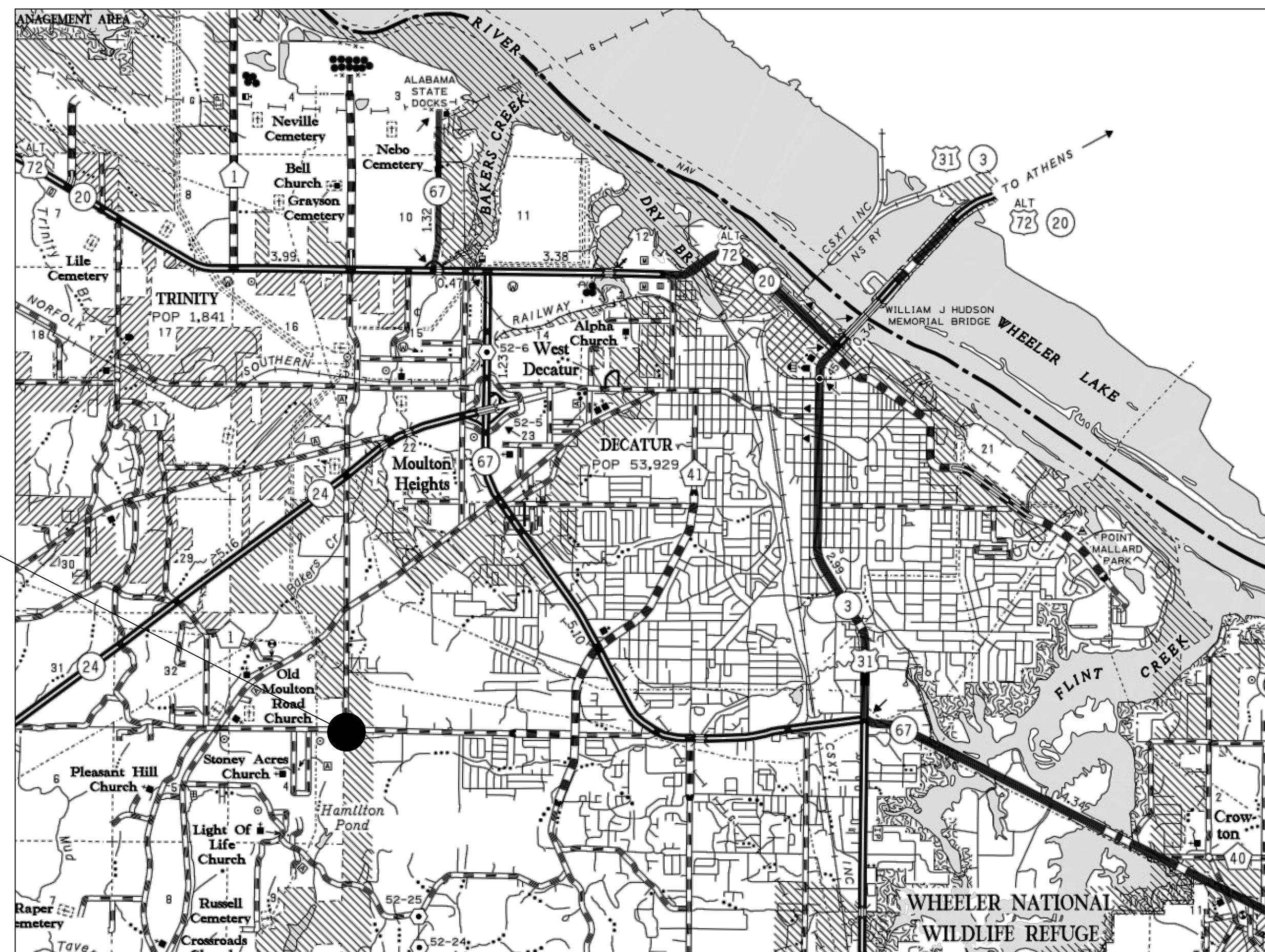


SHADY GROVE LANE AT MODAUS ROAD DECATUR, ALABAMA

PLANS PREPARED FOR:
THE CITY OF DECATUR ALABAMA

PROJECT LOCATION



PROJECT LOCATION MAP
N.T.S.

SHEET INDEX

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2	TRAFFIC SIGNAL NOTES
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4	TRAFFIC SIGNAL CONSTRUCTION PLAN – BID ALTERNATE B
5	TRAFFIC SIGNAL DETAILS – BASE BID & BID ALTERNATE A
6	TRAFFIC SIGNAL DETAILS – BID ALTERNATE B
7	TRAFFIC CONTROL PLAN

PRELIMINARY PLANS
BIDDING PURPOSES ONLY
DO NOT USE FOR CONSTRUCTION

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Date: JANUARY 2018
Sheet No.

TS1

TRAFFIC SIGNAL NOTES

GENERAL

1. ALL SIGNAL AND STRIPING CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARDS. STANDARDS SHALL INCLUDE BUT NOT BE LIMITED TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, ALABAMA SPECIAL AND STANDARD DRAWINGS, AND THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, LATEST EDITIONS. IN THE EVENT OF A CONFLICT BETWEEN THE PLANS AND THE STANDARDS, THE INSTALLER SHALL CONTACT THE DESIGN ENGINEER TO RESOLVE.
2. THE TRAFFIC SIGNAL CONTROLLER SHALL BE BENCH TESTED AND INSPECTED PRIOR TO INSTALLATION AS REQUIRED BY THE ALABAMA DEPARTMENT OF TRANSPORTATION.
3. THE INSTALLER SHALL PROVIDE THE DESIGN ENGINEER WITH A COPY OF THE EQUIPMENT SUBMITTAL PACKAGE FOR REVIEW FOR COMPLIANCE WITH THE SIGNAL PLANS. IT IS THEN THE INSTALLER'S RESPONSIBILITY TO PROVIDE THE EQUIPMENT SUBMITTAL PACKAGE TO THE CITY OF DECATUR. IT IS THE RESPONSIBILITY OF THE INSTALLER TO OBTAIN EQUIPMENT SUBMITTAL APPROVAL FROM THE CITY OF DECATUR. THE INSTALLER SHALL PROVIDE THE EQUIPMENT SUBMITTAL PACKAGE IN A TIMELY MANNER SO AS NOT TO ADVERSELY IMPACT THE SCHEDULE FOR INSTALLATION OF THE SIGNAL.
4. THE INSTALLER IS REQUIRED TO HAVE AN IMSA CERTIFIED LEVEL II TRAFFIC SIGNAL TECHNICIAN ON SITE AT ALL TIMES DURING CONSTRUCTION ACTIVITY.
5. THE CITY OF DECATUR RESERVES THE RIGHT TO RESPOND TO TRAFFIC SIGNAL MALFUNCTIONS IN EMERGENCIES OR NATURAL DISASTERS. IN DOING SO, THE CONTRACTOR'S LIABILITY AND RESPONSIBILITY RELATED TO MAINTAINING THE TRAFFIC SIGNAL SYSTEM OR UNIT REMAINS IN EFFECT.
6. ALL EXISTING TRAFFIC CONTROL EQUIPMENT WHICH IS THE PROPERTY OF THE CITY OF DECATUR SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION AND RETURNED TO THE CITY OF DECATUR AS DIRECTED IN THE PLANS.
7. THE TRAFFIC SIGNAL INSTALLATION, CONTROLLER, AND RELATED EQUIPMENT SHALL BE MAINTAINED IN OPERATION BY THE INSTALLER FOR A PERIOD OF THIRTY (30) DAYS WITHOUT EQUIPMENT FAILURE BEFORE THE CITY OF DECATUR WILL ACCEPT MAINTENANCE OF THE TRAFFIC SIGNAL. ALL EQUIPMENT FAILURES SHALL BE CORRECTED BY THE CONTRACTOR DURING THIS THIRTY (30) DAY PERIOD. IN THE EVENT OF AN EQUIPMENT FAILURE DURING THE THIRTY (30) DAY BURN-IN PERIOD, THE THIRTY (30) DAY BURN-IN PERIOD SHALL BE RESTARTED ONCE THE FAILURE HAS BEEN CORRECTED BY THE CONTRACTOR.

ELECTRICAL

8. THE LOCATION OF THE UTILITIES SHOWN ON THE SIGNAL PLANS IS APPROXIMATE. EXISTING UNDERGROUND AND OVERHEAD ELECTRICAL SYSTEMS AND OTHER UTILITIES MAY BE IN PLACE AND NOT LOCATED ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER TO DETERMINE THE LOCATION OF THE UTILITIES AND TO PROTECT THESE FACILITIES AND THE PUBLIC DURING THE WORK. THE INSTALLER SHALL BE RESPONSIBLE FOR THE COST AND REPAIR OF ANY DAMAGES CAUSED TO EXISTING UTILITIES DURING THE WORK TO THE SATISFACTION OF THE UTILITY COMPANY.
9. THE EXISTING POWER SOURCE LOCATION SHOWN ON THE PLANS IS APPROXIMATE. PROVISION OF POWER IS THE RESPONSIBILITY OF THE INSTALLER IN CONJUNCTION WITH THE UTILITY PROVIDER.

WORK AREA

10. THE INSTALLER SHALL PROTECT THE EXISTING CURB AND OTHER FACILITIES FROM DAMAGE DURING INSTALLATION OF SIGNAL EQUIPMENT AND IS REQUIRED TO REPLACE/REPAIR ANY FACILITIES THAT ARE DAMAGED DURING CONSTRUCTION.
11. THE INSTALLER SHALL PROVIDE ALL NECESSARY STANDARD CONSTRUCTION WARNING SIGNS, BARRICADES, DRUMS OR OTHER TRAFFIC HANDLING DEVICES AS REQUIRED BY THE TRAFFIC CONTROL PLAN OR PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
12. THE INSTALLER SHALL BE REQUIRED TO ESTABLISH A SATISFACTORY GROWTH OF GRASS ON ALL AREAS DISTURBED IN PLACING THE SIGNALS OR IN HIS OPERATIONS.

13. IN CONJUNCTION WITH TRAFFIC SIGNAL INSTALLATION, REMOVAL AND SATISFACTORY DISPOSAL OF ANY MISCELLANEOUS ITEMS SUCH AS PAVEMENT, EXCAVATED MATERIALS, CURB AND GUTTER, CONCRETE, ETC., FROM THE JOB SITE SHALL BE PERFORMED BY THE INSTALLER.

TRAFFIC SIGNAL POLES

14. THE CITY OF DECATUR SHALL EXAMINE AND APPROVE THE LOCATION OF ALL NEW SIGNAL POLES BEFORE EXCAVATION IS BEGUN. UTILITY LOCATION IS THE RESPONSIBILITY OF THE INSTALLER.
15. TRAFFIC SIGNAL POLES SHALL MEET THE LATEST ALDOT SPECIFICATIONS.
16. IN RURAL AREAS OR UNCURBED URBAN AREAS THE REQUIRED SIGNAL SUPPORTS SHALL BE LOCATED AS FAR AS PRACTICAL BEYOND THE PAVEMENT EDGE. IN ACCORDANCE WITH THE CLEAR ZONE REQUIREMENTS DOCUMENTED IN AASHTO'S ROADSIDE DESIGN GUIDE. A MINIMUM CLEARANCE OF TWELVE (12) FEET OUTSIDE OF THE EDGE OF THE TRAVELED WAY IN UNCURBED AREAS IS MANDATORY. IN CURBED AREAS SIGNAL SUPPORTS SHALL BE LOCATED AS FAR AS PRACTICAL FROM THE FACE OF CURB. A MINIMUM CLEARANCE OF TWO (2) FEET SHALL BE MAINTAINED BETWEEN THE FACE OF CURB AND ANY PART OF THE SIGNAL EQUIPMENT.
17. THE INSTALLER SHALL PROVIDE POLE HEIGHTS SUFFICIENT TO ASSURE THAT THE LOWEST SIGNAL ON AN ASSEMBLY IS TO BE 17'-0" FROM THE PAVEMENT; MAXIMUM HEIGHT IS TO BE 20'-0".
18. FOR SPAN WIRE CONFIGURATIONS, THE INSTALLER SHALL PROVIDE TWO (2) SPAN WIRE CLAMPS PER POLE. THE INSTALLER SHALL DETERMINE THE EXACT LOCATION OF THE SPAN WIRE ATTACHMENT POINTS TO PROVIDE FOR THE DESIRED SIGNAL HEIGHT AND SHALL TIGHTEN THE SIGNAL SPAN WIRE TO ACHIEVE MAXIMUM 5% SAG OF THE SPAN WIRE BETWEEN POLES. IN PLACES WHERE THE EXISTING SPAN WIRE HAS SAGGED, THE INSTALLER SHALL BE RESPONSIBLE FOR ADJUSTING THE SPAN WIRE SO THAT THE SIGNAL HEADS AND SPAN WIRE COMPLY WITH ALDOT STANDARDS.
19. METAL POLES SHALL BE HOT-DIP GALVANIZED OVERALL AFTER FABRICATION. ALL ANCHOR BOLTS SHALL BE FABRICATED FROM CARBON STEEL. THE THREADED PORTION OF THE ANCHOR BOLT, NUTS, AND WASHERS SHALL BE GALVANIZED. SEE TRAFFIC SIGNAL BID NOTE FOR FINISH OPTIONS (THIS SHEET).

POLE FOUNDATIONS & UNDERGROUND CONDUITS

20. ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH A WEATHERPROOF SEALING COMPOUND, AS INDICATED BY ALABAMA DEPARTMENT OF TRANSPORTATION STANDARDS. ALL CABLE AND WIRE ENTRANCES SHALL BE SEALED AFTER INSTALLATION.
21. WHEN PVC CONDUIT IS USED FROM THE CONTROLLER TO THE STEEL STRAIN POLE OR MAST ARM POLE, THE CONTRACTOR SHALL BOND THE CONTROLLER TO THE POLE WITH A #6-1C BONDING CABLE.
22. MARKING TAPE SHALL BE BURIED OVER CONDUIT. THE TAPE SHALL BE 4 INCH POLYETHYLENE, RED IN COLOR WITH BLACK LETTERING.
23. THE INSTALLER SHALL INSTALL A SPARE 2" CONDUIT IN EACH NEW SIGNAL POLE FOUNDATION FOR FUTURE USE. THE CONDUIT SHALL BE INSTALLED ON THE HAND-HOLE SIDE OF THE POLE.

SIGNAL

24. THE INSTALLER SHALL LOCATE EACH SIGNAL HEAD ON THE MESSENGER WIRE TO ENSURE THAT THE SIGNAL HEAD IS LOCATED ON THE EXTENDED CENTER OF THE APPROACH LANE FOR WHICH IT APPLIES OR AS SHOWN IN THE PLANS IN CONFORMANCE WITH THE MUTCD.
25. AFTER THE SIGNAL HEADS HAVE BEEN LOCATED ON THE MESSENGER WIRE, THEY SHALL BE ALIGNED WITHIN A MAXIMUM TOLERANCE OF 2-1/2 DEGREES OF THE VERTICAL AXIS FROM THE ROADBED AND SHALL BE AIMED WITHIN A MAXIMUM OF 3 DEGREES EITHER SIDE OF THE EXTENDED CENTER OF THE APPROACH LANE TO WHICH IT APPLIES.
26. LAMPS USED IN TRAFFIC SIGNAL HEADS SHALL BE L.E.D.'S, SHALL CONFORM TO

THE LATEST ITE STANDARDS FOR L.E.D. SIGNAL LAMPS, AND SHALL BE APPROVED FOR USE BY ALDOT AND THE CITY OF DECATUR. ANTI-SWAY LAMP DESIGN SHALL BE USED.

27. WHEN THE CONTROLLER IS IN THE FLASHING MODE, THE VEHICULAR SIGNAL HEADS SHALL FLASH YELLOW ON MODAUS ROAD, RED ON SHADY GROVE LANE.
28. ALL REQUIRED SPLICES IN TRAFFIC SIGNAL CABLE SHALL BE MADE IN SIGNAL HEADS ONLY. NO EXTERIOR SPLICING OF SIGNAL CABLE SHALL BE PERMITTED.
29. A 12 INCH DRIP COIL WITH 3 LOOPS SHALL BE PROVIDED TO THE RIGHTS OF EACH VEHICULAR TRAFFIC SIGNAL HEAD. A DRIP LOOP SHALL BE FORMED SO THAT WATER CANNOT ENTER THE ENTRANCE CLAMP. THE WIRE SHALL ENTER THE CLAMP FROM THE BOTTOM OF THE DRIP LOOP.
34. ALL SIGNALS SHALL HAVE TUNNEL VISORS. THE EXTERIOR SHALL BE BLACK AND THE INTERIOR SHALL BE BLACK. BACKPLATES SHALL PROVIDE A 5" BORDER AROUND THE SIGNAL HEAD AND BE CONSTRUCTED OF BLACK METAL.
35. THE INSTALLER SHALL FURNISH ALL MISCELLANEOUS HARDWARE AND EQUIPMENT FOR FURNISHING AND INSTALLING TRAFFIC CONTROL UNIT OR SYSTEM, SUCH AS BOLTS, NUTS, WASHERS, STEEL BARS, ETC.
36. ALL TRAFFIC CONTROL EQUIPMENT USED ON THIS PROJECT SHALL BE PRE-QUALIFIED AND APPROVED, IN ACCORDANCE WITH ALABAMA LAW (REGULAR SESSION 1980 - ACT NUMBER 80-434), PRIOR TO THE LETTING OF THIS CONTRACT.
37. A LIST OF PRE-QUALIFIED TRAFFIC CONTROL EQUIPMENT APPROVED FOR USE ON U.S. AND STATE ROUTES IS AVAILABLE FROM THE ALABAMA DEPARTMENT OF TRANSPORTATION WEBSITE.
38. ALL EQUIPMENT USED ON THIS PROJECT SHALL BE NEW, UNDAMAGED, AND FREE OF DEFECT.

INSPECTION & FINAL ACCEPTANCE

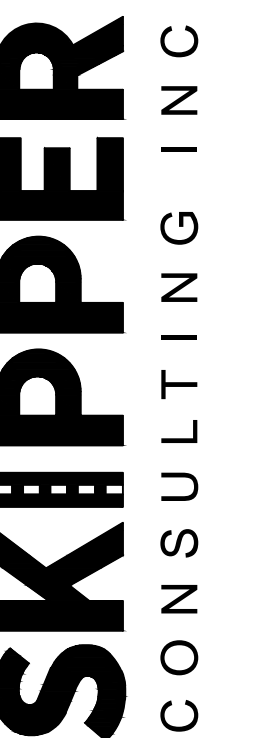
39. PRIOR TO BEGINNING CONSTRUCTION, THE INSTALLER SHALL CONTACT AND MEET WITH THE CITY OF DECATUR. THE PURPOSE OF THESE DISCUSSIONS AND/OR MEETINGS WILL BE TO COORDINATE LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND SET INSPECTION SCHEDULES FOR CONSTRUCTION.
40. THE INSTALLER SHALL PROVIDE A SET OF AS-BUILT PLANS TO BE LEFT IN THE CONTROLLER CABINET UPON COMPLETION OF THE PROJECT.
41. THE CITY OF DECATUR SHALL BE NOTIFIED A MINIMUM OF FIVE (5) DAYS PRIOR TO THE REQUIRED INSPECTION OF THE TRAFFIC SIGNAL.
42. FINAL INSPECTIONS SHALL BE CONDUCTED BY THE CITY OF DECATUR. IT IS THE RESPONSIBILITY OF THE INSTALLER TO GAIN APPROVAL OF THE TRAFFIC SIGNAL CONSTRUCTION. THE CITY OF DECATUR WILL ACCEPT MAINTENANCE OF THE TRAFFIC SIGNAL ONLY AFTER THE INSTALLER HAS ADDRESSED ALL INSPECTION ITEMS TO THE SATISFACTION THE CITY OF DECATUR.
43. THE TRAFFIC SIGNAL SHALL BE BID WITH A BASE BID AND BID ALTERNATE. THE BASE BID SHALL BE ALL INFORMATION SHOWN ON SHEET TS4 THIS PLAN SET. THE BID ALTERNATE SHALL HAVE THE ITEMS SHOWN IN THE FOLLOWING CHART AS A BID ALTERNATE:

TRAFFIC SIGNAL BID NOTE	
NOTE TO TRAFFIC SIGNAL BIDDERS: THE CITY OF DECATUR SEEKS PRICING ON THE FOLLOWING BID COMBINATIONS:	
BASE BID: SPAN WIRE TRAFFIC SIGNAL (SEE SHEET TS3) WITH GALVANIZED FINISH ONLY ON THE LUMINAIRE ARMS & STRAIN POLES	BID ALTERNATE A: SPAN WIRE TRAFFIC SIGNAL (SEE SHEET TS3) GALVANIZED WITH DECORATIVE BLACK PAINT FINISH ON LUMINAIRE ARMS & STRAIN POLES
BID ALTERNATE B: MAST ARM TRAFFIC SIGNAL (SEE SHEET TS4) WITH DECORATIVE BLACK PAINT FINISH ON LUMINAIRE ARMS, SIGNAL POLES, & MAST ARMS	



NO.	REVISIONS	DRN	CHK	DATE

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SHADY GROVE LANE AT MODAUS ROAD
DECATUR, ALABAMA

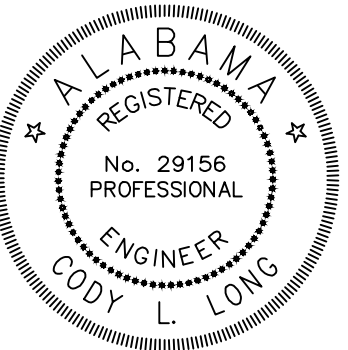
TRAFFIC SIGNAL NOTES

DATE JAN 2018	SCALE NONE	DRAWN BY CLL	CHECKED CLL	PROJECT NO. 1007.011
SHEET NO.	TS2			

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TRAFFIC SIGNAL CONSTRUCTION PLAN

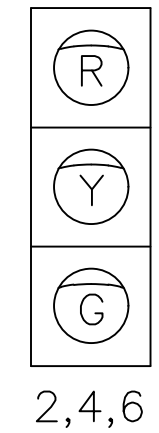
SHADY GROVE LANE AT MODAUS ROAD



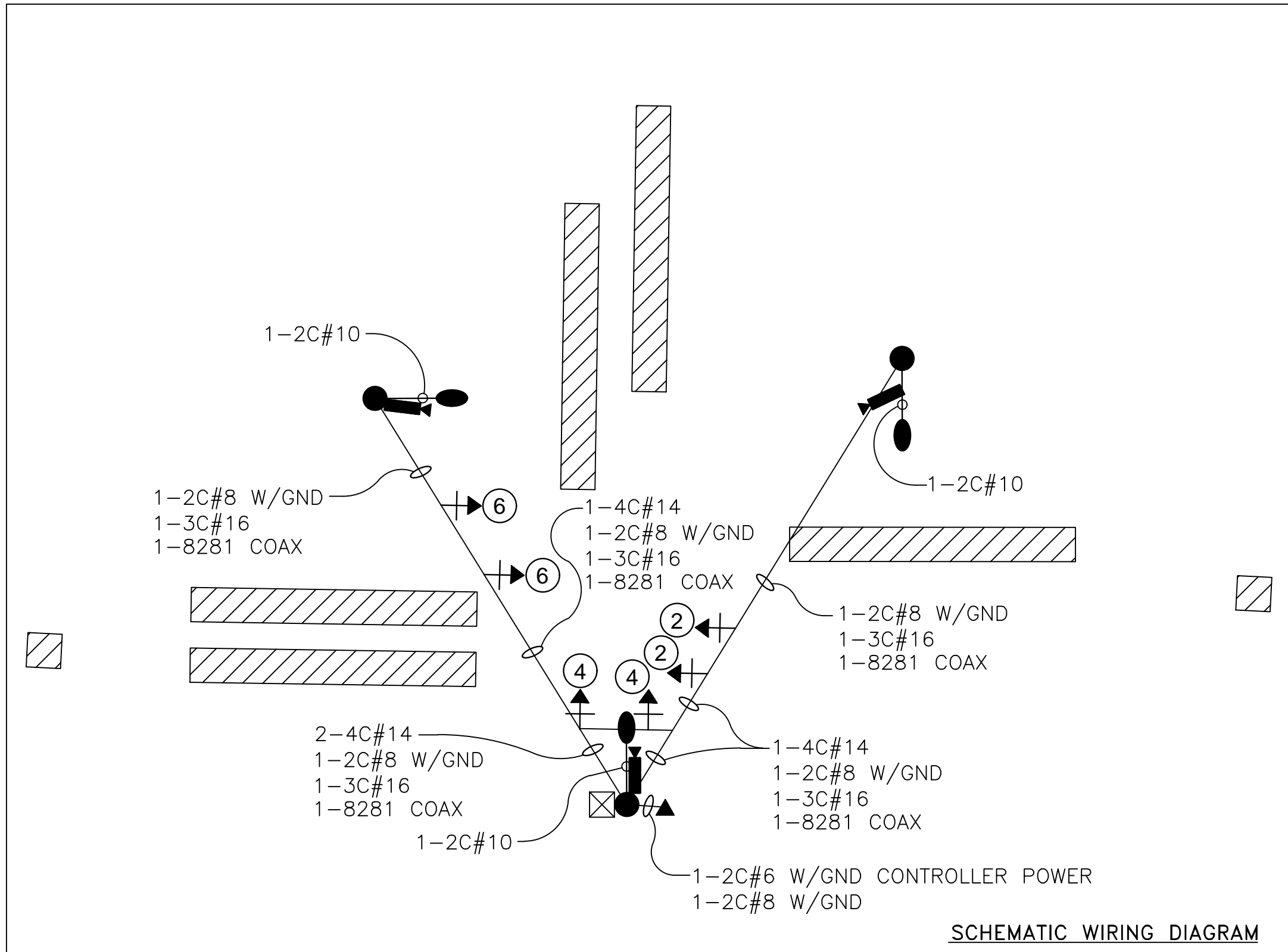
TRAFFIC SIGNAL PHASE DIAGRAM			
ø1	ø2	ø3	ø4
OMIT	→	OMIT	↓
ø5	←	ø7	ø8
OMIT		OMIT	OMIT

PHASE	MIN INITIAL	PASSAGE	YELLOW	ALL RED	MAX1	MAX2	WALK	FDW	PED OMIT	MIN RECALL	PHASE OMIT	NON-LOCK
1									Y	N	Y	Y
2	10	3.0	4.0	1.6	50	50			Y	Y	N	N
3									Y	N	Y	Y
4	7	2.0	4.0	1.4	30	30			Y	N	N	N
5									Y	N	Y	N
6	10	3.0	4.0	1.6	50	50			Y	Y	N	N
7									Y	N	Y	Y
8									Y	N	Y	Y

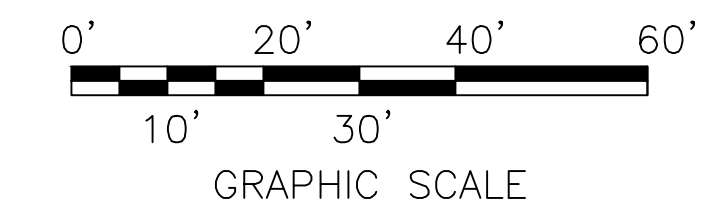
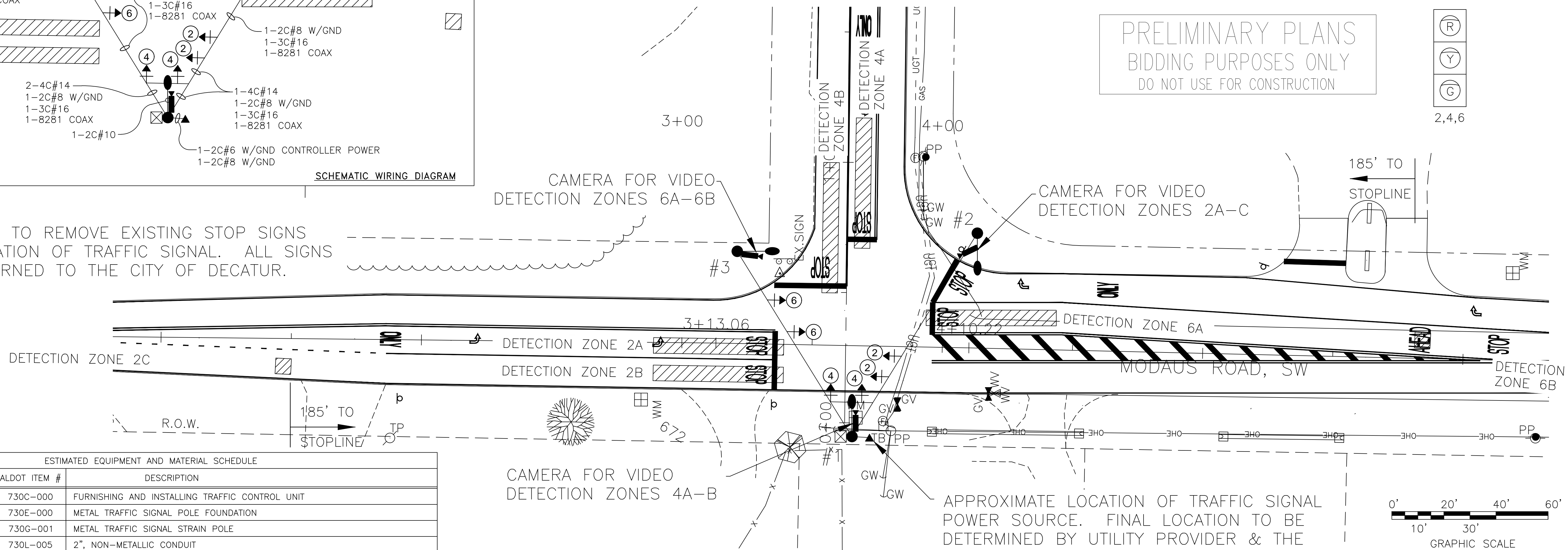
REQUIRED TRAFFIC SIGNAL HEADS



PRELIMINARY PLANS
BIDDING PURPOSES ONLY
DO NOT USE FOR CONSTRUCTION



NOTE: CONTRACTOR TO REMOVE EXISTING STOP SIGNS UPON ACTIVATION OF TRAFFIC SIGNAL. ALL SIGNS TO BE RETURNED TO THE CITY OF DECATUR.



ESTIMATED EQUIPMENT AND MATERIAL SCHEDULE			
QUANTITY	UNIT	ALDOT ITEM #	DESCRIPTION
1	LS	730C-000	FURNISHING AND INSTALLING TRAFFIC CONTROL UNIT
3	EACH	730E-000	METAL TRAFFIC SIGNAL POLE FOUNDATION
3	EACH	730G-001	METAL TRAFFIC SIGNAL STRAIN POLE
50	LF	730L-005	2", NON-METALLIC CONDUIT
3	EACH	730N-000	LUMINAIRE EXTENSION ASSEMBLY, 12 FOOT
6	EACH	730P-022	VEHICULAR SIGNAL HEAD, 12 INCH, 3 SECTION, TYPE LED
1	EACH	730R-022	CONTROLLER ASSEMBLY, TYPE III, 8 PHASE
1	LS	730U-015	VIDEO DETECTION SYSTEM

THE FOLLOWING ITEMS ARE REQUIRED AS A SUBSIDIARY OBLIGATION OF ITEM 730C-000			
6	EACH		TRAFFIC SIGNAL HEAD BACKPLATE, 3 SECTION
1	EACH		POWER SERVICE, 240 VOLTS WITH LUMINAIRES
1	LS		SPAN WIRE, MISC. HARDWARE & EQUIPMENT REQUIRED FOR TRAFFIC SIGNAL
350	LF		#14 TRAFFIC SIGNAL CABLE, IMSA 20-1
1	EACH		POLE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET

• EQUIPMENT AND MATERIALS SHOWN IN THIS TABLE ARE ESTIMATES ONLY. THE INSTALLER IS RESPONSIBLE FOR DETERMINING ALL EQUIPMENT AND MATERIALS REQUIRED TO INSTALL A COMPLETE FULLY FUNCTIONAL TRAFFIC SIGNAL INSTALLATION.

- GENERAL TRAFFIC SIGNAL PLAN NOTES:**
- NO GEOTECHNICAL EXPLORATION HAS BEEN COMPLETED BY THE DESIGN ENGINEER FOR THIS PROJECT. THIS INCLUDES SOIL BORINGS, UNDERGROUND UTILITY LOCATIONS, ETC.
 - THE INSTALLER IS RESPONSIBLE TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO ANY EXCAVATION. A 48 HOUR NOTICE TO THE UTILITY OWNERS IS REQUIRED BEFORE EXCAVATION ACTIVITIES ARE TO OCCUR.
 - THE INSTALLER IS RESPONSIBLE FOR CONSTRUCTION ZONE TRAFFIC CONTROL FOR THOSE WORK ITEMS HE WILL UNDERTAKE AND TO PROTECT THE PUBLIC AND CONSTRUCTION PERSONNEL. GENERAL TRAFFIC CONTROL PLANS ARE PROVIDED AS A PART OF THIS CONSTRUCTION PLAN SET. THE PLANS ARE NOT ALL INCLUSIVE AND IT SHALL BE THE INSTALLER'S RESPONSIBILITY TO IMPLEMENT WORK ZONE TRAFFIC CONTROL PER THE MUTCD REQUIREMENTS.
 - PAVEMENT MARKINGS SHOWN ON THIS PLAN ARE FOR ILLUSTRATIVE PURPOSES ONLY, UNLESS OTHERWISE NOTED.
 - BASE MAP INFORMATION PROVIDED BY PUGH WRIGHT MCANALLY

- TRAFFIC SIGNAL EQUIPMENT NOTE:**
- ALL TRAFFIC SIGNAL EQUIPMENT MUST BE APPROVED FOR USE BY THE CITY OF DECATUR.
 - THE TRAFFIC SIGNAL CONTROLLER SHALL BE A EPAC3108M62 OR APPROVED ALTERNATE.
 - VIDEO DETECTION USED AS A PART OF THIS PROJECT SHALL BE APPROVED FOR USE BY THE CITY OF DECATUR. CAMERA LOCATIONS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. FINAL PLACEMENT SHOULD BE DETERMINED IN THE FIELD BASED UPON THE MANUFACTURER'S RECOMMENDATIONS.

SUPPORTING STRUCTURES			
POLE	POLE LENGTH	LUMINAIRE ARM EXT. LENGTH	COMMENTS
1	37 FT	12 FT	*SEE BID NOTES SHEET TS2
2	37 FT	12 FT	*SEE BID NOTES SHEET TS2
3	37 FT	12 FT	*SEE BID NOTES SHEET TS2

NOTE: POLE LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE. FINAL POLE LOCATIONS ARE TO BE ESTABLISHED IN THE FIELD AND APPROVED BY THE CITY OF DECATUR.

VIDEO DETECTION ZONES				
ZONE	PHASE	SIZE	TYPE	COMMENTS
L2A	2	6'x50'	PRESENCE	
L2B	2	6'x50'	PRESENCE	
L2C	2	6'x6'	PULSE	230' FROM STOPLINE
L4A	4	6'x50'	PRESENCE	
L4B	4	6'x50'	PRESENCE	DELAY, 6 SEC.
L6	6	6'x50'	PRESENCE	
L6	6	6'x6'	PULSE	230' FROM STOPLINE

EXISTING	REQUIRED	TRAFFIC SIGNAL LEGEND
		POLE MOUNTED CONTROLLER
		TRAFFIC SIGNAL HEAD W/BACKPLATE
		STEEL TRAFFIC SIGNAL POLE
		LUMINAIRE ASSEMBLY
		CONDUIT
		MESSANGER CABLE
		VEHICLE DETECTION CAMERA
		VEHICLE DETECTION ZONE

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SHADY GROVE LANE AT MODAUS ROAD
DECATUR, ALABAMA

TRAFFIC SIGNAL CONSTRUCTION PLAN
BASE BID & BID ALTERNATE A

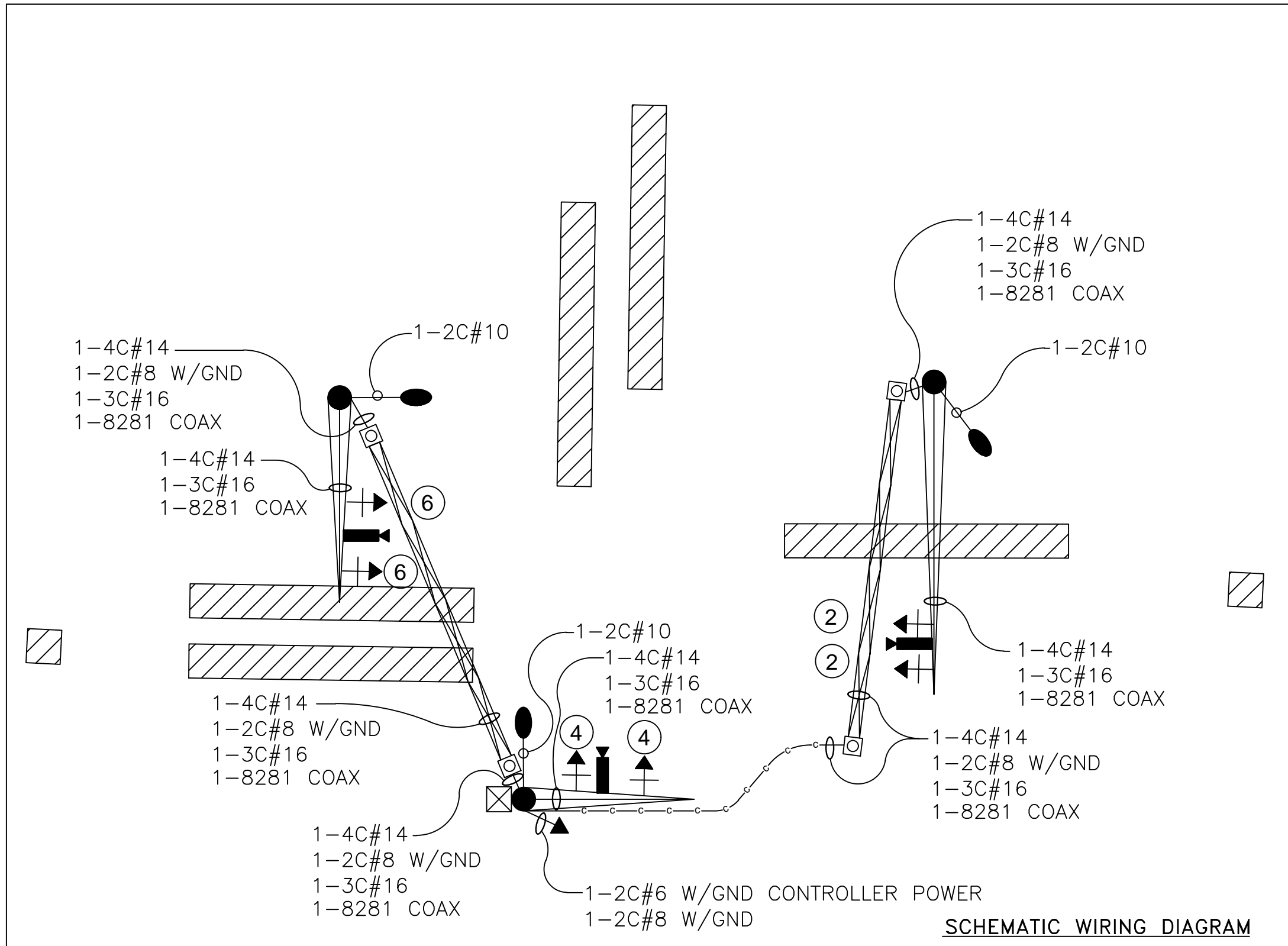
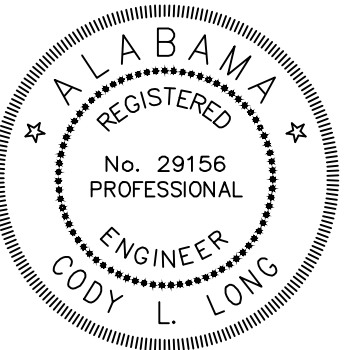
DATE: JAN 2018
SCALE: 1"=20'
SHEET NO.: TS3

DRAWN BY: CLL
CHECKED: CLL
PROJECT NO.: 1007.011

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TRAFFIC SIGNAL CONSTRUCTION PLAN

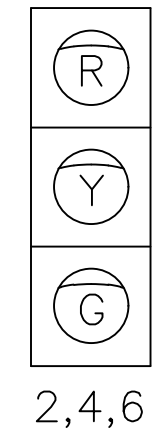
SHADY GROVE LANE AT MODAUS ROAD



PHASE	MIN INITIAL	PASSAGE	YELLOW	ALL RED	MAX1	MAX2	WALK	FDW	PED OMIT	MIN RECALL	PHASE OMIT	NON-LOCK
1									Y	N	Y	Y
2	10	3.0	4.0	1.6	50	50			Y	Y	N	N
3									Y	N	Y	Y
4	7	2.0	4.0	1.4	30	30			Y	N	N	N
5									Y	N	Y	N
6	10	3.0	4.0	1.6	50	50			Y	Y	N	N
7									Y	N	Y	Y
8									Y	N	Y	Y

ø1	ø2	ø3	ø4
OMIT	→	OMIT	↓
OMIT	←	OMIT	OMIT

REQUIRED TRAFFIC SIGNAL HEADS



PRELIMINARY PLANS
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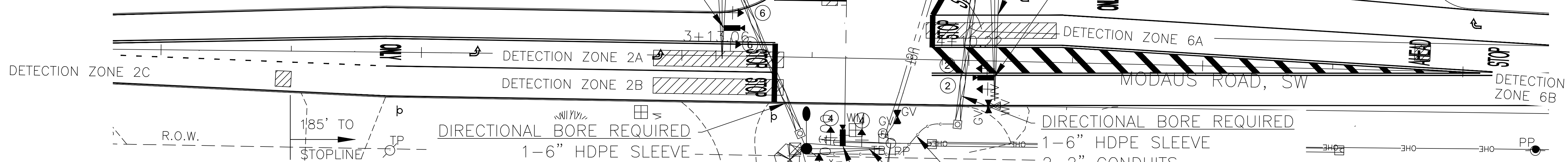
NOTE: CONTRACTOR TO REMOVE EXISTING STOP SIGNS UPON ACTIVATION OF TRAFFIC SIGNAL. ALL SIGNS TO BE RETURNED TO THE CITY OF DECATUR.

36' MAST ARM REQUIRED

CAMERA FOR VIDEO DETECTION ZONES 6A-6B

55' MAST ARM REQUIRED
CAMERA FOR VIDEO DETECTION ZONES 2A-C

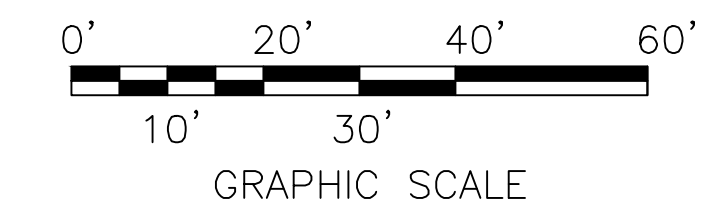
185' TO STOPLINE



DIRECTIONAL BORE REQUIRED
1-6" HDPE SLEEVE
2-2" CONDUITS

DIRECTIONAL BORE REQUIRED
1-6" HDPE SLEEVE
2-2" CONDUITS
1-2" CONDUIT REQUIRED

30' MAST ARM REQUIRED
CAMERA FOR VIDEO DETECTION ZONES 4A-B



QUANTITY	UNIT	ALDOT ITEM #	DESCRIPTION
1	LS	730C-000	FURNISHING AND INSTALLING TRAFFIC CONTROL UNIT
3	EACH	730E-000	METAL TRAFFIC SIGNAL POLE FOUNDATION
1	EACH	730F-001	METAL TRAFFIC SIGNAL POLE WITH 30' MAST ARM
1	EACH	730F-002	METAL TRAFFIC SIGNAL POLE WITH 36' MAST ARM
1	EACH	730F-003	METAL TRAFFIC SIGNAL POLE WITH 55' MAST ARM
4	EACH	730K-000	TRAFFIC SIGNAL JUNCTION BOX
325	LF	730L-005	2", NON-METALLIC CONDUIT
3	EACH	730N-000	LUMINAIRE EXTENSION ASSEMBLY, 12 FOOT
6	EACH	730P-022	VEHICULAR SIGNAL HEAD, 12 INCH, 3 SECTION, TYPE LED
1	EACH	730R-022	CONTROLLER ASSEMBLY, TYPE III, 8 PHASE
1	LS	730U-015	VIDEO DETECTION SYSTEM
125	LF	756A-028	6" ELECTRICAL CONDUIT, 1 LINE, TYPE 5 INSTALLATION
THE FOLLOWING ITEMS ARE REQUIRED AS A SUBSIDIARY OBLIGATION OF ITEM 730C-000			
6	EACH		TRAFFIC SIGNAL HEAD BACKPLATE, 3 SECTION
1	EACH		POWER SERVICE, 240 VOLTS WITH LUMINAIRES
1	LS		SPAN WIRE, MISC. HARDWARE & EQUIPMENT REQUIRED FOR TRAFFIC SIGNAL
350	LF		#14 TRAFFIC SIGNAL CABLE, IMSA 20-1
1	EACH		POLE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET

EQUIPMENT AND MATERIALS SHOWN IN THIS TABLE ARE ESTIMATES ONLY. THE INSTALLER IS RESPONSIBLE FOR DETERMINING ALL EQUIPMENT AND MATERIALS REQUIRED TO INSTALL A COMPLETE FULLY FUNCTIONAL TRAFFIC SIGNAL INSTALLATION.

APPROXIMATE LOCATION OF TRAFFIC SIGNAL POWER SOURCE. FINAL LOCATION TO BE DETERMINED BY UTILITY PROVIDER & THE CITY OF DECATUR

- GENERAL TRAFFIC SIGNAL PLAN NOTES:
- NO GEOTECHNICAL EXPLORATION HAS BEEN COMPLETED BY THE DESIGN ENGINEER FOR THIS PROJECT. THIS INCLUDES SOIL BORINGS, UNDERGROUND UTILITY LOCATIONS, ETC.
 - THE INSTALLER IS RESPONSIBLE TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO ANY EXCAVATION. A 48 HOUR NOTICE TO THE UTILITY OWNERS IS REQUIRED BEFORE EXCAVATION ACTIVITIES ARE TO OCCUR.
 - THE INSTALLER IS RESPONSIBLE FOR CONSTRUCTION ZONE TRAFFIC CONTROL FOR THOSE WORK ITEMS HE WILL UNDERTAKE AND TO PROTECT THE PUBLIC AND CONSTRUCTION PERSONNEL. GENERAL TRAFFIC CONTROL PLANS ARE PROVIDED AS A PART OF THIS CONSTRUCTION PLAN SET. THE PLANS ARE NOT ALL INCLUSIVE AND IT SHALL BE THE INSTALLER'S RESPONSIBILITY TO IMPLEMENT WORK ZONE TRAFFIC CONTROL PER THE MUTCD REQUIREMENTS.
 - PAVEMENT MARKINGS SHOWN ON THIS PLAN ARE FOR ILLUSTRATIVE PURPOSES ONLY, UNLESS OTHERWISE NOTED.
 - BASE MAP INFORMATION PROVIDED BY PUGH WRIGHT MCANALLY

- TRAFFIC SIGNAL EQUIPMENT NOTE:
- ALL TRAFFIC SIGNAL EQUIPMENT MUST BE APPROVED FOR USE BY THE CITY OF DECATUR.
 - THE TRAFFIC SIGNAL CONTROLLER SHALL BE A EPAC3108M62 OR APPROVED ALTERNATE.
 - VIDEO DETECTION USED AS A PART OF THIS PROJECT SHALL BE APPROVED FOR USE BY THE CITY OF DECATUR. CAMERA LOCATIONS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. FINAL PLACEMENT SHOULD BE DETERMINED IN THE FIELD BASED UPON THE MANUFACTURER'S RECOMMENDATIONS.

POLE	POLE LENGTH	MAST ARM LENGTH	LUMINAIRE ARM EXT. LENGTH	COMMENTS
1	37 FT	30 FT	12 FT	*SEE BID NOTES SHEET TS2
2	37 FT	55 FT	12 FT	*SEE BID NOTES SHEET TS2
3	37 FT	36 FT	12 FT	*SEE BID NOTES SHEET TS2

NOTE: POLE LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE. FINAL POLE LOCATIONS ARE TO BE ESTABLISHED IN THE FIELD AND APPROVED BY THE CITY OF DECATUR.

ZONE	PHASE	SIZE	TYPE	COMMENTS
L2A	2	6'X50'	PRESENCE	
L2B	2	6'X50'	PRESENCE	
L2C	2	6'X6'	PULSE	230' FROM STOPLINE
L4A	4	6'X50'	PRESENCE	
L4B	4	6'X50'	PRESENCE	DELAY, 6 SEC.
L6	6	6'X50'	PRESENCE	
L6	6	6'X6'	PULSE	230' FROM STOPLINE

- EXISTING REQUIRED TRAFFIC SIGNAL LEGEND
- POLE MOUNTED CONTROLLER
 - TRAFFIC SIGNAL HEAD W/BACKPLATE
 - STEEL TRAFFIC SIGNAL POLE W/MAST ARM
 - LUMINAIRE ASSEMBLY
 - CONDUIT
 - DIRECTIONAL BORE
 - VEHICLE DETECTION CAMERA
 - VEHICLE DETECTION ZONE

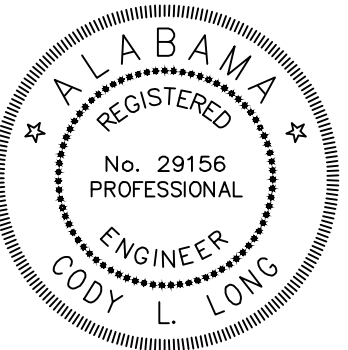
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SHADY GROVE LANE AT MODAUS ROAD
DECATUR, ALABAMA
TRAFFIC SIGNAL CONSTRUCTION PLAN
BID ALTERNATE B

DATE: FEB 2018
SCALE: 1"=20'
SHEET NO.: TS4
DRAWN BY: CLL
CHECKED: CLL
PROJECT NO.: 1007.011

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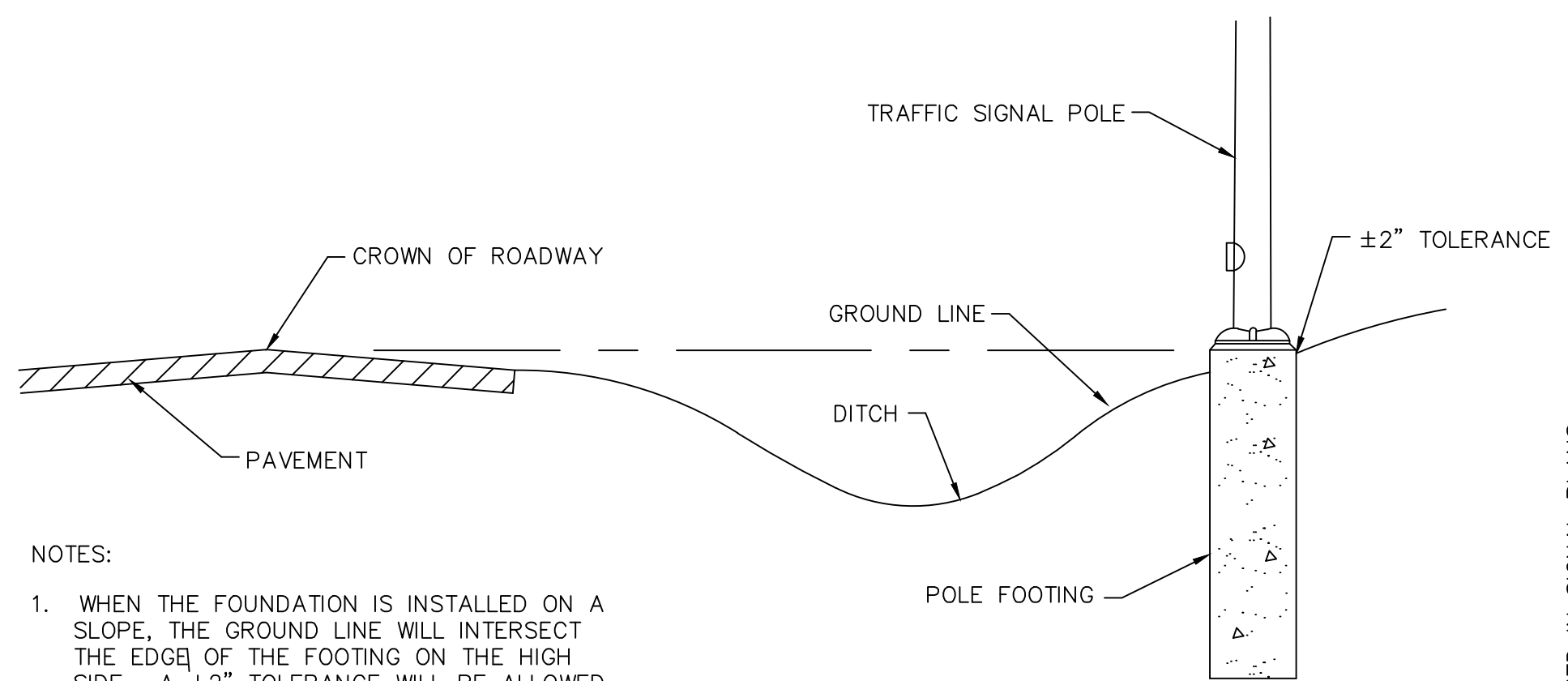
NO.	REVISIONS	DRN	CHK	DATE

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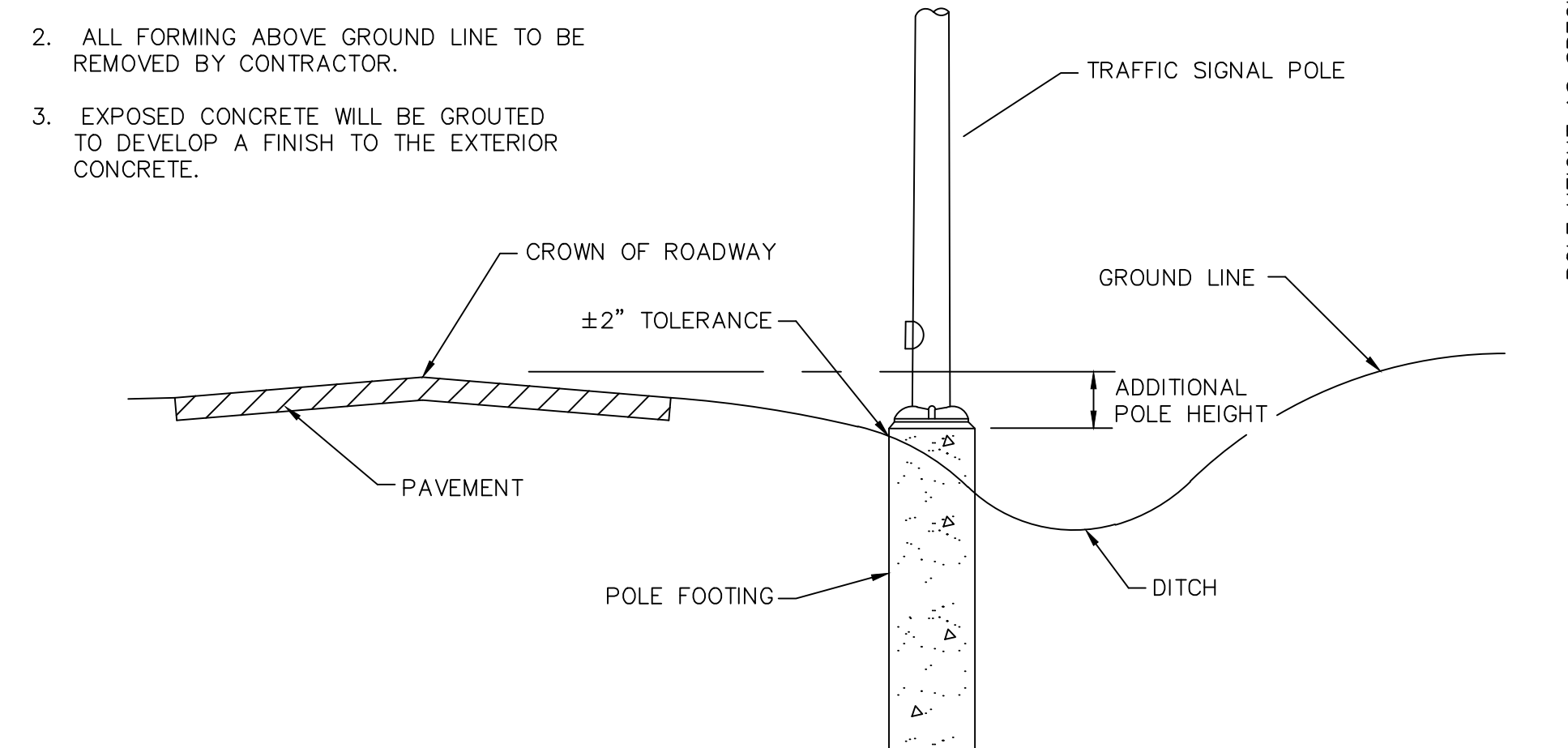
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SHADY GROVE LANE AT MODAUS ROAD
 DECATUR, ALABAMA
 TRAFFIC SIGNAL DETAILS
 BASE BID & BID ALTERNATE A

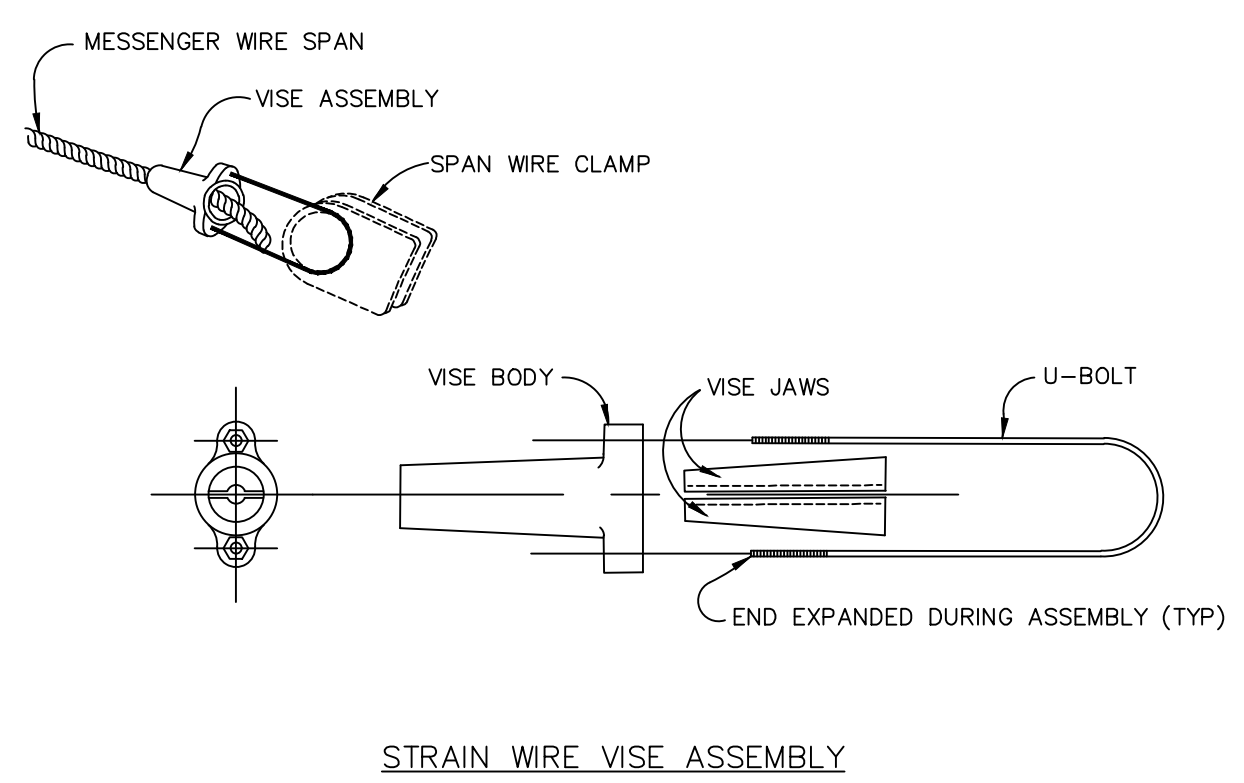
DATE	SCALE	DRAWN BY	CHECKED	PROJECT NO.
JAN 2018	NONE	CLL	CLL	1007.011
SHEET NO.				
				TS4



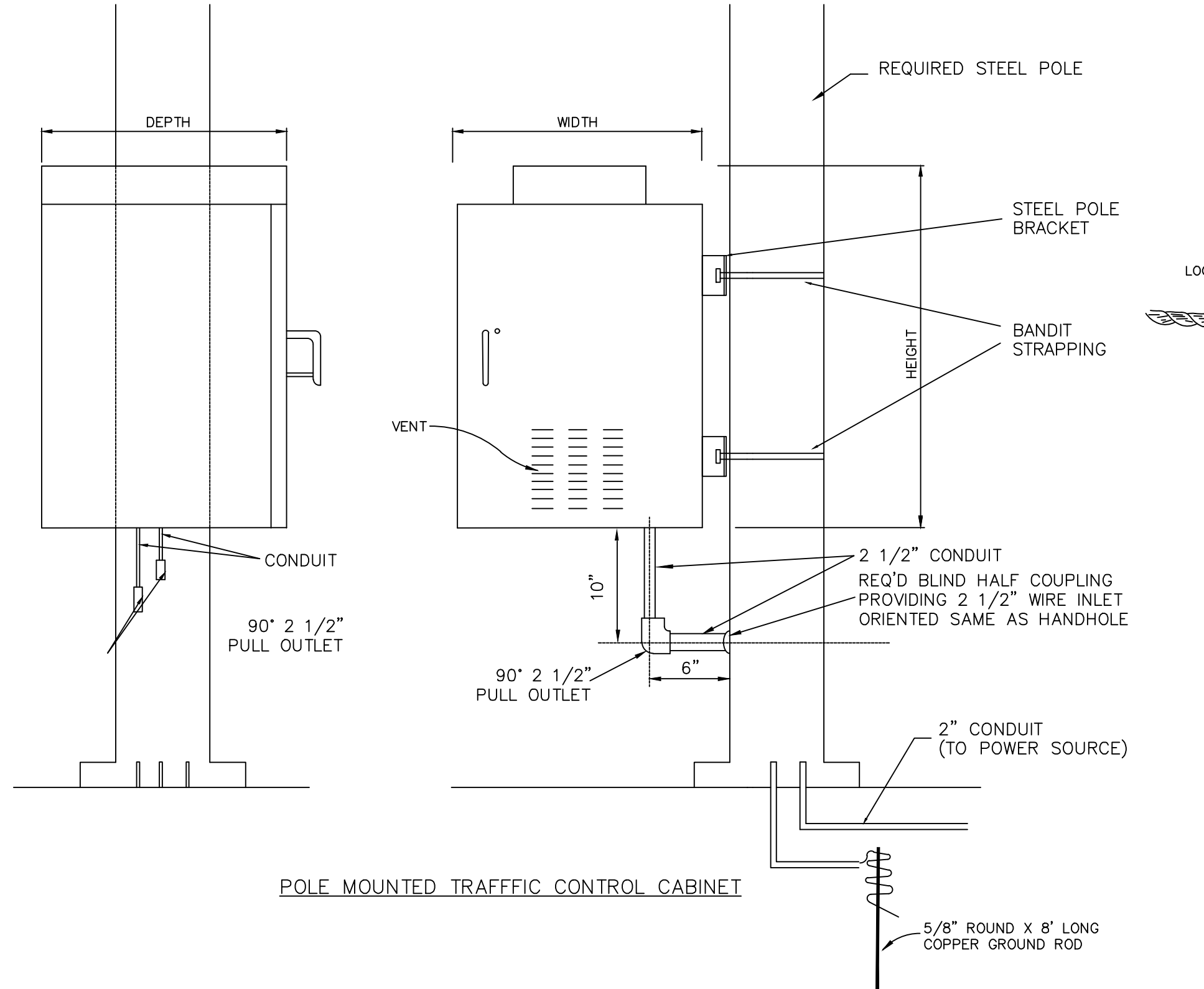
- NOTES:
1. WHEN THE FOUNDATION IS INSTALLED ON A SLOPE, THE GROUND LINE WILL INTERSECT THE EDGE OF THE FOOTING ON THE HIGH SIDE. A ±2" TOLERANCE WILL BE ALLOWED.
 2. ALL FORMING ABOVE GROUND LINE TO BE REMOVED BY CONTRACTOR.
 3. EXPOSED CONCRETE WILL BE GROUTED TO DEVELOP A FINISH TO THE EXTERIOR CONCRETE.



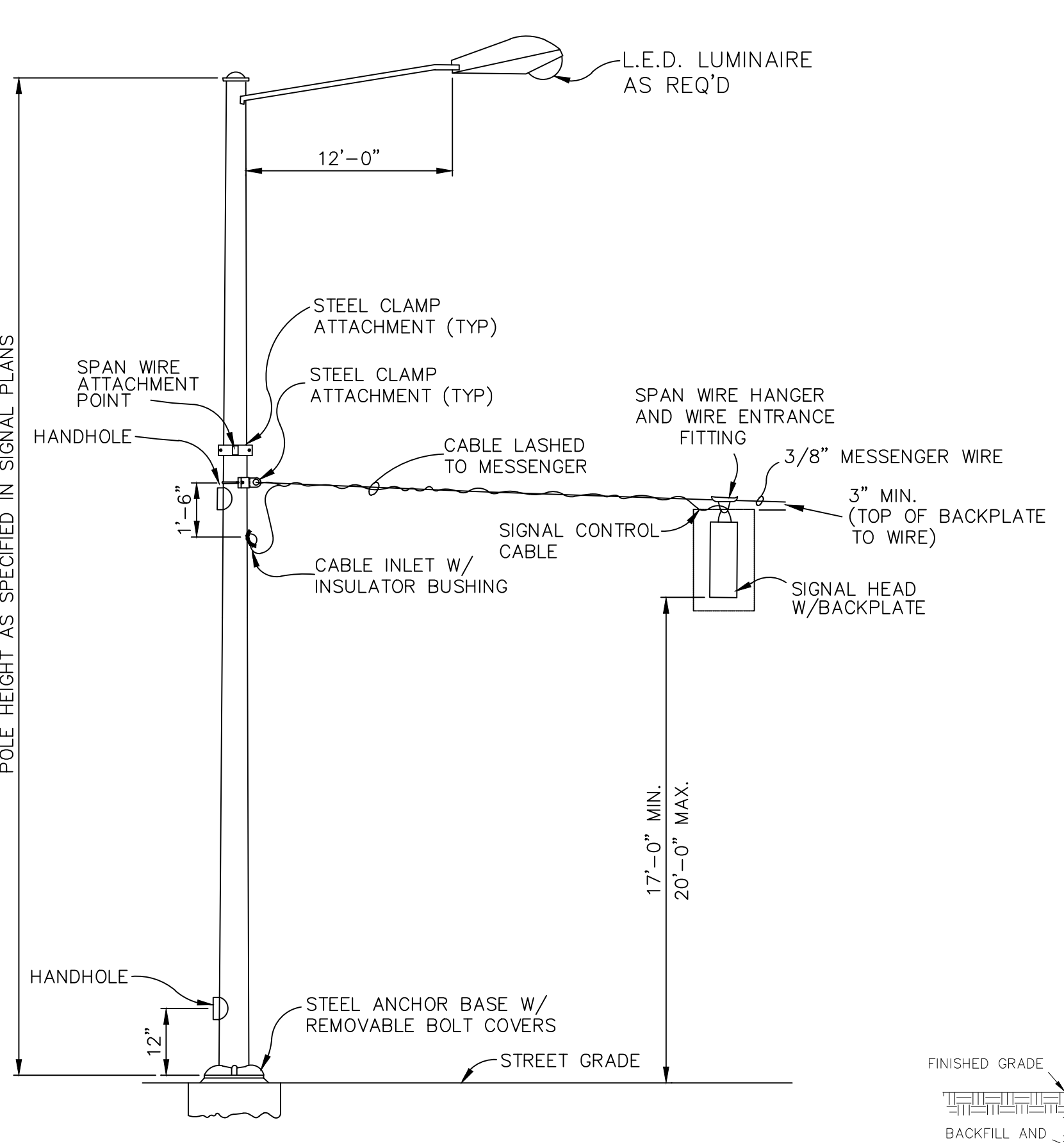
POLE FOOTING LOCATION TOLERANCES



STRAIN WIRE VISE ASSEMBLY

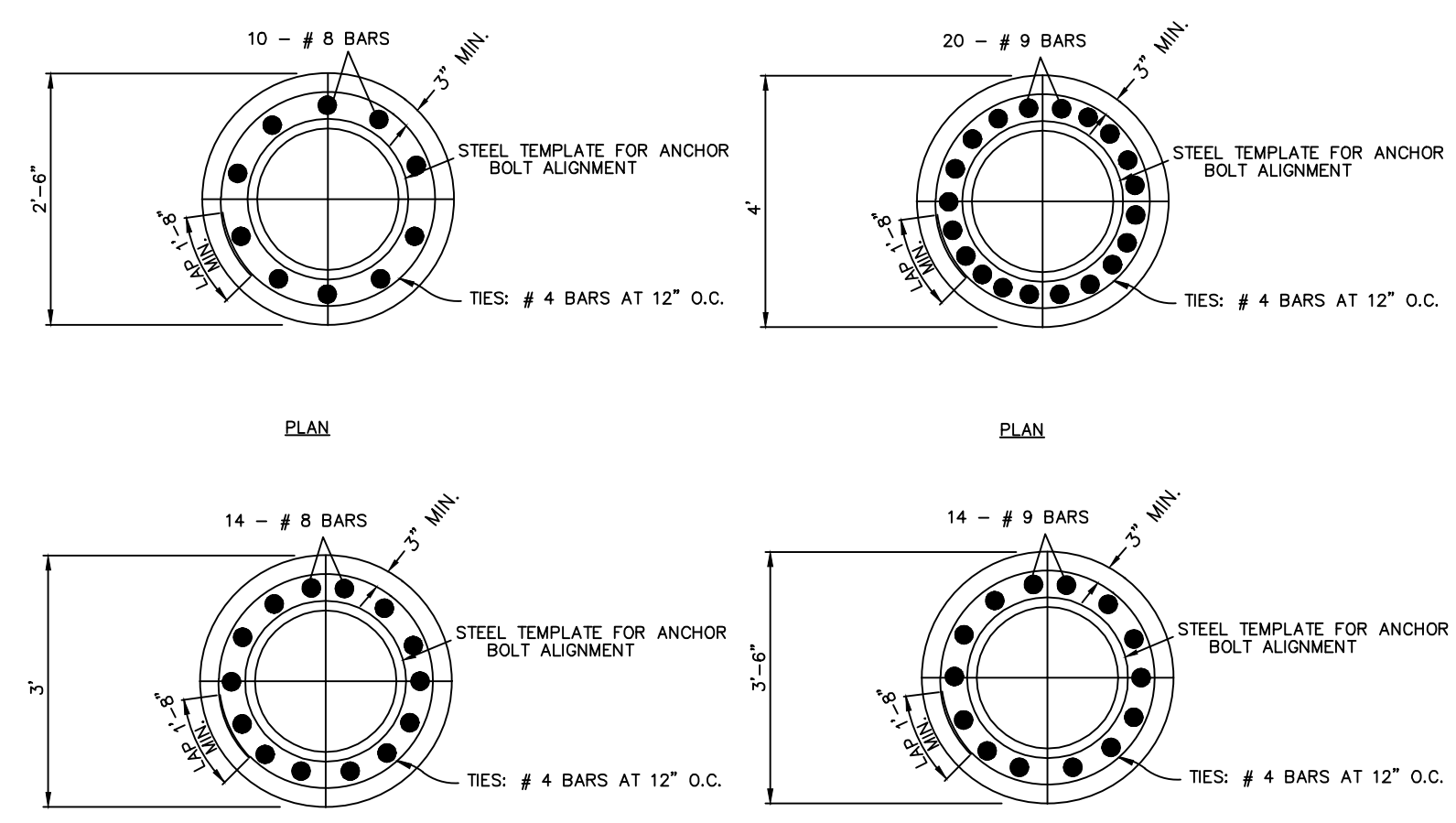


POLE MOUNTED TRAFFIC CONTROL CABINET

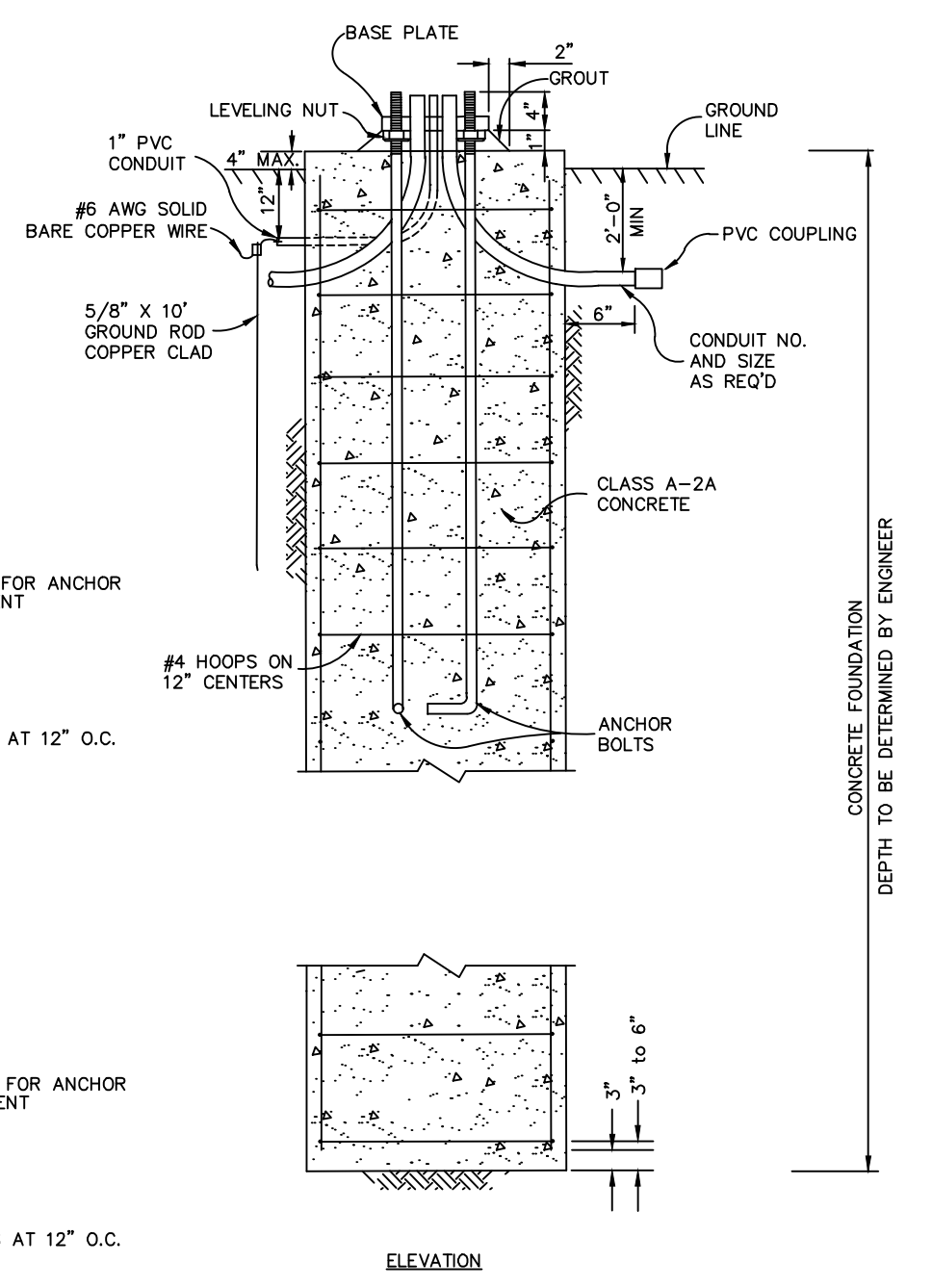


METAL POLE WITH SPAN WIRE AND COBRA HEAD LUMINAIRE

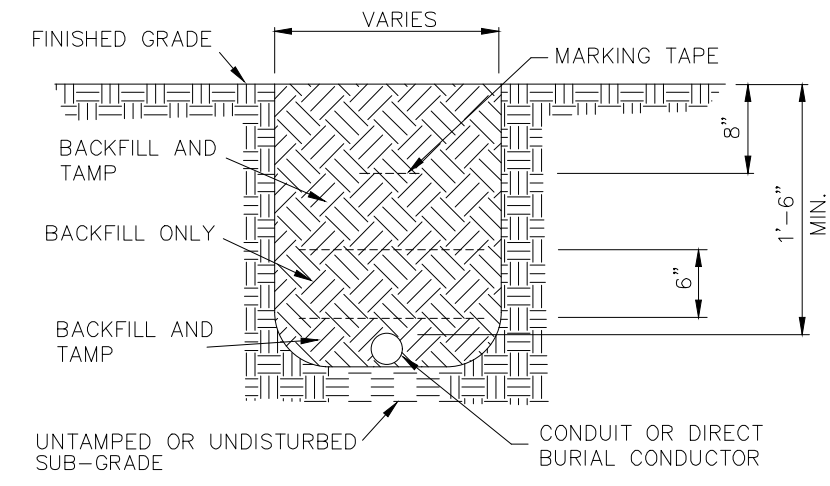
- NOTES:
1. CONCRETE SHALL BE CLASS A TYPE 1A WITH A MINIMUM 28-DAY STRENGTH OF 3000 P.S.I.
 2. ANCHOR BOLT ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED TRAFFIC SIGNAL FOUNDATION SHOP DRAWINGS.
 3. PERMANENT STEEL TEMPLATES SHALL BE FROM 1/2" THICK STEEL PLATE. ANCHOR BOLT HOLES SHALL BE OVERSIZED BY 1/8" INCHES AND SHALL HAVE A 1/4" INCH CLEARANCE TO BOTH OUTSIDE AND INSIDE EDGES OF THE RING.
 4. CONDUITS REQUIRED IN CONCRETE FOUNDATIONS SHALL BE ACCURATELY PLACED, ORIENTED IN THE PROPER DIRECTION TO ACCOMMODATE FUTURE EXTENSION AND SECURELY HELD IN PLACE TO AVOID MOVEMENT. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 730 AND STANDARD DRAWINGS.
 5. MINIMUM DEPTH OF FOUNDATION SHALL BE 10 FEET AS SHOWN, UNLESS A LESSER DEPTH IS APPROVED BY THE ENGINEER.
 6. CONDUIT NUMBER AND SIZE AS REQUIRED BY THE PLANS.
 7. BOLT COVERS SHALL BE PLACED OVER ALL EXPOSED ANCHOR BOLTS.
 8. IF OVERSIZED HOLES ARE USED IN THE BASE PLATE, TWO (2) NUTS SHALL BE INSTALLED ABOVE A 1/2" THICK PLATE WASHER IN ACCORDANCE WITH THE RESEARCH COUNCIL ON STANDARD CONNECTIONS (RCS) SPECIFICATIONS 6.



METAL SIGNAL POLE FOOTING



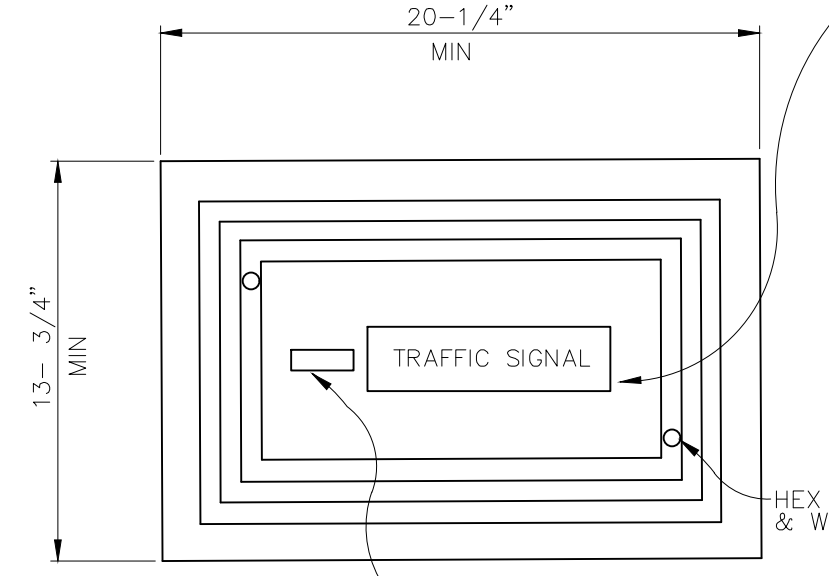
DEPTH TO BE DETERMINED BY ENGINEER



- NOTES:
1. BACK FILL WITH SUITABLE PORTION OF EXCAVATED MATERIAL FROM EXCAVATION OR SELECTED MATERIAL APPROVED BY THE ENGINEER.
 2. ELECTRICAL POWER CONDUIT WITH LESS THAN 600V SHALL BE A MINIMUM OF 18 INCHES BENEATH THE GROUND SURFACE AND 24 INCHES BENEATH A STREET SURFACE.

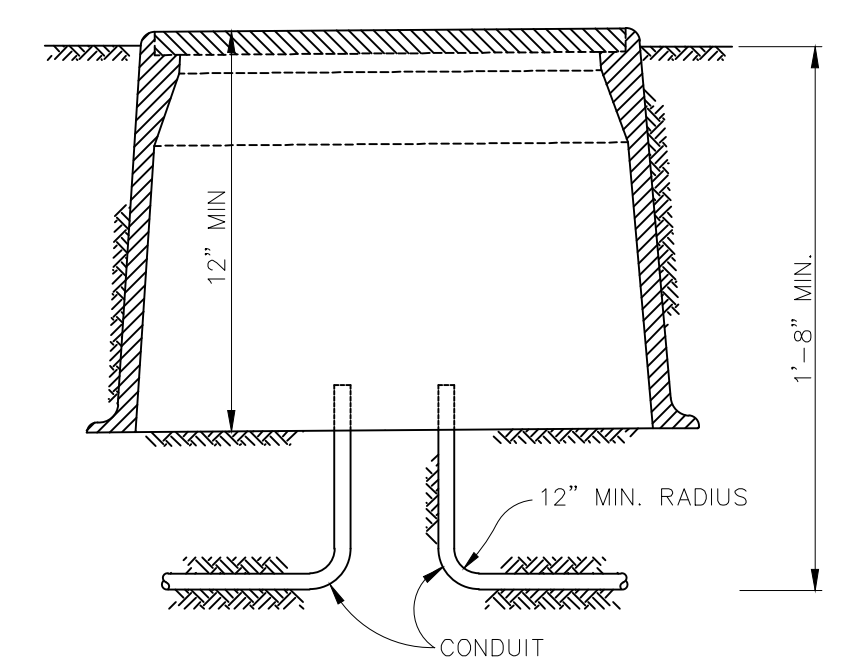
ELECTRICAL CONDUIT AND CONDUCTOR DETAIL (FOR USE AREA NOT EXPOSED TO VEHICULAR TRAFFIC)

JUNCTION BOX SHALL BE CONSTRUCTED OF NON-CONCRETE PLASTIC MORTAR REINFORCED WITH HEAVY-WEAVE FIBERGLASS. SHALL MEET THE FOLLOWING TESTS: ASTM D-756, ASTM D-534, ASTM D-1501, ASTM D-5701, ASTM D-790, AND ASTM D-635 (TESTS TO BE SUPPORTED BY INDEPENDENT TEST LABORATORY).

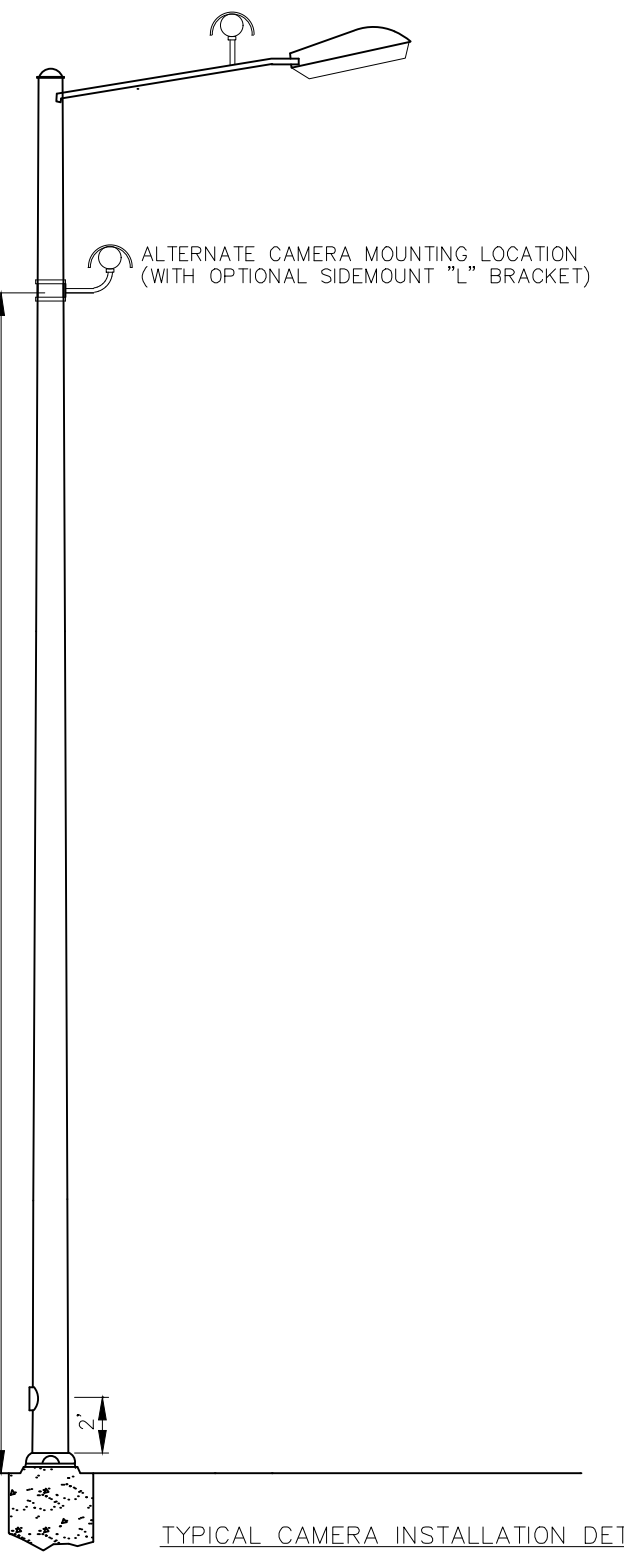


JUNCTION BOX

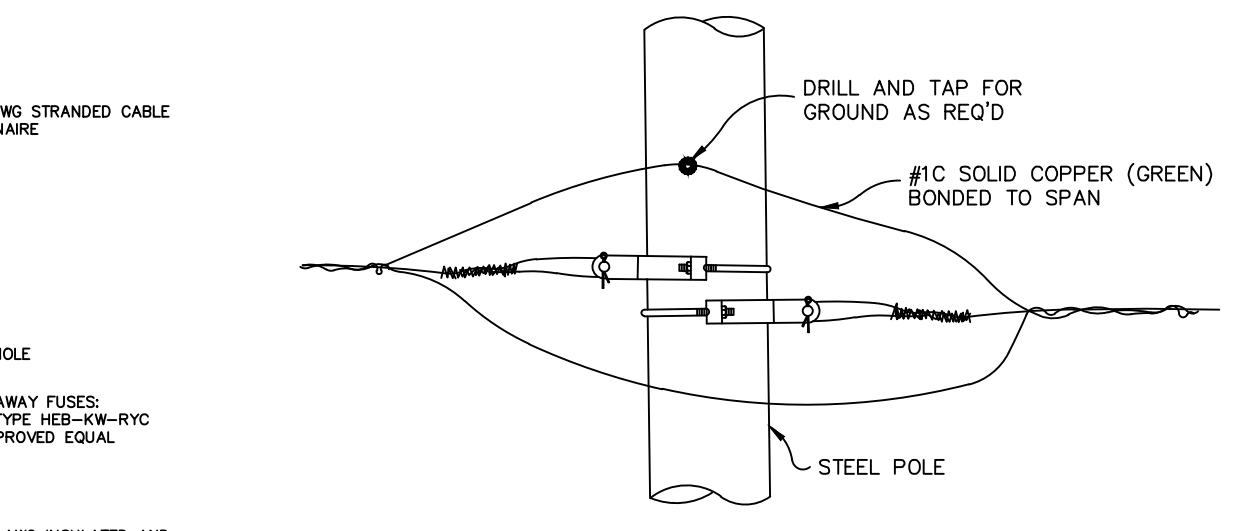
11"x18" MIN. 20,000 H RATED MIN. LOCKING COVER SHALL INCLUDE DEBOSSED LOGO IN STANDARD BLOCK TYPE NOT LESS THAN 1.5" IN HEIGHT TO READ "TRAFFIC SIGNAL".



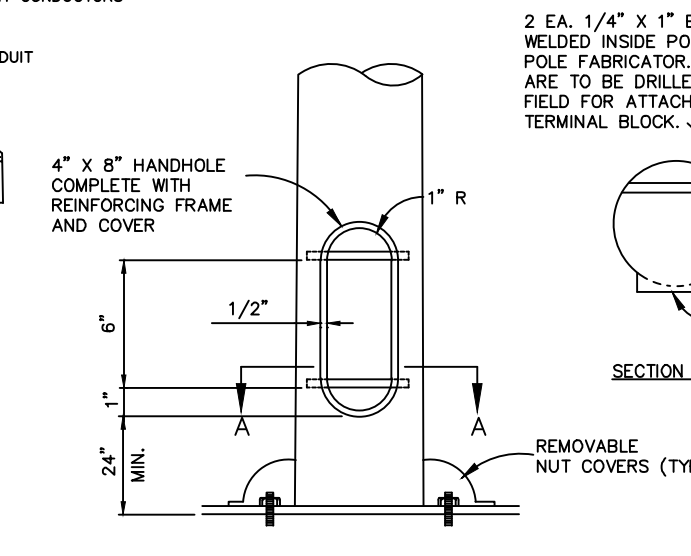
PREFERRED CAMERA MOUNTING LOCATION ("L" BRACKET)



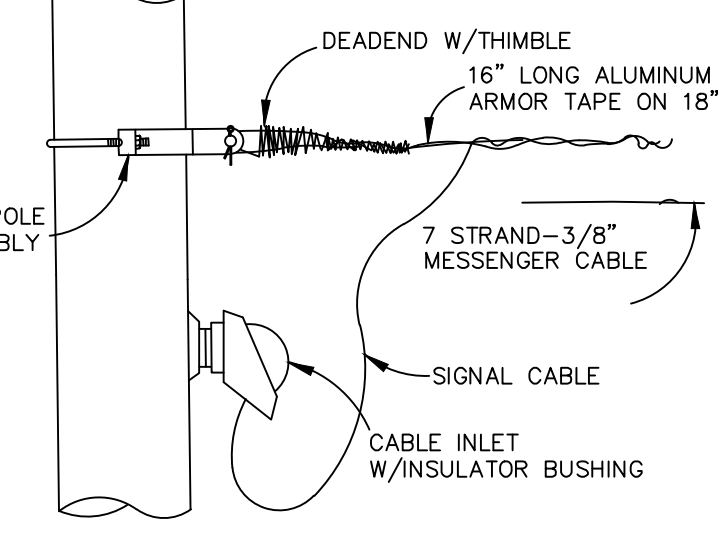
TYPICAL CAMERA INSTALLATION DETAIL



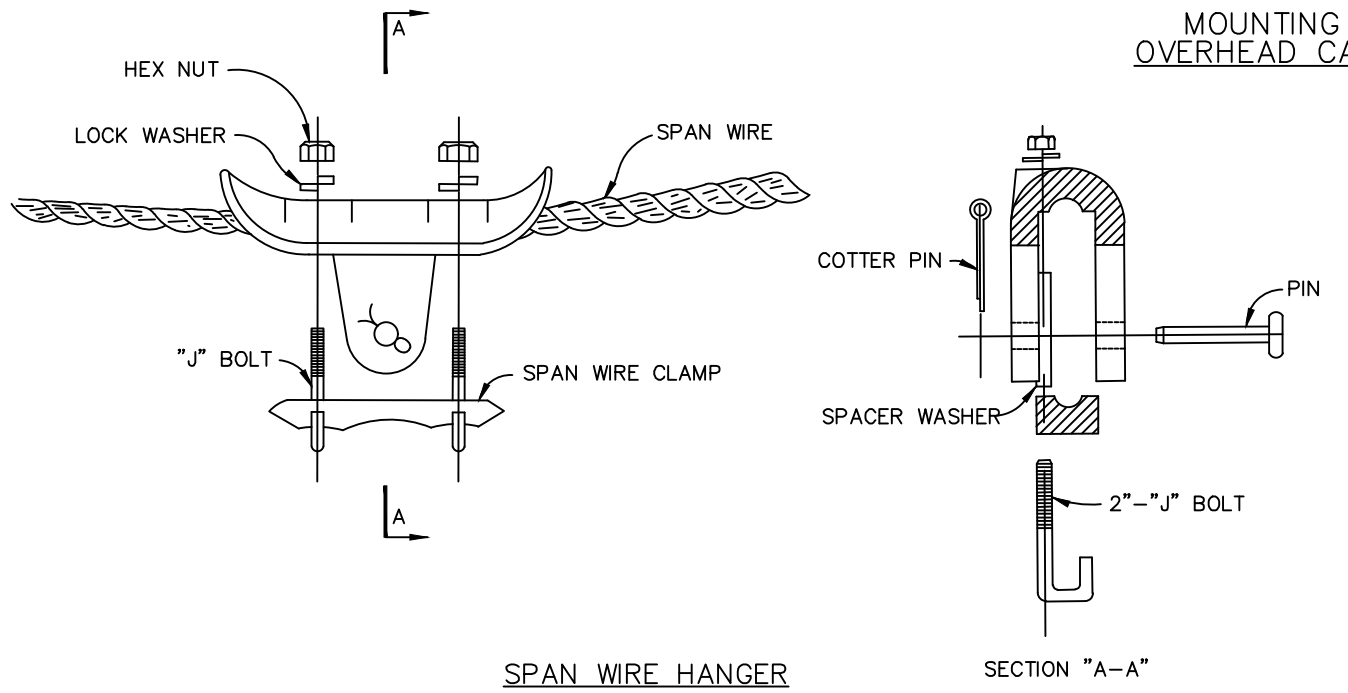
SPAN WIRE GROUNDING DETAIL



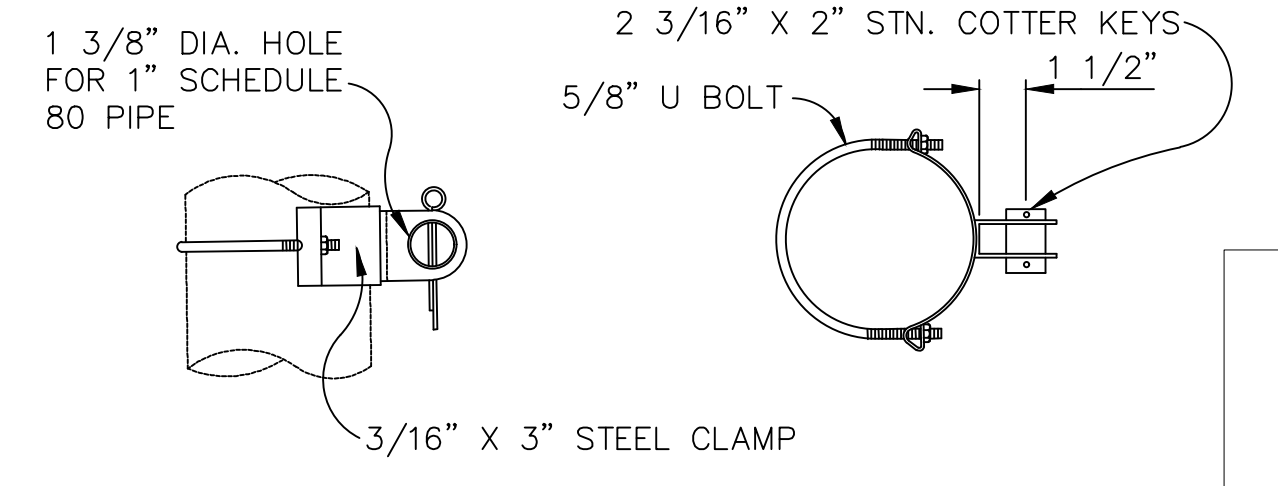
HANDHOLE DETAIL



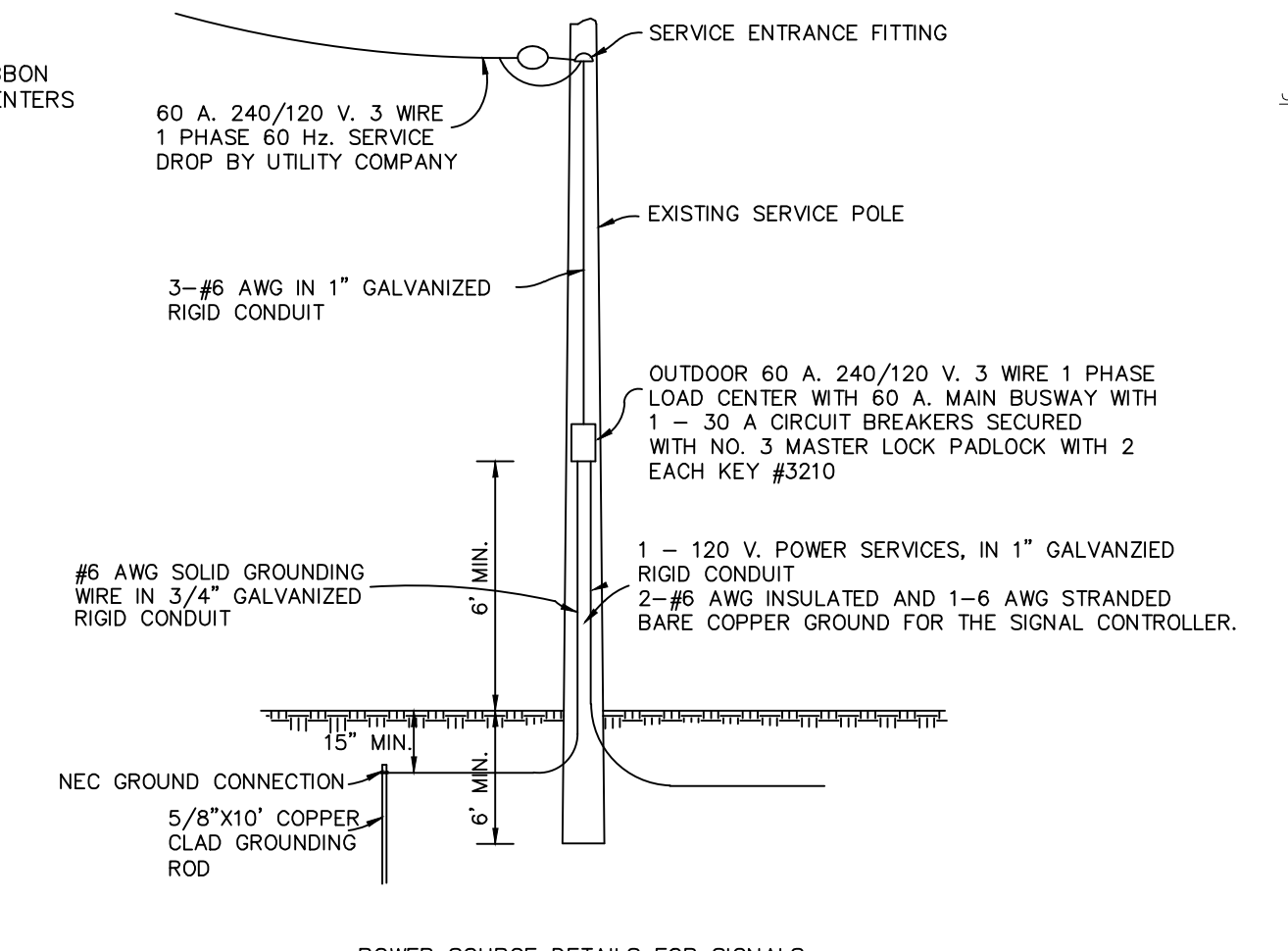
MOUNTING FOR TERMINATING OVERHEAD CABLE AT METAL POLE



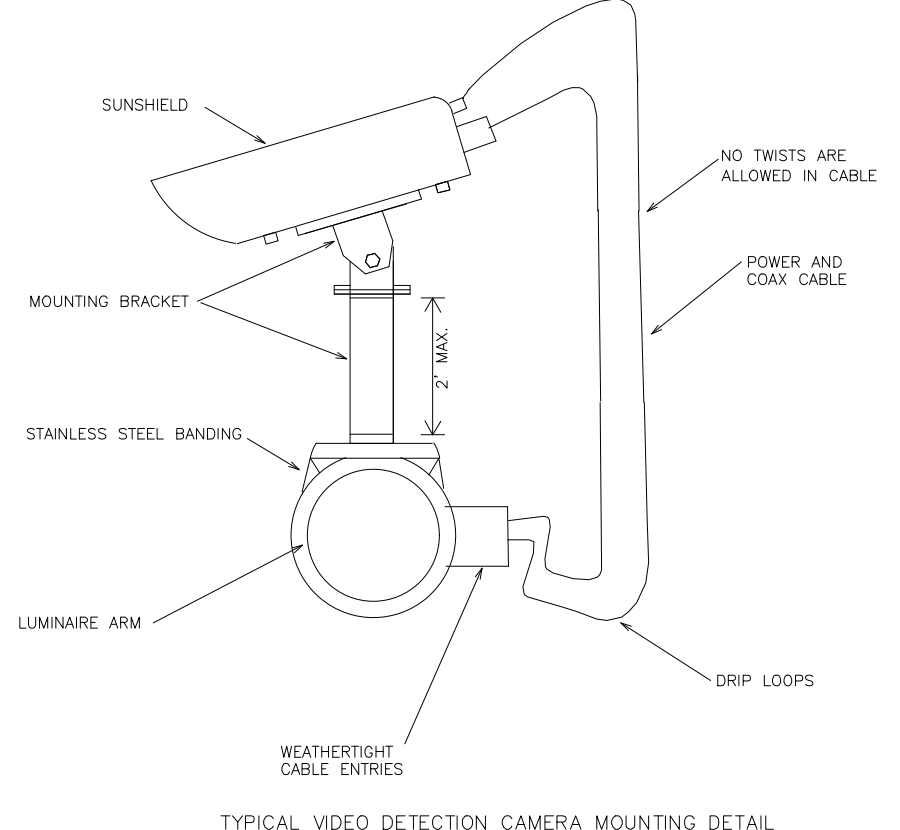
SPAN WIRE HANGER



STEEL CLAMP ATTACHMENT STEEL POLE



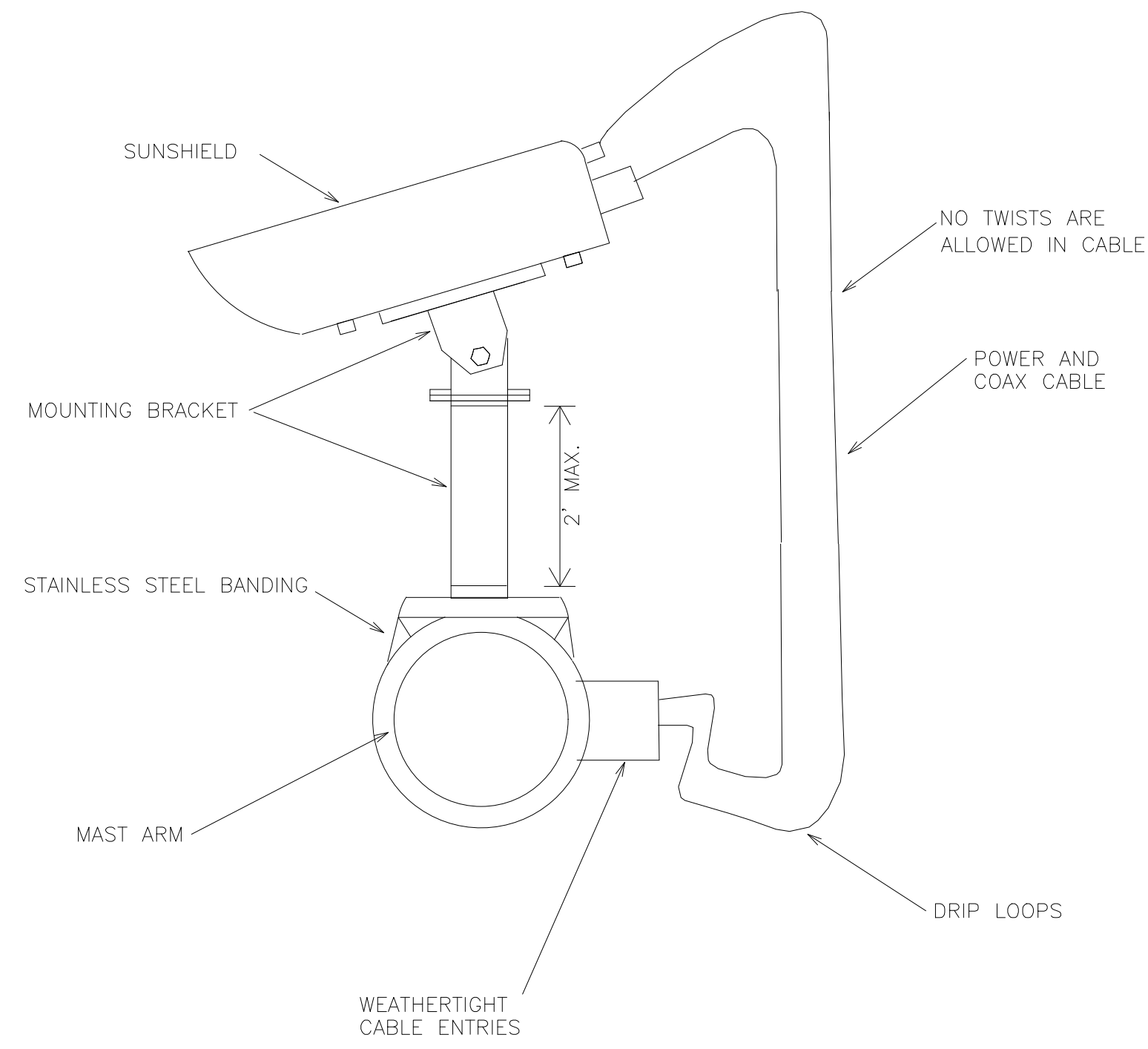
POWER SOURCE DETAILS FOR SIGNALS



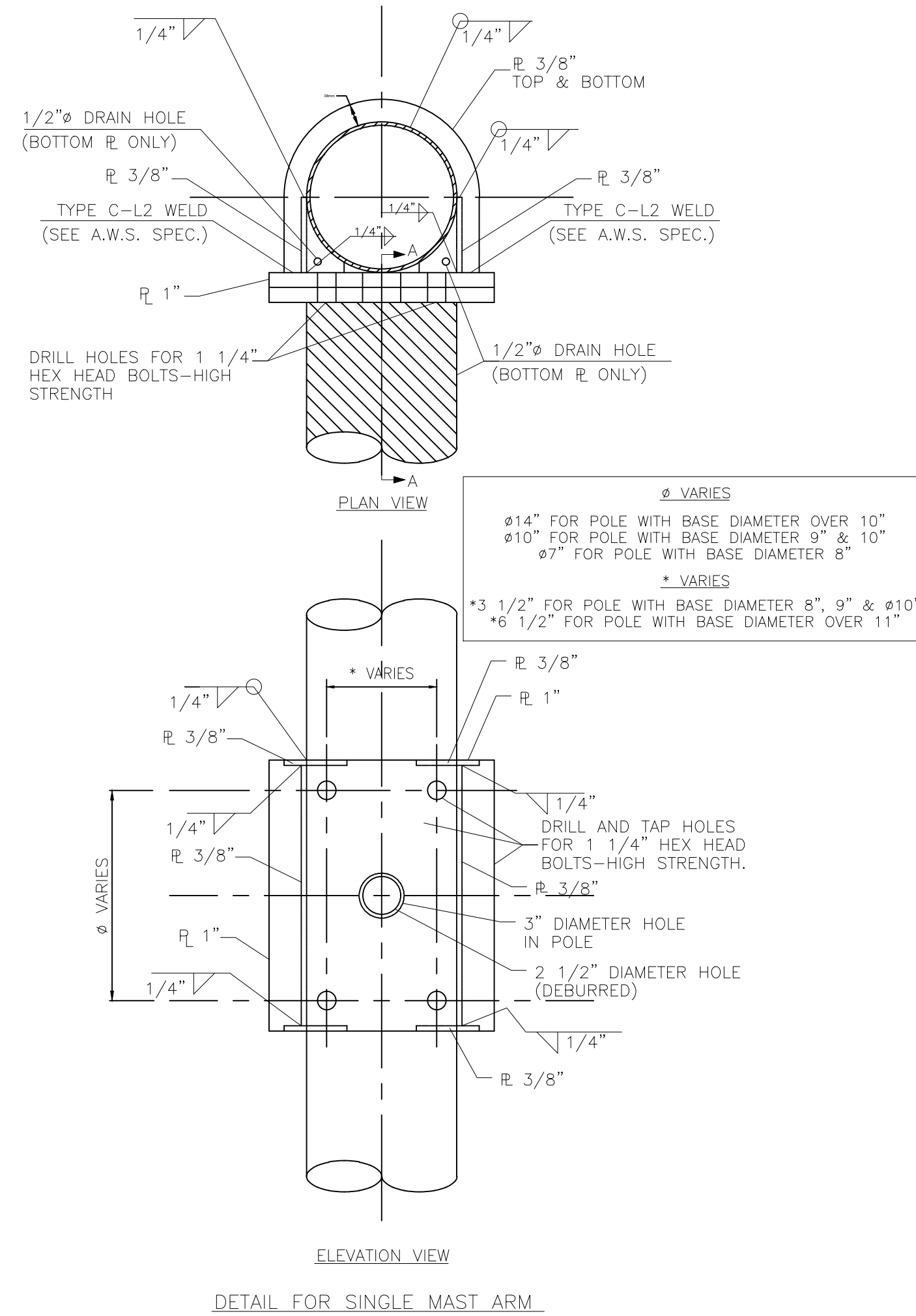
TYPICAL VIDEO DETECTION CAMERA MOUNTING DETAIL

PRELIMINARY PLANS
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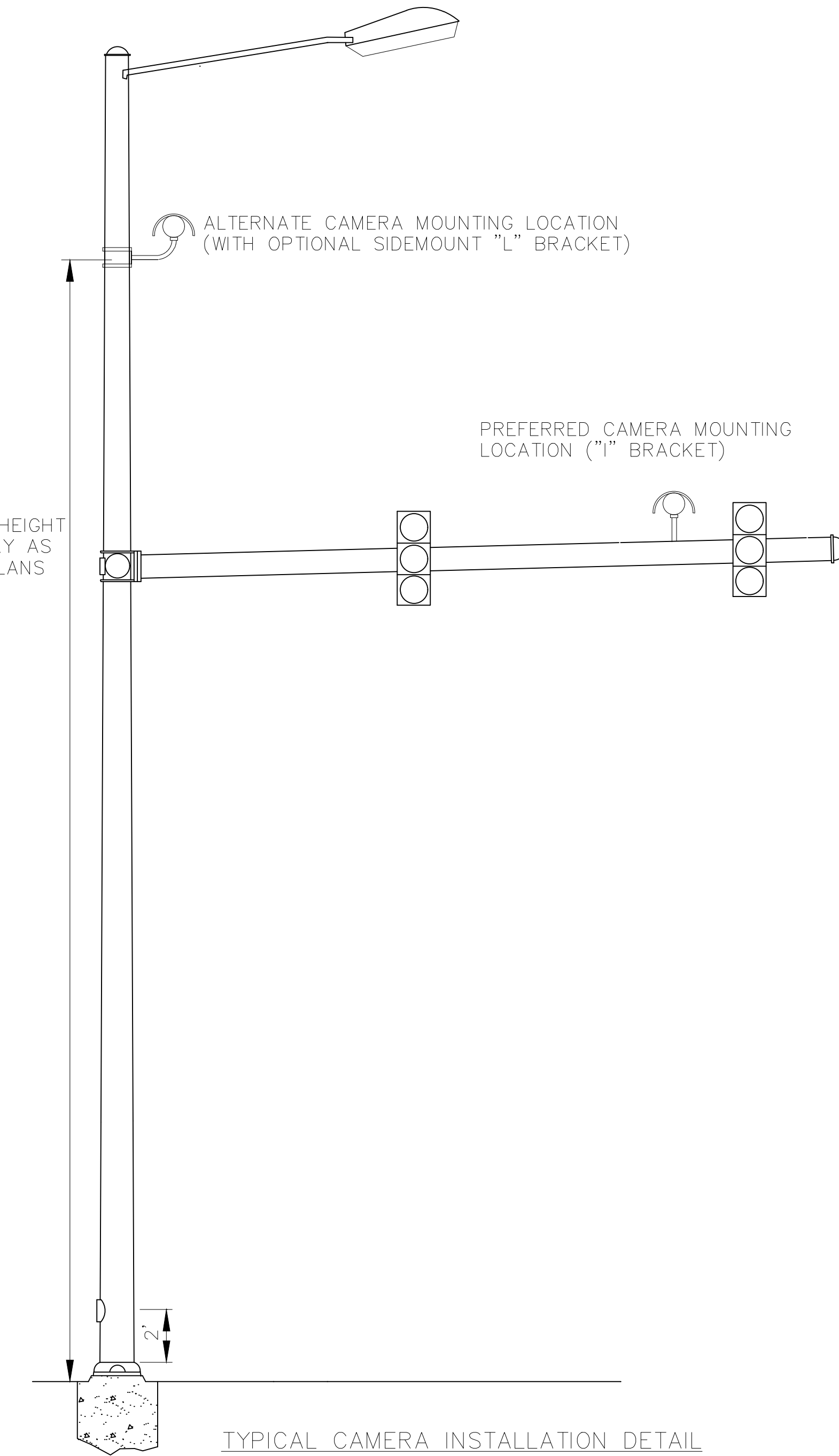
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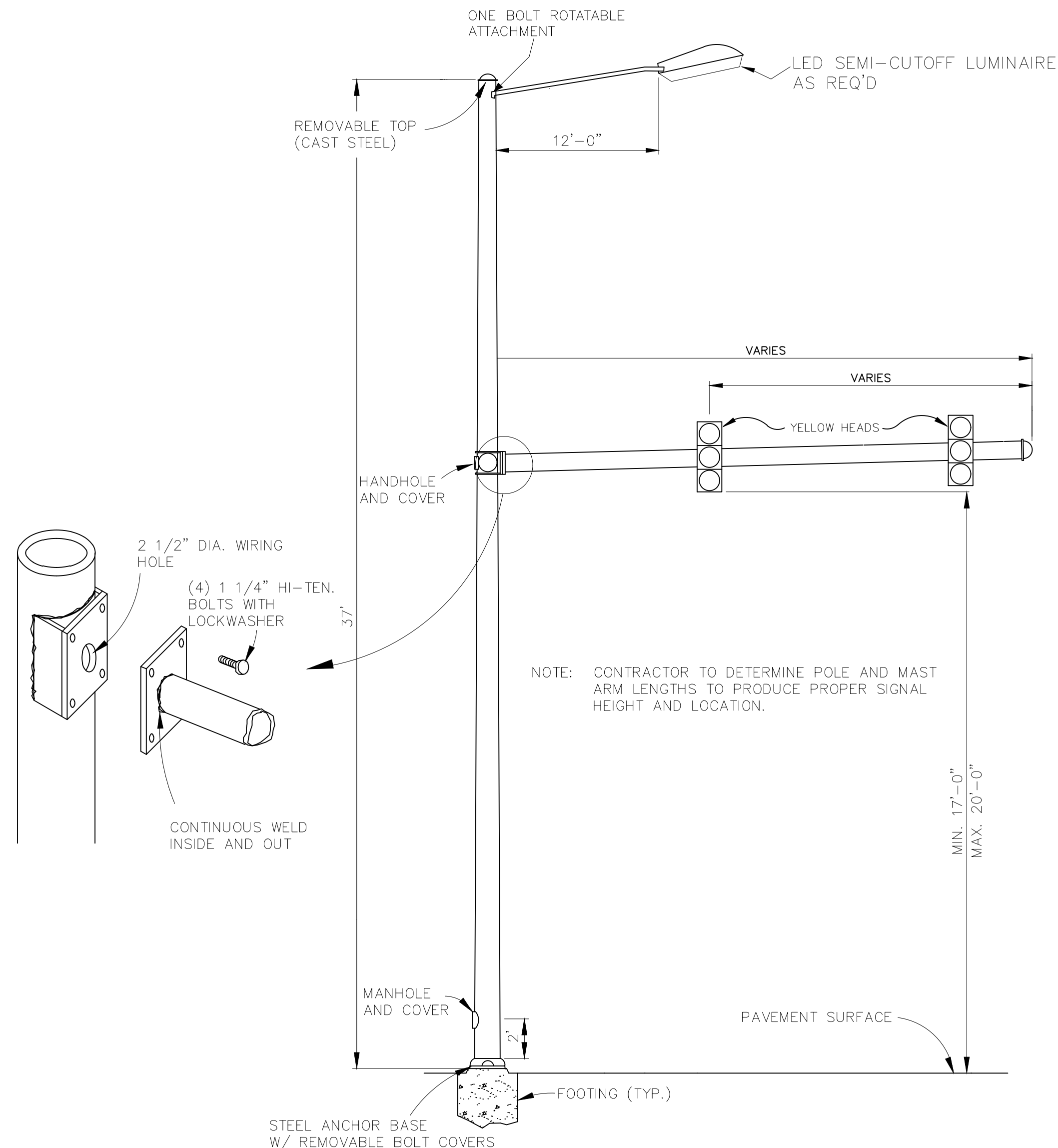
TYPICAL VIDEO DETECTION CAMERA MOUNTING DETAIL



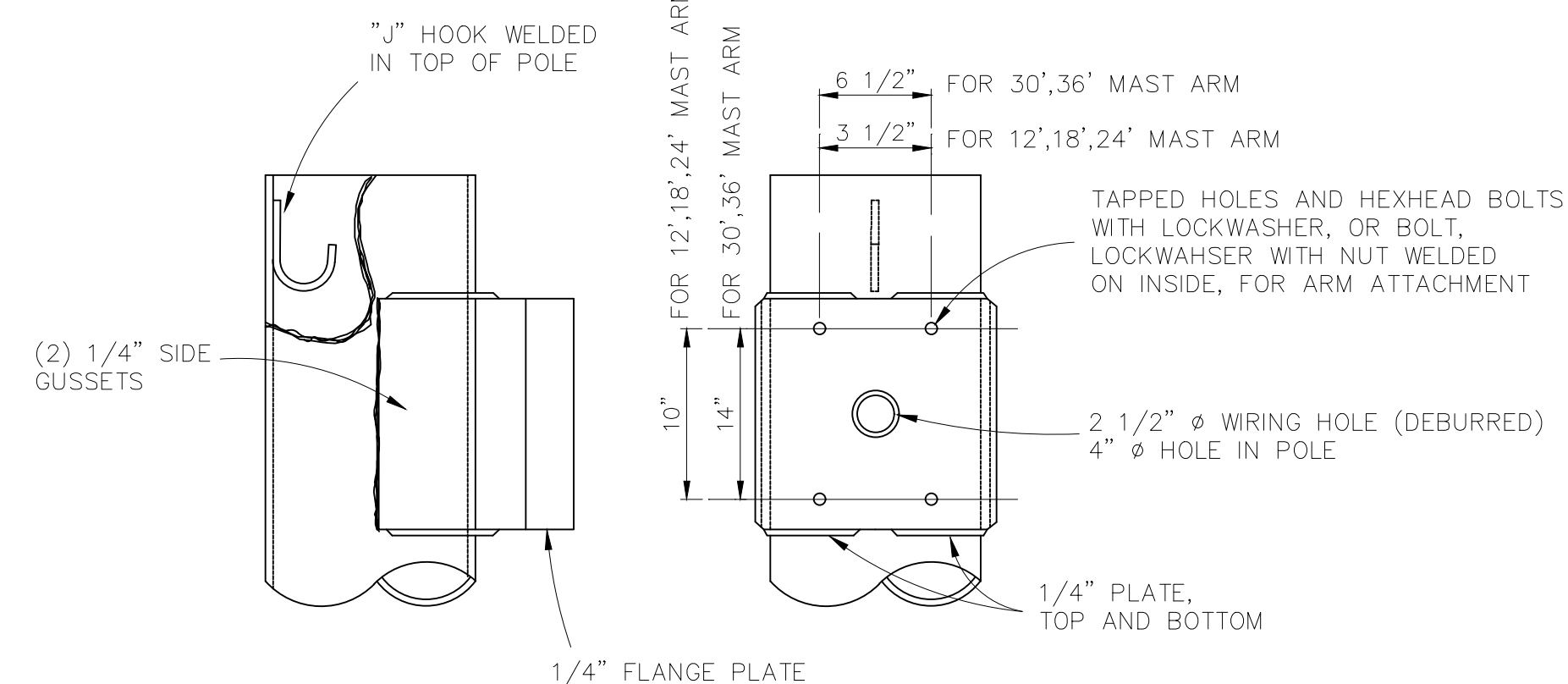
CAMERA MOUNTING HEIGHT ABOVE THE ROADWAY AS SPECIFIED IN THE PLANS



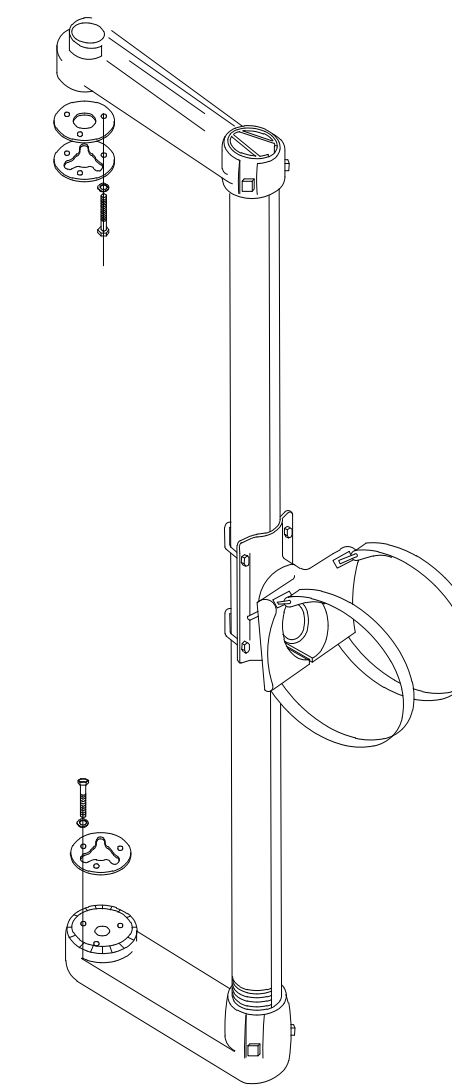
TYPICAL CAMERA INSTALLATION DETAIL



POLE AND MAST ARM DETAIL WITH LUMINAIRE AND PEDESTRIAN FEATURES

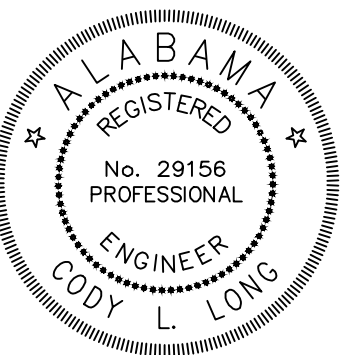


ARM ATTACHMENT DETAILS



PRELIMINARY PLANS
BIDDING PURPOSES ONLY
DO NOT USE FOR CONSTRUCTION

NOTE
DETAILS SHOWN ON THIS SHEET ARE TO BE USED IN REPLACEMENT FOR THE SPAN WIRE DETAILS THAT ARE NOT APPLICABLE IF THE BID ALTERNATE IS SELECTED



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SHADY GROVE LANE AT MODAUS ROAD
DECATUR, ALABAMA
TRAFFIC SIGNAL DETAILS
BID ALTERNATE B

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FEB 2018	NONE	CLL	1007.011
SHEET NO.	DRAWN BY	CLL	
	CLL		

TS6

NO.	REVISIONS	DRN	CHK	DATE

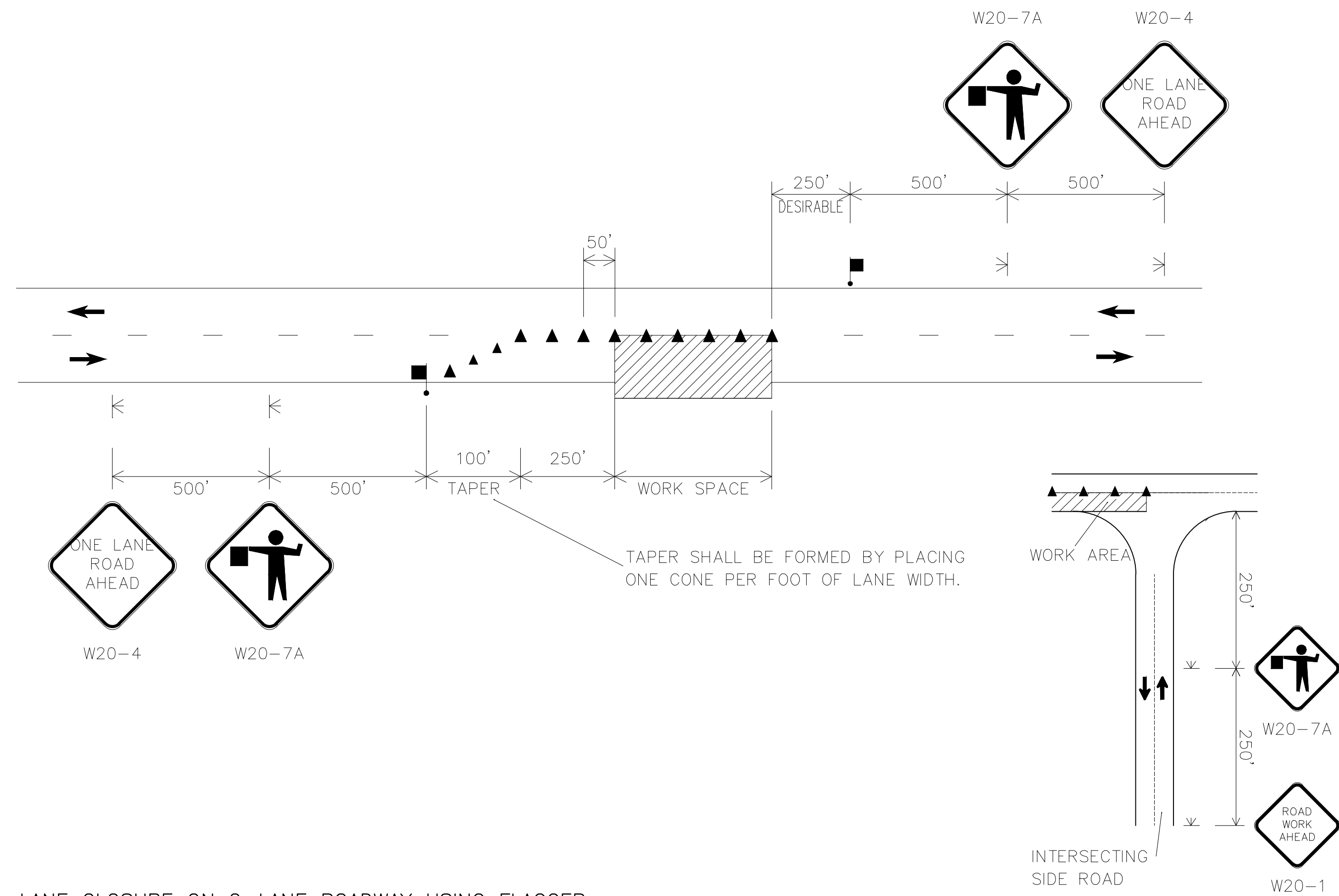
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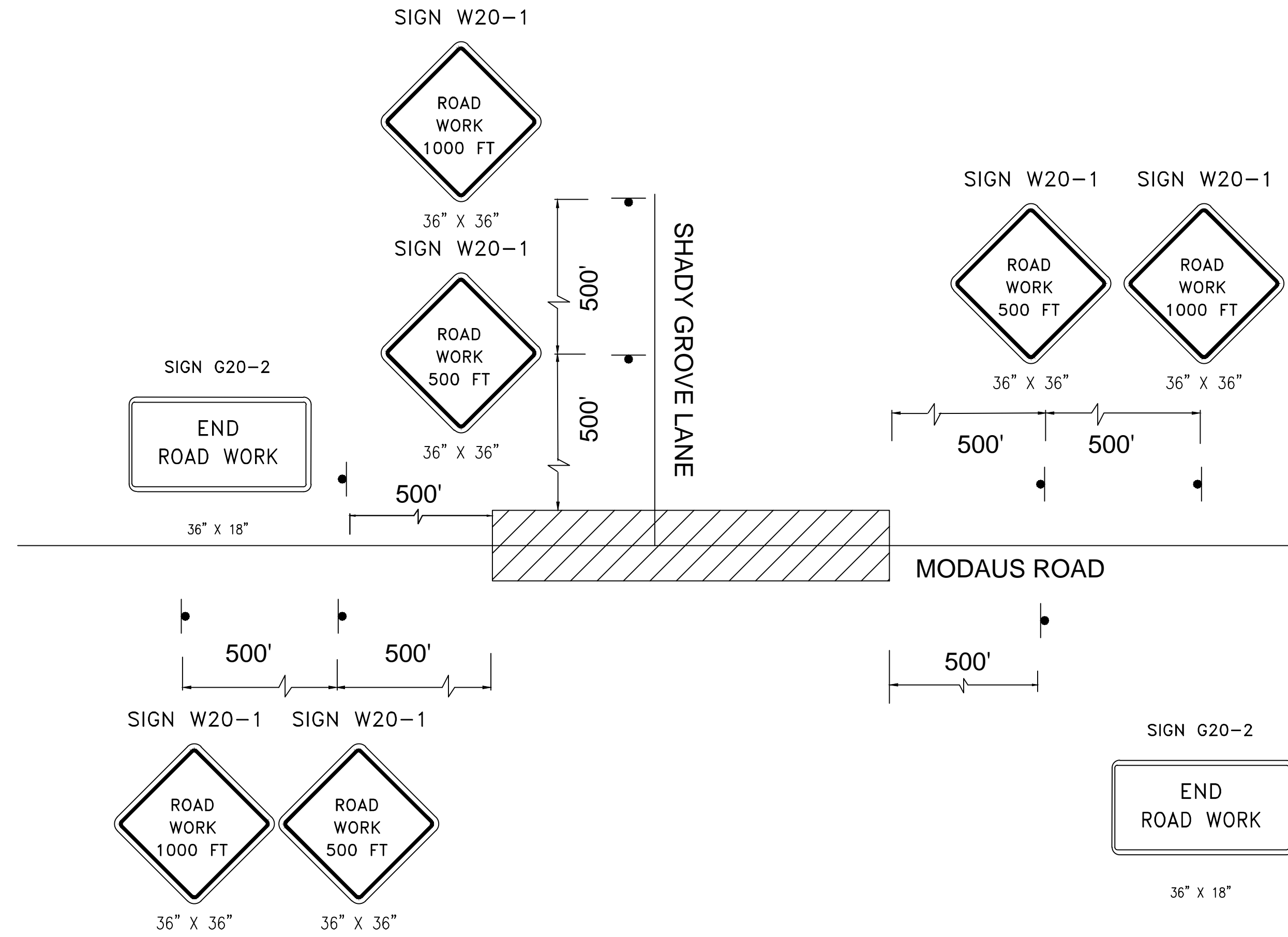
SHADY GROVE LANE AT MODAUS ROAD
DECATUR, ALABAMA

TRAFFIC CONTROL PLAN

DATE	SCALE	DRAWN BY	CHECKED	PROJECT NO.
JAN 2018	NONE	CLL	CLL	1007.011
SHEET NO.	TS7			

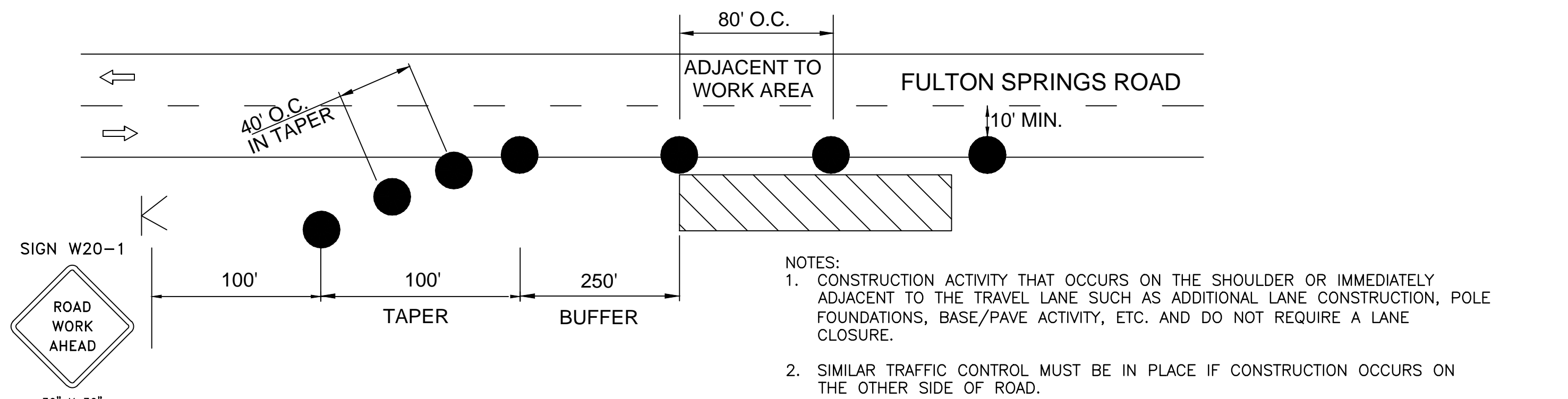


SCHEME 2 - LANE CLOSURE ON 2-LANE ROADWAY USING FLAGGER

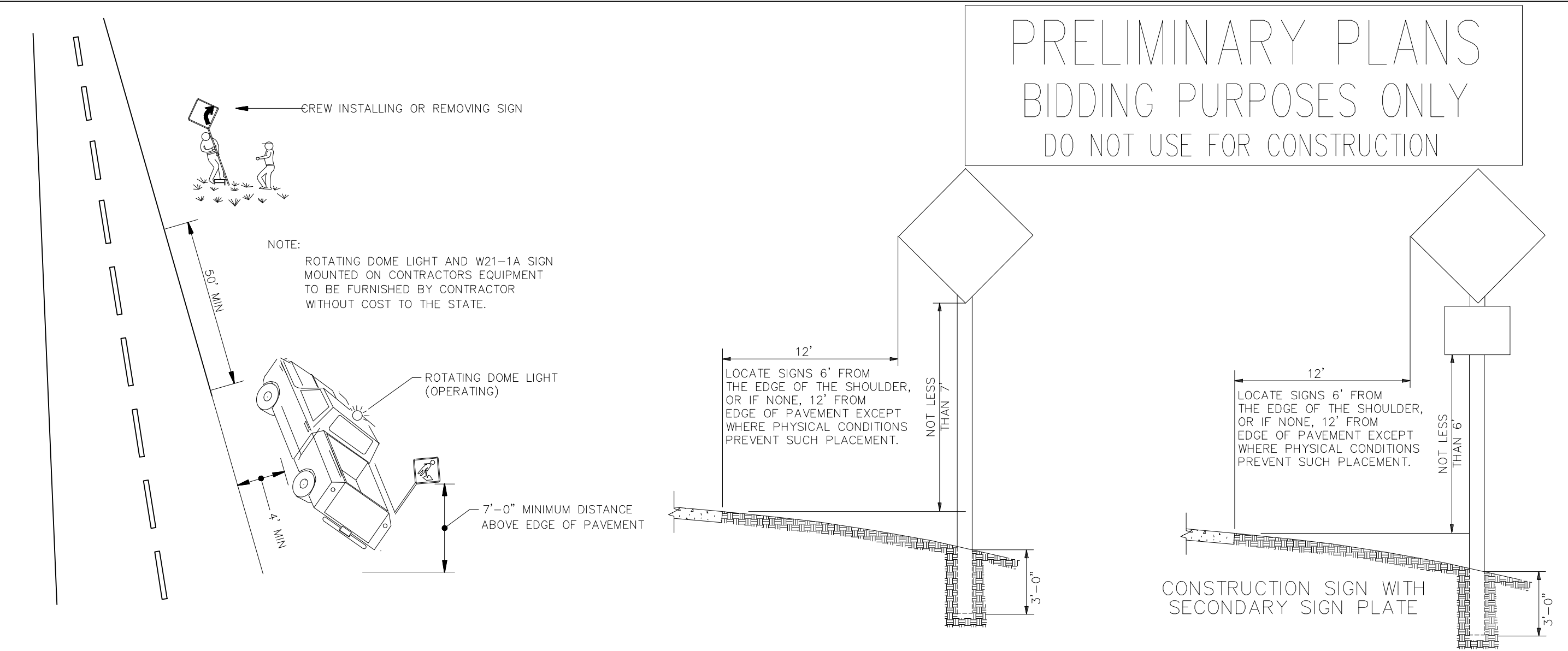


NOTE:
TRAFFIC CONTROL DEVICES REQUIRED IN SCHEME 1 SHALL BE ERECTED PRIOR TO BEGINNING OF CONSTRUCTION AND SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION.

SCHEME 1 - ADVANCE WARNING TRAFFIC CONTROL SCHEME

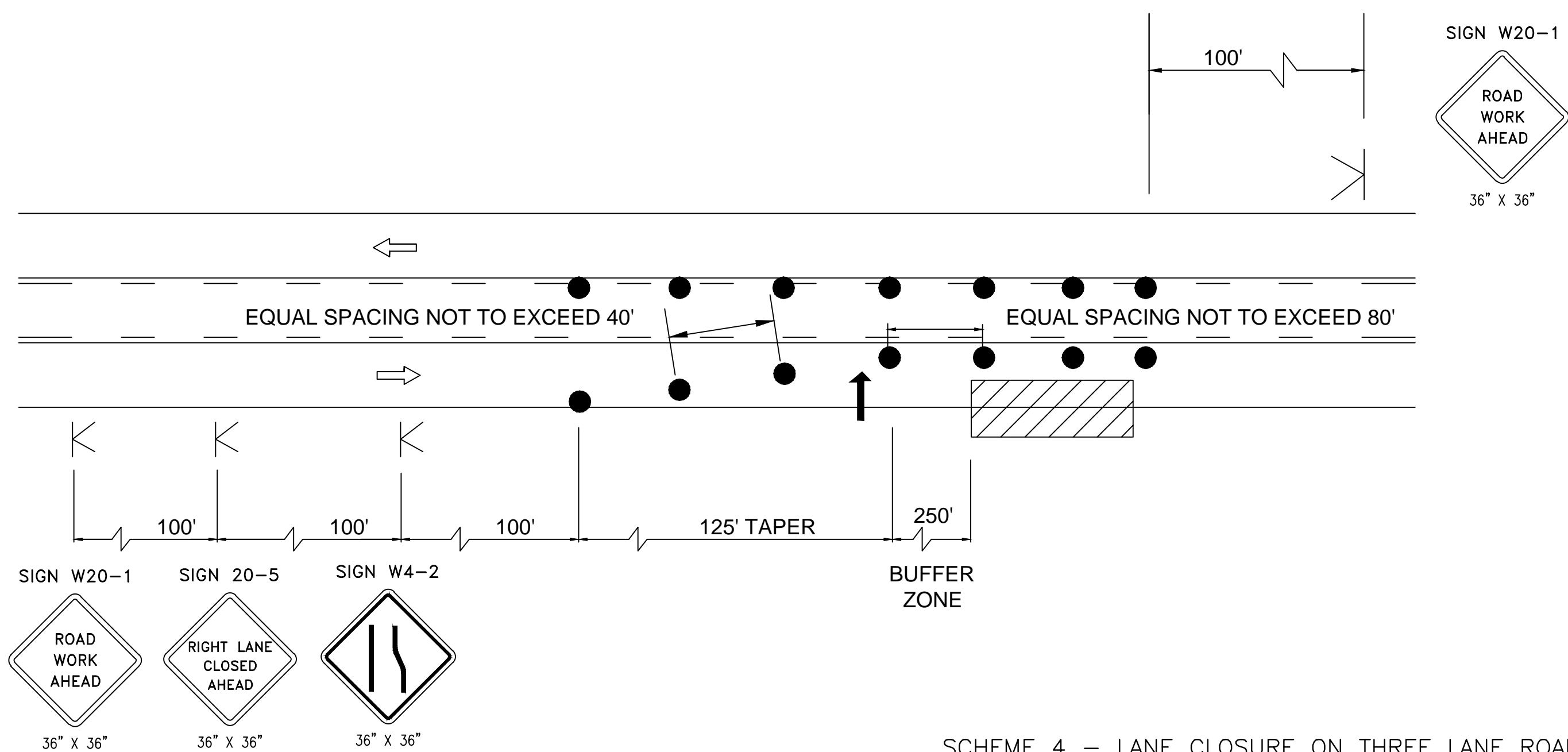


SCHEME 3 - SHOULDER CLOSURE ON UNDIVIDED ROADWAY (NO LANE CLOSURE REQUIRED)



TYPICAL METHOD FOR INSTALLING OR REMOVING CONSTRUCTION SIGNS

HEIGHT AND LATERAL LOCATION OF POST MOUNTED CONSTRUCTION SIGNS



SCHEME 4 - LANE CLOSURE ON THREE LANE ROADWAY

TRAFFIC CONTROL PLAN NOTES:

- ALL TRAFFIC CONTROL DEVICES SHOWN IN SCHEME #1 SHALL REMAIN IN PLACE DURING ALL CONSTRUCTION ACTIVITIES FOR THE GIVEN INTERSECTION.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC DEVICES (MUTCD).
- THE TRAFFIC CONTROL SCHEMES SHOWN HAVE BEEN DEVELOPED IN CONFORMANCE WITH THE MUTCD. THE DEVICES SHOWN REPRESENT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS WARRANT ADDITIONAL CONTROL DEVICES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SAME AS OUTLINED IN THE MUTCD, PART IV.
- ALL TRAFFIC CONTROL DEVICES REQUIRED FOR WORK WITHIN THE ROADWAY SHALL BE IN PLACE PRIOR TO THE CONTRACTOR BEGINNING WORK.
- WORK AREAS COVERED BY TRAFFIC CONTROL SCHEME #2 SHALL NOT ENCRUCH INTO THE TRAVEL WAY. ANY WORK THAT REQUIRES ENCROACHMENT INTO THE TRAVEL WAY REQUIRES CLOSURE OF THE APPROPRIATE LANE.
- ALL PORTABLE SIGNS SHALL BE REMOVED WHEN NOT IN USE OR AT THE END OF THE WORK DAY.
- IN THOSE WORK AREAS IMMEDIATELY ADJACENT TO A TRAVEL LANE WHERE CONSTRUCTION ACTIVITIES LAST MORE THAN ONE DAY AND A DROP EXIST AT THE PAVEMENT EDGE, CHANNELIZING DRUMS WITH TYPE A LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE PLACED AT 50 FEET CENTERS.
- A DESIGN SPEED OF 55 MILES PER HOUR WAS USED TO DEVELOP TRAFFIC CONTROL SCHEMES FOR U.S. HIGHWAY 31 AND 35 MILES PER HOUR FOR FULTON SPRINGS ROAD.

LEGEND:

- POST MOUNTED SIGN
- ⌵ REQUIRED SIGN (PORTABLE)
- CHANNELIZING DRUMS
- ▨ WORK AREA
- ➔ PORTABLE ARROW PANEL
- ▲ CONES
- FLAGGER