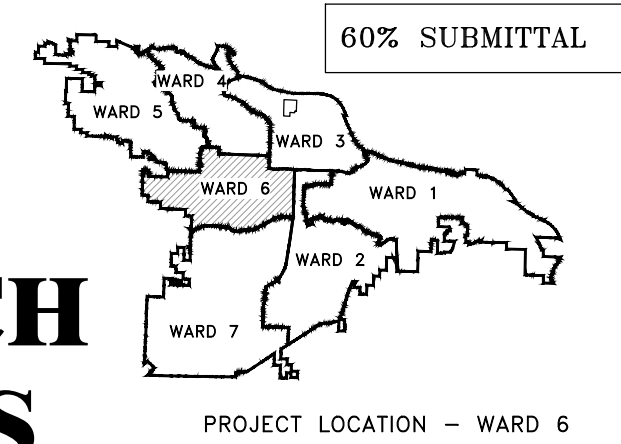


PROJECT # 00-22-TR-146

KANIS ROAD AT PANTHER BRANCH INTERSECTION IMPROVEMENTS

(COOPER ORBIT RD. & KANIS RD.)

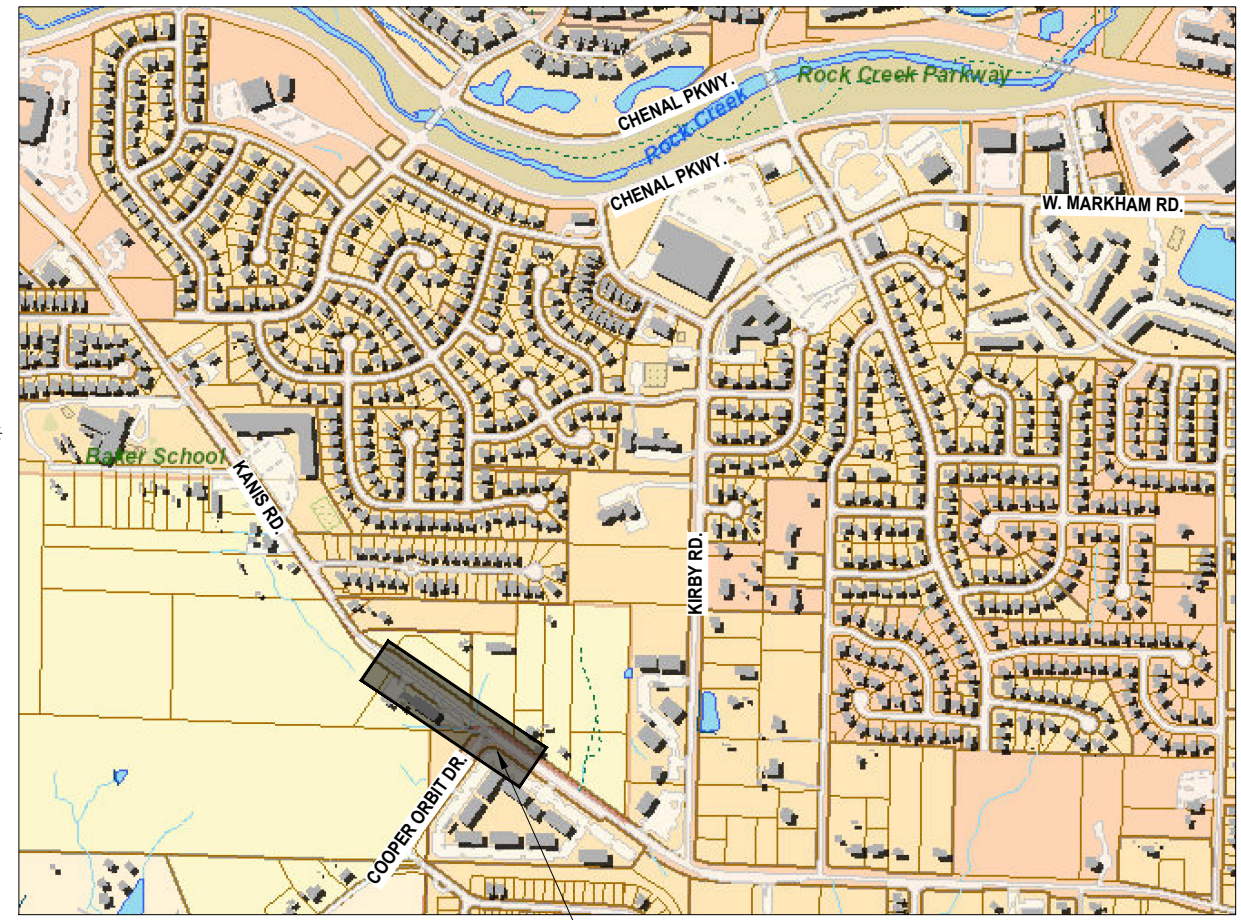


REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS

COVER SHEET

Sheet List Table	
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C3	TYPICAL SECTION SHEET 1
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C5	EXISTING CONDITIONS PLAN
C6	KANIS RD. PLAN & PROFILE SHEET
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C8	DRIVEWAY PLAN SHEET 2
C9	CENTERLINE FIELD TIES SHEET
C10	EROSION CONTROL PH I SHEET
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C14	KANIS RD CROSS SECTION SHEET 2
C15	KANIS RD CROSS SECTION SHEET 3
C16	KANIS RD CROSS SECTION SHEET 4
T1	TRAFFIC SIGNAL QUANTITIES
T2	TRAFFIC SIGNAL NOTES
T3	TRAFFIC SIGNAL STREET NAME SIGNS
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T5	SIGNALIZATION PLAN
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PROJECT LOCATION

LOCATION

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201



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701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

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DATE
09-10-2024
SCALE
NO SCALE
PROJECT NO.

SHEET NO.
C1

APPROVED:

CITY OF _____ DATE _____

ARDOT, DISTRICT X _____ DATE _____

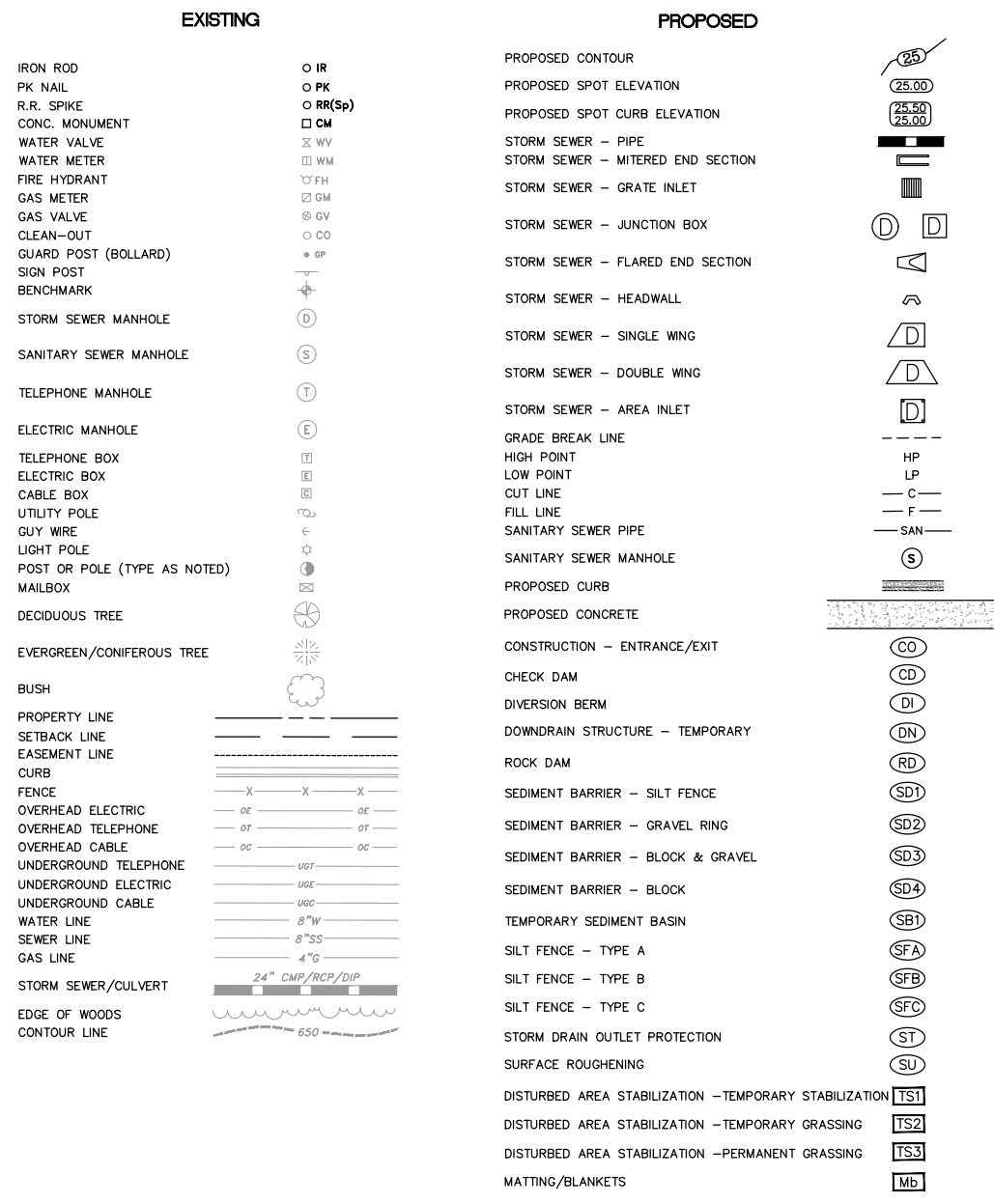
CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
LEGEND & QUANTITIES SHEET

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PROJECT NO.

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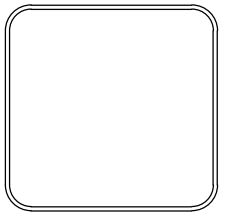
CIVIL QUANTITIES				
ARDOT ITEM NUMBER	LR ITEM NUMBER	ITEM	QUANTITY	UNIT
201	2.01	SITE PREPARATION	1	L.S.
210	3.01	UNCLASSIFIED EXCAVATION	1105	C.Y.
210	3.02	SELECT FILL	5	C.Y.
303	4.01	AGGREGATE BASE COURSE (CLASS 7)	666	TON
401	5.01	TACK COAT	40	GAL
407	6.01	ACHM SURFACE COURSE	125	TON
406	6.02	ACHM BINDER COURSE	175	TON
505	7.06	CONCRETE DRIVE & APRON, 6"	1285	S.F.
634	8.01	CONCRETE CURB AND GUTTER	400	L.F.
633	9.01	CONCRETE SIDEWALK, 4"	1813	S.F.
609	10.02	CURB INLET	3	EA.
609	10.11	3' THROAT EXTENSION	2	EA.
802	11.01	CONCRETE, REINFORCED RETAINING WALL	1000	S.F.
802	11.06	CONCRETE, REINFORCED HEADWALL	3	C.Y.
606	13.18S	STORM DRAIN PIPE, 18" (SIDE DRAIN)	165	L.F.
606	13.48S	STORM DRAIN PIPE, 48" (SIDE DRAIN)	7	L.F.
605	13.48C	STORM DRAIN PIPE, 48" (CROSS DRAIN)	41	L.F.
624	14.01	SOLID SODDING (BERMUDA)	450	S.Y.
603	16.01	MAINTENANCE OF TRAFFIC	1	L.S.
633	18.07	HANDRAIL	190	L.F.
641	18.09	HANDICAP RAMP	36	S.F.
620	18.10	WATER FOR DUST CONTROL	3000	GAL
104	19.01	FINAL CLEAN UP	1	L.S.
207	23.01	B STONE	10	TON
621	24.01	SILT FENCE	1425	L.F.
621	24.02	CHECK DAM	6	CY
621	24.03	FILTER SOCK 12"	40	L.F.
628	49.00	TOP SOIL	50	C.Y.



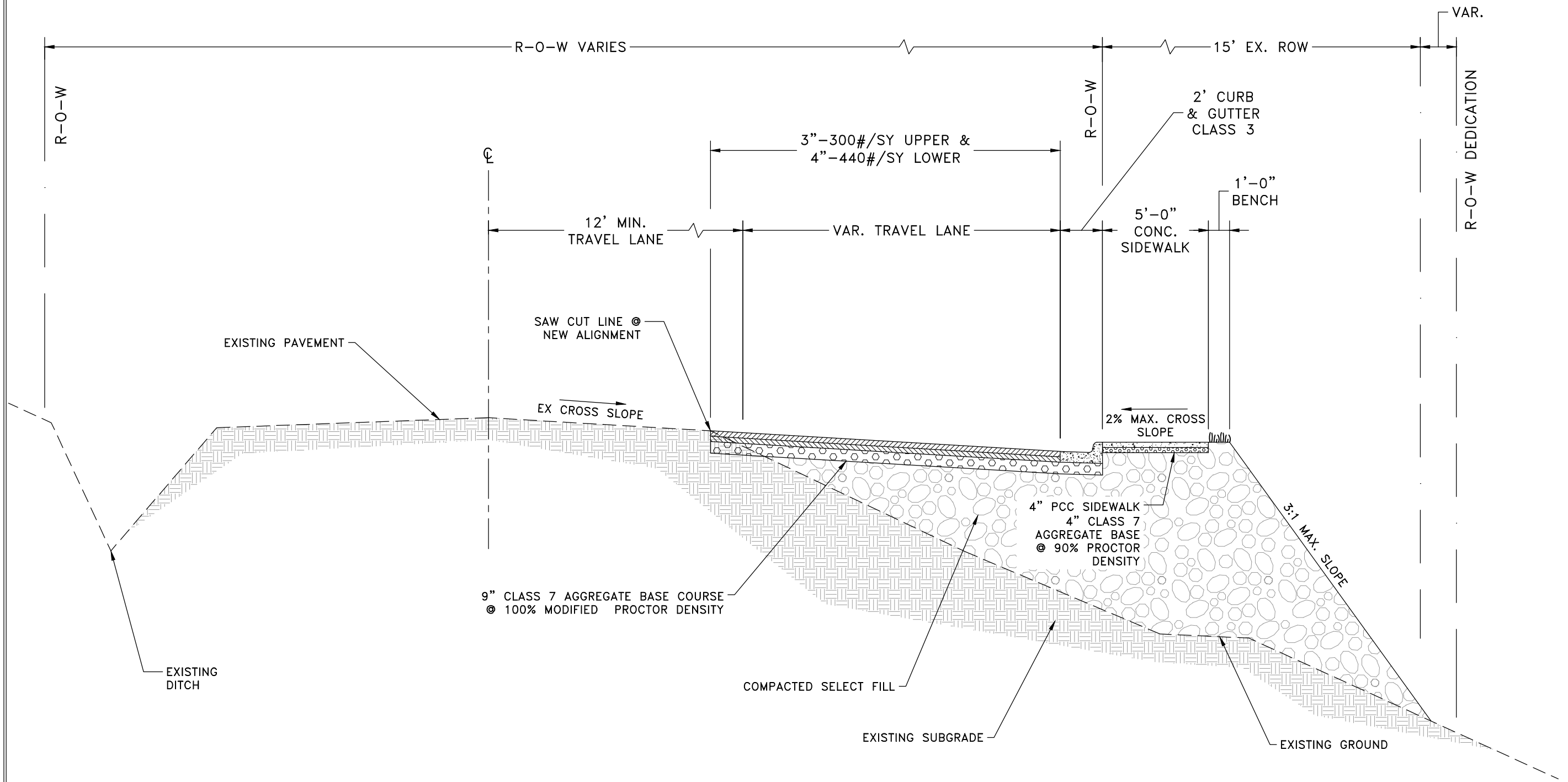
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 TYPICAL SECTION SHEET 1

DEPARTMENT OF PUBLIC WORKS
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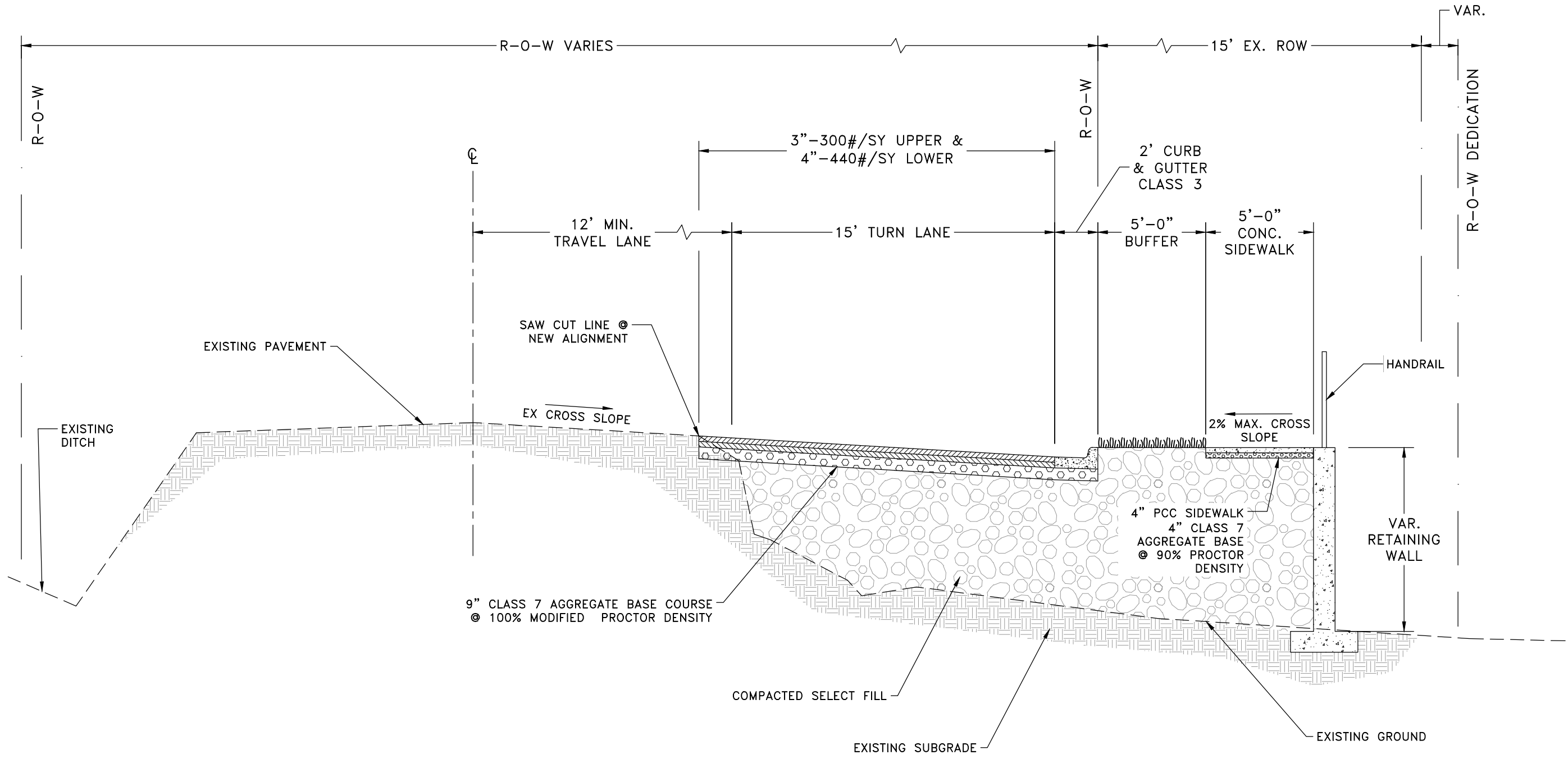


TYPICAL SECTION - KANIS ROAD

Sta 10+00.00 to Sta. 13+00.00
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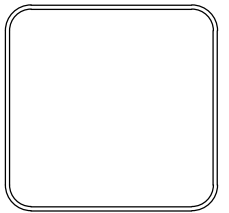
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REVISIONS	DATE



CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 TYPICAL SECTION SHEET 2

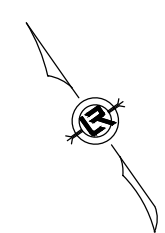
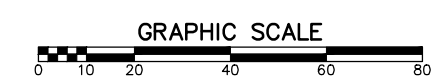
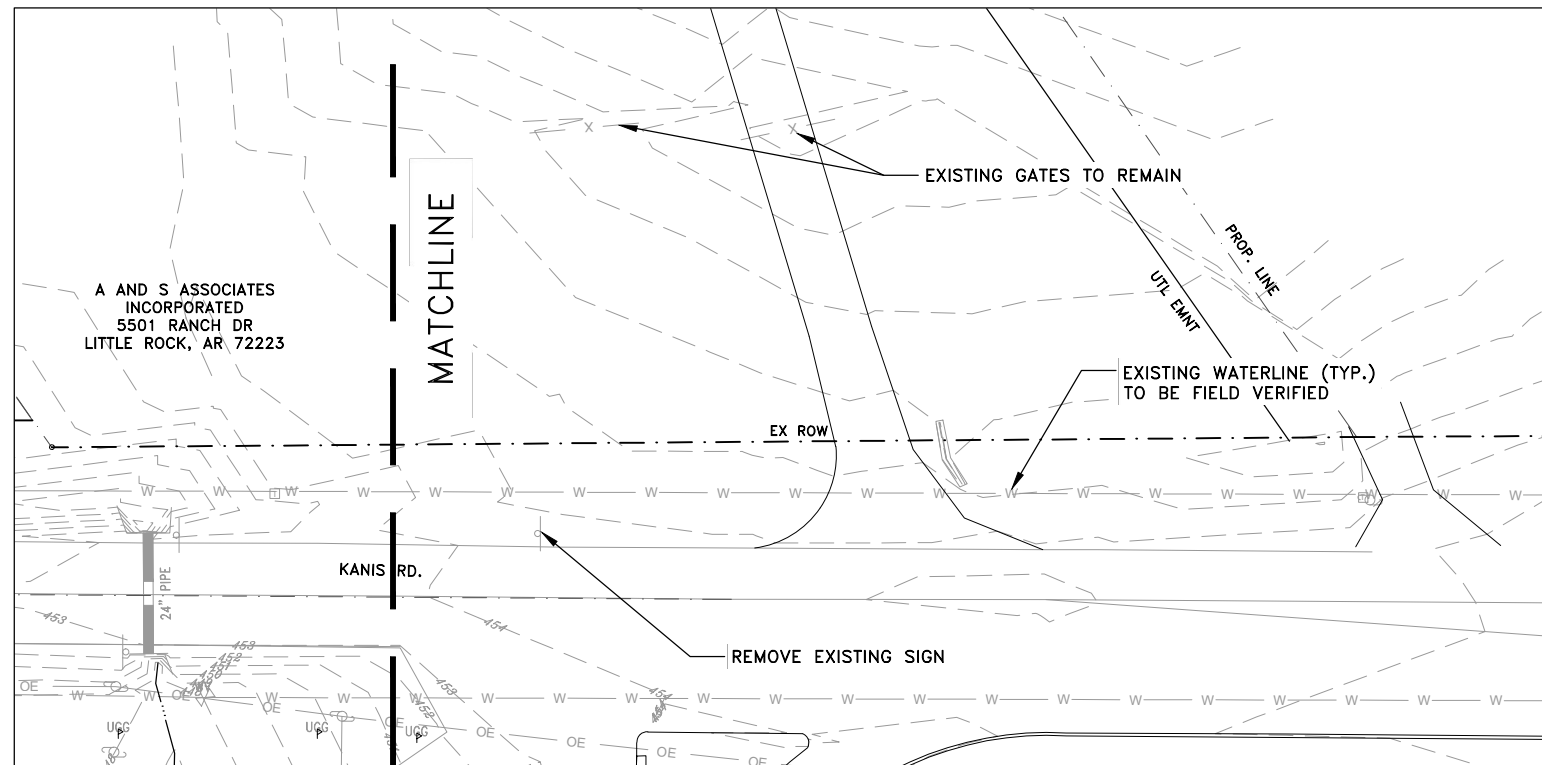
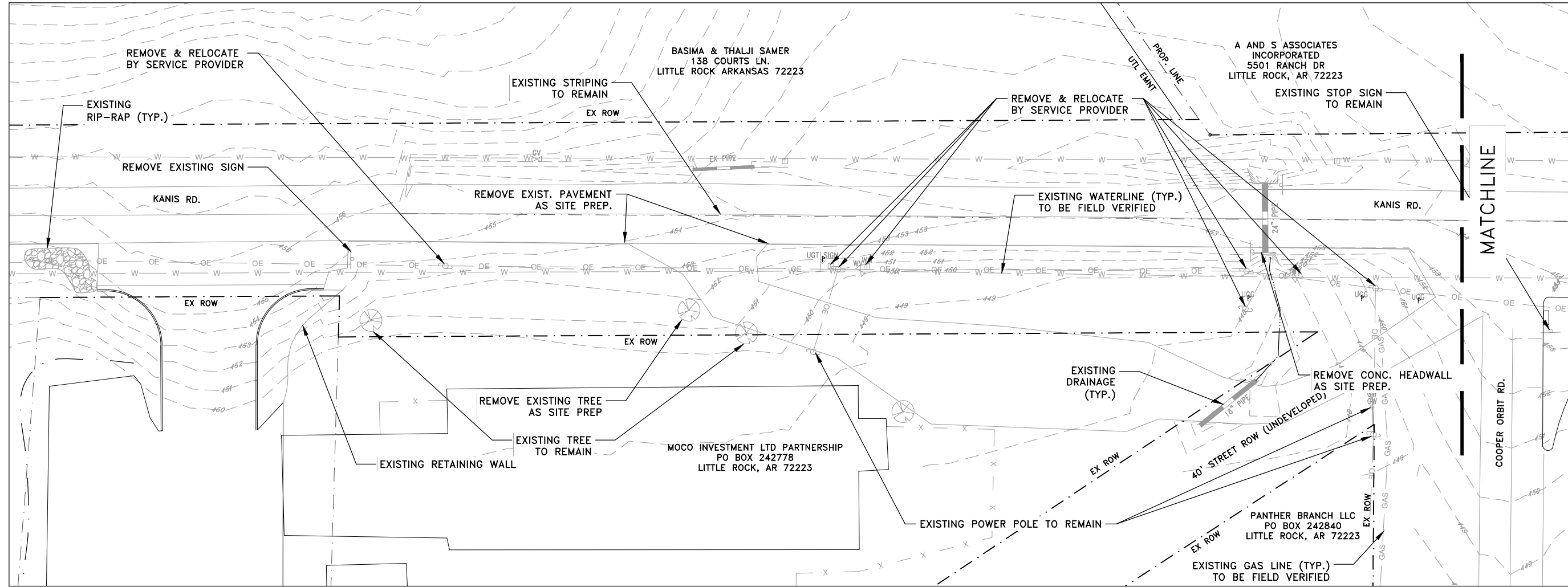
DEPARTMENT OF PUBLIC WORKS
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TYPICAL SECTION - KANIS ROAD

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CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 EXISTING CONDITIONS PLAN

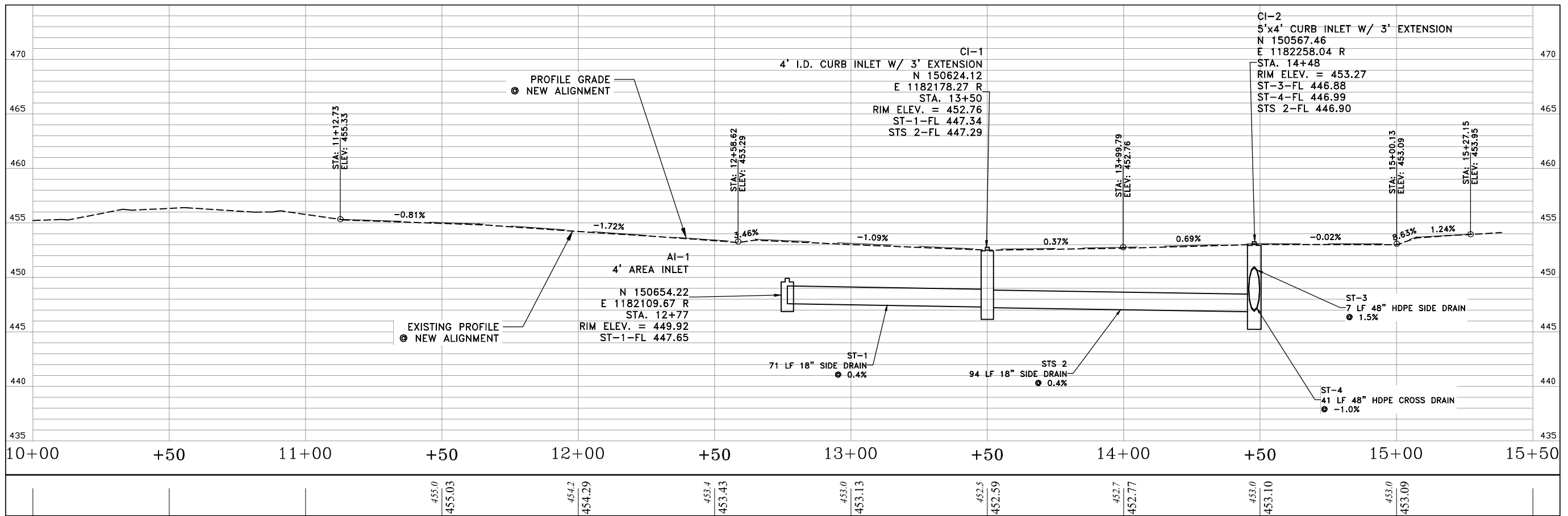
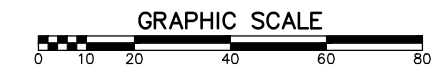
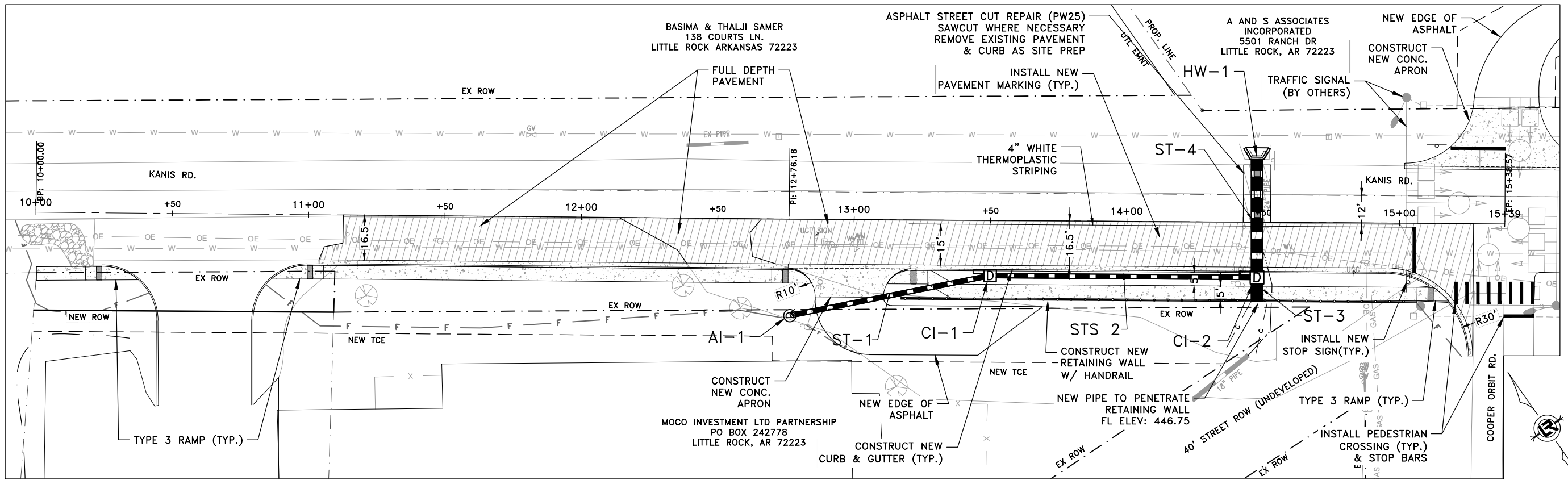
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 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201



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 SCALE
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 V: 1"=5'
 PROJECT NO.

SHEET NO.
 C5

REVISIONS	DATE



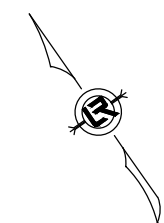
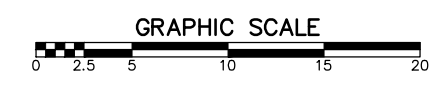
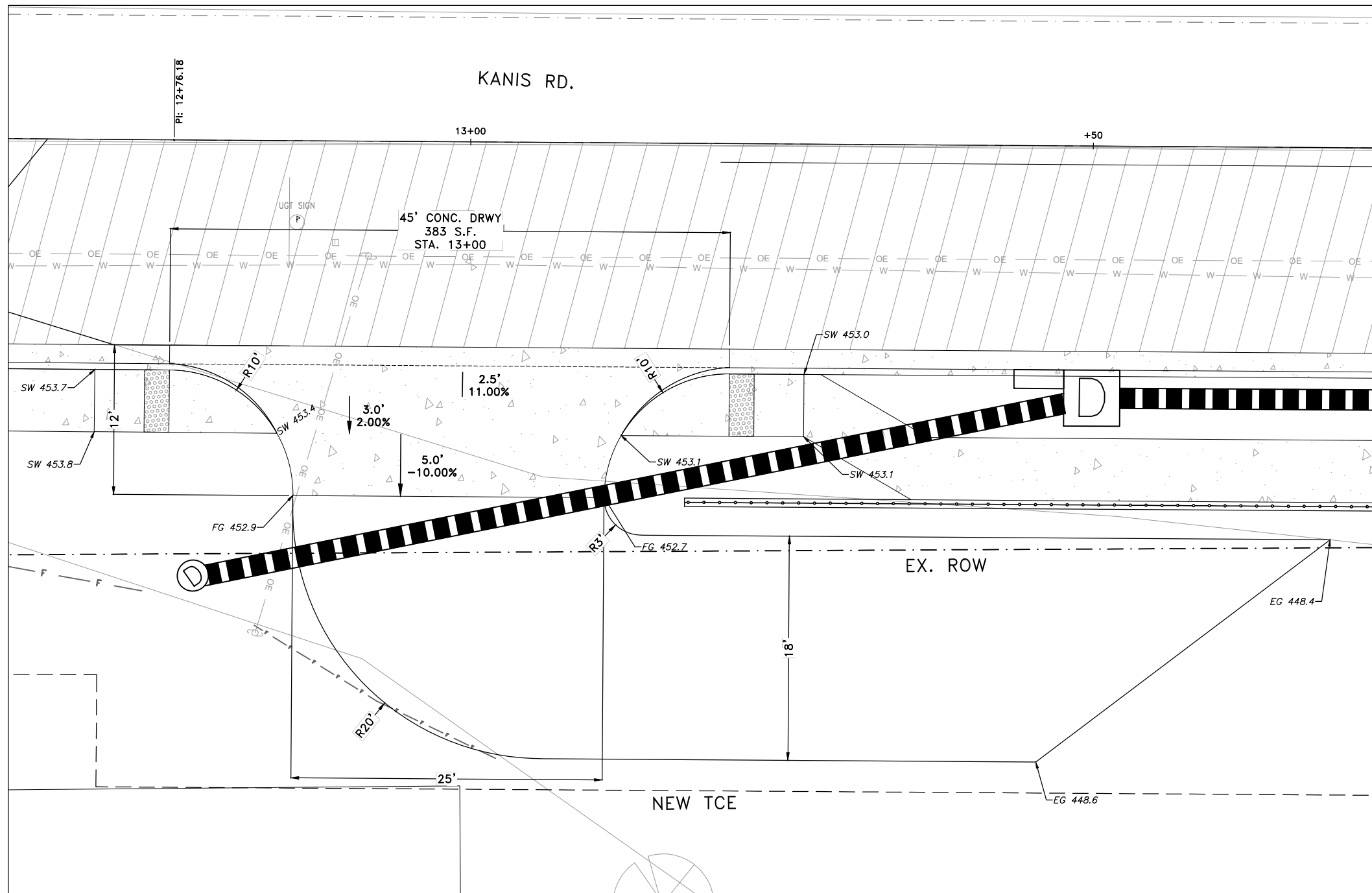
CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
KANIS RD. PLAN & PROFILE SHEET

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C6

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CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
DRIVEWAY PLAN SHEET 1

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CIVIL ENGINEERING
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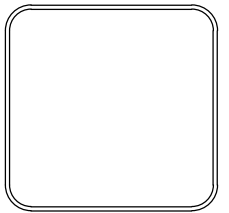
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DATE 09-10-2024
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SHEET NO. C7

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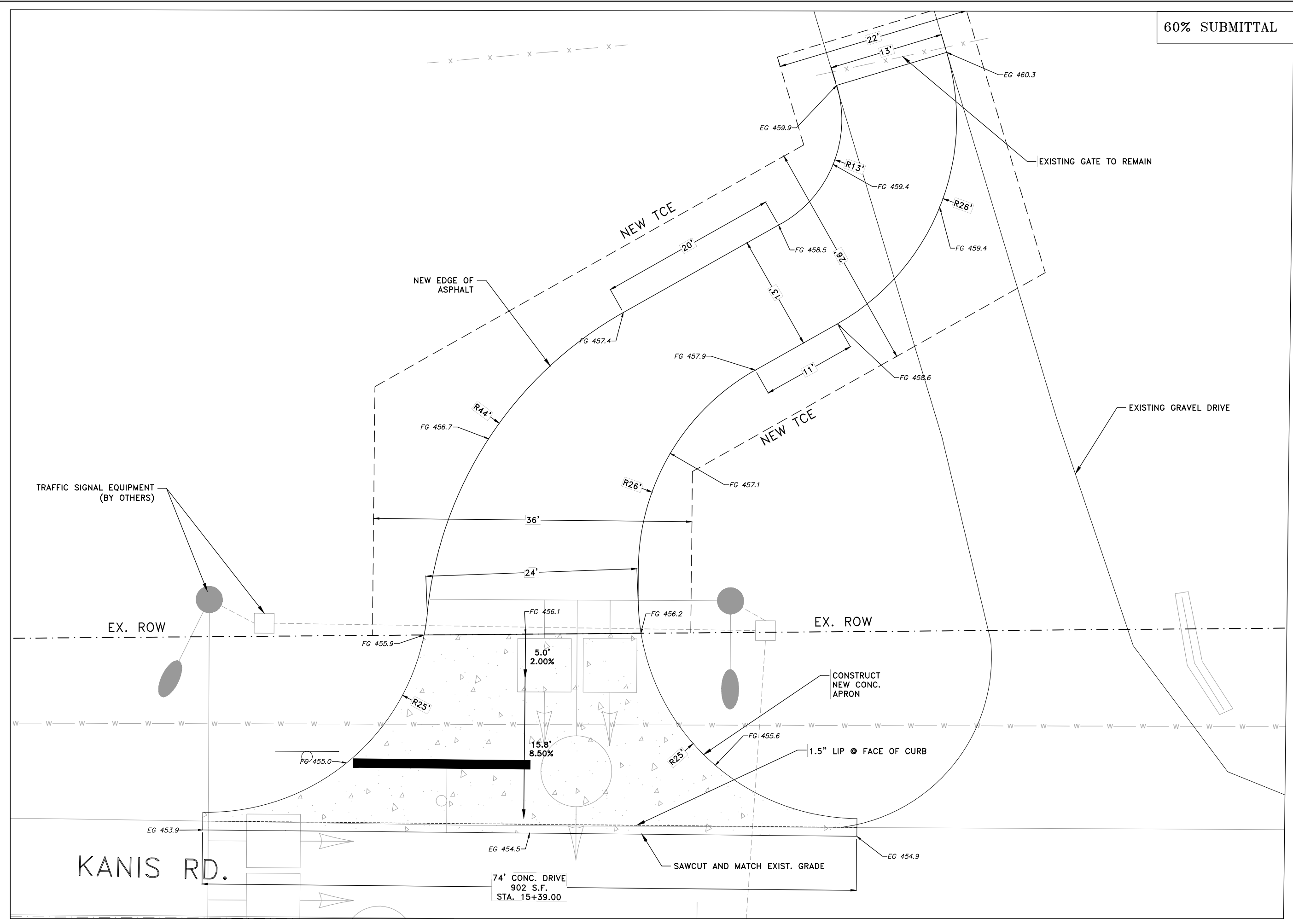
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 DRIVEWAY PLAN SHEET 2

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 CIVIL ENGINEERING
 701 W. MARKHAM
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 SHEET NO.
 C8

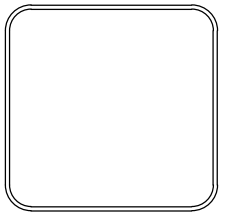


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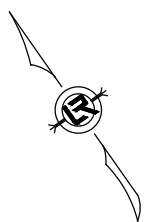
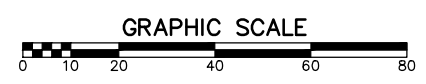
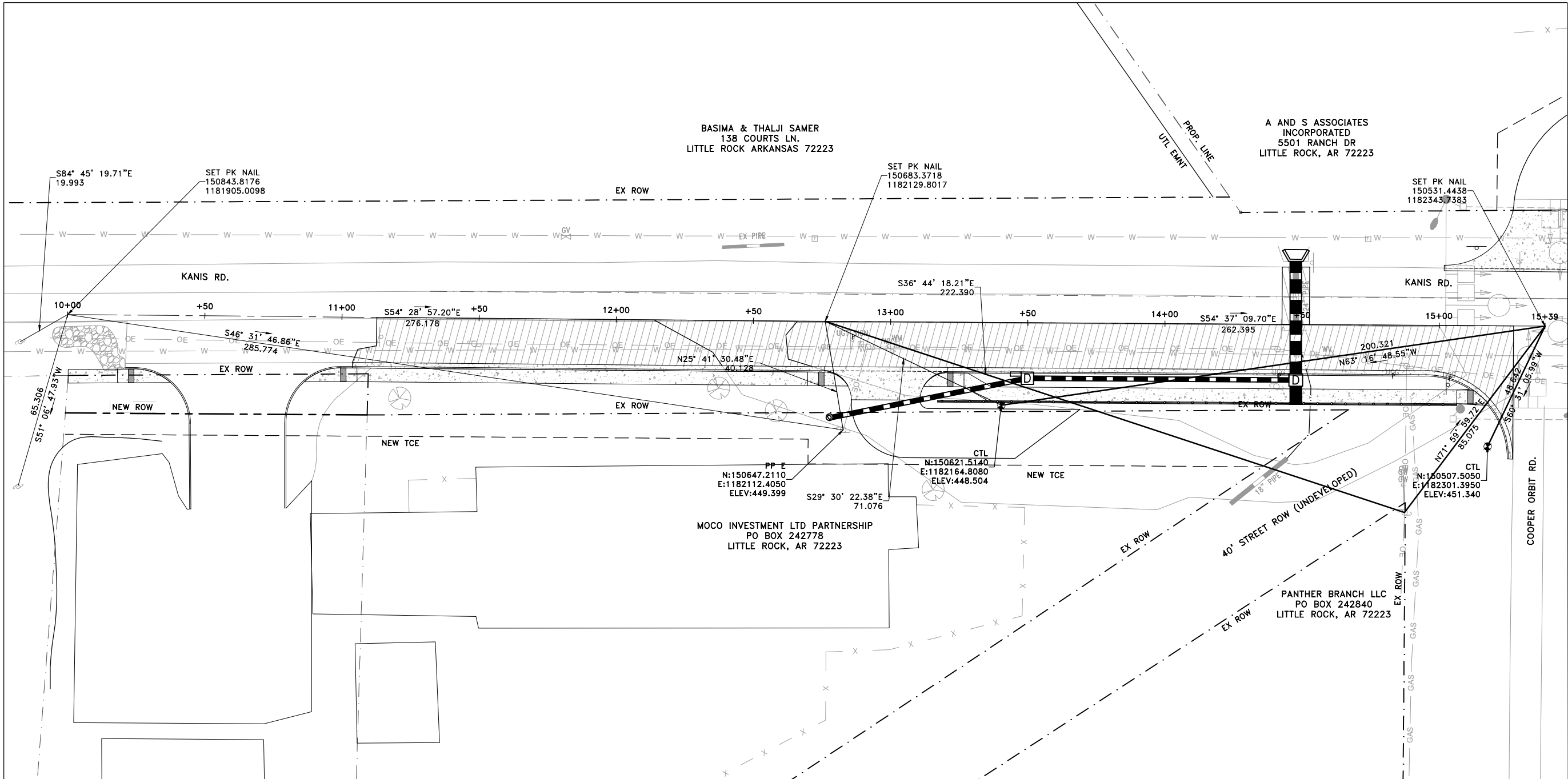
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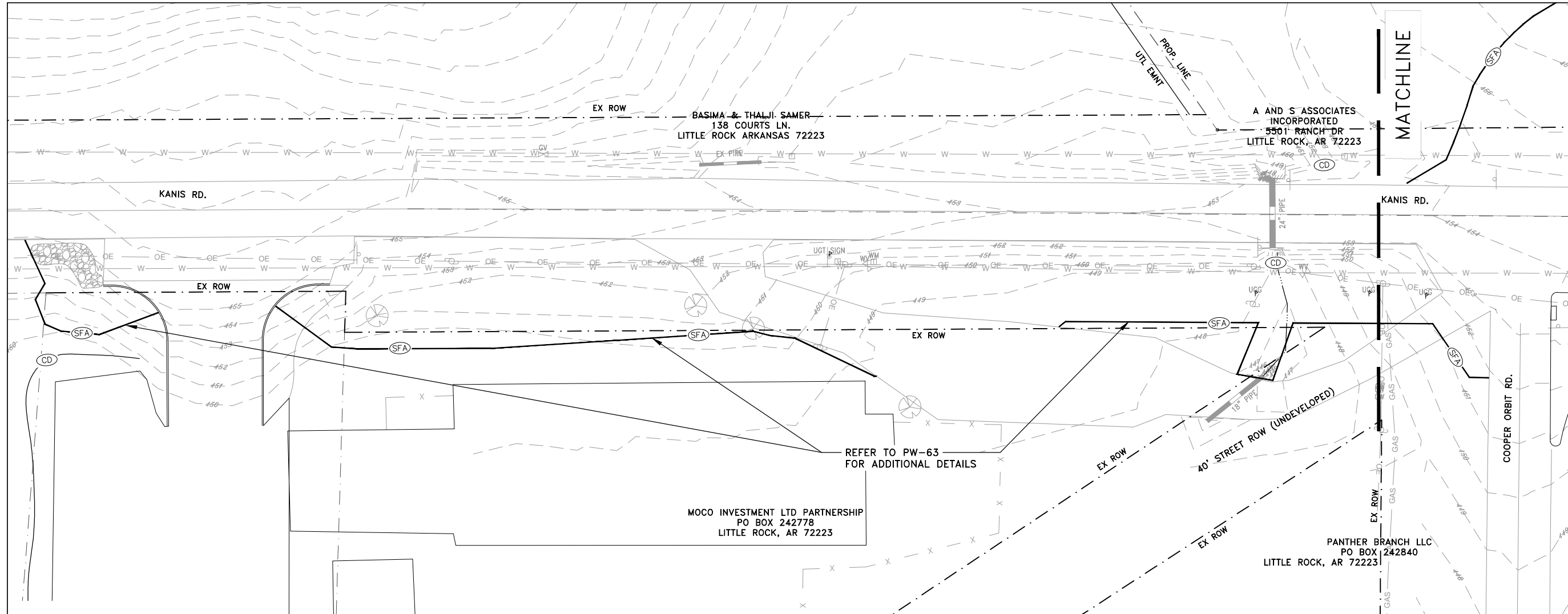
CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 CENTERLINE FIELD TIES SHEET

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 SHEET NO.
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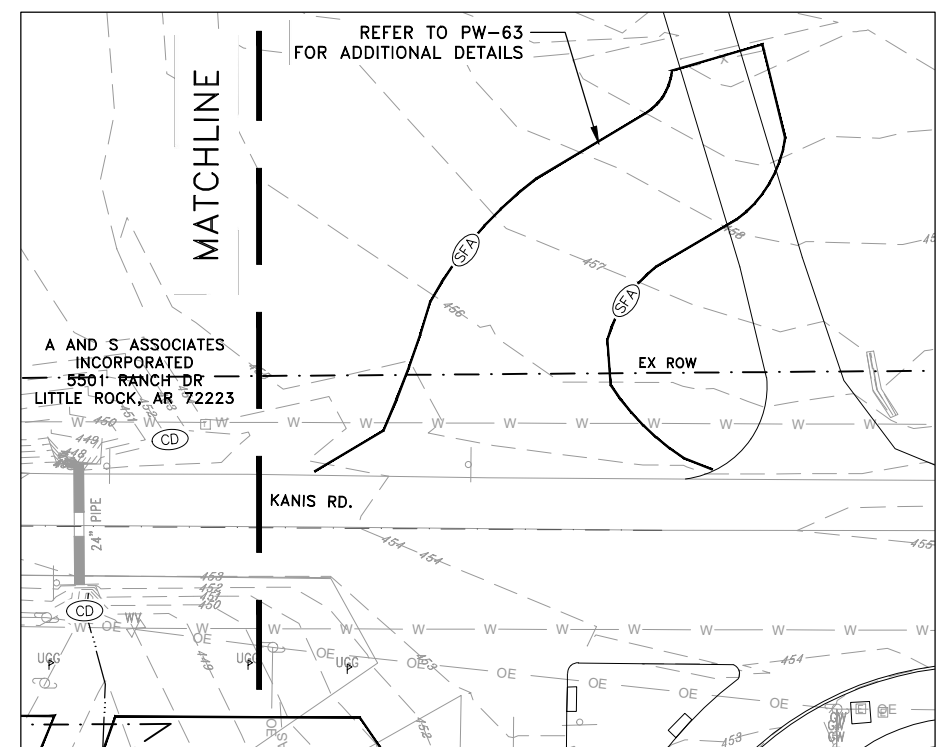
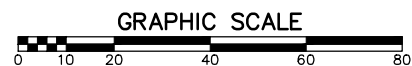
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CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATting/BLANKETS	(Mb)

PHASE 1

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT(S) AND SWPPP INFORMATION SIGN.
2. INSTALL SILT FENCE(S) ON THE SITE. CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. HALT ALL ACTIVITIES AND CONTACT THE CITY OF LITTLE ROCK TO PERFORM INSPECTION AND ACCEPTANCE OF BMP'S.
5. CONSTRUCT AND STABILIZE SEDIMENT BASIN(S) AND SEDIMENT TRAP(S) WITH APPROPRIATE OUTFALL STRUCTURES. CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL BASINS AND TRAPS.
6. INSTALL AND STABILIZE HYDRAULIC CONTROL STRUCTURES (DIKES, SWALES, CHECK DAMS, ETC.). CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL HYDRAULIC CONTROL DEVICES.

CONSTRUCTION EROSION CONTROL BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF-SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.



CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
EROSION CONTROL PH I SHEET

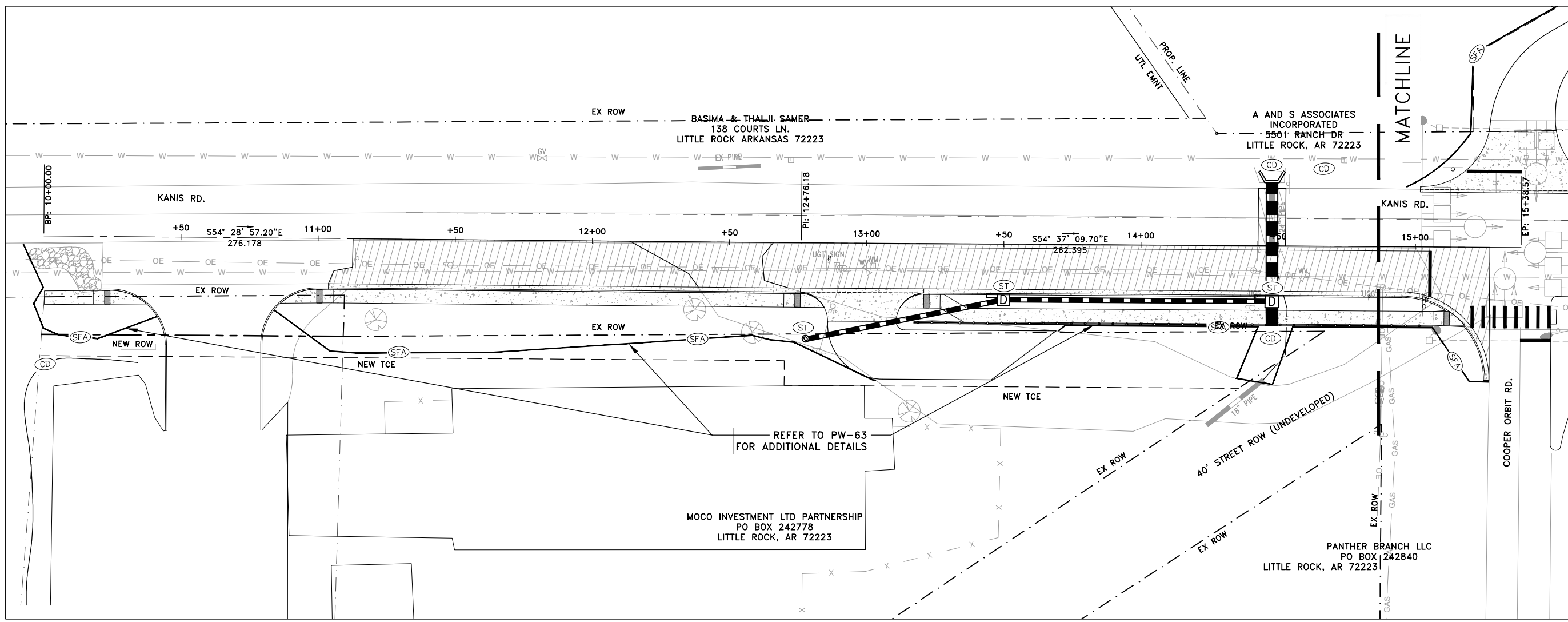
DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



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H: 1"=20'
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PROJECT NO.

SHEET NO.
C10

REVISIONS	DATE



CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 EROSION CONTROL PH II SHEET

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 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201



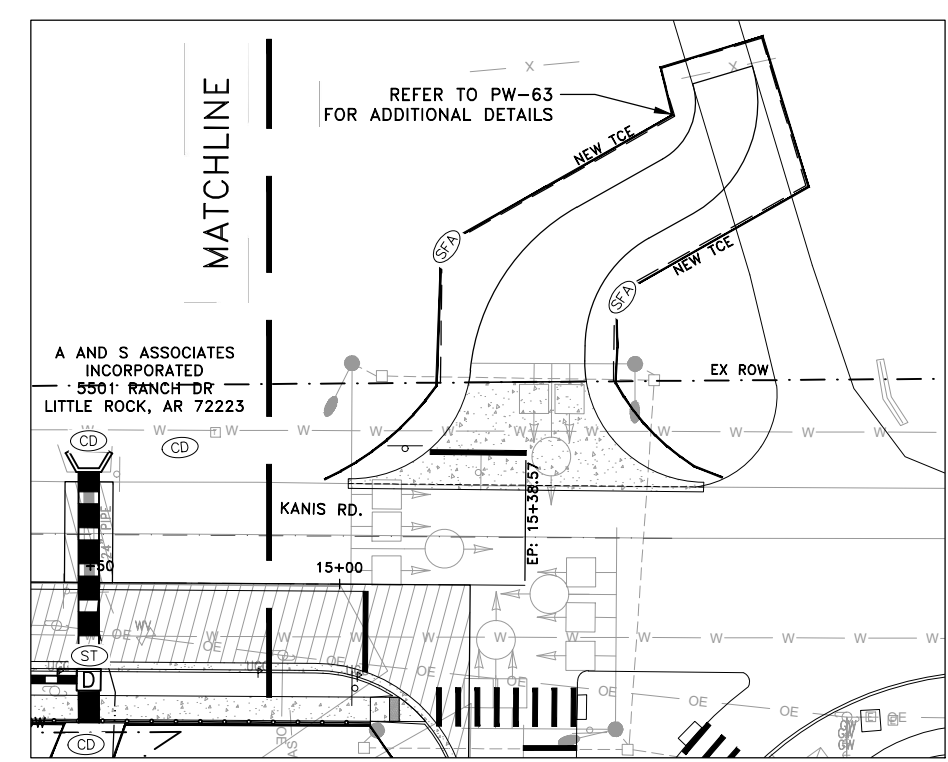
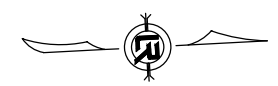
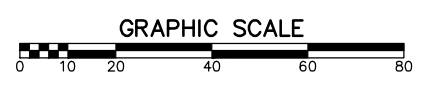
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CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATting/BLANKETS	(Mb)

PHASE 2

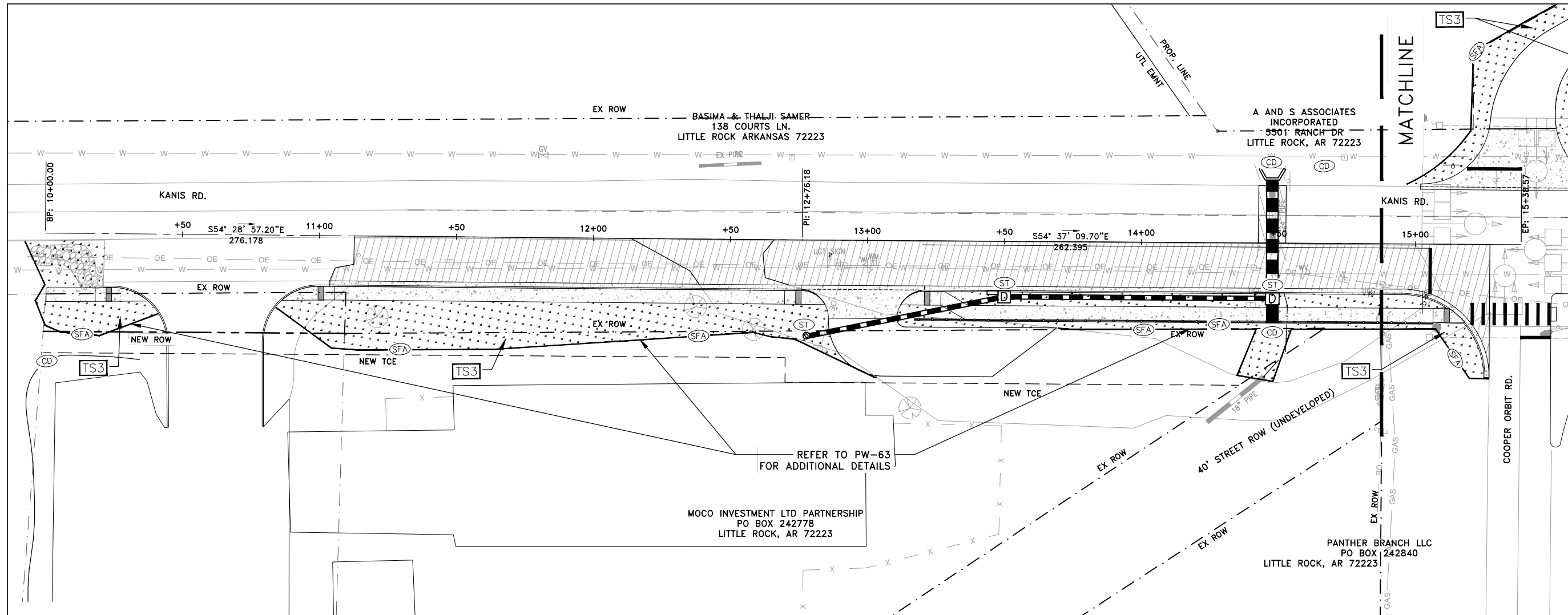
- BEGIN SITE DEMOLITION, CLEARING AND GRUBBING.
- CONTINUE GRADING THE SITE.
- INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS & INLETS.
- PREPARE SUBGRADE, ROAD BASE AND CURBS AND GUTTERS.
- CONSTRUCT DRIVEWAY TRANSITIONS.
- INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.

CONSTRUCTION EROSION CONTROL
 BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF-SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.



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PROJECT NO.	
SHEET NO.	C11



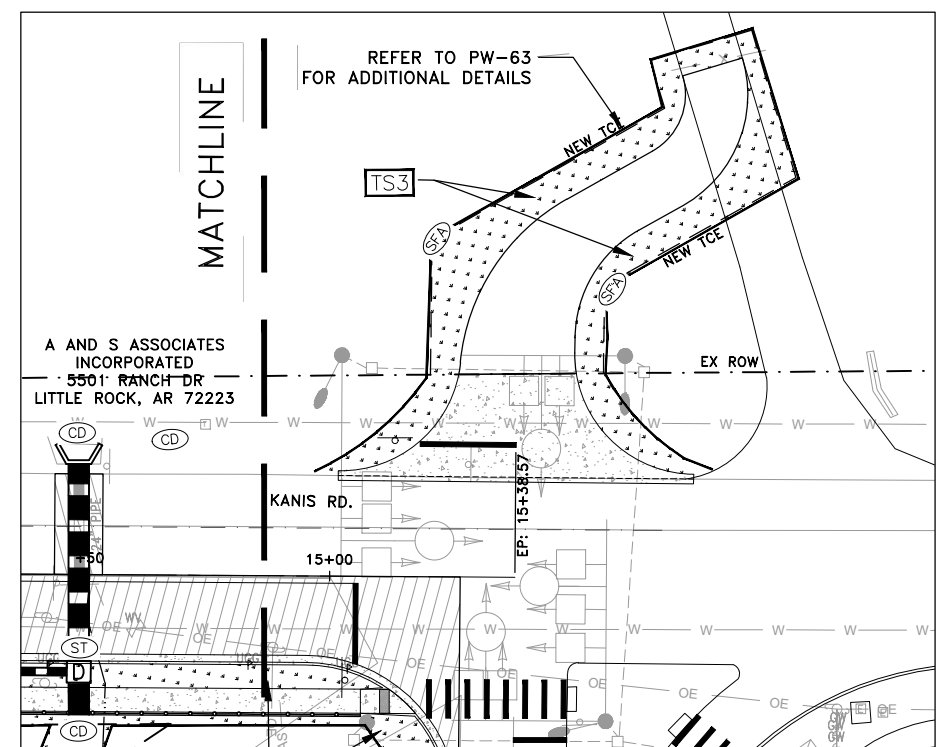
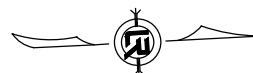
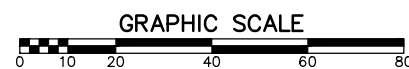
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CHECK DAM	(CD)
DIVERSION BERM	(DI)
DOWNDRAIN STRUCTURE - TEMPORARY	(DN)
ROCK DAM	(RD)
SEDIMENT BARRIER - SILT FENCE	(SD1)
SEDIMENT BARRIER - GRAVEL RING	(SD2)
SEDIMENT BARRIER - BLOCK & GRAVEL	(SD3)
SEDIMENT BARRIER - BLOCK	(SD4)
TEMPORARY SEDIMENT BASIN	(SB1)
SILT FENCE - TYPE A	(SFA)
SILT FENCE - TYPE B	(SFB)
SILT FENCE - TYPE C	(SFC)
STORM DRAIN OUTLET PROTECTION	(ST)
SURFACE ROUGHENING	(SU)
DISTURBED AREA STABILIZATION - TEMPORARY STABILIZATION	(TS1)
DISTURBED AREA STABILIZATION - TEMPORARY GRASSING	(TS2)
DISTURBED AREA STABILIZATION - PERMANENT GRASSING	(TS3)
MATTING/BLANKETS	(Mb)

PHASE 3

1. FINISH GRADE SIDE SLOPES & PREPARE SUBGRADES FOR SIDEWALKS, ETC.
2. PREPARE SITE FOR PAVING.
3. PAVE WHERE INDICATED ON PLANS. CONSTRUCT SIDEWALKS.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
5. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL NON-PAVED AREAS.

CONSTRUCTION EROSION CONTROL BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF-SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.



CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
EROSION CONTROL PH III SHEET

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

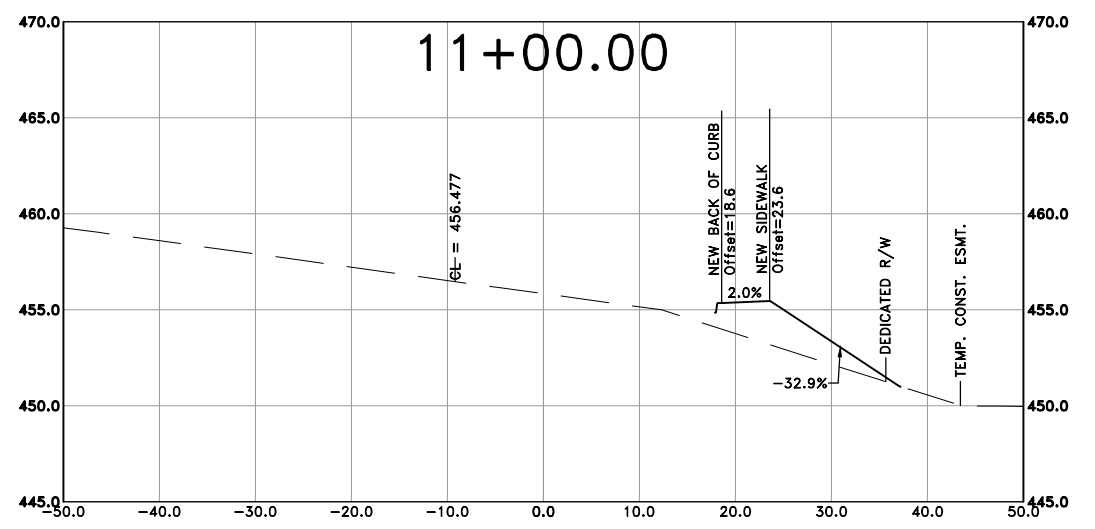
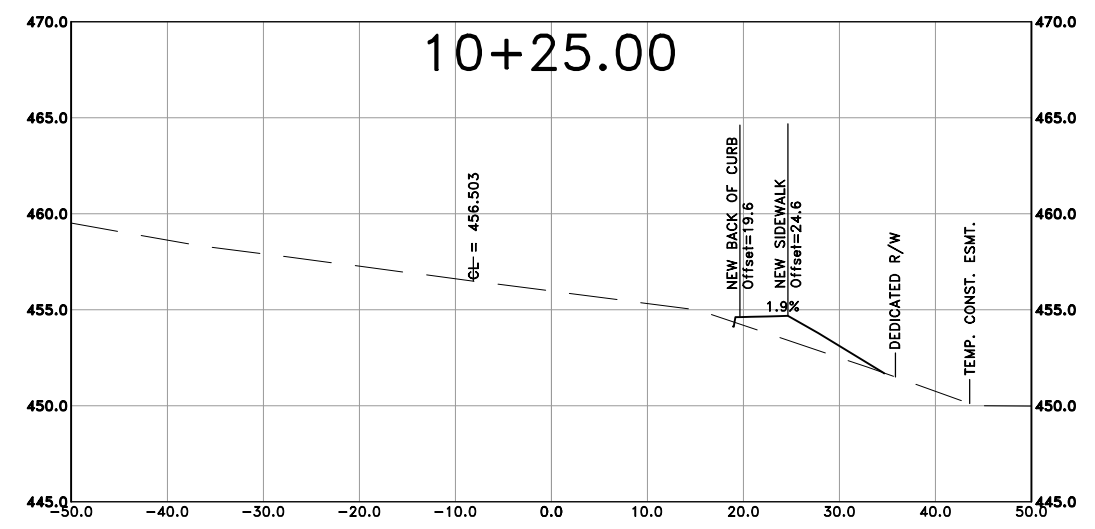
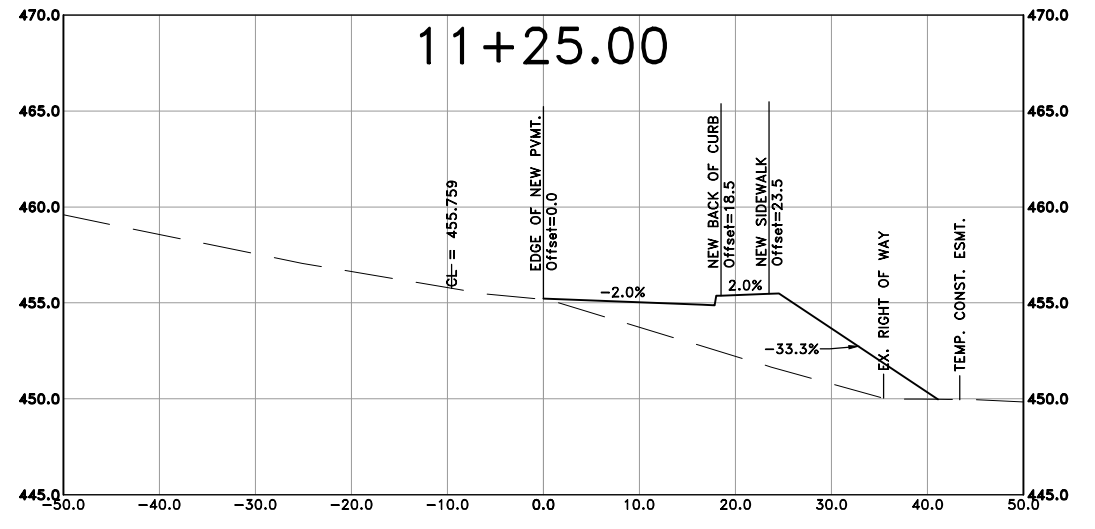
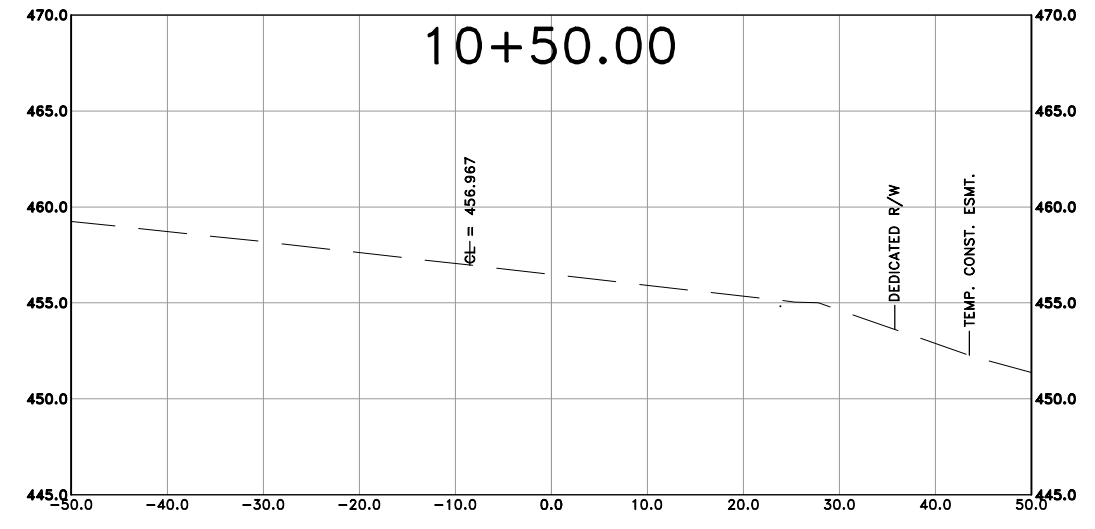
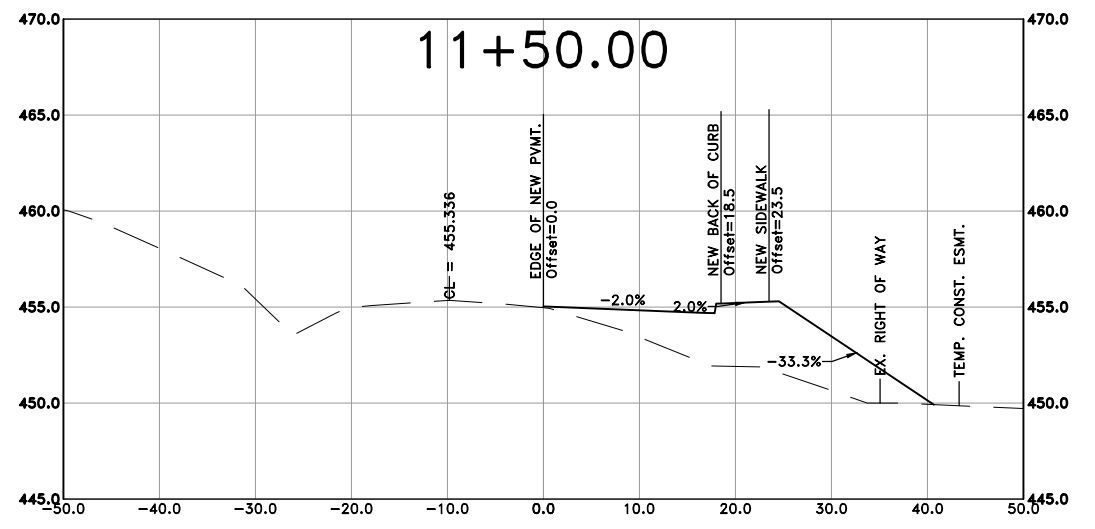
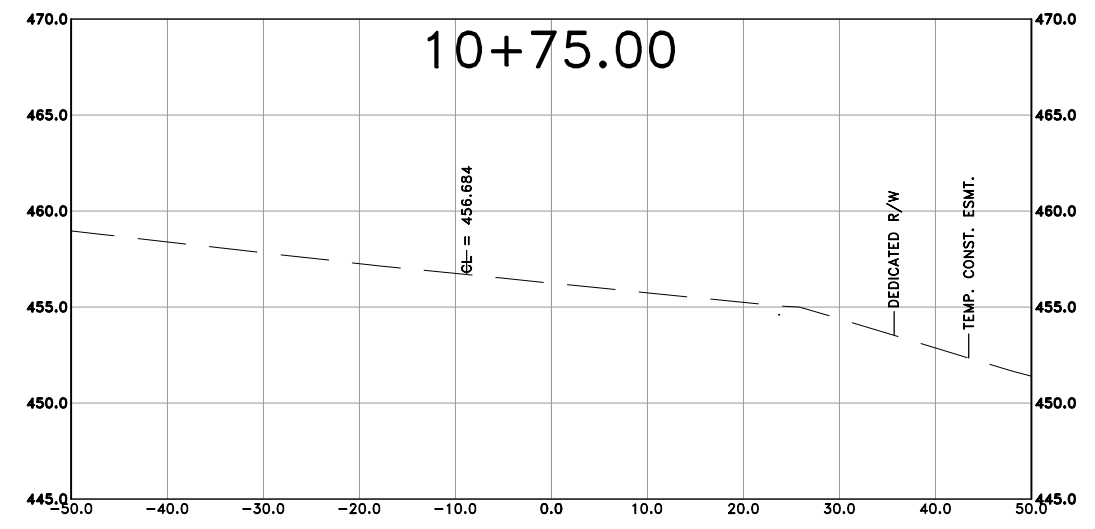


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CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS

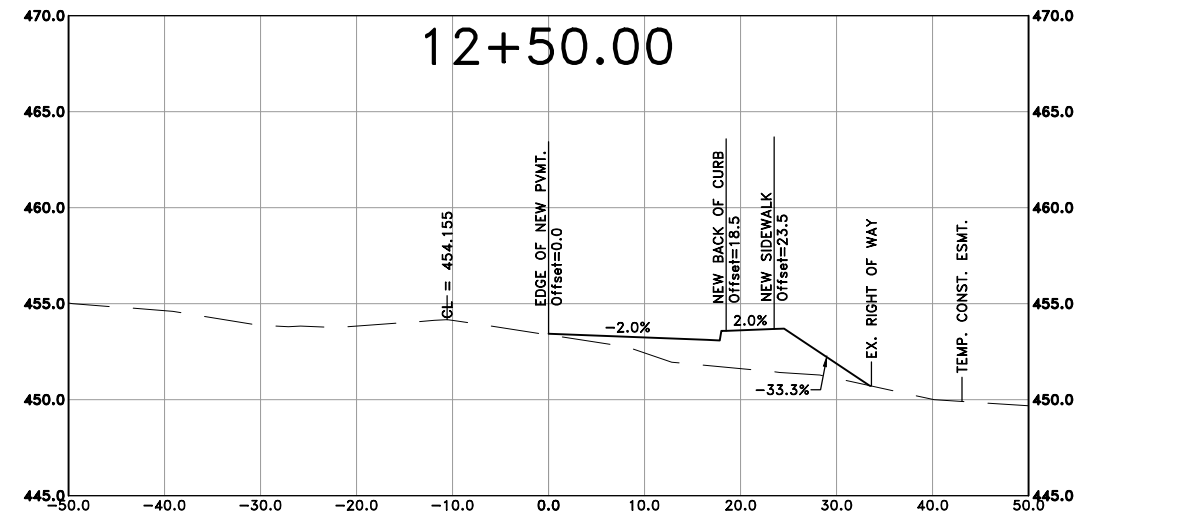
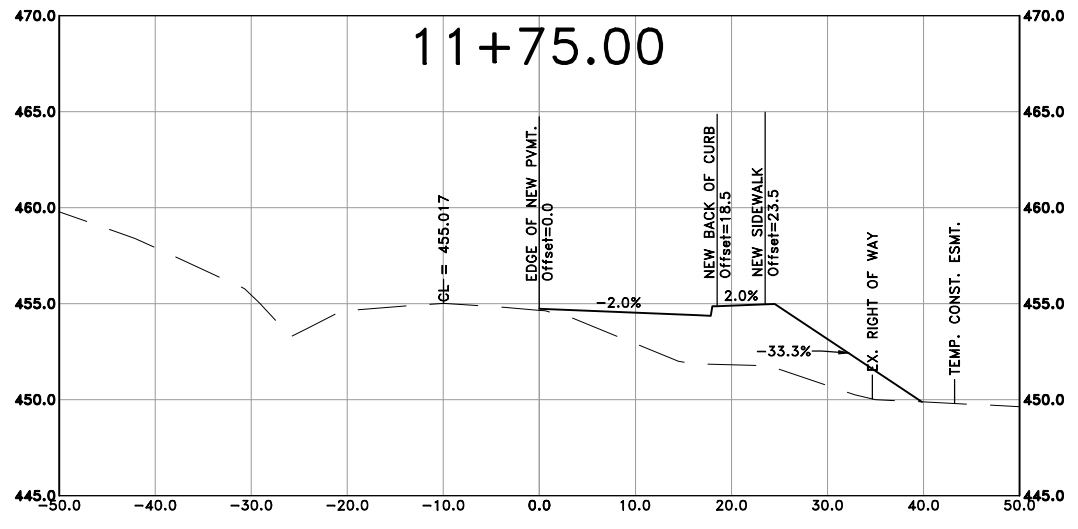
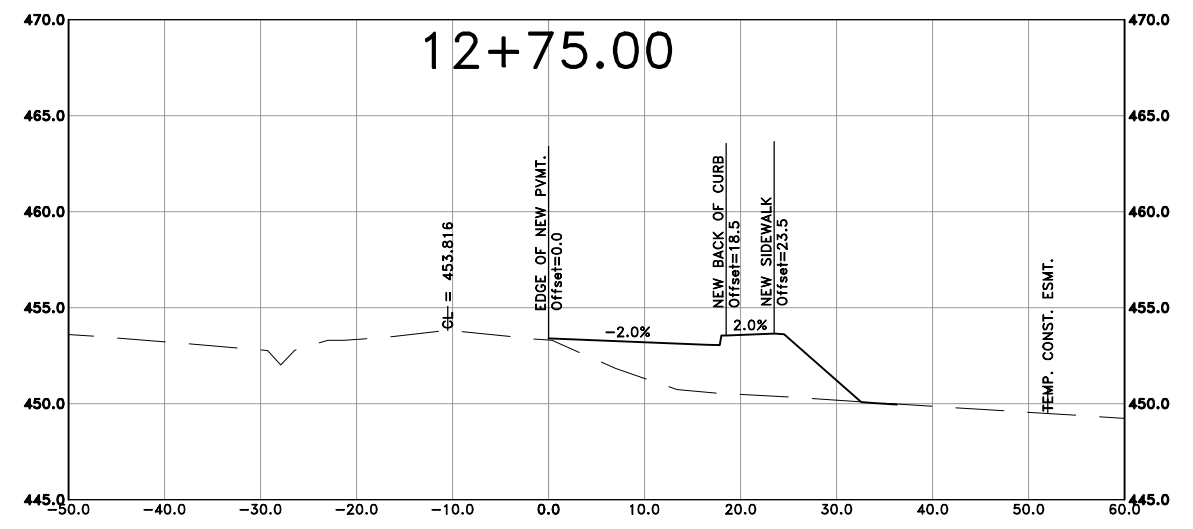
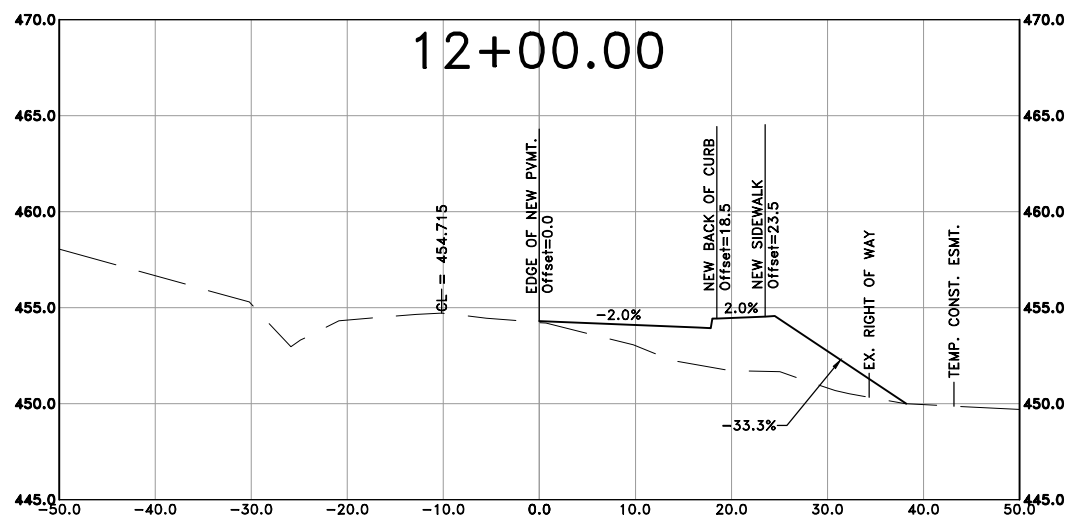
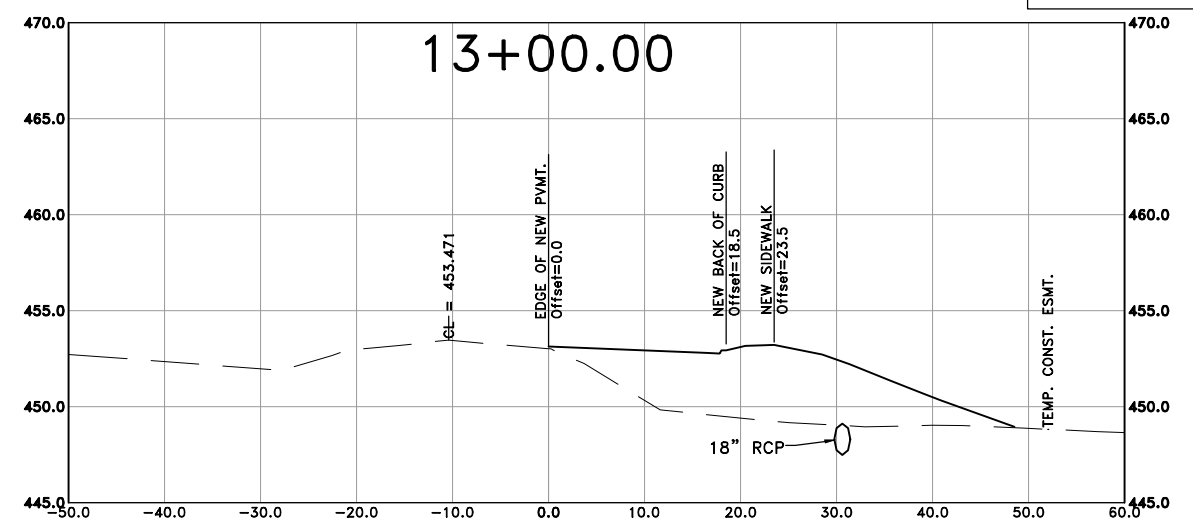
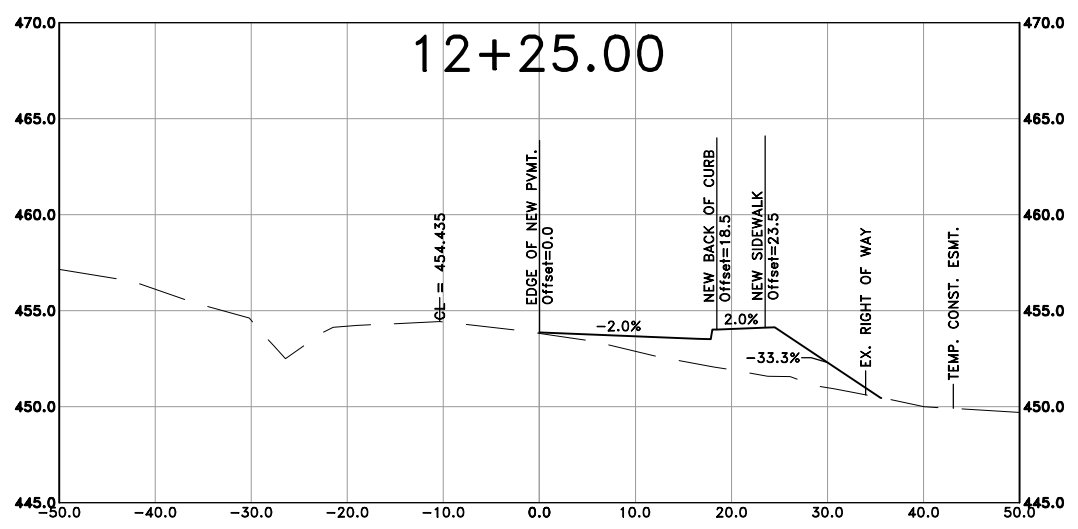
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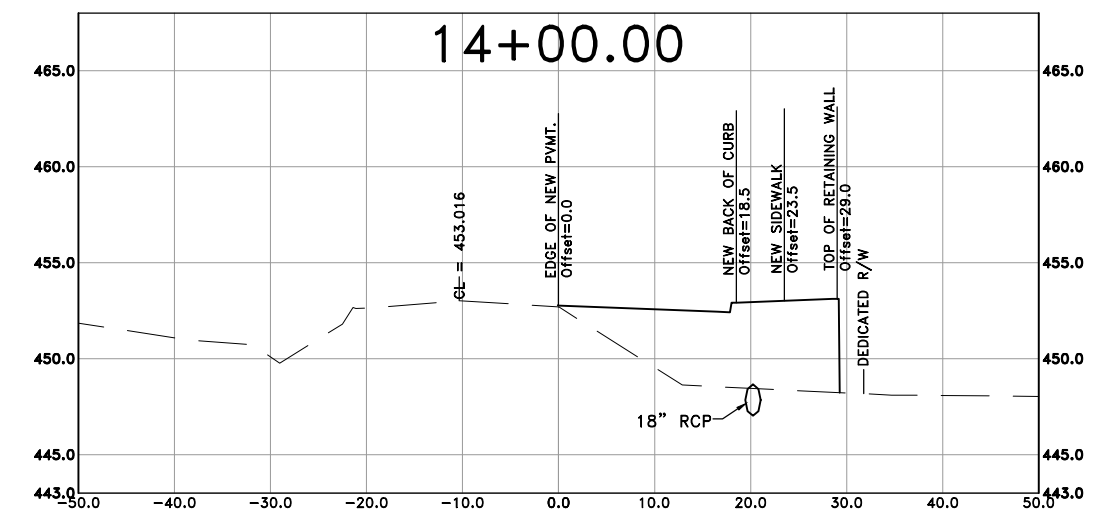
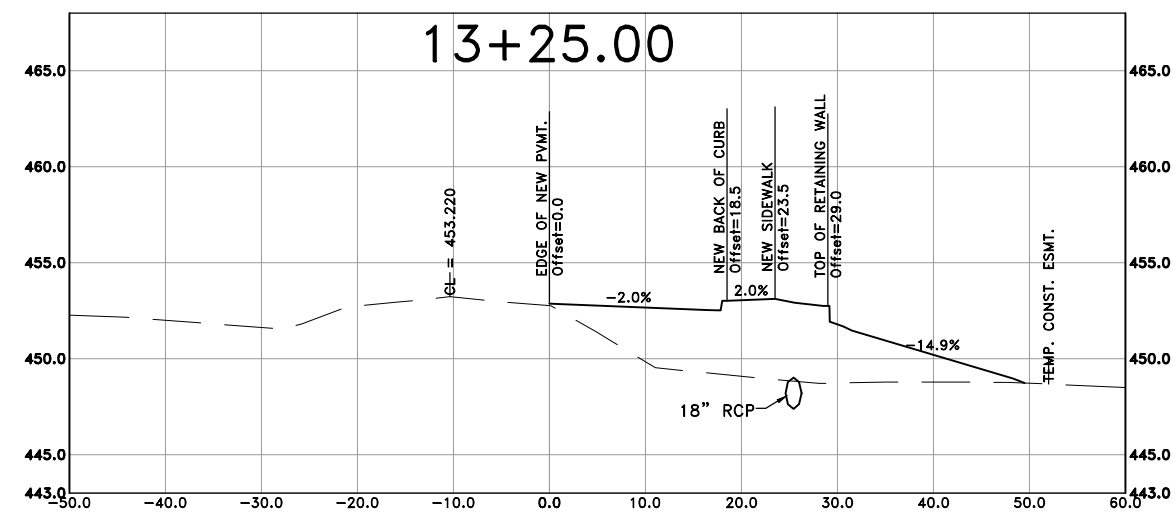
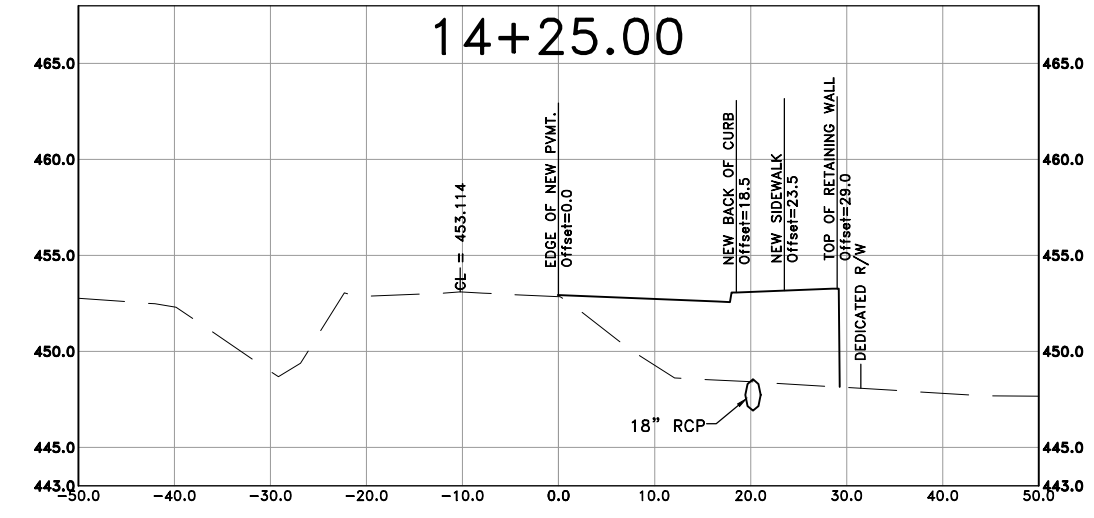
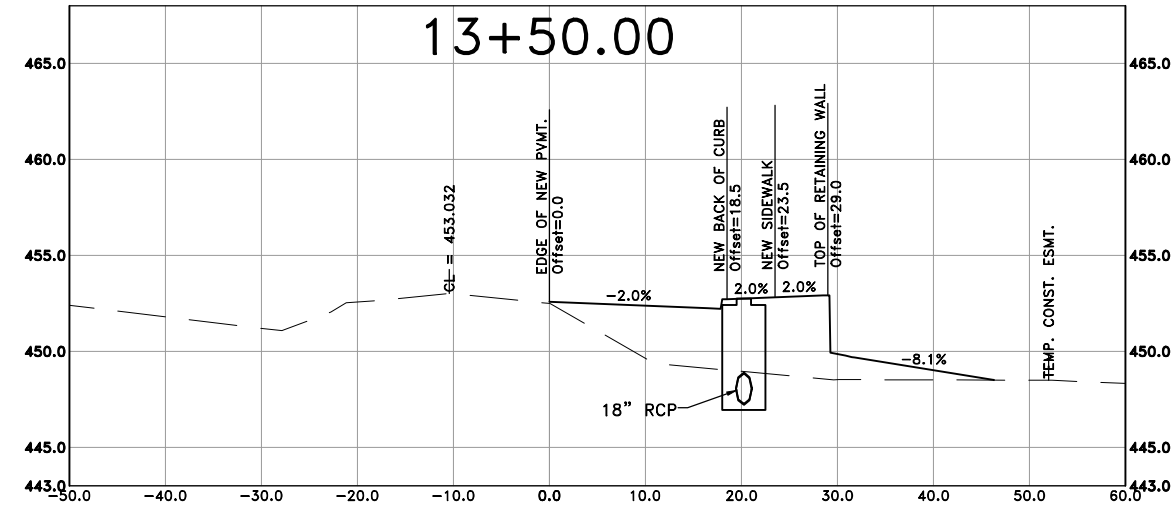
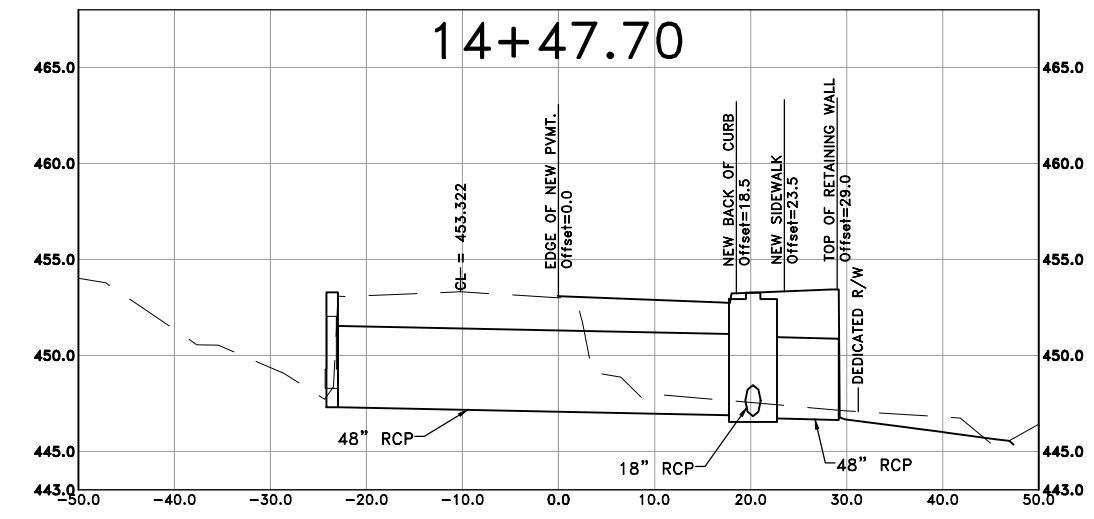
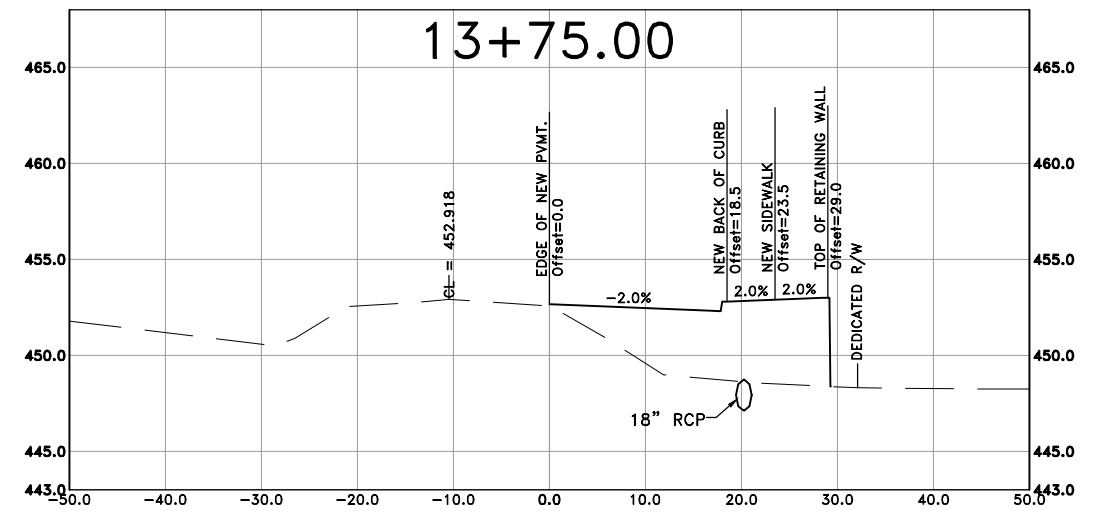
CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS

KANIS RD CROSS SECTION SHEET 2

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 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 KANIS RD CROSS SECTION SHEET 3


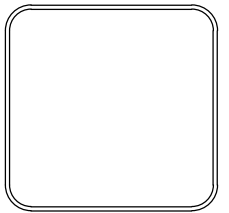
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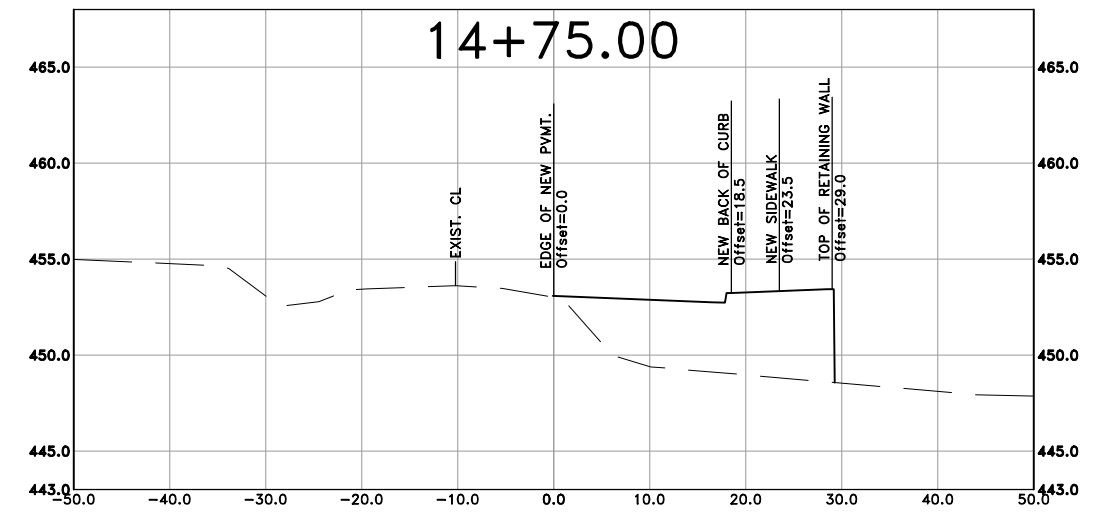
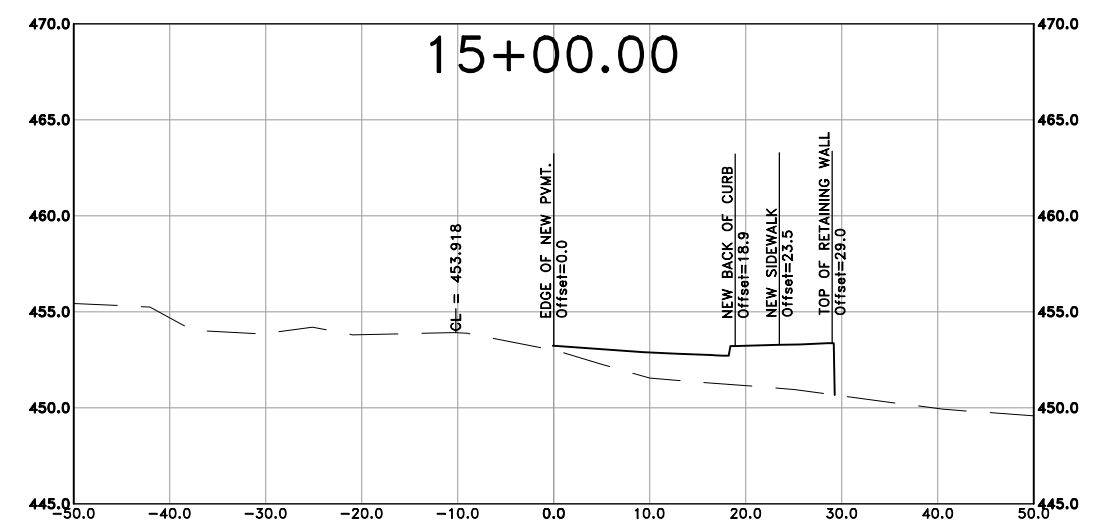
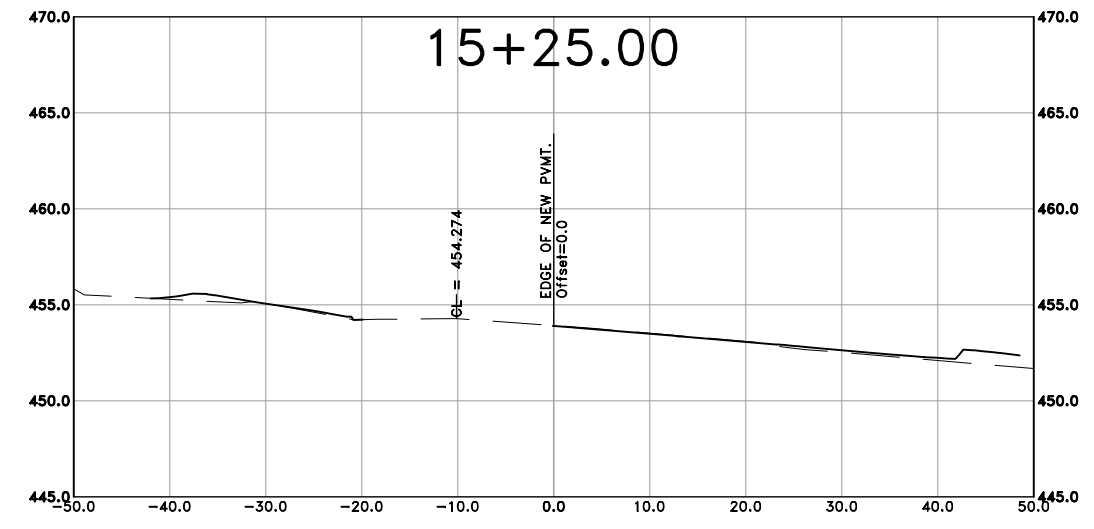
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CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 KANIS RD CROSS SECTION SHEET 4

DEPARTMENT OF PUBLIC WORKS
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REVISIONS	DATE

TRAFFIC SIGNAL QUANTITIES


ARDOT ITEM NUMBER	LR ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	53.01	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP & 701	53.11	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP & 701	53.12	E-NET CABLE (EXTERIOR CAT 5E)*	100	LIN. FT.
SP & 706	54.03	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH
SP & 706	54.04	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
SP & 707	54.11	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	2	EACH
SP & 708	55.01	TRAFFIC SIGNAL CABLE (5C/12 A.W.G.)	260	LIN. FT.
SP & 708	55.02	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	700	LIN. FT.
SP & 708	55.21	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	150	LIN. FT.
SP & 708	55.31	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	390	LIN. FT.
SP	56.01	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	520	LIN. FT.
SP	56.02	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	60	LIN. FT.
SP	56.03	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	30	LIN. FT.
SP	56.04	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G.)	470	LIN. FT.
SP & 710	57.03	NON-METALLIC CONDUIT (3")	270	LIN. FT.
SS & 711	57.22	CONCRETE PULL BOX (TYPE 2 HD)	5	EACH
SS & 714	58.34	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (34')	1	EACH
SS & 714	58.38	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS & 714	58.42	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
SP	59.11	LED LUMINAIRE ASSEMBLY	2	EACH
SS & 715	59.21	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	1	EACH
SP	60.01	SERVICE POINT ASSEMBLY	1	EACH
SP	61.18	18" STREET NAME SIGN	4	EACH
SP & 733	70.01	VIDEO DETECTION EQUIPMENT	1	LS

TRAFFIC SIGNAL QUANTITIES

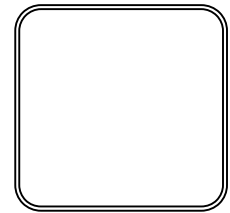
ARDOT ITEM NUMBER	LR ITEM NUMBER	ITEM	QUANTITY	UNIT
719	50.01	THERMOPLASTIC PAVEMENT MARKING (WHITE, 6")	316	LIN. FT.
719	50.02	THERMOPLASTIC PAVEMENT MARKING (WHITE, 12")	145	LIN. FT.
719	50.11	THERMOPLASTIC PAVEMENT MARKING (YELLOW, 6")	2537	LIN. FT.
719	50.21	THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)	14	LIN. FT.
719	50.22	THERMOPLASTIC PAVEMENT MARKING (WORDS)	5	EACH
719	50.23	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	6	EACH

CITY OF LITTLE ROCK, ARKANSAS
KANIS RD. AND COOPER ORBIT RD.
INTERSECTION IMPROVEMENTS

SUMMARY OF TRAFFIC SIGNAL QUANTITIES



DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
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TRAFFIC SIGNAL NOTES:

1. THE TRAFFIC SIGNAL SHALL NOT BE PUT INTO OPERATION OR SWITCHED TO THE NEXT CONSTRUCTION STAGE PRIOR TO THE FOLLOWING:
 - A. ALL TRAFFIC SIGNAL EQUIPMENT HAS BEEN INSTALLED ACCORDING TO THE PLANS, SPECIAL PROVISIONS, AND PROPERLY FUNCTIONAL. THIS INCLUDES BUT NOT LIMITED TO: CABINETS, PULL BOXES, JUNCTION BOXES, POLES, MAST ARMS, FOUNDATIONS, LUMINAIRES, SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, DETECTION SYSTEM, CONDUITS, CONDUCTORS, CABLES, TRAFFIC CONTROLLER, CONFLICT MONITOR, COMMUNICATION SYSTEM, SERVICE POINT, AND RAILROAD INTERCONNECT SYSTEM.
 - B. THE DETECTION SYSTEM SHALL BE INSTALLED, SETUP, AND CONFIGURED BY THE CONTRACTOR OR THEIR SUPPLIER PER PLANS. A TRAFFIC OPERATIONS INSPECTOR SHALL INSPECT AND PROVIDE APPROVAL IN ORDER TO PUT THE TRAFFIC SIGNAL INTO OPERATION.
 - C. THE TRAFFIC CONTROLLER AND CONFLICT MONITOR SHALL BE PROGRAMMED TO OPERATE AS REQUIRED PER THE PLANS (PHASING DIAGRAM, INTERVAL CHART, AND ANY ADDITIONAL NOTES), SPECIAL PROVISIONS AND ARDOT SPECIFICATIONS.
 - D. TIMING SETTINGS HAVE BEEN PROGRAMMED AND APPROVED AS REQUIRE BY ITS MANAGEMENT SECTION-MAINTENANCE DIVISION.
 - E. THE TRAFFIC SIGNAL HAS BEEN INSPECTED AND APPROVED BY A TRAFFIC OPERATIONS INSPECTOR.
 - F. ALL REQUIRED DOCUMENTS RELATED TO THE TRAFFIC SIGNAL EQUIPMENT, THIS INCLUDES BUT NOT LIMITED TO: TEST RESULTS, CONFIGURATION/DATA REPORTS, WARRANTIES, AND ANY OTHER DOCUMENTATION REQUIRED PER PLANS AND SPECIAL PROVISIONS.
2. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
3. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
4. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.
5. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
6. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
7. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
8. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
9. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
10. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
11. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
12. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
13. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
14. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
15. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
16. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
17. THE LOCAL RADIO WITH ANTENNA AND TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH THE EXISTING COORDINATION SYSTEM IN THE CITY/COUNTY.

18. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHOD OR AS DIRECTED BY THE ENGINEER. PVC OR HDPE CONDUIT SHALL BE USED AND SHALL BE UL LISTED. PVC CONDUIT SHALL BE MARKED "DIR. BORING" OR "DIRECTIONAL BORING" PER NEC. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED. THE ENGINEER SHALL GRANT A WRITTEN APPROVAL PRIOR TO USING THE TRENCHING METHOD.
19. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS. ALL CONDUIT UNDER THE ROADWAY, SIDEWALKS, AND DRIVEWAYS SHALL HAVE A MINIMUM DEPTH OF 24" FROM THE TOP OF THE CONDUIT TO THE FINISHED GRADE. CONDUIT DEPTH MAY NEED TO INCREASE NEAR DRAINAGE STRUCTURES.
20. CONDUIT BELL END FITTINGS SHALL BE INSTALLED ON ALL TERMINATING ENDS OF NON-METALLIC CONDUIT RUNS. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS. THE COST OF THE FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM. ALL NON-METALLIC CONDUIT SHALL USE LONG SWEEP 90 DEGREE ELBOWS ON ALL CONDUIT BENDS.
21. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. PULL BOX LIDS SHALL CLOSE FLUSH WITHOUT PINCHING ANY CONDUCTORS. CONDUIT LENGTHS IN PULL BOXES SHALL BE SET ACCORDINGLY. ANY CONDUCTORS THAT HAVE BEEN DAMAGED BY PINCHING SHALL BE COMPLETELY REPLACED AT THE CONTRACTOR'S EXPENSE.
22. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.
23. CONTRACTOR SHALL ATTACH A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO EACH CONDUIT AT PULLBOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. EACH TAG SHALL INDICATE THE END LOCATION OF CONDUIT RUN. THE COST OF THE TAGS SHALL BE SUBSIDIARY TO THE CONDUIT PAY ITEM.



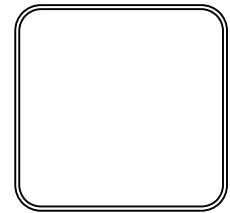
EXAMPLES FOR CONDUIT IN SIDE CABINET: "TO POLE A AND B" OR "TO POLE C"
EXAMPLES FOR CONDUIT IN PULL BOX: "TO POLE A" OR "TO TRAFFIC CABINET"

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.
25. ALL TRAFFIC SIGNAL POLES SHALL BE GALVANIZED.
26. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
27. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
28. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
29. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
30. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
31. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.
32. BACKPLATES SHALL BE SUPPLIED FOR ALL TRAFFIC SIGNAL HEADS, REFER TO THE RETROREFLECTIVE BACKPLATES SPECIAL PROVISION FOR REQUIREMENTS.
33. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.
34. BEFORE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL, THE CONTRACTOR SHALL PROVIDE TWO (2) SETS OF LEDGER SIZE (11" X 17") AS-BUILT TRAFFIC SIGNAL PLANS TO THE MAINTENANCE AUTHORITY AND ARDOT.
35. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF INJSYNC VIDEO DETECTION SYSTEM BY RHYTHM ENGINEERING.
36. LUMINARIES SHALL BE LEOTEK GREENCOBRA GCI-60F-MV-NV-3-GY-700

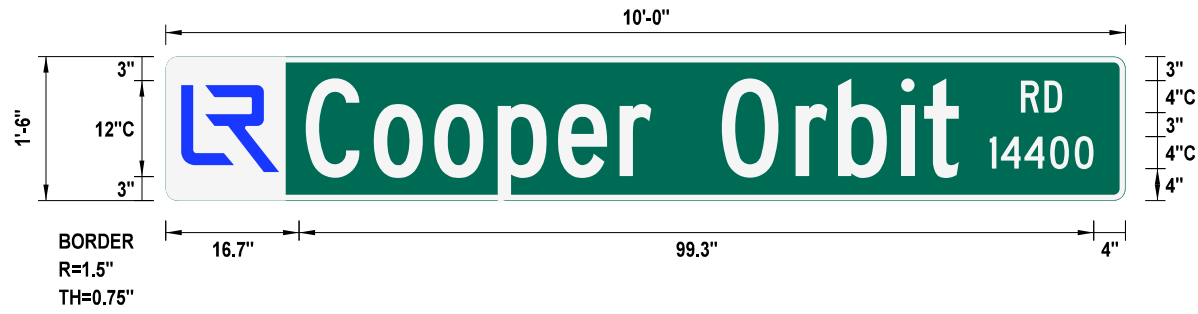
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CITY OF LITTLE ROCK, ARKANSAS
 KANIS RD. AND COOPER ORBIT RD.
 INTERSECTION IMPROVEMENTS
 TRAFFIC SIGNAL NOTES

DEPARTMENT OF PUBLIC WORKS
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 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201

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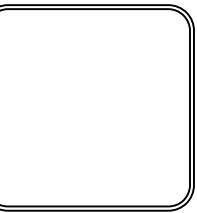
NOTES:

1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL BE ALSO ALODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY/ COUNTY.
3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

REVISIONS DATE

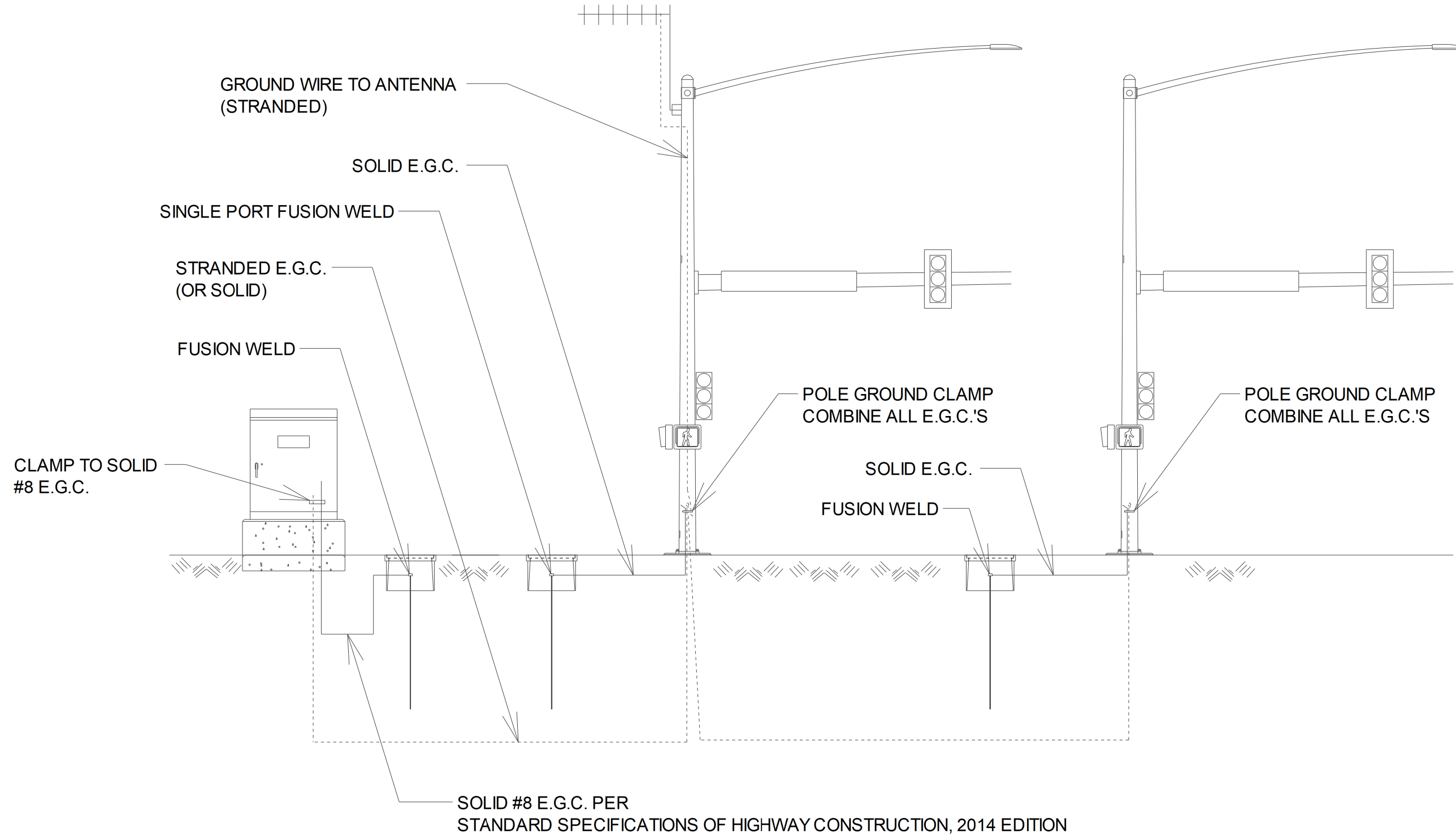
CITY OF LITTLE ROCK, ARKANSAS
KANIS RD. AND COOPER ORBIT RD.
INTERSECTION IMPROVEMENTS
TRAFFIC SIGNAL STREET NAME SIGNS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



DRAWN BY
DESIGNED
CHECKED
DATE 9/11/2024
SCALE
PROJECT NO.
SHEET NO. T3



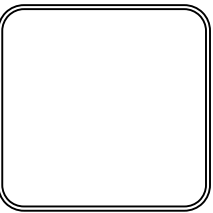
GROUNDING ARRAY SINGLE-PORT FUSION WELDS



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
KANIS RD. AND COOPER ORBIT RD.
INTERSECTION IMPROVEMENTS
GROUNDING ARRAY DETAIL

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

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CHECKED
DATE 9/11/2024
SCALE
PROJECT NO.
SHEET NO. T4

9/11/2024 G:\Projects\LR-25C - SD Intersection Improvement\Kanis & Penitner Branch - Little Rock, AR\CAD\1005-GROUNDING ARRAY DET.dgn

REVISIONS	DATE

KANIS RD. AND COOPER ORBIT RD.

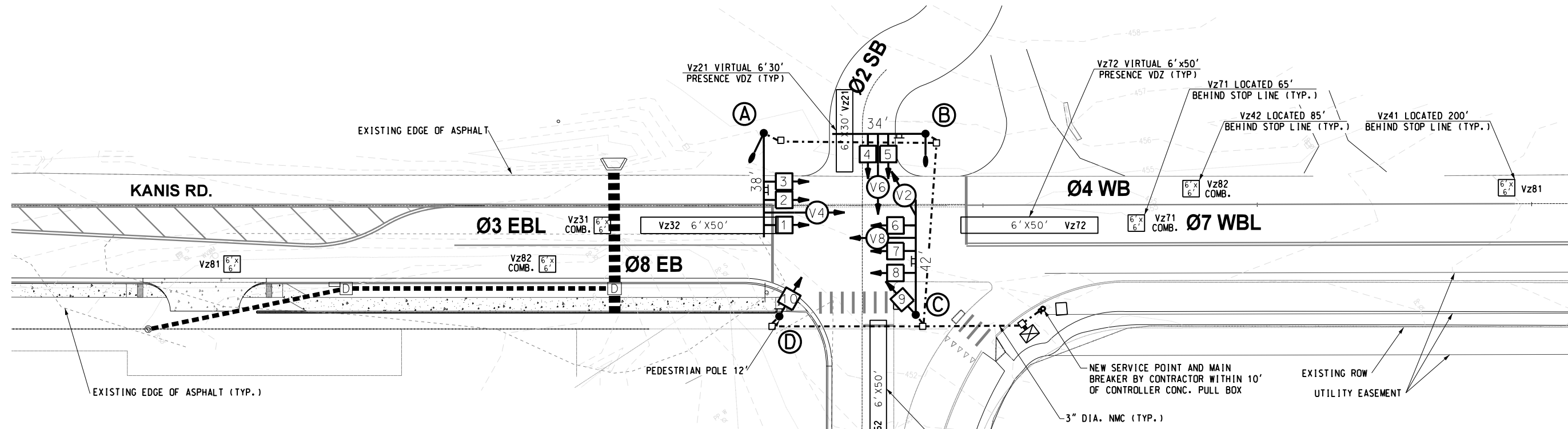
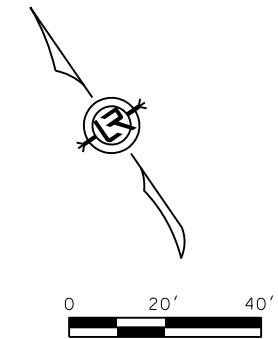
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	** HAND HOLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	48'	215°	180°	35'	15'	215°
B	34'	305°	90°	35'	15'	305°
C	42'	35°	90°	N/A	N/A	N/A
D	PED POLE	N/A	N/A	20'	N/A	N/A

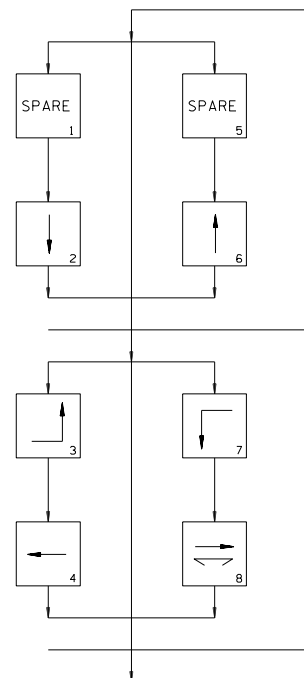
* MAST ARM AND LUMINAIRE ARM ANGLE MEASURED FROM PLAN NORTH = 0°, CLOCKWISE ROTATION.

** HAND HOLE LOCATION MEASURED CLOCKWISE FROM MAST ARM.

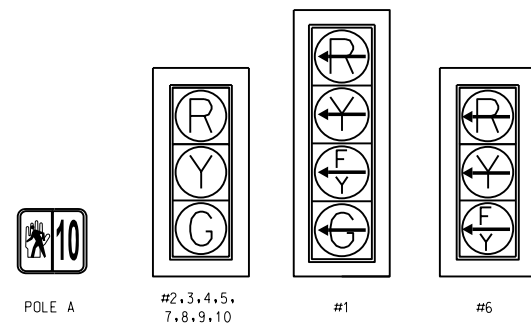
POLE D (SEE PEDESTRIAN PUSH BUTTON PEDESTAL DETAIL).



PHASING DIAGRAM



SIGNAL FACES
12" LENSES



NOTES:

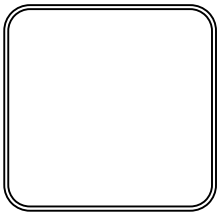
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR "REFLECTIVE BACKPLATES" DETAILS ON REQUIREMENT BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A. STANDARDS.

LEGEND	
---	3" ELECT. CONDUIT
□	TYPE 2HD PULL BOX
⊗	SERVICE POINT
⊠	CONTROLLER
⊙	VIDEO DETECTOR
⊕	SIGNAL HEAD
⊖	LUMINAIRE WITH MAST ARM
⊗	STREET NAME SIGN
⊕	MAST ARM WITH POLE
⊖	DETECTOR LOOP/ VIDEO DETECTION AREA



CITY OF LITTLE ROCK, ARKANSAS
KANIS ROAD AT PANTHER BRANCH
INTERSECTION IMPROVEMENTS
SIGNALIZATION PLAN

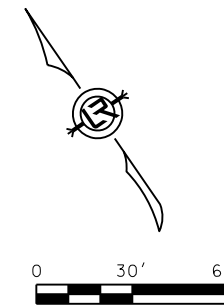
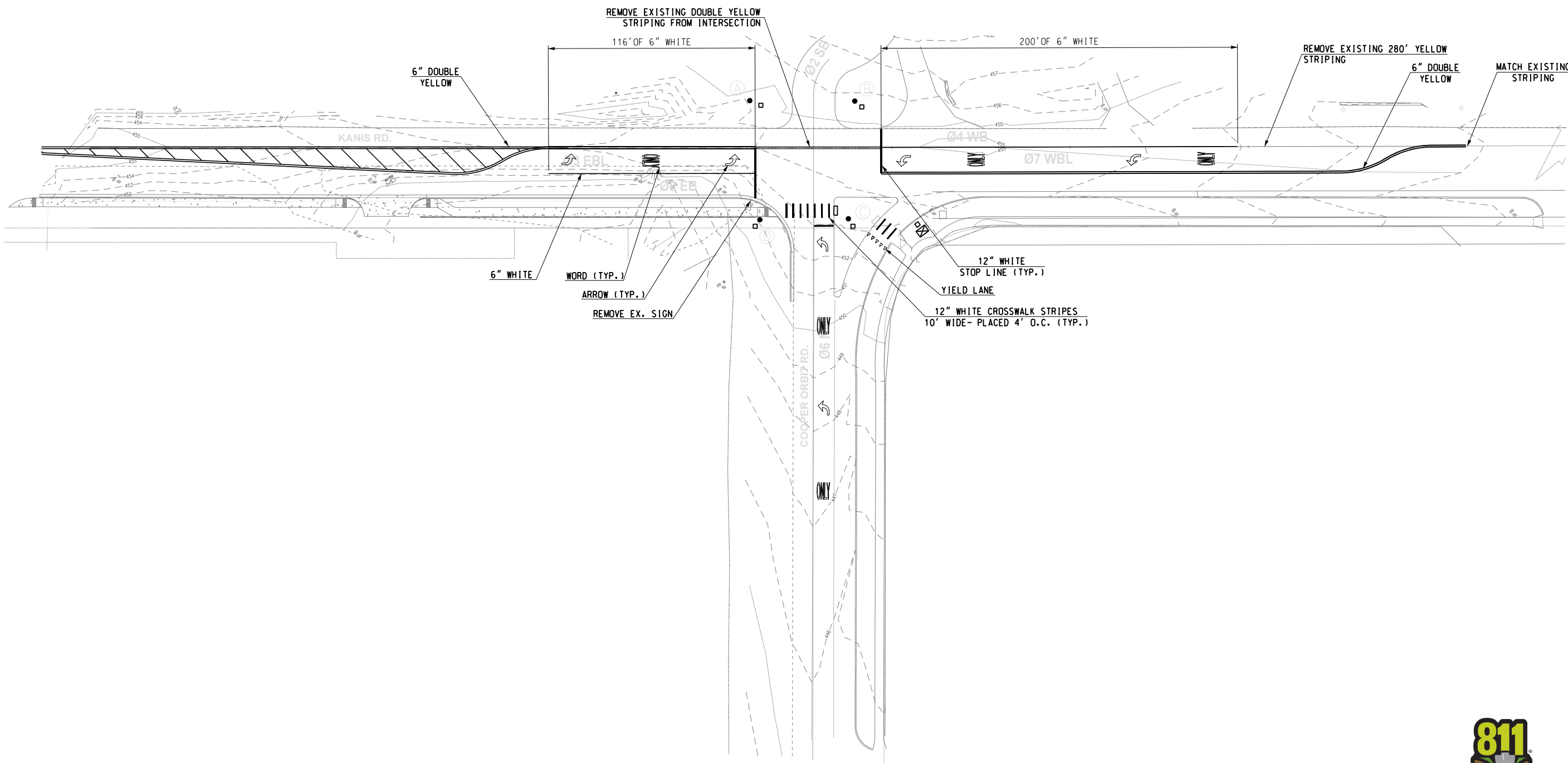
DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



DRAWN BY
1" = 20'
DESIGNED
MJB
CHECKED
BFV
DATE
9/12/2024
SCALE
PROJECT NO.
SHEET NO.
T5

9/12/2024 G:\0\Projects\LR-25C - SD Intersection Improvement\Kanish & Panther Branch - Little Rock, AR\CAD\15-20 SCALE.dgn



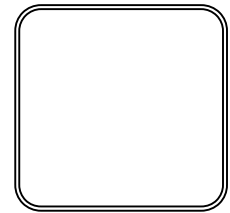
9/18/2024 G:\0\Projects\LR-25C - SD Intersection Improvement\Kanis & Panther Branch - Little Rock, AR\CAD\T6-PAVEMENT MARKINGS.dgn



REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
 KANIS ROAD AT PANTHER BRANCH
 INTERSECTION IMPROVEMENTS
 PAVEMENT MARKING PLAN

DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING
 701 W. MARKHAM
 LITTLE ROCK, ARKANSAS 72201

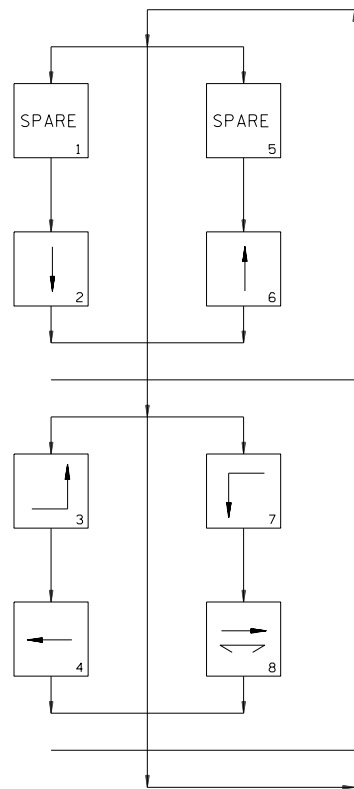




DRAWN BY MJB
DESIGNED
CHECKED
DATE 9/18/2024
SCALE 1" = 30'
PROJECT NO.
SHEET NO. T6

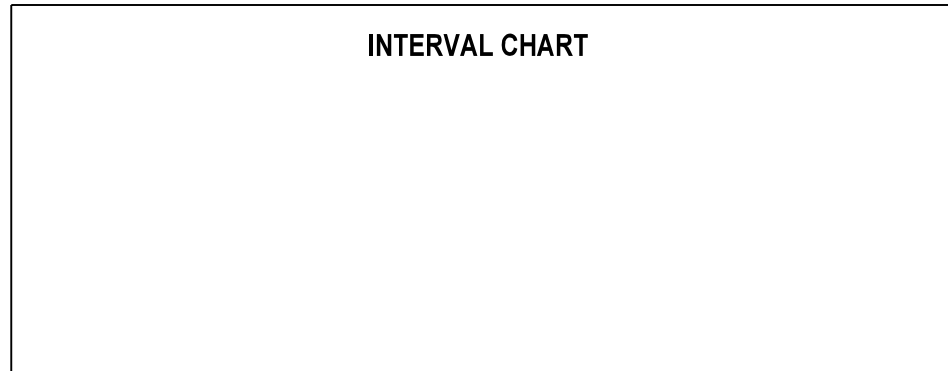


REVISIONS	DATE

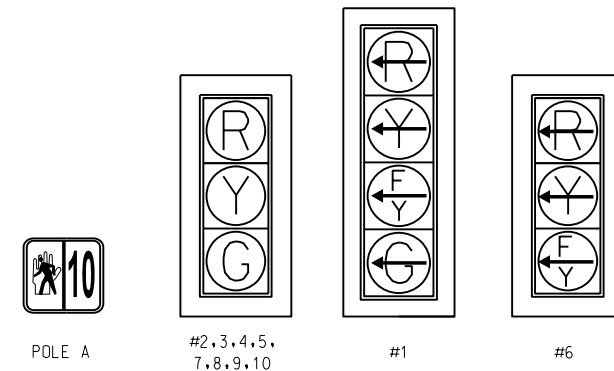
PHASING DIAGRAM



INTERVAL CHART

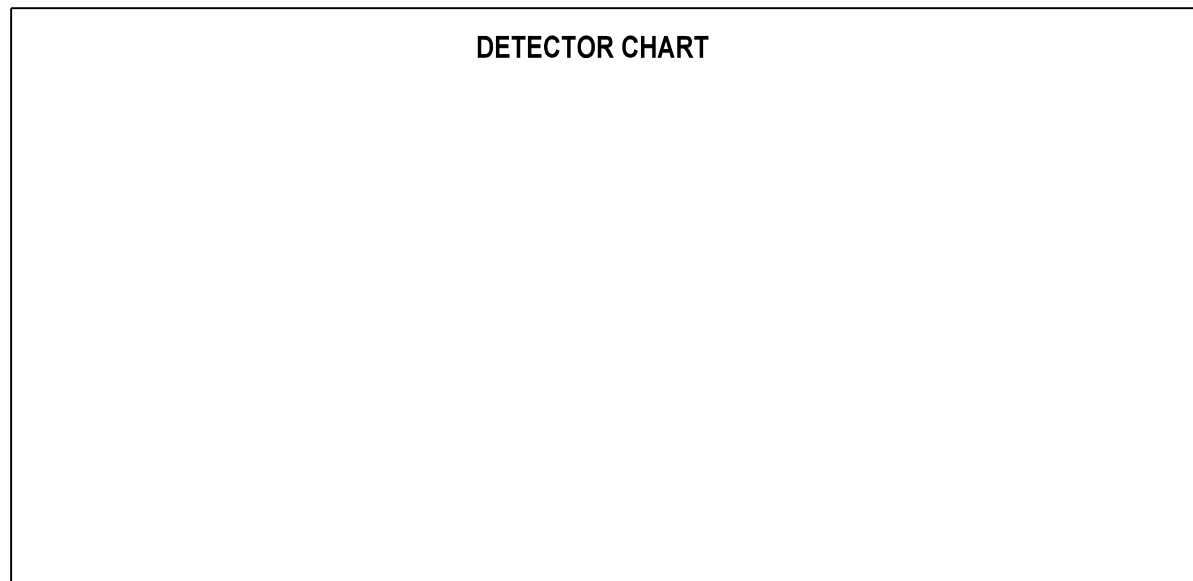


SIGNAL FACES
12" LENSES



- NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 2. REFER TO SPECIAL PROVISIONS FOR "REFLECTIVE BACKPLATES" DETAILS ON REQUIREMENT BACKPLATES.
 3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
 4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A. STANDARDS.

DETECTOR CHART



CITY OF LITTLE ROCK, ARKANSAS
KANIS RD. AND COOPER ORBIT RD.
INTERSECTION IMPROVEMENTS
SIGNALIZATION DETAILS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201


DRAWN BY
DESIGNED
CHECKED
DATE
9/11/2024
SCALE
PROJECT NO.
SHEET NO.
T7

REVISIONS	DATE

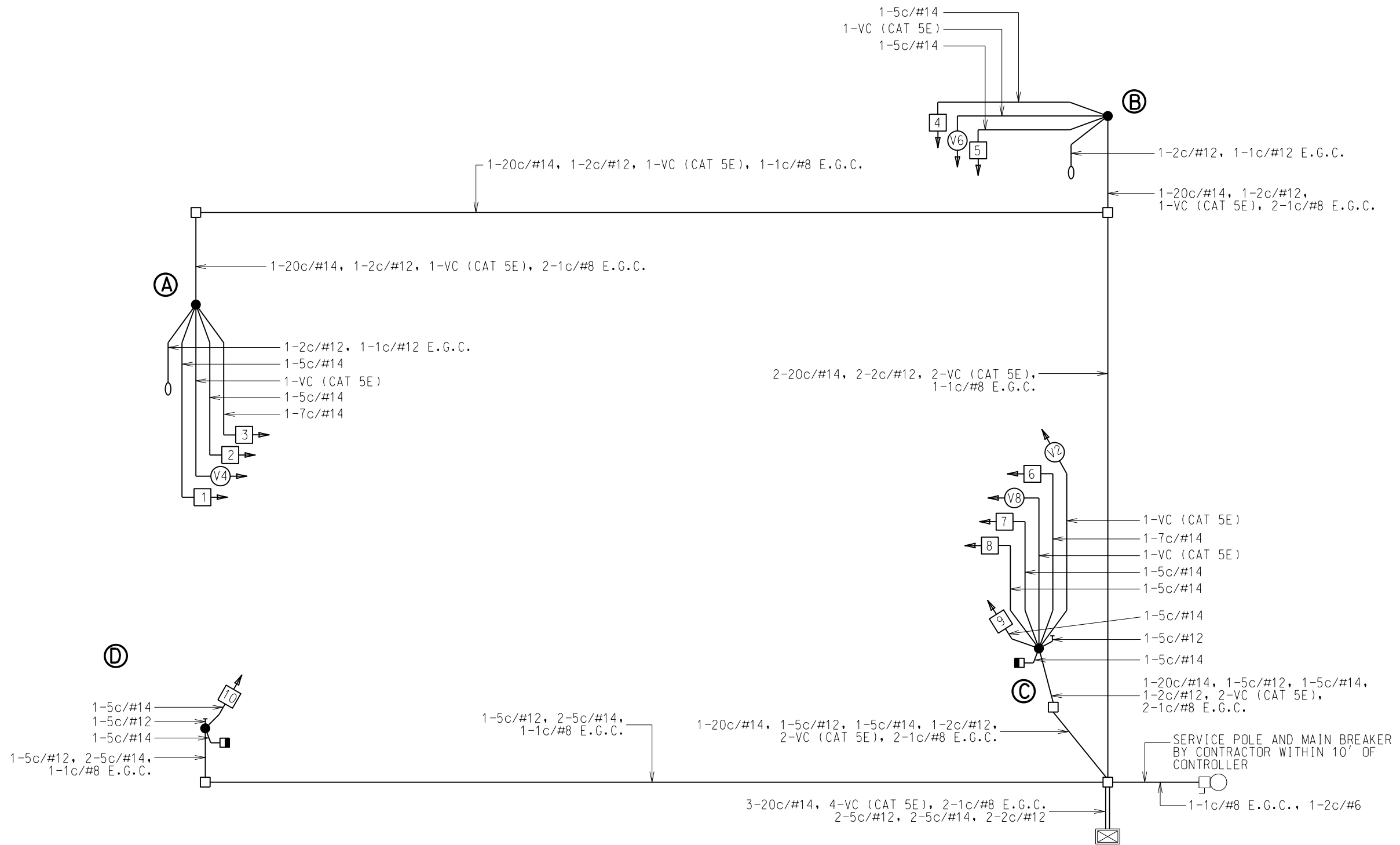
CITY OF LITTLE ROCK, ARKANSAS
KANIS RD. AND COOPER ORBIT RD.
INTERSECTION IMPROVEMENTS

WIRE DIAGRAM

DEPARTMENT OF PUBLIC WORKS



CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201



WIRING DIAGRAM

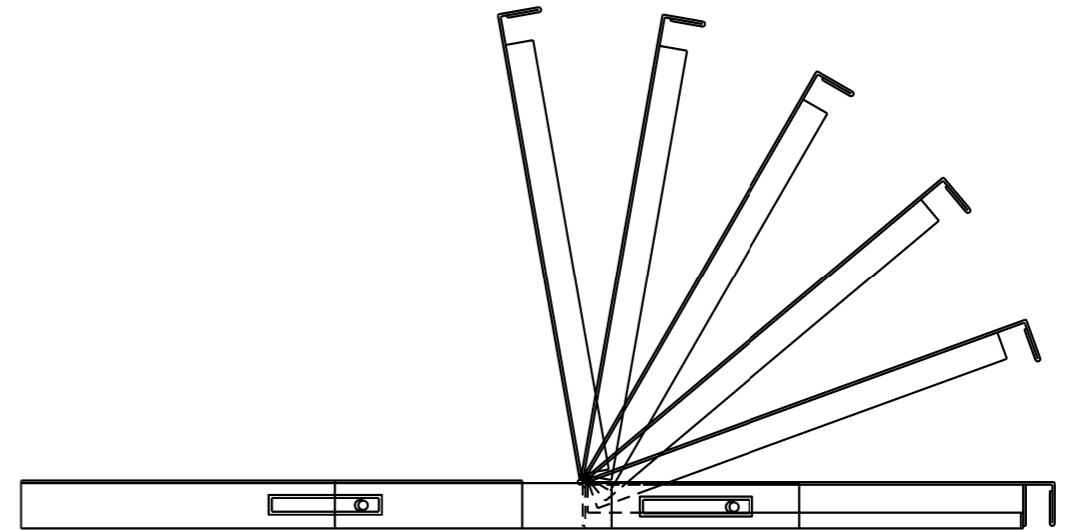
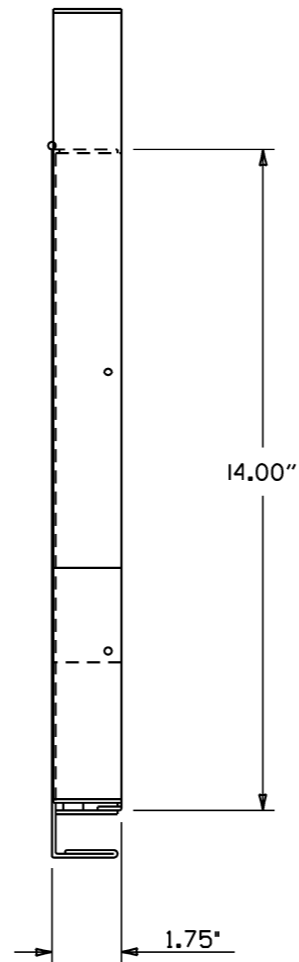
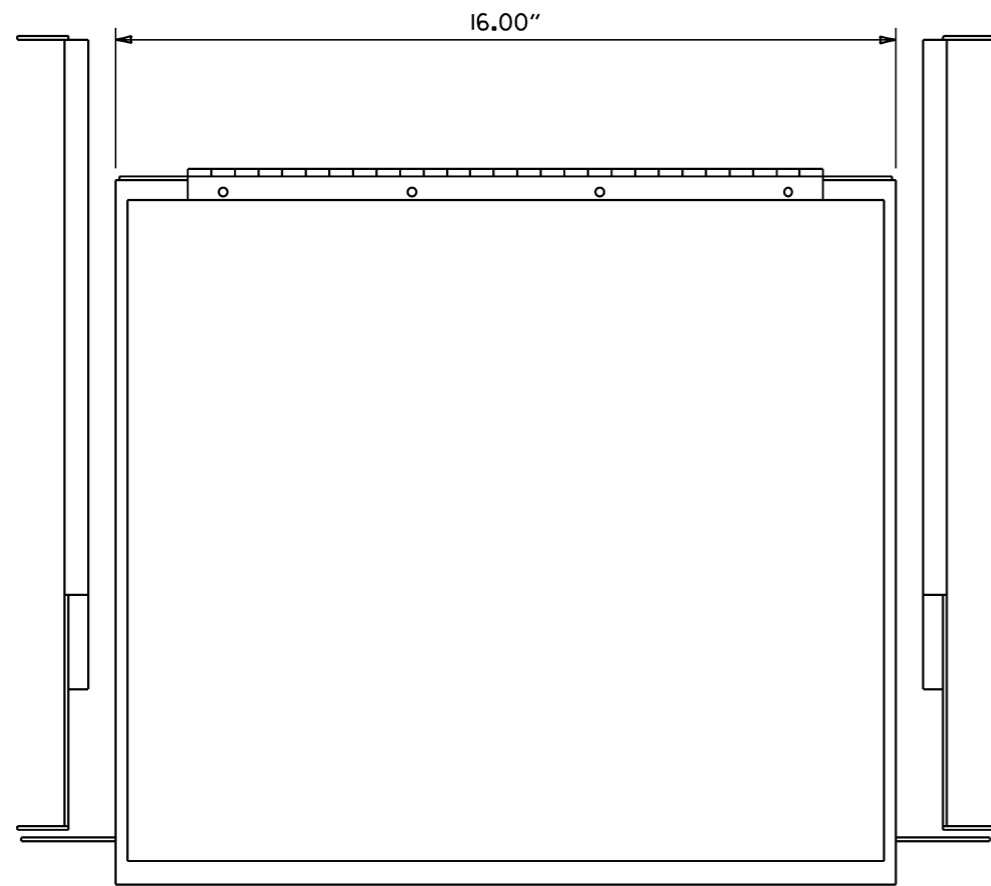
- NOTES TO CONTRACTOR:
1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
 2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
 3. SEE GROUNDING ARRAY DETAIL ON SHEET 5.

9/12/2024 G:\Projects\LR-25C - SD Intersection Improvement, Kanis & Penitner Branch - Little Rock, AR\CAD\T8-WIRE.dgn

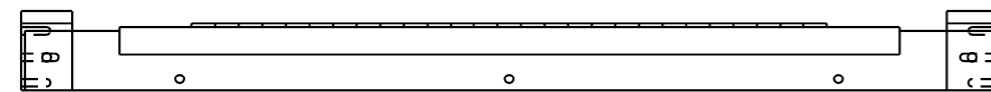
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DATE 9/12/2024
SCALE
PROJECT NO.
SHEET NO. T8

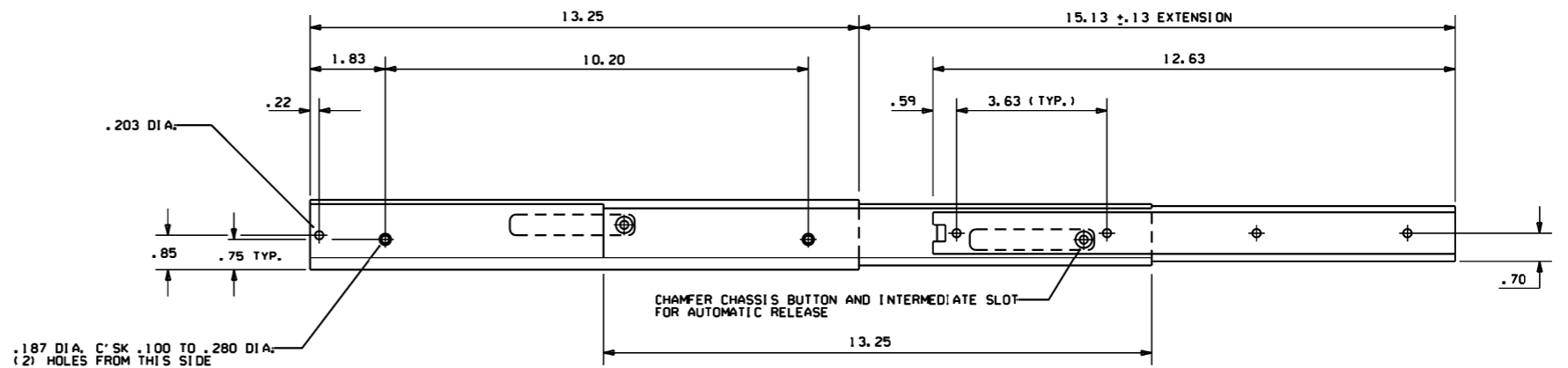
DRAWER PLAN VIEW



- NOTES:
 1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
 2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
 3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



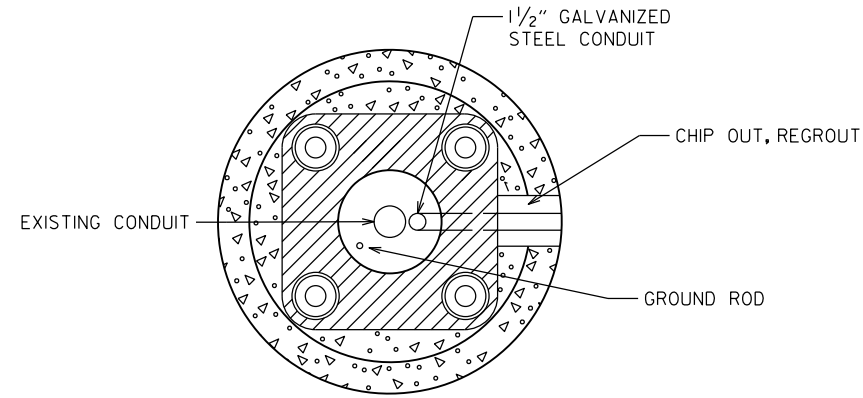
FRONT VIEW



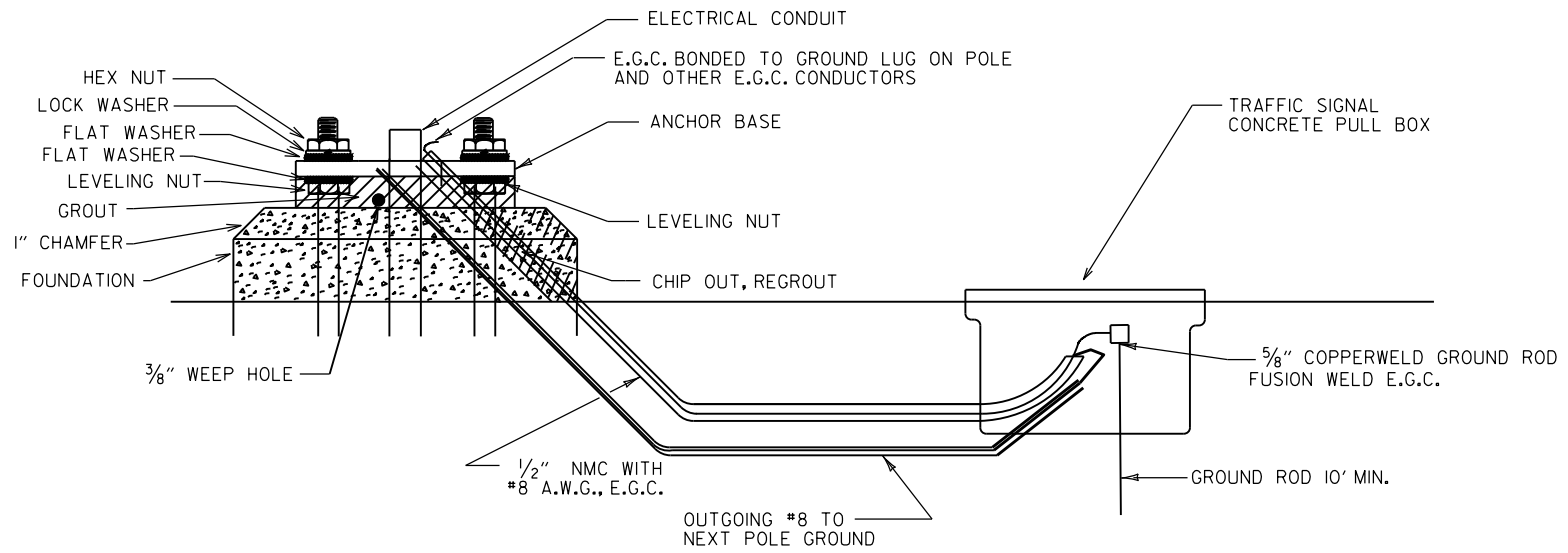
RIGHT SIDE ASSEMBLY

			ARKANSAS STATE HIGHWAY COMMISSION
			CONTROLLER CABINET UTILITY DRAWER
9-12-13	ISSUED AS STANDARD DRAWING		
6-15-05	ISSUED		
DATE	REVISION	DATE FILED	STANDARD DRAWING SD-5

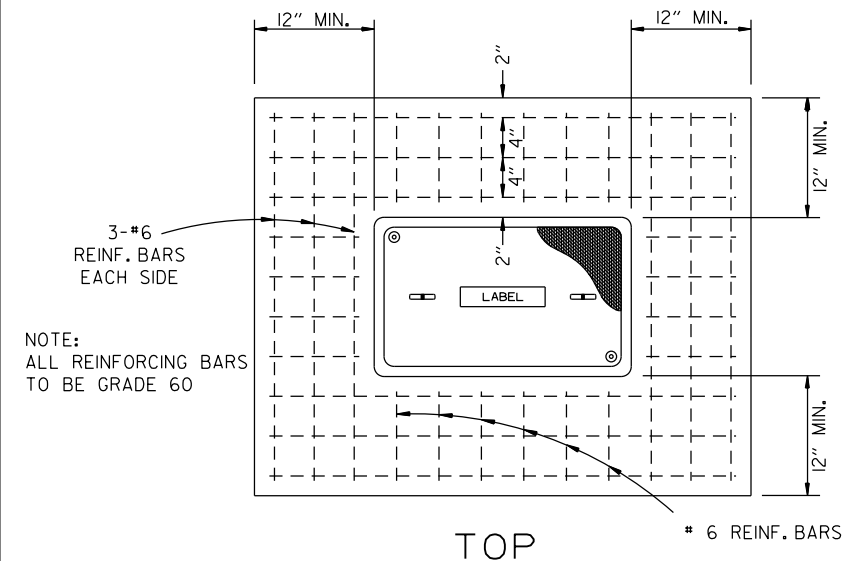
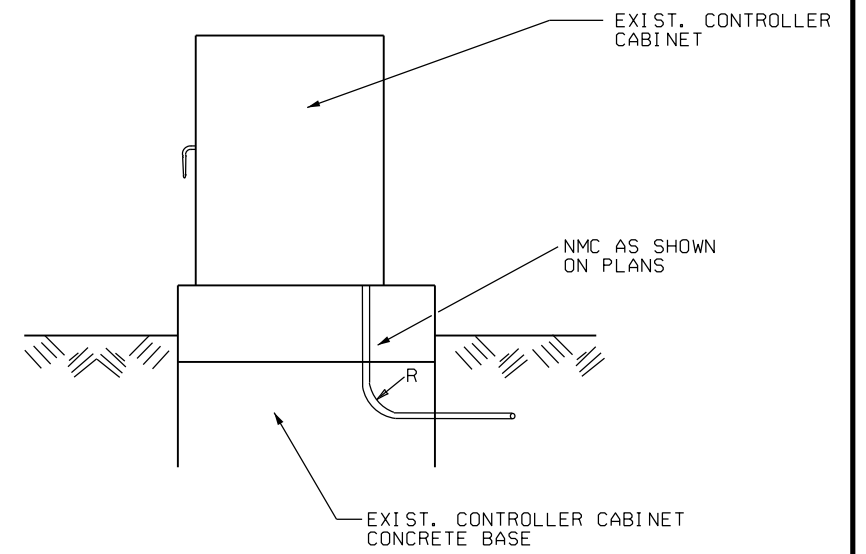
CONDUIT ENTRY TO EXISTING POLE BASE



ANCHOR BASE

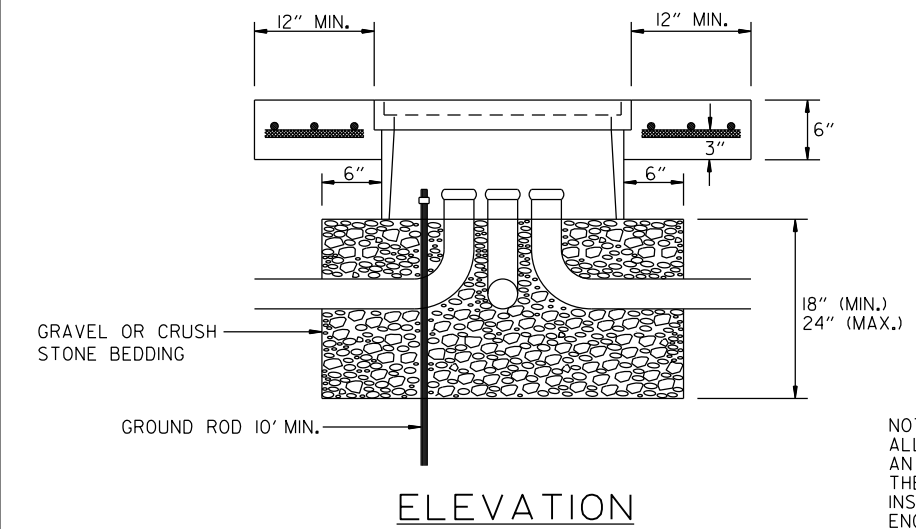
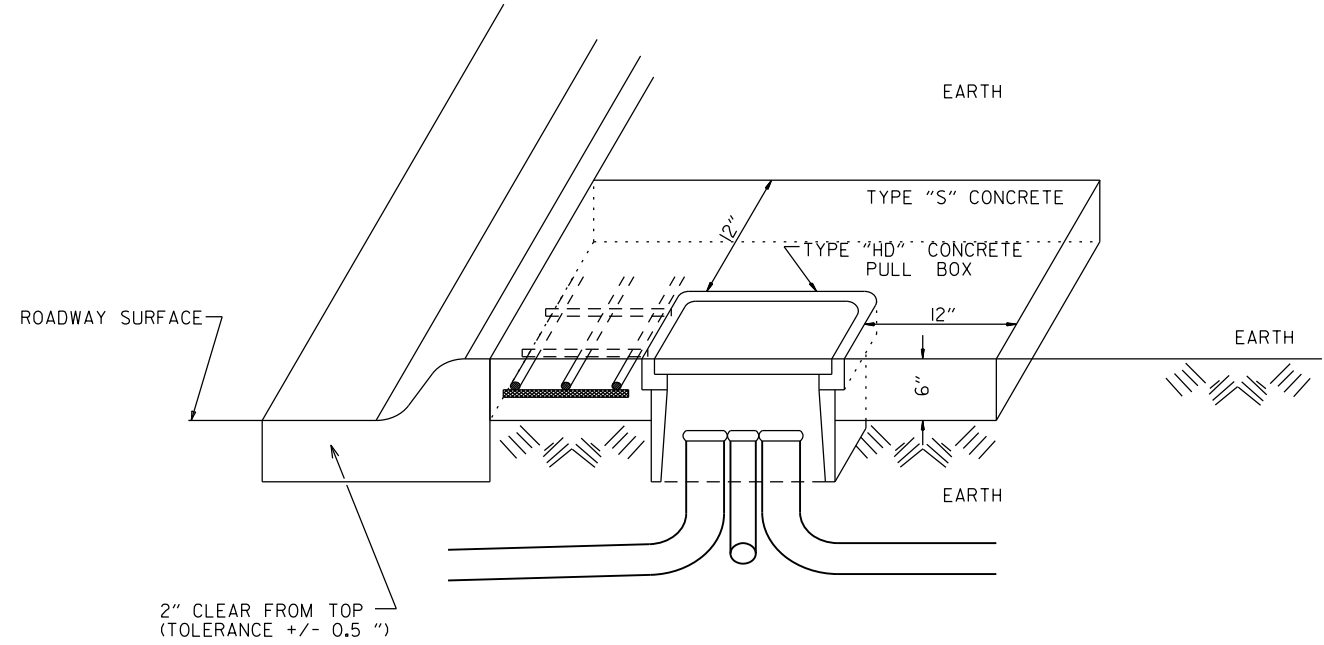


CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE:
ALL REINFORCING BARS
TO BE GRADE 60

TYPE "HD" CONCRETE PULL BOX DETAIL

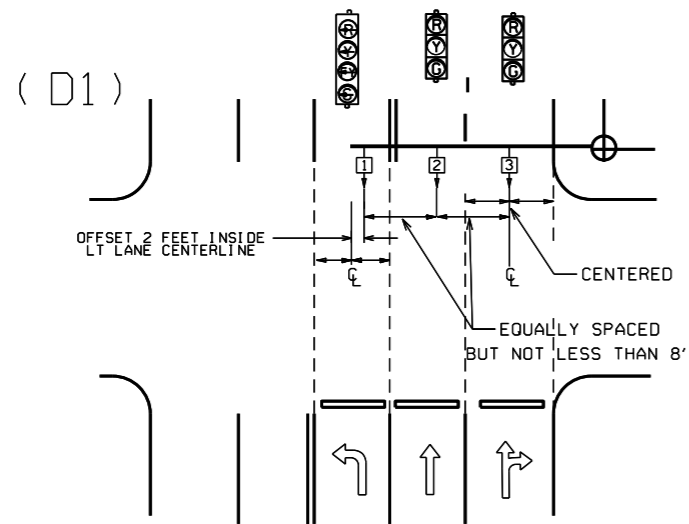
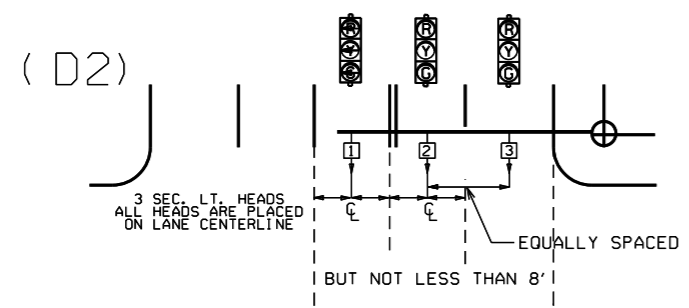
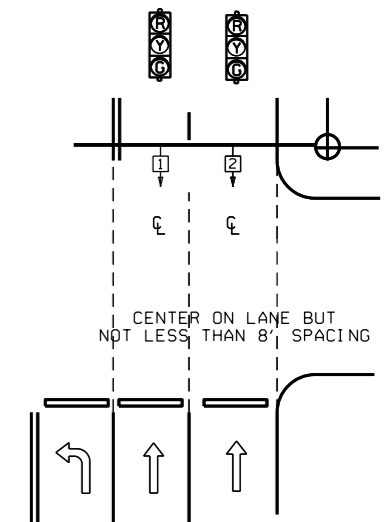
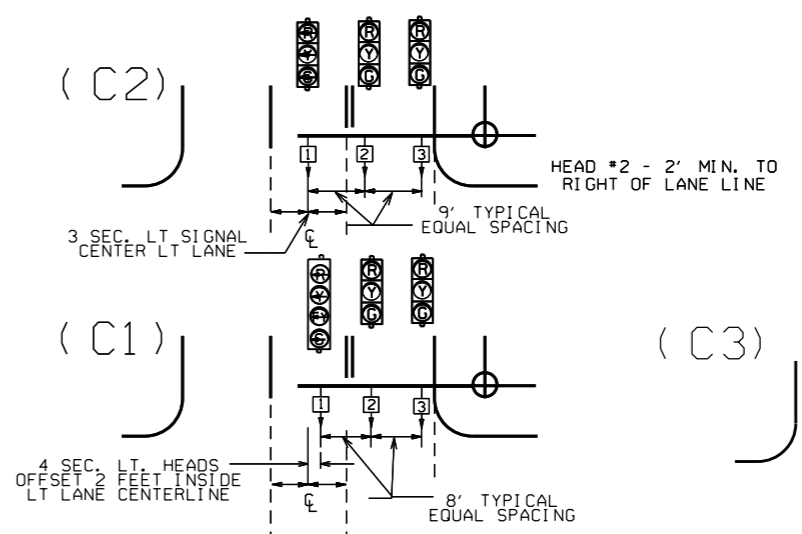
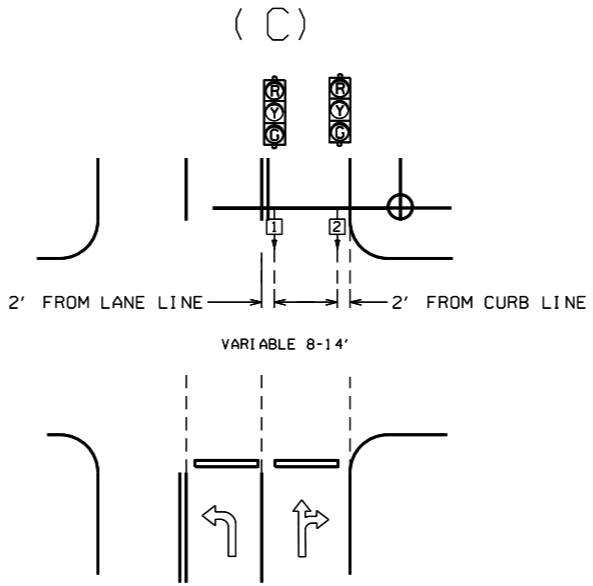
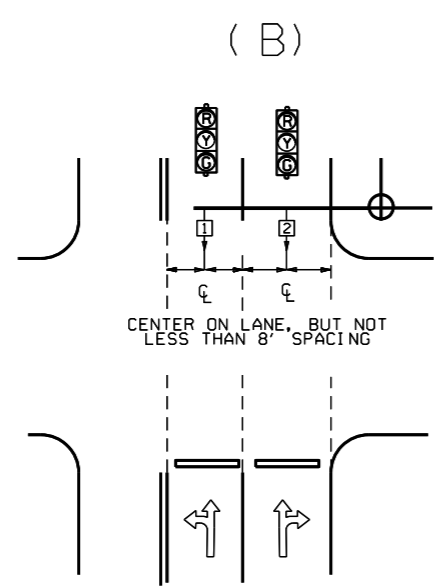
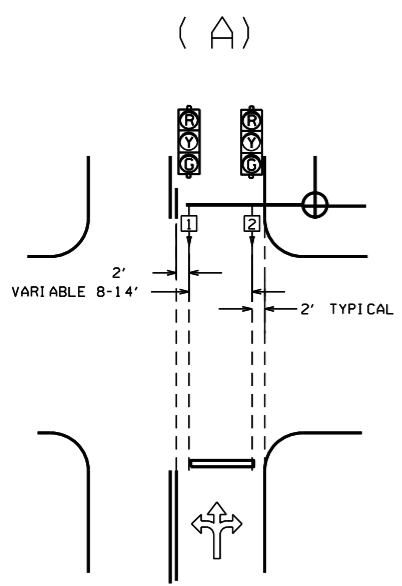


NOTE:
ALL TYPE 1 HD, TYPE 2 HD, AND TYPE 3 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 6" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
02-13-24	REVISED NOTES AND TYPE "HD" CONCRETE PULL BOX DETAILS	
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

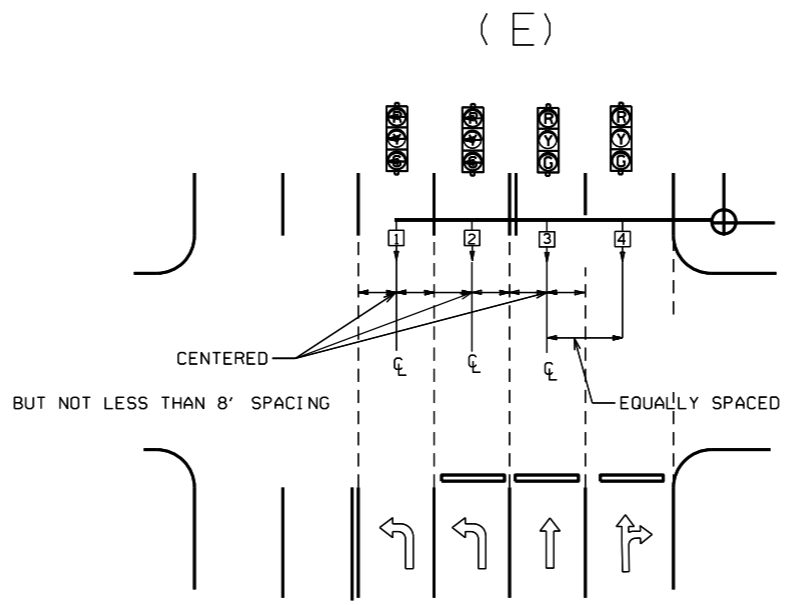
ARKANSAS STATE HIGHWAY COMMISSION
HEAVY DUTY PULL BOX
STANDARD DRAWING SD-6



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

GENERAL NOTES:

- FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.
- SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
- ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.
- MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.



☐ = CENTER OF LANE FROM APPROACH SIDE

12-8-16	REVISED NOTE 6		ARKANSAS STATE HIGHWAY COMMISSION
9-12-13	ISSUED AS STANDARD DRAWING		SIGNAL HEAD PLACEMENT
3-11-10	2009 MUTCD		
12-9-99	ISSUED		STANDARD DRAWING SD-8
DATE	REVISION	DATE FILM	

NOTES:
 PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
 EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., I-WAY)" SHALL INCLUDE A SIGN (RIO-12a) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., I-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (RIO-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE RIO-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
 1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
 DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHURRY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SO. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SO. FT.); DESIGN TO ACCOMMODATE:
 2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
 3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
 4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE, DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
 ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SO. FT.)
 PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE, POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

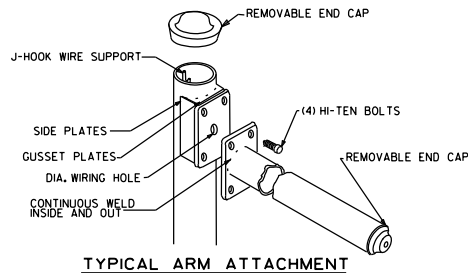
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED. POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLE WITHIN 12 INCHES OF MAST ARMS ATTACHMENTS(S).

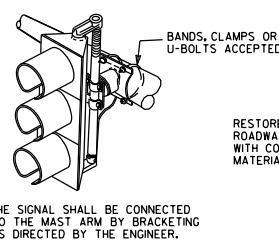
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

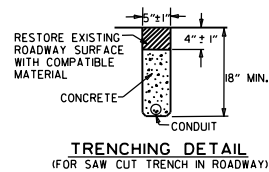
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



TYPICAL ARM ATTACHMENT



NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

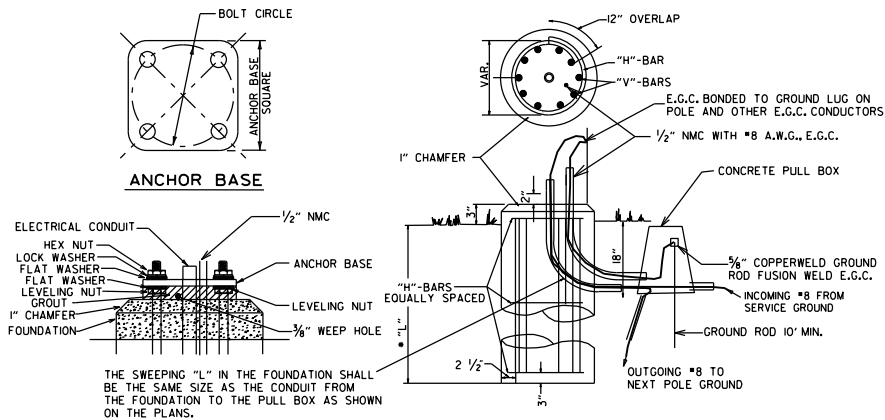


TRENCHING DETAIL (FOR SAW CUT TRENCH IN ROADWAY)

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE ROADWAY MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE ROADWAY IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE ROADWAY IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

* IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

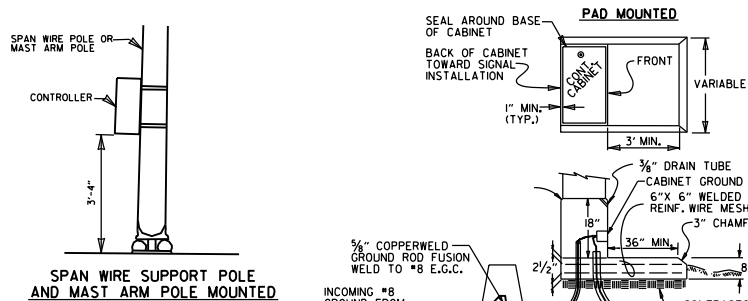
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.



TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



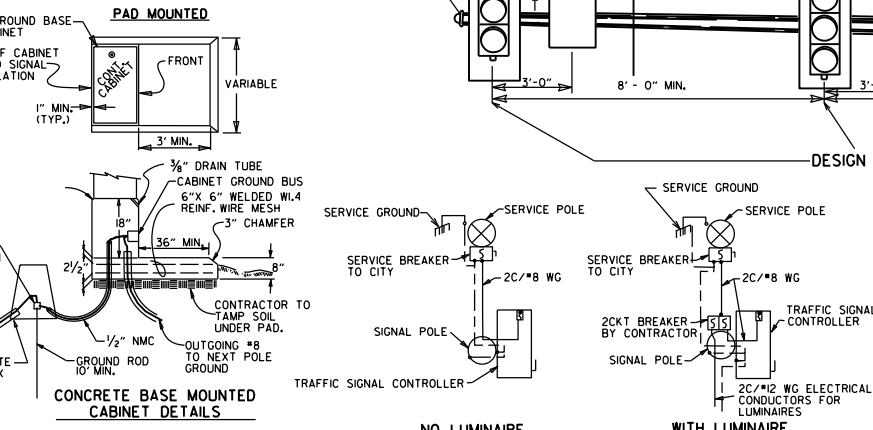
CONTROLLER CABINET MOUNTING DETAILS

NOTE: UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUDED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

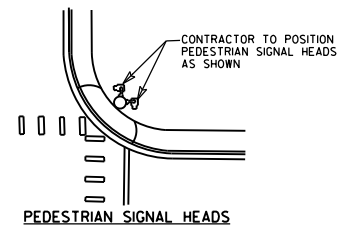
10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.



NO LUMINAIRE

WITH LUMINAIRE

SERVICE DISCONNECT
 NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES



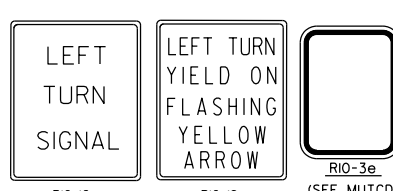
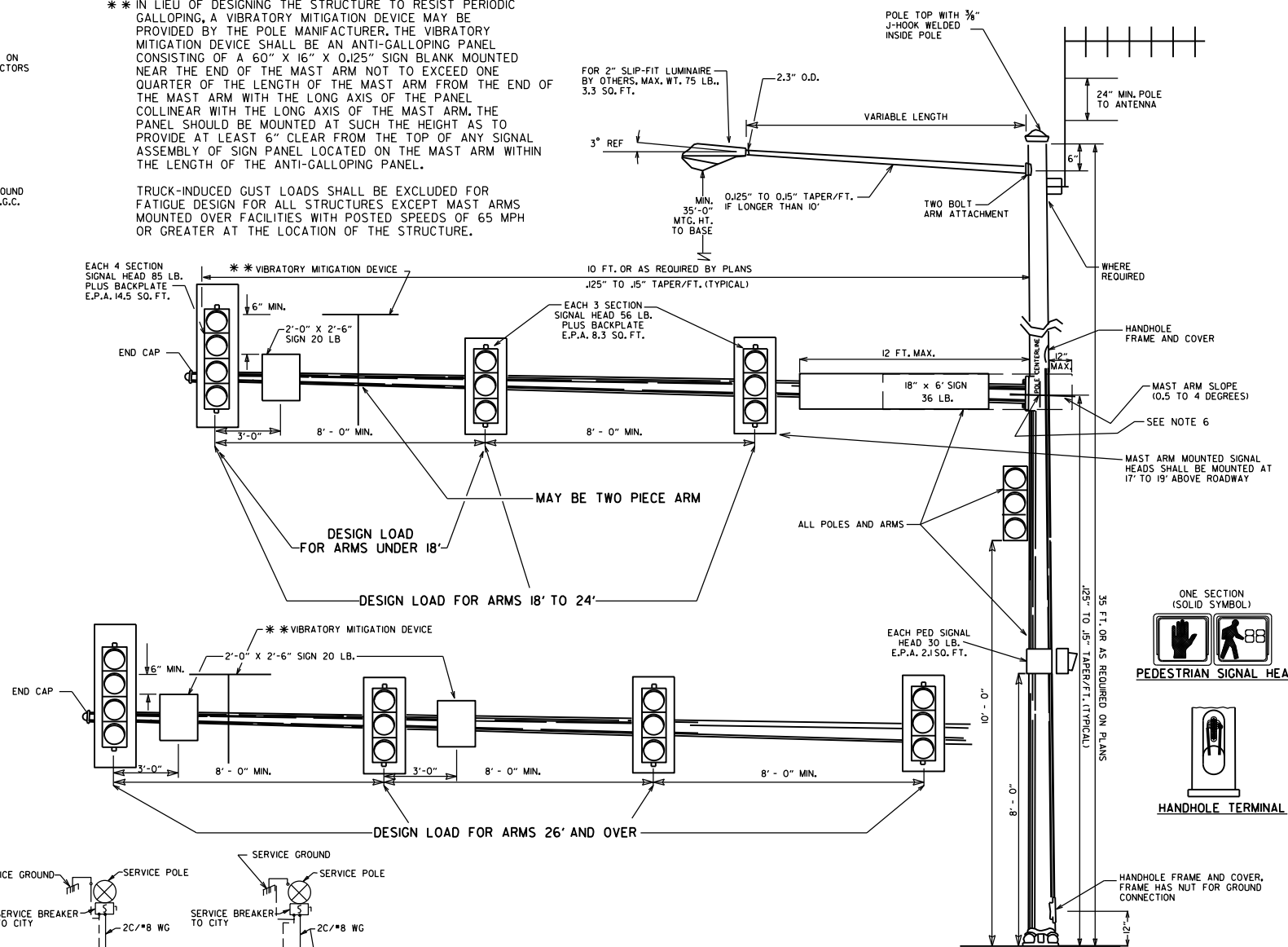
PEDESTRIAN SIGNAL HEADS

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD, AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



DATE	REVISION	FILMED
02-13-24	REVISED SPECIAL SIGN TO RIO-12a SIGN	
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED YMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION
 STEEL POLE WITH MAST ARM
 STANDARD DRAWING SD-II