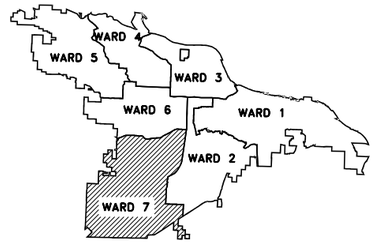
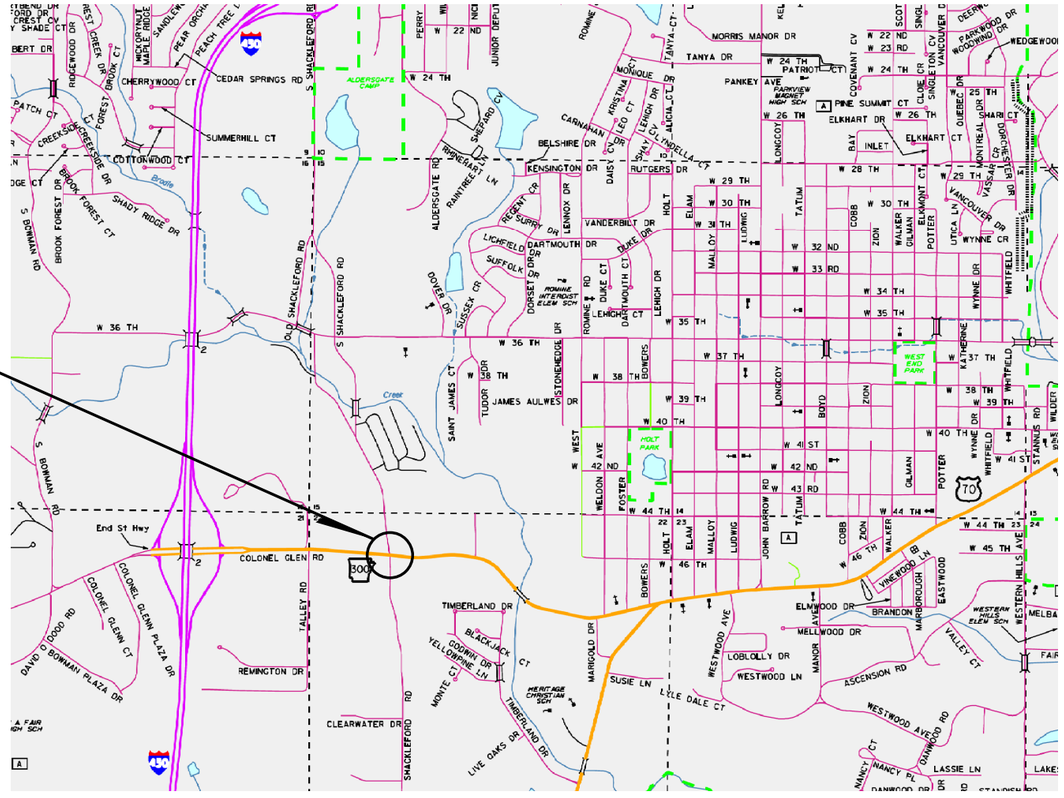
100% SUBMITTAL

PROJECT # 07-19-TX-232
COLONEL GLENN RD. (HWY 300) & S. SHACKLEFORD RD
TRAFFIC SIGNAL IMPROVEMENTS



PROJECT LOCATION – WARD 6

PUBLIC WORKS · CITY OF LITTLE ROCK ·



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

Sheet List Table	
Sheet Number	Sheet Title
C1	COVER SHEET
T1	SUMMARY OF QUANTITIES
T2	TRAFFIC SIGNAL NOTES
T3	TRAFFIC SIGNAL STREET NAME SIGNS
T4	MAINTENANCE OF TRAFFIC
T5	SIGNALIZATION PLAN SHEET
T6	SIGNALIZATION PLAN SHEET
T7	SIGNALIZATION PLAN SHEET
T8	PAVEMENT MARKING
T9	SIGNALIZATION CHARTS
T10	WIRING DIAGRAM
DET 11–15	DETAILS

REVISIONS	DATE
⚠	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

COVER

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

CERTIFICATE OF AUTHORIZATION
TRAFFIC ENGINEERING CONSULTANTS, INC.
No. 194
ARKANSAS

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	C1

1/28/2025 G:\0Projects\04 Little Rock Office Projects\LR-025A - SD, Signalization, S Shackleford Rd & ColGlenn Rd - Little Rock, AR\CAD\T00-TITLE.dgn

100% SUBMITTAL

ITEM NO.	DESCRIPTION	UNIT	TOTAL
2.01	SITE PREPERATION	LS	1
16.01	MAINTENANCE OF TRAFFIC	LS	1
19.10	FINAL CLEANUP	LS	1
SS & 604	SIGNS	S.F.	22
SP & 701	ETHERNET SWITCH, T100 HARDENED, 8-PORT	EA.	1
SP	E-NET CABLE (EXTERIOR CAT 5E)	L.F.	230
SP	ANTENNA RELOCATION	EA.	2
SP & 706	TRAFFIC SIGNAL HEAD, LED, 3 SECTION, 1 WAY	EA.	1
SP & 706	TRAFFIC SIGNAL HEAD, LED, 4 SECTION, 1 WAY	EA.	4
SP & 706	TRAFFIC SIGNAL HEAD, LED, 5 SECTION, 1 WAY	EA.	1
SP & 706	RELOCATION OF TRAFFIC SIGNAL HEAD	EA.	4
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT, 1C/8 A.W.G.	L.F.	170
708	TRAFFIC SIGNAL CABLE, 5C/14 A.W.G.	L.F.	60
708	TRAFFIC SIGNAL CABLE, 7C/14 A.W.G.	L.F.	110
708	TRAFFIC SIGNAL CABLE, 20C/14 A.W.G.	L.F.	480
710	NON-METALLIC CONDUIT, 3"	L.F.	30
SP & 711	CONCRETE PULL BOX (TYPE 2 HD)	EA.	1
SP	VIDEO DETECTION EQUIPMENT	L.S.	1
SP & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (34')	EA.	1
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	L.S.	1
719	THERMOPLASTIC PAVEMENT MARKING, WHITE (6")	L.F.	678
719	THERMOPLASTIC PAVEMENT MARKING, WHITE (12")	L.F.	41
719	THERMOPLASTIC PAVEMENT MARKING, YELLOW (6")	L.F.	701
	THERMOPLASTIC PAVEMENT MARKING (WORD)	EA.	3
719	THERMOPLASTIC PAVEMENT MARKING (ARROW)	EA.	3

REVISIONS	DATE
1	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

SUMMARY OF QUANTITIES

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T1

100% SUBMITTAL

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 REQUIRED BY TSMO 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 RAINTIGHT 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 PROGRAMMNG 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 SUBSIDARY 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. ALL SIGNAL HEADS AND SIGNS ON THE TEMPORARY SPAN WIRE SHALL HAVE AN ADDITIONAL TETHER WIRE (NOT SHOWN ON SD-7) AT THE BOTTOM CHORD TO MINIMIZE MOVEMENT DUE TO WIND EFFECTS. THE BOTTOM TETHER, HARDWARE, BRACKETS, AND MATERIALS FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE TEMPORARY SIGNAL. THE BOTTOM TETHER SHALL BE INSTALLED BETWEEN THE MINIMUM AND MAXIMUM HEIGHT CLEARANCE ABOVE THE ROADWAY.

36. CONTRACTOR SHALL PROVIDE AND INSTALL IN|SYNC VIDEO DETECTION SYSTEM BY RHYTHM ENGINEERING.

37. LUMINAIRES SHALL BE LEOTEK GREENCOBRA GCI-60F-MV-NV-3-GY-700

38. CITY OF LITTLE ROCK SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A DISCREPANCY REGARDING MEASUREMENT AND PAYMENT. ARKANSAS 2014 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN IN ALL OTHER CASES.

REVISIONS	DATE

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

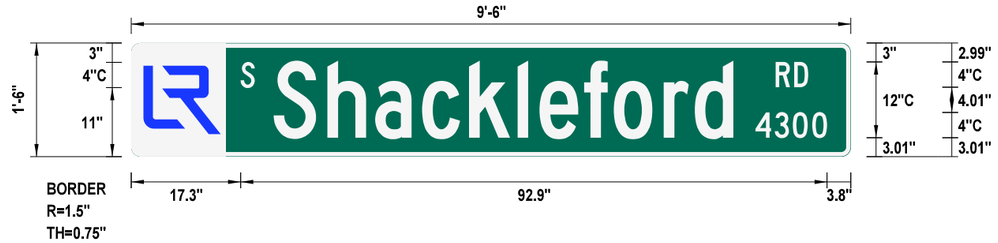
TRAFFIC SIGNAL NOTES

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T2

100% SUBMITTAL



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 ON MOUNTING ON MAST ARM ASSEMBLY.

4. THE SERIEC C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

REVISIONS	DATE
⚠	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

TRAFFIC SIGNAL STREET NAME SIGNS

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

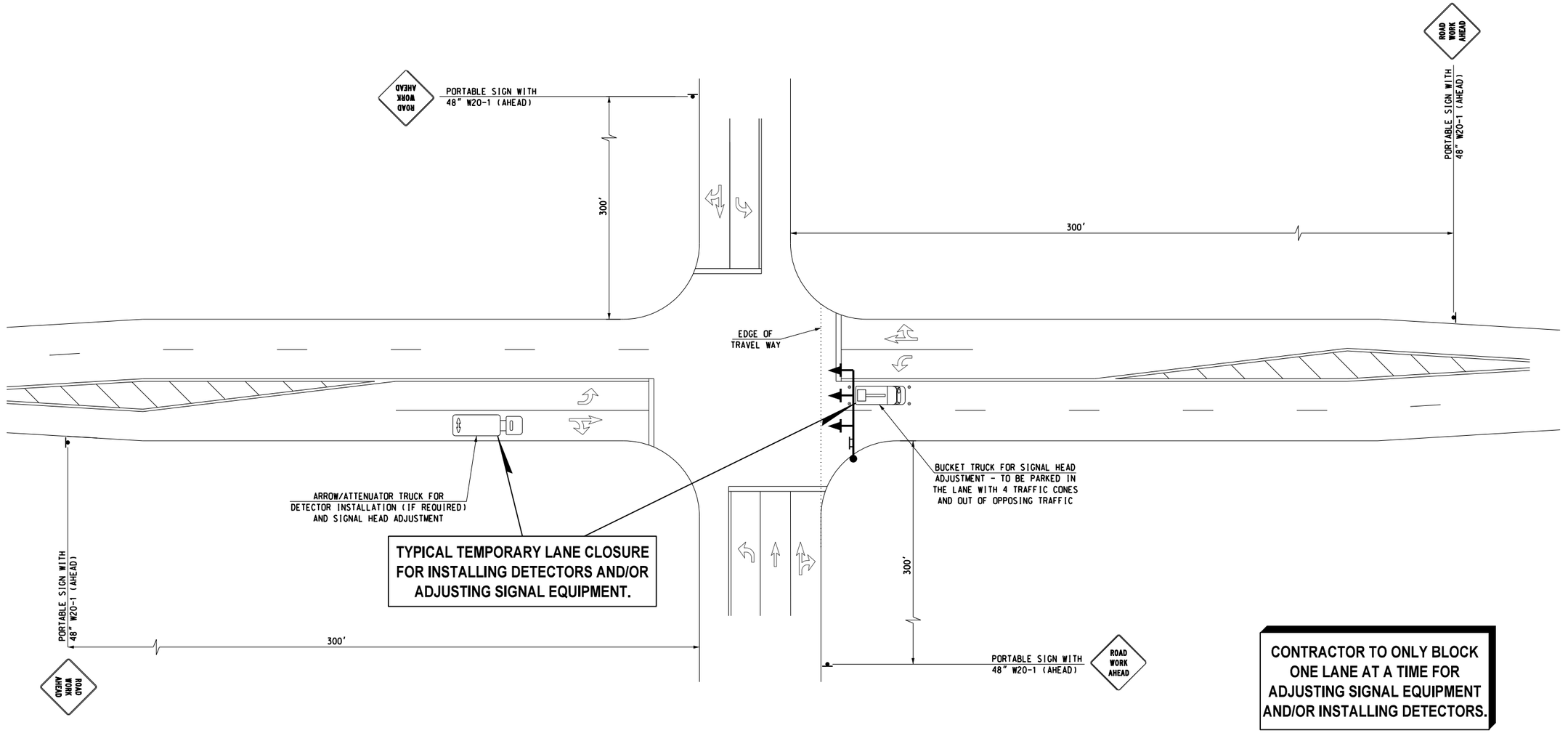
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T3

100% SUBMITTAL

NOTE:
1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRAION REGULATIONS.

2. ONLY ONE LANE MAY BE CLOSED AT A TIME DURING NORMAL WORKING HOURS AND ALL LANES MUST BE REOPENED AT THE END OF EACH DAY USING STEEL PLATES



CONTRACTOR TO ONLY BLOCK ONE LANE AT A TIME FOR ADJUSTING SIGNAL EQUIPMENT AND/OR INSTALLING DETECTORS.

REVISIONS	DATE

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

MAINTENANCE OF TRAFFIC

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T4

PHASING DIAGRAM

(NEW) #11 (EXIST. TO REMAIN) #5

(NEW) #12 (EXIST. TO REMAIN) #4

(RELOCATE EXIST.) #2.3.7.8.

(NEW) #1.6

SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. ADJUST SIGNAL HEADS TO VERTICAL POSITION AND PROVIDE 17' MIN. CLEARANCE ABOVE ROADWAY.

DETECTOR SPACING CHART

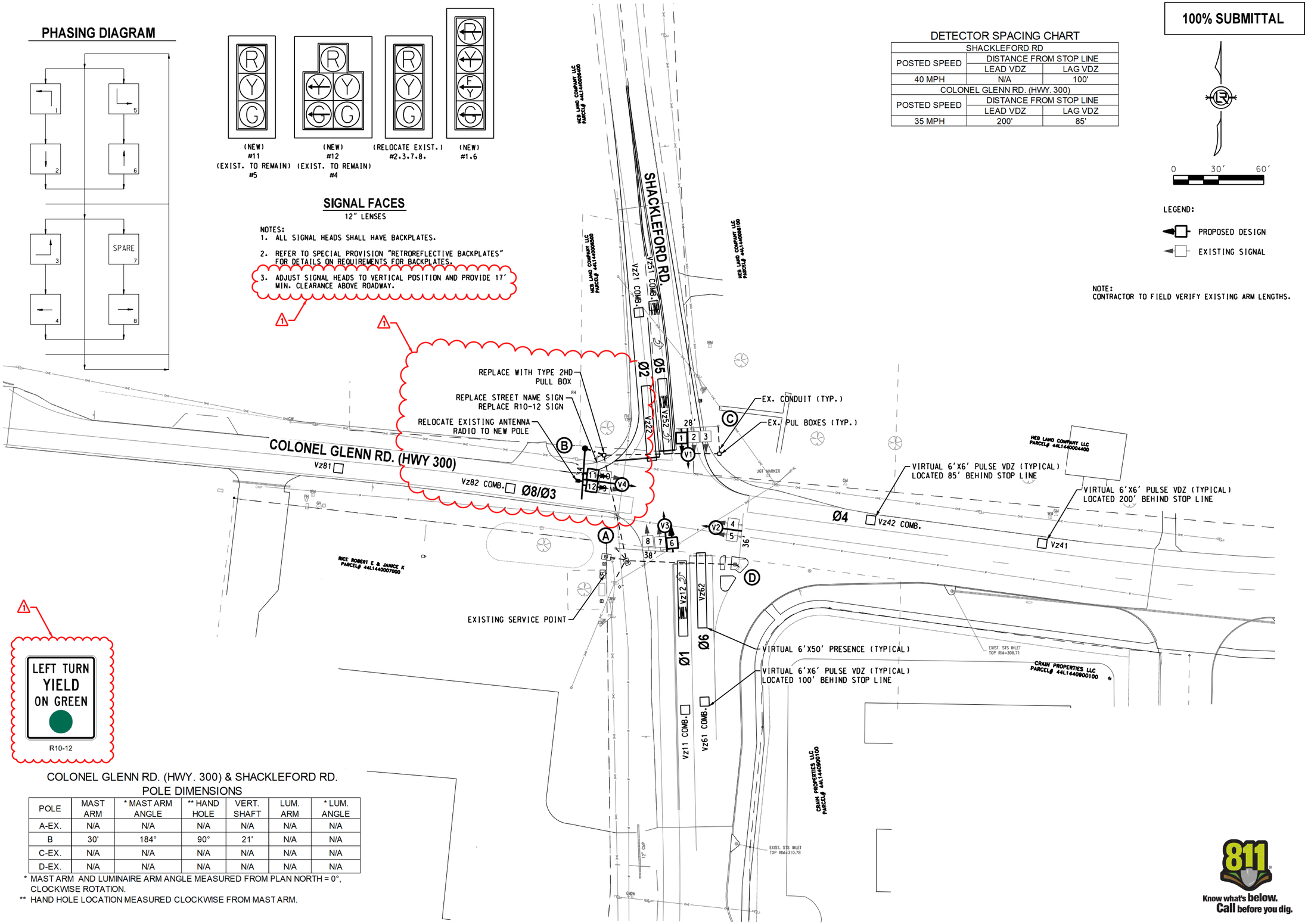
SHACKLEFORD RD		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	N/A	100'
COLONEL GLENN RD. (HWY. 300)		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	200'	85'

100% SUBMITTAL

0 30' 60'

LEGEND:
- PROPOSED DESIGN
- EXISTING SIGNAL

NOTE:
CONTRACTOR TO FIELD VERIFY EXISTING ARM LENGTHS.



COLONEL GLENN RD. (HWY. 300) & SHACKLEFORD RD.
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	** HAND HOLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A-EX.	N/A	N/A	N/A	N/A	N/A	N/A
B	30'	184°	90°	21'	N/A	N/A
C-EX.	N/A	N/A	N/A	N/A	N/A	N/A
D-EX.	N/A	N/A	N/A	N/A	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.

Know what's below. Call before you dig.

REVISIONS	DATE
1	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

SIGNALIZATION PLAN SHEET

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	1" = 60'
PROJECT NO.	07-19-TS-232
SHEET NO.	T5

DESIGN PARAMETERS

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
(SHACKLEFORD RD.)
35 MPH EAST AND WEST APPROACH
(COLONEL GLENN RD.)

NO BUS STOPS
NO RAILROAD TRACKS
NO INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

100% SUBMITTAL

REVISIONS	DATE
1	1-24-2025

0 20' 40'

LEGEND:
- PROPOSED DESIGN
- EXISTING SIGNAL

NOTE:
CONTRACTOR TO FIELD VERIFY EXISTING ARM LENGTHS.

REPLACE WITH TYPE 2HD PULL BOX
REPLACE STREET NAME SIGN
REPLACE R10-12 SIGN
RELOCATE EXISTING ANTENNA RADIO TO NEW POLE
EX. CONDUIT (TYP.)
EX. PUL BOXES (TYP.)
EXISTING SERVICE POINT
EXIST. STS INLET TOP RIM=306.71
UGT MARKER

SHACKLEFORD RD.
COLONEL GLENN RD. (HWY 300)

Vz81 □
Vz82 COMB. □ Ø8/Ø3
Vz51 COMB. □
Vz21 COMB. □
Vz22
Vz52
Ø2
Ø5
Ø4 □ Vz42 COMB.
Vz41 □
Vz12
Vz62
Ø1
Ø6
Vz11 COMB. □
Vz61 COMB. □

HEB LAND COMPANY LLC
PARCEL# 44L1440006500

HEB LAND COMPANY LLC
PARCEL# 44L1440006100

RICE ROBERT E & JANICE K
PARCEL# 44L1440007000

CRAIN PROPERTIES LLC
PARCEL# 44L1440900100

CRAIN PROPERTIES LLC
PARCEL# 44L1440900100

28' 34' 38' 36'

COLONEL GLENN RD. & SHACKLEFORD RD.
POLE LOCATIONS

POLE	X, Y COORDINATES
A-EX.	N/A
B	1194551.87, 138205.49
C-EX.	N/A
D-EX.	N/A

TOP OF POLE FOUNDATION ELEVATION SHALL BE THREE (3) INCHES ABOVE THE FINISHED SURFACE ELEVATION AT THE LOCATIONS SHOWN ABOVE.

Know what's below. Call before you dig.

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

SIGNALIZATION PLAN SHEET

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

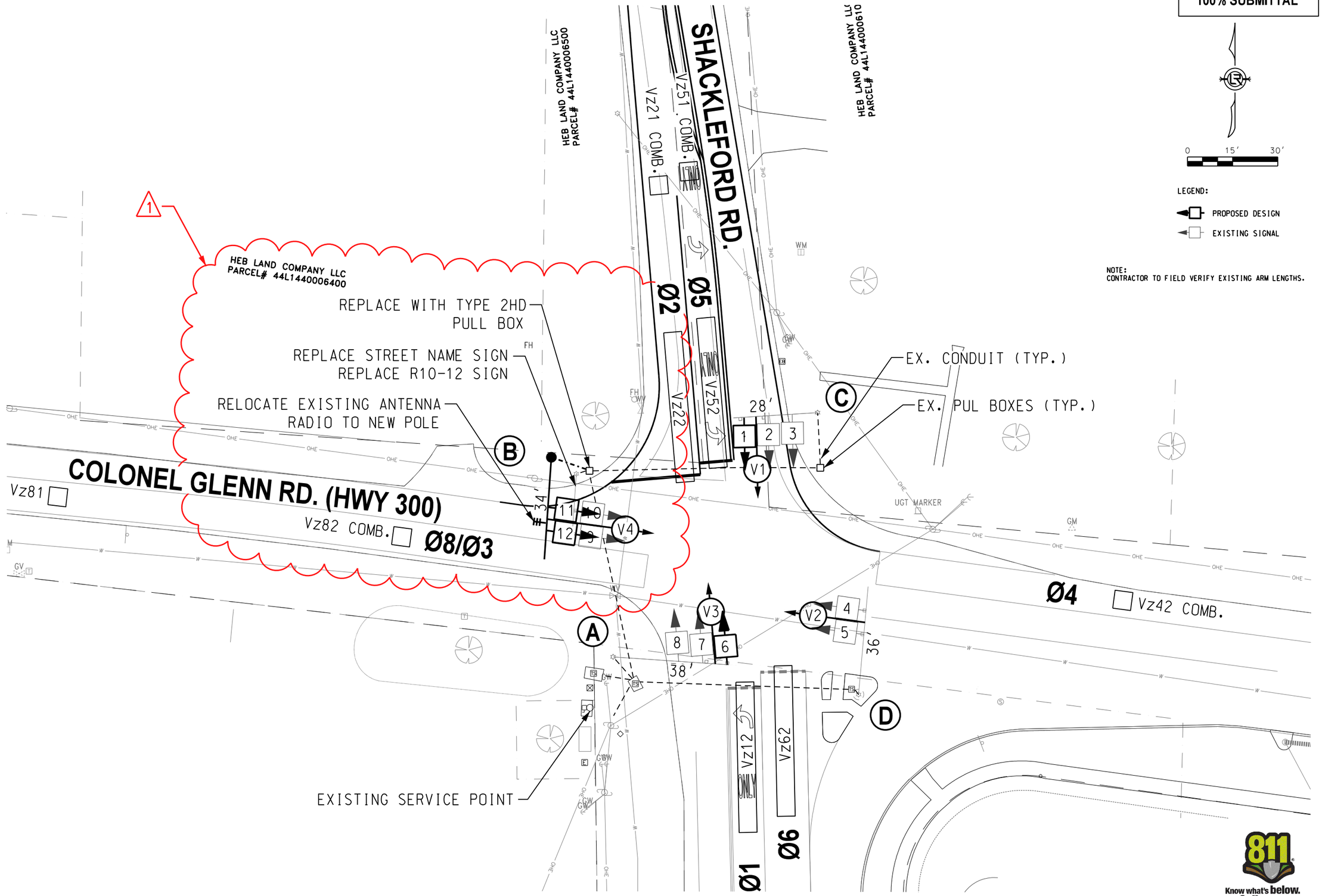
DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	1" - 40'
PROJECT NO.	07-19-TS-232
SHEET NO.	T6

100% SUBMITTAL

REVISIONS	DATE
1	1-24-2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

SIGNALIZATION PLAN SHEET



LEGEND:

- PROPOSED DESIGN
- EXISTING SIGNAL

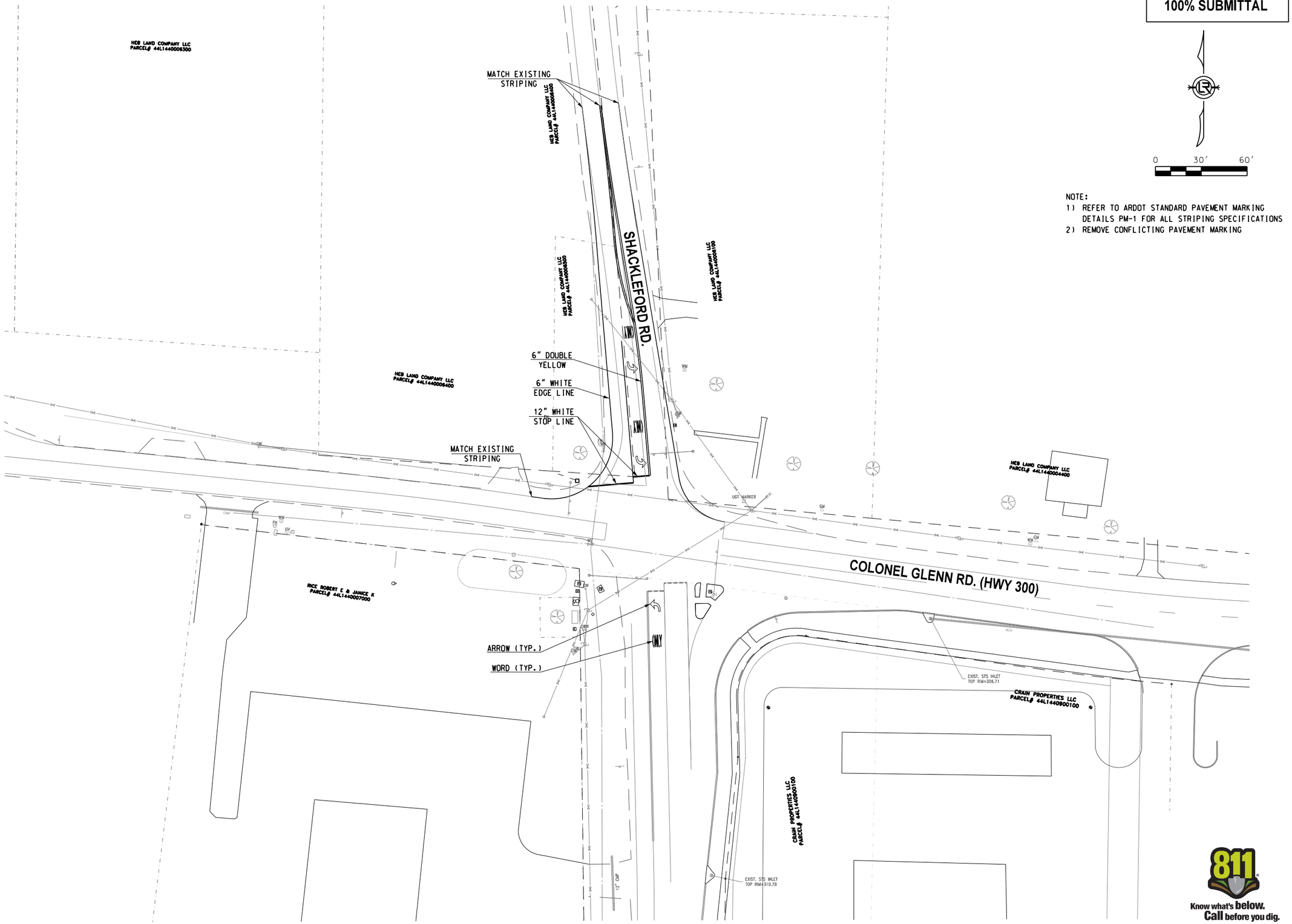
NOTE:
CONTRACTOR TO FIELD VERIFY EXISTING ARM LENGTHS.

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	1" = 30'
PROJECT NO.	07-19-TS-232
SHEET NO.	T7

Know what's below. Call before you dig.



100% SUBMITTAL

NOTE:
1) REFER TO ARDOT STANDARD PAVEMENT MARKING DETAILS PM-1 FOR ALL STRIPING SPECIFICATIONS
2) REMOVE CONFLICTING PAVEMENT MARKING

REVISIONS	DATE

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

PAVEMENT MARKING

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON III

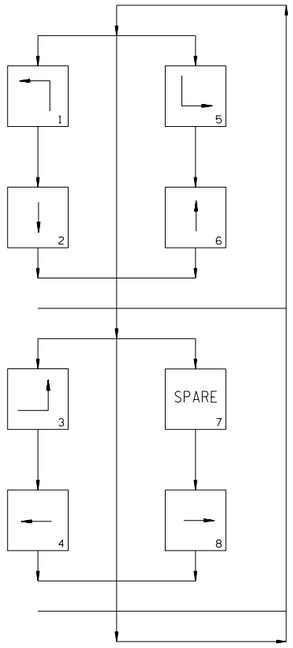
DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	1" = 60'
PROJECT NO.	07-19-TS-232
SHEET NO.	T8

Know what's below. Call before you dig.

1/24/2025 G:\0IProjects\04 Little Rock Office Projects\LR-I25A - SD,Signalization,S Shackleford Rd & Col Glenn Rd - Little Rock,ARV\CAD\T00D-PAVEMENT MARKING.dgn

100% SUBMITTAL

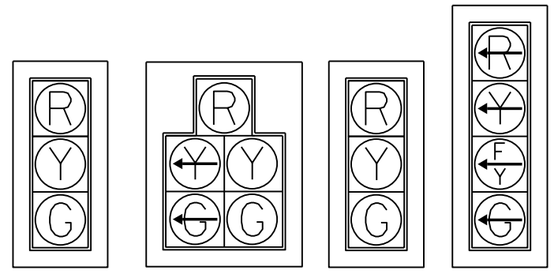
PHASING DIAGRAM



INTERVAL CHART

SIGNAL FACES	COLONEL GLENN RD. (HWY. 300) & SHACKLEFORD RD. 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+8	CLR.	4+8	CLR.	FLASH SEQUENCE
1	~~G~~	*	~~G~~	*	~~FY~~	***	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2+3	R	R	G	**	R	R	G	**	R	R	R	R	R
4	R	R	R	R	R	R	R	R	G ~~G~~	** ~~Y~~	G	Y	R
5	R	R	R	R	R	R	R	R	G	**	G	**	R
6	~~G~~	*	~~FY~~	***	~~G~~	*	~~FY~~	***	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
7+8	R	R	R	R	G	**	G	**	R	R	R	R	R
11	R	R	R	R	R	R	R	R	R	R	G	Y	R
12	R	R	R	R	R	R	R	R	R	R	G	Y	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE



(NEW) #11 (EXIST. TO REMAIN) #5 | (NEW) #12 (EXIST. TO REMAIN) #4 | (RELOCATE EXIST.) #2,3,7,8. | (NEW) #1,6

SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. ADJUST SIGNAL HEADS TO VERTICAL POSITION AND PROVIDE 17' MIN. CLEARANCE ABOVE ROADWAY.

1

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION										
COLONEL GLENN RD. (HWY. 300) & SHACKLEFORD RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	NB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23"
Vz12	NB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23"
Vz21	SB FAR	LOCAL			5	V2	2			CAMERA V3	23"
Vz22	SB (NEAR)	COMB.			6	V10	2	2		CAMERA V3	23"
Vz41	EB ADVANCE	LOCAL			9	V4	4			CAMERA V4	37"
Vz42	EB NEAR	COMB.			10	V12	4	4		CAMERA V4	37"
Vz51	SB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V3	23"
Vz52	SB LEFT TURN	LOCAL			8	V5	5			CAMERA V3	23"
Vz61	NB FAR	LOCAL			3	V6	6			CAMERA V1	23"
Vz62	NB (NEAR)	COMB.			4	V14	6	6		CAMERA V1	23"
Vz81	WB ADVANCE	LOCAL			11	V8	8			CAMERA V2	37"
Vz82	WB NEAR	COMB.			12	V16	8	8		CAMERA V2	37"
					SPARE: 13-16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

REVISIONS	DATE
1	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

SIGNALIZATION CHARTS

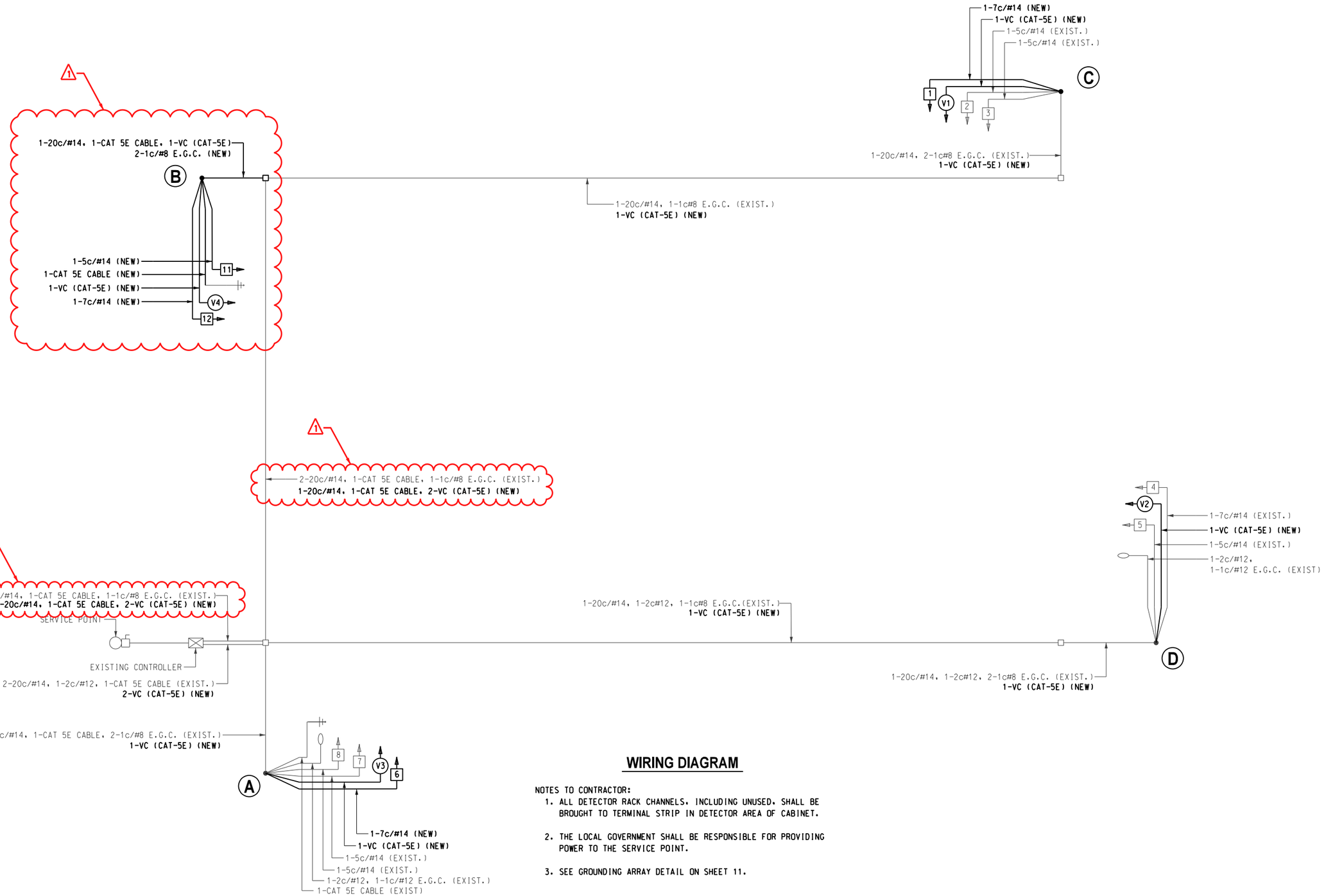
DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON, III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T9

3/10/2025 G:\0Projects\04 Little Rock Office Projects\LR-I25A - SD, Signalization, S Shackleford Rd & Colglenn Rd - Little Rock, AR\CAD\T008-DETAIL.dgn

100% SUBMITTAL



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 11.

REVISIONS	DATE
1	1/24/2025

CITY OF LITTLE ROCK, AR
COLONEL GLENN ROAD (HWY.300) & SHACKLEFORD RD.
INTERSECTION IMPROVEMENTS

WIRING DIAGRAM

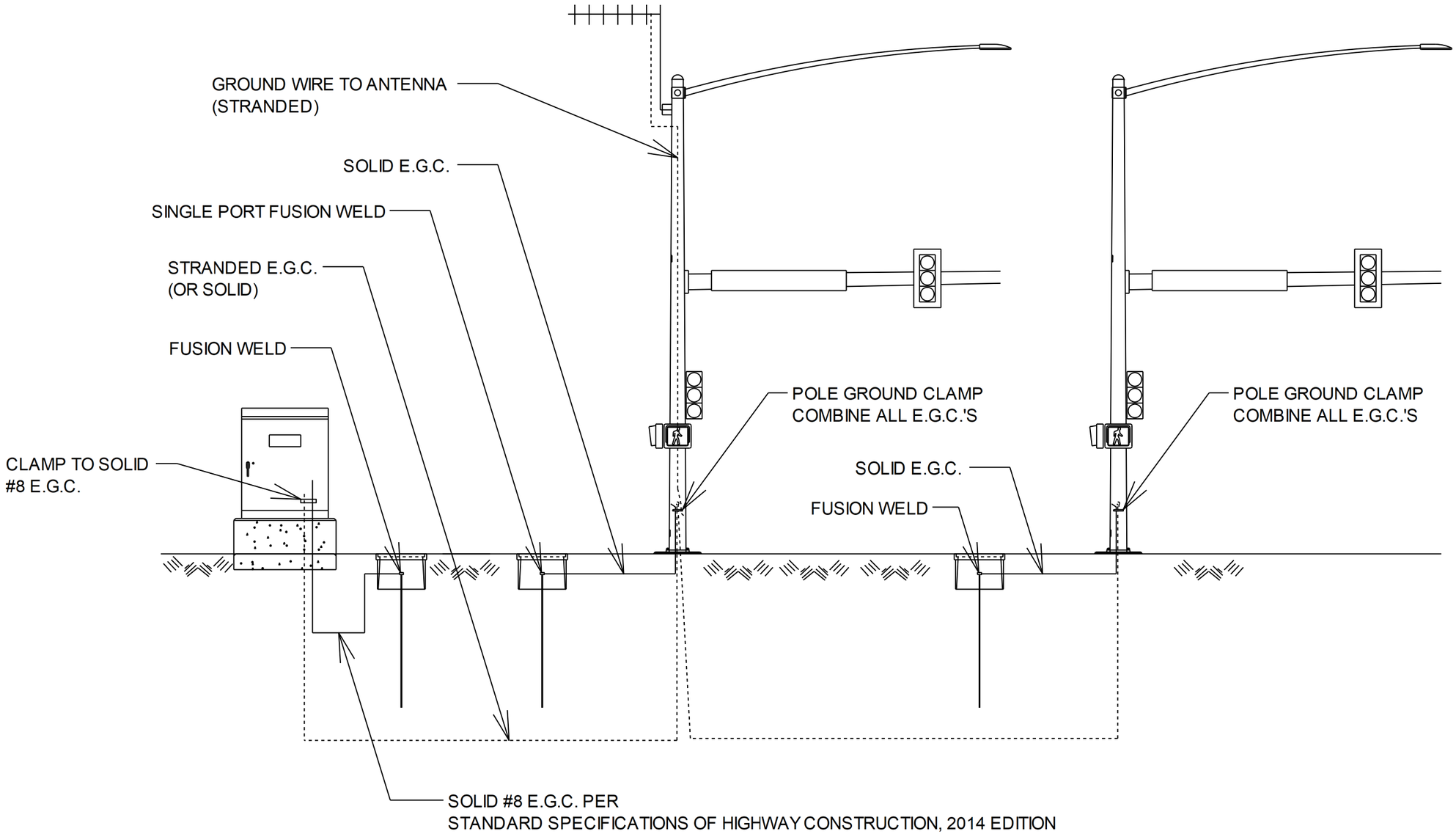
DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13224
B. FINLEY VINSON III

DRAWN BY	MJB
DESIGNED	BFV
CHECKED	NLB
DATE	OCTOBER 2024
SCALE	N.T.S.
PROJECT NO.	07-19-TS-232
SHEET NO.	T10

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			ARK.			
		GROUNDING ARRAY DETAIL				

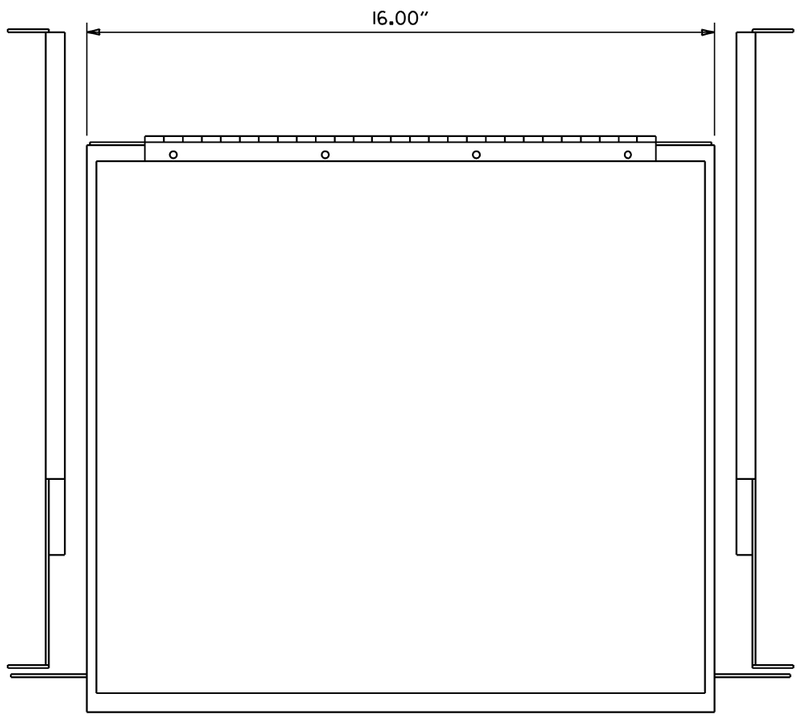
GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

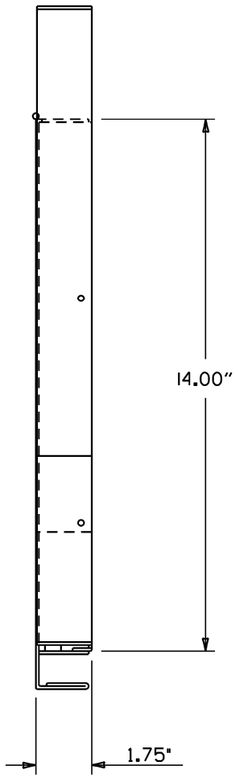


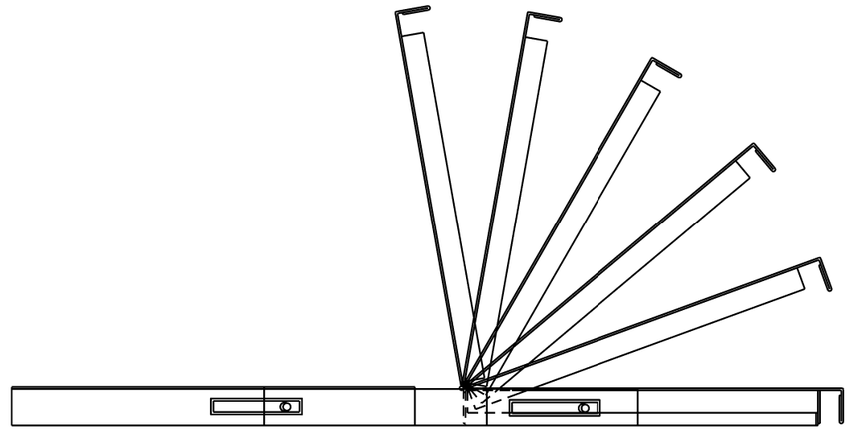
LOCATION:	COL. GLENN RD. & SHACKLEFORD RD.		
CITY:	LITTLE ROCK		
COUNTY:	PULASKI COUNTY		
DISTRICT:		SCALE: N/A	DRAWN BY:

10/10/2024 G:\0Projects\LR-I25A - SD, Signalization, S Shackleford Rd & Col Glenn Rd - Little Rock, AR\CAD_AR\DOT GROUNDIGN ARRAY DETAIL.dgn

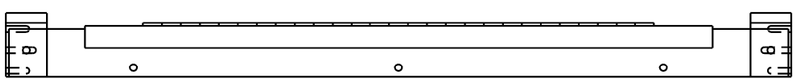
DRAWER PLAN VIEW



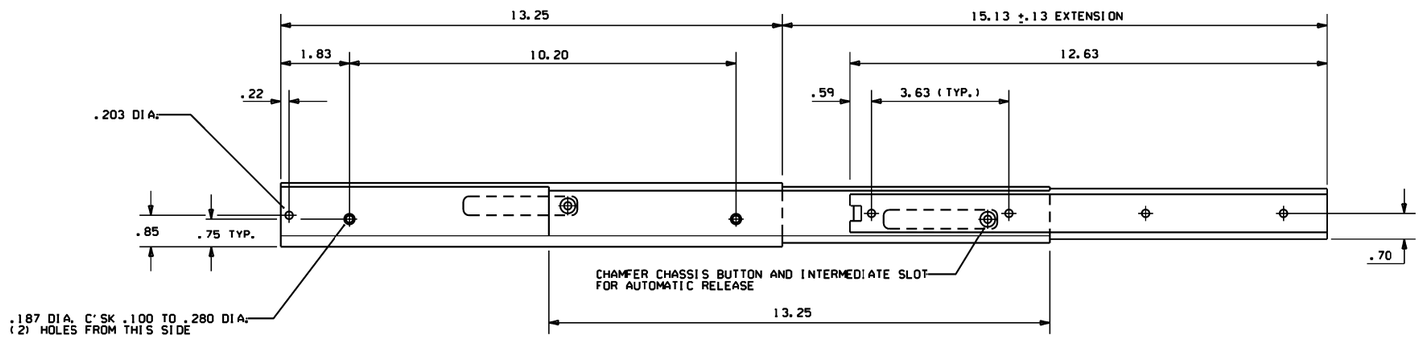




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

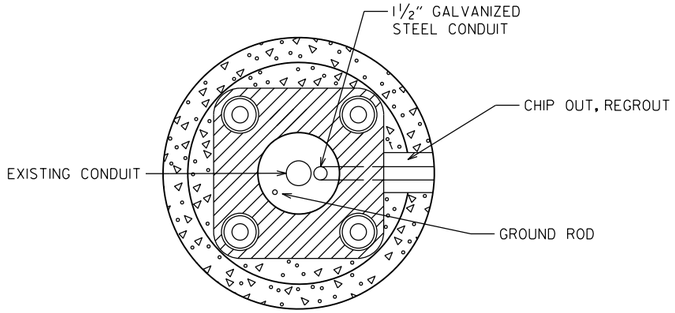
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

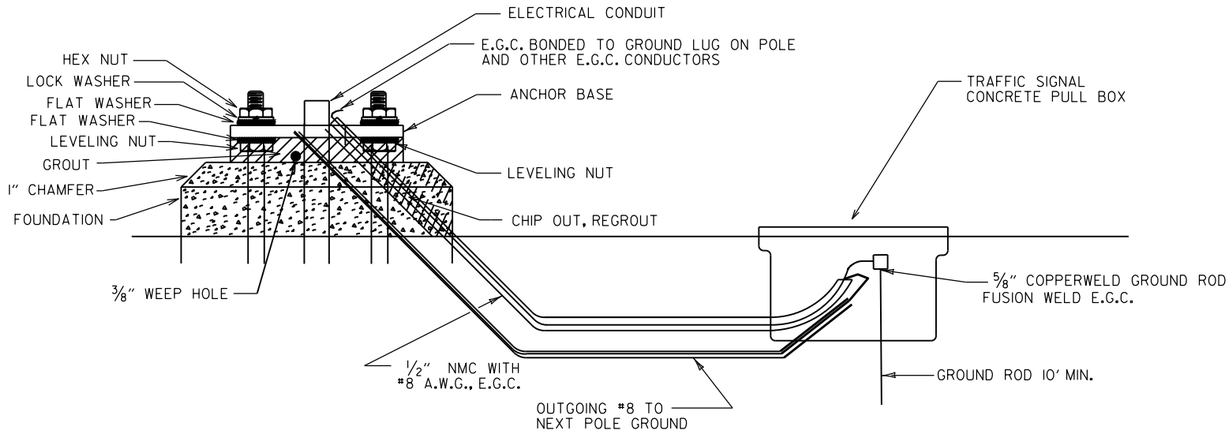
CONTROLLER CABINET UTILITY DRAWER

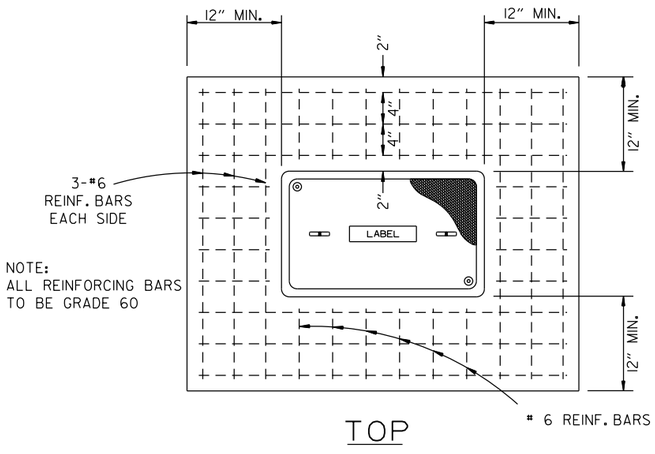
STANDARD DRAWING SD-5

CONDUIT ENTRY TO EXISTING POLE BASE

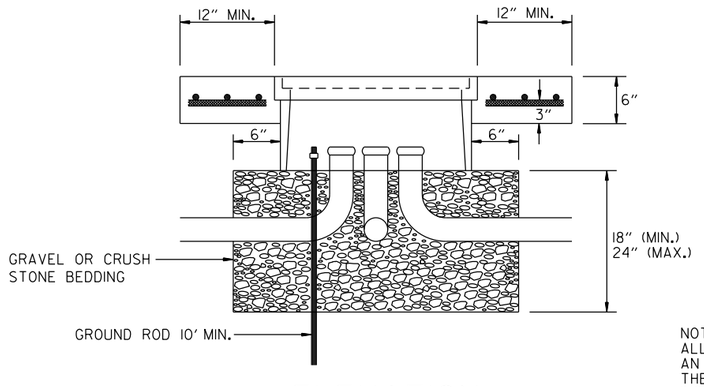


ANCHOR BASE



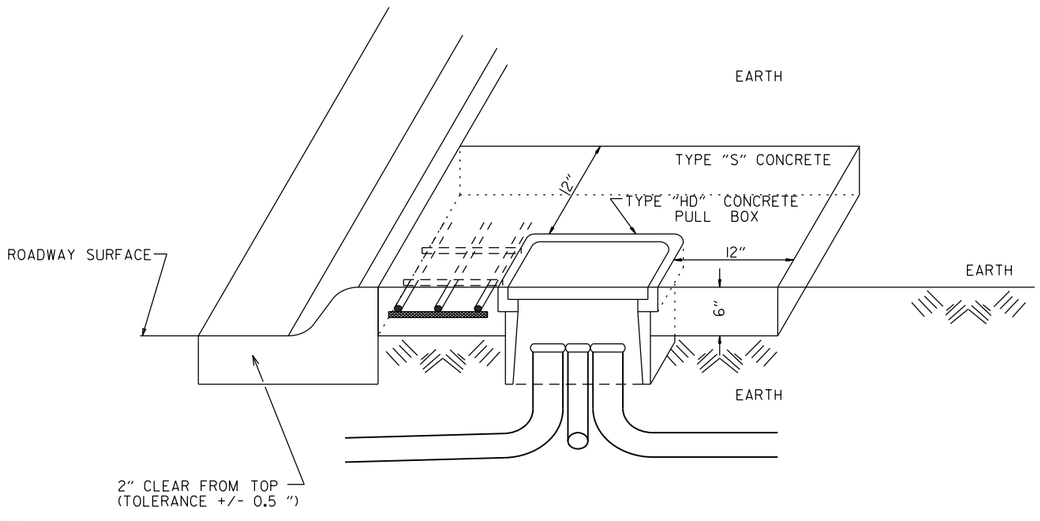


TOP



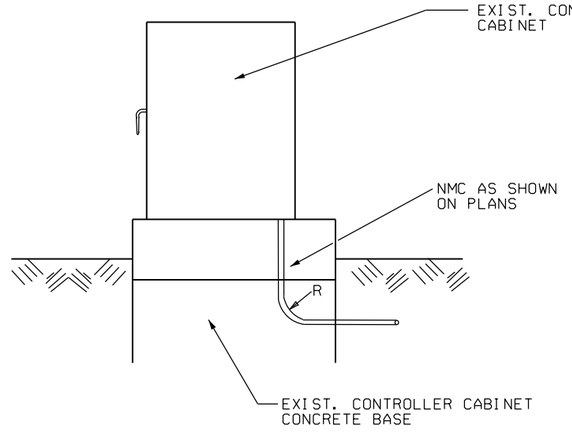
ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



NOTE:
ALL TYPE I 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.

CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



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

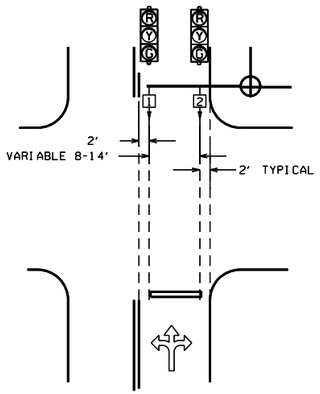
DATE	REVISION	FILMED
02-13-24	REVISED NOTES AND TYPE "HD" CONCRETE PULL BOX DETAILS	
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED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

ARKANSAS STATE HIGHWAY COMMISSION

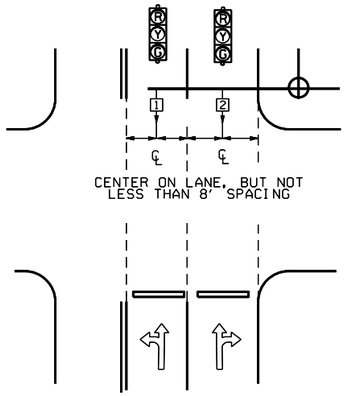
HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6

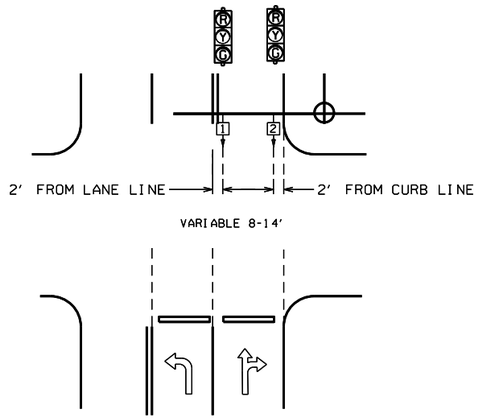
(A)



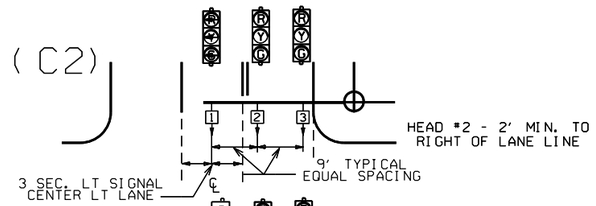
(B)



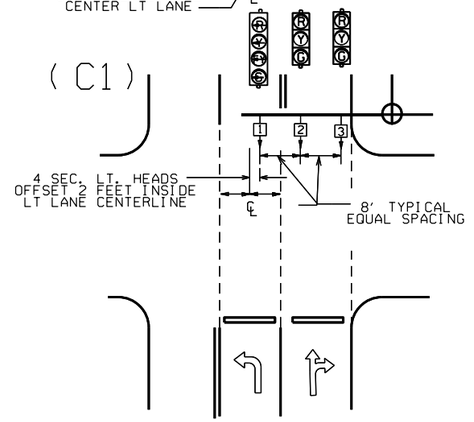
(C)



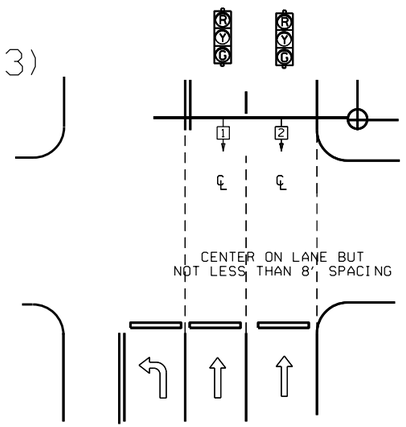
(C2)



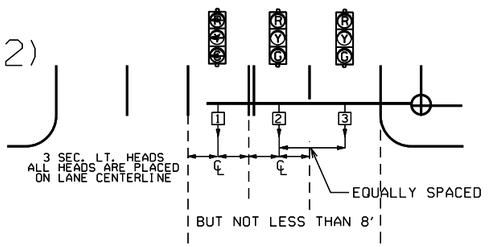
(C1)



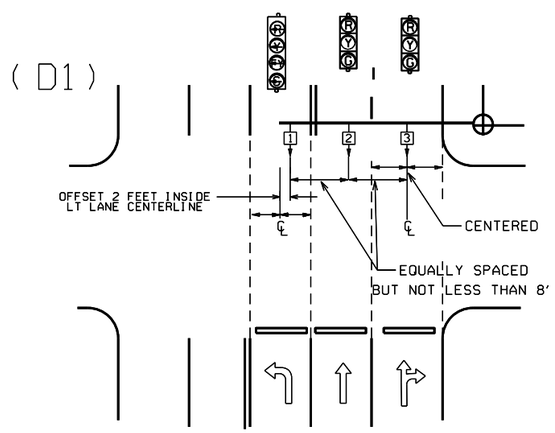
(C3)



(D2)

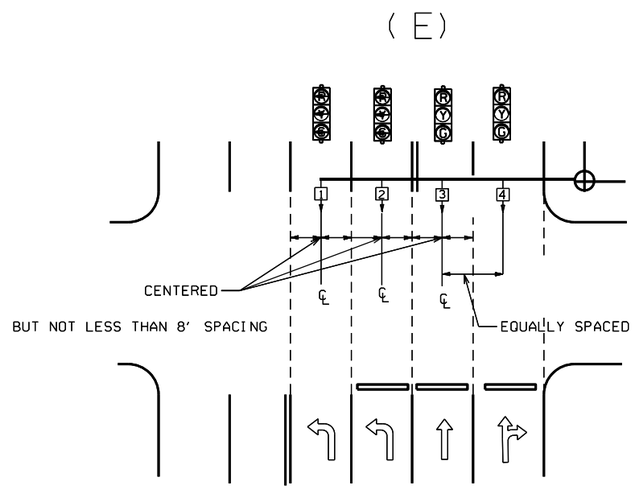


(D1)



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.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. 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.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. 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.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. 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.

6. 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.

12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

STANDARD DRAWING SD-8

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-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., 1-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 ½" SHALL MEET THE LONGITUDINAL CHARPY 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 SQ. 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 SQ. 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 THAT 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 SQ. 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.

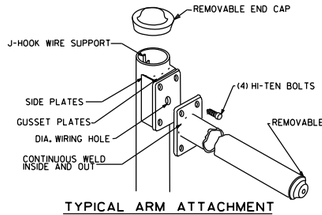
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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 VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

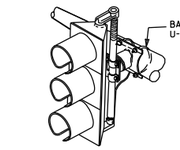
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

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.

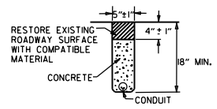
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



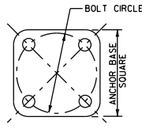
TYPICAL ARM ATTACHMENT



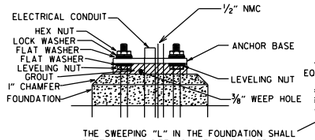
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

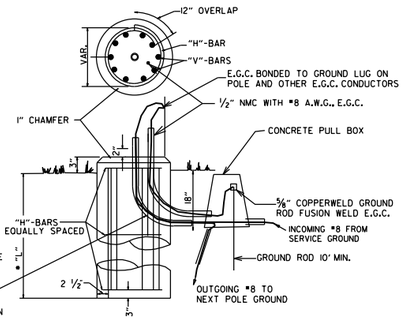


TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE





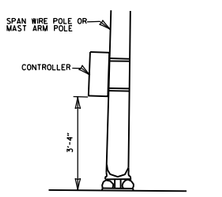
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

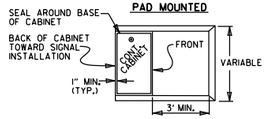
TYPICAL FOUNDATION DETAILS

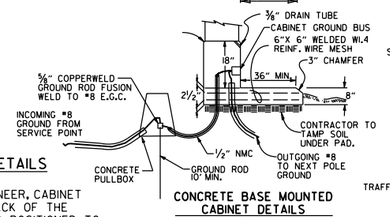
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

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"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

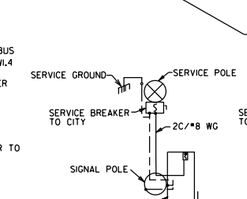
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

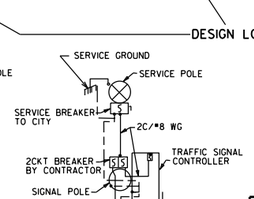
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

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

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.

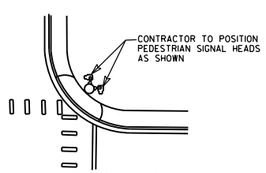


NO LUMINAIRE



WITH LUMINAIRE

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



PEDESTRIAN SIGNAL HEADS

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND 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 MANIFACTURER. 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.

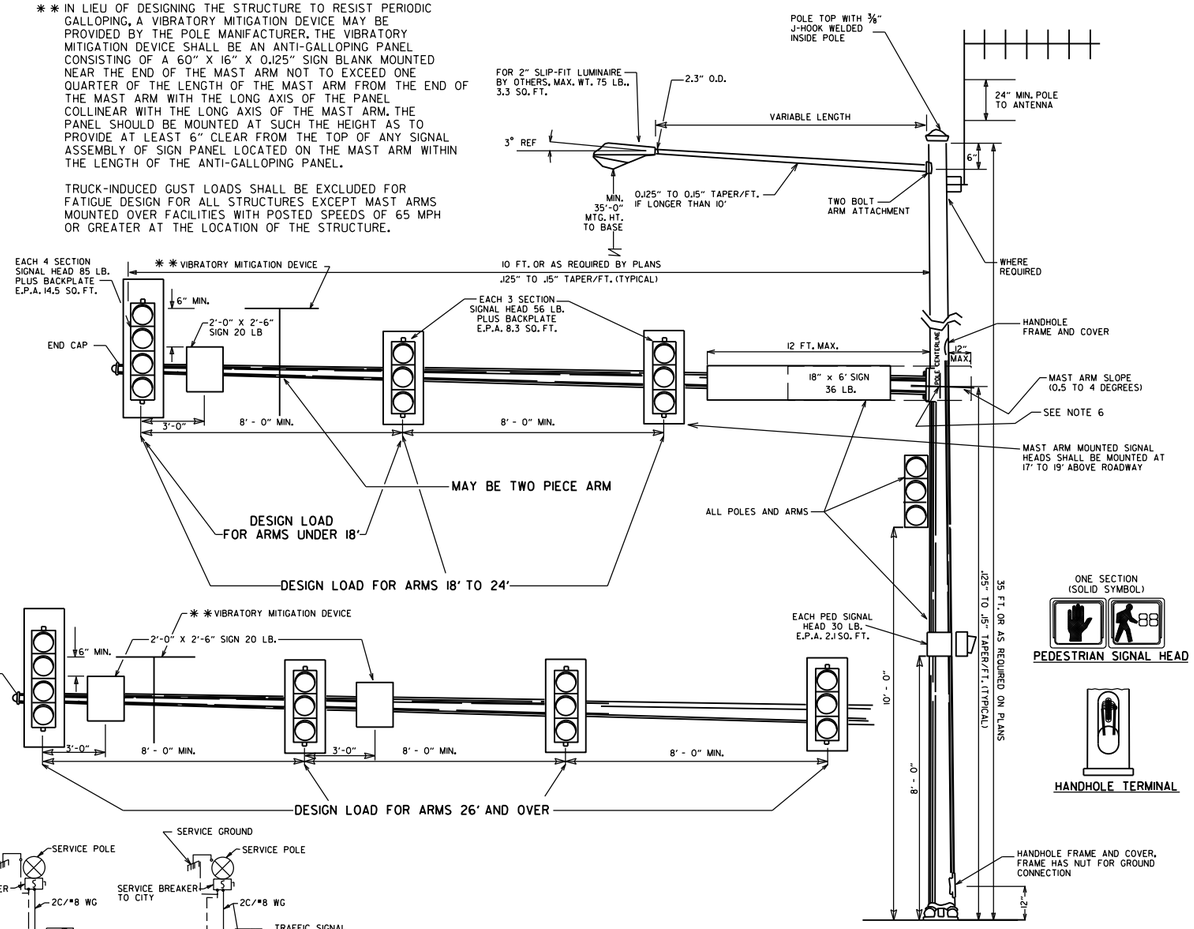
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

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 VMD, 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-11