

**MANSFIELD MUNICIPAL
ELECTRIC DEPARTMENT**

**Construction Requirements
For
New Developments –
Residential and Commercial/Industrial**

**125 HIGH STREET; UNIT #2
MANSFIELD, MA 02048**

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Article 100

General Information

101 – Purpose. *Construction Requirements For New Developments -- Residential and Commercial/Industrial* is issued to provide information to Mansfield Municipal Electric Department (“Department”) Customers, Developers, Electrical Contractors, Architects and Engineers, in order that electrical installations to be connected to the Department’s system may be performed in a standard, uniform and proper manner. The requirements contained herein are supplementary to the Department’s Schedule of Rates and Terms and Conditions as filed from time to time with the Massachusetts Department of Telecommunications and Energy (“MDTE”), as well as the Department’s *Information and Requirements for Electric Service* and *Customer Service Terms and Conditions* booklets, all of which are available from the Department.

This booklet is not intended to provide complete coverage of wiring details and other lawful requirements. It has been prepared as a guide and is supplementary to all applicable National, State and Local Electrical Codes, Safety Codes, OSHA requirements, and to ordinances passed by authorities having jurisdiction. The issuance of this booklet by the Department shall not be construed as relieving the developer and/or their contractor from the responsibility of installing wiring in accordance with the Rules and Regulations published by authorities having jurisdiction, nor shall the Department be deemed thereby to have accepted any responsibility for the condition of the developer’s wiring and equipment.

The information in this booklet deals only with requirements for electrical service. It is not the Department’s duty to coordinate other utilities installations or facilities. The developer is hereby advised to contact other utilities in a timely manner for their requirements.

Service can only be supplied pursuant to an Authorized agent of the Department. No agent or employee of the Department is authorized to orally modify any term, provision or rate of the Department.

102 – Electrical Clearance Requirements For New Construction. A new building, renovated existing building or an addition to an existing building shall be designed such that it meets all National Electrical Safety Code clearance requirements before construction work can begin. Clearance from a building structure shall be defined as the distance from any part of the building to any point of any Department facility.

This shall apply to both above ground Department facilities, such as clearance from the building to overhead high voltage lines or secondary lines, as well as ground level Department facilities, such as clearance from the building to a pad mounted device (i.e. a transformer).

If the new building, renovated existing building or addition to an existing building as designed fails to meet all current National Electrical Safety Code clearance requirements, the building owner shall be responsible for the total cost for the Department to correct the clearance violation(s) prior to building construction.

Similarly, should the new building, renovated existing building or addition to an existing building as constructed fail to meet all current National Electrical Safety Code clearance requirements, the building owner shall be responsible for the total cost for the Department to correct the clearance

violation(s) as soon as possible. Remedy of the violation shall not include consideration of any other utilities infrastructure that may also be in violation or impacted by the Department's work.

A representative of the Department is available at any time to review building plans for clearance related issues.

103 – Mixed Use Construction. Mixed use facilities combine commercial and residential use in one building. Mixed use construction shall be billed at the Department's sole discretion.

104 - Form A Lot Construction: When a proposed new construction development is determined not to be within the authority of the Town of Mansfield Planning Board (e.g. Form A Lots), Mansfield Electric will review the developers construction plans and will determine service requirements for overhead or underground construction based upon the electrical infrastructure in place. All construction costs shall be billed at the Department's sole discretion.

A Form A division of land, also known as an Approval Not Required (ANR) plan, is the division of a property into two or more lots, whereby every new lot created within the tract of land (a) has frontage on an acceptable way as specified in MGL Ch. 41, S. 81L; (b) meets the minimum frontage requirements of the zoning district; and (c) has been determined by the Planning Board to have vital access to the buildable portion of the lots.

Article 200

Underground Residential Subdivisions and Residential Compounds

201 – Purpose. In residential subdivisions and residential compounds designated for underground utilities by the Planning Board, the Department will provide an underground distribution system under the following terms and conditions.

If the Department decides to serve the residential development with a three-phase distribution system, at its sole discretion, the development will fall under Article 400 – Residential Developments Served by a Three-Phase Distribution System.

202 – Plans. The developer will provide one electronic copy, in the Department's requested format, of the approved subdivision plan as well as two hard copies of the plan.

203 – Electrical Layout. The Department will design and document the electrical distribution system and return it for review by the developer. The electrical layout will show the approximate location of the riser pole, high voltage conduit, transformer foundations, handholes, secondary conduits and street lights. An on-site meeting, including the Department and the developer, is required to review the Department's plan before site work preparation can take place.

204 – Site Work. The developer will perform all excavation and install all conduit, transformer foundations, handholes and street lights as shown on the plan supplied by the Department.

205 – Department Work. The Department will install and connect all high voltage cable, transformers and secondary cables from the secondary terminals of the transformer to handholes

located at the property line of individual property owners. See Section 212 for cost to the developer.

206 – Department Responsibilities. The Department will provide to the developer:

- Specifications for all materials required to be provided and installed by the developer.
- Transformers, high voltage cable and secondary cable from the transformers to the handhole located at the property line of the individual property owners and meters.
- Fiberglass service handhole(s).
- Fiberglass transformer pad foundation(s).

See Section 212 for cost to the developer.

207 – Developer Responsibilities. The developer will provide and install (at no charge to the Department), per the Department's specifications:

- 2-4" PVC conduit – type EB35 or schedule 40.
- 4" PVC sweeps – type EB35 or schedule 40.
- 3000 PSI concrete encased electric conduit.
- 500 pound pull string in all conduit.
- Street light pole(s) and fixture(s) (if required). See Section 213.
- 4" Galvanized steel conduit for riser pole (10' up the pole).
- 36" Galvanized steel sweep for riser pole.
- Individual customer owned service cable and conduit on private property.
- The developer provided materials are not included in costs assessed in Section 212.

208 – Trench. Please note that before any backfilling or concrete encasement is done, trench work must be inspected by the Department. Allow 48 hours notice for a Department representative to schedule a trench inspection.

209 – Embankments and Slopes. If a transformer or handhole location must be in an embankment, it shall be the responsibility of the developer to clear and level an area adequate for proper installation and to provide a retaining wall to protect the installation. Similarly, if a transformer or handhole must be placed on a down slope, the developer shall build up and level an area suitable for a proper installation and provide an acceptable means to protect against washout.

210 – Conduit System. The developer shall convey ownership of the conduit system, excluding secondary service conduit on private property, to the Department upon inspection and acceptance by the Department and upon the roadway becoming an accepted public way. For residential compounds, the developer shall convey ownership of the conduit system, excluding secondary service conduit of individual property owners, to the Department upon energizing electric service to the compound.

211 – Easement. Where it is required that the Department's facilities be located on private property, the owners of record shall grant to the Department, without cost to the Department, perpetual rights and easements free and clear of encumbrances of record, including rights to ingress and egress, to the extent the Department deems the same necessary for the safe and adequate provision of electric service, and the form and the content of such rights and easement shall be acceptable to and approved by the Department's property attorney. The Department reserves the right to not energize the system nor install any electrical facilities prior to the Department receiving an executed easement that is satisfactory to the Department's property attorney. If the easement is

not executed in a timely manner, a legally binding agreement shall be executed detailing the property owner's intent to grant an easement to the Department.

Under such circumstances, delays to service connections can be avoided by applying for service at the earliest possible date. Any questions or details pertaining to the required easement should be clarified with the Department.

212 – Cost. For Planning Board approved subdivisions with no existing electric facilities, labor and vehicle rates will be charged at the current “Hired Contractual Service Rates” in effect at the time of application as well as charges for materials and police details, if required.

Note: These fees must be paid at the time the application for service is made.

See also Section 213 and 214 for street light fees required.

213 – Street Lighting in a Conventional Residential Subdivision. A conventional residential subdivision is a development that the developer will submit to the Town Meeting for approval as an accepted public way. For conventional residential subdivisions requiring street lighting, the developer will own and maintain the street light system until the street becomes an accepted public way. The developer shall supply the street light pole(s) and fixture(s) per Department specifications. The developer shall install the fixture per Department specifications as well as the secondary supply for the street light. Please note that the Department shall install the street light head(s) and connect the street light wires at the source end. Prior to the Department energizing a street light, the developer shall submit a \$100.00 deposit per light at the Department's business office to pay for the cost of street light electricity. The developer is responsible for the cost of electricity for the street lights until the street becomes an accepted public way.

214 – Street Lighting in a Residential Compound. Subdivisions that are residential compounds are private roads which the developer has no intention of seeking acceptance as a public way. For residential compounds requiring street lighting, the Department is not involved with the design of the streetlight layout except to designate where the developer will bring conduit for the initial feed to streetlights (based on transformer location). A meter pedestal is required to be installed by the developer to record electrical consumption of all private way lights. The developer can install any type of light desired. The Department will provide the developer with typical specifications of Department installed lights for their convenience. The Department has no maintenance responsibility with street lighting. Any damage to private lighting is the responsibility of the developer or subsequent homeowner association – including underground conduit and wiring. No street lighting in residential compounds will be fed from electric panels in the residential homes.

215 – Agreement. A written agreement will be prepared and signed by both the Department and the developer stating the terms and conditions under which the Department will extend service.

Article 300

Commercial/Industrial Developments

301 – Purpose. In commercial/industrial developments designated for underground utilities by the Planning Board, the Department will provide an underground distribution system under the terms and conditions outlined herein.

These terms and conditions shall also apply to individual commercial and/or industrial customer's new or upgraded service installations. Existing commercial and/or industrial customers increasing their service size shall follow all the applicable terms and conditions in this booklet. In some cases these individual commercial and/or industrial customers may be served from an overhead line extension at the Department's sole discretion.

This booklet is not intended to provide specific construction details for commercial and industrial electrical designs but rather general information.

302 – Plans. The developer will provide one electronic copy, in the Department's requested format, of the approved developments plan as well as two hard copies of the plan.

303 – Electrical Layout. The Department will design and document the electrical distribution system and return it for review by the developer. The electrical layout will show the approximate location of the riser pole, high voltage conduit, manholes, high voltage switchgear, transformer vaults, and handholes. An on-site meeting, including the Department and the developer, is required to review the site work before site work preparation can take place.

304 – Site Work. The developer will perform all excavation and install all concrete encased duct banks, transformer vaults, protective bollards, and manholes as shown on the plan as marked up by the Department.

If this is an individual commercial and/or industrial customer served by an overhead line extension, the Department shall install, own and maintain the pole line. See Section 309 for cost.

305 – Department Work. See Section 309 for cost. The Department will install and connect all high voltage cable, transformers, and meters.

If this is an individual commercial and/or industrial customer served by an overhead line extension, the Department shall install, own and maintain the pole line.

306 – Department Responsibilities. The Department will provide to the developer:

- Specifications for all materials required to be provided and installed by the developer.
- Provide and install all high voltage cable, related high voltage equipment, and meters. Provide and install transformers up to 500 KVA. Transformers over 500 KVA will be allowed, provided the developer installs, owns and maintains the transformers and any associated protective devices and switchgear necessary for the installation. Developer supplied transformers over 500 KVA must meet specifications supplied by the Department.
- Provide and install pole line as required.

The Department's electrical design will include specifications for all vaults, pads, manholes, conduits and any other appurtenances. This plan will be sent to the developer as required in Section 303.

See Section 309 for cost to developer.

307 – Developer Responsibilities. The developer, at no charge to the Department, will provide and install, as per the Department’s specifications:

- Easement as required. See Section 308.
- Transformer vaults and/or foundations, handholes, manholes, grounding systems, and conduit including spacers, glue and pulling strings and any other appurtenances as indicated on the Department’s plan.
- Secondary service cable and service conduit located on private property from the secondary terminals of the Department’s transformer to each designated meter location.
- The developer shall retain ownership and maintain responsibility for all high voltage conduit systems, transformer foundations and grounding systems and all secondary cables and secondary conduit.
- The high voltage conduit bank is typically 2-5” type EB 35 or schedule 40 conduits encased in 3000 PSI concrete.
- 500 pound pull string in all conduit.
- 5” Galvanized steel conduit for riser pole (10’ up the pole).
- 36” Galvanized steel sweep for riser pole.

Service installations that include indoor transformers, associated protective devices and switchgear necessary for the electrical service to the Customer shall be installed, owned and maintained by the Customer.

308 – Easement. Where it is required that the Department’s facilities be located on private property, the owners of record shall grant to the Department, without cost to the Department, perpetual rights and easements free and clear of encumbrances of record, including rights to ingress and egress, to the extent the Department deems the same necessary for the safe and adequate provision of electric service, and the form and the content of such rights and easement shall be acceptable to and approved by the Department’s property attorney. The Department reserves the right to not energize the system nor install any electrical facilities prior to the Department receiving an executed easement that is satisfactory to the Department’s property attorney. If the easement is not executed in a timely manner, a legally binding agreement shall be executed detailing the property owner’s intent to grant an easement to the Department.

Under such circumstances, delays to service connections can be avoided by applying for service at the earliest possible date. Any questions or details pertaining to the required easement should be clarified with the Department.

309 – Cost. The Department will furnish and install electrical facilities as described above at the expense of the developer. The Department will prepare an estimate of applicable charges for the developer. The estimated cost of the Department’s work shall be paid prior to construction.

310 – Agreement. A written agreement will be prepared and signed by both the Department and the developer stating the terms and conditions under which the Department will extend service.

Article 400

Residential Developments Served by a Three-Phase Distribution System

401 – Purpose. Article 400 applies to residential developments that the Department, at its sole discretion, decides to serve with a three-phase distribution system. In residential developments designated for underground utilities by the Planning Board, the Department will provide an underground distribution system under the following terms and conditions.

402 – Plans. The developer will provide one electronic copy, in the Department's requested format, of the approved subdivision plan as well as two hard copies of the plan.

403 – Electrical Layout. The Department will design and document the electrical distribution system and return it for review by the developer. The electrical layout will show the approximate location of the riser pole, high voltage conduit, manholes, high voltage switchgear, transformer vaults, street lights and handholes. An on-site meeting, including the Department and the developer, is required to review the site work before site work preparation can take place.

404 – Site Work. The developer will perform all excavation and install all concrete encased duct banks, transformer vaults, handholes, transformer pads, protective bollards, street lights and manholes as shown on the plan as marked up by the Department.

405 – Department Work. See Section 410 for cost. The Department will install and connect all high voltage cable, transformers, and meters.

406 – Department Responsibilities. The Department will provide to the developer:

- Specifications for all materials required to be provided and installed by the developer.
- Provide and install all high voltage cable, related high voltage equipment, and meters. Provide and install transformers up to 500 KVA. Transformers over 500 KVA will be allowed, provided the Customer installs, owns and maintains the transformers and any associated protective devices and switchgear necessary for the installation. Customer supplied transformers over 500 KVA must meet specifications supplied by the Department.
- Fiberglass service handhole(s)
- Fiberglass transformer pad foundation(s)
- Provide and install pole line as required.

See Section 410 for cost to developer:

407 – Developer Responsibilities. The developer, at no charge to the Department, will provide and install, as per the Department's specifications:

- Easement as required. See Section 409.
- Transformer vaults and/or foundations, handholes, manholes, grounding systems, and conduit including spacers, glue and pulling strings and any other appurtenances as indicated on the Department's plan.
- Secondary service cable and service conduit located on private property from the secondary terminals of the Department's transformer to each designated meter location.
- The high voltage conduit bank is typically 2-5" type EB 35 or schedule 40 conduits encased in 3000 PSI concrete.
- 500 pound pull string in all conduit.
- 5" Galvanized steel conduit for riser pole (10' up the pole).
- 36" Galvanized steel sweep for riser pole.
- Street light pole(s) and fixture(s) (if required). See Section 411.
- Transformer vaults and manholes as designated by the Department's plan.

- The developer provided materials are not included in costs assessed in Section 410.

408 – Conduit System. The developer shall convey ownership of the conduit system, excluding high voltage and secondary service conduit on private property, to the Department, upon inspection and acceptance by the Department and upon the roadway becoming an accepted public way.

409 – Easement. Where it is required that the Department's facilities be located on private property, the owners of record shall grant to the Department, without cost to the Department, perpetual rights and easements free and clear of encumbrances of record, including rights to ingress and egress, to the extent the Department deems the same necessary for the safe and adequate provision of electric service, and the form and the content of such rights and easement shall be acceptable to and approved by the Department's property attorney. The Department reserves the right to not energize the system nor install any electrical facilities prior to the Department receiving an executed easement that is satisfactory to the Department's property attorney. If the easement is not executed in a timely manner, a legally binding agreement shall be executed detailing the property owner's intent to grant an easement to the Department.

Under such circumstances, delays to service connections can be avoided by applying for service at the earliest possible date. Any questions or details pertaining to the required easement should be clarified with the Department.

410 – Cost. The Department will furnish and install electrical facilities as described above at the expense of the developer. The Department will prepare an estimate of applicable charges for the developer. The estimated cost of the Department's work shall be paid prior to construction.

411 – Street Lighting. For Developments requiring street lighting, the developer will own and maintain the street light system until the street becomes an accepted public way. The developer shall supply the street light pole(s) and fixture(s) per the Department's specifications. The developer shall install the fixture per Department specifications as well as the secondary supply for the street light. Please note that the Department shall install the street light head(s) and connect the street light wires at the source end. Prior to the Department energizing a street light, the developer shall submit a \$100.00 deposit per light at the Department's business office to pay for the cost of street light electricity. The developer is responsible to pay for the cost of electricity of the street lights until the street becomes an accepted public way.

412 – Agreement. A written agreement will be prepared and signed by both the Department and the developer stating the terms and conditions under which the Department will extend service.