

# City of Burnet

# Developers Underground Developers Specifications

Date: February 22, 2022

## Developer/Applicant Supplied Material

Date: Feb. 22, 2022 Specification Number: 500-100

### Developers Underground Utility Specifications Index

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# Developer/Applicant Supplied Material

| 1     | A   |  |  |  |  |  |
|-------|---|--|--|--|--|--|
|       | Calle universe LIBD 25 LV sixely and describe a deal of a little City of D                    |  |  |  |  |  |
|       | Cable, primary, URD 25 kV single conductor with neutral. Supplied by City of Burnet.          |  |  |  |  |  |
|       | Developer/Applicant will be invoiced for cable at current price.                              |  |  |  |  |  |
|       | E   |  |  |  |  |  |
| 2     | A   |  |  |  |  |  |
|       | B Cable, secondary. Supplied by City of Burnet. Developer/Applicant will be invoiced for      |  |  |  |  |  |
|       | cable at current price  |  |  |  |  |  |
|       |   |  |  |  |  |  |
| 3     | Conduit 2" PVC, electrical grade Schedule 40.   |  |  |  |  |  |
| 4     | Conduit 3" PVC, electrical grade Schedule 40.   |  |  |  |  |  |
| 5     | Conduit 4" PVC, electrical grade Schedule 40.   |  |  |  |  |  |
| 6     | Conduit bends, 2", 24" min. radius, electrical grade Schedule 40 (Secondary only).            |  |  |  |  |  |
| 7     | Conduit bends, 2", 36" min. radius, electrical grade Schedule 40 (Primary)                    |  |  |  |  |  |
| 8     | Conduit bends, 3", 24" min. radius, electrical grade Schedule 40 (Secondary only).            |  |  |  |  |  |
| 9     | Conduit bends, 3", 36" min. radius, electrical grade Schedule 40 (Primary).                   |  |  |  |  |  |
| 10    | Conduit bends, 4", 48" min. radius, electrical grade Schedule 40.                             |  |  |  |  |  |
| 11    | Bell end fitting, 2", with plug.  |  |  |  |  |  |
| 12    | Bell end fitting, 3", with plug.  |  |  |  |  |  |
| 13    | Bell end fitting, 4", with plug.  |  |  |  |  |  |
| 14    | Caps for 2" conduit, 2" PVC. PLUGS NOT ACCEPTABLE where bell fittings are not used.           |  |  |  |  |  |
| 15    | Caps for 3" conduit, 3" PVC. PLUGS NOT ACCEPTABLE where bell fittings are not used.           |  |  |  |  |  |
| 16    | Caps for 4" conduit, 4" PVC. PLUGS NOT ACCEPTABLE where bell fittings are not used.           |  |  |  |  |  |
| 1.7   | Trench -minimum of 30" cover to sub-grade. NOTE: Bottom of trench shall be sanded             |  |  |  |  |  |
| 17    | smooth and level. Sand to be applied over conduits for initial backfill.                      |  |  |  |  |  |
|       | Spacer for 2" conduit with 2" spacing:  |  |  |  |  |  |
| 18    | Base - Cantex 5335977 Intermediate - Cantex 5336018   |  |  |  |  |  |
|       | Spacer for 3" conduit with 2" spacing:  |  |  |  |  |  |
| 19    | Base - Cantex 5335964 Intermediate - Cantex 5336020   |  |  |  |  |  |
|       | Spacer for 4" conduit with 2" spacing:  |  |  |  |  |  |
| 20    | Base - Cantex 5335967 Intermediate - Cantex 5336019   |  |  |  |  |  |
|       | Unused one-piece Polyester pulling tape to be installed in conduit- 2500 lbs. or more tensile |  |  |  |  |  |
| 21    | strength, with footage markers. Neptco WP2500P  |  |  |  |  |  |
| 21 22 |   |  |  |  |  |  |
|       | Red electric warning tape (linear quantity equal to trench length).                           |  |  |  |  |  |

# Developer/Applicant Supplied Material

| 23  | Sectionalizing terminal.   |   |  |
|-----|--|---|--|
| 24a | Sectionalizing terminal, pad mount, 25k V, 3 phase to acconnectors, or (3) 200A 4-point terminals. Cabinet and do clamp nuts to be welded in place. Minimum of one parking high x 48" wide and 22" deep.  Malton MEH304823 Shallbetter Inc. SSED-3-304822 Maysteel CW348-22TH Durham AM304822262   | or to be 12 to 14 gauge steel. Ground     |  |
| 24b | Sectionalizing terminal, pad mount, 25 kV, 3 phase too acconnectors, or (3) 200A 4-point terminals. Cabinet and do clamp nuts to be welded in place. Minimum of one parking high x 66" wide x 22" deep.  Malton MEH306723  Shallbetter Inc. SSED-3-306622  Maysteel CW366-22TH  Durham AM306622263 | or to be 12 or 14 gauge steel. Ground     |  |
| 25  | Vault and lid for 48" and 66" wide sectionalizing enclosur CDR PE20-3660-19, PE22-3660-29, PP487204-1226 Electric Vault Company V-4866 and LL-4872-H   | es. See drawings #530-080 and #530-081    |  |
| 26  | Vault and Lid for Combination concrete pad for 48" and 66" wide sectionalizing enclosure and pad mount transformer.  CDR PE20-3660-19 and PE22-3660-29  Electric Vault Company V-7296 and LC-8496-N  See drawings #530-060 and #530-065  |   |  |
| 27  | Vault and lid for single-phase transformer.<br>CDR PE20-3660-19, PE22-3660-29, and PP487204-1226<br>Electric Vault Company V-4866 and LT -4872-H   | See drawings #530-080 and #530-085        |  |
| 28  | Vault and lid for 3 phases, 45-500 kVA transformers. CDR PE20-3660-19, PE22-3660-29, and PP787804-1648. Electric Vault Company V-4866 and LT-7878-H  | See drawings #530-080 and #530-086        |  |
| 29  | Vault and lid for phase, 750-3000 KVA transformer.<br>CDR PE20-8596-19, PE22-8596-29, and PP12012004-203<br>Electric Vault Company V-4866 and LT-120120-H  | 57.<br>See drawings #530-060 and #530-087 |  |
| 30  | Vault and lid for Switchgear.<br>CDR PE20-8596-19, PE22-8596-29, and PP969604-2x186<br>Electric Vault company V-9696 and LSG-9696-H.   | 54.<br>See drawings #530-090 and #530-091 |  |
| 31  | Vault and lid for Submersible Switchgear and Splice Box. CDR PE22-72144-40 and PC10-2436-03. Electric Vault Company V-72144846 and LT-72144-H.   | See drawings #530-050 and #530-056        |  |
| 32  | Concrete pad for meter pedestal.   | See drawing #520-010                      |  |

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| 33 | Underground secondary enclosure, to have opening of 13" x 24" and 34" min. height.  Lid to have two penta-head bolts and must read "POWER" or "ELECTRIC"  CDR A10-1324-18 and E10-1324-16  See drawing #550-010 |  |
|----|---|--|
| 34 | Underground secondary enclosure, to have opening of 17" x 30" and 34" min. height.  Lid to have two penta-head bolts and must read "POWER" or "ELECTRIC"  CDR A10-1730-18 and E10-1730-16  See drawing #550-010 |  |
| 35 | Ground rods, 3/4" x 10' Copper Clad Rod.  |  |
| 36 | Ground rod clamps for 3/4" rod to accommodate #2 copper 7 strand. Penn Union CEB-3  |  |

#### **Trench Specifications:**

#### A. Installation of conduit

- 1. Minimum cover to be 30" from top of primary conduit to sub-grade. (See attached drawings.)
- 2. Bottom of trench shall be sanded to provide smooth, even support for conduits. (See attached drawings.)
- 3. Sand to be placed directly around conduits for initial backfill. (See attached drawings.)
- 4. There is to be a minimum of 12" separation between electrical conduits and all other conduits.
- 5. Warning tape to be a minimum of 12" above electrical conduits.
- 6. Concrete to be poured around all conduit crossings and 90 degree bends. (See attached drawings.)
- 7. Trench may be used jointly if adequate separation is provided. (See attached drawings.)
- 8. Conduit may be under pavement if a depth of 30" cover to sub-grade is maintained.

#### B. Inspection Schedule

- 1. After primary conduit installation.
- 2. After initial backfill
- 3. After secondary conduit installation.
- 4. After remainder of initial backfill.
- 5. After secondary backfill.

Failure to receive inspection will require removal of the backfill to allow inspection.

#### **Developer/Contractor contribution:**

- 1. Payment to City of Burnet for materials furnished to Developer through the City of Burnet.
- 2. Trench
- 3. Conduit:
  - a. 2" conduit and accessories
  - b. 3" conduit and accessories
  - c. 4" conduit and accessories
  - d. Conduits for service will be sized as needed

NOTE: Contractor may be required to pull a mandrel, of a diameter not less than 80% of the inside diameter of the conduit, through all conduit, under the supervision of a City of Burnet representative.

- 4. Conduit spacers.
- 5. Transformer pads.
- 6. Meter pedestal pads.
- 7. Underground secondary enclosures and extensions.
- 8. Ground rods and clamps.
- 9. Pulling tape in all conduit.
- 10. Warning tape.
- 11. Sand for initial backfill.
- 12. 3/8" gravel for secondary backfill.
- 13. 1/2" to 3/4" gravel for bottom of vaults.

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- 14. Concrete where necessary.
- 15. Install meter socket when metering on building.
- 16. Furnish and install any gang type meter sockets.
- 17. Primary enclosures.

#### **Customer's Responsibility:**

Meter pedestals are presently approved for use except under special circumstances designated by the City of Burnet. In situations where meter pedestals are required the following conditions will apply:

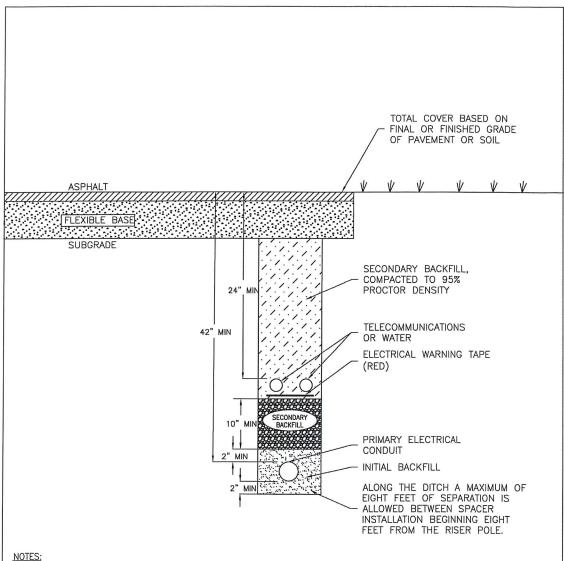
- 1. Purchase and install circuit breaker in box. Circuit breakers are the bolt-in type. The box will accommodate
  - 125, 150, and 200 amp breakers. The breaker must have an interrupting capacity of 10,000 amps rated at 240 volts. GE Cat. No. TQD22 (amp needed) WL and Westing house CA2200W or equal.
- 2. Install insulated jumpers from bottom of meter socket to top of breakers.
- 3. Install galvanized rigid conduit, schedule 40 PVC or an approved equal from pedestal pad to bottom of box.
- 4. Customer will be responsible for the installation of underground cable from the meter pedestal to the house and the connections to the bottom of the circuit breakers. The underground cable used from the meter pedestal to the house shall be an approved type for underground installation (USE or UF type). Conductor size will be based on customer load, location of meter, and National Electric Code for size of conduit.
- 5. Underground conductor from secondary enclosure/transformer to meter shall be buried 24" deep. This depth may be reduced to 18" when a 2" supplemental protective covering is provided. If galvanized rigid conduit is used, the depth can be reduced to 6". Red electric warning tape is also required in the secondary ditch.
- 6. Apply and receive all applicable inspections.
- 7. When all work is completed according to specifications, notify the City of Burnet office that you are ready for electric service. A serviceman will make the connect and set the meter on a routine connect order.
- 8. For Commercial applications the Customer shall purchase from the City the CT & PT metering (if needed).

#### City of Burnet contribution:

- 1. Primary conductors (paid for by developer/applicant)
- 2. Secondary conductors (paid for by developer/applicant)
- 3. Cable terminations
- 4. Transformers up to 100kVA
- 5. Meter pedestals and individual meter sockets (paid for by developer/applicant)
- 6. Meter sockets (paid for by developer/applicant)
- 7. Switchgear (if applicable) (paid for by developer/applicant)

#### City of Burnet's responsibility:

- I. Furnish and install meter pedestal.
- 2. Install combination meter socket and breaker box.
- 3. City of Burnet serviceman will install jumper wires from top of meter socket to pedestal connector and set meter on a routine connects order after all work has been completed.



- 1. USE SCHEDULE 40 ELECTRICAL GRADE PVC CONDUIT ONLY.
- 2. INITIAL BACKFILL SHALL BE SAND ONLY.
- SECONDARY BACKFILL SHALL BE SAND OR GRAVEL CONTAINING ROCK, NOT TO EXCEED 3/8" IN DIAMFTER.
- MINIMUM COVER REQUIREMENTS MAY BE REDUCED BY 6" FOR 2" OF 3000 PSI CONCRETE POURED OVER INITIAL BACKFILL, CONTACT CITY OF BURNET FOR INSPECTION BEFORE POURING CONCRETE CAP.
- IF ANY TYPE OF UNDERGROUND VAULT OR PEDESTAL IS PLANNED, THEN ALL OTHER UTILITIES SHALL BE ROUTED AROUND THESE FACILITIES.
- ALL CONDUITS SHALL HAVE A MINIMUM OF 2" CLEAR SPACE FROM TRENCH WALLS.
- FOR TRENCHES UNDER ROADWAYS, ROAD BASE MAY BE UTILIZED IN PLACE OF SELECT MATERIAL AS APPROVED BY 3RD PARTY GEOTECH LABORATORY.
- TELECOMMUNICATION DEPTH SHALL BE COORDINATED WITH PROVIDER.

STAFF

SEE SPECIFICATION: 510-010 SINGLE PHASE CONDUIT ARRANGEMENT FOR PRIMARY ONLY (601 TO 50,000) VOLTS

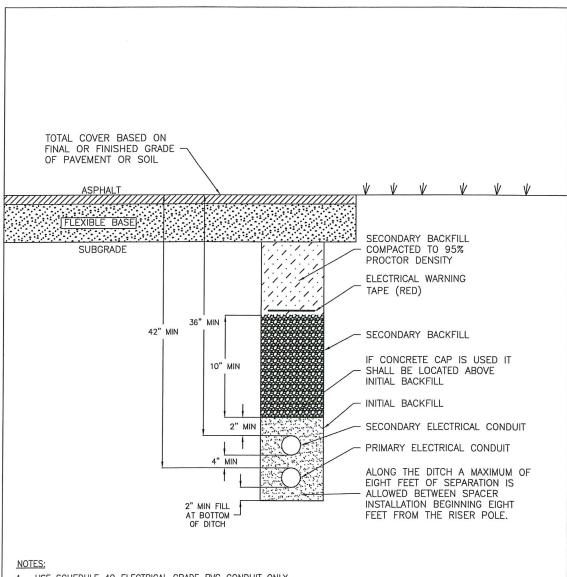


CITY OF BURNET DEPARTMENT OF PUBLIC WORKS APPROVED BY: DATE:

′ 2021 09

The Architect/Engineer DETAIL NUMBER: assumes responsibility for appropriate use of this standard.

E - 01



- 1. USE SCHEDULE 40 ELECTRICAL GRADE PVC CONDUIT ONLY.
- INITIAL BACKFILL SHALL BE SAND ONLY.
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- IF ANY TYPE OF UNDERGROUND VAULT OR PEDESTAL IS PLANNED. THEN ALL OTHER UTILITIES SHALL BE ROUTED AROUND THESE FACILITIES.
- ALL CONDUITS SHALL HAVE A MINIMUM OF 2" CLEAR SPACE FROM TRENCH WALLS.
- FOR TRENCHES UNDER ROADWAYS, ROAD BASE MAY BE UTILIZED IN PLACE OF SELECT MATERIAL AS APPROVED BY 3RD PARTY GEOTECH LABORATORY.
- TELECOMMUNICATION DEPTH SHALL BE COORDINATED WITH PROVIDER.

SEE SPECIFICATION: 510-012 SINGLE PHASE CONDUIT ARRANGEMENT PRIMARY AND SECONDARY ONLY

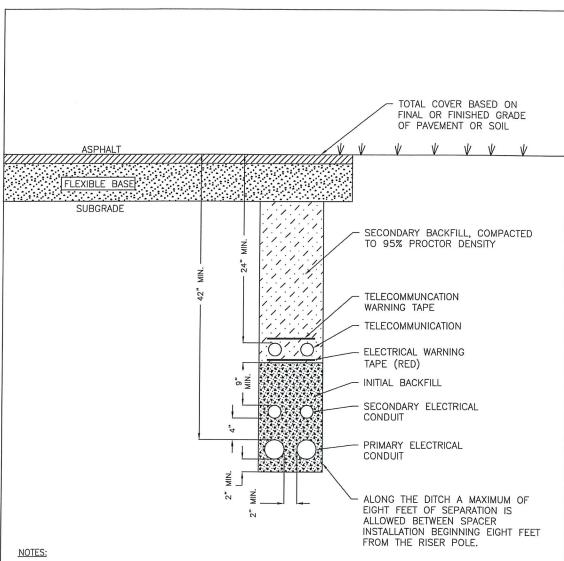


CITY OF BURNET DEPARTMENT OF PUBLIC WORKS

DATE: APPROVED BY: STAFF 09 2021

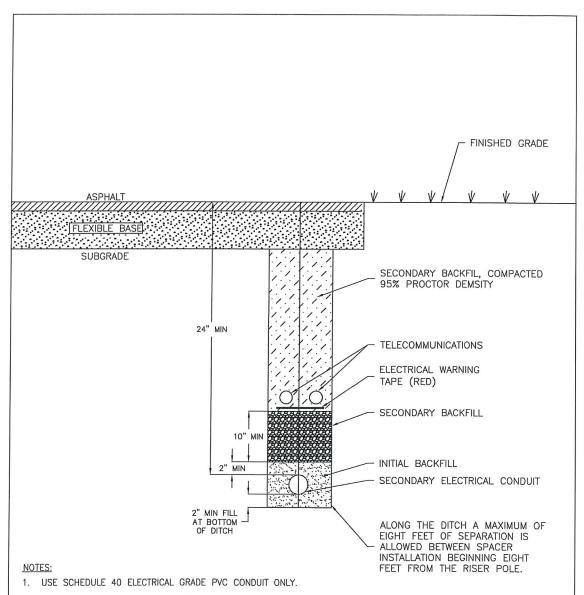
The Architect/Engineer assumes responsibility for appropriate use of this standard.

DETAIL NUMBER: E - 02



- . USE SCHEDULE 40 ELECTRICAL GRADE PVC CONDUIT ONLY.
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- 4. MINIMUM COVER REQUIREMENTS MAY BE REDUCED BY 6" FOR 2" OF 3000 PSI CONCRETE POURED OVER INITIAL BACKFILL, CONTACT CITY OF BURNET FOR INSPECTION BEFORE POURING CONCRETE CAP.
- 5. IF ANY TYPE OF UNDERGROUND VAULT OR PEDESTAL IS PLANNED, THEN ALL OTHER UTILITIES SHALL BE ROUTED AROUND THESE FACILITIES.
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- FOR TRENCHES UNDER ROADWAYS, ROAD BASE MAY BE UTILIZED IN PLACE OF SELECT MATERIAL AS APPROVED BY 3RD PARTY GEOTECH LABORATORY.
- 8. TELECOMMUNICATION DEPTH SHALL BE COORDINATED WITH PROVIDER.

|                    |   |           |  | SEE SPECIFICATION: 510-014 |
|--------------------|---|-----------|--|----------------------------|
| OF BURNE           | CITY OF BURNET DEPARTMENT OF PUBLIC WORKS |           | TYPICAL CONDUIT ARRANGEMENT JOINT TRENCH WITH TELECOMMUNICATION AND/OR SECONDARY |                            |
| * 1880 ·           | APPROVED BY:                              | DATE:     | ,  | DETAIL NUMBER:             |
| Prog Hills History | STAFF                                     | 09 / 2021 | assumes responsibility for appropriate use of this standard.                     | E-03                       |



- 2. INITIAL BACKFILL SHALL BE SAND ONLY.
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- 8. TELECOMMUNICATION DEPTH SHALL BE COORDINATED WITH PROVIDER.

STAFF

SINGLE PHASE CONDUIT
ARRANGEMENT FOR SECONDARY

(0 TO 600 VOLTS)

The Architect/Engineer | DETAIL NUMBER:



CITY OF BURNET
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DATE:

DATE:

O9 / 2021

The Arc assume: for appi

The Architect/Engineer assumes responsibility for appropriate use of this standard.

E - 04

