



MEDINA ELECTRIC
COOPERATIVE, INC.

ELECTRIC SERVICE STANDARDS

Exceed Member Expectations in Everything We Do.

MedinaEC.org | 1-866-632-3532

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1.0 Introduction

The Medina Electric Cooperative Electric Service Standards (hereafter called “Standards”) are published to provide members, their architects, engineers, builders, and contractors the relevant specifications, information, and guidance for electric service and meter installations. Mandatory rules of these Standards are those that identify actions that are specifically required or prohibited and are characterized by the terms “shall”, “must”, etc.

The information and exhibits contained herein convey general knowledge and do not provide every detail or every requirement. Furthermore, this information is supplementary to and does not intentionally conflict with the latest revision of the National Electrical Code (NEC), National Electrical Safety Code (NESC), Medina EC Tariff, or such state and municipal laws and ordinances as may be in force and applicable within the cities, towns, or communities in which Medina EC provides electric service. To the extent that any information included in these Standards contradicts any terms in Medina EC’s current applicable Tariff, the Tariff provision shall govern. In the event a conflict should arise between the NESC, the NEC, or any other applicable governing codes, the most stringent code will apply. Medina EC reserves the right to make the final determination.

Medina EC shall have the right to refuse to connect any wiring or installation that does not fully meet the aforementioned requirements, regulations, and rules. Medina EC shall also have the right to disconnect the wiring or installation of any member violating any such requirements, regulations, or rules. Any such action by Medina EC is not intended to and does not imply that Medina EC undertakes any obligations to inspect the member’s wiring and electrical facilities, to assume any obligations, or to make any representations concerning their adequacy, safety, fitness for purpose, or other qualification. Nothing in the aforementioned requirements, regulations, rules, or in these Standards shall be construed as imposing or undertaking such obligations or representations.

All inquiries regarding service, or meter related, requirements shall be directed to Medina EC at 1-866-632-3532. Any inquiries regarding the NEC or local codes shall be directed to the local inspection authority.

These Standards are subject to periodic revision and will be re-issued on an as needed basis. It is the responsibility of the member to obtain the current version. The current edition of these Standards supersedes all previous editions or versions.

The current edition of these Standards is available at: www.MedinaEC.org/NewService.



2.0 Definitions

Ampacity: The current, in Amperes, that a conductor can carry continuously under the conditions of use without exceeding its temperature rating.

Bonding (Bonded): The permanent joining of metallic parts to form an electrically conductive path that ensures electrical continuity and the capacity to conduct safely any current likely to be imposed.

Clearance: A specified minimum distance between two objects measured surface to surface to assure adequate space for safety, security, or access.

Current Carrying Conductor: Any conductor, grounded or not, that carries current. The grounded (neutral) service conductor is not treated as a current carrying conductor in these Standards.

Disconnecting Means: A device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply. Circuit breakers shall be considered a means of disconnect.

Distribution: Medina EC supply voltages of 12.47/7.2kV and 24.9/14.4kV

Drip Loop: A downward loop in the member's conductors near where the member's conductors attach to Medina EC's overhead conductors, to prevent water from entering the service mast at the weatherhead.

EMT: Electric Metallic Tubing

Fault: A short circuit between conductors, or between a conductor and ground, causing an abnormal current to flow. Also, a failure (break) in a conductor which causes an open circuit.

Final Grade: The permanent ground level after all finished grading, paving, and landscaping is completed. All vertical measurements referenced from the ground in these Standards shall be taken from the Final Grade.

Ground, electrical: A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth or to some conducting body that serves in place of the earth.

Grounded (Neutral) Service Conductor: The grounded (neutral) conductor of a service that is intentionally grounded and carries current during normal operation of the service system.

Grounding Conductor, Equipment (typically EGC, Equipment Grounding Conductor): The conductor used to connect the non-current-carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor, the grounding electrode conductor, or both, at the service equipment or at the source of a separately derived system.

Grounding Electrode Conductor (GEC): The conductor used to connect the system grounded conductor, or the equipment, to a grounding electrode, or to a point on the grounding electrode system.



Main Bonding Jumper: The connection between the grounded circuit conductor and the equipment-grounding conductor at the service.

Main Service Disconnect: The single service disconnecting means, as defined by the NEC, that constitutes the main control and cutoff of the electrical supply to the service.

NEC - National Electrical Code: National regulations for the installation of electrical equipment inside buildings. Published by the National Fire Protection Association. NEC rules apply to equipment on the member's side of the point-of-delivery.

NESC - National Electrical Safety Code: National regulations for the installation, operation and maintenance of electric supply and communication lines. Published by Institute of Electrical and Electronics Engineers. NESC rules apply to equipment on the electric utility's side of the point-of-delivery.

Overcurrent protection Device: Any device that limits or interrupts current in a fault or overload condition. Fuses or circuit breakers shall be considered overcurrent protection.

Phasing: A form of marking conductors to the specified use, voltage, or phase.

Point of Delivery (POD): The point where Medina EC owned conductors, or devices, are connected to the member owned conductors, or devices.

- Overhead primary voltage service POD: The load side terminals of the Medina EC primary metering equipment.
- Overhead secondary voltage service drop POD: The splice between Medina EC's and the member's conductors at the meter loop weatherhead.
- Underground primary voltage service POD: The load side terminals of the Medina EC primary metering equipment.
- Underground secondary voltage service POD: The supply side terminals of the meter socket.

Readily Accessible: The ability for Medina EC personnel to have unobstructed access.

Residential Service: Service to a single-family residence

Secondary Conductors: Medina EC owned conductors between a transformer's secondary lugs and the service Point of Delivery.

Secondary Voltage: Medina EC supply voltages of 600V, or less

Service Conductors: Member owned conductors used after the service Point of Delivery.

Temporary Service: Electric service provided to a site for less than one year. Typically used during the construction phase of a project. Upon project completion the temporary service is replaced by a permanent service.

Underground Residential Distribution (URD): The system of underground cables, pad-mounted transformers, and associated equipment used to deliver electric power to residential



areas.

Universal Junction Box (UJB): A metal enclosure used to organize, protect, and distribute electrical power conductors.

Weatherhead: A hooded, downward-facing fitting located at the top of a building's meter loop service mast that provides a safe, dry entry point for overhead electrical lines.



3.0 General Requirements

3.1 Medina EC Tariff

Medina EC's tariff may be found at <https://www.medinaec.org/tariff>.

3.2 Availability and Types of Service

Electrical Service will only be provided within Medina EC's service area as defined in Medina EC's tariff. Available electric service includes 60-hertz, alternating current, single-phase or three-phase with acceptable voltage ranges according to ANSI C84.1-2011. The following are the only approved secondary voltages supplied by Medina EC:

3.2.1 Standard Secondary Service Voltages

- Single-phase, 120/240-volt, three-wire grounded
- Single-phase, 240/480-volt, three-wire grounded
- Three-phase, 120/208-volt, four-wire grounded, wye
- Three-phase, 277/480-volt, four-wire grounded, wye

3.2.2 Nonstandard Secondary Service Voltages

- If the member requests a voltage which is non-standard or is not available for a specific load or location, such voltage may be provided by Medina EC at its discretion and at the expense of the requesting party. Medina EC does not guarantee that facilities providing non-standard service (e.g. transformers) are readily available, and extended outages may result.

3.3 Applications for Service

3.3.1 All inquiries or applications relating to the use of electric service, including temporary service, should be made to Medina EC to facilitate the prompt rendering of electric service to new members or additional electric service to existing members. Relevant applications and process details are located on the Medina EC website at <https://www.medinaec.org/newservice>.

3.3.2 Member Alterations and Additions to Existing Service: The Medina EC facilities used to provide service have definite capacity limitations and can be damaged by overloads. Therefore, the member must submit an application to Medina EC prior to making alteration to the service entrance equipment so that facilities of proper capacity may be provided. The member shall be responsible for all expenses and/or damage to member's facilities resulting from failure to give proper notice. The member may also be subject to charges by Medina EC for work required to meet the members' alteration.

3.4 Easements and Rights of Access

Easements and Rights of Access necessary to provide electric service to the member shall be governed by the terms of the member's signed Medina EC Electric Service Agreement.



3.5 Continuity and Quality of Electric Service

3.5.1 Continuity of Electric Service shall be governed by the terms of the member's signed Medina EC Electric Service Agreement.

3.5.2 Members planning the installation of electric equipment such as computers, communication equipment, electronic control devices, motors, etc., the performance of which may be adversely affected by voltage fluctuations, distorted 60 hertz wave forms, or single-phase events, are responsible for providing and installing the necessary equipment, including protective equipment, to limit those possible adverse effects.

3.5.3 The member shall not operate any apparatus which creates a condition that interferes with Medina EC's operation or prevents Medina EC from supplying satisfactory service to the member or to other members. This condition includes, but is not limited to, operating equipment that interferes with the satisfactory operation of other members' radio, television, and communication equipment.

3.5.4 Medina EC reserves the right to place restrictions on the type and manner of use of all the member's electrical equipment connected to Medina EC's lines, especially regarding large loads of highly fluctuating or low power factor characteristics.

3.6 Service Installation Responsibilities

3.6.1 The member is responsible for all facilities beginning at the Point-of-Delivery. Medina EC does no wiring on the member's premises other than the installation of secondary wires, meters, and pole, if applicable. The member shall be responsible for injury to persons or damage to property occasioned by, or in any way resulting from, electric service or the use thereof on the member's side of the Point-of-Delivery.

Item or Material	Party to Furnish/Own	Party to Install
Permits/Application	Member	N/A
Install the Service Drop	Medina EC	Medina EC
Inspect Connections	Medina EC	Medina EC
Wiring of the Load Side Meterbase	Member	Member
Meter Socket	Medina EC	Member
Billing Meter	Medina EC	Medina EC
Load Side Conduit and Conductor	Member	Member
Ground Rod(s) for Meter	Member	Member
Easements	Member	Medina EC
Primary Meter	Medina EC	Medina EC
Meter Rack	Member	Member
Permanent Meter Pole	Medina EC	Medina EC

TABLE 1: Overhead Service Responsibilities



Item or Material	Party to Furnish/Own	Party to Install
Underground service lateral (residential and commercial) after the meter	Member	Member
Service conduit and conductor from Medina EC equipment to the meter rack	Medina EC	Medina EC
Service entrance conduit	Member	Member
Meter socket	Medina EC	Member
Billing meter	Medina EC	Medina EC
Load-side conduit and conductor	Member	Member
Ground rod(s) for Meter	Member	Member
Bollard Posts at member's cost	Medina EC	Medina EC

TABLE 2: Underground Service Responsibilities

3.7 Attachments to Medina EC Owned Facilities

No member owned facilities shall be installed on, or connected to, Medina EC owned facilities unless specified in these Standards or by previous approval by Medina EC.

3.8 Pre-Energizing Inspection of Member's Service

3.8.1 The member's installation shall be in compliance with the National Electrical Code (NEC), these Standards, and all applicable codes and ordinances as may be legally required by any local authorities having jurisdiction. Medina EC is not required to provide service for an installation until it has been confirmed by inspection that this compliance has been met. The inspection will be performed after notification of a completed meter loop. A meter will be installed after the inspection is successfully passed.

3.8.1.1 Medina EC lists known permits required by county on its <https://www.medinaec.org/newservice> page but members have the end responsibility to determine what permits may be required by their local authorities having jurisdiction.

3.8.1.2 Any exceptions or deviations from these compliance requirements shall require prior approval from Medina EC's Engineering Department. Medina EC shall not waive any permitting requirements, codes, or ordinances required by the member's local authorities having jurisdiction.

3.8.2 An inspection is not required for the reconnection of a service which has been temporarily disconnected because of non-payment of a bill or because of the necessity of



temporary disconnection for the performance of maintenance work by Medina EC.

3.8.3 Medina EC will refuse service where a known hazardous condition exists and/or if connections do not meet the specifications outlined in these Standards. Medina EC urges the member to use a qualified electrician to prevent safety hazards, additional costs and delays. Medina EC requires that all construction meet or exceed these specifications prior to service connection. While Medina EC makes all reasonable efforts to ensure good electrical practice on the member's side, Medina EC is not responsible for validating additional criteria that may be applicable to the member's premises, beyond the scope of this document. Medina EC reserves the right to decline service to any new installation or to discontinue service to any existing installation that is unsafe or does not comply with these Standards.

3.9 Energizing Member's Service

Only authorized employees of Medina EC are permitted to make the connection between Medina EC's secondary wires and the member's service entrance conductors at the Point-of-Delivery.



4.0 Design and Construction Requirements

4.1 Service Clearances

4.1.1 Horizontal and Vertical Electrical clearances shall be in accordance with these Standards, the NESC, the NEC and all applicable local codes with the most restrictive requirement governing. Clearances must be measured surface-to-surface, not center-to-center. Diagonal measurements do not apply to electrical clearances. Diagrams provided in Appendix A are intended as illustrative examples and are not comprehensive nor supersede more stringent requirements.

4.1.2 Overhead Secondary Conductor Clearances

4.1.2.1 Conductor vertical clearances to ground shall be measured at the lowest point of sag within the span to Final Grade. Conductors shall meet clearances at worse case; final sag 32 degF with ice, or 120 degF.

4.1.2.2 Service Attachment Point

The member is not responsible for stringing the secondary conductors; however, they must furnish a point of attachment of sufficient height and structural strength to enable Medina EC to install the secondary conductors and maintain all required clearances for secondary conductors and drip loops.

4.1.2.3 The path for overhead secondary conductors shall not cross over any structure without prior Medina EC approval. If a structure does not currently exist at the location, stakes must be placed to mark where it will be built.

4.1.2.4 Clearances to Pools and Diving Structures

Pools and diving structures shall not be located beneath or within 30 ft from any overhead conductor measured horizontally from the edge of the pool. If an overhead conductor is found routed over a pool, that service will be removed until the safety hazard has been rerouted or resolved.

4.1.2.5 Refer to Standards Appendix A drawing MEC-1A

4.1.3 Underground Clearances and Utility Locates

4.1.3.1 For all jobs requiring excavation, including meter rack, temporary poles, or underground conductors, the member or contractor performing the work shall call TEXAS811 for locating jobs before digging to Medina EC equipment. Member shall verify all other utility locations or conflicts. Medina will not locate other utilities.

4.1.3.2 All energized underground conductors must remain 15 ft from the face of a pool.

4.1.3.3 Refer to Standards Appendix A drawing MEC-1B



4.1.4 Vegetation and Working Clearances

4.1.4.1 Permanent and Temporary obstructions are not permitted within three feet in any direction of an electric meter. Obstructions include, but are not limited to, trees, shrubs, HVAC units, generators, walls, fences, gas meters and buildings.

4.1.4.2 Clearances from pad-mounted transformers to structures shall be measured from the nearest metal portion of the transformer to the structure or any overhang.

4.1.4.3 A minimum of 10 feet of clear, level, unobstructed working space is required in front of a pad-mounted transformer to allow the use of hot sticks.

4.1.4.4 Medina EC may install bollard posts, at its discretion, where Medina EC equipment is exposed to vehicular traffic or where minimum horizontal clearances cannot be met.

4.1.4.5 Refer to Standards Appendix A drawing MEC-1C

4.2 Maximum Number of Services to a Building or Structure

A building or other structure served shall be supplied by only one service point of delivery unless permitted in 2023 NEC 230.2(A) through (D). Member owned service entrances at 600 volts and less and over 3000 amps of load require Medina EC approval and may be required to be served with two or more adjacent services at the point of delivery.

4.3 Meter Loop Equipment, General

4.3.1 All meter loop equipment, excluding permanent service meter poles or meter loop equipment purchased from Medina EC, shall be weatherproof and be installed by the member's electrician. All wiring shall be NEC compliant. A meter socket will be provided by Medina EC and installed by member for all Services 400 amp and below or motors 250 Hp and below. For other services Medina EC will provide and install metering current transformers and a meter socket that are separate from the member's service entrance equipment.

4.3.2 Meter loop equipment shall be installed at a readily accessible, unobstructed location outside of a building or structure, unless otherwise approved by Medina EC prior to installation. Location shall be accessible to Medina EC personnel at all times. Locations behind locked gates shall provide Medina EC a means of entrance.

4.3.3 All service equipment must be metered ahead of the main service disconnect.

4.3.4 Overhead services: Member shall provide 24" minimum lead from the weatherhead.

4.3.5 Underground services: Medina EC will designate the location for the service trench and the distance that the trench is to terminate from either the transformer, or Universal Junction Box (UJB).

4.3.6 Self-Contained Metering, Single-Phase and Three-Phase



4.3.6.1 Services with a total connected load of 200 amps or less shall use a 200 amp meter socket and enclosure.

- Single-phase, 240V: Form 2S, Class 200
- Single-phase, 120-480V: Form 2s, Class 200
- Three-phase, 120-480V: Form 16S, Class 200

4.3.6.2 Services with a total connected load of 201 amps to 400 amps shall use a 320 amp meter socket and enclosure.

- Single-phase, 240V: Form 2s, Class 320
- Three-phase, 120-480V: Form 16S, Class 320

4.3.7 Current Transformer (CT) Metering, Single-Phase and Three-Phase

4.3.7.1 Services greater than 400 amps shall use CT metering.

- Single-phase, 120-480V: Form 4S, Class 20
- Single-phase, Primary Voltage: Form 3S, Class 20
- Three-phase, 120-480V: Form 9S, Class 20
- Three-phase, Primary Voltage: Form 9S, Class 20

4.3.7.2 All CT enclosures must include provisions for the installation of a Medina EC locking device.

4.3.7.3 All CT wiring shall be installed by Medina EC. Conductors run from the CTs/PTs to the metering test switch shall be No. 10 AWG copper and routed using the shortest practical path. Total conductor length shall not exceed 100 feet.

4.4 Permanent Service Meter Poles

Permanent meter poles will be set by Medina EC. No consumer-owned meter loops should be installed on Medina EC transformer poles. Meter poles are part of the construction cost and remain the property of Medina EC. Member shall not install any other devices on meter poles. Medina EC installs a 30' meter pole minimum.

- If a 200-amp meter loop is purchased from Medina EC, Medina EC will install the meter loop
- Conduits must be securely attached to pole with four straps minimum spaced four foot apart. Straps must match conduit size.
- The meter base shall be securely and directly mounted to the meter pole. A wood backing is not allowed.
- Meter poles shall not have more than two meter loops.
- Wires leaving the main service disconnect box shall be enclosed in the proper size of conduit.
- All outlets attached to meter loop shall have GFCI protection.
- Outlets and breakers shall be installed prior to Medina EC setting a meter.
- Wires from the main service disconnect shall be installed and terminated prior to Medina EC setting a meter.
- Meter poles shall be properly grounded in accordance with the grounding requirements of these Standards.
- Conduit between weatherhead and meter can shall be rigid or EMT



4.4.1 Pole Mounted 100-200A Meter Loop, Single Disconnect

- Refer to Standards Appendix A drawing MEC-2

4.4.2 Pole Mounted 320A Meter Loop, Rack, Trough, Single Disconnect

- Refer to Standards Appendix A drawing MEC-3

4.4.3 Pole Mounted 320A Meter Loop, Rack, Trough, Two Disconnects

- Refer to Standards Appendix A drawing MEC-4

4.4.4 Pole Mounted 320A Meter Loop, Rack, Side by Side, Two Disconnects

- Refer to Standards Appendix A drawing MEC-5

4.4.5 Overhead Service to Mobile homes and Manufactured Homes

Overhead service to a mobile home, or manufactured home, must use a permanently installed meter pole within sight of the home it serves. Mobile home service equipment shall not be mounted in or on the mobile home in accordance with 2023 NEC 550.32(A).

4.5 Temporary Service Meter Poles

Temporary meter poles for construction are the member's responsibility and must be maintained in a safe condition through their period of use. Member shall not allow pole to be moved or tampered with as long as Medina EC's secondary wires are attached. Temporary services are for construction use only and cannot be used for houses, barns, water wells, or small commercial buildings as the member's main electrical service feed.

- 4" x 4" pressure treated wood pole mast minimum. No 2" x 4" studs nailed together will be permitted.
- Temporary post shall not be located in line with the proposed permanent service.
- 2" x 4" stakes are recommended, but depending on soil conditions, other materials such as concrete form stakes may be used.
- Conduits must be securely attached to pole with two straps minimum. Straps must match conduit size. Fasteners must be appropriate for environment.
- Meter base shall be securely mounted to pole
- All temporary wiring shall be NEC compliant.
- No more than one conductor per hot terminal will be allowed.
- Wires leaving the main service disconnect box shall be enclosed in the proper size of conduit.
- All outlets attached to meter loop shall have GFCI protection.
- Outlets and breakers shall be installed prior to Medina EC setting a meter.
- Temporary meter poles shall be properly grounded in accordance with the grounding requirements of these Standards.
- Conduit between weatherhead and meter can shall be rigid or EMT

4.5.1 Temporary Underground Service

- All connections inside a pad-mounted transformer or UJB shall be made by Medina EC.
- Member will provide conductors long enough to be connected inside Medina EC's transformer or secondary box.
- Medina EC shall designate the location for the temporary service trench and the distance that the trench is to terminate from either the transformer, or UJB.



- Temporary underground service pole shall be a minimum of 3' and a maximum of 10' horizontal distance from the pad-mounted transformer.
- **Refer to Standards Appendix A drawing MEC-6**

4.5.2 Temporary Overhead Service

- Member shall provide 24" minimum lead from the weatherhead with the neutral identified with white tape.
- Temporary overhead service pole shall be a minimum of 10' and a maximum of 15' horizontal distance from the transformer pole.
- **Refer to Standards Appendix A drawing MEC-7**

4.6 Free Standing Meter Racks

4.6.1 Rack mounted 125/320A Meter Loop, UG, Single Disconnect

- **Refer to Standards Appendix A drawing MEC-8**

4.6.2 Rack mounted 320A Meter Loop, UG, Side by Side, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-9**

4.6.3 Rack mounted >320A CT Meter Loop, UG, Trough, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-10**

4.7 Building Mounted Meter Loop

4.7.1 Building Mounted 100 - 320A Meter Loop, OH, Single Disconnect

- **Refer to Standards Appendix A drawing MEC-11**

4.7.2 Building Mounted 100-320A Meter Loop, UG, Single Disconnect

- **Refer to Standards Appendix A drawing MEC-12**

4.7.3 Building Mounted 320A Meter Loop, OH, Trough, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-13**

4.7.4 Building Mounted 320A Meter Loop, UG, Trough, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-14**

4.7.5 Building Mounted 320A Meter Loop, OH, Side by Side, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-15**

4.7.6 Building Mounted 320A Meter Loop, UG, Side by Side, Two Disconnects

- **Refer to Standards Appendix A drawing MEC-16**

4.7.7 Building Mounted 100 - 320A Meter Loop, OH, Thru Roof, Single Disconnect

- **Refer to Standards Appendix A drawing MEC-17**

4.7.8 Building Mounted >320A CT Meter Loop, OH, Single Disconnect

- **Refer to Standards Appendix A drawing MEC-18**

4.7.9 Building Mounted >320A CT Meter Loop, OH, Thru Roof, Single Disconnect



- Refer to Standards Appendix A drawing MEC-19

4.7.10 Building Mounted >320A CT Meter Loop, UG, Single Disconnect

- Refer to Standards Appendix A drawing MEC-20

4.7.11 Building Mounted, Two 100-320A Meter Loops, OH, Trough, Single Disconnects

- Refer to Standards Appendix A drawing MEC-21

4.7.12 Building Mounted 100-320A & CT Meter Loops, UG, Trough, Single Disconnects

- Refer to Standards Appendix A drawing MEC-22

4.8 Service Disconnecting Means

4.8.1 Allowed Main Service Disconnects

Per 2023 NEC 230.70(C), each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in locations classified hazardous shall comply with hazardous location requirements. Only breakers designed, manufactured, and approved for use as a main disconnect will be permitted to be used as a main disconnect.

4.8.2 Main Service Disconnect Rating

The main service disconnect shall have a rating no less than that of the calculated load and in accordance with 2023 NEC 230.79 and all other applicable NEC sections and governing codes.

4.8.2.1 Single Family Dwelling. The 3-wire service disconnect for a one family dwelling shall be no less than 100 amps in accordance with 2023 NEC 230.79(C).

4.8.2.2 All Other Installs. For any other type of installs, the means of disconnect shall not be less than 60 amps in accordance with 2023 NEC 230.79(D).

4.8.3 Main Service Disconnect Marking

Each service disconnect shall be permanently marked to identify it as a service disconnect in accordance with 2023 NEC 230.70(B).

4.8.4 Maximum Number of Disconnects

4.8.4.1 Each service shall have only one main service disconnect unless the requirements of 2023 NEC 230.71(B) are met. If those requirements are met, two to six service disconnects may be permitted for each service. These disconnects must be grouped together and marked to indicate the load served in accordance with 2023 NEC 230.72.

- If one of the permitted two to six additional service disconnects serves a fire pump, emergency system, legally required standby, or optional standby service permitted by 2023 NEC 230.2, it shall be located separately from the grouped service disconnects. A plaque must be posted at the grouped disconnects indicating its location.
- The member shall be required to have a main service disconnect if the two to six grouped disconnects are located more than six feet from the meter in



accordance with these standards.

4.8.4.2 More than six service disconnects require a main service disconnect.

4.8.4.3 If grouped service disconnects require a main service disconnect, it must be located immediately adjacent to them.

4.8.5 Fire Pump Service Connection

4.8.5.1 Fire Pump Service Conductors

Where a fire pump is supplied from the building's normal electric service, the fire pump service conductors shall be connected on the load side of the utility revenue meter and on the line side of the building's main service disconnect, in accordance with the 2023 NEC and NFPA 20. This connection point is reserved exclusively for fire pump service. No other customer loads shall be connected at this location.

4.8.5.2 Identification and Utility Access

The fire pump tap shall be installed to provide clear identification, physical separation, safe access, and ready visibility for utility personnel during inspection and service connection. Any conductors connected on the line side of the building's main service disconnect that are not fire pump service conductors shall be considered unauthorized and will not be energized by the utility.

4.9 Service Entrance Conductors

4.9.1 Service Entrance Conductor and Conduit Sizes

Service entrance conductor sizes shall be determined by the service equipment disconnecting means name plate rating. If the name plate is missing or not legible, contact Medina prior to installation.

- **Refer to Standard Appendix A tables MEC-24 to MEC-30**

4.9.2 Service Entrance Grounded (Neutral) Conductor Size Reduction

The grounded (neutral) service conductor shall not be reduced in accordance with these Standards.

4.9.3 Three-Phase Service Entrance Conductor Phase Marking

Three-phase service entrance conductors shall be distinctly marked at their termination points with phasing tape using the color code shown below:

TYPE OF SERVICE	PHASE A	PHASE B	PHASE C	NEUTRAL
120/208V, Wye-GND	Red	Black	Blue	White
277/480V, Wye-GND	Purple	Brown	Yellow	White
120/240/208V Delta-GND	Red	Black	Orange (208V)	White



TABLE 3: Three-Phase Conductor Color Code

NOTE: Where conductors are marked as shown above, Medina EC will connect service for A-B-C phase rotation (clockwise indication on a phase sequence indicator). This color code applies to all three-phase services, overhead or underground. A permanent plaque and/or labeling to indicate this termination within metering equipment enclosures is required.

4.9.4 Paralleled Service Conductors

4.9.4.1 Paralleled Service Conductors must be the same length, conductor material, size, insulation type, and be terminated in the same manner.

4.9.4.2 The service disconnecting means must be able to terminate paralleled conductors. No double lugging of conductors shall be permitted on the meter base or service equipment.

4.9.5 Line and Load Conductors

Conductors other than service-entrance conductors shall not be in service raceways. Member load conductors shall not be permitted in any service raceway, junction box, or auxiliary gutter installed ahead of Medina EC metering equipment.

4.9.6 Revenue Metering Conductors

Revenue metering conductors shall remain within Medina EC owned or controlled enclosures and raceways from the instrument transformer secondary terminals to the meter and test switch. Metering conductors shall not be routed through member-owned conduit, cable trays, junction boxes, or other customer-owned raceways unless specifically approved by Medina EC.

4.10 Grounding

Each service supplied by Medina EC shall be grounded and connected to earth by the member in accordance with the applicable provisions of the NEC, these Standards, and all other governing codes.

4.10.1 Grounded (Neutral) Service Conductor

The grounded (neutral) service conductor shall be connected to the grounded conductor terminal or bus at the main service disconnect.

4.10.2 Main Bonding Jumper

The main bonding jumper shall bond the grounded (neutral) service conductor at the grounded conductor terminal or bus to the main service disconnect enclosure in accordance with 2023 NEC 250.24(D) and 250.28.

The main bonding jumper shall be installed using a listed green bonding screw at the main service disconnect. Alternate bonding methods shall not be permitted unless approved by Medina EC. Installation shall comply with 2023 NEC 250.8 and 110.3(B), in addition to these Standards.



A copper conductor or busbar shall be permitted to serve as the main bonding jumper, sized in accordance with 2023 NEC 250.28(D).

4.10.3 Grounding Electrode

A ground rod electrode shall be installed at each service. This ground rod electrode shall be in addition to any other electrodes required to form the grounding electrode system. The grounding electrode shall consist of a 5/8" diameter by 8' long copper clad ground rod. Rods shall be driven to a depth that the top is 12" below ground level in undisturbed soil. Where rock bottom is encountered ground rods may be driven at an angle of 45 degrees from the vertical or shall be buried in a trench that is not less than 30 inches deep, NEC 2023 250.53(A)(4).

4.10.4 Grounding Electrode System

All grounding electrodes as described in 2023 NEC 250.50(A)(1) through (A)(7) that are present at each building or structure served, in addition to the ground rod electrode required in these Standards, shall be bonded together to form the grounding electrode system.

NOTE: Per 2023 NEC 250.52(B) the following systems and materials shall not be used as grounding electrodes: metal underground gas piping systems, aluminum, or the structures and structural rebar described in 2023 NEC 680.26(B)(1) and (B)(2).

4.10.5 Grounding Electrode Conductor

4.10.5.1 Material

The grounding electrode conductor shall only be copper and may be stranded or solid.

4.10.5.2 Size

The grounding electrode conductor shall be sized according the table in Appendix A MEC-23.

4.10.5.3 Installation

The grounding electrode conductor shall be installed in accordance with 2023 NEC 250.64. The conductor shall be continuous, protected where physical damage is possible, and not placed in aluminum conduit unless suitably protected from corrosion.

4.10.5.4 Connection to Main Service Disconnect

The grounding electrode conductor shall be connected to the grounded (neutral) service conductor at the main service disconnect, terminating on the grounded conductor terminal or bus, in accordance with these Standards and 2023 NEC 250.24(A)(1).

- **Refer to Standards Appendix A drawing MEC-23**

4.10.6 Equipment Grounding Conductor



Non-current-carrying conductive parts of equipment shall be connected to an equipment grounding conductor in accordance with 2023 NEC Article 250.

4.10.7 Grounding Services with a Main Service Disconnect Ahead of Grouped Meters on a Single Building

Where a main service disconnect is installed ahead of grouped meters, the disconnects on the load side of the meters function as feeder disconnects.

- Per 2023 NEC 250.24(A), 250.24(B), and 250.142(B), these feeder disconnects must have isolated grounded (neutral) conductors and no main bonding jumper.
- An equipment grounding conductor shall be run with the feeder conductors from the main service disconnect to each feeder disconnect.
- Because these feeder disconnects are not service equipment and are located within the same building, they do not require individual grounding electrodes.
- The main bonding jumper and grounding electrode connection shall be made only at the main service disconnect.

4.10.8 Grounding Services Using Grouped Meter Disconnects as the Service Disconnects on a Single Building

Where two to six service disconnects are grouped on the load side of the meters, and no single main service disconnect is installed ahead of the meter stack, each individual disconnect functions as a service disconnecting means as permitted by 2023 NEC 230.71(B).

- Because these disconnects are service equipment, each disconnect shall include a main bonding jumper connecting the grounded (neutral) service conductor to the service disconnect enclosure in accordance with 2023 NEC 250.24(D) and 250.28.
- The grounded service conductor is permitted to be bonded at each service disconnect.
- An equipment grounding conductor is not required to be run from the meter to the disconnect because the grounded service conductor serves this bonding function on the supply side of the service disconnects, consistent with 2023 NEC 250.142(A).

A grounding electrode conductor is permitted to terminate at any accessible point from the load end of the service drop or service lateral to and including the grounded conductor terminal of one of the grouped service disconnects, as permitted by 250.24(A)(1). The building or structure is required to have a single grounding electrode system in accordance with 250.50 and is not required to have a separate grounding electrode for each individual disconnect. The grouped disconnects collectively constitute the service equipment for the building or structure.

4.10.9 Grounding Mobile Homes

Grounding of mobile homes shall be in accordance with all applicable NEC sections, including 550.16, and all other governing codes.

4.11 Optional Standby Systems (Generators)

4.11.1 Non-commercial Members

Non-commercial members installing standby generators that do not export power and are electrically isolated from Medina EC's electric distribution system shall comply with all



applicable sections of the National Electrical Code (NEC), including but not limited to Section 702, as well as the requirements set forth in the Medina EC Requirements for Standby Generation. The Medina EC Requirements document is available on the Medina EC website at <https://www.medinaec.org/generators>.

4.11.2 Commercial Members

Commercial members installing standby generators that do not export power and are electrically isolated from Medina EC's electric distribution system shall submit a plan prepared by a Professional Engineer registered in the State of Texas. The plan shall contain the following information.

- Detailed operational one-line diagram
- Site plan
- Meter loop drawing (elevation view)/ Proposed Equipment Layout
- "Visible" disconnect device or breaker, including applicable ratings: full-load rating, momentary rating, interrupting rating
- Protective devices, including size, rating, manufacturer, type, style, model, and settings as applicable

The transfer scheme shall operate as a "break before make" during the transfer of the load from normal and emergency power and from emergency to normal power. The transfer scheme shall be interlocked to prevent paralleling during normal, test and maintenance conditions.

Any review or acceptance of such plan by Medina EC shall not impose any liability on Medina EC and does not guarantee the adequacy of the member's equipment to perform its intended function. Medina EC disclaims any expertise or special knowledge relating to the design or performance of commercial standby generating installations and does not warrant their efficiency, cost-effectiveness, safety, durability, or reliability. Medina EC assumes no liability for the protection of any property or person associated with a commercial standby generator's operation.

4.12 Distributed Energy Resources

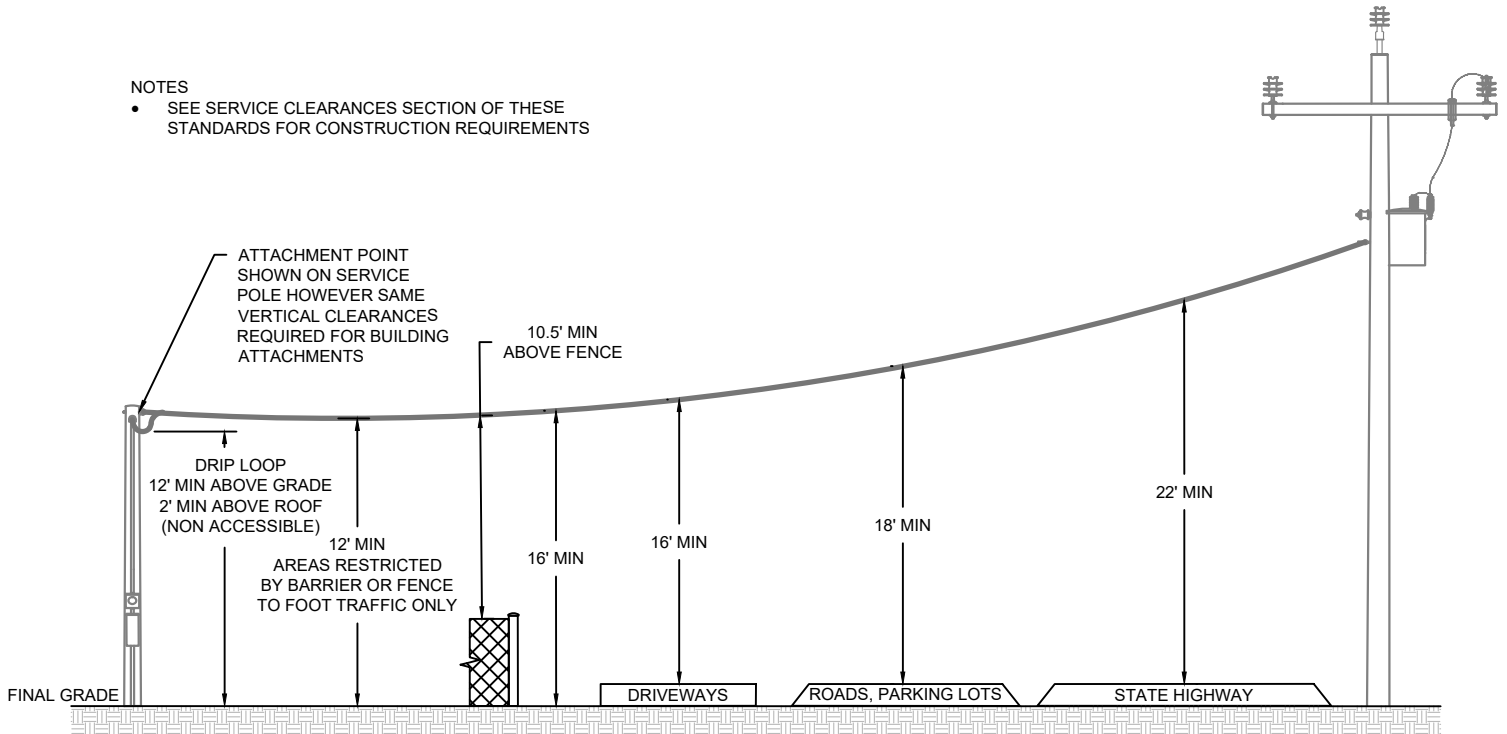
A Distributed Energy Resource (DER) facility connected in any way to Medina EC's electric distribution system shall be considered as operating in "parallel", even if the member does not intend to export power. All provisions of Medina EC's "Distributed Generation Procedures & Guidelines Manual for Members" and interconnection requirements apply to such parallel operation.



5.0 Appendix A: Drawings and Tables

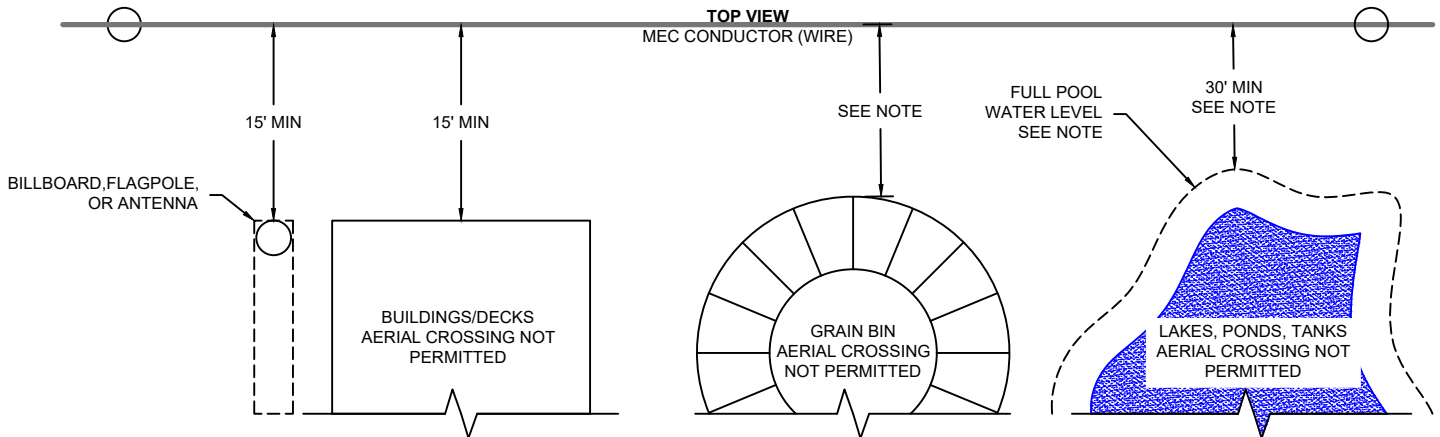
NOTES

- SEE SERVICE CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS



NOTES

- HORIZONTAL CLEARANCES BASED ON TYPICAL SPAN DESIGN AND BLOWOUT. DISTANCES SHOWN BELOW ARE MEC MINIMUMS, MEMBER TO UTILIZE NESC AND OTHER GOVERNING CODES TO CALCULATE MINIMUM CLEARANCE AND DESIGN TO MOST CONSERVATIVE CODE.
- GRAIN BIN CLEARANCES ARE DEPENDENT ON LOADING METHOD, HEIGHT, DIAMETER AND INSTALLATION. CLEARANCES MUST BE CALCULATED PER LATEST NESC OR OTHER GOVERNING CODES
- FULL POOL WATER LEVEL TO BE CALCULATED BASED ON SPILLWAY ELEVATION OR DESIGN HIGH WATER FLOOD LEVEL PER NESC.



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OH CONDUCTOR CLEARANCES

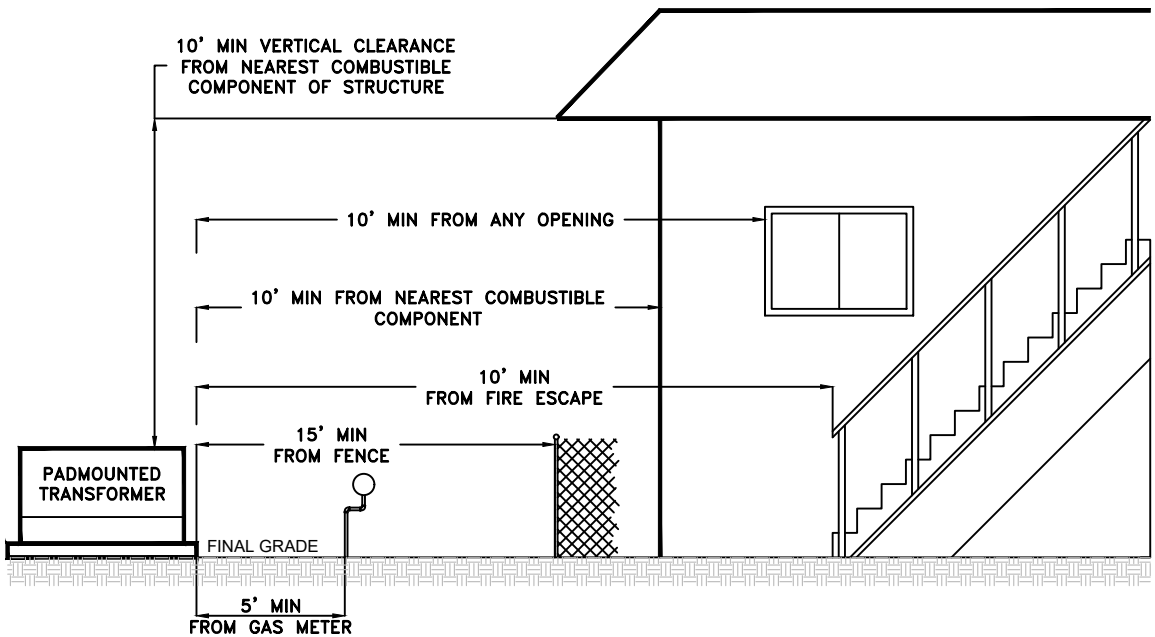
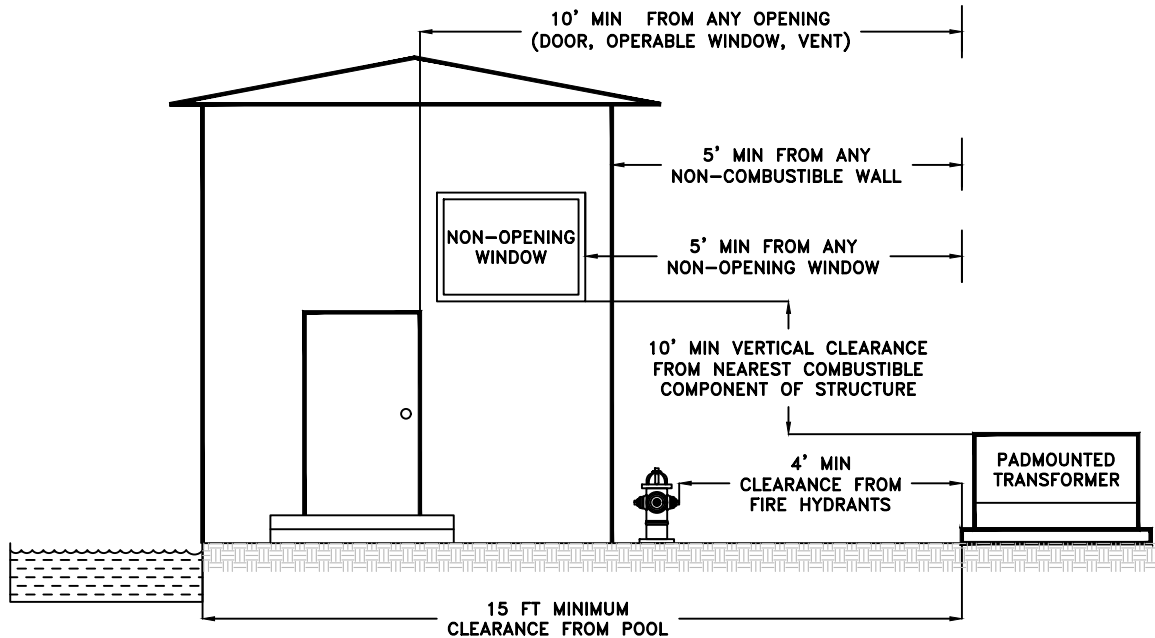
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NOTES
COMMON CLEARANCES SHOWN FOR REFERENCE ONLY.
MEMBER SHALL FOLLOW MOST CONSERVATIVE AND CURRENT
VERSIONS OF THE FOLLOWING

- NEC
- NESC
- STATE FEDERAL OR LOCAL ELECTRICAL CODES



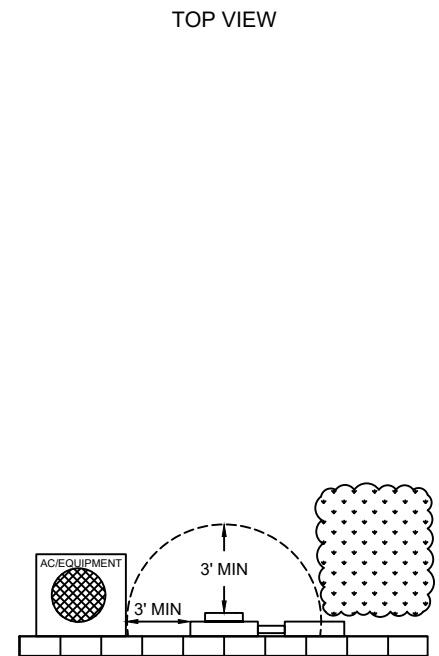
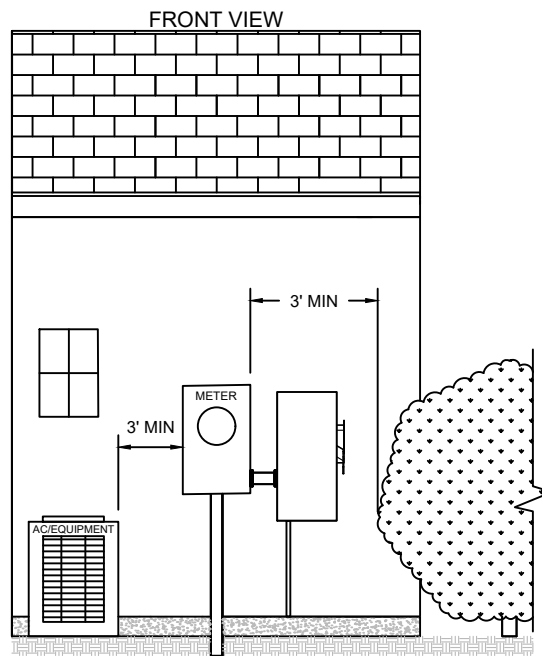
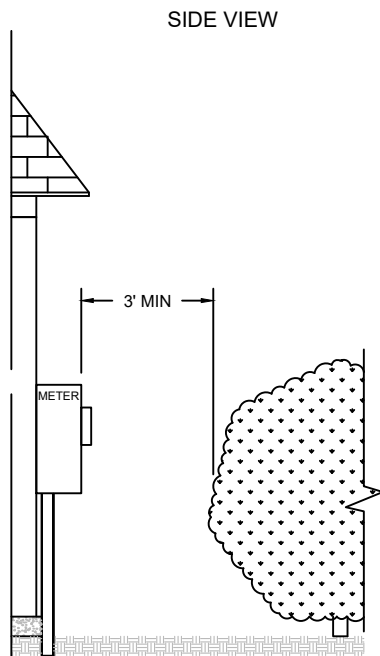
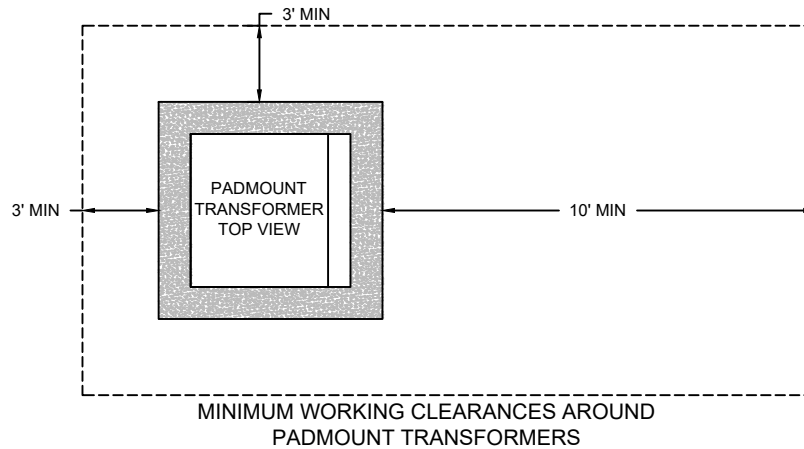
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UG CLEARANCES

REV	DATE	REVISION DESCRIPTION	APPROVED
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VEGETATION AND WORKING CLEARANCES

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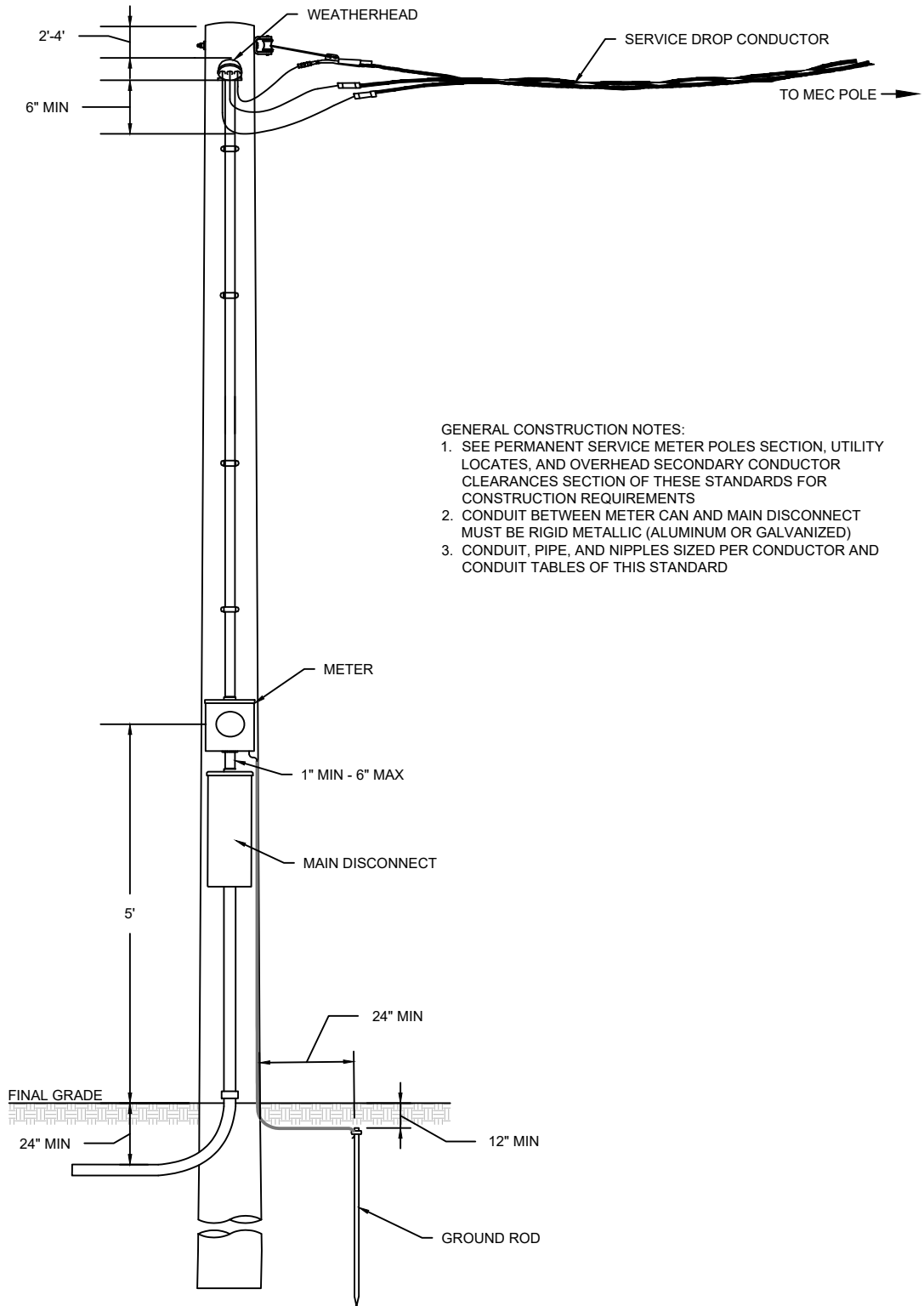
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- GENERAL CONSTRUCTION NOTES:
1. SEE PERMANENT SERVICE METER POLES SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD

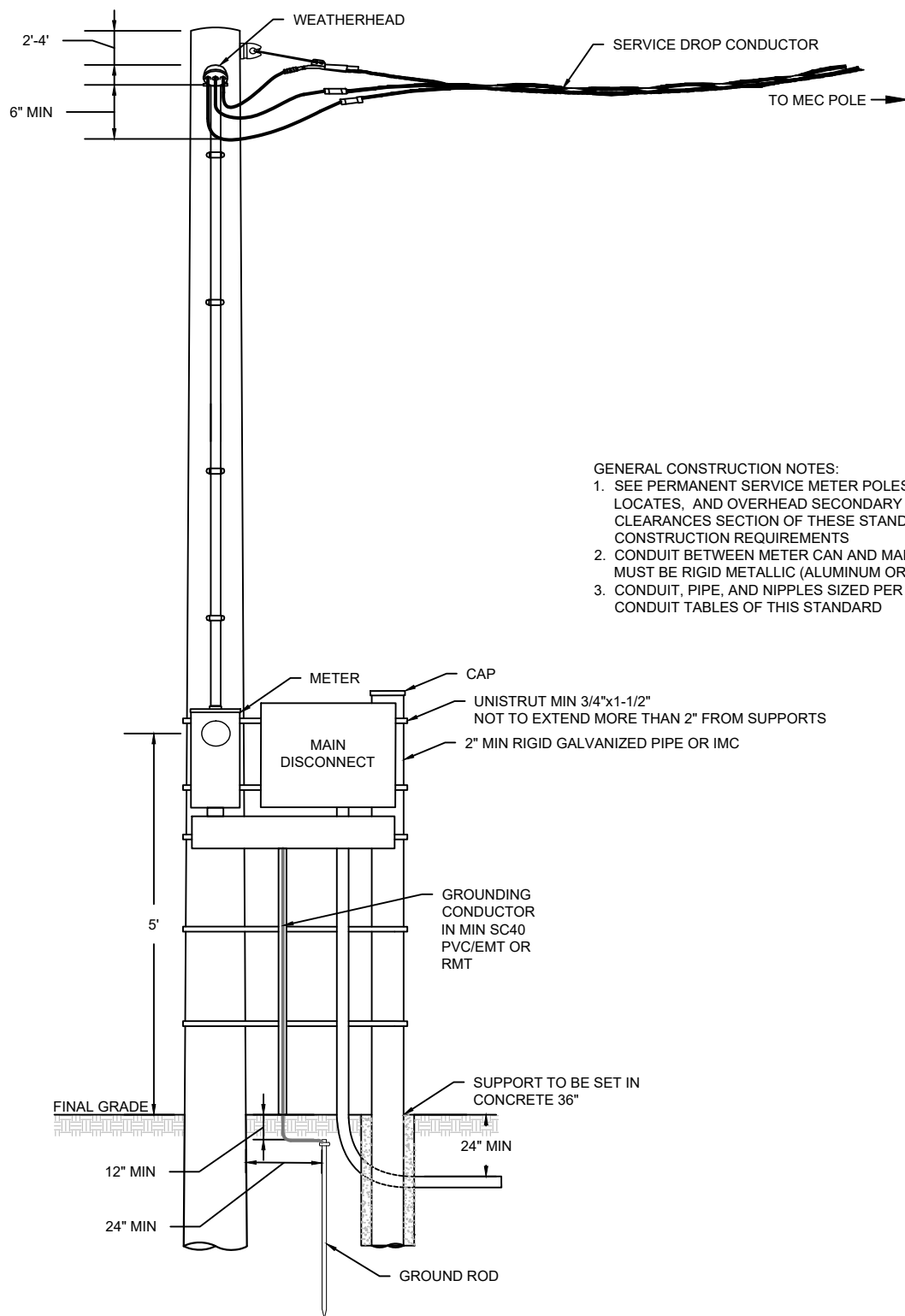
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POLE MOUNTED 100-200A METER LOOP,
SINGLE DISCONNECT

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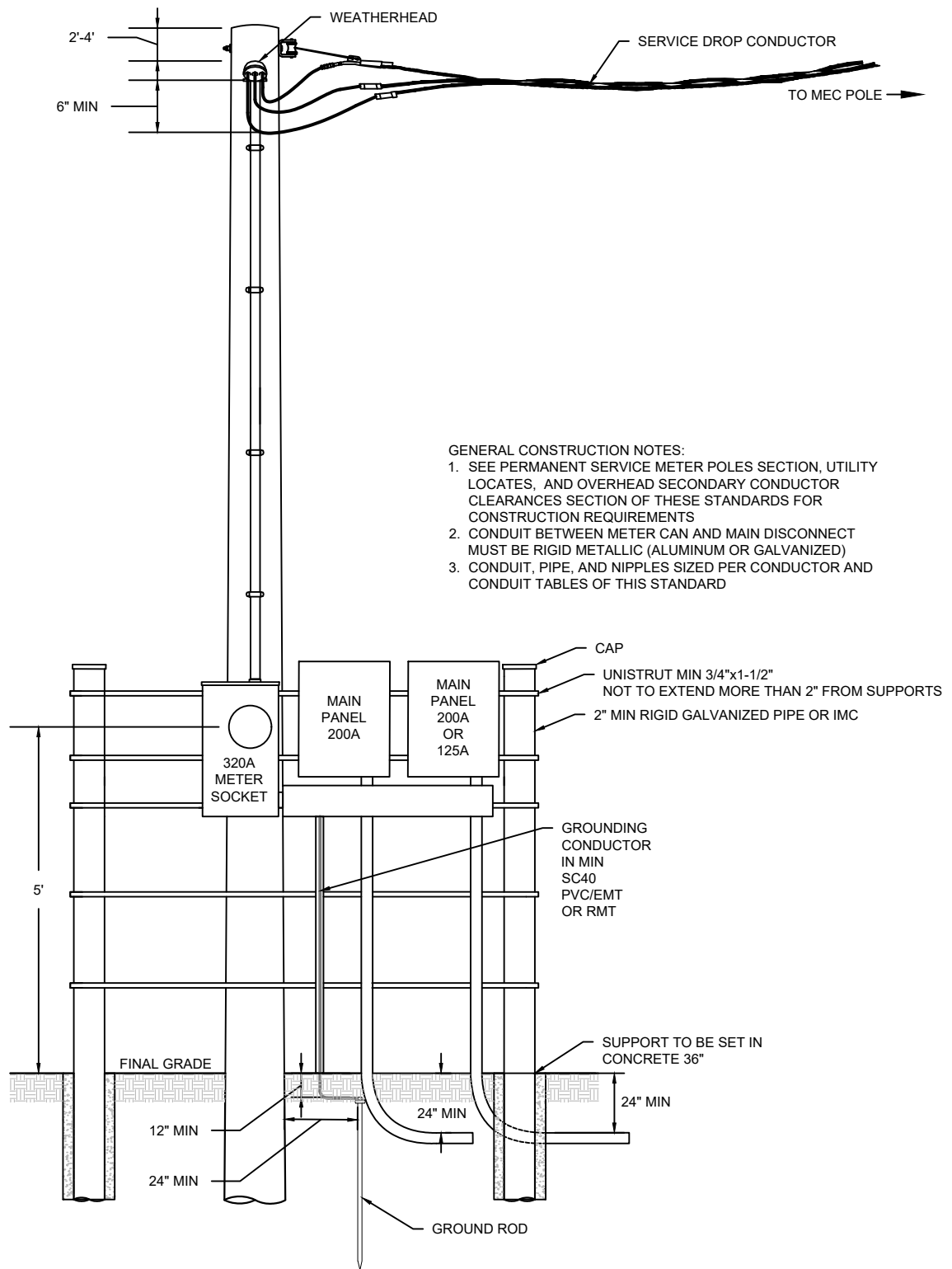
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POLE MOUNTED 320A METER LOOP, RACK,
TROUGH, SINGLE DISCONNECT

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POLE MOUNTED 320A METER LOOP,
RACK, TROUGH, TWO DISCONNECTS

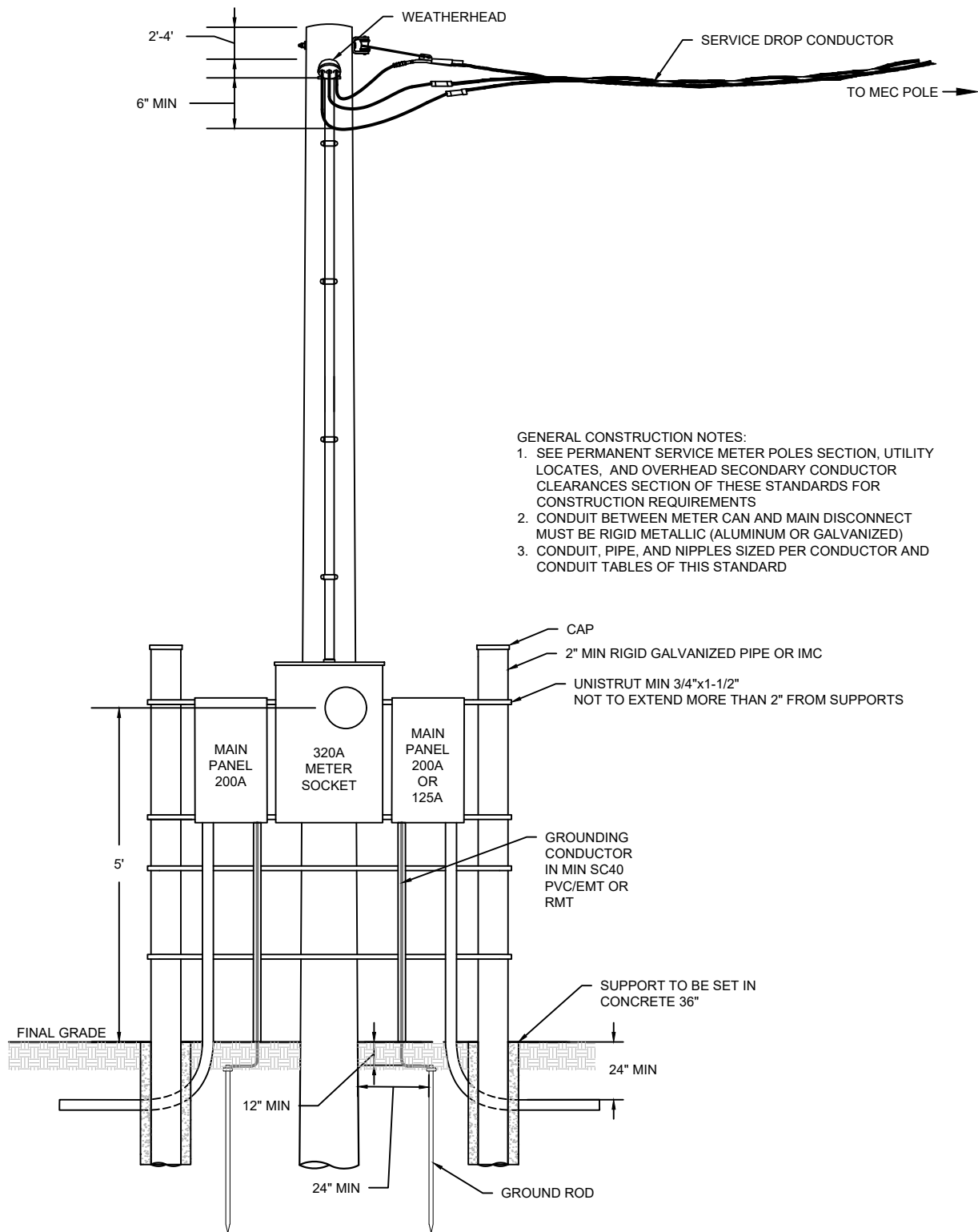
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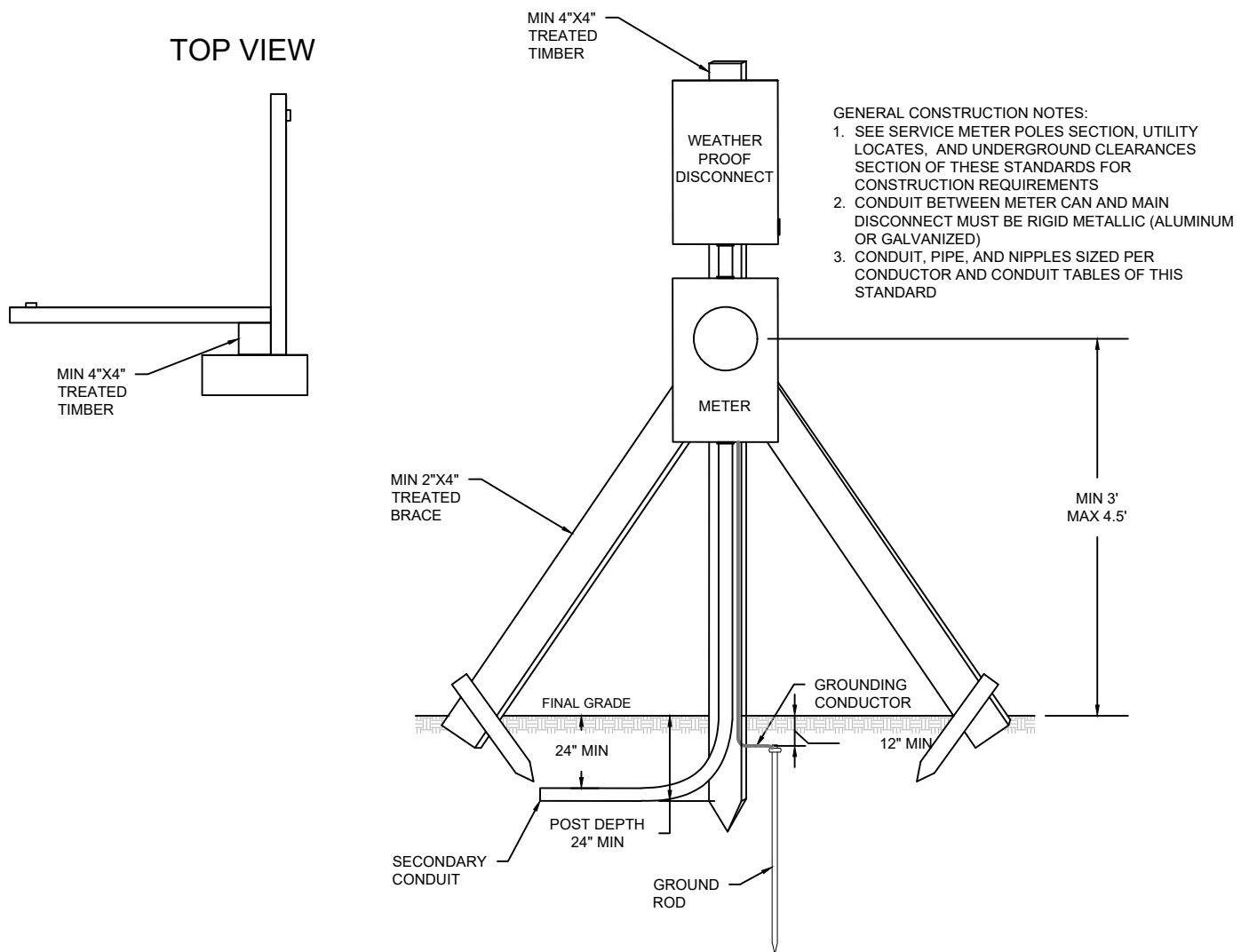
- GENERAL CONSTRUCTION NOTES:
1. SEE PERMANENT SERVICE METER POLES SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
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POLE MOUNTED 320A METER LOOP,
RACK, SIDE BY SIDE, TWO DISCONNECTS

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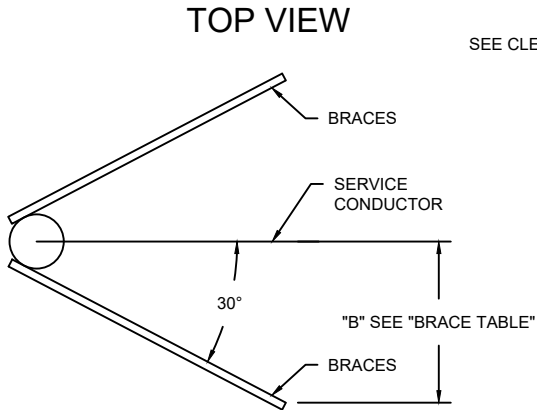
TEMPORARY UNDERGROUND SERVICE

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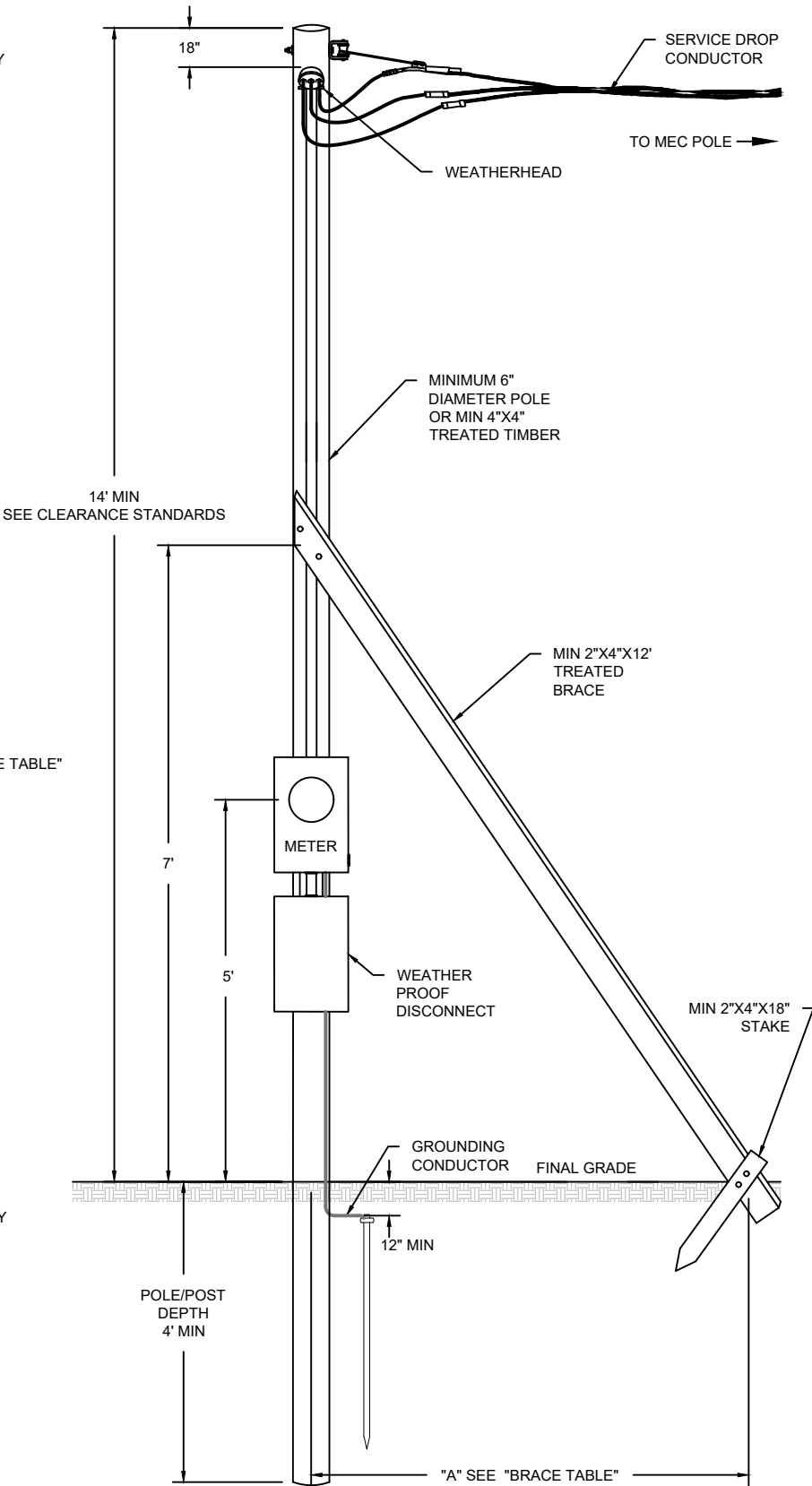
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- GENERAL CONSTRUCTION NOTES:
- 1. SEE TEMPORARY SERVICE METER POLES SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
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BRACE TABLE		
BRACE LENGTH (FT)	"A" SEE DIAGRAM	"B" SEE DIAGRAM
10	7'-3"	3'-7"
12	8'-1"	4'-0"
14	8'-11"	4'-6"
16	9'-10"	4'-11"

NOTE: EXACT DIMENSIONS GIVEN, MODIFICATION OF BRACE GEOMETRY ALLOWED WITHIN 6". NO OTHER DIMENSIONS MAY BE MODIFIED WITHOUT APPROVAL



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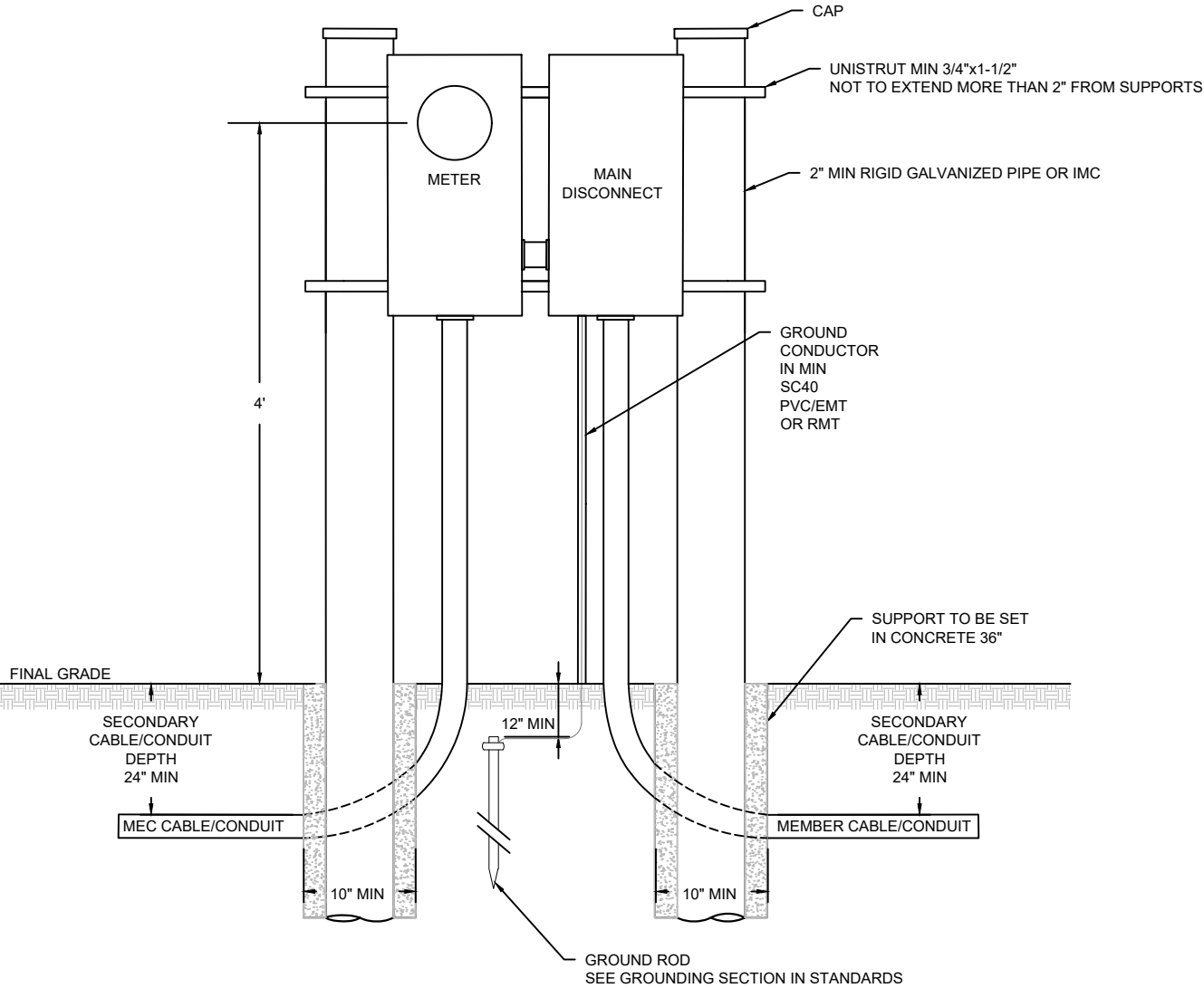
TEMPORARY OVERHEAD SERVICE

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- GENERAL CONSTRUCTION NOTES:
- 1. SEE FREE STANDING METER RACKS SECTION, UTILITY LOCATES, AND UNDERGROUND CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
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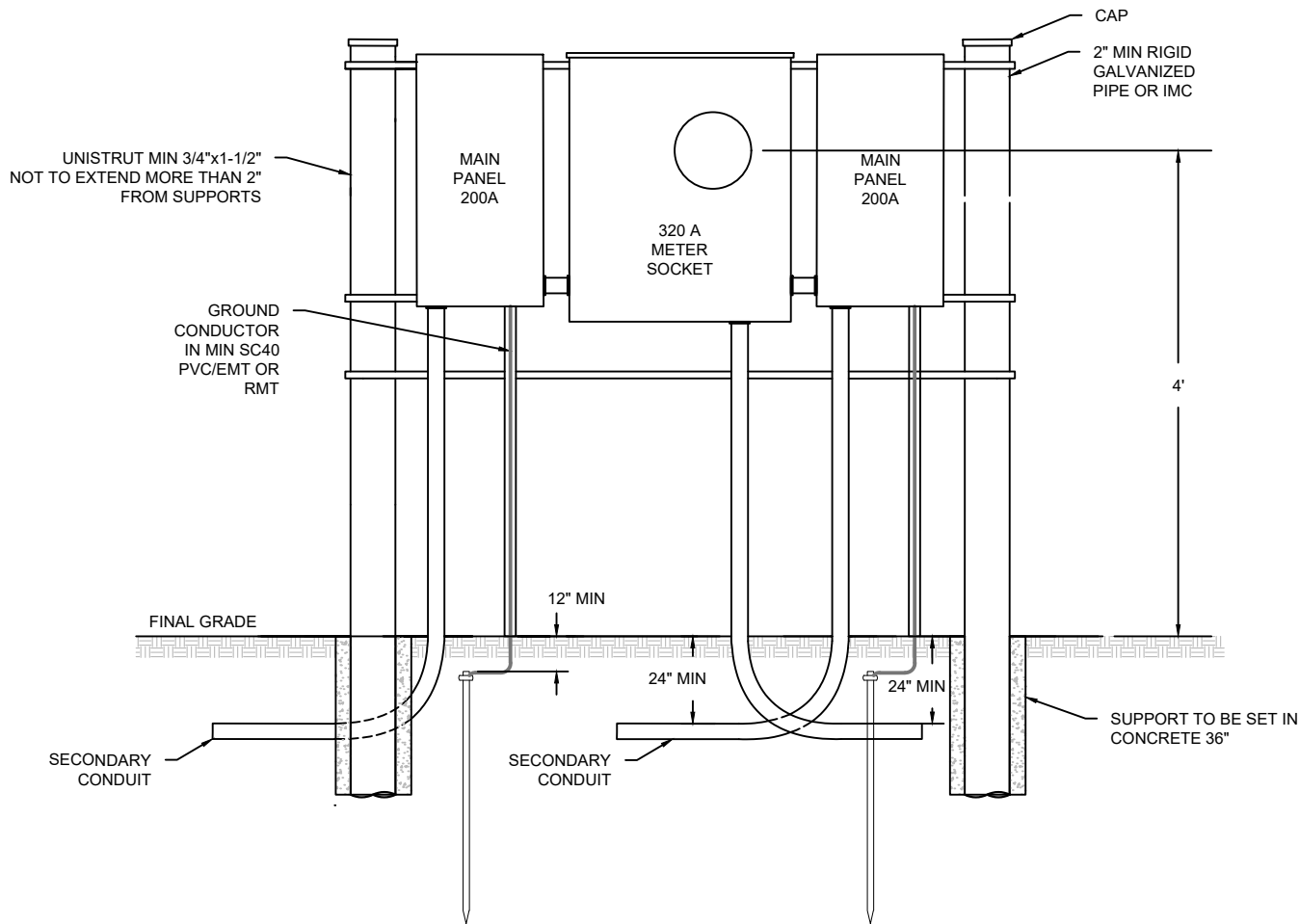
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SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

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	MEC-8

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- GENERAL CONSTRUCTION NOTES:
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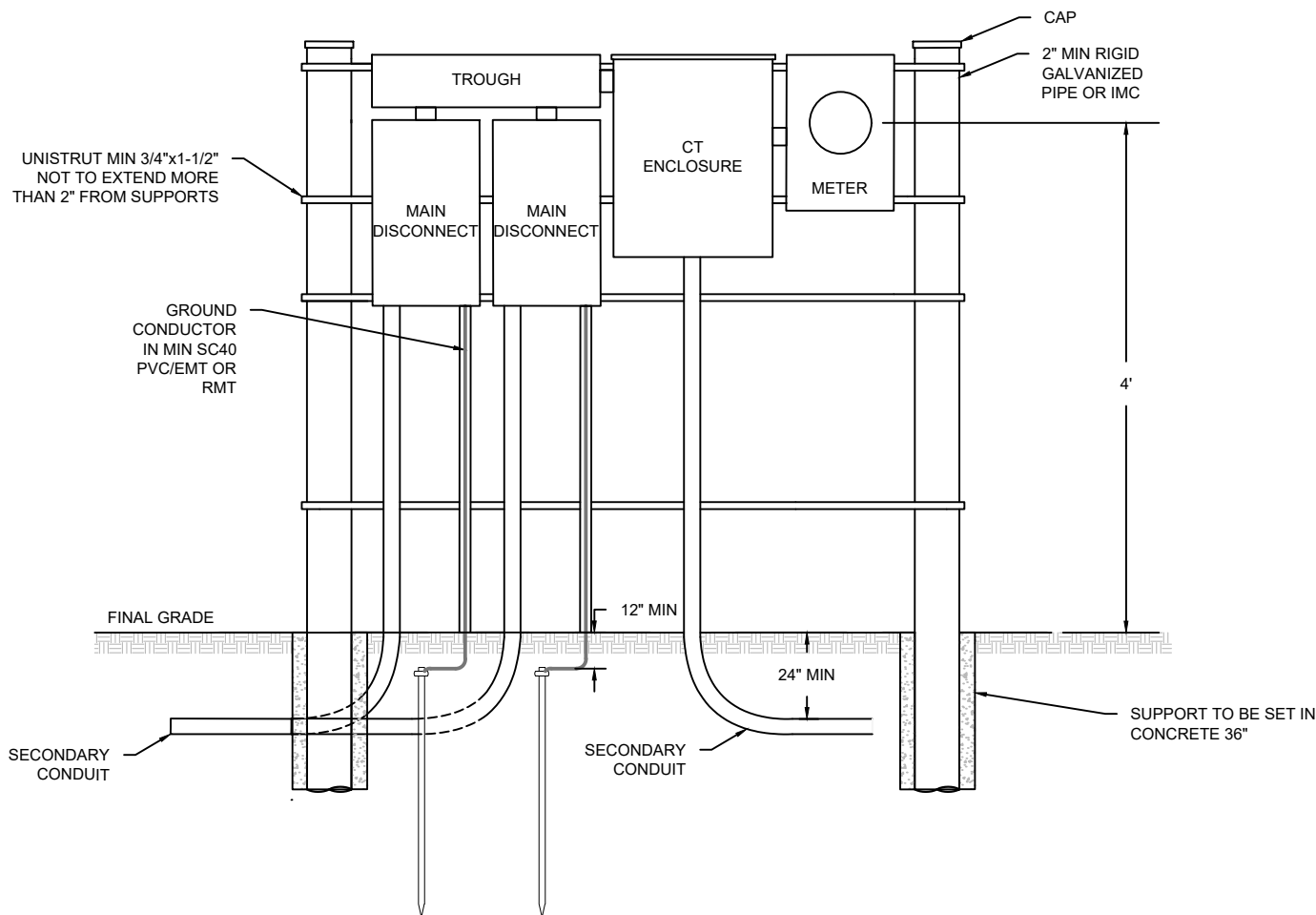
RACK MOUNTED 320A METER LOOP,
UG, SIDE BY SIDE, TWO DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

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- GENERAL CONSTRUCTION NOTES:
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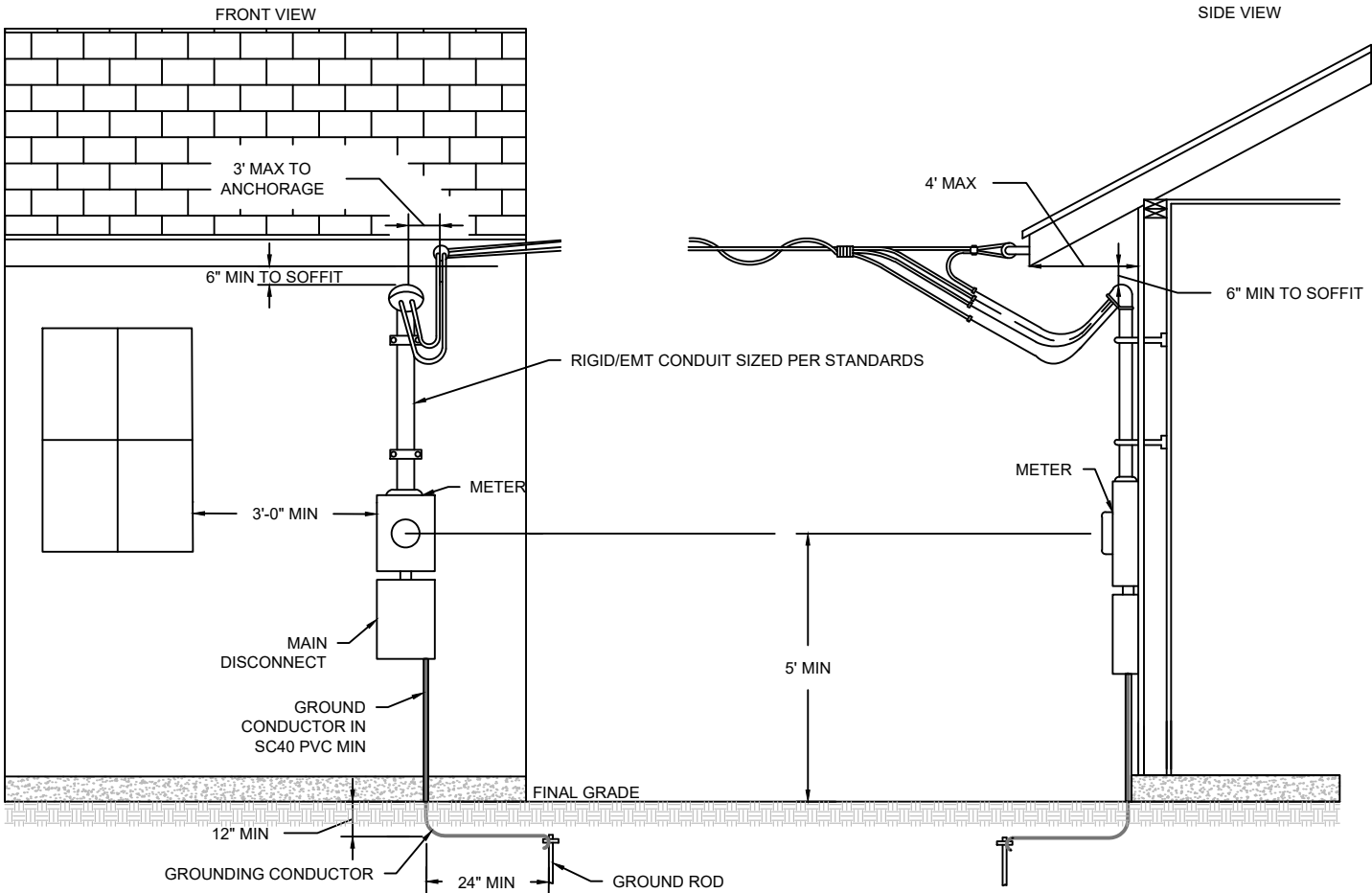
RACK MOUNTED >320A CT METER LOOP, UG,
TROUGH, TWO DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

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- GENERAL CONSTRUCTION NOTES:
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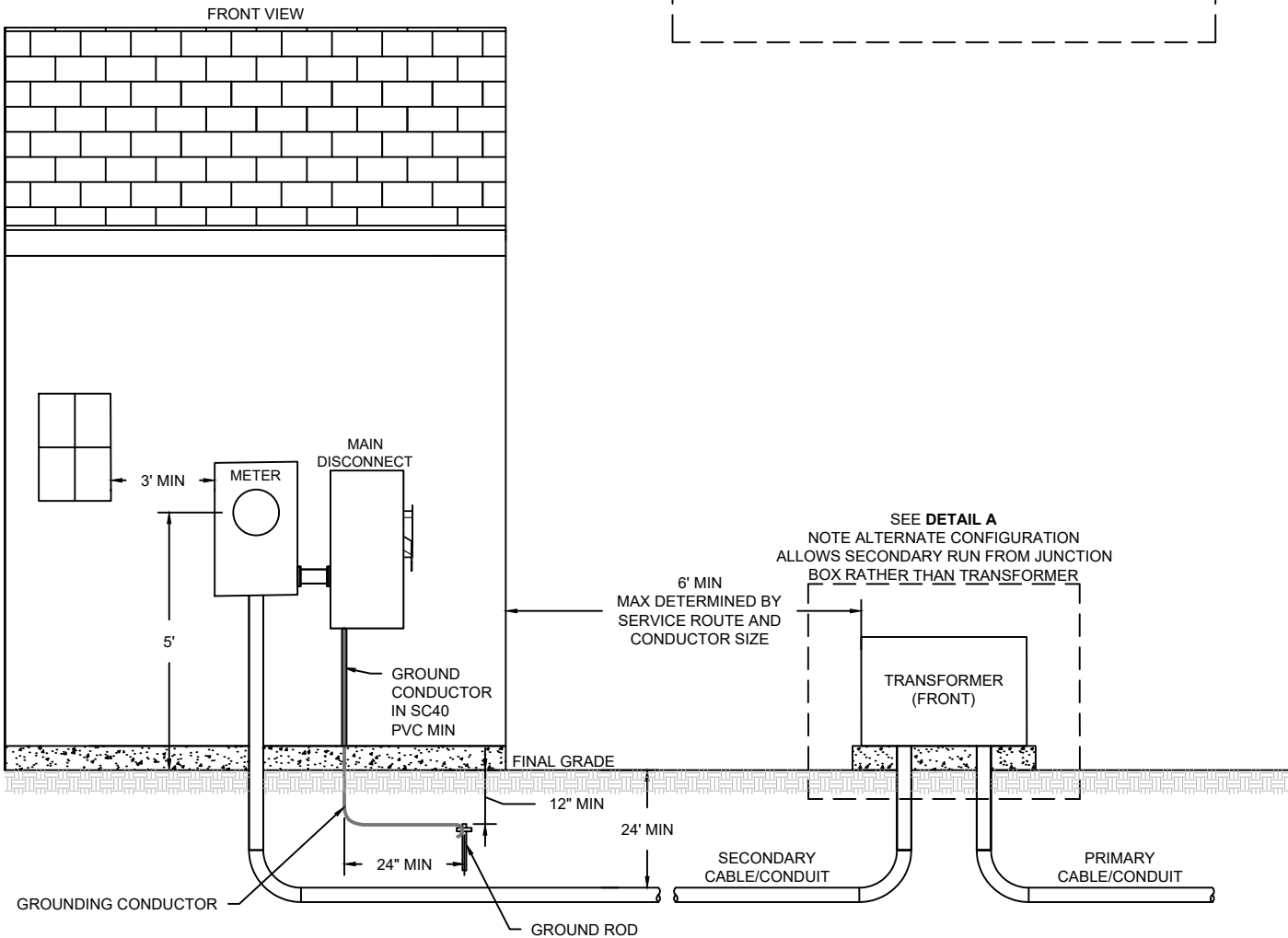
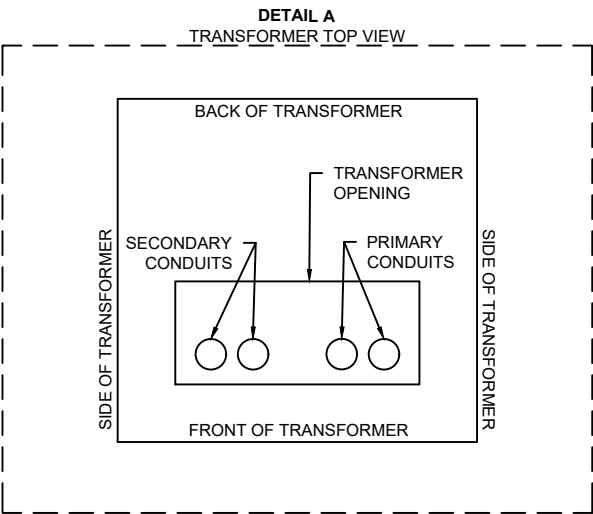
BUILDING MOUNTED 100-320A METER LOOP
OH, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-11

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- GENERAL CONSTRUCTION NOTES:
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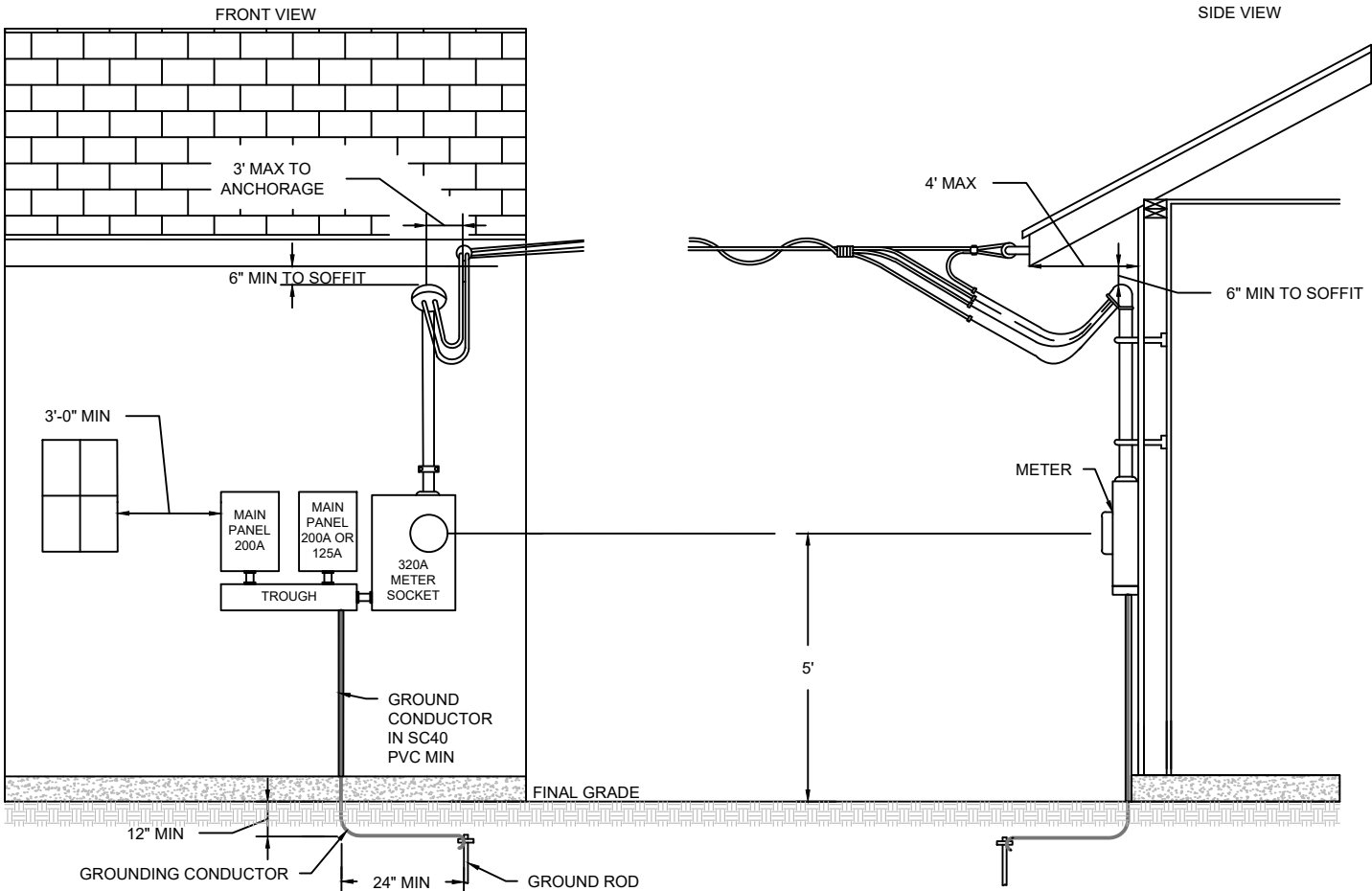
BUILDING MOUNTED 100-320A METER LOOP
UG, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

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- GENERAL CONSTRUCTION NOTES:
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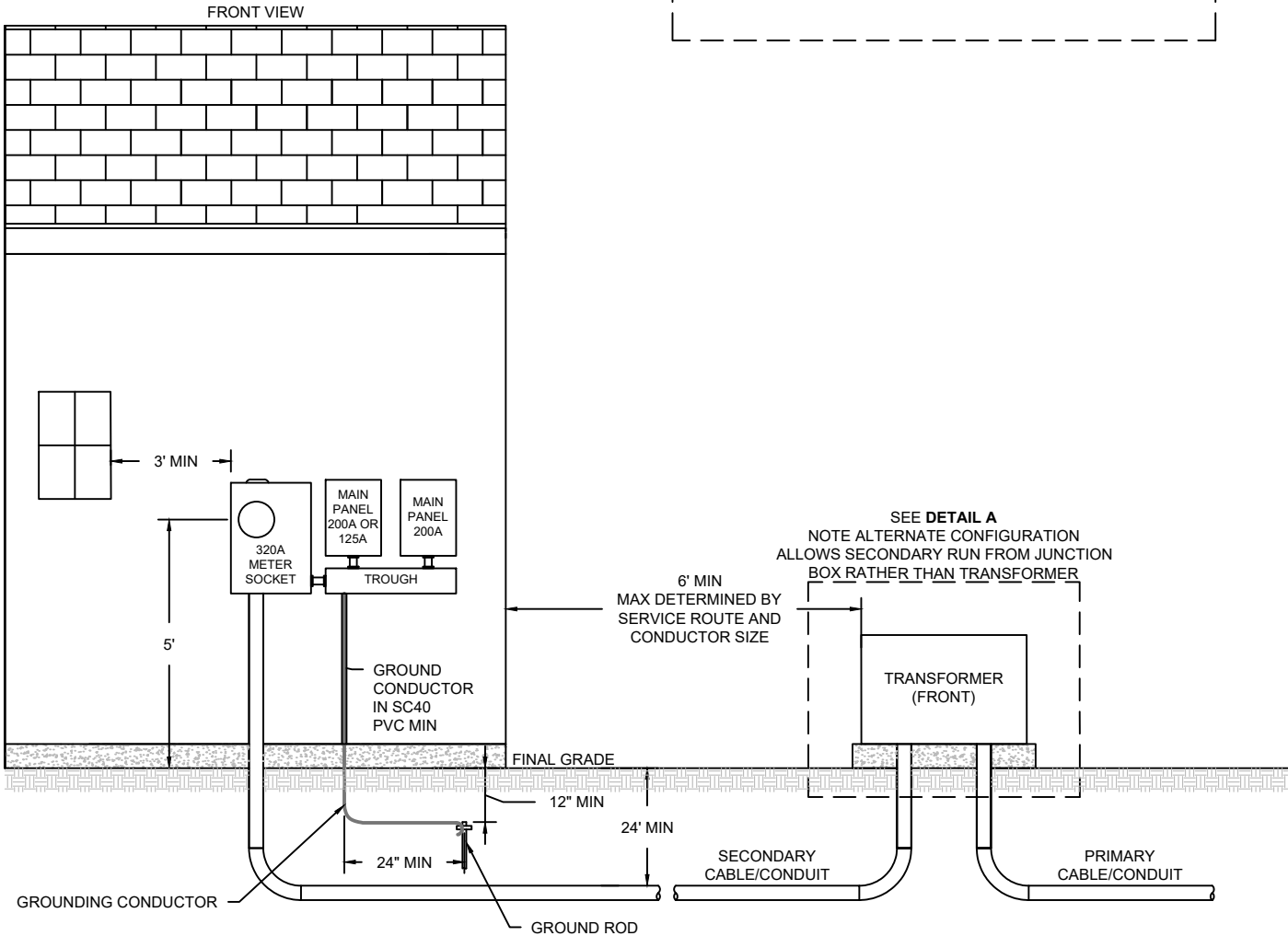
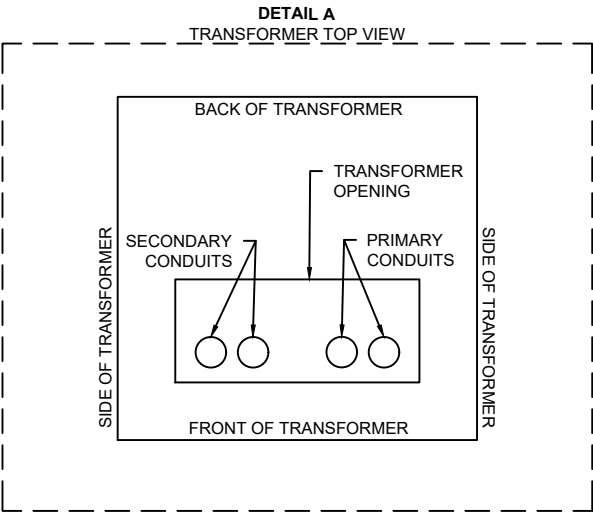
BUILDING MOUNTED 320A METER LOOP,
OH, TROUGH, TWO DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-13

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- GENERAL CONSTRUCTION NOTES:
1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND UNDERGROUND CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



MEDINA ELECTRIC COOPERATIVE
PO Box 370
Hondo, TX 78861

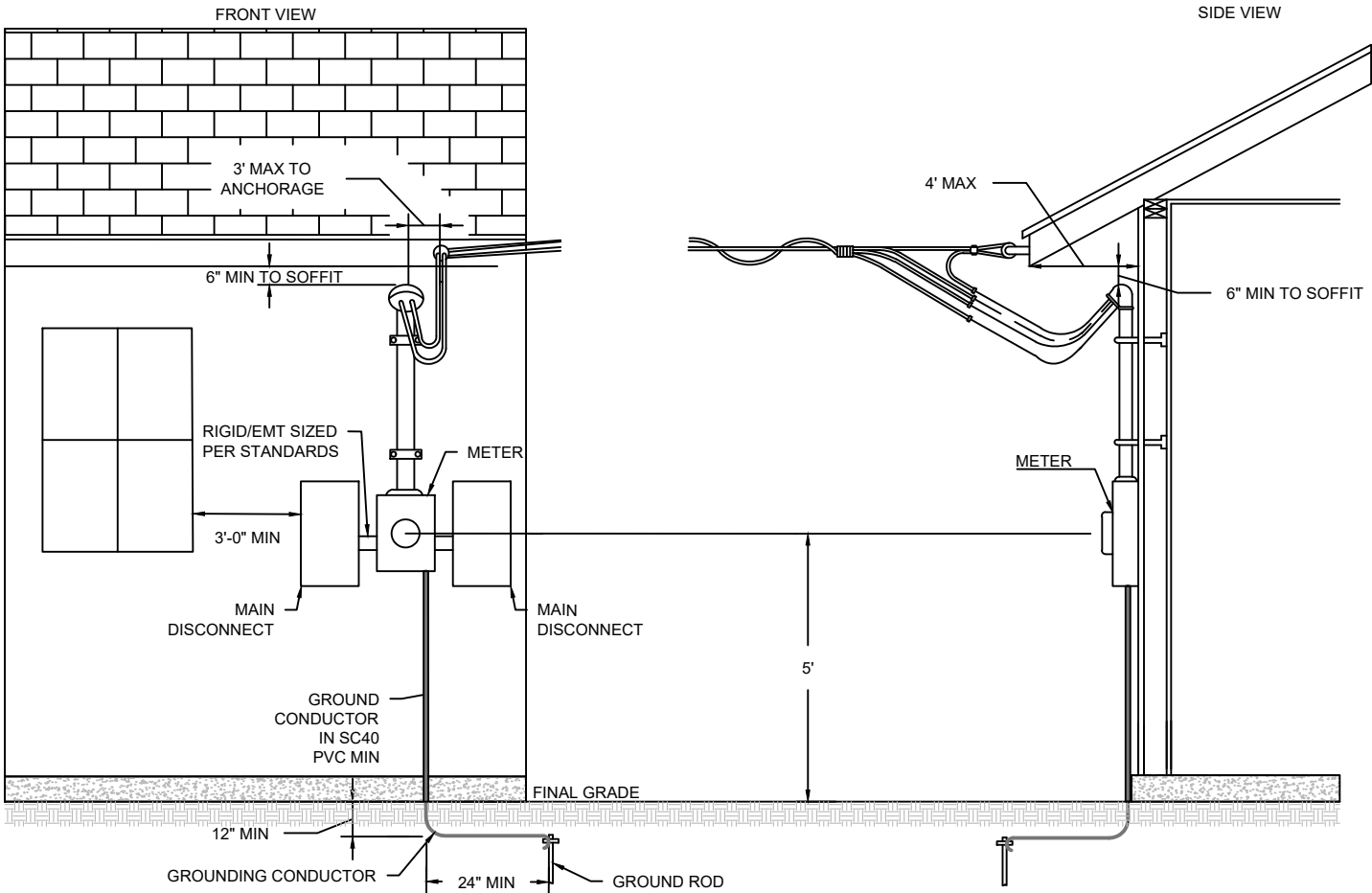
BUILDING MOUNTED 320A METER LOOP,
UG, TROUGH, TWO DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-14

06/22/2026 8:26 AM * c:\nth * E:\ENGINEERING RECORDS\040 ENGINEERING STANDARDS\LineDesign\001 Tech Refs & Procedures\004 Service wiring specs\000_in_progress_docs\Drawings\Appendix A DWGs\015MEC.dwg

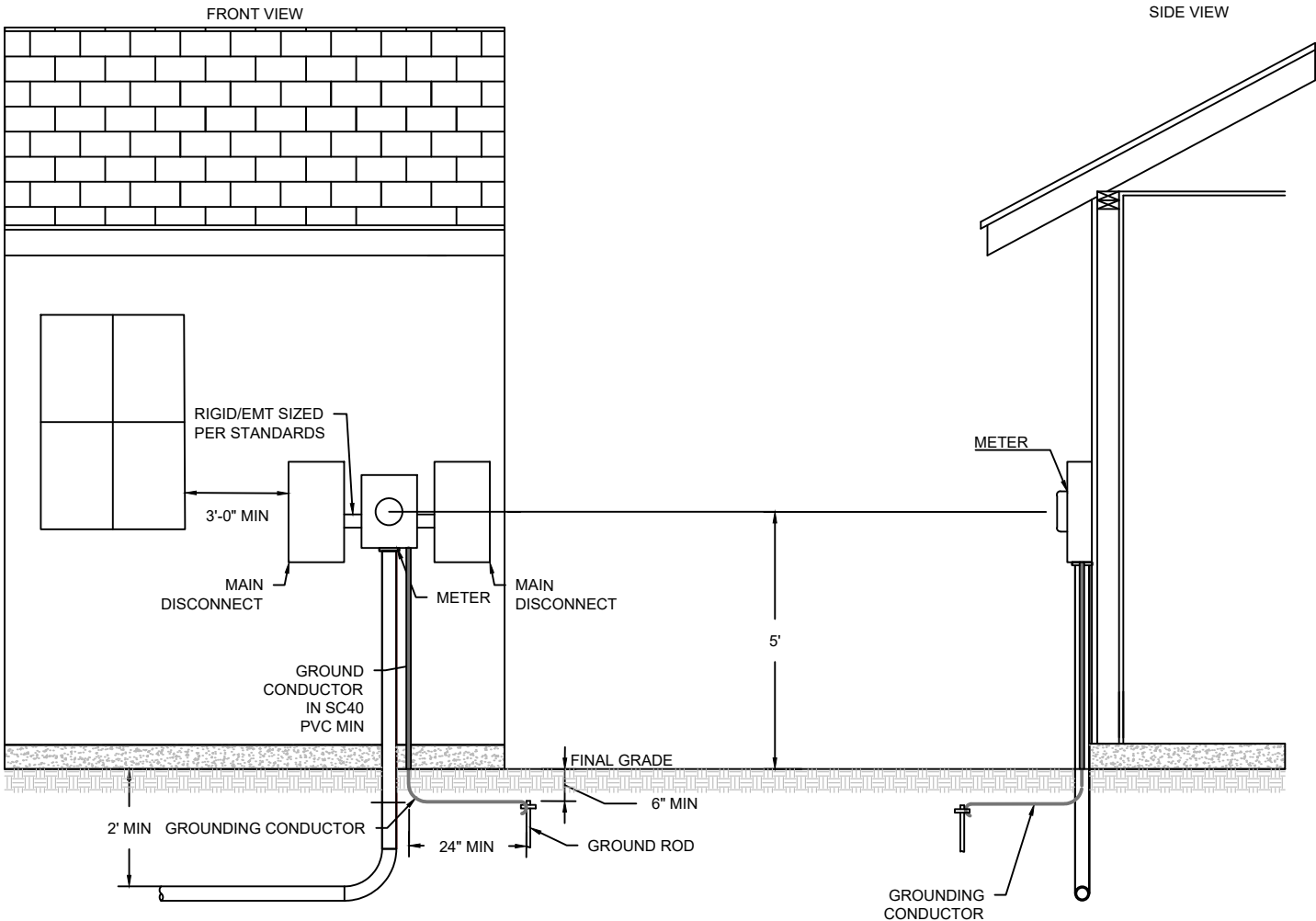
- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				BUILDING MOUNTED 320A METER LOOP, OH, SIDE BY SIDE, TWO DISCONNECTS	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK		
				DRAWING #	MEC-15

06/22/2026 8:26 AM * c:\nth * E:\ENGINEERING RECORDS\040 ENGINEERING STANDARDS\LineDesign\001 Tech Refs & Procedures\004 Service wiring specs\000_in_progress_docs\Drawings\Appendix A DWGs\016MEC.dwg

- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND UNDERGROUND CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



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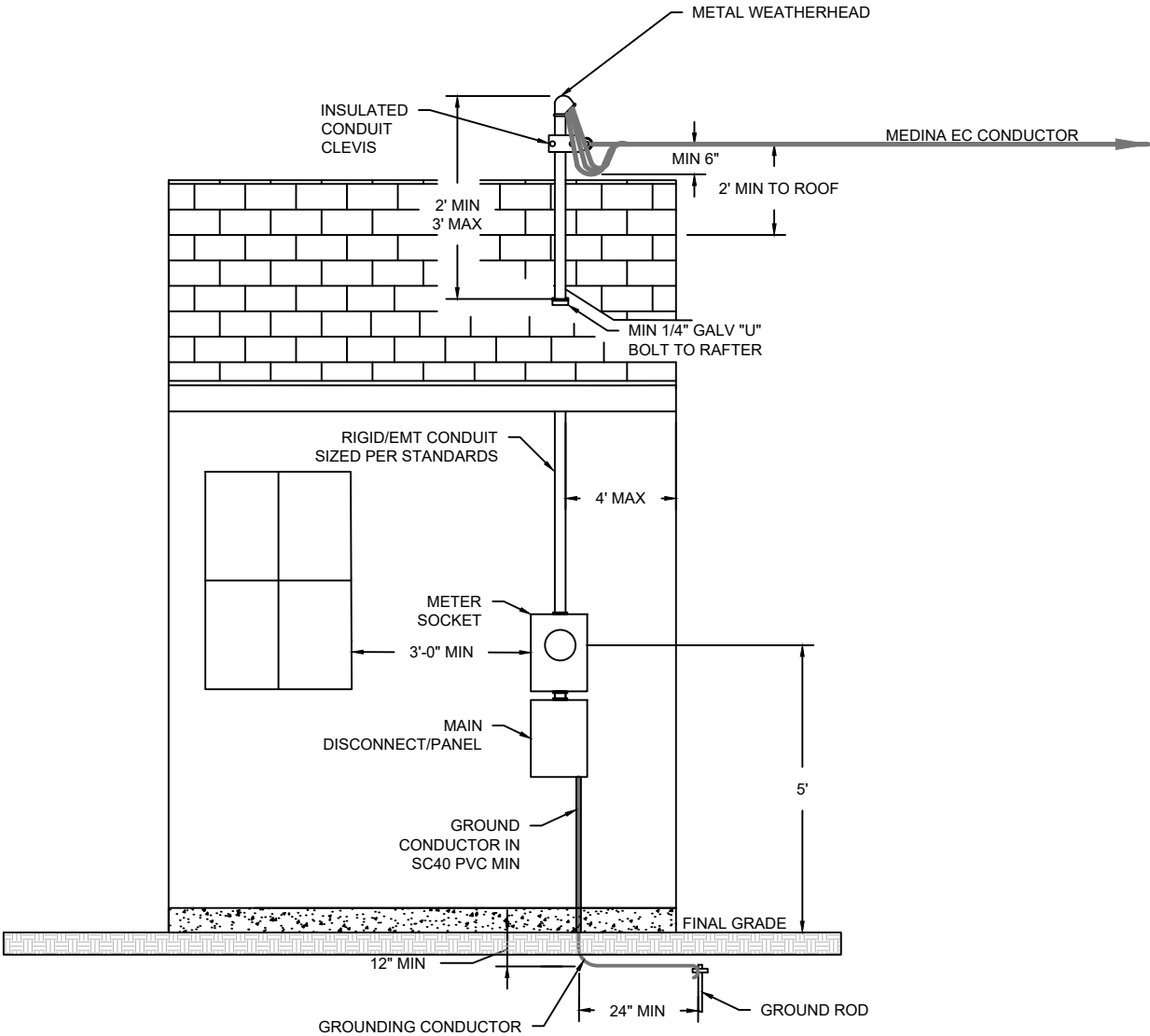
BUILDING MOUNTED 320A METER LOOP, UG,
SIDE BY SIDE, TWO DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-16

06/22/2026 8:26 AM * c:\nth * E:\ENGINEERING RECORDS\040 ENGINEERING STANDARDS\040 ENGINEERING RECORDS\001 Tech Refs & Procedures\004 Service wiring specs\000_in_progress_docs\Drawings\Appendix A DWGs\017MEC.dwg

- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD
 - 4. SERVICE MAST SHALL BE SECURED TO RAFTER OR STRUCTURAL MEMBER.
 - 5. ROOF FLASHING SHALL BE WEATHERPROOF AND PROPERLY SEALED
 - 6. MAST SHALL BE DESIGNED TO WITHSTAND SERVICE DROP TENSION



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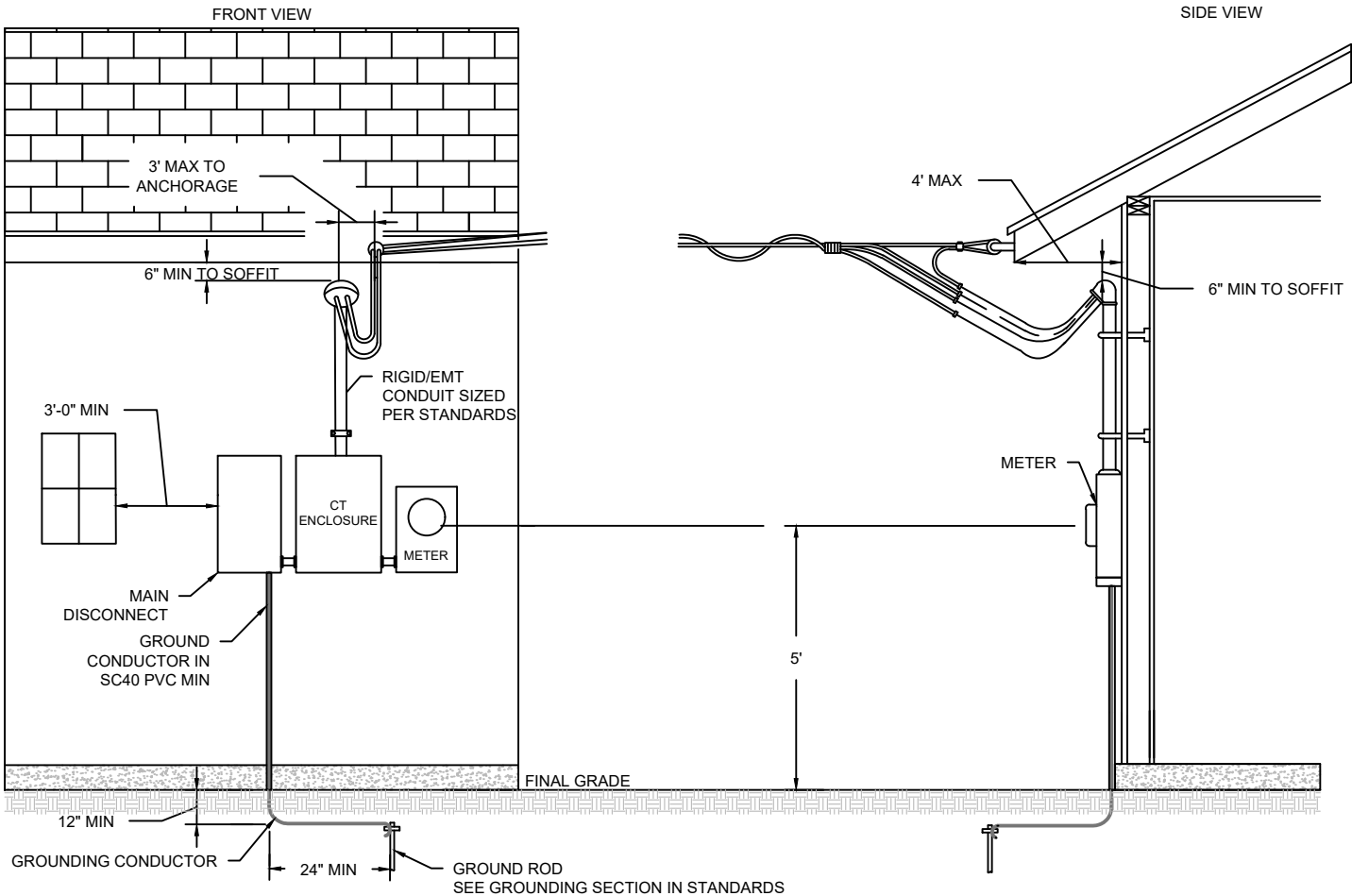
BUILDING MOUNTED 100- 320A METER LOOP,
OH, THRU ROOF, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	06/29/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-17

06/18/2026 2:42 PM * E:\ENGINEERING RECORDS\040 ENGINEERING STANDARDS\LineDesign\001 Tech Refs & Procedures\004 Service wiring specs\000_In_progress_docs\Drawings\Appendix A DWGs\018MEC.dwg

- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



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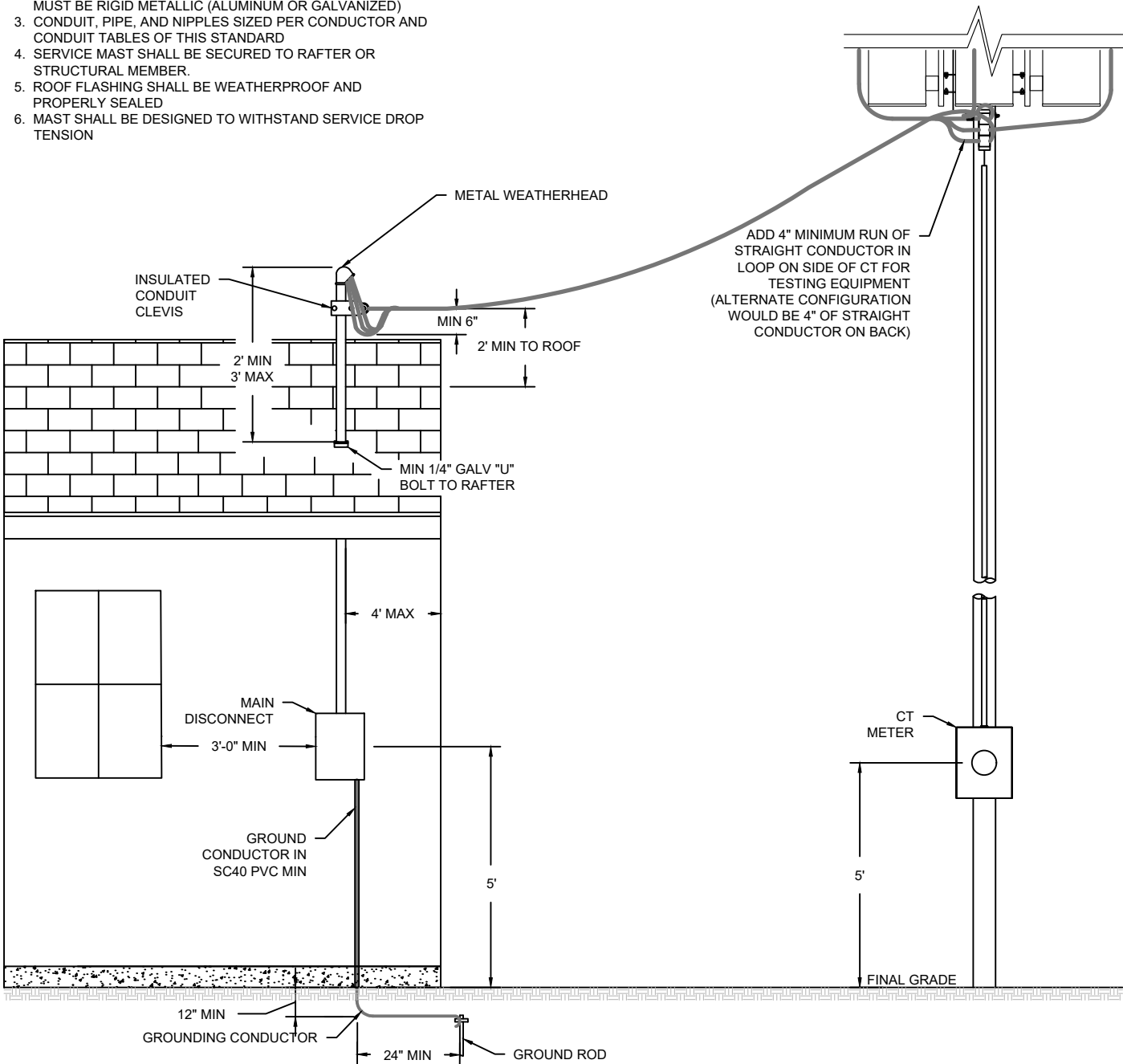
BUILDING MOUNTED >320 CT METER LOOP,
OH, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	01/02/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-18

06/22/2026 8:26 AM * c:\nth * E:\ENGINEERING RECORDS\040 ENGINEERING STANDARDS\LineDesign\001 Tech Refs & Procedures\004 Service wiring specs\000_in_progress_docs\Drawings\Appendix A DWGs\019MEC.dwg

- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND OVERHEAD SECONDARY CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD
 - 4. SERVICE MAST SHALL BE SECURED TO RAFTER OR STRUCTURAL MEMBER.
 - 5. ROOF FLASHING SHALL BE WEATHERPROOF AND PROPERLY SEALED
 - 6. MAST SHALL BE DESIGNED TO WITHSTAND SERVICE DROP TENSION



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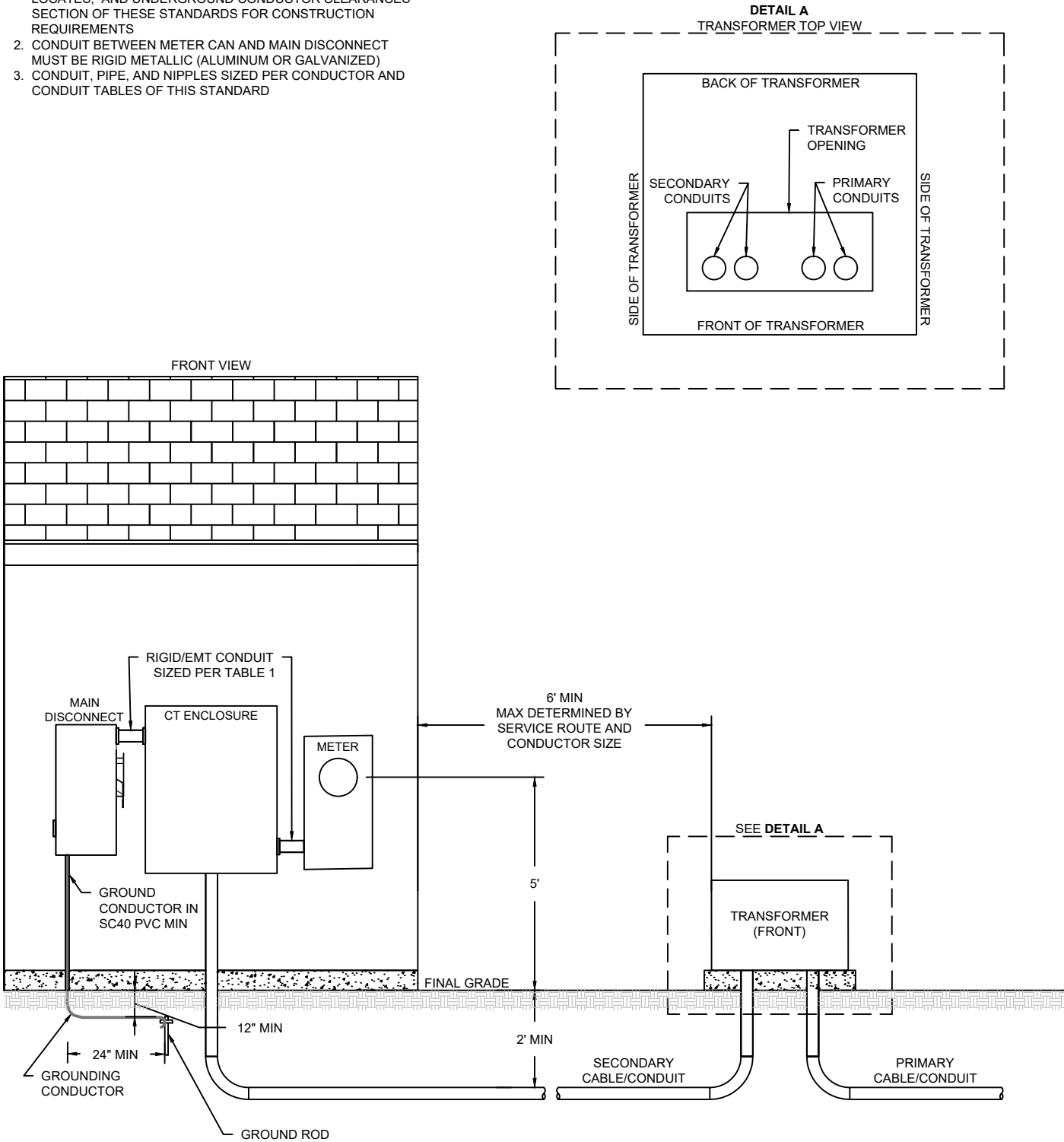
BUILDING MOUNTED >320 CT METER LOOP, OH,
THRU ROOF, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-19

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- GENERAL CONSTRUCTION NOTES:
1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND UNDERGROUND CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



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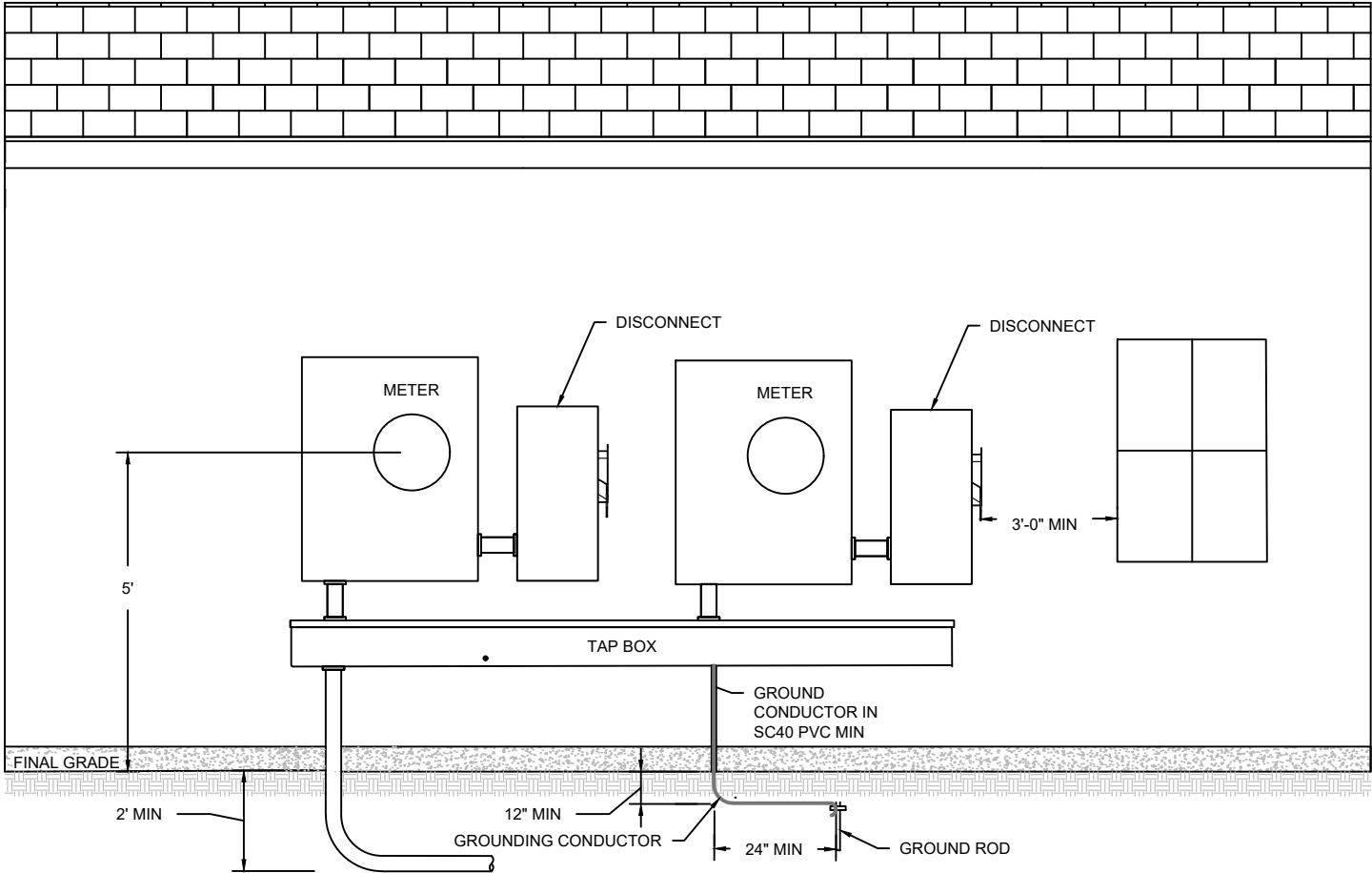
BUILDING MOUNTED >320 CT METER LOOP,
UG, SINGLE DISCONNECT

REV	DATE	REVISION DESCRIPTION	APPROVED
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-20

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- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND UNDERGROUND CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



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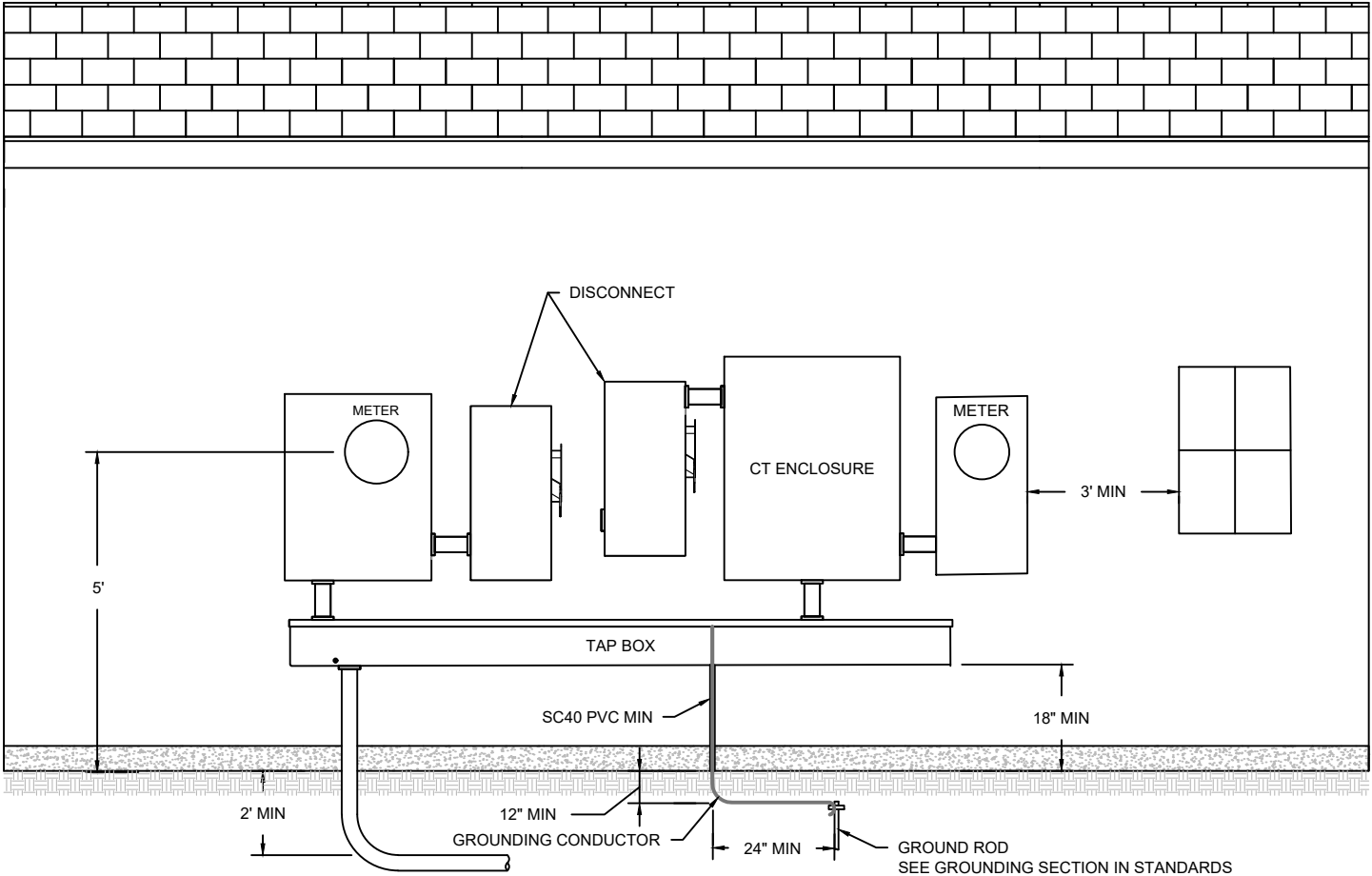
BUILDING MOUNTED, TWO 100-320A METER LOOPS
OH, TROUGH, SINGLE DISCONNECTS

REV	DATE	REVISION DESCRIPTION	APPROVED
0	02/26/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-21

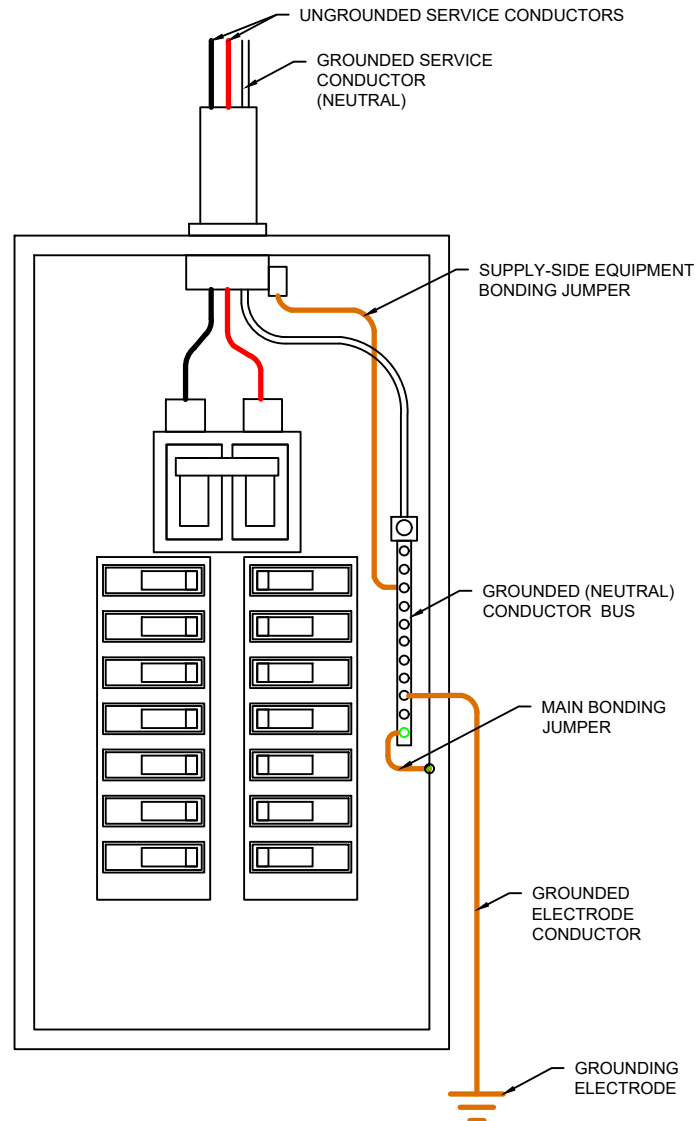
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- GENERAL CONSTRUCTION NOTES:
- 1. SEE BUILDING MOUNTED METER LOOP SECTION, UTILITY LOCATES, AND UNDERGROUND CONDUCTOR CLEARANCES SECTION OF THESE STANDARDS FOR CONSTRUCTION REQUIREMENTS
 - 2. CONDUIT BETWEEN METER CAN AND MAIN DISCONNECT MUST BE RIGID METALLIC (ALUMINUM OR GALVANIZED)
 - 3. CONDUIT, PIPE, AND NIPPLES SIZED PER CONDUCTOR AND CONDUIT TABLES OF THIS STANDARD



MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				BUILDING MOUNTED, 100-320A & CT METER LOOPS, UG, TROUGH, SINGLE DISCONNECTS	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
0	01/02/26	ISSUED FOR CONSTRUCTION	CAH/SMK		
				DRAWING #	
				MEC-22	

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2023 NEC Table 250.66: Grounding electrode conductor for AC systems

SIZE OF LARGEST SERVICE ENTRANCE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS		SIZE OF GROUNDING ELECTRODE CONDUCTOR
Copper	Aluminum	Copper
1/0 or smaller	3/0 or smaller	6
2/0 or 3/0	4/0 or 250 MCM	4
4/0 to 350 MCM	300 MCM to 500 MCM	2
400 MCM to 600 MCM	600 MCM to 900 MCM	1/0
700 MCM to 1100 MCM	1000 MCM to 1750 MCM	2/0
Over 1100 MCM	Over 1750 MCM	3/0
NOTE: Medina EC has modified this table to only allow copper grounding electrode conductor		
NOTE: Medina EC has modified this table to only allow #6 minimum		

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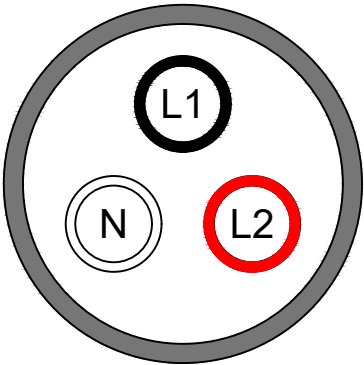
MAIN DISCONNECT BONDING AND
GROUNDING ELECTRODE CONDUCTOR SIZE

REV	DATE	REVISION DESCRIPTION	APPROVED
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK

NOT TO SCALE	DRAWING #
	MEC-23

- RESIDENTIAL IS DEFINED AS A SINGLE FAMILY DWELLING, OR AN INDIVIDUAL UNIT OF A MULTI-FAMILY DWELLING, SUPPLIED BY SINGLE PHASE 120/240V, 100A TO 400A SERVICE, CONSISTING OF TWO UNGROUNDED CONDUCTORS AND ONE NEUTRAL CONDUCTOR (2023 NEC 310.12). SINGLE PHASE DWELLINGS WITH SERVICES GREATER THAN 400A, OR PARALLELED CONDUCTORS, MUST USE THE NONRESIDENTIAL TABLE.
- CONDUCTORS SIZED PER 2023 NEC TABLE 310.12(A). NO ADJUSTMENT OR CORRECTION FACTORS HAVE BEEN APPLIED.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 3 CONDUCTORS TOTAL.

Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
100	4	2	1.25	1.25	1.25	1.25	1	1.25	1	1.25
125	2	1/0	1.25	1.5	1.25	2	1.25	1.5	1.25	1.5
150	1	2/0	1.5	2	1.5	2	1.5	2	1.5	2
175	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
200	2/0	4/0	2	2.5	2	2.5	2	2	2	2
225	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
250	4/0	300 MCM	2.5	3	2.5	3	2	2.5	2	2.5
300	250 MCM	350 MCM	2.5	3	2.5	3	2.5	2.5	2.5	3
350	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
400	400 MCM	600 MCM	3	3.5	3	4	3	3.5	3	3.5

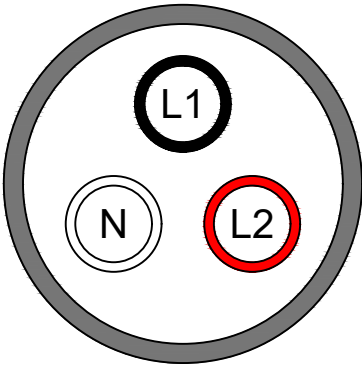


MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				SINGLE PHASE (3 WIRE), SINGLE CONDUIT, RESIDENTIAL ONLY AMPACITY TABLE	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK		
				DRAWING #	
				MEC-24	

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- CONDUCTOR AMPERAGES USE TABLE 310.16 60DEGF RATING FOR CONDUCTORS 1 AWG OR LESS, OR SERVICES 100A OR LESS, PER 2023 NEC 110.14 (C)(1)
- CONDUCTOR AMPERAGES USE TABLE 310.16 75DEGF RATING FOR CONDUCTORS GREATER THAN 1 AWG, OR SERVICES GREATER THAN 100A, PER 2023 NEC 110.14 (C)(1)
- TABLE 310.15(B)(1)(1) 40DEGF CORRECTION FACTORS TO TABLE 310.16 90DEGF THHN AMPACITY VALUES NOT APPLIED BECAUSE 110.14(C)(1) TERMINAL CONNECTION REQUIREMENTS ARE MORE RESTRICTIVE.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 3 CONDUCTORS TOTAL.

Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
70	4	2	1.25	1.25	1.25	1.25	1	1.25	1	1.25
100	1	1/0	1.5	1.5	1.5	2	1.5	1.5	1.5	1.5
125	1/0	2/0	1.5	2	2	2	1.5	2	1.5	2
150	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
175	2/0	4/0	2	2.5	2	2.5	2	2	2	2
200	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
225	4/0	300 MCM	2.5	3	2.5	3	2	2.5	2	2.5
250	250 MCM	350 MCM	2.5	3	2.5	3	2.5	2.5	2.5	3
300	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
350	500 MCM	700 MCM	3	4	3.5	4	3	3.5	3	4
400	600 MCM	900 MCM	3.5	4	4	5	3.5	4	3.5	4

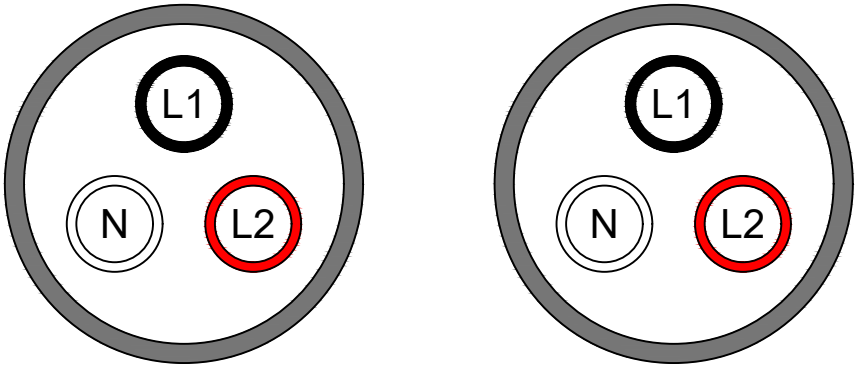


MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				SINGLE PHASE (3 WIRE), SINGLE CONDUIT, NONRESIDENTIAL AMPACITY TABLE	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
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				DRAWING #	
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- CONDUCTOR AMPERAGES USE TABLE 310.16 60DEGF RATING FOR CONDUCTORS 1 AWG OR LESS, OR SERVICES 100A OR LESS, PER 2023 NEC 110.14 (C)(1)
- CONDUCTOR AMPERAGES USE TABLE 310.16 75DEGF RATING FOR CONDUCTORS GREATER THAN 1 AWG, OR SERVICES GREATER THAN 100A, PER 2023 NEC 110.14 (C)(1)
- TABLE 310.15(B)(1)(1) 40DEGF CORRECTION FACTORS TO TABLE 310.16 90DEGF THHN AMPACITY VALUES NOT APPLIED BECAUSE 110.14(C)(1) TERMINAL CONNECTION REQUIREMENTS ARE MORE RESTRICTIVE.
- PARALLELED CONDUCTORS MUST COMPLY WITH 2023 NEC 300.3(B) AND 310.10(G). PARALLELED CONDUCTORS USING TWO CONDUITS SHALL BE INSTALLED IN GROUPS CONSISTING OF NOT MORE THAN ONE CONDUCTOR FOR EACH PHASE, AND NEUTRAL IN EACH CONDUIT. EACH CONDUIT SHALL HAVE THE SAME PHYSICAL CHARACTERISTICS.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 3 CONDUCTORS TOTAL.
- 2023 NEC 310.10(G)(1) PARALLEL CONDUCTORS SHALL BE 1/0 AWG AND GREATER.

Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
250	1/0	2/0	1.5	2	2	2	1.5	2	1.5	2
300	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
350	2/0	4/0	2	2.5	2	2.5	2	2	2	2
400	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
600	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
800	600 MCM	900 MCM	3.5	4	4	5	3.5	4	3.5	4



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SINGLE PHASE (3 WIRE), 2 PARALLEL CONDUITS,
2 PARALLEL CONDUCTORS PER PH AND NEU,
NONRESIDENTIAL AMPACITY TABLE

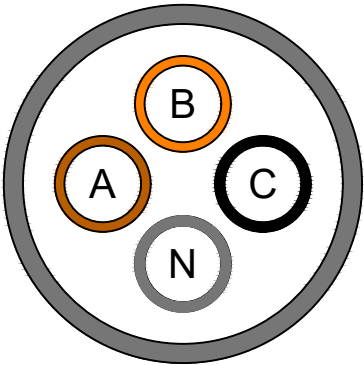
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NOT TO SCALE		DRAWING #
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- NEUTRAL IS NOT CONSIDERED A CURRENT CARRYING CONDUCTOR PER 310.15(E)(1).
- CONDUCTOR AMPERAGES USE TABLE 310.16 60DEGF RATING FOR CONDUCTORS 1 AWG OR LESS, OR SERVICES 100A OR LESS, PER 2023 NEC 110.14 (C)(1)
- CONDUCTOR AMPERAGES USE TABLE 310.16 75DEGF RATING FOR CONDUCTORS GREATER THAN 1 AWG, OR SERVICES GREATER THAN 100A, PER 2023 NEC 110.14 (C)(1)
- TABLE 310.15(B)(1)(1) 40DEGF CORRECTION FACTORS TO TABLE 310.16 90DEGF THHN AMPACITY VALUES NOT APPLIED BECAUSE 110.14(C)(1) TERMINAL CONNECTION REQUIREMENTS ARE MORE RESTRICTIVE.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 4 CONDUCTORS TOTAL.

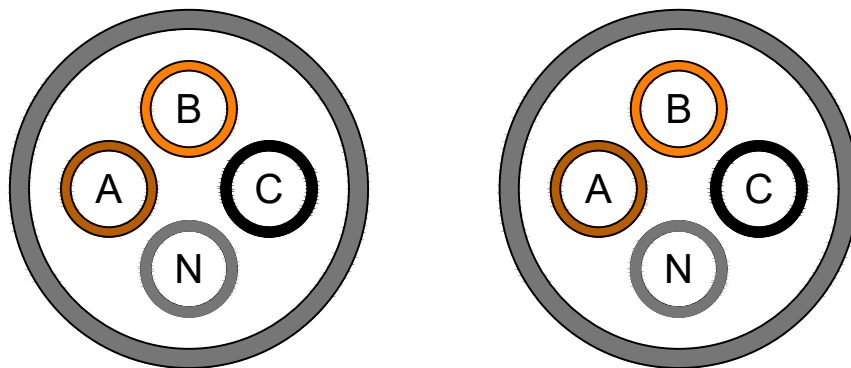
Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
70	4	2	1.25	1.25	1.25	1.25	1	1.25	1	1.25
100	1	1/0	1.5	1.5	1.5	2	1.5	1.5	1.5	1.5
125	1/0	2/0	1.5	2	2	2	1.5	2	1.5	2
150	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
175	2/0	4/0	2	2.5	2	2.5	2	2	2	2
200	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
225	4/0	300 MCM	2.5	3	2.5	3	2	2.5	2	2.5
250	250 MCM	350 MCM	2.5	3	2.5	3	2.5	2.5	2.5	3
300	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
350	500 MCM	700 MCM	3	4	3.5	4	3	3.5	3	4
400	600 MCM	900 MCM	3.5	4	4	5	3.5	4	3.5	4



MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				THREE PHASE (4 WIRE), SINGLE CONDUIT, WYE AMPACITY TABLE	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK		
				DRAWING #	
				MEC-27	



Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
250	1/0	2/0	1.5	2	2	2	1.5	2	1.5	2
300	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
350	2/0	4/0	2	2.5	2	2.5	2	2	2	2
400	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
600	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
800	600 MCM	900 MCM	3.5	4	4	5	3.5	4	3.5	4
1000	900 MCM	-	4	-	5	-	4	-	4	-

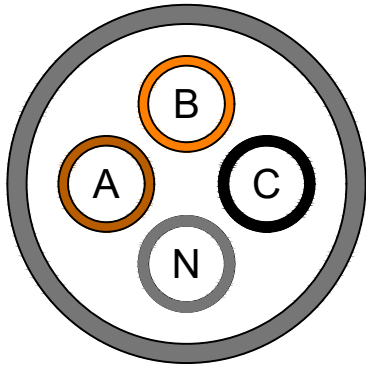
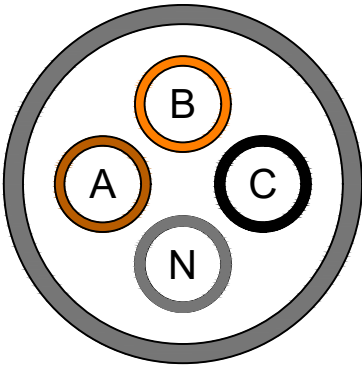
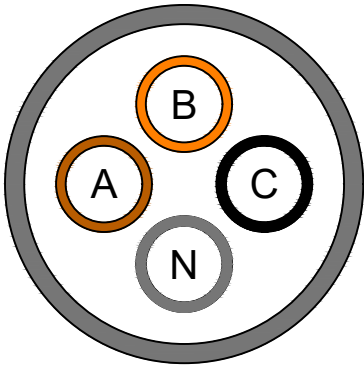


MEDINA ELECTRIC COOPERATIVE PO Box 370 Hondo, TX 78861				THREE PHASE (4 WIRE), 2 PARALLEL CONDUITS, 2 PARALLEL CONDUCTORS PER PHASE AND NEUTRAL	
REV	DATE	REVISION DESCRIPTION	APPROVED	NOT TO SCALE	
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK		
				DRAWING #	
				MEC-28	

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- NEUTRAL IS NOT CONSIDERED A CURRENT CARRYING CONDUCTOR PER 310.15(E)(1).
- CONDUCTOR AMPERAGES USE TABLE 310.16 60DEGF RATING FOR CONDUCTORS 1 AWG OR LESS, OR SERVICES 100A OR LESS, PER 2023 NEC 110.14 (C)(1)
- CONDUCTOR AMPERAGES USE TABLE 310.16 75DEGF RATING FOR CONDUCTORS GREATER THAN 1 AWG, OR SERVICES GREATER THAN 100A, PER 2023 NEC 110.14 (C)(1)
- TABLE 310.15(B)(1)(1) 40DEGF CORRECTION FACTORS TO TABLE 310.16 90DEGF THHN AMPACITY VALUES NOT APPLIED BECAUSE 110.14(C)(1) TERMINAL CONNECTION REQUIREMENTS ARE MORE RESTRICTIVE.
- PARALLELED CONDUCTORS MUST COMPLY WITH 2023 NEC 300.3(B) AND 310.10(G). PARALLELED CONDUCTORS USING THREE CONDUITS SHALL BE INSTALLED IN GROUPS CONSISTING OF NOT MORE THAN ONE CONDUCTOR FOR EACH PHASE, AND NEUTRAL IN EACH CONDUIT. EACH CONDUIT SHALL HAVE THE SAME PHYSICAL CHARACTERISTICS.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 4 CONDUCTORS TOTAL.
- 2023 NEC 310.10(G)(1) PARALLEL CONDUCTORS SHALL BE 1/0 AWG AND GREATER.

Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
400	1/0	2/0	1.5	2	2	2	1.5	2	1.5	2
600	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
800	300 MCM	400 MCM	3	3	3	3	2.5	3	2.5	3
1000	400 MCM	600 MCM	3	3.5	3	4	3	3.5	3	3.5
1200	600 MCM	900 MCM	3.5	4	4	5	3.5	4	3.5	4



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THREE PHASE (4 WIRE), 3 PARALLEL CONDUITS,
3 PARALLEL CONDUCTORS PER PHASE AND NEUTRAL

REV	DATE	REVISION DESCRIPTION	APPROVED
0	02/23/26	ISSUED FOR CONSTRUCTION	CAH/SMK

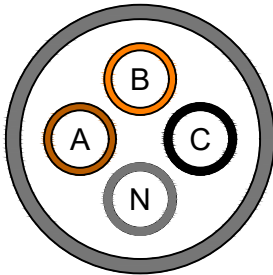
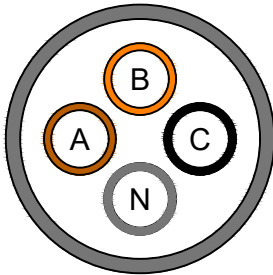
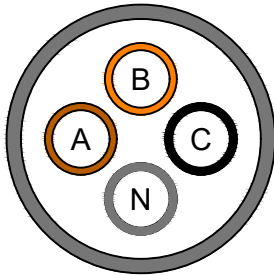
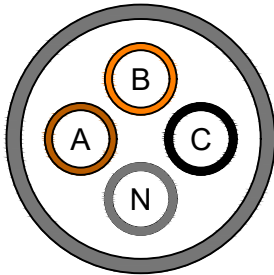


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- NEUTRAL IS NOT CONSIDERED A CURRENT CARRYING CONDUCTOR PER 310.15(E)(1).
- CONDUCTOR AMPERAGES USE TABLE 310.16 60DEGF RATING FOR CONDUCTORS 1 AWG OR LESS, OR SERVICES 100A OR LESS, PER 2023 NEC 110.14 (C)(1)
- CONDUCTOR AMPERAGES USE TABLE 310.16 75DEGF RATING FOR CONDUCTORS GREATER THAN 1 AWG, OR SERVICES GREATER THAN 100A, PER 2023 NEC 110.14 (C)(1)
- TABLE 310.15(B)(1)(1) 40DEGF CORRECTION FACTORS TO TABLE 310.16 90DEGF THHN AMPACITY VALUES NOT APPLIED BECAUSE 110.14(C)(1) TERMINAL CONNECTION REQUIREMENTS ARE MORE RESTRICTIVE.
- 2023 NEC ANNEX C CONDUIT FILL TABLE VALUES UPSIZED IF CH9 TABLE 1 INFO NOTE 2 JAMMING CRITERIA NOT MET. CONDUIT SIZES LISTED ARE ONLY FOR 4 CONDUCTORS TOTAL.
- 2023 NEC 310.10(G)(1) PARALLEL CONDUCTORS SHALL BE 1/0 AWG AND GREATER.
- PARALLEL CONDUCTORS MUST COMPLY WITH 2023 NEC 300.3(B) AND 310.10(G).
- PARALLEL CONDUCTORS USING FOUR CONDUITS SHALL BE INSTALLED IN GROUPS CONSISTING OF NOT MORE THAN ONE CONDUCTOR FOR EACH PHASE, AND NEUTRAL IN EACH CONDUIT. EACH CONDUIT SHALL HAVE THE SAME PHYSICAL CHARACTERISTICS."

Loop Size	Copper	Aluminum	Annex C, Table C11: Sch 40 PVC		Annex C, Table C10: Sch 80 PVC		Annex C, Table C1: EMT		Annex C, Table C9: RMC	
			Copper	Aluminum	Copper	Aluminum	Copper	Aluminum	Copper	Aluminum
400	1/0	1/0	1.5	1.5	2	2	1.5	1.5	1.5	1.5
600	1/0	3/0	1.5	2	2	2	1.5	2	1.5	2
800	3/0	250 MCM	2	2.5	2	2.5	2	2.5	2	2.5
1000	250 MCM	350 MCM	2.5	3	2.5	3	2.5	2.5	2.5	3
1200	350 MCM	500 MCM	3	3	3	3.5	2.5	3	3	3
2000	900 MCM	-	4	-	5	-	4	-	4	-



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THREE PHASE (4 WIRE), 4 PARALLEL CONDUITS,
4 PARALLEL CONDUCTORS PER PHASE AND NEUTRAL

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