRECAST BARRIERS	RELOCATE PRECAST BARRIERS	TEMP. IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTENUATION BARRIER (REPAIR)
EACH			LIN. FT.			EACH	
18	48	920	920	620	620	1	1



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2 DEMOLITION PLAN



WESTBOUND U.S. 64

EASTBOUND U.S. 64

N=424300.65
E=646011.86

N=424280.22
E=646021.68

N=424171.93
E=645740.97

N=424151.37
E=645750.73

REMOVAL AND RELOCATE SIGN
1 EA.
(REFER TO SPECIAL PROVISIONS)
298.50 L.F.



REMOVAL AND RELOCATE SIGN.
1 EA.
(REFER TO SPECIAL PROVISIONS)

REMOVAL AND DISPOSAL
OF ASPHALT PAVEMENT
= 171 C.Y. PAID AS
UNCLASSIFIED EXCAVATION
ALSO, INCLUDES 15 C.Y. OF
UNCLASSIFIED EXCAVATION
TO NOTCH AND WIDEN WESTBOUND
AND EASTBOUND SHOULDERS FOR
GUARDRAIL (MAINTENANCE OF TRAFFIC
STAGES 1, 2 AND 3)

SAW CUT. FULL DEPTH FOR 31 L.F.
NOT PAID FOR SEPARATELY BUT
SUBSIDIARY TO THE REMOVAL
AND DISPOSAL OF ASPHALT
PAVEMENT PAID AS
"UNCLASSIFIED EXCAVATION".

SAW CUT FULL DEPTH
FOR 31 L.F.

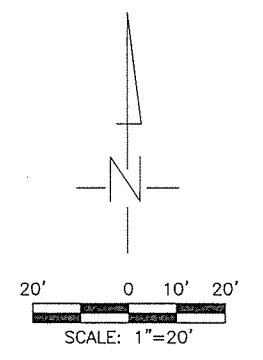
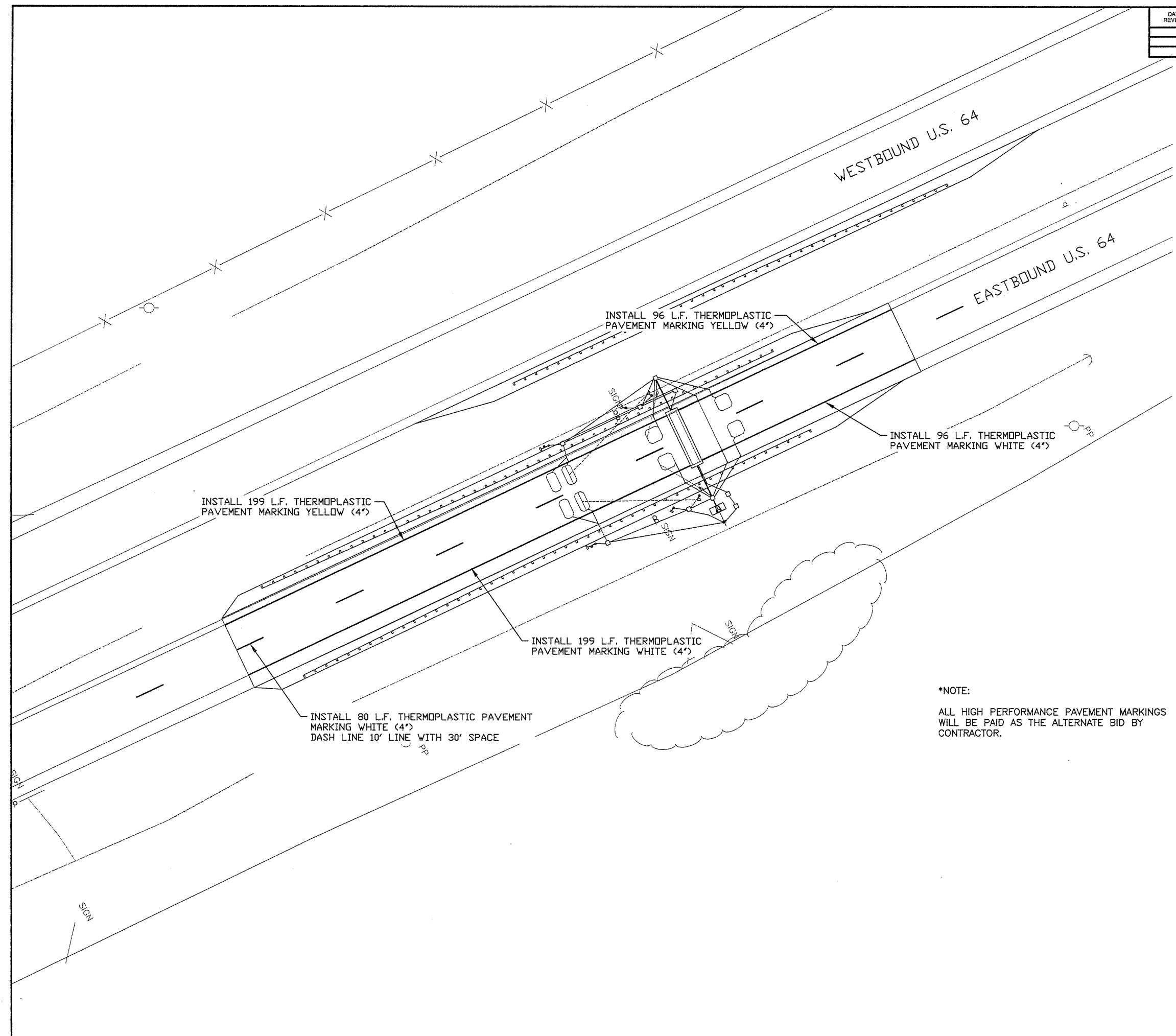
DEMOLITION LEGEND

-  ASPHALT PAVEMENT REMOVAL
-  SIGN REMOVAL

- NOTE:
1. SURVEY INFORMATION PROVIDED BY AHTD ON JULY 2014.
 2. THE LOCATION AND DEPTH OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL 811 FOR A LIST OF ALL REGISTERED UNDERGROUND UTILITIES.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
				JOB NO.		040694	9	32

2 PERMANENT PAVEMENT MARKING DETAILS



*NOTE:
ALL HIGH PERFORMANCE PAVEMENT MARKINGS
WILL BE PAID AS THE ALTERNATE BID BY
CONTRACTOR.



Know what's below.
Call before you dig.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
						JOB NO.	040694	10
						2 QUANTITIES		



TRAFFIC ITEMS		
ITEM DESCRIPTION	QUANTITY	UNITS
BARRICADES	48	L.F.
SIGNS	545	SQ. FT.
TRAFFIC DRUMS	18	EACH
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIERS	620	L.F.
RELOCATING PRECAST CONCRETE BARRIER	620	L.F.
CONSTRUCTION PAVEMENT MARKINGS	920	L.F.
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	920	L.F.
TEMPORARY IMPACT ATTENUATION BARRIER	1	EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	1	EACH

PERMANENT PAVEMENT MARKINGS					
STATION	STATION	OFFSET	DESCRIPTION	HIGH PERFORMANCE PAVEMENT MARKING	
				4" WHITE LIN. FT.	4" YELLOW LIN. FT.
600+00.00	603+20.00	0' RT	EB US 64 VWIM - CENTER LANE 10/30 SKIP	80	
600+12.50	603+07.50	12' RT	EB US 64 VWIM	295	
600+12.50	603+07.50	12' LT	EB US 64 VWIM		295
TOTALS				375	295

GUARDRAIL		
ITEM DESCRIPTION	QUANTITY	UNITS
TERMINAL ANCHOR POSTS (TYPE 1)	3	EA
GUARDRAIL TERMINAL (TYPE 2)	3	EA
GUARDRAIL (TYPE A)	655	L.F.

REMOVAL & DISPOSAL ITEMS		
ITEM DESCRIPTION	QUANTITY	UNITS
REMOVAL AND RELOCATION OF SIGN	2	EACH

EARTHWORK				
LOCATION	UNCLASS EXCAVATION	COMPACTED EMBANKMENT	** TOPSOIL FURNISHED & PLACED	*SOIL STABILIZATION
	CU. YDS.	CU. YDS.	CU. YDS.	TONS
ENTIRE PROJECT			240	60
REMOVAL AND DISPOSAL OF ASPHALT	171	24		
NOTCH AND WIDEN SHOULDER FOR GUARDRAIL	15			
ENTIRE PROJECT UNDERCUT				
TOTALS	186	24	240	60

LUMP SUM ITEMS		
ITEM DESCRIPTION	QUANTITY	UNITS
VIRTUAL WEIGH IN MOTION SYSTEM	1.00	L.S.

NOTE:
REFER TO PLAN SHEET 8 FOR REMOVAL & DISPOSAL ITEMS.

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE, EXCEPT UNDERCUT AREAS, ARE TO BE PAID AS PLAN QUANTITY.
* UNDERCUT QUANTITIES ARE ESTIMATED AND ARE USED IF AND WHERE DIRECTED BY THE ENGINEER. PAID AS UNCLASSIFIED EXCAVATION.
** QUANTITY ESTIMATED (QUANTITY BASED ON 6" DEPTH). REFER TO PLAN SHEET 5.

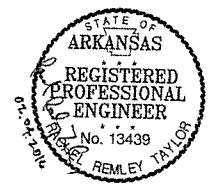
CLEARING & GRUBBING		
LOCATION	CLEARING	GRUBBING
	ACRE	ACRE
ENTIRE PROJECT	0.21	0.21
TOTALS	0.21	0.21

BASIS OF ESTIMATE:
CEMENT STABILIZED CRUSHED STONE BASE COURSE (TONS): 94% MIN. AGGREGATE.....6% CEMENT
ACHM SURFACE COURSE (3/8") 94.5% MIN. AGGR.....5.5% ASPHALT BINDER (64-22)
ACHM SURFACE COURSE (1/2") 94.8% MIN. AGGR.....5.2% ASPHALT BINDER (76-22)
MAX. NUMBER OF GYRATIONS: 115 FOR PG. 64-22
MAX. NUMBER OF GYRATIONS: 205 FOR PG. 76-22

BASE AND SURFACING																			
STATION	STATION	DESCRIPTION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				PORTLAND CEMENT CONCRETE PAVEMENT (14' U.T.)		ACHM SURFACE COURSE (3/8") (PG 64-22)				ACHM SURFACE COURSE (1/2") (PG 76-22)				TACK COAT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	NORMAL				NORMAL				0.10 GAL PER SQ. YD.	
										FEET	SQ. YD.	FEET	SQ. YD.	POUND/SQ. YD.	TON	FEET	SQ. YD.	POUND/SQ. YD.	TON
600+00.00	602+98.50	EB US 64 VWIM	298.50	45.60	1513.00	31.77	497.78	31.10	1032.00	33.10	1098.00	110	60.00	11.00	421.00	220	46.31	1532.00	153.20
601+00.00	603+78.00	WB US 64 VWIM	278.00	6.25	176.00	3.70	57.90							5.50	167.00	220	18.37	152.00	15.20
TOTALS					1689.00	35.47	555.68		1032.00		1098.00		60.00		588.00		64.68	1684.00	168.40

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
				JOB NO.	040694	11	32	
2								QUANTITIES



PERMANENT EROSION CONTROL							TEMPORARY EROSION CONTROL			
STATION	STATION	LOCATION	SEEDING	LIME	MULCH COVER	WATER	SOLID SODDING	SAND BAG DITCH CHECKS	SILT FENCE	SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M. GAL.	SQ. YD.	(E-5) BAG	(E-11) LIN. FT.	CU. YD.
ENTIRE PROJECT		EB AND WB WEIGH STATION/HWY. 64	0.21	0.42	0.21	21.4	1,016.40		326	
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			0.29	0.58	0.29	29.6	1,403.60	66	344	55
TOTALS			0.50	1.00	0.50	51.0	2,420.00	66	670	55

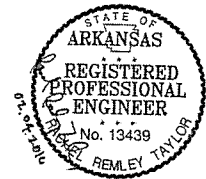
BASIS OF ESTIMATE:
LIME 2 TONS/ACRE OF SEEDING
WATER 102.0 M.G./ACRE OF SEEDING
WATER 20.4 M.G./ACRE OF TEMPORARY SEEDING
WATER 12.6 GAL./SQ. YD. OF SOLID SODDING
*SAND BAG DITCH CHECKS 22 BAGS/LOCATION

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. SEE SECTION 110 OF THE STANDARD SPECIFICATIONS.

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

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					ARK.			
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2 SUMMARY OF QUANTITIES & REVISIONS



SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNITS
201	CLEARING	0.21	ACRE
201	GRUBBING	0.21	ACRE
SP & 202	REMOVAL AND RELOCATION OF SIGN	2	EACH
210	SOIL STABILIZATION	60	TON
210	UNCLASSIFIED EXCAVATION	186	CU. YD.
210	COMPACTED EMBANKMENT	24	CU. YD.
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	556	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	35	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	1689	SQ. YD.
SS & 401	TACK COAT	168	GAL.
SP,SS&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	57	TON
SP,SS&407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	3	TON
SP,SS&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	62	TON
SP,SS&407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	3	TON
501	PORTLAND CEMENT CONCRETE PAVEMENT (14" UNIFORM THICKNESS)	1032	SQ. YD.
601	MOBILIZATION	1.00	L.S.
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	L.S.
SS & 604	BARRICADES	48	L.F.
SS & 604	SIGNS	545	SQ. FT.
SS & 604	TRAFFIC DRUMS	18	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	620	L.F.
604	RELOCATING PRECAST CONCRETE BARRIER	620	L.F.
604	CONSTRUCTION PAVEMENT MARKINGS	920	L.F.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	920	L.F.
617	GUARDRAIL (TYPE A)	655	L.F.
617	TERMINAL ANCHOR POSTS (TYPE 1)	3	EACH
617	GUARDRAIL TERMINAL (TYPE 2)	3	EACH
620	LIME	1	TON
620	SEEDING	0.50	ACRE
SS & 620	MULCH COVER	0.50	ACRE
620	WATER	51.0	M. GAL.
621	SAND BAG DITCH CHECKS	66	BAGS
621	SEDIMENT REMOVAL AND DISPOSAL	55	CU. YD.
621	SILT FENCE	670	L.F.
624	SOLID SODDING	2,420	SQ. YD.
628	TOPSOIL FURNISHED AND PLACED	240	CU. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	L.S.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALT. NO. 1)	375	L.F.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALT. NO. 2)	375	L.F.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALT. NO. 1)	295	L.F.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALT. NO. 2)	295	L.F.
731	TEMPORARY IMPACT ATTENUATION BARRIER	1	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	1	EACH
SP	VIRTUAL WEIGH IN MOTION SYSTEM	1.00	L.S.

*DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER

SURVEY CONTROL COORDINATES

Project Name: s040456
 Date: 07/07/2014
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
 170001 - 170001A, 170002A PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

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2 SURVEY CONTROL DETAILS



Point Name	Northing	Easting	Elev	Feature	Description
908	424360.7095	646274.4746	423.6487	BM	SQ CUT IN HEADWALL S. HWY 64 E. BOUND
909	424847.3726	647112.8287	431.7927	BM	SQ CUT IN SW COR BR WR FROG
910	425526.86	648369.16	435.01	BM	SQ CUT IN CDNC ISLAND INT. HWY
914	423722.26	647666.41	411.69	BM	CPS IN 3RD RR BR PIER N. SIDE ON BASE

*Note - Rebar and Cap - Standard -5#8' Rebar with 2' Aluminum Cap stamped
 *(standard markings common to all caps), or as indicated
 (other markings indicated in the point description of the individual point).
 ALL DISTANCES ARE GROUND.
 USE CAF = 1.0 FOR STAKEDOUT FOR THIS PROJECT.
 A PROJECT CAF OF 0.9999160965 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
 GRID DISTANCE = GROUND DISTANCE X CAF.
 GROUND COORDINATES ARE PROJECTED FROM AR. STATE PLANE GRID COORDINATES BY SCALING ALL X,Y
 COORDINATE VALUES WITH THE INVERSE (1/X) OF THE COMBINED ADJUSTMENT FACTOR (CAF) ABOUT X=0,Y=0.

GRID COORDINATES ARE STORED UNDER FILE NAME: s040086g1.ct1
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 1-8, 100-102, AND 900 & 999 WERE ESTABLISHED BY 3-WIRE LEVEL
 TECHNIQUES FROM NGS BENCHMARKS.

POSITIONAL ACCURACY:

HORIZONTAL-GPS (POINTS 100-102): 1.0 CM 10 PPM, PRIMARY CONTROL (POINTS 1-8): 2.0 CM 20 PPM

VERTICAL-POSITIONAL ACCURACY IS THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT

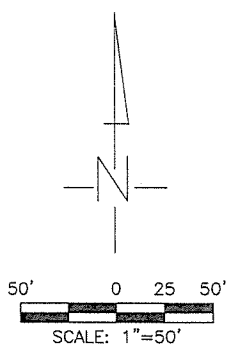
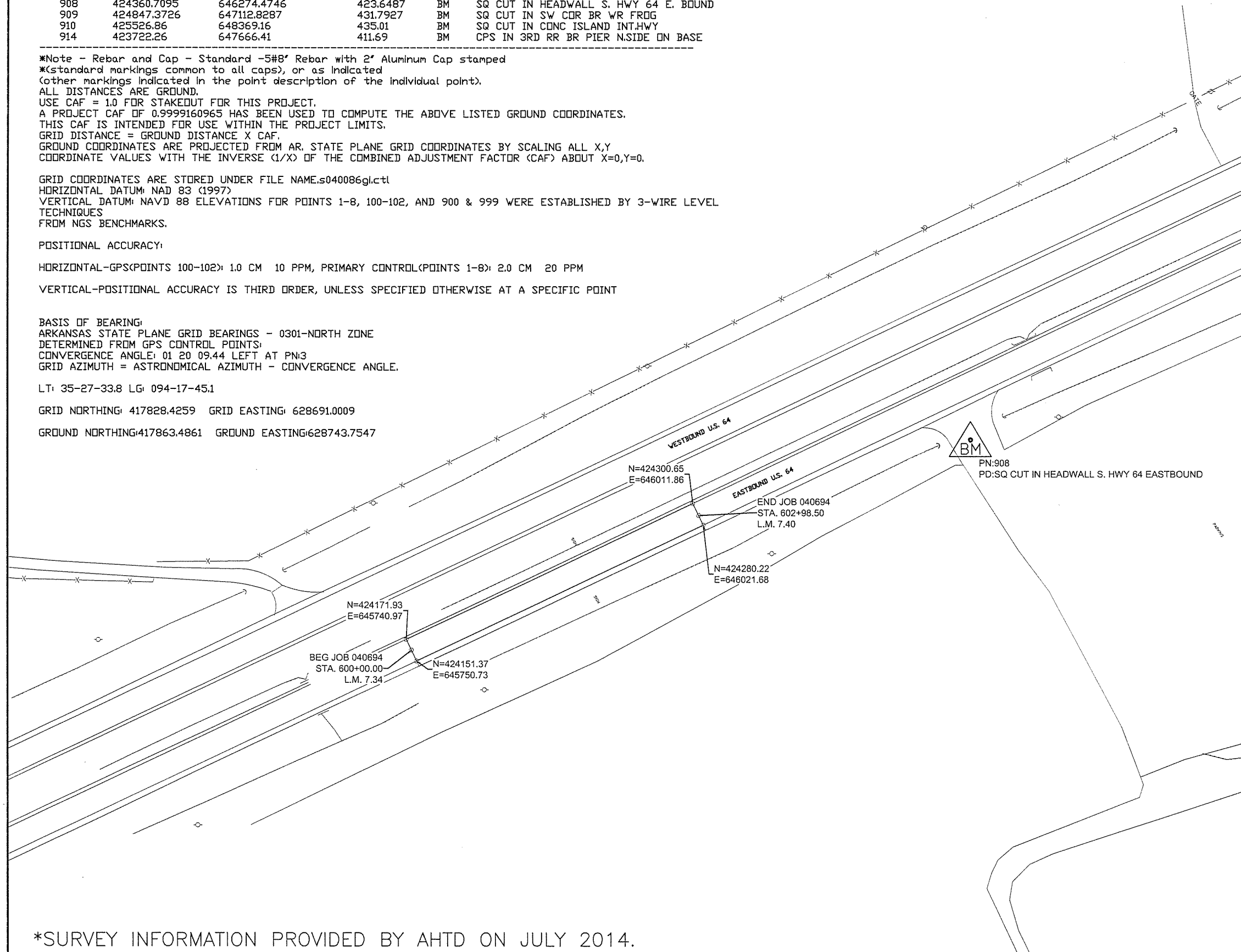
BASIS OF BEARING:

ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS:
 CONVERGENCE ANGLE: 01 20 09.44 LEFT AT PN:3
 GRID AZIMUTH = ASTRONOMICAZIMUTH - CONVERGENCE ANGLE.

LT: 35-27-33.8 LG: 094-17-45.1

GRID NORTHING: 417828.4259 GRID EASTING: 628691.0009

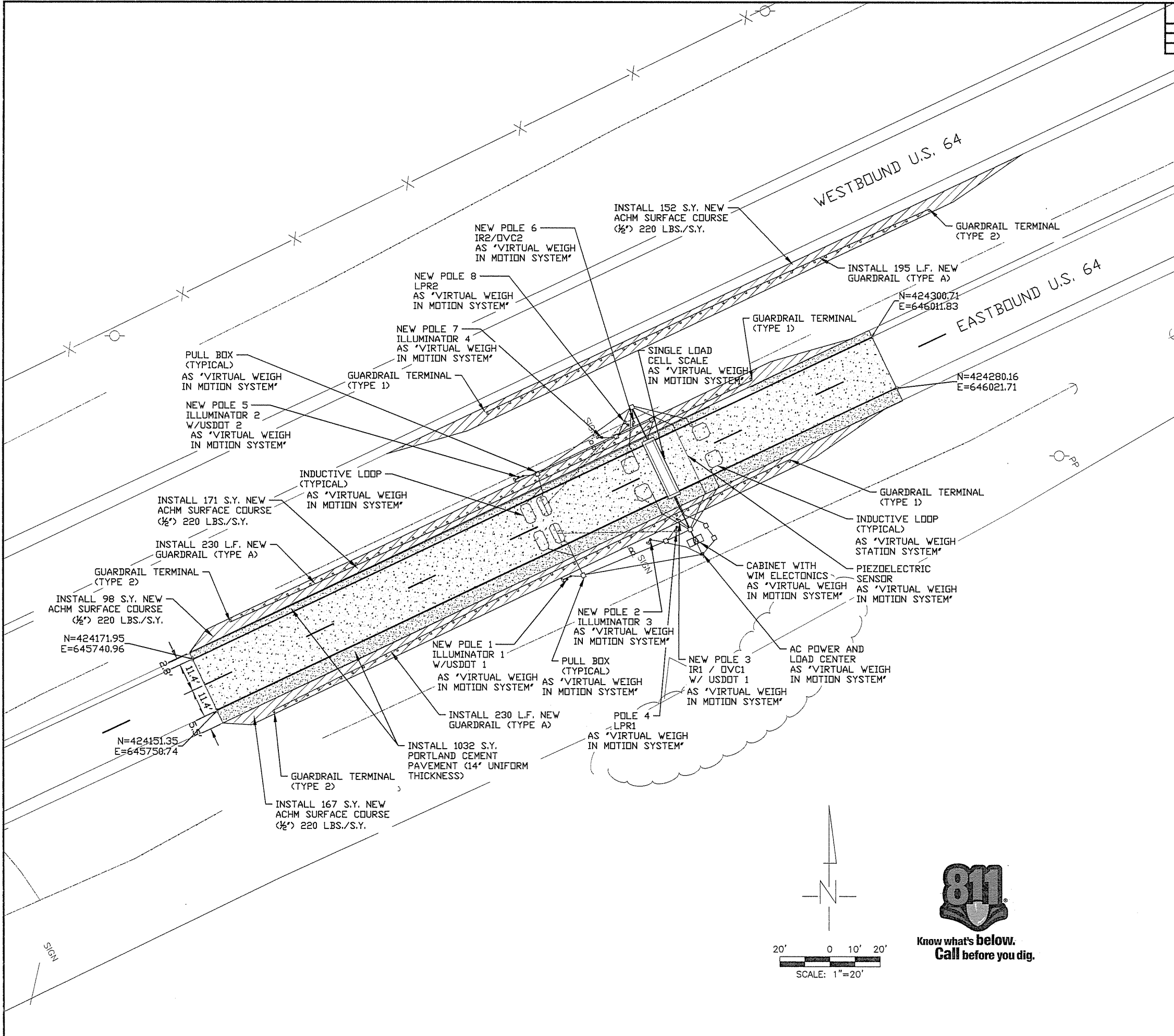
GROUND NORTHING: 417863.4861 GROUND EASTING: 628743.7547



*SURVEY INFORMATION PROVIDED BY AHTD ON JULY 2014.

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
JOB NO.						040694	14	32
2								SITE PLAN

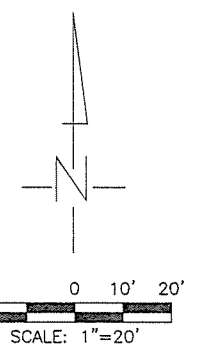


SITE LAYOUT LEGEND

- P.C. CONCRETE PAVING (14")
- PAVED SHOULDER PCC (14")
- ASPHALT PAVEMENT
- L** INDUCTIVE LOOP
- P** PIEZOELECTRIC SENSOR
- E** ROADSIDE ENCLOSURE
- DVC** OVERVIEW CAMERA
- I** ILLUMINATOR

NOTE:

- THE INSTALLATION OF P.C. CONCRETE PAVING SHALL SATISFY ALL REQUIREMENTS OF STD. SPEC. WIM SYSTEMS WITH USER REQUIREMENTS AND TEST METHODS ASTM E1318-09 FOR TYPE III WIM- SYSTEM INSTALLATION.
- P.C. CONCRETE PAVING AS SHOWN ON THE TYPICAL SECTIONS SHALL BE PAID FOR AS PORTLAND CEMENT CONCRETE PAVEMENT (14" UNIFORM THICKNESS)
- POLE & FOUNDATION, NON-METALLIC CONDUIT, CONCRETE PULL BOXES ARE SUBSIDIARY TO PAY ITEM "VIRTUAL WEIGH IN MOTION SYSTEM".

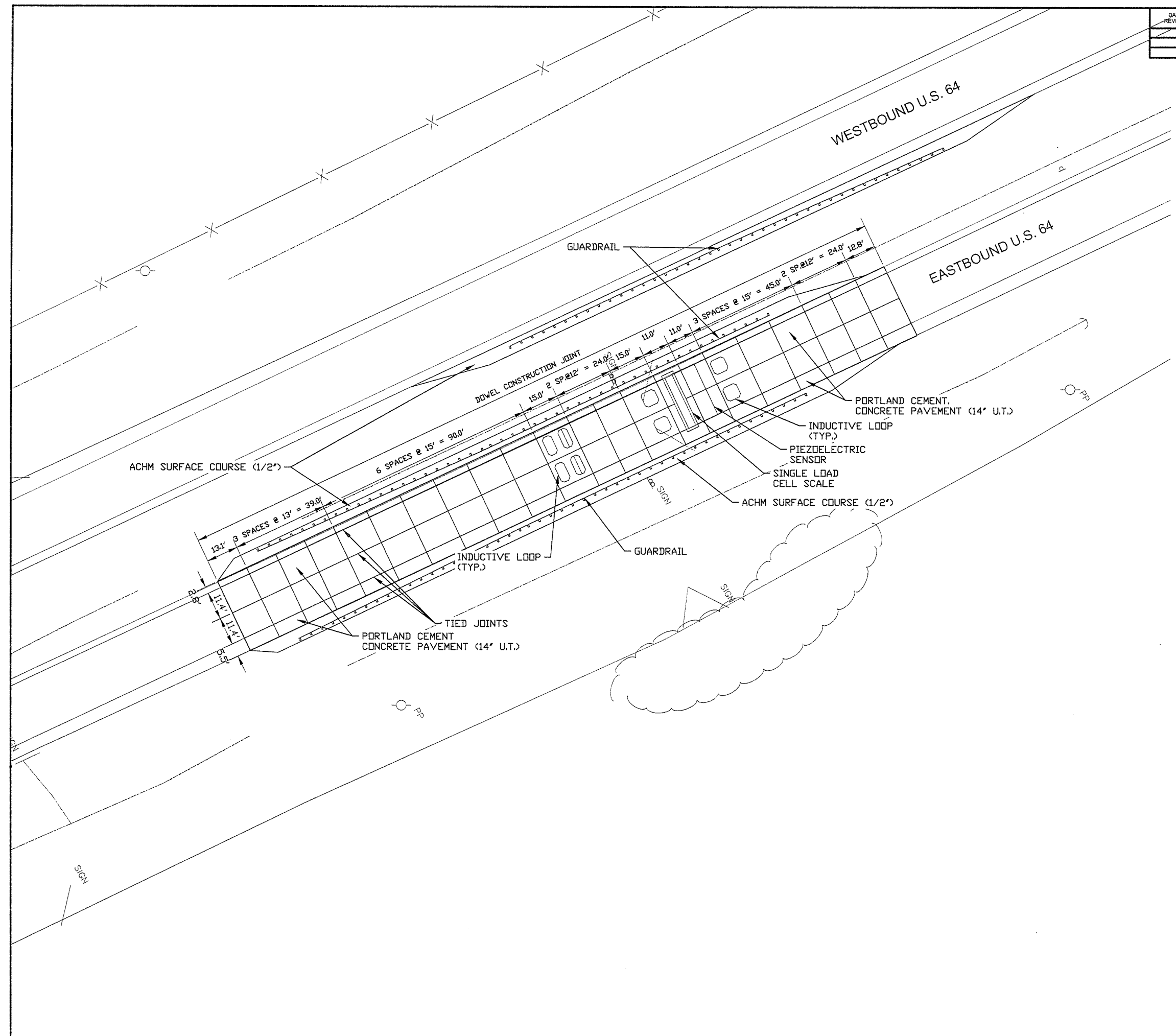
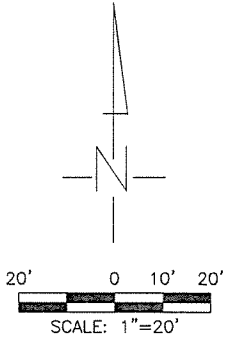


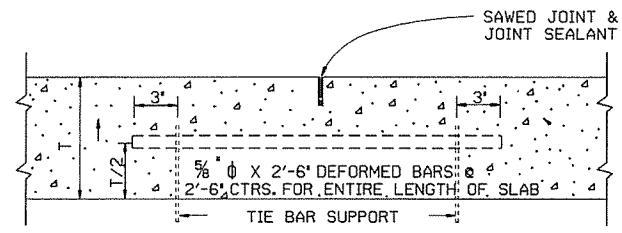
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
				JOB NO.	040694		15	32
				2 VWIM JOINT LAYOUT PLAN				

NOTE:
 THE INSTALLATION OF P.C. CONCRETE PAVING SHALL SATISFY ALL REQUIREMENTS OF STD. SPEC. WIM SYSTEMS WITH USER REQUIREMENTS AND TEST METHODS ASTM E1318-09 FOR TYPE III WIM-SYSTEM INSTALLATION.



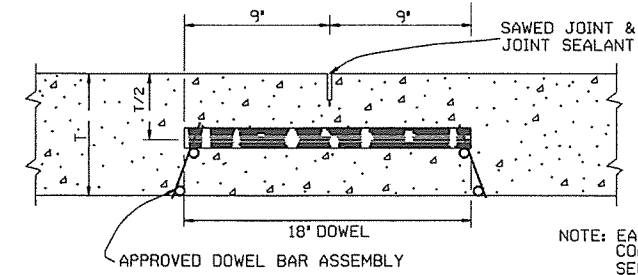
Know what's below.
 Call before you dig.





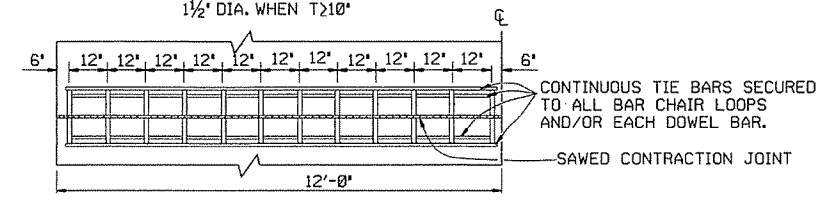
LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.



ROUND STEEL BAR DOWEL

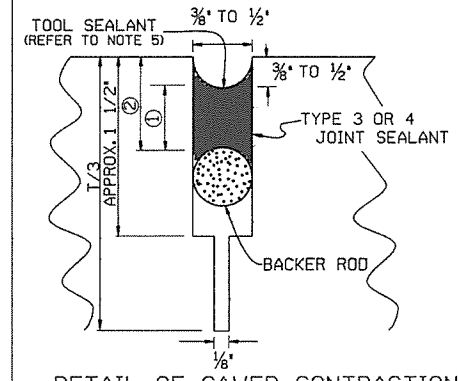
NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.



ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12' CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12' CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

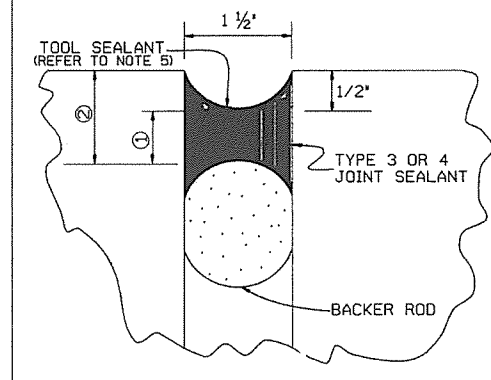
CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

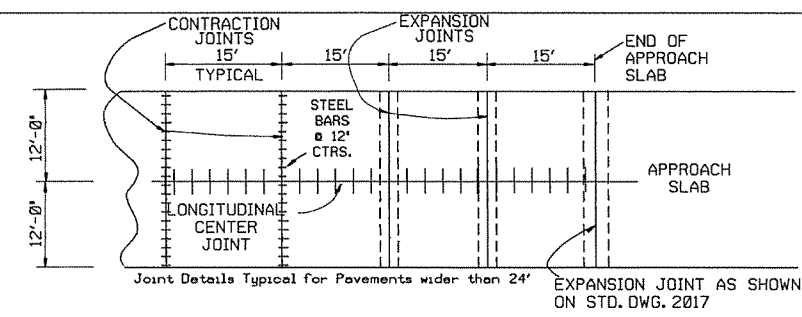
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1/4	1/4	3/8	1/2
3/8	1/4	1/2	1/2
1/2	1/4	5/8	1/2
3/4	3/8	3/4	3/4
1	3/8	7/8	3/4
1 1/2	3/4	2	1 1/4



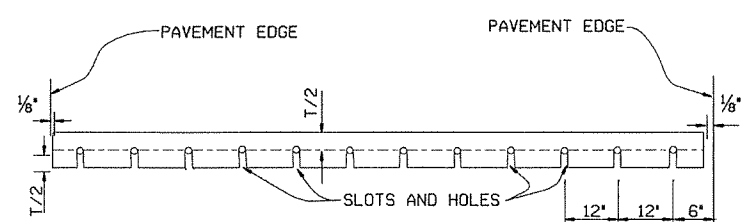
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1/4	1/4	3/8	3/4
3/8	3/8	1/2	1

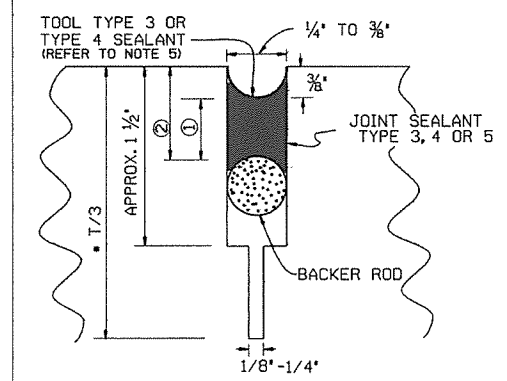


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



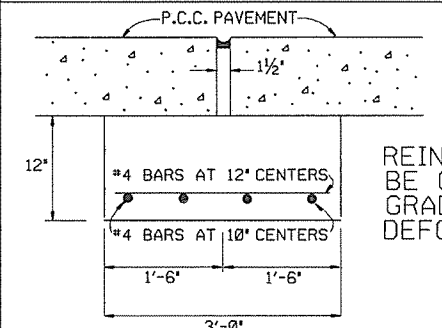
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



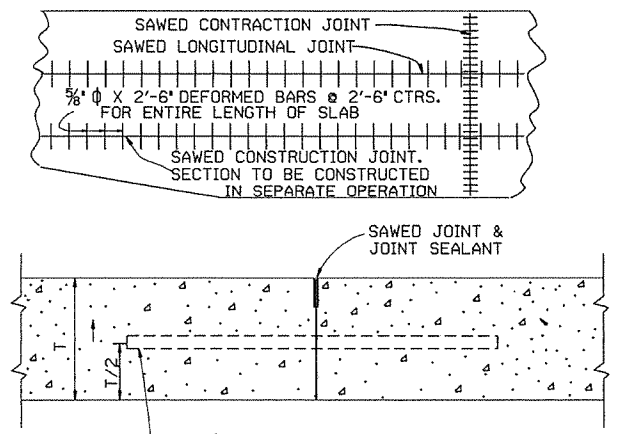
DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT

*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.



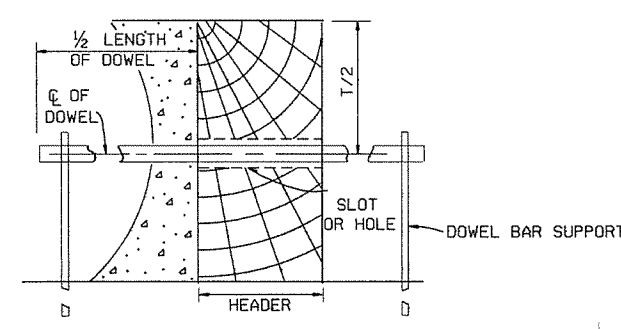
DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.



LONGITUDINAL CONSTRUCTION JOINT

NOTE: TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.

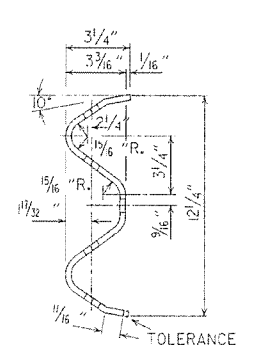
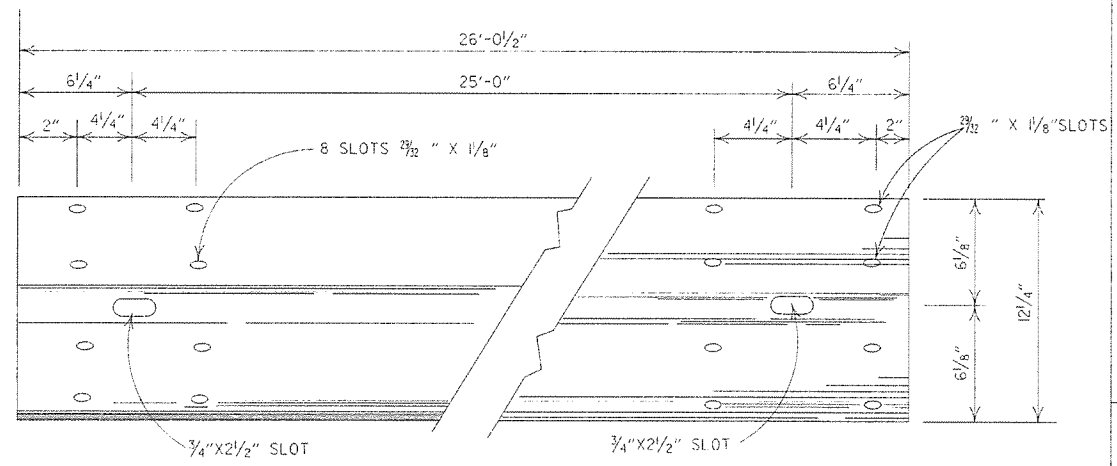


SECTION
TRANSVERSE CONSTRUCTION JOINT

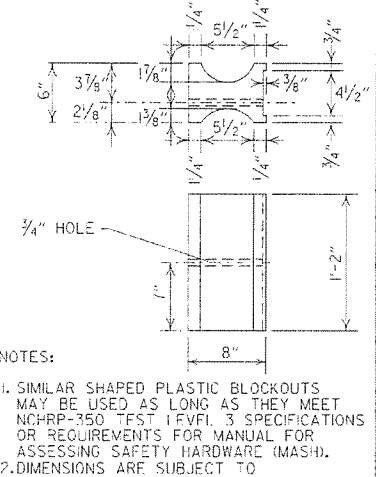
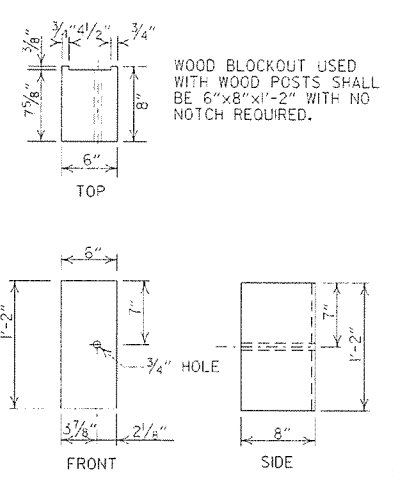
- GENERAL NOTES
- *T DENOTES THICKNESS OF SLAB.
 - DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS 1/4" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2' GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
 - THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS 'A', 'S' OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
 - TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
 - UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
 - TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.

ARKANSAS STATE HIGHWAY COMMISSION
TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)
STANDARD DRAWING CPTJ - 6A

DATE	REVISION	DATE FILMED
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11-3-94	ADDED NOTE RE: REINF. BARS	
4-1-93	REVISED DOWEL BARS & GEN. NOTES	4-1-93
10-1-92	REVISED DOWEL SPACING	10-1-92
8-15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88

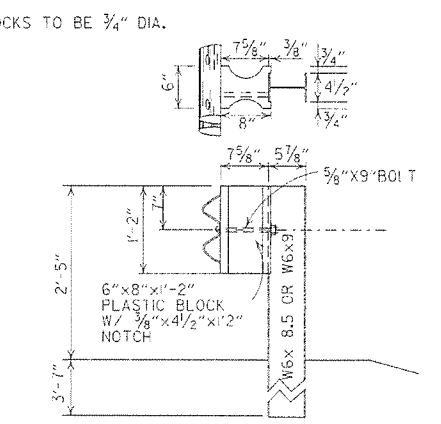
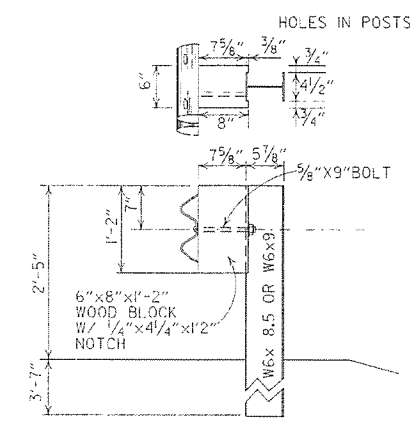


DETAILS OF W-BEAM GUARD RAIL
 RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



WOOD BLOCKOUT (W-BEAM)

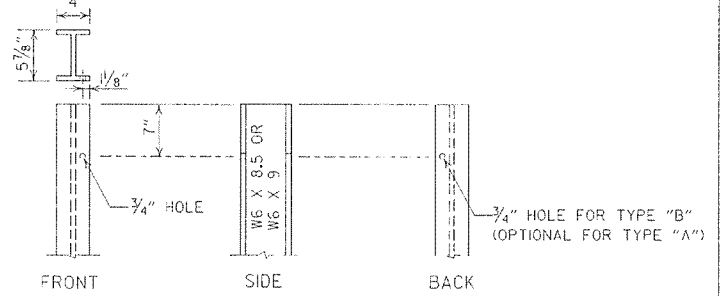
PLASTIC BLOCKOUT (W-BEAM)



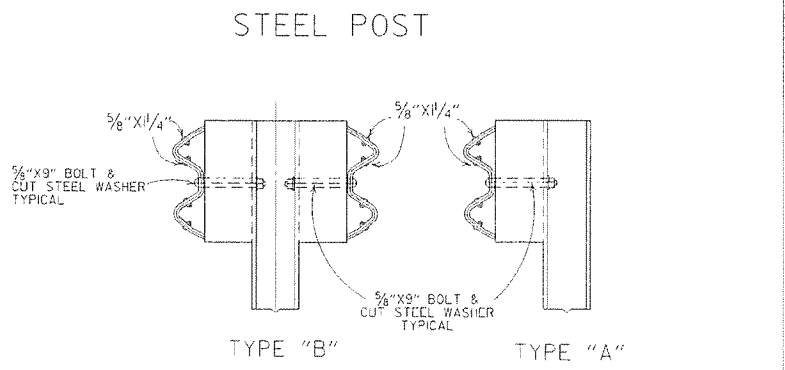
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

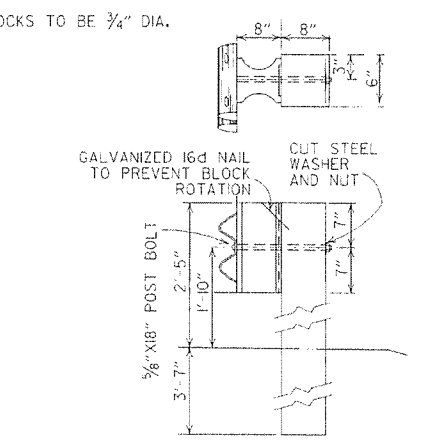
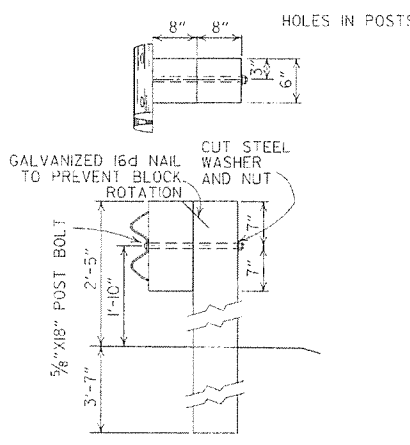
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



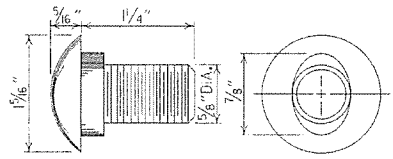
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



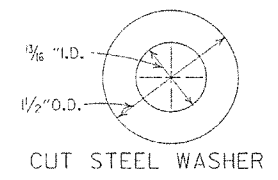
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

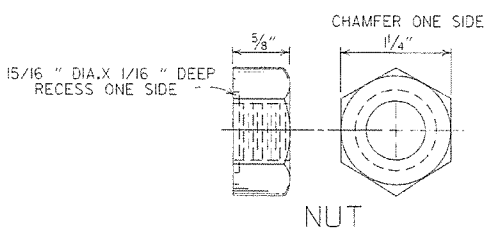
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)



SPLICE BOLT
 POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER



NUT

-GENERAL NOTES-

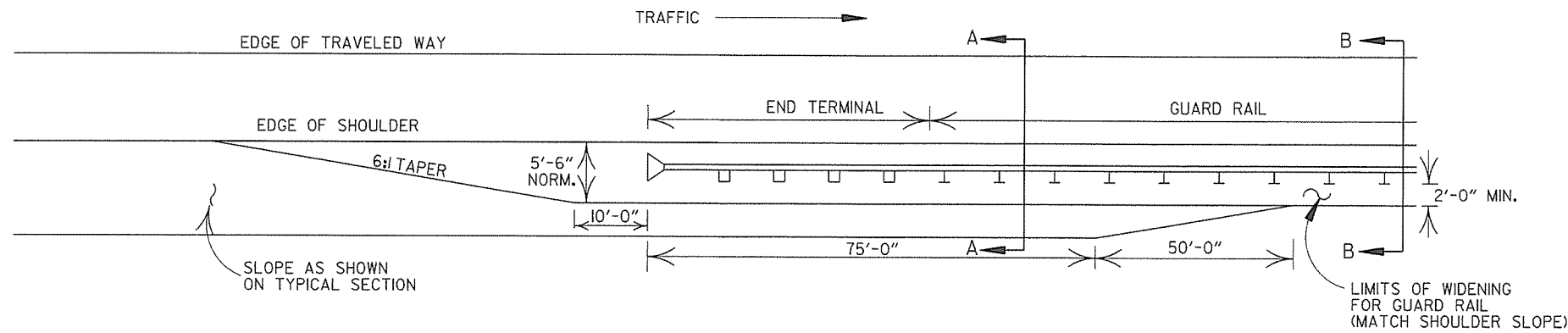
ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.
 WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.
 W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.
 USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.
 ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.
 WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 #) OR NO. 1 SOUTHERN PINE.
 CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

7-4-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
11-2-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE DELETED DET. OF GUARD RAIL REPLACE, BEHIND CURB & DET. OF POST PLACE IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED AT 1" STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPTH OF ANCHOR POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87
DATE	REVISION	DATE FILED

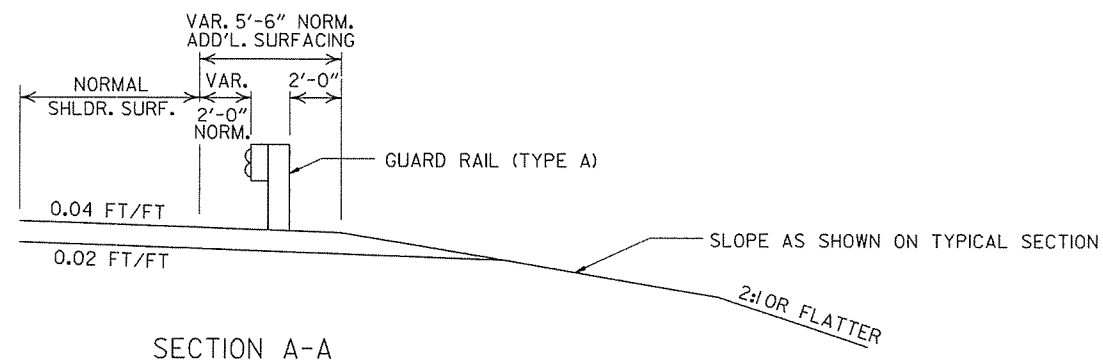
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

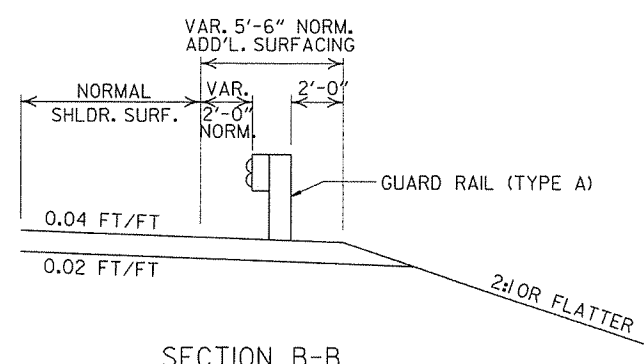
STANDARD DRAWING GR-8



NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

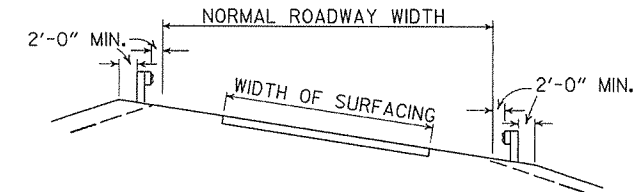
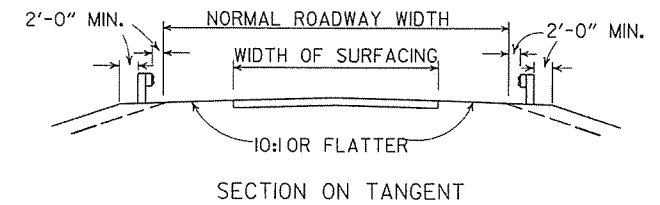


SECTION A-A

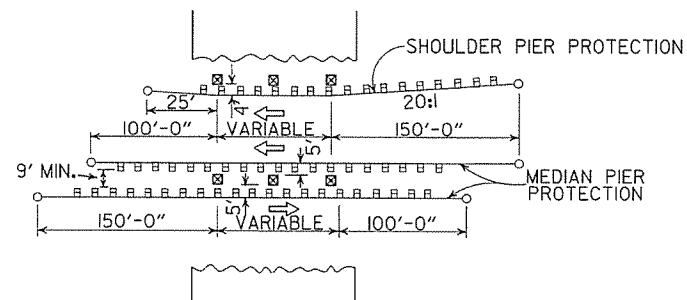


SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

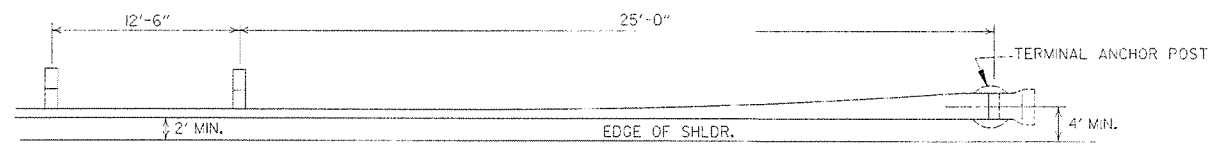


DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

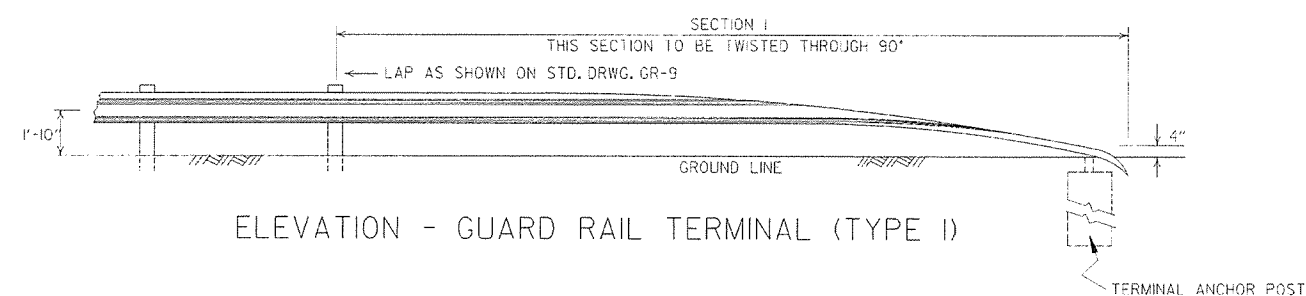


METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

				ARKANSAS STATE HIGHWAY COMMISSION
				GUARD RAIL DETAILS
4-17-08	MINOR REVISION			STANDARD DRAWING GR-9A
11-10-05	DRAWN			
DATE	REVISION	DATE	FILM	

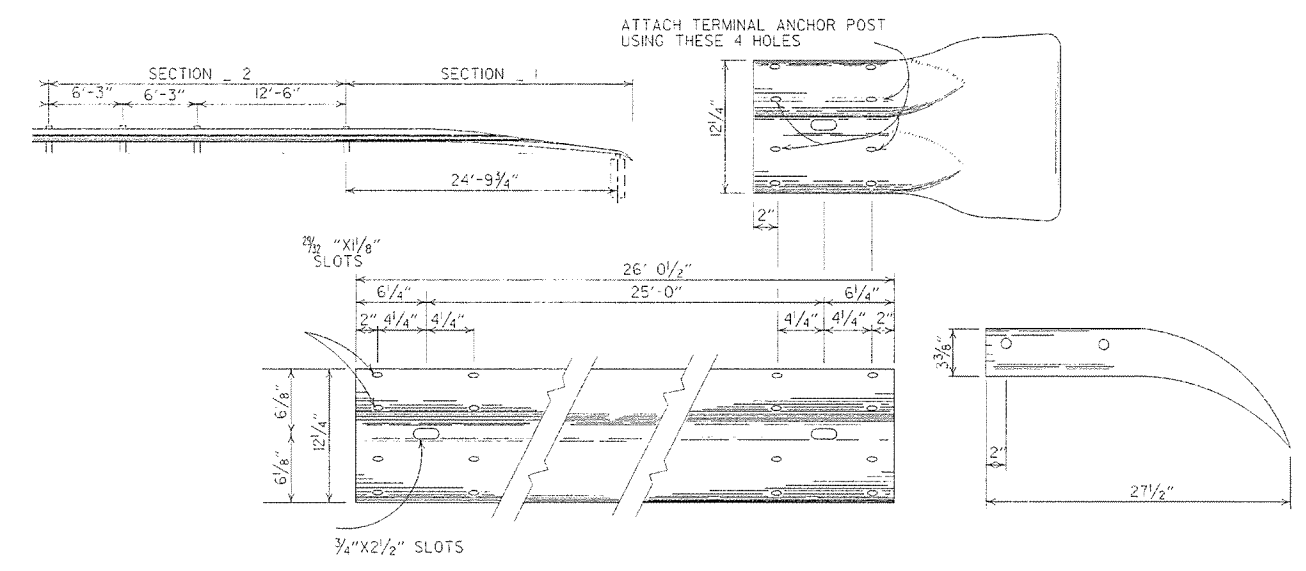


PLAN - GUARD RAIL TERMINAL (TYPE I)



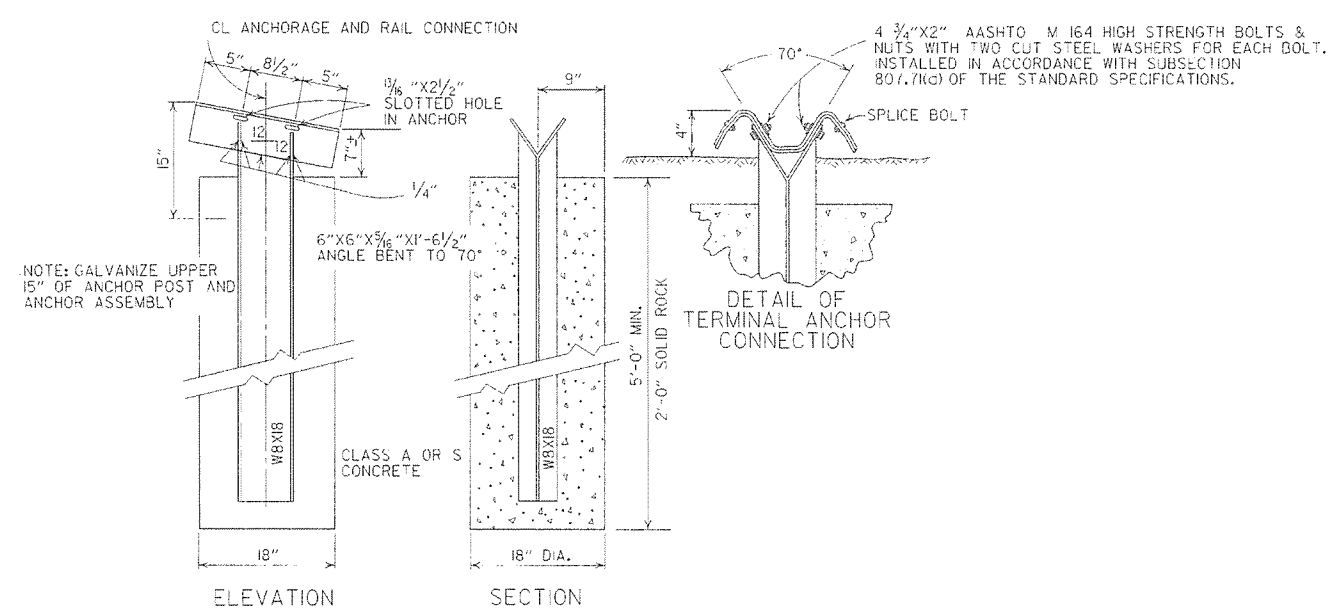
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



ELEVATION

SECTION

DETAIL OF TERMINAL ANCHOR CONNECTION

NOTE: GALVANIZE UPPER 15" OF ANCHOR POST AND ANCHOR ASSEMBLY

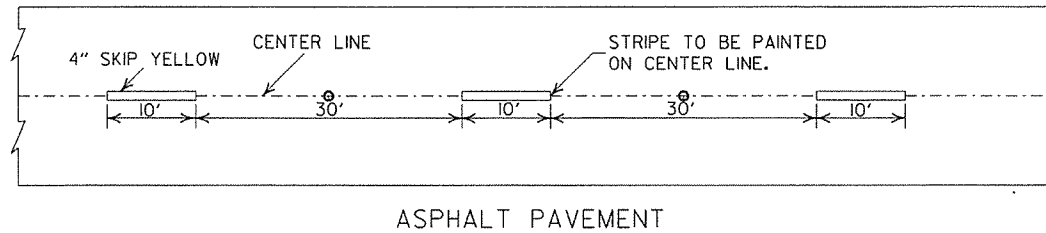
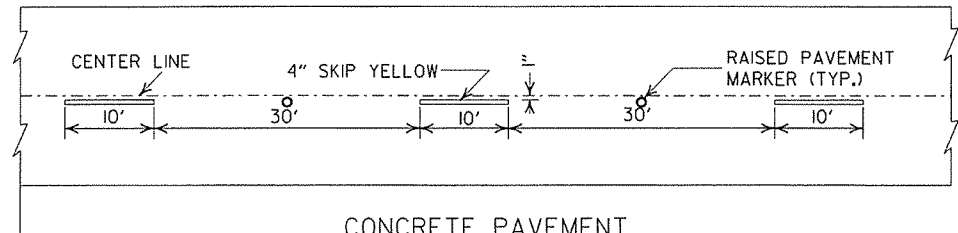
NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 W/ 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

			ARKANSAS STATE HIGHWAY COMMISSION
			GUARD RAIL DETAILS
7-14-10	RAISED HEIGHT OF GUARD RAIL		STANDARD DRAWING GRT-1
6-26-97	REVISED LAP NOTE		
10-18-96	REVISED ASTM REF. TO AASHTO		
11-3-94	DIVERSION TERMINAL DETAIL		
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92	
10-1-92	DRAWN & ISSUED	10-1-92	
DATE	REVISION	DATE FILED	

NOTES:

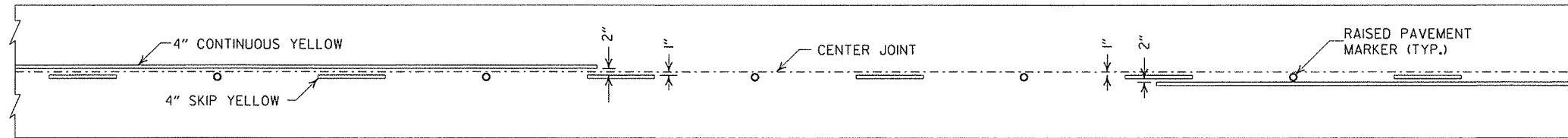
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



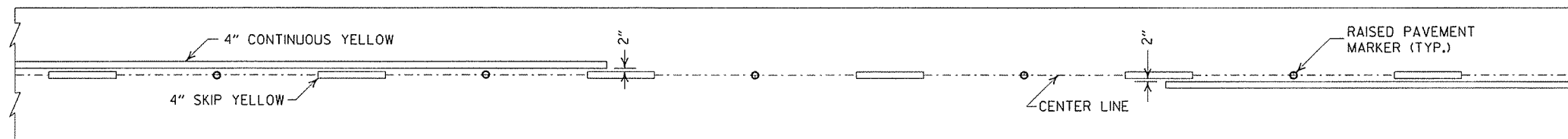
CONCRETE PAVEMENT

ASPHALT PAVEMENT

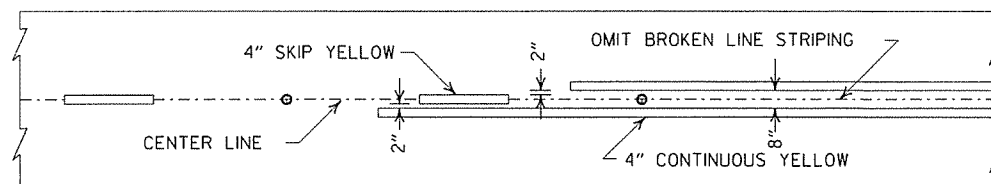
BROKEN LINE STRIPING



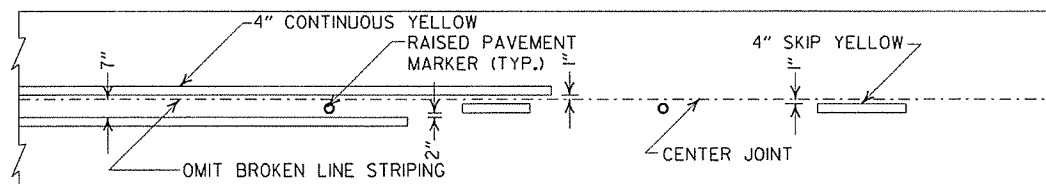
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

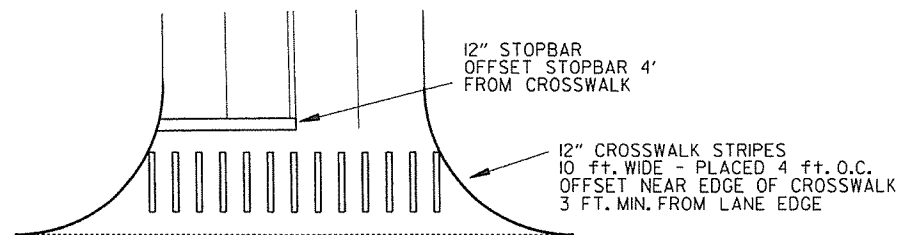


ASPHALT PAVEMENT



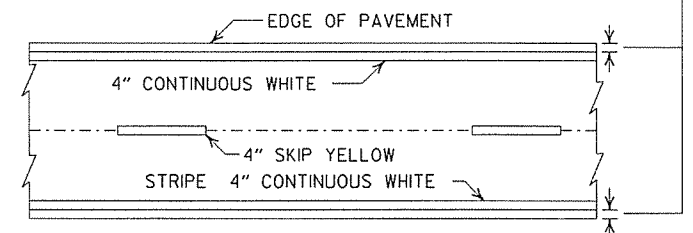
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

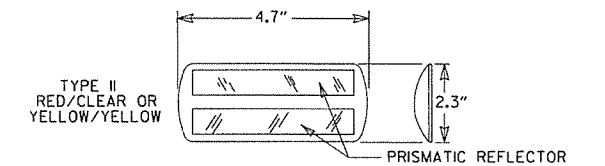


CROSSWALK AND STOPBAR DETAILS

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



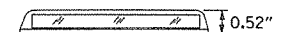
PAVEMENT EDGE LINE MARKING



TYPE II RED/CLEAR OR YELLOW/YELLOW

PRISMATIC REFLECTOR

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

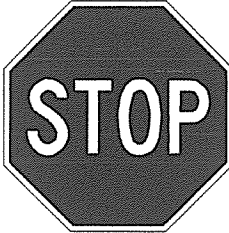
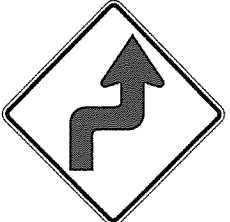
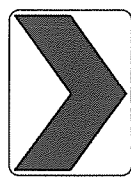
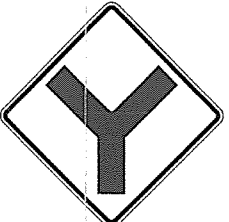
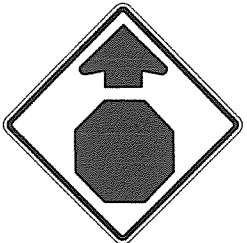

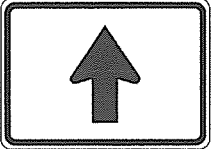
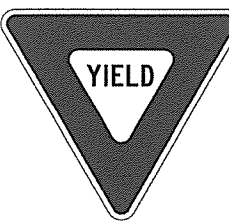
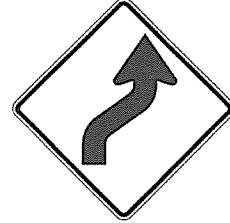
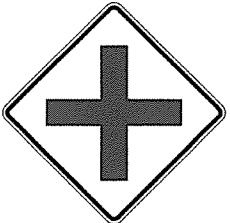

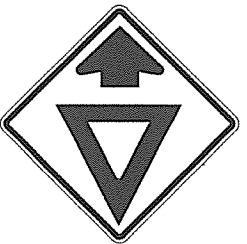

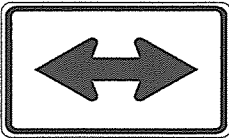
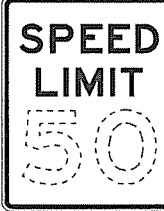
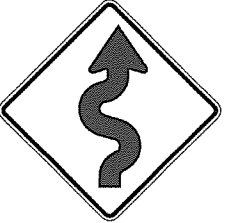
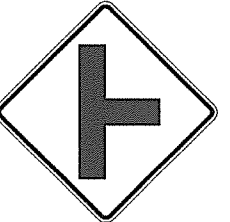



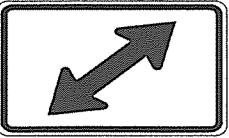
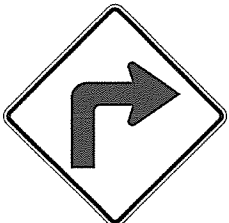
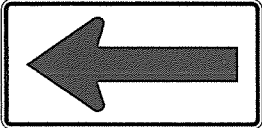
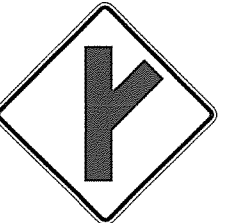

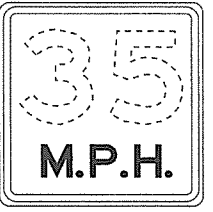
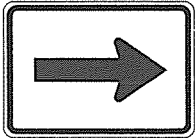
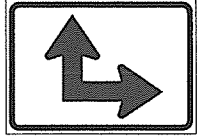

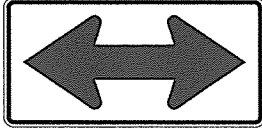
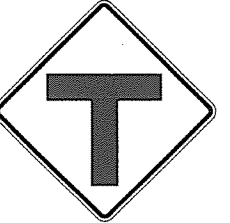
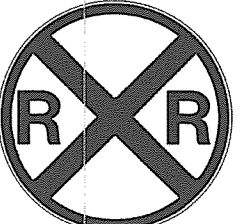
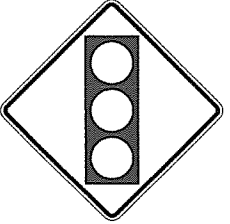

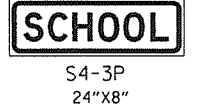
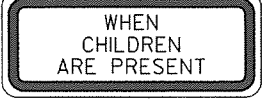
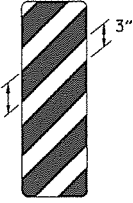
NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

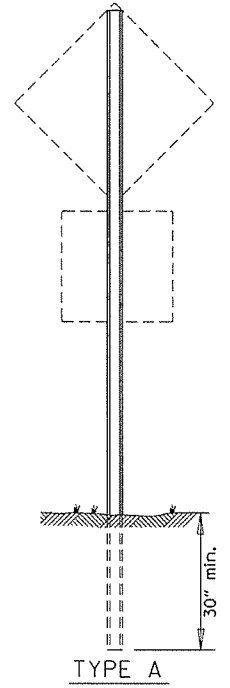
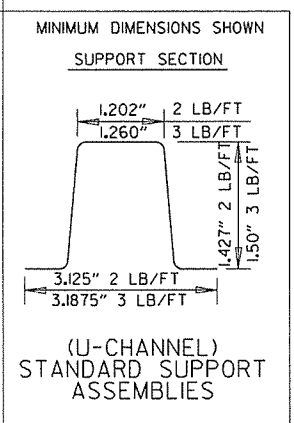
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

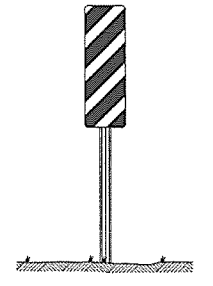
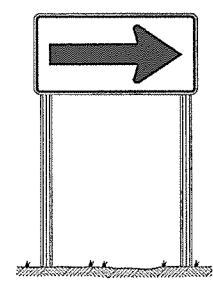
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

 RI-1 30"x30"	 W1-3 30"x30" (LT. OR RT.)	 W1-8 18"x24"	 W2-5 30"x30"	 W3-1 36"x36"	 W5-1 36"x36"	 M6-3 21"x15"
 RI-2 36"x36"x36"	 W1-4 30"x30" (LT. OR RT.)	 W2-1 30"x30"	 SI-1 36"x36"	 W3-2 36"x36"	 LASSEN 16 COUNTY County Route Marker MI-6 24"x24"	 M6-4 21"x15"
 R2-1 24"x30"	 W1-5 30"x30" (LT. OR RT.)	 W2-2 30"x30"	 NARROW BRIDGE W5-2 36"x36"	 PAVEMENT ENDS W8-3 36"x36"	 NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND. RI-3P 18"x6"	 M6-5 21"x15"
 W1-1 30"x30" (LT. OR RT.)	 W1-6 48"x24"	 W2-3 30"x30" (LT. OR RT.)	 ONE LANE BRIDGE W5-3 36"x36"	 35 M.P.H. W13-IP 18"x18"	 M6-1 21"x15"	 M6-6 21"x15"
 W1-2 30"x30" (LT. OR RT.)	 W1-7 48"x24"	 W2-4 30"x30"	 R X R W10-1 36" DIAMETER	 W3-3 36"x36"	 M6-2 21"x15"	 SCHOOL S4-3P 24"x8"
						 WHEN CHILDREN ARE PRESENT S4-2P 24"x10"
						 OM-3 12"x36" (LT. OR RT.)



NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.

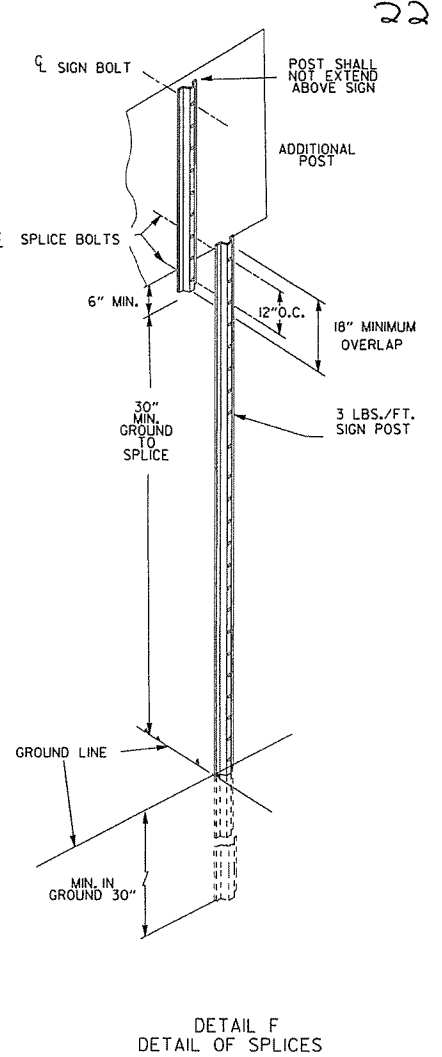
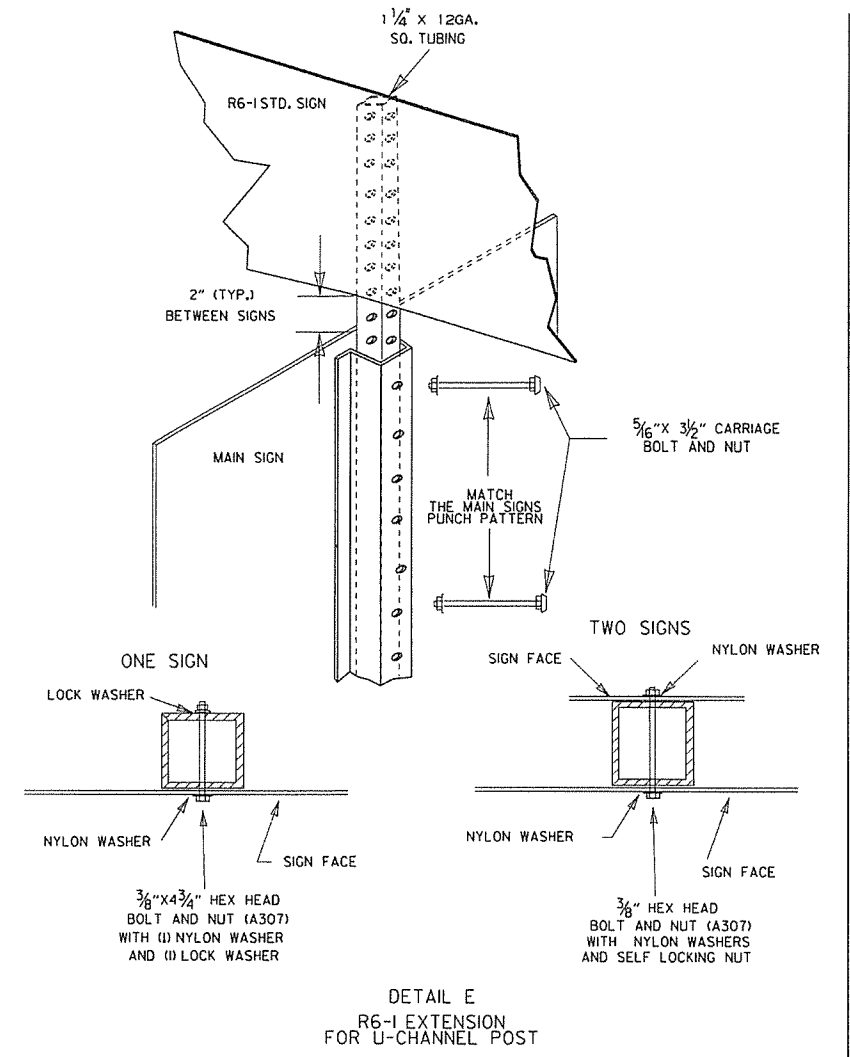
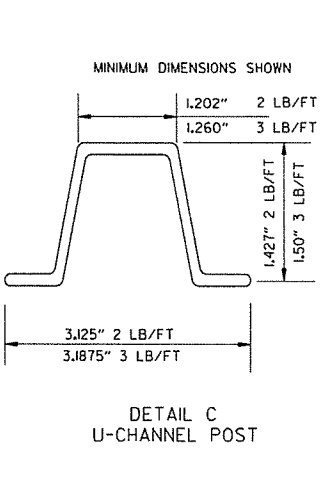
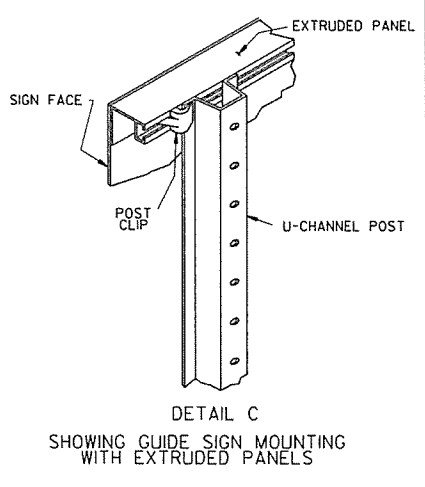
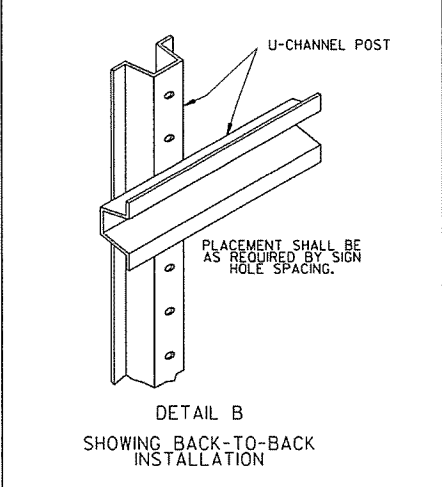
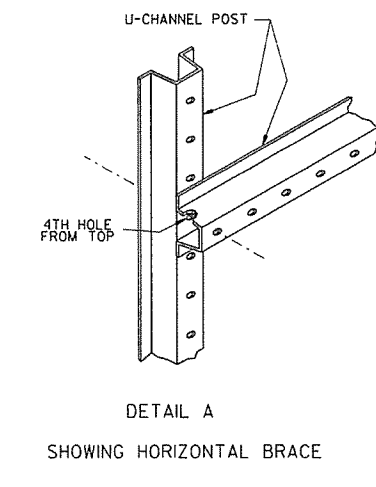
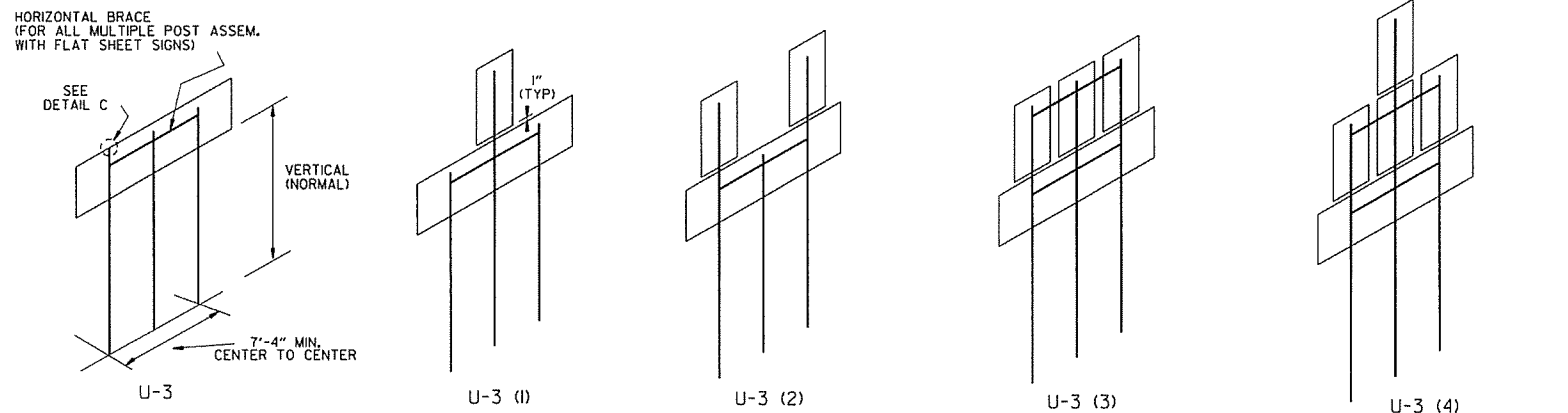
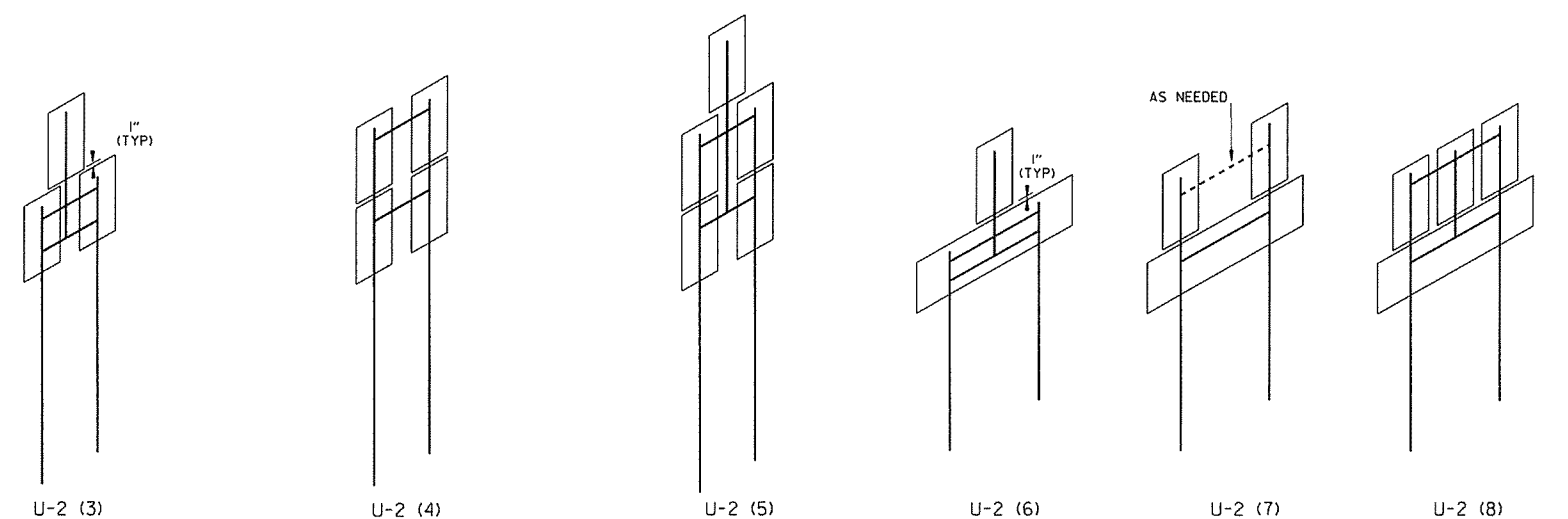
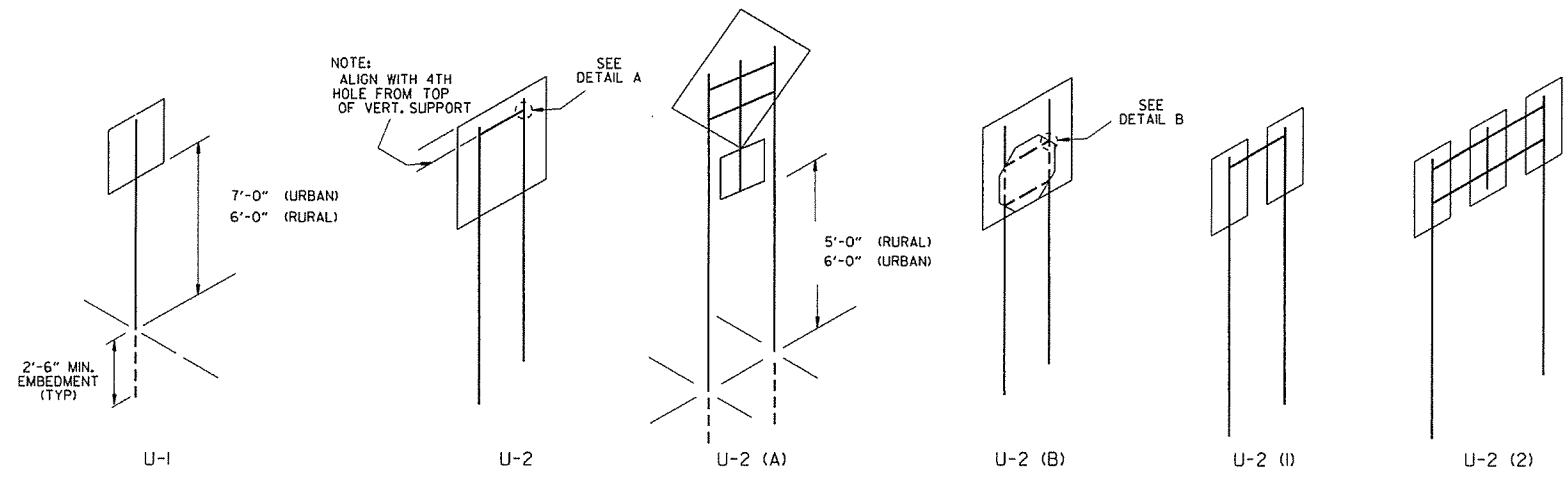


MINIMUM WEIGHT
TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

SUPPORT ASSEMBLIES
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES
STANDARD DRAWING SHS-1

9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED W1-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2"-3"; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. WT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2, 3, 4, 5, 6	500-12-21-72
12-1-72	ISSUED	562-12-1-72
DATE	REVISION	DATE FILMED



NOTES:

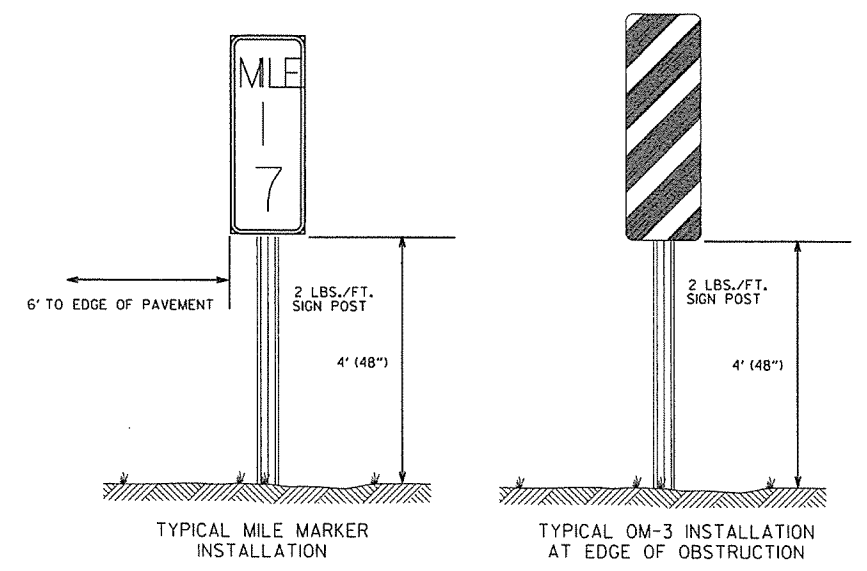
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

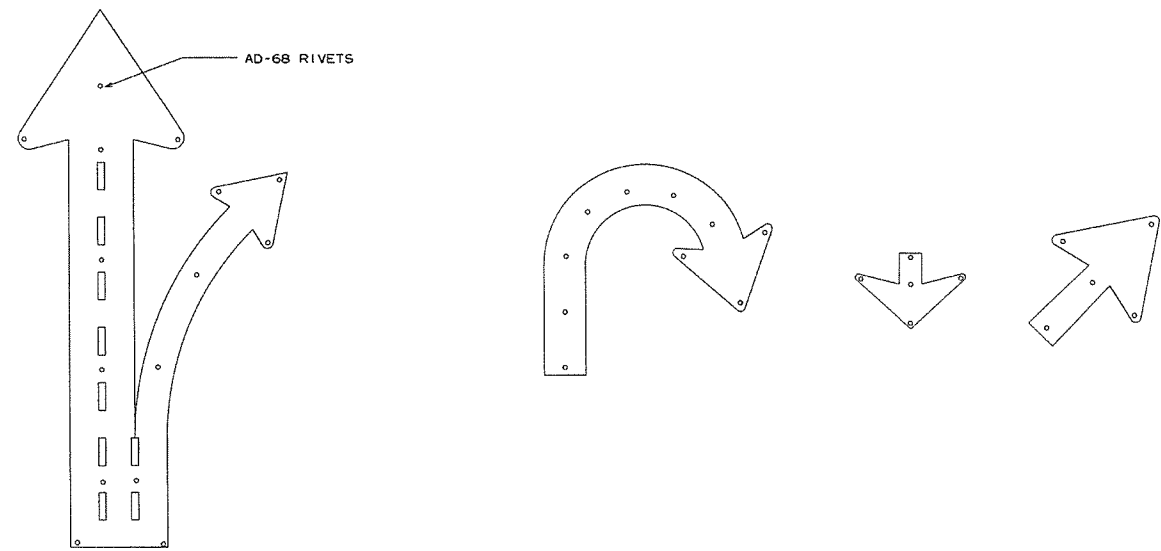
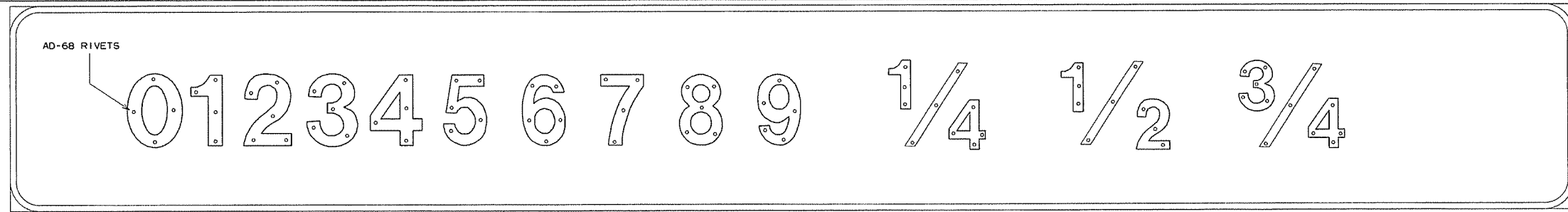
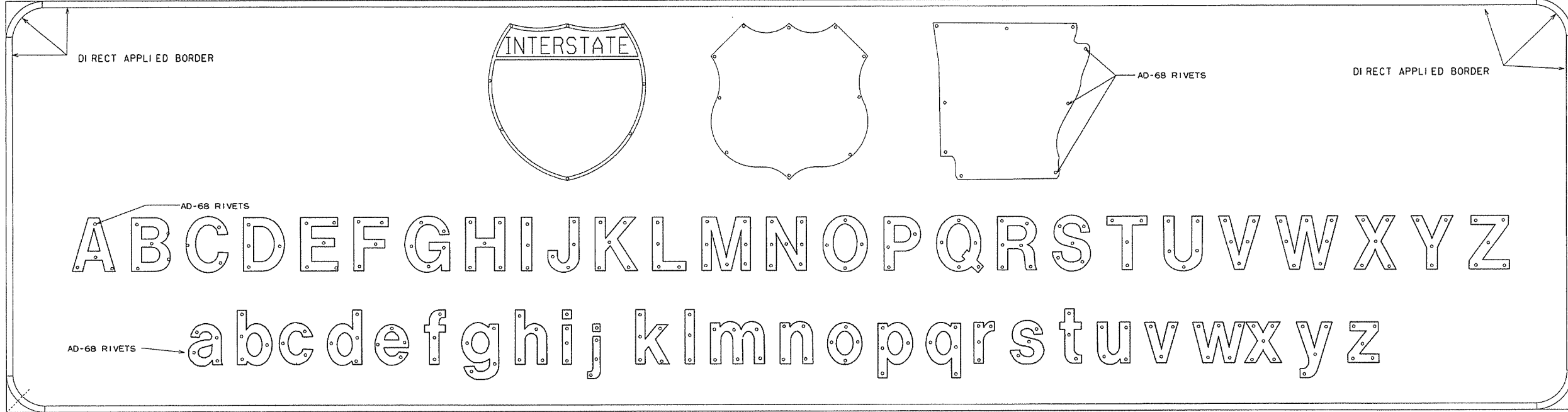
ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE
LEGEND ON GUIDE SIGNS



NOTES:

LEGEND ON GUIDE SIGNS ON THE MAIN LANES SHALL BE DEMOUNTABLE LEGEND. LEGEND ON GUIDE SIGNS ON CROSS ROADS AND RAMPS SHALL BE DIRECT APPLIED. THE DEMOUNTABLE AND DIRECT APPLIED LEGENDS SHALL BE TYPE IX SHEETING.

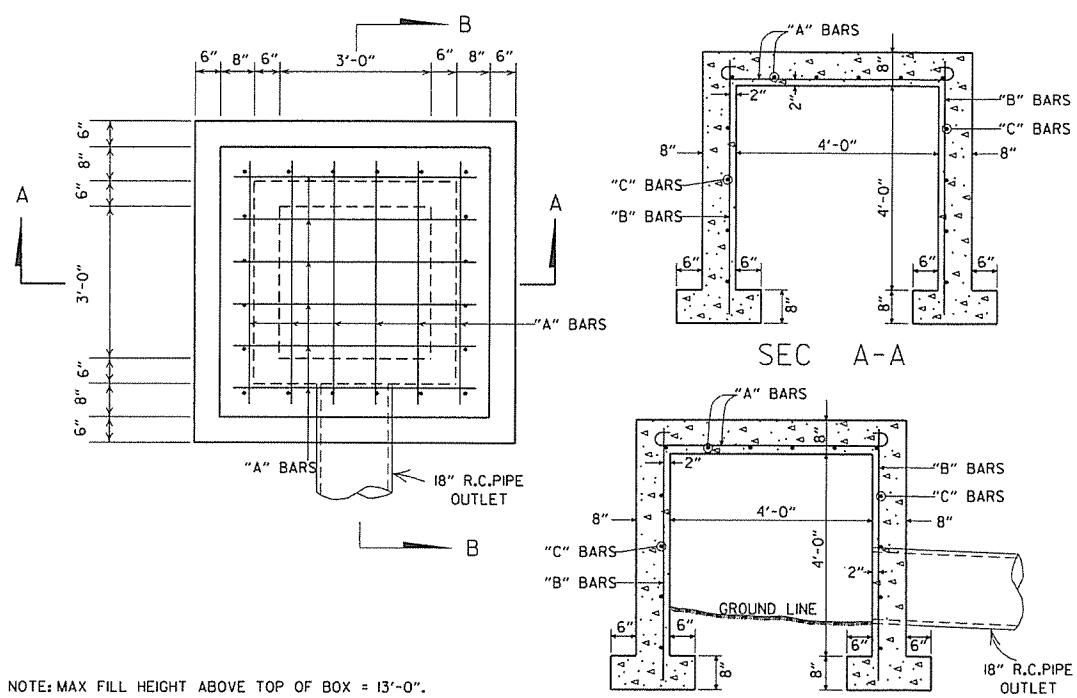
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

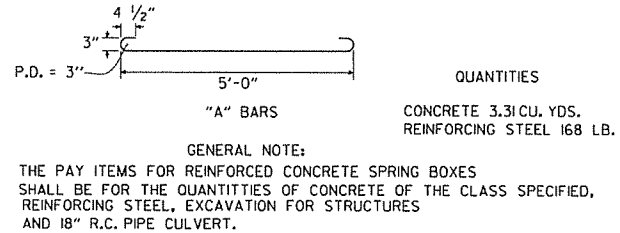
			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-6
DATE	REVISION	FILMED	



NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

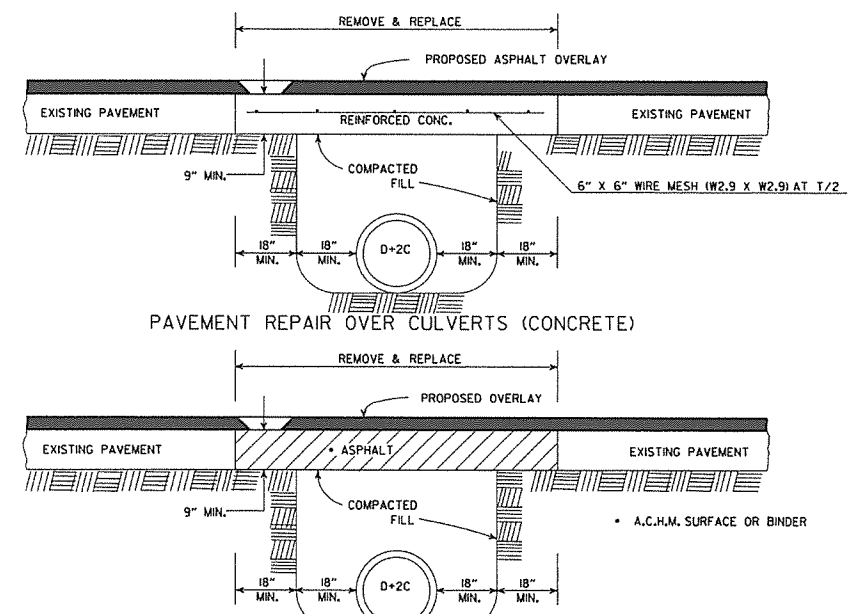
STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"

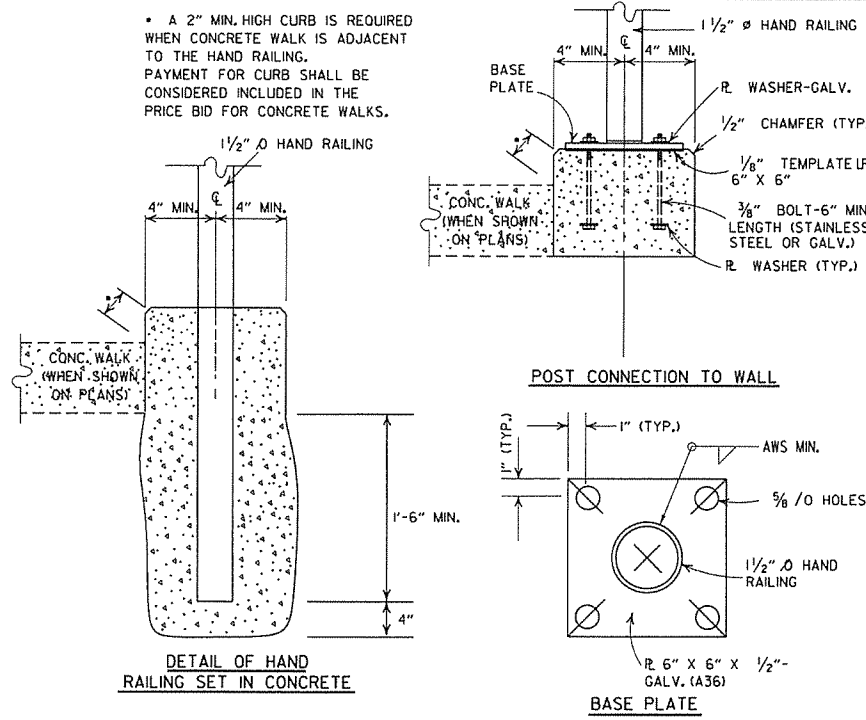


REINFORCED CONCRETE SPRING BOX

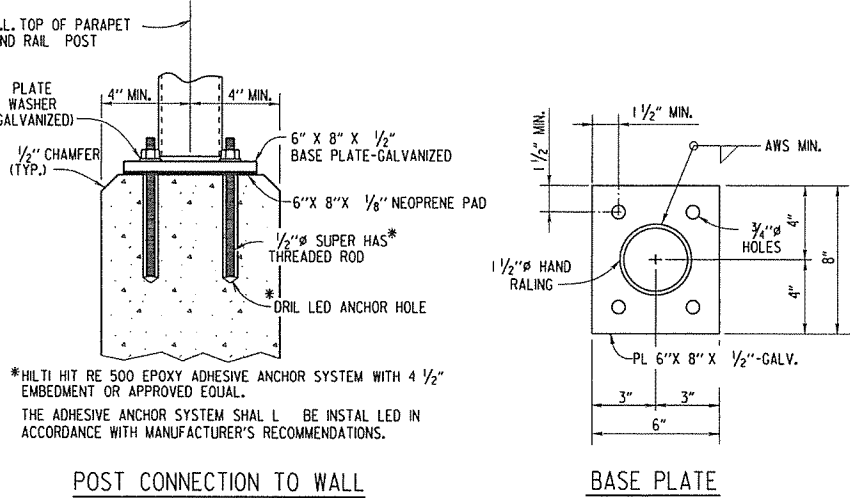
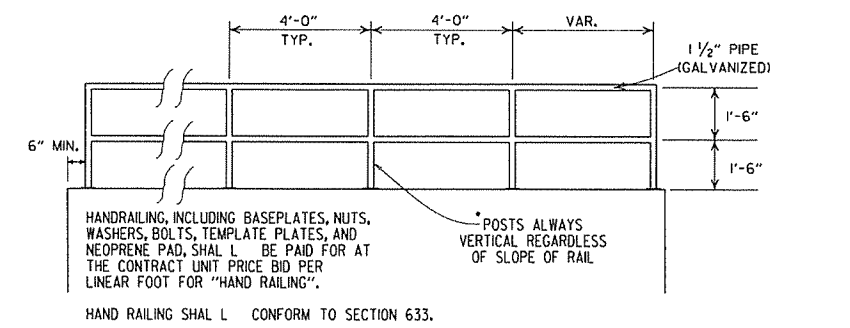
ALL STEEL TO BE #4 BARS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

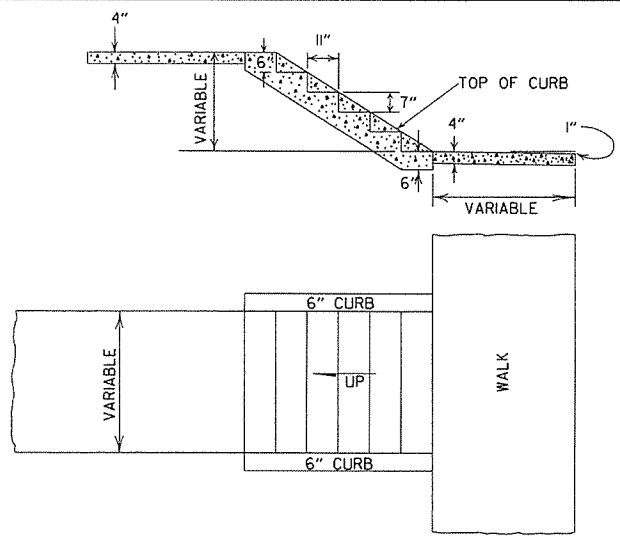


POST CONNECTION DETAILS



DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



DETAILS OF CONCRETE STEPS & WALKS


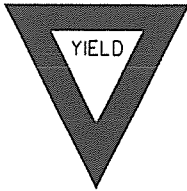
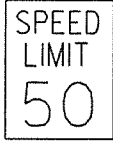





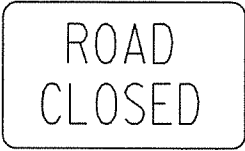
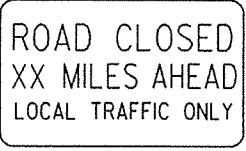
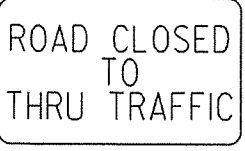
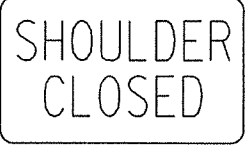
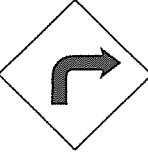

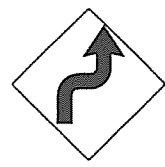

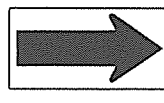

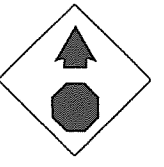
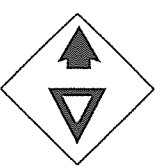
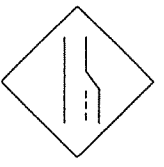

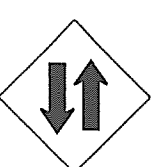

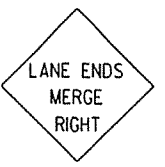


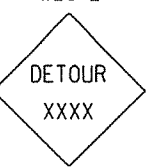
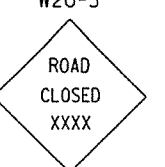




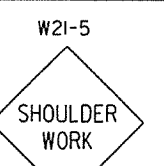
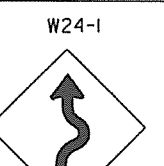
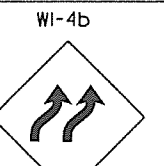
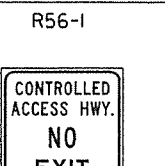

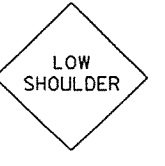
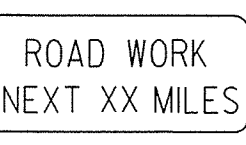
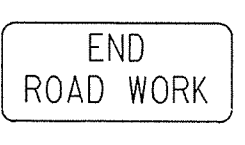
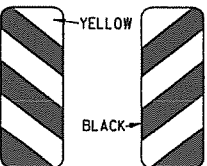
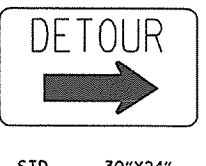
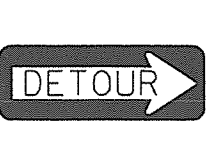
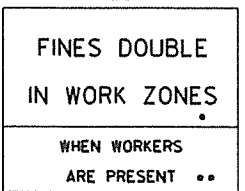
- GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
 2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
11-1-84	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
1-4-83	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

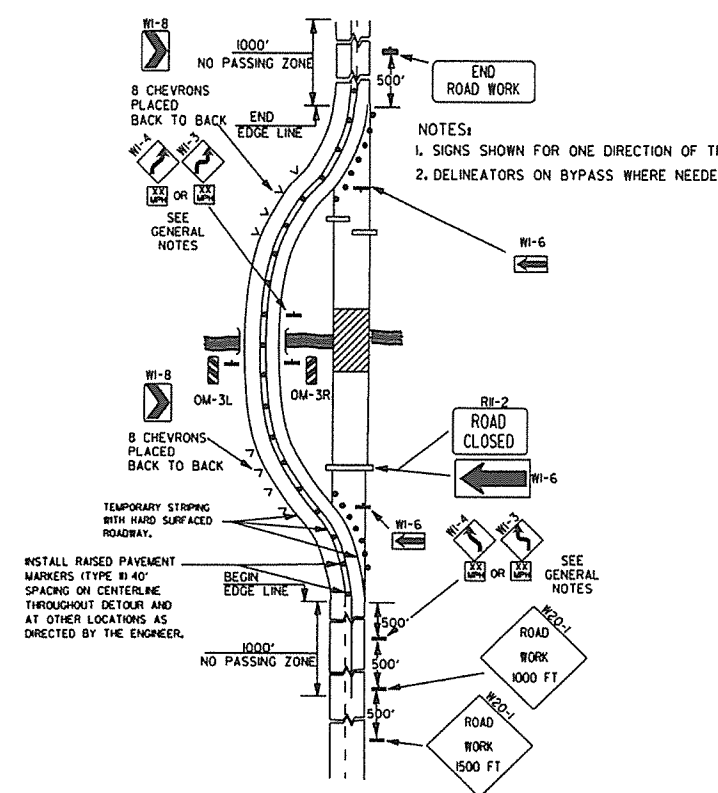
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

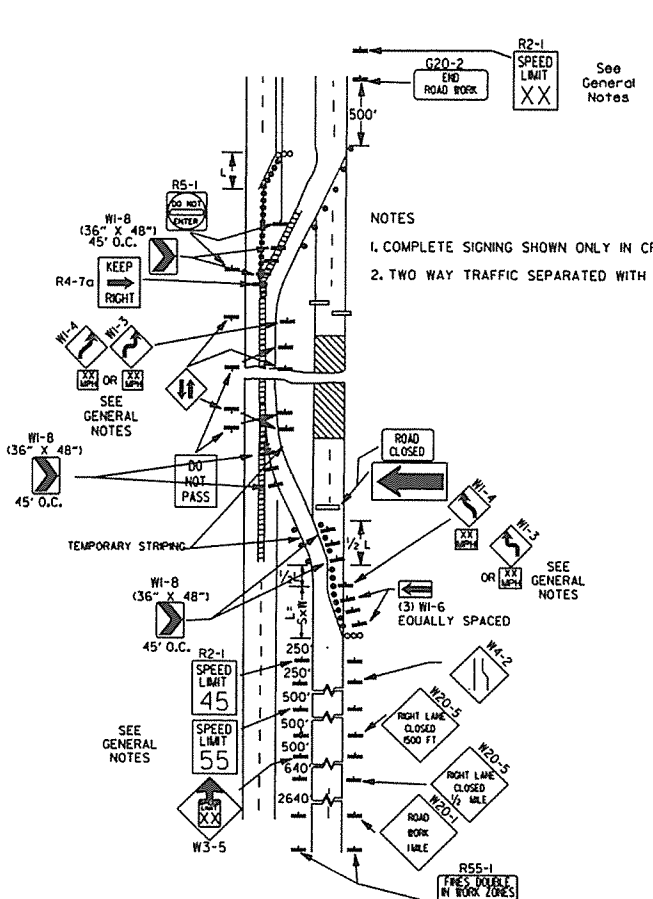
							ADVANCE DISTANCES (XXXX)	25
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>GENERAL NOTES:</p> <ol style="list-style-type: none"> ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. <p>• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>		
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>	
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>	
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>	

9-2-95	REVISED REDUCED SPEED LIMIT AHEAD SIGNS	
	REVISED ROAD WORK NEXT XX MILES	
12-5-91	REVISED W24-1	
1-17-10	DELETED W8-9G & ADDED W8-9	
10-5-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
1-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MITC D SEPT. 3, 1993	
8-15-94	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

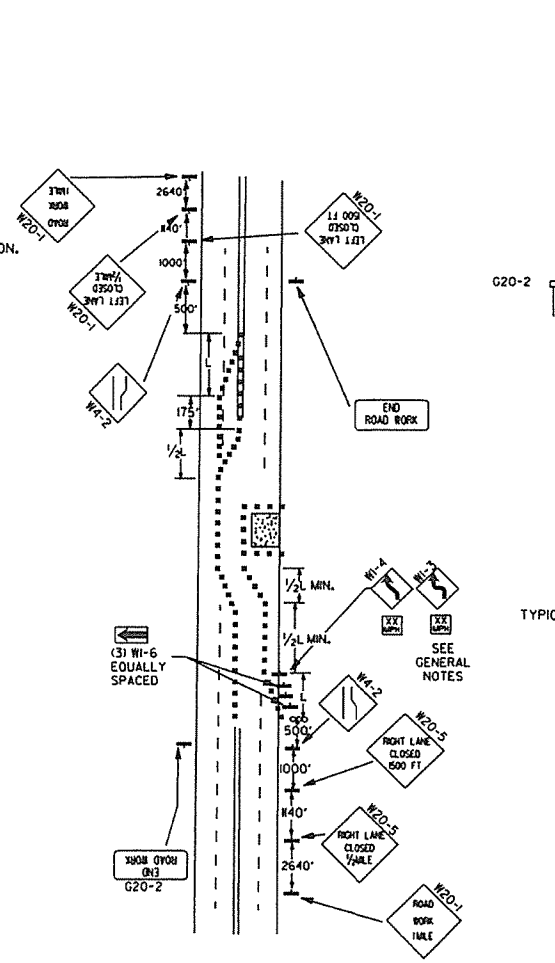
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



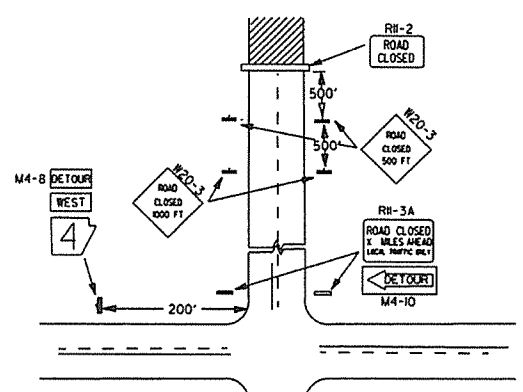
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



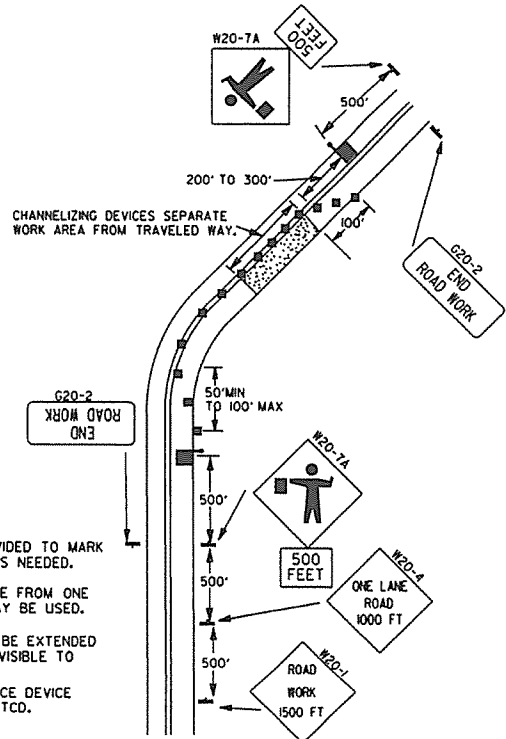
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



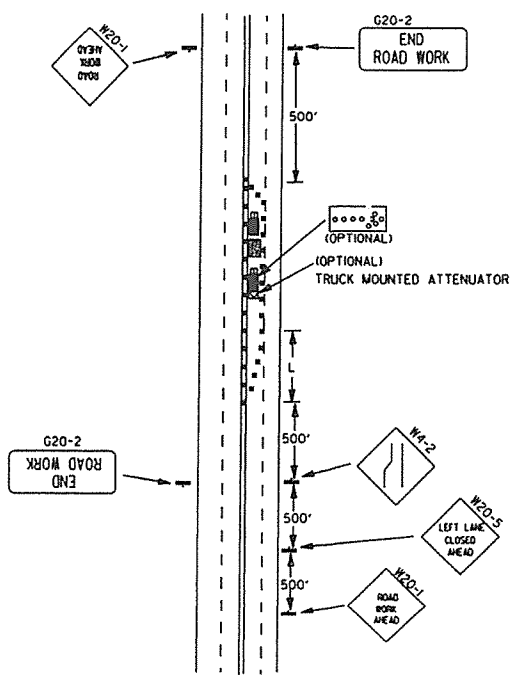
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



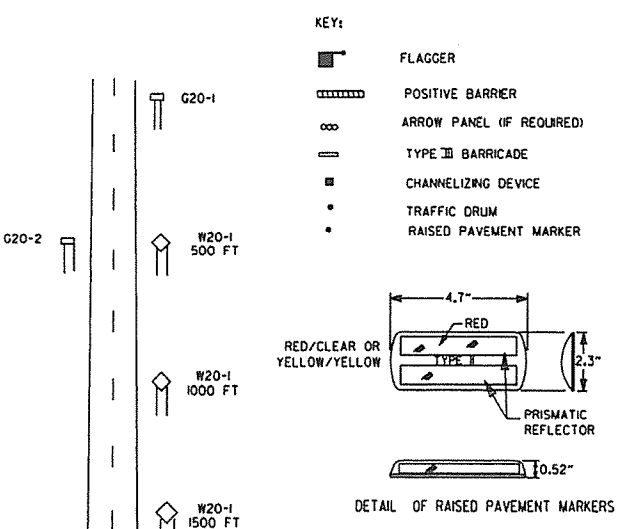
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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



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



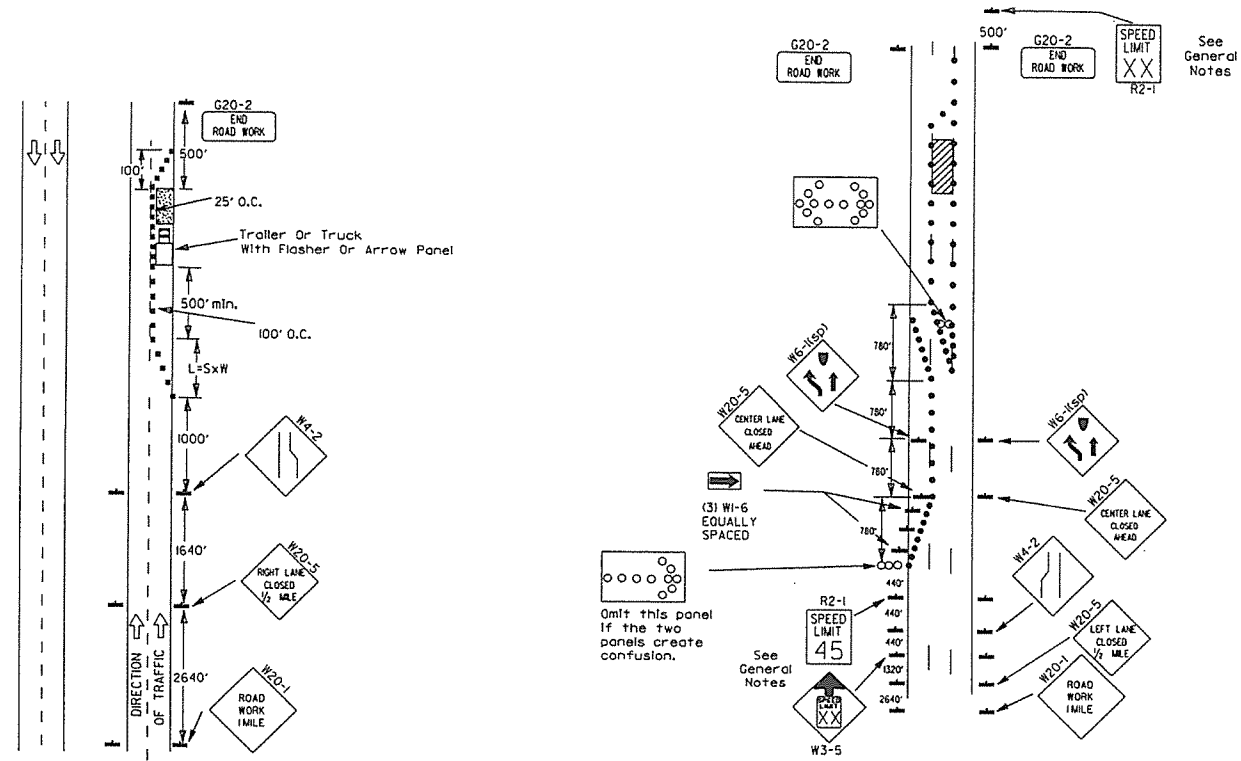
TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:
 L = SXW FOR SPEEDS OF 45MPH OR MORE.
 L = $\frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

- GENERAL NOTES:
- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-(H55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45MPH) SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(HXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-(H45) SHALL BE OMITTED. ADDITIONAL R2-1(55MPH) SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(HXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 - DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

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

Channelizing devices



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

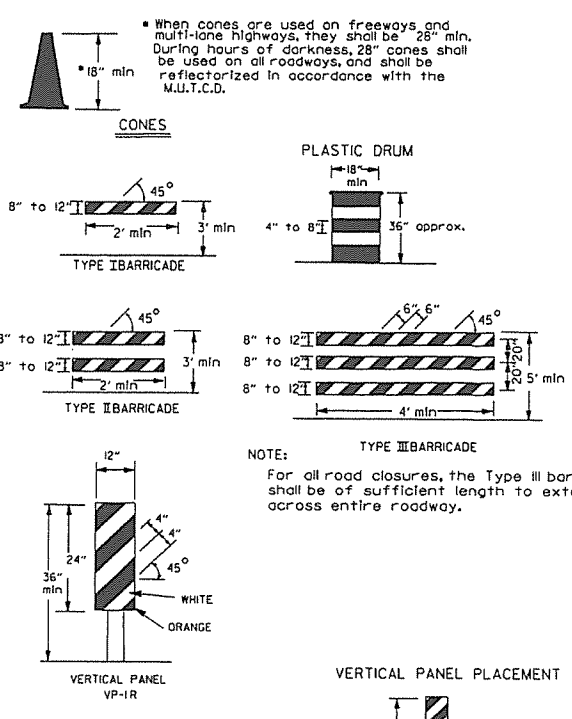
(B) Typical application - 3-lane oneway roadway where center lane is closed.

- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1(1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

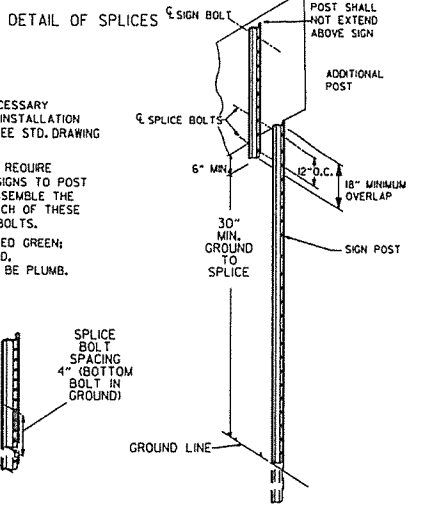
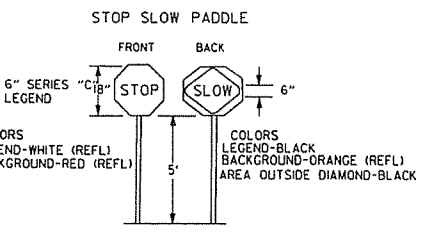
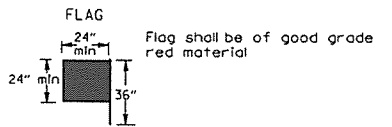
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



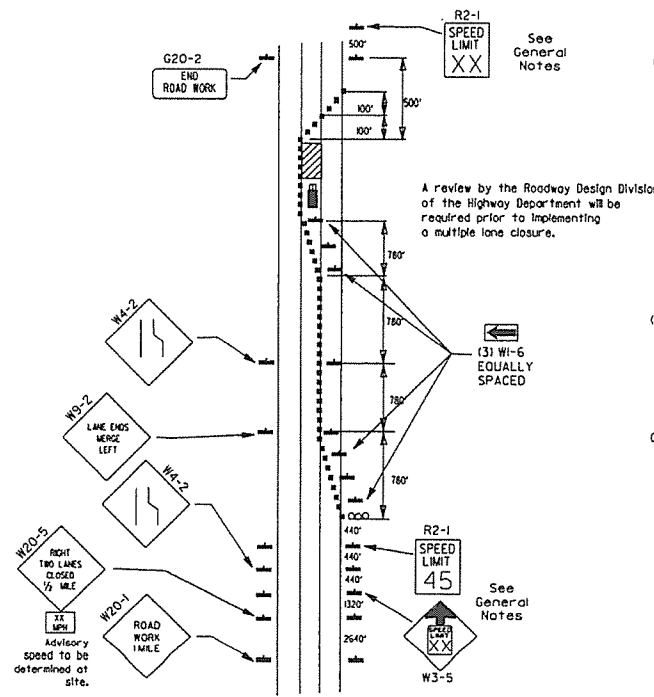
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-lane vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.
 When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



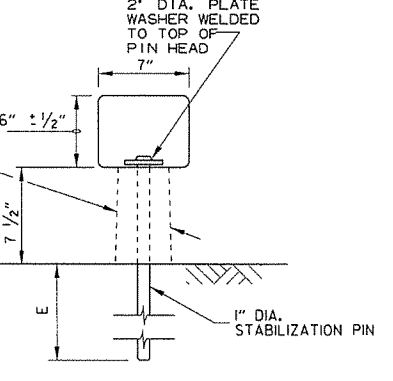
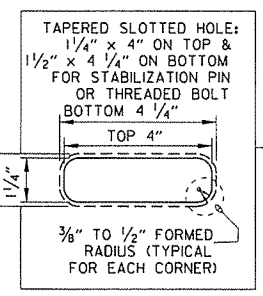
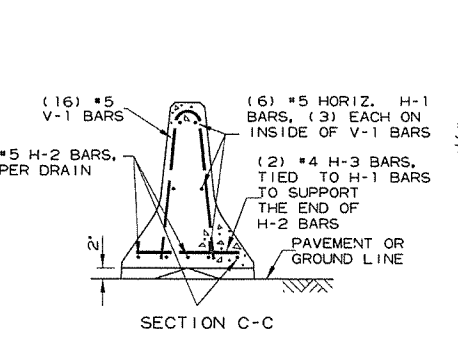
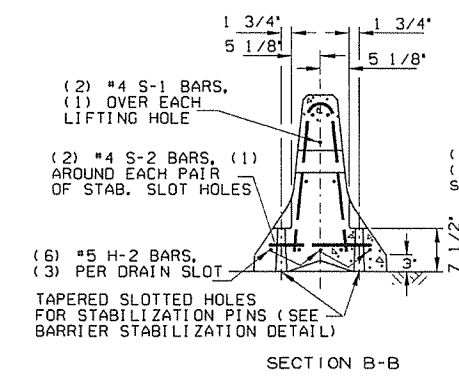
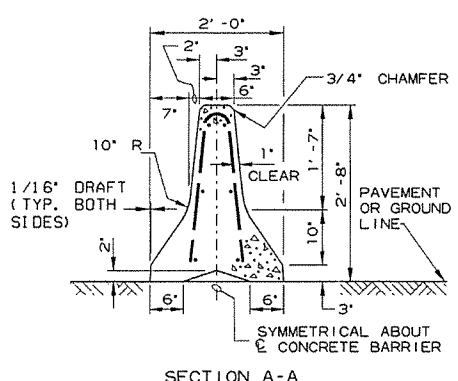
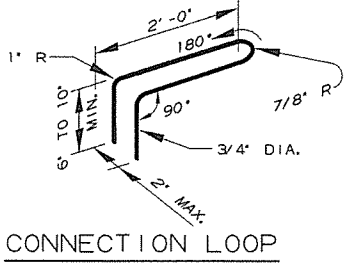
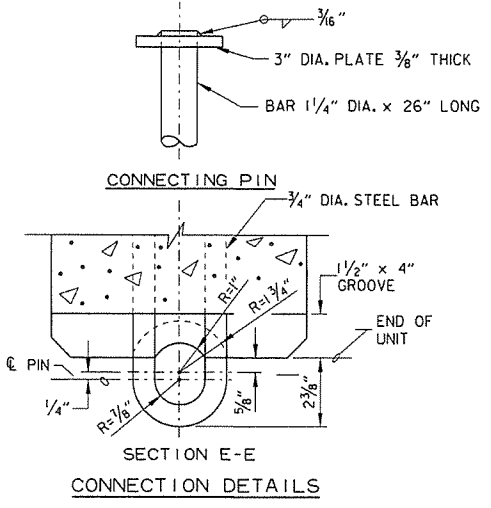
- NOTES:
- USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2).
 - NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.
 - SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



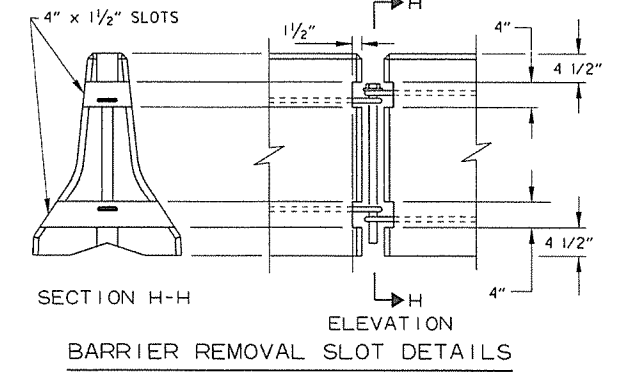
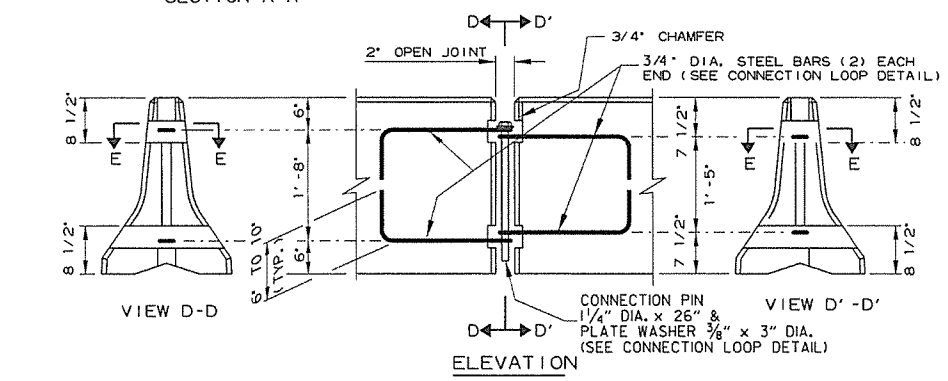
(D) Typical application - closing multiple lanes of a multi-lane highway.

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

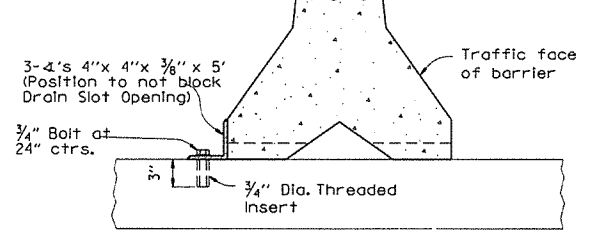
REINFORCING BAR TABLE PER BARRIER UNIT			
MARK	LOCATION	BAR SIZE	(NO. BARS)
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)
S-1	OVER LIFT HOLES	#4	(2)
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)



BARRIER STABILIZATION DETAIL
ROADWAY SECTION
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas

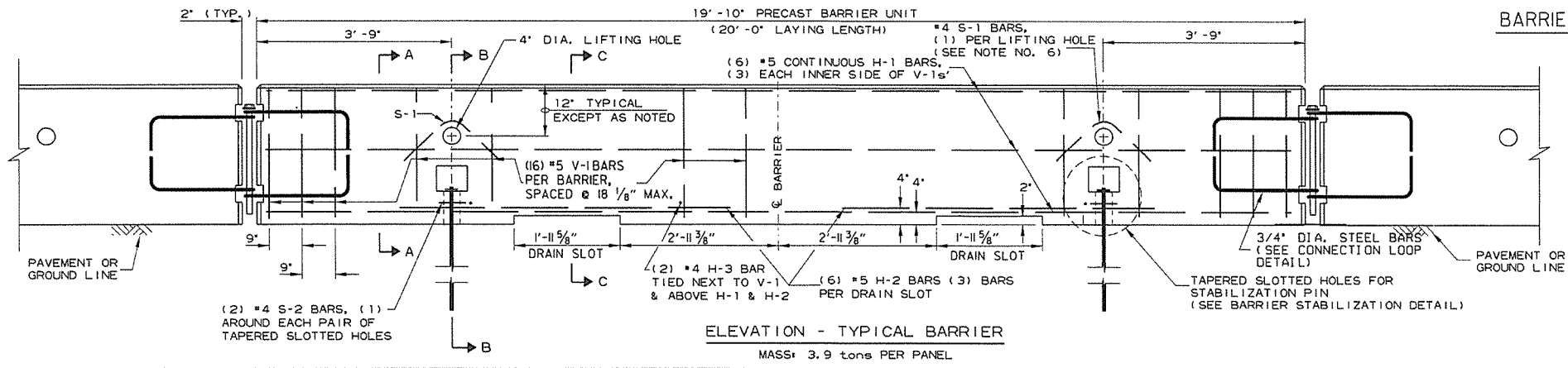


BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL
BRIDGE DECKS



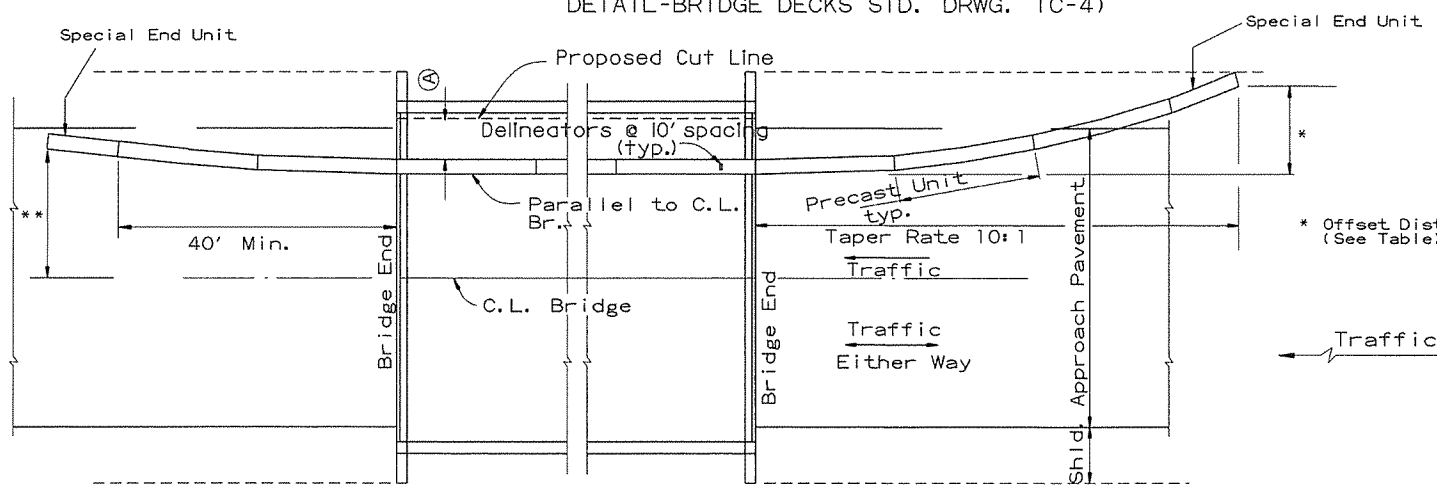
ELEVATION - TYPICAL BARRIER
MASS: 3.9 tons PER PANEL

- 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 requirements:
Concrete: 2500 psi compressive 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 10' spacing on top of precast barrier.
 - In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified 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. Ft. for "Furnishing 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.
 - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or 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 NCHRP Report 350 or 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 NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
 - Dowel 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.
 - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
 - A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

DATE	REVISION	FILED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

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

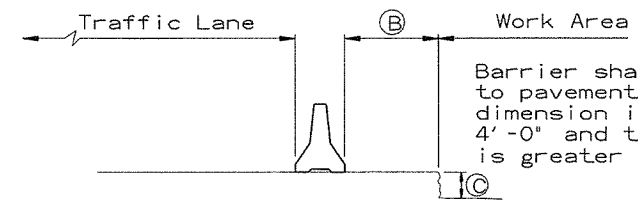
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

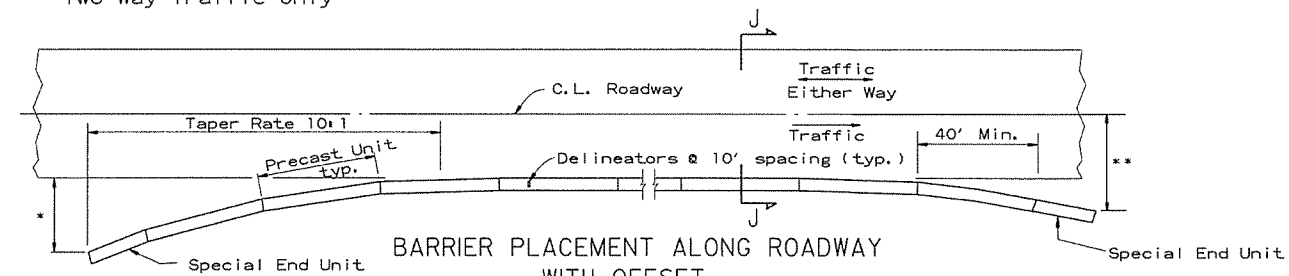
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

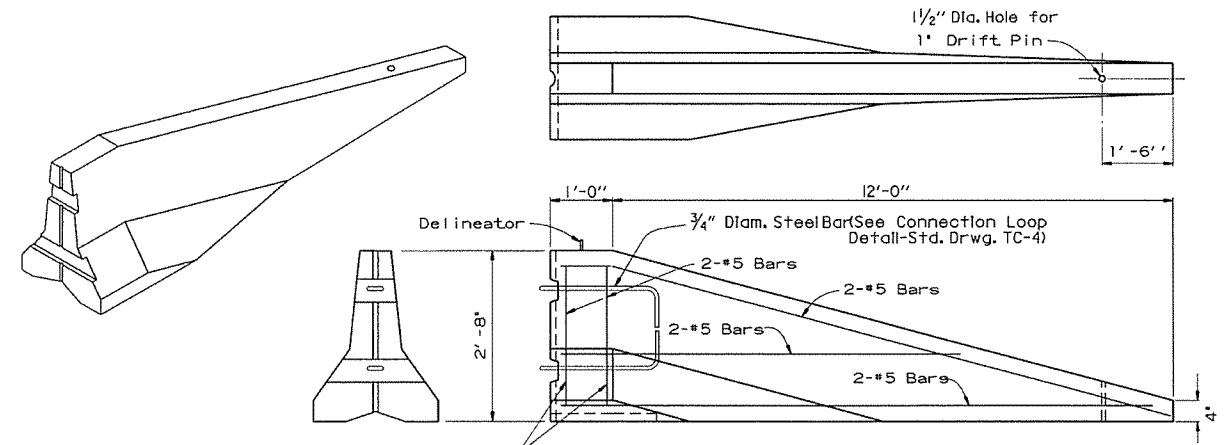
No Scale

** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

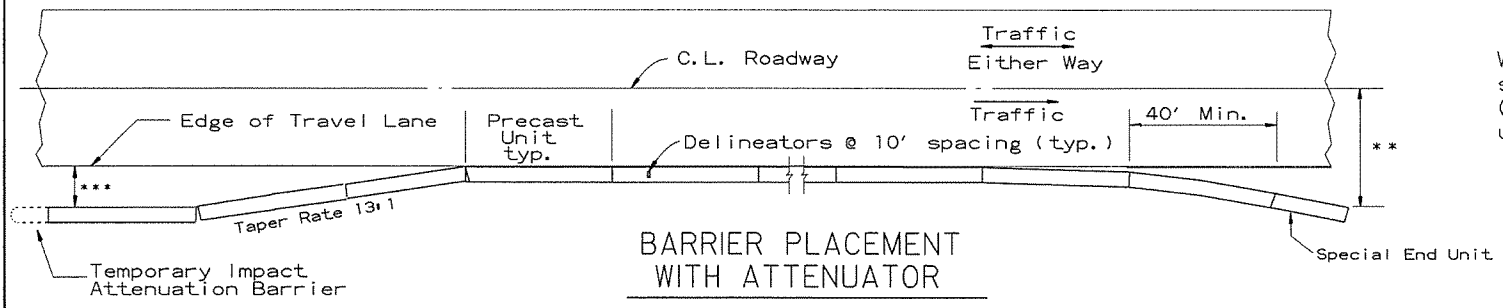


SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."



BARRIER PLACEMENT WITH ATTENUATOR

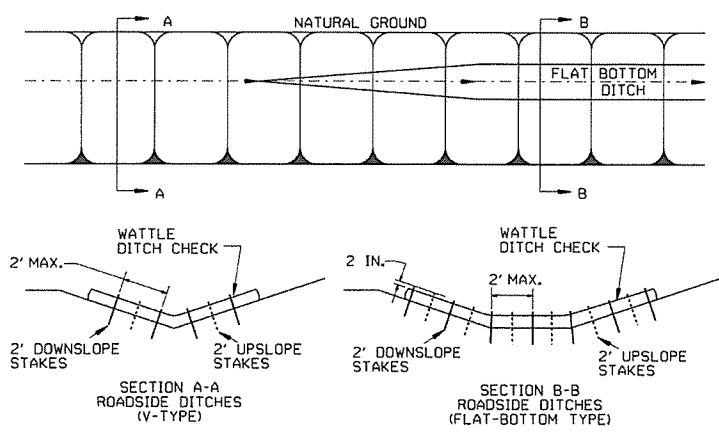
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** Offset Distance For Two Way Traffic Only

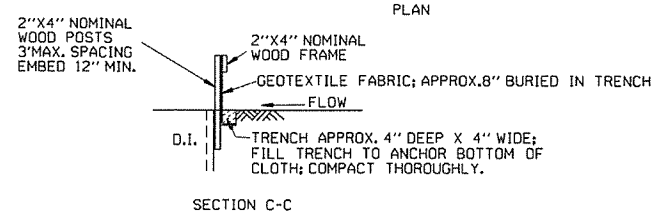
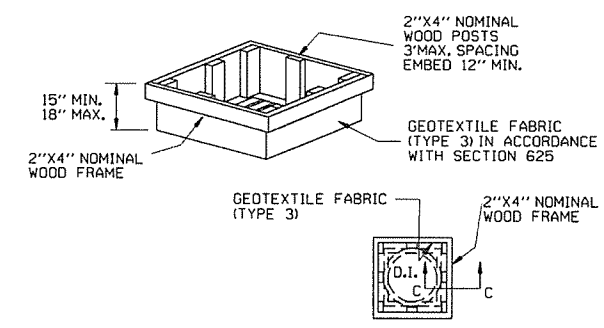
***Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

			ARKANSAS STATE HIGHWAY COMMISSION	
			STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	
			STANDARD DRAWING TC-5	
10-15-09	ADDED REFERENCE TO MASH			
5-25-06	REVISED BARRIER PLACEMENT			
8-22-02	ISSUED NEW DRAWING			
DATE	REVISION		FILMED	

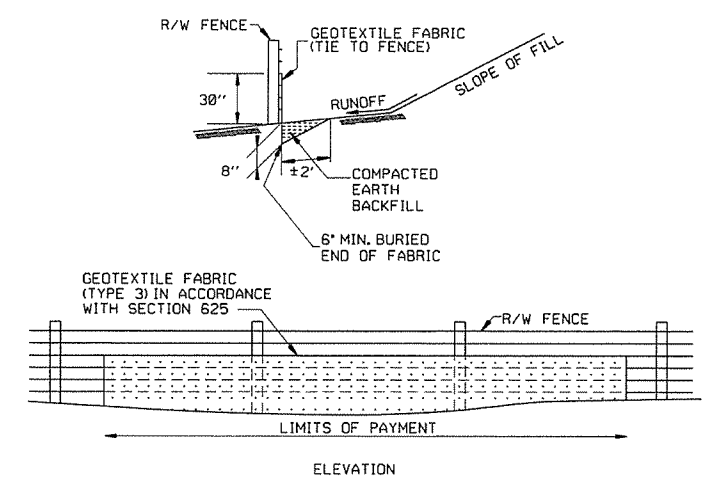
GENERAL NOTES
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



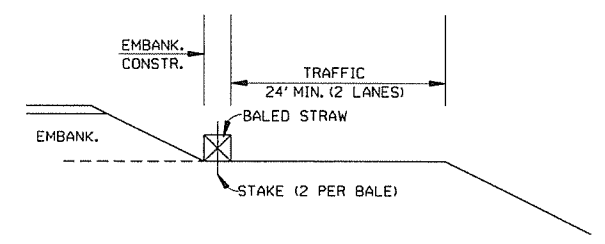
DROP INLET SILT FENCE (E-7)



SILT FENCE ON R/W FENCE (E-4)

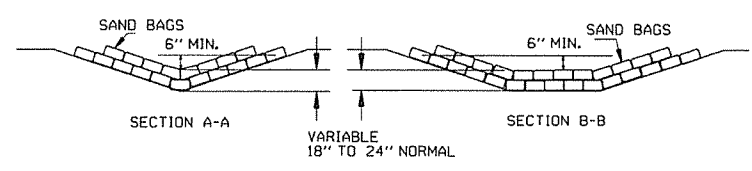
GENERAL NOTES
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

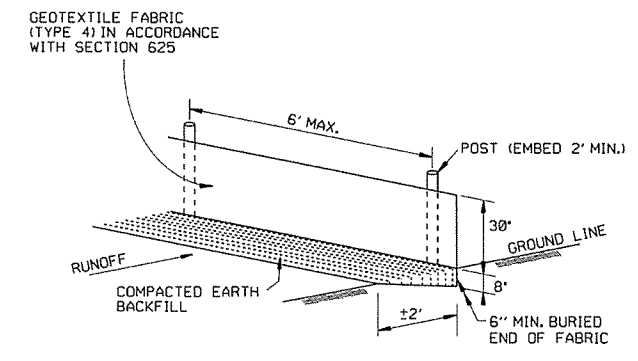


BALED STRAW FILTER BARRIER (E-2)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.

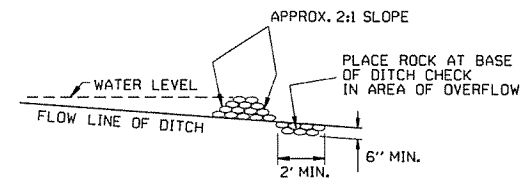


SAND BAG DITCH CHECK (E-5)



SILT FENCE (E-11)

GENERAL NOTES
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



ROCK DITCH CHECK (E-6)

DATE	REVISION	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1, 4, 7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76
		FILMED

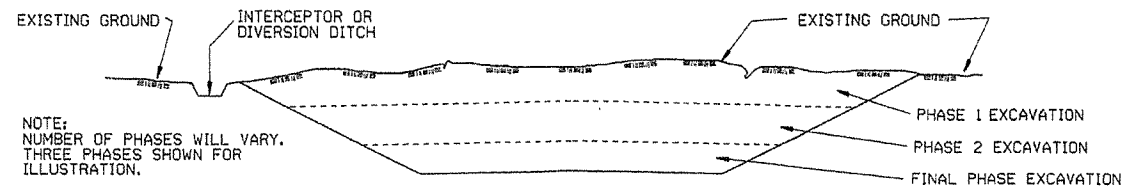
ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES
STANDARD DRAWING TEC-1

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES, DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

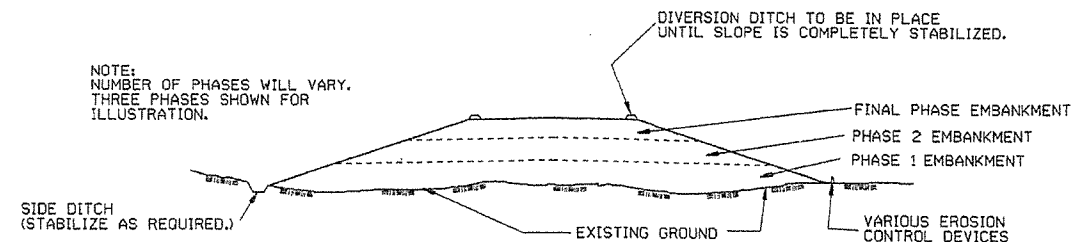
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

GENERAL NOTE

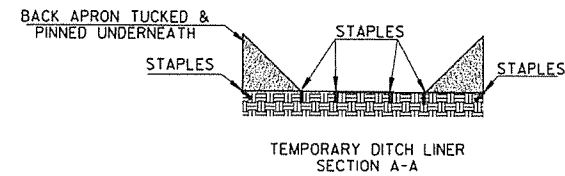
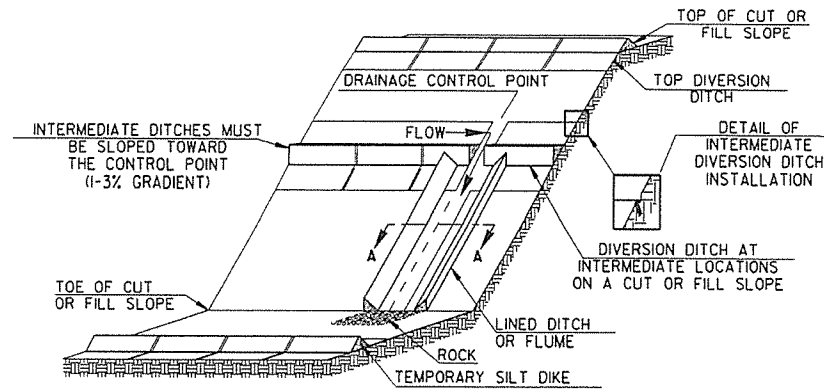
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

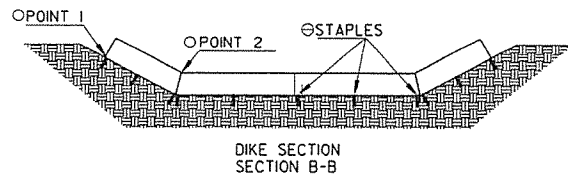
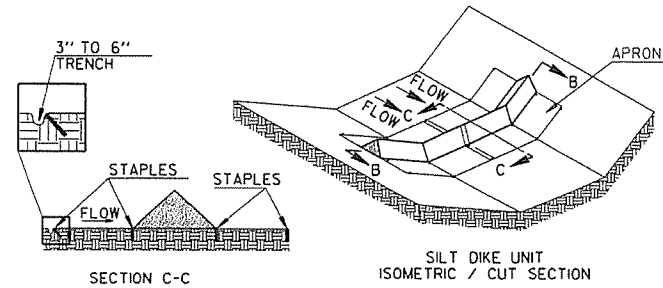
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

31

		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
		STANDARD DRAWING TEC-3	
1-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued		6-2-94
DATE	REVISION		FILMED

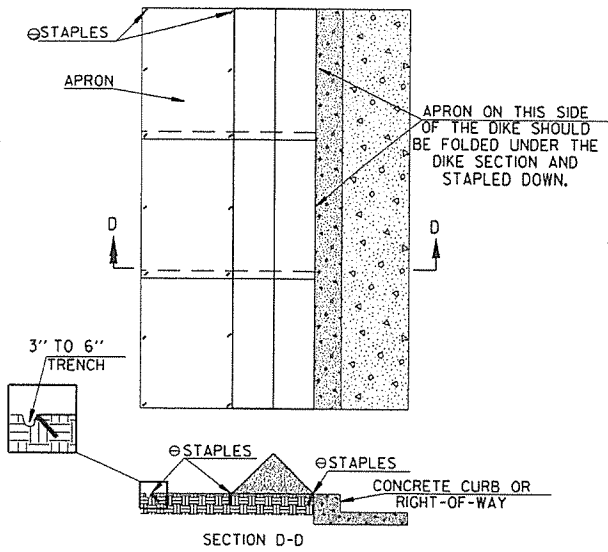


TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER

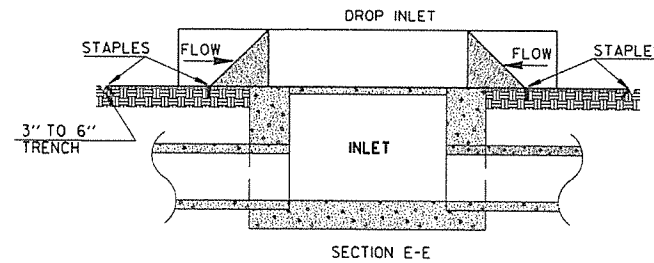
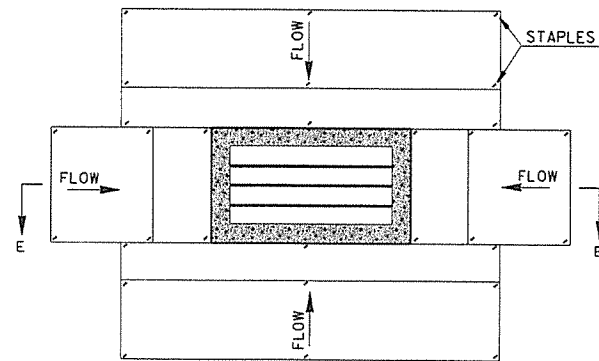


TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

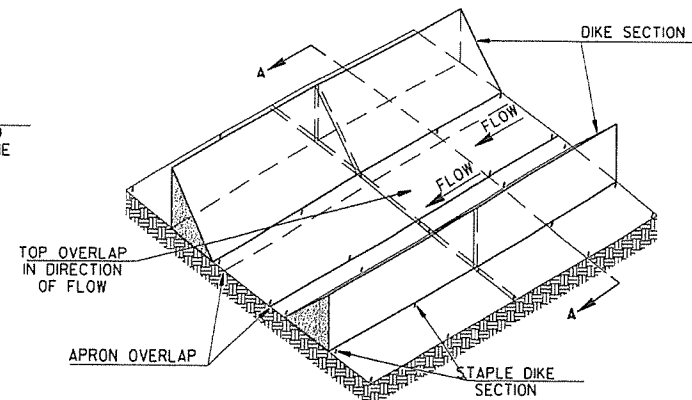
O POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
 ⊗ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS

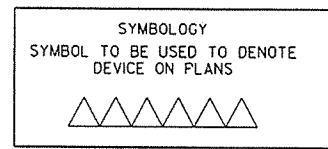


TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 12 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.



NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
7-26-12	REVISED GENERAL NOTE 2.		STANDARD DRAWING TEC-4
12-15-11	ISSUED		
DATE	REVISION	FILMED	