



## **Welcome to Bluebonnet Electric Cooperative**

Bluebonnet Electric Cooperative Inc. was incorporated in 1939 as the Lower Colorado River Electric Cooperative. The name was changed to Bluebonnet Electric Cooperative, Inc. in 1964 to enhance a separate identity from the Lower Colorado River Authority (LCRA).

Bluebonnet is one of the largest electric cooperatives in Texas, with a 3,800 square mile service territory, which includes all or part of 14 counties, serving more than 120,000 meters. Five Member Service Centers are located throughout Bluebonnet's service territory to assist members with issues ranging from bill payment to service installation. A distribution cooperative, Bluebonnet purchases most of its power wholesale from LCRA. Bluebonnet operates and maintains over 12,000 miles of distribution lines. The organization owns 26 substations and purchases power at 22 additional substations owned by LCRA.

Bluebonnet provides this packet to all developers and their agents and it should be used as a guide in planning the installation of electrical equipment for receiving electrical power from Bluebonnet's distribution system.

The information presented is subject to change and will be revised periodically to reflect any changes which may develop. Please refer to our website at [bluebonnet.coop](http://bluebonnet.coop) for any additional information as well as an online source of this packet.

We look forward to working with you as your electrical provider.

Thank you,

Bluebonnet Project Coordination Staff

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# Development Information Request Form

SUBDIVISION or PROJECT NAME: \_\_\_\_\_

LOCATION OF PROJECT: \_\_\_\_\_

DEVELOPER'S NAME: \_\_\_\_\_

REPRESENTED BY: \_\_\_\_\_ PHONE: \_\_\_\_\_

E-mail: \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_

ENGINEERING FIRM: \_\_\_\_\_

REPRESENTED BY: \_\_\_\_\_ PHONE: \_\_\_\_\_

E-mail: \_\_\_\_\_

TYPE OF PROJECT: (Check all that apply)	SECTION (Insert Section #)	NUMBER OF LOTS (In this section)	TOTAL LOTS (In all sections)
<input type="checkbox"/> RESIDENTIAL	_____	_____	_____
<input type="checkbox"/> APARTMENTS	_____	_____	_____
<input type="checkbox"/> MOBILE HOME/RV PARK	_____	_____	_____
<input type="checkbox"/> COMMERCIAL	_____	_____	_____
<input type="checkbox"/> OTHER _____	_____	_____	_____

Taxing jurisdiction(s) and entities in which development falls (ie. City Limits, County, etc.) as well as physical (911) Address of Development \_\_\_\_\_

Estimated number of units to be constructed and occupied within the first 12 months. \_\_\_\_\_

Anticipated total project completion date. \_\_\_\_\_

OTHER UTILITY PROVIDERS (Company Name)

WATER \_\_\_\_\_

GAS (YES or NO) \_\_\_\_\_

CABLE/ INTERNET \_\_\_\_\_

WIDTH OF PUE \_\_\_\_\_

ASSIGNMENT OF ELECTRICAL UTILITIES WITHIN THE PUE

3' ASSIGNMENT INTO THE PUE

7' ASSIGNMENT INTO THE PUE

OTHER \_\_\_\_\_

LOAD EXPECTATIONS: (Check All That Apply)

LIFT STATION/WASTE WATER PLANT

WATER WELL

HOME SIZES FROM \_\_\_\_\_ TO \_\_\_\_\_ SQ FT.

AMENITY CENTER, PARKS, CLUB HOUSE

COMMERCIAL SITES WITHIN DEVELOPMENT

STREETLIGHTING – Responsible party for monthly lighting charges \_\_\_\_\_

IRRIGATION SYSTEMS

OTHER: \_\_\_\_\_

By signing this form, you are acknowledging receipt and understanding of this packet and you agree to abide and comply with all requirements and policies within.

\_\_\_\_\_  
*Developer / Agent / Owner*

\_\_\_\_\_  
*Date*

## Developer's Checklist

### **Responsibility of Developer:**

- Developer must fill out a Development Information Request Form and submit to Bluebonnet along with design fee if required.
- Developer is responsible for confirming all Bluebonnet easement requirements with Bluebonnet prior to platting.

Developer must have an engineering firm submit preliminary plan of development in digital (AutoCAD) format to Bluebonnet Engineering Department. These plans must include streets, wet utilities, grading plans, and streetlight locations (if required) as well as any other utilities planned for said development. BBEC will not accept removable media devices for file submissions. For files that are too large to send via email, a BBEC FTP Site will be provided.

- A design/re-design fee could be required either prior to or following the design process as a result of any changes to design out of original scope of project. This decision will be made at the discretion of Bluebonnet on a case by case basis. These fees are non-refundable and are subject to revision at Bluebonnet's discretion.
- Prior to Bluebonnet construction, two (2) hard copies of the approved plat must be submitted.
- Developer must provide and install all underground conduits at road crossings in the designated location per Bluebonnet Crossing Plans and if applicable, all electrical conduits in designated locations per Bluebonnet Construction Plans (see Bluebonnet Specifications in this packet). \*\*If project design includes overhead primary lines and transformers in conjunction with underground meter pedestals, Developer may install road crossings ONLY. Bluebonnet contractors shall complete installation from road crossings to point of termination and this labor and material will be figured into the respective Contribution In Aid of Construction (CIAC).\*\*
- Developer is responsible for following Bluebonnet inspection policies and procedures prior to and during conduit installation if using his own contractor (see Page 7).
- Property pins must be set and clearly visible at all lot corners, at developer's expense, prior to Bluebonnet commencing construction.
- Developer is responsible for submitting contribution-in-aid of construction to cover Bluebonnet's construction costs prior to Bluebonnet commencing construction. Bluebonnet's construction department will contact developer to communicate planned construction start date and duration following project being released for scheduling.
- Developer is responsible for all right-of-way clearing and grubbing to Bluebonnet specifications. Bluebonnet will clear the right-of-way for proposed overhead facilities for an additional charge to be quoted should developer choose this option. See attached Bluebonnet Specifications.
- Developer is responsible for ensuring conduit contractor and/or subcontractor adherence to all Bluebonnet Construction Specifications at all times.
- Developer to provide ALL materials necessary for the conduit system he installs for his Bluebonnet Underground System. Bluebonnet will own these materials after proper installation is certified by a Bluebonnet Inspector.

## **Developer's Fees and Information**

### **Development Fees**

1. A design/re-design fee could be required either prior to or following the design process should the project change dramatically from its original scope. This decision will be made at the discretion of Bluebonnet on a case by case basis. These fees are non-refundable and are subject to revision at Bluebonnet's discretion.
2. Every request for design and every alteration to all scopes for design services may be considered as an individual request and, therefore are subject to additional fees to be determined by Bluebonnet.
3. When the developer or prospective developer enters into a line extension agreement with Bluebonnet for service, monies received for engineering design estimates of service will be applied to the cost of construction. Bluebonnet's Line Extension Policy can be found in the Bluebonnet Member Welcome Kit or on the "Residential Development" link on our website located at [bluebonnet.coop](http://bluebonnet.coop).
4. If the developer or prospective developer does not notify Bluebonnet within a 180 day period of initial design with the intent to proceed, any design fees paid to date will be forfeited and the prospective project will be treated as new.
5. A maintenance fee of \$1 per linear foot of trench will be required at the time of contribution by the developer to cover the cost of any necessary repairs in the first year following the completion of Bluebonnet facilities installation.

### **Street Lighting**

1. Bluebonnet agrees to install street lighting at locations within Site designated by the developer as needed to comply with City or County ordinances and regulations.
2. Bluebonnet does not offer any custom lighting solutions at this time. Bluebonnet will install our standard streetlight (see Bluebonnet Specifications in this packet) unless the developer wishes to install his own custom lighting. In this case, Bluebonnet will determine and provide a metering point(s) and the developer will be able to power his custom lighting facilities from this point(s). Developer will be responsible for all installation, operation, and maintenance of custom lighting facilities.
3. Bluebonnet will own, operate, maintain and repair the standard lighting facilities. The monthly charge for street lighting service will be according to the applicable rate schedule for lighting service in the Bluebonnet Electric Cooperative Tariff. Payment of the monthly charge for street lighting service will be the responsibility of the developer or an entity designated by the developer.

## **Easements / Right of Way**

1. Bluebonnet shall be granted, at no cost and in writing on recorded plat, all rights-of-way and easements necessary to serve member, overhead or underground for the erection, maintenance, repair, replacement, removal, or use of all wires, poles, machinery, fixtures, or equipment needed to supply and deliver electric service to the member.
2. Bluebonnet does not allow any member equipment or material to be attached to its property, except where said equipment and/or materials are required to provide electrical service and said equipment and/or material has been authorized by Bluebonnet.
3. Developers and their respective Homebuilders must give Bluebonnet the rights, privileges and easements necessary to construct, operate, repair, replace and perpetually maintain electric facilities located on the member's owned or leased property, and in or on all streets, roads or highways abutting their property. All service lines providing members with electricity and all switches, meters and other appliances and equipment constructed or installed on the property belong solely to Bluebonnet, and Bluebonnet can access the property to repair or service them and, upon discontinuance of service, remove them.
4. Bluebonnet shall, at any time deemed necessary, access any equipment owned and/or operated by Bluebonnet. Any obstructions in a platted public utility easement or exclusive Bluebonnet easement such as landscaping, trees, fences, etc. will be removed if discovered by necessity or inspection. Developers and their respective Homebuilders will adhere to equipment clearance requirements noted in attached specifications AND on equipment labels. If the existing items mentioned above are removed, damaged, etc. by Bluebonnet, Bluebonnet expresses no guarantee, written or implied, that these items will be repaired or replaced. Requests for replacement or repair of landscaping, grass, trees, soil, etc. will be addressed and ruled on by Bluebonnet on a case by case basis. Bluebonnet will make every attempt to disturb existing items as little as possible granted their locations do not violate NESC, NEC, or Bluebonnet clearance requirements.

### **Front Lot Facilities / Back Lot Facilities**

All overhead or underground distribution lines in a subdivision will be built on the front lot lines along public streets. Lines can be constructed along rear lot lines if the following conditions exist.

1. There is an accessible roadway from a public road (dedicated to the public or Bluebonnet) along the route of the proposed distribution line. The dedication will include language that prohibits obstructions being placed in the roadway that would prevent ready access, including but not limited to, fences, storage buildings, etc. and are required to be recorded in the deed restrictions for the applicable area(s).
2. The accessible, dedicated roadway will be an all-weather road, thirty (30) feet in width and constructed of asphalt, concrete, or crushed rock.
3. An all-weather road is defined with adequate culverts, bridges, and base material to support vehicles weighing up to 50,000 pounds during all weather conditions.

## **Inspection Guidelines and Procedures**

1. Developer to provide all pertinent conduit contractor information to Bluebonnet Project Coordinator prior to conduit installation. Bluebonnet Project Coordinator will provide all pertinent Bluebonnet Inspector information to developer.
2. Developer will schedule and conduct a pre-construction meeting between Bluebonnet Inspector and contractor, who will install conduit at a time mutually agreeable to all parties involved.
3. Contractor foreman will review Bluebonnet construction specifications and acknowledge review and receipt prior to trenching and conduit installation.
4. Bluebonnet will respond within 48 hours of contractor notification prior to intended trenching times so inspection dates and times can be coordinated.
5. Trenches will remain open until inspected and approved by Bluebonnet inspector. Upon inspection, contractor will be advised as to what may or may not be backfilled.
6. Bluebonnet retains the right to terminate any conduit installation if inspection reveals non-compliance with Bluebonnet inspection policies, procedures, or specifications until said issues are resolved and approved through re-inspection.
7. Bluebonnet Inspector will inspect all road crossings as they are being installed by Road Contractor.
8. Equipment pad installation and conduit stubs must meet clearance requirements on all sides as outlined in Bluebonnet Specifications.
9. Developer must ensure that his conduit contractor cooperates with Bluebonnet's Inspector and corrects any problems noted. Otherwise, the Bluebonnet certification of the conduit system will be withheld and Bluebonnet's installation of electrical facilities cannot commence. Developers who fail to facilitate prompt resolution to conduit installation problems noted by Bluebonnet's Inspector will not be allowed to install conduit for Bluebonnet on existing or future projects.
10. Developer or his/her contractor is responsible for acquiring any and all permits and remitting any necessary fees for trench and conduit installation (excavation plans, traffic control plans, digging permits, etc.)

### **BLUEBONNET INSPECTORS**

**Carl Miller – 979-540-6495, [carl.miller@bluebonnet.coop](mailto:carl.miller@bluebonnet.coop)**

**Jose Hernandez – 720-670-7299 [jose.hernandez@bluebonnet.coop](mailto:jose.hernandez@bluebonnet.coop)**

**Tim Mittasch – 979-540-7159 [tim.mittasch@bluebonnet.coop](mailto:tim.mittasch@bluebonnet.coop)**

**Kenneth Roush – 512-468-5088 [kenneth.roush@bluebonnet.coop](mailto:kenneth.roush@bluebonnet.coop)**

**Jose Villarreal – 512-988-1885 [jose.villarreal@bluebonnet.coop](mailto:jose.villarreal@bluebonnet.coop)**

**Martin Dorantes – 512-748-4453 [martin.dorantes@bluebonnet.coop](mailto:martin.dorantes@bluebonnet.coop)**

## **Bluebonnet Specifications**

Ditch and Conduit Placement  
Road Crossing  
Pad Mount Switchgear Easement Requirements  
Dimensions and Wiring Single-Phase Transformer  
Dimensions and Wiring Single-Phase Sectionalizer  
Three-Phase Transformer Pad 45-750 kVA  
Three-Phase Transformer Pad 1000-2500 kVA  
Dimensions for Three-Phase Sectionalizer 600A  
Standard Residential Streetlight  
Right-of-Way Clearing Guide  
Switchgear Dimensions and Installation  
Meter Loop Specifications (Multiple)

### **Additional Notes**

Underground electrical lines in residential developments (including apartment complexes and any commercial service) shall be looped to accommodate the ability to feed from two or more directions so that in the event of an outage the most number of customers can be provided power until the failed line or equipment is restored. Avoid looping back in the same ditch. Never loop back to the same riser pole, sectionalizing cabinet, or switchgear.

Developments with lots greater than 1.5 acre are required to be designed with sectionalizers at the front lot lines within the PUE or BBEC Easement.

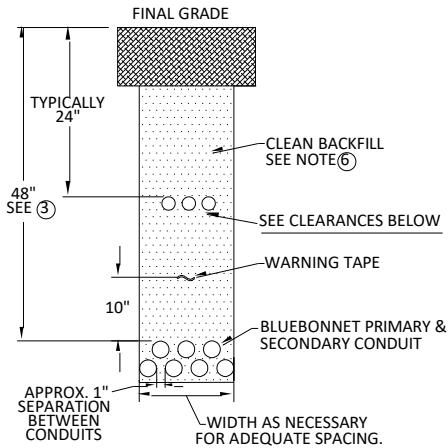
The main electrical disconnect for each electrical service shall be installed on the exterior of the building, in a location approved by Bluebonnet Electric. (2015 International Fire Code, 509.3)



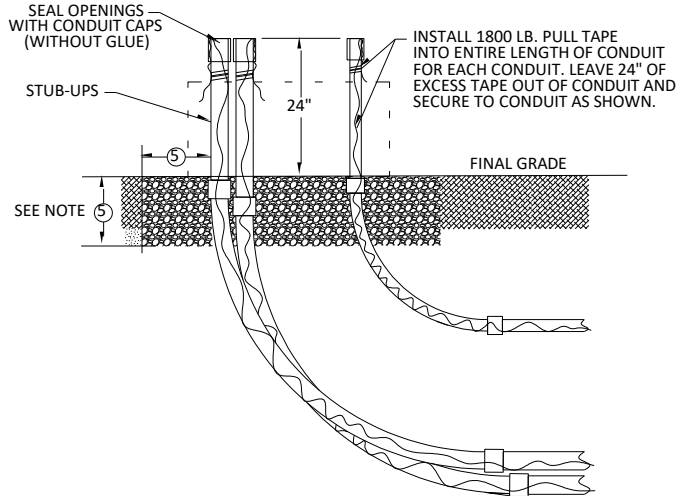
# DITCH AND CONDUIT PLACEMENT

## NON-ROAD CROSSING

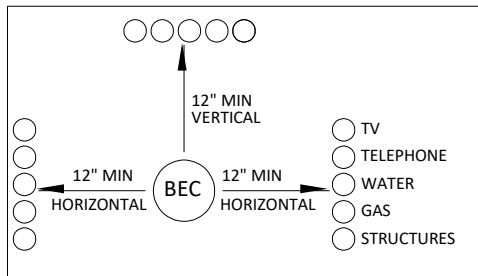
**DITCH ASSIGNMENT**  
**FRONT VIEW**



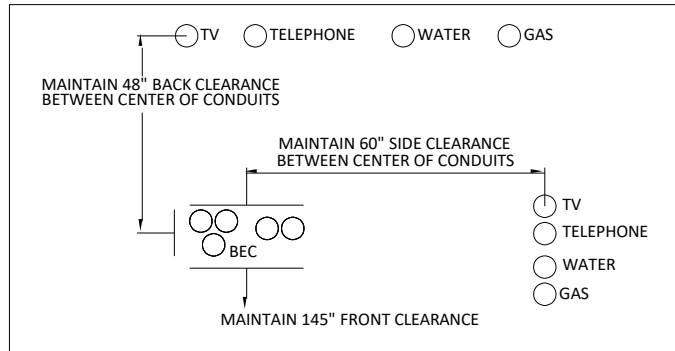
**CONDUIT STUB-UP**  
**SIDE VIEW**



**CONDUIT CLEARANCES**  
**FRONT VIEW**



**CONDUIT STUB-UP CLEARANCES**  
**TOP VIEW**



ANY CONDUITS STUBBED OUT FOR FUTURE USE SHALL EXTEND A MINIMUM OF 5' FROM EQUIPMENT. ENDS SHALL BE MARKED WITH 3" DIAMETER GREY PVC CONDUIT, EXTENDING 4' ABOVE GRADE AND PAINTED RED.

**NOTES:**

1. CONDUIT SHALL BE GREY SCHEDULE 40 PVC. | PRIMARY & SECONDARY= 3" | LIGHTING= 2"
2. CONDUIT ELBOW: PRIMARY & SECONDARY= 90°, 48" SWEEP | STREETLIGHT = 90°, 24" SWEEP
3. NORMAL DITCH COVER DEPTH IS 48". ADJUSTMENTS MAY BE MADE TO 48" DEPTH IF NECESSARY UPON BLUEBONNET APPROVAL.
4. SEPARATION FROM OTHER UTILITIES SHALL BE 12" MINIMUM OR SUFFICIENT TO PREVENT ANY FORESEEN DAMAGE OF EITHER FACILITY TO THE OTHER.
5. GRAVEL FOR PADS SHALL BE 3/8" WASHED PEA GRAVEL. DEPTH AND WIDTH SHALL BE TO EQUIPMENT SPECIFICATION.
6. BACKFILL MATERIAL SHALL BE CLEAN AND FREE FROM ALL ORGANIC MATERIAL, UNSTABLE MATERIALS, DEBRIS, LUMPS, OR BROKEN PAVING. NO ROCKS OR STONES SHALL BE GREATER THAN 1" IN ANY BACKFILL. THE BACKFILL MUST PROVIDE AN EVEN SUPPORT FOR CONDUITS. MATERIAL FOR BACKFILL MAY BE MATERIAL RESULTING FROM EXCAVATION, IF SUITABLE IN THE OPINION OF THE BBEC INSPECTOR OR BBEC PROJECT COORDINATOR.



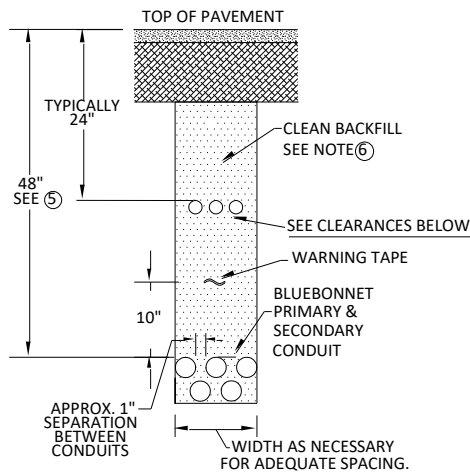
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CV	Project Coordinators	Oct. 31, 2019

**UNDERGROUND DISTRIBUTION**

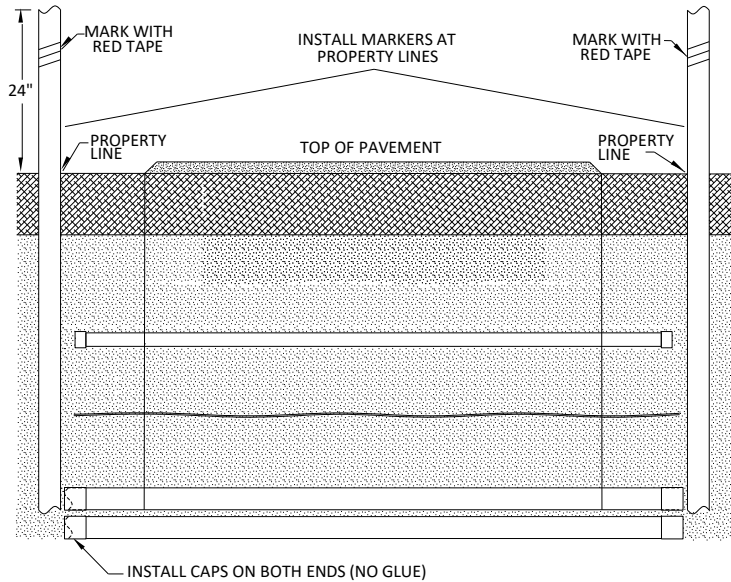
**J-3**

# DITCH AND CONDUIT PLACEMENT ROAD CROSSING

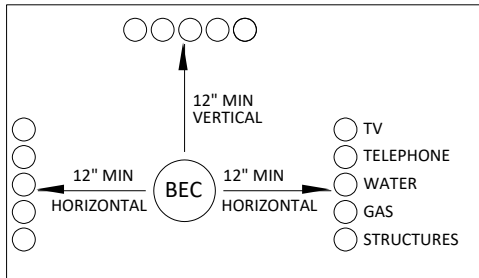
**CONDUIT  
FRONT VIEW**



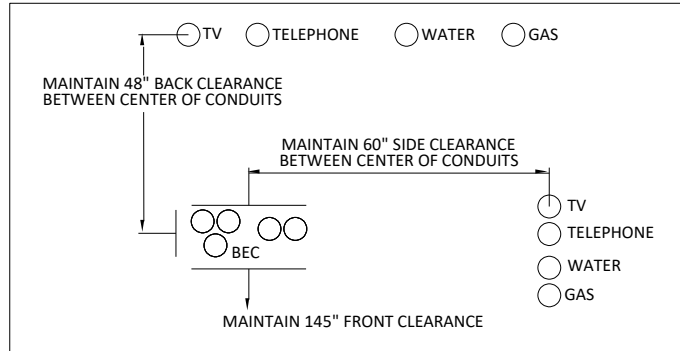
**CONDUIT  
SIDE VIEW**



**CONDUIT CLEARANCES  
FRONT VIEW**



**CONDUIT STUB-UP CLEARANCES  
TOP VIEW**



**ANY CONDUITS STUBBED OUT FOR FUTURE USE SHALL EXTEND A MINIMUM OF 5' FROM EQUIPMENT. ENDS SHALL BE MARKED WITH 3" DIAMETER GREY PVC CONDUIT, EXTENDING 4' ABOVE GRADE AND PAINTED RED.**

**NOTES:**

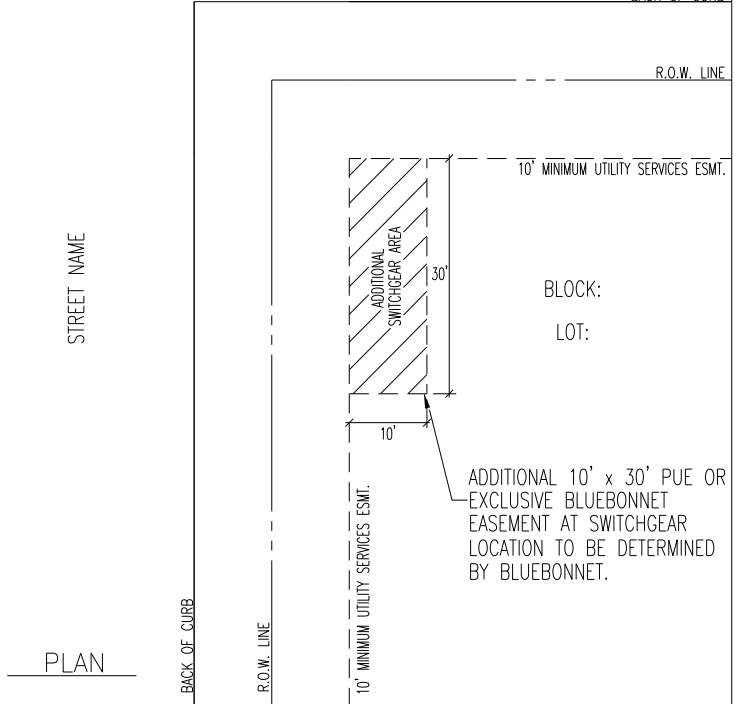
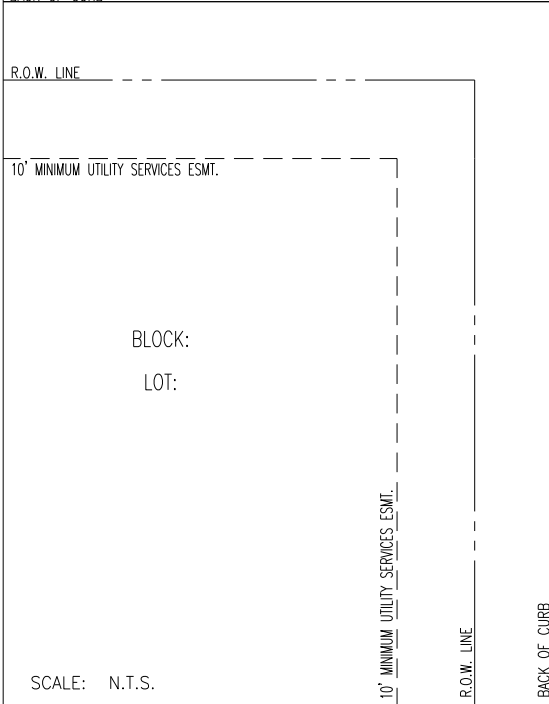
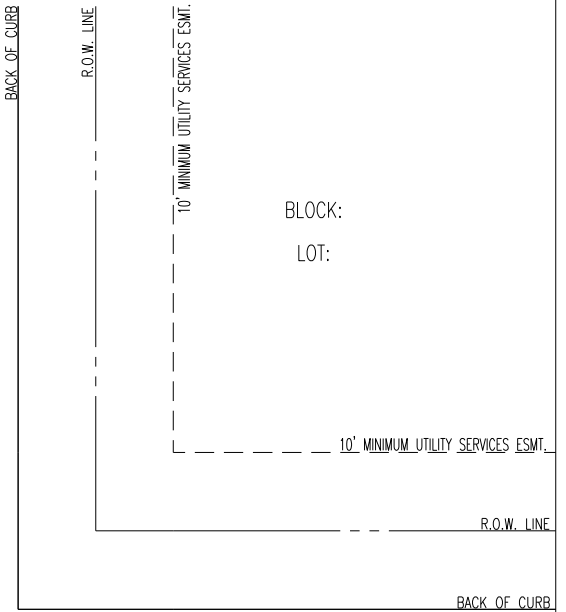
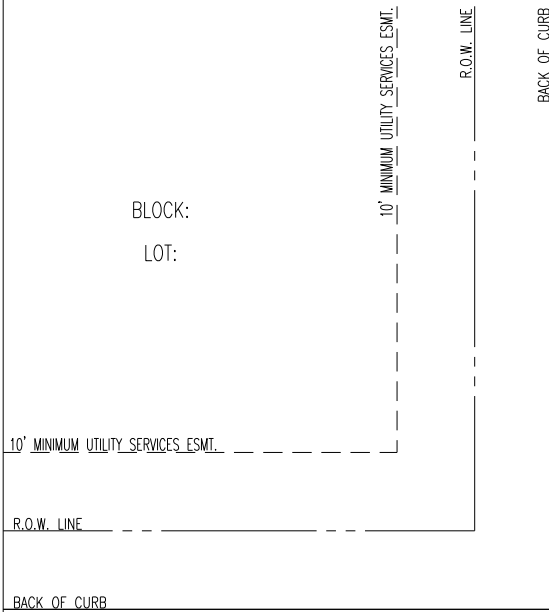
1. STATE AND LOCAL CODES MAY REQUIRE DIFFERENT STANDARDS, IN WHICH CASE THE MOST STRINGENT CODE SHALL TAKE PRECEDENCE.
2. CONDUIT SHALL BE MINIMUM GRAY SCHEDULE 40 PVC. | PRIMARY & SECONDARY = 3" | LIGHTING = 2"
3. CONDUIT ELBOW: PRIMARY & SECONDARY = 90°, 48" SWEEP | LIGHTING = 90°, 24" SWEEP
4. LENGTH OF CONDUITS SHALL BE FROM PROPERTY LINE TO PROPERTY LINE.
5. NORMAL COVER DEPTH IS 48". ADJUSTMENTS MAY BE MADE TO 48" DEPTH IF NECESSARY UPON BLUEBONNET APPROVAL.
6. **BACKFILL MATERIAL SHALL BE CLEAN AND FREE FROM ALL ORGANIC MATERIAL, UNSTABLE MATERIALS, DEBRIS, LUMPS, OR BROKEN PAVING. NO ROCKS OR STONES SHALL BE GREATER THAN 1" IN ANY BACKFILL. THE BACKFILL MUST PROVIDE AN EVEN SUPPORT FOR CONDUITS. MATERIAL FOR BACKFILL MAY BE MATERIAL RESULTING FROM EXCAVATION, IF SUITABLE IN THE OPINION OF THE BBEC INSPECTOR OR BBEC PROJECT COORDINATOR.**



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CV	Project Coordinators	Oct. 31, 2019

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# BLUEBONNET ELECTRIC COOPERATIVE REQUIREMENTS FOR SWITCHING EQUIPMENT PLACEMENT

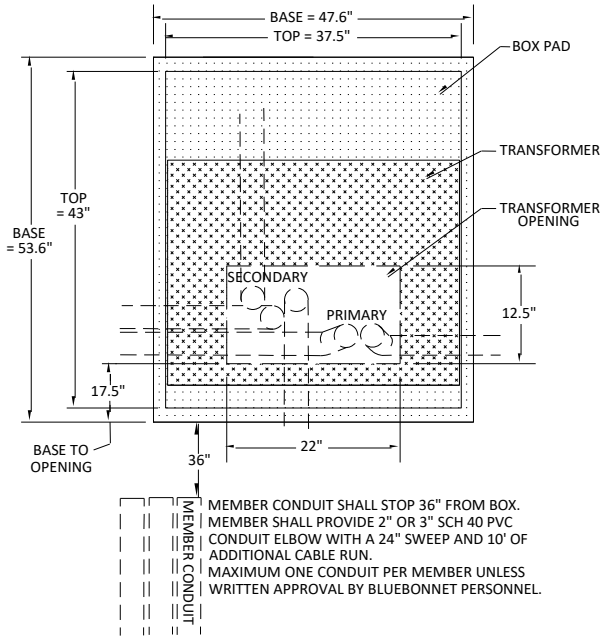


PLAN

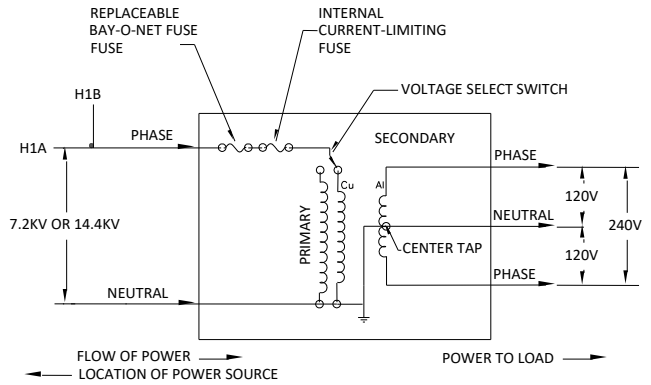
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# 1PH PADMOUNT TRANSFORMER DIMENSIONS AND WIRING

**TOP VIEW**

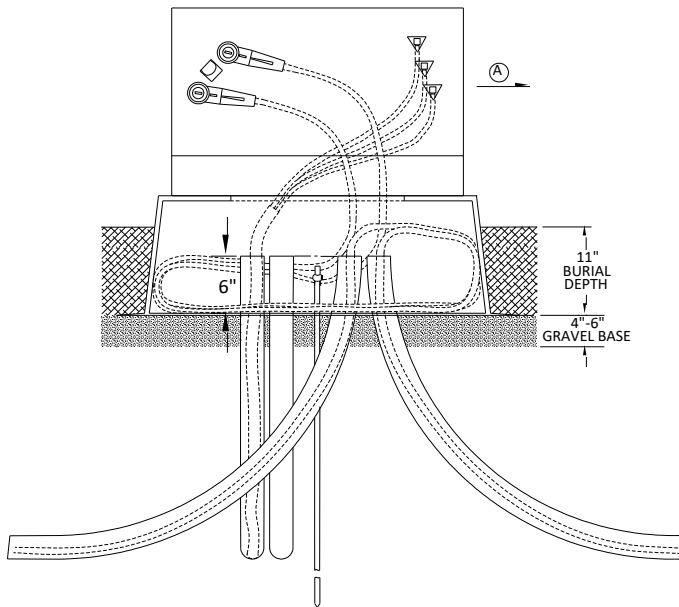


**WIRING DIAGRAM**

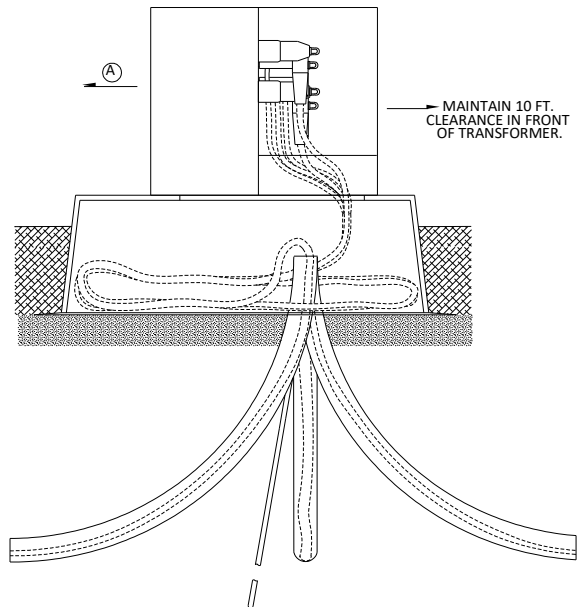


- Ⓐ CLEARANCE BETWEEN WALLS AND TRANSFORMER:  
 NON-COMBUSTIBLE - 3 FT.  
 COMBUSTIBLE: UP TO 75 kVA - 10 FT.  
 GREATER THAN 75 kVA - 20 FT.

**FRONT VIEW**



**SIDE VIEW**



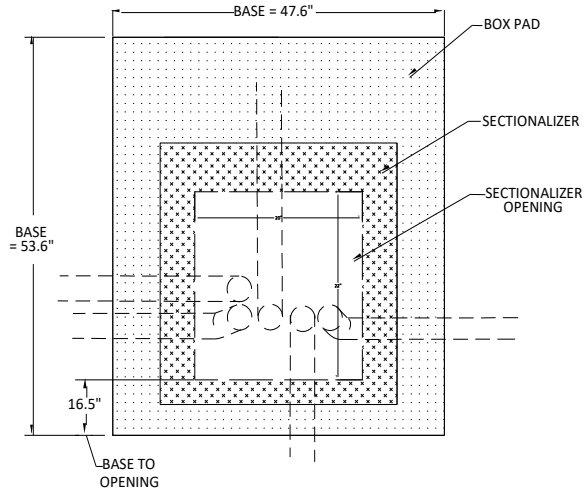
DATE APPROVED:  
SEPTEMBER 8, 2016

UNDERGROUND DISTRIBUTION

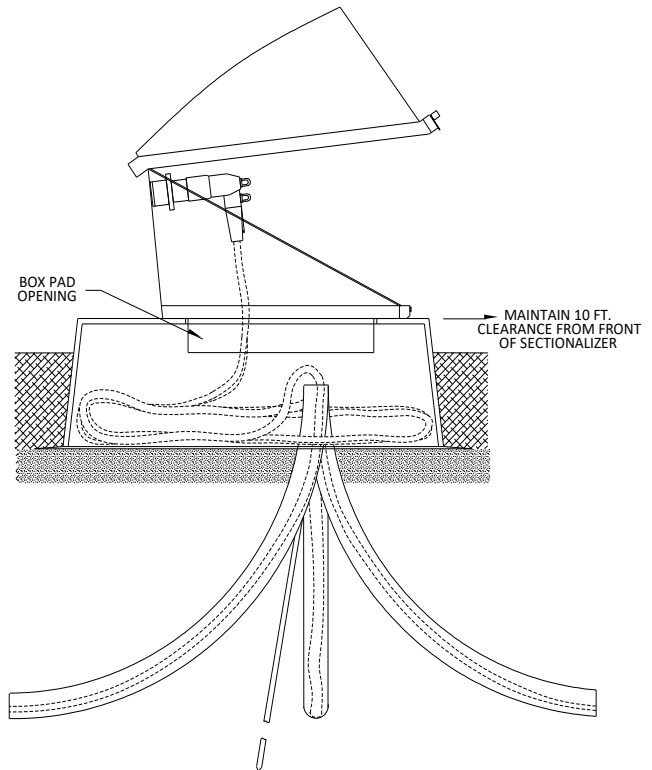
A-2

# 1PH PADMOUNT SECTIONALIZER DIMENSIONS AND WIRING

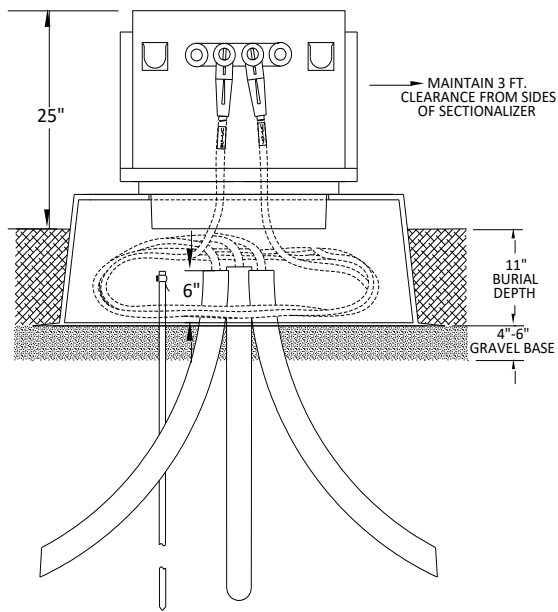
TOP VIEW



SIDE VIEW



FRONT VIEW

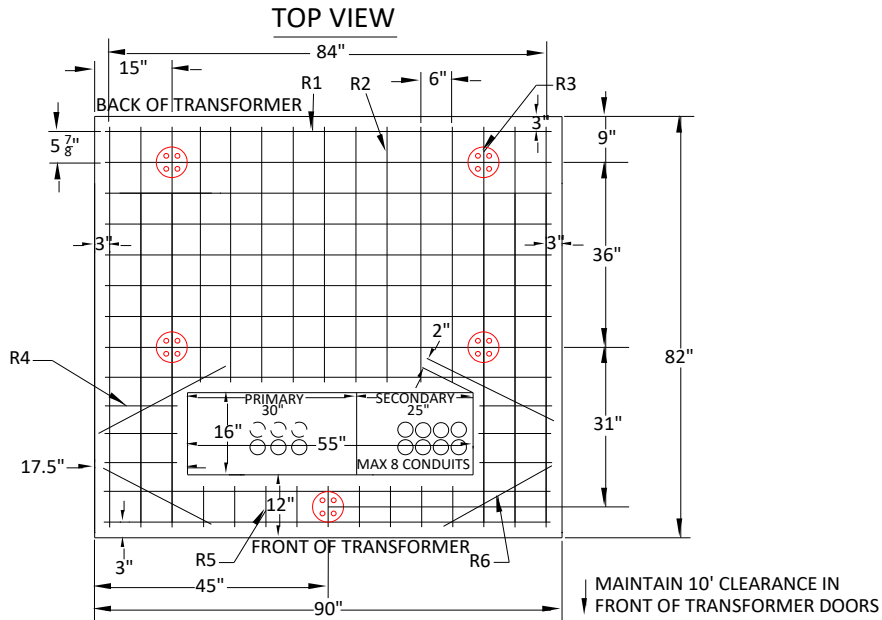


DATE APPROVED:  
SEPTEMBER 8, 2016

UNDERGROUND DISTRIBUTION

C-2

# 3PH TRANSFORMER PAD 45 - 750 KVA (UM3-A)



MAINTAIN CLEARANCE FROM TRANSFORMER SIDES:

OTHER TRANSFORMERS - 5 FT.

NON-COMBUSTIBLE WALLS - 5 FT.

COMBUSTIBLE WALLS:

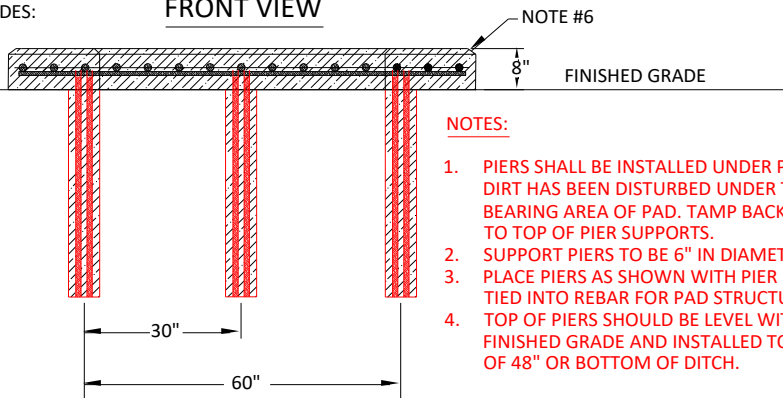
0 TO 75 KVA - 10 FT.

>75 KVA - 20 FT.

REINFORCING BARS; 1/2"					
R1	R2	R3	R4	R5	R6
11 X	9 X	6 X	6 X	9 X	4 X
86"	50"	78"	14"	8"	25"

SEE NOTE #3

## FRONT VIEW



NOTE #6

FINISHED GRADE

**NOTES:**

1. PIERS SHALL BE INSTALLED UNDER PAD WHEN DIRT HAS BEEN DISTURBED UNDER THE LOAD BEARING AREA OF PAD. TAMP BACKFILL (95%) TO TOP OF PIER SUPPORTS.
2. SUPPORT PIERS TO BE 6" IN DIAMETER.
3. PLACE PIERS AS SHOWN WITH PIER REBAR TIED INTO REBAR FOR PAD STRUCTURE.
4. TOP OF PIERS SHOULD BE LEVEL WITH FINISHED GRADE AND INSTALLED TO A DEPTH OF 48" OR BOTTOM OF DITCH.

ANY CONDUITS STUBBED OUT FOR FUTURE USE SHALL EXTEND A MINIMUM OF 5' FROM EQUIPMENT. ENDS SHALL BE MARKED WITH 3" DIAMETER GREY PVC CONDUIT, EXTENDING 4' ABOVE GRADE AND PAINTED RED.

**NOTES:**

1. TAMP GROUND UNDER PAD BEFORE SETTING TO PREVENT UNEVEN SETTLING.
2. CONCRETE: 3000 POUNDS MIN. PER SQUARE INCH; 4% TO 6% ENTRAINED AIR, 3/4" MAX. SIZE AGGREGATE.
3. REINFORCING STEEL: ATSM-A615 GRADE 60; EVENLY SPACE APPROXIMATELY 6" O.C. EACH WAY AND SECURELY TIED TOGETHER.
4. MINIMUM 2 INCH CONCRETE COVER OVER REINFORCING STEEL.
5. WOOD FLOAT LEVEL FINISH LEAVING NO DEPRESSIONS.
6. 3/4" CHAMFER ALL EDGES.
7. PRIMARY AND SECONDARY CONDUIT SHALL BE INSTALLED AND SEALED BEFORE POURING PAD.
8. IF FUTURE EXPANSION TO A TRANSFORMER LARGER THAN 750 KVA IS POSSIBLE, BLUEBONNET MAY REQUEST THE CONSTRUCTION OF THE PAD ON PAGE B-6.
9. **MAXIMUM OF 8 CONDUITS, 4" SCHEDULE 40 PVC PIPES ARE ALLOWED IN THE SECONDARY COMPARTMENT.**
10. STUB THE SECONDARY PIPES AS CLOSE TO THE EDGE SECONDARY CUTOUT AS POSSIBLE. (SEE DRAWING)
11. MAXIMUM OF 6 CONDUITS, 3" SCHEDULE 40 PVC PIPES ARE ALLOWED IN THE PRIMARY COMPARTMENT.

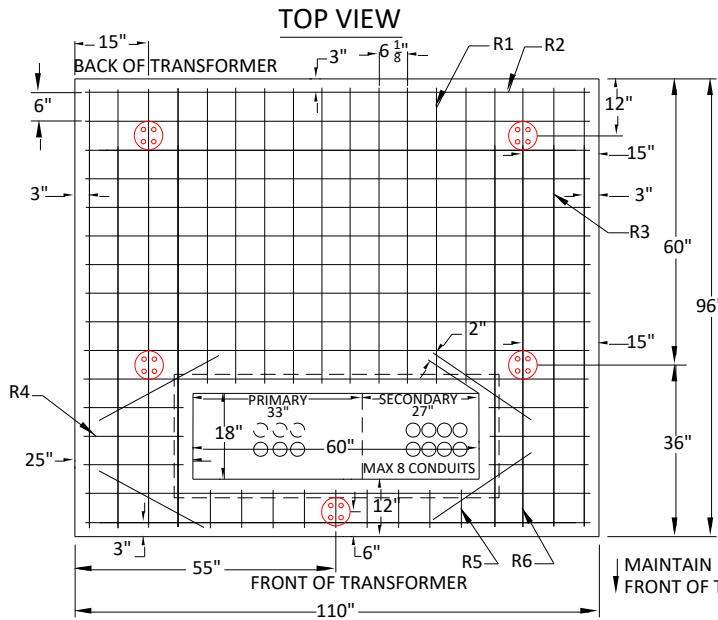


Drawn:	Approved:	Date:
SF	Coordinators	Nov. 12, 2019

**UNDERGROUND DISTRIBUTION**

**B-5**

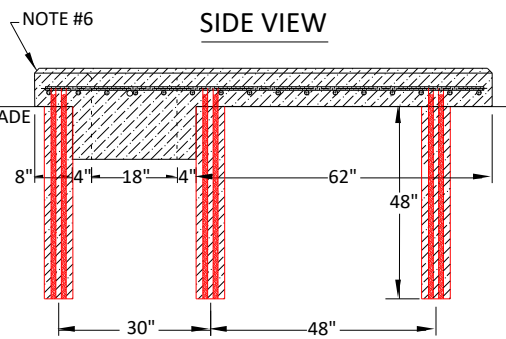
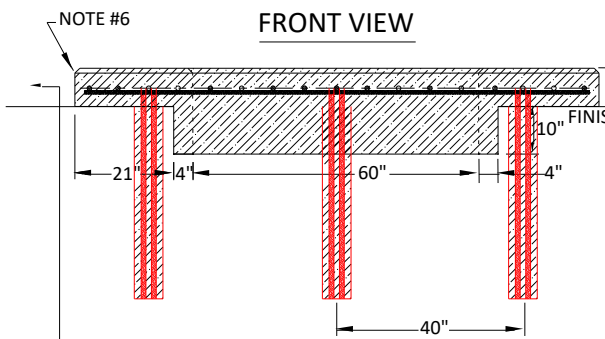
# 3PH TRANSFORMER PAD 1000 - 2500 KVA (UM3-B)



- NOTES:**
1. PIERS SHALL BE INSTALLED UNDER PAD WHEN DIRT HAS BEEN DISTURBED UNDER THE LOAD BEARING AREA OF PAD. TAMP BACKFILL (95%) TO TOP OF PIER SUPPORTS.
  2. SUPPORT PIERS TO BE 6" IN DIAMETER.
  3. PLACE PIERS AS SHOWN WITH PIER REBAR TIED INTO REBAR FOR PAD STRUCTURE.
  4. TOP OF PIERS SHOULD BE LEVEL WITH FINISHED GRADE AND INSTALLED TO A DEPTH OF 48" OR BOTTOM OF DITCH.

REINFORCING BARS; 1/2"					
R1	R2	R3	R4	R5	R6
10 X	13 X	8 X	6 X	9 X	4 X
62"	106"	92"	21"	8"	25"

SEE NOTE #3



NOTE #6

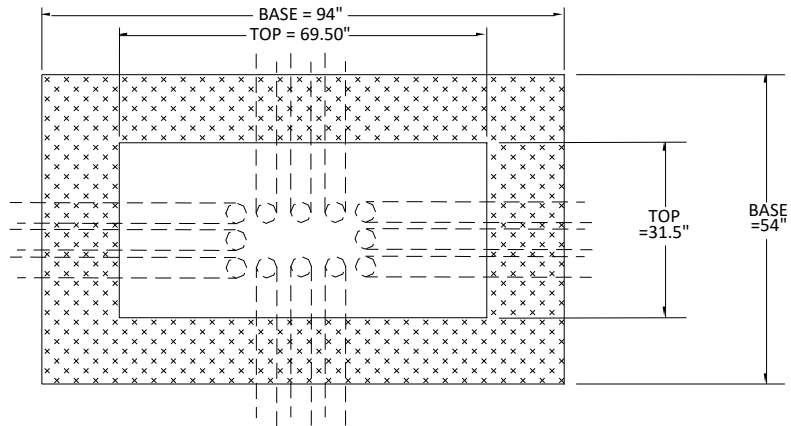
MAINTAIN CLEARANCE FROM TRANSFORMER SIDES:  
 OTHER TRANSFORMERS - 5 FT.  
 NON-COMBUSTIBLE WALLS - 5 FT.  
 COMBUSTIBLE WALLS:  
 0 TO 75 KVA - 10 FT.  
 >75 KVA - 20 FT.

- NOTES:**
1. TAMP GROUND UNDER PAD BEFORE SETTING TO PREVENT UNEVEN SETTLING.
  2. CONCRETE: 3000 POUNDS MIN. PER SQUARE INCH; 4% TO 6% ENTRAINED AIR, 3/4" MAX. SIZE AGGREGATE.
  3. REINFORCING STEEL: ATSM-A615 GRADE 60; EVENLY SPACE APPROXIMATELY 6" O.C. EACH WAY AND SECURELY TIED TOGETHER.
  4. MINIMUM 2 INCH CONCRETE COVER OVER REINFORCING STEEL.
  5. WOOD FLOAT LEVEL FINISH LEAVING NO DEPRESSIONS.
  6. 3/4" CHAMFER ALL EDGES.
  7. PRIMARY AND SECONDARY CONDUIT SHALL BE INSTALLED AND SEALED BEFORE POURING PAD.
  8. MAXIMUM OF 8 CONDUITS, 4" SCHEDULE 40 PVC PIPES ARE ALLOWED IN THE SECONDARY COMPARTMENT.
  9. STUB THE SECONDARY PIPES AS CLOSE TO THE EDGE SECONDARY CUTOUT AS POSSIBLE. (SEE DRAWING)
  10. MAXIMUM OF 6 CONDUITS, 3" SCHEDULE 40 PVC PIPES ARE ALLOWED IN THE PRIMARY COMPARTMENT.

	Drawn:	Approved:	Date:	<b>UNDERGROUND DISTRIBUTION</b>	<b>B-6</b>
	SF	Coordinators	Nov. 12, 2019		

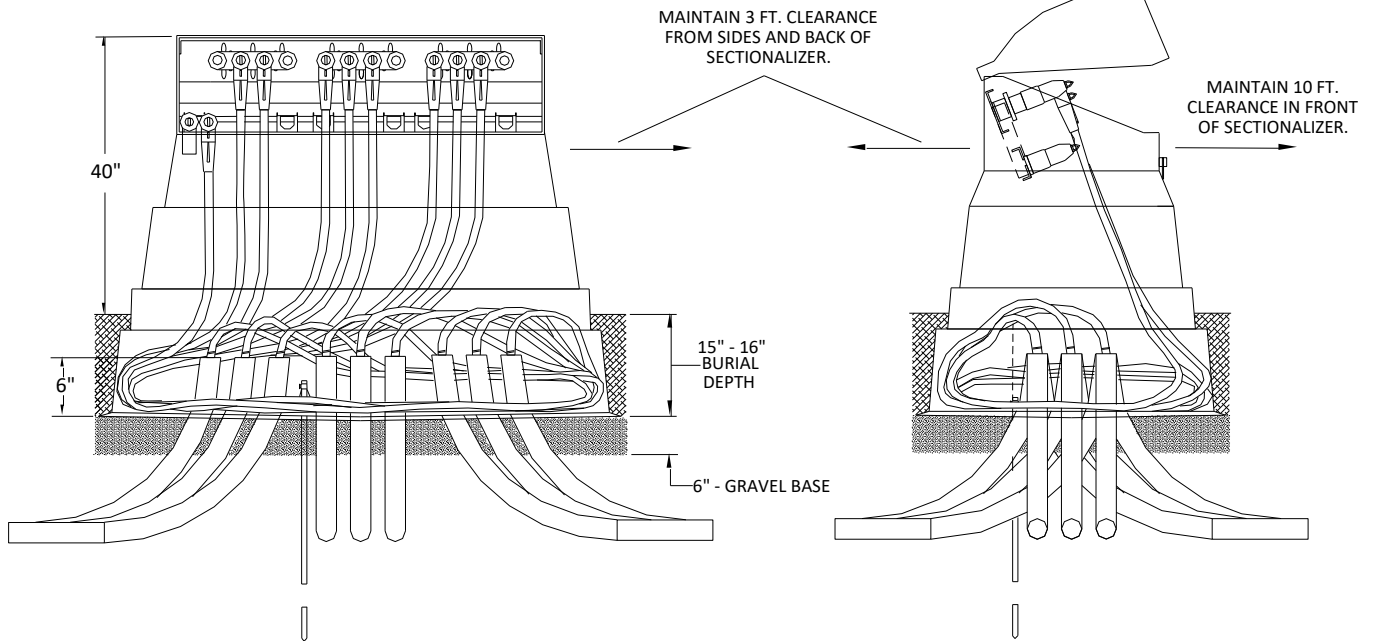
# 3PH 600A SECTIONALIZER - DIMENSIONS

TOP VIEW



FRONT VIEW

SIDE VIEW



ANY CONDUITS STUBBED OUT FOR FUTURE USE SHALL EXTEND A MINIMUM OF 5' FROM EQUIPMENT. ENDS SHALL BE MARKED WITH 3" DIAMETER GREY PVC CONDUIT, EXTENDING 4' ABOVE GRADE AND PAINTED RED.

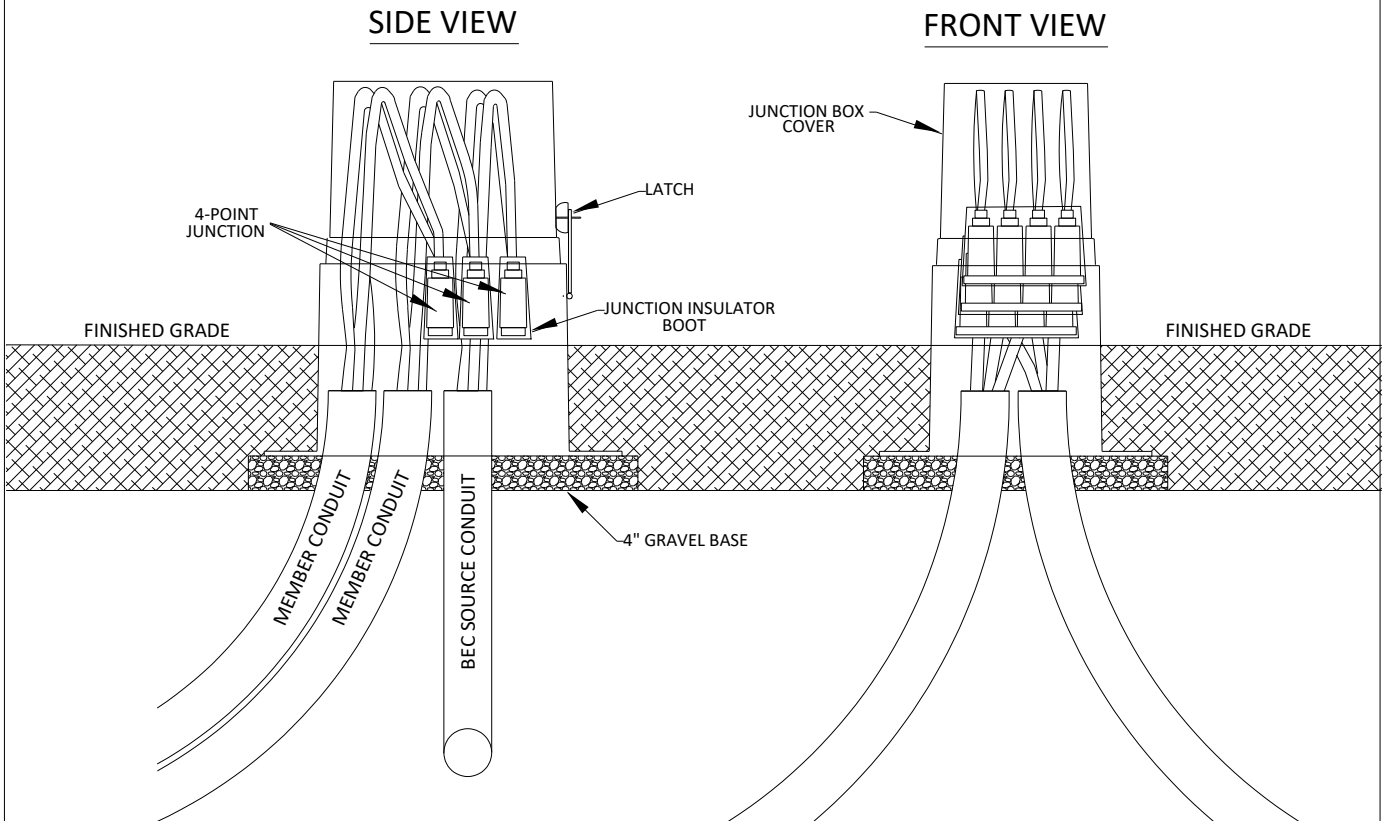


DATE APPROVED:  
SEPTEMBER 8, 2016

UNDERGROUND DISTRIBUTION D-2B




# SECONDARY JUNCTION BOX CONSTRUCTION STANDARD



**NOTES:**

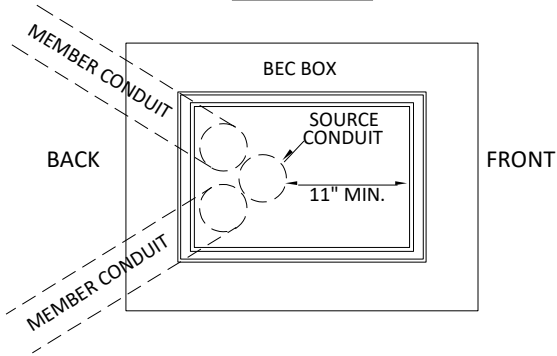
1. A MAXIMUM OF 1 INPUT AND 3 TRIPLEX OUTPUTS AND CAN BE CONNECTED IN JUNCTION BOX.  
MAX CABLE SIZE CONNECTOR ACCOMMODATES 350 KCM.
2. INSTALL INSULATED PROTECTIVE BOOT ON ALL SECONDARY JUNCTIONS.
3. EVENLY DISPERSE 4OZ. OF INSECTICIDE GRANULES IN PAD OPENING.

UJB SECONDARY JUNCTION BOX	INSECTICIDE GRANULES
UJ1-4A OR UJ1-4B 4PT SECONDARY JUNCTION BOX - QTY 3	U3P90-48 PVC ELBOW
GRAVEL	ID TAGS, COLORED TAPE, LABELS

 <b>Bluebonnet</b>	DATE APPROVED: AUGUST 15, 2015	<b>UNDERGROUND DISTRIBUTION</b>	<b>E-1</b>
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# SECONDARY JUNCTION BOX DIMENSIONS

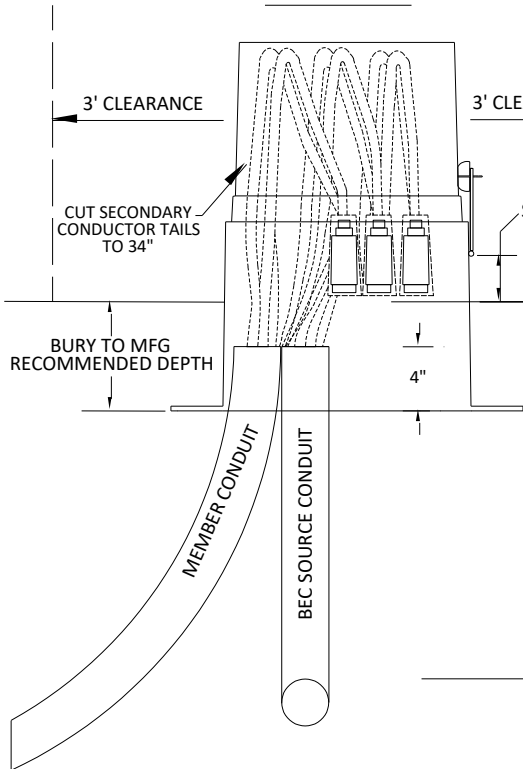
TOP VIEW



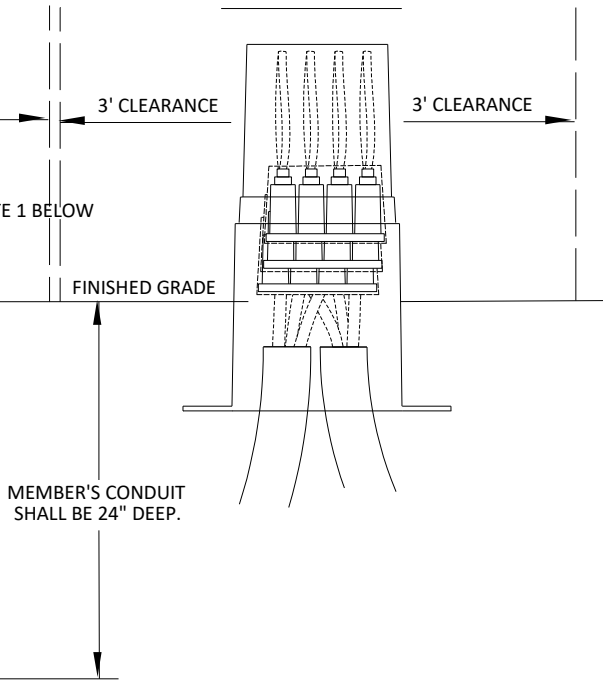
MEMBER SHALL PROVIDE 2" OR 3" SCH 40 PVC CONDUIT ELBOW WITH 10' OF ADDITIONAL CABLE RUN.

MAX ONE CONDUIT PER MEMBER UNLESS WRITTEN APPROVAL BY BEC PERSONNEL.

SIDE VIEW



FRONT VIEW



**NOTES:**

1. LATCH AND LOCK SHALL REMAIN ABOVE GROUND LEVEL.
2. MAINTAIN 3FT CLEARANCE FROM ALL SIDES OF JUNCTION BOX.

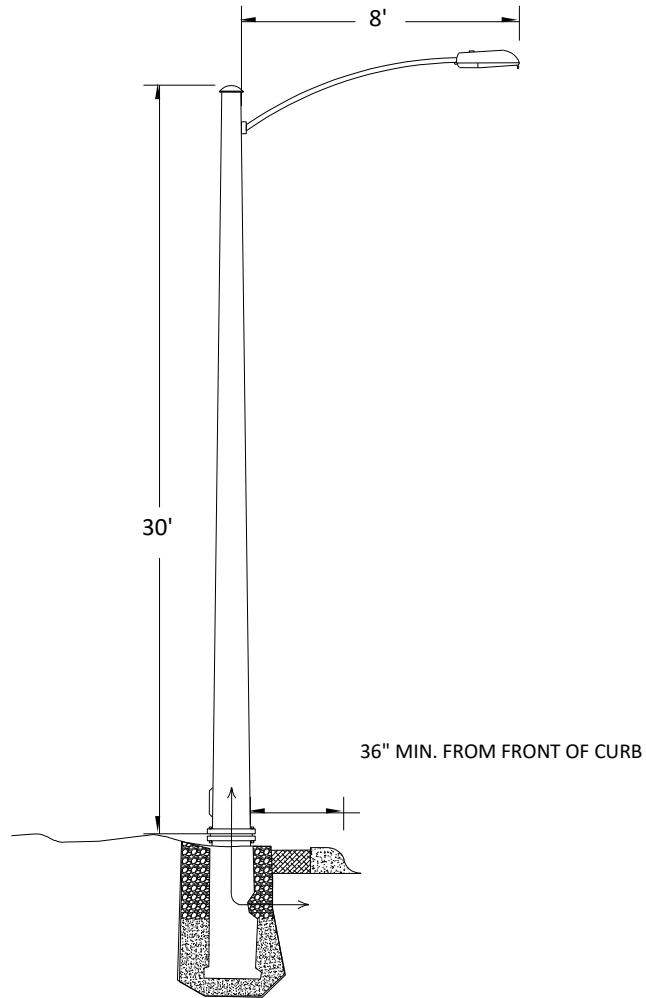


DATE APPROVED:  
SEPTEMBER 22, 2015

UNDERGROUND DISTRIBUTION

E-2

# STANDARD RESIDENTIAL STREETLIGHT MAST, ARM, AND HEAD



**NOTES:**

1. COBRAHEAD FIXTURE, LED PHOTOCELL CONTROLLED.
2. IN THE ABSENCE OF A RAISED CURB, BLUEBONNET WILL DETERMINE THE LOCATION OF STREETLIGHT POLES BASED ON APPLICABLE ZONE CRITERIA
3. STREETLIGHT BASE PROVIDED AND INSTALLED BY BEC PERSONNEL. IF DEVELOPER CHOOSES TO PROVIDE/INSTALL, BASE MUST MATCH CATALOG NUMBER FOUND ON UM1-SP
4. BASE CALLED SEPARATELY (UM1-SP)

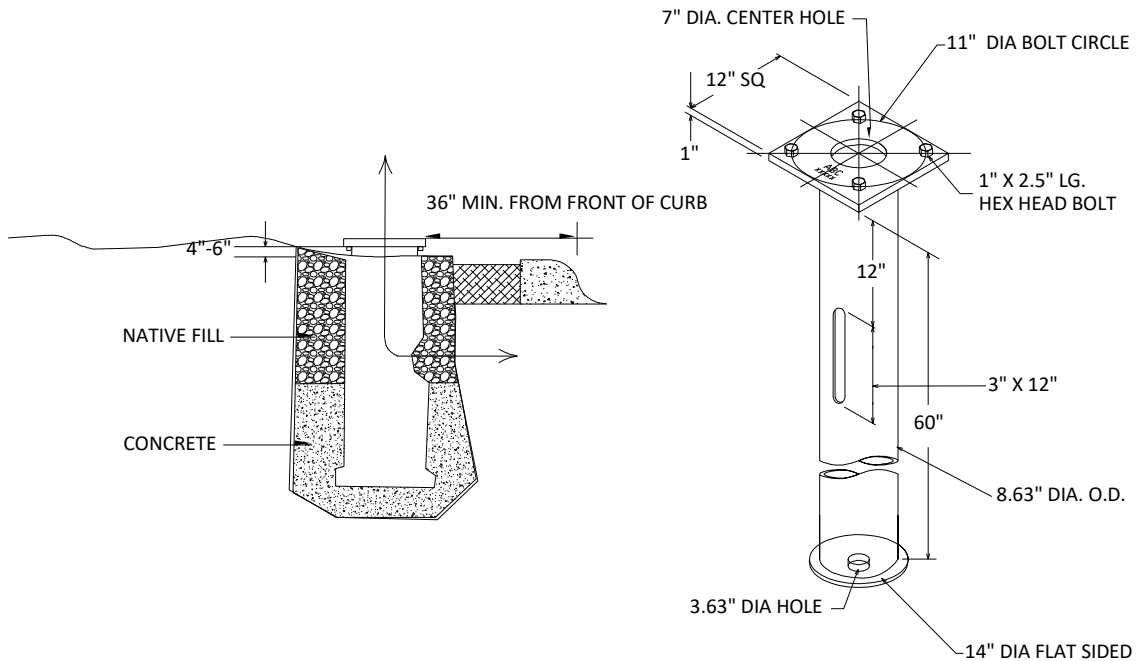
STOCK:	QTY:	MATERIAL:	
10202	40	CABLE, #14/2 W/GROUND	SL53-8S
14842	1	POLE, ALUMINUM 30 FT. STREET LIGHT W/ 8 FT. ARM	
15580	1	LUMINAIRE, 53 WATT LED W/ PHOTOCELL (USED ON SL53-8S ONLY)	SL94-8S
15970	1	LED, STREETLIGHT MULTI VOLT 200/250W EQUIVALENT (USED ON SL94-8S ONLY)	
15971	1	LED, STREETLIGHT MULTI VOLT 4/400W EQUIVALENT (USED ON SL140-8S ONLY)	SL140-8S
10311	1	CONN, GROUND TRANS #8- 2/0	



Drawn:	Approved:	Date:
JCB	TE	Nov. 10, 2020

**UNDERGROUND DISTRIBUTION**

# STANDARD RESIDENTIAL STREETLIGHT BASE UM1-SP



**NOTES:**

1. COMMERCIAL, 80LBS, SACK CONCRETE
2. SLIT SACK ON SIDE AWAY FROM POLE, SACK TO BE LAID ON LONG SIDE IN POLE HOLE
3. BASE SHOULD BE INSTALLED 4 TO 6 INCHES ABOVE GRADE.
4. HUBBELL POWER SYSTEMS CATALOG NUMBER T112-0212 (CAN BE PURCHASED FROM TECHLINE)
5. IF ORDERED CONCRETE, MIX TO BE 3000 PSI, MINIMUM
6. FLAT SIDE OF BASE TO BE PARALLEL TO BACK OF CURB
7. CONCRETE TO BE POURED UP TO BOTTOM OF KEYHOLE IN BASE. REMAINDER OF HOLE TO BE BACKFILLED WITH NATIVE FILL

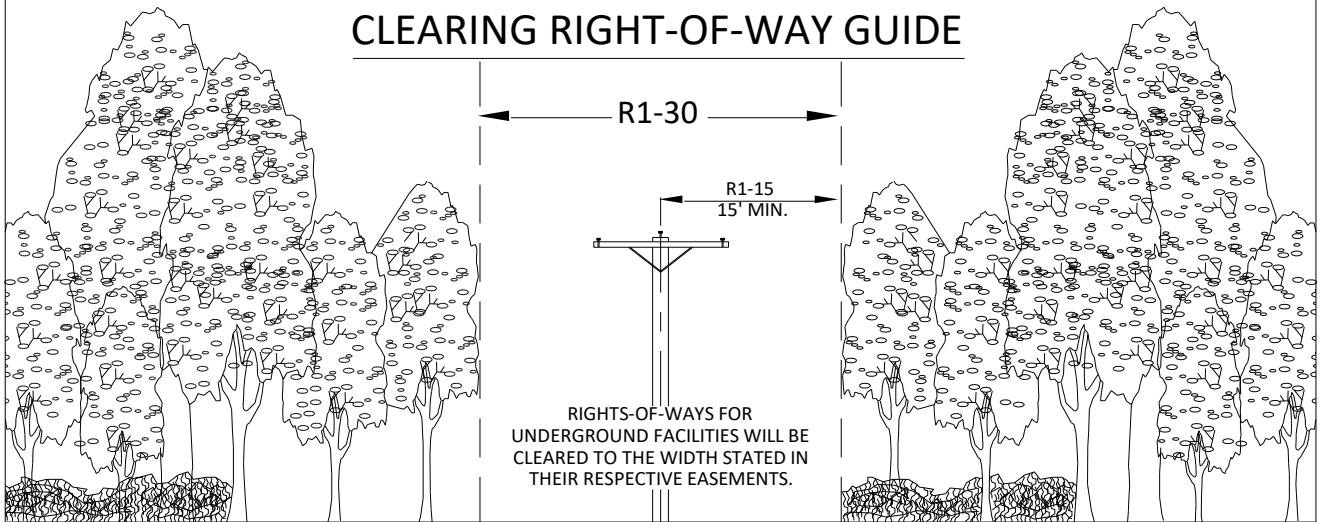
STOCK:	QTY:	MATERIAL:
10566	1	FOUNDATION, STEEL STREET LIGHT POLE (CALL SEPARATELY)
10248	6	CEMENT READY MIX 80LBS SACK



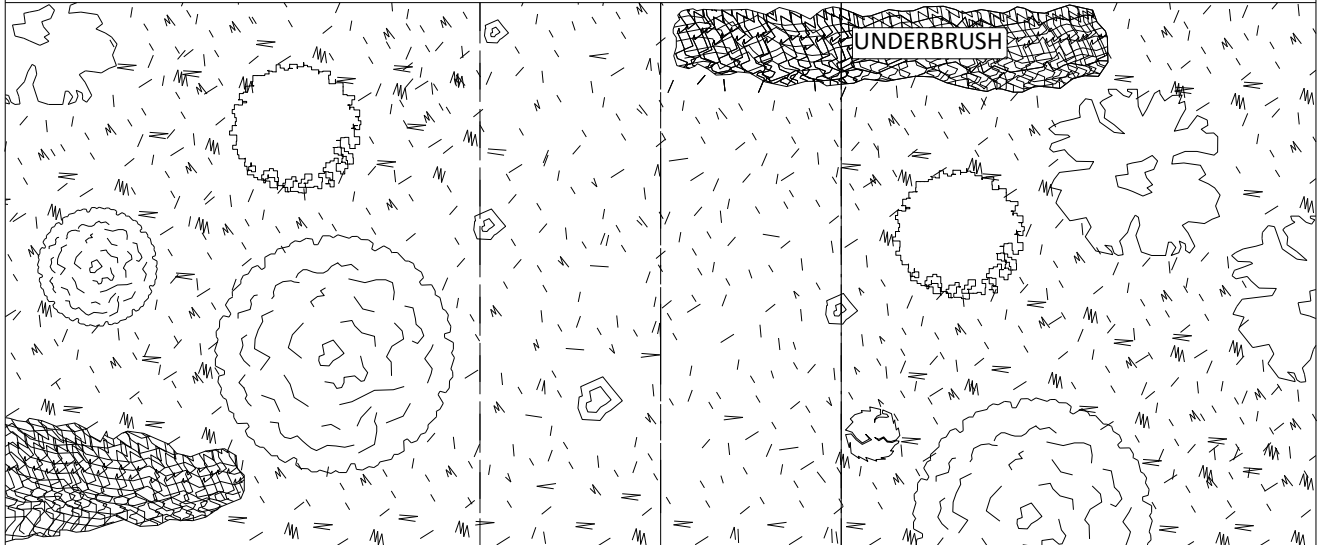
Drawn:	Approved:	Date:
SEF	TE	Nov. 10, 2020

UNDERGROUND DISTRIBUTION

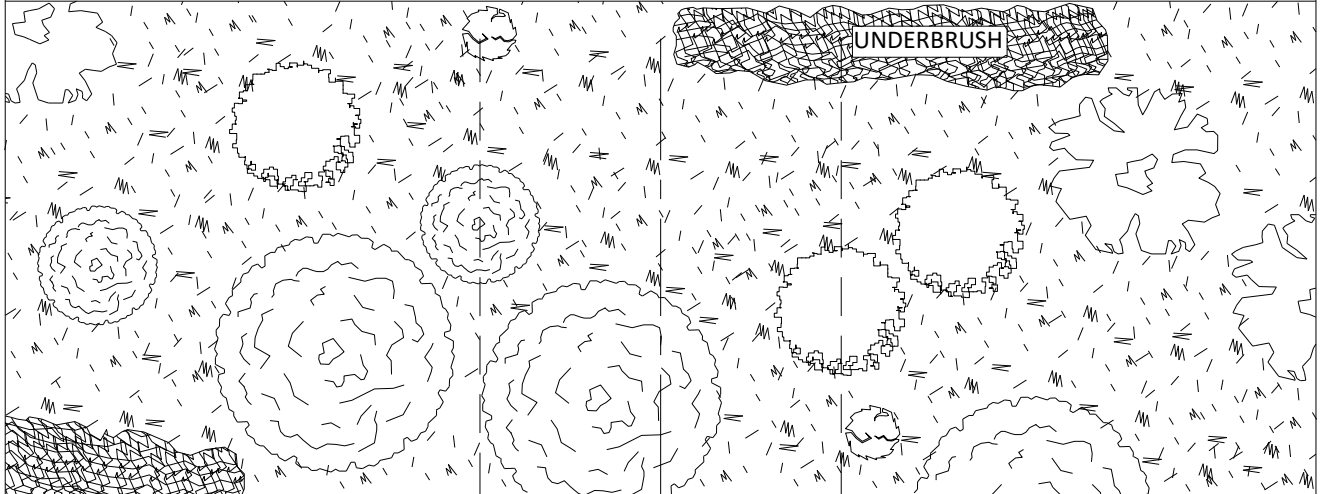
# CLEARING RIGHT-OF-WAY GUIDE



ELEVATION



AFTER CLEARING



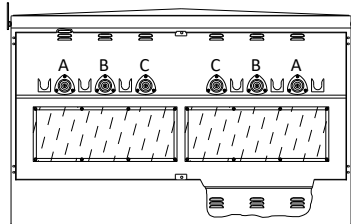
BEFORE CLEARING



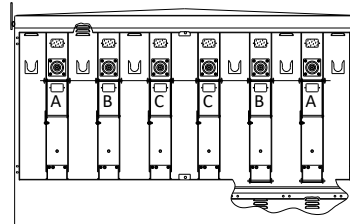
UNDERGROUND DISTRIBUTION

# USGE-9 SWITCHGEAR CONSTRUCTION STANDARD

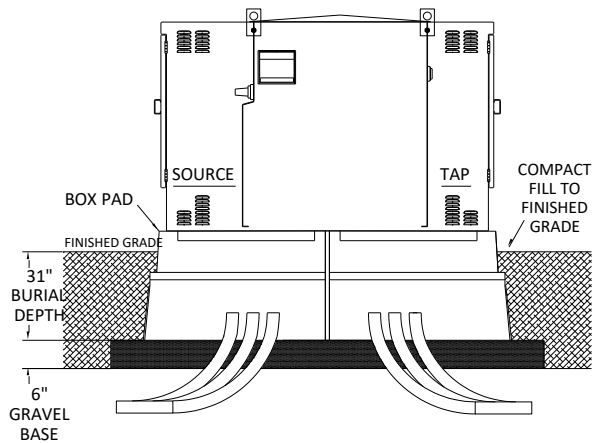
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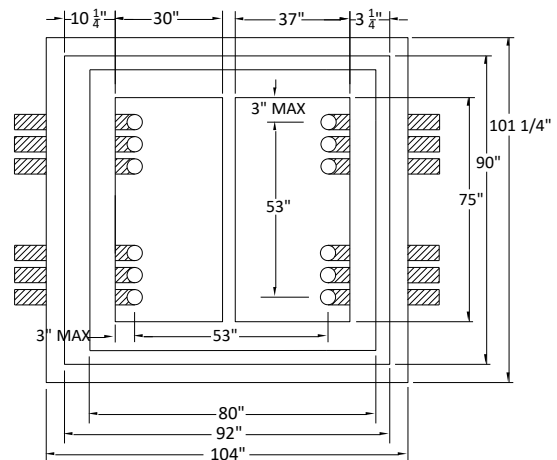
TAP



FRONT VIEW



TOP VIEW



BEC STK#:	QTY:	MATERIAL USGE-9:
13119	1	SWITCHGEAR, AIR, 2-200 FUSE, 2-600 SWITCHES
10988	2	ROD, GROUND 5/8" X 8', 13 MIL CU CLAD
10262	2	CLAMP, GRD ROD GALV 3/4 L
10333	13	CONN, SPLIT BOLT CC #2 L
11196	6.148	WIRE, COPPER BARE S.D. #2 7 STR L
10732	4	INSECTICIDE ANT CONTROL L
10779	6	LOCK, PADLOCK, STANDARD WITH BEC LOGO
10386	6	CONN,INSUL.L.B.PARKING STAND L
10237	6	CAPS, ASSY GRD TERMINATION L
11202	26.12	WIRE, COPPER BARE 4/0 19 STR L
10172	6	BUSHING, LB INSERT 25KV L
14300	6	FITTING, FUSE END, SM-20, 15/25 KV L

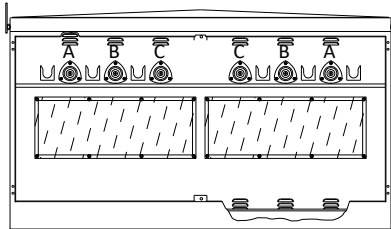


DATE APPROVED:  
MARCH 8, 2017

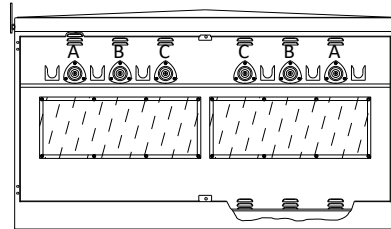
UNDERGROUND DISTRIBUTION

# USGE-10 SWITCHGEAR CONSTRUCTION STANDARD

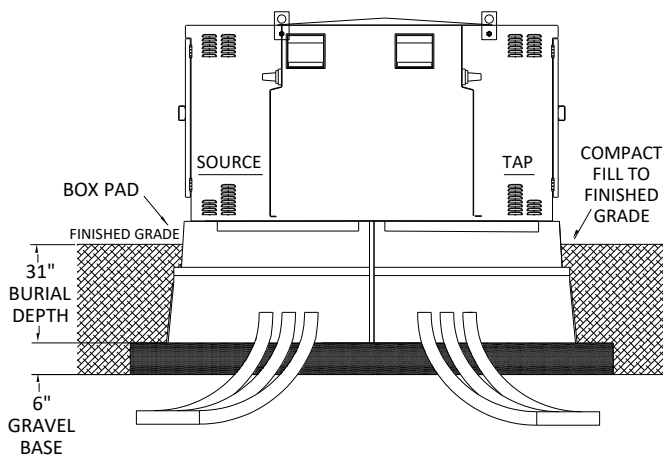
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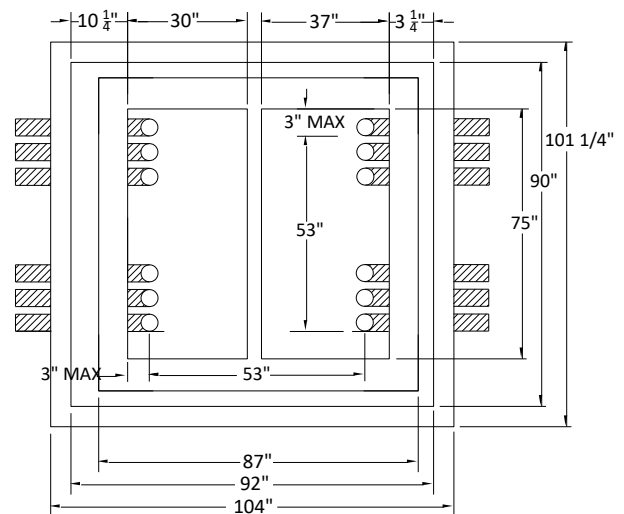
TAP



FRONT



TOP VIEW



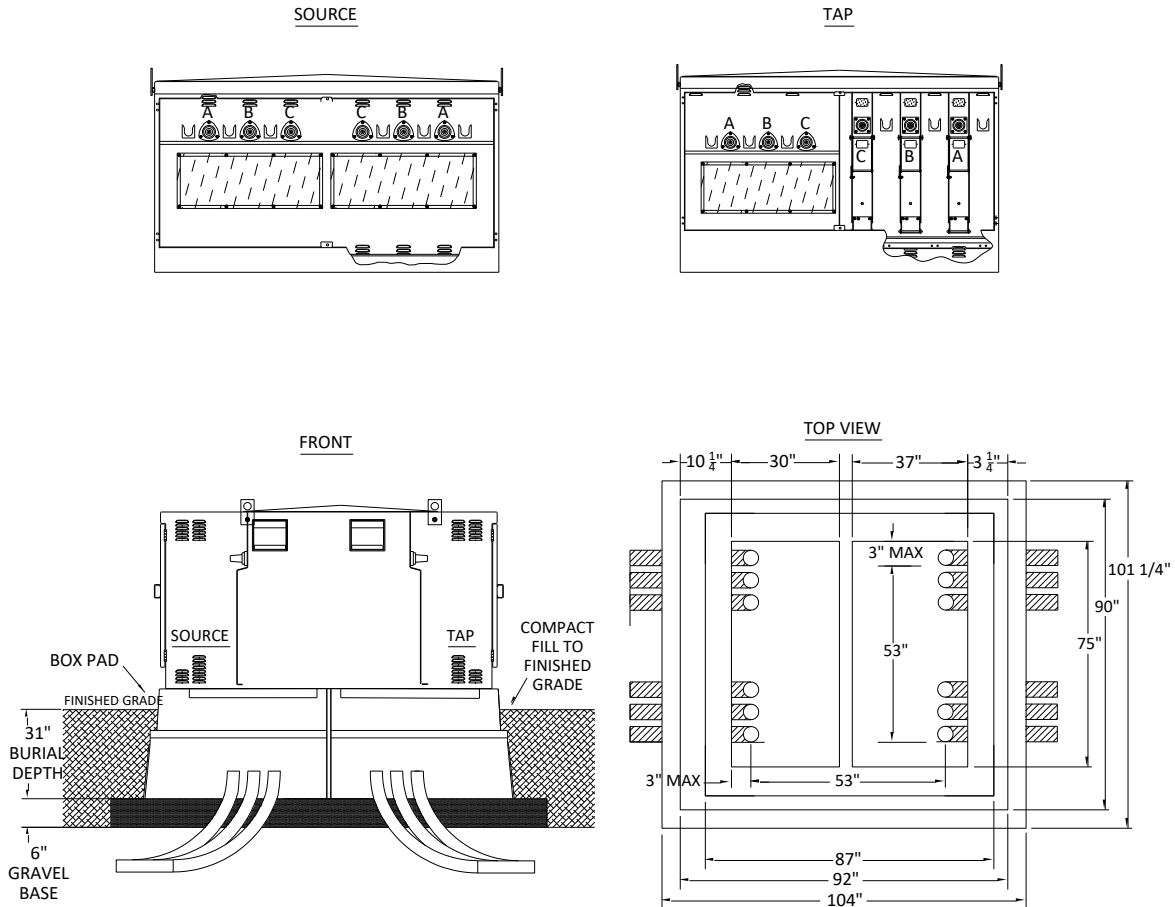
BEC STK#:	QTY:	MATERIAL USGE-10:
13130	1	SWITCHGEAR, AIR, PADMOUNTED, 4-600 SWITCHES
10988	2	ROD, GROUND 5/8" X 8', 13 MIL CU CLAD
10262	2	CLAMP, GRD ROD GALV 3/4 L
10333	13	CONN, SPLIT BOLT CC #2 L
11196	6.148	WIRE, COPPER BARE S.D. #2 7 STR L
10732	4	INSECTICIDE ANT CONTROL L
10779	10	LOCK, PADLOCK, STANDARD WITH BEC LOGO
11202	26.12	WIRE, COPPER BARE 1/8 19 STR L



DATE APPROVED:  
MARCH 8, 2017

UNDERGROUND DISTRIBUTION

# PME-11 SWITCHGEAR CONSTRUCTION STANDARD



BEC STK#:	QTY:	MATERIAL USGE-9:
12971	1	SWITCHGEAR, AIR, 1-200 FUSE, 3-600 SWITCHES
10988	2	ROD, GROUND 5/8" X 8', 13 MIL CU CLAD
10262	2	CLAMP, GRD ROD GALV 3/4 L
10333	13	CONN, SPLIT BOLT CC #2 L
11196	6.148	WIRE, COPPER BARE S.D. #2 7 STR L
10732	4	INSECTICIDE ANT CONTROL L
10779	8	LOCK, PADLOCK, STANDARD WITH BEC LOGO
10386	3	CONN, INSUL. L.B. PARKING STAND L
10237	3	CAPS, ASSY GRD TERMINATION L
11202	26.12	WIRE, COPPER BARE 4/0 19 STR L
10172	3	BUSHING, LB INSERT 25KV L
14300	3	FITTING, FUSE END, SM-20, 15/25 KV L

 <b>Bluebonnet</b>	DATE APPROVED: MARCH 8, 2017	<b>UNDERGROUND DISTRIBUTION</b>
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Notes:

1. Neutral (must be insulated) may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial applications.
2. Weatherproof fittings required.
3. This meter loop specification is good for the following voltages: 120/240, 120/208, 240/480 & 277/480. Please use MS-301 for straight 480 Delta applications only.
4. Meter pole must remain free of structures and private attachments other than meter loop.
5. Bluebonnet Electric will supply ground rod.
6. On steel poles use a 3/8" X 1 1/2" self tapping screw.
7. For your safety, only Bluebonnet personnel are authorized to install meter loops or other BEC equipment on a Bluebonnet pole. Members shall have loop assembled and available for installation by Bluebonnet.

FOR SINGLE PHASE TRAFFIC CONTROL DEVICES:

200amp, 4 terminal, 1-phase, will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R rating. Lever by-pass is only required for meter installations serving traffic control devices, including railroad, that need to remain functional at all times.

FOR THREE PHASE APPLICATIONS DESCRIPTION:

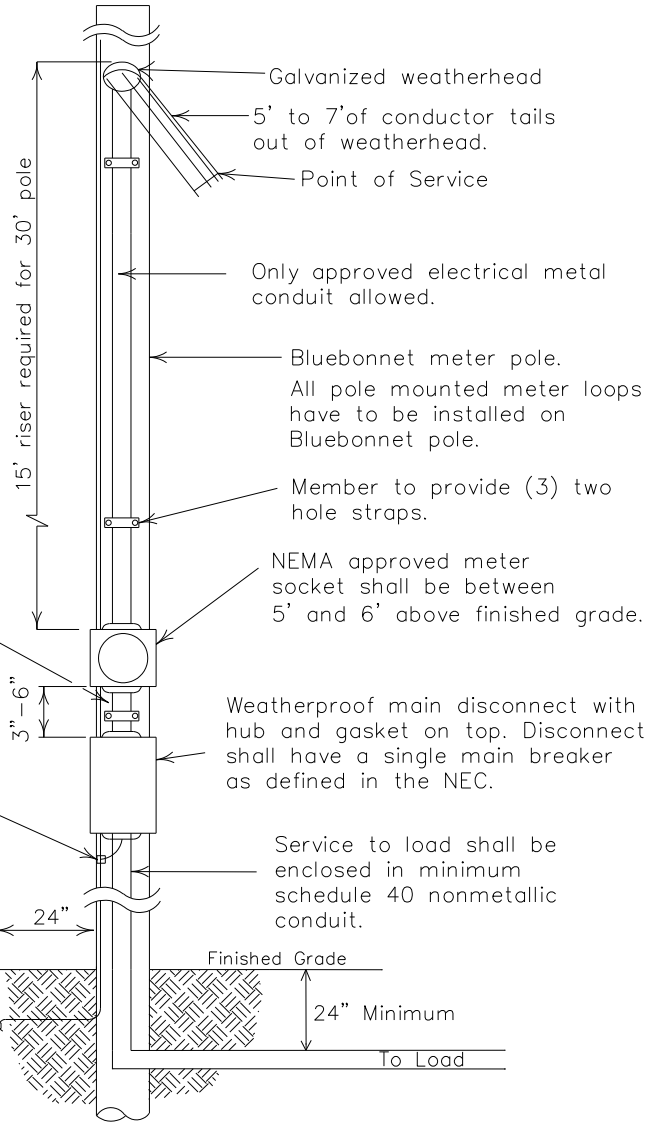
200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, an NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)

Galvanized metal conduit with (1) locknut and fiber bushing inside meter can on nipple and (1) locknut under meter can. Maintain 3-6" distance between the meter can and the disconnect. Member shall use a metal nipple. A Straight or offset nipple is acceptable.

#6 solid, bare ground wire and clamp attached to Bluebonnet's pole ground. Ground rod provided by Bluebonnet.

\* WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS. \*

FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.



Latest update can be found at <http://www.bluebonnetelectric.coop>

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES (RHH, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.

COPPER CONDUCTOR			ALUMINUM CONDUCTOR		
Wire Size	Breaker Size	Conduit/Nipple Size	Wire Size	Breaker Size	Conduit/Nipple Size
#6	60 Amp	1 1/4" Conduit	#4	60 Amp	1 1/4" Conduit
#4	100 Amp	1 1/4" Conduit	#2	100 Amp	1 1/4" Conduit
#2	125 Amp	1 1/2" Conduit	#1/0	125 Amp	1 1/2" Conduit
#1	150 Amp	2" Conduit	#2/0	150 Amp	2" Conduit
#2/0	200 Amp	2" Conduit	#4/0	200 Amp	2" Conduit

15' METER LOOP  
1Ø OR 3Ø 60-200 AMP  
METER LOOP ON METER POLE  
(GOOD FOR VOLTAGES: 120/240, 120/208, 240/480, 277/480)



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-27-17	ADDED NIPPLE AFTER CONDUIT SIZE	RG	MS COMMITTEE	MS COMMITTEE
03-31-20	ADDED NOTE 7	Scale :	Date:	
11-04-21	ADDED MAIN BREAKER NOTE	NONE	11-04-2021	MS-10115

**Notes:**

1. Neutral (must be insulated) may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial applications.
2. Weatherproof fittings required.
3. This meter loop specification is good for the following voltages: 120/240, 120/208, 240/480 & 277/480. Please use MS-301 for straight 480 Delta applications only.
4. Meter pole must remain free of structures and private attachments other than meter loop.
5. Bluebonnet Electric will supply ground rod.
6. On steel poles use a 3/8" X 1 1/2" self tapping screw.
7. For your safety, only Bluebonnet personnel are authorized to install meter loops or other BEC equipment on a Bluebonnet pole. Members shall have loop assembled and available for installation by Bluebonnet.

**FOR SINGLE PHASE TRAFFIC CONTROL DEVICES:**  
 200amp, 4 terminal, 1-phase, will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R rating. Lever by-pass is only required for meter installations serving traffic control devices, including railroad, that need to remain functional at all times.

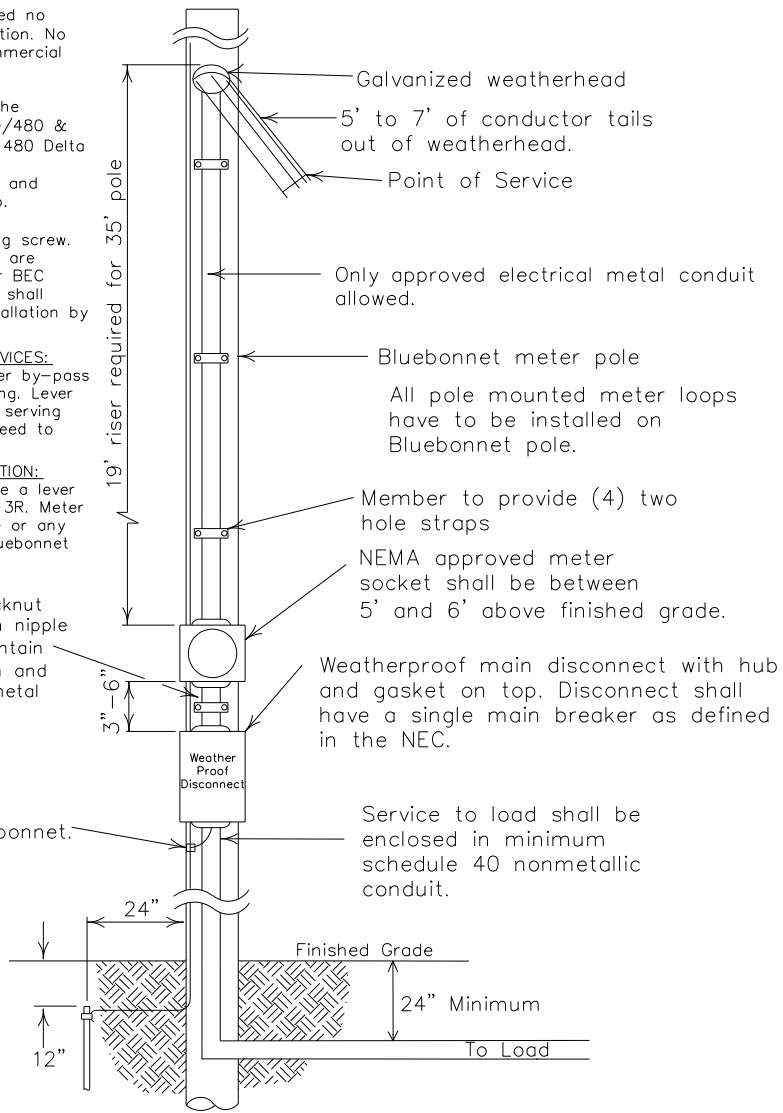
**FOR THREE PHASE APPLICATIONS DESCRIPTION:**  
 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.  
 Techline (512-332-2978)

Galvanized metal conduit with (1) locknut and fiber bushing inside meter can on nipple and (1) locknut under meter can. Maintain 3-6" distance between the meter can and the disconnect. Member shall use a metal nipple. A Straight or offset nipple is acceptable.

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FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.



Latest update can be found at <http://www.bluebonnetelectric.coop>

**CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES (RHH, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.**

COPPER CONDUCTOR			ALUMINUM CONDUCTOR		
Wire Size	Breaker Size	Conduit/Nipple Size	Wire Size	Breaker Size	Conduit/Nipple Size
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#2	125 Amp	1 1/2" Conduit	#1/0	125 Amp	1 1/2" Conduit
#1	150 Amp	2" Conduit	#2/0	150 Amp	2" Conduit
#2/0	200 Amp	2" Conduit	#4/0	200 Amp	2" Conduit

**19' METER LOOP**  
 1Ø OR 3Ø 60-200 AMP  
 METER LOOP ON METER POLE  
 (GOOD FOR VOLTAGES: 120/240, 120/208, 240/480, 277/480)

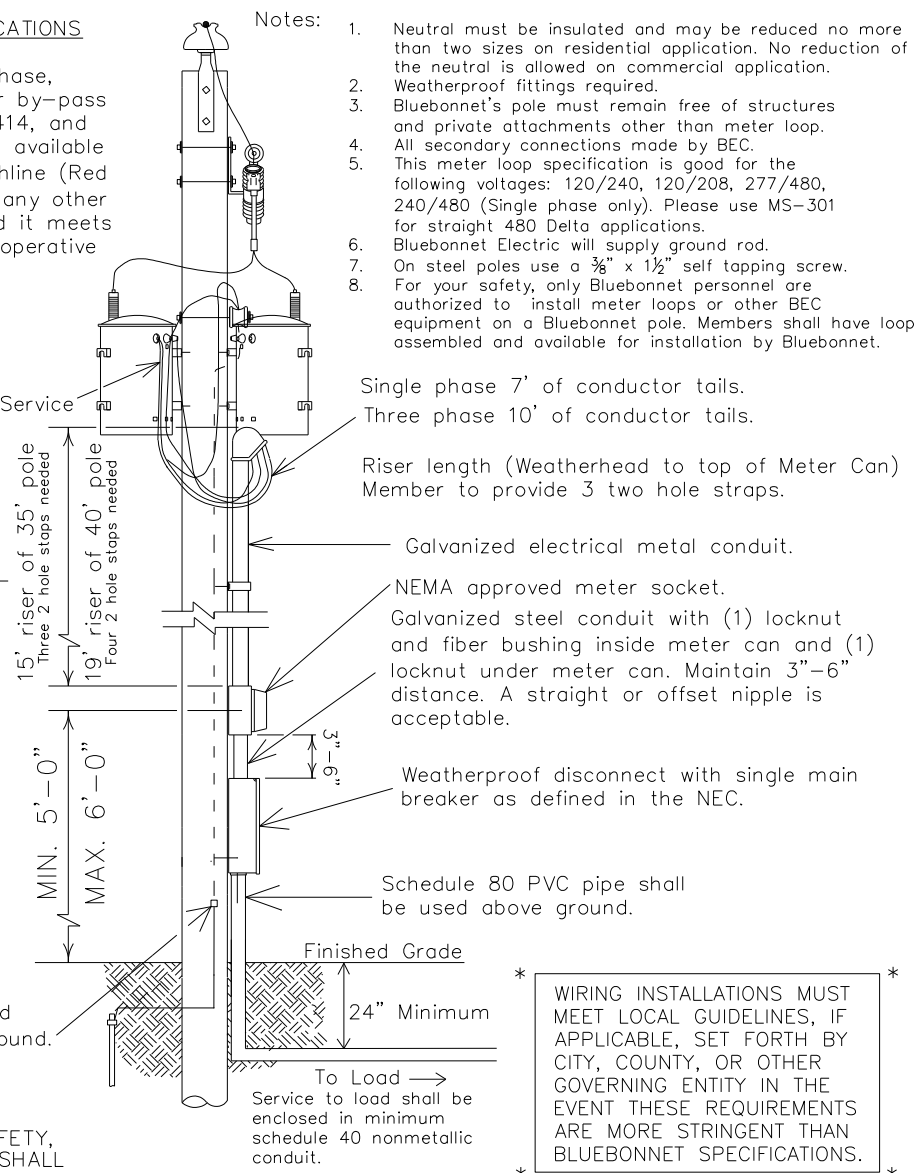


DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-27-17	ADDED NIPPLE AFTER CONDUIT SIZE	RG	MS COMMITTEE	MS COMMITTEE
03-31-20	ADDED NOTE 7	Scale :	Date:	
11-04-21	ADDED MAIN BREAKER NOTE	NONE	11-04-2021	MS-10119

FOR THREE PHASE APPLICATIONS  
DESCRIPTION:  
 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline (Red Rock 512-332-2978) or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.

FOR SINGLE PHASE  
TRAFFIC CONTROL DEVICES:  
 200amp, 4 terminal, 1-phase, will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R rating. Lever by-pass is only required for meter installations serving traffic control devices, including railroad, that need to remain functional at all times.

FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.



**CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES**  
 (RHH, RHW, THW, THWN, AND XHHW)  
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#1	150 Amp	2" Conduit	#2/0	150 Amp	2" Conduit
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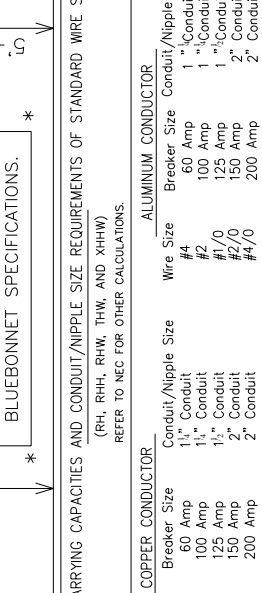
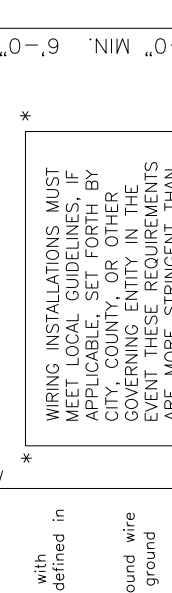
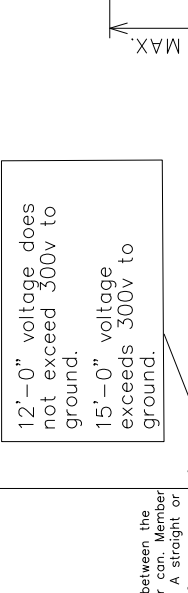
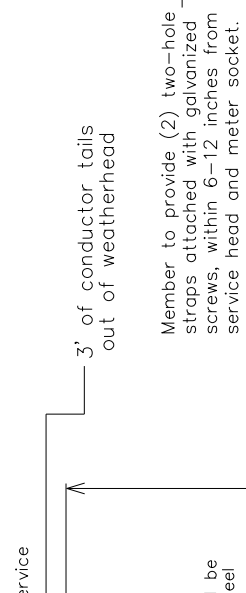
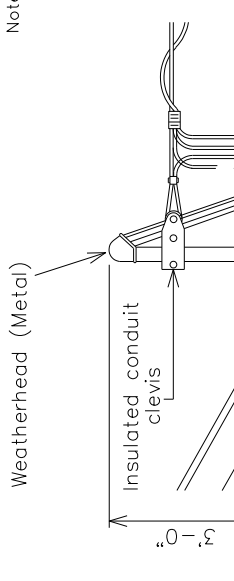
1Ø OR 3Ø 60-200 AMP METER LOOP ON TRANSFORMER POLE



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-27-17	ADDED NIPPLE AFTER CONDUIT SIZE	RG	MS COMMITTEE	MS COMMITTEE
03-18-20	ADDED NOTE 8	Scale :	Date:	
11-04-21	ADDED MAIN BREAKER NOTE	NONE	11-04-2021	MS-102

Latest update can be found at  
www.bluebonnetelectric.coop

- Notes:
1. Wire sized to total disconnect size. (See Chart Below)
  2. Neutral must be insulated and may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial application.
  3. Weatherproof fittings required.
  4. Meter loop must remain unenclosed structure and not be mounted on the side of a mobile home.
  5. Metal loop can not be mounted on Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from openings.
  6. Member to provide a secure and reinforced point to connect service attachment.
  7. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.
  - 8.



FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

FOR THREE PHASE APPLICATIONS DESCRIPTION: 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES	
(RH, RHH, RHW, THW, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.	
<b>COPPER CONDUCTOR</b>	<b>ALUMINUM CONDUCTOR</b>
Wire Size #6	Conduit/Nipple Size 1 1/2" Conduit
Wire Size #4	Conduit/Nipple Size 1 1/2" Conduit
Wire Size #2	Conduit/Nipple Size 1 1/2" Conduit
Wire Size #1	Conduit/Nipple Size 2" Conduit
Wire Size #2/0	Conduit/Nipple Size 2" Conduit
Breaker Size 60 Amp	Conduit/Nipple Size 1 1/2" Conduit
Breaker Size 100 Amp	Conduit/Nipple Size 1 1/2" Conduit
Breaker Size 125 Amp	Conduit/Nipple Size 2" Conduit
Breaker Size 150 Amp	Conduit/Nipple Size 2" Conduit
Breaker Size 200 Amp	Conduit/Nipple Size 2" Conduit

DATE	11-27-17	ADDED NIPPLE TO CONDUIT SIZE
DATE	11-04-21	ADDED MAIN BREAKER NOTE

10 OR 30 60-200 AMP METER LOOP ON BUILDING, MAST TYPE

REVISIONS

Drawn By: RG

Checked By: MS COMMITTEE

Approved By: MS COMMITTEE

Date: 11-04-21

Scale: NONE

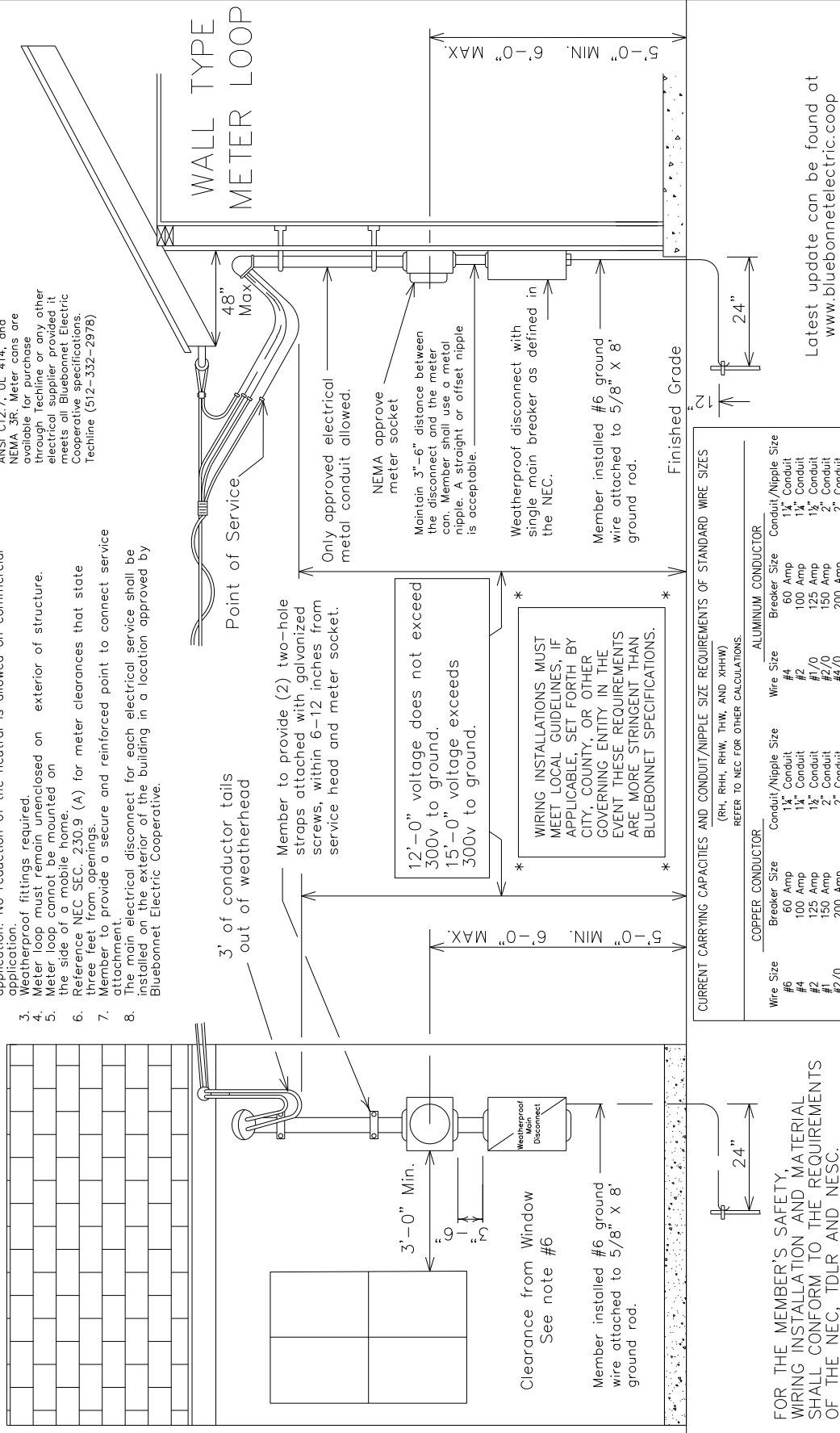
MS-103MT

**Notes:**

1. Wire sized to total disconnect size.
2. Neutral may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial application.
3. Weatherproof fittings required.
4. Meter loop must remain unenclosed on exterior of structure.
5. Meter loop cannot be mounted on the side of a mobile home.
6. Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from openings.
7. Member to provide a secure and reinforced point to connect service attachment.
8. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

**FOR THREE PHASE APPLICATIONS**

**DESCRIPTION:**  
 200amp, 7 terminal, 3-phase, 4-wire will require a lever-by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)



WALL TYPE  
METER LOOP

Point of Service

3'-0" of conductor tails out of weatherhead

Member to provide (2) two-hole straps attached with galvanized screws, within 6-12 inches from service head and meter socket.

12'-0" voltage does not exceed 300v to ground.  
 15'-0" voltage exceeds 300v to ground.

WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE. SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS.

Finished Grade

**CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES**  
 (RH, RHH, RHW, THW, AND XHHW)  
 REFER TO NEC FOR OTHER CALCULATIONS.

COPPER CONDUCTOR		ALUMINUM CONDUCTOR	
Wire Size	Breaker Size	Conduit/Nipple Size	Breaker Size
#6	60 Amp	1 1/4" Conduit	#4
#4	100 Amp	1 1/2" Conduit	#2
#2	125 Amp	2" Conduit	#1/0
#1	150 Amp	2 1/2" Conduit	#2/0
#2/0	200 Amp	3" Conduit	#4/0

FOR THE MEMBER'S SAFETY, WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.



1Ø OR 3Ø 60-200 AMP METER LOOP ON BUILDING, WALL TYPE

**REVISIONS**

Date	ADDED NIPPLE TO CONDUIT SIZE
11-27-17	
11-04-21	ADDED MAIN BREAKER NOTE

Drawn By :

Checked By :

Approved By :

Scale : NONE

Date: 11-04-20

MS COMMITTEE MS COMMITTEE MS COMMITTEE

MS-103WT

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

**Notes:**

- Line taps shall be made in the galvanized trough by the electrical contractor.  
No more than (2) conductors per phase shall be allowed.
- No more than (2) risers will be connected per installation.
- Weatherproof fittings required.
- Wire sized to total disconnect sizes.
- Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial application.
- Bluebonnet pole must remain free of structures and private attachments other than meter loop riser assembly.
- Meter assembly must remain unenclosed on exterior of structure.
- Meter assembly cannot be mounted on a mobile home.
- If secondary service exceeds (2) 2", 3", or 4" approved electrical metal conduit; BEC will install a primary underground transformer at member's expense.
- Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
- #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

**FOR THREE PHASE APPLICATIONS**

**DESCRIPTION:**

200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)

No more than four 60-200 amp metersockets and weatherproof main disconnects. No more than one disconnect per enclosure.

8' ground rod to be driven 12" below grade

3000 PSI. Concrete Min.

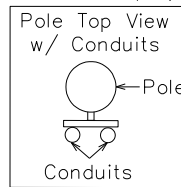
24" Minimum

Service to load cable enclosed in minimum schedule 40 nonmetallic conduit.

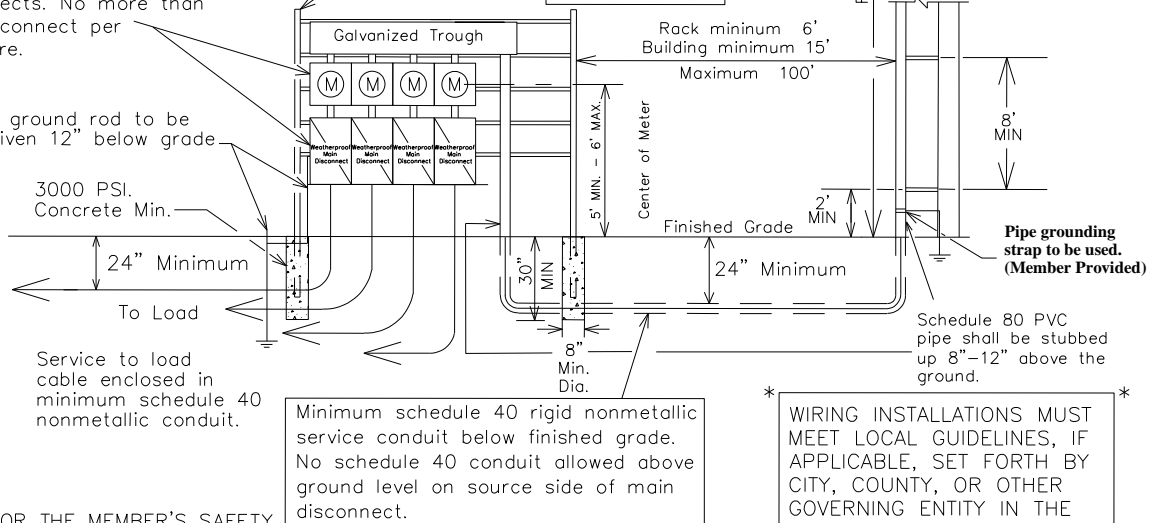
FOR THE MEMBER'S SAFETY, WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

**RISER ONLY**

Only 2", 3", or 4" approved electrical metal conduit allowed above finished grade. Risers will not exceed 2 risers per pole. Member will provide 10' of conductor tails from top of weatherhead. BEC to supply Stand-Offs. (Bluebonnet to mount risers to pole)



Equipment rack 2" or 3" steel pipe with uni-strut horizontal support.



**Transformer Pole Riser Length:**  
35' Pole = 20' Riser  
40' Pole = 24' Riser

**Service Pole Riser Length:**  
30' Pole = 20' Riser  
35' Pole = 24' Riser

**Member's Conduit**  
Member's conduit shall be installed 8"-12" from pole.

Transformer Pole Application

Service Pole Application

Riser Length

BEC To Supply Stand-Offs

Pipe grounding strap to be used. (Member Provided)

Schedule 80 PVC pipe shall be stubbed up 8"-12" above the ground.

\* WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS. \*

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT OF STANDARD WIRE SIZE. (RHH, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.						
WIRE SIZE	COPPER CONDUCTOR/ BREAKER SIZE		CONDUIT/NIPPLE SIZE	WIRE SIZE	ALUMINUM CONDUCTOR BREAKER SIZE	
	60 AMP	100 AMP			60 AMP	100 AMP
#6	60 AMP	100 AMP	1 1/4" CONDUIT	#4	60 AMP	1 1/4" CONDUIT
#4	100 AMP	125 AMP	1 1/2" CONDUIT	#2	100 AMP	1 1/2" CONDUIT
#2	125 AMP	150 AMP	2" CONDUIT	#1/0	125 AMP	1 1/2" CONDUIT
#1	150 AMP	200 AMP	2" CONDUIT	#2/0	150 AMP	2" CONDUIT
#2/0	200 AMP		2" CONDUIT	#4/0	200 AMP	2" CONDUIT

1Ø OR 3Ø 60-200 AMP MULTIPLE METERS ON RACK OR BUILDING NOT TO EXCEED A TOTAL OF 800 AMPS



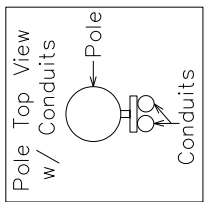
DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
12-07-2017	ADDED WIRE SIZING CHART.	RG	MS COMMITTEE	MS COMMITTEE
11-19-2019	ADDED SOLID COPPER NOTE.			
11-04-2021	ADDED MAIN BREAKER NOTE.	Scale : NONE	Date : 11-04-2021	MS-105

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT OF STANDARD WIRE SIZE. (RHH, RHW, THW, THWN, THHN, AND XHHW)	
REFER TO NEC FOR OTHER CALCULATIONS.	
WIRE SIZE	CONDUIT/NIPPLE SIZE
#6	1/4" CONDUIT
#4	1/2" CONDUIT
#2	3/4" CONDUIT
#1	1" CONDUIT
#1/0	2" CONDUIT
COPPER CONDUCTORS	
BREAKER SIZE	CONDUIT/NIPPLE SIZE
60 AMP	1/4" CONDUIT
100 AMP	1/2" CONDUIT
125 AMP	3/4" CONDUIT
150 AMP	1" CONDUIT
200 AMP	2" CONDUIT
ALUMINUM CONDUCTORS	
BREAKER SIZE	CONDUIT/NIPPLE SIZE
60 AMP	1/4" CONDUIT
100 AMP	1/2" CONDUIT
125 AMP	3/4" CONDUIT
150 AMP	1" CONDUIT
200 AMP	2" CONDUIT

FOR THREE PHASE APPLICATIONS  
 DESCRIPTION:  
 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512--332--2978)

- Notes:
1. Weatherproof fittings required.
  2. Wire sized to total disconnect size.
  3. Neutral may only be reduced in residential application. No reduction of the neutral is allowed on commercial application.
  4. Bluebonnet pole must remain free of structures and private attachments other than meter loop riser assembly.
  5. Meter assembly must remain unenclosed on exterior of structure.
  6. Meter assembly cannot be mounted on a mobile home.
  7. All secondary connections made by BEC.
  8. #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
  9. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

(A) Riser Length:  
 35' Pole = 20' Riser  
 40' Pole = 24' Riser

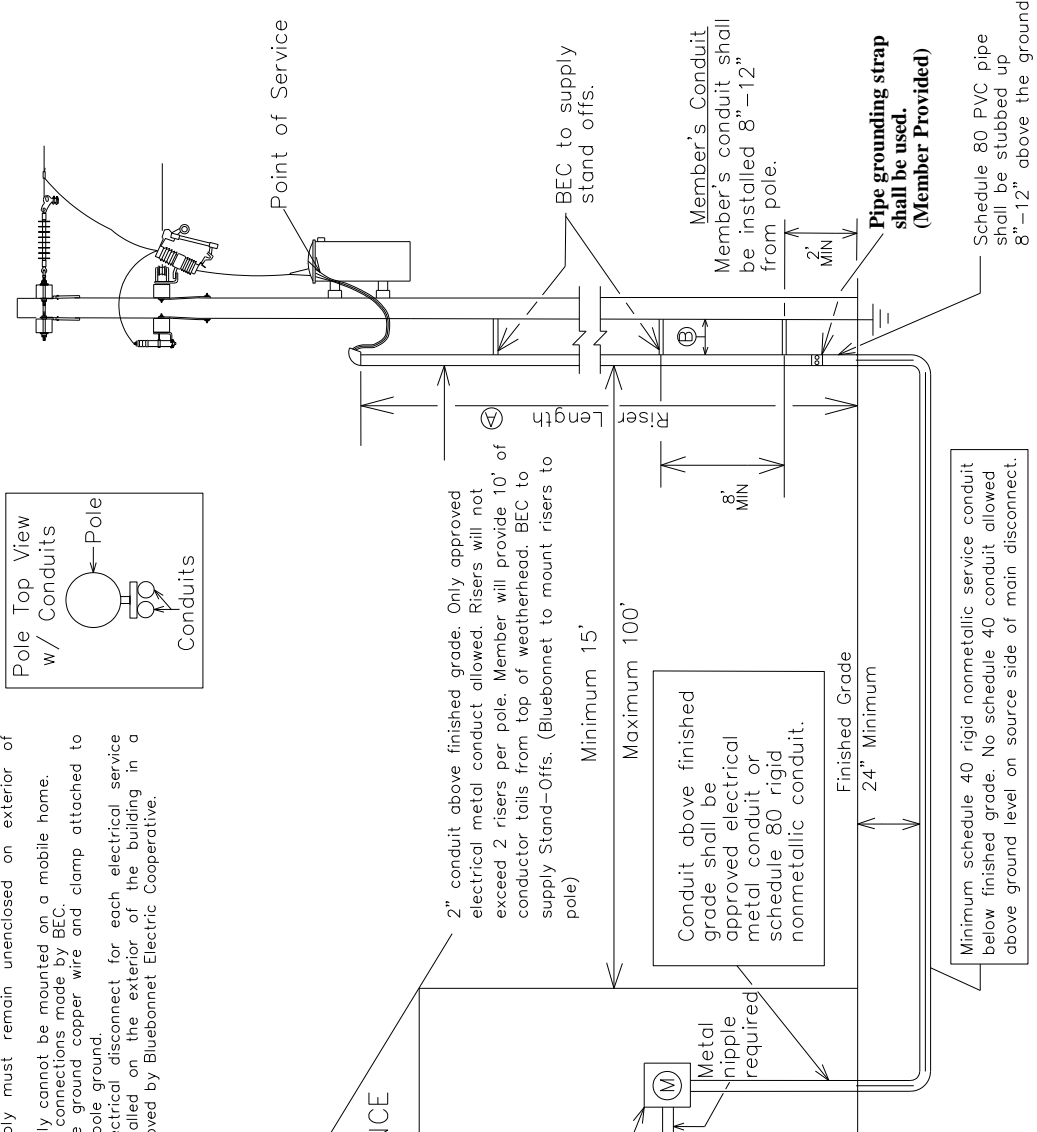


**BUILDING OR RESIDENCE**

Meter socket and weatherproof main disconnect panel with a single main breaker as defined in the NEC.

\* WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS. \*

8' ground rod to be driven 12" below grade. (Member Provided)



Latest update can be found at  
[www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

	10 OR 30 60-200 AMP METER ON BUILDING OR RACK		Drawn By : CV	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE	REVISIONS	Scale :	Date :	
	03-29-2018	MOVED DISCONNECT TO THE SIDE OF METER	NONE	11-04-2021	MS-106
	11-19-2019	ADDED SOLID COPPER NOTE			
	11-04-2021	ADDED MAIN BREAKER NOTE			

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT BY STANDARD WIRE SIZE. (RHH, RHW, THW, THHN, THWN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.	
COPPER CONDUCTOR	
WIRE SIZE	CONDUIT/NIPPLE SIZE
#6	1/4" CONDUIT
#4	1/4" CONDUIT
#2	1/2" CONDUIT
#1	2" CONDUIT
#1/0	2" CONDUIT
#2/0	2" CONDUIT
ALUMINUM CONDUCTOR	
WIRE SIZE	CONDUIT/NIPPLE SIZE
#4	1/4" CONDUIT
#2	1/2" CONDUIT
#1/0	2" CONDUIT
#2/0	2" CONDUIT
#4/0	2" CONDUIT

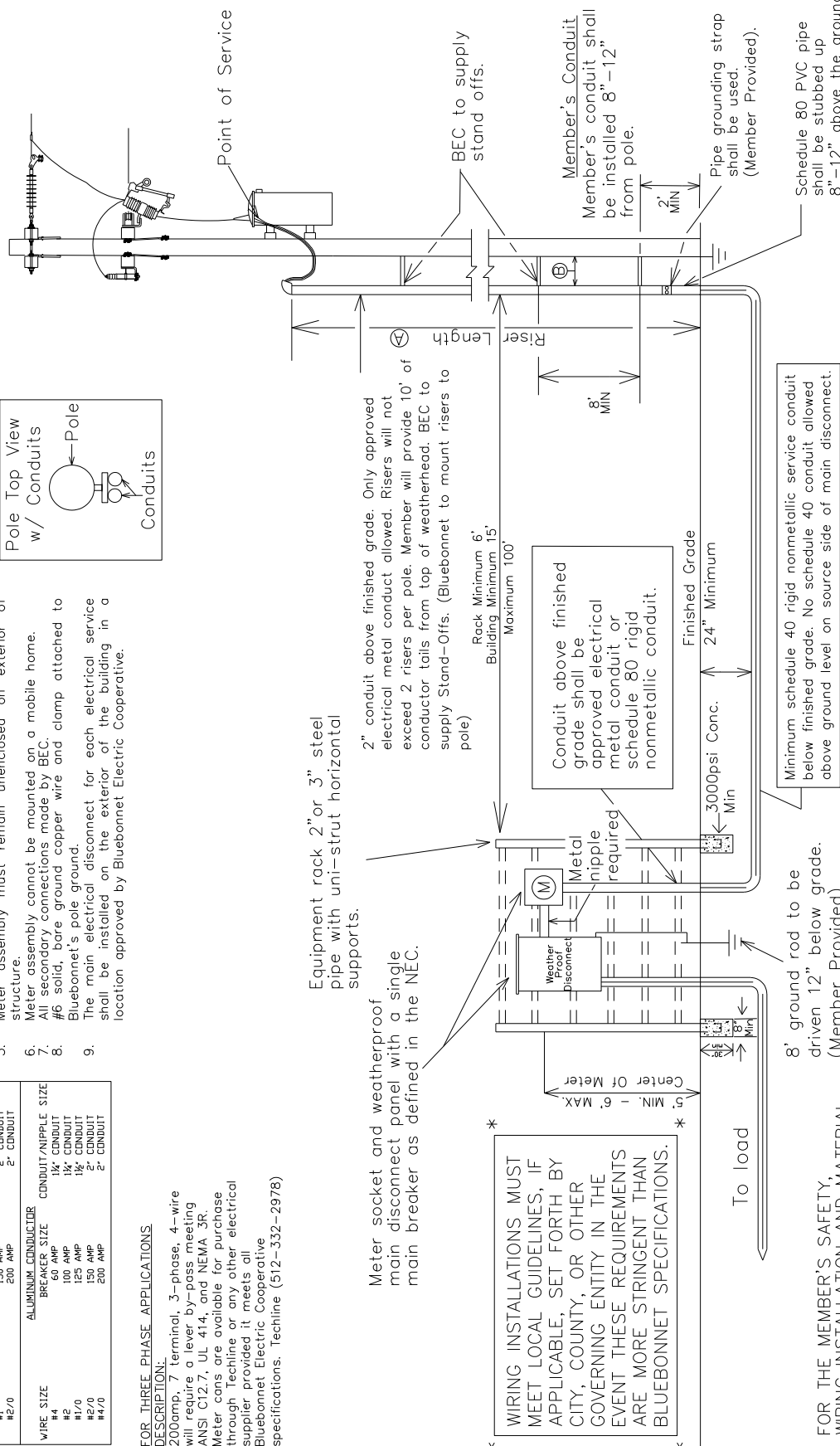
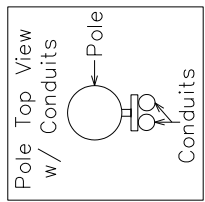
FOR THREE PHASE APPLICATIONS  
 DESCRIPTION:  
 200amp, 7 Terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)

Notes:

- Weatherproof fittings required.
- Wire sized to total disconnect size.
- Neutral may only be reduced two sizes on residential application. No reduction of the neutral is allowed on commercial application.
- Bluebonnet pole must remain free of structures and private attachments other than meter loop riser assembly.
- Meter assembly must remain unenclosed on exterior of structure.
- Meter assembly cannot be mounted on a mobile home.
- All secondary connections made by BEC.
- #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

(A) Riser Length:

- 35' Pole = 20' Riser
- 40' Pole = 24' Riser

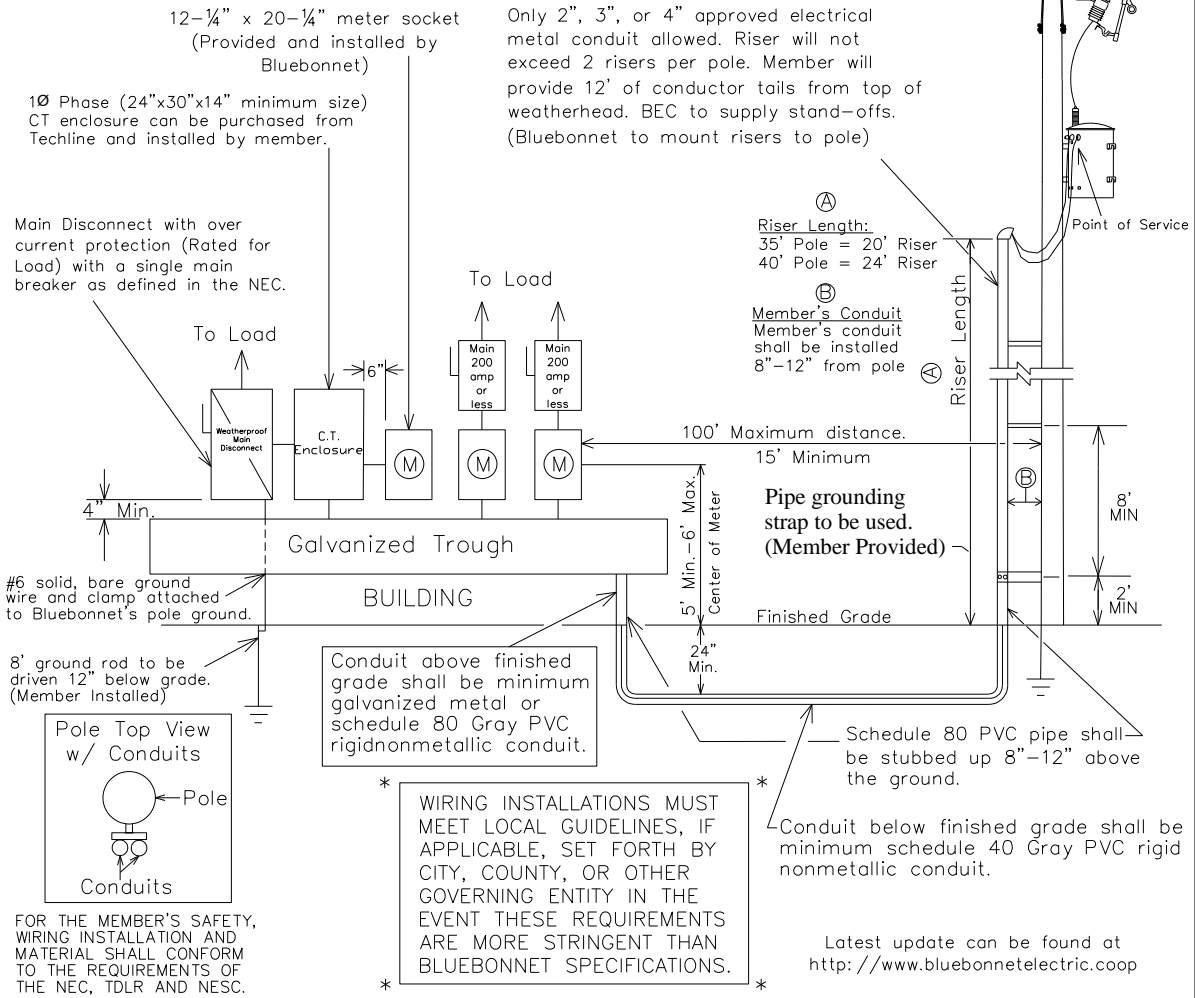


Latest update can be found at  
[www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)



**Notes:**

- Line taps shall be made in the galvanized wiring trough by the electrical contractor.
- Weatherproof fittings Required.
- (2) disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection installed.
- No more than (2) risers or (2) conductors per phase shall be allowed.
- Wire shall be sized to total name plate disconnect sizes.
- Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application.
- The electrical contractor will notify Bluebonnet 72 hours in advance to schedule Bluebonnet personnel to deliver the CT's before the service wire is pulled. The electrician shall install them on the rack with the correct polarity before the conductor is brought thru the 30"x42" (minimum size) CT enclosure. Call 800-842-7708 to schedule a connect.
- More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
- Bluebonnet pole must remain free of structures and private attachments other than meter loop riser assembly.
- Meter assembly must remain unenclosed on exterior of structure.
- Type K-4, Bolt-in type meter can: Description: 400 amp, 4 terminals, 3-wire, residential/commercial socket single phase self-contained, large cover plate. These meter cans are available for purchase through Techline (512-332-2978) or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
- Maintain 3"-6" distance from the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.



10 400-800 TOTAL AMPS WITH MULTIPLE METERING POINTS ON BUILDING. (RISER TYPE)

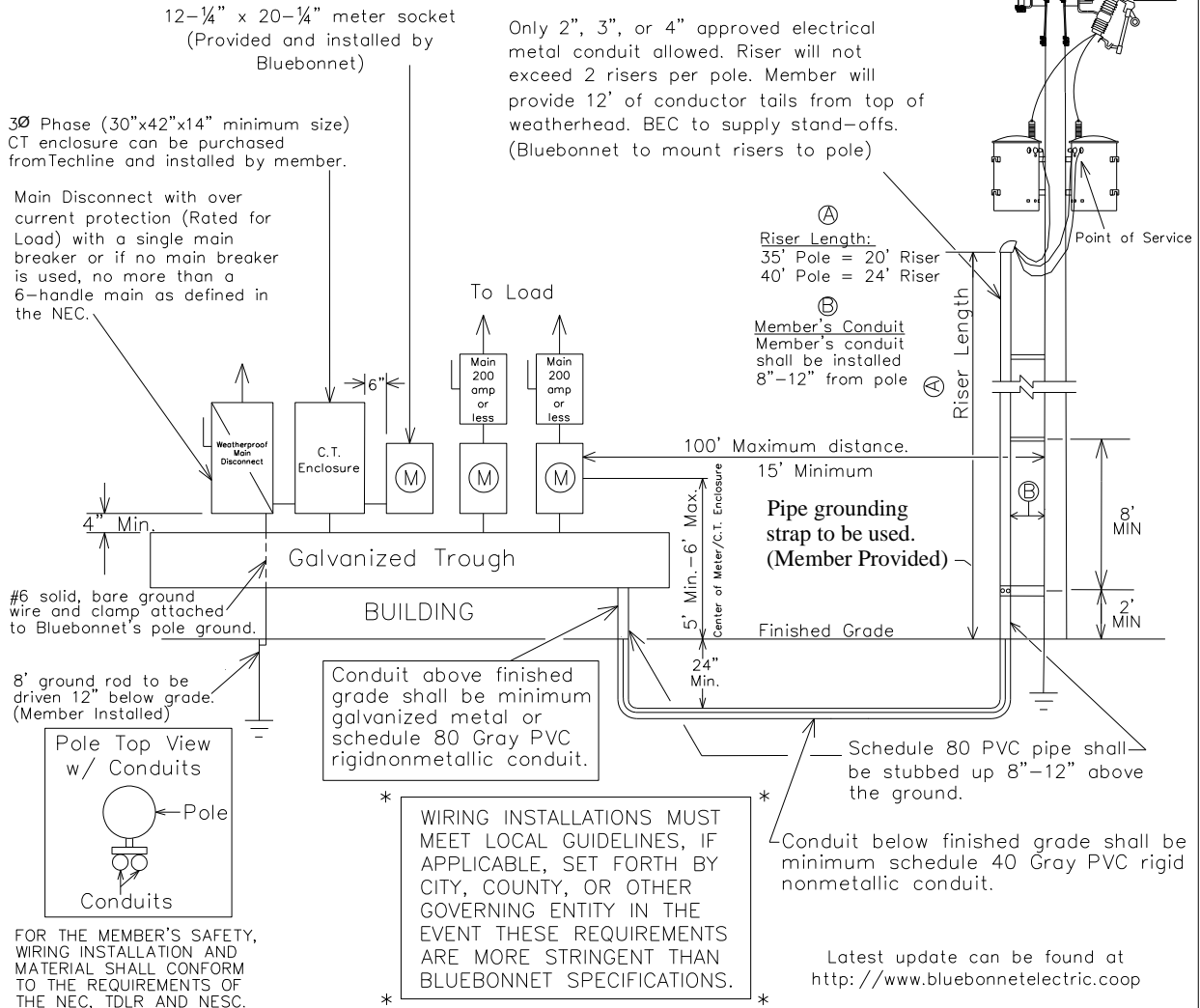


DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-28-2017	Bold lettering of Pipe grounding Strap	RG	MS COMMITTEE	MS COMMITTEE
11-19-2019	Added Solid Copper Note.			
04-19-2021	Changed the size of the CT Meter Can requirements.			
11-04-2021	Added Main Breaker Note			
		Scale :	Date :	MS-114A1
		NONE	11-04-2021	

Notes:

1. Line taps shall be made in the galvanized wiring trough by the electrical contractor.
2. Weatherproof fittings Required.
3. (2) disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection installed.
4. No more than (2) risers or (2) conductors per phase shall be allowed.
5. Wire shall be sized to total name plate disconnect sizes.
6. Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application.
7. The electrical contractor will notify Bluebonnet 72 hours in advance to schedule Bluebonnet personnel to deliver the CT's before the service wire is pulled. The electrician shall install them on the rack with the correct polarity before the conductor is brought thru the 30"x42" (minimum size) CT enclosure. Call 800-842-7708 to schedule a connect.

8. More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
9. Bluebonnet pole must remain free of structures and private attachments other than meter loop riser assembly.
10. Meter assembly must remain unenclosed on exterior of structure.
11. Type K-4, Bolt-in type meter can: Description: 400 amp, 4 terminals, 3-wire, residential/commercial socket single phase self-contained, large cover plate. These meter cans are available for purchase through Techline (512-332-2978) or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
12. Maintain 3"-6" distance from the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
13. No more than one disconnect per enclosure.
14. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.



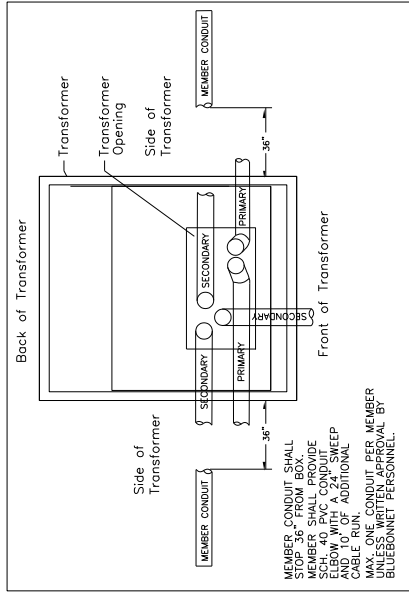
3 PHASE 200-800 TOTAL AMPS WITH MULTIPLE METERING POINTS ON BUILDING. (RISER TYPE)



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-28-2017	Bold lettering of pipe grounding strap	RG	MS COMMITTEE	MS COMMITTEE
11-19-2019	Added Solid Copper Note.			
04-19-2021	Removed Single Phase from the CT Enclosure Note.			
11-04-2021	Added Main Breaker Note			
		Scale :	Date :	
		NONE	11-04-2021	MS-114B3

### Single Phase Transformer Layout

CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT OF STANDARD WIRE SIZE. (RHW, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.	
COPPER CONDUCTOR	
WIRE SIZE	BREAKER SIZE
#6	60 AMP
#4	100 AMP
#2	125 AMP
#1	150 AMP
#2/0	200 AMP
ALUMINUM CONDUCTOR	
WIRE SIZE	BREAKER SIZE
#4	60 AMP
#2	100 AMP
#1/0	125 AMP
#2/0	150 AMP
#4/0	200 AMP



200 amp meter socket and weatherproof main disconnect.

Equipment rack 2" steel pipe with horizontal uni-strut supports.

Weather Rod Disconnect

Metal nipple required.

Conduit above finished grade shall be minimum galvanized metal or schedule 80 Gray PVC rigid nonmetallic conduit.

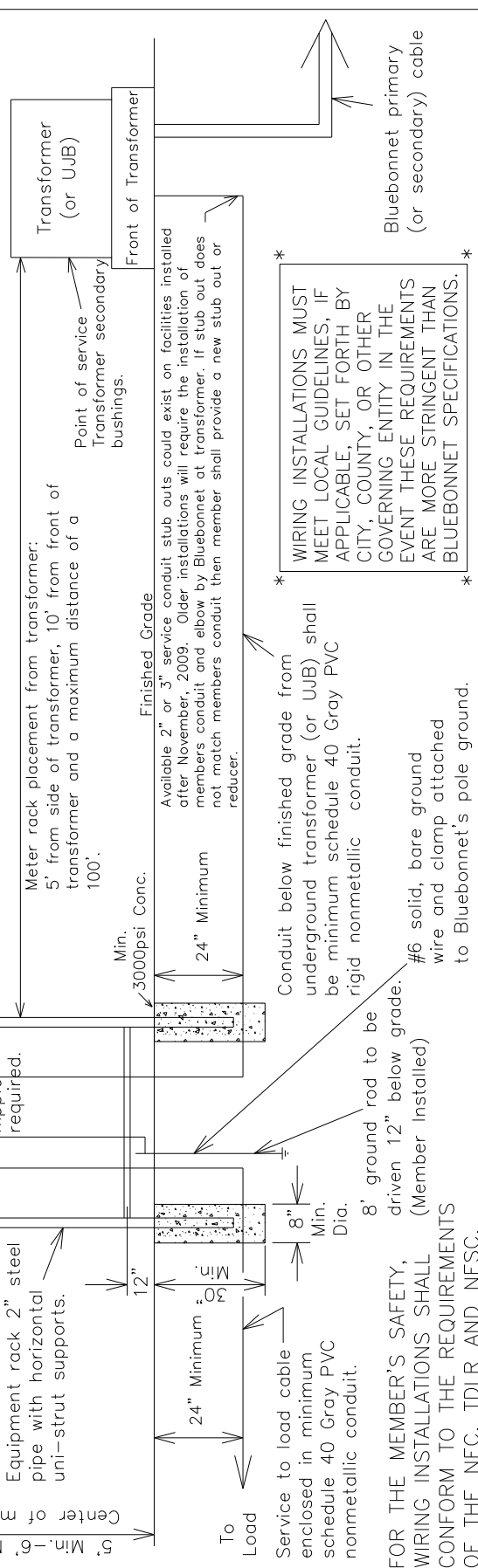
Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)


Conduit below finished grade from underground transformer (or UJB) shall be minimum schedule 40 Gray PVC rigid nonmetallic conduit.

#6 solid, bare ground wire and clamp attached to Bluebonnet's pole ground.

Notes:

- Weatherproof fittings required.
- For all URD jobs, electricians shall call TEXAS811 for locates before digging to Bluebonnet equipment. No private utilities will be located.
- Shall install an additional 10' of wire for termination.
- Main disconnect shall have a single main breaker as defined in the NEC.
- Neutral may be reduced no more than two sizes on residential application. No reduction of the neutral is allowed on commercial application.
- Metering point must remain unenclosed on exterior of structure.
- Metering point can not be mounted on the side of a mobile home.
- All connections inside pad mounted transformer and UJB's will be made by Bluebonnet.
- THREE PHASE APPLICATIONS ONLY DESCRIPTION: 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are provided it meets all Bluebonnet Electric Cooperative specifications. Giddings(979-542-8657), Brenham (979-277-7240), Red Rock (512-332-2978)
- Member must contact Bluebonnet to determine where the secondary conduit is to be run to the transformer. Conduit to be installed 36" to the side of transformer. Call 800-842-7708 to schedule an appointment.
- Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
- If additional trips are made to the site by Bluebonnet personnel, applicable fees maybe applied.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.





10" OR 30, 60-200 AMP UNDERGROUND SERVICE ON RACK OR BUILDING

DATE: 11-19-2019  
11-04-2021

REVISIONS: ADDED SOLID COPPER NOTE. ADDED MAIN BREAKER NOTE.

Drawn By: CV

Scale: NONE

Checked By: MS COMMITTEE

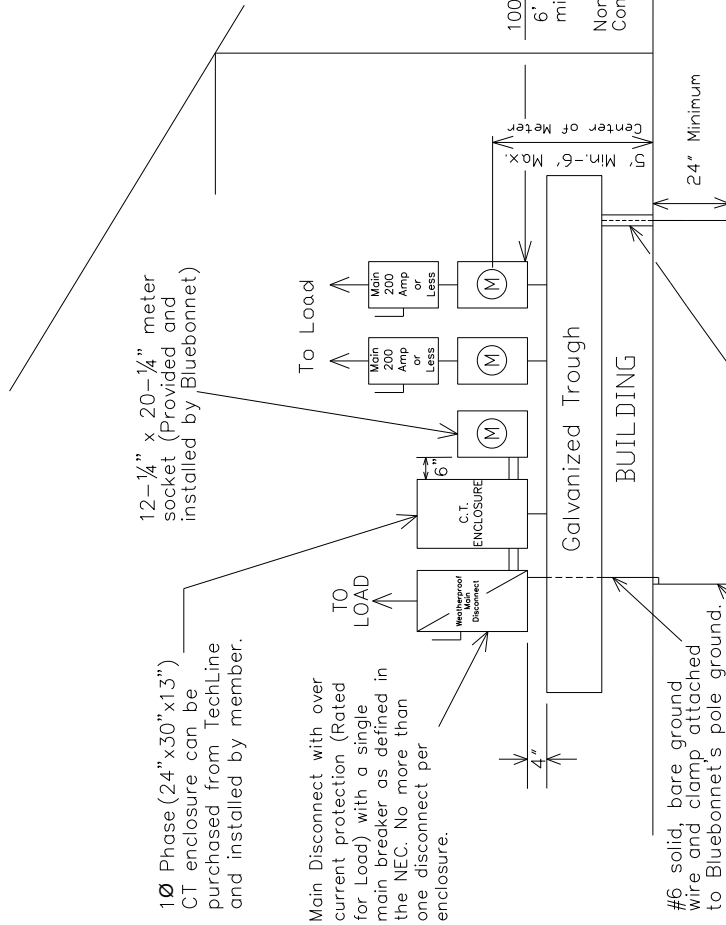
Date: 11-04-2021

Approved By: MS COMMITTEE

MS-201

**Notes:**

- Line taps shall be made in the galvanized wiring trough by the electrical contractor. The electrical contractor will notify Bluebonnet 72 hours in advance to schedule Bluebonnet personnel to deliver the CT's before the service wire is pulled.
- The electrician shall install the CT's on the rock with the correct polarity before the conductor is brought thru the 30"x42" minimum size CT enclosure, call 800-842-7708 to schedule a connect.
- Wire shall be sized to total name plate disconnect sizes.
- Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application.
- For all URD jobs, electricians shall call TEXASB11 for locates before digging to Bluebonnet equipment. No private utilities will be located.
- Cooperation will complete wiring into transformer. Have an additional 10' of wire for termination.
- More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough, required.
- Wiring fittings required.
- Meter assembly must remain unenclosed on exterior of structure.
- All connections inside pad mounted transformer will be made by Bluebonnet. THREE PHASE APPLICATIONS ONLY DESCRIPTION:
- 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978).
- Member/Electrician shall coordinate with Bluebonnet personnel to install all conduit and the pulling of the secondary wire to the transformer. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work, if additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
- Maintain 3"-6" distance between the disconnect and the meter can.
- Member shall use a metal nipple. A straight or offset nipple is acceptable.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.



12-1/4" x 20-1/4" meter socket (Provided and installed by Bluebonnet)

10 Phase (24" x 30" x 13") CT enclosure can be purchased from TechLine and installed by member.

Main Disconnector (Rated for Load) with a single main breaker as defined in the NEC. No more than one disconnect per enclosure.

4"

Weathered Main Disconnect

TO LOAD

6"

C.T. ENCLOSURE

Galvanized Trough

BUILDING

24" Minimum

Center of Meter

Min.-6" Max.

100' maximum distance.

6' minimum distance from side & 10' minimum distance from front of transformer.

Non-combustible walls = 5 feet  
Combustible walls: 0 to 75kVA = 10 feet  
>75kVA = 20 feet

Point of Service Transformer secondary bushings.

Finished Grade

Bluebonnet Primary Cable

Front of Transformer

Transformer

Point of Service Transformer secondary bushings.

Bluebonnet Primary Cable

8' ground rod to be driven 12" below grade. (MEMBER INSTALLED)

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

FOR THE MEMBER'S SAFETY, WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

Conduit above finished grade shall be minimum galvanized metal or schedule 80 Gray PVC rigid nonmetallic conduit.

Conduit below finished grade from underground transformer shall be minimum schedule 40 Gray PVC rigid nonmetallic conduit.

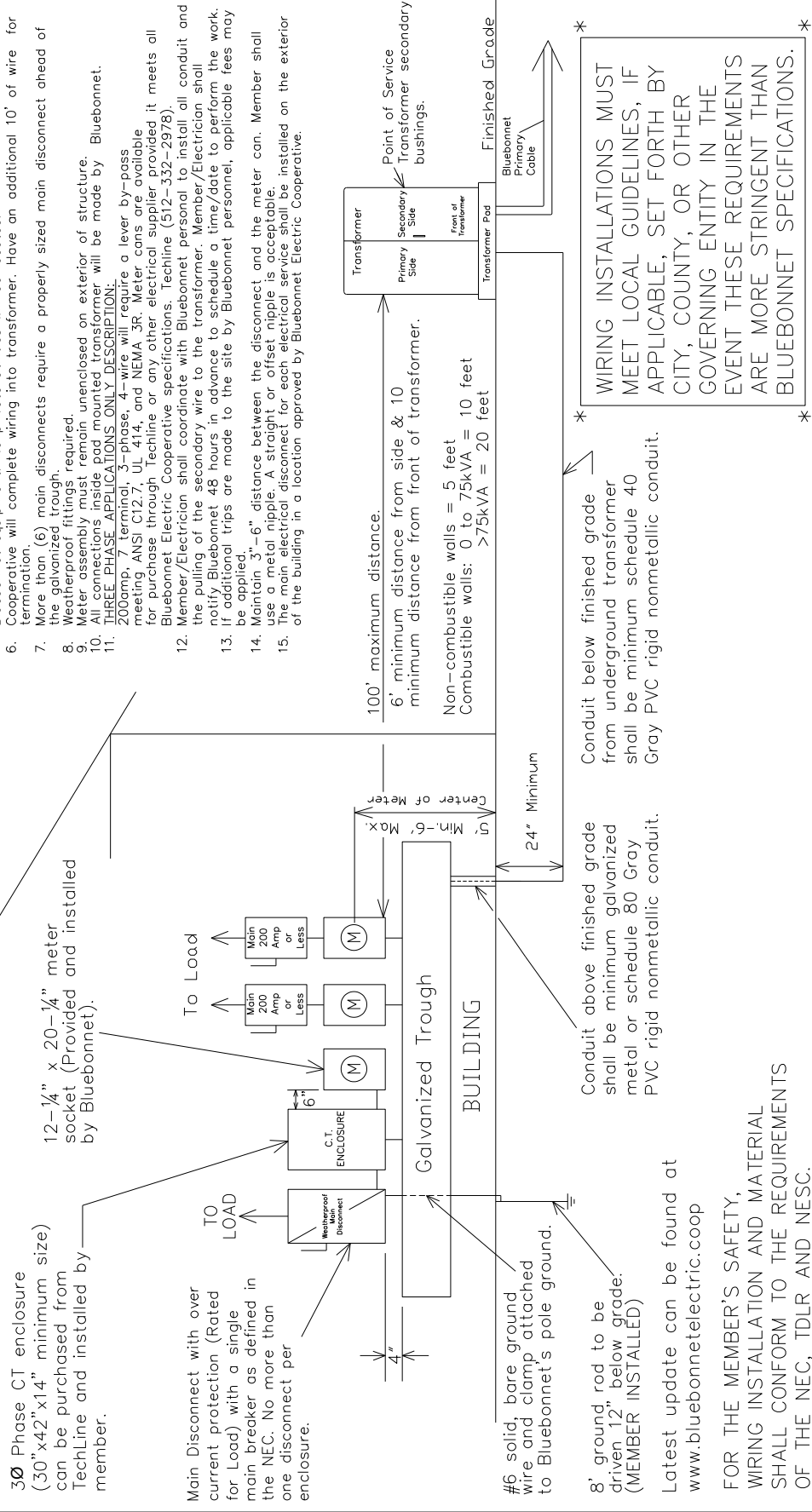
WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS.

1 PHASE >400 AMP UNDERGROUND WITH MULTIPLE METERING POINTS AND CT METERING ON BUILDING.	
DATE	REVISIONS
04-19-2021	Changed the size of the CT Meter Con requirements.
11-04-2021	Added Main Breaker Note

Drawn By :	RG	Checked By :	MS COMMITTEE
Scale :	NONE	Date :	11-04-2021
		Approved By :	MS COMMITTEE
			MS-202A1

**Notes:**

- Line taps shall be made in the galvanized wiring trough by the electrical contractor. The electrical contractor will notify Bluebonnet 72 hours in advance to schedule Bluebonnet personnel to deliver the CT's before the service wire is pulled. The electrician shall install the CT's on the rack with the correct polarity before the conductor is brought thru the 30"x42" minimum size CT enclosure. call 800-842-7708 to schedule a connect.
- Wire shall be sized to total name plate disconnect sizes.
- Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application. For all URD jobs, electricians shall call TEXAS811 for locates before digging to Bluebonnet equipment. No private utilities will be located.
- Cooperative will complete wiring into transformer. Have an additional 10' of wire for termination.
- More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
- Weatherproof fittings required.
- Weatherproof fittings required.
- Meter assemblies must remain unenclosed on exterior of structure.
- All connections inside pad mounted transformer will be made by Bluebonnet.
- THREE PHASE APPLICATIONS ONLY DESCRIPTION: 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978).
- Member/Electrician shall coordinate with Bluebonnet personnel to install all conduit and the pulling of the secondary wire to the transformer. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
- If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
- Maintain 3'-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.



**WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS.**

	3 PHASE >200 AMP UNDERGROUND WITH MULTIPLE METERING POINTS AND CT METERING ON BUILDING.		Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE 04-19-2021	REVISIONS Removed Single Phase from the CT Enclosure Note.	Scale : NONE	Date : 11-04-2021	MS-202B3

**Notes:**

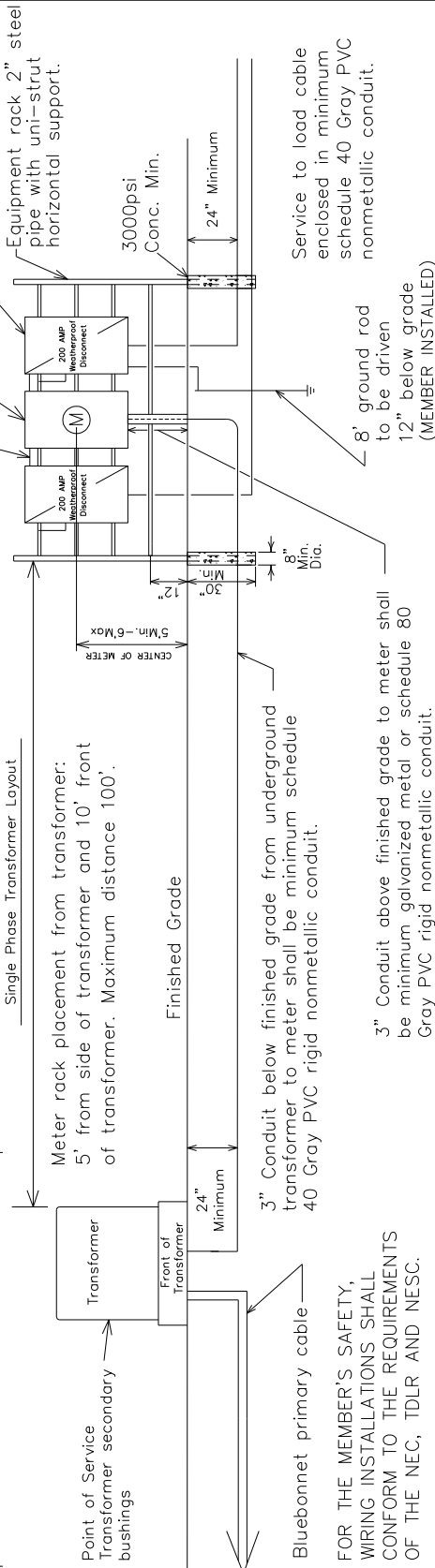
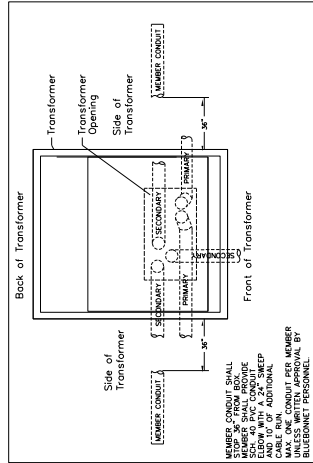
1. Main disconnect panel may not be used as an electrical race way.
2. Line taps shall be made by the electrical contractor if a galvanized wiring trough is used.
3. Weatherproof fittings required.
4. Any combination of six disconnects totaling no more than 400 amps can be used. REF. NEC, SEC 230.71
5. Recommended wire size is either parallel 2/0 THHN copper or parallel 4/0 THHN aluminum.
6. Neutrals may be reduced no more than two sizes on residential applications. No reduction of the neutrals is allowed on commercial applications.
7. Member shall install an additional of 10' wire for termination.
8. Weatherproof main disconnect panels shall have a single main breaker or 6-handle main as defined in the NEC.
9. Metering point must remain unenclosed on exterior of structure.
10. Metering cannot be mounted on the side of a mobile home.

\* WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS. \*

11. All secondary connections in transformer are made by Bluebonnet.
12. Only 400 Amps meter cans are allowed. No 320 Amp Meter Cans are allowed.
13. All service wires entering the meter can (Top or Bottom Feed) will be terminated at the closest lugs. No phase conductors shall be run through the center of the meter can.
14. Member must contact Bluebonnet to determine where the secondary conduit is to be run to the transformer. Conduit to be installed 36" to the side of transformer. Call 800-842-7708 to schedule an appointment.
15. Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer.
16. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
17. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
18. Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
19. Largest wire to be pulled in to the meter can is 500 MCM Cooper.
20. A detailed load sheet shall be filled out and returned to Bluebonnet before the service will be connected.
21. #6 solid, bare ground copper wire and clamp to Bluebonnet's pole ground.
22. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

Landis & Gyr, Type K-4, Description: 400 amp, 4 terminals, 3 wire, residential/commercial socket single phase self-contained, large coverplate. The meter lugs can accommodate up to 500 MCM. These meter cans are available for purchase through Tecline or any other electrical supplier, provided it meets all Bluebonnet Electric Cooperative specifications. Tecline phone numbers: Red Rock (512-332-2978).



FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

		Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
DATE	REVISIONS	Scale :	Date :	
11-20-19	Added Solid Copper Note.	NONE	11-04-2021	MS-203
11-04-21	Added Main Breaker Note			

**Notes:**

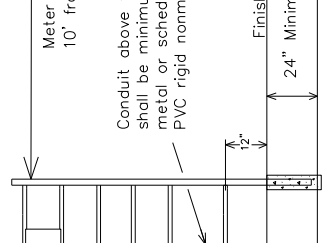
1. Line taps shall be made in the galvanized trough by the electrical contractor.
2. Weatherproof fittings required.
3. Two disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection.
4. Wire shall be sized to total disconnect sizes.
5. Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application.
6. Member shall contact Bluebonnet Electric to determine the secondary conduit location. Conduit to be installed 36" to the side of transformer. Call 800-842-7708 to schedule an appointment.
7. Bluebonnet will complete wiring into transformer. Have sufficient amount of wire for termination. Member shall install an additional 10' of wire for termination.
8. All secondary connections to be made inside transformer by Bluebonnet.
9. Bluebonnet to provide the CT's.
10. Meter assembly must remain unenclosed on exterior of structure.
11. Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
12. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
13. Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
14. The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

Equipment rack 2" or 3" steel pipe with uni-strut horizontal supports.

Main Disconnect with over current protection (Rated for Load) with a single main breaker as defined in the NEC.

Min. 3000 psi Concrete

To Load  
Service to load cable enclosed in minimum schedule 40 Gray PVC nonmetallic conduit.  
#6 solid, bare ground wire and clamp attached to Bluebonnet's pole ground.



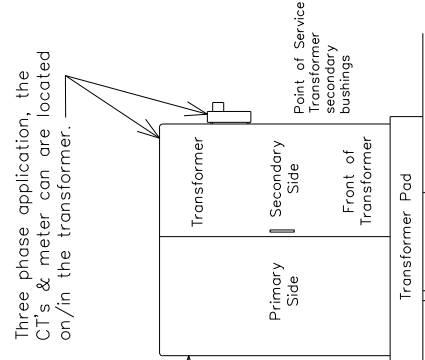
8" ground rod to be driven 12" below grade (Member Installed)

Conduit below finished grade from underground transformer shall be minimum schedule 40 rigid nonmetallic conduit.

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

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FOR THE MEMBER'S SAFETY, WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.



Non-combustible walls = 5 feet  
Combustible walls: 0 to 75kVA = 10 feet  
>75kVA = 20 feet



3 PHASE >200 AMP UNDERGROUND SERVICE WITH DISCONNECT ON RACK OR BUILDING	
DATE	REVISIONS
11-20-19	Added Solid Copper Note.
11-04-21	Added Main Breaker Note

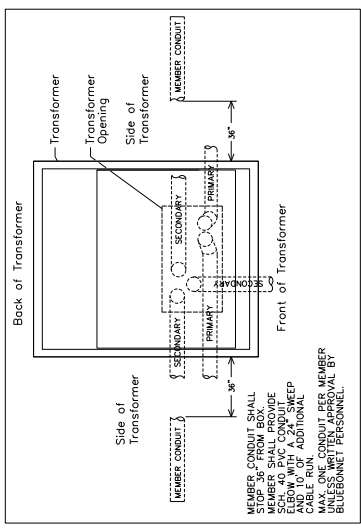
Checked By :	MS COMMITTEE	Approved By :	MS COMMITTEE
Date :	11-04-2021	Scale :	NONE
		Drawn By :	RG
		Scale :	NONE
		MS-204A3	

Notes:

- Line taps shall be made in the galvanized trough by the electrical contractor.
- More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
- Weatherproof fittings required.
- Wire shall be sized to total disconnect sizes.
- Neutral(s) may be reduced no more than two sizes on residential application. No reduction of the neutral(s) is allowed on commercial application.
- For all URD jobs, electricians shall call TEXAS811 for locates before digging to Bluebonnet equipment. No private utilities will be located. Bluebonnet will complete wiring into transformer. Have 10' additional amount of wire for termination.
- Meter loop can not be mounted on exterior of structure.
- All THREE PHASE APPLICATIONS MADE BY BLUEBONNET.
- 200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Giddings 979-542-8657, Red Rock 512-332-2978, Brenham 979-277-7240.
- Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
- The main electrical disconnect for each electrical service shall be installed on the exterior of the building in a location approved by Bluebonnet Electric Cooperative.

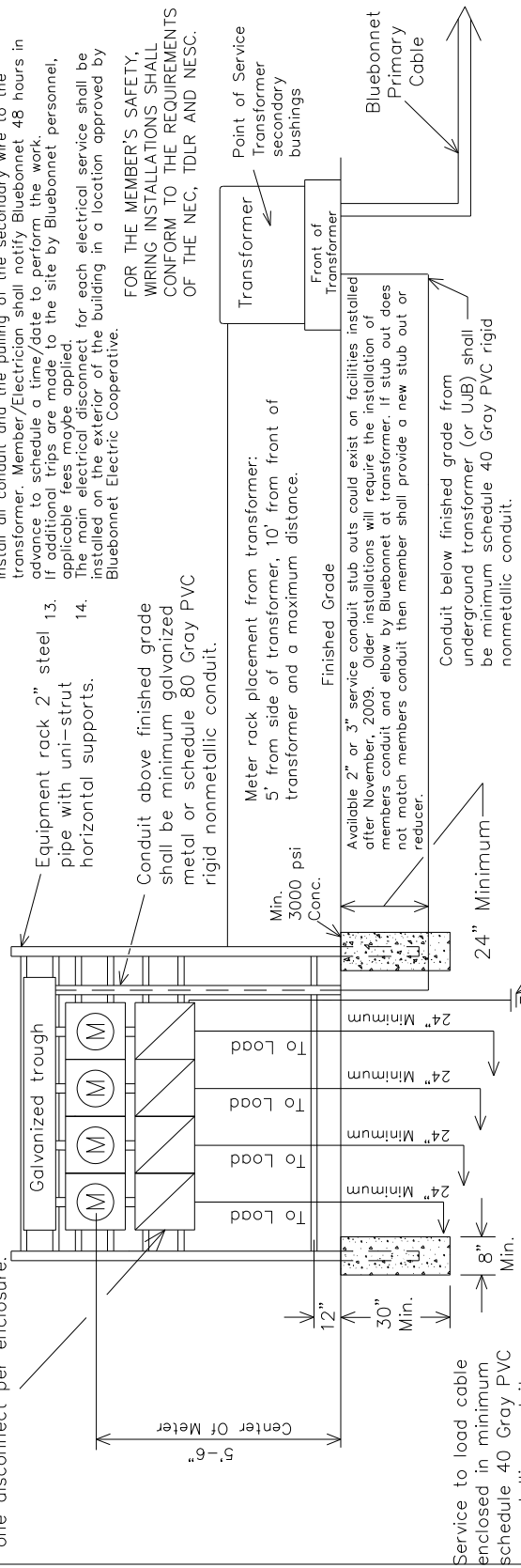
FOR THE MEMBER'S SAFETY, WIRING INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

Single Phase Transformer Layout



WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS.

No more than four 60-200 Amp meter sockets and weatherproof main disconnects. No more than one disconnect per enclosure.



CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT OF STANDARD WIRE SIZE. (RHH, RHW, THW, THHN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.	
<b>COPPER CONDUCTOR</b>	<b>ALUMINUM CONDUCTOR</b>
WIRE SIZE	WIRE SIZE
60 AMP	H4
100 AMP	H2
125 AMP	H1/0
150 AMP	H2/0
200 AMP	H4/0
<b>CONDUIT/NIPPLE SIZE</b>	<b>CONDUIT/NIPPLE SIZE</b>
1/2" CONDUIT	1 1/2" CONDUIT
1" CONDUIT	1 1/2" CONDUIT
2" CONDUIT	2" CONDUIT
3" CONDUIT	2" CONDUIT

10' OR 30', 60-200 AMP UNDERGROUND GANG MOUNTED METERS ON RACK OR BUILDING NOT TO EXCEED A TOTAL OF 800 AMPS.	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
DATE REVISIONS	Drawn By : RG	Date : 11-04-2021
12-07-2017 ADDED WIRE SIZING CHART.	Scale : NONE	
12-07-2017 ADDED MAIN BREAKER NOTE		



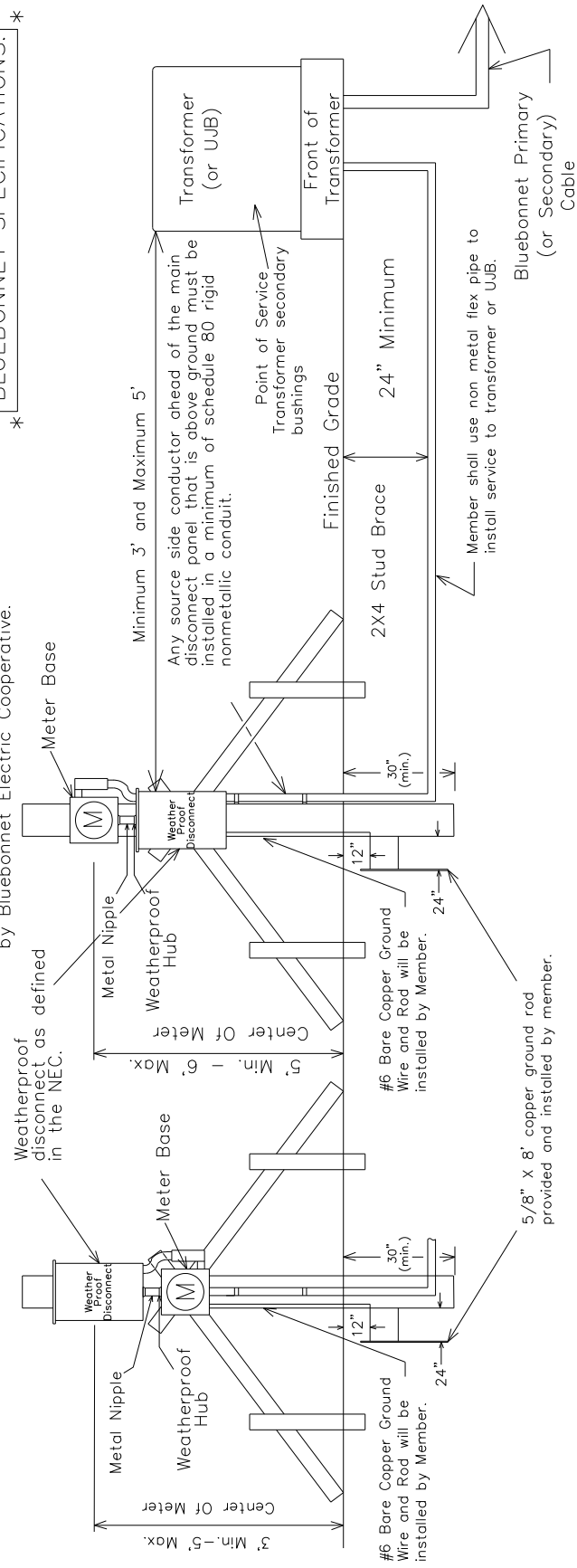
Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)



- Notes:**
1. All temporary wiring shall meet national electrical code standards.
  2. All outlets attached to meter loop shall have ground-fault circuit interrupter protection.
  3. For all URD jobs, electricians shall call TEXAS811 for locates before digging to Bluebonnet equipment. No private utilities will be located.
  4. Service wires shall be brought to the top side of the meter base.

5. Bluebonnet does inspect temporary meter loops and a fee shall be charged per trip for wiring inspection. Bluebonnet will refuse service if hazardous conditions exist and/or if connections do not meet specifications. Bluebonnet will complete wiring into transformer or UJB. Member shall have sufficient amount of wire for termination.
6. All connections inside pad mounted transformer and UJB's will be made by Bluebonnet.
7. Temporary Meter Loop Services are good for up to 24 months of service or less.
8. The main electrical disconnect for each exterior of the building in a location approved by Bluebonnet Electric Cooperative.

**\* WIRING INSTALLATIONS MUST MEET LOCAL GUIDELINES, IF APPLICABLE, SET FORTH BY CITY, COUNTY, OR OTHER GOVERNING ENTITY IN THE EVENT THESE REQUIREMENTS ARE MORE STRINGENT THAN BLUEBONNET SPECIFICATIONS. \***



**FOR MEMBER SAFETY, AND WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.**

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

**CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENT OF STANDARD WIRE SIZE (RHH, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.**

COPPER CONDUCTOR		ALUMINUM CONDUCTOR	
WIRE SIZE	BREAKER SIZE	CONDUIT SIZE	WIRE SIZE
#6	60 AMP	1 1/2" CONDUIT	#4
#4	100 AMP	1 1/2" CONDUIT	#2
#2	125 AMP	1 1/2" CONDUIT	#1/0
#1	150 AMP	2" CONDUIT	#2/0
#2/0	200 AMP	2" CONDUIT	#4/0

TEMPORARY METER LOOP FOR UNDERGROUND SERVICE

Drawn By : RG  
Checked By : MS COMMITTEE  
Approved By : MS COMMITTEE

Scale : NONE  
DATE: 11-04-2021  
MS-302

REVISIONS

DATE	ADDED ADDITIONAL METER SETUP.
03-29-2018	
11-04-2021	ADDED MAIN BREAKER NOTE



Notes:

1. All pole mounted meter loops shall be mounted to Bluebonnet poles.
2. All secondary connections made by Bluebonnet.
3. All outlets attached to meter loop shall have ground-fault circuit interrupter protection.
4. Temporary Meter Loop Services are good for 24 months of service or less
5. For your safety, only Bluebonnet personnel are authorized to install meter loops or other BEC equipment on a Bluebonnet pole. Members shall have loop assembled and available for installation by Bluebonnet.

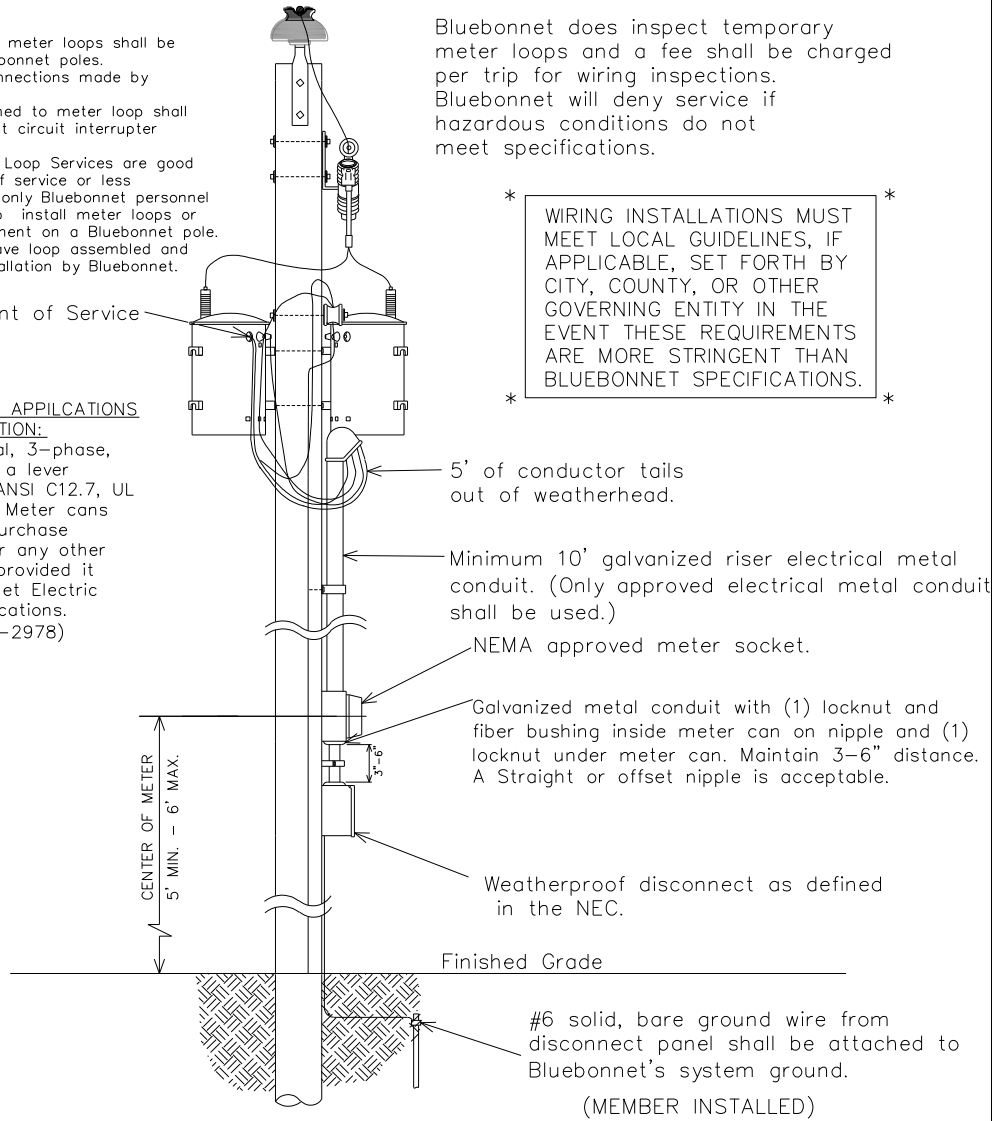
Bluebonnet does inspect temporary meter loops and a fee shall be charged per trip for wiring inspections. Bluebonnet will deny service if hazardous conditions do not meet specifications.

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Point of Service

**FOR THREE PHASE APPLICATIONS**

DESCRIPTION:  
200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, or NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline (512-332-2978)



FOR THE MEMBER'S SAFETY, WIRING INSTALLATION AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE NEC, TDLR AND NESC.

Latest update can be found at [www.bluebonnetelectric.coop](http://www.bluebonnetelectric.coop)

CURRENT CARRYING CAPACITIES AND CONDUIT SIZE REQUIREMENT OF STANDARD WIRE SIZE - (RHH, RHW, THW, THWN, THHN, AND XHHW) REFER TO NEC FOR OTHER CALCULATIONS.

COPPER CONDUCTOR			ALUMINUM CONDUCTOR		
Wire Size	Breaker Size	Conduit Size	Wire Size	Breaker Size	Conduit Size
#6	60 Amp	1 1/4" Conduit	#4	60 Amp	1 1/4" Conduit
#4	100 Amp	1 1/4" Conduit	#2	100 Amp	1 1/4" Conduit
#2	125 Amp	1 1/2" Conduit	#1/0	125 Amp	1 1/2" Conduit
#1	150 Amp	2" Conduit	#2/0	150 Amp	2" Conduit
#2/0	200 Amp	2" Conduit	#4/0	200 Amp	2" Conduit

1Ø OR 3Ø 60-200 AMP TEMPORARY METER LOOP FOR TRANSFORMER AND SERVICE POLES



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
03-31-20	Added note 5.	RG	MS COMMITTEE	MS COMMITTEE
11-04-21	Added main breaker note	Scale :	DATE:	MS-303
		NONE	11-04-2021	

## Material Standards:



**Underground warning tape must be 6” width, RED in color with BLACK lettering, and read “Caution Buried Electric Underground”. \*Normally, this material is only sold in 1000’ rolls.\***



**Bluebonnet**

MEMBER RESPONSIBILITY

BLUEBONNET RESPONSIBILITY

<p>Deliver essential project documents to Bluebonnet Electric Coop. - Site plan files (CAD Format), load information, information request form(s), project schedule.</p>	<p><b>BEFORE THE CLOCK STARTS</b></p>	<p>Facilitate correspondence with member/developer to discuss needs and review available information.</p>
<p>Host a site visit and/or Pre-design Meeting/Call with Bluebonnet Representative(s). Provide up to date and accurate Project Schedule for all stages, including desired energization date.</p> <p><b>**Bluebonnet Electric cannot begin design of project until all required documentation is received.**</b></p>		<p>Provide Bluebonnet Developer's Package (Commercial/Residential); including standard Bluebonnet Easement.</p>
		<p>Collect information from Member/Developer.</p>
		<p>Verify a complete member package has been received, including all required documentation.</p>
	<p><b>WEEK #1</b></p>	<p>Attend site visit or Pre-design meeting, evaluate site layout, utility coordination, member construction coordination, jobsite construction access, etc.</p>
<p><b>**Bluebonnet Electric cannot begin construction of project until Site Ready documentation is received.**</b></p>	<p><b>WEEKS #2-#5</b></p>	<p>Design electric service layout; coordinate with the electric system (circuit capacity, fuses). Size equipment, determine rate class for Community Representative to communicate to Member.</p>
	<p><b>WEEKS #6-#7</b></p>	<p>Prepare and submit any necessary permits. Schedule and complete field staking of project. Finalize and secure all easements.</p>
	<p><b>WEEK #8</b></p>	<p>Create cost estimate and deposit and send cost letter and Site Ready Letter to developer.</p>
<p>Expedite payment to Bluebonnet Electric for project. Provide any required third party easements and outstanding information.</p>	<p><b>WEEK #9</b></p>	
<p><b>**Bluebonnet Electric will not release project for scheduling (apartments and subdivisions) until addressing information is received.**</b></p>	<p><b>WEEKS #10-#11</b></p>	<p>Process project payment.</p>
	<p><b>WEEK #12</b></p>	<p>Prepare for and release project to construction. Verify material availability and receipt of developer's Site Ready Letter.</p>
<p><b>**Bluebonnet Electric cannot begin construction of project until Site Ready documentation is received.**</b></p>	<p><b>WEEKS #13-#28</b></p>	<p>Upon release, Construction Lead (Contract Coordinator or Bluebonnet Construction) will contact member within two business days to provide anticipated construction start date, duration, planned completion, etc.</p>
<p>Construction crews will leave the site if suitable construction conditions are unsatisfactory.</p>		<p>Request crew scheduling from construction. Complete inspections and accept installations. Verify site is prepared and ready for construction.</p>
<p>Member completes preparation for final electric service delivery.</p>		<p>Construct Bluebonnet Electric Facilities.</p>
<p>Member requests initiation of final electric service.</p>	<p><b>WEEKS #29-#30</b></p>	<p>Inspect final installation. Energize project and initiate electric service.</p>

- A. If a Member step is late, the project clock **STOPS**. Members/Developers are highly encouraged to stay on top of payments, required easements, and all crucial deliverables and documentation.
- B. Elapsed times are not a guarantee. More than thirty weeks may be needed for larger scope projects or projects that require significant upgrades to Bluebonnet Electric's system infrastructure.
- C. Member/Developer is required to provide Bluebonnet Electric with any and all required easements, including third party, prior to commencing construction.
- D. Bluebonnet Engineering staff are responsible for all steps from project inception through Week #12. Weeks #13 - #30 are managed by Bluebonnet Construction Staff and are denoted in **BLUE**.
- E. Permitting schedule is contingent on regulatory agency approval (response times vary).
- F. Member/Developer is required to notify construction once site is ready by returning a signed Site Ready Letter. **Projects will not be released for scheduling until this document has been returned.**

During the **planning, engineering, and design phase** of your project your main point of contact will be one of Bluebonnet's Project Coordinators. If the Project Coordinator for your project is not available, one of the other team members will be glad to assist you.

**Shawn Ely**  
shawn.ely@bluebonnet.coop  
Office: (979) 542-8518  
Cell: (979) 540-7361

**Rodney Gerik**  
rodney.gerik@bluebonnet.coop  
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Cell: (979) 540-8814

**Clemente Verastegui**  
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**Scott Iselt**  
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Cell: (979) 540-0195

**Shane Mathison**  
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Office: (979) 542-8540  
Cell: (512) 577-6817

**Thomas Ellis (Manager)**  
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Cell: (979) 540-6146

**Dalton Voight**  
dalton.voight@bluebonnet.coop  
Cell: (512) 629-3771

**Jorge Varillas**  
jorge.varillas@bluebonnet.coop  
Office: (512) 764-2838  
Cell: (512) 376-8291

**Wyatt Rosenauer**  
wyatt.rosenauer@bluebonnet.coop  
Office: (979) 542-8665  
Cell: (512) 629-5924

During the **construction, inspection, and metering phase** of your project your main point of contact will be Bluebonnet's Contractor Coordinator OR Assistant Superintendent. Bluebonnet's personnel cover specific areas of the service territory; areas are listed with their contact information.

**Joey Tobola (Contractors)**  
joey.tobola@bluebonnet.coop  
Cell: (979) 540-7162

**Randall Bownds (Giddings Area)**  
randall.bownds@bluebonnet.coop  
Office: (979) 542-8516  
Cell: (979) 540-6418

**Chad Lewis (Brenham Area)**  
chad.lewis@bluebonnet.coop  
Office: (979) 277-8558  
Cell: (979) 277-4041

**Aaron Seeliger (Red Rock Area)**  
aaron.seeliger@bluebonnet.coop  
Office: (512) 764-2788  
Cell: (512) 227-2281

**Kenneth Roush (Underground – All Areas)**  
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