Connecticut Municipal
cmeec
Electric Energy Cooperative

Via Electronic Mail and
Federal Express

September 27, 2022

Melanie Bachman, Esq
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Council on Environmental Quality Comment: Petition 1543 Groton Utilities petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed modifications to its existing Buddington Substation located at the intersection of Buddington Road and Gold Star Highway in Groton, Connecticut, and related electric transmission line structure improvements.

Dear Ms. Bachman and Members of the Connecticut Siting Council;

Enclosed for supplemental filing in connection with Petition 1543 are the following materials addressing the Council on Environmental Quality's comments dated August 25, 2022:

(a) Petitioner's Best Management Practices are attached and includes the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. which can be found at the following: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://portal.ct.gov/-/media/DEEP/water/sesc/secsappendixakpdf.pdf.

(b) Copy of the NDDB determination and extension of the NDDB determination until project completion.

(c) Copy of Soil and Erosion Plan for the Project.

Thank you,

Robin Kipnis
Robin Kipnis
General Counsel

cc: Paul Aresta, Executive Director, Council on Environmental Quality

30 Stott Avenue ▸ Norwich, Connecticut 06360
p ▸ 860.889.4088 f ▸ 860.889.8158 w ▸ cmeec.org

PETITIONER'S BEST MANAGEMENT PRACTICES

GROTON UTILITIES

BOZRAH LIGHT & POWER COMPANY

INFORMATION
AND
REQUIREMENTS

FOR ELECTRIC SUPPLY

DATE: 01/01/2012
VERSION: 1.0 (DRAFT)

This publication supercedes similar publications previously issued by Groton Utilities or Bozrah Light and Power

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1. General Information

1.1 Introduction

This guidebook provides a cursory view of the policies and procedures of Groton Utilities and Bozrah Light and Power (GU/BLP) and is intended for use by our customers, electrical contractors, consulting engineers, architects, and authorities having jurisdiction (AHJ). We present this guidebook in an effort to acquaint you with the various types of electric services that are offered by GU/BLP and to help you determine which is best suited for your individual needs. This booklet mainly deals with low voltage services (480 volts and below). Information for primary service voltages above 480 volts is available on request. We at Groton Utilities look forward to working with you to meet all your electrical energy and service requirements.

1.2 Policies & Procedures

GU/BLP supplies electricity subject to our "Terms and Conditions" and our "Rate Schedules" on file with the Utilities Commission of the City of Groton and the Utility Commission of Bozrah Light and Power. While our policies and procedures follow accepted industry practices and standards, they are not necessarily the same as the requirements adopted by the other electric utilities that adjoin our territory. GU/BLP policies and procedures are available upon written request.

1.3 Approvals & Compliance

GU/BLP will not energize a service until it is approved by the authority having jurisdiction (AHJ) and it meets the requirements outlined in this guide. GU/BLP's examination of your service facilities is not an approval of conformance to applicable codes. The purpose of our assessment is to ensure that our requirements are met with respect to line, load, and ground connections, the meter installations and that the installation is in conformance with this guidebook.

GU/BLP reserves the right to issue a "Notice of Unsafe Condition" (see GU/BLP Customer Handbook available from the Customer Care Department for more information) when conditions at a pre-existing meter site do not comply with the following regulations.

- Groton Utilities Rules and Regulations - Latest Version
- NFPA 70, National Electric Code – Latest Version
- ICC Building Codes – Latest Version

Upon issuance of a notice of unsafe condition a notification will be issued to both the property owner and the authority having jurisdiction. Within 30 days of notification repairs must be completed and a compliance examination conducted to re-certify the facilities as safe pursuant to the rules, regulations, and codes which apply to the facilities originally deemed unsafe.

NOTE: GU/BLP does not allow cut and reconnect
and only GU/BLP personnel may remove meters or meter seals

1.4 Safety

The safety of GU/BLP personnel and others that work on and/or around our equipment, as well as the safety of the general public, is our most important concern. Do not approach any downed or exposed wire, cable, or other equipment as any contact may cause injury or death. Please report any problems immediately to Groton Utilities at 860-446-4000 or Bozrah Light and Power at 860-889-7388. GU/BLP designs, builds, and operates its electric system in accordance

with the applicable Connecticut General Statutes, applicable Occupational Safety & Health Administration (OSHA) regulations, the National Electrical Safety Code (NESC), and to GU/BLP's own safety rules.

GU/BLP reserves the right to refuse to energize a new service or to de-energize an existing service that violates GU/BLP safety rules regardless of whether it meets electrical or building codes. People working with equipment such as ladders, scaffolding, backhoes, dump trucks, cranes, etc. should use extreme caution when working near GU/BLP power lines. Contact with these lines may result in the electrification of you and/or your equipment and may cause injury or death. **Please maintain a minimum of 10 feet from all GU/BLP power lines**. For additional information, please refer to OSHA regulations and contact GU at 860-446-4000 and BLP at 860-889-7388.

Anyone doing any excavation near buried power cables should use extreme caution. State law requires that you contact 'CALL BEFORE YOU DIG' at 1-800-922-4455 a minimum of three full business days before starting any excavation.

1.5 Electrical Codes

GU/BLP designs, builds, and operates its electric system in accordance with the latest revision of the National Electrical Safety Code (NESC). The requirements of this code are incorporated in our Company Standards. For new construction and renovations, certain customer owned facilities fall under the jurisdiction of the NESC and must also comply with this code.

Customer owned facilities are built in accordance with the latest approved version of the National Electrical Code (NEC) and the latest versions of the Building and Fire Safety Codes that have been adopted by the State of Connecticut Department of Public Safety. GU/BLP must receive approval by the authority having jurisdiction before any new or renovated electric service can be energized.

Where there is a conflict with the requirements of GU/BLP, the NESC, and the NEC, the more stringent requirements shall prevail. If necessary, GU/BLP and the authority having jurisdiction will jointly confer. GU/BLP reserves the right to make all final determinations.

1.6 Effective Date & Revisions

The effective date of this booklet is 01/01/2010 and supercedes all previous issues. All construction started on or after this date must comply with these requirements. Allowance will be made for projects currently in construction or service requests previously submitted to GU/BLP. GU/BLP reserves the right to change the requirements of the booklet without notification based on changes to our policies and procedures, terms and conditions, industry standards and codes, etc. When planning a project, it is your responsibility to verify the latest requirements of GU/BLP.

NOTE:
Do not start any project without first consulting with GU/BLP Project Management and the Building Department of the municipality.

1.7 Consultation

It is impractical for a booklet of this type to contain all the information necessary to cover all variations and possibilities of service installation. Our Project Managers are available to assist you in determining the appropriate method of service for your needs. They will provide you with more detailed information regarding design, electrical requirements, policies, etc. Our Project Management Office acts as a clearinghouse for all customer requests. GU/BLP urges you to contact

Project Management at your earliest convenience. GU/BLP is confident that doing so will result in greater satisfaction and will avoid unnecessary delays.

The Project Management Office is responsible for coordinating all overhead services for residential customers, all services where additional poles and wires are needed, all underground residential services, and all overhead or underground commercial/industrial services. This includes temporary services. In addition, Project Management is responsible for coordinating all service removals for building demolitions.

GU/BLP's Customer Care Department is available to assist you with the attraction, retention, and/or expansion of your business in our service territory. This includes coordinating contact with State and Municipal representatives, real estate developers, and financial institutions.

GU/BLP's Customer Care Department also offers technical assistance, consulting services and incentives at every phase of your construction or retrofit project encouraging the design, construction, and operation of energy efficient buildings and equipment. This assistance covers the major energy consuming systems such as lighting, heating ventilation and air conditioning equipment (HVAC), refrigeration equipment, motors, air compressors, process equipment, and building envelope.

Below is contact information for the listed Departments:

GU/BLP Project Management Office
295 Meridian St Groton, CT 06340
860-446-4038 (Voice)
860-446-4075 (Fax)

GU Customer Care
295 Meridian St Groton, CT 06340
860-446-4000 (Voice)
860-446-4095 (Fax)

BL&P Customer Care
514 Fitchville Rd Gilman, CT 06336
860-889-7388 (Voice)
860-886-9016 (Fax)

Refer to Section 4 "Request for Electric Service" for detailed information about applying for service or visit us on the Internet at our website at www.grotonutilities.com.

2. General Requirements for Service

A. All requests for new service and increases to existing services must be requested by completion of GU/BLP's "Request for Service" Application. This application is available at both our Customer Care and Project Management Offices.
B. All service requests must include the name and address of the party that will be responsible for paying the electric bill. The Customer may be required to sign a Service Contract and, in some cases, make a deposit.
C. All service requests are subject to GU/BLP approval. This includes the service location, voltage and phase characteristics, outdoor meter location and configuration, and other associated requirements. Do not purchase any equipment or proceed with any construction until you have obtained these requirements from GU/BLP. To avoid problems and delays, this should be done early in the project planning stages.
D. In general, service to a Customer's premises will be delivered at a single point. Where requirements to a single building or multiple buildings on a single parcel of land warrant additional service, both GU/BLP and the authority having jurisdiction must jointly grant

approval. GU/BLP reserves the right to restrict the service to single point delivery or require additional payment for the cost to provide the additional service.

E. When requested by GU/BLP; customers, consultants, or contractors shall provide complete load information. This information will provide greater detail about the project (including the total connected load in kilowatts) and should be submitted to the Project Management Office.
F. The characteristics of certain electrical equipment such as motors and non-linear loads (e.g. variable speed drives and metal halide lighting are non-linear) may adversely affect your service and the operation of GU/BLP's electrical system. The Customer must correct all adverse effects on GU/BLP's electrical system caused by customer equipment at the customer's expense. For additional information, please reference Section 6 "MOTORS".
G. GU/BLP requires clear access to its facilities at all times and reserves the right to enter the Customer's property to inspect and/or maintain our equipment without notice. If access into a building is required, GU/BLP will make every attempt to do this during normal working hours or will make specific arrangements with the property owner.
H. Customers shall consult GU/BLP when contemplating changes in the size or electrical characteristics of their equipment. GU/BLP normally sizes its equipment to serve the actual electrical load of the Customer and not the full potential load of the Customer's service entrance equipment. GU/BLP must be notified of customer load increases in advance and be provided the opportunity to replace its equipment, if necessary, prior to the load increase. Damages to GU/BLP equipment resulting from unauthorized changes shall be the responsibility of the Customer.
I. Wiring must comply with the latest approved version of the National Electrical Code and latest versions of the Building and Fire Safety Codes that have been adopted by the State of Connecticut, Department of Public Safety. NOTE: GU/BLP will not schedule or energize any new or renovated service unless the release from the authority having jurisdiction is provided to GU/BLP. The contractor should make arrangements with the proper authority in advance to avoid delays.

3. Types of Service Available

3.1 Scope

GU/BLP supplies 60 hertz, alternating current with different voltage and amperage ratings. All services are either single-phase, three wire or three-phase, four wire and the neutral conductor must be grounded in accordance with the National Electrical Code. Please contact our Project Management Office to verify that GU/BLP can provide the requested service prior to making any commitments or ordering any equipment. Additionally, GU/BLP will determine if any construction costs are required for the contemplated project.

Single-phase, three wire, 120/240-volt service is generally supplied to all residential customers and is typically available for all customers.

A. Single-phase, three wire, 120/208-volt service is only supplied when single phase metered service is required and a three-phase 120/208Y volt source is available. Typically, this involves large apartment buildings, a condominium or an office complex.
B. Three-phase, four-wire wye (120/208Y volt) service may be supplied for large residential projects and for Commercial and Industrial customers. For pole-mounted transformers the

maximum service size is 400 amps with a minimum demand of 30 KW. For padmount transformers, the **minimum** service size is 400 amps with a minimum demand of 65 KW.

C. Three-phase, four-wire wye (277/480Y volt) service may be supplied for large Commercial and Industrial customers. For pole-mounted transformers the **maximum** service size is 400 amps with a minimum demand of 30 KW. For padmount transformers, the **minimum** service size is 400 amps with a minimum demand of 65 KW.
D. Three-phase, three or four-wire delta (240 volt and 480 volt) service is no longer provided for existing services with either of these voltages, please contact GU/BLP's Project Management Office before planning any changes. Conversion to a three-phase, four-wire service may be required.
E. Primary service voltages above 480 volts are supplied by special contract. See Section 3.4

Note:

When three-phase service is supplied, every effort should be made to balance the load among all three phases. Three-phase service is not generally supplied for residential use but may be furnished if loads warrant and facilities are available. GU/BLP's Project Management Office shall be consulted prior to making commitments for any such service.

3.2 Single and Three-Phase Service from Padmount Transformers

GU/BLP must approve the design, location, voltages, and materials for these underground services prior to making any commitments. Please contact GU/BLP's Project Management Office for more information. GU/BLP has a residential policy, which in general states that the developer must provide all trenching required for the electrical system. Also, the developer must supply and install foundations and conduit to GU/BLP specifications. GU/BLP will then install the primary and secondary electric system. Typically, a permanent easement(s) is required.

GU/BLP has a commercial/industrial policy governing service to office or industrial parks. Basically, the developer must provide all trenching required for the electrical system. Also, the developer must supply and install foundations and conduit to GU/BLP specifications. GU/BLP will then install the electric system necessary to supply the individual lots. Typically, a permanent easement(s) is required. The services to the individual lots are usually installed under separate contracts. Contact GU/BLP's Project Management Office for additional information.

For service to an individual commercial/industrial lot, the Customer must supply, install, own and maintain all secondary service entrance conduit and cables. The primary conduit shall be installed from the high voltage supply designated by GU/BLP to the transformer foundation per GU/BLP specifications. GU/BLP will install the primary cable and transformer and make all connections to GU/BLP owned equipment. Voltages available are single-phase, three wire 120/240 volt and three-phase, four wire 120/208Y or 277/480Y. Contact GU/BLP's Project Management Office for additional information.

3.3 Temporary Service

A. Temporary service is available upon request provided the costs to install and remove the necessary facilities are paid in full and in advance by the Customer.
B. Where GU/BLP infrastructure is already in place and the temporary service can be supplied by a simple service drop or underground service lateral, a standard flat rate fee applies.

C. Where infrastructure does not exist or is insufficient for temporary services, the Project Management Office will provide the Customer with a written estimate of the cost associated with providing such service.
D. Services that utilize temporary conductors connected to the load side of the meter provision must be applied for as a temporary service even if the permanent conductors are installed on the line side of the meter.

Note:
Lever by-pass meter sockets are not required for temporary service installations.

3.4 Primary Voltage Services

Contact Groton Utilities or Bozrah Light and Power Project Management Office for Additional Information on primary voltage services.

4. Request for Electric Service

Request for service applications are available at the following locations:
Groton Utilities Office, 295 Meridian St Groton, CT
Groton Utilities Operations, 1240 Poquonnock Rd Groton, CT
Bozrah Light and Power Office, 514 Fitchville Rd Gilman, CT

See Appendix 10.7 for a flow chart on procedures for acquiring electric service.

4.1 Electrical Service Information

The following general service information is required on all applications:

A. Job Location
B. Contractor Information
C. Customer Information
D. Job Description and Service Data including:
   i. Description of Work
   ii. Service Type, Type of Building, and Type of Use
   iii. Requested Service Size, Number of Meters, and Overhead or Underground service
   iv. Building Size, Number of Conductors, Conductor Size and Type
   v. Single-phase (3 wire) or three-phase (4 wire) and Voltage
   vi. Primary Heat Source
E. Load Information

Load information may include, but not be limited to the following
Motor Loads
Heating or HVAC
Large Appliances, etc.

4.2 All Other Service Drops & Laterals

All other overhead service drops and underground service laterals may require the following additional information:

- One complete set of an approved A2 survey plot plan showing topography, wetlands (if any), proposed location of other utilities, drainage, property boundaries, roads,

sidewalks, driveways, location of buildings, and desired service location. Street and property lines must be clearly and accurately marked at the project site.

- A completed GU/BLP electrical load information form. (Request for Service App)
- Construction start and completion dates.
- GU/BLP's Project Management Office specifies the requirements for these services. You should contact GU/BLP Project Management to discuss the job and/or arrange for a job site meeting.

4.3 Residential Developments

Overhead line extensions and Underground Residential Distribution (URD) projects require more information, drawings, and advance planning. Therefore, it is important that our Project Management Office obtain the following information, in advance and at no cost to GU/BLP.

- Town approved A2 survey map recorded in the municipalities Land Records. GU/BLP will not begin design work prior to receipt of the approved plans.
- A minimum of two (2) copies of the approved Planning and Zoning development map showing property line only, total number of house lots proposed and their locations, lot numbers and associated 911 address numbers.
- One set of detailed development plans showing proposed location of houses, driveways, septic systems, etc.
- One (1) copy of an AutoCAD 2004 compliant file for the project.
- A schedule of the customer's best estimate for the construction of homes in the development. GU/BLP requires six to eight weeks after receipt of complete information to prepare the necessary project documents and cannot install or energize any facilities until the necessary documents are signed, all required payments (if applicable) are received, and all applicable easements have been recorded on the land records.
- Such other reasonable information that may be requested.

4.4 Commercial & Industrial Developments

Commercial and Industrial developments supplied by overhead power lines or underground cable systems require more information, drawings, and advance planning. Therefore, it is important that our Project Management Office obtain the following information:

- Town approved A2 survey map recorded in the municipalities Land Records. GU/BLP will not begin design work prior to receipt of the approved plans.
- A minimum of two (2) copies of the approved Planning and Zoning development map showing topography, wetlands (if any), proposed location of other utilities, drainage, property boundaries, roads, sidewalks, driveways, location of buildings, and desired service location. Street and property lines must be clearly and accurately marked at the project site.
- One complete set of the electrical series drawings, including the power riser or 1-line diagram for the service(s). Any other drawing that details trenching and conduit placement, transformer foundations, or other items relating to the service from GU/BLP's facilities to the Customer's service entrance equipment.
- One (1) copy of an AutoCAD 2004 compliant file for the project.

- Name of real property owner and the approximate date property was purchased (obtain volume number, page number, and date recorded, if available). Sizes (sq. ft.) and number of buildings, including the number of units per building and any house meters, if applicable. If this represents only a portion or section of the total development, indicate the total number of future buildings and units planned for the development.
- A schedule of the customer's best estimate for the construction of the development. GU/BLP requires six to eight weeks after receipt of complete information to prepare the necessary project documents and cannot install or energize any facilities until the necessary documents are signed, all required payments (if applicable) are received, and all applicable easements have been recorded on the land records.
- Such other reasonable information that may be requested.

4.5 Billing

To establish an electric service billing account, temporary or permanent, contact
Groton Utilities Customer Care Office by calling:
860-446-4000 (8:00 a.m. - 4:30 p.m., Monday -Friday).
Or
Bozrah Light and Power Customer Care Office by calling:
860-889-7388 (8:00 a.m. - 4:30 p.m., Monday -Friday).

Note:
Before GU/BLP can schedule or energize any new or renovated service, the authority having jurisdiction must approve the construction and the acceptance of such construction must be submitted to GU/BLP.

4.6 Service Request Recommendations

For our customers convenience we have created a project check list. This check sheet lists the most common steps of a project. See appendix 10.6 for a copy of the check list.

5. Design Criteria & Construction Practices

5.1 Overhead and Underground Services
A. Overhead Service Drops

1. Overhead service drops are installed, owned, and maintained by GU/BLP. The point of attachment on the Customer's premises will be designated and/or approved by GU/BLP and shall be the shortest practical distance from GU/BLP's pole. Service bolts will be supplied by GU/BLP and installed by the Customer. The bolt shall be adequately anchored at the point of attachment to safely withstand the strain imposed by the service drop.
2. The point of attachment shall be safely accessible by GU/BLP crews from a ladder on level ground and the height above finished grade shall not be less than 12 feet nor more than 26 feet.
3. The point of attachment shall be designated such that GU/BLP's service drop is not readily accessible as defined by the National Electrical Code and that adequate horizontal and

vertical clearances can be maintained. In no case shall GU/BLP provide, own or maintain a service drop that runs horizontally along the surface of a building.

Note: If the height of a structure is not adequate to maintain these clearances, a service mast may be necessary.

3) Service entrance conductors provided by the Customer shall conform to the National Electrical Code and local authorities and shall be properly identified.
4) A maximum of 2 service masts with a total of 6 wires for single-phase or 8 wires for three-phase can be connected to a single service drop.
5) Contact GU/BLP's Project Management Department regarding single-phase, overhead, residential and temporary service drops and other service drops.

B. Underground Residential Service Laterals

1. Our Project Management Office will schedule the installation and connection of your underground service entrance conductors after the authority having jurisdiction has inspected the service and the release has been forwarded to GU/BLP's Project Management Office.
2. GU/BLP requires **48 hours advance notice** before conduit is installed to insure the availability of personnel to complete the required compliance check for underground facilities.
3. Underground service laterals (both the conduit and the service conductors) are owned and maintained by GU/BLP.
4. Trenching for underground laterals from wood poles shall not start until the service location is approved and GU/BLP installs the conduit at the pole. At the discretion of Groton Utilities a maximum of 2 service risers with a total of 6 wires for single-phase or 8 wires for three-phase can be installed per pole. The elbow at the pole is installed by the customer and must be rigid galvanized steel. GU/BLP requires that the elbow at the pole have a minimum radius of 24".
5. Conduit from the service entrance equipment back to the property line can be either rigid galvanized steel or PVC subject to the requirements of GU/BLP construction standards. Conduit in the street right-of-way (curb to property line) may be rigid galvanized steel or PVC.
6. For underground services from existing single-phase padmount transformers or secondary hand holes, the contractor must install PVC conduit. **Do not attempt to install any conduit into the transformer or hand hole without GU/BLP supervision.**
7. Protection from ground movement for underground service entrance conductors shall be provided by the installation of a UL listed slip fitting at all meter provisions. The slip joint shall be the appropriate match to the trade diameter of the service conduit and be securely fastened to the building with a minimum of two clamps.

5.2 Road Crossing Poles for Service

GU/BLP will make every effort to treat all customers equally, no matter which side of the street they reside on. GU/BLP will therefore install road-crossing poles as follow:

A. GU/BLP will install overhead secondary service from an existing pole on the street provided the span does not exceed 125 ft. (100 ft. for 400 amp services). If the pole is on the opposite side of the street and exceeds 125 ft., a road-crossing pole will be set at no cost. If

additional poles beyond the road crossing pole are required to reach the building, they will be installed by GU/BLP on a billable basis.

B. If the Customer elects to install an underground service, GU/BLP will install a road-crossing pole at no charge to save the Customer the cost of trenching across the street if allowed by the local Planning and Zoning Commission. If the Customer elects not to have the pole installed, no credit for said pole would be granted by GU/BLP.

5.3 Private Line Poles (PLP)

Where off-street overhead facilities are required, all facilities beyond 150' of overhead wire are billable to the Customer. GU/BLP will install, own, and maintain the overhead facilities. The property owner may be required to sign a permanent easement. Future changes to or relocations of these facilities requested by the Customer are also billable.

When GU/BLP owned poles are installed on private property, permanent truck access to all poles must be provided and maintained by the property owner.

5.4 Cut & Reconnect Policy

GU/BLP **DOES NOT** allow cut and reconnect of any service in its franchise areas. Contact GU/BLP Project Management Office for assistance at 860-446-4000.

NOTE:
GU/BLP does not allow cut and reconnect
and only GU/BLP personnel may remove meters or meter seals

5.5 Demolition

To terminate GU/BLP service to any building or structure designated for demolition, GU/BLP must receive a completed “Removal of Service for Building Demolition” form from the property owner.

For condemnations, eminent domain proceedings, etc., a letter from the municipality is acceptable. Please send the letter to:

Groton Utilities 295 Meridian St Groton, CT 06340 Attn: Project Management	OR	Bozrah Light and Power PO Box 7 Gilman, CT 06336 Attn: Project Management

The letter must list the legal address of the property as determined by the tax records and the front of the building must be clearly marked with this number in orange paint. Access to the premise must be available for GU/BLP personnel to remove all GU/BLP equipment.

When completed, GU/BLP will prepare a letter stating that all of its facilities have been removed from said property. The letter will be sent to the originator of the request and to the appropriate municipal authority. Contact GU/BLP's Project Management Department for any additional information.

5.6 Service to Personal Communication System (PCS) Towers

Before planning any service to a PCS location, please contact GU/BLP's Project Management Office.

6. Motors

6.1 Groton Utilities Policy Number 2020

The installation of motors on GU/BLP's distribution system is covered under Policy Number 2020 "Customers' Utilization Equipment" (See Appendix 10.6). When installing motor loads interested parties are urged to contact GU/BLP's Project Management Office prior to the purchase of any equipment.

7. Alternate Energy Sources

7.1 Emergency Generation

Prior to the installation of generation facilities, please contact GU/BLP's Project Management Office.

7.2 Standby Generation

Prior to the installation of Standby Generation facilities, please contact GU/BLP's Project Management Office.

7.3 Photo Voltaic Systems

Prior to the installation of Photo Voltaic Systems, please contact GU/BLP's Project Management Office.

8. Metering

8.1 General Requirements

A. GU/BLP will not supply service to a Customer whose wiring is designed for resale of electricity through sub metering except for recreational campgrounds or other facilities as approved by the Utilities Commission of the City of Groton or the Utility Commission of Bozrah Light and Power.
B. The Customer is required by Regulations of the State of Connecticut to provide GU/BLP reasonable access to its equipment, and access shall be neither obstructed nor hazardous as defined by the National Electric Code.
C. Unauthorized persons are forbidden to connect, disconnect, relocate, tamper with or break seals on service entrance equipment, metering equipment, or pull boxes and troughs housing un-metered conductors. This requirement is not intended to prevent the Customer from operating the main switch or replacing blown fuses.

NOTE:
GU/BLP does not allow cut and reconnect
and only GU/BLP personnel may remove meters or meter seals

D. When it is necessary to cut or remove a meter seal and/or de-energize an existing meter, for any reason, GU/BLP must be notified immediately.
E. All costs associated with damaged metering equipment or personal liabilities claim as a result of work performed by non-GU/BLP employees will be charged to the responsible party.
F. Under no condition will GU/BLP approve the installation of metered and un-metered conductors in the same conduit, raceway or wiring trough. In combination meter-main

service equipment, the line and load wiring must be isolated to their respective compartments.

G. On all new construction and on renovations of existing services requiring the installation or replacement of the service entrance conductors or conduit, the meter(s) shall be located outdoors and mounted on the structure unless permission is granted in writing by GU/BLP to install the meter(s) indoors. For all indoor meter locations (granted by GU/BLP prior to the start of any construction) the Owner may be required to provide a 1" minimum diameter Schedule 40 PVC conduit from the meter location to the outside of the structure to facilitate the installation of equipment for automated meter reading equipment.

H. All meter locations must be installed according to GU/BLP requirements:
   i. Single meter provisions shall be installed 5’ above final grade. Modular meter packs shall have a minimum installed height of 24” and a maximum installed height of 6’ above final grade.
   ii. Where the location of an outdoor meter would be a hazard to the public or to the equipment, GU/BLP will determine a more suitable location or require the Customer to provide additional protection for the meter(s).
   iii. Meters and low voltage service equipment shall not be installed in transformer vaults, high voltage switchgear rooms, or other such restricted access areas.
   iv. Meters will not be installed where they will be subject to corrosive fumes, excessive moisture, dust, and vibration or possible damage.
   v. In large office buildings and apartment buildings, where separate meters are required for the various offices, apartments, suites, or lofts, metering equipment may be installed indoors, in groups, at locations approved in writing by GU/BLP. All such locations (designated meter rooms) may be required to provide an additional 1" minimum diameter Schedule 40 PVC conduit from the meter location to the outside of the structure and/or a dedicated circuit from the Owner's (house) panel to facilitate the installation of antennas for automated meter reading equipment
   vi. Meters for emergency systems, such as fire pumps, are to be located adjacent to other meters serving the building, where practical.

I. For all three-phase, 4 wire delta or wye services where the secondary service is grounded at any point, the grounded conductor shall be run to each main switch or service disconnect (in accordance with National Electric Code). In addition, the grounded conductor shall be run to each meter provision (i.e. meter socket or current transformer cabinet).

J. Single-phase, 200 amp class meter sockets for temporary services are not required to have bypass provisions.

K. To ensure safety, all meter sockets that are without a meter and energized will be protected with a 'see-thru' polycarbonate cover. These covers are available from GU/BLP and will be installed by GU/BLP. If the meter socket is intended to be a spare or otherwise left without a meter for a period exceeding 6 months, then a gasket or silicone sealant should be applied between the polycarbonate cover and the meter socket cover to prevent the entry of water.

L. Meter sockets cannot be used as a grounding point. The grounding electrode conductor shall not be run through the meter socket and the grounding electrode conductor connection shall not be made within the meter provision.

M. Electric service meters shall not be installed above or below gas meters and require a minimum of 5 feet of horizontal separation.

8.2 Auxiliary Equipment, Emergency Circuits, and Emergency Generators

A. No ammeter, voltmeter, pilot light, surge suppressor or other device shall be connected to the secondary of the metering transformers or to the service conductors between the point of entrance and the point at which the metering equipment is connected to the circuit unless an integral part of an approved UL listed switchboard design. No field add-on will be allowed.
B. Where State or local ordinance requires the installation of a circuit for emergency systems, such as fire pumps, fire alarms, or exit lighting, on the line side of the normal metering, an additional metering provision shall be required.
C. Services to electric motor driven fire pumps shall be metered with transformer rated metering to ensure that the meter is not called upon to carry overloads required by NFPA and does not serve as a disconnecting means and interrupt power to the fire pump if it is removed for any reason.
D. Metering must always be installed on the line side of control circuitry such that the meter is always energized when the service is energized.
E. If a double throw switch is installed by the Customer to supply his load from an emergency generator, it must use an open transition throw-over scheme. The switch must be installed on the load side of the meter and must be connected so that the electricity from the Customer's generator will not flow back into GU/BLP's lines. Installation of a Closed Transition switch requires the prior approval of GU/BLP. See Section 7 Alternate Energy Sources.

8.3 Equipment Marking Requirements

A. Where more than one set of metering equipment is supplied through one service entrance, each set of metering equipment and each corresponding apartment, distribution panel, or load center must be marked, using a nameplate or other permanent marking, with the corresponding number or letter designations of each unit (such as Apt. C or Suite #103).
B. Each service disconnect shall be clearly and permanently marked in large conspicuous block letters as either "MAIN SWITCH" or "SERVICE DISCONNECT", per NEC requirements. Examples of proper markings include but are not limited to the following…
    i. Permanent adhesive markers
    ii. Permanently affixed metal tags
C. Where more than one kind of service is supplied, each service disconnect should be identified in the same manner, per NEC requirements. The nameplate or sign should also state the voltage and phase characteristics of the service, and the number and location of the other services.
D. On three-phase, four wire delta services (120/240/240 volts); the phase having the higher voltage to ground shall be permanently marked with an orange color in switchboards, panel boards, and CT cabinets. On services utilizing socket metering (up to and including 200 ampere provisions), this phase must be on the right. EXCEPTION: On services exclusively utilizing transformer rated metering, this phase is required on the right; however, if the switchgear is manufactured with this phase in the center, it will be allowed to remain in the center.

8.4 Metering Equipment

Metering equipment is furnished, installed, owned, and maintained by the Customer unless otherwise specified in writing. Metering equipment that is accepted for use is UL listed and adheres to the best practices and standards for electrical equipment manufacturers. When in doubt about the suitability of metering equipment, contact GU/BLP's Project Management Office.

8.5 Requirements for Self-Contained Socket Metering - Rated 200 Amps and below

A. Ringless sockets with manual lever operated bypass rated up to and including 200 amperes shall be used for all single-phase multi-meter residential, all single-phase commercial, all three-phase commercial and residential, and all house meter installations. EXCEPTION: Temporary services may utilize sockets without lever bypass.
B. Ringless sockets with the fifth terminal at the 9 o'clock position are required for all single-phase, 3 wire, 120/208 volt services up to and including 200 amperes.
C. Installation of Sockets.
    i. Meter sockets must be mounted plumb using round head, rust resisting wood screws of sufficient length to hold the socket securely, independent of conduit or cable connections.
    ii. Suitable anchors must be used on masonry or brick walls for outdoor installations.
    iii. A meter board is required for all indoor installations. This board should be made of moisture proof plywood at least 3/4" thick and painted. It should be mounted plumb and level on a permanent wall with at least 3/4" air space between the board and the wall.
    iv. Where two or more individual meter sockets are used in multiple, line side conductors must be carried in a separate wiring trough.
    v. The preferred type of multiple socket installation is a vertical or horizontal, pre-bussed arrangement.

8.6 Requirements for "CLASS 320" Self-Contained Socket Metering

A. All residential services rated 400 amperes, single-phase, 120/240 volts may install the optional "class 320" (320 ampere continuous rated) self- contained, heavy duty locking jaw, lever by-pass, socket type meter in lieu of transformer rated metering. NOTE: "Class 320" metering is not available for single-phase, 120/208-volt services.
B. All "class 320" meters shall be located outside.
C. For underground services, the line side conductors shall enter the bottom and shall be routed up through the left side gutter to the line side lugs. For overhead services, the line side conductors shall be top entry.

8.7 Requirements for Transformer Rated Metering

A. All services above 400 amperes and all services to fire pumps regardless of size require transformer rated metering.
B. Ringless sockets with provision for mounting a test switch must be used for all transformer rated metering applications. Approved sockets are as follows.

Manufacturer	13 Terminal – 3 Phase 4-Wire
Cooper B-Line	SW02132S1GR1N
MilBank	UC7445-O-311-NOE
Siemens	9837-0903

C. GU/BLP will provide and install all metering transformers, meters, test switches, and wiring to the test switches.
D. The Customer shall provide a 1 1/2" conduit, either metallic or non-metallic, without junction boxes, for the wiring between the metering transformers and the meter socket. The remote meter socket shall be effectively bonded either through the metallic conduit or by a #10 AWG copper wire installed in the conduit. The electrical contractor shall install a pull line. The maximum circuit length from the metering transformers to the meter socket must not exceed 50 feet.
E. A current transformer cabinet or combination switch shall not be used as a wiring trough. Full width bafflers on the top and bottom of the metering section shall isolate the current transformer compartment of a combination switch. If additional gutter space is required, the current transformer compartment shall be provided with side and/or rear barriers. Where a current transformer compartment is enclosed within a larger enclosure, the current transformer wiring must exit the current transformer compartment in conduit that is securely attached to the compartment.
F. In all transformer rated metering applications, the current transformer cabinet must have provisions for locking and sealing, in addition, the main switch must have provision for padlocking in the open position.
G. For services up to and including 1,200 amperes, the current transformer enclosures must be equipped with mounting plates for bar type current transformers with 11-7/8" long primary bars. For services greater than 1,200 amperes, the current transformer enclosures must have removable bolt-in bus bars with supplemental support brackets of non-conductive material to adequately support window type (donut) current transformers.
H. Window type current transformers without a bolt-in bar (i.e. around conductors or transformer bushings) may be used to renovate existing facilities provided: no current transformer cabinet was present before; no space is available for a new current transformer cabinet; the Customer is not served from a network vault; and it will not be necessary to de-energize other Customer's service to install or remove them. Requests to use window type current transformers in this manner must be submitted by the Customer, in writing, to GU/BLP's Project Management Office. If permission is granted, the reply will be in writing. This type of installation is not approved for new construction.
I. All Transformer Rated Metering shall be installed cold sequenced.

9. Energy Diversion / Theft of Service

UNDER NO CIRCUMSTANCES WILL ELECTRICITY BE SUPPLIED WITHOUT BEING METERED OR OTHERWISE ACCOUNTED FOR UNDER SPECIAL WRITTEN CONTRACTS MADE WITH GU/BLP. ANY INSTALLATION WHERE THE USE OF ELECTRICITY IS NOT BILLED CONSTITUTES ENERGY DIVERSION AND IS SUBJECT TO FINANCIAL RESTITUTION AND CRIMINAL PENALTIES.

9.1 General Requirements

A. Groton Utilities and Bozrah Light and Power reserves the right to enter the Customer's property and inspect and test GU/BLP's equipment at any time without notice. If access into a building is required, GU/BLP will make every attempt to do this during normal working hours or GU/BLP will make specific arrangements with the property owner.
B. Groton Utilities and Bozrah Light and Power reserves the right to enter the Customer's property and inspect and test customer owned equipment that houses un-metered electricity at any time without notice. Groton Utilities reserves the right to install locking devices on this equipment.

9.2 Refusal or Discontinuance of Service

A. Groton Utilities and Bozrah Light and Power may discontinue service without notice in the event un-metered electricity is found or if a known dangerous condition exists in the Customer's wiring or appliances.
B. Groton Utilities and Bozrah Light and Power reserves the right to discontinue service to any location where additional metering is required and/or proper permits have not been filed with the authority having jurisdiction.
C. Groton Utilities and Bozrah Light and Power may terminate service for the following:
    i. Fraud or material misrepresentation is used in obtaining utility service.
    ii. Violation of or non-compliance with the rules of Groton Utilities or Bozrah Light and Power that have been filed with and approved by the Utilities Commission of the City of Groton or the Utility Commission of Bozrah Light and Power.
    iii. Failure of the Customer to provide Groton Utilities or Bozrah Light and Power reasonable and unobstructed access to its equipment
    iv. In the event unauthorized service either metered or un-metered is found to be in use.
    v. Customer refuses to correct an unsafe condition when such condition is a result of faulty or poorly maintained customer equipment.
D. A fee may be charged to defray the costs in such matters as per policy approved by the Utilities Commission of the City of Groton or the Utility Commission of Bozrah Light and Power.

9.3 Jumpered Metering

GU/BLP **DOES NOT** allow electrical contractors to install jumpers in meter sockets as a means to facilitate work. Electrical contractors are obligated to obtain permits and electrical inspector's releases. Failure to abide to this regulation is a violation of GU/BLP requirements. In addition, if jumpers are installed GU/BLP will remove the jumpers and disconnect the service in accordance with GU/BLP policy.

10.1 Glossary

Groton Utilities/Bozrah Light and Power- Electric Terms

Accessible Location
An accessible location is a location in which all of the service equipment is located. This shall encompass the termination section(s), metering appurtenances, and all main disconnect devices. There shall be 24-hour access to this equipment as required by GU/BLP.

Advanced Metering Infrastructure (AMI)
AMI is a system which enables two-way communications with the meter. Traditional AMR systems only capable of meter reading don't qualify as AMI systems.

Approved
Acceptable and in conformance with the GU/BLP's rules, policies, and the governing codes, laws, and ordinances.

Approved Equipment
Electric equipment approved for use by GU/BLP.

Authority Having Jurisdiction
The "Authority Having Jurisdiction" is a duly appointed building code official responsible for inspecting and ensuring that contractor work is in compliance with all applicable local, state, and federal regulations.

Automated Meter Reading (AMR)
AMR is the technology of automatically collecting consumption, diagnostic, and status data from electric meter or energy metering devices and transferring that data to a central database for billing, troubleshooting, and analyzing.

Codes
Current Connecticut State Building Codes including approved amendments and supplements. These include:

- International Building Code
- International Residential Code
- International Existing Building Code
- International Energy Conservation Code
- National Electric Code (NFPA-70)

Holiday Closings (GU/BLP)

New Years Day	Labor Day
Martin Luther King Day	Veteran's Day
Washington's Birthday	Thanksgiving day
Good Friday	Day After Thanksgiving
Memorial Day	Christmas Day
Independence Day	

Closed transition transfer switch:
A transfer switch designed to synchronize utility and an alternate source of power prior to switching (make before break).

Compliance Representative:
A representative of Groton Utilities who will insure compliance with our standards and practices as outlined in this guidebook.

Conductor Protection or SDL Protection
Temporary insulation installed on overhead conductors to prevent contact with energized conductors. They may also be called “covering”, “sleeving”, etc.

Demolition Permit
A permit required to demolish a structure.

Easement
An Easement granted by a property owner to GU/BLP. This provides the legal right for GU/BLP to enter onto private property for the purpose of installing or maintaining electrical facilities.

E-1 (Licensed Electrician)
A master electrician holding a valid License issued by the State of Connecticut Department of Consumer Protection – Occupational & Professional Licensing Division

E-2 License
An E-2 License holder can only perform electrical work while under the employ of a contractor licensed for such work.

Meter
The equipment required, including mounting facilities, instrument transformers, protective devices, and meters to measure the electric consumption and/or demand requirements of the customer.

Meter Height
Meter height is the distance measured from the center axis of the installed meter and the standing and working surface.

Meter Location
The locations on a structure were a meter is installed. GU/BLP’s compliance representative determines the location of a meter.

Meter Sequence
Meter Sequence is the sequential relation between the service switch and GU/BLP’s meter in a series arrangement. The term Hot Sequence means a meter-switch/fuse sequence. Cold Sequence means a switch/fuse-meter sequence.

Meter Socket
Socket designed to receive socket-type meter and sealing/lock ring.

Meter Socket, Ringless
Socket designed to receive socket-type meter without provisions for a sealing ring.

Meter, Socket Type
Designed for use with self-contained or instrument-transformer type meters to be inserted into a compatible socket.

Metering equipment
Any part of customer owned equipment used for the delivery of electricity.

Multiple Metering
Prefabricated service equipment consisting of a service termination section and two or more meter sockets.

Open transition transfer switch:
A transfer switch designed to open the connection from a source of electric power prior to closing to a different source of power (break before make).

Padmount Transformer
A padmount transformer is a enclosed transformer that resides at ground level and is usually associated with underground electrical facilities.

Pole Top Transformer
Transformer that is attached to a pole and resides in the supply (electric) area of the pole

Point of Attachment
The Point of Attachment is the point where GU/BLP's service drop is attached to a building or structure.

Point of Delivery
The Point of Delivery is the point where GU/BLP's facilities are connected to the premises wiring of the customer.

Premises Identification
Premise Identifications are approved numbers or addresses to be placed for all new buildings or structures in such a position as to be plainly visible and legible from the street or road fronting the property.

Project Management Office (PMO)
The department in GU/BLP responsible for construction project oversight for the utility.

Primary
Conductors that carry voltage higher than 600 volts

Primary Voltage
GU/BLP primary voltage is currently 8,320 volts or 8.32 kV (kilovolts) or 13,800 volts or 13.8 kV (kilovolts). This voltage is dependent on the location within GU/BLP franchise area.

Readily Accessible
Capable of being reached quickly and conveniently 24 hours a day for construction, operation, maintenance, inspection, testing, or reading, without requiring those seeking access to climb over or remove obstacles; or to obtain keys, special permission, or security clearances.

Request for Service Application
A "Request for Service Application" is a written request by a property owner or electrical contractor for electrical service.

Riser (Service Entrance Cable)
A conductor between GU/BLP's point of attachment and a meter socket. Maintenance/ownership of the riser is the responsibility of the customer.

Service Drop Loop
GU/BLP's overhead conductors extending from its pole line to the point of attachment on the building or structure

Service
The conductors and equipment for the delivery of electric energy from GU/BLP's distribution system to the wiring system of the premises served.

Service Entrance Capacity
Service Entrance Capacity refers to the rating of the service equipment in amperes. Examples would be Single Phase 100amp, 200amp, 400amp services for residential customers.

Service Entrance Conductors —Overhead
The conductors extending from the service equipment to the point of connection to the GU/BLP's service-drop conductors

Service Entrance Conductors —Underground
All conductors (including bus or cable) installed by the customer beyond and including the point of connection to GU/BLP's service-lateral conductors.

Service Location
The approved point of attachment of GU/BLP service drop or meter attached to a building.

Secondary
Secondary conductors carry voltage less than 600 volts.

Sub-Transmission
Conductors that carry voltage of 34.5 kilovolts (34,500 volts)

Temporary Service
A service that is not intended to be permanent, usually installed to a pole erected by the property owner to provide temporary electric service. Temporary Services are used primarily during construction of new homes or commercial buildings.

Test Switch
An arrangement of small knife switches connected in the secondary instrument-transformer circuit between the instrument transformers and associated meters and metering devices. The test switch is used by GU/BLP to isolate the metering from the instrument transformers. It may also be referred to as a meter test switch.

Transfer of Facilities (TOF)
A "Transfer of Facilities" (TOF) is granted by the property owner. This document transfers ownership of facilities installed at the owner's expense to GU/BLP. GU/BLP will maintain and repair those facilities in the future.

Transclosure
A Transclosure is a metal enclosure that contains GU/BLP transformers, usually associated with underground facilities.

Transformer
A transformer is a device for producing an electric current from a given voltage to a current of a different voltage.

Transformer Compartment
A designated area provided within a switchboard for GU/BLP's exclusive use to install its instrument transformers.

Transformer, Current (CT)
An instrument transformer designed for use in the measurement of electrical current.

Transformer, Instrument (IT)
A transformer that reproduces, in its secondary circuit, a definite and known proportion of the current or voltage of its primary circuit, with the phase relation substantially preserved.

Transformer, Voltage (PT)
An instrument transformer designed for use in the measurement of Potential (voltage)

Transmission
Conductors that carry voltages in excess of 69 kilovolts (69,000 volts)

Utility Meters
GU/BLP furnished, installed, owned, and maintained meters used to measure electrical consumption for billing purposes.

Wiring Application (Old terminology)
A “Wiring Application” is a written request by an owner or electrical contractor to perform work at a stated location. See Request for Service Application.

Utility’s Operating Convenience
This term refers to the utilization, under certain circumstances, of facilities or practices not ordinarily employed, that contribute to the overall efficiency of GU/BLP’s operation.

Underground Distribution System
An underground supply system employing underground structures, cables, and other equipment located in a designated area on public ways or utility easements.

Watt-Hour Meter, Instrument Transformer Rated
An electrical meter used in conjunction with instrument transformers to accurately measure and register all the electrical energy consumed in the circuit in which it is connected. The unit of measurement is the kilowatt hour.

Watt-Hour Meter, Self-contained
An electrical meter that measures and registers all the electrical energy consumed in the circuit in which it is connected and does not require additional instrument transformers. The unit of measurement is the kilowatt hour.

Working Space
The area provided and maintained by the customer, necessary for GU/BLP to install, remove, or maintain its conductors or equipment. This space is required in front of all devices or equipment required in providing service to the customer.

10.2 Maps

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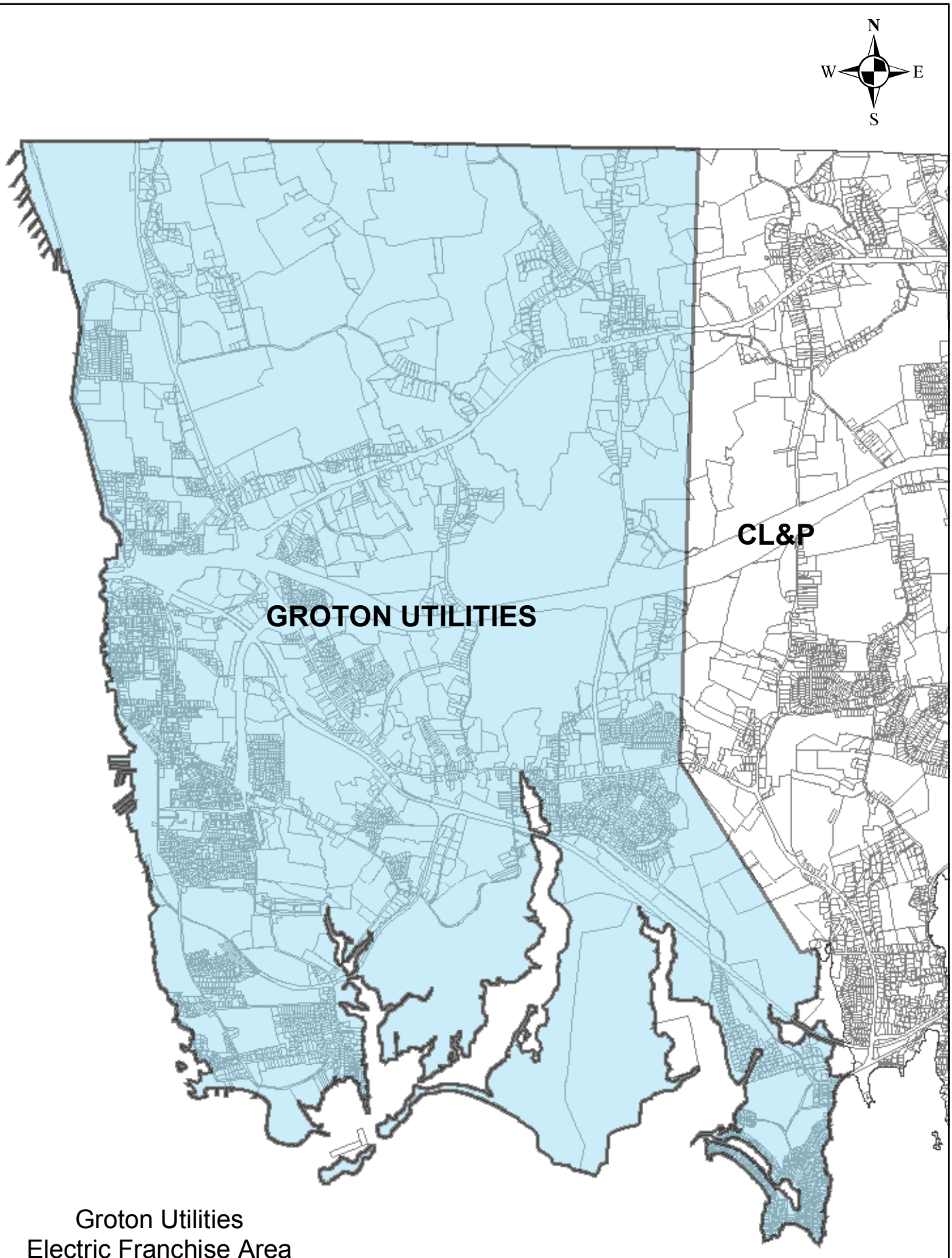

Groton Utilities
Electric Franchise Area

GROTON UTILITIES

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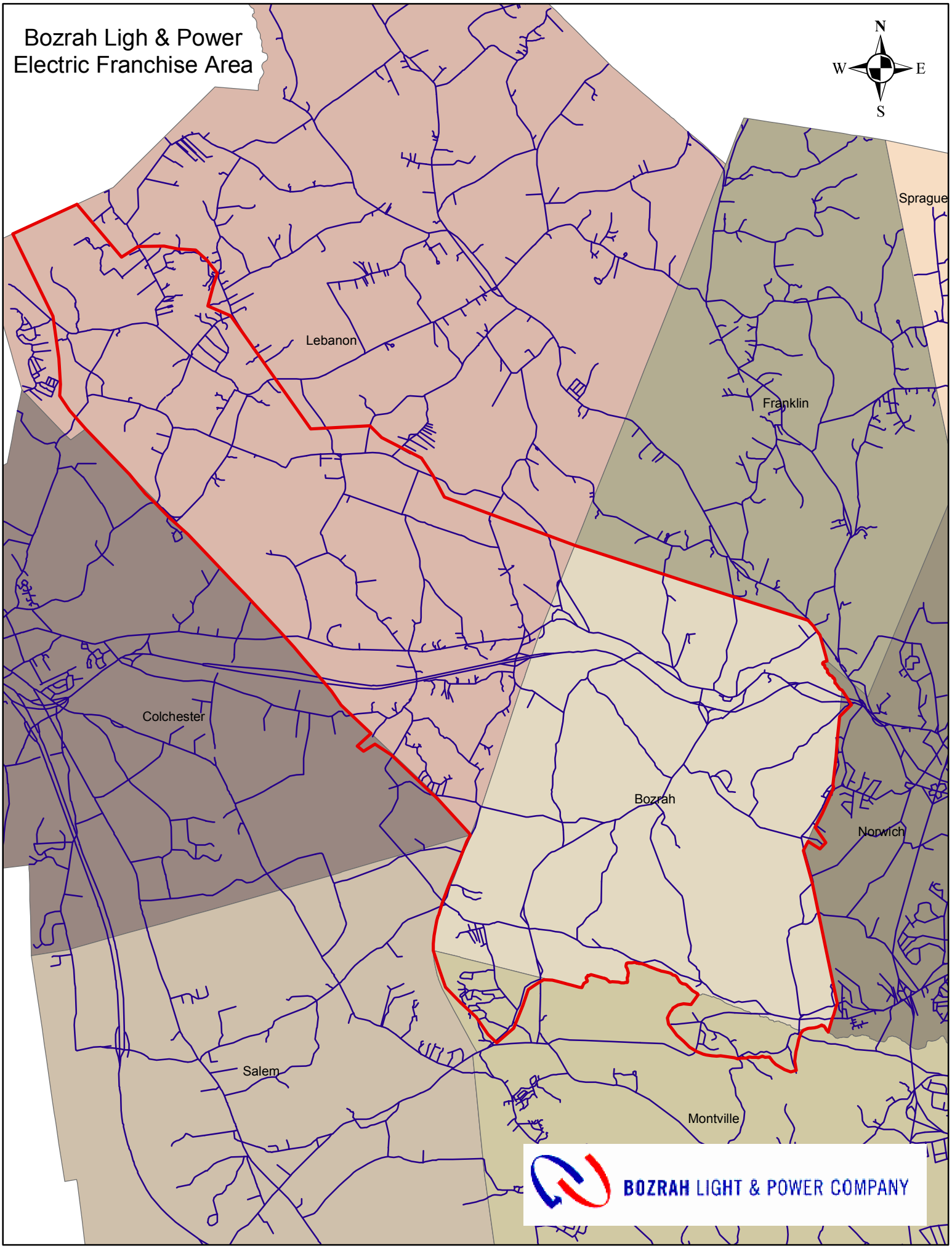
Bozrah Ligh & Power
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Montville
BOZRAH LIGHT & POWER COMPANY

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10.3 Construction Standards

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NOTES FOR
TEMPORARY SERVICE FROM OVERHEAD

WE WILL DEAD–END OUR SERVICE DROP LOOP FOR A TEMPORARY ELECTRIC SERVICE ON A POLE THAT IS TO BE CONSTRUCTED BY THE CUSTOMER OR HIS DESIGNEE. THIS POLE WILL MEET THE REQUIREMENTS LISTED BELOW.

1) THE LOCATION OF THE TEMPORARY SERVICE POLE WILL BE SPECIFIED BY GROTON UTILITIES (GU) AND WILL NOT EXCEED 100 FEET FROM A UTILITY POLE TO YOUR TEMPORARY SERVICE POLE.

2) THE TIMBER TO BE USED WILL BE STRUCTURAL GRADE FIR OR PINE WITH A CROSS SECTION NOT LESS THAN 6 IN. X 6 IN.

3) THE LENGTH OF THE TEMPORARY SERVICE POLE WILL NOT BE LESS THAN 20 FT. ADDITIONAL LENGTH MAY BE REQUIRED TO MAINTAIN SERVICE DROP CLEARANCE OF 16 FT. OVER ANY PUBLIC ROADWAY OR PRIVATE DRIVE AND 12 FT. MINIMUM CLEARANCE OVER ALL OTHER AREAS.

4) THE TEMPORARY SERVICE POLE WILL BE SET TO A MINIMUM DEPTH OF 4 FT. IN FIRM GROUND.

5) THE TEMPORARY SERVICE POLE IS TO BE ADEQUATELY BRACED TO SUPPORT AT ITS TOP BOTH A MAN ON A LADDER AND A SERVICE DROP TENSION OF 600 POUNDS. A MINIMUM OF TWO, 2 IN. X 4 IN. BRACES AT 45–DEGREE ANGLES TO THE DROP LOOP ARE TO BE INSTALLED. BRACES ARE TO BE SPIKED FLAT AGAINST THE SIDE OF THE POLE AND TO BE 2" X 4" STAKES (3 FT MINIMUM LENGTH) LOCATED A MINIMUM 6 FT. FROM THE SERVICE POLE.

6) THERE SHALL BE NO CONSTRUCTION ACTIVITY NEAR THE TEMPORARY SERVICE POLE WHICH MAY UNDERMINE THE POLE STABILITY.

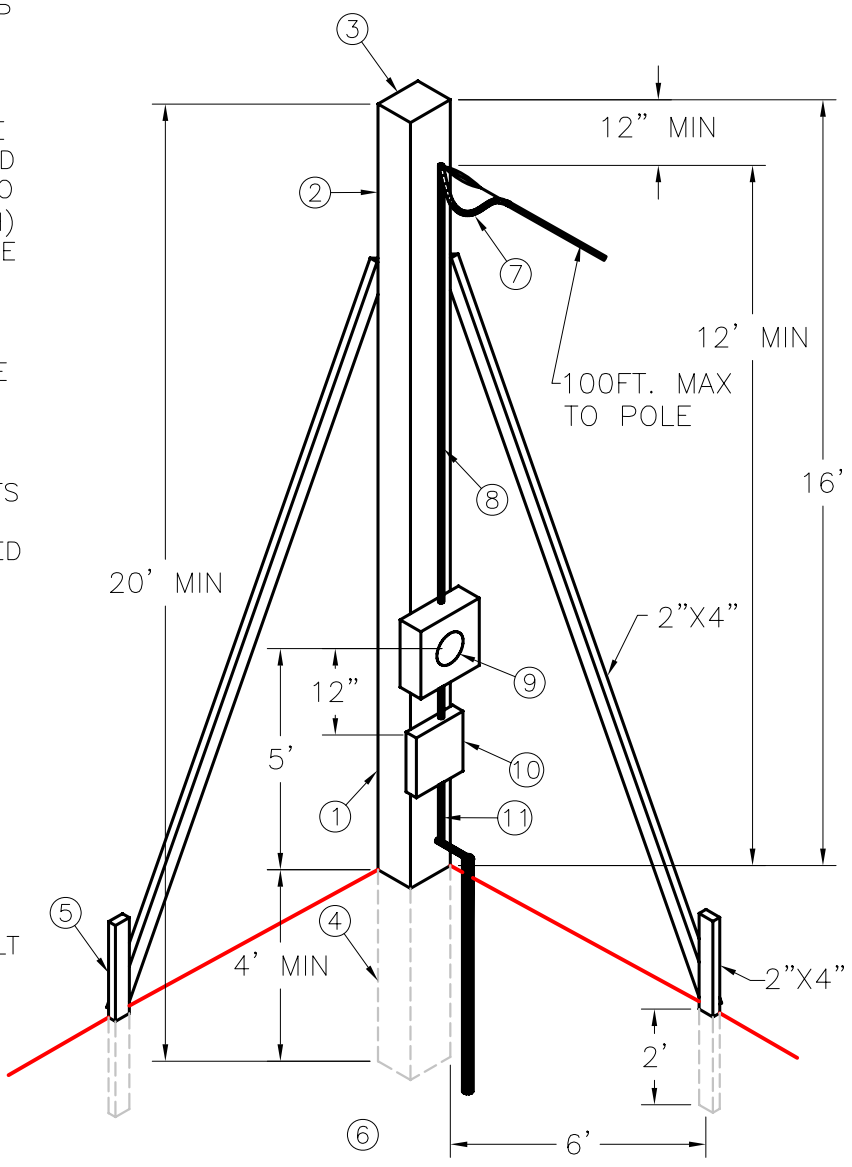
7) THE INSTALLATION SHALL MEET ALL CLEARANCE AND CONSTRUCTION REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND AS REQUIRED BY LOCAL AUTHORITY, AND GU

8) AT LEAST 24" OF SUFFICIENT CONDUCTOR SHALL BE AVAILABLE AT WEATHER HEAD.

9) AN APPROVED METER SOCKET IS TO BE INSTALLED APPROXIMATELY 5 FT. ABOVE GROUND ON THE SIDE NEAREST OUR POLE.

10) OUTDOOR TYPE SERVICE EQUIPMENT RATED IN ACCORDANCE WITH THE NEC IS TO BE INSTALLED ON LOAD SIDE OF METER SOCKET WITHIN 12" THERE OF. GROUND FAULT INTERRUPTER PROTECTION SHALL ALSO BE INSTALLED.

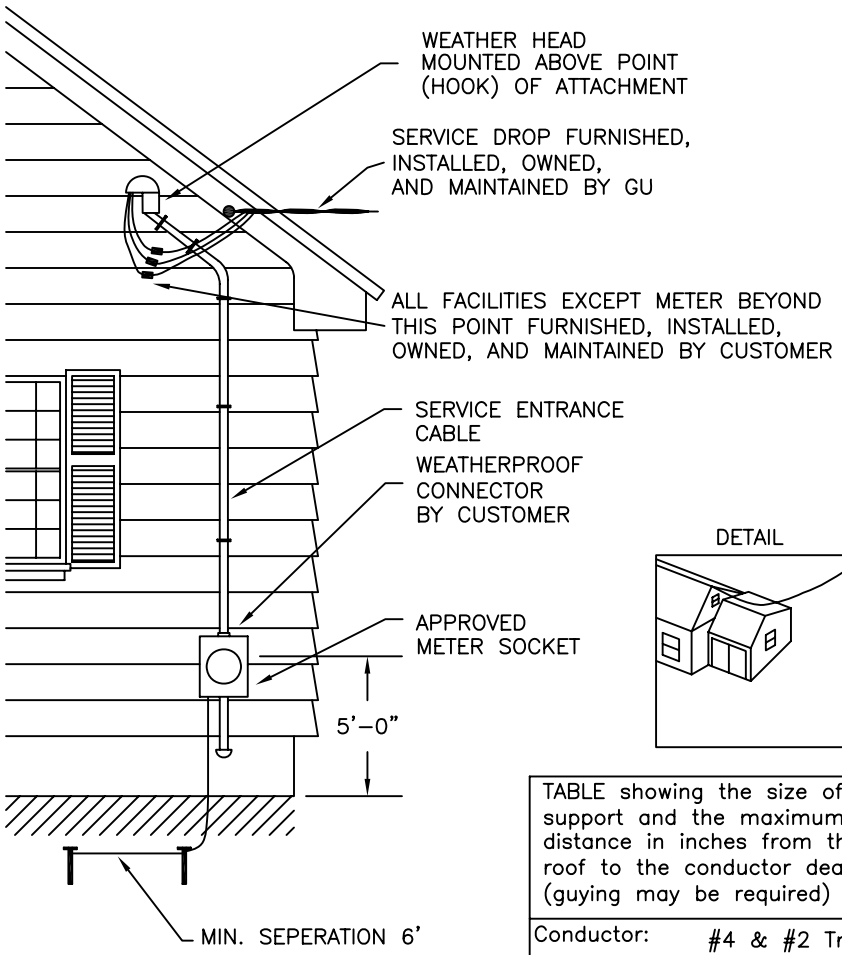
11) GROUND IN ACCORDANCE WITH NEC. THE GROUNDING CONDUCTOR ELECTRODE CONNECTION SHALL BE MADE AT AN ACCESSIBLE LOCATION IN THE SERVICE EQUIPMENT AND NOT THE METER SOCKET.



ORG. BY DBR	**TEMPORARY SERVICE POLE**		
03/07/05			
APPROVED			
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 14.100**

RESIDENTIAL AND COMMERCIAL METERING EQUIPMENT

SERVICE LOCATION SPECIFIED BY GROTON UTILITIES (GU)



DETAIL

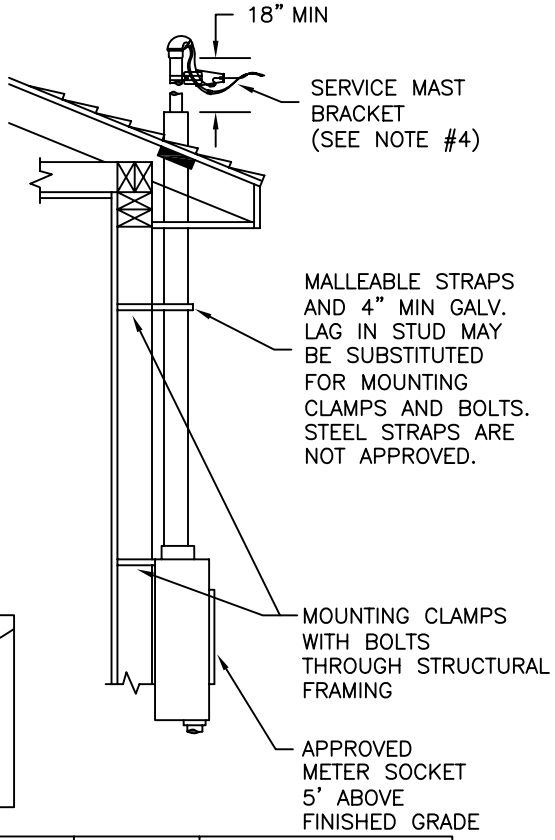


TABLE showing the size of support and the maximum distance in inches from the roof to the conductor deadend (guying may be required)		Max Loaded Tension Lbs	Galvanized Ridgid Conduit Support (RGSC) 2"	2–1/2"	3"
Conductor:	#4 & #2 Triplex	500	31"	58"	113"
	1/0 Triplex	700	22"	41"	81"
	#2 Quadruplex	600	28"	48"	94"
	1/0 Quadruplex	840	18"	34"	87"

Customer Responsibility

1. Furnish and install service entrance cable, meter socket, and service mast, if required, adequate in strength to support service drop and sufficient height to meet minimum clearance (as shown in TABLE).
2. Furnish and install meter socket approximately 5 feet above the final grade except where specifically approved otherwise by the Company. It shall be plumb level and attached to the finished exterior of the building with rust resistant lags extending through the finish and into the sheathing.
3. Furnish and install service entrance cable from meter socket to service entrance equipment and service entrance.
4. Furnish, install and connect two (2) grounding electrodes.
5. Equipment and installation must comply with the latest revision of the National Electrical Code and local codes.

Company Responsibility

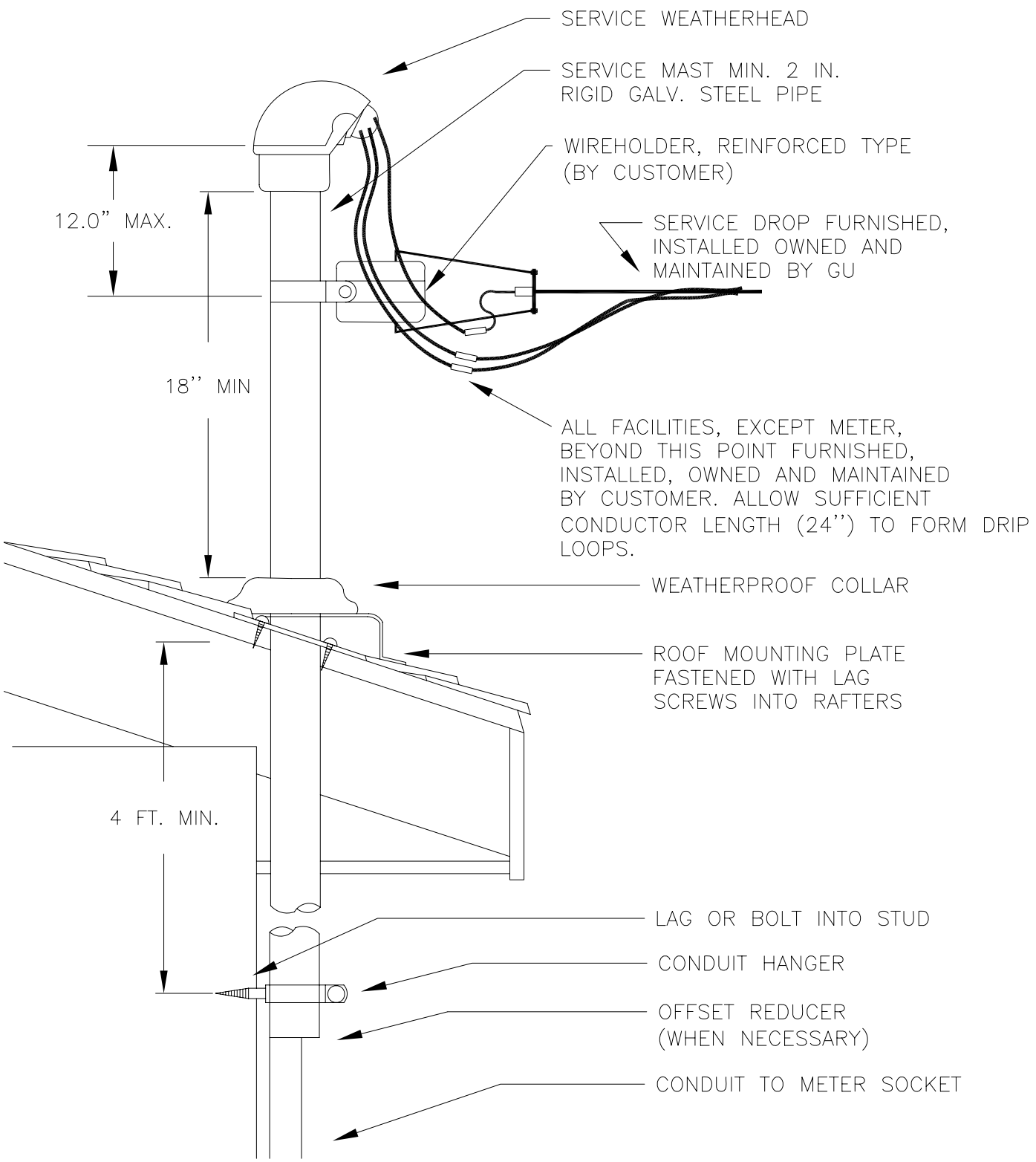
1. Furnish and install service drop cable to weatherhead or service mast. (single or three phase service 200 amps or less.)
2. Furnish and install meter.

Notes

1. Service attachment located above a building extension as shown in detail is not allowed because service connections cannot be directly reached from a ladder placed securely on the ground.
2. Consideration should be given to place service attachment high enough on the building to allow communication company attachment below it with the NESC required 12–inch separation.
3. All self–contained meter sockets must have a lever operated manual bypass.
4. See GU Construction Standard E 14.300 for more information on Service Mast.

ORG. BY DBR 03/07/05 APPROVED	**OVERHEAD SERVICE ENTRANCE 200 AMPS AND SMALLER**		
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 14.200**

NOTE: ONLY POWER SERVICE DROP LOOP CONDUCTORS SHALL BE PERMITTED TO BE ATTACHED TO A SERVICE MAST (PER NEC SECTION 230-28 OR LATEST ARTICLE)



ORG. BY DBR	**SERVICE MAST**		
03/07/05			
APPROVED			
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 14.300**

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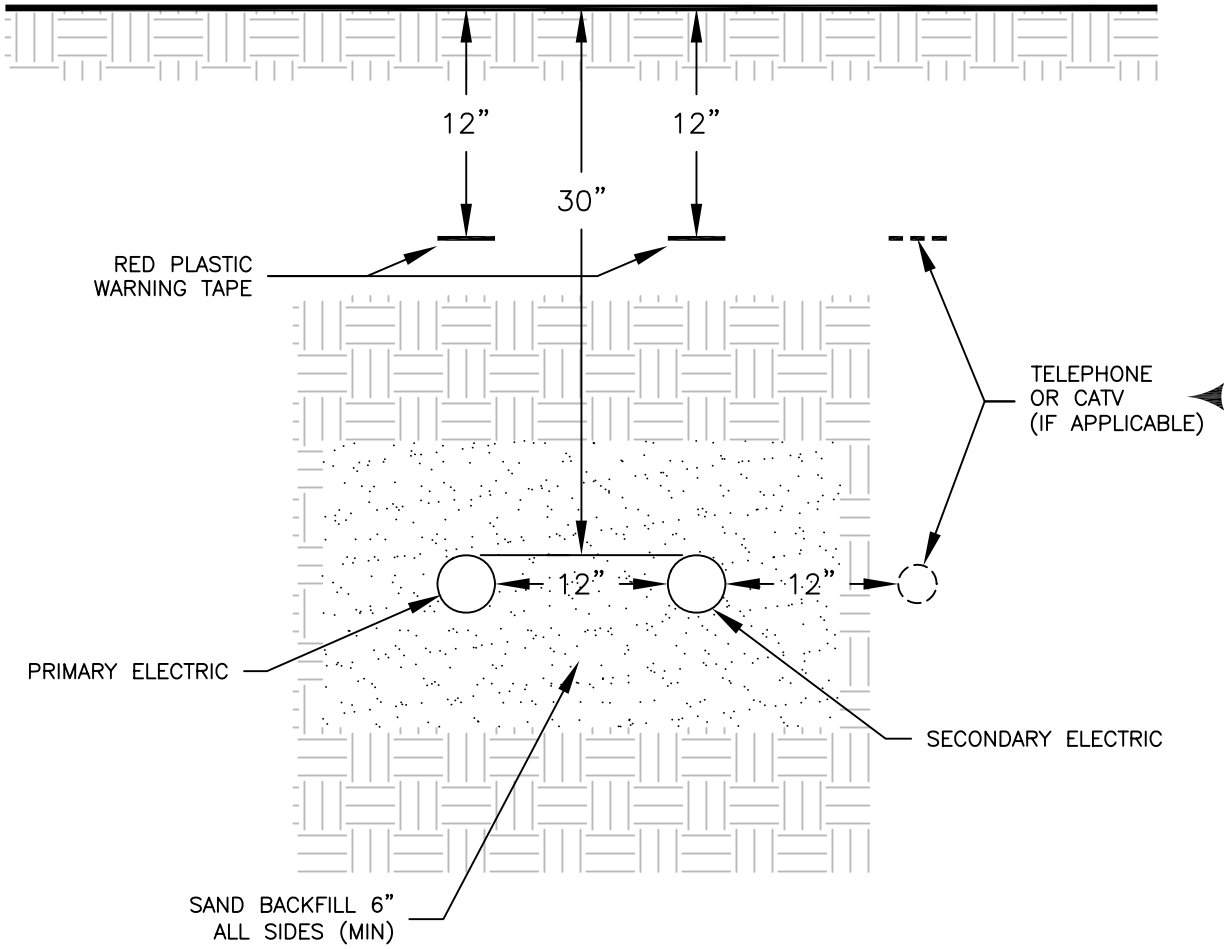


SEE NOTES ON REVERSE SIDE

ORG. BY RAM	**UNDERGROUND ELECTRIC CONDUITS**			
11/15/74				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.105**	**6**

NOTES FOR UNDERGROUND ELECTRIC INSTALLATIONS

1. Underground Electric Conduits shall not be installed in common trench with any other utilities except telephone, or CATV, without the express approval of the Groton Utilities Project Management.

2. Underground Electric Conduits may be galvanized steel, intermediate metal conduit or an approved rigid non-metallic type:

Approved Non-Metallic	Type
PVC	Schedule 40

   Electric conduits must be designed for the purpose use and so marked by the manufacturer.

3. All conduit fittings must be appropriately designed, i.e.; conduits with straight couplings must be laid straight, etc.

4. Steel conduit ends shall be fitted with grounding bushings. Non-metallic conduits shall be fitted with bell ends.

5. All bends shall be galvanized steel conduit.

6. Conduit size and location to be determined by Groton Utilities.

7. No conduit shall be laid near, nor backfilled, with cobbles 2" in diameter or larger, non-metallic conduit shall be backfilled with 6" of sand on all sides.

8. A pull rope or wire shall be installed in all conduits of sufficient working strength to pull a minimum 20-pound load per 100 foot of run.

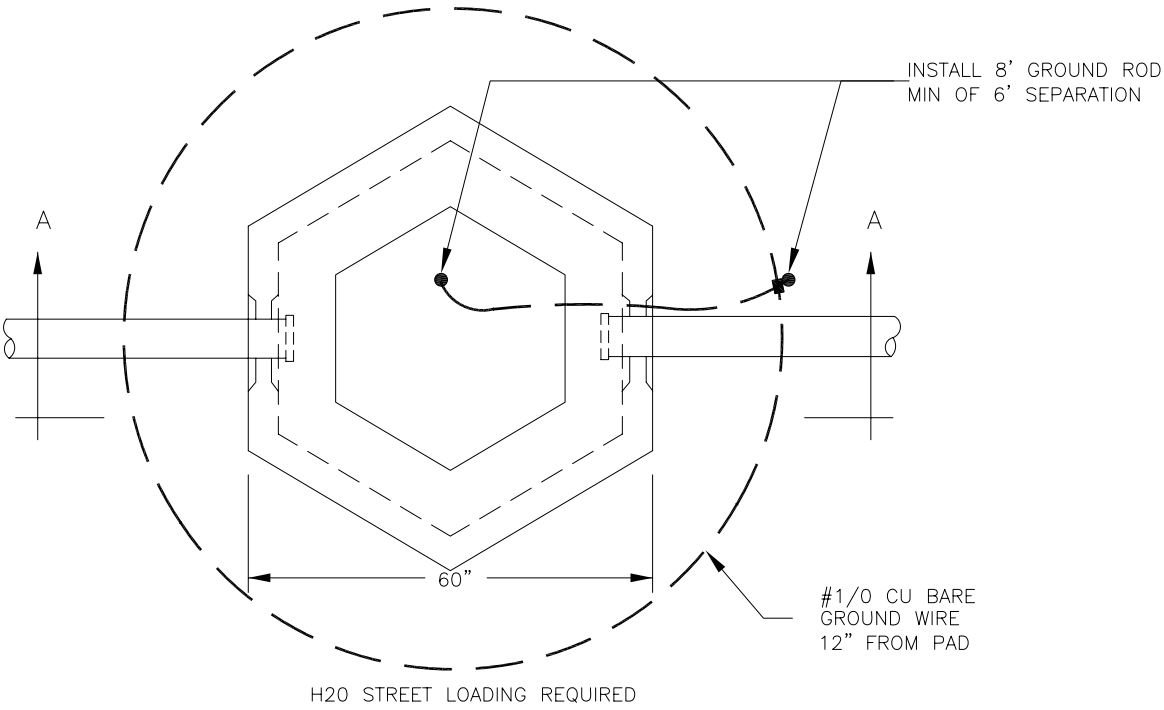
9. Underground conduits are to be installed in accordance with the latest edition of the National Electric Safety Code and this standard; whichever is greater, in addition to the manufacturer's recommendation.

10. No conduit shall be installed on Groton Utilities portion of any electrical installation until the contractor meets with and has the approval of, Groton Utilities Electrical Inspector. All underground electric conduits shall be inspected prior to backfilling.

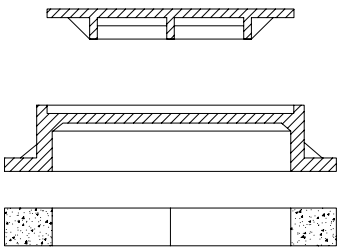
11. A mandrel of appropriate size shall be pulled through conduit in presence of Groton Utilities Inspector.

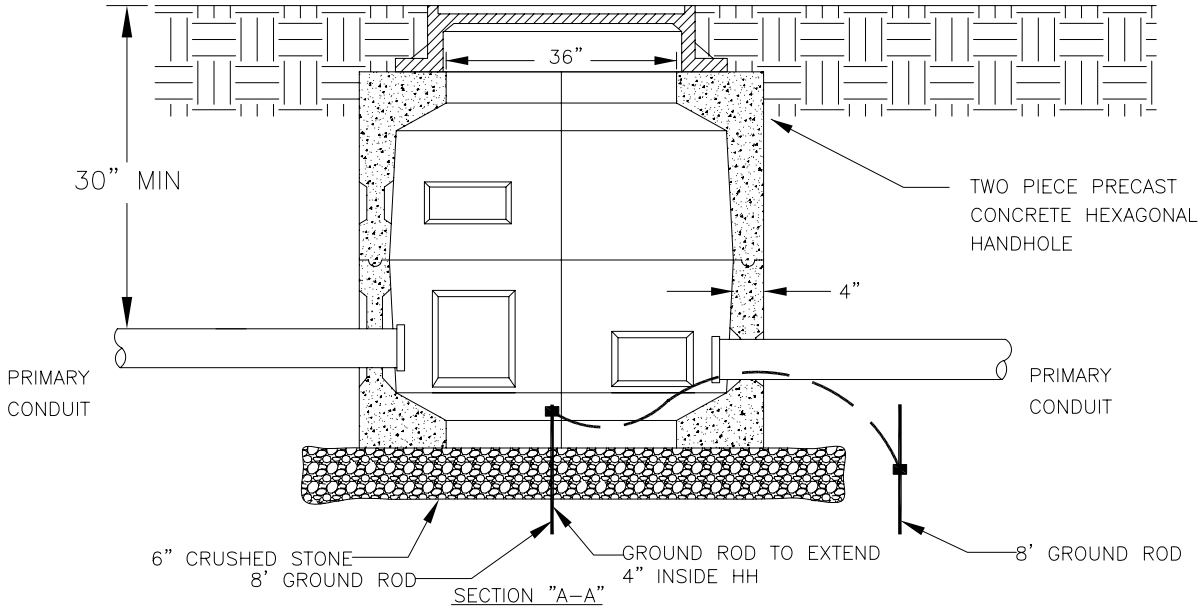
12. Groton Utilities will furnish the Contractor with red plastic underground warning tape for installation above electric conduits. The Contractor shall install a separate warning tape above each electric conduit that has a horizontal separation of 12 inches or greater. When advised by Groton Utilities Electrical Inspector or Project Management, a deeper trench may require the warning tape to be installed 12 inches to 18 inches above conduit.

13. Rough grading must be completed over any electrical conduits before Groton Utilities equipment can be installed.



H20 STREET LOADING REQUIRED





SEE NOTES FOR CONSTRUCTION ON REVERSE SIDE

200 AMP LOADBREAK – 3ø JUNCTION
600 AMP DEADBREAK – 3ø FEED THRU

ORG. BY RAM	**PRECAST CONCRETE HEXAGONAL ELECTRIC PRIMARY HANDHOLE**			
12–29–86				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.200**	**7**

NOTES FOR PRECAST CONCRETE ELECTRIC PRIMARY HANDHOLE (HEXAGONAL)

1. Minimum distance to any structure is 48"
   (Ground must be level and unobstructed for 48")

2. Conduit size and location to be determined by Groton Utilities.

3. All conduits must be pointed to center of handhole. **Conduit routing shall adhere to Groton Utilities standard E-12.105. All conduits shall extend 3" inside the handhole knockout. PVC conduits will be fitted with bell ends and galvanized steel conduits will be fitted with grounding bushings**. All conduit openings shall be tightly sealed after installation of conduits. Bond all galvanized steel conduits inside handhole to ground rods with a minimum of #6 AWG CU stranded bare wire.

4. **Ground ring is a minimum of # 1/0 cu. bare buried 30" below ground line. Grounding connections shall be Cadweld, compression, or irreversible compression-type connections.**

5. Grading must be completed to finished grade before primary conductors or any Groton Utilities equipment can be installed.

6. All handholes shall be fitted with a metal frame and cast iron cover designed for H20 street loading with the word "Electric" cast in the cover.

LIST OF APPROVED MATERIALS

ITEM	CAT. #	MANUFACTURER (See List)
Hexagonal Handhole	H-019	A, B, C, D
Concrete Riser Segments	RS 38 x 2	A, B, C, D
(4 Req. per lift)	RS 38 x 4	A, B, C, D
Cast Iron Frame & Cover	PATTERN 1224	E
	LE 380-2	F

LIST OF SUPPLIERS

A. Rotondo and Sons, Inc.
151 Old Farms Road
Avon, CT. 06001
(860) 673-3291

B. Arrow Concrete Products, Inc.
560 Salmon Brook Street
Granby, CT. 06035
(860) 653-5063

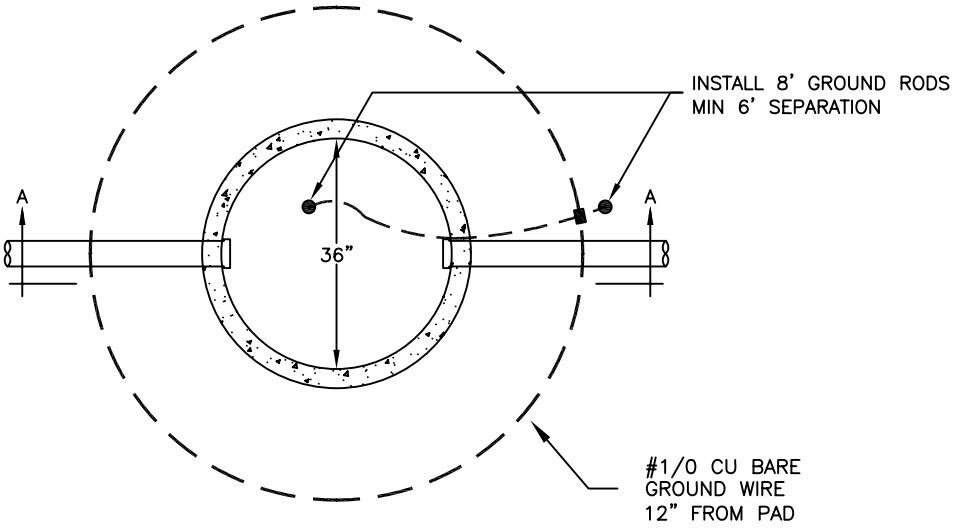
C. Elmcap Industries
111 South Street
West Hartford, CT 06110-1928
(860) 953-1060

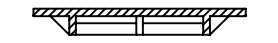
D. United Concrete Products, Inc.
173 Church Street
Yalesville , CT 06492-2267
(203) 269-3119

E. Campbell Foundry Co.
P.O. Box 515
14 Massimo Drive
North Haven CT. 06473
(203) 288-7584

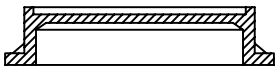
F. Furguson Water Works
86 Bridge Street
Groton, CT. 06340
(860) 405-0146

Submit detail drawings, for approval for handhole or covers by other manufacturer.

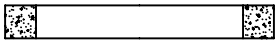




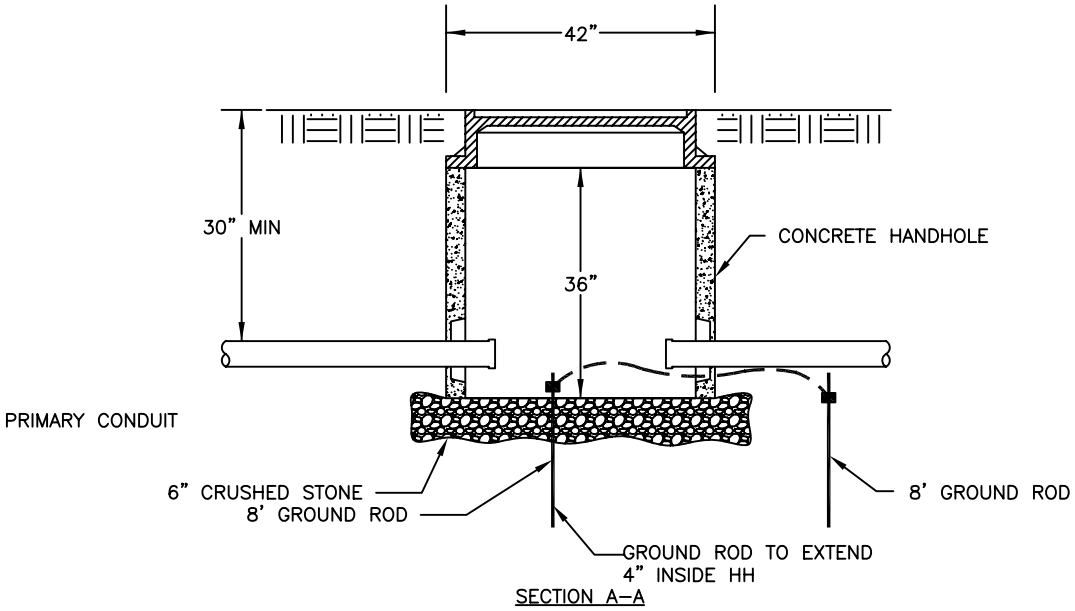
CAST IRON COVER



CAST IRON FRAME



CONCRETE RISER
SEGMENTS (AS REQ.)



SECTION A–A

SEE CONSTRUCTION NOTES
ON REVERSE SIDE

NOTES: 200 AMP LOADBREAK – 1ø JUNCTION
200 AMP LOADBREAK – 3ø FEED THRU

ORG. BY MEF	**PRECAST CONCRETE ELECTRIC PRIMARY HANDHOLE**			
04/07/05				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E-12.205**	**1**

NOTES FOR PRECAST CONCRETE ELECTRIC PRIMARY HANDHOLE

1. Minimum distance to any structure is 48"
   (Ground must be level and unobstructed for 48")

2. Conduit size and location to be determined by Groton Utilities.

3 All conduits must be pointed to center of handhole. **Conduit routing shall adhere to Groton Utilities standard E-12.105. All conduits shall extend 3" inside the handhole knockout. PVC conduits will be fitted with bell ends and galvanized steel conduits will be fitted with grounding bushings**. All conduit openings shall be tightly sealed after installation of conduits. Bond all galvanized steel conduits inside handhole to ground rods with a minimum of **#6** AWG CU stranded bare wire.

4. **Ground ring is a minimum of # 1/0 cu. bare buried 30" below ground line. Grounding connections shall be Cadweld, compression, or irreversible compression-type connections.**

5. Grading must be completed to finished grade before primary handhole or any Groton Utilities equipment can be installed.

6. All handholes installed outside of traveled portion of roadway and within a grassed area shall be fitted with a fiberglass cover embossed with manufacturers name & the word "ELECTRIC" (Supplied by Contractor) **and fastened with stainless steel bolts.**

7. All handholes installed within traveled portion of roadway shall be fitted with a metal frame and cast iron cover designed for H20 street loading with the word "Electric" cast in the cover (Supplied by Contractor.)

8. LIST OF APPROVED MATERIALS

ITEM	CAT. #	MANUFACTURER (See List)
Handhole	H-020	A, B, C, D
Concrete Riser Segments	RS 38 x 2	A, B, C, D
(4 Req. per lift)	RS 38 x 4	A, B, C, D
Cast Iron Frame & Cover	Pattern 1223	E
	LE 326S	F
Round Fiberglass Cover	AM-42	G
	NDC-42	H

9. LIST OF SUPPLIERS

A. Rotondo and Sons, Inc.
151 Old Farms Road
Avon, CT. 06001
(860) 673-3291

B. Arrow Concrete Products, Inc.
560 Salmon Brook Street
Granby, CT. 06035
(860) 653-5063

C. Elmcap Industries
111 South Street
West Hartford, CT 06110-1928
(860) 953-1060

D. United Concrete Products, Inc.
173 Church Street
Yalesville , CT 06492-2267
(203) 269-3119

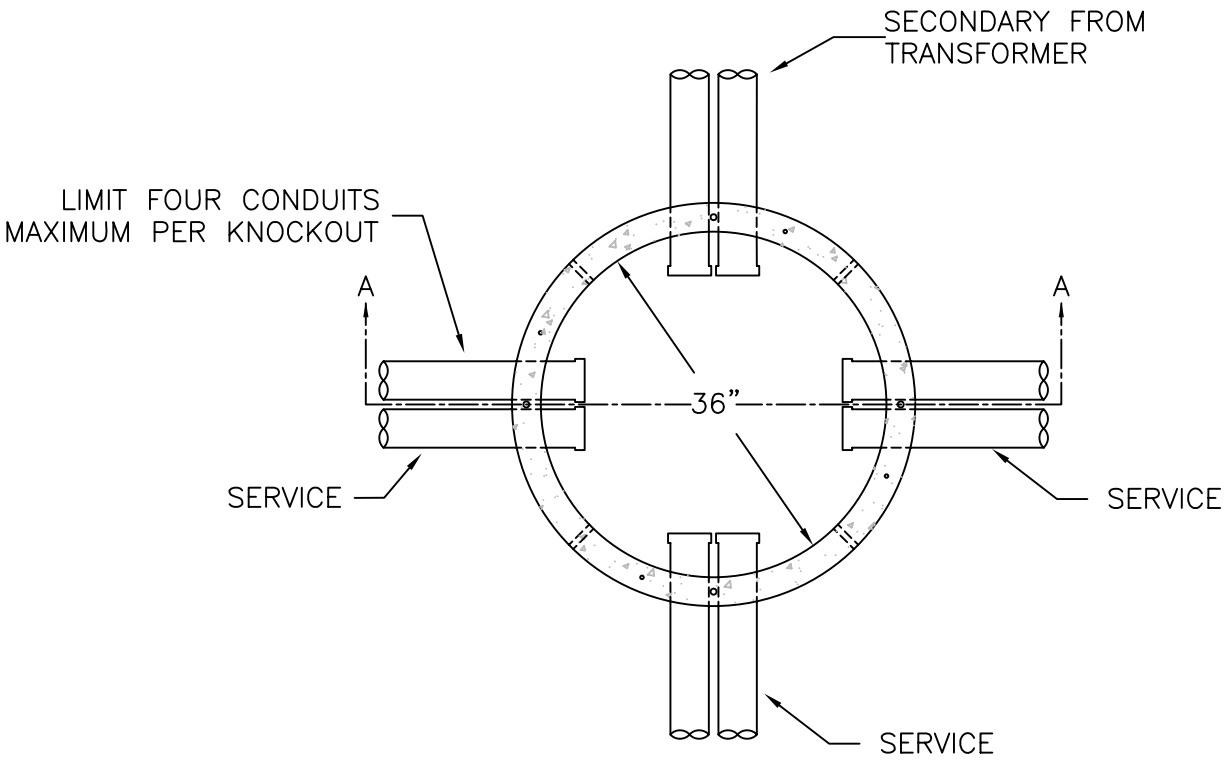
E. Campbell Foundry Co.
P.O. Box 515
14 Massimo Drive
North Haven CT. 06473
(203) 288-7584

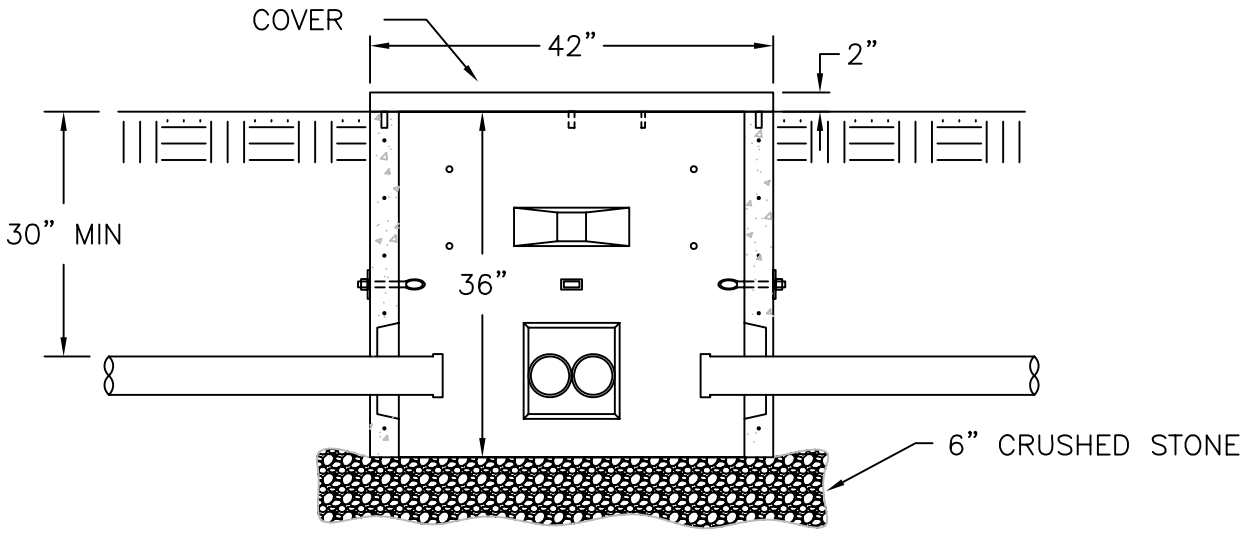
F. Furguson Water Works
86 Bridge Street
Groton, CT. 06340
(860) 405-0146

G. Advanced Material, Inc.
3 Colton Road
East Lyme, CT 06333
(860) 691-8350

H. WESCO
178 Wallace Street
New Haven, CT 06508
(800) 227-9169

Submit detail drawings, for approval for handhole or covers by other manufacturer.





SECTION A–A

SEE CONSTRUCTION NOTES
ON REVERSE SIDE

ORG. BY MRC 3/11/05 APPROVED	**PRECAST CONCRETE ELECTRIC SECONDARY HANDHOLE**			
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.215**	-

NOTES FOR PRECAST CONCRETE ELECTRIC SECONDARY HANDHOLE

1. Minimum distance to any structure is 48". Except when located behind single-phase transformer pad (Distance can be reduced to 24".)
   (Ground must be level and unobstructed for 48")

2. Conduit size and location to be determined by Groton Utilities.

3. All conduits must be pointed to center of handhole. Conduit routing shall adhere to Groton Utilities standard **E-12.105**. All conduits shall extend 3" inside the handhole knockout. PVC conduits will be fitted with bell ends and galvanized steel conduits will be fitted with grounding bushings. All conduit openings shall be tightly sealed after installation of conduits. Bond all galvanized steel conduits inside hand hole to ground rod with a minimum of #6 AWG CU stranded bare wire (ground rod required only with steel conduits.)

4. Grading must be completed to finished grade before secondary handhole or any Groton Utilities equipment can be installed.

5. All handholes installed outside of traveled portion of roadway and within a grassed area shall be fitted with fiberglass cover embossed with manufacturers name & the word "ELECTRIC" (Supplied by Contractor) **and fastened with stainless steel bolts**.

6. All handholes installed within traveled portion of roadway shall be fitted with a metal frame and cast iron cover designed for H20 street loading with the word "Electric" cast in the cover (Supplied by Contractor.)

7. LIST OF APPROVED MATERIALS

ITEM	CAT. #	MANUFACTURER (See List)
Handhole	H-020	A, B, C, D
Concrete Riser Segments (4 Req. per lift)	RS 38 x 2	A, B, C, D
	RS 38 x 4	A, B, C, D
Cast Iron Frame & Cover	Pattern 1223	E
	LE 326S	F
Round Fiberglass Cover	AM-42	G
	NDC-42	H

8. LIST OF SUPPLIERS

A. Rotondo and Sons, Inc.
151 Old Farms Road
Avon, CT. 06001
(860) 673-3291

B. Arrow Concrete Products, Inc.
560 Salmon Brook Street
Granby, CT. 06035
(860) 653-5063

C. Elmcap Industries
111 South Street
West Hartford, CT 06110-1928
(860) 953-1060

D. United Concrete Products, Inc.
173 Church Street
Yalesville , CT 06492-2267
(203) 269-3119

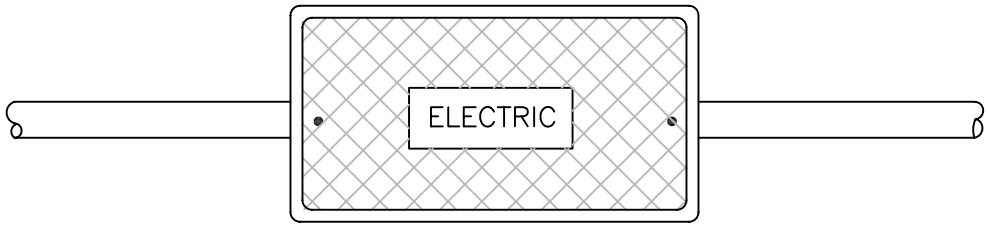
E. Campbell Foundry Co.
P.O. Box 515
14 Massimo Drive
North Haven CT. 06473
(203) 288-7584

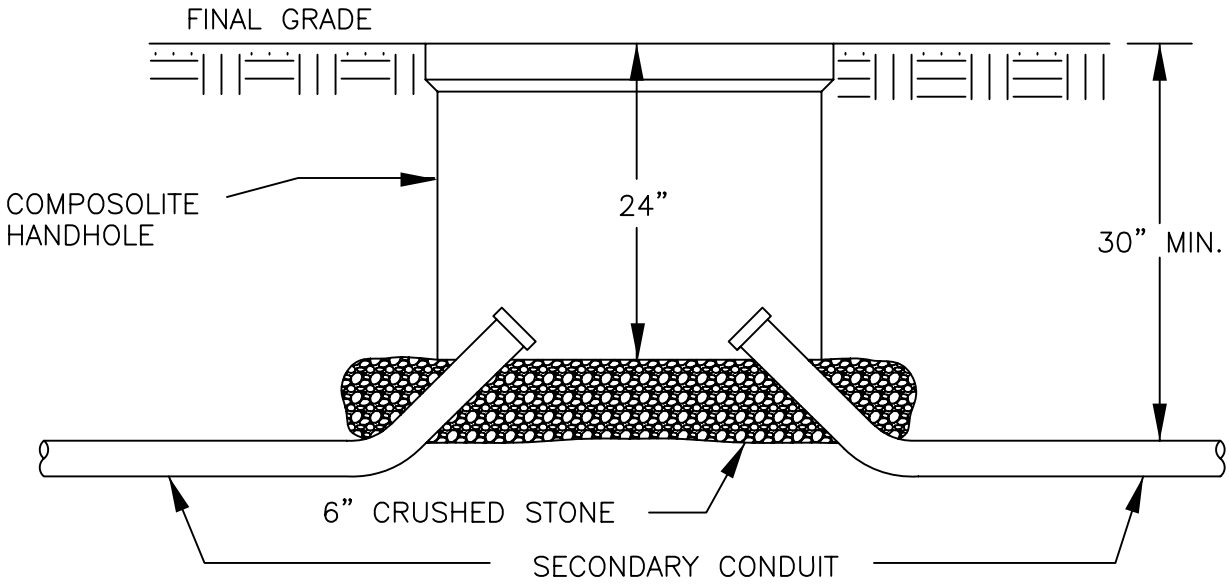
F. Furguson Water Works
86 Bridge Street
Groton, CT. 06340
(860) 405-0146

G. Advanced Material, Inc.
3 Colton Road
East Lyme, CT 06333
(860) 691-8350

H. WESCO
178 Wallace Street
New Haven, CT 06508
(800) 227-9169

Submit detail drawings, for approval for handhole or covers by other manufacturer.





SEE CONSTRUCTION NOTES
ON REVERSE SIDE

ORG. BY MEF	**ELECTRIC SECONDARY HANDHOLE**			
10/04/99				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.220**	**2**

NOTES FOR ELECTRIC SECONDARY HANDHOLE

1. Minimum distance to any structure is 48".
   (Ground must be level and unobstructed for 48")

2. **Handhole size**, Conduit size and location to be determined by the Groton Utilities.

3. All conduits must be pointed to center of handhole. **Conduit routing shall adhere to Groton Utilities standard E-12.105. All conduits shall extend 3" inside the handhole. PVC conduits will be fitted with bell ends and galvanized steel conduits will be fitted with grounding bushings**. Bond all galvanized steel conduits inside handhole to ground rods with a minimum of #6 AWG CU stranded bare wire (ground rod required only with steel conduits.)

4. Grading must be completed to rough grade around secondary handhole before any Groton Utilities equipment can be installed.

5. The handhole shall be fitted with a lockable cover designed for H-2O street loading with the word "Electric" cast in the cover **and fastened with stainless steel bolts.**

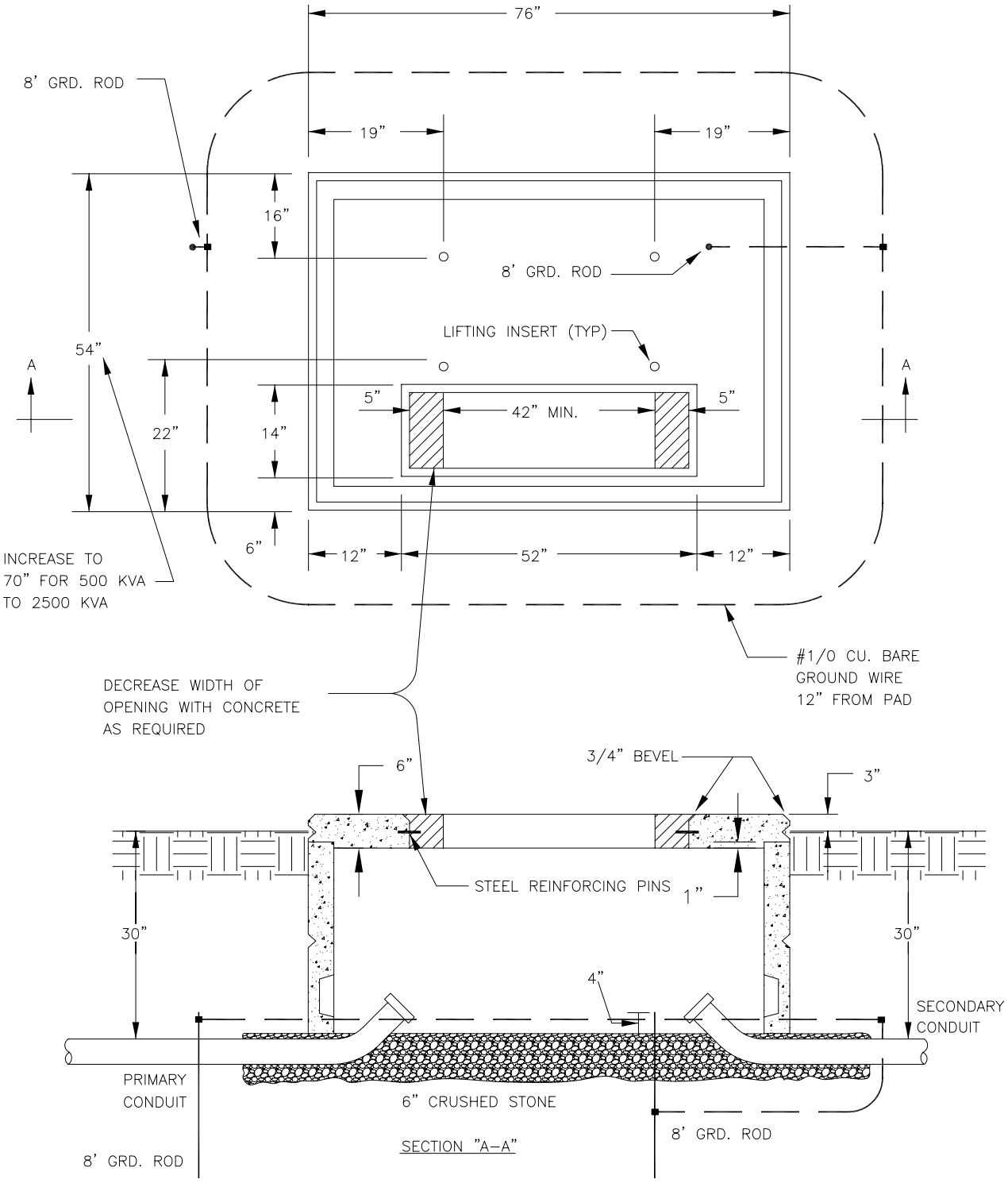
6. LIST OF APPROVED MATERIALS

ITEM	CAT. #	REQ PER HANDHOLE
A. Quazite (17"x30")		
Stackable Box	PG 1730BA24	(1)
Heavy Duty Cover	PG 1730HA17	(1)
B. Quazite (24"x36")		
Stackable Box	**PG 2436BA24**	**(1)**
Heavy Duty Cover	**PG 2436HA24**	**(1)**

7. LIST OF SUPPLIERS

MANUFACTURER	MATERIALS
WESCO 178 Wallace Street New Haven, CT 06510 (800) 227-9169	A, **B**
Capitol Light & Supply Co. 3 Industrial Drive Waterford, CT 06385 (860) 444-2611 (800) 367-9701	A, **B**
Electrical Wholesaler, Inc. 163 State Pier Road New London, CT 06320 (860) 443-4381 (800)443-4381	A, **B**

Submit detail drawings for approval for handholes and covers by other manufacturers.



SEE NOTES FOR CONSTRUCTION ON REVERSE SIDE

ORG. BY JF	**PRECAST CONCRETE TRANSFORMER PAD 3Ø 75 TO 2500 kVA**			
09/09/86				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.300**	**6**

NOTES FOR PRECAST CONCRETE TRANSFORMER PAD

1. Minimum distance to any structure is 48"
   (Ground must be level and unobstructed for 48")

2. Final 28 day concrete - 4000 PSI Entrained Air 6-9 percent

3. Steel reinforcement as per ASTM-A615-1987 A, Grade 40. All concrete and reinforcing is in accordance with ACI 318 - Latest Revision.

4. Top of concrete pad must be level.

5. Conduit size and location to be determined by Groton Utilities. No conduit shall be installed less than 6" from a corner.

6. Steel conduits shall extend **4 to 6"** inside pad and be fitted with grounding bushings. Non-metallic conduits shall extend 3" inside and be fitted with bell ends. All conduit openings shall be tightly sealed after installation of conduits. Bond all galvanized steel conduits inside pad to ground ring with a minimum of **#6** AWG CU bare wire.

7. PRIOR TO BACKFILLING, PADS ARE TO BE INSPECTED BY GROTON UTILITIES.

8. Ground ring is a minimum of #1/0 cu. bare buried 30" below ground line. Grounding connections shall be cadweld, compression, or **irreversible compression-type** connections. Leave a 10' tail inside pad for bonding of transformer. The communications bonding by others shall be to ground ring outside transformer pad.

9. 5" dia x 6' long concrete filled steel protection posts, located 6" from corner of pad, to be used when in paved area or otherwise required. Ground posts to grounding ring.

10. Grading must be completed to finished grade before any Groton Utilities equipment can be installed.

11. Electric contractor to verify size of actual transformer connection compartment and modify pad opening as required.

12. LIST OF APPROVED MATERIALS

ITEM	CAT. #	MANUFACTURER (See List)
Precast concrete pad UP TO 300 kVA	P-013	A, B, C, D
Precast concrete pad OVER 300 kVA	P-015	A, B, C, D

13. LIST OF SUPPLIERS

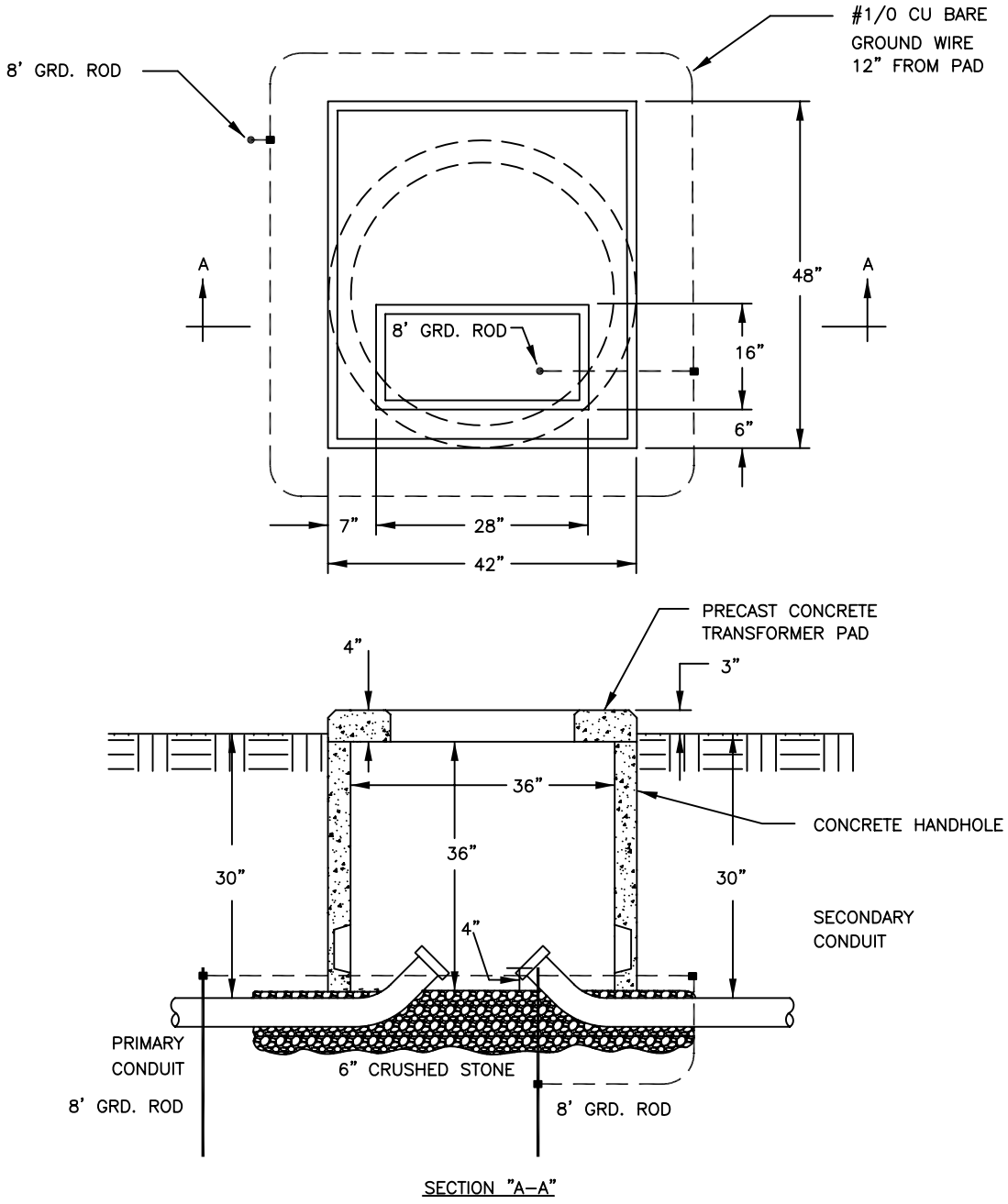
A. Rotondo and Sons, Inc.
   151 Old Farms Road
   Avon, CT. 06001
   (860) 673-3291

B. Arrow Concrete Products, Inc.
   560 Salmon Brook Street
   Granby, CT. 06035
   (860) 653-5063

C. Elmcap Industries
   111 South Street
   West Hartford, CT 06110-1928
   (860) 953-1060

D. United Concrete Products, Inc.
   173 Church Street
   Yalesville , CT 06492-2267
   (203) 269-3119

Submit detail drawings, for approval for pads by other manufacturer.



SECTION "A–A"

SEE NOTES FOR CONSTRUCTION ON REVERSE SIDE

ORG. BY JFG 03/10/88 APPROVED	**PRECAST CONCRETE TRANSFORMER PAD 1Ø 25 TO 167 kVA**			
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.305**	**5**

NOTES FOR PRECAST CONCRETE TRANSFORMER PAD

1. Minimum distance to any structure is 48"
   (Ground must be level and unobstructed for 48")

2. Final 28 day concrete - 5000 PSI

3. Steel reinforcement as per ASTM-A79, Grade 60. All concrete and reinforcing is in accordance with ACI 318 - Latest Revision.

4. Top of concrete pad must be level.

5. Conduit size and location to be determined by Groton Utilities.

6. Steel conduits shall extend **4 to 6"** inside pad and be fitted with grounding bushings. Non-metallic conduits shall extend 3" inside and be fitted with bell ends. All conduit openings shall be tightly sealed after installation of conduits. Bond all galvanized steel conduits inside pad to ground ring with a minimum of **#6** AWG CU bare wire.

7. PRIOR TO BACKFILLING, PADS ARE TO BE INSPECTED BY GROTON UTILITIES.

8. Ground ring is a minimum of #1/0 cu. bare buried 30" below ground line. Grounding connections shall be cadweld, compression, or **irreversible compression-type** connections. Leave a 10' tail inside pad for bonding of transformer. The communications bonding by others shall be to ground ring outside transformer pad.

9. 5" dia x 6' long concrete filled steel protection posts, located 6" from corner of pad, to be used when in paved area or otherwise required. Ground posts to grounding ring.

10. Grading must be completed to finished grade before any Groton Utilities equipment can be installed.

11. LIST OF APPROVED MATERIALS

ITEM	CAT. #	MANUFACTURER (See List)
Precast Concrete Round Handhole	H-020	A, B, C, D
Precast Concrete Transformer Pad	P-009	A, B, C, D

12. LIST OF SUPPLIERS

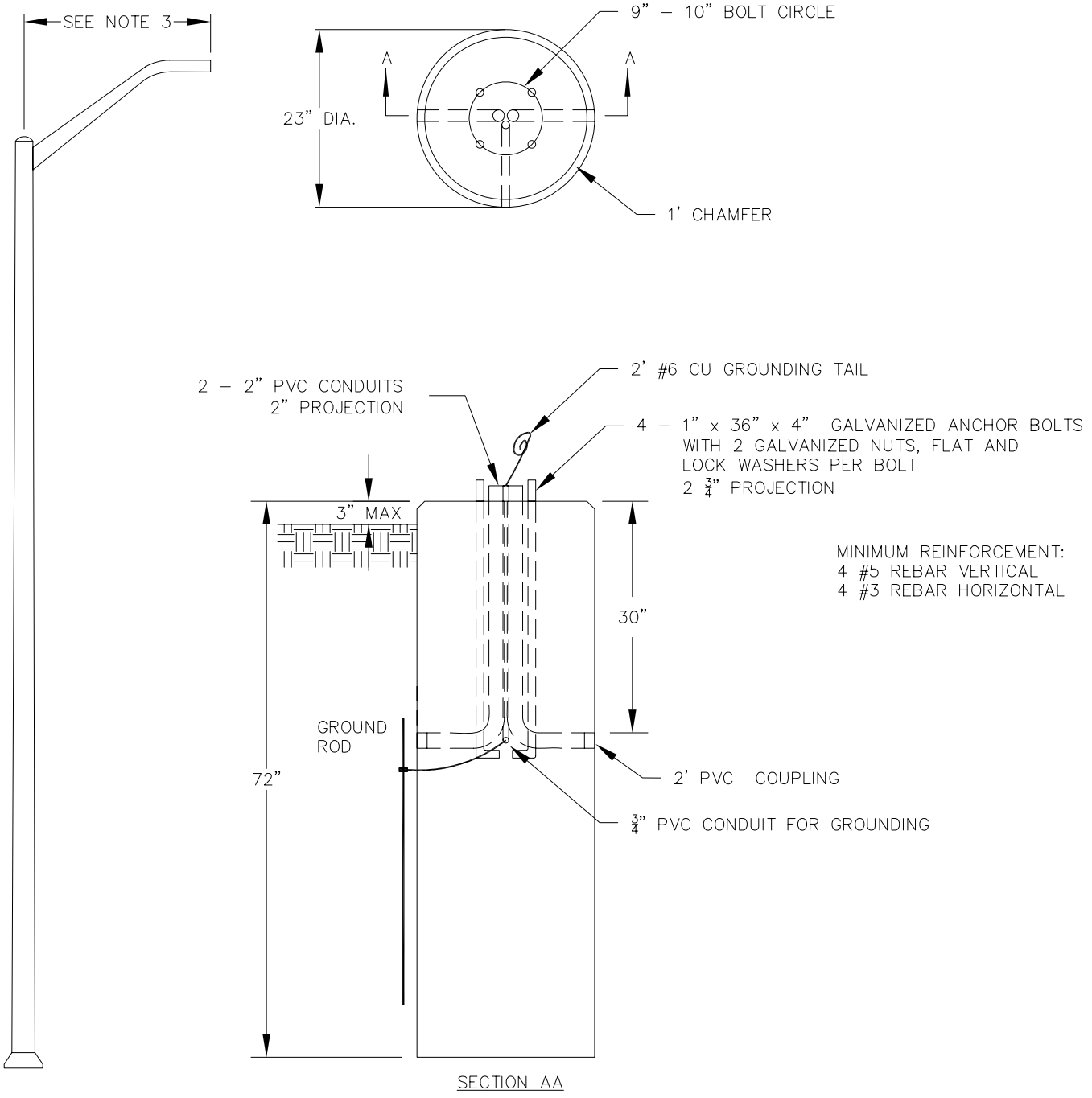
A. Rotondo and Sons, Inc.
   151 Old Farms Road
   Avon, CT. 06001
   (860) 673-3291

B. Arrow Concrete Products, Inc.
   560 Salmon Brook Street
   Granby, CT. 06035
   (860) 653-5063

C. Elmcap Industries
   111 South Street
   West Hartford, CT 06110-1928
   (860) 953-1060

D. United Concrete Products, Inc.
   173 Church Street
   Yalesville , CT 06492-2267
   (203) 269-3119

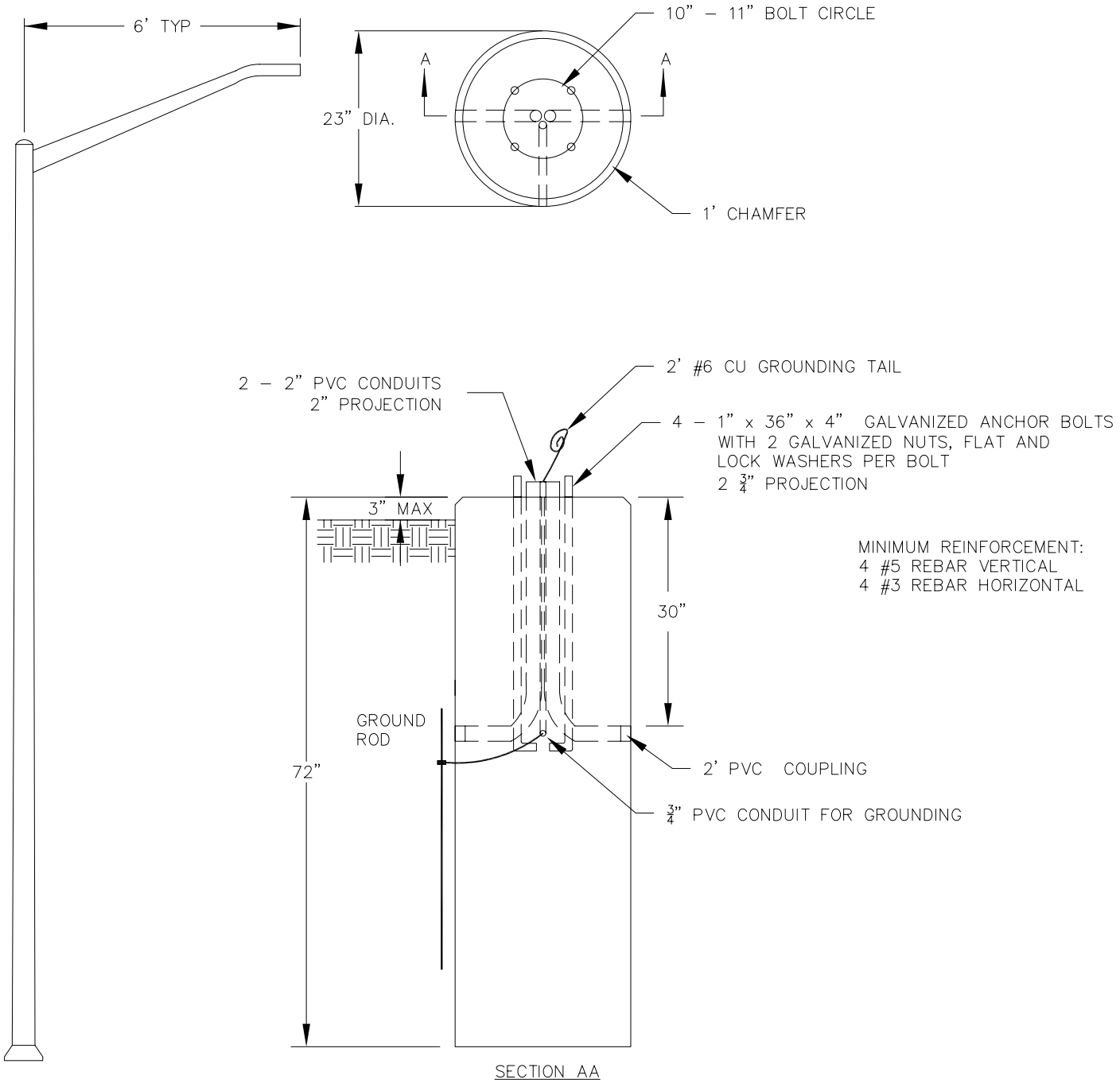
Submit detail drawings, for approval for pads by other manufacturer.



NOTES:

1. FINAL 28 DAY CONCRETE CURE TO 4500 PSI.
2. #6 BARE COPPER GROUND WIRE & ⅝" x 8' CW GROUND ROD TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
3. 4' ARM ON 20' POLE, 6' ARM ON 25' POLE.

ORG. BY MRC	**PRECAST CONCRETE 20' & 25' STREETLIGHT BASE**			
07/05/07				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.400**	-



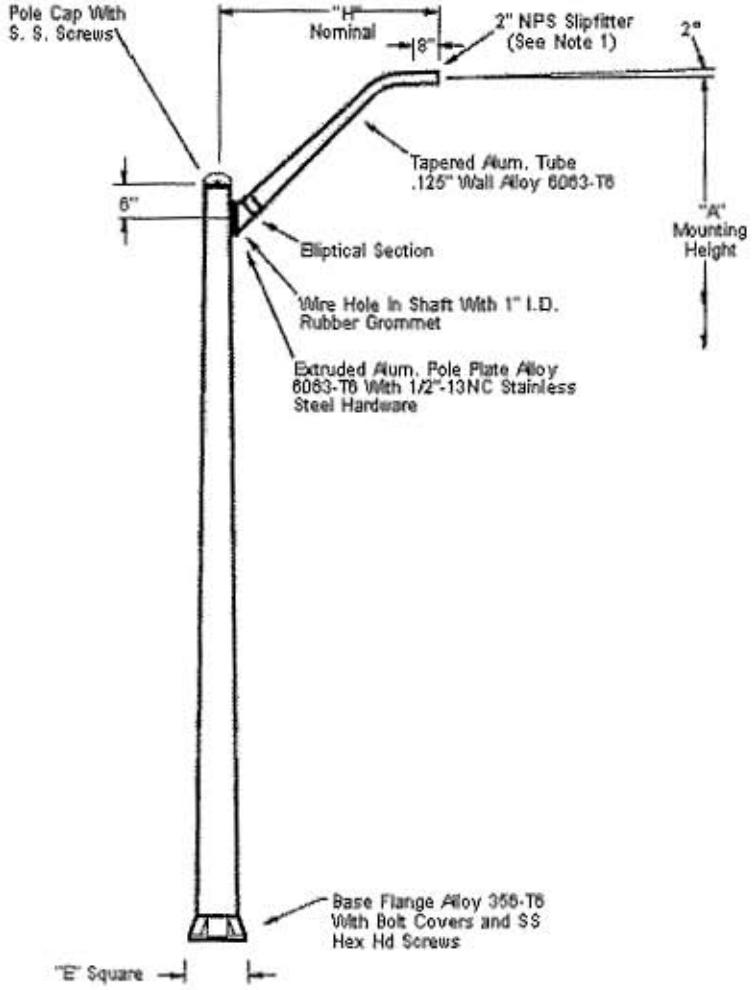
NOTES:

1. FINAL 28 DAY CONCRETE CURE TO TO 4500 PSI.
2. #6 BARE COPPER GROUND WIRE AND 5/8" X 8' CW GROUND ROD TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

ORG. BY MRC	**PRECAST CONCRETE 30' STREETLIGHT BASE**			
07/05/07				
APPROVED				
	GROTON UTILITIES	CONSTRUCTION STANDARD	**E 12.405**	-

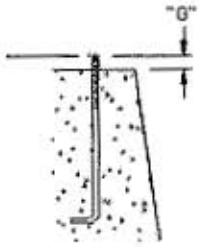
20' POLE

RTA20C6B4M14-** E-MAIL THIS PAGE PRINT THIS PAGE



NOTE: Anchor Bolt Projection Must Be Increased When Leveling Nuts Are Used.

Notes:
(1) Brackets Supplied With 2" NPS Slipfitter. Specify Modification 140 For 1.25" NPS Slipfitter.
(2) Twin Brackets Are Located 180° O.C.



(4) NC Galvanized Steel Anchor Bolts, AASHTO M314-90 Grade 55, 10" of Threaded End Galvanized Per ASTM A153.
(4) NC Galvanized Steel Hex. Nuts
(4) Galvanized Steel Lockwashers
(4) Galvanized Steel Flatwashers

STANDARD FINISHES: (add as suffix)
BA Black Powder Paint
BH White Powder Paint
BM Bronze Powder Paint
BV Dark Green Powder Paint
01 Satin
* Other finishes available, consult factory

General Shaft Assembly	A Mtg Hgt	B Wall Thick.	C Butt Dia.	D Top Dia.	E Base Dia.	F Bolt Circle	O Bolt Project	Net Weight	Lum Weight	Anchor Bolts	K Arm Length	Maximum EPA per Luminaire 80	90	100	110
RTA	20	.156	6	4.5	9.75	9-10	2.75	80	75	1 x 36 x 4	4	2.0	2.0	2.0	1.6

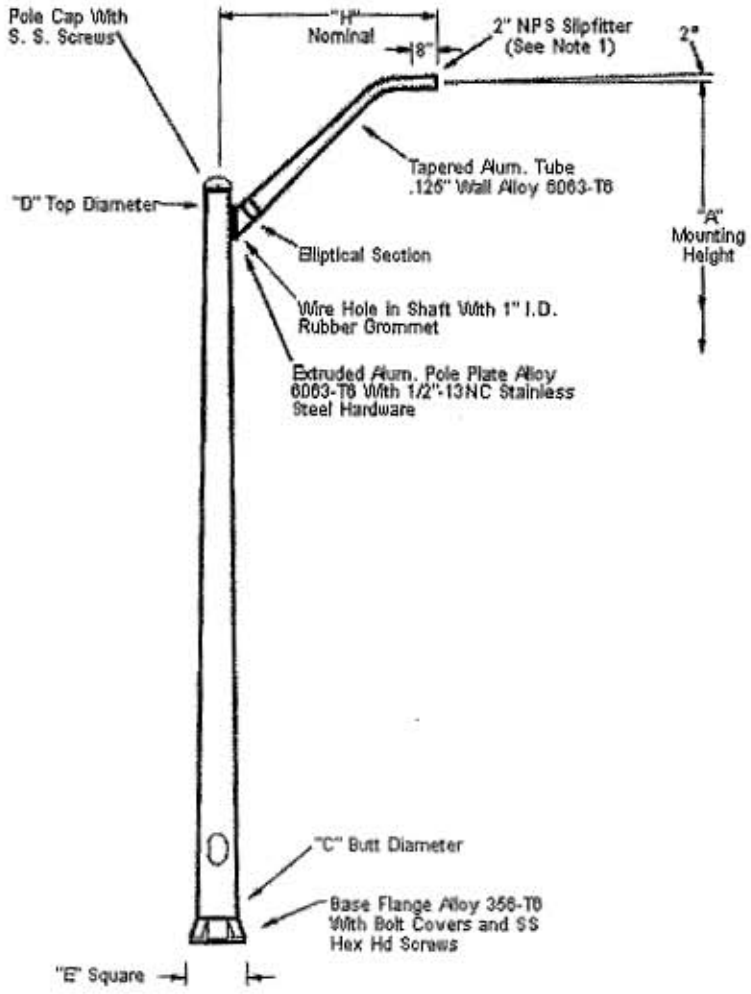
26262 Hillman Highway, Abingdon, VA 24210 Phone: 1-800-368-7171 Fax: 1-276-628-7707 Web: http://www.hapco.com

Your Name: Customer P.O. #: Date: April 11, 2006
Project Name: Finish: ** Quantity:

DIMENSIONS FOR CS 1015
WITH 6' ARM

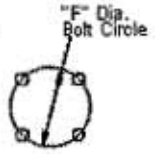
RTA25C6B4M16-**

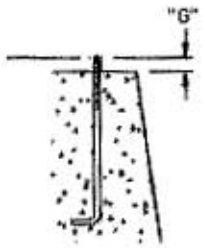
ADD NOTES | E-MAIL THIS PAGE | PRINT THIS PAGE



NOTE: Anchor Bolt Projection Must Be Increased When Leveling Nuts Are Used.

Notes:
(1) Brackets Supplied With 2" NPS Slipfitter. Specify Modification 140 For 1.25" NPS Slipfitter.
(2) Twin Brackets Are Located 180° O.C.





(4) NC Galvanized Steel Anchor Bolts, AASHTO M314-90 Grade 55, 10" of Threaded End Galvanized Per ASTM A153.
(4) NC Galvanized Steel Hex. Nuts
(4) Galvanized Steel Lockwashers
(4) Galvanized Steel Flatwashers

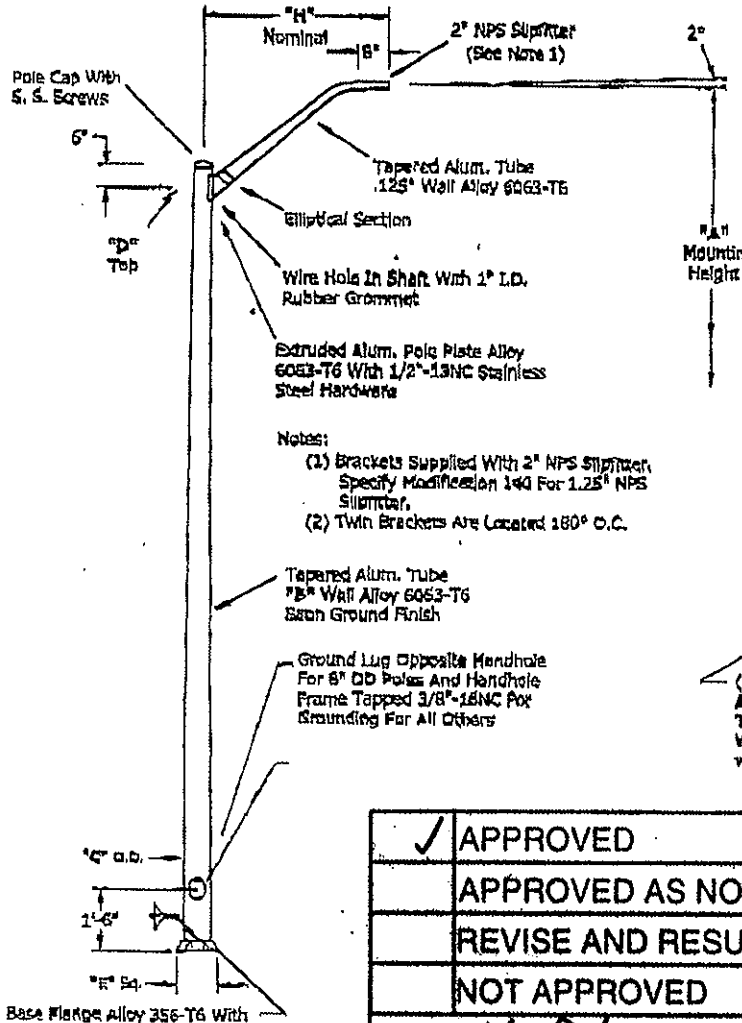
STANDARD FINISHES: (add as suffix)
BA Black Powder Paint
BH White Powder Paint
BM Bronze Powder Paint
BV Dark Green Powder Paint
01 Satin

General Shaft Assembly	A	B	C	D	E	F	G				H	Maximum EPA per Luminaire				
	Mtg Hgt	Wall Thick.	Butt Dia.	Top Dia.	Base Dia.	Bolt Circle	Bolt Project	Net Weight	Lum Weight	Anchor Bolts	Arm Length	70	80	90	100	110
RTA	25	.156	6	4.5	9.75	9-10	2.75	100	69	1 x 36 x 4	6	3.6	1.2			

26252 Hillman Highway, Abingdon, VA 24210 Phone: 1-800-368-7171 Fax: 1-276-628-7707 Web: http://www.hapco.com

Your Name: | Customer P.O. #: | Date: April 11, 2007
Project Name: | Finish: ** | Quantity:

RTA30C7B4M16 Round Tapered Aluminum - Single Mast Arm, 4 Bolt Base



✓	APPROVED
	APPROVED AS NOTED
	REVISE AND RESUBMIT
	NOT APPROVED
BY:	M. Fedores
DATE:	3/30/05

aluminum pole products
hapco

STANDARD FINISHES: (add as suffix)
BA Black Powder Paint
BH White Powder Paint
BM Bronze Powder Paint
BV Dark Green Powder Paint
01 Satin
* Other finishes available, consult factory

A	B	C	D	E	F	G				H				
Mtg Hgt	Wall Thick.	Butt Dia.	Top Dia.	Base Dia.	Bolt Circle	Bolt Project	Net Weight	Lum Weight	Anchor Bolts	Arm Length	Maximum EPA			
											80	90	100	110
30	.156	7"	4.5	10.5	10 - 11	2.75	130	71	1 x 36 x 4	6	2.0	1.6	1.0	-

NOTES: (1) Effective Projected Area (EPA) in square feet. EPAs calculated using wind velocity (mph) indicated plus 30% gust factor.
(2) Standard Finish - Satin Ground.

MOUNTING: (specify)
2.375" tenon
3.0" tenon
4.0" tenon
For side mounting: specify luminaire quantity and orientation. Luminaire drilling must be supplied at time of order.

SHAFT:
Pole shaft shall be constructed of seamless extruded tube of 6063 aluminum alloy per ASTM B221 and shall be full-length heat treated after welding on the base flange to T-6 temper. Shaft shall be free of longitudinal welds. Pole shaft cap, when required, shall be of cast aluminum of 443 or 356F aluminum alloy and attached utilizing stainless steel screws.

26252 Hillman Highway, Abingdon, VA 24210 Phone: 1-800-368-7171 Fax: 1-276-628-7707 Web: http://www.hapco.com

Customer P.O. #: _____ Date: 3/9/2005 Customer Name: _____

Finish: _____ Quantity: _____ Project Name: _____

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10.4 Example Documents

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CITY OF GROTON, DEPARTMENT OF UTILITIES

PERMANENT EASEMENT

For The Purpose Of Serving Adjacent Properties

LOT 1
EXAMPLE ESTATES SUBDIVISION

For a valuable consideration, the receipt of which is hereby acknowledged, the undersigned grants the City of Groton, Department of Utilities, its successors and assigns, the permanent right to erect, operate, maintain, renew and replace such poles, pole fixtures, wires, cables, conduits, guys and anchors and other appurtenances as the grantee may from time to time require, upon, across, over, and/or under such property, and to trim and keep trimmed, cut and remove such trees and shrubs as in their judgement endanger continuity of service, said rights being on and over the Grantor's land in the Town of Groton, Connecticut, as further described below.

This easement is to be located within the front, rear, and side yard setback of Lot 1 Millpond Estates Subdivision as established by the zoning regulations of the Town of Groton in effect of the date hereof as shown on the following referenced plan.

> The area of the easement is shown on a plan entitled "Plan Showing Example Estates Subdivision Property of Some Development Group, LLC, Gold Star Highway A.K.A. Connecticut Route 184 Groton, Connecticut Scale as shown May 2007 Latest Revision January 3, 2008 by John Doe Land Surveyors – Planners Route 1 Sometown, CT 06000," which plan is on file in the Land Records of the Town Clerk of the Town of Groton, Connecticut.
>
> This easement includes the right to serve adjacent properties from Electric facilities installed on the land of the Grantor.

Any right herein described or granted or any interest therein or part thereof may be assigned to any other Electric Service Utility by the Grantee or its successors or assigns, and the Grantor, for myself and my heirs, executors and administers hereby agrees to and ratifies any such assignment and agrees that the interest so assigned may be used by the assignee therein and its successors and assigns for Electric Light, Power, and Communication purposes.

The City of Groton, Department of Utilities will, within a reasonable amount of time, restore any area it disturbs to as close as possible its pre-existing condition.

Dated at _____, this _____day _____, 20___ in presence of

_____ _____(L.S.)
Witness

_____ _____(L.S.)
Witness

State of _____

_____ County } ss _____ A.D. 20 _____

Personally appeared _____signer(s) and sealer(s) of

the foregoing instrument, and acknowledged the same to be _____
free act and deed, before me.

_____
Notary Public, Justice of the Peace

THE CITY OF GROTON
DEPARTMENT OF UTILITIES

TRANSFER OF FACILITIES

The undersigned Property Owner desires the City of Groton, Department of Utilities, hereafter referred to as "DEPARTMENT", to take over the ownership of facilities used for the supply of electricity at:

Legal Address

Located on Owner's Property: Yes ☒ No ☐

In consideration of which the undersigned agrees:

That ownership of facilities as listed below is transferred to said DEPARTMENT in consideration of which all expense of future maintenance shall be borne by DEPARTMENT.

1. Two (2) - 4" Primary Conduits

2. One (1) Transformer Pad

That any right herein granted or any part thereof may be assigned to any other Department for the purpose of supplying its service to the undersigned.

That DEPARTMENT may enter on the undersigned's premises for the purpose of inspecting, maintaining, removing, or replacing said facilities whenever in its judgment it is necessary.

That DEPARTMENT will be relieved from any liability for damage done to the property of the undersigned when reasonable care has been exercised to prevent any such damage.

Witness: _____ Signed: _____
Property owner name

Print Name: _____

Witness: _____ Dated: _____

June 23, 2009

J. Q. Customer
123 Any Street
Groton CT 06340

Dear J. Q. Customer:

Re: 123 Any Street - Notice of Unsafe Condition

Groton Utilities has determined that the customer owned electric facilities at the above reference location represents an UNSAFE CONDITION. This determination has been made pursuant to the rules, regulations, and/or articles listed below.

Existing Conditions are a follows…

1. The metering equipment is in a deteriorated condition. Additionally, the meter socket has holes through it and is not secured to the structure.

The conditions outlined above constitute violations to the following rules, regulations, and/or articles…

i) Groton Utilities Rule and Regulations (dated 3/29/2006)
   (a) Article 6.4
ii) NFPA 70, National electrical Code (current version)
   (a) Articles 110.12(c) and 312.2(a)
iii) International Residential Code (current version)
   (a) Article R111.3

You are hereby directed to make repairs within thirty (30) days of receipt of this notice. Failure to comply with this notice may subject you to termination of electric service. The work must comply with all applicable rules, regulations, and/or articles. A Licensed electrician or the responsible party shall perform the work. A "Request for Service" and the required electrical permit must be obtained prior to commencing work. A final compliance check is required to re-energize the service when all work in completed.

If you should have any questions, please feel free to contact me at (860) 446-4057.

With regards,

GROTON UTILITIES

John Doe
Compliance Representative

Cc: Authority having Jurisdiction
SRS/dr

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10.6 GU/BLP Policy

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CUSTOMERS' UTILIZATION EQUIPMENT (Policy # 2020)

1. General

A. In order that all customers receive service of the highest quality, it is necessary that the Department establish standards for the selection and use of electric motors, major appliances and large electric equipment to the end that the starting and operating characteristics of the various units will not adversely affect the service rendered to other customers. It is the intent of this policy to briefly outline the major factors involved and set forth the limitations necessary in order to render satisfactory service.

B. The Department reserves the right to disconnect service at any time, upon proper notice, when any equipment not approved by the Department interferes with the electric service to other customers. It is therefore imperative that the customer consult with the Department in advance of making any commitments for large motors, large electrical equipment or major appliances.

C. The Department reserves the right to, inspect and test any motor(s) and/or apparatus owned by the customer when they are suspected of causing detrimental effects to the Department's general service. ,

D. The Department also reserves the right to require the customer to install at his expense such wiring and equipment as may be necessary to prevent undue voltage fluctuations at his own service location or at the service location of other customers.

E. The customer shall install only motors, apparatus, and devices which are suitable for operation with the character of the service available and supplied by the Department:

F. The Department shall be the sole judge as to the suitability of apparatus to be connected to its lines and, also, as to whether the operation of such apparatus will cause voltage fluctuations or disturbances on the Department's electric distribution system.

2. Motor Installations

A. Motors over 1/2 horsepower in size shall be operated at the available voltage of 208 volts or above. In any case, the starting current for motors which could adversely affect the service rendered to other customers must not exceed the permissible starting current shown in the "Table of Permissible Motor-Starting Currents" shown in Section 3 of this policy.

3. Motor-Starting Current Limitations

A. The following "Table of Permissible Motor-Starting Currents" sets forth the maximum allowable starting or inrush current which should not adversely affect the service rendered to other customers.

TABLE OF PERMISSIBLE MOTOR-STARTING CURRENTS

1) Equipment with motors rated in horsepower

Equipment rated at	Max Horsepower
Single-Phase	
120 Volts	½ HP
280 volts or above	3 HP
Three-Phase	10 HP

2) Air conditioning or heat pump equipment rated in BTU per hour

Equipment rated at	Max Locked Rotor Current
240 volts or less and up to 40,000 BTU/H	50 amps plus 2.5 amp per 1000BTU/H in excess of 20,000 BTU/H
240 Volts or less, Three-phase 41,000 BTU/H to 150,000 BTU/H	125 amps plus 1 amp per 1000 BTU/H in excess of 40,000 BTU/H

Notes: In case of equipment rated in excess of the values listed above the customer shall:

- Install suitable motor starting equipment to limit the inrush current to sixty (60) per cent of the locked rotor or inrush current.
  or
- Consult with the Department's engineering section who will evaluate the customer's equipment and determine if it will adversely affect the Department's electric system. In evaluating the customer's equipment the starting horsepower of all motors in excess of 10 H.P. listed in (1) above which can be started simultaneously shall be considered as one unit. Furthermore, the maximum permissible starting current of air conditioning or heat pump equipment listed in (2) above shall apply to the sum of all units in excess of 150,000 BTU/H which can be started simultaneously.
- The value of permissible locked rotor currents of equipment rated at voltages other than those listed above shall be determined by the inverse voltage ratio.

4. Motor Devices
   A. All motors shall be protected from damage that would be caused by operation under abnormal conditions, such as low voltage, phase failure and thermal overload. The Department shall not be responsible for damage to motors caused by single phasing or low voltage. When energizing a new three-phase service, the Department shall not be responsible for incorrect rotation of equipment.
   B. Control and overcurrent devices for the protection of motors and wiring shall be in accordance with the latest edition of the National Electric Code.

5. Balancing Loads
   A. All loads shall be balanced. On three-phase services, single-phase loads shall be evenly divided between each of the three phases. On single-phase services, the load shall be evenly divided between the energized conductors and the neutral.

6. Special Equipment
   A. If the customer desires to use service for the operation of equipment or devices having a relatively high load of short duration it may be necessary for the Department to install special equipment or larger facilities than would normally be required in order to provide satisfactory service. In such cases the customer may be required to pay the Department for the special equipment or the additional investment in facilities.
   B. In cases where the customer's service voltage is not suitable for lighting, insulating transformers shall be furnished, installed and maintained by the customer. Such transformers shall be connected so as to place a balanced load on the service.

7. Interrupting Capacity of Protective Devices
   A. For services supplied from network systems or transformers in excess of 150 KVA, the Department should be consulted as to the required interrupting capability of the customer's protective devices. Higher than standard interrupting capability may be required for both main and branch protective devices.
   B. Current-limiting fuses may be employed so that lower-rated protective devices may be installed on the load side of such fuses. They should also be used instead of standard fuses in such cases.

Approved by: J.H. Leandri
Date: 11-10-1976

10.7 Check Lists

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GROTON UTILITIES

BOZRAH LIGHT & POWER COMPANY

ELECTRIC SERVICE CHECKLIST

	Yes	Date
Submitted Request for Service Application	___	_____
Obtained all local permits	___	_____
Site meeting with Groton Utilities personnel (**if applicable**)	___	_____
Coordinated with other utilities (**if applicable**)	___	_____
Received an approved meter location per Groton Utilities (**if applicable**)	___	_____
Notified Call Before You Dig (**if applicable**)	___	_____
Installed electric facilities per Groton Utilities standards	___	_____
Permanently marked individual meter sockets (**if applicable**)	___	_____
Passed inspection per Authority having Jurisdiction (city/town)	___	_____

Comments:

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10.8 Procedure Chart

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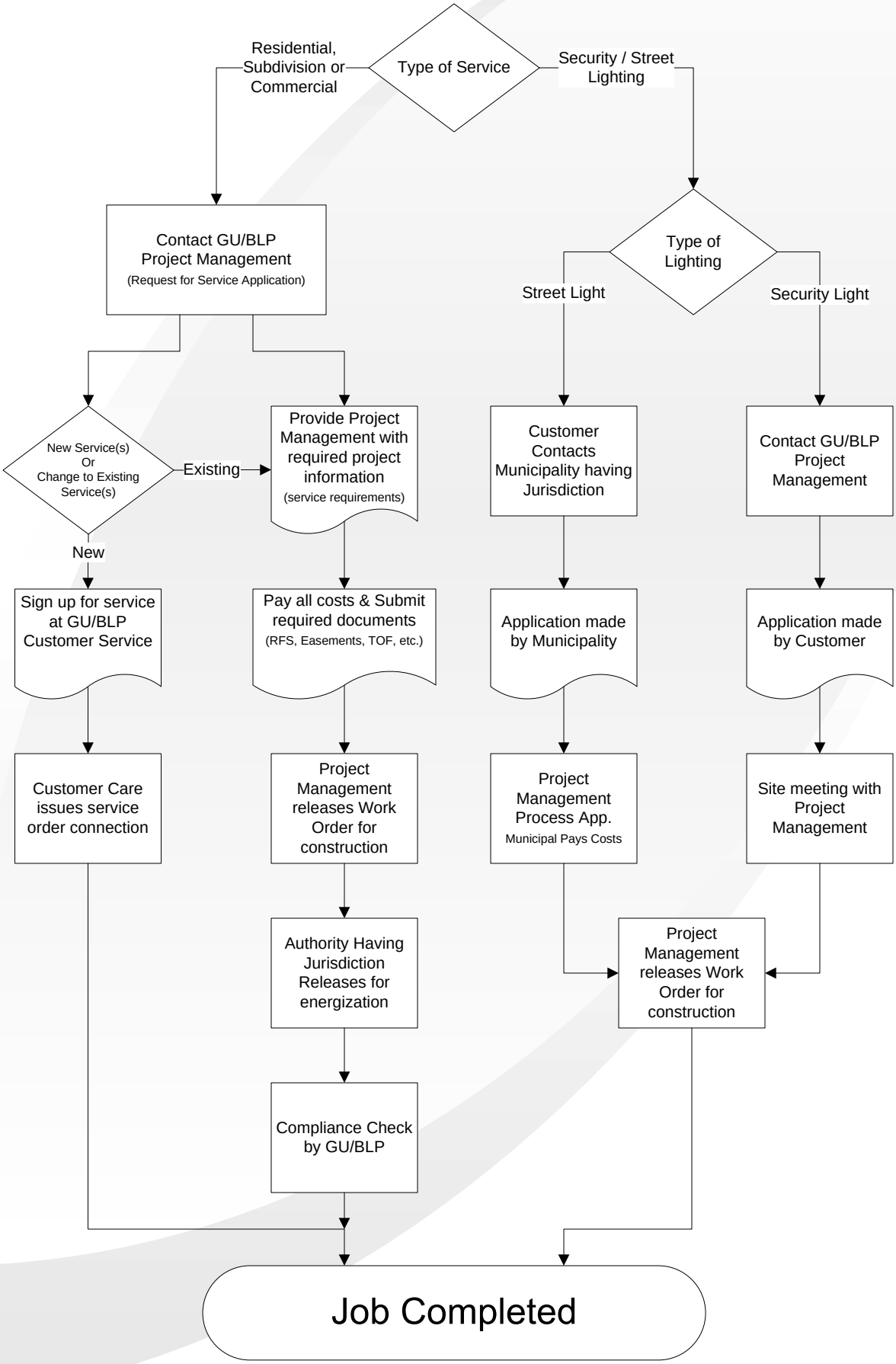
Procedure for Acquiring Electric Service



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COPY OF NDDB DETERMINATION AND EXTENSION
OF THE NDDB DETERMINATION UNTIL PROJECT COMPLETION

From: Kearney, Shannon
To: Jeffrey Shamas
Cc: Anna Loss
Subject: [External] Re: NDDB Determination# 202009234 [Filed 29 Aug 2022 14:30]
Date: Friday, June 10, 2022 8:58:03 AM

Hi Jeff,
If you have begun the construction process it is ongoing at the site and have all of your permits in place, you do not need a renewed NDDB letter to continue work on the project. You are good to continue until completion unless something has changed about your project activities.
Thanks,
-Shannon

Shannon B. Kearney
Wildlife Division
Connecticut Department of Energy and Environmental Protection
PO Box 1550, Burlington, CT 06013
P: 860.424.3170 | E: shannon.kearney@ct.gov

From: Jeffrey Shamas <jshamas@VHB.com>
Sent: Thursday, June 9, 2022 1:49 PM
To: Kearney, Shannon <Shannon.Kearney@ct.gov>
Cc: Anna Loss <aloss@vhb.com>
Subject: NDDB Determination# 202009234

Hi Shannon-
Groton Utilities has been under construction with their project but will need to go through November 2022 in order to complete. Is there a more formal process to request an extension of time under the attached NDDB Determination? The current Determination expires in August 2022, therefore we would only need an additional 3 months of coverage.
Let me know at your convenience.
Thank you,
Jeff

Jeffrey Shamas, CE, CSS, SPWS
Director, Environmental Services

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109-2377
P 860.807.4388 **| M** 203.400.1558 **| F** 860.372.4570
jshamas@vhb.com

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Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

August 20, 2020

Jeffrey Shamas
Vanhasse Hangen Brustlin, INC
100 Great Meadow, Suite 200
Wethersfield, CT 06109
JSHAMAS@VHB.COM

NDDB DETERMINATION NUMBER: 202009234

Project: Groton Utility 400-1410-1280 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT, north of Route 184, GROTON, CT

Expiration: August 20, 2022

I have reviewed Natural Diversity Database (NDDB) maps and files regarding this project. According to our records, there are State-listed species (RCSA Sec. 26-306) documented nearby and may occur in the area.

- **Spotted turtle (*Clemmys guttata*) State Special Concern**

Individuals of this species are associated with wetlands and are vernal pool obligates. Over the course of a season and lifetime, individuals will travel large distances (up to 1km) over upland forest and fields between multiple wetlands. They overwinter burrowed into the mud in wetlands between Nov 1- March 15. They do not begin to reproduce until 7-10 years old and adults can live at least 30 years. This species is threatened most by any activities that reduce adult survivorship including mortality and injury from agricultural equipment or other mechanical equipment.

- Preferably, conduct upland work during the species dormant period (Nov 1- March 15).

If upland operations with heavey equipment must occur outside of dormant period:

- The work crew must be made aware of the species description and possible presence
- The immediate area where heavey equipment will be used each day should be searched for turtles before starting work using mechanical equipment
- Any turtles found should be moved out of the way. This animal is protected by law and should never be taken off site.
- Work conducted during early morning and evening hours should occur with special care not to harm basking individuals.
- New access roads should keep minimum 100ft buffer of wetlands and vernal pools.

This is determination is valid for two years. Please submit an updated NDDB Request for Review if the scope of the proposed work changes.

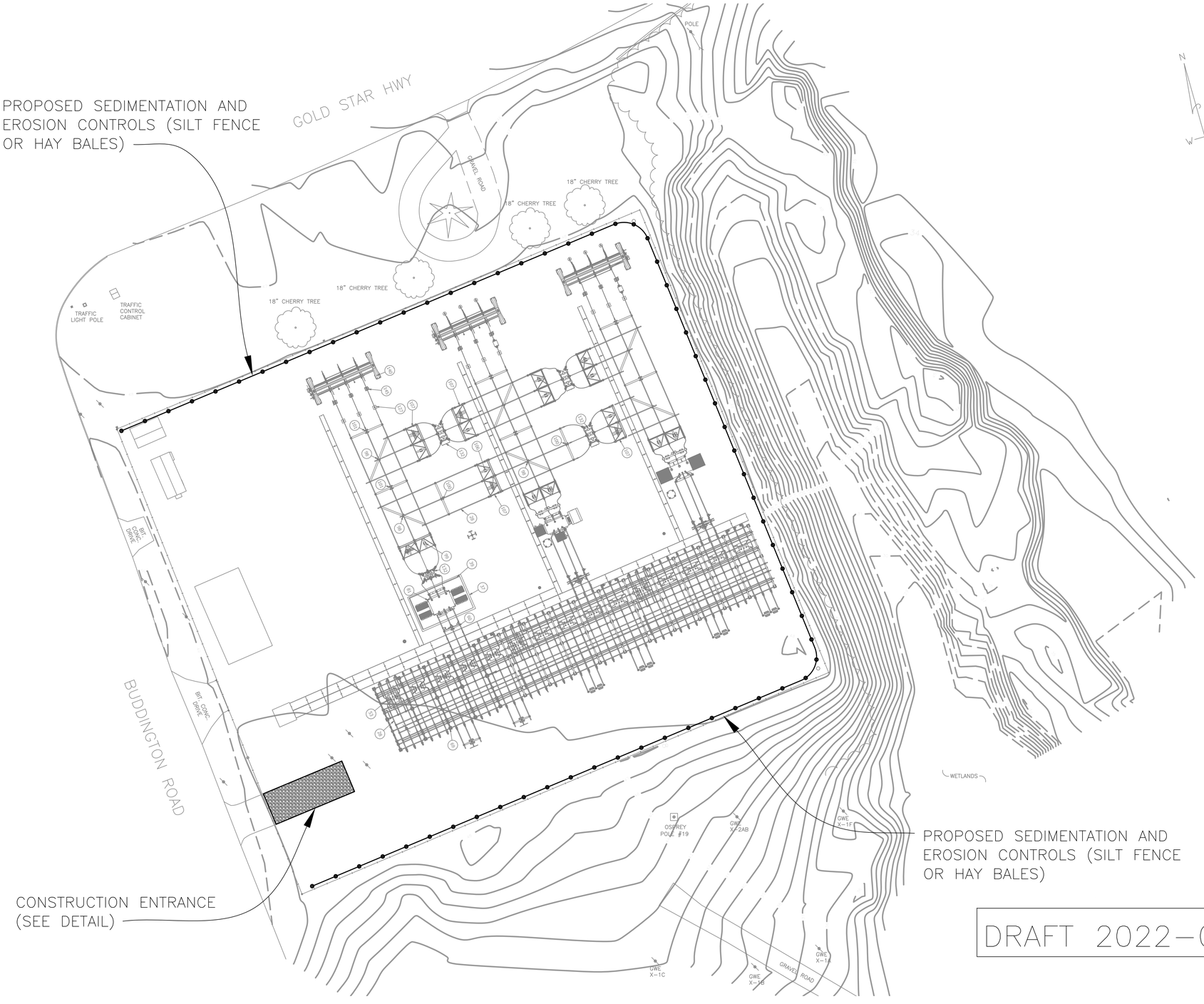
Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Bureau of Natural Resources and cooperating units of DEEP, independent conservation groups, and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated in the NDDB as it becomes available.

Please contact me if you have any questions (shannon.kearney@ct.gov). Thank you for consulting with the Natural Diversity Database and continuing to work with us to protect State-listed species.

Sincerely,

/s/ Shannon B. Kearney
Wildlife Biologist

COPY OF SOIL AND EROSION PLAN FOR THE PROJECT



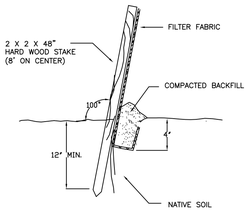
0 30 60 90

SCALE: 1" = 30'

N
W
E
S
CONNECTICUT GRID

SURVEY NOTES

1. NORTH AS SHOWN HEREON IS BASED ON THE CONNECTICUT COORDINATE GRID SYSTEM, AS DERIVED FROM THE 1983 NORTH AMERICAN DATUM (NAD 83/87).
2. THE LOT WILL BE CLEARED TO LIMITS SHOWN ON PLAN .
3. ELEVATIONS SHOWN HEREON ARE BASED ON THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
4. THIS PLAN AND FIELD SURVEY HAVE BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300B-1 THROUGH 20-300B-20, "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC.
5. THE TYPE OF SURVEY IS A TOPOGRAPHIC SURVEY. THE HORIZONTAL ACCURACY, BASED UPON A BASELINE, CONFORMS TO CLASS A-2 AND THE CONTOURS SHOWN ON PLAN CONFORM TO CLASS T-2 AS DEFINED BY THE MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONN. AS PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.
6. THIS PLAN AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED LAND SURVEYOR. UNAUTHORIZED ALTERATIONS RENDER ANY DECLARATION HEREON NULL AND VOID.



NOTE: FILTER FABRIC SHALL BE MIRAFI "SILT FENCE" EXXON GTF 180, AMOCO 1380, OR APPROVED EQUAL

SEDIMENTATION FENCING

NOT TO SCALE

LEGEND

⊠ CHD	CHD FOUND (CONN. DOT SURVEY MONUMENT)
36	EXISTING CONTOURS
X — X — X	EXISTING FENCE
GWE X 1B	UTILITY POLE
	GRAVEL ROAD
	PROPOSED SILT FENCE / HAY BALES
	TREE LINE

DRAFT 2022-09-23

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

KARL F. ACIMOVIC P.E & L.S. #13032 DATE

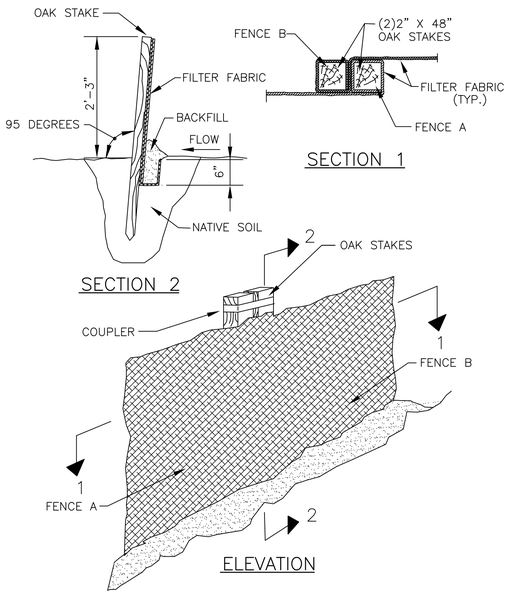
DATE	BY	REVISION

GROTON UTILITIES

SEDIMENTATION & EROSION CONTROL PLAN

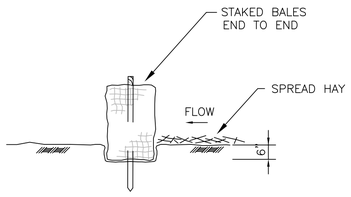
BUDDINGTON SUBSTATION
BUDDINGTON ROAD
GROTON, CONNECTICUT

SURVEY BY:	G.U.	DATE: 06/01/2022	SCALE: 1"= 30'
BASE PLAN BY:	G.U.	DATE: 06/08/2022	DWG. NO.
DESIGN BY:	G.U.	DATE: 09/23/2022	SHEET 1 OF 1

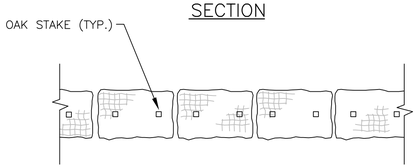


SILT FENCE DETAIL

NOT TO SCALE



SECTION



PLAN

NOTES:

1. HAYBALES TO BE PLACED PRIOR TO START OF WORK.
2. HAY BALES TO BE SECURED WITH MINIMUM TWO (2) 2" X 2" X 4' OAK STAKES PER BALE, DRIVEN 18" MINIMUM INTO GRADE.

HAYBALE DETAIL

NOT TO SCALE

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH THE CONNECTICUT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, AND WILL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH SALT HAY OR EQUIVALENT.
3. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE CONNECTICUT STANDARDS.
4. STABILIZATION SPECIFICATIONS:
   A. TEMPORARY SEEDING AND MULCHING:

      LIME – 90 LBS/1,000 SF GROUND LIMESTONE;

      FERTILIZER –14 LBS/1,000 SF; 10–20–10 OR EQUIVALENT WORKED INTO SOIL A MINIMUM OF 4–INCHES.

      SEED – ANNUAL RYEGRASS 40 LBS/ACRE OR OTHER APPROVED SEEDS; PLANT BETWEEN APRIL 15 – JUNE 30 OR AUGUST 15 – SEPTEMBER 30.

      MULCH – SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS/1,000 SF, TO BE APPLIED ACCORDING TO THE CT. STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

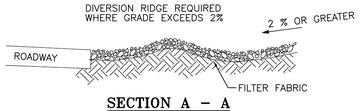
   B. PERMANENT SEEDING AND MULCHING:

      LIME – 90 LBS/1,000 SF GROUND LIMESTONE;

      FERTILIZER – 14 LBS/1,000 SF; 10–20–10 OR EQUIVALENT WORKED INTO SOIL A MINIMUM OF 4–INCHES.

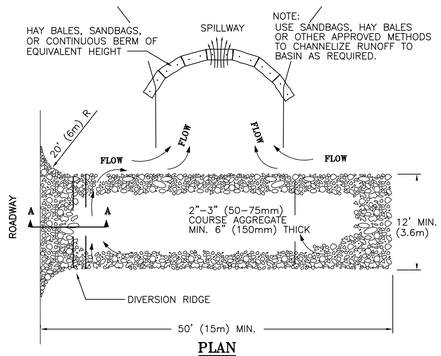
      SEED – APPLY THE FOLLOWING SEED MIXTURE PER 100 S.F. KENTUCKY BLUE GRASS AT 2 LBS. CREEPING RED FESCUE AT 1 LB AND PERENNIAL RYEGRASS AT A RATE OF 2 LBS.

      MULCH – SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS/1,000 SF, TO BE APPLIED ACCORDING TO THE CT. STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS
5. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUN–OFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
6. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS.
7. THE CONTRACTOR OR THE CONTRACTOR'S REPRESENTATIVE AT THE TIME OF CONSTRUCTION WILL SERVE AS CONTACT PERSON FOR INSTALLATION, INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES.
8. STOCKPILES ARE NOT TO BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE, ROADWAY, OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHOULD BE PROTECTED BY A HAY BALE BARRIER OR SEDIMENT FENCE.



SECTION A – A

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.



PLAN

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT

NOT TO SCALE

NARRATIVE

THIS PROPOSAL INVOLVES THE DEMOLITION OF EXISTING ELECTRICAL STRUCTURES AND THE CONSTRUCTION OF NEW ELECTRICAL FACILITIES OR THE MODIFICATION OF EXISTING STRUCTURES WITHIN THE PERIMETER FENCING OF THE CURRENT BUDDINGTON ELECTRICAL SUBSTATION. DEMOLITION OF EXISTING AND THE ERECTION OF NEW OR MODIFIED STRUCTURES IS SHOWN ON ACCOMPANYING PLANS, TO WHICH REFERENCE IS HEREBY MADE.

DRAINAGE IS INTENDED TO BE KEPT ON THE SITE, WITH NO RUNOFF TO ADJACENT STREAM OR WETLAND AREAS. NOTE THAT UNDERLYING SOILS ARE PERVIOUS AND THAT THERE IS A POSSIBILITY THAT ANY POTENTIAL SPILLS OF OILS, FUELS OR OTHER CHEMICAL SUBSTANCES MAY ENTER THE UNDERLYING GROUNDWATER TABLE, CURRENTLY CLASSIFIED AS OF DRINKING WATER QUALITY. AS SUCH. THE CONTRACTOR WILL TAKE ALL NECESSARY PRECAUTIONS TO AVOID SPILLS OF SUCH MATERIALS DURING CONSTRUCTION AND DURING FUELING OF CONSTRUCTION EQUIPMENT. THE CONTRACTOR WILL MAINTAIN, AND AT ALL TIMES HAVE ON SITE, READY FOR USE, SPILL PREVENTION AND CONTROL MATERIALS IN THE EVENT OF A SPILL.

SEDIMENTATION AND EROSION CONTROLS MUST BE INSTALLED, INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION AND PRIOR TO REMOVAL FROM THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE EVENTUAL REMOVAL OF SEDIMENTATION AND EROSION CONTROLS ONCE ALL DISTURBED AREAS ARE RESTORED AND ANY GRASS AREAS ARE STABILIZED.

CONSTRUCTION SEQUENCE

1. STAKE OUT THE LIMITS OF CONSTRUCTION, THE ENTRANCE TO THE SITE, ANY CLEARANCE LIMITS FOR ROAD SIGHT LINE OR CONSTRUCTION BUFFER AREAS, ANY GENERAL SITE GRADING, STAGING AND STORAGE AREAS AND ANY OTHER LOCATIONS AS AGREED UPON WITH THE ENGINEER.
2. STAKE OUT AND INSTALL SEDIMENTATION AND EROSION CONTROL BARRIERS AS SHOWN ON THE PROPOSED PLAN(S).
3. WHERE APPROPRIATE, REMOVE EXISTING VEGETATION AND / OR TOPSOIL WITHIN THE LIMITS OF CONSTRUCTION, INCLUDING SITE ENTRANCE AND STAGING AND STORAGE AREAS.
4. DEMOLISH AND EXCAVATE SITE STRUCTURES AS DEPICTED ON THE ACCOMPANYING PLANS AND DISPOSE OF MATERIALS AS SPECIFIED TO OFF SITE LOCATIONS.
5. CONSTRUCT NEW STRUCTURES AND / OR MODIFY EXISTING SITE FEATURES AS SHOWN ON PLANS AND AS SPECIFIED.
6. SUBSEQUENT TO CONSTRUCTION OF NEW FACILITIES, FINISH GRADE THE SITE AND RESTORE STAGING AND STORAGE AREAS, AS WELL AS ALL AREAS DISTURBED DURING THE CONSTRUCTION PROCESS, UNLESS SPECIFIED AS NEW OR MODIFIED, RESTORE REMAINING AREAS TO PRE–EXISTING CONDITIONS.
7. LOAM AND SEED ALL GRASS AREAS DISTURBED BY CONSTRUCTION AND, UPON STABILIZATION OF NEW VEGETATION, REMOVE SEDIMENTATION AND EROSION CONTROL BARRIERS AS DIRECTED BY THE ENGINEER.

DRAFT 2022–09–23

DATE	BY	REVISION

GROTON UTILITIES

SEDIMENTATION & EROSION CONTROL PLAN

BUDDINGTON SUBSTATION
BUDDINGTON ROAD
GROTON, CONNECTICUT

SURVEY BY:	G.U.	DATE: 06/01/2022	SCALE: 1"= 30'
BASE PLAN BY:	G.U.	DATE: 06/08/2022	DWG. NO.
DESIGN BY:	G.U.	DATE: 09/23/2022	SHEET 1 OF 1