

Underground Installation Guide

Revised April 1, 2025

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Updates to this Edition 04/1/2025

Drawing Name / Description	Changes
PAD No. 5	Revised drawing to include new design with secondary knockouts and other visuals for clarity. Also provided additional bedding requirements consistent with MTE standards.
VS-1	Added new drawing providing layout specifications for vault and sector installations.
Appendix B	Updates to approved materials and manufacturers.

Duct System Installation Specifications

SCOPE

The project consists of the installation of the complete underground duct system for bothprimary and secondary voltages, including conduit, pull boxes, sectors ground sleeves, equipment pads, riser poles, hand holes, etc., necessary for the installation of MTE's underground primary cables, secondary cables, MTE communication (comm) cables, and otherassociated MTE equipment and apparatus.

- 1. The developer shall be responsible for furnishing all labor, materials, and equipment necessary for:
 - A. Excavation, backfill, concrete and/or gravel encasement required for allditches.
 - B. Duct banks and conduit installation including PVC spacers systems (conduitchairs) and pull strings.
 - C. Pad mounted equipment concrete pads.
 - D. Secondary junction boxes
 - E. Manholes
 - F. Transformer Box Pads
 - G. Sector Ground Sleeves
 - H. Primary pull boxes
 - I. Street lighting, as shown in the MTE Streetlight Manual
 - J. MTE Comm hand holes including "flowerpots" and MTE comm conduit
- 2. In addition to the above, the developer shall be responsible for all surveying for the placement of MTE's lines and equipment, and for all electrical easements required atno cost to MTE.
- 3. MTE shall furnish drawings showing specific locations, quantities, sizes, encasement, and/or other requirements. Said drawings are a part of these specifications and are equally important to the success of the project.
- 4. Specific Material/Equipment Specifications:
 - A. Manholes:
 - a. Manhole excavation and backfill requirements are shown on drawings "MH-3 sh 2" and "OMH-3 sh2." Strict adherence to these requirements is critical.
 - b. The developer should give MTE a minimum of 24-hours of notice prior to setting manholes for MTE to schedule a crew to install manhole grounding and sump wells prior to backfill and to schedule an inspector to be present during the setting of manholes
 - c. Elevations for manholes are critical. The maximum throat allowed is 24". The minimum is 6".
 - d. The developer shall follow manufacturer's recommendations when setting manholes. Proper slings and attachments are vital to the integrity of the manhole. Damaged manholes will not be accepted.
 - e. See drawing "MH-3" or "OMH-3" for manufacturing details on manholes.
 - f. Care shall be taken when placing manholes to align parallel to the street, thereby facilitating conduit installation.
 - g. The first manhole, downline from the riser pole, shall be installed no more than fifty (50) feet from the pole, with the riser elbow(s) pointed in line with the duct bank conduits.

- h. Manholes shall be spaced no further than six hundred (600) feet apart unless written authorization is given by the MTE Support Engineer for that area.
- i. Conduits shall extend from the manhole pre-manufactured "knockout" holes on the sidewalls of the manhole. Careful planning and consideration should be given to verify that electric conduits shall not interfere with existing or proposed utilities, storm drains etc.

B. Duct Banks:

- a. Primary duct bank details are included in the drawings. See Primary Ditch Details "2C", "3C", "4C", "6C-2", "9C", "12C", "4G", or "2G" for ditch details. MTE Engineering will specify the duct bank to be used. Small aluminum primary cable in conduit shall be encased in gravels per Ditch Detail drawing "2G". All primary cable installations and feeders larger than No. 4/0 aluminum shall be encased in concrete per the Ditch Details Drawing that is specified by MTE. Any exceptions to this policy must be approved by the MTE Vice President of Engineering. Ditch Detail "2G" shows the installation of an MTE communications conduit is in the same ditch with MTE's primary cable.
- b. Concrete duct banks shall be 3000 psi or greater with, maximum coarse aggregate size of $\frac{3}{4}$ ". Concrete shall have enough slump to flow to the bottom of the form and not wet enough to float the conduit.
- c. Flowable fill is not permitted
- d. If there is 10' or less distance between a manhole and riser pole or switch foundation, concrete encasement of the conduit is not required.
- e. The secondary conduit ditch details are shown on Secondary Ditch Details"1S" and "2S". Cover required is shown on details.
- f. The duct bank must be inspected by MTE prior to concrete or gravel encasement and prior to backfill. Call 877-886-8362 or request the inspection online at <u>www.mte.com/ConstructionStandards</u> at least 24 hours prior to needing inspection.
- g. All completely underground primary conduit shall be schedule 40 if encased in gravel or if encased in concrete, but elbows shall be schedule 80. See MTE Engineering for size conduit and encasement requirements. See Secondary Ditch Details for secondary conduit requirements.
- h. The primary duct bank should be straight and as level as practical. No sharpbends or dips will be allowed. Conduit banks shall be supported a minimum ofevery seven (7) feet by PVC spacer system (conduit chairs). See the Approved Material List for MTE approved PVC spacer systems. Ducts should drain into manholes.
- i. Caps of the proper size and type shall be installed on all conduits not terminating in manholes, switches, hand holes, flower pots, or other such equipment. Conduit shall be dan dirt and rock free.
- j. In some instances, excavation at specific apparatus must be deeper than thetypical ditch detail drawings show. In such cases, the developer should begin sloping the ditch deeper a minimum distance of 20' away from the apparatus in question. No sharp bends will be accepted. Primary duct banks shall not beheated.
- k.Conduit bank should enter rectangular manholes as shown on "MH-3 sh 3".
- 1. Conduit must be installed to enter manhole perpendicular to manhole. (Note that manhole may not be parallel with the street in all cases; therefore, care must be taken to align conduit for perpendicular entrance to manholes.) Misaligned conduit banks will not be accepted.
- m. Secondary or service lateral conduit ditch details are shown on Secondary Ditch Detail "1S"or "2S". No sharp bends will be allowed. Horizontal bendingradius must be no less than 6' and limited to one (1) per run. Conduit road crossings must be planned to avoid

sharp bends for conduit serving building sites. MTE inspectors will reject road crossings not taking this into account.

- n. Pull strings shall be installed in all conduits.
- o. MTE Communications (Comm) conduit shall be installed in the same manner as the primary and secondary conduit. Elbows are not required for the HDPE conduit. The MTE comm conduit may be installed in the same ditches as the primary and secondary conduit. MTE Comm conduit shall be as specified HDPE SDR 13.5 orange with red stripes when placed in an open primary ditch. If the conduit is being installed by boring, then SDR 11 shall be used. MTE Comm conduit in secondary ditches can be schedule 40 PVC.
- C. Concrete Equipment Pads:
 - a. Concrete equipment pads (such as switch, transformer, etc.) must be inspected by MTE prior to concrete pouring. Call MTE at 1-877-886-8362 or online at <u>www.mte.com/ConstructionStandards</u> to request pad inspection.
 - b.Concrete pads shall rest on gravels installed according to the details foundelsewhere in the drawings.
 - c. Detailed drawings of required concrete pads will be furnished by MTE to the developer as a part of the plans and specifications. (See "PAD NO. 10" and "PAD NO. 11" for switch pad details, and "PAD NO. 1" or "PAD NO. 5" for transformer pad details. See "PAD NO. 12 for primary metering cabinet.)
- D. Riser Poles
 - a. At riser poles (see drawing RP-1), the developer shall furnish and install all conduit and conduit ells required from the ditch up to and including one foot above the first bracket. MTE will install additional conduit sections and bracketsfor each riser required. Prior to any digging within three (3) feet of MTE's poles, MTE shall be contacted 24 hours in advance to arrange for an MTE inspector to be present during excavation and backfill closer than three (3) feet from poles.
- E. Secondary Box Pedestals:
 - a. Overhead primary/underground secondary developments:
 - When required by MTE engineers, a secondary box pedestal shall be installed near the base of each transformer pole and additional secondary box, pedestals shall be installed on property lines on both sides of the street as specified by MTE Engineering. (See drawing SBP-1, 2). These pedestals shall have schedule 40 PVC conduits (number and size as required by MTE) running under the street between them, with 90-degree, 24" radius schedule 80 PVC elbows turning up into the pedestals. The developer shall install one (1) 90-degree, 24" radius schedule 80 PVC elbow for each lot to be served from the appropriate pedestal. The schedule 80 PVC elbows shall be connected to a 10' section of schedule 40 PVC and turned in the direction of their respective building sites. Secondary box size will be designated by the MTE engineer. A list of approved boxes is found in Appendix "B".
 - b. Completely underground developments:

In developments with pad mounted transformers (PMT), secondary pull boxesshall be installed across the street from the PMT as specified by MTE Engineering, and secondary pull boxes will be required on the same side of the road as required by MTE Engineering (See drawings SBP-2, -3).

Schedule 40 PVC conduits (number and size as required by MTE engineers) shall extend from the PMT secondary compartment area to the pullbox. In addition, the developer shall install one (1) 90-degree, 24" radius schedule 80 (was 40) PVC elbow for each lot to be

served from the PMT secondary compartment or the pull box. These elbows shall be turned in the direction of their respective building sites. Secondary box size will be designated by the MTE engineer. A list of approved boxes is found in Appendix "B".

F. MTE Communications Hand Holes

a. MTE Communication hand holes shall be installed as specified by MTE Engineering. A hand hole shall be installed in place of a flowerpot at all multimeter locations. See SBP-1 and SBP-2 for examples of layouts. Use sheet 2 of those drawings as examples for installing comm pull boxes. All MTE comm pull boxes shall be installed a minimum of three (3) feet from any above ground piece of MTE equipment for example: transformer, switch, sector, pole, etc.

G. Proximity to Water and Gas Lines

a. All MTE infrastructure including but not limited to conduits, manholes, box pads, and pull boxes must have a minimum horizontal separation of 36" from gas and water lines.

5. Miscellaneous Requirements:

- A. Any changes to these plans and specifications must have the approval of MTE's Engineering Services Manager.
- B. Inspections by MTE are vital to the acceptability of the duct system by MTE prior to MTE's installation of cable and other electrical apparatus. MTE operations' inspectors must be assured that the duct system is installed to MTE's duct specifications before such apparatus can be installed. It is therefore, extremely important for all installations to be inspected in a timely manner, as outlined elsewhere in these specifications.
- C. Particular attention should be given (for safety reasons) to the sloping of banks in ditches or other excavation deeper than five feet. Detailed drawings may not show applicable local, state, and federal laws, codes and regulations ("Applicable Laws"), including OSHA, due to variations in field conditions, such as soil types. Nevertheless, the developer is solely responsible for its compliance with all Applicable Laws. MTE has no responsibility to identify any Applicable Laws for developer and will not in any way be responsible or liable for developer's failure to comply with all Applicable Laws.

Request for Location of Underground Facilities

- 1. Before beginning any excavation operation, each person responsible for such excavation shall serve written or telephonic notice of intent to excavate to Tennessee One Call (811) at least three (3) working days prior to the actual date of excavation, but not more than fifteen (15) full working days prior to such time.
- 2. Should a period of time of fifteen (15) working days from the actual date specified to start excavation expire without the excavation begin completed, the person responsible for such excavation shall notify Tennessee One Call of intent for additional excavation. Such notification must take place a minimum of three (3) working days prior to the expiration of original fifteen- (15) working-day period.
- 3. The written or telephone notice required shall contain the name, address, and telephone number of the person responsible for excavation; and the starting date, type of excavation to be done, specific location of excavation, and whether or not explosives are to be used.
- 4. The location of proposed area of excavation should be designated by marking such area with "Safety Orange" color-coded stakes and "Safety White" identifications on the roadway, or other marking devices.
- 5. The appropriate location of MTE underground facilities does not include a designation of location as to depth below the surface of the ground. Excavators must use reasonable care to ascertain for themselves the exact depth of the underground facilities. If after so ascertaining, the excavator learns that the excavation is likely to interfere with the operation of MTE facilities, he/she must contact MTE to make other arrangements.
- 6. In the event of an emergency, MTE may be contacted at any time. "Emergency" means an imminent danger to life, health, or property.
- 7. MTE will use "Safety Red" to mark its facilities.





NOTE:

Landscaping around the pad is permitted. However, no trees, bushes, or shrubbery should be planted within twelve (12) feet of the sides of pad-mounted equipment that have doors or access covers that must be opened. On the sides of the equipment that do not have doors or access covers, trees, bushes, and shrubbery should be planted at least three (3) feet away. Small plants and flowers that do not require use of chainsaws saws or other similar equipment to remove are permitted closer to the pad but may be damaged or destroyed if maintenance is required to be performed on the pad-mounted equipment. For clearances of structures and other obstructions around pad mounted equipment, see respective "PAD NO." drawings later in this document.



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Notes:

1. Conduits run horizontal to water or gas lines must have a minimum 36" horizontal separation.

2. Telephone or cable utility minimum separation from MTE ducts shall be either:

a.) 36" parallel

b.) 12" vertical

3. All foreign utility perpendicular crossings must have 12" minimum separation from MTE ducts.

4. PVC Conduit shall be gray schedule 40 with long integeral bells. The size and number as specified by MTE and indicated on the plans. Long couplings defined as 6" or longer for 3" conduit shall be used as necessary.

5. Comm conduit to be gray schedule 40 PVC or HDPE SDR 13.5 orange with red stripe. Use only approved couplings from Appendix B of MTE UIG.

6. No sharp bends will be allowed. Horizontal bends must be greater than 6' radius. Contractor should plan runs to building sites such that no sharp bends will be necessary to serve the building.

7. Install Jetline pull string with minimum 200 lb tensile strength in each conduit.

8. If above not practical, then options shown on secondary ditch detail 2S may be used.

9. Developer/owner is responsible for providing MTE a clean and obstruction free conduit system.

10. Multiple family units require the minimum conduit requirements: Townhomes:

Up to 5 units - one (1) conduit to the gang base.

6 units or larger - two (2) conduits to the gang base. Apartments:

1 to 11 units - one (1) 3" conduit to each gang base.

12 to 36 units - two (2) 3" conduits to each gang base.

Two (2) 3" conduits for all road crossings

11. Uppermost electrical conduit shall have no less than 24" of cover to surface / ground line.



Before beginning construction, users should verify with MTE that the specification(s) used is the correct application and is the most current version of the specification.







10.DEVELOPER/OWNER IS RESPONSIBLE FOR PROVIDING MTE A CLEAN AND OBSTRUCTION FREE CONDUIT SYSTEM.

11. UPPERMOST ELECTRICAL CONDUIT SHALL HAVE NO LESS THAN 33" OF COVER TO SURFACE / GROUND LINE.

SHEET: <u>1</u> OF <u>1</u> 14

NONE

SCALE:

2C



3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTE DUCTS.

- 4. ELECTRICAL CONDUIT SHALL BE GRAY PVC SCHEDULE 40 WITH LONG INTEGERAL BELLS. THE SIZE AND NUMBER AS SPECIFIED BY MTE AND INDICATED ON THE PLANS. LONG COUPLINGS AS DEFINED IN APPENDIX B SHALL BE USED AS NECESSARY. COMM CONDUITS SHALL BE 2" HDPE SDR 13.5, ORANGE WITH RED STRIPE FOR MAIN COMM LINE AND MULTI-DROP SERVICE. COMM CONDUIT IS 1" PVC SCH 40 FOR SINGLE DROPS.
- 5. CONDUIT SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
- 6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
- 7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
- 8. CONCRETE SHALL BE MIXED WITH RED DYE.
- 9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTE TO CONNECT TO GROUND. SEE MTE LOCAL ENGINEERING FOR QUESTIONS.
- 10. DEVELOPER IS RESPONSIBLE FOR PROVIDING MTE A CLEAN AND OBSTRUCTION FREE CONDUIT SYSTEM.
- 11. UPPERMOST ELECTRICAL CONDUIT SHALL HAVE NO LESS THAN 33" OF COVER TO SURFACE / GROUND LINE.









- 10. DEVELOPER IS RESPONSIBLE FOR PROVIDING MTE A CLEAN AND OBSTRUCTION FREE CONDUIT SYSTEM.
- 11. UPPERMOST ELECTRICAL CONDUIT SHALL HAVE NO LESS THAN 33" OF COVER TO SURFACE / GROUND LINE.

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EXAMPLE OF GENERIC LAYOUT; CONSULT WITH MTE ENGINEERING FOR SPECIFIC DEVELOPMENT LAYOUT.

1. Developer to furnish and install secondary pullboxes as well as comm hand holes. (Location, Manufacturer, and Catalog Number as specified by MTE Engineering - see Appendix "B")

2. Developer to furnish and install transformer box pad and PVC (sch 40) electrical conduit from boxpad to pullbox (number and size as required by MTE). Developer to furnish and install comm hand holes and necessary HDPE SDR 13.5 or schedule 40 PVC comm conduit between comm hand holes (number, type, and size as required by MTE). Transformer boxpads and comm hand holes shall be as specified by MTE - see Appendix B.

3. Developer to install 3" elbow(s) (24" radius, sch. 80) and 10' sub out of schedule 40 conduit, quantity to be specified by MTE Engineering design layout, out of the appropriate boxpad and pullbox, aim the conduit toward the building site. A 2" PVC schedule 40 comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.

4. The builder's electrician shall install the 3" schedule 40 PVC electrical conduit and 2" PVC comm conduit with glued cap from the stub outs to the meter bases. (See Note 3 above and drawings ESG-2 and ESG-3 in MTE's Electrical Service Guidelines for more information.)

Refer to drawing MMI-1, Sheet 2, for more details.

All elbows to be schedule 80 PVC.

7. Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.





e digging or opening ditches: 1-800-351-1111 or 811				
ing materials:				
r to meter base present, see a MTE	engineering representative	3 for		
ner to meter locatio	on with the following speci	fications:		
ft. see a MTE engi	neering representative prior	r to		
of transformer. th service conductor depth, see a MTE e pection by MTE — 2 MTE.com to fill out er, notify MTE so the	s 24 in. below final grade. engineering representative. 4 hr. notice required an online request) at MTE representation			
ansformer to meter s:	base will be furnished and	l installed by		
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	DRAWING NUMBER:	REVISED DATE: OCT. 2, 2023		
	MMI-1	SCALE: <u>NONE</u>		
		SHEET: <u>2</u> OF <u>2</u>		
		21		



Notes:

1. Developer to install secondary pulboxes and comm hand holes. (Location, size, manufacturer and catalog number as specified by MTE Engineering - See appendix 'B")

2. Developer to install PVC (Sch 40) conduits from pull box Number 1 to pullbox Number 2 when required by MTE Engineering. (Number and size as required by MTE.) Developer to install 2" HDPE (SDR 13.5 orange with red stripes) between comm hand holes as required by MTE Engineering. (Number and size as required by MTE.)

3. Developer to furnish and install electric riser conduit and elbow (From pole to secondary pull box.) Riser shall be installed from the elbow up to 12" above lowest MTE installed bracket on service pole. A clean horizontal cut shall be made on the top of the riser conduit. Developer to furnish and install comm conduit to be run 3' up pole above final grade. A minimum of ½" stainless steel straps shall be used to strap the comm conduit to the pole approximately 12" and 30" above final grade. Pull strings to be included in all conduits. All conduit on the service pole shall have glued on caps.

4. Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' stub out of sch. 40 conduit out of the appropriate pullbox for each lot to be served, aim the conduit toward the building site. A 1" sch. 40 PVC comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.

5. The builder's electrician shall install the 3" PVC electrical conduit and 1" PVC comm conduit from the stub outs to the meter bases including pull strings. (See Note 4 above and drawings ESG-2 and ESG-3 in MTE's Electrical Service Guidelines for more information.)

6. MTE to install schedule 80 conduit from 1' above lowest bracket on riser pole. (Number and size as required my MTE)

7. Refer to Drawing SBP-1, Sheet 2, for more details.

8. Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.

9. This drawing shoes a 'typical' installation for large subdivision lots. Actual installation will vary.

10. All elbows shall be schedule 80 PVC.







1. Developer to install secondary pulboxes and comm hand holes. (Location, size, manufacturer and catalog number as specified by MTE Engineering - See appendix 'B")

2. Developer to install PVC (Sch 40) conduits from pull box Number 1 to pullbox Number 2 when required by MTE Engineering. (Number and size as required by MTE.) Developer to install conduit between comm hand holes as required by MTE Engineering. (Number, type, and size as required by MTE.)

3. Developer to furnish and install first section of electrical riser conduit and elbow (From pole to secondary pull box.) Developer to furnish and install comm conduit to be run 3' up pole above final grade. A minimum of ½" stainless steel straps shall be used to strap the comm conduit to the pole approximately 12" and 30" above final grade. Pull strings to be included in all conduits. Caps shall be glued on comm conduits on pole.

4. Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' stub out of sch. 40 conduit out of the appropriate pullbox for each lot to be served, aim the conduit toward the building site. A 1" PVC sch 40 comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.

5. The builder's electrician shall install the 3" PVC electrical conduit and 1" PVC sch 40 comm conduit from the stub outs to the meter bases including pull strings. (See Note 4 above and drawings ESG-2 and ESG-3 in MTE's Electrical Service Guidelines for more information.)

6. MTE to install schedule 80 conduit from 1' above lowest bracket on riser pole. Number and size as required by MTE.

Refer to Drawing SBP-1, Sheet 2, for more details.

8. Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.

9. This drawing shows a 'typical' installation for large subdivision lots. Actual installation will vary.

All elbows shall be schedule 80 PVC.



PROPERTY

LINE

-COMM

POT

FLOWER

SECONDARY

PULLBOX

(WHEN REQUIRED)

LOT #2

LOT #1

COMM. AND ELECTRICAL CONDUITS

SHOWN SEPARATE FOR CLARITY,

BOTH CAN BE IN SAME DITCH.

10' STICK, 3" SCH40

STUBOUT TO LOT #2

10' STICK, 3" SCH40

STUBOUT TO LOT #1

COMM. CONDUIT STUBOUT.

PROPERTY LINE

ENDS WITH ELECTRICAL STUBOUT

PRIMARY ELECTRIC LINE

STREET

(2) 3"

STREET

SCALE: NONE

VIEW

1

PLAN

-ACROSS ROAD



Notes:

Developer to furnish and install secondary pullboxes as 1. well as comm hand holes. (Location, Manufacturer, and Catalog Number as specified by MTE Engineering - see Appendix "B")

Developer to furnish and install transformer box pad and 2. PVC (sch 40) electrical conduit from boxpad to pullbox (number and size as required by MTE). Developer to furnish and install comm hand holes and necessary comm conduit between comm hand holes (number, type, and size as required by MTE). Transformer boxpads and comm hand holes shall be as specified by MTE - see Appendix B.

Developer to install one (1) 3" elbow (24" radius, sch. 80) 3. and 10' sub out of sch. 40 conduit out of the appropriate boxpad and pullbox for each lot to be served, aim the conduit toward the building site. A 1" comm conduit shall be run from the comm pullbox and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.

The builder's electrician shall install the 3" sch. 40 PVC 4. electrical conduit and 1" sch. 40 PVC comm conduit from the stub outs to the meter bases. (See Note 3 above and drawings ESG-2 and ESG-3 in MTE's Electrical Service Guidelines for more information.)



SCALE: NONE

April 1, 2025

BY DEVELOPER (SEE DRAWING BP-1) MAIN COMM. CONDUIT -

LOT #3

TRANSFORMER BOX PAD-

COMM.

HAND HOLE

10' STICK, 3" SCH40_

STUBOUT TO LOT #3

10' STICK, 3" SCH40-

STUBOUT TO LOT #4

LOT #4

1" COMM. CONDUIT STUBOUT

ENDS WITH ELECTRICAL STUBOUT

PROPERTY LINE

MAX. SEP. 48"

PROPERTY LINE

EXAMPLE OF GENERIC LAYOUT; CONSULT WITH MTE ENGINEERING FOR SPECIFIC DEVELOPMENT LAYOUT.

Refer to drawing SBP-2, Sheet 2, for more details.

All elbows to be schedule 80 PVC.

Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.





Notes:

- 1. Conduit elbows # 2 and # 3 are 3" PVC installed by developer and turned out toward building sites.
- Developer to install PVC (schedule 40) conduits from pad mounted 2. transformer to secondary pullbox across street or behind transformer, number and size as requierd by MTE all elbows to be schedule 80 PVC.
- 3. Pullbox to be installed on bed of 3/4" washed gravel placed on undisturbed earth.
- Refer to drawing SBP-2, Sheet 1 or Sheet 3, for overall plan. 4.







n.

EXAMPLE OF GENERIC LAYOUT; CONSULT WITH MTE ENGINEERING FOR SPECIFIC DEVELOPMENT LAYOUT.

Notes:

1. Developer to furnish and install secondary pullboxes as well as comm hand holes. (Location, Manufacturer, and Catalog Number as specified by MTE Engineering - see Appendix "B")

2. Developer to furnish and install transformer box pad and PVC (sch 40) electrical conduit from boxpad to pullbox (number and size as required by MTE). Developer to furnish and install comm hand holes and necessary HDPE SDR 13.5 comm conduit between comm hand holes (number and size as required by MTE). Transformer Boxpads and comm hand holes shall be as specified by MTE - see Appendix B.

3. Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' sub out of sch. 40 conduit out of the appropriate boxpad and pullbox for each lot to be served, aim the conduit toward the building site. A 1" PVC sch 40 comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.

4. The builder's electrician shall install the 3" PVC electrical conduit and 1" PVC comm conduit from the stub outs to the meter bases. (See Note 3 above and drawings ESG-2 and ESG-3 in MTE's Electrical Service Guidelines for more information.)

. Refer to drawing SBP-2, Sheet 2, for more details.

6. Conduit from transformer box pad to pullbox will be specified by MTE for each project.

7. All elbows to be schedule 80 PVC.

8. Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.

O METER	me	Middle Tennessee Electric
N	SECONDARY	PULLBOX
	(UNDERGROUND PRIMARY -	UNDERGROUND SERVICE)
ACH CAL) RICIAN	DRAWING NUMBER:	REVISED DATE: JULY 1, 2023
	SBP-2	SCALE: <u>NONE</u>
		SHEET: <u>3</u> of <u>3</u>



NOTES:

- 1. CONDUIT ELBOWS # 2 AND # 3 ARE 3" PVC INSTALLED BY DEVELOPER AND TURNED OUT TOWARD BUILDING SITES.
- 2. DEVELOPER TO INSTALL PVC (SCHEDULE 40) CONDUITS FROM PAD MOUNTED TRANSFORMER TO SECONDARY PULLBOX ACROSS STREET OR BEHIND TRANSFORMER, NUMBER AND SIZE AS REQUIERD BY MTE ALL ELBOWS TO BE SCHEDULE 80 PVC.
- 3. PULLBOX TO BE INSTALLED ON BED OF 3/4" WASHED GRAVEL PLACED ON UNDISTURBED EARTH.
- 4. REFER TO SHEETS 1 & 3 OF DRAWING SBP-1 OR SBP-2 FOR OVERALL PLAN.







SELECTED EARTH BACKFILL

1/2 B

SERVICE POST SEE NOTE 5

TRANSFORMER

BOX PAD

EXISTING SECTOR SIDE ELEVATION

FINAL GRADE

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1/2 B EXISTING SECTOR PAD BASE

SERVICE ENTRANCE CONDUCTORS SEE NOTE 8

PLAN VIEW

NOTES:

2'-0"

5'-0"

- ALL SECONDARY ELBOWS SHALL BE SCH. 80 PVC, 24"R, 3". ALL PRIMARY ELBOWS SHALL BE SCH 80, 48" R, 1. SIZE SHOWN ON PLANS.
- MAINTAIN 2" MINIMUM SPACING BETWEEN CONDUIT UNLESS SHOWN GREATER. 2.
- ALL CONDUIT ELBOWS MUST BE CAPPED UPON INSTALLATION. 3.
- ALL ELBOWS TO BE SCHEDULE 80 PVC. 4.
- SERVICE EQUIPMENT AND METER BASE SECURELY FASTENED TO A 4X4 POST SET IN THE GROUND AT A MINIMUM 5. DEPTH OF 2 FEET.
- LOCATE POST BEHIND RIGHT REAR CORNER OF PAD-MOUNTED TRANSFORMER OR UNDERGROUND SECONDARY BOX. 6. ALLOW 2 FT. CLEARANCE BETWEEN POST AND TRANSFORMER OR SECONDARY BOX. MTE ENGINEER MAY SPOT LOCATION FOR NEW TEMPORARY SERVICE AS WELL AS ADDITIONAL TEMPORARY SERVICES.
- SERVICE ENTRANCE RACEWAY OF 1 1/4 IN. W/P FLEXIBLE CONDUIT WILL EXTEND FROM THE TOP OF THE METER 7. BASE TO NOT LESS THAN 1 FT. BELÓW GRADE AND INTO THE TRANSFORMER BOX PAD.
- 8. SERVICE ENTRANCE CONDUCTORS, NO. 6 (UF OR USE) UNDERGROUND CABLE WILL EXTEND 7 FT. OUT OF SERVICE ENTRANCE RACEWAY. CONNECTIONS IN TRANSFORMER CABINET OR UNDERGROUND SECONDARY BOX WILL BE MADE BY MTE.
- METER BASE WILL BE LOCATED BETWEEN 4' AND 6' ABOVE GRADE. 9.
- A WEATHERPROOF, U.L. LISTED, TEMPORARY SERVICE PANEL WILL BE LOCATED AT THE METER BASE. IN NO CASE 10. WILL THE PANEL BE LESS THAN 2 FT. ABOVE GROUND.
- 15 AND 20 AMPERE RECEPTACLES WILL HAVE GROUND FAULT PROTECTION FOR PERSONNEL. 11.
- A GROUND WIRE OF NO. 4 COPPER OR LARGER SHALL BE RAN UNSPLICED FROM METER BASE OR PANEL TO 12. DRIVEN GROUND ROD. AN 8 FT. DRIVEN GROUND ROD BONDED TO GROUND WIRE WITH CLAMP SUITABLE FOR DIRECT SOIL BURIAL WILL BE INSTALLED BELOW GRADE, 6 IN. FROM POST.
- 13. ALL ELBOWS TO BE SCHEDULE 80 PVC.

Before beginning construction, users should verify with MTE that the specification(s) used is the correct application and is the most current version of the specification









Notes:

1. See ditch details elsewhere in these specifications for ditch dimensions and requirements.

2. Prior to any excavation closer than 3' to the pole, the developer shall provide 24 hours notice to MTE to arrange for MTE inspector to be present during excavation. Work shall be arranged such that the required encasement and backfill will take place the same day as excavation.

3. Developer shall furnish and install schedule 80 PVC riser conduit 12" above the first MTE bracket. Also, glue appropriate cap on top of conduit. All electrical conduit shall meet NEMA TC-2, WC 1094A, and UL651 Specs. Comm conduit shall be furnished and installed by the developer. All 2" comm conduit shall be HDPE SDR 13.5 orange with a red stripe. Comm conduit to be run 3' up pole above final grade. A minimum of ½" stainless steel straps shall be used to strap the comm conduit to the pole approximately 12" and 30" above final grade.

4. Above the developer supplied and installed electrical conduit that ends 12" above the lowest bracket, MTE will provided and install the remaining riser conduit.

5. Developer shall glue cap on any spare elbows and all comm conduit. It must be a cap; tape will not be approved.

6. Conduit-to-pole brackets shall standoff conduit 4" from pole and shall be furnished and installed for 1' past lowest conduit bracket of electric riser conduit by the developer. See listed approved materials for the accepted brackets in Appendix B.

7. Conduit in the last 20' of ditch prior to meeting riser pole elbow shall be level in order for riser pole conduit to be plumb.

8. Developer must coordinate specific conduit risers location with MTE before installation is begun.

9. Long couplings as defined in Appendix B shall be used as necessary when splicing the gray electrical conduit.

- 10. See Table 1 for conduit support spacing.
- 11. NESC requires 8' between bottom support two brackets.





Maintain a 4" separation between conduits.

Each conduit is to be 2" off of the pole's center line. Conductor is to pass between conduits at top of the pole, so this dimension relative to the pole's center line is critical.

3. To be used on all risers that meet one or more of the following criteria:

- 3.A. Primary services larger than #1/0 aluminum.
- 3.B. Primary services that are within state right of ways.
 - Primary services that exist in areas where damage to the conduit is likely. See MTE engineer for applicability.

4. Developer shall furnish and install schedule 80 electrical PVC riser conduit 12" above the first MTE conduit standoff bracket. Comm conduit to be run 3' up pole above final grade. A minimum of ½" stainless steel straps shall be used to strap the comm conduit to the pole approximately 12" and 30" above final grade. Also, glue appropriate cap on top of both conduits.

Install bollard as indicated on the drawing. See drawing BD-1 for bollard detail.

The quadrants for conduit location shall be determined by MTE personnel.

7. If the number of conduits is greater than 2, see MTE personnel.

This is to be used for all feeder circuits and wherever MTE personnel determine conduit is at risk for damage.

9. All elbows shall be sch 80 electrical PVC.

me	Middle Tennessee Electric	
CONSTRUCTION DETAIL BOLLARD PROTECTED RISER INSTALLATION (TYPICAL)		
DRAWING NUMBER:	REVISED DATE:	
	JULY 1, 2023	
RP-3	SCALE: <u>NONE</u>	
	SHEET: <u>1</u> OF <u>1</u>	













TYPICAL STACKED LUG INSTALLATION

NOTES:

- 1) NEMA TRIMMED 2 HOLE SPADE CONNECTOR.
- 2) Must be tinned, long barrel, compression terminal lugs.
- 3) Must be compatible with the inserted conductor.
- 4) BOLTS AND WASHERS MUST BE 1/2" STAINLESS STEEL WITH 1/2" BRONZE NUTS.
- 5) Stainless steel bolts must be All-Thread.
- 6) Work back to front.
- 7) Use offset lugs or approved spacer for stacking lugs in cases of insufficient transformer spade capacity.
- 8) See Appendix B for approved material list.
- 9) Bolts shall be sized so that no more than 3/4" of the bolt shall extend past the bronze nut.



STACKED LUG DETAIL

me	Middle Tennessee Electric
SECONDARY C USED IN 3 TRANSFO	CABLE LUGS 3 PHASE RMERS
DRAWING NUMBER:	REVISED DATE:
LUG	OCT. 2, 2023
	SCALE: <u>NONE</u>
INU. I	SHEET: <u>1</u> OF <u>1</u>







- 1. Oldcastle Precast Pad DWG# 384-MTE PAD#5 is preferred over a poured in place foundation.
- 3. Turn up primary compartment conduit 12" below slab.
- 4. Turn up secondary compartment conduit 6" above gravel, unless using side entry conduit. Stop secondary conduits 2" inside secondary compartment if using side entry conduit.
- 5. All concrete (both slab and wall sections) to have 1/2" re-bar reinforcement. The slab portion shall have re-bar spaced in a 6" mesh, 4" from bottom of slab; the wall sections shall have vertical re-bar located between 1" and 2" from both concrete surfaces and horizontal 1/2" re-bar ties at no greater than 12"
- 7. Owner's contractor to be responsible for all underground primary and secondary conduits. Refer to duct
- 8. Pad shall not be located closer than 7'-0" to a building or other obstruction, except front of pad shall be no closer than 12'-0". Unless otherwise approved by MTE engineering, the front of the pad shall face away from the building or toward the access road. Final orientation to be determined by MTE
- 10. Install comm conduit to comm HD hand hole (17 x 30) at three-phase transformer pads. Include conduit to meter location(s) for stubouts not enclosed in a hand hole or flower pot. Glue caps on clean conduit. See drawing HH-1 for hand hole construction details.
- 11. Conduit to be secured to transformer pad using minimum 1/2" 2-hole stainless steel conduit strap and





SIDE VIEW

¾" WASHED . GRAVEL FILL

NOTES:

- 1. poured in place foundation.
- determined by MTE Engineering.
- 3.
- 4. orientation is not acceptable.
- 6" elbows to be 48R, SCH 80 PVC. 5.
- Call 1-877-886-8362 for inspection. 6.



Oldcastle precast "#384-88x94 MTE PAD#10" is preferred over a

2. Pad shall not be located closer than 7'-0" from a building or other obstructions except door sides which shall be no closer than 12'-0" from a building or other obstruction, unless otherwise approved by MTE Engineering. Final location and orientation to be

Reinforcement to have 2" clearance from face of concrete. Elbows must enter pad in a vertical orientation. A diagonal





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Before beginning construction, users should verify with MTE that the specification(s) used is the correct application and is the most current version of the specification

1. Developer shall furnish and install sector pads and vaults per MTE Specifications. Part numbers are listed in Appendix B.

2. All elbows shall be SCH. 80 PVC. For 4" and 6" conduit, call for 48"R elbows. For smaller conduit sizes, call for 36"R elbows. Number of conduits and sizes are shown on plans.

3. Maintain 2" minimum spacing between conduit unless shown greater.

4. All electrical conduit elbows must be capped upon installation.

5. See Appendix B for manufacturer and catalog information.

 Install 17" x 30" comm hand hole and required comm conduit as specified by MTE and indicated on plan. In commercial applications, use HD 17" x 30" comm hand hole. See Drawing HH-1 for hand hole construction

 Reserve conduits 1-4 for A or C phase, 5-8 for B phase, and 9-12 for A or C phase for each respective run.

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1. MANHOLE TO BE DESIGNED TO MEET H-20 LOADING REQUIREMENTS.

2. CONCRETE STRENGTH fc=4,500 PSI MIN AT

3. REINFORCING STEEL SHALL BE ASTM A-615

4. ALL MANHOLE, JOINTS INCLUDING GRADE RINGS, SHALL BE SEALED USING RAM NEK OR RUB'R-NEK BY K.T. SNYDER CO INC. (OR APPROVED EQUAL) MEETING FED SPEC SS-S-210A.

5. LIFTING DEVICES WILL BE "SWIFT LIFT" BY DAYTON SUPERIOR, OR EQUAL.

6. MANHOLE TO HAVE 2 MANHOLE GROUNDING CONNECTORS CAST FLUSH TO INSIDE WALL WITH 18" LONG 4/0 SOFT DRAWN CU TAIL THROUGH EXTERIOR WALL (ACCEPTABLE GROUND CONNECTOR INSERTS ARE DOSSERT PGU30-4 OR BURNDY YGF294N)

APPROVED DESIGN:

OLDCASTLE PRECAST INC. DRAWING # 612-84-MTE FOLEY PRODUCTS DRAWING EMH-1

FOR SIDE FINAL PORTS FINAL CONSTRUCTION DETAIL 12' x 6' x 7' UTILITY MANHOLE SETTING DETAIL CORTS DRAWING NUMBER: MH-1 SCALE: NONE SHEET: 2 OF 2	#1133. OTUBE; + (MIN.	me	Middle Tennessee Electric
DRAWING NUMBER: REVISED DATE: OCT. 2, 2023 MH-1 SCALE: <u>NONE</u> SHEET: <u>2</u> OF <u>2</u>	FOR SIDE FINAL	CONSTRUCTIO 12' x 6' x 7' UT SETTING	ON DETAIL ILITY MANHOLE DETAIL
MH—1 scale: <u></u>	IPORTS	DRAWING NUMBER:	REVISED DATE: OCT. 2, 2023
SHEET: <u>2</u> OF <u>2</u>		MH-1	SCALE: <u>NONE</u>
			SHEET: <u>2</u> OF <u>2</u>

- 1. MANHOLE TO BE DESIGNED TO MEET H-20LOADING REQUIREMENTS.
- 2. CONCRETE STRENGTH fc=4,500 PSI MIN AT
- 3. REINFORCING STEEL SHALL BE ASTM A-615
- 4. ALL MANHOLE JOINTS, INCLUDING GRADE RINGS, SHALL BE SEALED USING RAM NEK OR RUB'R-NEK BY K.T. SNYDER CO INC. (OR APPROVED EQUAL) MEETING FED SPEC SS-S-210A.
- 5. LIFTING DEVICES WILL BE "79U80 UA"" BY MEADOW BURKE, OR EQUAL.
- 6. DO NOT USE PULLING IRONS TO LIFT MANHOLES. USE LIFTING ANCHORS. MANHOLES WITH DAMAGED PULLING IRONS WILL NOT BE
- 7. MANHOLE TO HAVE 2 MANHOLE GROUNDING CONNECTORS CAST FLUSH TO INSIDE WALL WITH 18' LONG 4/0 SOFT DRAWN CU TAIL THROUGH EXTERIOR WALL (ACCEPTABLE GROUND CONNECTOR INSERTS ARE DOSSERT PGU30-4 OR BURNDY YGF294N)

) (feldle
ТЕ 715МНЗ	IIC	Tennessee Electric
	CONSTRUCTIO 7' x 15' x 7' UT	ON DETAIL ILITY MANHOLE
	(TYPIC	CAL)
	DRAWING NUMBER:	REVISED DATE: JULY 1, 2023
	MH-3	SCALE: <u>NONE</u>

NOTES FOR SETTING MANHOLE:

- 1. EXCAVATE THE HOLE ACCORDING TO DETAILS SHOWN. NOTE THE 1:1 SLOPE TO COMPLY WITH OSHA REQUIREMENTS FOR "NORMAL" SOIL.
- 2. PLACE MINIMUM OF 12" OF 3/4" WASHED GRAVEL IN THE HOLE AND LEVEL.
- 3. SET THE MANHOLE. (NOTE THAT 3'-0'' MINIMUM WORKING CLEARANCE REQUIRED AT BASE OF MANHOLE).
- 4. MTE TO GROUND MANHOLE.
- 5. DEVELOPER TO INSTALL REQUIRED DUCTS. DUCTS FOR LARGE MAIN FEEDS (500 MCM AND GREATER) SHALL BE DIRECTED INTO KNOCKOUTS IN LOWER SECTION OF MANHOLE. THE UPPER SECTION KNOCKOUTS MAY ONLY BE USED, BY WRITTEN MTE APPROVAL, FOR LOCAL TAPS AND/OR SMALLER CONDUCTOR FEEDS. WRITTEN MTE APPROVAL.
- 6. BACKFILL UP TO THE JOINT OF THE TWO HALVES.
- 7. SET THE MANHOLE THROAT AND COVER (SEE DETAIL).
- 8. BACKFILL TO FINAL GRADE. NOTE GRAVEL AROUND SIDES AND ENDS OF MANHOLE.

MANHOLE THROAT/COVER NOTES:

- 1. MANHOLE THROAT/COVER TO BE BOUCH #1133.
- 2. DO NOT SUPPORT METAL THROAT WITH SONOTUBE; USE PVC CONDUIT CUT TO CORRECT LENGTH (MIN. OF 4, EQUALLY SPACED).
- 3. CONCRETE FORMS SHOWN ARE 2X LUMI FOR OUTSIDE FORM, AND 36" SONOTUB INSIDE FORM, BOTH CUT TO LENGTH REQUIRED FOR FINAL GRADE.
- 4. PREMANUFACTURED GRADE RING MAY I SUBSTITUTED FOR SONATUBE & CONDU SUPORTS FOR MANHOLE COVER.

HARD	me	Middle Tennessee Electric
T BER BE FOR	SETTING 7'x 15'x 7'UT	DETAIL ILITY MANHOLE
BE IT	DRAWING NUMBER:	REVISED DATE: OCT. 2, 2023
	MH-3	SCALE: <u>NONE</u> SHEET: <u>2</u> OF <u>3</u>

MANHOLE THROAT AND COVER DETAIL

- 1. MANHOLE TO HAVE 2 MANHOLE GROUNDING CONNECTORS CAST FLUSH TO INSIDE WALL WITH 18" LONG 4/0 SOFT DRAWN CU TAIL THROUGH EXTERIOR WALL (ACCEPTABLE GROUND CONNECTOR INSERTS ARE DOSSERT PGU30-4 OR BURNDY YGF294N)
- 2. MANHOLE TO BE DESIGNED TO MEET H-20 LOADING REQUIREMENTS.
- 3. CONCRETE STRENGTH Fc = 4,500 PSI MIN. AT 28 DAYS.
- 4. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
- 5. ALL JOINTS, INCLUDING GRADE RINGS, SHALL BE SEALED WITH RAM NEK OR RUB'R-NEK BY K.T. SNYDER Co. INC. (OR APPROVED EQUAL) MEETING FED. SPEC. SS-S-210A. 6. LIFTING DEVICES WILL BE "79U80 UA" BY MEADOW BURKE OR EQUIVALENT.

8. BACKFILL TO FINAL GRADE. NOTE GRAVEL AROUND SIDES AND ENDS OF MANHOLE.

4. PREMANUFACTURED GRADE RING MAY BE SUBSTITUTED FOR SONATUBE & CONDUIT SUPORTS FOR MANHOLE COVER.

me	Middle Tennessee Electric
CONSTRUCTIO OCTAGONAL	ON DETAIL MANHOLE
DRAWING NUMBER:	REVISED DATE:
	JAN. 3, 2022
OMH-3	SCALE: <u>NONE</u>
	SHEET: <u>2</u> OF <u>2</u>

Appendix A

Single Family Lot Underground Residential Service in Developed Subdivisions

The following specifications pertain to underground services to single-family homes built in developed subdivisions.

- The electrical service ditch must run from the MTEMC designated meter location to the MTEMC designated power source. The ditch shall be as described in Ditch Detail "1S" or "2S". The bottom of the ditch shall be level or sloping at a consistent angle such that the conduit will be supported well with little or no vertical bending in the ditch. The contractor or owner will be responsible for backfilling the ditch with rock-free dirt or sand.
- 2) The contractor shall provide and install a continuous (unbroken) 3" PVC (electrical grade, schedule 40) conduit in the ditch from the MTEMC source to the MTEMC meter base location, with no horizontal elbows in the run (not counting riser and meter base location vertical elbows). The conduit must be permanently connected and have a minimum 200 lb. tensile pull string installed from the MTEMC source to the meter location. A minimum of one-foot separation from other utilities shall be maintained. No portion of elbow or conduit above finished grade will be permitted to be Schedule 40 PVC; however, Schedule 80 electrical grade PVC will be permitted.
- 3) Before the ditch is backfilled and before wire is installed, the meter base must be installed complete with owner's service entrance conductors. The ditch and conduit must be inspected by the MTEMC inspector at this time (prior to MTEMC pulling the service lateral conductors). Call 1-877-886-8362 to set up an appointment.
- 4) Where services cross streets, the ditch must be backfilled with crusher-run gravel. Where streets are paved, contractors should take out proper permits and repave according to local authority instructions.
- 5) The contractor or owner will be responsible for any damage to the conduit or cable occurring during backfilling, and any additional cost to MTEMC will be billed to the contractor.
- 6) In cases that require one or more horizontal bends, or are more than 250 feet from meter base location to MTEMC source, or service entrance is larger than 200 amps, contact the MTEMC District Engineering office for further requirements.

Before beginning construction, users should verify with MTE that the specification(s) used is the correct application and is the most current version of the specification.

Appendix B - Approved Materials

Item	Manufactu	<mark>irer – Cata</mark> l	log Number					
Manhole Covers	John Bouchard No. 1133 (ELECTRIC) Neenah No. R-1640-C1 (ELECTRIC)							
Manholes	Old Castle Precast, Inc. 5900 East Division, Lebanon, TN 37090 (615) 965-3077 – Donna Hughes (629) 543-4778 (cell) Donna.Hughes@oldcastle.com							
	Jarrett Concrete Company 2012 Hwy 12 S Ashland City, TN 37015 615-927-9972 – Landon Owen Operations Manager landon.owen@jarrettconcreteproducts.com							
	Foley Products 879 Seven Oaks 615-785-3657 – <u>Crutzinski@fole</u>	Blvd – Suite 6 Chad Rutzinski Chadcuts.com	70 i					
Vault	UV-1 UV-1HD UV-2 UV-2HD	4' X 6' 4' X 6' HD 6' X 8" 6' X 8' HD	Old Castle Precast, Inc. 464MTE-TN H20 464MTE-TN H35 684MTE-TN H20 684MTE-TN H35					
2-Hole Stacking Lugs	Approved manu	facturers: Burno	dy/ Hubbell, CMC, Homac, Richards					
Terminal Stacking Adaptors	Burndy #"ASA2	250U", " ASA8(00U", or "ASA1000U" depending on wire size					
Long Coupling PVC Conduit	Prime Conduit, 1978, Fed Spec	Cantex or equiv No. WC1094A.	alent. Must meet the following specifications: UL 651, NEMA TC2- Standard couplings will not be accepted.					
PVC Long Couplings	Long couplings and larger cond Prime Conduit C Cantex 6202005	is defined with duit. CPLLCS300X61	n minimum length as 4" long for 2" conduit, and 6" long for 3"					
Expansion Couplings	An expansion c and gang/multin Cantex-part nu	coupling is requ meter installation umber 514403	ired at each underground residential service meter base (both single ons). The coupling shall be 3" and allow 8" of travel such as 8, Carlon-part number E945L, or equivalent.					
3" Sch 40 Conduit with long couplings	Prime Conduit 4 Cantex A52DA1	49013-10 12						
3" Sch 80 Conduit with long couplings	Prime Conduit 4 Cantex A53DA1	49413-100 12						
HDPE to HDPE Couplers Size 1" 2"	<u>Dura-Line Part 1</u> 20005662 20005097	Number – Clear	-Lock Couplers					
HDPE to PVC Couplers								
Size 1"	<u>Dura-Line Part 1</u> 20000118	<u>Number – Shur-</u>	Lock II Couplers					
April 1, 2025			58					

Before beginning construction, users 2"	should verify with MT 20000123	E that the specification(s) u	sed is the correct application and is the most current version of the specification.
3"	20000173		
4"	20000245		
5"	20000254		
6"	20000256		
Conduit Spacers (chairs)	MFG	Base Number	Intermediate Number
2" Conduit	Cantex	5335979	5336032
	Carlon	S288JLN	S289JLN
4" Conduit	Cantex	5335969	5336024
	Carlon	S288NLN	S289NLN
6" Conduit	Cantex	5335040	5336041
	Carlon	S288RLN	S289RLN

<u>PVC Conduit End Caps</u>	MFG	<u>Part Number</u>
1" Conduit	Cantex	5140033
	Carlon	E958F
	Heritage- Plastics	59647
	Prime Conduit	CAP100
2" Conduit	Cantex	5140037
	Carlon	E958J
	Heritage- Plastics	59125
	Prime Conduit	CAP200
3" Conduit	Cantex	5140039
	Carlon	E958L
	Heritage- Plastics	59127
	Prime Conduit	CAP300
4" Conduit	Cantex	5140040
	Carlon	E958N
	Heritage- Plastics	59128
	Prime Conduit	CAP400
5" Conduit	Cantex	5140041
	Carlon	E958P
	Heritage- Plastics	59129
	Prime Conduit	CAP500
6" Conduit	Cantex	5140042
	Carlon	E958R
	Heritage- Plastics	59130
	Prime Conduit	CAP600

DESCRIPTION

ITEM

Comm 2" HDPE Conduit

2" Comm Conduit Cap

2" HPDE SDR 13.5 Orange with Red Stripe, multiple manufacturers

2" HDPE Carlon end cap EC2.3752" Flay Vinyl end cap Millineum Supply part no 20001815

APPROVED UNDERGROUND BOXES AND PADS

(last revised 4-1-2025)

					•	,			
A	В	С	D	E	F	G	Н	I	J

	A	В	С	D	E	F	G	Н	1	J	К	L
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2												
3												
4												
5	•											
6	•											
•		MTE		ADC (Amorican				Dunalita/Cara an				
7	DESCRIPTION	ITEM	API (Advanced Plastics)	APC (American Polymer)	Channell	Charles Industries	Concast	Ourante/Carson	FloctriGlass	GlasMasters	Highling (OldCastle)	Hubbell/Quazite/ Pencell
8		.246	1 1051105)	CD20//826HU2200DAE	BUILKU2048260081106		Concust	20/86202	Licourolass	Chuomaotoro	PHA204826HC4270100	PG30/87270AF6
0	13X24X18 Secondary Pull Box (Small)-	: 340		CF304830H02233FAL	BOLK03048300081100			50480502			FRA304030RC4270100	T GS0482270AL0
9	Streetlight Installations Only	:353			BULKU1324180062106			13246300			PHA132418HC4270100	PG1324Z975AE6
10	24X36X18 Secondary Pull Box (Large)	:354		CP243618U2299PAE	BULKU2436180062106	C243618AEETRXME		24366301			PHA243618HC4270100	PG2436Z242AE6
11	30X48X18 Secondary Pull Box (X-Large)	:355		CP304824HU2299PAE	BULKU3048180082106	C304824AEETRXME		30486021-SYN				A12304818AAE6
12	1 Φ Transformer Box Pad (Standard)	:33<							BP2000A-MTO-1		HL-48-M-MTEMC	BB3743322632601
13	1 Φ Transformer Box Pad (Large)	:343									FBP374832MOSTN	BB4248322632600
14	Primary Concrete Vault	5345						FRP487248STB				
15	1 Φ Sector (ground sleeve)	<94;					FC-23-37-32		SC-3723-32			BG2337321832A00
16	3 Φ Sector (ground sleeve)	<94<					FC-23-67-32		SC-6723-32			BG2367321862A00
17	Primary Pull Box Extender	:346D								EP304812B22	PHA304812XE001	
										AH173018T00H-		
18	17X30X18 Comm Handhole	479:		CP173018U2299HS	BULKU1730180016544	P173018ABGTHXMM		Carson 17306096		MTECO		PT1730Z529WU5 (Quazite)
	17X30X18 Comm Handhole (Heavy Duty)											
40	Minimum Tier 15 rating (24" depth also				BULKU1730180062544/							
19	acceptable)	47:6			BULKU1730240062544	C173024AGGTHXMM	-			AP173018P15S-MTECO	PHA173018HC0680100	PG1730Z344WU5 (Quazite)
20	24X26X24 Comm Handhala	47 0				D242624ABCTUVUD						DT243624PCH00WU5
20	24X36X24 Comm Handhole (Heavy Duty)	4/:3							+			
21	Minimum Tier 15 rating	47:7				C243624AGGTRXMM						(Pencell)
	Ŭ											· ·
22	10" Round Flower Pot Comm Handhole	4799	PFAPI1011FM003	L091010U0335HS		P100010ABGTHXMM		Carson 09106081		AH910T00H-MTECO		PE9AHDH00WU5 (Pencell)

23 24 Specifications and Notes:

25 1) Non-approved boxes/pads will not allowed by MTE.

26 2) Covers for pullbox and secondary junction boxes shall have 1/2" minimum captive, stainless steel penta-head bolts with nuts that are chamfered to help

27 facilitate the installation of auger style bolts.

28 3) Covers (for pullbox and secondary junction boxes) shall be gray in color and have "MTE" and "ELECTRIC" cast into the top of the cover.

29 4) Pullboxes and secondary junction boxes shall meet the Western Underground Committee Guide 3.6 (Rev.2, May 1988) See www.westernunderground.org.

30 5) The part numbers for both the box and lid shall be painted on the inside wall of the pullbox so that it is visible when the box is installed.

31 6) Shipment for box pads and pullboxes shall include cardboard separators between stacked boxes to prevent jamming.

32 7) Box pads shall be designed and tested according to the Northeast Underground Guideline (NEUC) Number 9001-87R1.

33 8) Box pads shall have "Front/Street" stenciled on the top lip of the box pad. The MTE specific part number shall be stenciled on the top lip of the box pad.

34 9) Electrical pullboxes and secondary junction boxes and lids shall have a minimum Tier 15 rating for incidental traffic in accordance with ANSI/SCTE 77 2017 guidelines.

35 10) COMM hand holes and flower pots shall have "MTE COMM" on its top.

36 11) COMM hand holes and flower pots shall have hex-head bolts.