1) CONDUCTORS/CABLES

A) ALL CONDUCTORS AND CABLES FROM SIGNAL HEADS AND DETECTORS SHALL BE RUN IN UNDERGROUND CONDUIT, RISERS, ON POLES, OR ON MESSENGER CABLE AND SHALL BE RUN IN THE MOST DIRECT ROUTE TO THE CONTROLLER CABINET IN ACCORDANCE WITH THE PLANS.

B) A SPARE LENGTH OF CABLE SHALL BE INSTALLED AS SHOWN ON LADOTD STANDARD DETAIL SHEETS LABELED "SPAN WIRE INSTALLATION DETAILS" AND "JUNCTION BOX AND PULL BOX". SIX FEET OF SPARE SIGNAL CABLE, LOOP LEAD-IN, COMMUNICATION, AND SERVICE CABLE, SHALL BE INSTALLED IN EACH BASE MOUNTED CABINET IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

2) CONDUIT

A) ALL UNDERGROUND CONDUIT INCLUDING ELBOW SHALL BE HDPE OR PVC SCHEDULE 80.

B) USE AN E-LOC COUPLING WHEN CONNECTING HDPE TO PVC.

C) ALL ABOVE GROUND CONDUIT AND FITTINGS SHALL BE RIGID STEEL AND HOT DIP GALVANIZED ACCORDING TO ANSI C80.1.

D) SIGNAL CONDUIT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 24".

E) FIBER OPTIC CONDUIT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 36".

F) ALL CONDUIT SHALL BE INSTALLED AT THE DEPTHS LISTED ABOVE FOR DITCH INVERT.

G) ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH A WATERPROOF SEALING COMPOUND.

H) ALL CABLE AND WIRE ENTRANCES SHALL BE DUCT SEALED IN CABINET AFTER INSTALLATION.

I) NO MORE THAN 270 DEGREES OF BENDS IN CONDUIT WITHOUT A JUNCTION BOX.

3) FOUNDATIONS

A) USE CLASS S CONCRETE WITH AN 8" SLUMP IN ACCORDANCE WITH SECTION 901.

4) FOUNDATION DISPOSAL

A) THE CONTRACTOR SHALL DISPOSE OF ALL EXISTING CONTROLLER AND POLE BASE FOUNDATIONS. POLE BASE FOUNDATIONS SHALL BE SHAVED 24" BELOW NATURAL GROUND AND BACK FILLED. REMOVAL OF FOUNDATIONS SHALL BE IN ACCORDANCE WITH SECTION 202 OF THE LADOTD STANDARD SPECIFICATIONS.

5) INTERSECTION SPECIFIC NOTES

A) SEE INDIVIDUAL INTERSECTION PLAN SHEETS.

6) JUNCTION BOXES

A) THE MAXIMUM DISTANCE BETWEEN SIGNAL JUNCTION BOXES SHALL BE 500 FEET.

B) THE MAXIMUM DISTANCE BETWEEN JUNCTION BOXES USED FOR COMMUNICATIONS CABLE SHALL BE 1000 FEET.

7) PROPERTY DAMAGE

A) ANY PROPERTY DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE THE CONTRACTORS RESPONSIBILITY.

8) POWER SERVICE

A) THE POWER SOURCE SHOWN ON THE DRAWINGS IS APPROXIMATE AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF THE POWER SOURCE.

B) THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH AND PAY THE POWER COMPANY FOR TEMPORARY AND PERMANENT ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND POINTS OF ATTACHMENT BEFORE INSTALLATION IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

C) FROM THE POWER DISCONNECT, A 1" CONDUIT WITH THREE #6 AWG-IC STRANDED COPPER, SHALL BE TURNED UP THE POWER COMPANY SERVICE POLE TO A HEIGHT DESIGNATED BY THE POWER COMPANY. THE CONTRACTOR SHALL TERMINATE THE CONDUIT WITH A THREADED SERVICE ENTRANCE FITTING (WEATHER HEAD) AND WIRES SHALL BE A MINIMUM OF 2 FEET BEYOND THE WEATHER HEAD TO ALLOW CONNECTION TO POWER COMPANY WIRING WITH A DRIP LOOP.

D) THE CONTRACTOR SHALL COORDINATE POWER SERVICE CONNECTION WITH UTILITY COMPANY.

9) POWER DISCONNECT

A) FROM THE POWER DISCONNECT TO THE CONTROLLER, A 2" CONDUIT WITH THREE #6 AWG-IC SHALL BE INSTALLED. MEASUREMENT FOR SIGNAL SERVICE PAYMENT WILL BE IN ACCORDANCE WITH SIGNAL SERVICE (PEDESTAL MOUNTED) FOR POWER DISCONNECT.

B) A POWER DISCONNECT MUST BE LOCATED WITHIN THE SAME QUADRANT AS THE SIGNAL CONTROLLER CABINET AND MUST BE ABLE TO BE ACCESSED SAFELY WITHOUT OBSTICLES BETWEEN THE DISCONNECT AND THE CONTROLLER. IF THIS CONDITION CANNOT BE MET, A SEPARATE SIGNAL SERVICE (PEDESTAL MOUNTED) POWER DISCONNECT SHALL BE PROVIDED AT THE CONTROLLER LOCATION FOR EMERGENCY POWER SHUT-OFF.

10) RIGHT-OF-WAY

A) THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE STATE RIGHT-OF-WAY LIMITS AND MAINTAINING ALL CONSTRUCTION WITHIN THESE LIMITS.

11) SIGNAL CONTROLLER CABINET

A) THE CONTROLLER CABINET SHALL BE ORIENTED SUCH THAT SIGNAL PERSONNEL CAN FACE THE INTERSECTION WHEN OPENING THE CABINET. THE BACK OF THE CABINET SHALL PARALLEL THE MAIN ROADWAY.

B) A 3' X 5' X 4" CONCRETE PAD SHALL BE POURED IN FRONT OF CONTROLLER CABINET FOR A TYPICAL BASE MOUNTED CABINET FOUNDATION AND NEXT TO THE CONTROLLER CABINET POLE FOR POLE MOUNTED CABINETS, PAD SHALL BE INSTALLED ABOVE GROUND LEVEL TO PROVIDE AN ALL WEATHER STANDING AREA FOR SERVICE PERSONNEL.

12) SIGNAL DETECTORS – LOOPS

A) THE PROJECT ENGINEER SHALL APPROVE THE DEPTH AND CLEANLINESS OF EACH DETECTOR LOOP SLOT BEFORE THE CONTRACTOR PLACES WIRE IN THE SLOT.

B) SHIELDED CABLE SHALL BE SPLICED TO LOOP WIRE AT A PULL BOX NEAREST THE LOOP (OR LOCATION SPECIFICALLY DESIGNATED ON THE PLANS) AND SHALL BE CONTINUOUS TO THE TERMINATION PANEL IN THE CONTROLLER CABINET. NO SPLICE SHALL BE PERMITTED BETWEEN THE LOOP LEAD-IN AND THE TERMINATION PANEL.

C) LOOPS OPERATING ON THE SAME PHASE SHALL BE WIRED IN SERIES. A SINGLE LOOP LEAD-IN WIRE SHALL BE RAN FROM THE JUNCTION BOX TO THE CONTROLLER.

13) SIGNAL DETECTORS – VIDEO

A) ADJUST CAMERA IMAGE 10 FEET TO 15 FEET BEFORE STOP BAR TO ALLOW COUNT DETECTION TO BE PROGRAMMED AT A LATER DATE.

14) SIGNAL EQUIPMENT LOCATION

A) LOCATIONS OF POLES, SIGNALS, LOOP DETECTORS, SYSTEM SENSORS, CONTROLLERS AND JUNCTION BOXES ARE APPROXIMATE. EXACT LOCATIONS SHALL BE APPROVED BY THE PROJECT ENGINEER.

B) THE CONTRACTOR SHALL STAKE THE RIGHT-OF-WAY, EDGE OF THE PAVEMENT/CURB, LANE LINES, UTILITY MARKUP, AND ELEVATION & LOCATION OF EACH POLE FOUNDATION FOR THE PROJECT ENGINEER'S APPROVAL DURING THE ASSEMBLY PERIOD. ANY EXCEPTION HAS TO BE APPROVED BY THE PROJECT ENGINEER. AFTER APPROVAL THE CONTRACTOR MAY PROCEED WITH THE INSTALLATION OF THE POLE FOUNDATION.

C) ONCE THE POLE FOUNDATION IS INSTALLED, MAST ARM LENGTHS SPECIFIED ON PLANS ARE TO BE VERIFIED TO ORDER THE MATERIALS. IF A TIME EXTENSION IS NEEDED, IT SHALL BE AT THE DISCRETION OF THE PROJECT ENGINEER TO GRANT THE EXTENSION.

15) SIGNAL EQUIPMENT REMOVAL

A) ALL EXISTING TRAFFIC SIGNAL EQUIPMENT, CONTROL DEVICES, AND COMMUNICATIONS AT EACH INTERSECTION SHALL BE REMOVED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER.

B) THE CONTRACTOR SHALL DELIVER ALL SALVAGEABLE EQUIPMENT TO THE OWNER.

C) THE REMOVAL AND DELIVERY OF EQUIPMENT TO THE OWNER SHALL BE PAID FOR UNDER ITEM FOR "REMOVAL OF TRAFFIC SIGNAL EQUIPMENT".

16) SIGNAL POLE HEIGHT

A) THE CONTRACTOR SHALL PROVIDE HEIGHTS THAT ARE SUFFICIENT TO ENSURE THAT THE BOTTOM OF THE LOWEST SIGNAL ON AN ASSEMBLY IS NOT LESS THAN 17' ABOVE THE PAVEMENT. FOR MAXIMUM HEIGHT REFER TO THE CURRENT ADOPTED EDITION OF THE MUTCD.

B) SIGNAL HEAD ALIGNMENT AND CLEARANCE SHALL BE IN ACCORDANCE WITH THE LADOTD TRAFFIC SIGNAL DESIGN MANUAL.

17) SIGNAL POLE FINISH REPAIR

A) IF HOT-DIPPED GALVANIZED STEEL POLES ARE DAMAGED, THE DAMAGED GALVANIZED AREA SHALL BE REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH SUBSECTION 811.12 OF THE LADOTD STANDARD SPECIFICATIONS.

18) SIGNAL POLE ELECTRICAL CLEARANCES

A) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PROPER CLEARANCES FROM EXISTING UTILITY LINES AND LUMINARIES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL SAFETY CODE.

19) TRAFFIC CONTROL – EXISTING SIGNALS

A) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL OPERATION OF THE NEW, EXISTING, OR TEMPORARY TRAFFIC SIGNALS DURING THE PERIOD OF CONSTRUCTION. THIS INCLUDES RELOCATING POLES, DETECTORS, SIGNAL HEADS, AND OTHER ITEMS. PROVIDE TEMPORARY POLES OR OTHER MATERIALS AS NECESSARY TO ENSURE THE CONTINUAL OPERATION OF THE SIGNAL AND COMMUNICATION EQUIPMENT AT ALL TIMES. WHERE VEHICLE DETECTORS ARE PRESENT, VEHICLE DETECTION MUST BE MAINTAINED.

B) THE CHANGEOVER SHALL BE SCHEDULED DURING NON PEAK HOUR TRAFFIC CONDITIONS UNLESS DIRECTED OTHERWISE BY THE PROJECT ENGINEER, AS ADVISED BY THE OFFICE OF THE DISTRICT TRAFFIC OPERATIONS ENGINEER.

20) UTILITIES

A) UNDERGROUND UTILITIES MAY EXIST IN THE CONSTRUCTION AREAS. THE LOCATION AND TYPE IF SHOWN IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE INFORMATION IS SHOWN SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE ENGINEER DOES NOT GUARANTEE ACCURACY OR GUARANTEE THAT ALL UTILITIES ARE SHOWN.

B) BEFORE ANY EXCAVATIONS, THE CONTRACTOR SHALL CONTACT "LOUISIANA ONE CALL", THE APPROPRIATE UTILITY COMPANY, AND LADOTD TRAFFIC OPERATIONS SECTION AT (225)935-0100 FOR LOCATION OF THE UNDERGROUND SERVICE A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE "LOUISIANA ONE CALL" NUMBER IS 1-800-272-3020.

C) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH, AND SIZE OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND SHALL BE LIABLE FOR ANY DAMAGES CAUSED BY FAILURE TO COMPLY WITH THESE INSTRUCTIONS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAKING INDEPENDENT INVESTIGATIONS, INCLUDING ANY SUBSURFACE INVESTIGATIONS AS NECESSARY.

21) INSPECTION

A) CONTRACTOR SHALL BE REQUIRED TO CALL LADOTD TRAFFIC OPERATIONS SECTION AT (225)935-0100 AT LEAST 7 DAYS BEFORE BEGINNING CONSTRUCTION ACTIVITIES.

B) CONTRACTOR SHALL BE REQUIRED TO CALL LADOTD TRAFFIC OPERATIONS SECTION AT (225)935-0100 AT LEAST 7 DAYS BEFORE SIGNAL TURN ON TO SCHEDULE FOR A FINAL INSPECTION AND TO SCHEDULE FOR AN INSPECTOR TO BE PRESENT AT SIGNAL TURN ON.

22) COMMUNICATIONS – FIBER

A) ANY FIBER OPTIC CABLE INSTALLED SHALL BE REQUIRED TO HAVE A 10 AWG, GREEN, 600V COPPER CONDUCTOR, STRANDED OR OTHER APPLICABLE TRACER WIRE IN THE SAME CONDUIT. PAYMENT WILL BE MADE UNDER THE FIBER OPTIC CABLE PAY ITEM.

23) BRIDGE/RAILROAD PREEMPTION

A) INSTALL ONE 120VAC RELAY IN THE SIGNAL CABINET. THE RELAY IS ENERGIZED IN ABSENCE OF BRIDGE/RAILROAD PREEMPTION CALLS AND IS DE-ENERGIZED WHEN PREEMPTION CALLS ARE PRESENT. THE RELAY IS ACTIVATED BY THE CONTROL DESK SWITCH THAT CONTROLS BRIDGE FLASHERS OR THE RAILROAD CONTROL HOUSE SWITCH.

B) RUN A #14 TWO CONDUCTOR WIRE IN A MIN 1" PVC CONDUIT BETWEEN TRAFFIC SIGNAL CABINET TO THE DESIGNATED TERMINAL BLOCKS INSIDE THE RAILROAD HOUSE, BRIDGE CONTROL HOUSE OR THE MAIN BRIDGE JUNCTION BOX WHERE SPARE TERMINAL BLOCKS ARE AVAILABLE. 6' SPARE WIRE IS REQUIRED WHEN CONNECTION IS MADE AT THE JUNCTION BOX. 15' SPARE WIRE IS REQUIRED WHEN CONNECTION IS MADE INSIDE THE BRIDGE OR RAILROAD CONTROL HOUSE.

C) DESIGNERS SHALL VERIFY BRIDGE CONTROL CONNECTION LOCATIONS WITH LA DOTD BRIDGE ELECTRICAL SECTION.

D) DESIGNERS SHALL VERIFY TRACK CLEARANCE TIME AND BRIDGE PREEMPTION SEQUENCE WITH THE DISTRICT TRAFFIC OPERATIONS ENGINEER.

E) BRIDGE OR RAILROAD CONTROL HOUSE PROVIDES NORMALLY-CLOSED CONTACT CONNECTION.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

NO.	DATE	REVISION DESCRIPTION	BY

SHEET NUMBER

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL	DESIGNED S. MCCARROLL	DATE 04/12/2017
CHECKED D. LORIO	CHECKED L. WANG	SHEET 1 of 14
DETAILED		
CHECKED		

TRAFFIC SIGNAL STANDARD DETAILS
SIGN NOTES
TSD-00

DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC ENGINEERING

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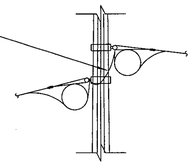
LEGEND:
ED - ELEVATION DIFFERENCE BETWEEN ROADWAY & GRADE AT POLE BASE
S - SAG AS ILLUSTRATED
SHH - SIGNAL HEAD HEIGHT + SPAN WIRE ATTACHMENT AND DISCONNECT HANGER
C - REQUIRED. CLEARANCE 17' OR AS SPECIFIED
PH - POLE HEIGHT

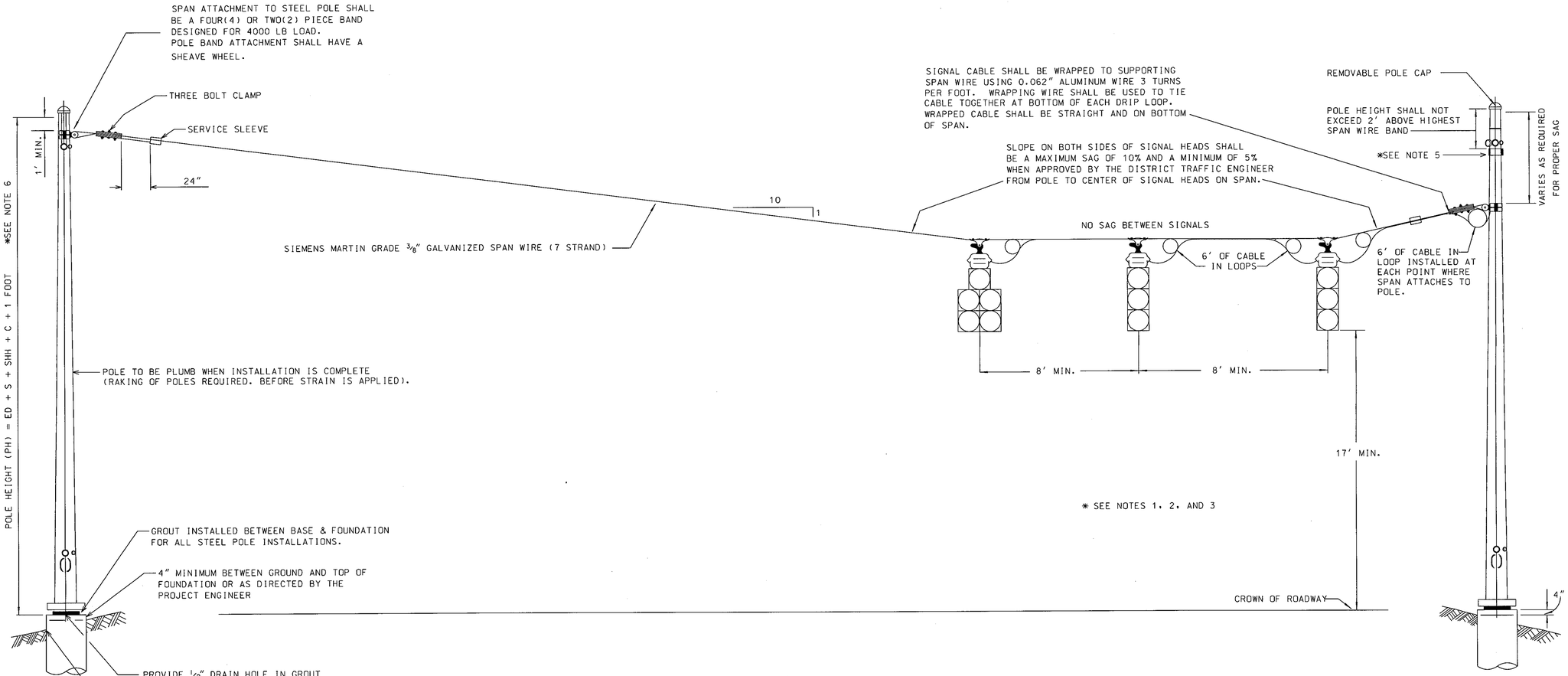
SPAN WIRE SIGNAL INSTALLATION

STEEL POLE INSTALLATION SHOWN. ALSO APPLIES TO WOOD POLE INSTALLATION.

ATTACH SIGNAL CABLE TO POLE WHEN POLE BANDS ARE MORE THAN 18" APART. USE NONCONDUCTING MATERIAL. HEAVY DUTY TIE WRAP SHALL BE 1/2" WIDE. SELF-LOCKING. ULTRA VIOLET. AND WEATHER RESISTANT. EXCESS WRAP MATERIAL SHALL BE TRIMMED.



ATTACH SIGNAL CABLE TO SPAN ON BOTH SIDES OF LOOP.



* SEE NOTES 1, 2, AND 3

NOTE:

1. REFER TO THE PLANS FOR SIGNAL HEAD TYPE, NUMBER AND PLACEMENT.
2. ALL SIGNAL HEADS SHALL BE 17' MINIMUM HEIGHT. FOR MAXIMUM HEIGHT, REFER TO THE MUTCD CURRENT ADOPTED EDITION.
3. SIGNAL HEADS FOR PRIMARY MOVEMENT ON SPECIFIC APPROACH SHALL BE CENTERED OVER APPROACH. TURN LANE HEADS SHALL BE PLACED WITH ADEQUATE SPACING FROM LEFT MOST PRIMARY HEAD.
4. SIGNAL CABLE SHALL ENTER POLE BY WIRE WAY PROVIDED ON POLE. WEATHER HEAD SHALL BE SIZED ACCORDING TO THE NUMBER OF CABLES IN 3" BOSS PROVIDED WITH NECESSARY REDUCERS.
5. A SEPARATE POLE BAND MAY BE REQUIRED TO ATTACH PERPENDICULAR SPAN TO POLE MEETING THE REQUIREMENTS FOR SIGNAL HEIGHT AND SAG.
6. IN ALL CASES, THE MAXIMUM STRAIN POLE HEIGHT SHALL BE USED TO MEET THE 17' SIGNAL HEIGHT BEFORE ANY FOUNDATION ADJUSTMENTS ARE MADE. ADJUSTMENTS TO THE FOUNDATION MUST BE APPROVED BY THE PROJECT ENGINEER.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL	DETAILED S. MCCARROLL	DATE 04/12/2017
CHECKED D. LORIO	CHECKED L. WANG	SHEET 2 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

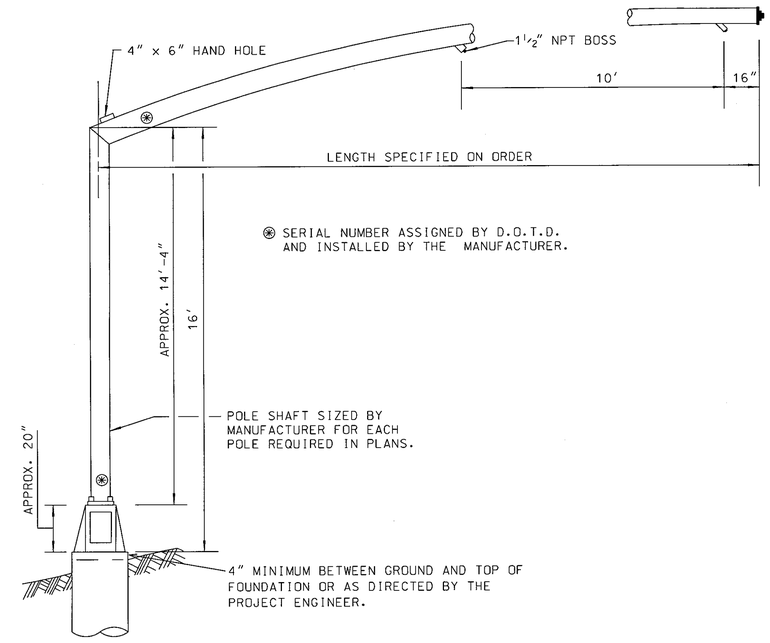
TRAFFIC SIGNAL STANDARD DETAILS

SPAN WIRE INSTALLATION DETAILS

TSD-01

TRAFFIC ENGINEERING

50′ SINGLE, 45′X40′DUAL, AND UNDER MAST ARM, STEEL STRAIN POLE STANDARD

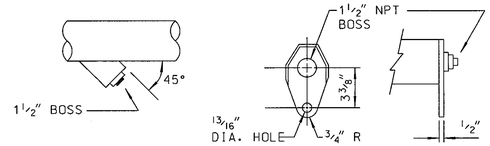


END OF ARM SHALL BE ELEVATED 5′ ABOVE TOP OF SHAFT AND PROVIDE A 21′ MINIMUM ELEVATION DIFFERENCE FROM THE BOTTOM OF TRANSFORMER BASE.

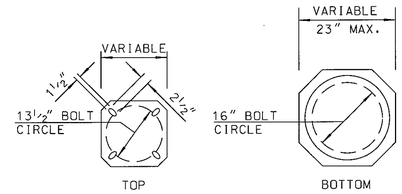
⊛ SERIAL NUMBER ASSIGNED BY D.O.T.D. AND INSTALLED BY THE MANUFACTURER.

NOTE:
1. ALL BOSSES SHALL BE PLUGGED WITH A 1½" GALVANIZED STEEL CONDUIT PLUG WITH A SQUARE HEAD HDG. WHEN CABLE IS ROUTED THROUGH THE BOSS A RUBBER COMPRESSION BUSHING SHALL BE USED TO SEAL AND HOLD CABLE IN BOSS. CABLE SHALL BE SECURED TO MAST ARM FROM BOSS TO SIGNAL HEAD WITH ½" WIDE WEATHER RESISTANT TIE WRAPS.
2. TEN (10) CONDUCTOR SIGNAL CABLE FROM CONTROLLER MAY BE SPLICED IN TRANSFORMER BASE TO TWO (2) - SIX (6) CONDUCTOR SIGNAL CABLES ROUTED TO TWO (2) - THREE (3)SECTION SIGNAL HEADS ON THE MAST ARM. NO OTHER SPLICING SHALL BE ALLOWED.
3. ALL SPLICES SHALL BE MADE WITH AN ALL COPPER OPEN-ENDED COMPRESSION SPLICE CAP INSTALLED TO THE MANUFACTURES RECOMMENDED METHOD AND INSULATED. (WIRE NUTS SHALL NOT BE ALLOWED)

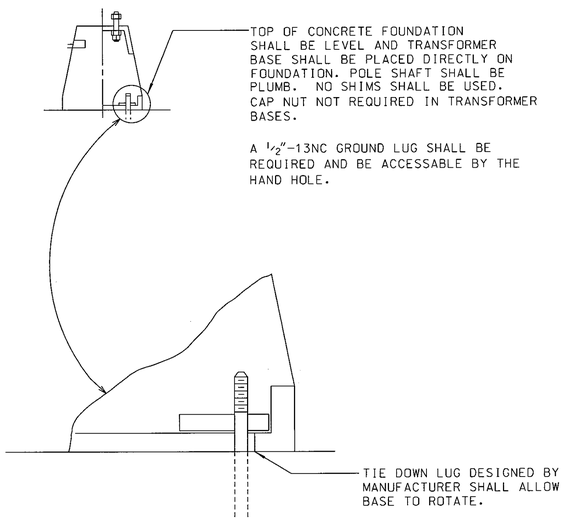
BOSS AND END PLATE DETAIL



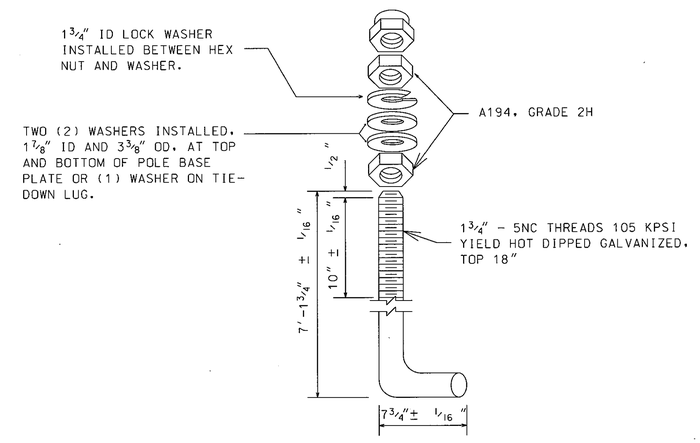
TRANSFORMER BASE DETAIL



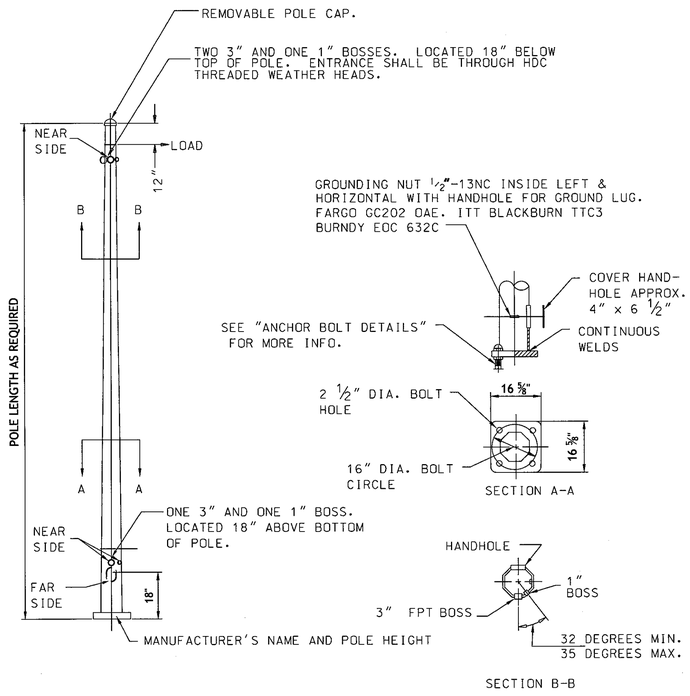
ROTATABLE BASE



ANCHOR BOLT DETAILS FOR STRAIN POLES AND MAST ARMS



STEEL STRAIN POLE



NOTE:
1. STEEL POLE BASEPLATES SHALL HAVE A 16" DIAMETER BOLT CIRCLE.
2. VENDORS SHALL BE AMERICAN INSTITUTE OF STEEL CONSTRUCTORS (AISC) CERTIFIED.

STATE OF LOUISIANA
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4/12/2017

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PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL	DETAILED S. MCCARROLL	DATE 04/12/2017
CHECKED D. LORIO	CHECKED L. WANG	SHEET 3 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

TRAFFIC SIGNAL STANDARD DETAILS
STRAIN POLE AND MAST ARMS 55' AND UNDER DETAIL
TSD-02

TRAFFIC ENGINEERING

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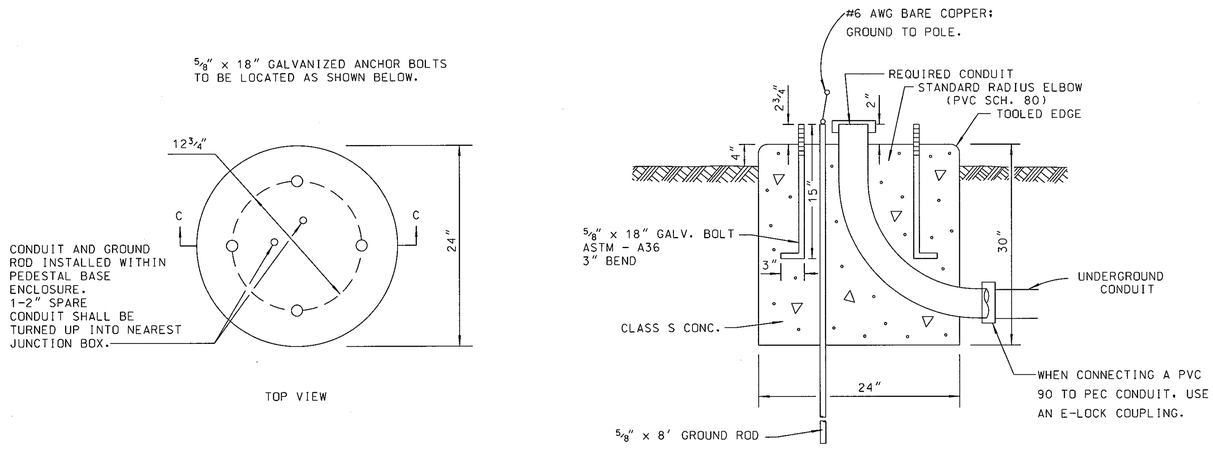
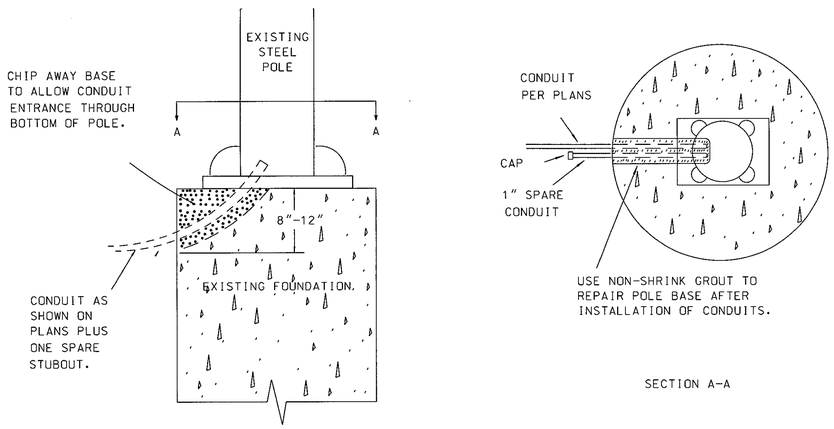
SIGNAL PEDESTAL FOUNDATION



NOTES:

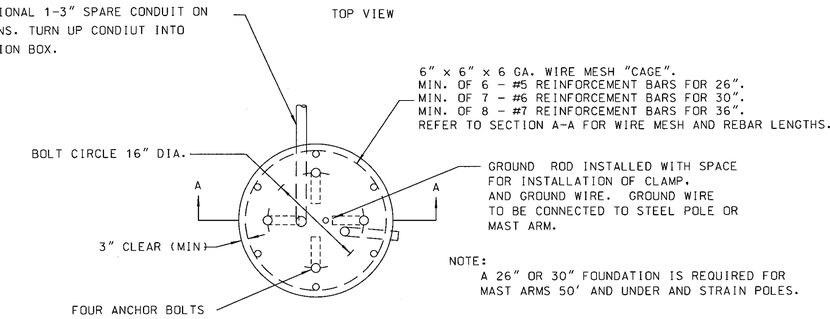
1. TRAFFIC SIGNAL ANCHOR BOLTS SHALL PROTRUDE 2 3/4" MIN. - 3" MAX. ABOVE FINISHED PEDESTAL FOUNDATION. CONDUIT AND GROUND RODS SHALL PROTRUDE 2" ABOVE FINISHED FOUNDATION.
2. BACKFILL OVER CONDUIT RUNS SHALL BE OF SOIL OR SAND AND SHALL NOT CONTAIN ROCKS OR CONCRETE.
3. ALL 90° ELLS TO BE STANDARD RADIUS.

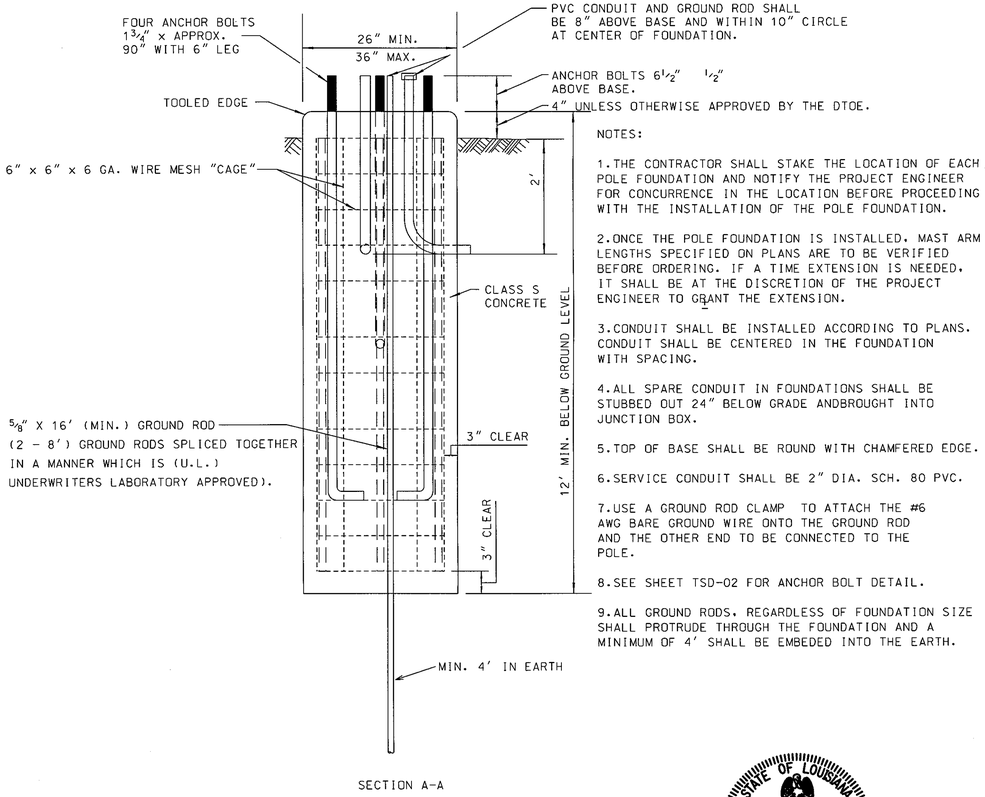
CONDUIT ENTRANCE DETAIL TO EXISTING FOUNDATION



50' SINGLE, 45'X40' DUAL, AND UNDER MAST ARM, STEEL STRAIN POLE STANDARD

CONDUIT (NO. AND SIZE AS REQ'D. ON PLANS). PROVIDE ADDITIONAL 1-3" SPARE CONDUIT ON ALL FOUNDATIONS. TURN UP CONDIUT INTO NEAREST JUNCTION BOX.





NOTES:

1. THE CONTRACTOR SHALL STAKE THE LOCATION OF EACH POLE FOUNDATION AND NOTIFY THE PROJECT ENGINEER FOR CONCURRENCE IN THE LOCATION BEFORE PROCEEDING WITH THE INSTALLATION OF THE POLE FOUNDATION.
2. ONCE THE POLE FOUNDATION IS INSTALLED, MAST ARM LENGTHS SPECIFIED ON PLANS ARE TO BE VERIFIED BEFORE ORDERING. IF A TIME EXTENSION IS NEEDED, IT SHALL BE AT THE DISCRETION OF THE PROJECT ENGINEER TO GRANT THE EXTENSION.
3. CONDUIT SHALL BE INSTALLED ACCORDING TO PLANS. CONDUIT SHALL BE CENTERED IN THE FOUNDATION WITH SPACING.
4. ALL SPARE CONDUIT IN FOUNDATIONS SHALL BE STUBBED OUT 24" BELOW GRADE ANDBROUGHT INTO JUNCTION BOX.
5. TOP OF BASE SHALL BE ROUND WITH CHAMFERED EDGE.
6. SERVICE CONDUIT SHALL BE 2" DIA. SCH. 80 PVC.
7. USE A GROUND ROD CLAMP TO ATTACH THE #6 AWG BARE GROUND WIRE ONTO THE GROUND ROD AND THE OTHER END TO BE CONNECTED TO THE POLE.
8. SEE SHEET TSD-02 FOR ANCHOR BOLT DETAIL.
9. ALL GROUND RODS, REGARDLESS OF FOUNDATION SIZE SHALL PROTRUDE THROUGH THE FOUNDATION AND A MINIMUM OF 4' SHALL BE EMBEDED INTO THE EARTH.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER		
PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL CHECKED D. LORIO	DETAILED S. MCCARROLL CHECKED L. WANG	DATE 04/12/2017 SHEET 4 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC SIGNAL STANDARD DETAILS

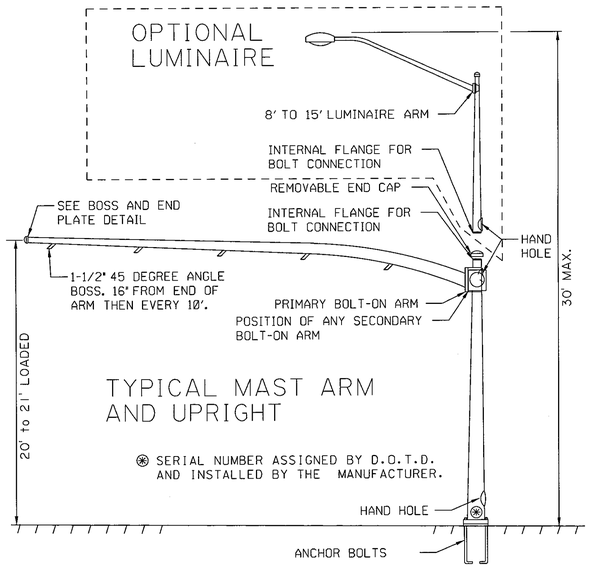
POLE FOUNDATION DETAILS

TSD-03

DOTD

TRAFFIC ENGINEERING

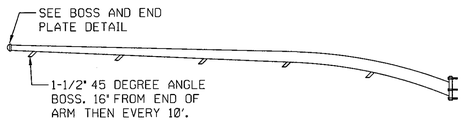
55' SINGLE, 50'X35' DUAL, AND OVER MAST ARM DETAIL



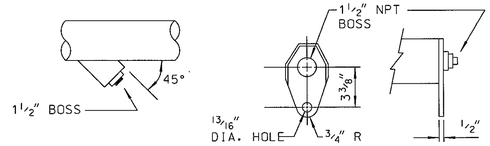
NOTE:
1. ALL BOSSES SHALL BE PLUGGED WITH A 1½" GALVANIZED STEEL CONDUIT PLUG WITH A SQUARE HEAD HDG. WHEN CABLE IS ROUTED THROUGH THE BOSS A RUBBER COMPRESSION BUSHING SHALL BE USED TO SEAL AND HOLD CABLE IN BOSS. CABLE SHALL BE SECURED TO MAST ARM FROM BOSS TO SIGNAL HEAD WITH ½" WIDE WEATHER RESISTANT TIE WRAPS.
2. TEN (10) CONDUCTOR SIGNAL CABLE FROM CONTROLLER MAY BE SPLICED IN POLE BASE TO TWO (2) - SIX (6) CONDUCTOR SIGNAL CABLES ROUTED TO TWO (2) - THREE (3)SECTION SIGNAL HEADS ON THE MAST ARM. NO OTHER SPLICING SHALL BE ALLOWED.
3. ALL SPLICES SHALL BE MADE WITH AN ALL COPPER OPEN-ENDED COMPRESSION SPLICE CAP INSTALLED TO THE MANUFACTURES RECOMMENDED METHOD AND INSULATED. (WIRE NUTS SHALL NOT BE ALLOWED)
4. A 1/2 "-13NC GROUND LUG SHALL BE REQUIRED AND BE ACCESSABLE BY THE HAND HOLE.

DUAL ARM (BOLT-ON)

SECONDARY ARM SHALL BE AT THE SAME MOUNTING HEIGHT AS THE PRIMARY BOLT-ON ARM AT THE OUTER TIP

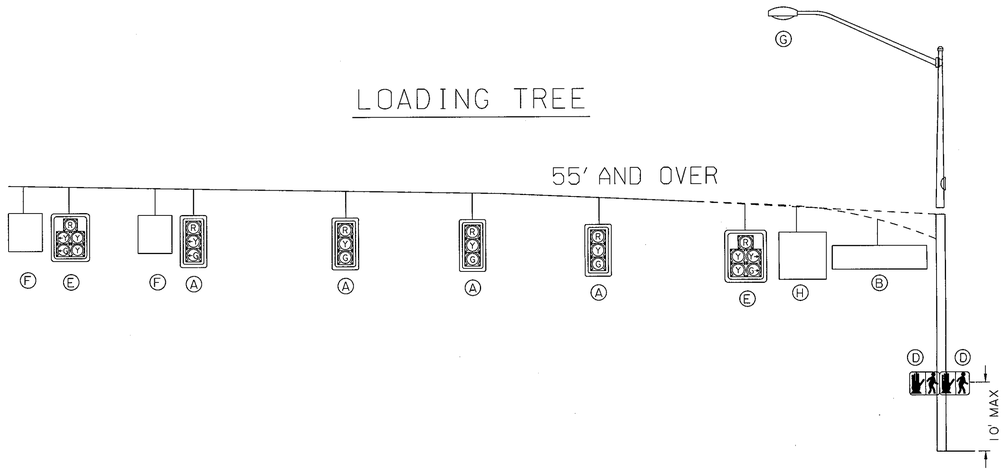


BOSS AND END PLATE DETAIL



LOADING TREE

55' AND OVER



MAST ARM DESIGN CRITERIA:
THESE TRAFFIC SIGNAL SUPPORT STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH LOADING AND ALLOWABLE STRESS REQUIREMENTS OF 2009 AASHTO "STANDARDS SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", FOURTH EDITION. WIND LOADS ARE BASED ON A BASIC WIND SPEED OF 130 MPH WITH A RECURRENCE INTERVAL OF 50 YEARS AND A FATIGUE CATAGORY OF 2. FATIGUE LOADS ARE BASED ON THE REQUIREMENTS OF SECTION 11.7 AND THE FOLLOWING DESIGN LOADS.

* VORTEX SHEDDING: NOT APPLICABLE FOR STRUCTURES WITH A TAPER OF AT LEAST 0.14"/FT. PER AASHTO.
* NATURAL WIND GUSTS: THE YEARLY MEAN WIND SPEED FOR NATURAL WIND GUSTS WILL BE ASSUMED TO BE 11.2 MPH.
* GALLOPING: STRUCTURES ARE NOT DESIGNED TO RESIST PERIODIC GALLOPING FORCES.
* TRUCK-INDUCED GUST: STRUCTURES ARE NOT DESIGNED TO INCLUDE TRUCK-INDUCED GUSTS.
* ARMS MAY BE CURVED OR STRAIGHT.

NOTE:
⟨1⟩ EFFECTIVE PROJECTED AREA

DEVICE	DESCRIPTION	PROJ AREA (SQ. FT)	WEIGHT (LBS)
(A) SIGNAL	12"-3 SEC. SIGNAL W/BACKPLATES	10.40⟨1⟩	56
(B) SIGN	72" X 18" STREET NAME SIGN	9.00	36
(C) SIGNAL	12"-3 SEC SIGNAL HEAD NO BACKPLATE	4.90⟨1⟩	50
(D) SIGNAL	DUAL 2 SECTION PEDESTRIAN SIGNAL	8.00⟨1⟩	80
(E) SIGNAL	12"-5 SEC SIGNAL WITH BACKPLATES	16.00⟨1⟩	85
(F) SIGN	24" X 30" REGULATORY SIGN	5.00	20
(G) LUMINAIRE	LUMINAIRE	3.30	75
(H) SIGN	36" X 36" BLANK OUT REGULATORY SIGN (40" X 40" OVERALL)	11.20	94
(I) SIGN	30" X 36" REGULATORY SIGN	7.50	30

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER

DESIGNED	S. MCCARROLL
CHECKED	D. LORIO
DETAILED	S. MCCARROLL
CHECKED	L. WANG
DATE	04/12/2017
SHEET	5 OF 14

PARISH | FEDERAL PROJECT | STATE PROJECT

NO.	DATE	REVISION DESCRIPTION	BY

TRAFFIC SIGNAL STANDARD DETAILS
55' SINGLE, 50'X35' DUAL, AND OVER MAST ARM DETAIL
TSD-04

TRAFFIC ENGINEERING

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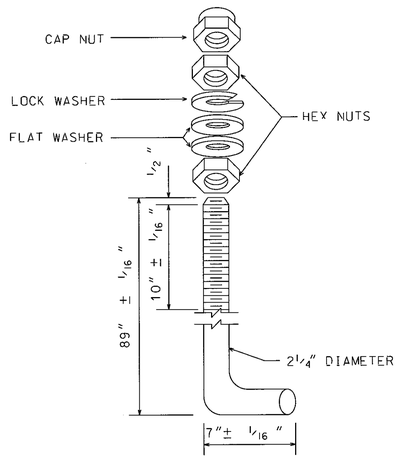
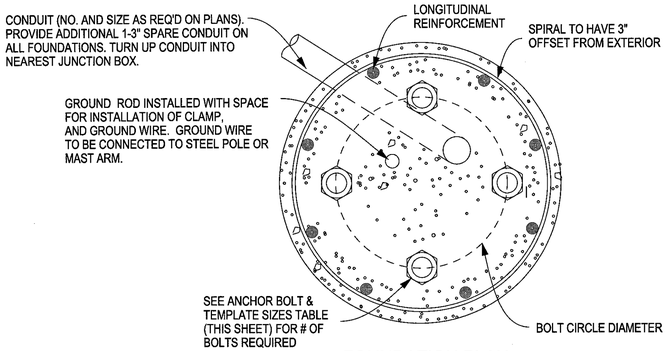


ASTM 1554, 55KSI, 89" WITH 7" BENT HOOK

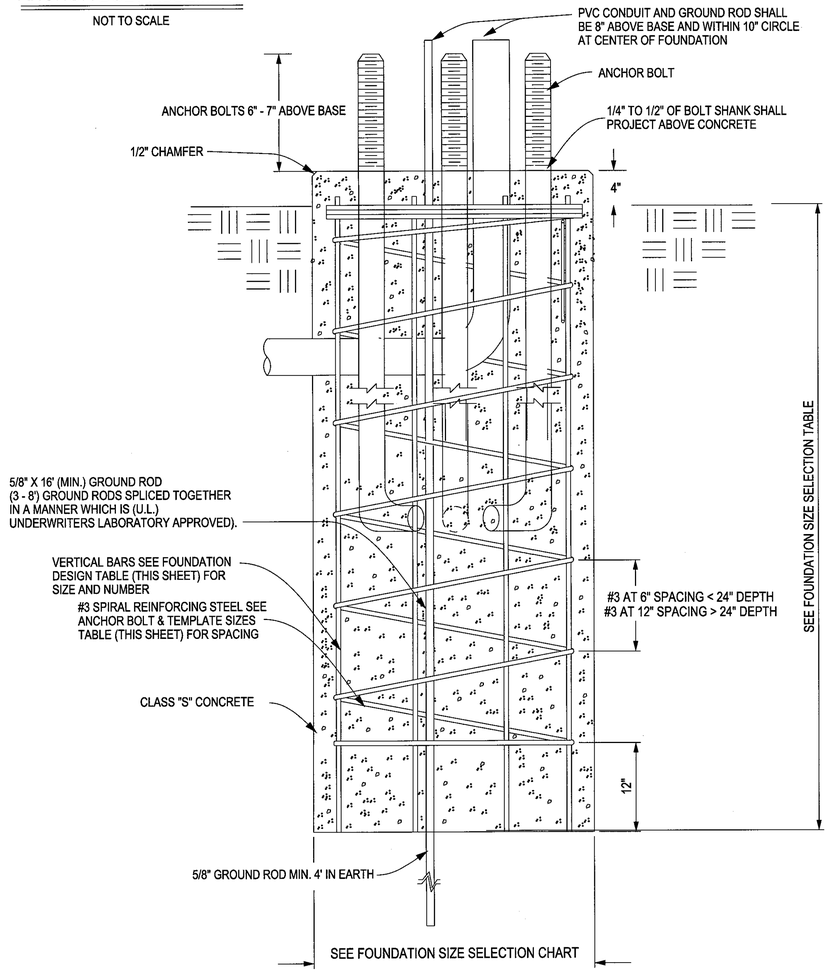
ANCHOR BOLT ASSEMBLY

NOT TO SCALE



FOUNDATION PLAN

NOT TO SCALE



FOUNDATION SECTION

NOT TO SCALE

FOUNDATION SIZE SELECTION TABLE

Mast Arm Length(s) (ft)	Bending Moment (ft-lb)	Torsion (ft-lb)	Shear (lb)	Axial Force (lb)	Foundation Size Selection (diameter in inches, depth in feet)							
					Zone 1 (Diameter/Depth)		Zone 2+ (Diameter/Depth)		Zone 3+ (Diameter/Depth)		Zone 4 (Diameter/Depth)	
55	125,120	121,100	5,500	5,862	*	*	42	18	36	14	*	*
60	141,805	128,940	5,930	6,561	*	*	42	19	36	15	*	*
65	161,259	150,480	6,130	6,965	*	*	48	17	36	16	*	*
70	182,103	169,590	6,620	7,377	*	*	48	19	36	17	*	*
50 & 35	142,210	101,630	5,860	7,572	54	18	36	20	36	13	*	*
50 & 40	147,540	101,610	5,860	7,798	54	18	36	20	36	13	*	*
55 & 40	159,408	119,900	5,910	8,195	*	*	42	18	36	14	*	*
55 & 45	165,981	119,870	5,910	8,425	*	*	42	18	36	14	*	*
*: Special Design Foundation Required												

ANCHOR BOLT & TEMPLATE SIZE TABLE

DRILLED SHAFT DIA	REINFORCING STEEL		ANCHOR BOLT DESIGN		
	VERT BARS	SPIRAL SPACING	# OF ANCHOR BOLTS	ANCHOR BOLT DIA	BOLT CIRCLE DIA
36"	12 - #10	#3 AT 6" < 24" DEPTH #3 AT 12" > 24" DEPTH	4	2 1/4"	24"
42"	17 - #10	#3 AT 6" < 24" DEPTH #3 AT 12" > 24" DEPTH	6	2 1/4"	30"
54"	28 - #10	#3 AT 6" < 24" DEPTH #3 AT 12" > 24" DEPTH	6	2 1/4"	30"

GENERAL NOTES:

1. THREADS FOR ANCHOR BOLTS AND NUTS SHALL BE ROLLED OR CUT THREADS .
2. THE CONTRACTOR SHALL STAKE THE LOCATION OF EACH POLE FOUNDATION AND NOTIFY THE PROJECT ENGINEER FOR CONCURRENCE IN THE LOCATION BEFORE PROCEEDING WITH THE INSTALLATION OF THE POLE FOUNDATION.
3. ONCE THE POLE FOUNDATION IS INSTALLED, MAST ARM LENGTHS SPECIFIED ON PLANS ARE TO BE VERIFIED BEFORE ORDERING. IF A TIME EXTENSION IS NEEDED, IT SHALL BE AT THE DISCRETION OF THE PROJECT ENGINEER TO GRANT THE EXTENSION.
4. CONDUIT SHALL BE INSTALLED ACCORDING TO PLANS. CONDUIT SHALL BE CENTERED IN THE FOUNDATION WITH EVEN SPACING.
5. ALL SPARE CONDUIT IN FOUNDATIONS SHALL BE STUBBED OUT 24" BELOW GRADE AND BROUGHT INTO JUNCTION BOX.
6. TOP OF BASE SHALL BE ROUND WITH CHAMFERED EDGE.
7. SERVICE CONDUIT SHALL BE 2" DIA. SCH. 80 PVC.
8. USE A GROUND ROD CLAMP TO ATTACH THE #6 AWG BARE GROUND WIRE ONTO THE GROUND ROD AND THE OTHER END TO BE CONNECTED TO THE POLE.
9. ALL GROUND RODS, REGARDLESS OF FOUNDATION SIZE SHALL PROTRUDE THROUGH THE FOUNDATION AND A MINIMUM OF 4' SHALL BE EMBEDED INTO THE EARTH.

SPECIAL DESIGN FOUNDATION NOTES:

SPECIAL DESIGN FOUNDATION NOTES

1. FOUNDATIONS FOR MAST ARM LENGTHS REQUIRING A SPECIAL DESIGN FOUNDATION SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE AASTHO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. FOUNDATION LOADS FOR THE CORRESPONDING MAST ARM LENGTH PROVIDED IN THE FOUNDATION SIZE SELECTION TABLE SHALL BE USED TO DESIGN THE FOUNDATION SIZE AND DEPTH. THE LOADS IN THE TABLE WERE PROVIDED BY THE MAST ARM MANUFACTURERS AND ARE BASED ON A 25-YEAR RECURRENCE INTERVAL AND A WIND SPEED OF 110 MPH. THESE LOADS SHALL ONLY BE USED FOR DESIGN OF THE FOUNDATION.
3. WHEN A SPECIAL DESIGN FOUNDATION IS REQUIRED THE FOUNDATION DESIGN SHALL BE BASED ON SITE SPECIFIC SUBSURFACE INFORMATION. IF SITE SPECIFIC DATA IS NOT MADE AVAILABLE BY DOTD THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING SITE SPECIFIC SUBSURFACE INFORMATION.
4. DESIGN CALCULATIONS FOR THE FOUNDATION SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING SECTION FOR REVIEW.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER

PARISH | FEDERAL PROJECT | STATE PROJECT

DESIGNED S. MCCARROLL
CHECKED D. LORIO
DETAILED S. MCCARROLL
CHECKED L. WANG
DATE 04/12/2017
SHEET 6 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

TRAFFIC SIGNAL STANDARD DETAILS
55' SINGLE, 50'X35' DUAL AND OVER MAST ARM DETAIL FOUNDATION
TSD-05

TRAFFIC ENGINEERING

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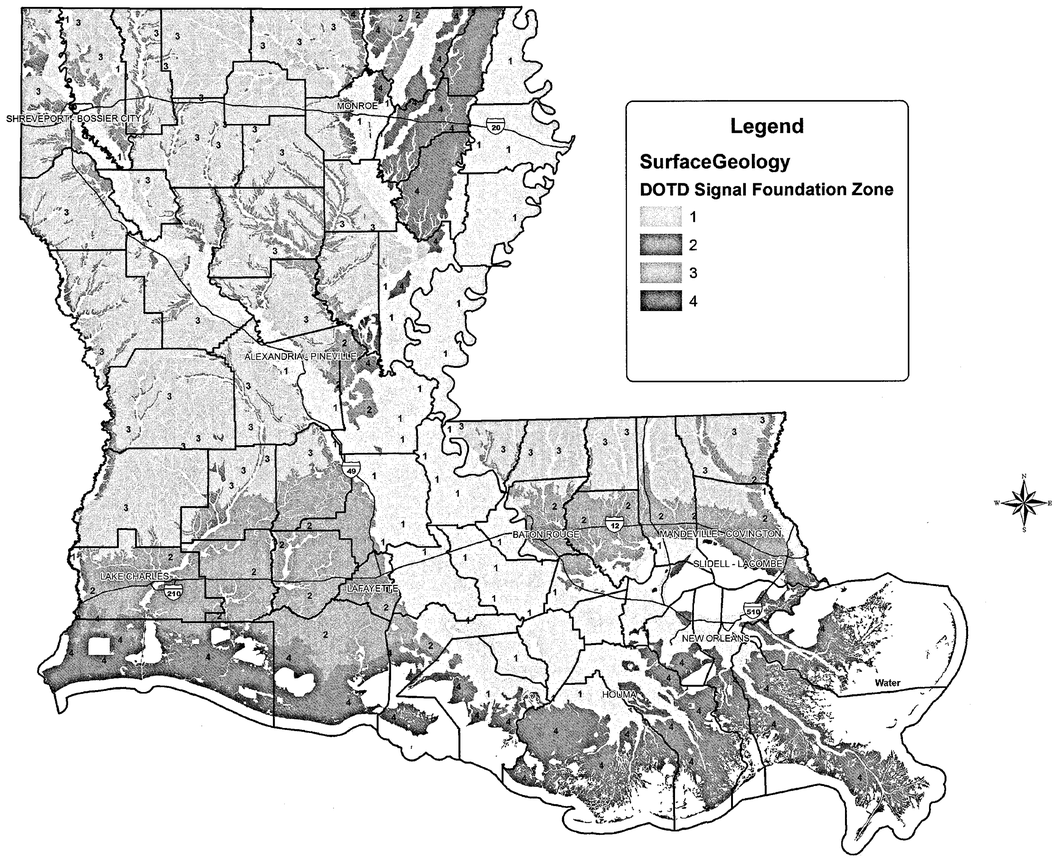
GENERAL STATIC MAP FOR FOUNDATION REQUIREMENTS SHOWN HERE.
SEE **http://goo.gl/QHv2o3** FOR LOCATION SPECIFIC CLASSIFICATION.
ALTERNATIVE: LADOTD WEBSITE/HOME/INSIDE LADOTD/DIVISIONS/OPERATIONS
/TRAFFIC SERVICES/TRAFFIC OPERATIONS/APPROVED PRODUCT LIST/TOAPL 165.



CONSTRUCTION NOTES:

1. IF GROUNDWATER IS ENCOUNTERED DURING FOUNDATION EXCAVATION AND NO CAVE IN IS OBSERVED, THE GROUNDWATER SHOULD BE PUMPED OUT PRIOR TO STEEL CAGE PLACEMENT. THE WATER REMAINS IN THE EXCAVATION SHOULD BE NO MORE THAN ½ INCH.
2. IF GROUNDWATER IS ENCOUNTERED DURING FOUNDATION EXCAVATION AND CAVE IN IS OBSERVED, THE EXCAVATION SHOULD BE CEASED. CONTACT THE PROJECT ENGINEER IMMEDIATELY. SHOULD THE CAVING IS EXCESSIVE, BACKFILL THE EXCAVATION IMMEDIATELY.
3. FREE FALL CONCRETE IS ALLOWED FOR DRY HOLES ONLY. THE CONCRETE SHALL BE PLACED WITH A HOPPER OR A TREMIE. WHEN FREE FALL METHOD IS USED, CONTROL THE CONCRETE TO FALL VERTICALLY WITHOUT CONTACTING SHAFT WALL OR STEEL CAGE TO PREVENT SEGREGATION.
4. CONCRETE PLACEMENT WITH A TREMIE IS REQUIRED IF EXCESSIVE GROUNDWATER (MORE THAN 6 INCHES ACCUMULATION) IS ENCOUNTERED.
   WHEN THE SOIL CONDITIONS ARE SUSPECTED TO BE DIFFERENT THAN THOSE DESCRIBED IN THE FOUNDATION SIZE ZONING, CONTACT THE PROJECT ENGINEER IMMEDIATELY TO EVALUATE THE SUITABILITY OF THE FOUNDATION DESIGN.

FOUNDATION SIZE ZONING:

1. FOUNDATION ZONES ARE BASED ON THE 1984 GEOLOGICAL MAP OF LOUISIANA PUBLISHED BY THE LOUISIANA GEOLOGICAL SURVEY. LOCAL GEOLOGICAL VARIATIONS ARE LIKELY DUE TO HUMAN ACTIVITIES OR NATURAL EVENTS.
2. THE ZONING MAP IS INTENDED TO ASSIST IN SIZING FOUNDATION FOR SELECTED SIGNAL POLES AND SHOULD NOT BE VIEWED AS A SUBSTITUTE OF ENGINEERING JUDGMENT OR PROPER DESIGN.
3. SOME SOILS SUCH AS GRAVEL OR CEMENTED SOILS MAY NOT BE AMENABLE TO THE CONVENTIONAL DRILLED SHAFT CONSTRUCTION. EXERCISE CAUTION AND SEEK CONFIRMATION OF THE SOIL CONDITIONS DURING DESIGN AND/OR DURING SHAFT EXCAVATION.

ZONE 1 - ALLUVIAL SOILS FORMED BY THE RED RIVER, THE OUACHITA RIVER, THE ATCHAFALAYA RIVER, AND THE MISSISSIPPI RIVER. ASSUMED AVERAGE SOIL SHEAR STRENGTH IS AT LEAST 250 POUNDS PER SQUARE FOOT (PSF).

ZONE 2 - PLEISTOCENE AGE PRAIRIE TERRACES DEPOSITS. ASSUMED AVERAGE SOIL SHEAR STRENGTH IS AT LEAST 500 PSF.

ZONE 3 – PLEISTOCENE AGE OR OLDER DEPOSITS OTHER THAN ZONE 2. ASSUMED AVERAGED SHEAR STRENGTH IS AT LEAST 1,000 PSF.

ZONE 4 - MOSTLY COASTAL MARSH AND SAND/GRAVEL DEPOSITS. SPECIAL DESIGN IS REQUIRED FOR THE SIGNAL POLE WITHIN THIS ZONE.

STATE OF LOUISIANA
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4/12/2017

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DESIGNED S. MCCARROLL
CHECKED D. LORIO
DETAILED S. MCCARROLL
CHECKED L. WANG
DATE 04/12/2017
SHEET 7 OF 14

REVISION DESCRIPTION | BY | NO. | DATE

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC SIGNAL STANDARD DETAILS
55' SINGLE, 50'X35' DUAL,
AND OVER MAST ARM DETAIL
FOUNDATION DETAILS
POLE FOUNDATION DETAILS
TSD-06

DOTD
TRAFFIC ENGINEERING

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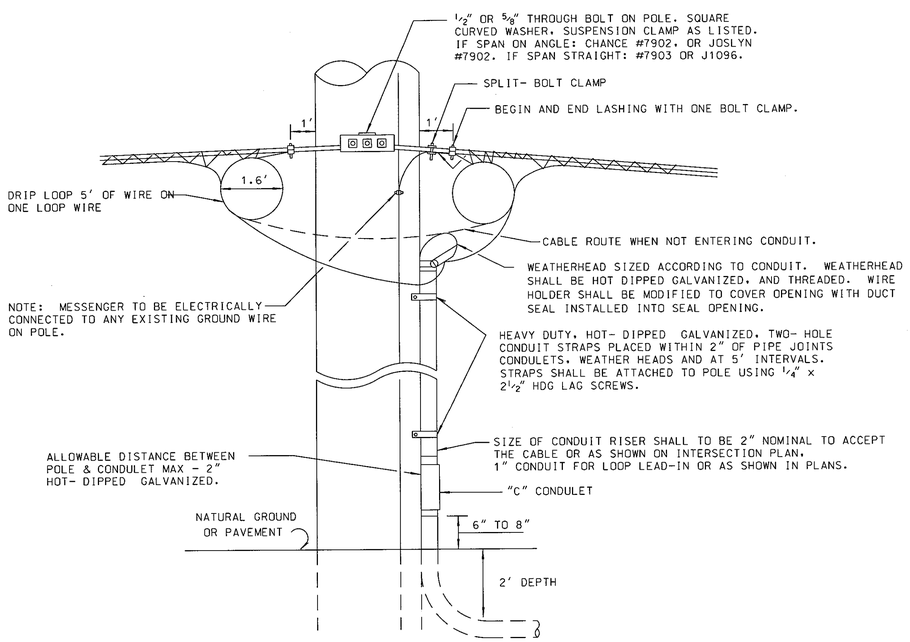
TYPICAL CONDUIT RISER ASSEMBLY & INTERCONNECT DETAIL

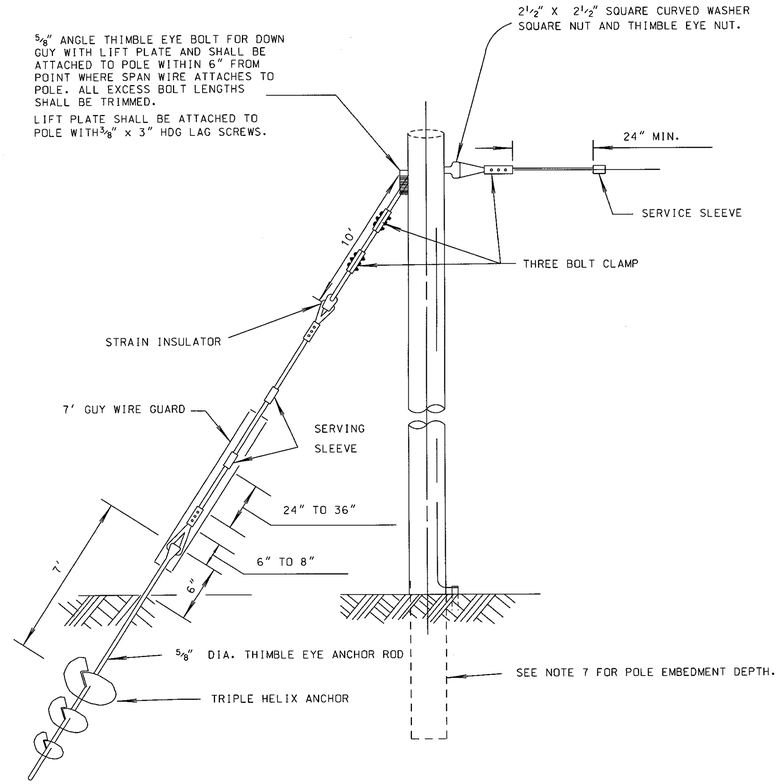


NOTES:

1. PROVIDE DRIP LOOPS ON BOTH SIDES OF SPLICE AND ON BOTH SIDES OF INTERSECTING STREETS.
2. 1/4" SIEMENS MARTIN GRADE GALVANIZED SPAN WIRE, ASTM 475.
3. STAINLESS STEEL LASHING WIRE 0.045" DIAMETER FOR INTERCONNECT TO HOLD CABLE TIGHT AGAINST THE SPAN.
4. MAXIMUM SAG FOR INTERCONNECT MESSENGER CABLE SHALL BE 2% WITH MINIMUM CLEARANCE ABOVE ROADWAY OF 18'.
5. SHOULD UNUSUAL CIRCUMSTANCES BE ENCOUNTERED, SPLICING SHALL BE APPROVED BY THE PROJECT ENGINEER.
6. WHEN INTERCONNECT IS DEAD ENDED AT POLE, HARDWARE AS SHOWN FOR WOOD POLE DETAIL SHALL BE USED.
7. INSTALLATION SHALL BE CLASSIFIED AS 120 VAC SECONDARY LOCATED BELOW POWER COMPANY EQUIPMENT ABOVE OTHER UTILITIES IN ACCORDANCE WITH NATIONAL ELECTRIC SAFETY CODE.

WOOD POLE DETAIL

FOR EXISTING AND NEW



NOTES:

1. TIEBACK ANCHORS MAY BE REQUIRED AS DIRECTED BY THE PROJECT ENGINEER.
2. TOP OF POLE SHALL BE CAPPED WITH MALLEABLE ALUMINUM 0.032" MATERIAL.
3. TOP OF POLE TRIMMED LEAVING A MAXIMUM OF 18" OF POLE ABOVE ATTACHMENT POINT OF SPAN.
4. THE ANCHOR ROD SHALL BE A MINIMUM OF 5/8" DIA. 7' LONG. ACCEPTABLE ANCHOR IS: TRIPLE-HELIX ANDHOR, 12"-10"-8", 7,000# CAPACITY, 1 1/2" ROD. ANY EXTENSION NEEDS TO MEET THE REQUIREMENTS IN THE LADOTD SPECIFICATIOND
5. ALL POLES INSTALLED SHALL HAVE A #6 AWG BARE COPPER WIRE INSTALLED THE LENGTH OF POLE WITH BUTT GROUND (APPROVED BY INSPECTOR PRIOR TO INSTALLATION OF POLE) OR CONNECT TO 5/8" X 8' GROUND ROD USING LUG.
6. CLASS 3 POLE SHALL BE USED AND CREOSOTED IN ACCORDANCE WITH LADOTD STANDARD SPECIFICATIONS.
7. GENERALLY, ANCHORS ARE 20' TO 30' BEHIND THE POLE IN LINE WITH THE SPAN. RESTRICTION TO THIS WILL BE PROPERTY LINES OR OBSTRUCTIONS. ALL ATTACHMENT FITTINGS SHALL BE HOT- DIPPED GALVANIZED UNLESS STATED OTHERWISE. POLES EMBEDDED IN GROUND AS FOLLOWS: 35' POLE - 6', 40' POLE - 7', 45' POLE - 8'.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL	DETAILED S. MCCARROLL	DATE 04/12/2017
CHECKED D. LORIO	CHECKED L. WANG	SHEET 8 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC SIGNAL STANDARD DETAILS

WOOD POLE AND CONDUIT RISER DETAIL

TSD-07

TRAFFIC ENGINEERING

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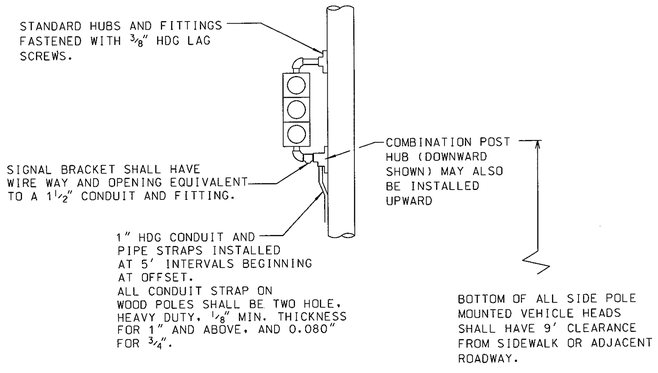
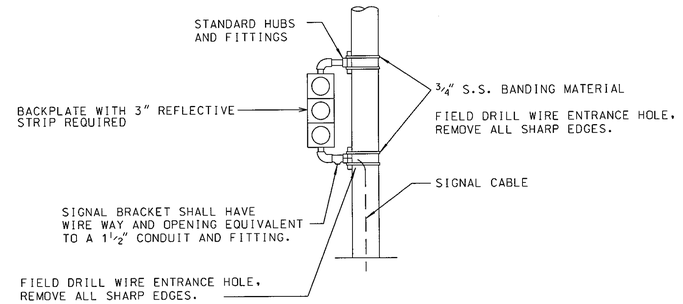
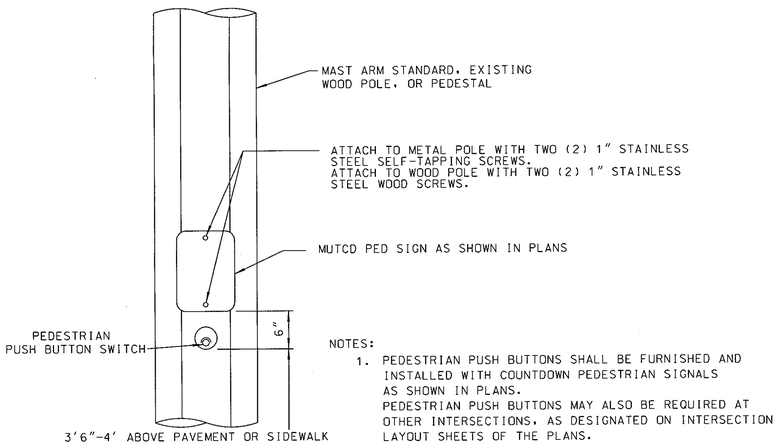
WOOD POLE



METAL POLE (STRAIN OR MAST ARM)



PEDESTRIAN SIGNAL



NOTES:

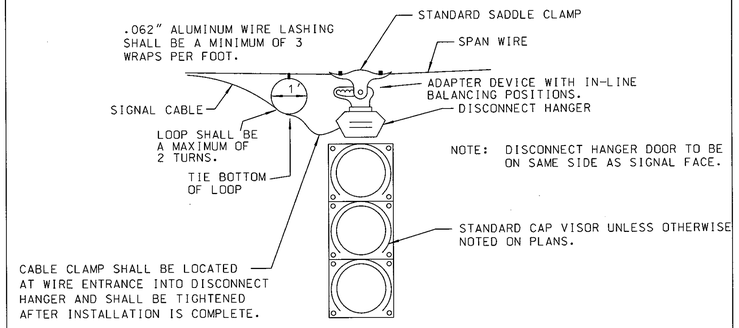
1. PEDESTRIAN PUSH BUTTONS SHALL BE FURNISHED AND INSTALLED WITH COUNTDOWN PEDESTRIAN SIGNALS AS SHOWN IN PLANS. PEDESTRIAN PUSH BUTTONS MAY ALSO BE REQUIRED AT OTHER INTERSECTIONS, AS DESIGNATED ON INTERSECTION LAYOUT SHEETS OF THE PLANS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ABOVE EACH PEDESTRIAN PUSH BUTTON A R10-3E(L), R10-3E(R) SIGN AS APPROPRIATE FOR CIRCUMSTANCES. THE DIRECTIONAL ARROW SHALL BE PLACED IN THE DIRECTION OF CROSSWALK.
3. COUNTDOWN PEDESTRIAN SIGNALS MAY BE PLACED EITHER ON TOP OF PEDESTAL OR ON THE SIDE OF A MAST ARM OR STRAIN POLE AS REQUIRED BY PLANS.
4. CLEARANCE FROM THE BOTTOM OF PEDESTRIAN SIGNAL HEADS TO SIDEWALK OR NATURAL GROUND SHALL BE 8' OR SHALL CONFORM TO THE CURRENT ADOPTED EDITION OE THE MUTCD.
5. IF A PEDESTAL IS USED FOR A PUSH BUTTON ONLY, THE TOP OF THE POLE SHALL BE CAPPED.

ONE-SECTION COUNTDOWN PEDESTRIAN SIGNAL (16" X 18" SYMBOL TYPE)

BRACKET MOUNTED TRAFFIC SIGNALS

SPAN WIRE SIGNAL MOUNT

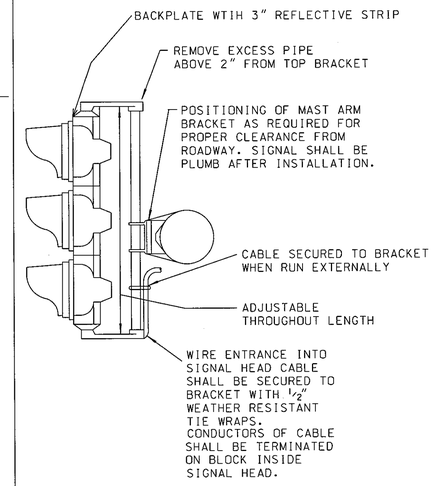
SIGNAL HEADS SHALL BE PLUMB. AN ADDITIONAL BALANCE ADJUSTER SHALL BE USED WHERE REQUIRED. TYPICAL SIGNAL SHOWN, ALSO APPLIES TO 2, 3 & 4-WAY ARRANGEMENT.



NOTE:
ALL UNUSED OPENINGS SHALL BE PLUGGED AND SEALED.

MAST ARM SIGNAL MOUNT

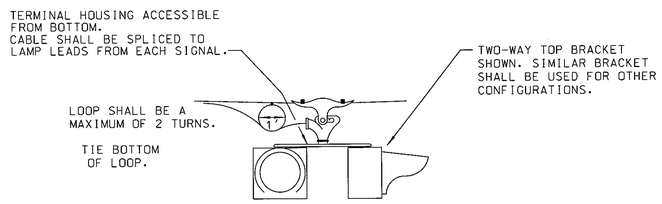
HEIGHT OF SIGNAL FACES SHALL CONFORM TO THE HEIGHTS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADOPTED EDITION.



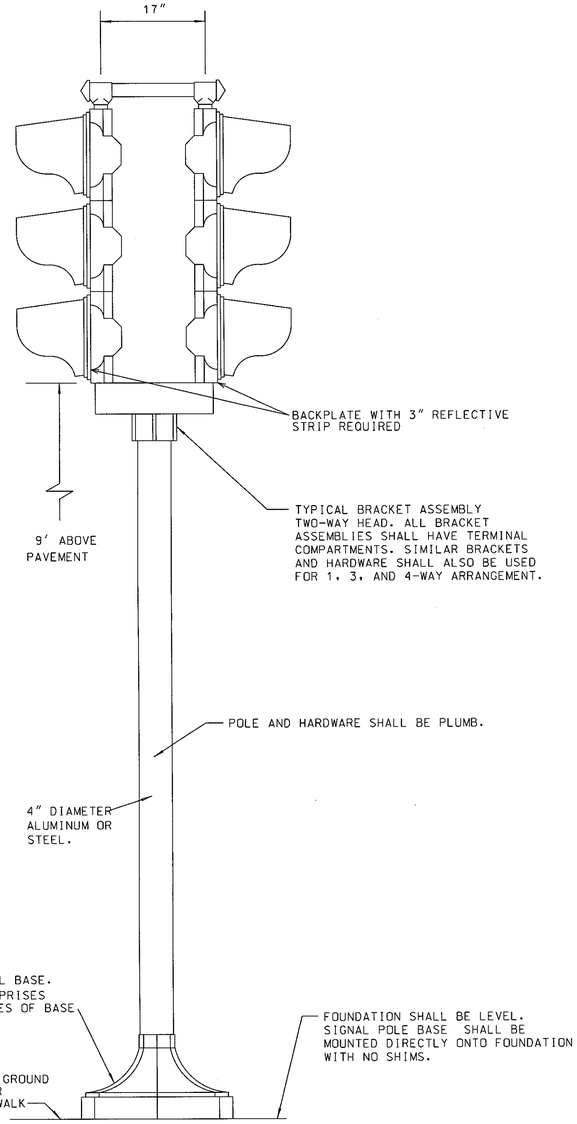
SPAN WIRE FLASHING BEACON MOUNT

ONE 2-WAY HEAD

ALL HEADS SHALL BE HORIZONTALLY ALIGNED



PEDESTAL MOUNTED SIGNAL INSTALLATION



NOTES:

1. FOR FOUNDATION SEE SIGNAL PEDESTAL FOUNDATION LOCATED ON SHEET 3 IN TRAFFIC SIGNAL AND INSTALLATION DETAILS.
2. TWO-WAY AND THREE-WAY SIGNAL HEADS SHALL BE SIMILARLY MOUNTED WITH APPROPRIATE HARDWARE. CLEARANCE FROM THE BOTTOM OF THE SIGNAL HEAD TO SIDEWALK OR NATURAL GROUND SHALL BE 9' OR SHALL CONFORM TO THE CURRENT ADOPTED EDITION OF THE MUTCD.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER		
PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL CHECKED D. LORIO	DETAILED S. MCCARROLL CHECKED L. WANG	DATE 04/12/2017 SHEET 9 OF 14

NO.	REVISION DESCRIPTION	BY	DATE

TRAFFIC SIGNAL STANDARD DETAILS

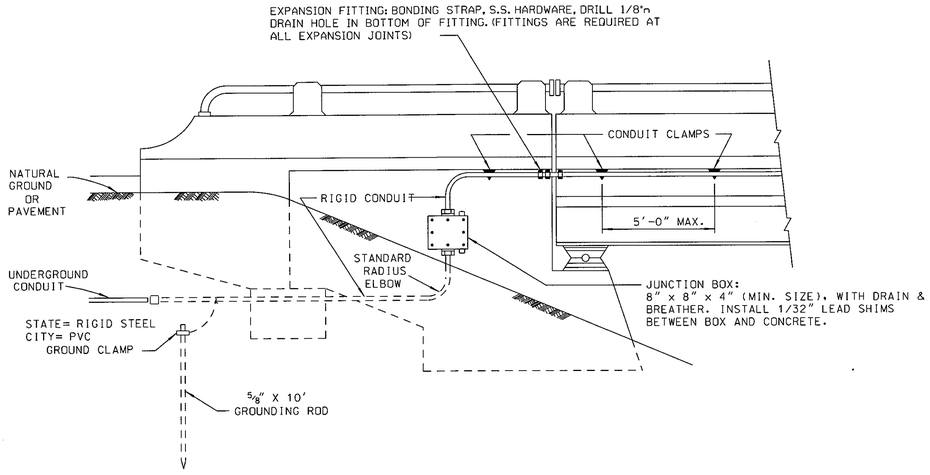
SIGNAL MOUNTING DETAILS

TSD-08

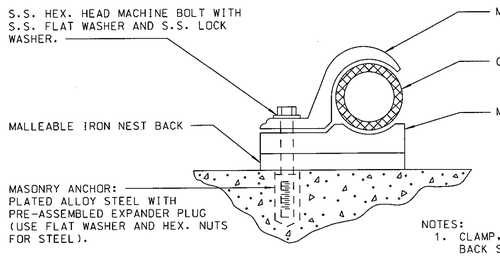
DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC ENGINEERING

TYPICAL CONDUIT INSTALLATION ON BRIDGE STRUCTURE



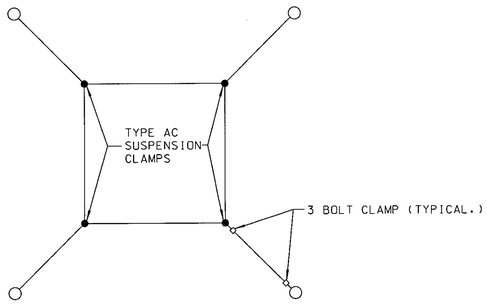
CONDUIT FASTENING DETAIL



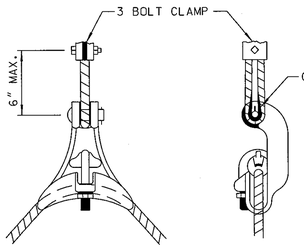
NOTES:
1. CLAMP, CLAMP BACK AND NEST BACK SHALL BE PRODUCTS OF THE SAME MANUFACTURER.
2. FLANGES OF STEEL BEAMS SHALL NOT BE DRILLED.
3. 5'-0" MAX. SPACING.
4. BOLT SCHEDULE:
   3/4" & 1" CLAMPS— — — 1/4"ø BOLTS
   1-1/4" & 1-1/2" CLAMPS— — 3/8"ø BOLTS
   2" & LARGER CLAMPS— — 1/2"ø BOLTS

SUSPENDED BOX INSTALLATION

ALSO USED ON BRIDLE SPAN INSTALLATION



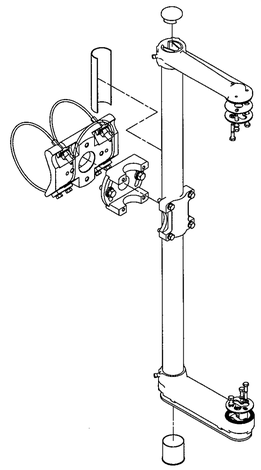
TYPE AC SUSPENSION CLAMP



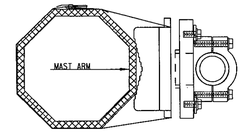
NOTES:
1. TYPE AC SUSPENSION CLAMPS SHALL BE CAPABLE OF WITHSTANDING A TENSILE LOAD OF 25,000 POUNDS AND SHALL BE GROOVED FOR 3/8" CABLE. TYPE AC SUSPENSION CLAMPS SHALL BE USED FOR ALL SUSPENDED BOX INSTALLATIONS.
2. CABLE SHALL HAVE 3' OF SPARE CABLE FORMED AS A LOOP ON EACH SIDE OF CLAMP.

INSTALLATION DETAIL OF MAST ARM ATTACHMENTS FOR SIGN AND SIGNAL BRACKETS

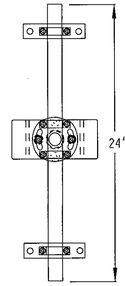
SIGNAL- ISOMETRIC VIEW



SIGN - SIDE VIEW

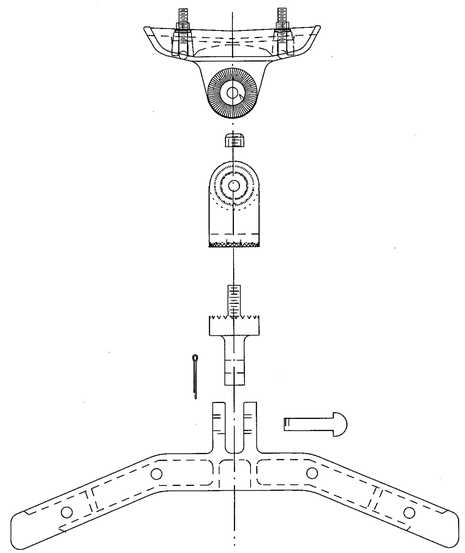


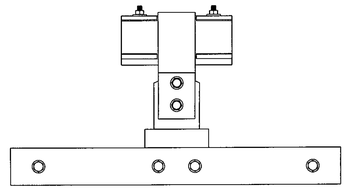
SIGN - FRONT VIEW



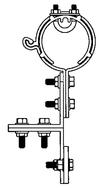
NOTE:
1. BRACKETS SHALL UTILIZE A STRANDED CABLE TO ATTACH BRACKET TO ARM.
2. ATTACHMENTS SHALL BE ADJUSTABLE TO PLUMB.
3. ADDITIONAL SIGN BACKING MAY BE REQUIRED FOR SIGNS LARGER THAN 36". APPROVAL OF PROJECT ENGINEER REQUIRED PRIOR TO INSTALLATION.

SPAN WIRE SIGN BRACKET





FRONT VIEW



SIDE VIEW

NOTES:

1. ALL MATERIAL FOR DEVICES SHOWN SHALL BE CAST ALUMINUM CONSTRUCTION WITH COATING TO PREVENT OXIDATION.
2. SIGN MOUNTING BRACKET PRE-DRILLED WITH 1/2" HOLES (SEE DRAWING).
3. BOTTOM OF SIGN SHALL BE WEIGHTED WITH STEEL BAR PAINTED TO RESIST CORROSION. BRACKET AND WEIGHT SHALL BE ATTACHED TO SIGN WITH HDG OR STAINLESS STEEL 3/8" BOLTS, WASHERS, AND NUTS.
4. SPAN WIRE SADDLE SHALL BE DESIGNED TO FIT A CABLE RANGE OF 3/8" - 1/2".
5. BRACKET SHALL BE INSTALLED SO THAT THE SIGN IS PLUMB AND PERPENDICULAR TO THE DRIVERS LINE OF VIEW.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

SHEET NUMBER

PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED S. MCCARROLL CHECKED D. LORIO	DETAILED S. MCCARROLL CHECKED L. WANG	DATE 04/12/2017 SHEET 10 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC ENGINEERING

TRAFFIC SIGNAL STANDARD DETAILS
HARDWARE DETAILS
TSD-09

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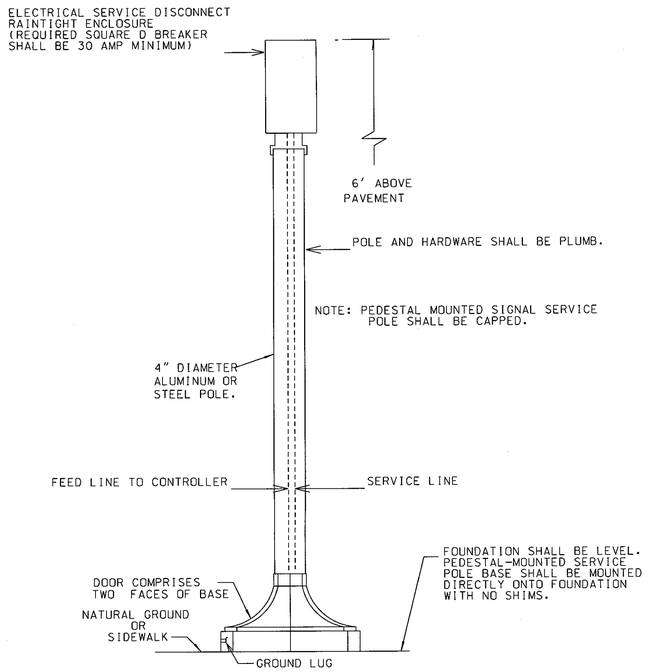
PEDESTAL-MOUNTED SIGNAL SERVICE POLE INSTALLATION

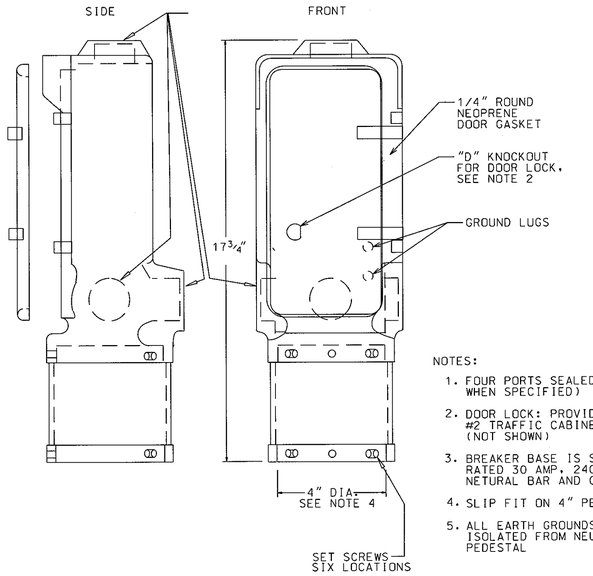


(FOR FOUNDATION USE STANDARD DETAIL FOR SIGNAL PEDESTAL FOUNDATION)

NOTES:

1. UNDERGROUND CONDUIT SHALL BE INSTALLED IN A STRAIGHT LINE FROM START TO FINISH. ANY DEVIATION FROM A STRAIGHT LINE WILL REQUIRE PRIOR APPROVAL BY THE PROJECT ENGINEER.
2. THE CONTRACTOR SHALL NOT RECEIVE DIRECT PAY FOR VERTICAL RUN AT THE START AND FINISH POINTS AS WELL AS ADDITIONAL CONDUIT DUE TO A DEVIATION FROM A STRAIGHT LINE INSTALLATION.
3. ALL CONCRETE SHALL BE "CLASS A" IN ACCORDANCE WITH SECT. 901 OF THE STD. SPEC'S.
4. ALL SERVICE POLES SHALL BE GROUNDED WITH #6 AWG BARE SOLID GROUNDING WIRE.
5. INSTALL NEW GROUND ROD. CONNECT GROUND ROD TO SIGNAL PEDESTAL BY NEW GROUND WIRE.
6. SERVICE SHALL BE120/240 V. AC AND WIRED WITH THHN-THWN OR XHHW #6 AWG. TWO BLACKS, AND ONE WHITE NEUTRAL, 3 CONDUCTOR, CONCENTRIC CABLE SHALL BE INSTALLED WHERE SERVICE WILL ATTACH TO OR ENTER STEEL SIGNAL POLE.
7. SERVICE CONDUCTORS SHALL BE RUN IN A SEPARATE CONDUIT TO CONTROLLER BASE.
8. ALL EXPOSED METAL SHALL BE PAINTED AS PER LADOTD STANDARD SPECIFICATIONS.

ELECTRICAL SERVICE DISCONNECT RAINTIGHT ENCLOSURE FOR PEDESTAL MOUNTED SIGNAL SERVICE POLE



NOTES:

1. FOUR PORTS SEALED. (1½" FPT WHEN SPECIFIED)
2. DOOR LOCK: PROVIDE MATCHED #2 TRAFFIC CABINET KEY. (NOT SHOWN)
3. BREAKER BASE IS SQUARE D RATED 30 AMP, 240 VAC WITH NETURAL BAR AND GROUND LUG.
4. SLIP FIT ON 4" PEDESTAL POLE.
5. ALL EARTH GROUNDS SHALL BE ISOLATED FROM NEUTRAL BUS AT PEDESTAL

WIRING FOR FLASHING BEACON

HEADS SHALL BE WIRED FOR A SIMULTANEOUS FLASH FOR EACH APPROACH.

NO SPARE CONDUCTORS REQUIRED
RED - FLASH CIRCUIT #1
BLACK - FLASH CIRCUIT #2
WHITE- AC COMMON
GREEN - CASE GROUND

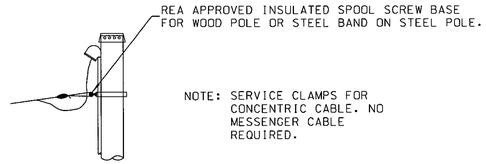
WIRING DETAIL FOR TRAFFIC SIGNAL HEADS & HANGERS

	INDICATIONS	TERMINAL BLOCK	2-6 CONDUCTOR CABLES		1-10 CONDUCTOR CABLE
HEAD 1	GREEN	1	GREEN	CABLE 1	GREEN
	AMBER	2	YELLOW	CABLE 1	YELLOW
	RED	3	RED	CABLE 1	RED
HEAD 2	GREEN	4	GREEN	CABLE 2	G/BLACK
	AMBER	5	YELLOW	CABLE 2	Y/BLACK
	RED	6	RED	CABLE 2	R/BLACK
	COMMON	7	WHITE	CABLE 1 & 2	WHITE
	GREEN ARROW	8	BLACK	CABLE 1	BLACK
	AMBER ARROW	9	BLACK	CABLE 2	W/ BLACK
		10			
		11			
	CASE GROUND	12	BLUE	CABLE 1 & 2	BLUE

NOTE: EIGHTEEN CIRCUIT DISCONNECT HANGERS SHALL BE SIMILARLY WIRED WITH SOLID INDICATIONS WIRED FIRST FOLLOWED BY ARROW INDICATIONS. ON SPAN MOUNTED SIGNAL INSTALLATIONS, ALL BULBS SHALL BE INDIVIDUALLY WIRED FROM CONTROLLER. ALL CABLES SHALL BE CONTINUOS RUN WITHOUT SPLICES EXCEPT AS SHOWN FOR MAST ARM INSTALLATIONS AT DISCONNECT HANGERS SHOWN ON PLANS OR WHERE JUNCTIONS ARE SHOWN ON THE PLANS. ALL WIRES SHALL BE TERMINATED IN HANGER. CONDUCTORS THAT ARE UNUSED IN SIGNAL THAT DO NOT HAVE INDICATIONS SHOWN ABOVE SHALL BE SPARE CONDUCTORS AND SHALL NOT BE USED. THE HARNESS FROM THE SIGNAL TERMINAL BLOCK SHALL BE WIRED IN ACCORDANCE TO THE ABOVE TABLE, UNUSED CONDUCTORS SHALL BE BONELESS IN HEAD WITH ENDS TAPED TO PREVENT GROUNDING TO CASES.

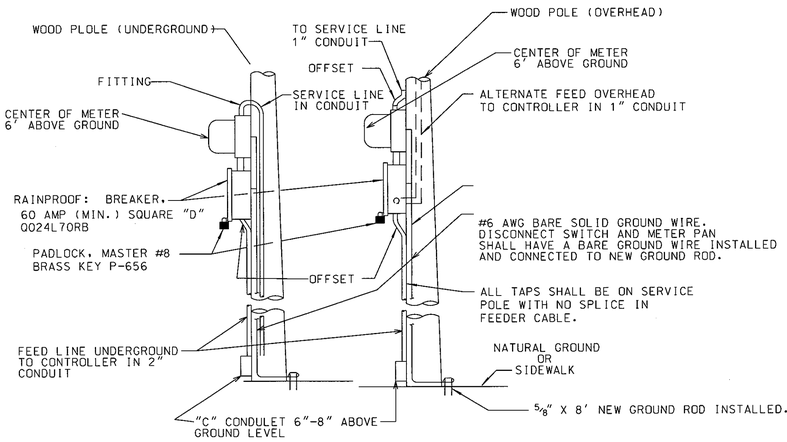
OVERHEAD SERVICE TO CONTROLLER

(AS CALLED FOR IN THE PLANS OR APPROVED BY PROJECT ENGINEER)



TYPICAL ELECTRICAL SERVICE

(BREAKER SIZED ACCORDING TO THE LOAD WITH MINIMUM BREAKER SIZE OF 60 AMP)



NOTES:

1. UNDERGROUND CONDUIT SHALL BE INSTALLED IN A STRAIGHT LINE FROM START TO FINISH. ANY DEVIATION FROM A STRAIGHT LINE WILL REQUIRE PRIOR APPROVAL BY THE PROJECT ENGINEER.
2. ALL SERVICE POLES SHALL BE GROUNDED WITH #6 AWG BARE SOLID GROUNDING WIRE.
3. INSTALL NEW GROUND ROD AND WIRE.
4. SERVICE SHALL BE 120/240 V. AC AND WIRED WITH THHN-THWN OR XHHW #6 AWG. TWO BLACKS, AND ONE WHITE NEUTRAL, 3 CONDUCTOR, CONCENTRIC CABLE SHALL BE INSTALLED WHERE SERVICE WILL ATTACH TO OR ENTER STEEL SIGNAL POLE.
5. SERVICE CONDUCTORS SHALL BE RUN IN A SEPARATE CONDUIT TO CONTROLLER BASE.
6. CONDUIT STRAPS SHALL BE 2 HOLE, HEAVY DUTY AND SHALL BE INSTALLED BEGINNING AT FITTING OFFSET OR COUPLING, SPACED AT 5' INTERVALS MAXIMUM ON EACH SIDE OF CONDULETS AND ADJACENT TO CABINET. ¼" x 3" HDG LAG SCREWS SHALL BE USED ON STRAPS.
7. ALL EQUIPMENT SHALL BE ATTACHED TO POLE WITH HDG LAG SCREWS.
8. AN ELECTRICAL SERVICE SHALL NEVER BE BUILT ON A MAST ARM OR STRAIN POLE.

STATE OF LOUISIANA
LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
4/12/2017

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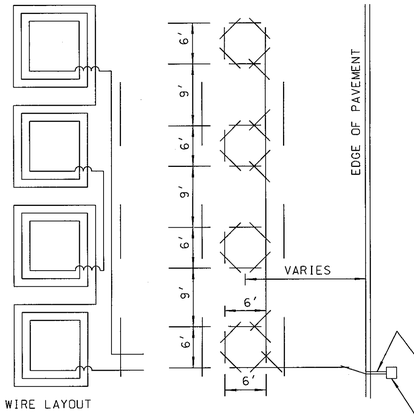
NO.	DATE	REVISION DESCRIPTION	BY

TRAFFIC SIGNAL STANDARD DETAILS
ELECTRICAL SERVICE AND WIRING DETAILS
TSD-10

DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC ENGINEERING

TYPICAL SAW CUT LAYOUT



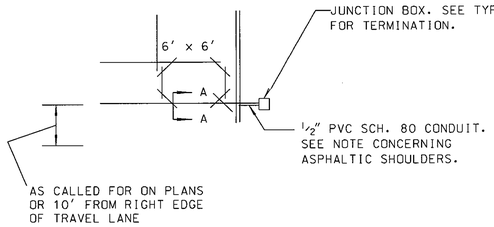
WIRE LAYOUT

NOTES:

1. LOOPS SHALL CONSIST OF A CONTINUOUS LENGTH OF NO. 14 AWG. 19-STRAND WIRE, INSULATED BY A CROSS-LINKED THERMOSETTING BLACK POLYETHYLENE COMPOUND (ASTM D-2655-80).
2. THE CONDUCTOR SHALL BE COPPER AND SHALL, BEFORE INSULATING, CONFORM TO THE REQUIREMENTS OF ASTM B-3.
3. THE STRANDED CONDUCTOR SHALL UTILIZE EITHER CONCENTRIC OR BUNCH STRANDING AND SHALL CONFORM TO THE CIRCULAR MIL AREA AND PHYSICAL REQUIREMENTS SPECIFIED IN ASTM DESIGNATION B-8, OR ASTM DESIGNATION B-174, FOR BUNCH STRANDING.
4. THE INSULATION SHALL BE APPLIED CONCENTRICALLY ABOUT CONDUCTOR. THE THICKNESS OF THE INSULATION SHALL BE NOT LESS THAN 0.030 INCHES AT ANY POINT WITH A MINIMUM AVERAGE THICKNESS OF 0.035 INCHES. THE METHOD OF MEASUREMENT AND THE APPARATUS USED SHALL BE IN ACCORDANCE WITH UNDERWRITERS LABORATORIES, INCORPORATED STANDARD UL62 (ANSI C33.1).
5. THE INSULATION OF THE FINISHED CONDUCTOR SHALL WITHSTAND WITHOUT BREAKDOWN THE APPLICATION OF A 60 OR 3000 HERTZ, 7500 VOLT (RMS) ESSENTIALLY SINUSOIDAL SPARK TEST POTENTIAL IN ACCORDANCE WITH THE METHOD AND USING EQUIPMENT SPECIFIED IN UNDERWRITERS LABORATORIES, INCORPORATED STANDARD UL83 (ANSI C33.8).
6. LOOP WIRE SHALL CONFORM TO IMSA SPECIFICATION 51-7 EXCEPT WHERE MODIFIED BY THESE SPECIFICATIONS.
7. THE INSULATED CONDUCTOR SHALL BE COMPLETELY ENCASED IN A TUBE OF LOW DENSITY POLYETHYLENE CONFORMING TO THE FOLLOWING DIMENSIONS:

NOMINAL OUTSIDE DIAMETER	.24 INCH
MAXIMUM OUTSIDE DIAMETER	.25 INCH
NOMINAL INSIDE DIAMETER	.173 INCH
MAXIMUM INSIDE DIAMETER	.190 INCH
NOMINAL WALL THICKNESS	.030 INCH
MAXIMUM WALL THICKNESS	.035 INCH

   THE NAME OF THE MANUFACTURER, THE YEAR OF MANUFACTURE, AND ANY APPLICABLE PART NUMBER SHALL BE PRINTED ON THE ENCASING TUBE AT INTERVALS OF 27 INCHES OR LESS
8. SLOTS SHALL BE CLEANED OF LOOSE MATERIAL. THE WIRE SHALL BE CAREFULLY INSTALLED TO ENSURE THE INSULATION IS NOT DAMAGED.
9. LOOPS POSITIONED PART IN ASPHALT AND PART IN CONCRETE SHALL BE SEPARATED. SEPARATE LOOPS SHALL TERMINATE AT THE JUNCTION BOX AND SHALL BE WIRED IN SERIES.



½" PVC SCH. 80 CONDUIT. SEE NOTE CONCERNING ASPHALTIC SHOULDERS.

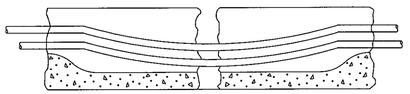
JUNCTION BOX. SEE TYPICAL LOOP LEAD-IN INSTALLATION FOR TERMINATION.

½" PVC SCH. 80 CONDUIT. SEE NOTE CONCERNING ASPHALTIC SHOULDERS.

JUNCTION BOX. SEE TYPICAL LOOP LEAD-IN INSTALLATION FOR TERMINATION.

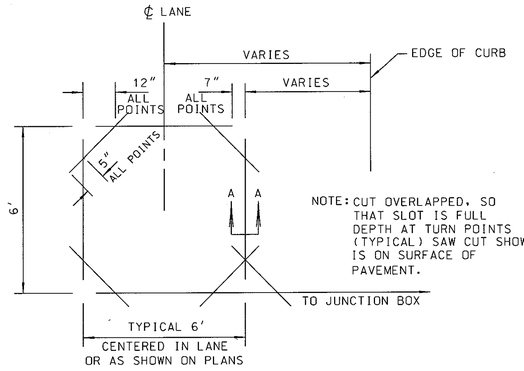
PAVEMENT JOINT & CRACK SECTION

LEAVE WIRE SLACK

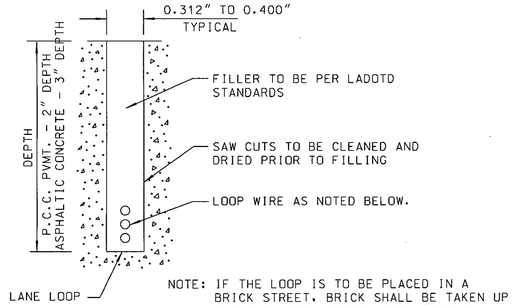


NOTE: DROP SAW BLADE DOWN TO ALLOW SLACK IN CABLE FOR A JOINT LESS THAN ½". ALL OTHER JOINTS SHALL NOT BE CROSSED EXCEPT AS DIRECTED BY ENGINEER.

LOOP SAW-CUT CONFIGURATION



NOTE: CUT OVERLAPPED, SO THAT SLOT IS FULL DEPTH AT TURN POINTS (TYPICAL) SAW CUT SHOWN IS ON SURFACE OF PAVEMENT.

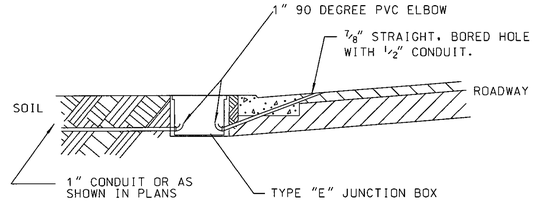


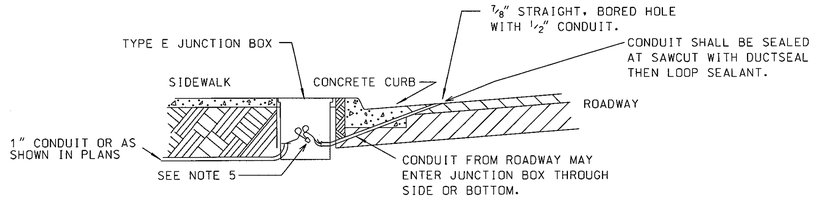
SECTION A-A

NOTE: IF THE LOOP IS TO BE PLACED IN A BRICK STREET, BRICK SHALL BE TAKEN UP AND THE LOOP WIRE PLACED 1" BELOW THE BRICK BEDDING SURFACE TO PREVENT ABRASION BETWEEN BRICK AND WIRE. BRICK SHALL BE REPLACED TO ORIGINAL GRADE UPON COMPLETION OF LOOP WIRE PLACEMENT.

NOTE; SAW CUTS DO NOT MEET AT CORNER OF RECTANGLE. DIMENSIONS SHOWN ARE REQUIRED FOR USING 12"SAW BLADE. LARGE BLADES REQUIRE LONGER DISTANCES THAN SHOWN AT CORNERS. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CORRECT DEPTH REGARDLESS OF BLADE SIZE, UNLESS OTHERWISE NOTED IN PLANS.

TYPICAL LOOP LEAD-IN INSTALLATION





NOTES:

1. CONTRACTOR SHALL PROVIDE ½" CONDUIT FROM JUNCTION BOX AND TERMINATE BELOW GROUND SO THAT IT DIRECTLY RECEIVES LOOP LEAD-IN WIRE.
2. FOR A LOOP INSTALLATION IN PAVEMENT WITH OVERLAYS LESS THAN 3" OVER CONCRETE, A DEEPER DEPTH SAWCUT SHALL BE REQUIRED. THE DEPTH REQUIRED SHALL PRODUCE A 1" SAW CUT INTO THE CONCRETE AND SHALL BE DETERMINED AT THE JOB SITE. THE SAW CUT SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO THE WIRE INSTALLATION.
3. FOR LOOP INSTALLATIONS IN ROADWAY THAT HAS ASPHALT SHOULDERS, THE ½" CONDUIT SHOWN ABOVE SHALL BE EXTENDED THROUGH A TRENCH IN THE SHOULDER TO A JUNCTION BOX INSTALLED OUTSIDE THE SHOULDER.
4. IDENTIFY LOOP WIRES WITH PERMANENT LABEL MARKED WITH CONTROLLER PHASE.
5. LOOP SPLICE SHALL BE MADE INSIDE THE JUNCTION BOX WITH A COPPER OPEN ENDED COMPRESSION SPLICE CAP AND CRIMPED. THE LOOP SPLICE SHALL THEN BE SEALED WITH A SCOTCHCAST ELECTRICAL INSULATING RESIN SYSTEM OR A APPROVED EQUAL.

STATE OF LOUISIANA
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NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC SIGNAL STANDARD DETAILS

SAW CUTTING PAVEMENT AND LOOP WIRE DETAILS

TSD-11

DOTD DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

TRAFFIC ENGINEERING

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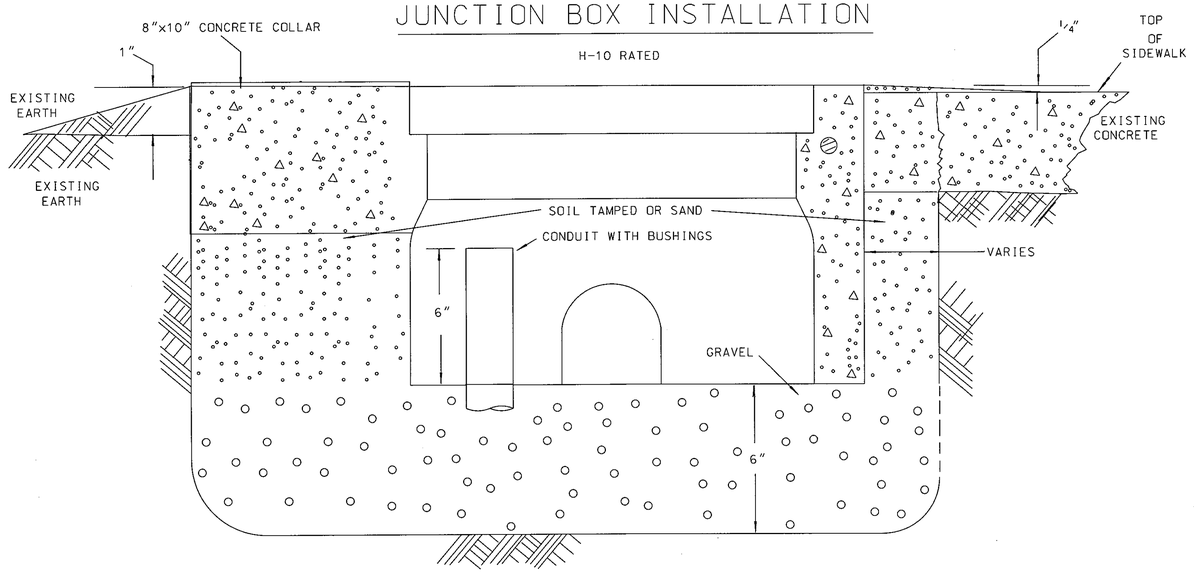
JUNCTION BOX INSTALLATION

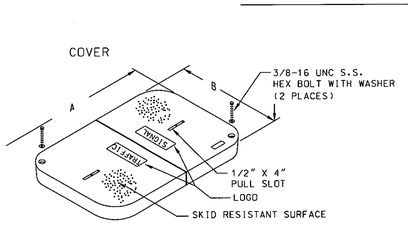
H-10 RATED

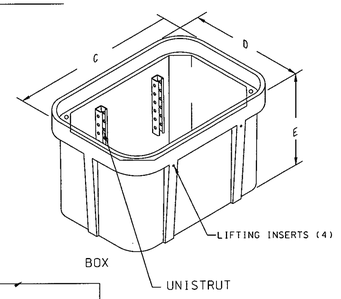


NOTE FOR ALL JUNCTION BOXES:

1. TOP OF BOX TO EXTEND 1/4" ABOVE EXISTING SIDEWALK WITH NEW SIDEWALK SLOPED UP TO TOP OF BOX.
2. DO NOT PLACE JUNCTION BOXES IN THE TRAVELED WAY OR ON SHOULDERS.
3. PROVIDE 8" X 10" CONCRETE COLLARS EXCEPT WITHIN CONCRETE PAVED AREAS. CONCRETE COLLARS SHALL BE PROVIDED AROUND THE TOP PERIMETER OF JUNCTION BOX. CONCRETE COLLAR SHALL BE PAID FOR UNDER THE JUNCTION BOX PAY ITEM.

JUNCTION BOX



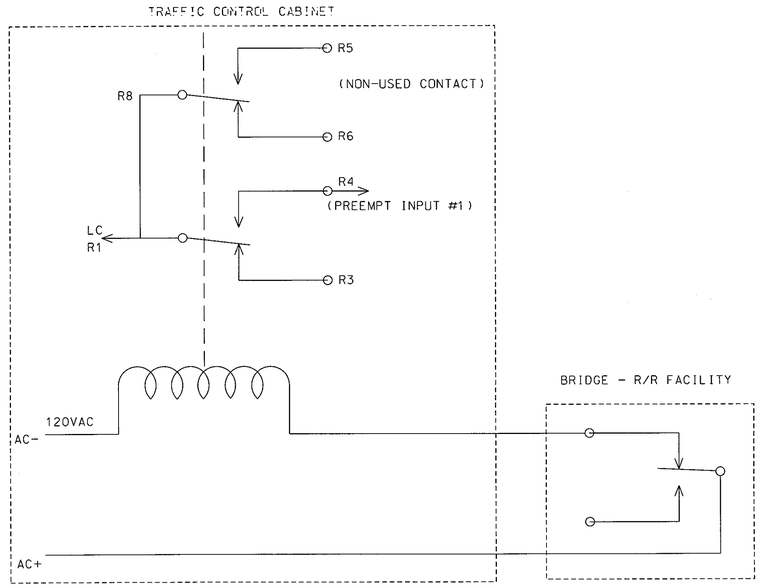


TYPE DIMENSION (IN.) (APPROX.)					
BOX	A	B	C	D	E
E	23 3/4	13 3/4	25	15 1/2	12
F	30 1/2	17 1/2	32 1/4	19 1/4	12
G	35 5/8	24	37 5/8	26	18
H	35 5/8	24	37 5/8	26	36
I	47 5/8	30 1/8	49 5/8	32 1/8	18
J	47 5/8	30 1/8	49 5/8	32 1/8	36

NOTE FOR ALL JUNCTION BOXES:
1. JUNCTION BOX SHALL BE AN APPROVED PRODUCT LISTED ON THE TRAFFIC OPERATIONS APPROVED PRODUCT LIST (TOAPL)USE THE TYPE JUNCTION BOX SHOWN IN PLANS.
2. A MINIMUM OF 6' OF SPARE SIGNAL, LOOP LEAD-IN, 6PR, AND SERVICE CABLE SHALL BE INSTALLED IN EACH JUNCTION BOX.
3. "TRAFFIC SIGNAL" SHALL BE IMPRINTED ON THE JUNCTION BOX BY THE MANUFACTURER.

* NOTE FOR TYPE G, H, I AND J JUNCTION BOXES:
1. TWO PIECE COVER.
2. TWO PIECES OF UNISTRUT MOUNTED ON INSIDE WALL.
3. LIFTING INSERTS ON OUTSIDE OF BOX.
4. PROJECTS WITH FIBER OPTIC COMMUNICATION: INSTALL A MINIMUM OF 50' SPARE FIBER IN TYPE "GG" AND 100' SPARE FIBER IN LARGER JUNCTION BOXES.

BRIDGE/RAILROAD PREEMPTION



NOTE:
1. RELAYS SHOWN IN NORMAL (NON-PREEMPT) CONDITION
2. PREEMPT RELAY - 2 POLE DOUBLE THROW
3. LC = LOGIC GROUND

STATE OF LOUISIANA
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4/12/2017

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DESIGNED	S. MCCARROLL
CHECKED	D. LORIO
DETAILED	S. MCCARROLL
CHECKED	L. WANG
DATE	04/12/2017
SHEET	13 of 14

NO.	DATE	REVISION DESCRIPTION	BY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DOTD

TRAFFIC ENGINEERING

TRAFFIC SIGNAL STANDARD DETAILS

JUNCTION BOX AND PULL BOX

TSD-12

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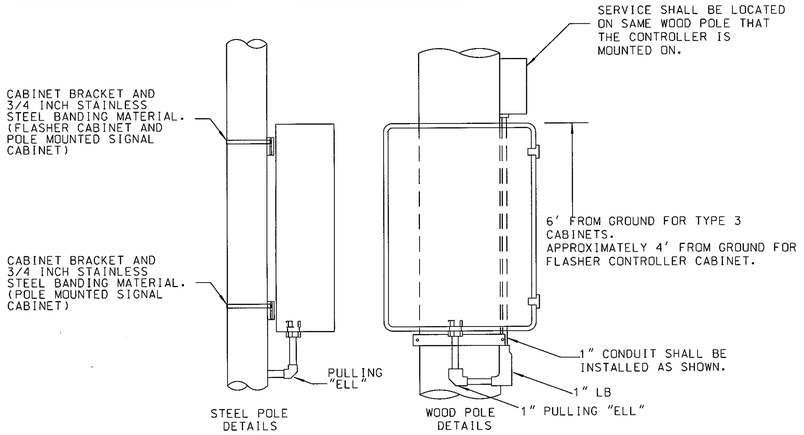
STEEL POLE MOUNTING FOR: SIGNAL CABINET OR FLASHER CABINET

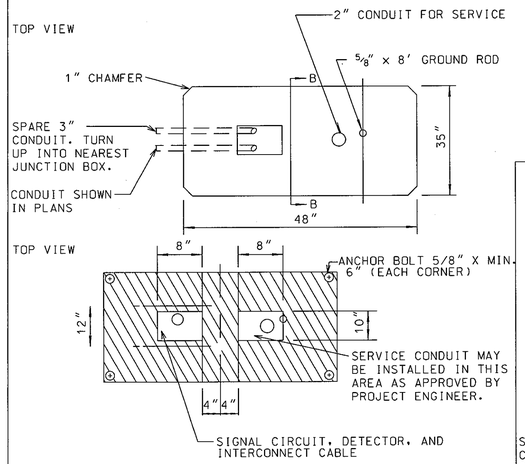


NOTES:

1. WIRE ENTRY INTO CABINET FROM STEEL POLE SHALL BE THROUGH BOSSES PROVIDED ON POLE. PULLING ELLS SHALL BE USED FOR SIGNAL CIRCUIT AND SERVICE CONDUIT. A MYERS HUB ATTACHMENT ON BOTTOM OF CABINET SHALL BE USED FOR SIGNAL CIRCUIT CONDUIT. A MYERS HUB SHALL BE INSTALLED ON CABINET FOR SERVICE ENTRANCE.
2. ALL SERVICE DISCONNECTS SHALL BE LOCATED ON THE CLOSEST WOOD PLOE AVAILABLE FOR SERVICE.
3. TOP AND BOTTOM OF CABINET SHALL BE ATTACHED TO WOOD POLES USING BRACKETS MOUNTED WITH CONDUIT HUBS, STANDARD BRACKET, AND ATTACHED TO POLE WITH ½" X 4" HDG LAG SCREWS.
4. CONDUIT FOR SIGNAL CIRCUIT SHALL BE 3".
5. POLE MOUNTED SIGNAL CABINET: A 3' X 5' X 4" CONCRETE PAD SHALL BE POURED NEXT TO THE CONTROLLER CABINET POLE AND SHALL BE ABOVE GROUND LEVEL.
6. USE A #6 AWG BARE GROUND WIRE TO ATTACH CABINET TO GROUND ROD.
7. ALL GROUND RODS, REGARDLESS OF FOUNDATION SIZE SHALL PROTRUDE THROUGH THE FOUNDATION AND A MINIMUM OF 4' SHALL BE EMBEDED INTO THE EARTH

TYPICAL CONTROLLER FOUNDATION

FOR TYPE 5, 6, AND 7 CABINETS (SEE LADOTD TCS# 18)

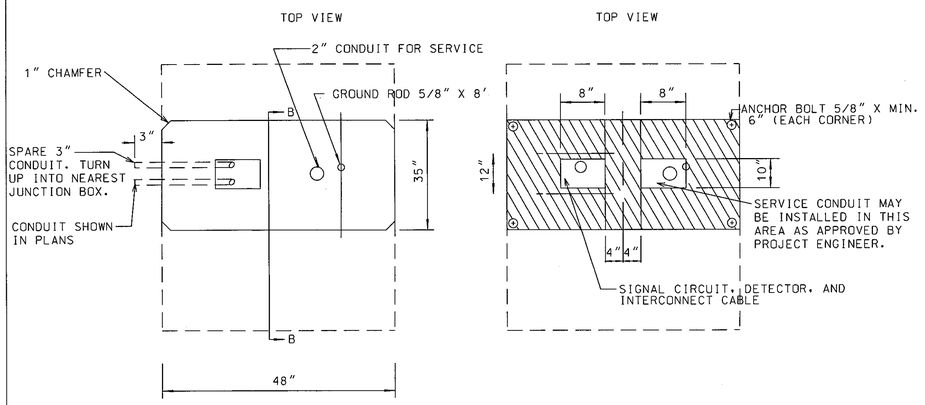


NOTES:

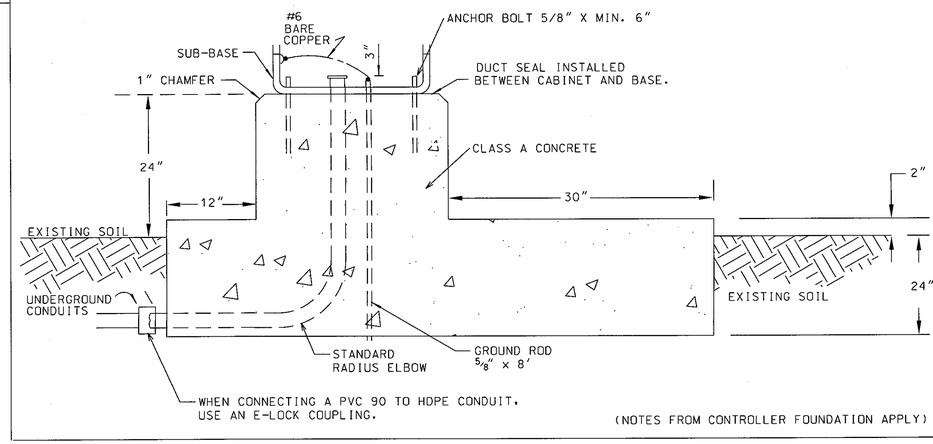
1. ALL GROUND MOUNTED CONTROLLERS SHALL HAVE A SPARE 3" CONDUIT RAN 24" BELOW GRADE TO JUNCTION BOX.
2. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 1" CHAMFER.
3. ALL CONDUIT, GROUND ROD AND ANCHOR BOLTS SHALL PROTRUDE 2 3/4 " MIN. - 3" MAX. ABOVE FINISHED FOUNDATION.
4. FOUNDATION SHALL BE ORIENTED SO THAT THE DOOR IS FACING AWAY FROM TRAFFIC.
5. A #6 BARE SOLID COPPER WIRE SHALL BE REQUIRED TO CONNECT BETWEEN GROUND ROD AND GROUND LUG ON PANEL.

ALTERNATE STEP CONTROLLER FOUNDATION

FOR TYPE 6E CABINETS (SEE LADOTD TCS# 18)



SIDE VIEW (B-B)

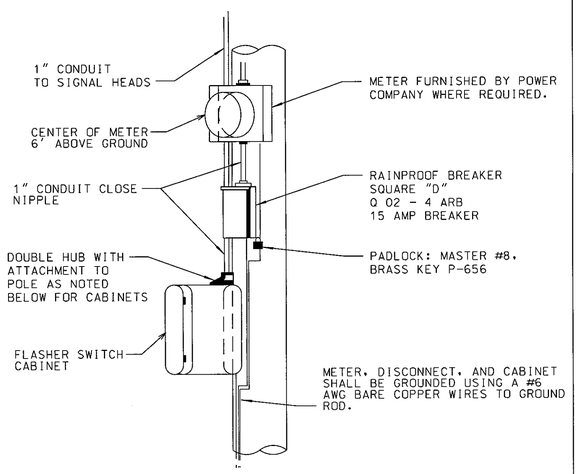


(NOTES FROM CONTROLLER FOUNDATION APPLY)

WOOD POLE MOUNTED FLASHER CONTROLLER SWITCH

(6½" x 12" x 16")

NOTE: USED FOR FLASHING HAZARD BEACONS AND CONTINUOUS FLASHING SIGNS. THIS ITEM SHALL BE INCLUSIVE WITH ELECTRICAL SERVICE.



NOTE: ALL EQUIPMENT SHALL BE ATTACHED TO POLE WITH HDG LAG SCREWS.

LEI Q. WANG
License No. 33365
PROFESSIONAL ENGINEER
STATE OF LOUISIANA
4/12/2017

SHEET NUMBER

PARISH	FEDERAL PROJECT	STATE PROJECT

DESIGNED	CHECKED	DETAILED	CHECKED	DATE	SHEET
S. MCCARROLL	D. LORIO	S. MCCARROLL	L. WANG	04/12/2017	14 OF 14

NO.	DATE	REVISION DESCRIPTION	BY

TRAFFIC SIGNAL STANDARD DETAILS

CONTROLLER MOUNTING AND FOUNDATION DETAILS

TSD-13

TRAFFIC ENGINEERING

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