CITY OF NEWARK
DELAWARE

Underground with Pad-Mounted Transformers Lines and Grades Electric Checklist

Section 1 – Design Requirements

1. All existing utilities must be surveyed and shown on the plans.

2. The proposed meter(s) location must be shown on the plans.

3. The proposed primary and secondary cable locations must be shown on the plans.

4. The developer must send the load calculation and one-line diagram to the Electric Department as a part of the submission to receive a cost estimate prior to lines and grades approval.

5. An open utility easement is required and must be listed on the prints. In addition, a 5-foot electric utility easement must be shown behind the sidewalk for any underground electrical infrastructure.

6. The proposed pad-mounted transformer location(s) must be shown on the plans.

7. If the developer plans to add EV chargers, include the EV load in the load calculations. The EV charging stations must be shown on the plan.

8. The developer must submit the service and meter application. To obtain an application form or apply online, go to https://newarkde.gov/DocumentCenter/View/99/Figure-1---Service--Meter-Application?bidId=

Section 2 – Notes Requirements

Please add the following electric notes to the plans:

1. All parts of proposed buildings shall be at least 12.5 feet away from aerial lines.

2. All the electric services to the existing building(s) need to be disconnected before their demolition.

3. Any oil-filled pad-mounted equipment shall be located a minimum of 10 feet from combustible buildings, windows, doors, and stairwells, and 3 feet from noncombustible buildings. It must also be located outside a zone extending 20 feet outward and 10 feet to either side of the building door. **See STD-15E.**

4. The city will supply the transformer pad. The developer must install the transformer pad

per city standards **STD-18E**.

5. The contractor shall furnish approved secondary lugs for installation by city crews in the transformer cabinet. **See STD-201E.**

6. No shrubbery shall be installed within six (6) feet of the front of a pad mounted transformer or three (3) feet on the other sides.

7. The City will supply and install underground high voltage primary cable from the pole to a pad-mounted transformer.

8. The developer is responsible for supplying and installing all underground secondary cables and conduits from pad mounted transformers to the meter box per NEC requirements and city standards **STD-201E**. A maximum of six conductors per phase is allowed on secondary bushings. If more than six conductors per phase are required, the customer shall supply and install a transition cabinet and pay any additional city costs related thereto.

9. The developer is responsible for all trenching, backfilling, and installing two 4-inch conduits for underground high-voltage cables per City standards **STD-100E1-3**. No more than three 90-degree sweeps are permitted in a conduit run. A nylon flat strap, pull string with sequential foot markings per city requirements is required for primary underground service.

10. The city will supply current transformers and meter box for instrument-rated services for installation by the customer. The customer shall supply an approved lockable 11-inch-deep cabinet to install current transformers. The customer shall furnish a 1.5-inch rigid metallic conduit between the metering cabinet and the meter box or the pad-mounted transformer and the meter box if current transformers are installed in the transformer enclosure. The maximum length of the 1.5-inch conduits shall be 50 feet. Instrument-rated metering installations shall have phase conductors broken and reconnected ahead of current transformers using BURNDY-UNITAP or NSI-POLARIS connectors. The phase and neutral conductors shall have a 24-inch tapped #12 copper conductor to be used by the city for meter potential. A meter box may not be installed on the transformer cabinet. **See STD-203E.**

11. A rigid galvanized steel or Schedule 80 PVC elbow and 10 feet of rigid galvanized steel or schedule 80 PVC conduit is required at any service pole. The rigid steel galvanized conduit shall be bonded to a pole ground with a conduit ground clamp. The remainder of the conduit may be PVC Schedule 40 unless going under roadways or driveways. The customer shall furnish such PVC conduit and standoffs to the city for installation by city crews if existing energized conductors are located on the service pole. Pull string shall be installed prior to building conduit up the pole. All conduits shall be stood off the pole a minimum of 1 + 5/8-inch. **See STD-199E**.

12. Maintain a minimum of 24 inches between meters and any gas piping. **See STD-12E.**

13. The developer must pay all costs for electric service infrastructure including material and labor. The price is subject to a yearly CPI escalation from the date of lines and grades approval.

14. All meters must be grouped in one location, and the developer must provide keys to access the electric meter room if meters are inside. The developer will be responsible for the cost of the electric meters.

15. All meters and disconnecting devices shall be grouped together and arranged so that services for each unit can be properly and independently controlled from a point readily accessible to both the customer and the City. Additionally, each meter and disconnect switch shall be permanently marked with the address served by that equipment.

16. Ringless meter sockets are required except for manufactured group meter installations, if ringless is not available.

17. The developer agrees to pay up to $4,000 towards problem interference if the building is found to interfere with the City's smart metering system for electric meters when completed.

18. The proposed electric must be shown on the landscaping plans. No trees can be planted within 5 feet of underground electric cables and no trees reaching 18 feet at maturity can be planted within 10 feet of aerial lines.

19. The developer shall install a visible break, lockable disconnect switch ahead of any commercial service.

20. A site meeting is required to verify compliance with these standards and to locate all pad-mounted equipment. Conduit locations at poles and orientation of pad-mounted gear will also be verified.

21. City of Newark standards for electrical work must be included in the plans. Include the City standards relevant to your project and project type (Commercial or Residential) which can be found on the same site page. If using a single-phase transformer include STD9E. If using a three-phase transformer include STD18E.