



Welcome to Bluebonnet Electric Cooperative

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

Bluebonnet serves all or part of 14 counties, covers over 3,800 square miles and serves more than 120,000 meters. Bluebonnet operates five retail centers: Bastrop, Brenham, Lockhart, Giddings and Manor. Bluebonnet is one of the largest electric cooperatives in Texas. A distribution cooperative, Bluebonnet purchases most of its power wholesale from the LCRA. Bluebonnet operates and maintains approximately 12,000 miles of distribution lines. Bluebonnet owns 26 substations and purchases power at 22 additional substations owned by the 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 the distribution system of Bluebonnet.

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 for any additional information as well as an online source of this packet.

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

Bluebonnet Project Coordination Staff



Bluebonnet Electric Cooperative, Inc. Detailed Commercial Load Data

Bluebonnet Electric Cooperative, Inc.
Attn: Engineering Department
3198 E. Austin Street
Giddings, TX 78942
Phone: (800) 842-7708

BBEC Internal Usage Only

Customer # _____

W.O. # _____

Email Address: _____

Applicant Name: _____

Phone No: _____

Service Address: _____

Date: _____

REQUESTED ELECTRICAL SERVICE Service/Project Name: _____

PRIMARY SERVICE

- Overhead
- Underground

SECONDARY SERVICE

- Overhead
- Underground

REQUESTED VOLTAGE

120/240 - 1Ø 3 Wire

240/480 - 1Ø 3 Wire

- Single-phase transformers are limited to (1) 100 kVA transformer per overhead service & (1) 167 kVA pad mount transformer per underground service.

208/120 - 3Ø 4 Wire Wye

480/277 - 3Ø 4 Wire Wye

240/120 - 3Ø 4 WIRE DELTA (O/H banks only)

480 - 3Ø 3 WIRE DELTA

(O/H Banks Only Corner Grounded)

- Three-phase transformers are limited to (3) 100 kVA transformer per overhead service

Primary Voltage 12.47/7.2kV or 24.9/14.4kV

MAIN DISCONNECT (AMPERES) New _____ Existing (If Any) _____

Total connected load in Amps (Should Match Page 2 Total). _____

SECONDARY SERVICE ENTRANCE CONDUCTORS

Copper Wire Aluminum Wire

Wire Size _____ Quantity _____ per phase Quantity _____ for the neutral

- Each Phase MUST be sized to accommodate the TOTAL DISCONNECT SIZE or FUSE/BREAKER installed.
- Commercial service MUST pull in a full size neutral whether it will be used or not.

SECONDARY SERVICE ENTRANCE CONDUIT

Size of Conduit _____ in. Quantity of Conduit _____



Building Size: _____ SQ.FT.

Hours of operation: _____ **Days of the week:** _____

Motors (Other Than Air Conditioning)

- Motors or motor loads totaling more than 25 HP, may require soft starters or VFD's(Variable Frequency Drives) and/or 3 Phase Service. VFD's will require appropriate filtering. Please Contact Bluebonnet Electric's Engineering Department for further information.

1Ø 3Ø _____ HP _____ Quantity _____ (Amps)

Total Motor _____ **HP** _____ **(Amps)**

Total Load on System

Heating Load _____ (Amps) _____ (kW)

A/C Load _____ (Amps) _____ (kW)

Lighting Load _____ (Amps) _____ (kW)

Motor Load _____ (Amps) _____ (kW)

Other Load _____ (Amps) _____ (kW)

Total Load _____ **(Amps)** _____ **(kW)**

LICENSED ELECTRICIAN/ENGINEER SIGNATURE: _____

PRINT NAME: _____ LICENSE # _____

DATE: _____ PHONE # _____

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, and grading plans 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 of \$50/hr. could be required either prior to or following the design process. 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 locations per Bluebonnet Crossing Plans, and if applicable, all electrical conduits in designated locations per Bluebonnet Construction Plans. See Bluebonnet Specifications. **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 8).
- Property pins must be set and clearly visible at all property corners, at developer's expense, prior to Bluebonnet commencing construction.
- Developer is responsible for submitting contribution-in-aid of construction (CIAC) to cover Bluebonnet's construction costs prior to Bluebonnet commencing construction. Bluebonnet 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. See Bluebonnet Specifications.
- Developer is responsible for ensuring conduit contractor and/or subcontractor adherence to all Bluebonnet Construction Specifications at all times.
- Developer is 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 of \$50/hr. could be required either prior to or following the design process. 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 initial requests 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 enclosed Member Handbook or on the "Residential Development" link on our website at www.bluebonnetelectric.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, then 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.

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.

Where three-phase is used to provide single-phase service to individual occupants, the load must be balanced between all three phases as equally as possible. This applies whether the single phase services are individually metered or not.

Fire Pumps

Electric service to fire pumps shall be served through a CT-metered service.

Easements / Right-of-Way

1. Bluebonnet shall be granted, at no cost and in writing suitable for recording, 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. A signed easement granted to Bluebonnet will be required before construction will commence. Once Bluebonnet facilities are installed, the easement will adhere to the facilities, from the installation point with a 15 foot easement on each side of the centerline (30 feet of easement) of overhead facilities and 20 foot easement (10 feet on each side of the centerline), for underground facilities.
3. Only Bluebonnet equipment or material is allowed to be attached to Bluebonnet property, except where said equipment and/or materials is required to provide electrical service and said equipment and/or material has been authorized by Bluebonnet.
4. Please note that Bluebonnet facilities must be installed in easements that are exclusive to Bluebonnet with no other utilities being allowed in these easements except for buried crossings.

Location of Facilities

All overhead or underground distribution lines and equipment will be located in an area that is easily accessible by Bluebonnet vehicles and personnel.

To prioritize safety for first responders and Bluebonnet Electric Cooperative, Inc.'s (BBEC) service men, the main electrical disconnect for each electrical service shall be installed in a readily accessible outdoor location no more than 100 feet from the transformation site. BBEC's Engineering Department must approve the electrical disconnect location before a design estimate will be provided.



EASEMENT

BEC internal use only
MAP REF. # _____
W.O. # _____
S.L. # _____

THE STATE OF TEXAS
COUNTY OF _____

The undersigned _____ (print name(s) of Owner(s)), ("Grantor"), for a good and valuable consideration, the receipt of which is hereby acknowledged, does hereby grant and convey unto BLUEBONNET ELECTRIC COOPERATIVE, INC. ("Grantee"), whose post office address is P.O. Box 729, Bastrop, Texas 78602, and its legal representatives, successors and assigns, a non-exclusive, permanent and perpetual easement and right of way (the "Easement") in, upon, below or above Grantor's lands, situated in the County of _____, State of Texas, and described as follows (the "Property"):

A tract of land consisting of approximately _____ acres in the _____, or described in a deed or other instrument recorded in Volume/Book _____, Page _____, or Instrument # _____, Real Property Records of _____ County, Texas.

The area of the Easement for Overhead Electric Facilities shall be 15 feet on each side of the centerline of the initial line(s) as constructed by Grantee (the "Easement Area"), and the area of the Easement for Underground Electric Facilities shall be 10 feet either side of the initial line(s) as constructed by Grantee (the "Easement Area"). In addition, Grantee shall have the right to install guy and anchor arrangements inside and/or outside the Easement Area when and where Grantee deems necessary; any area in which such guy and anchor arrangements are installed outside the Easement Area as defined above shall, while such items are in place, be included within the definition of the Easement Area.

The purpose and scope of this Easement is to place, construct, re-construct, re-phase, operate, maintain, relocate, replace and remove in, upon, below or above the Easement Area an electric distribution line or system, telecommunications systems and equipment, or other services and systems, and its related appurtenances and equipment, and to cut, trim, chemically treat, and/or remove any or all trees, brush, shrubbery or other obstructions within or outside the Easement Area to the extent necessary to keep the Easement Area clear, or which might otherwise endanger or interfere with the efficiency of the lines, including the removal of any dead, weak, leaning or dangerous trees that are tall enough to strike the wires in falling even if same are located outside the Easement Area. Non-use of the Easement shall not be deemed an abandonment; the Easement shall only be terminated by written instrument executed by Grantee and recorded in the real property records of the county or counties in which the Easement Area is located. The purpose and scope of this Easement may not be changed, and Easement Area may not be relocated, without Grantee's written consent.

Grantee shall have the right of pedestrian, vehicular, and equipment ingress and egress over the Property, or any other of Grantor's adjacent lands, to and from the Easement Area for the purpose of placing, constructing, re-constructing, re-phasing, operating, maintaining, relocating, replacing and removing said lines and appurtenances, and may make use of such Property or other lands outside the Easement Area as is reasonably necessary for such activities, including the temporary placement and storage of vehicles and equipment.

To have and to hold unto Grantee, its legal representatives, successors and assigns, forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, legal representatives, successors and assigns to warrant and forever defend all and singular the rights herein to Grantee, its legal representatives, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof. This is an easement appurtenant and is a covenant running with the land.

Grantor may not construct or place any structures, devices, or obstacles in or on the Easement Area that may in Grantee's opinion constitute a hazard to the safe and reliable operation of the lines and appurtenances installed in the Easement Area or in the opinion of Grantee, a danger to Grantor or the general public.

Grantor warrants that Grantor is the legal owner of the Property and the undersigned has authority to grant this Easement and that the Property is free and clear of encumbrances and liens of whatsoever character except those held by the following:

Grantor authorizes any employee, agent or other representative of Grantee to complete any blank spaces pertaining to the Property description above after this Easement has been executed by Grantor.

This written Easement represents the only agreement pertaining to said Easement.

The undersigned has executed this Easement to be effective as of the ____ day of _____, 20__.

(Grantor's Printed Name)

(Signature of Grantor or Grantor's Authorized Representative)

(Grantor's Printed Name)

(Signature of Grantor or Grantor's Authorized Representative)

STATE OF TEXAS §
 §
COUNTY OF _____ §

This instrument was acknowledged before me on _____, 20__ by _____.
(Grantor's Printed Name)

Notary Public, State Of Texas

STATE OF TEXAS §
 §
COUNTY OF _____ §

This instrument was acknowledged before me on _____, 20__ by _____.
(Grantor's Printed Name)

Notary Public, State Of Texas

After recording, please return to:
Bluebonnet Electric Cooperative, Inc.
3198 East Austin Street
Giddings, Texas 78942

Developer Installed Conduit Guidelines and Procedures

1. Developer will review Bluebonnet's construction specifications prior to trenching and conduit installation (specifications included in this document). Developer is encouraged to contact Bluebonnet inspector listed in #3 below with any questions.
2. Developer must provide and install all underground material in the designated locations per Bluebonnet's design. Bluebonnet will provide and install the associated hardware such as sectionalizers and transformers that will be located above ground.
3. Developer will contact the Bluebonnet Project Coordinator when conduit and stub-ups are installed prior to filling the ditch (open ditch inspection). Bluebonnet will respond within 48 hours of notification. Please choose from the list of Bluebonnet Project Coordinators to schedule an inspection.
 - **Project Coordinator Rodney Gerik, may be reached at (979) 540-8814 (cell), or at Rodney.gerik@bluebonnet.coop.**
 - **Project Coordinator Shawn Ely, may be reached at (979) 540-7361 (cell), or at Shawn.ely@bluebonnet.coop.**
 - **Project Coordinator Camryn Nutt, may be reached at (512) 718-2929 (cell), or at Camryn.nutt@bluebonnet.coop**
 - **Project Coordinator Shane Mathison, may be reached at (979) 542-8540, or at Shane.mathison@bluebonnet.coop.**
 - **Project Coordinator Jorge Varillas, may be reached at (512) 764-2838, or at Jorge.Varillas@bluebonnet.coop.**
 - **Project Coordinator Scott Iselt, may be reached at (979) 542-8522, or at Scott.Iselt@bluebonnet.coop.**
 - **Project Coordinator Wyatt Rosenauer, may be reached at (512) 332-8665, or at Wyatt.Rosenauer@bluebonnet.coop.**
4. Trenches will remain open until inspected and approved by the Bluebonnet inspector. Upon inspection, developer will be advised as to what may or may not be backfilled.
5. 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.
5. Equipment location and conduit stubs must meet clearance requirements on all sides as outlined in Bluebonnet Specifications.
6. 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.)

Developer's Checklist

Responsibility of Developer:

- Developer is responsible for confirming all easement requirements with Bluebonnet prior to installation.
- Developer is responsible for following Bluebonnet's inspection policies and procedures prior to and during conduit installation.
- Developer is responsible for all right-of-way clearing or grubbing to Bluebonnet's specifications.
- Developer is responsible for adherence to all Bluebonnet's Construction Specifications.

Developer's Fees and Information

1. Every request for alteration to initial requests for design services are subject to additional fees to be determined by Bluebonnet.
2. Bluebonnet's Line Extension Policy can be found in the Member Handbook.
3. A maintenance fee of \$1 per linear foot of trench will be required at the time of contribution by the member to cover the cost of any necessary repairs in the first year following the completion of Bluebonnet's underground facilities installation.
4. Cost estimate given to developer will be good for **60** days.



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, and electrical one line document(s).</p>	<p>BEFORE THE CLOCK STARTS</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>Provide Bluebonnet Developer's Package (Commercial/ Residential); including standard Bluebonnet Easement.</p>
<p>**Bluebonnet Electric cannot begin design of project until all required documentation is received.**</p>		<p>Collect information from Member/Developer.</p>
<p>**Bluebonnet Electric will not release project for scheduling (apartments and subdivisions) until addressing information is received.**</p>		<p>Verify a complete member package has been received, including all required documentation.</p>
<p>Expedite payment to Bluebonnet Electric for project. Provide any required third party easements and outstanding information.</p>	<p>WEEK #1</p>	<p>Attend site visit or Pre-design meeting, evaluate site layout, utility coordination, member construction coordination, jobsite construction access, etc.</p>
<p>**Bluebonnet Electric cannot begin construction of project until Site Ready documentation is received.**</p>	<p>WEEKS #2-#5</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>**Bluebonnet Electric cannot begin construction of project until Site Ready documentation is received.**</p>	<p>WEEKS #6-#7</p>	<p>Prepare and submit any necessary permits. Schedule and complete field staking of project. Finalize and secure all easements.</p>
<p>Construction crews will leave the site if suitable construction conditions are unsatisfactory.</p>	<p>WEEK #8</p>	<p>Create cost estimate and deposit and send cost letter and Site Ready Letter to developer.</p>
<p>Member completes preparation for final electric service delivery.</p>	<p>WEEK #9</p>	<p>Process project payment.</p>
<p>Member requests initiation of final electric service.</p>	<p>WEEKS #10-#11</p>	<p>Prepare for and release project to construction. Verify material availability and receipt of developer's Site Ready Letter.</p>
<p>Member requests initiation of final electric service.</p>	<p>WEEK #12</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>Member requests initiation of final electric service.</p>	<p>WEEKS #13-#28</p>	<p>Request crew scheduling from construction. Complete inspections and accept installations. Verify site is prepared and ready for construction.</p>
<p>Member requests initiation of final electric service.</p>	<p>WEEKS #29-#30</p>	<p>Construct Bluebonnet Electric Facilities.</p>
<p>Member requests initiation of final electric service.</p>	<p>WEEKS #29-#30</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

Scott Iselt
scott.iselt@bluebonnet.coop
Office: (979) 542-8522
Cell: (979) 540-0195

Camryn Nutt
camryn.nutt@bluebonnet.coop
Cell: (512) 718-2929

Rodney Gerik
rodney.gerik@bluebonnet.coop
Office: (979) 542-8527
Cell: (979) 540-8814

Shane Mathison
shane.mathison@bluebonnet.coop
Office: (979) 542-8540
Cell: (512) 577-6817

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

Clemente Verastegui
clemente.verastegui@bluebonnet.coop
Office: (979) 542-8542
Cell: (512) 578-6393

Thomas Ellis (Manager)
thomas.ellis@bluebonnet.coop
Office: (979) 542-8545
Cell: (979) 540-6146

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)
kenneth.roush@bluebonnet.coop
Cell: (512) 468-5088

Tim Mittasch (Underground- All Areas)
tim.mittasch@bluebonnet.coop
Cell: (979) 540-7159

Daniel Fritsche (Bastrop Area)
daniel.fritsche@bluebonnet.coop
Office: (979) 542-8514
Cell: (979) 542-8546

Carl Miller (Underground Inspector)
carl.miller@bluebonnet.coop
Cell: (979) 540-6495

Joe Hernandez (Underground Inspector)
jose.hernandez@bluebonnet.coop
Cell: (720) 670-7299

Jose Villarreal (Underground Inspector)
jose.villarreal@bluebonnet.coop
Cell: (512) 988-1885

Martin Dorantes (Underground Inspector)
martin.dorantes@bluebonnet.coop
Cell: (512) 748-4453

Material Standards:

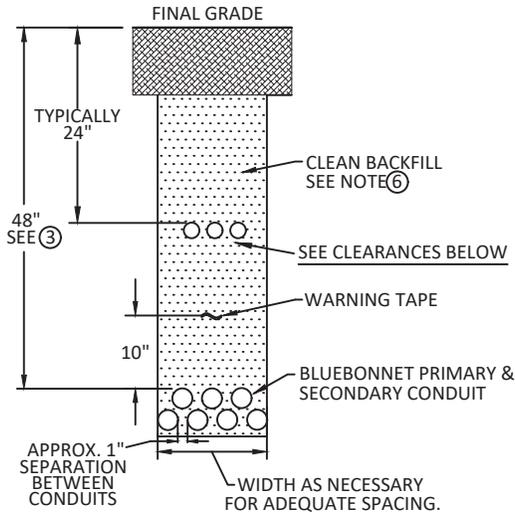


Underground warning tape must be 6” width, RED in color with BLACK lettering, and read “Caution Buried Electric Underground”. *Normally, this material is only sold in 1000’ rolls.*

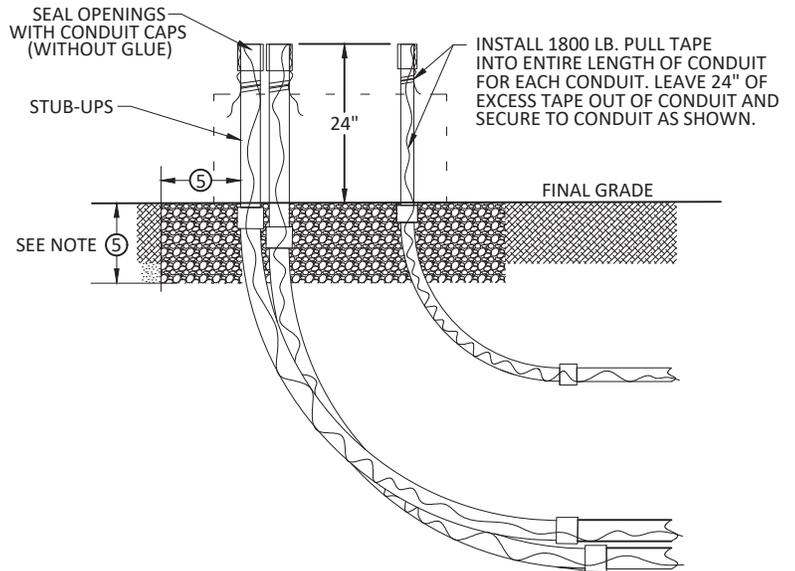
DITCH AND CONDUIT PLACEMENT

NON-ROAD CROSSING

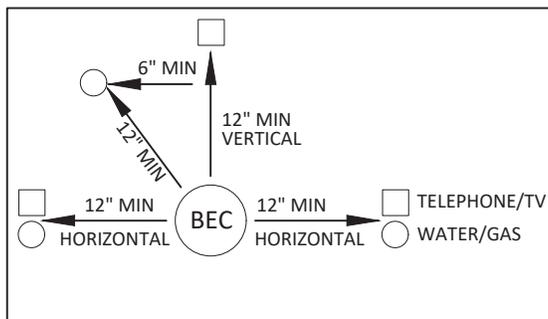
DITCH ASSIGNMENT
FRONT VIEW



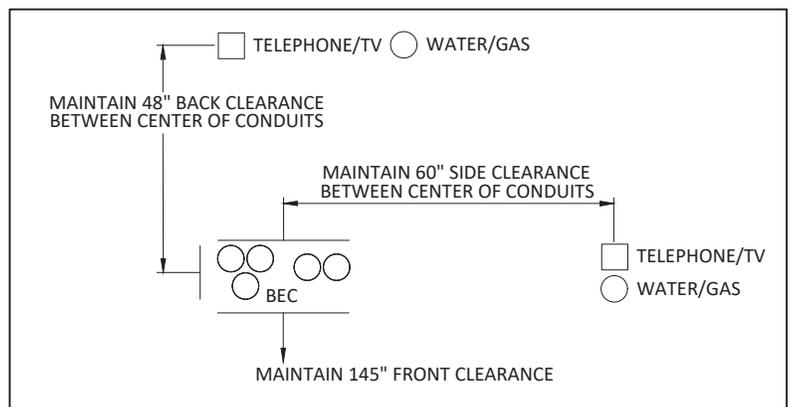
CONDUIT STUB-UP
SIDE VIEW



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.



Bluebonnet

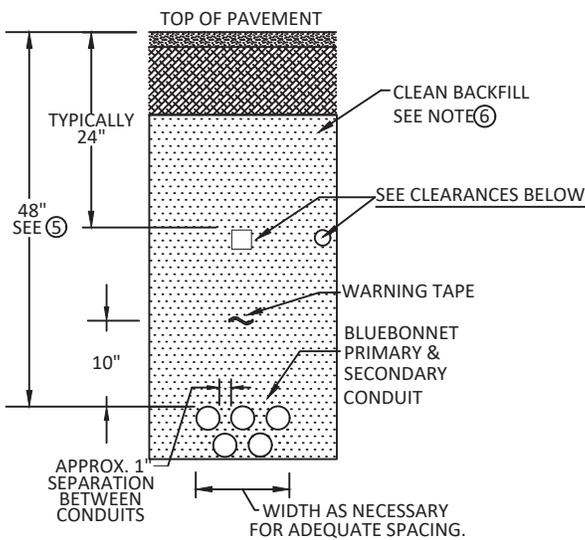
Drawn:	Approved:	Date:
CV	Project Coordinators	Oct. 31, 2019

UNDERGROUND DISTRIBUTION

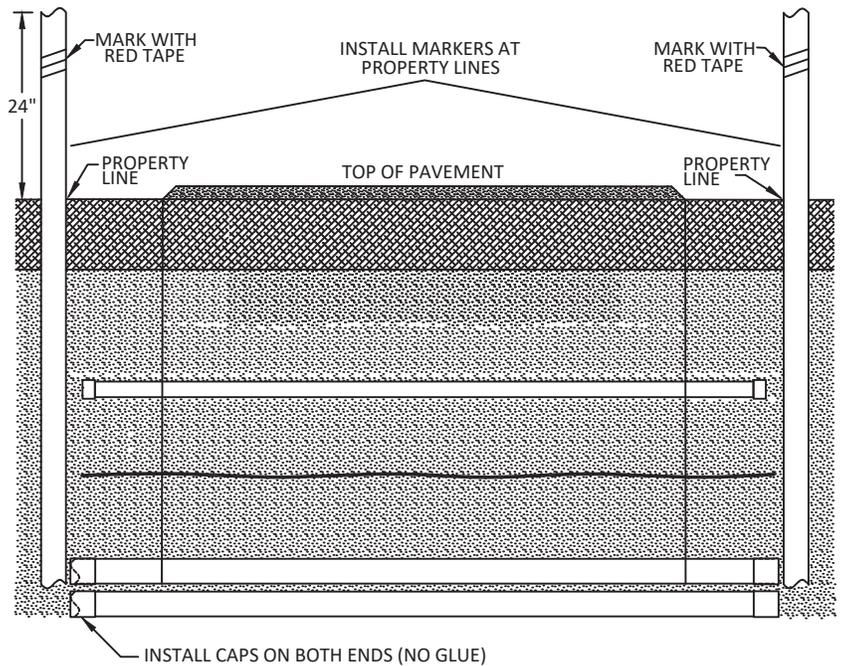
J-3

DITCH AND CONDUIT PLACEMENT ROAD CROSSING

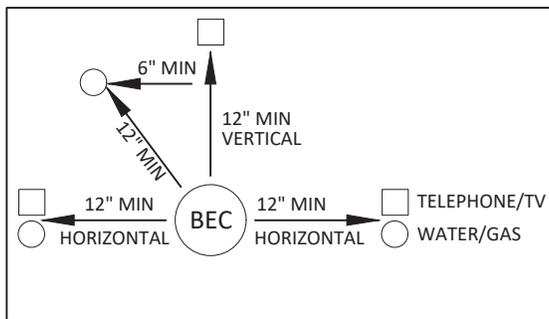
CONDUIT FRONT VIEW



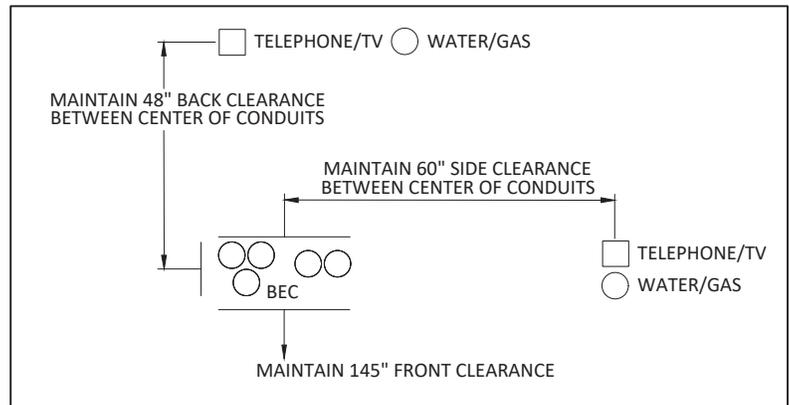
CONDUIT SIDE VIEW



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.

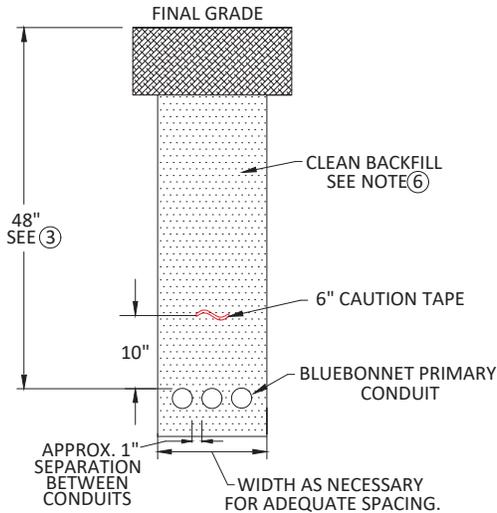
NOTES:

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.

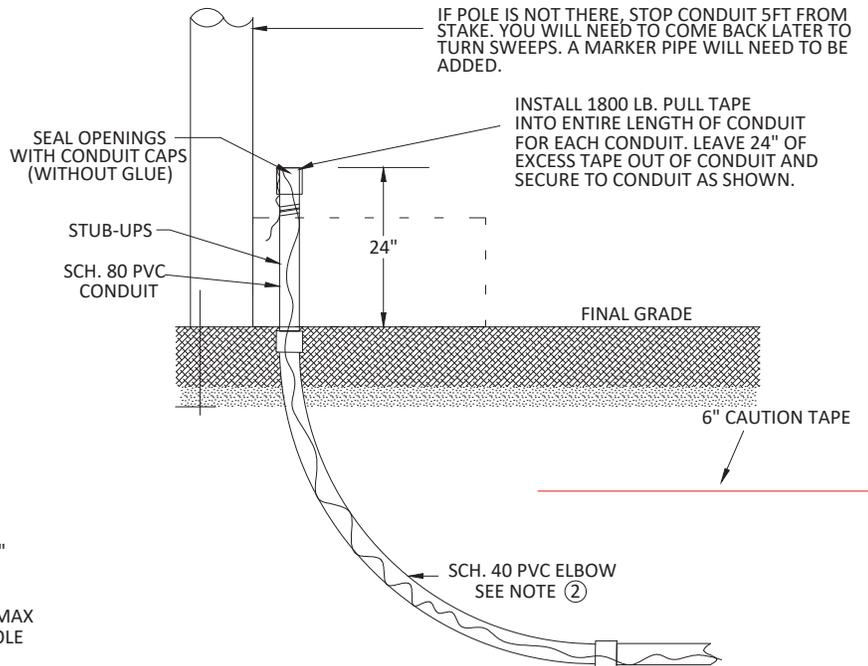
Drawn:	Approved:	Date:
CV	Project Coordinators	Oct. 31, 2019

RISER POLE CONDUIT

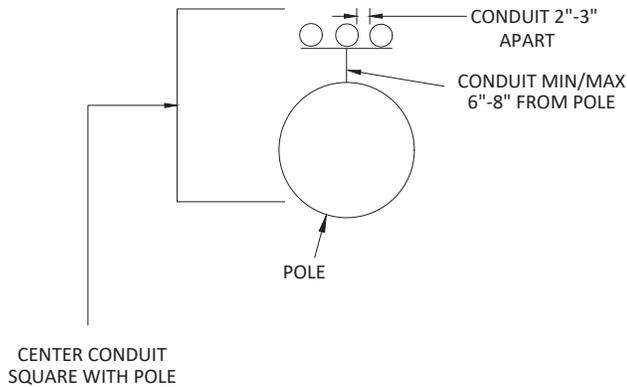
DITCH ASSIGNMENT FRONT VIEW



CONDUIT STUB-UP SIDE VIEW



TOP VIEW



- NOTES:**
1. CONDUIT BELOW GROUND 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. 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.
 6. CONDUIT ABOVE GROUND SHALL BE GREY SCHEDULE 80 PVC.
 7. FIRST BRACKET WILL BE INSTALLED 24" FROM FINAL GRADE.
 8. ROTATE CONDUIT TO AVOID CONFLICT WITH COMMUNICATION ATTACHMENTS.



Bluebonnet

Drawn:

JW

Approved:

Standards

Date:

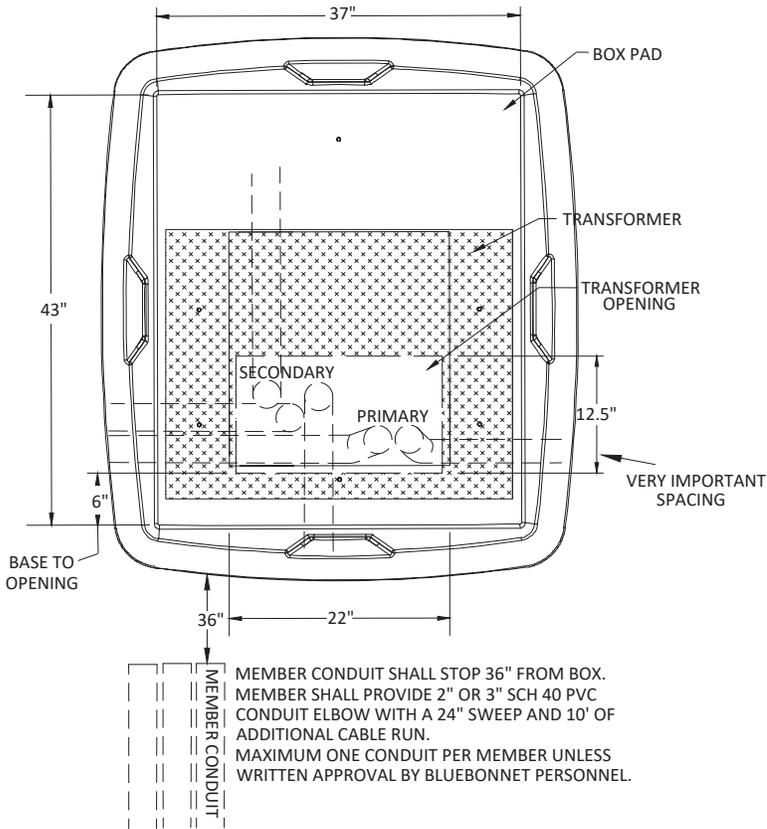
Mar. 26, 2024

UNDERGROUND DISTRIBUTION

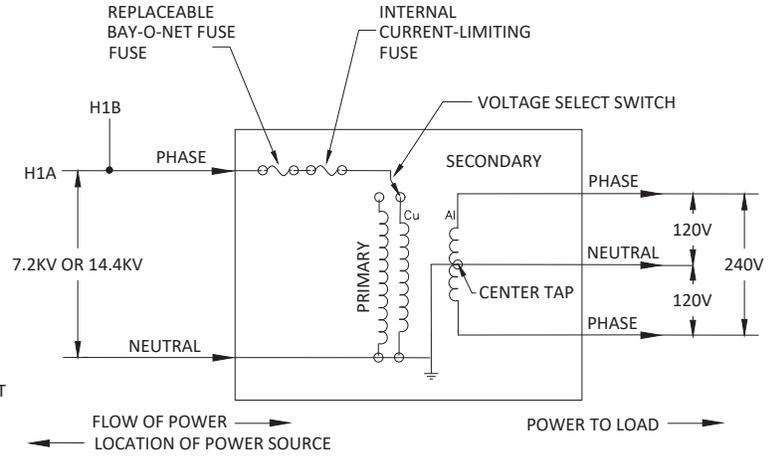
J-6

1PH PADMOUNT TRANSFORMER DIMENSIONS AND WIRING

TOP VIEW

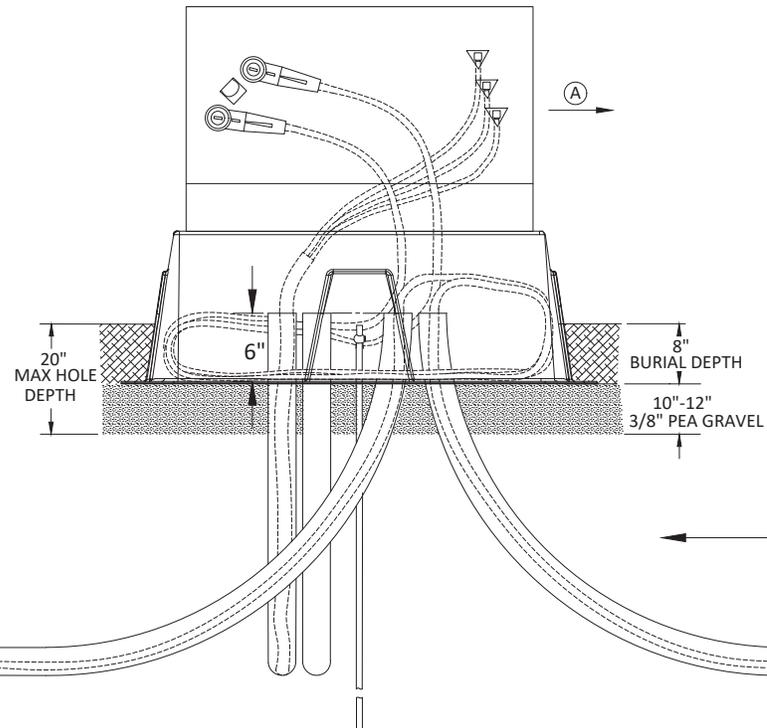


WIRING DIAGRAM

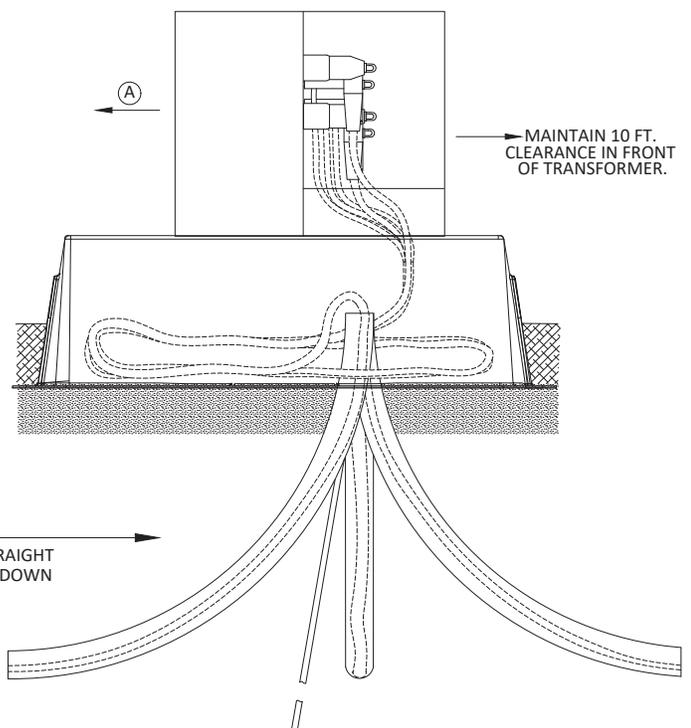


- Ⓐ CLEARANCE BETWEEN WALLS AND TRANSFORMER:
NON-COMBUSTIBLE - 3 FT.
COMBUSTIBLE: UP TO 75 kVA - 10 FT.
GREATER THAN 75 kVA - 20 FT.

FRONT VIEW



SIDE VIEW

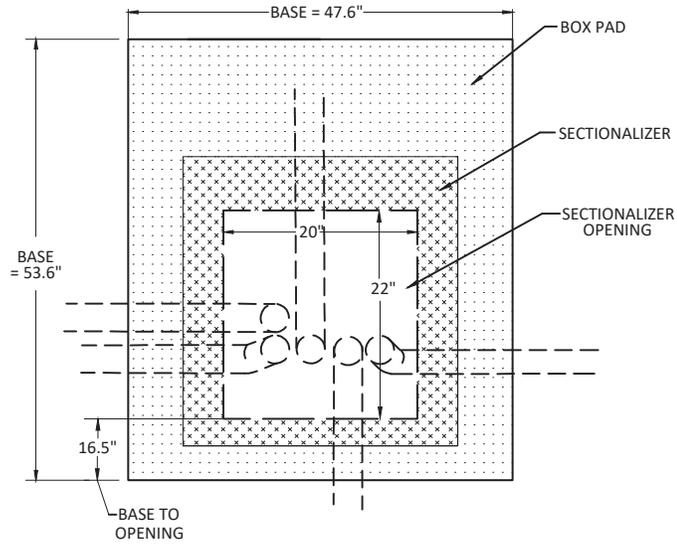


SECONDARY CABLE SIZE SHALL BE MAX 350 AWG.

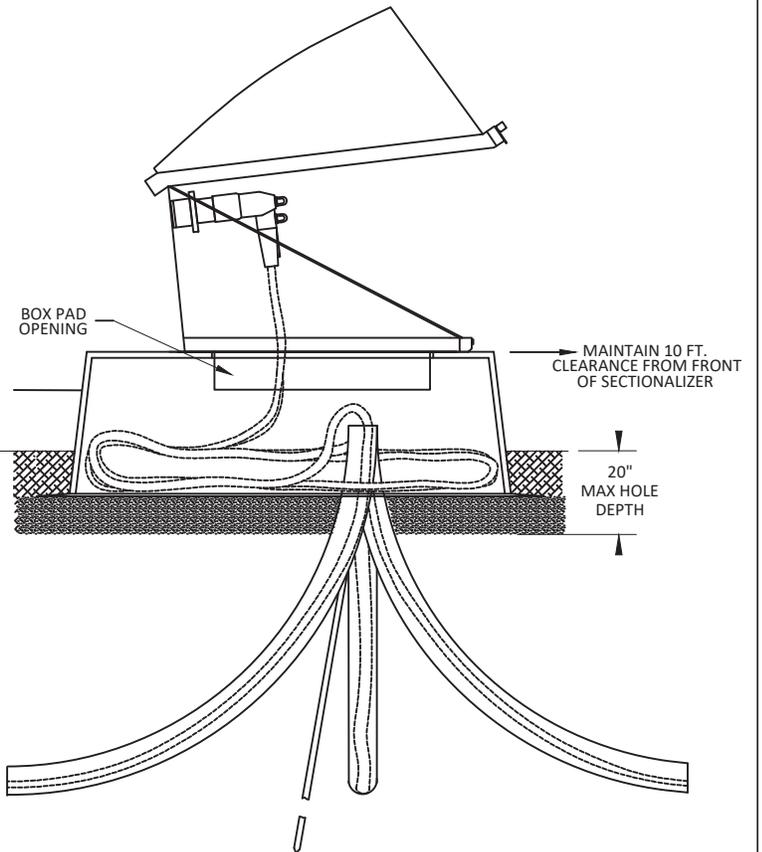
1PH PADMOUNT SECTIONALIZER

DIMENSIONS AND WIRING

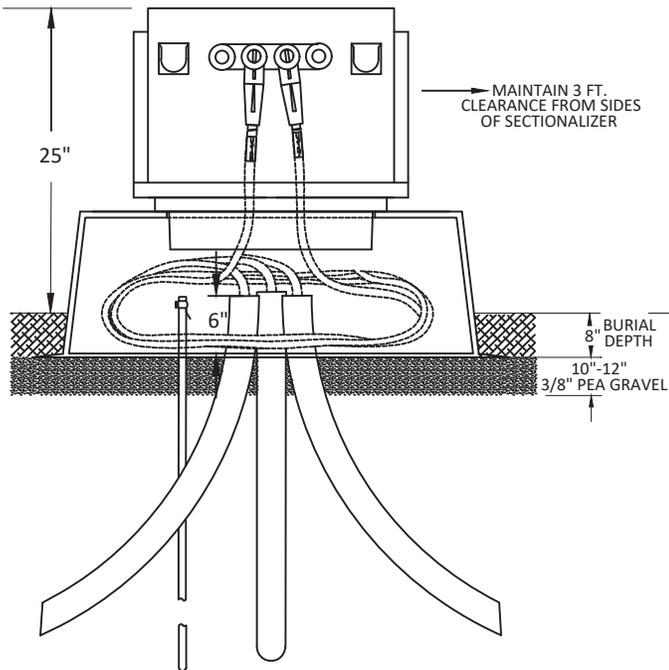
TOP VIEW



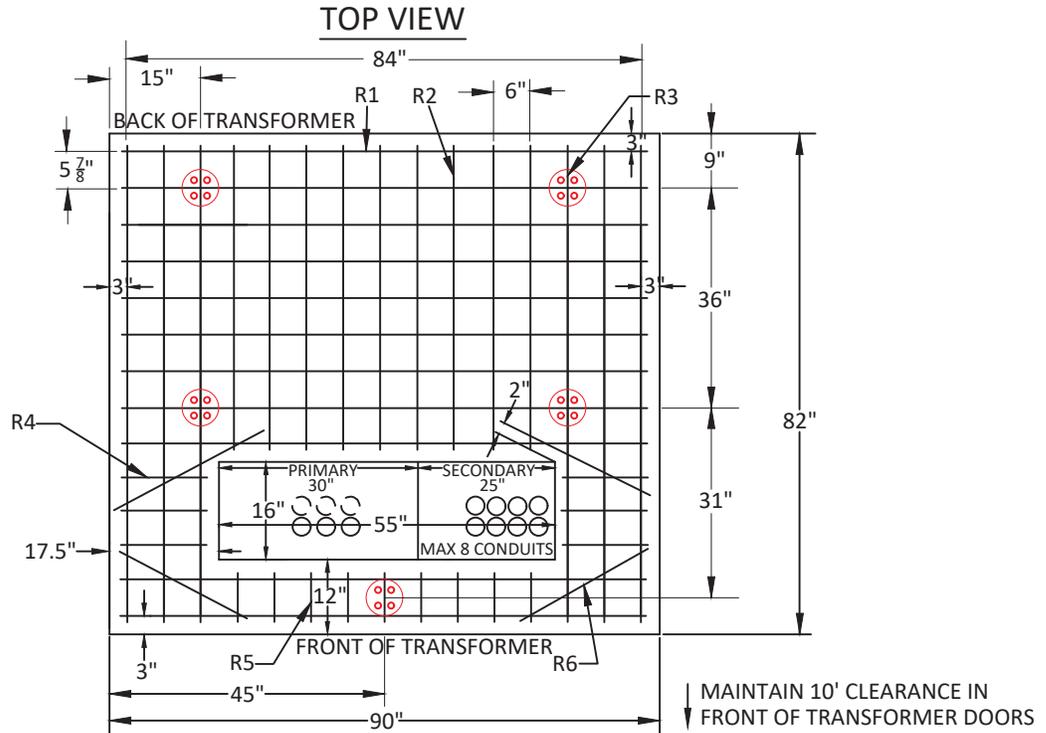
SIDE VIEW



FRONT VIEW

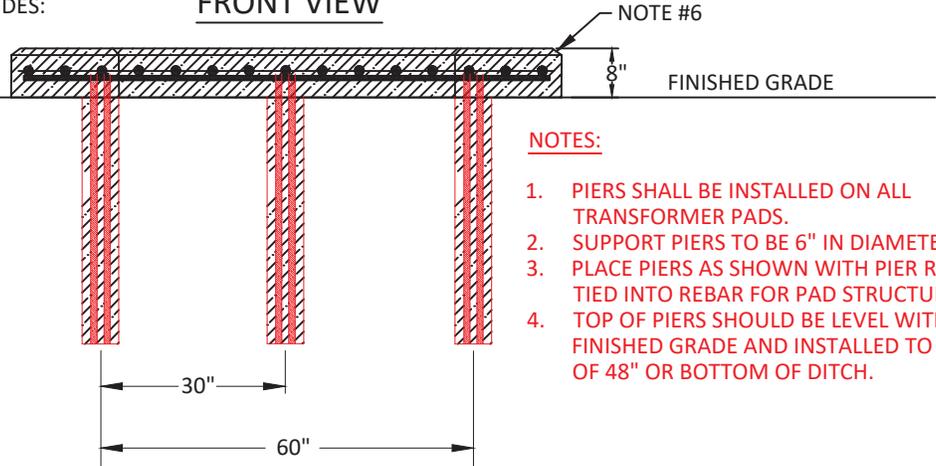


3PH TRANSFORMER PAD 45 - 750 KVA (UM3-A)



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.

FRONT VIEW



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

SEE NOTE #3

NOTES:

1. PIERS SHALL BE INSTALLED ON ALL TRANSFORMER PADS.
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.

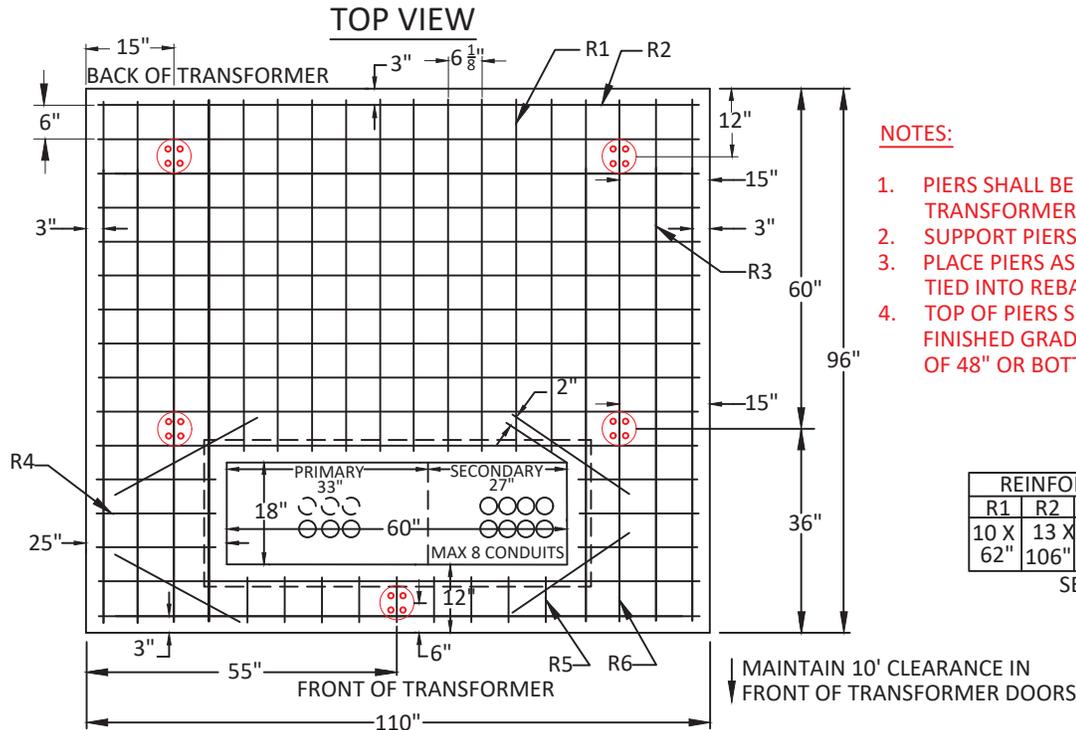


Drawn: SF	Approved: Coordinators	Date: Feb. 11, 2022
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UNDERGROUND DISTRIBUTION

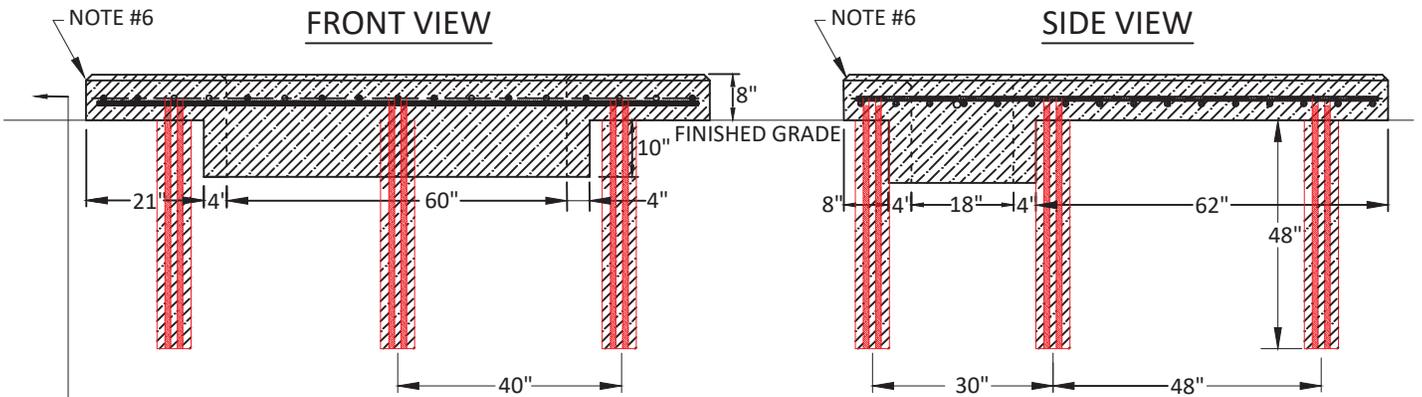
B-5

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



NOTES:

1. PIERS SHALL BE INSTALLED ON ALL TRANSFORMER PADS.
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.



NOTE #6

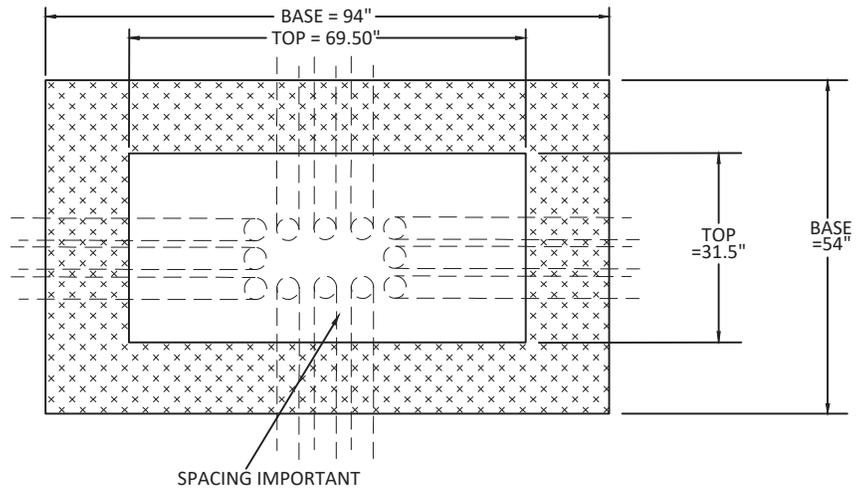
MAINTAIN CLEARANCE FROM TRANSFORMER SIDES:
 OTHER TRANSFORMERS - 5 FT.
 NON-COMBUSTIBLE WALLS - 5 FT.
 COMBUSTIBLE WALLS:
 0 TO 75 KVA - 10 FT.
 >75 KVA - 20 FT.

NOTES:

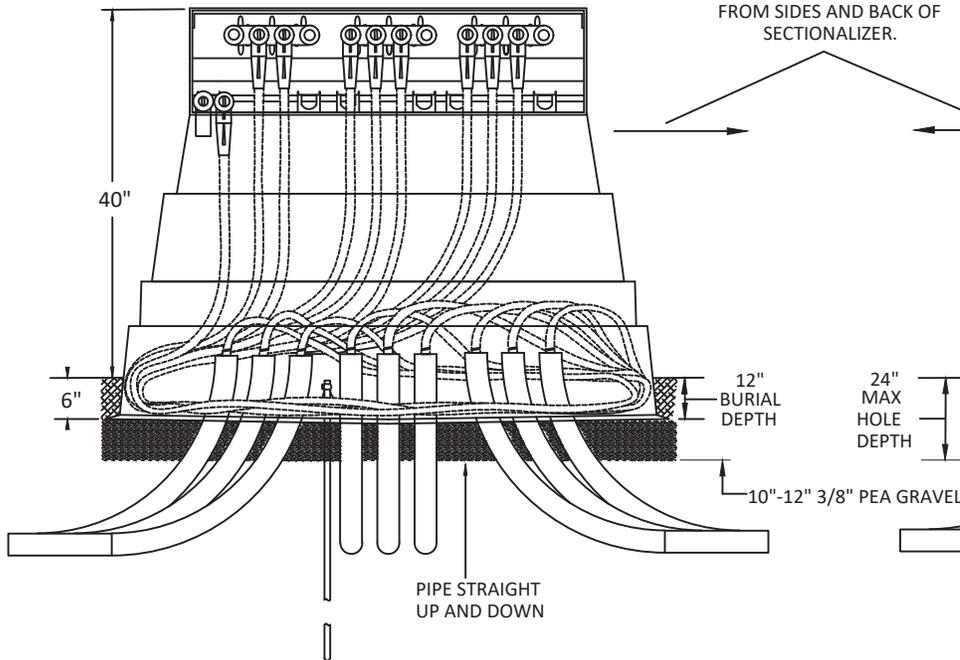
1. TAMP GROUND UNDER PAD BEFORE SETTING TO PREVENT UNEVEN SETTLING.
2. CONCRETE: 3000 POUNDS MIN. PER SQUARE INCH; 4% TO 6% ENTRAINED AIR, 3/4" MAX. SIZE AGGREGATE.
3. REINFORCING STEEL: ATSM-A615 GRADE 60; EVENLY SPACE APPROXIMATELY 6" O.C. EACH WAY AND SECURELY TIED TOGETHER.
4. MINIMUM 2 INCH CONCRETE 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.

3PH 600A SECTIONALIZER - DIMENSIONS

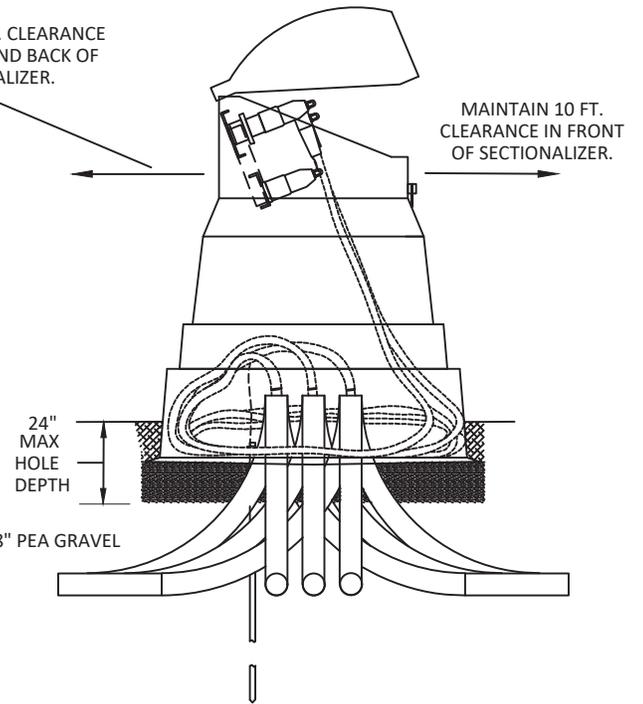
TOP VIEW



FRONT VIEW

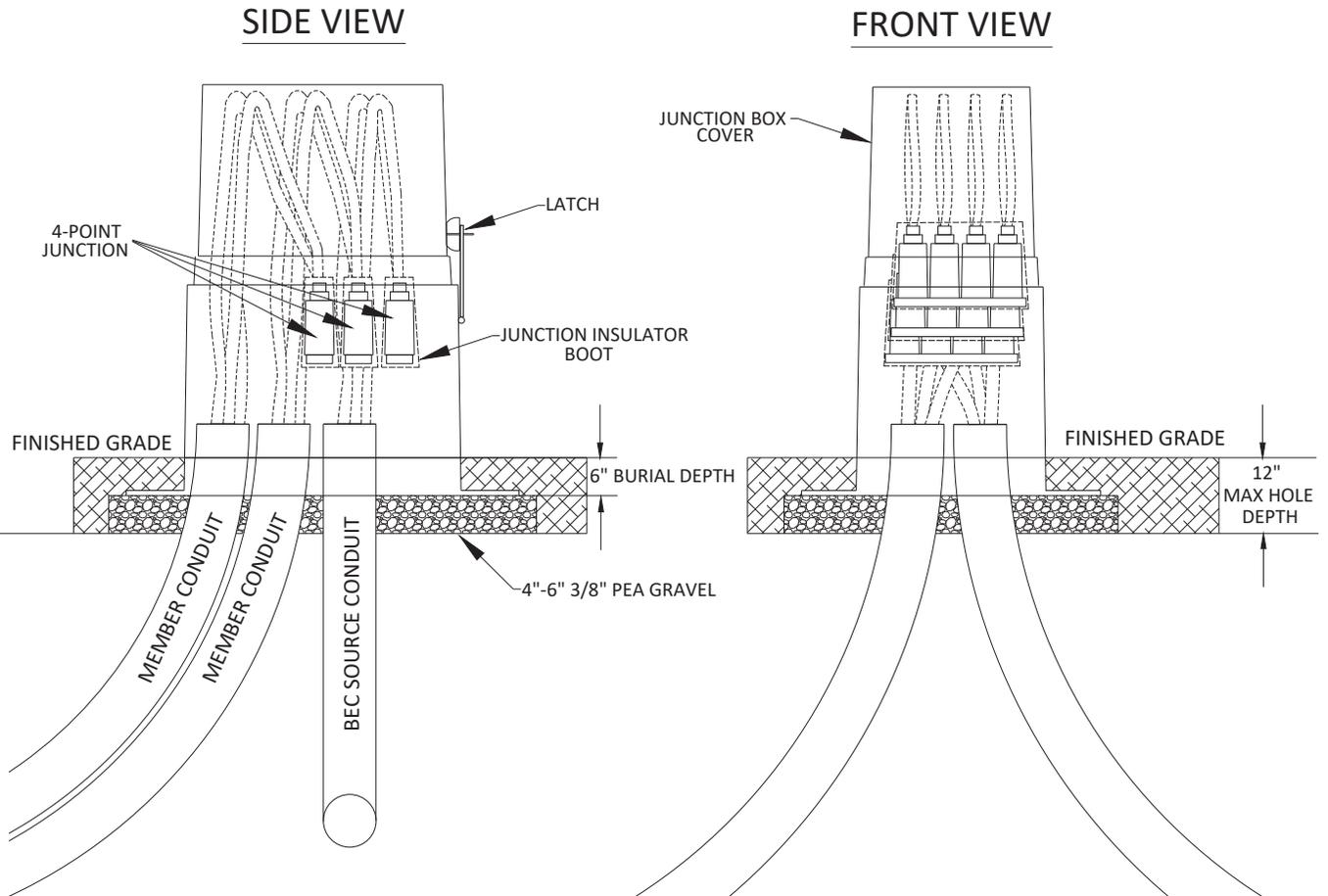


SIDE VIEW



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.

SECONDARY JUNCTION BOX CONSTRUCTION STANDARD



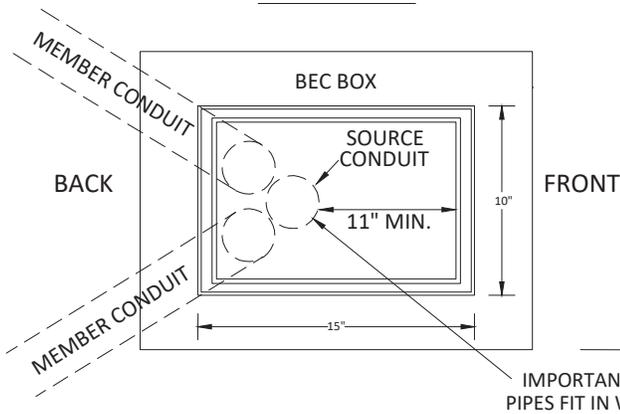
NOTES:

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

SECONDARY JUNCTION BOX DIMENSIONS

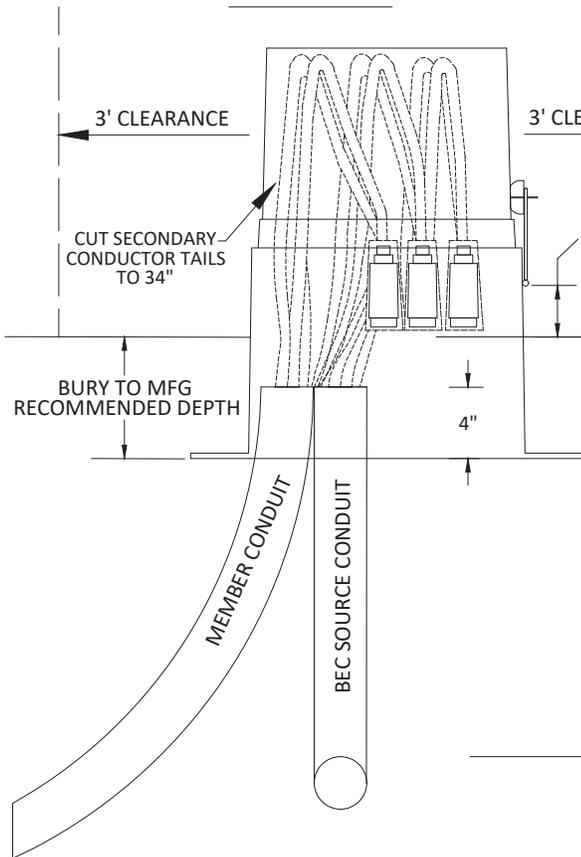
TOP VIEW



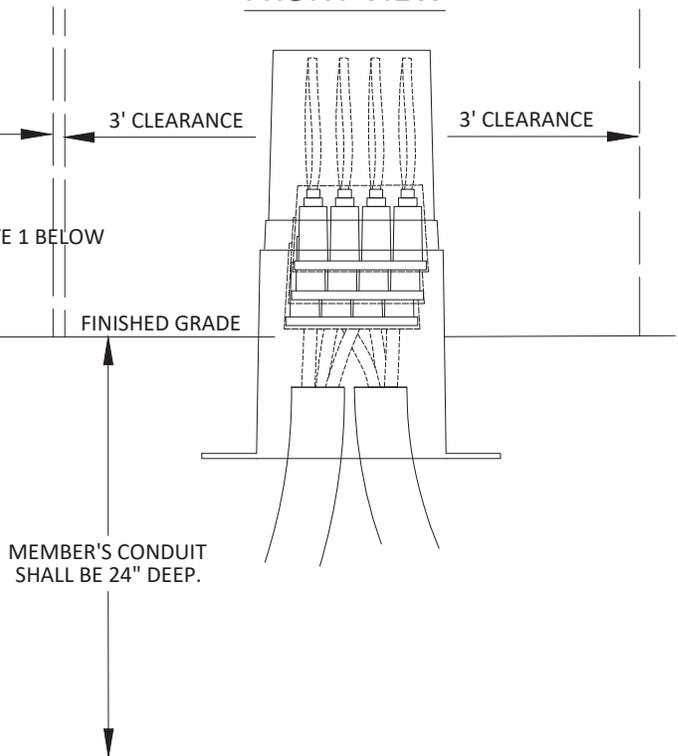
MEMBER SHALL PROVIDE 2" OR 3" SCH 40 PVC CONDUIT ELBOW WITH 10' OF ADDITIONAL CABLE RUN.

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

SIDE VIEW



FRONT VIEW

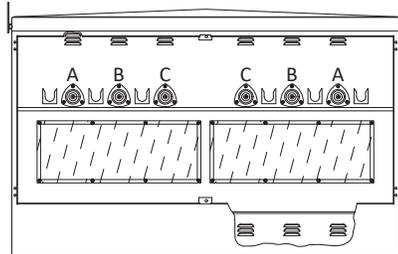


NOTES:

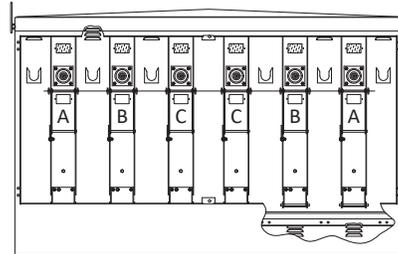
1. LATCH AND LOCK SHALL REMAIN ABOVE GROUND LEVEL.
2. MAINTAIN 3FT CLEARANCE FROM ALL SIDES OF JUNCTION BOX.

USGE-9 SWITCHGEAR CONSTRUCTION STANDARD

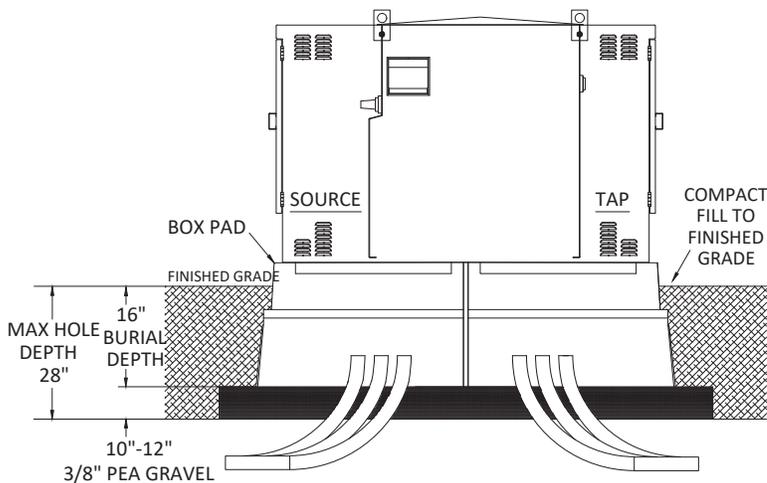
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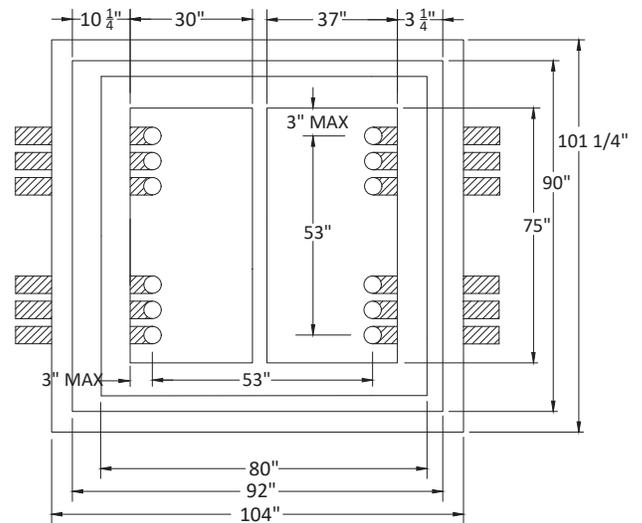
TAP



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 lbs	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 lbs	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

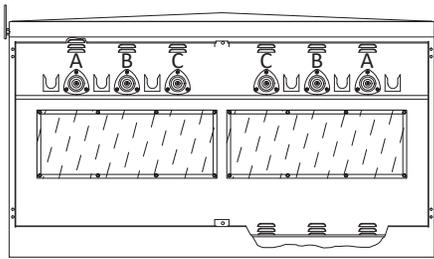


DATE APPROVED:
June 24, 2025

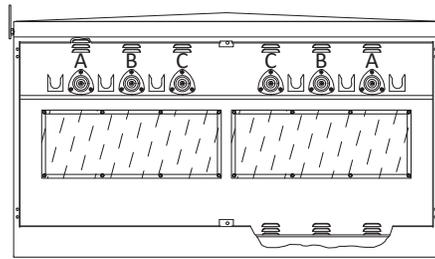
UNDERGROUND DISTRIBUTION

USGE-10 SWITCHGEAR CONSTRUCTION STANDARD

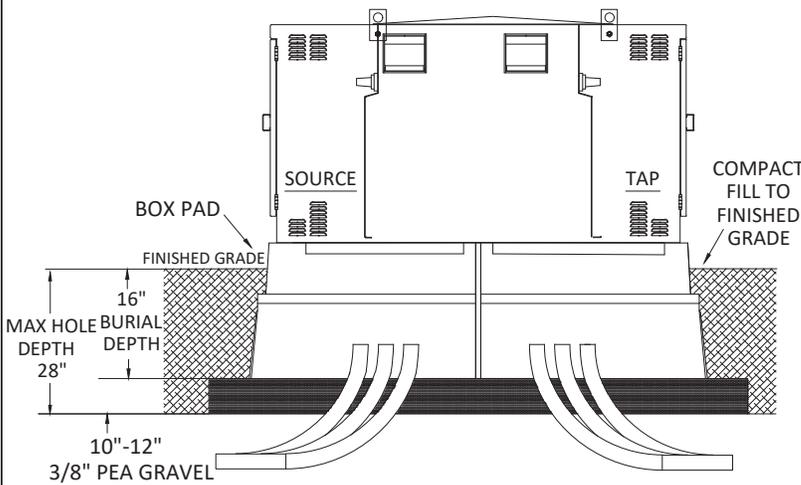
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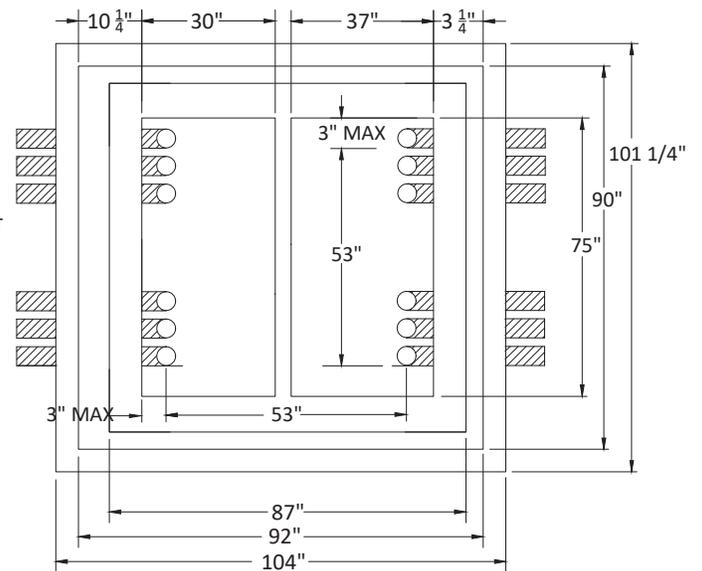
TAP



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 lbs	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 lbs	WIRE, COPPER BARE 4/0 19 STR L

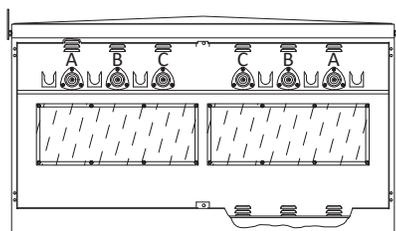


DATE APPROVED:
JUNE 24, 2025

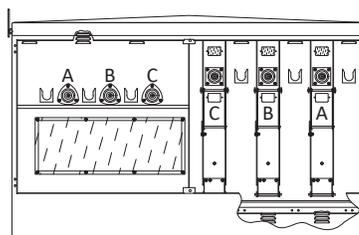
UNDERGROUND DISTRIBUTION

USGE-11 SWITCHGEAR CONSTRUCTION STANDARD

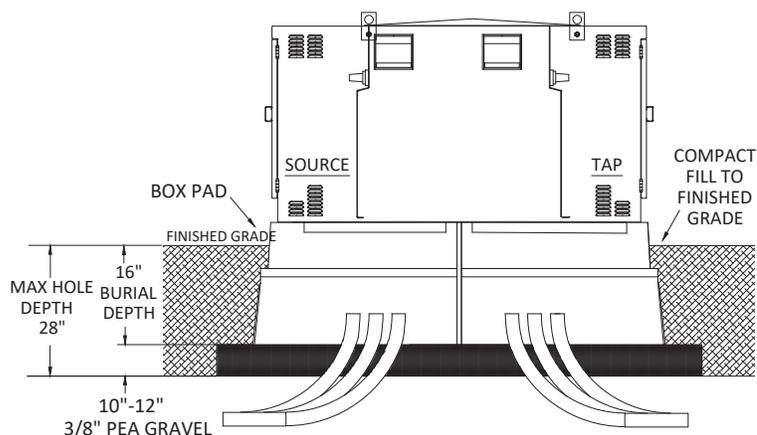
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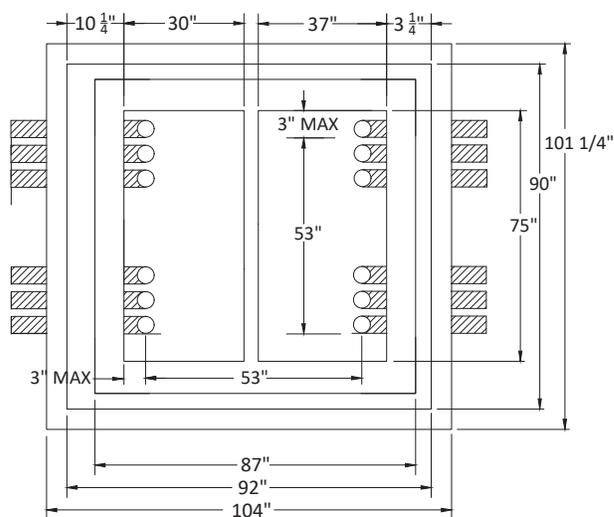
TAP



FRONT



TOP VIEW



BEC STK#:	QTY:	MATERIAL USGE-11:
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 lbs	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 lbs	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



DATE APPROVED:
JUNE 24, 2025

UNDERGROUND DISTRIBUTION

Metering Guidelines

Latest Update to all specs can be found at Bluebonnetelectric.coop

For the member's safety, wiring installation and material shall conform to the requirements of the NEC, TDLR and NESC. All Wiring Installations must also meet local guidelines, if applicable, set forth but the city, county, or other governing entity in the event these requirements are more stringent than Bluebonnet specifications.

General Notes

Applicable to All Specs

1. Weatherproof fittings are required for all connections.
2. The main electrical disconnect for each electrical service, if not mounted on a Bluebonnet pole or on an approved rack, shall be unenclosed and installed on the exterior of the building or approved structure in a location approved by Bluebonnet Electric Cooperative
3. Meter assembly must remain unenclosed on the exterior of a structure.
4. Meter assembly cannot be mounted on a mobile home.
5. Any part of a meter rack or equipment rack shall be a minimum of six feet from Bluebonnet poles or equipment, and shall not impede access for maintenance to Bluebonnet's poles or equipment.
6. Bluebonnet poles must remain free of structures and private attachments other than the meter loop/meter loop riser assembly.
7. Meter loops or risers shall be installed on pole by Bluebonnet.
8. All secondary connections are to be made by Bluebonnet.
9. Neutral(s) must be insulated and may only be reduced two sizes on residential applications. No reduction of the neutral(s) is allowed on commercial applications.
10. Each phase must be sized to accommodate the total main fuses or breakers installed
11. Electric service to fire pumps shall be served through a CT-metered service.
12. Where three-phase is used to provide single-phase service to individual occupants, the load must be balanced between all three phases as equally as possible. This applies whether the single phase services are individually metered or not.
13. For all jobs requiring excavation, including rack or underground, the individual or contractor performing the work shall call TEXAS811 for locating jobs before digging to Bluebonnet equipment. No private utilities will be located.
14. Mobile Home Feeder Cables may not be used from Transformer or UJB to Meter unless the fourth (Green or Bare) Ground wire can be and is removed before installing.
15. If Communication lines are present, 43" of clearance must be maintained between the lowest energized equipment and communication line. Equipment includes but is not limited to drip loops, neutral, transformers, etc.

CT Metering Notes

Applies to: MS-112B1, MS-112B3, MS-113B1, MS-113B3, MS-114A1, MS-114B3, MS-115-1, MS-115-3, MS-202A1, MS-202B3, MS-204B1, MS-204B2, MS-204B3, MS-207B, MS-301B, MS-301C, MS-406A, MS-533-1, MS-533-3, MS-554-1, MS-554-3

1. CT Enclosures may be purchased from Techline **(512-332-2978)** and Installed by Member:
Minimum Size 1 Phase: Main Enclosure 30" x 30" x 12"
Backup Enclosure 24" x 30" x 13"
Minimum Size 3 Phase: Main Enclosure 42" x 30" x 13"
Backup Enclosure 24" x 30" x 13"
2. CT enclosures may be purchased at any supplier as long as it meets the minimum dimensions and is able to accommodate a Bluebonnet pad lock.
3. Bluebonnet to provide CTs.
4. The electrical contractor will notify Bluebonnet 72 hours in advance to schedule Bluebonnet personnel to deliver the CT's. The electrician shall install the CT's on the rack with the correct polarity before the conductor is brought through the CT enclosure. Call **(800-842-7708)** to schedule a connect.
5. Electric service to fire pumps shall be served through a CT-metered service.

Standby Generator Notes

Applies to: MS-400, MS-401, MS-401A, MS-402, MS-402A, MS-403, MS-404, MS-405, MS-406, MS-406A, MS-407, MS-408, MS-412

1. Generators shall be placed a minimum of 15' away from Bluebonnet's pole(s) and/or equipment and outside of Bluebonnet's easement.
2. Transfer switches may be on Bluebonnet pole, only if they are in place of a main panel. They may not be in addition to a panel.
3. Any transfer switch that serves as a main (first device past meter) must be service rated
4. Generators must be connected with a dedicated transfer switch. Breaker interlocks are not acceptable.
5. Portable generators may be connected to an inlet through a transfer switch.
6. Transfer switches that plug into the meter base are not acceptable.

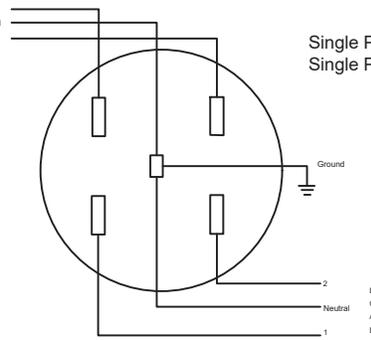
Renewable Energy Connection Notes

Applies to: MS-501, MS-502, MS-507T, MS-553-1, MS-553-3, MS-554-1, MS-554-3, MS-41115, MS-41119

1. The solar and/or battery disconnect(s), if not mounted on an approved rack, shall be installed on the exterior of the building or approved structure in a location approved by Bluebonnet Electric Cooperative.
2. DG disconnect must be clearly labeled and identified.
3. Bluebonnet poles must remain free of structures and private attachments other than the meter loop assembly or riser.
4. Inspection may be required by local jurisdiction if applicable.
5. DG meter or equipment rack (If Applicable) shall be a minimum of 6' away from Bluebonnet's poles and/or equipment.
6. Any installation with Batteries are required to have an accessible disconnect or method of shutdown to disable batteries.

SELF CONTAINED (200 AMPS OR LESS)

L
I
N
E



Form 2s

Single Phase 3 Wire 120 - 240 Volt
Single Phase 3 Wire 240 - 480 Volt

Meter Specs:

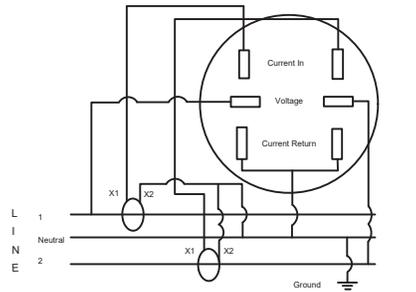
- MS-10115
- MS-10119
- MS-102
- MS-103MT
- MS-103WT
- MS-105
- MS-106
- MS-106A
- MS-201
- MS-206
- MS-207
- MS-303

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D

CT. RATED (LARGER THAN 200 AMPS)

Form 4s

Single Phase 3 Wire 120 - 240 Volt Over 400 Amp



Meter Specs:

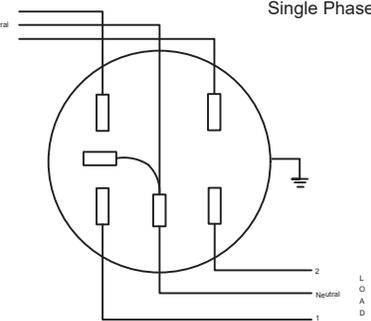
- MS-107MT
- MS-107WT
- MS-112B1
- MS-113B1
- MS-114A1
- MS-115-1
- MS-201A1
- MS-204B1

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Form 12s

Single Phase 3 Wire 120 - 208 Volt Wye

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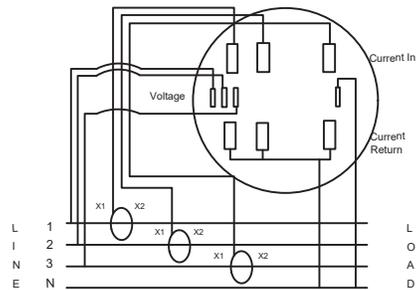
Meter Specs:

- MS-10115
- MS-10119
- MS-102
- MS-103MT
- MS-103WT
- MS-105
- MS-106
- MS-106A
- MS-207B
- MS-303

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Form 9s

Three Phase 4 Wire 120 - 208 Volt Wye
Three Phase 4 Wire 120 - 240 Volt Delta
Three Phase 4 Wire 277 - 480 Volt Wye



Meter Specs:

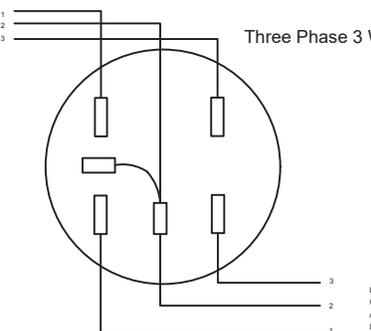
- MS-112B3
- MS-113B3
- MS-114B3
- MS-115-3
- MS-202B3
- MS-204A3
- MS-204B3

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Form 12s

Three Phase 3 Wire Straight 480 Volt Delta

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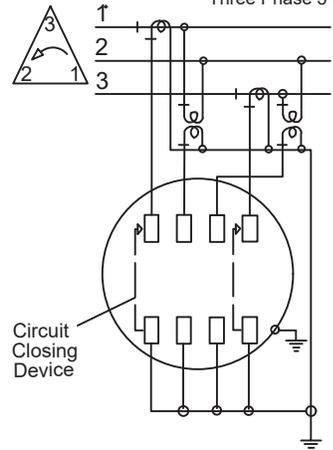
Meter Specs:

- MS-10115
- MS-10119
- MS-102
- MS-103MT
- MS-103WT
- MS-105
- MS-106
- MS-106A
- MS-301A

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Form 45s

Three Phase 3 Wire Straight 480 Volt Delta



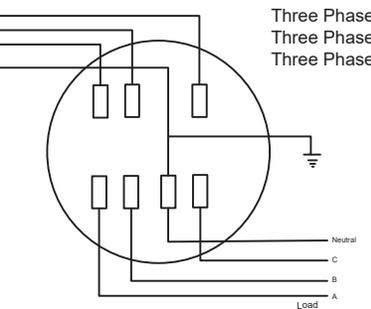
Meter Specs:

- MS-301B
- MS-301C

Form 16s

Three Phase 4 Wire 120 - 208 Volt Wye
Three Phase 4 Wire 120 - 240 Volt Delta
Three Phase 4 Wire 277 - 480 Volt Wye

C
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A
Neutral



Meter Specs:

- MS-10115
- MS-10119
- MS-102
- MS-103MT
- MS-103WT
- MS-105
- MS-106
- MS-106A
- MS-201
- MS-207
- MS-303

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METER BASES



drawn:	approved:	date:
JW	Standards	Jan. 30, 2024

Notes:

1. 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.
2. Bluebonnet Electric will supply ground rod.
3. On steel poles use a 3/8" X 1 1/2" self tapping screw.
4. 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.
5. See "Metering Guidelines" for all other applicable notes.

FOR SINGLE PHASE TRAFFIC CONTROL DEVICES:

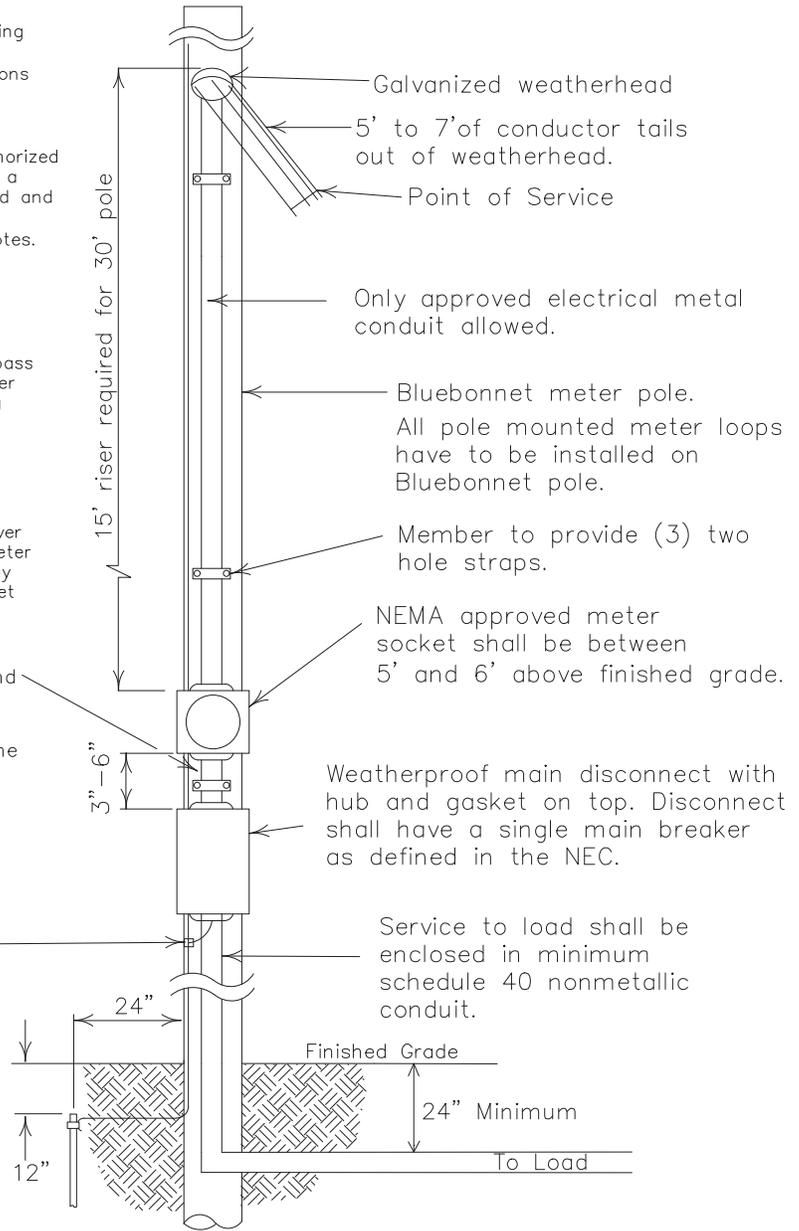
200amp, 4 terminal, 1-phase, will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R rating. Lever by-pass is only required for meter installations serving traffic control devices, including railroad, that need to remain functional at all times.

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.

Galvanized metal conduit with (1) locknut and insulating 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.



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:

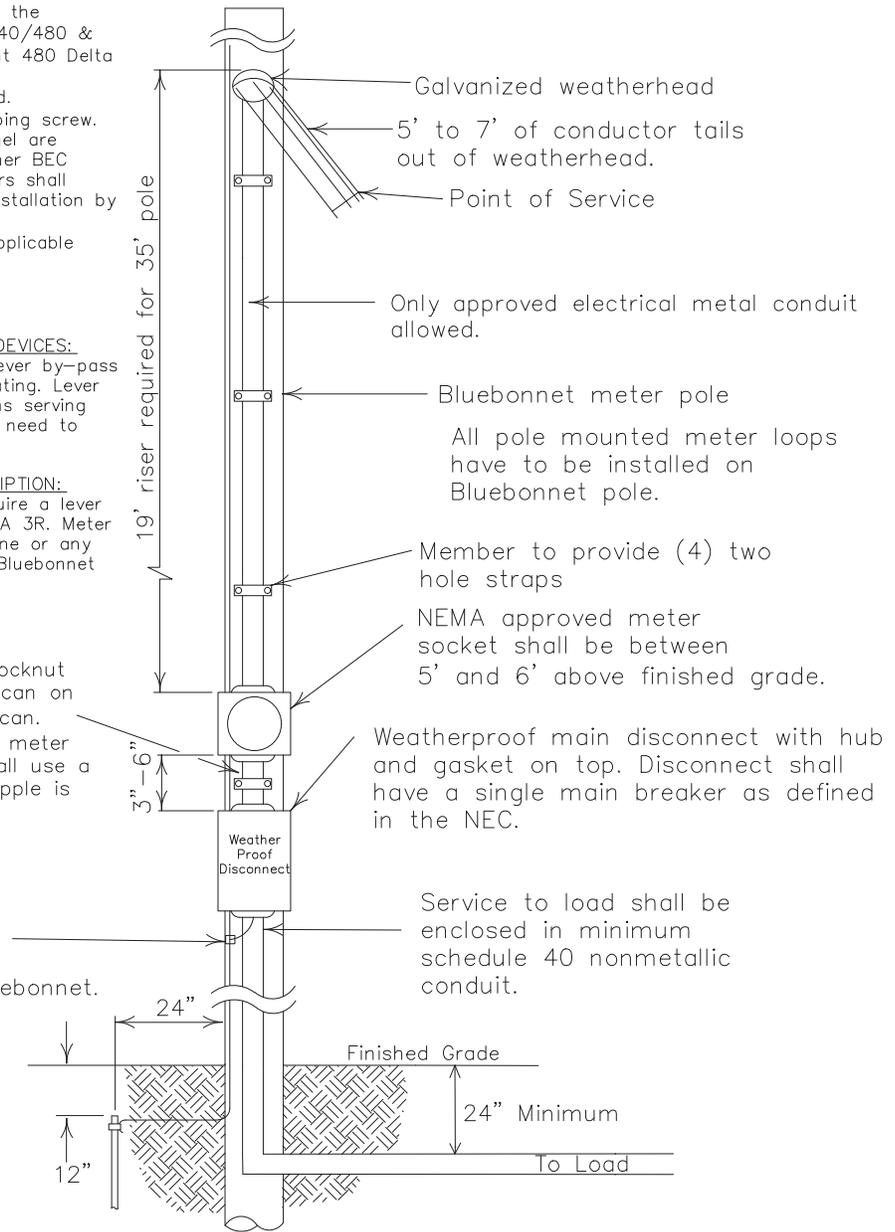
1. This meter loop specification is good for the following voltages: 120/240, 120/208, 240/480 & 277/480. Please use MS-301 for straight 480 Delta applications only.
2. Bluebonnet Electric will supply ground rod.
3. On steel poles use a 3/8" X 1 1/2" self tapping screw.
4. For your safety, only Bluebonnet 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.
5. See "Metering Guidelines" for all other applicable notes.

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.

Galvanized metal conduit with (1) locknut and insulating 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.



All pole mounted meter loops have to be installed on Bluebonnet pole.

Weatherproof main disconnect with hub and gasket on top. Disconnect shall have a single main breaker as defined in the NEC.

Service to load shall be enclosed in minimum schedule 40 nonmetallic conduit.

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

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

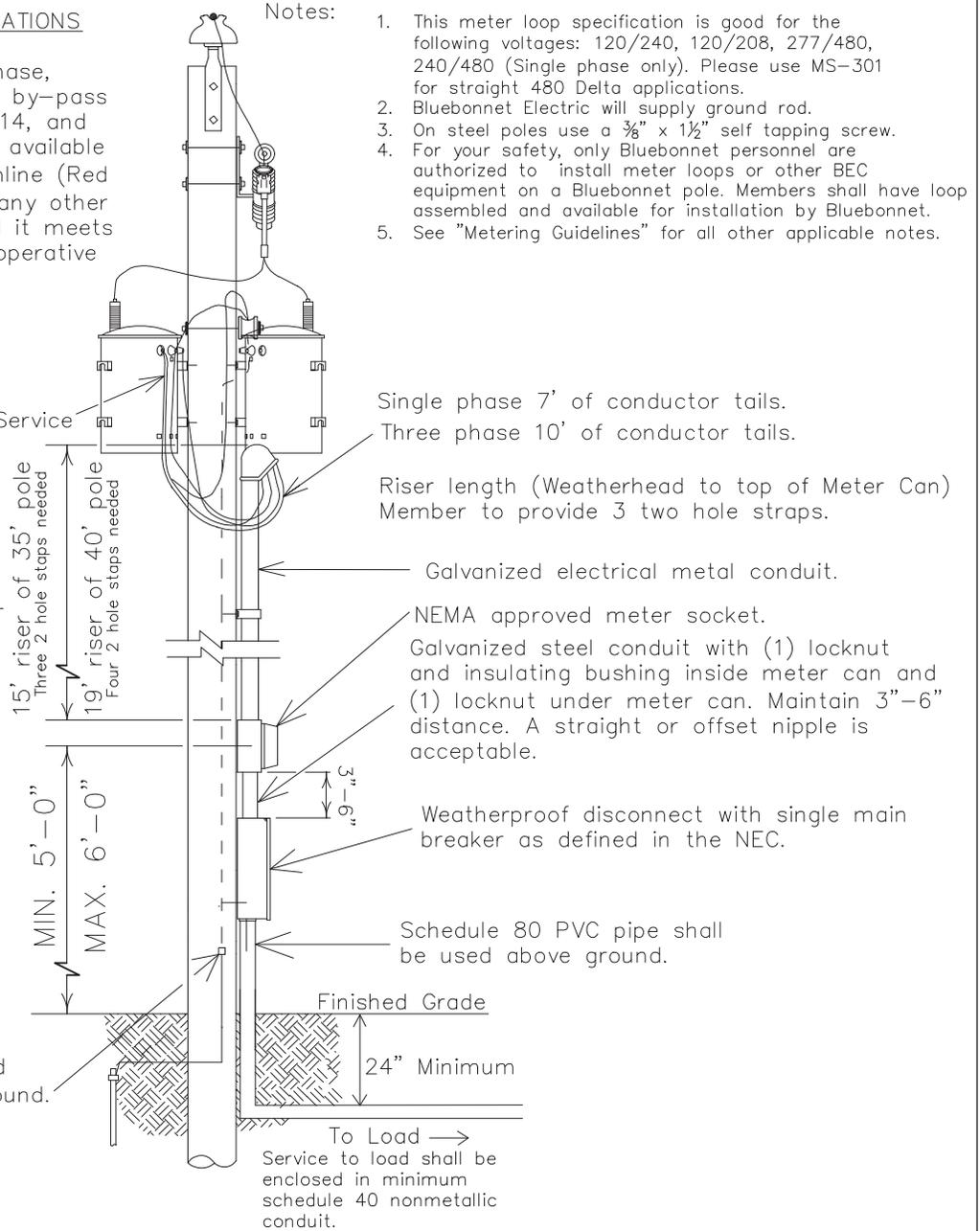
FOR THREE PHASE APPLICATIONS
DESCRIPTION:

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.

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



CURRENT CARRYING CAPACITIES AND CONDUIT/NIPPLE SIZE REQUIREMENTS OF STANDARD WIRE SIZES
(RHH, RHW, THW, THWN, 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

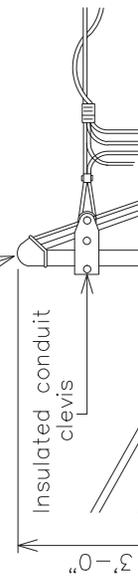
1Ø OR 3Ø 60-200 AMP METER LOOP ON TRANSFORMER POLE



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

- Notes:
1. Wire sized to total disconnect size. (See Chart Below)
 2. Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from openings.
 3. Member to provide a secure and reinforced point to connect service attachment.
 4. See "Metering Guidelines" for all other applicable notes.

Weatherhead (Metal)



2" X 4" blocking between rafters must be solidly installed.

3' of conductor tails out of weatherhead

Service mast shall be galvanized rigid steel conduit (only).

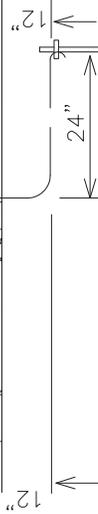
NEMA approve meter socket

Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.

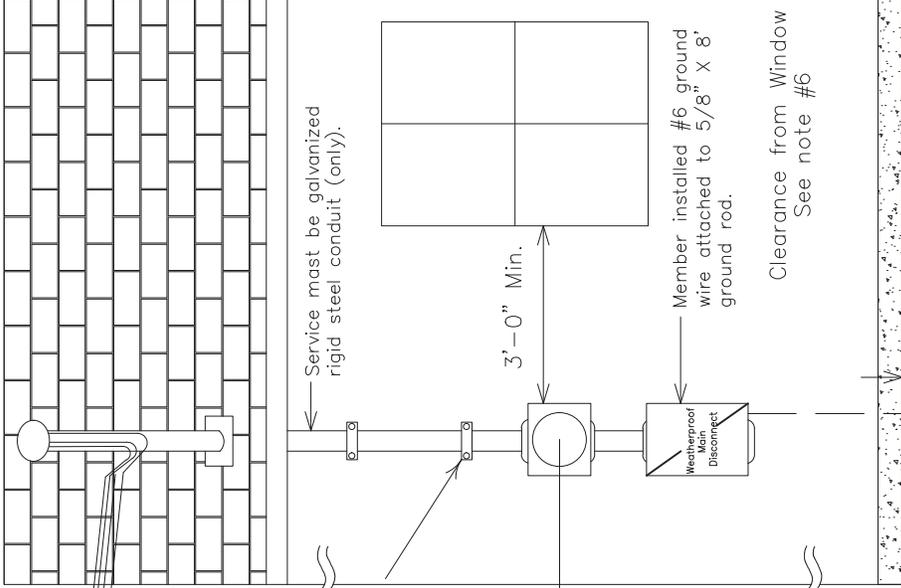
Weatherproof disconnect with single main breaker as defined in the NEC.

Member installed #6 ground wire attached to 5/8" X 8' ground rod.

Finished Grade



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 Technline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
Technline (512-332-2978)



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

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

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

10 OR 3Ø 60-200 AMP METER LOOP ON BUILDING, MAST TYPE

Checked By: MS COMMITTEE
MS COMMITTEE
Date: 11-04-21

Drawn By: RG
Scale: NONE

Approved By: MS COMMITTEE
MS-103MT

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.
- Wire sized to total disconnect sizes. (See Chart Below)
- 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.
- See "Metering Guidelines" for all other applicable notes.

Ⓐ 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.

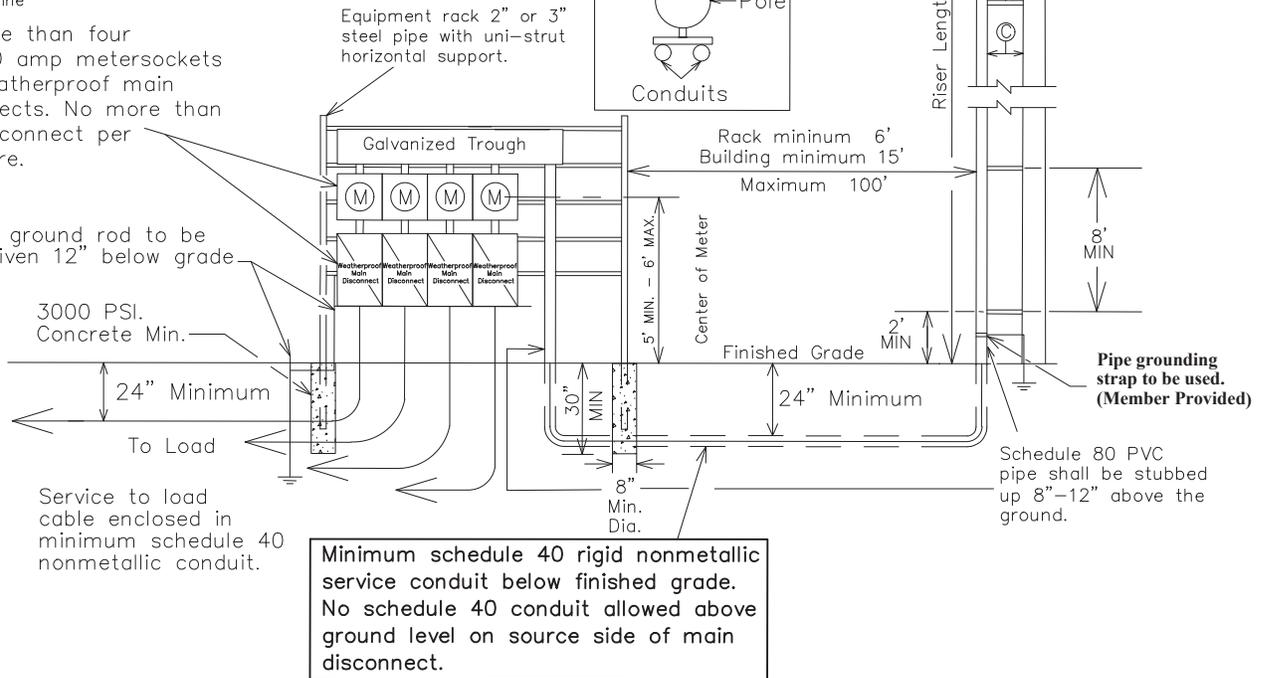
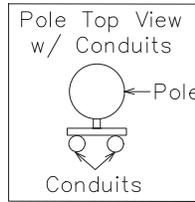
FOR THREE PHASE APPLICATIONS

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 any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications. Techline

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

RISER ONLY

Only 2", 3", or 4" approved electrical metal conduct 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)



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	CONDUIT/NIPPLE SIZE
#6	60 AMP	1¼" CONDUIT	#4	60 AMP	1¼" CONDUIT
#4	100 AMP	1¼" CONDUIT	#2	100 AMP	1¼" CONDUIT
#2	125 AMP	1½" CONDUIT	#1/0	125 AMP	1½" 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 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.	Scale :	Date :	
11-04-2021	ADDED MAIN BREAKER NOTE.	NONE	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.

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

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.

Notes:

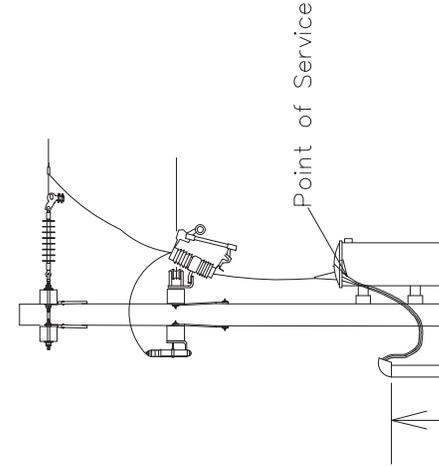
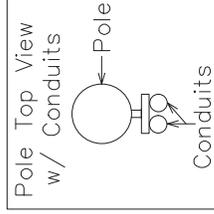
- #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
- See 'Metering Guidelines' for all other applicable notes.

(A)

Riser Length:

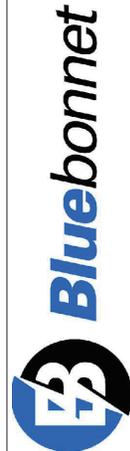
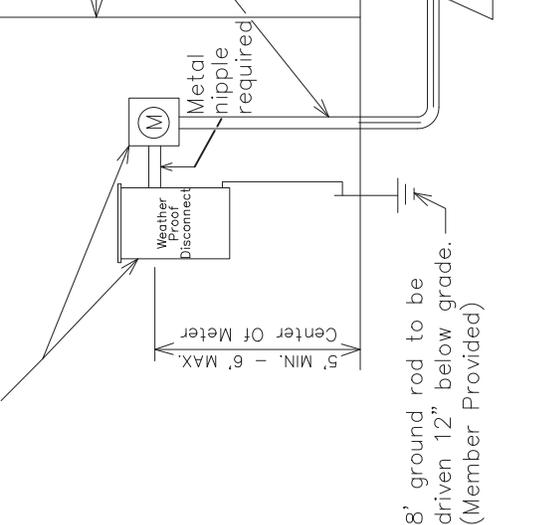
35' Pole = 20' Riser

40' Pole = 24' Riser



BUILDING OR RESIDENCE

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



1Ø OR 3Ø 60-200 AMP
METER ON BUILDING OR RACK

DATE	REVISIONS
03-29-2018	MOVED DISCONNECT TO THE SIDE OF METER
11-19-2019	ADDED SOLID COPPER NOTE
11-04-2021	ADDED MAIN BREAKER NOTE

Drawn By : CV	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
Scale : NONE	Date : 11-04-2021	MS-106

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	
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

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.

Notes:

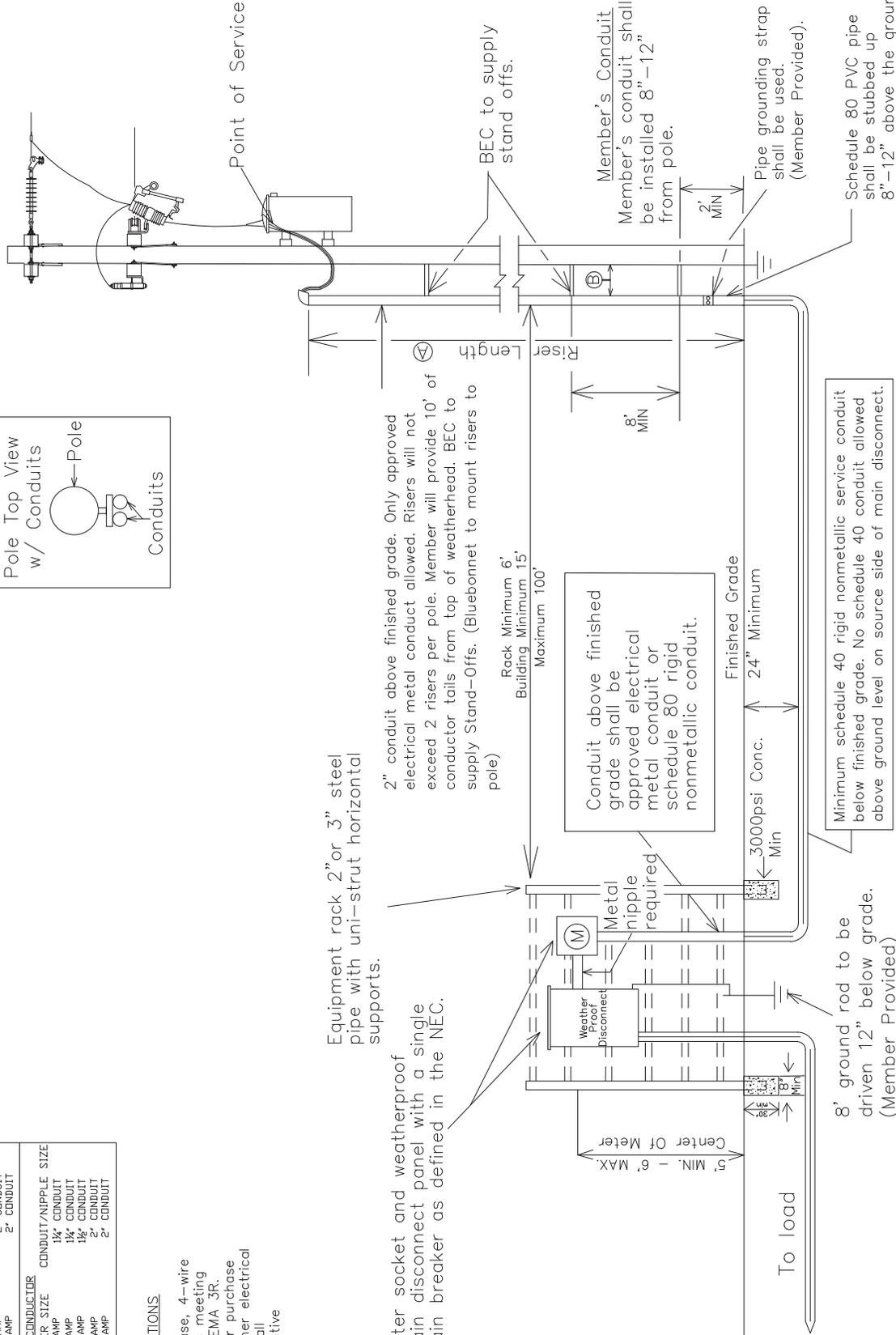
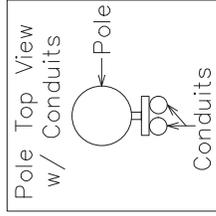
- #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
- See "Metering Guidelines" for all other applicable notes.

(A)

Riser Length:

35' Pole = 20' Riser

40' Pole = 24' Riser



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

2" conduit above finished grade. Only approved electrical metal conduit allowed. 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)

Conduit above finished grade shall be approved electrical metal conduit or schedule 80 rigid nonmetallic conduit.

Minimum schedule 40 rigid nonmetallic service conduit below finished grade. No schedule 40 conduit allowed above ground level on source side of main disconnect.

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



1Ø OR 3Ø 60-200 AMP METER ON RACK	
DATE	REVISIONS
03-29-2018	MOVED DISCONNECT TO THE SIDE OF METER
11-19-2019	ADDED SOLID COPPER NOTE
11-04-2021	ADDED MAIN BREAKER NOTE

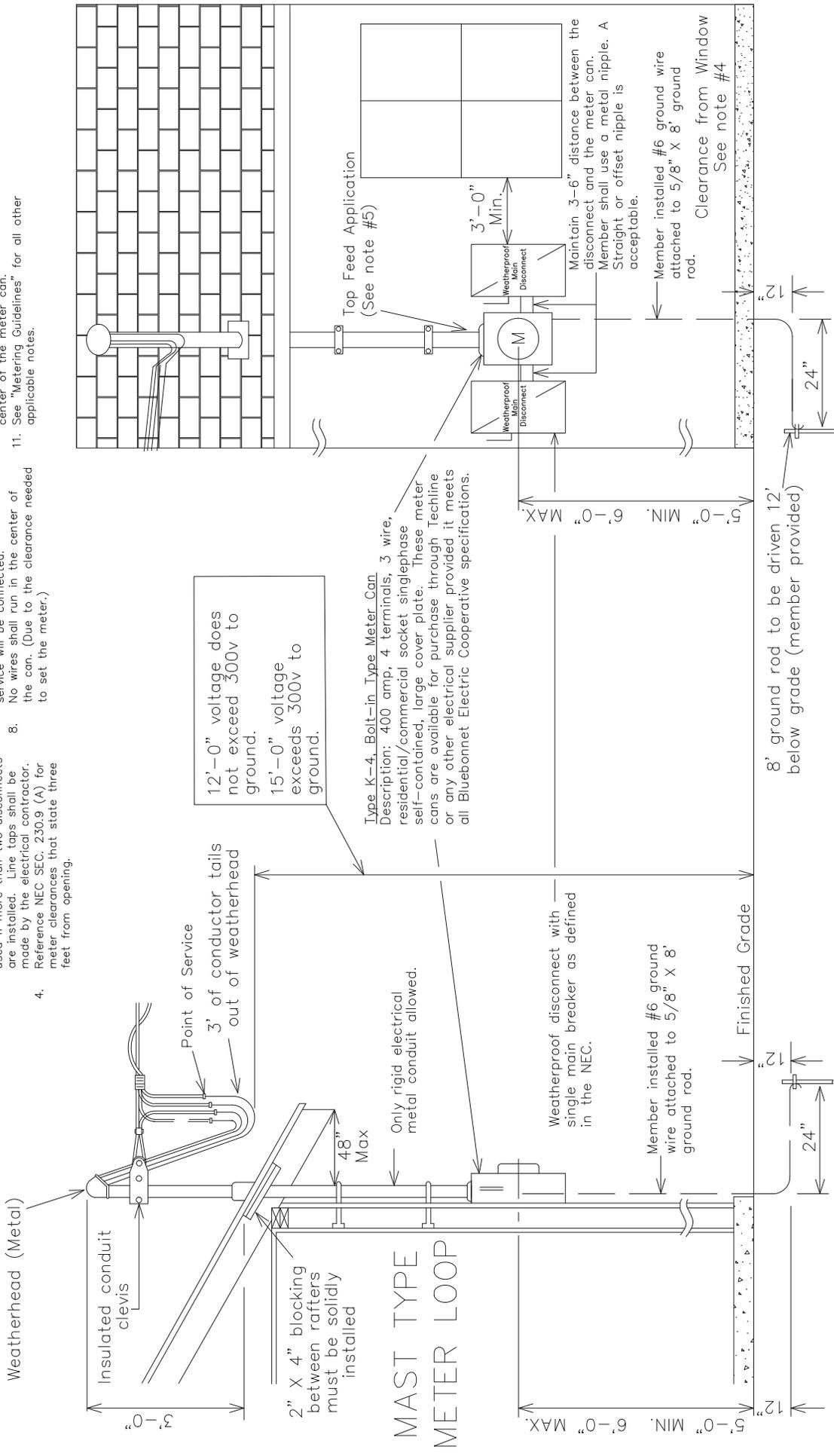
Drawn By :	DJ	Checked By :	Engineering	Approved By :	Standards
Scale :	NONE	Date :	06-27-2023		

MS-106A

- Main disconnect panel may not be used as an electrical race way. Any combination of six disconnects totaling no more than 400 amp. REF. NEC, SEC. 230.71.
- A galvanized trough will have to be used if more than two disconnects are installed. Line taps shall be made by the electrical contractor. Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from opening.
- All services entering the meter can from a riser will be top fed. Only 400 amp meter can is allowed. 320 amp meter cans are not allowed. A detailed load sheet shall be filled and returned to Bluebonnet before the service will be connected.
- No wires shall run in the center of the can. (Due to the clearance needed to set the meter.)

- Largest wire to be pulled in to the meter can is 500 MCM Copper.
- 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.
- See "Metering Guidelines" for all other applicable notes.

- Notes: 1. Main disconnect panel may not be used as an electrical race way. Any combination of six disconnects totaling no more than 400 amp. REF. NEC, SEC. 230.71.
- A galvanized trough will have to be used if more than two disconnects are installed. Line taps shall be made by the electrical contractor. Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from opening.
- All services entering the meter can from a riser will be top fed. Only 400 amp meter can is allowed. 320 amp meter cans are not allowed. A detailed load sheet shall be filled and returned to Bluebonnet before the service will be connected.
- No wires shall run in the center of the can. (Due to the clearance needed to set the meter.)



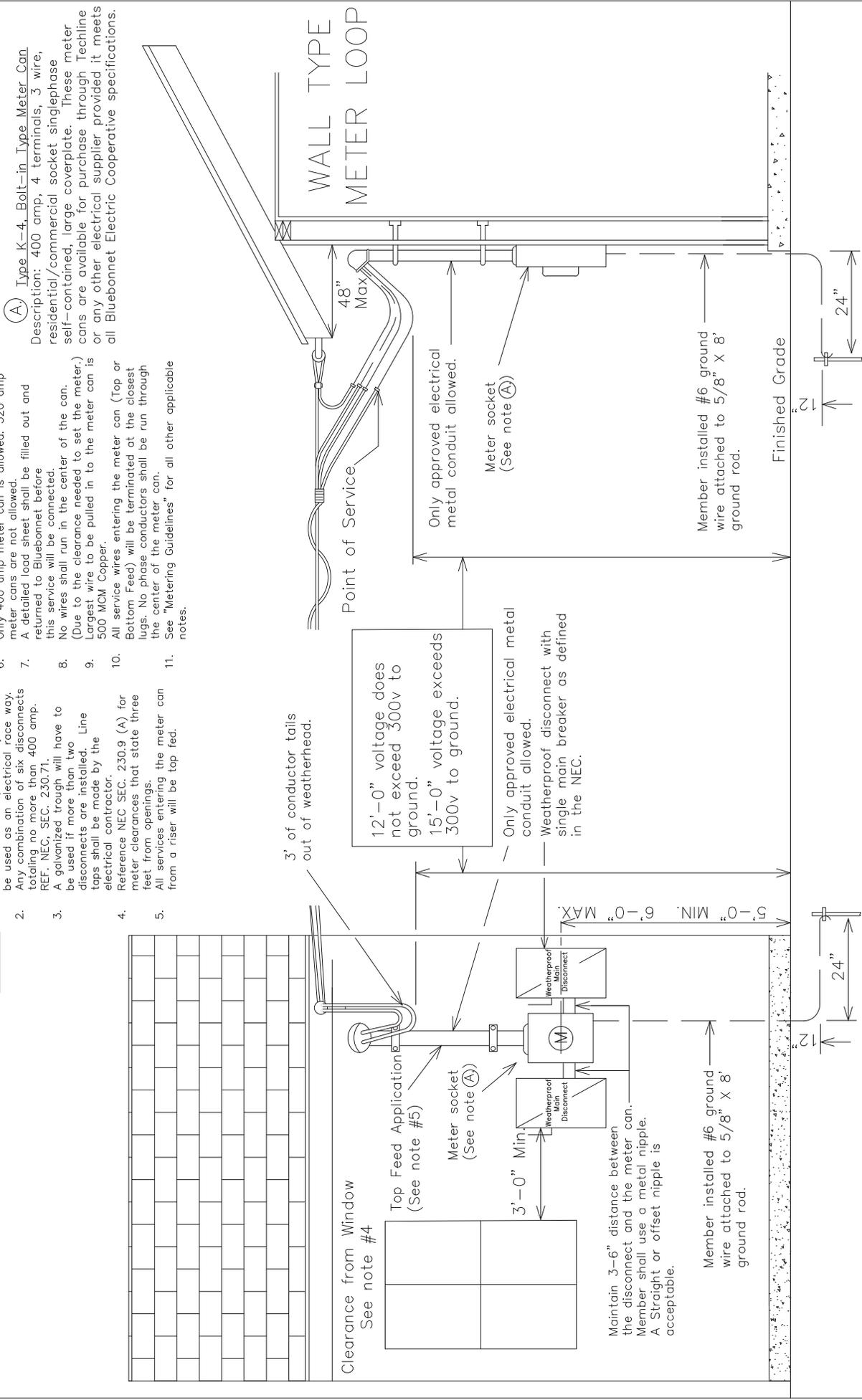
12'-0" voltage does not exceed 300v to ground.
15'-0" voltage exceeds 300v to ground.

Type K-4, Bolt-in Type Meter Can.
Description: 400 amp, 4 terminals, 3 wire, residential/commercial socket singlephase self-contained, large cover plate. These meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.

	1Ø 400 AMP SERVICE WITH METER LOOP ON BUILDING - MAST TYPE		Drawn By : BS	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE: 11/4/2021	REVISIONS ADDED MAIN BREAKER NOTE	Scale : NONE	Date: 11-04-2021	MS-107MT

Notes:

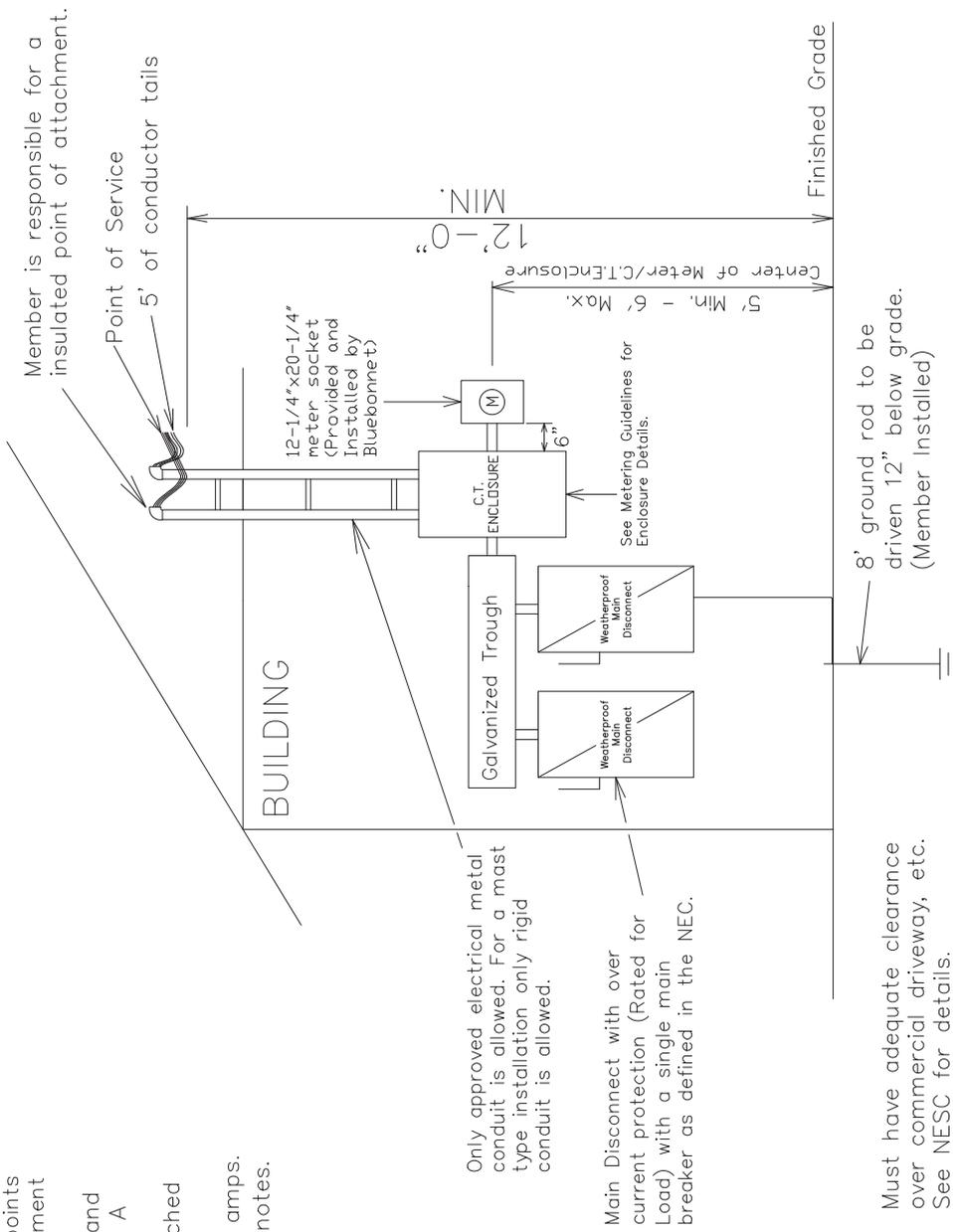
1. Main disconnect panel may not be used as an electrical race way.
2. Any combination of six disconnects totaling no more than 400 amp. REF. NEC, SEC. 230.71.
3. A galvanized trough will have to be used if more than two disconnects are installed. Line taps shall be made by the electrical contractor.
4. Reference NEC SEC. 230.9 (A) for meter clearances that state three feet from openings.
5. All services entering the meter can from a riser will be top fed.
6. Only 400 amp meter can is allowed. 320 amp meter cans are not allowed.
7. A detailed load sheet shall be filled out and returned to Bluebonnet before this service will be connected.
8. No wires shall run in the center of the can. (Due to the clearance needed to set the meter.)
9. Largest wire to be pulled in to the meter can is 500 MCM Copper.
10. 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.
11. See "Metering Guidelines" for all other applicable notes.



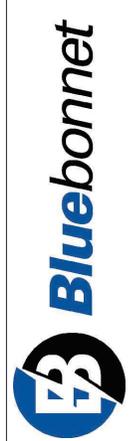
	1Ø 400 AMP SERVICE WITH METER LOOP ON BUILDING - WALL TYPE		Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE: 11-04-2021	REVISIONS Added Main Breaker Note	Scale : NONE	Date: 11-04-2021	MS-107WT

Notes:

1. When more than (1) disconnect is used, a galvanized trough system shall be installed.
2. Line taps shall be made in the galvanized wire trough by the electrical contractor. (See Article 310.10 (H) Per NEC).
3. (2) disconnects can 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. Bluebonnet to install meter can, meter and current transformers unless there will be multiple metering points from the trough. Contact the support service department on this type of installation.
6. Maintain 3”-6” distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
7. #6 solid, bare ground copper wire and clamp attached to Bluebonnet’s pole ground
8. Total disconnect’s will not exceed a total of 800 amps.
9. See “Metering Guidelines” for all other applicable notes.



Must have adequate clearance over commercial driveway, etc. See NESC for details.

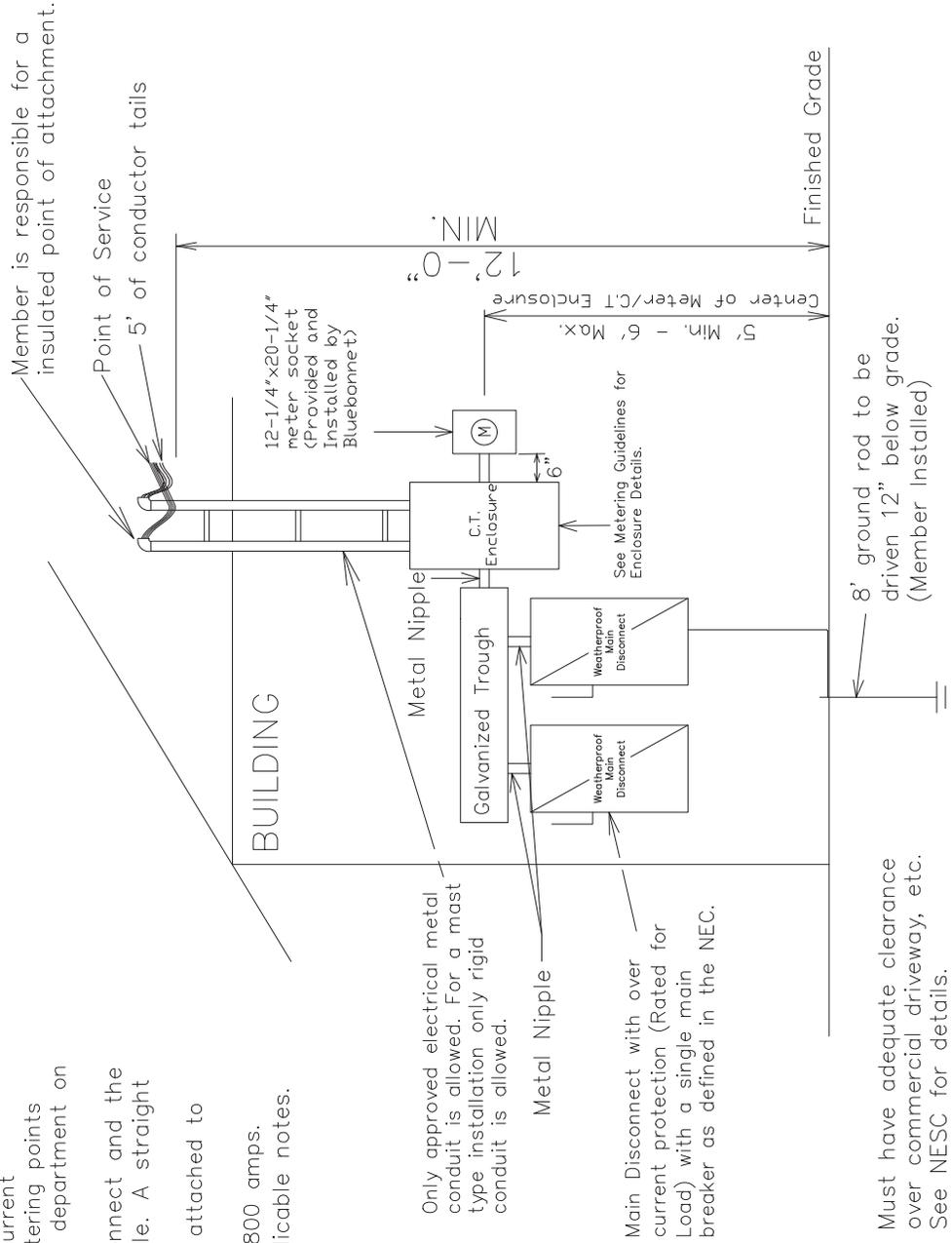


1 PHASE >400-600 AMP SERVICE ON BUILDING WITH CT METERING ON BUILDING OR RACK	
DATE	REVISIONS
11-19-2019	Added #6 copper note.
11-04-2021	Added Main Breaker Note

Drawn By :	RG	Checked By :	MS COMMITTEE	Approved By :	MS COMMITTEE
Scale :	NONE	Date :	11-04-2021		MS-112B1

Notes:

1. When more than (1) disconnect is used, a galvanized trough system shall be installed.
2. Line taps shall be made in the galvanized wire trough by the electrical contractor. (See Article 310.10 (H) Per NEC).
3. (2) disconnects can be substituted with (1) disconnect.
4. All disconnects shall have over current protection installed.
5. No more than (2) risers or (2) conductors per phase shall be allowed.
6. Bluebonnet to install meter can, meter and current transformers unless there will be multiple metering points from the trough. Contact the support service department on this type of installation.
7. Maintain 3"–6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
8. #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
9. Total disconnect's will not exceed a total of 800 amps.
10. See "Metering Guidelines" for all other applicable notes.



Only approved electrical metal conduit is allowed. For a mast type installation only rigid conduit is allowed.

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

Must have adequate clearance over commercial driveway, etc. See NESC for details.



Bluebonnet

3 PHASE >200-600 AMP SERVICE ON BUILDING WITH CT METERING ON BUILDING OR RACK REVISIONS	
DATE	REVISIONS
11-19-2019	Added solid copper note.
04-16-2021	Removed Single phase from CT enclosure note.
11-04-2021	Added Main Breaker Note

Drawn By :	RG	Checked By :	MS COMMITTEE	Approved By :	MS COMMITTEE
Scale :	NONE	Date :	11-4-2021		MS-112B3

Notes:

- Line taps shall be made in the galvanized wire trough by the electrical contractor.
- When more than (1) disconnect is used, a galvanized trough system shall be installed.
- Two (2) disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection installed.
- No more than two (2) risers or two (2) conductors per phase shall be allowed.
- Wire shall be sized to total disconnect sizes.
- 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.
- See "Metering Guidelines" for all other applicable notes.

Ⓐ

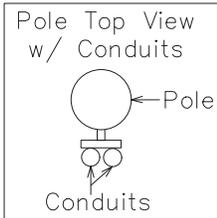
Transformer Pole Riser Length:
 35' Pole = 20' Riser
 40' Pole = 24' Riser

Ⓑ

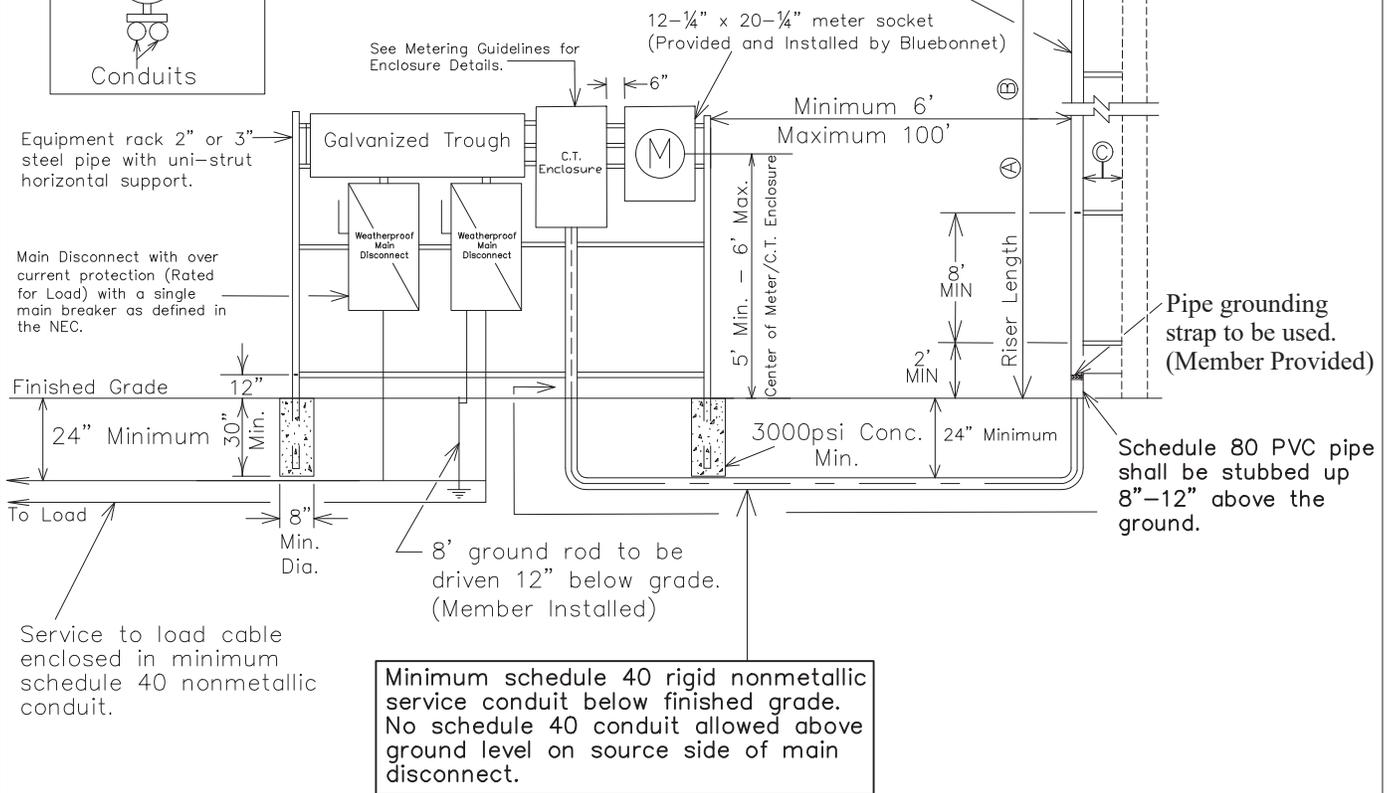
Service Pole Riser Length:
 30' Pole = 20' Riser
 35' Pole = 24' Riser

Ⓒ

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



Only 2", 3", or 4" approved electrical metal conduit is allowed. Risers will not exceed 2 risers per pole. Member will provide 12' of conductor tails from top of weatherhead. Bluebonnet to supply stand-offs. (Bluebonnet to mount risers to pole).



1 PHASE >400-800 AMP SERVICE
 WITH CT METERING ON RACK

DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-28-2017	Bold lettering of schedule 80 PVC	RG	MS COMMITTEE	MS COMMITTEE
11-19-2019	Added Solid Copper Note.			
04-16-2021	Changed the size of the CT Meter Can requirements.			
11-04-2021	Added Main Breaker Note			
		Scale :	DATE:	
		NONE	11-04-2021	MS-113B1

Notes:

1. Line taps shall be made in the galvanized wire trough by the electrical contractor.
2. When more than (1) disconnect is used, a galvanized rough system shall be installed.
3. Two (2) disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection installed.
4. No more than two (2) risers or two (2) conductors per phase shall be allowed.
5. Maintain 3"-6" distance between the disconnect and the meter can.
6. Member shall use a metal nipple. A straight or offset nipple is acceptable.
7. #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
8. See "Metering Guidelines" for all other applicable notes.

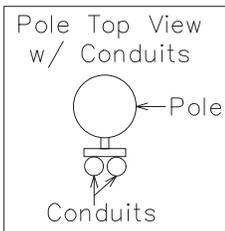
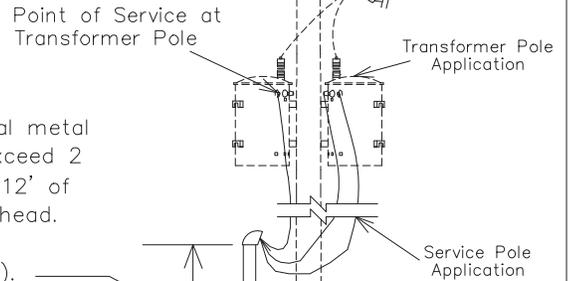
Ⓐ Transformer Pole Riser Length:

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

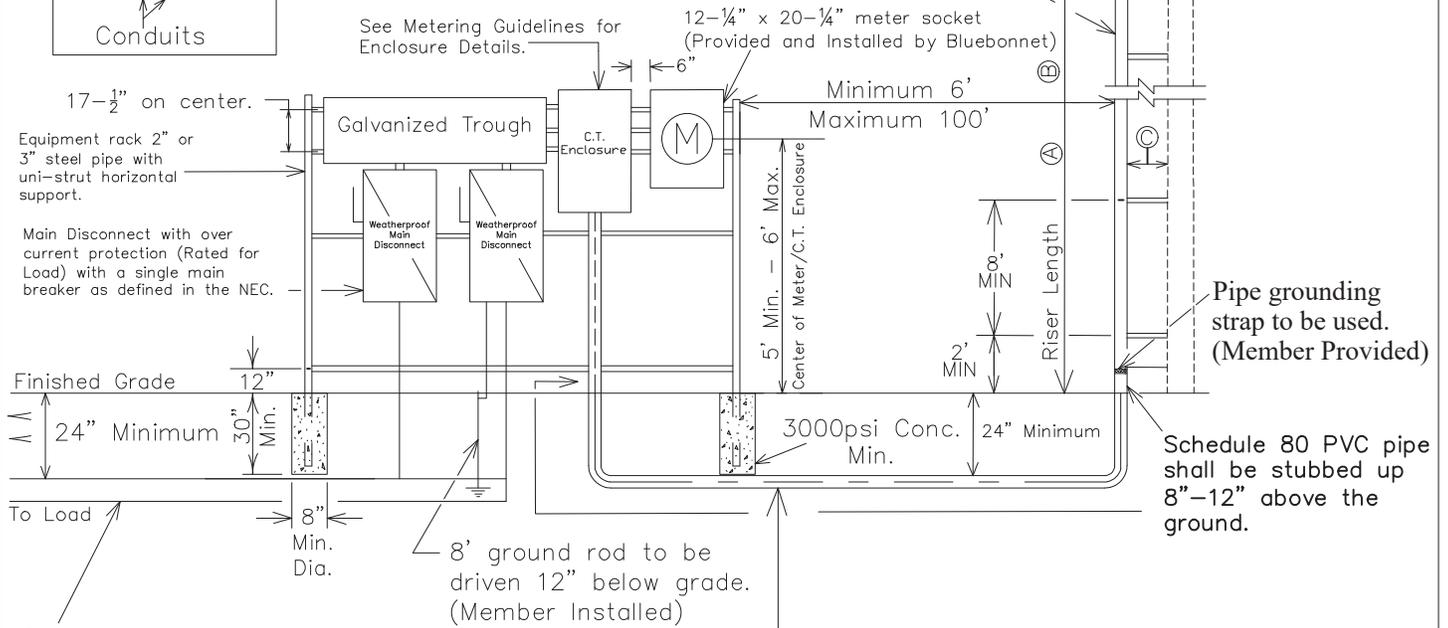
Ⓑ Service Pole Riser Length:

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

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



Only 2", 3", or 4" approved electrical metal conduit is allowed. Risers will not exceed 2 risers per pole. Member will provide 12' of conductor tails from top of weatherhead. Bluebonnet to supply stand-offs. (Bluebonnet to mount risers to pole).



Minimum schedule 40 rigid nonmetallic service conduit below finished grade. No schedule 40 conduit allowed above ground level on source side of main disconnect.

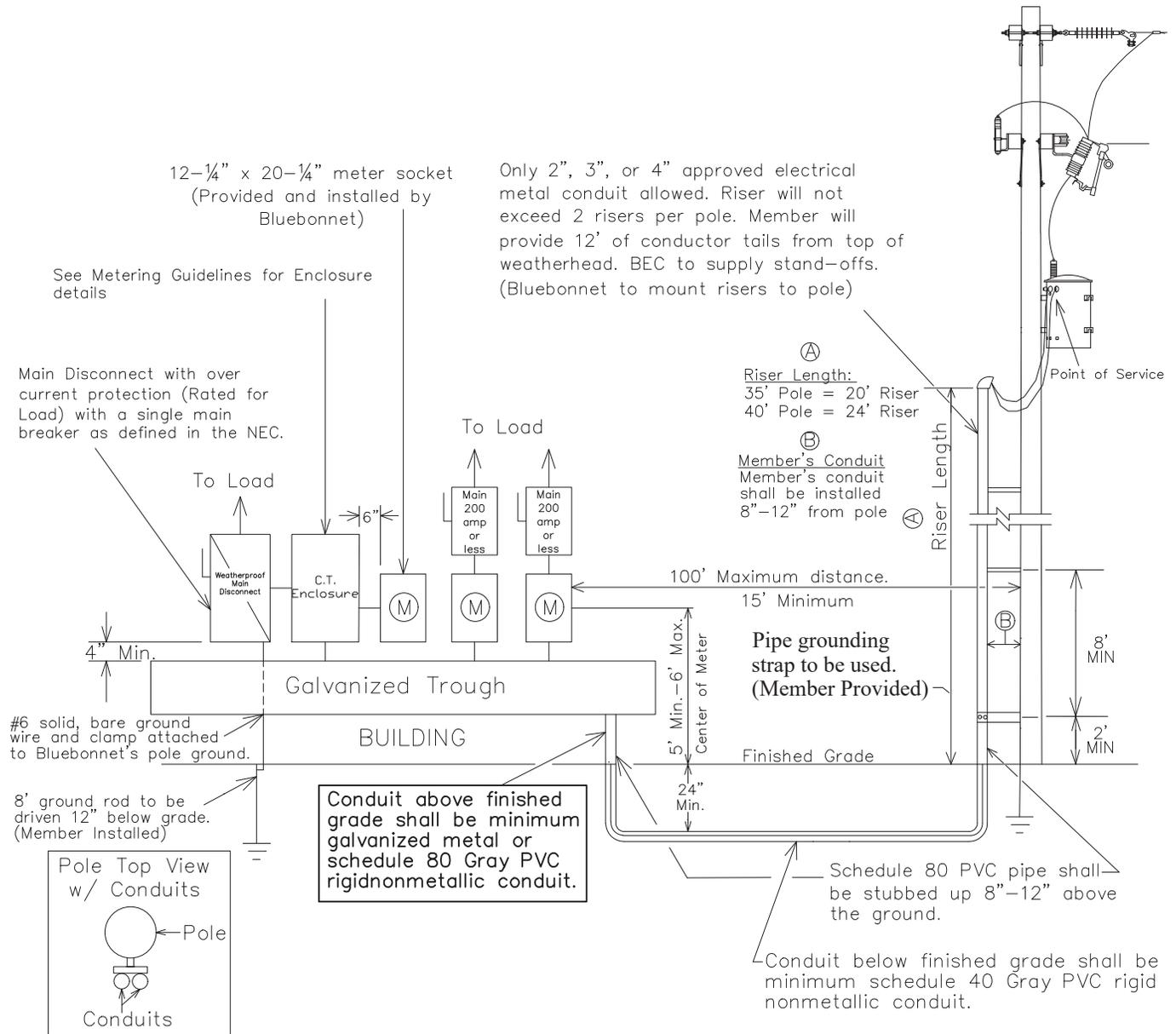
3 PHASE >200-800 AMP SERVICE WITH CT METERING ON RACK



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-28-2017	Bold lettering of schedule 80 PVC	RG	MS COMMITTEE	MS COMMITTEE
11-19-2019	Added Solid Copper Note.			
04-16-2021	Removed Single Phase from the CT Enclosure Note.	Scale :	DATE:	
11-04-2021	Added Main Breaker Note	NONE	11-04-2021	MS-113B3

Notes:

- Line taps shall be made in the galvanized wiring trough by the electrical contractor.
- (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.
- More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
- 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 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.
- See "Metering Guidelines" for all other applicable notes.



1Ø 400-800 TOTAL AMPS WITH MULTIPLE METERING POINTS ON BUILDING. (RISER TYPE)



DATE	REVISIONS
11-28-2017	Bold lettering of Pipe grounding Strap
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

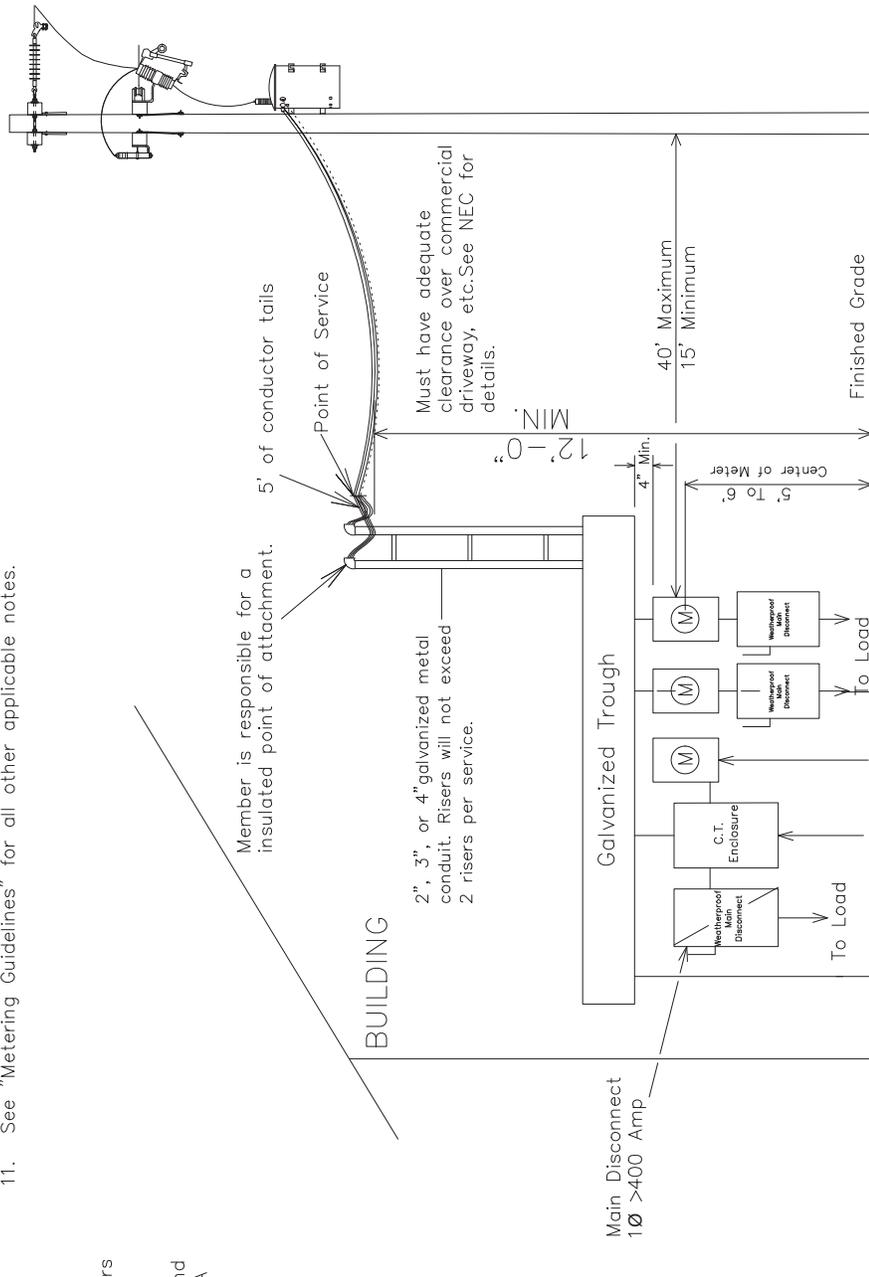
Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
Scale : NONE	Date : 11-04-2021	MS-114A1

Notes:

- When more than (1) disconnect is used, a galvanized trough system shall be installed.
- Line taps shall be made in the galvanized wire trough by the electrical contractor.
- (2) disconnects can be substituted with (1) fused disconnect.
- No more than (2) risers or (2) conductors per phase shall be allowed.
- Total disconnect's will not exceed a total of 800 amps.
- Gutter can be mounted on top or bottom of meters as long as the center of the meter distance in 5'-6".
- 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.
- No more than one disconnect per enclosure.

- Type K-4, Bolt-in type meter can:
Description: 400 amp, 4 terminals, 3-wire, residential/commercial socket singlephase self-contained, large coverplate. These meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
See "Metering Guidelines" for all other applicable notes.

- Member is responsible for a insulated point of attachment.



1Ø 400-800 TOTAL AMP
WITH MULTIPLE METERING POINTS ON BUILDING. SERVICE TYPE

REVISIONS

04-19-2021 Changed the size of the CT Meter Can requirements.
11-04-2021 Added Main Breaker Note

Drawn By : SF

Checked By : MS COMMITTEE

Approved By : MS COMMITTEE

Scale : NONE

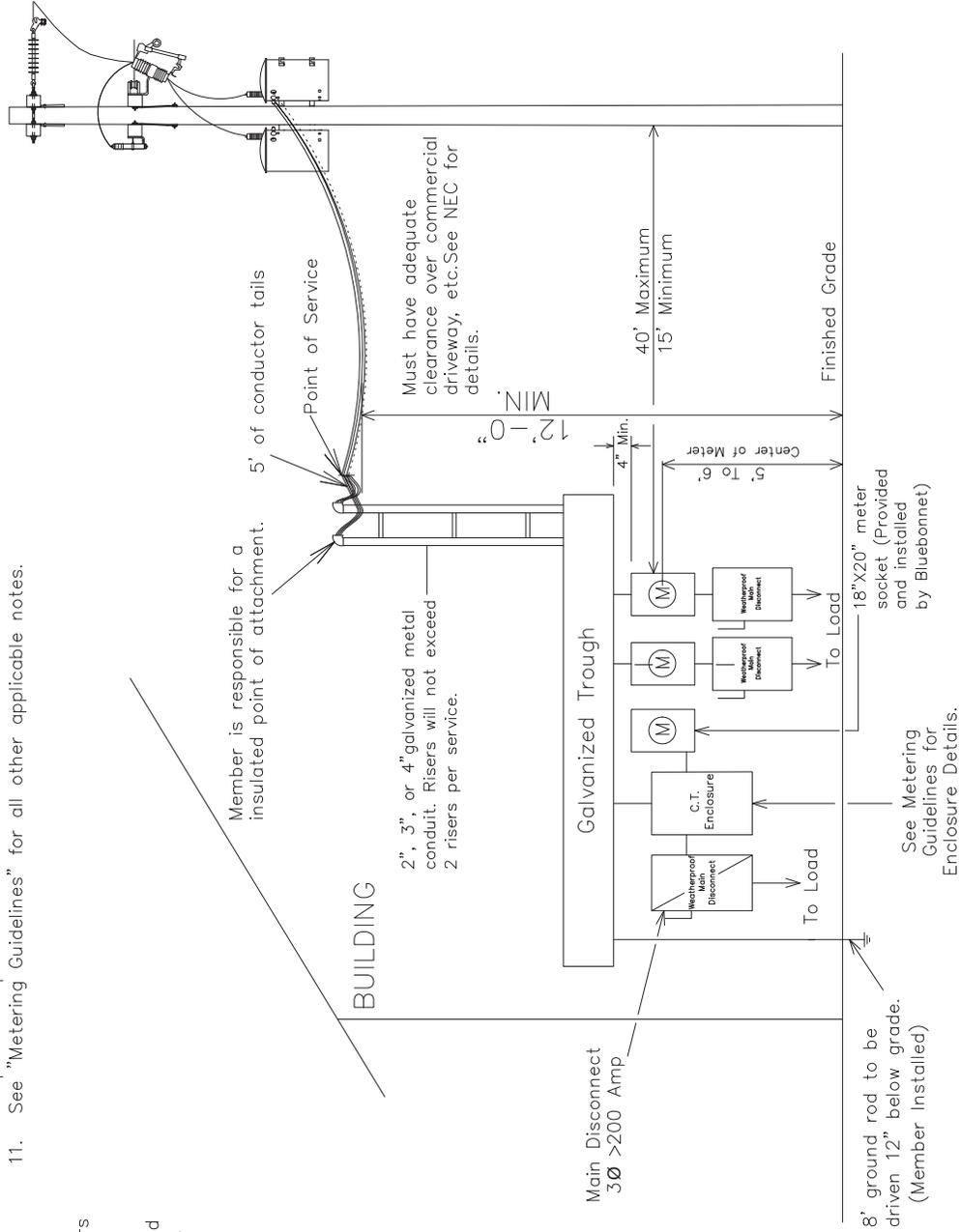
Date : 11-04-2021

MS-115-1

Notes:

- When more than (1) disconnect is used, a galvanized trough system shall be installed.
- Line taps shall be made in the galvanized wire trough by the electrical contractor.
- (2) disconnects can be substituted with (1) fused disconnect.
- No more than (2) risers or (2) conductors per phase shall be allowed.
- Total disconnect's will not exceed a total of 800 amps.
- Gutter can be mounted on top or bottom of meters as long as the center of the meter distance in 5'-6".
- 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.
- No more than one Disconnect per enclosure.

- Type K-4, Bolt-in type meter can:
Description: 400 amp, 4 terminals, 3-wire, residential/commercial socket singlephase self-contained, large coverplate. These meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
- See "Metering Guidelines" for all other applicable notes.



3Ø 200-800 TOTAL AMP
WITH MULTIPLE METERING POINTS ON BUILDING. SERVICE TYPE

REVISIONS

DATE	REVISIONS
04-19-2021	Removed Single Phase from the CT Enclosure Note.
11-04-2021	Added Main Breaker Note

Drawn By : SD

Checked By : MS COMMITTEE

Approved By : MS COMMITTEE

Scale : NONE

Date : 11-04-2021

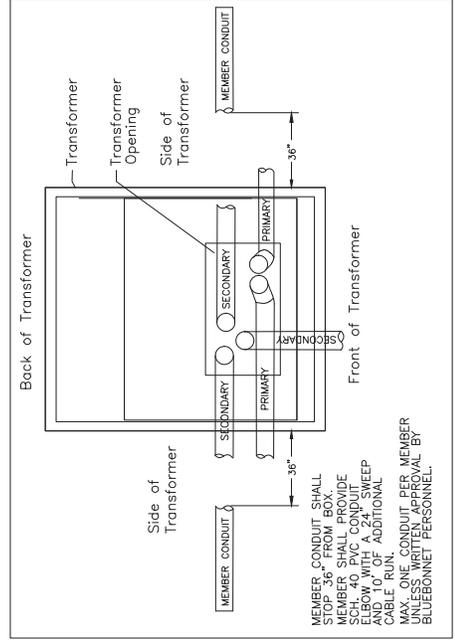
MS-115-3

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	
WIRE SIZE	CONDUIT/NIPPLE SIZE
#6	1/4" CONDUIT
#4	1/2" CONDUIT
#2	1 1/2" CONDUIT
#1	2" CONDUIT
#2/0	2" CONDUIT

ALUMINUM CONDUCTOR	
WIRE SIZE	CONDUIT/NIPPLE SIZE
#4	1/4" CONDUIT
#2	1/2" CONDUIT
#1/0	1 1/2" CONDUIT
#2/0	2" CONDUIT
#4/0	2" CONDUIT

Single Phase Transformer Layout

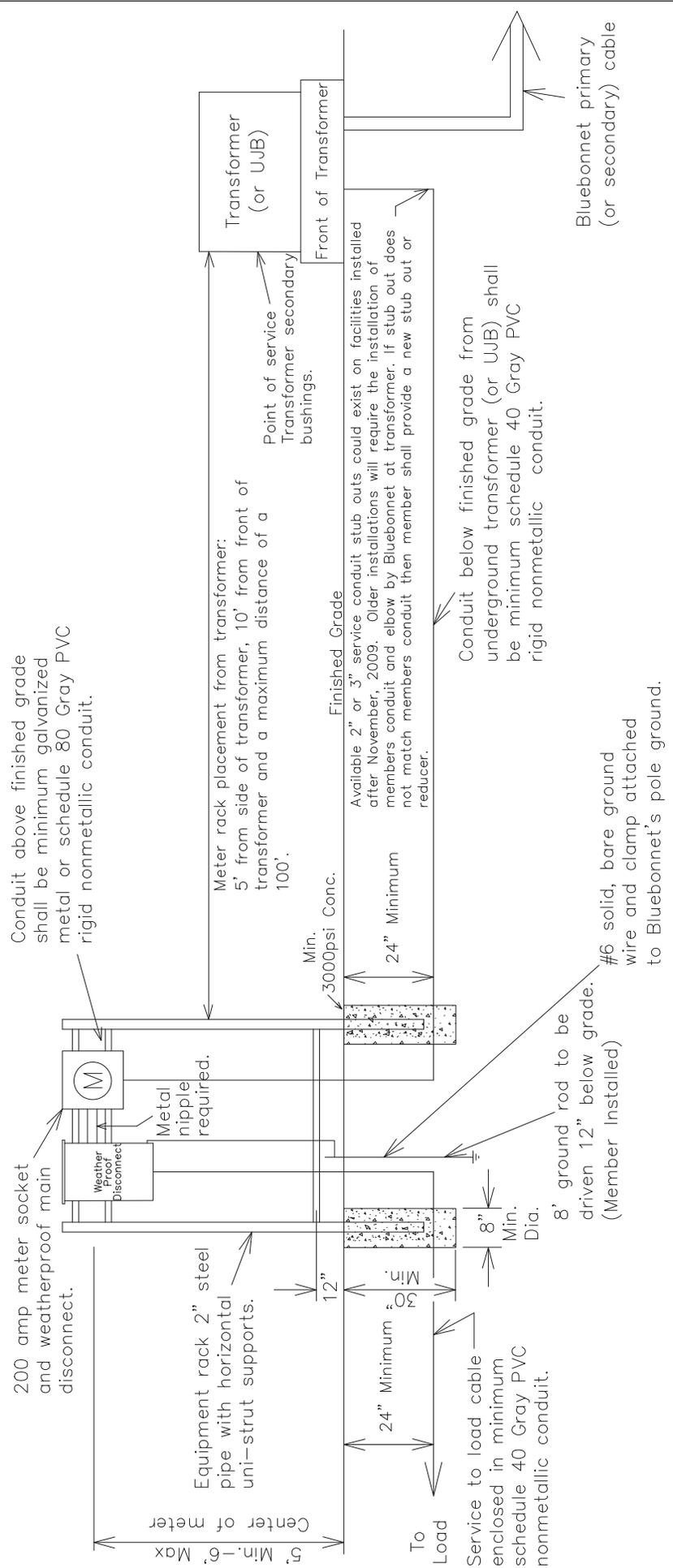


- Notes:
- Members shall install an additional 10' of wire for termination.
 - Main disconnect shall have a single main breaker as defined in the NEC.
 - All connections inside pad mounted transformer and UJB's will be made by Bluebonnet.
 - THREE PHASE APPLICATIONS ONLY DESCRIPTION:
200amp, 7 terminal, 3-phase, 4-wire will require a lever by-pass meeting ANSI C12.7, UL 414, and NEMA 3R. Meter cans are available for purchase through Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.
 - 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 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.
 - See "Metering Guidelines" for other applicable notes.

200 amp meter socket and weatherproof main disconnect.

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

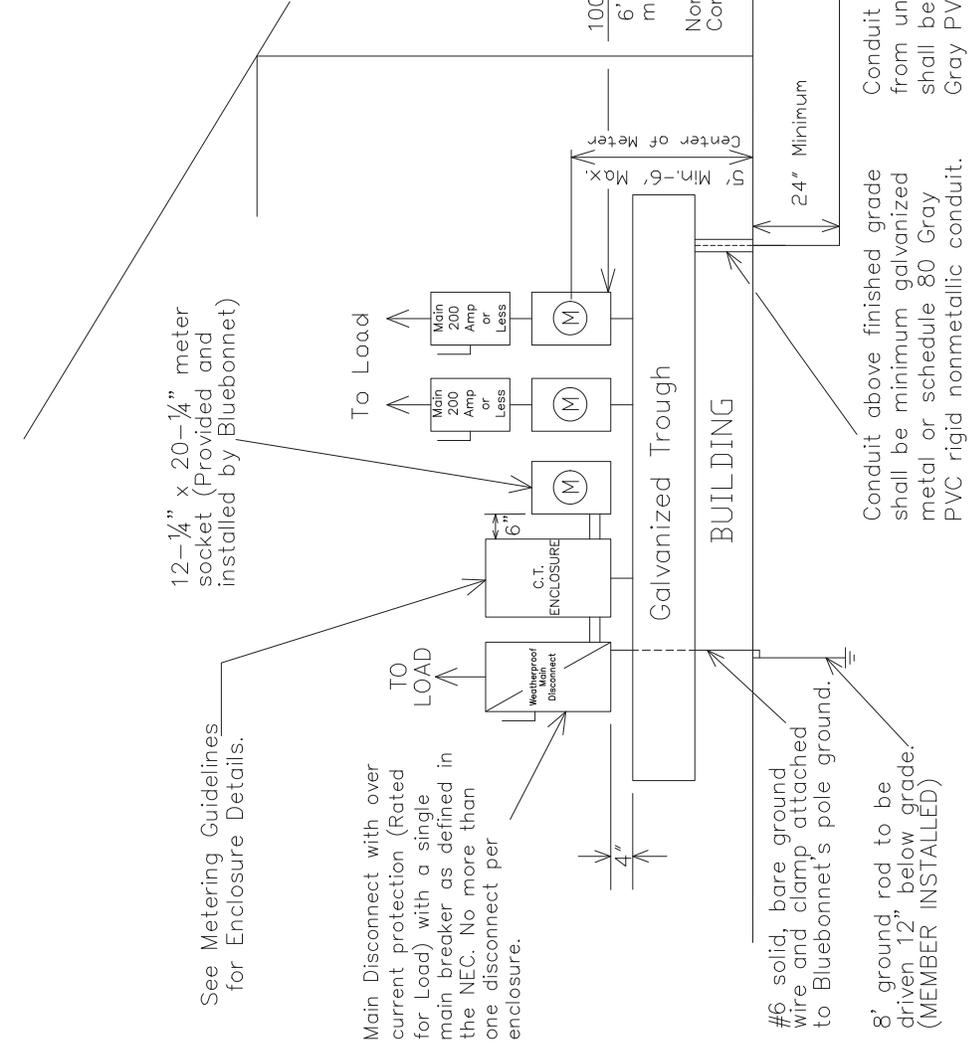
Conduit above finished grade shall be minimum galvanized metal or schedule 80 Gray PVC rigid nonmetallic conduit.



10 OR 30, 60-200 AMP UNDERGROUND SERVICE ON RACK OR BUILDING		Drawn By : CV	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
DATE	REVISIONS	Scale : NONE	Date : 11-04-2021	MS-201
11-19-2019	ADDED SOLID COPPER NOTE.			
11-04-2021	ADDED MAIN BREAKER NOTE.			

Notes:

- Line taps shall be made in the galvanized wiring trough by the electrical contractor. 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.
- 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 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. be applied.
- 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.
- See "Metering Guidelines" for other applicable notes.



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

See Metering Guidelines for Enclosure Details.

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

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

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

Center of Meter
Min. of Max.
24" Minimum

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

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.



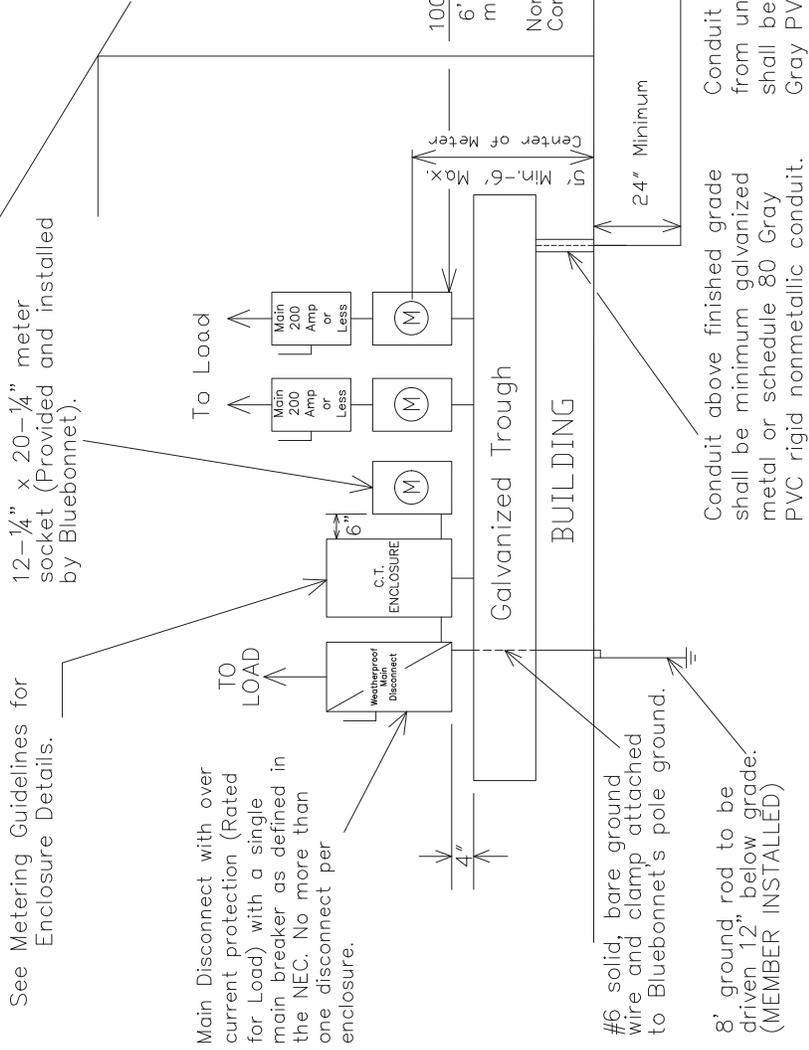
<p>1 PHASE >400 AMP UNDERGROUND WITH MULTIPLE METERING POINTS AND CT METERING ON BUILDING.</p>	<p>Drawn By : RG</p>	<p>Checked By : MS COMMITTEE</p>	<p>Approved By : MS COMMITTEE</p>
	<p>Scale : NONE</p>	<p>Date : 11-04-2021</p>	<p>MS-202A1</p>
	<p>REVISIONS</p> <p>04-19-2021 Changed the size of the CT Meter Can requirements.</p> <p>11-04-2021 Added Main Breaker Note</p>		

Notes:

- Line taps shall be made in the galvanized wiring trough by the electrical contractor. 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.
- 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.
- 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.
- See "Metering Guidelines" for other applicable notes.

See Metering Guidelines for Enclosure Details.
 12-1/4" x 20-1/4" meter socket (Provided and installed by Bluebonnet).

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



Notes:

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

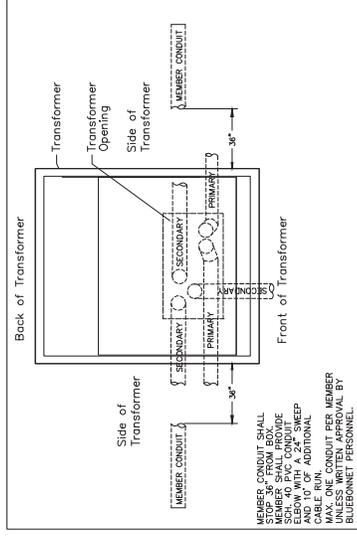


3 PHASE >200 AMP UNDERGROUND WITH MULTIPLE METERING POINTS AND CT METERING ON BUILDING.	
DATE	REVISIONS
04-19-2021	Removed Single Phase from the CT Enclosure Note.
11-04-2021	Added Main Breaker Note

Drawn By :	Checked By :	Approved By :
RG	MS COMMITTEE	MS COMMITTEE
Scale :	Date :	
NONE	11-04-2021	MS-202B3

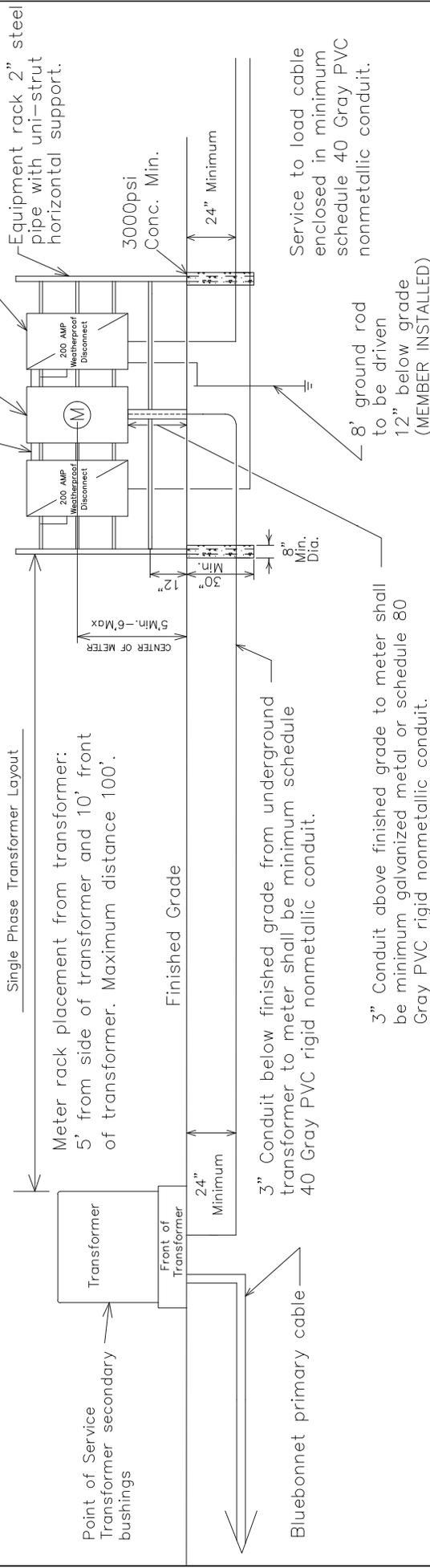
Notes:

1. Main disconnect panel may not be used as a electrical race way.
2. Line taps shall be made by the electrical contractor if a galvanized wiring trough is used.
3. Any combination of six disconnects totaling no more than 400 amps can be used. REF. NEC, SEC 230.71
4. Recommended wire size is either parallel 2/0 THHN copper or parallel 4/0 THHN aluminum.
5. Member shall install an additional of 10' wire for termination.
6. Weatherproof main disconnect panels shall have a single main breaker or 6-handle main as defined in the NEC.
7. Metering point must remain unenclosed on exterior of structure.
8. All secondary connections in transformer are made by Bluebonnet.
9. Only 400 Amps meter cans are allowed. No 320 Amp Meter Cans are allowed.
10. 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.



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 Techline or any other electrical supplier provided it meets all Bluebonnet Electric Cooperative specifications.

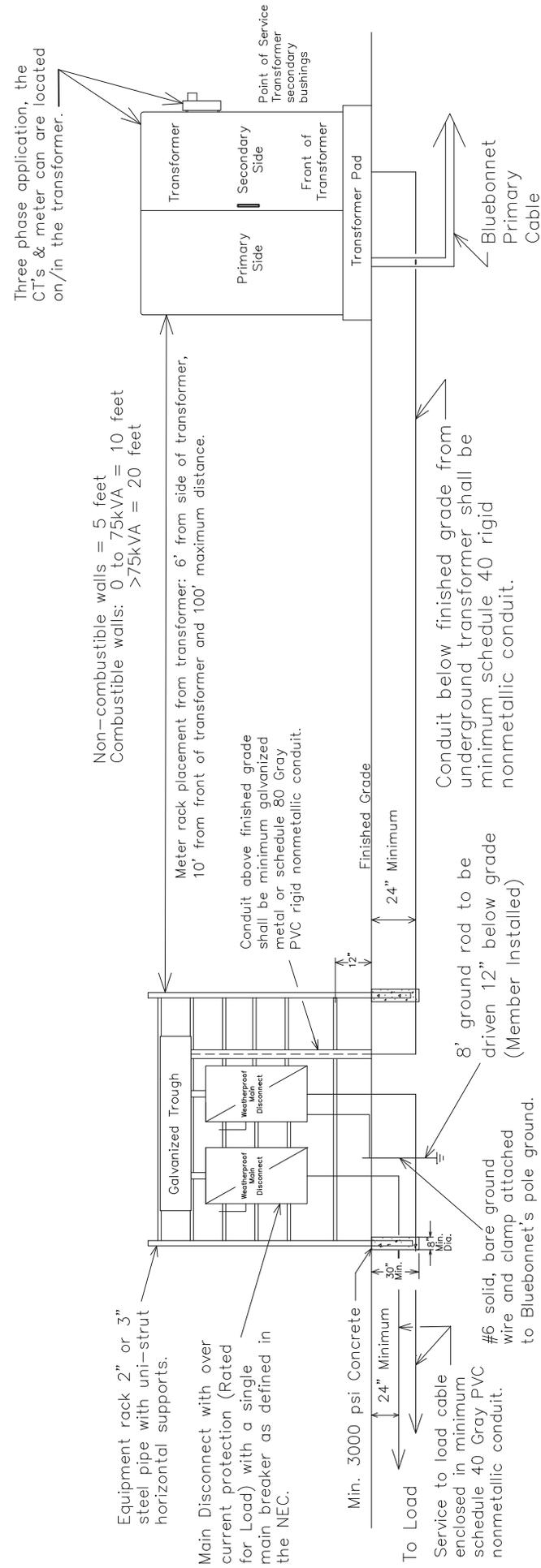
11. Member must contact Bluebonnet to determine where the secondary conduit is to be run to the transformer. Conduit to be installed 36" to the side of transformer. Call 800-842-7708 to schedule an appointment.
12. Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer.
13. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
14. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
15. Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
16. Largest wire to be pulled in to the meter can is 500 MCM Cooper. A detailed load sheet shall be filled out and returned to Bluebonnet before the service will be connected.
17. #6 solid, bare ground copper wire and clamp to Bluebonnet's pole ground.
18. See "Metering Guidelines" for other applicable notes.



	1Ø 400 AMP URD SERVICE ON RACK OR BUILDING WITH K BASE BOLTED IN METER SOCKET	Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE 11-20-19 11-04-21	REVISIONS Added Solid Copper Note. Added Main Breaker Note	Scale : NONE	Date : 11-04-2021

Notes:

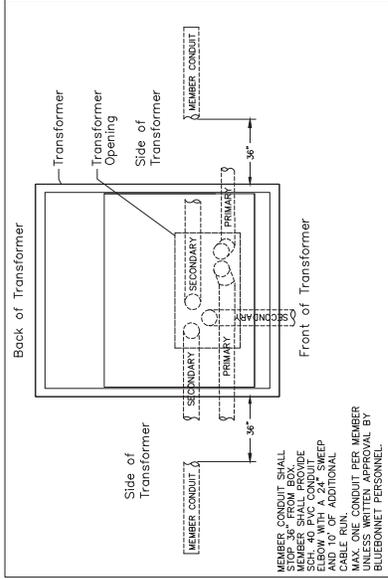
1. Line taps shall be made in the galvanized trough by the electrical contractor.
2. Two disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection.
3. Member shall contact Bluebonnet Electric to determine the secondary conduit location. Conduit to be installed 36" to the side of transformer. Call 800-842-7708 to schedule an appointment.
4. Bluebonnet will complete wiring into transformer. Have sufficient amount of wire for termination. Member shall install an additional 10' of wire for termination
5. Member/Electrician shall coordinate with Bluebonnet personnel to install all conduit and the pulling of the secondary wire to the transformer.
6. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
7. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
8. Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
9. See "Metering Guidelines" for other applicable notes.



	3 PHASE >200 AMP UNDERGROUND SERVICE WITH DISCONNECT ON RACK OR BUILDING		Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE 11-20-19	REVISIONS Added Solid Copper Note.	Drawn By : RG	Date : 11-04-2021
	11-04-21	Added Main Breaker Note	Scale : NONE	MS-204A3

Notes:

- Line taps shall be made in the galvanized wiring trough by the electrical contractor.
- Wire shall be sized to total name plate disconnect sizes.
- Cooperative will complete wiring into transformer or UJB. Have an additional 10' of wire for termination.
- All connections inside pad mounted transformer will be made by Bluebonnet.
- 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.
- 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.
- Max wire size for single-phase underground transformers to be 350 kcmil
- Limit number of conductors to 4 per phase.
- See "Metering Guidelines" for other applicable notes.



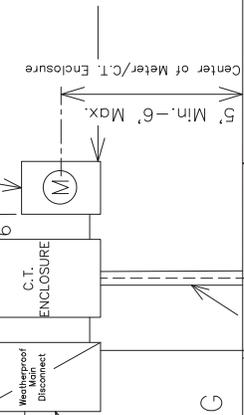
Single Phase Transformer Layout

See Metering Guidelines for Enclosure Details.

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

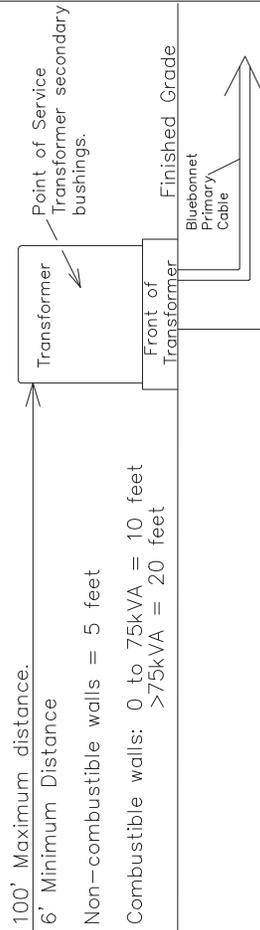
TO LOAD

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



BUILDING

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



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

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



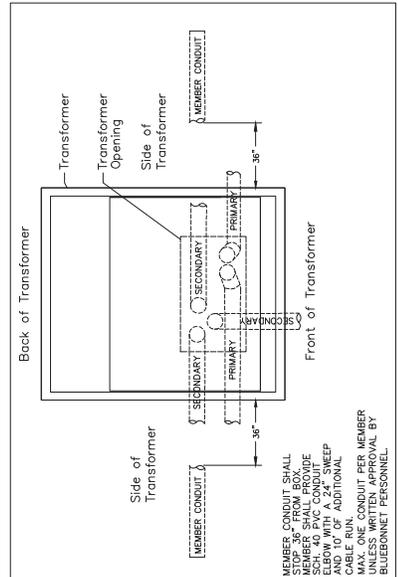
1 PHASE >400 AMP SERVICE WITH CT METERING ON BUILDING OR RACK

11-20-2017	Added Solid Copper Note.
04-16-2021	Changed the size of the CT Meter Can requirements.
11-04-2021	Added Main Breaker Note

Drawn By :	RG	Checked By :	MS COMMITTEE	Approved By :	MS COMMITTEE
Scale :	NONE	Date :	11-04-2021		MS-204B1

Notes:

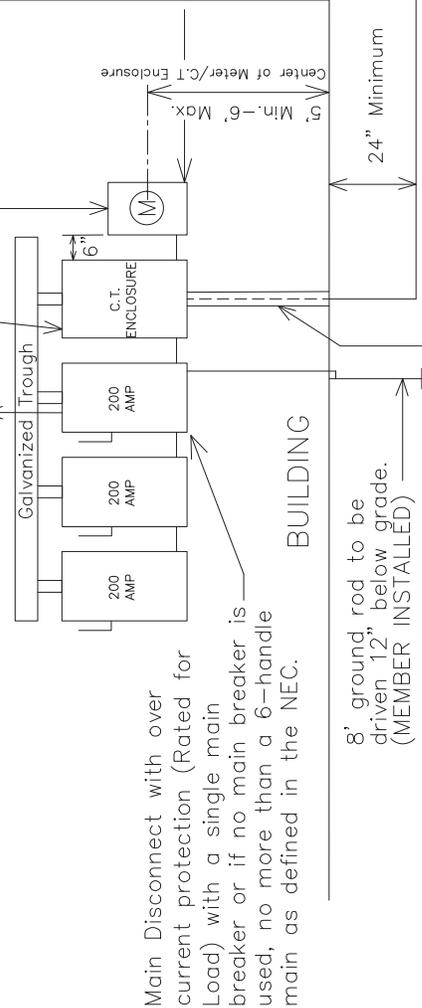
- Line taps shall be made in the galvanized wiring trough by the electrical contractor.
- Cooperative will complete wiring into transformer or UJB. Have an additional 10' of wire for termination.
- All connections inside pad mounted transformer will be made by Bluebonnet.
- Member/Electrician shall coordinate 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.
- 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.
- Max wire size for single-phase underground transformers to be 350 kcmil
- Limit number of conductors to 4 per phase.
- See "Metering Guidelines" for other applicable notes.



Single Phase Transformer Layout

See Metering Guidelines for Enclosure Details.

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



Main Disconnect with over current protection (Rated for Load) with a single main breaker or if no main breaker is used, no more than a 6-handle main as defined in the NEC.

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

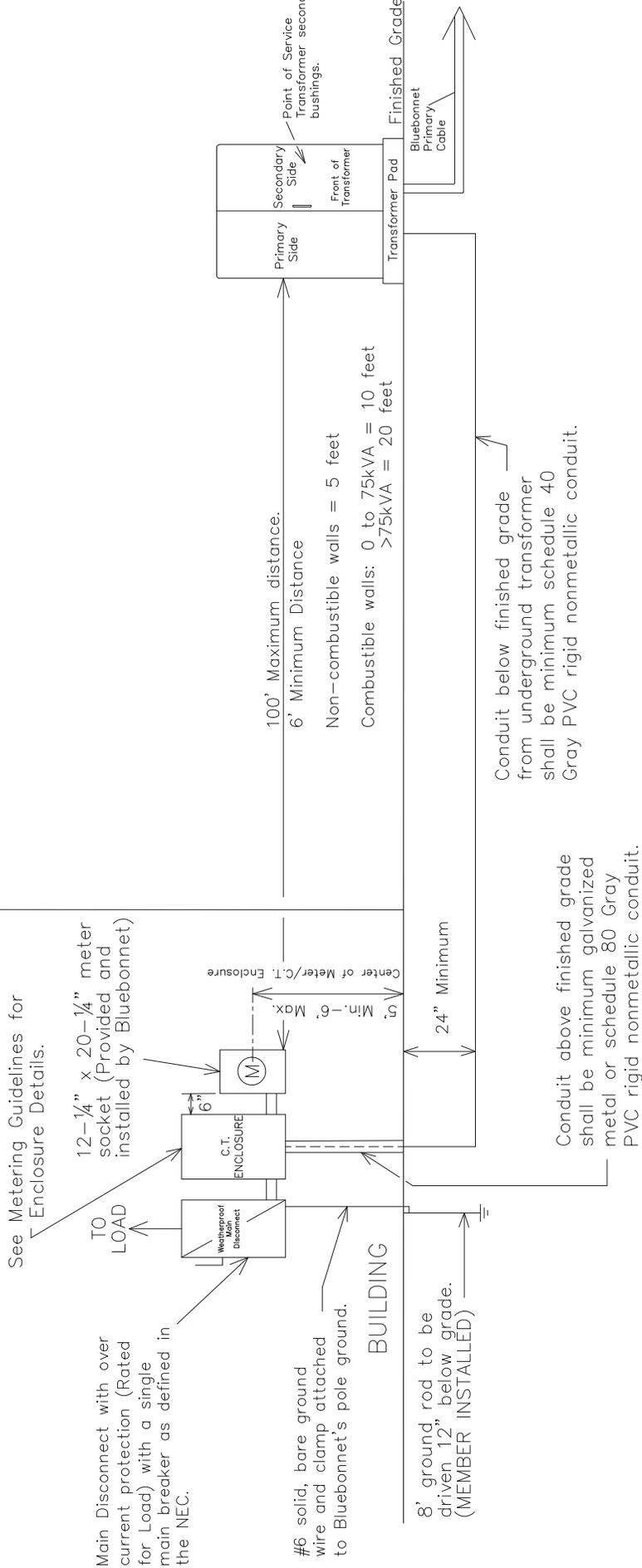
Conduit below finished grade from underground transformer shall be minimum schedule 40 Gray PVC rigid nonmetallic conduit.



1 PHASE >400 AMP SERVICE WITH CT METERING ON BUILDING OR RACK	Drawn By : RG	Checked By : MS COMMITTEE	Approved By : TE
01-30-2017 Changed the dimensions of the CT Enclosure. 11-20-2017 Added Solid Copper Note.	Scale : NONE	Date : 01-30-2017	MS-204B2

Notes:

1. Line taps shall be made in the galvanized wiring trough by the electrical contractor.
2. Cooperative will complete wiring into transformer or UJB. Have an additional 10' of wire for termination.
3. All connections inside pad mounted transformer will be made by Bluebonnet.
4. Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer.
5. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
6. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
7. Maintain 3"-6" distance between the disconnect and the meter can. Member shall use a metal nipple. A straight or offset nipple is acceptable.
8. See "Metering Guidelines" for other applicable notes.

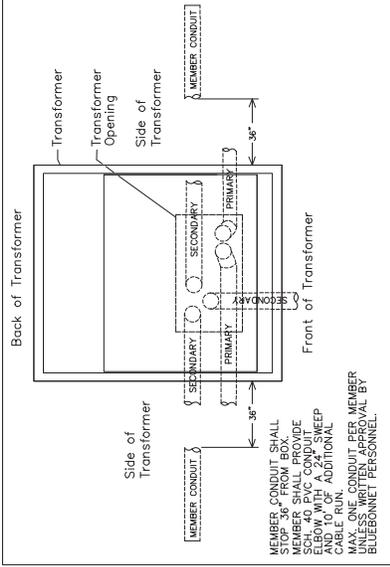


	3 Phase >200 AMP SERVICE WITH CT METERING ON BUILDING OR RACK		Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	11-20-2019	Added Solid Copper Note.	Scale : NONE	Date : 11-04-2021	MS-204B3
	04-19-2021	Removed Single Phase from the CT Enclosure Note.			
		11-04-2021	Added Main Breaker Note.		

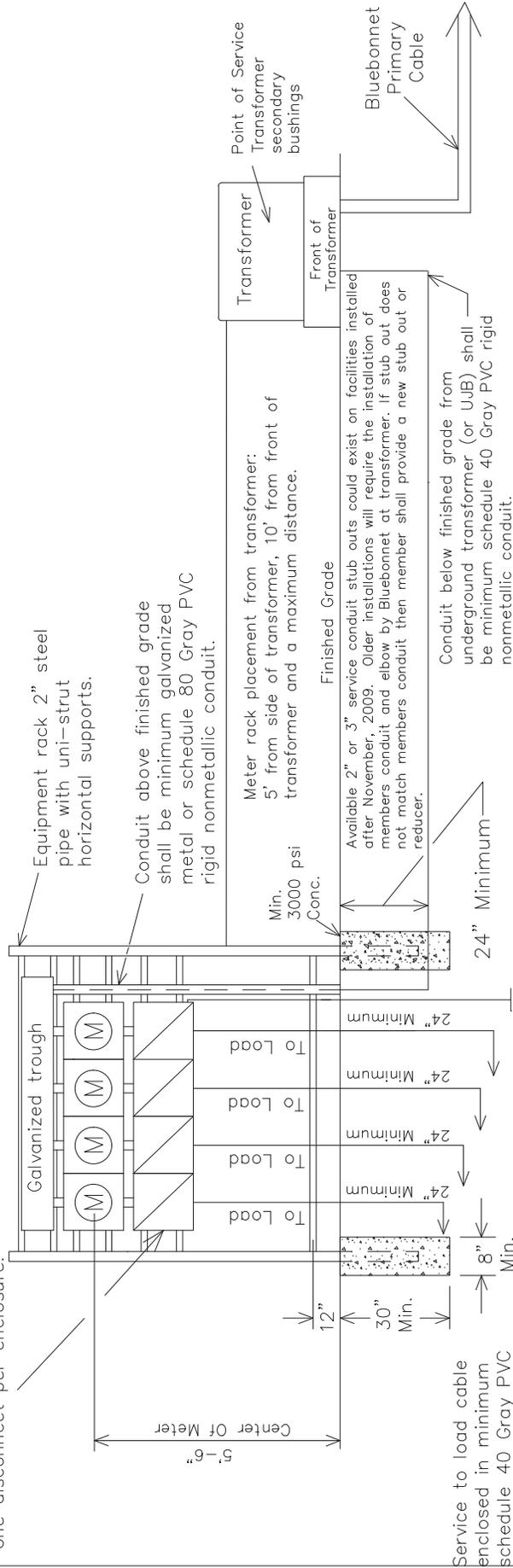
Notes:

1. Line taps shall be made in the galvanized trough by the electrical contractor.
2. More than (6) main disconnects require a properly sized main disconnect ahead of the galvanized trough.
3. Bluebonnet will complete wiring into transformer. Have 10' additional amount of wire for termination.
4. **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.
5. 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.
6. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
7. See "Metering Guidelines" for other applicable notes.

Single Phase Transformer Layout



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



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

Available 2" or 3" service conduit stub outs could exist on facilities installed after November, 2009. Older installations will require the installation of members conduit and elbow by Bluebonnet at transformer. If stub out does not match members conduit then member shall provide a new stub out or reducer.

COPPER CONDUCTOR		CONDUIT/NIPPLE SIZE		ALUMINUM CONDUCTOR	
WIRE SIZE	BREAKER SIZE	1 1/2" CONDUIT	1 1/2" CONDUIT	1 1/2" CONDUIT	1 1/2" CONDUIT
#6	60 AMP	#4	#2	60 AMP	14" CONDUIT
#4	100 AMP	#2	#1/0	100 AMP	14" CONDUIT
#2	125 AMP	#1	#2/0	125 AMP	14" CONDUIT
#1	150 AMP	#2/0	#4/0	150 AMP	2" CONDUIT
#2/0	200 AMP			150 AMP	2" CONDUIT

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

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

36"

36"

12"

30" Min.

8" Min. Dia.

Center Of Meter

MEMBER CONDUIT SHALL STOP 36" FROM BOX. MEMBER SHALL PROVIDE ELBOW WITH A 24" SWEEP AND 10" OF ADDITIONAL MAX. ONE CONDUIT PER MEMBER UNLESS WRITTEN APPROVAL BY BLUEBONNET PERSONNEL.

Conduit carrying capacities and conduit/nipple size requirement of standard wire size. (RHH, RHW, THW, THHN, THHN, and XHHW) REFER TO NEC FOR OTHER CALCULATIONS.

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

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

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Bluebonnet Primary Cable

Point of Service secondary bushings

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Point of Service secondary bushings

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Front of Transformer

Back of Transformer

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

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To Load

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Bluebonnet Primary Cable

Point of Service secondary bushings

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

36"

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

36"

36"

12"

30" Min.

8" Min. Dia.

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Conduit carrying capacities and conduit/nipple size requirement of standard wire size. (RHH, RHW, THW, THHN, THHN, and XHHW) REFER TO NEC FOR OTHER CALCULATIONS.

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

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

36"

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

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

Meter rack placement from transformer: 5' from side of transformer and a maximum distance.

Finished Grade

Min. 3000 psi Conc.

24" Minimum

To Load

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

Bluebonnet Primary Cable

Point of Service secondary bushings

Transformer

Front of Transformer

Back of Transformer

Side of Transformer

Transformer Opening

MEMBER CONDUIT

36"

36"

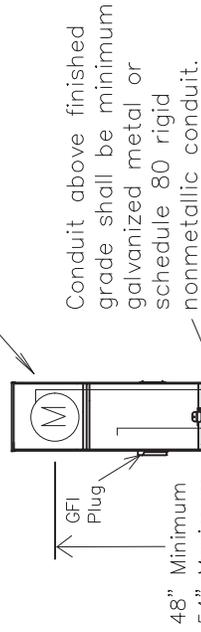
CURRENT CARRYING CAPACITIES AND CONDUIT SIZE REQUIREMENT OF STANDARD WIRE SIZE

(RH,RHH,RHW,THW,AND XHHW)

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

200A URD Meter pedestal
If purchased from TechLine,
installed by Bluebonnet
Contractor during job
construction.

These meter pedestals are
available for purchase through
Techline.



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

ACCEPTABLE PLUG-ON BREAKERS:
WESTINGHOUSE QUICKLAG P,
ITE-QP, G.E.-Q LINE, BRYANT-BR,
SQUARE D-HOMELINE.

Finished Grade

Meter pedestal placement from transformer:
from side of transformer 6' from front of
transformer 10' maximum distance 100'

To Load

24" Minimum

24" Minimum

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

8' ground rod to
be driven 12"
below grade

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

Use only 24" 90° radius and install minimum 36" deep to
accommodate the pedestal footings. If using a 36" or
48" 90°, the conduit needs to be installed 48" deep.

Transformer
(or UJB)

Point of Service
Transformer secondary
bushings

Bluebonnet primary
(or secondary) cable.

- Notes:
- Cooperative will complete wiring between pedestal and transformer or UJB. Have sufficient amount of wire for termination.
 - Main disconnect supplied with pedestal. Repair or replacement of main disconnect after initial installation will be responsibility of member.
 - Meter pedestal must remain unenclosed and accessible by Bluebonnet personnel at all times.
 - Member/Developer – Do not stub out secondary conduit to house until pedestal is installed.
 - See "Metering Guidelines" for other applicable notes.



1Ø, 60-200 AMP URD
SERVICE ON URD METER PEDESTAL

DATE

REVISIONS

Drawn By :
JB

Checked By :
MS COMMITTEE

Approved By :
TE

Scale :
NONE

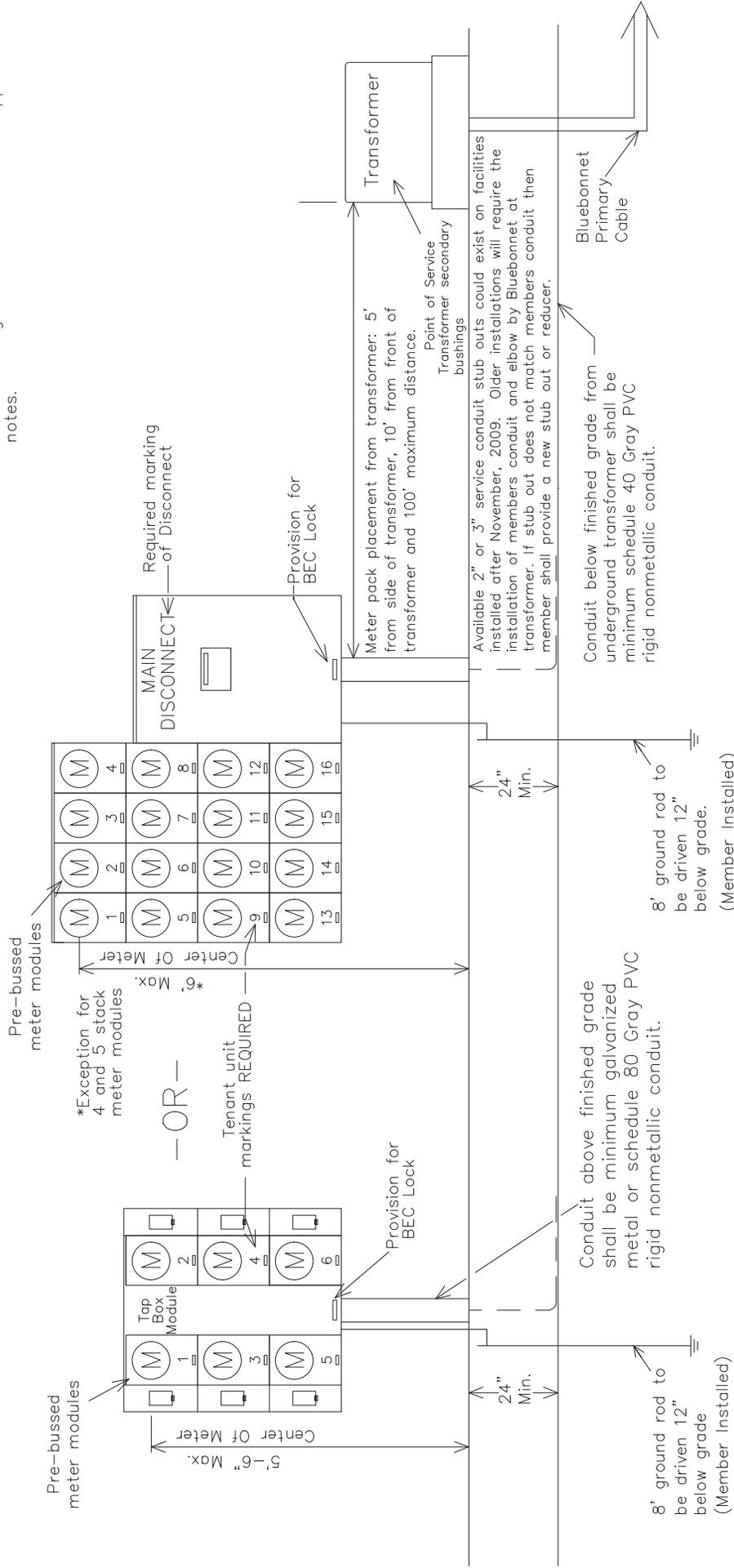
Date :
1-21-22

MS-206

Notes:

1. Covers on circuit breaker compartments must be removable without disturbing meters.
2. Meter socket components must be readily accessible and removable for maintenance.
3. Wire sized to total disconnect sizes.
4. Bluebonnet will complete wiring into transformer.
5. Have sufficient amount of wire for termination. If a main disconnect module is used, its cover padlock.

6. 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.
9. #6 Solid, Bare ground copper wire and clamp attached to Bluebonnet's pole ground.
10. No more than one disconnect per enclosure.
11. Max wire size for single-phase underground transformers to be 350 kcmil
12. Limit number of conductors to 4 per phase. See "Metering Guidelines" for other applicable notes.



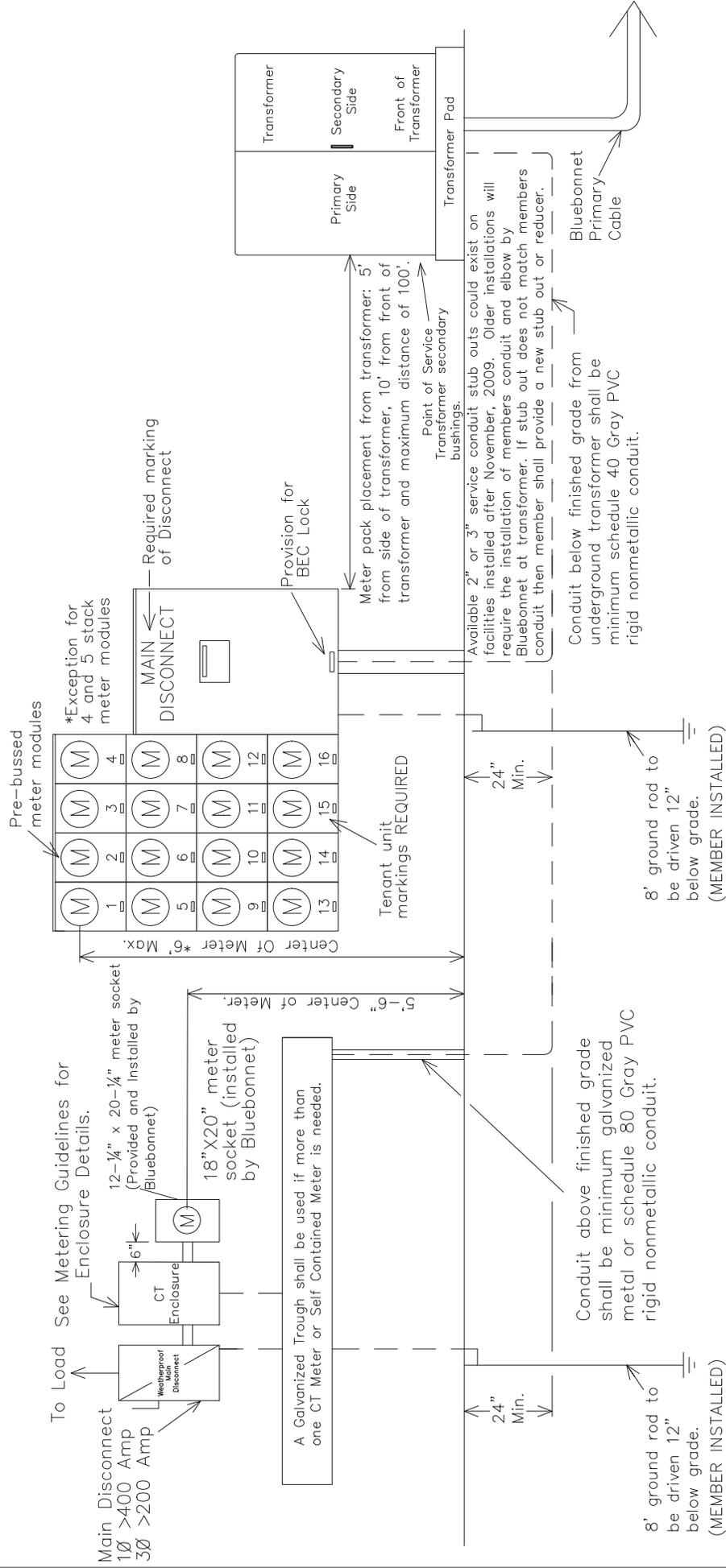
10 60-200 AMP UNDERGROUND MULTI-PACK METERS ON BUILDING

DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
11-20-19	Added Solid Copper Note.	BS	MS COMMITTEE	MS COMMITTEE
11-04-21	Added Main Breaker Note.	Scale :	Date :	
		NONE	12-30-2025	MS-207

Notes:

1. Covers on circuit breaker compartments must be removable without disturbing meters.
2. Meter socket components must be readily accessible and removable for maintenance.
3. Wire sized to total disconnect sizes.
4. Bluebonnet will complete wiring into transformer.
5. Have sufficient amount of wire for termination. If a main disconnect module is used, its cover must have provisions for a standard Bluebonnet padlock.

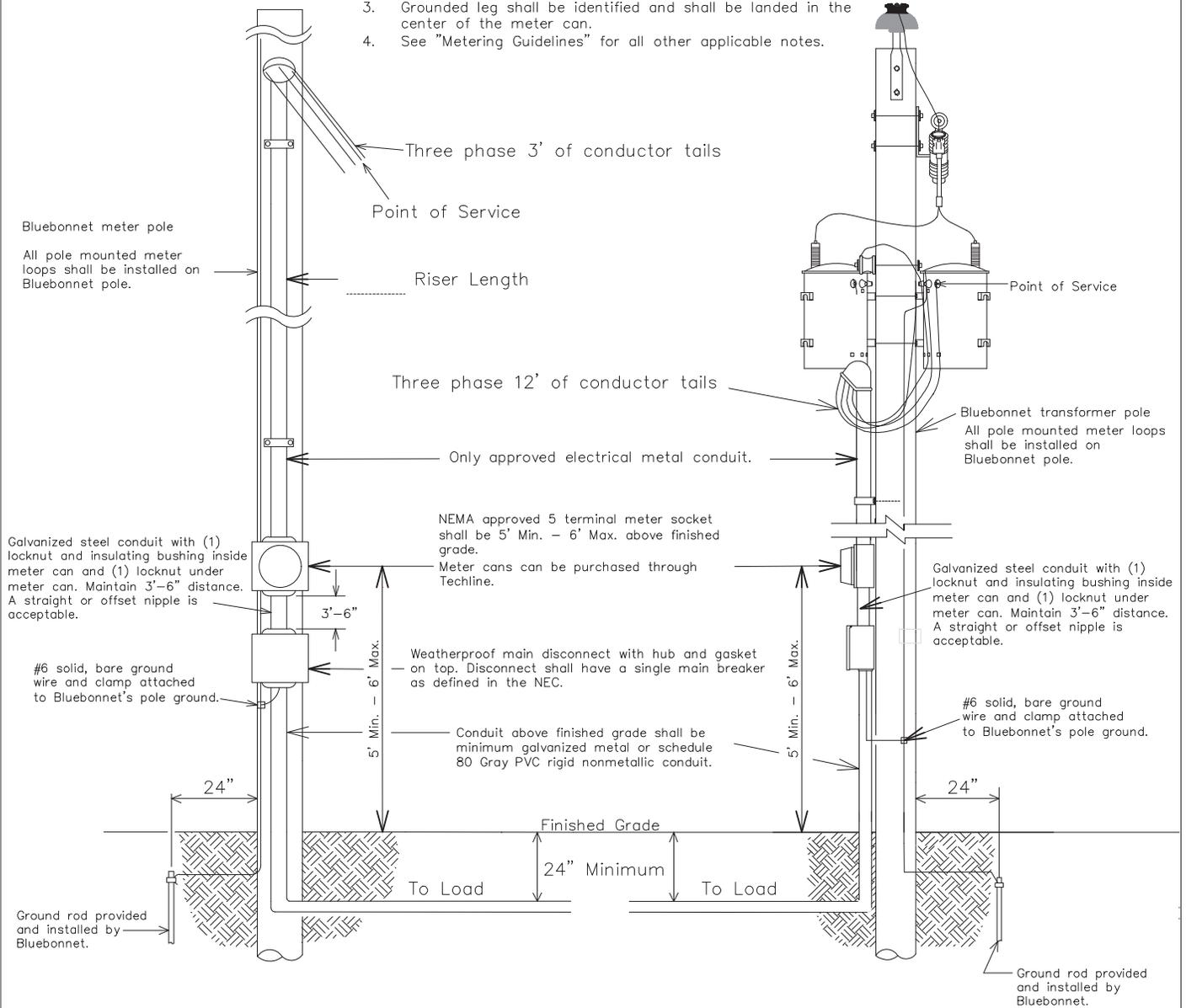
6. Member/Electrician shall coordinate with Bluebonnet personal to install all conduit and the pulling of the secondary wire to the transformer.
 7. Member/Electrician shall notify Bluebonnet 48 hours in advance to schedule a time/date to perform the work.
 8. If additional trips are made to the site by Bluebonnet personnel, applicable fees may be applied.
 9. #6 solid, bare ground copper wire and clamp attached to Bluebonnet's pole ground.
 10. No more than one disconnect per enclosure.
- See "Metering Guidelines" for other applicable notes.



	3Ø 60-200 AMP UNDERGROUND MULTI-PACK METERS & 3Ø < or >200 AMP ON BUILDING		Drawn By : RG	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
	DATE 11-20-2019 11-04-2021	REVISIONS Added Solid Copper Note. Added Main Breaker Note.	Scale : NONE	Date : 11-04-2021	MS-207B

Notes:

1. A Bond wire shall be used, see NEC Table 250.66 for Bond Wire sizing.
2. Height of meter loop riser will be determined by BEC.
3. Grounded leg shall be identified and shall be landed in the center of the meter can.
4. See "Metering Guidelines" for all other applicable notes.



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

WIRE SIZE	COPPER CONDUCTOR		WIRE SIZE	ALUMINUM CONDUCTOR	
	BREAKER SIZE	CONDUIT SIZE		BREAKER SIZE	CONDUIT SIZE
#6	60 AMP	1¼" CONDUIT	#4	60 AMP	1¼" CONDUIT
#4	100 AMP	1¼" CONDUIT	#2	100 AMP	1¼" CONDUIT
#2	125 AMP	1½" CONDUIT	#1/0	125 AMP	1½" CONDUIT
#1	150 AMP	2" CONDUIT	#2/0	150 AMP	2" CONDUIT
#2/0	200 AMP	2" CONDUIT	#4/0	200 AMP	2" CONDUIT

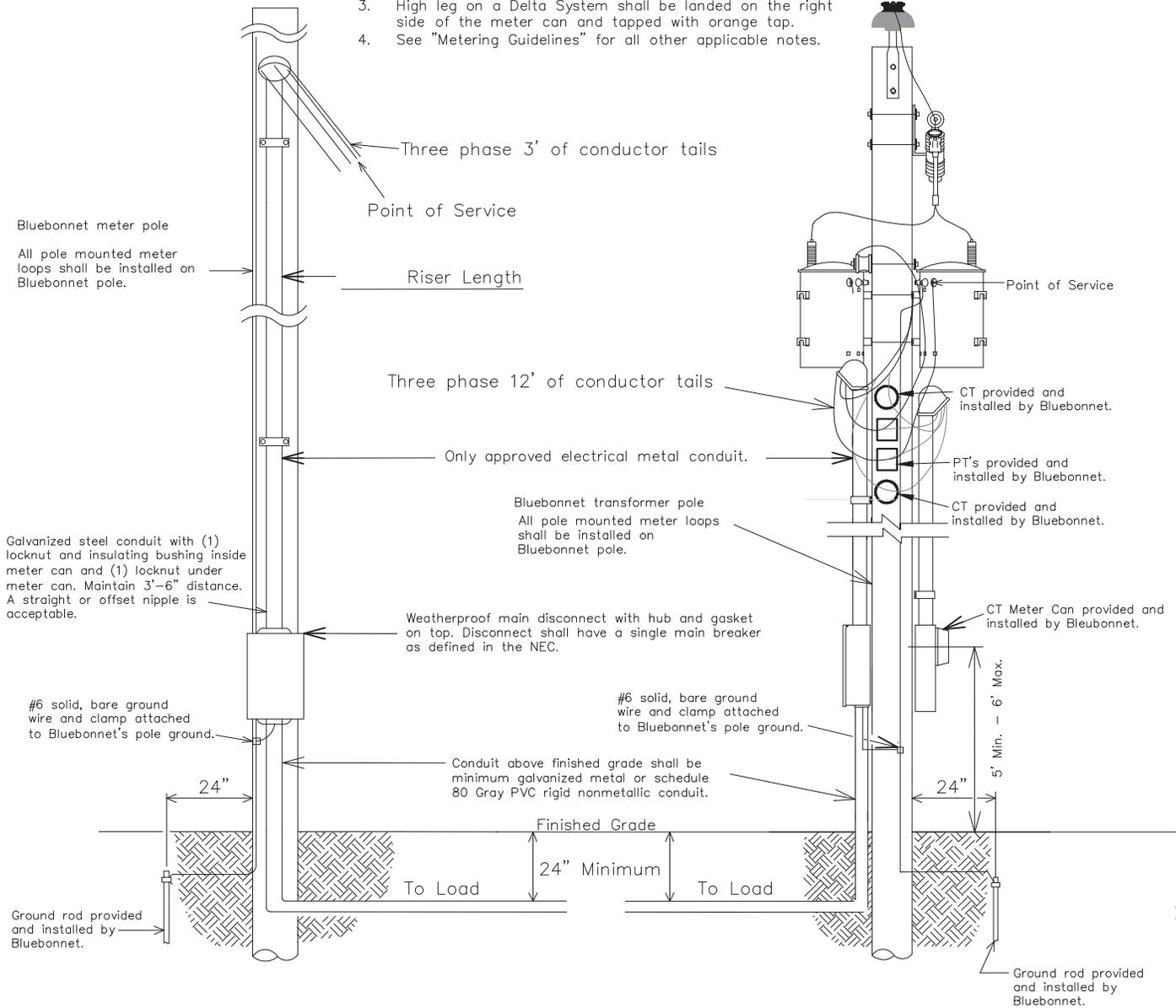
3Ø, STRAIGHT 480 VOLT
3W CORNER GROUND DELTA
60-200 AMP



DATE	REVISIONS	Drawn By :	Checked By :	Approved By :
12-07-2017	Changed the wording on Note # 6.	RG	MS COMMITTEE	MS COMMITTEE
11-04-2021	Added Main Breaker Note	Scale :	Date:	
		NONE	11-04-2021	MS-301A

Notes:

1. A Bond wire shall be used, see NEC Table 250.66 for Bond Wire sizing.
2. Height of meter loop riser will be determined by BEC.
3. High leg on a Delta System shall be landed on the right side of the meter can and tapped with orange tap.
4. See "Metering Guidelines" for all other applicable notes.



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

WIRE SIZE	COPPER CONDUCTOR		WIRE SIZE	ALUMINUM CONDUCTOR	
	BREAKER SIZE	CONDUIT SIZE		BREAKER SIZE	CONDUIT SIZE
#6	60 AMP	1¼" CONDUIT	#4	60 AMP	1¼" CONDUIT
#4	100 AMP	1¼" CONDUIT	#2	100 AMP	1¼" CONDUIT
#2	125 AMP	1½" CONDUIT	#1/0	125 AMP	1½" CONDUIT
#1	150 AMP	2" CONDUIT	#2/0	150 AMP	2" CONDUIT
#2/0	200 AMP	2" CONDUIT	#4/0	200 AMP	2" CONDUIT

3 PHASE, STRAIGHT 480 VOLT 3W CORNER GROUND DELTA >200 AMP



DATE	REVISIONS		Drawn By :	Checked By :	Approved By :
11-04-21	Added Main Breaker Note		RG	MS COMMITTEE	MS COMMITTEE
-	-		Scale :	Date:	MS-301B
			NONE	11-04-2021	

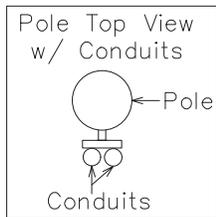
Notes:

- Line taps shall be made in the galvanized wire trough by the electrical contractor.
- When more than (1) disconnect is used, a galvanized rough system shall be installed.
- Two (2) disconnects could be substituted with (1) disconnect. All disconnects shall have over current protection installed.
- No more than two (2) risers or two (2) conductors per phase shall be allowed.
- 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.
- High leg on a Delta System shall be landed on the right side of the meter can and taped with orange tape.
- See "Metering Guidelines" for all other applicable notes.

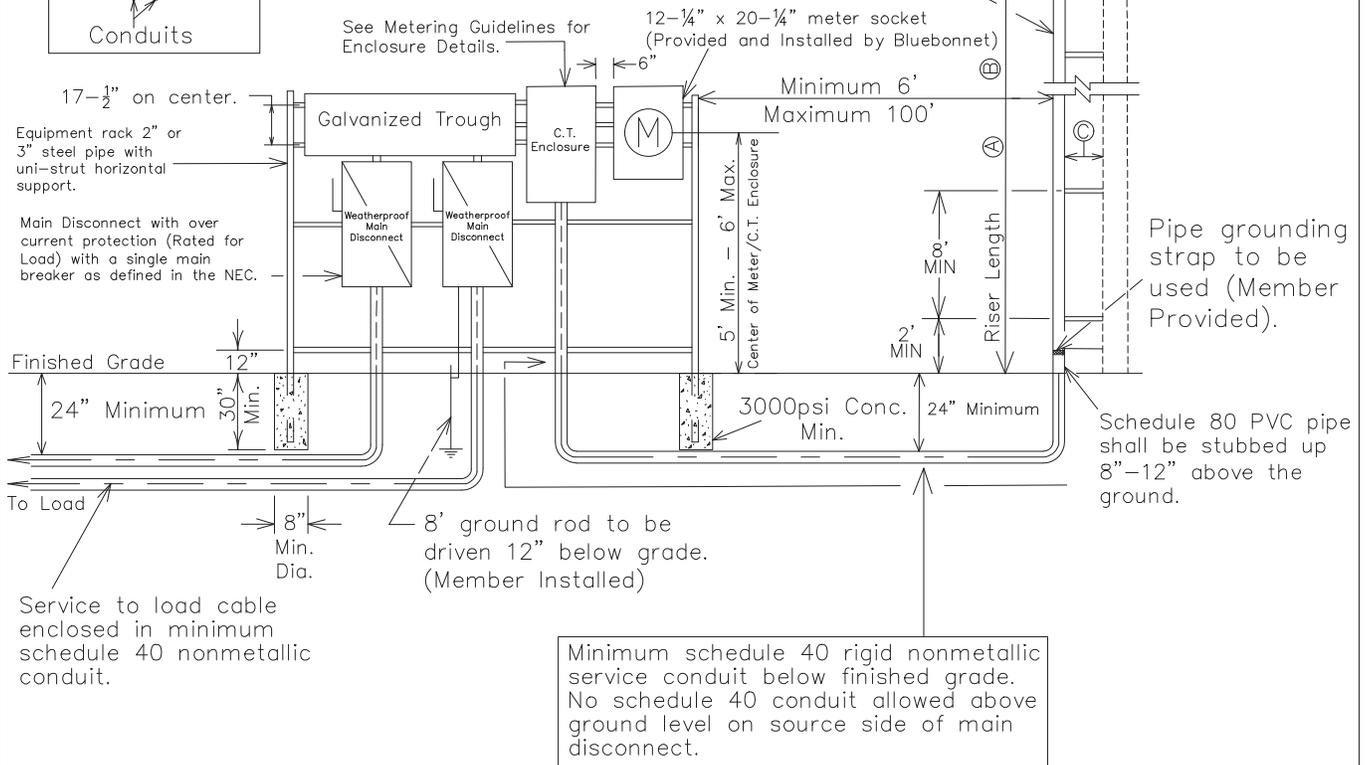
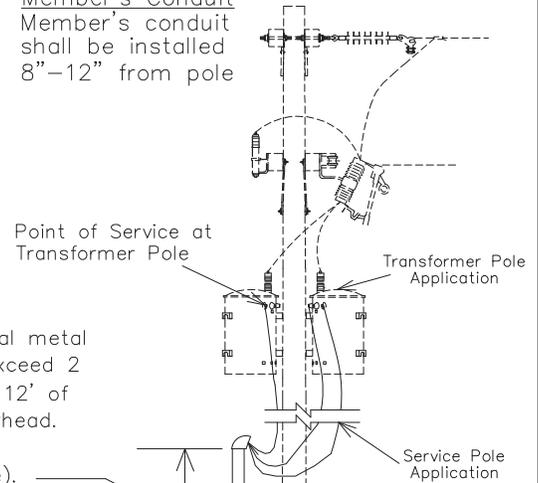
Ⓐ Transformer Pole Riser Length:
 35' Pole = 20' Riser
 40' Pole = 24' Riser

Ⓑ 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



Only 2", 3", or 4" approved electrical metal conduit is allowed. Risers will not exceed 2 risers per pole. Member will provide 12' of conductor tails from top of weatherhead. Bluebonnet to supply stand-offs. (Bluebonnet to mount risers to pole).



3PH, STRAIGHT 480 VOLT 3W CORNER GROUND
 DELTA >200 AMP ON RACK OR BUILDING

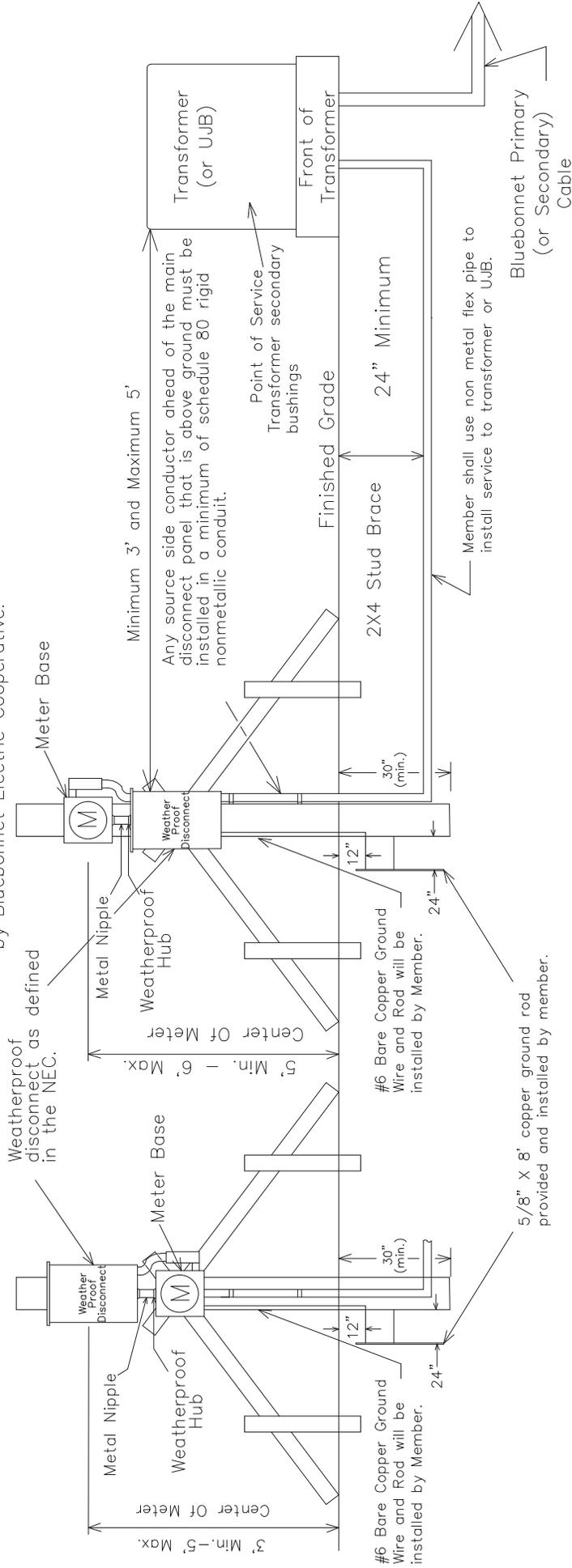


Drawn By : DK	Checked By : CV	Approved By : STANDARDS
Scale : NONE	DATE: Jun. 27, 2023	MS-301C

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. 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.
7. All connections inside pad mounted transformer and UJB's will be made by Bluebonnet. Temporary Meter Loop Services are good for up to 24 months of service or less.
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.



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	WIRE SIZE	BREAKER SIZE
#6	60 AMP	#4	60 AMP
#4	100 AMP	#2	100 AMP
#2	125 AMP	#1/0	125 AMP
#1	150 AMP	#2/0	150 AMP
#2/0	200 AMP	#4/0	200 AMP



TEMPORARY METER LOOP FOR UNDERGROUND SERVICE

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

Checked By : MS COMMITTEE
 Drawn By : RG
 Scale : NONE
 Approved By : MS COMMITTEE
 DATE: 11-04-2021
 MS-302

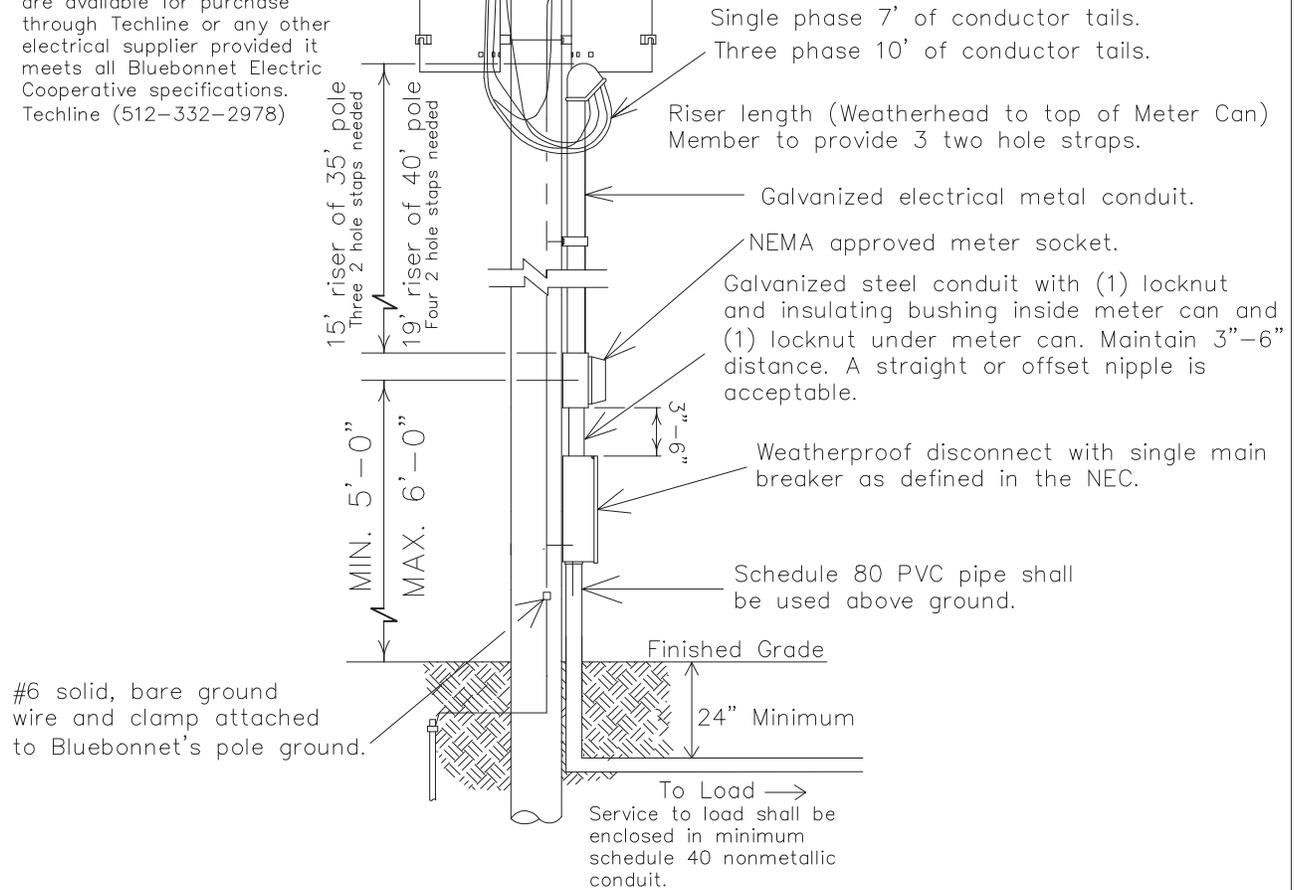
Notes:

- All pole mounted meter loops shall be mounted to Bluebonnet poles.
- All secondary connections made by Bluebonnet.
- All outlets attached to meter loop shall have ground-fault circuit interrupter protection.
- Temporary Meter Loop Services are good for 24 months of service or less
- 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.

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)



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

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

ALUMINUM CONDUCTOR

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

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



Drawn By : SF	Checked By : MS COMMITTEE	Approved By : MS COMMITTEE
Scale : NONE	DATE: 8-26-2025	MS-303

DATE	REVISIONS
8-26-25	Changed riser requirements to be full sized
11-04-21	Added main breaker note