

HINGHAM MUNICIPAL LIGHTING PLANT

# Hingham Municipal Lighting Plant

## Terms and Conditions



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# HINGHAM MUNICIPAL LIGHTING PLANT

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# HINGHAM MUNICIPAL LIGHTING PLANT

## **1. INTRODUCTION:**

The Hingham Municipal Lighting Plant (HMLP) has put together this “Terms & Conditions and Specifications for Electric Service” handbook to present in written form the Lighting Plant’s general terms and conditions and requirements for service.

This manual is in addition to, and shall be incorporated as part of HMLP’s Schedule of Rates for Electric Service. This manual is also in addition and supplementary to the applicable national, state and local electrical and safety codes. This manual does not cover items outside the Lighting Plant’s jurisdiction and should not be used as the sole source of information when requesting electric service.

The Customer, in this manual, shall refer to the Customer or his contractor, electrician consultant or any person representing the Customer or performing work for him.

This manual is available upon request from the Lighting Plant at either location: 350 Lincoln Street, Suite 110, or 308 Cushing Street. It is also available online at [www.hmlp.com](http://www.hmlp.com).

## **2. APPLICATION FOR SERVICE:**

Each prospective Customer desiring electric service shall be required to fill an Application for Electric Service at the business office of the Hingham Municipal Lighting Plant (HMLP), 350 Lincoln Street, Suite 110, Hingham, MA 02043 between the hours of 7:30 a.m. and 4:30 p.m., Monday through Thursday, and 7:30 a.m. to 1:30 p.m. on Friday, excluding holidays, or online at [www.hmlp.com](http://www.hmlp.com). Service will not be offered until all necessary information has been received from the applicant.

## **3. UTILITY AUTHORIZATION NUMBER (U.A.N.):**

The Customer performing any electrical work that involves connections to the HMLP plant, whether it be replacing, upgrading or installing an overhead or underground service, meter socket or any related equipment shall obtain a Utility Authorization Number (U.A.N.) from the HMLP Line Division Manager or the Engineering Manager either in person at 308 Cushing Street or by calling (781) 741-1476. This Utility Authorization Number shall be presented by the Customer to the Town of Hingham Building Department in order to obtain an electrical permit.

The purpose of the Utility Authorization Number is to make HMLP aware of the work to be performed by the Customer and to inform the Customer of the HMLP requirements and standards for service prior to any work performed by the Customer. This will protect both the Customer and HMLP from unnecessary disagreements regarding the work performed. HMLP will not provide any services to the Customer without a U. A. Number.

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### **4. DISCONTINUANCE OR REFUSAL OF SERVICE FOR REASONS OTHER THAN NON-PAYMENT:**

The HMLP may discontinue a service or refuse to connect a new service for the violation of any of its Rules and Regulations, Schedule of Rates or any of the following reasons:

1. In the event of a Customer's use of equipment in such a manner so as to adversely affect the facilities/equipment of the HMLP or its service to others.
2. In the event of tampering with equipment furnished and owned by HMLP.
3. In the event of energy theft or any unauthorized use.
4. In the event of a condition determined by HMLP to be hazardous.
5. In the event the Customer does not provide and maintain for HMLP an unobstructed access to its equipment.
6. In the event of a condition determined by the Town of Hingham Building Commissioner, Inspector of Wires or the Fire Department to be hazardous.

### **5. RIGHT OF ACCESS TO CUSTOMER'S PREMISES:**

Employees of HMLP, with proper identification, shall have access to the Customer's premises at all reasonable times for the purpose of reading meters, testing, repairing, removing or exchanging any or all equipment belonging to HMLP. In addition, it is the responsibility of the Customer to insure that access to the equipment of HMLP is not impaired or blocked. Please refer to Section 21: Illustrations for specific clearances for HMLP equipment.

### **6. CUSTOMER'S RESPONSIBILITY FOR THE PROPERTY OF HMLP:**

All meters, service connections, wires, transformers and other equipment furnished by HMLP shall be, and remain, the property of HMLP. Customers shall provide space for and exercise proper care to protect the property of HMLP on its premises, and in the event of loss or damage to the property of HMLP arising from the neglect by the Customer, the cost of the necessary repairs or replacements shall be paid by the Customer.

NOTE: Missing meters will be billed to the Customer, or their agent, in the amount of \$150 plus the cost of the meter to cover administrative, equipment and installation costs. Additionally, HMLP will estimate the electricity usage for the period the meter has been missing and bill the Customer accordingly.

### **7. VOLTAGE FLUCTUATIONS CAUSED BY CUSTOMER:**

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Electric service shall not be used in such a manner as to cause unusual fluctuations or disturbances to the HMLP system. HMLP may require the Customer, at their expense, to install suitable apparatus to reasonably limit such fluctuations or stop disturbances.

### Motors:

All motors of five horsepower or less connected to HMLP lines shall normally be single-phase, and motors over five horsepower shall normally be three-phase; but the Customer should contact HMLP in advance to ascertain the applicable conditions. Single-phase motors whose capacity exceeds one-half horsepower shall normally be served at 240 volts or more, but Customer should contact HMLP in advance to ascertain the applicable conditions. All motors connected to HMLP lines shall be of a type that shall not require a starting current deemed unreasonable by the HMLP, or shall have starting devices to restrict the starting current within the limits considered reasonable by the HMLP, or both.

### Service Interference

Service may be refused or withdrawn when Customer's wiring or equipment is so designed or operated as to disturb HMLP service to other Customers.

The Customer shall not in any way interfere or tamper with the HMLP's meters, fuses, seals, instrument transformers, or any other devices and shall exercise reasonable care to protect them from damage. Tampering is a felony punishable by fine or imprisonment, or both under the Penal Law of the Commonwealth of Massachusetts.

### Increase Load

The Customer shall give the HMLP 120 days' written advance notice of intention to materially increase their load, so that adequate facilities may be provided. Residential service in excess of 100 kW and commercial service in excess of 50 kW will not be served from single-phase facilities.

### Phase Unbalanced

A Customer taking three-phase electric service shall maintain as nearly as is reasonably possible equal loading on each of the three phases at the meter. If at any time the loading on any phase exceeds the average of the load on all three phases by more than 15 percent (15%), the amount to be paid by Customer for the period within which the unbalance occurred may at the discretion of the HMLP be increased by a percentage equal to that of the unbalance in excess of 15%.

### Highly Fluctuating Loads

A Customer taking service for the operation of welders, x-ray machines, electric furnaces, hoists or any other equipment having a highly fluctuating or large instantaneous load characteristic which adversely affects voltage regulation or impairs HMLP's service to the Customer or others supplied from the same distribution system, shall remedy the condition in a manner deemed adequate by HMLP, by either:

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- a. installing and maintaining at their own expense the corrective equipment deemed necessary by HMLP to remedy the condition, or
- b. making a cash contribution of the actual reasonable cost of any equipment installed by HMLP on its side of the point of delivery to effect such correction.

HMLP may discontinue service if the Customer fails, upon notice from HMLP, to comply with the foregoing requirements.

Welders of capacity larger than 8 kVA shall not be served from a single-phase circuit.

Welders must pay monthly at least two dollars per kVa of transformer provided as a special facilities charge which will be credited toward the monthly bill.

### **8. INTERRUPTION OF SERVICE:**

HMLP shall use reasonable diligence in supplying electrical service, but shall not be liable for breach of contract in the event of, or for loss, injury, or damage to persons or property resulting from, interruptions in service, excessive or inadequate voltage, single-phasing, or otherwise unsatisfactory service, whether or not caused by negligence.

### **9. DAMAGE TO CUSTOMER'S PROPERTY:**

Under these Terms & Conditions, HMLP shall not be liable for any damage to Customer-owned property, including all real and personal property, resulting from distribution system disruptions, regardless of the reason, unless the utility is found to be wholly negligent.

HMLP shall not be liable for normal distribution failures caused by equipment malfunctions that are weather related, caused by third parties, or the result of undetectable degradation over time. The policy of HMLP regarding damage caused to residential customer's equipment as the result of disturbances on the HMLP distribution system is stated as follows:

- If damage to a customer's property is the direct and sole result of the negligent action by HMLP or its employees, HMLP will, in its sole discretion, either reimburse the customer for the fair market value of the damaged property or the reasonable costs to repair the damaged property.
- If damage to a customer's property is caused as the direct result of some action not taken by HMLP after HMLP became aware of a potential problem, and had a reasonable opportunity to address and correct the problem, HMLP will reimburse the customer for the fair market value of the damaged property or the reasonable costs to repair the damaged property.

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- HMLP shall not be responsible for any damage caused by lightning, surge damage that occurred due to damage to HMLP's lines or equipment caused by adverse weather, or any other damage resulting from an Act of God.
- HMLP shall not be responsible for any damage caused, in whole or in part, by the negligence of a third-party for whom HMLP had no responsibility for or control over.

### **10. NOTICE OF TROUBLE:**

The Customer shall notify HMLP immediately should the service be unsatisfactory for any reason, or should there be any defects, trouble, or accidents affecting the supply of electricity. Such notices, if verbal, should be confirmed in writing.

### **11. STANDBY AND RESALE SERVICE:**

All purchased services (other than emergency or standby electric service) used on the premises of the Customer shall be supplied exclusively by HMLP, and the Customer shall not, directly or indirectly, sell, sublet, assign, or otherwise dispose of the services or any part thereof.

The following general requirements apply to Customer generating facilities designed to operate directly connected to HMLP's electrical system (parallel operation) and those which are designed to operate isolated from the HMLP's system (non-parallel operation.) Requirements and specifications for various types and sizes of Customer facilities shall be obtained from HMLP prior to installation.

Standby generation (non-parallel operation) may be installed by the Customer to supply all or part of the load in the event of a service interruption. The Customer's wiring shall be arranged so as to conform to all current NEC, NESC and other state (527 CMR 12 Current Edition) or local codes, and prohibit the interconnection of the Customer's alternative source of supply with HMLP's service. This will require the installation of a double-throw switch or its equivalent as approved by HMLP and the Town of Hingham Inspector of Wires.

**NOTE:** Precautions must be taken where alternative means of generation are employed, whether emergency or otherwise, to eliminate the possibility of electrical connections between the HMLP service and the Customer's alternate source of supply (e.g. truck docks, etc.) The Customer must notify HMLP and provide electrical details of the generator installation and isolation from the HMLP system.

Standby generation (parallel operation) requires notification and approval of HMLP before installation begins. Prior to the installation of any auxiliary generator facilities (e.g. wind turbine, solar panels, etc.), the Customer must fill out the appropriate HMLP

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application to provide interconnection details and to obtain approval for the facility's protective and synchronizing equipment arrangements.

### **12. POINT OF DELIVERY:**

The Point of delivery is the point, as designated by the HMLP, on the Customer's premises where current is to be delivered to the building or premises. All wiring and equipment beyond this point of delivery shall be provided and maintained by the Customer at no expense to the HMLP.

### **13. CUSTOMER WIRING STANDARDS:**

All Customer wiring, must conform to the latest National Electrical Safety Code, the National Electrical Code, current edition of 527 CMR 12 and any local laws. However, by establishing service to the Customer, the HMLP makes no warranty or representation of any kind that the Customer's facilities and wiring conform to any such requirements, standards, or the National Electrical Code.

### **14. DIG SAFE:**

State laws require anyone who digs to notify utility companies before starting, as digging can be dangerous and costly without knowing where underground facilities are located. Before any excavation begins, call Dig Safe at 888-DIG-SAFE to obtain information about the existing underground facilities in any specific area.

The HMLP does not own, maintain, or locate underground services. If the Customer cannot supply the location of their service to the requesting contractor they must use the services of a professional locator at their own expense.

### **15. AVAILABILITY AND CHARACTER OF ELECTRIC SERVICE:**

The availability of service and the equipment to be used in providing electric service shall be determined by the HMLP before electrical plans for service connections are finalized. An Aid-To-Construction payment may be required for facilities the HMLP installs in excess of what is normally required for service to a Customer as governed by these Service Regulations. The HMLP shall advise the Customer of the available phase and voltage for that service.

The Customer shall be responsible for operation, maintenance, replacement and renewal expenses on all Customer owned equipment. The Customer shall permit the HMLP to trim trees including the removal of limbs, to the extent that such trimming shall be reasonably necessary to prevent interference with the HMLP's lines and equipment.



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### 16. REQUIREMENTS FOR SCHEDULING SERVICE CONNECTIONS:

#### *Application for Service (less than 200 amps, secondary voltage)*

An “Application for Electric Service” for service entrance sizes of 200amps and below and 600 volts or less must be received by the HMLP in adequate time before final inspection by the Town of Hingham Inspector of Wires. This time will vary whether primary distribution facilities are in place or not. Extending primary distribution facilities to meet Customer’s needs will require more advanced notice. The Customer shall also obtain a Utility Authorization Number as detailed in Section Three of this Guide.

#### *Application for Service (between 200 and 1000 amps, secondary voltage)*

An “Application for Electric Service” for service entrance sizes larger than 200 amps and no larger than 1000 amps and 600 volts or less must be received by the HMLP in adequate time before final inspection by the Town of Hingham Inspector of Wires. Consult HMLP as early as possible to plan the project. This time is necessary to allow HMLP to secure the necessary materials to accommodate the Customer’s request. Three-Phase services may require notification six (6) months in advance due to transformer manufacturer lead times. The Customer shall also obtain a Utility Authorization Number as detailed in Section Three of this Guide.

#### *Application for Service (greater than 1000 amps or primary voltage)*

An “Application for Electric Service” for service entrance sizes larger than 1000 amps and any primary metered service (greater than 600 volts) must be received by the HMLP in adequate time before final inspection by the Town of Hingham Inspector of Wires. Consult HMLP as early as possible to plan the project. This time is necessary to allow HMLP to secure the necessary materials to accommodate the Customer’s request. The electrical connection date will be subject to the availability of the transformer(s) and other equipment needed and having sufficient time to schedule and complete the work required (in some cases, this can be 6 months or longer). The Customer shall also obtain a Utility Authorization Number as detailed in Section Three of this Guide.

The Customer shall not base their design or planning on the assumption that primary metering will be available. Primary metering shall be considered on a case by case basis.

The Customer shall supply a load sheet for any new residential or commercial construction, or any additions to an existing structure.

The Customer shall supply a plan of the proposed project to the Engineering Manager in AutoCAD 2006 format. The provided plan will be used by HMLP to design the electrical system. The final design, along with HMLP specifications, shall be submitted to the Customer in a paper format.

HMLP will inspect all new construction during normal business hours. A 48 hour notice must be given to the HMLP to schedule the inspection. Any requested inspections or site meetings outside regular business hours will be at the Customer’s expense.

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The Customer shall notify the HMLP of any increase in their electrical load. HMLP will determine whether this increase will affect other customers and decide whether to upgrade the distribution system to compensate for the increased load.

### **17. OVERHEAD SERVICES AND LINE EXTENSIONS:**

#### *New Overhead Secondary Service from a pole in a Public Way*

All cables shall be copper. NO EXCEPTIONS.

A fee will be charged to the customer for a service pole in their property if the point of attachment is more than 125 feet from the pole in the public way from which the service drop will originate. Please consult HMLP for scope of work and fee amount.

The Customer shall install, own and maintain a new meter socket, service entrance cable and conduit up to the point of attachment mutually agreed to by the Customer and HMLP. HMLP will provide a 6" x 1/2" Screw Eye as the point of attachment if a new one is needed. The Customer shall make permanent connections appropriate for an all copper service (no wire nuts, Romex connectors, etc.) at the weatherhead. HMLP will install and maintain a new overhead service drop from the utility pole to the service weatherhead. HMLP will also install a meter for the new service. In an overhead service the electric meter is the only equipment attached to the customer's structure that is owned by HMLP. All other equipment is owned and maintained by the Customer.

The opening for the meter socket shall be between a minimum of four feet (4') and a maximum of six feet (6') above final grade level. Please refer to Section 21 (Metering) for more information.

HMLP will not perform any work without a Utility Authorization Number and an inspection from the Town of Hingham Inspector of Wires.

### **18. UNDERGROUND SERVICES AND LINE EXTENSIONS:**

#### *New Underground Secondary Service from a pole in a Public Way*

All cables shall be copper. NO EXCEPTIONS.

HMLP offers two options when a customer desires an underground service from a pole in the public way:

1. HMLP will install a service pole in the Customer's property and extend overhead service wires from the pole in the public way to this service pole for a fee. The Customer will install their underground service from this new service pole as described below. HMLP will own the overhead service wire, connections, and service pole. The Customer will own the underground service from the connection point at the top of the service pole to the house.
2. The Customer, at his own expense (including street opening permit fees,) will install conduits from the HMLP designated pole in the public way to a handhole located on the property line, per HMLP specifications. See section 20 (Figure 20)

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for details. HMLP will then install and terminate secondary wires from the pole to the handhole for a fee charged to the Customer. The Customer will install their underground service from this handhole to their house. HMLP will own and maintain the secondary wires and conduits from the pole to the handhole, including the handhole and terminations inside. The customer will own and maintain the underground service from the handhole to their house. See Figure 20.

The Customer shall install, own and maintain all the conduits, cables and meter socket(s) from the service pole to the Customer's site. The riser pipe shall be of rigid galvanized steel construction and extend twelve feet (12') above grade level. The sweep pipe at the base of the pole attached to the riser pipe shall be of galvanized steel construction also. Please consult Town of Hingham Inspector of Wires for minimum radius requirements for service conduits. See Figure 2.

The cables shall be of enough length to extend to the top of the pole. This will allow enough slack to loop the cable through the weatherhead and make the necessary terminations at the pole.

The opening for the meter socket shall be between a minimum of four feet (4') and a maximum of six feet (6') above final grade level. Please refer to Section 21 (Metering) for more information.

HMLP will not perform any work without a Utility Authorization Number and an inspection from the Town of Hingham Inspector of Wires.

### *New Underground Primary Service from a pole in a Public Way*

The Customer shall install all the conduits, handholes, vaults, cabinets and transformer bases as designed and specified by HMLP. The Customer shall also install the house service cables, conduits and meter sockets from the service handholes to the houses. HMLP will install and terminate the primary and secondary cables. HMLP will own and maintain the Primary and Secondary cables after the Customer grants HMLP an easement for the electrical system.

Note: Underground house services are owned and maintained by the Customer. HMLP owns up to terminations in the last service handhole, and the easement requested shall reflect this requirement.

HMLP will install the transformers at its own expense.

HMLP offers two options when a customer desires an underground primary service from a pole in the public way. Please consult HMLP to determine which option is best suited for the project.

1. HMLP will install a service riser pole in the Customer's property and extend overhead primary wires from the pole in the public way to this riser pole. This work will be part of the overall project and will be at the Customer's expense.

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- The Customer will install the underground conduits from this pole as designed by HMLP.
2. The Customer, at his own expense (including street opening permit fees,) will install conduits from the HMLP designated pole in the public way to the various HMLP equipment per HMLP plans and specifications. See section 20 for details. This work will be part of the overall project and will be at the Customer's expense.

### **19: CONVERSIONS TO UNDERGROUND SERVICE:**

Customers desiring to convert their overhead electrical services to underground must contact HMLP first to determine the utility pole from which the new service will originate and whether said pole is in need of replacement prior to any conduits being attached to it. HMLP will also determine the location of the meter socket per the standards listed in metering section.

Please see Section 18 for more details.

The service cables shall be of enough length to extend to the top of the pole. This will allow enough slack to loop the cable through the weatherhead and make the necessary terminations at the pole.

All cables shall be copper. NO EXCEPTIONS.

The Customer shall install, own and maintain all the conduits, cables and meter socket(s) from the service pole to the customer's site. The riser pipe shall be of rigid steel construction and extend twelve feet (12') above grade level. The sweep pipe at the base of the pole attached to the riser pipe shall be of steel construction also. Please consult Town of Hingham Inspector of Wires for minimum radius requirements for service conduits.

### **20: UNDERGROUND CONSTRUCTION DETAILS:**

See Constructions Notes: Figure 19

All trenches shall be either undisturbed or compacted earth. No rocks larger than 2 inches in diameter shall be present in the trench base or the backfill material.

All Primary and Secondary conduits shall be 4" SCH 40 PVC encased in concrete unless otherwise specified by HMLP. HMLP requires a minimum of two conduits between its terminating points, whether primary or secondary, unless otherwise specified.

Concrete encasement shall be a minimum of three inches. The concrete shall be a minimum of 3000 PSI with 3/8" pea stone mixed in. Precautions have to be made by the contractor to prevent the conduits from floating in the concrete. The concrete shall be left to set for a minimum of Twenty Four (24) hours before backfilling the trench.

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The minimum radius for all HMLP conduit bends shall be thirty six (36) inches. Preformed bends shall only be used on riser sweeps, and vault and pad sweeps. All other bends in the main run shall be formed by bending straight sections of conduit with a heating device. The bent conduit shall maintain its interior surface smoothness as much as possible.

The minimum depth for all conduits in the Right-of-Way shall be forty (40) inches.

Spacers shall be used to separate the conduits as shown in the illustrations at the end of this booklet. Spacers shall be installed at five (5) foot intervals along the conduit run. Conduits shall be tied to the spacers to prevent them from floating during a concrete pour.

The minimum separation between electric conduits and telephone & CATV conduits shall be twelve (12) inches vertically and twelve (12) inches horizontally. All other utilities shall have a minimum of twenty four (24) inches of separation from electric conduits. Please consult appropriate utilities for their requirements. No stacking of conduits of different utilities shall be allowed. Please refer to the illustrations at the end of this booklet. See Figure 3.

All conduits must have weatherproof measuring tape (mule tape) installed by contractor. 4" conduits must have 1800 Lb. mule tape installed. 5" and 6" conduits must have 2500 Lb. mule tape installed. Installed mule tape must be one continuous piece for each conduit for accurate measurements. Contractor must take measurements, record them on an as built plan, and provide them to HMLP. All conduits must be mandrel proofed out and witnessed by an HMLP personal.

All conduit, pad, handhole, and vault installations must be inspected by an HMLP representative before encasing in concrete or backfilling. A minimum of forty eight (48) hours notice must be given for scheduling inspections.

All electric manholes, transformer pads, splice vaults, cabinets, handholes, and other electric structures shall sit on a minimum of twelve (12) inches of one and a half (1.5) inch crushed stone installed at their base. The crushed stone shall be installed on undisturbed or compacted earth. Please refer to the illustrations at the end of this booklet.

All transformer pads, splice vaults and cabinets, and other electric structures shall be located in the utility easement. The front edge of said equipment shall be a minimum of five (5) feet away from any roadways or driveways. Bollards shall be installed to protect these equipment as requested by HMLP. See Figure 18.

Conduits shall enter the single-phase transformer pads, splice vaults and cabinets from the bottom using a 45 degree bend conduits. Conduits shall only extend four (4) inches above the base of the pad, vault or cabinet. Bell ends must be installed at the ends of the conduits entering any pads, vaults or cabinets. Please refer to the illustrations at the end

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of this booklet. Manholes and three-phase transformer vaults have knockouts on their sides for conduit entry. See Figure 4 & 6

All transformer and switchgear pads, primary splice vaults, cabinets and manholes shall have grounding grids installed as shown in the illustrations. The grid shall consist of four (4) eight foot long by 5/8" diameter ground rods at each corner of the gear, joined together by 2/0 bare stranded copper wire. The connections at the rods shall be CADWELDED. The grounding grid shall be installed approximately two (2) feet below grade level. Enough slack shall be left inside the vault to extend two feet above the vault surface. See Figures 5, 8 & 14 depending on application.

Sweeps to riser conduits and riser conduits shall be rigid steel. One conduit shall be extended ten (10) feet up the pole with a grounding collar installed. Spare Conduit to be capped at the base of the pole. Locations of the riser conduits on pole to be decided by HMLP. See Figure 1.

HMLP shall determine the condition and suitability of a riser pole prior to any work performed by contractor

All street light circuits shall be fused and fuse devices shall be installed in the secondary handholes by the Customer. The Customer shall install the street lights, conduits and wires per HMLP specifications if the development will become a Town of Hingham accepted road. If the development will remain private, street lights will be owned and maintained by the Customer, including electricity consumption charges. See Figure 17.

Contact HMLP for street light bases. See Figure 17.

Single-Phase transformer pads shall be Nordic Fiberglass Pad, part number GS-37-43-32C:MG: 22x14, Highline Products HL374332-2224, or equivalent.

Three-Phase transformer vaults shall be Utility Precast FE-3-48 or equivalent for units up to 500 kVA, or Utility Precast FE-3-T 1000 for units above 500 kVA or equivalent.

All Transformer pads and vaults shall be installed four (4) inches above grade level.

For secondary splice handholes use:

- Carson Industries L-Series Light Duty Vault, P/N 2436-18 with Light Duty HDPE cover, P/N 2436-3B for Light Traffic areas,
- Carson Industries M-Series Medium Duty Vault, P/N 2436-18 with Medium Duty Polymer Concrete cover, P/N 2436-PC for Heavy Traffic areas.
- Or Equivalent handhole approved by HMLP.

Equivalent units from other manufacturers will be considered by HMLP if the contractor supplies HMLP with all the necessary information on the unit which shows it to be equivalent to the units shown above. All covers must say "Electric"

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All secondary splice vaults shall be installed at grade level.

For above ground splicing cabinets, use Nordic Fiberglass ND-150 or equivalent for single-phase applications. Use Nordic Fiberglass ND-360 or equivalent for three-phase applications. Grounding for these cabinets shall be the same as the transformer vaults.

Telephone, CATV, and fire alarm conduits shown in “typical utility duct bank cross section” illustration are for reference purposes only. Please consult appropriate utility companies for their requirements. See Figure 3.

Quantity and location of other utility conduits on riser poles must be approved by an HMLP representative before installation. HMLP will limit the quantity of the conduits on a riser pole, usually to 4 – 4” conduits.

### **21: METERING:**

**ALL SERVICE CONDUCTORS MUST BE COPPER. NO EXCEPTIONS.**

**ALL METERING EQUIPMENT INCLUDING METER SOCKETS AND CURRENT TRANSFORMER ENCLOSURES SHALL BE ON THE OUTSIDE OF BUILDINGS.. NO EXCEPTIONS TO THIS RULE WILL BE GRANTED.**

All service locations, whether upgrade or new, shall be approved by HMLP.

Meter sockets shall be easily accessible and located on the front half of a building. Absolutely no obstructions to access the meters including shrubs and fences.

Meter Clearances: No Obstruction 3’ feet in front of meter and 1.5’ feet on either side of the meter or a total of 3’ feet from center of meter. See Figure 11 and 12.

The center of the meter socket opening shall be between a minimum of four (4) feet and a maximum of six (6) feet above final grade level. See Figures 10,11 & 12 Depending on Application

All metering shall be hot sequence.

Meter sockets shall be a minimum of three feet (3’) away from the gas meter, if applicable.

All residential services with self-contained meter sockets 200A rating and above shall be equipped with a bypass switch.

All commercial services with self contained meter sockets shall be equipped with a bypass switch.

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All single phase self contained meter sockets shall have four (4) jaws.

On stacked meter banks, final installation height shall be determined by HMLP on a case by case basis.

On meter banks, Customer is required to label each socket with a permanent plastic label (Phenolic Labels.) This label shall match the corresponding unit number or street address of the location that particular meter serves.

On projects where the service includes multiple meters in a meter bank (condominium complexes, office buildings, multi family houses, etc.,) the Customer shall show, on site, a HMLP representative that the labeled meter sockets do serve the locations as labeled on the sockets. HMLP will permanently energize the service upon satisfactory completion of the test. However, if the test shows mismatched setups, HMLP will not energize the service until corrective measures are taken by the Customer and the test is performed again to the satisfaction of HMLP.

For transformer rated metering, HMLP will supply the appropriate meter socket with test switch and current transformers (CTs) to be installed by Customer.

CT rated meter sockets shall be installed as close to the transformer as possible. If attaching the socket to a building wall is not feasible due to building design or distance from the transformer, a free standing meter socket pedestal next to the transformer shall be installed. Please refer to the diagram at the end of this manual for specifications on meter pedestal.

Where applicable, HMLP supplied CTs shall be installed in the secondary compartment of the transformer by the contractor.

Where transformer mounted CT metering is not possible, HMLP will specify the CT cabinet type to be used by the Customer. This cabinet shall be mounted outside and as close to the meter socket as possible.

HMLP requires that the CT rated meter socket be no more than twenty conduit feet (20') away from the CTs.

HMLP requires a minimum of one and a quarter inch (1.25") SCH40 PVC conduit with no pull points between the CT cabinet (or transformer vault in case of transformer mounted CTs) and the meter socket. A pull string shall be installed in this conduit.

Any HMLP meter socket seal that is cut will require a HMLP U.A. Number, and a Town of Hingham wire permit and inspection.



## HINGHAM MUNICIPAL LIGHTING PLANT

### **22: TRANSFORMER AND SWITCHGEAR OWNERSHIP AND MAINTENANCE:**

It is the long term goal of HMLP that all transformers and switchgear on the HMLP system will be owned and maintained by HMLP. All new service installations shall comply with this policy. Customers requesting transfer of ownership of their equipment to HMLP must bring said equipment up to HMLP specifications at their expense before transferring ownership. Customers shall also provide HMLP with an easement for said equipment at their own expense. A padmount transformer shall have at least 5 feet of clearance from any structure or object and there shall be no doors or windows within 10 feet of said transformer.

### **23: EASEMENTS:**

The Customer, without expense to HMLP, shall provide all private property easements necessary to furnish service to the Customer. Easements shall cover all primary equipment in private property and secondary equipment excluding services which are the property of the Customer. If an easement is not granted within three (3) months of HMLP completing the service, all future maintenance will be performed at the Customer's expense.

### **24: TOWN OF HINGHAM INSPECTOR OF WIRES:**

HMLP will not perform any electrical work for a Customer without a written inspection approval for the Customer's work from the Town of Hingham Inspector of Wires; this includes emergency work performed by Customer to restore electricity.

### **25: CUSTOMER ALTERATION OF GRADE:**

The Customer shall be liable to HMLP for all costs incurred in the relocation and repair of HMLP overhead and underground facilities necessitated by grade changes on the property.

### **26: ADDITIONAL ELECTRICAL LOAD TO AN EXISTING SERVICE:**

The service connection, transformers, meters, and equipment supplied by HMLP for each customer have finite capacity and that capacity cannot be altered without jeopardizing the integrity of HMLP's operating system. To protect HMLP's operating system, and potentially the electrical systems of the other HMLP Customers, no addition to the equipment or load connected thereto will be allowed except by prior written consent of HMLP. If the Customer makes additions or changes to its load without the prior written consent from HMLP, and those changes result in damage to HMLP's equipment or facilities, the Customer shall be responsible for any and all damage to HMLP's property, as well as all other costs incurred by HMLP as a result of HMLP repairing damage to other Customers' lines or equipment caused by such additions or changes.

## HINGHAM MUNICIPAL LIGHTING PLANT

### **27: NON STANDARD SERVICE:**

The Customer shall pay the cost of any special installation necessary to meet his peculiar requirements for service at other than standard voltages, or for the supply of closer voltage regulation than required by standard practice, in HMLP's case +/- 5%.

### **28: TEMPORARY SERVICE:**

An installation charge, or hook up fee, of **\$250.00** shall be made for each temporary overhead or underground single phase service connection, if consisting only of service wires and a self contained meter in case of overhead services and a self contained meter in case of underground services. When more than the above is required to provide the requested temporary service, the Customer shall pay for all work done by HMLP in completing, and removing, the temporary extension of existing electric lines and facilities needed to provide the temporary service requested. HMLP will provide the Customer with a cost estimate for non standard temporary services. The temporary extension charge shall be a non recoverable charge and payable in advance of any construction. It should be noted that the above fee is in addition to the deposit fee detailed in the HMLP Rate Schedule handbook.

#### **Conversion of Temporary Service to a Permanent One:**

When the temporary service is for a building contractor and service may be furnished later on a permanent basis, material in the temporary service may be used in the permanent connection. Any material and associated labor proposed to be used in the permanent connection will not be considered in determining the installation charge for the temporary service.

### **29: UNAUTHORIZED USE OF ELECTRICITY:**

Whenever HMLP determines unauthorized use of electricity by a customer, HMLP will report such unauthorized activity to the authorities who will prosecute to the fullest extent of the law. HMLP will make such changes in its meters or other equipment on said Customer premises or take such other corrective action as may be appropriate to ensure the safety and security of the general public, its equipment and installation under the circumstances. HMLP shall have the right, when an unauthorized use of electricity has occurred, to assess estimated electric service charges as well as all costs incurred in correcting the condition. HMLP will require full payment of all charges and costs prior to reenergizing. Nothing in this paragraph shall be deemed to constitute a waiver of any other rights of redress which may be available to HMLP or to limit in any way any legal recourse which may be open to HMLP under the Massachusetts General Laws.

## HINGHAM MUNICIPAL LIGHTING PLANT

### 30: SCOPE:

This Rules, Regulations and Specifications for Electric Service is a part of all contracts for receiving electric service from HMLP, whether the service is based upon contractual agreement, signed application, or otherwise. A copy of HMLP Schedule of Rates shall be kept open to inspection at the office of HMLP, 350 Lincoln Street, Suite 110, Hingham, or online at [www.hmlp.com](http://www.hmlp.com).

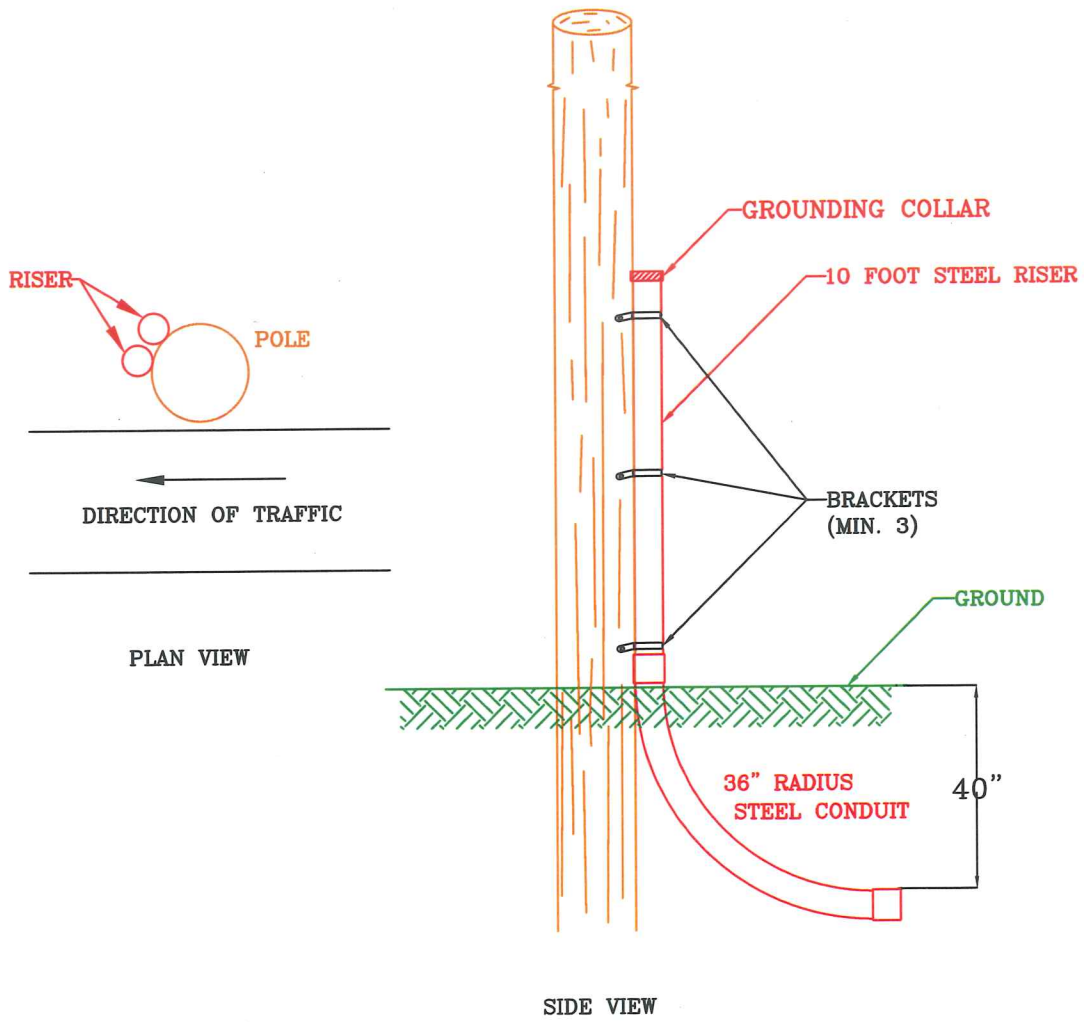
### 31: REVISIONS:

These Rules, Regulations and Specifications for Electric Service may be revised, amended, supplemented, or otherwise changed from time to time, without notice. Such changes, when effective, shall have the same force as the present Rules, Regulations and Specifications for Electric Service.

### 32: ILLUSTRATIONS:

- |           |   |
|-----------|---|
| Figure 1  | Primary Riser Conduit Installation.                                 |
| Figure 2  | Secondary Riser Conduit Installation.                               |
| Figure 3  | Typical Utility Duct bank Cross Section.                            |
| Figure 4  | Typical Single-Phase Transformer Pad and Splice Vault Installation. |
| Figure 5  | Typical Single-Phase Transformer Pad and Splice Vault Ground Grid.  |
| Figure 6  | Three-Phase Transformer Vault (Up to 500 kVA.)                      |
| Figure 7  | Three-Phase Transformer Vault (Larger than 500 kVA.)                |
| Figure 8  | Three-Phase Transformer Vault Ground Grid.                          |
| Figure 9  | Pedestal Mounted Self Contained Meter Socket Installation.          |
| Figure 10 | Pedestal Mounted CT Rated Meter Socket.                             |
| Figure 11 | House Mounted Meter Socket – Overhead Service.                      |
| Figure 12 | House Mounted Meter Socket – Underground Service.                   |
| Figure 13 | Primary Manhole.  |
| Figure 14 | Primary Manhole – Grounding Grid.                                   |
| Figure 15 | Primary Manhole Frame and Ring Detail.                              |
| Figure 16 | 26” Primary Manhole Cover.  |
| Figure 17 | Street Light Pole and Base Installation.                            |
| Figure 18 | Bollards.   |
| Figure 19 | Construction Notes.   |
| Figure 20 | Secondary Riser w/ Hand Hole: URD Service                           |

PIPE SHALL BE:  
 4" GALVANIZED STEEL  
 OR OTHER AS SPECIFIED  
 BY HMLP

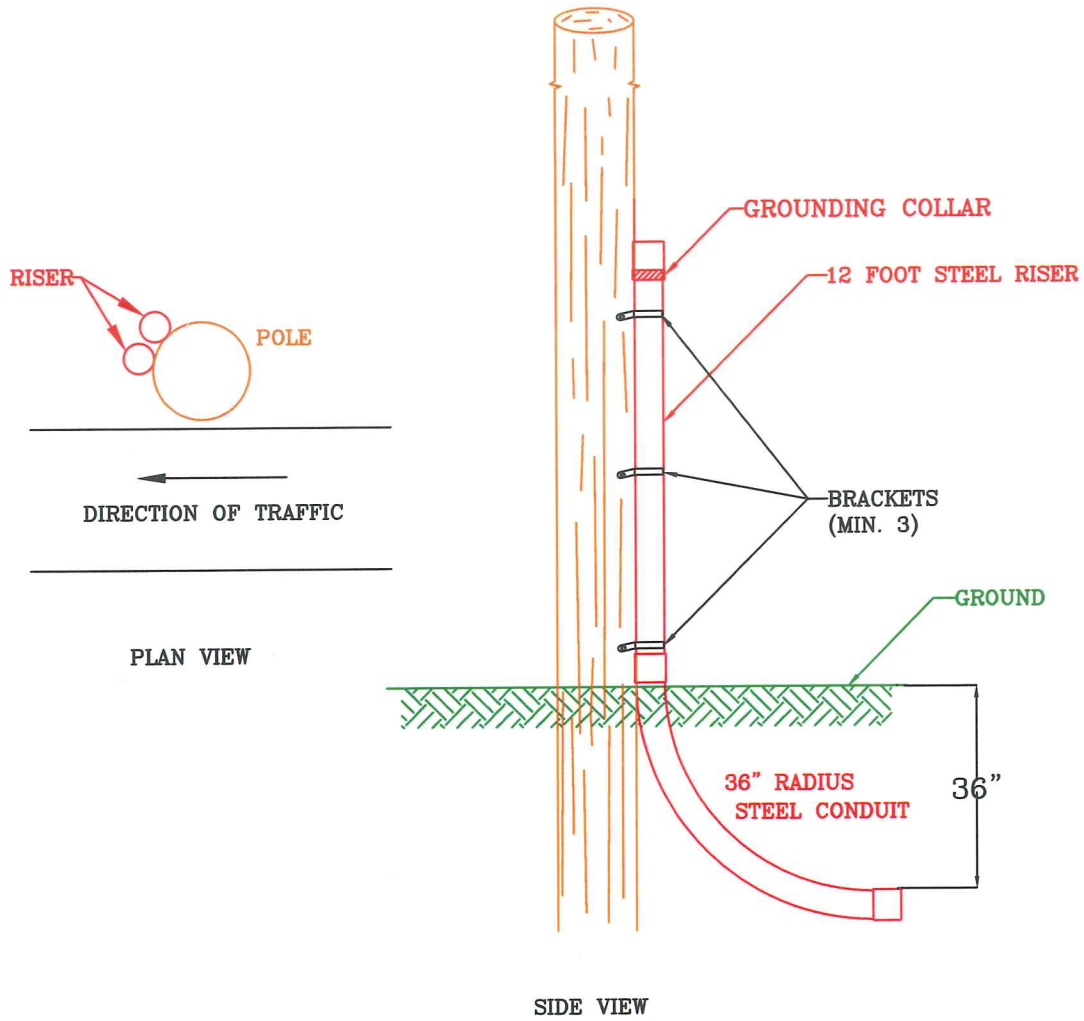


**PRIMARY CONDUIT INSTALLATION ON RISER POLES**  
 (WORK BY CONTRACTOR)  
 NOT TO SCALE

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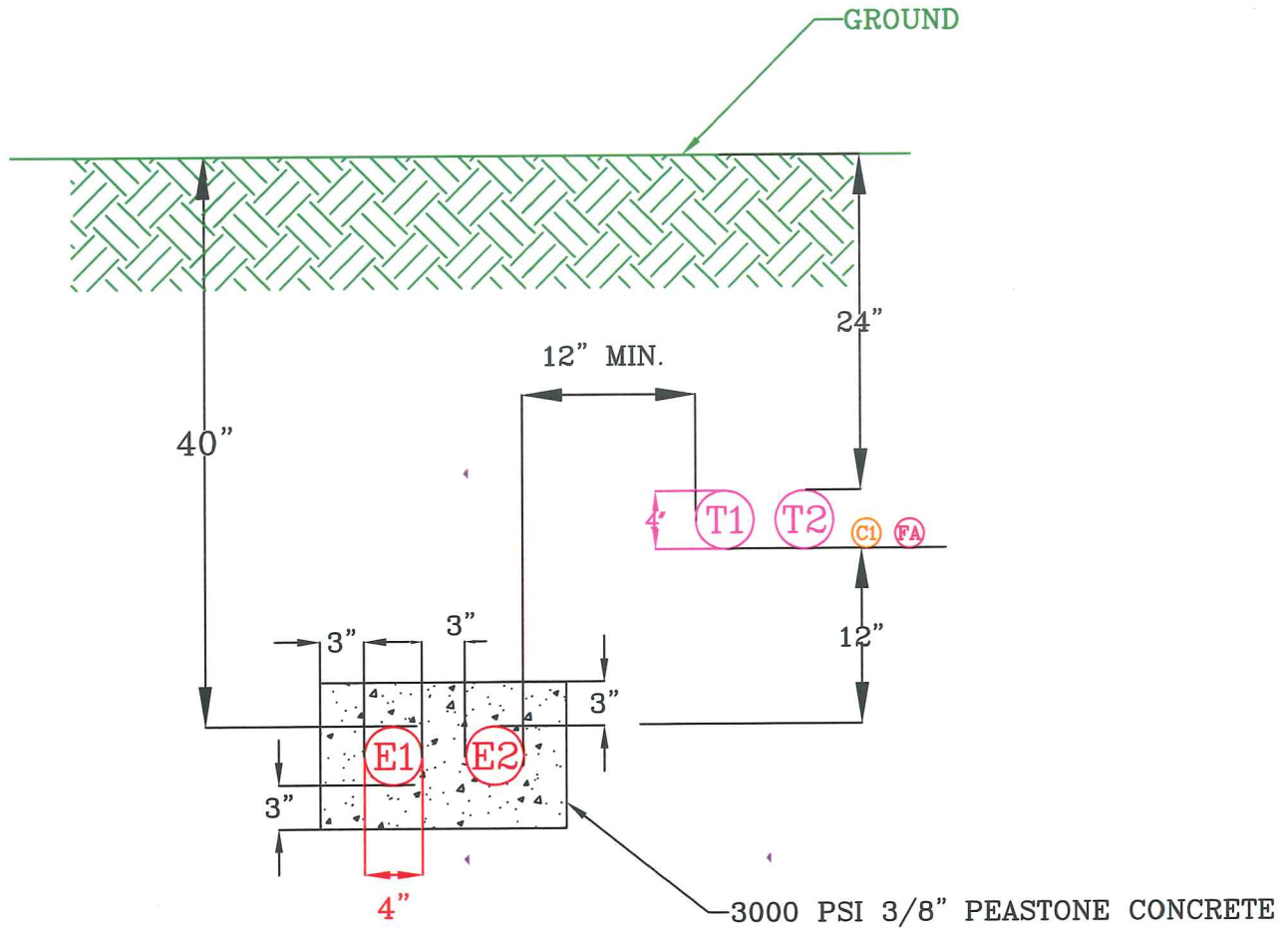
HINGHAM MUNICIPAL LIGHTING PLANT ENGINEERING DEPARTMENT HINGHAM, MASSACHUSETTS		
<b>FIGURE 1</b>		
DRAWN BY: <i>[Signature]</i>	APP'D BY: <i>[Signature]</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1

PIPE SIZING:  
2" for 2/0 WIRE  
2-1/2" for 4/0 WIRE



SECONDARY CONDUIT INSTALLATION ON RISER POLES  
(WORK BY CONTRACTOR)  
NOT TO SCALE

HINGHAM MUNICIPAL LIGHTING PLANT ENGINEERING DEPARTMENT HINGHAM, MASSACHUSETTS		
FIGURE 2		
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CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1



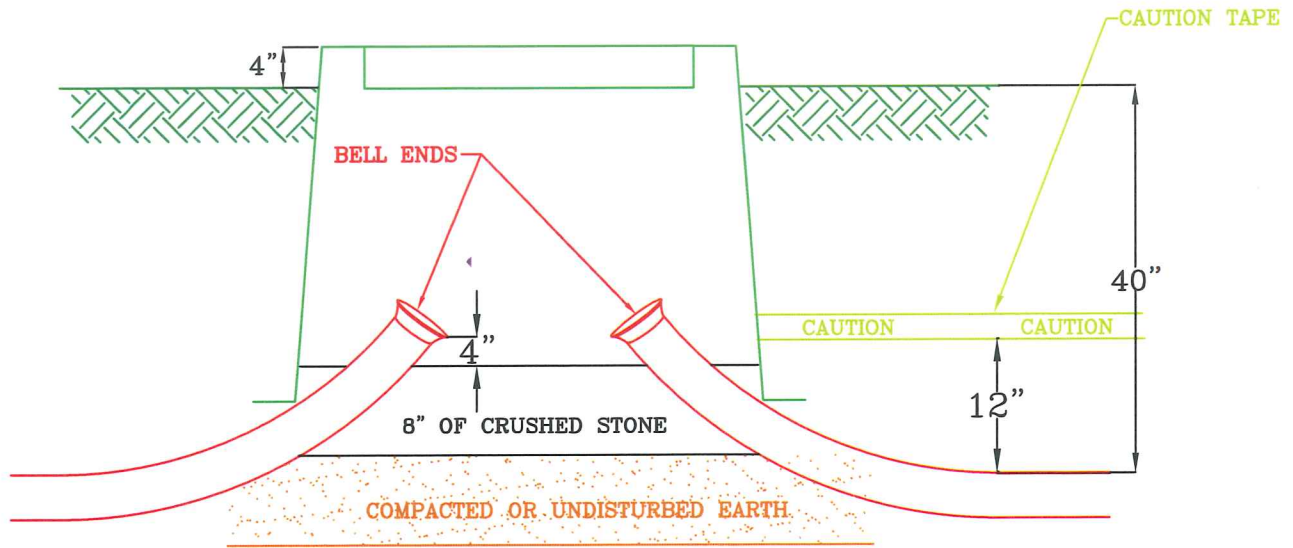
TYPICAL UTILITY DUCTBANK CROSS SECTION

(WORK BY CONTRACTOR)  
NOT TO SCALE

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 3

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CHECKED BY:	DATE: 17 DECEMBER, 2006	SHEET 1 OF 1



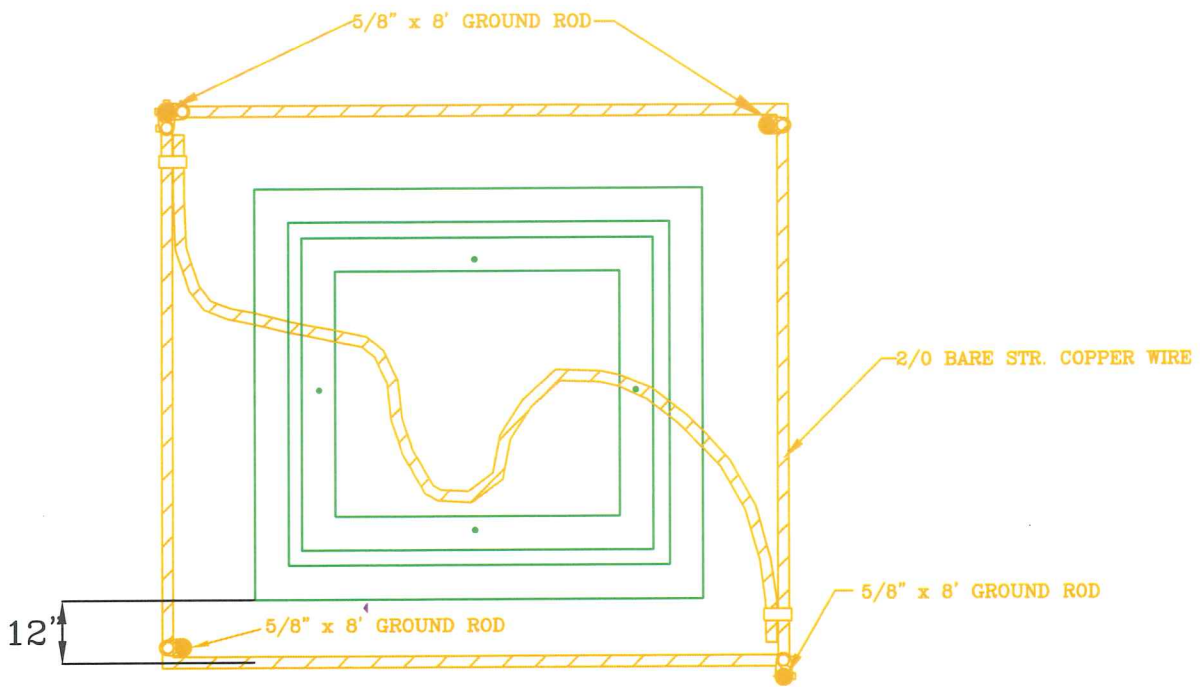
TYPICAL TRANSFORMER PAD AND SPLICE VAULT INSTALLATION

(WORK BY CONTRACTOR)  
NOT TO SCALE

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 4

DRAWN BY: <i>[Signature]</i>	APP'D BY: <i>[Signature]</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2002	SHEET 1 OF 1



ALL CONNECTIONS MUST BE CADWELDED

ALL TRANSFORMER PADS, PRIMARY SPLICE VAULTS AND CABINETS SHALL HAVE GROUNDING GRIDS INSTALLED AS SHOWN IN THE DETAIL DRAWING. THE GROUNDING GRID SHALL BE INSTALLED APPROXIMATELY TWO FEET BELOW GRADE LEVEL AND THE CONNECTIONS SHOULD BE CADWELDED. ENOUGH SLACK SHOULD BE LEFT INSIDE THE VAULT TO EXTEND TWO FEET ABOVE THE VAULT SURFACE.

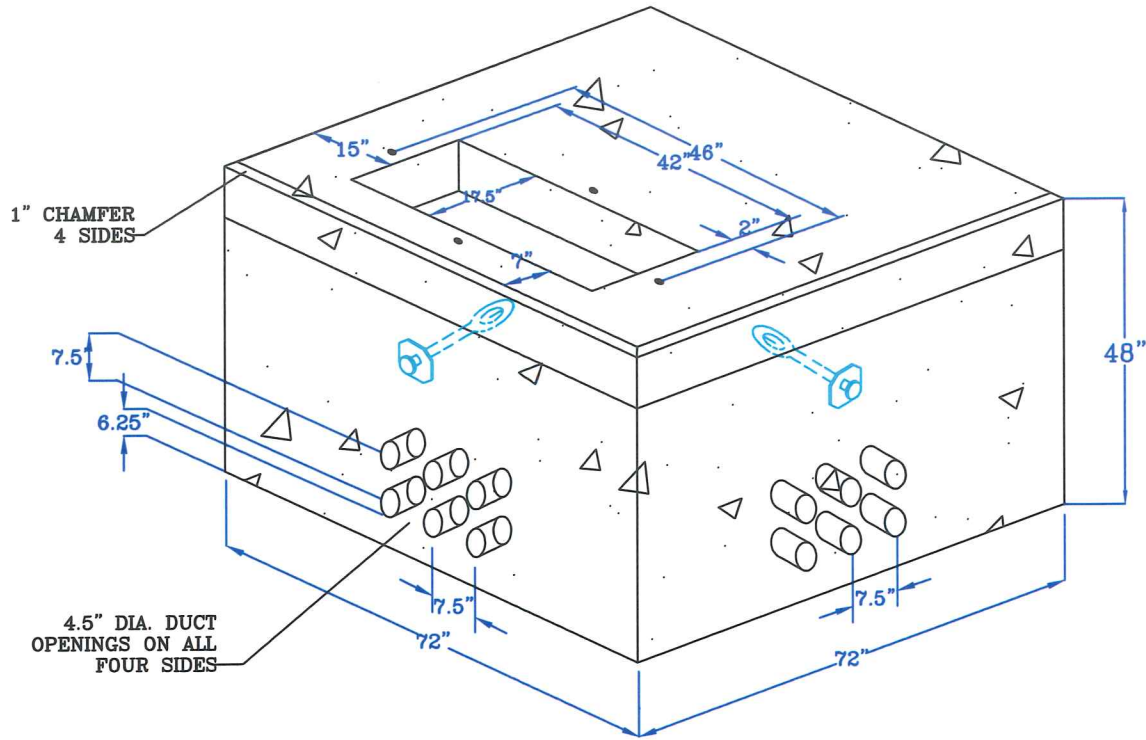
TYPICAL GROUND GRID FOR TRANSFORMER PADS AND PRIMARY SPLICE VAULTS  
 (WORK BY CONTRACTOR)  
 NOT TO SCALE

HINGHAM MUNICIPAL LIGHTING PLANT  
 ENGINEERING DEPARTMENT  
 HINGHAM, MASSACHUSETTS

FIGURE 5

DRAWN BY: <i>JS</i>	APP'D BY: <i>JK</i>	SCALE: NONE
CHECKED BY:	DATE: 14 DECEMBER, 2008	SHEET 1 OF 1





**THREE PHASE TRANSFORMER  
VAULT (UP TO 500 KVA)  
(PROVIDED AND INSTALLED  
BY CONTRACTOR)  
NOT TO SCALE**

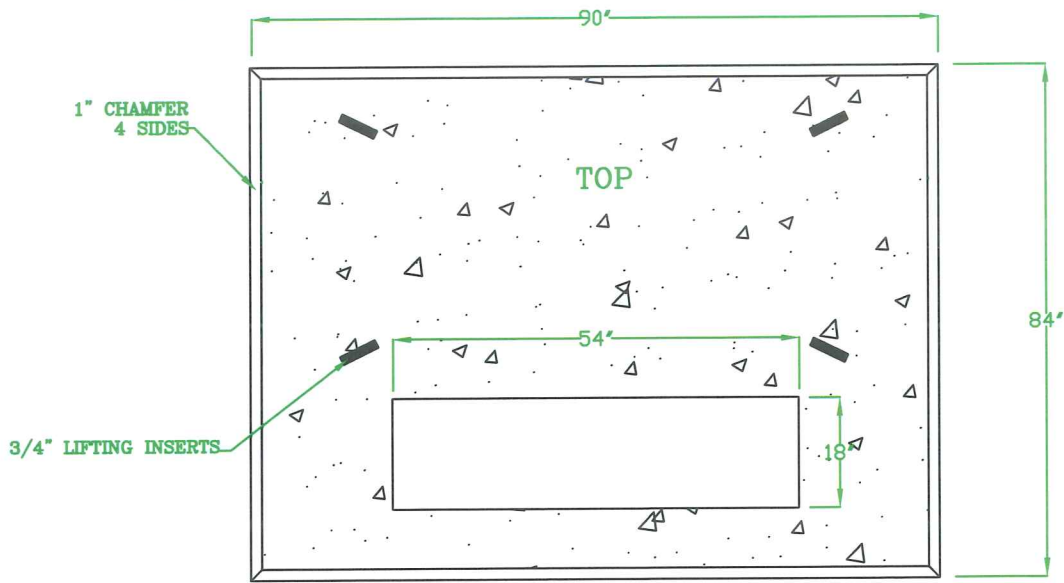
**TRANSFORMER VAULT NOTES:**

1. CONCRETE TO BE 5000 PSI HIGH EARLY STRENGTH.
2. TOP TO BE REINFORCED WITH #5 ROD TO SUPPORT H-20 WHEEL LOAD.
3. CONCRETE TO BE COMPACTED WITH VIBRATOR.
4. GALVANIZED PULL EYES ON SPECIAL ORDER.
5. ADDITIONAL DUCT OPENINGS ON SPECIAL ORDER.
6. GROUNDING LEADS TO BE LONG ENOUGH TO EXTEND FIVE FEET ABOVE PAD OPENING.
7. CONDUIT OPENINGS TO HAVE 4" BELL ENDS FLUSH WITH INSIDE WALL.
8. PAD TO BE INSTALLED ON 12" BED OF 1.5" CRUSHED STONE.
9. TOP OF PAD TO BE 4" ABOVE FINISHED GRADE.
10. 3/8" DIA x 1.5" LONG FULL THREAD STAINLESS STEEL PENTA HEAD BOLT & CUPPED WASHER (4) PLACES
11. VAULT SHALL BE UTILITY PRECAST FE-3-48-2 OR EQUIVALENT.

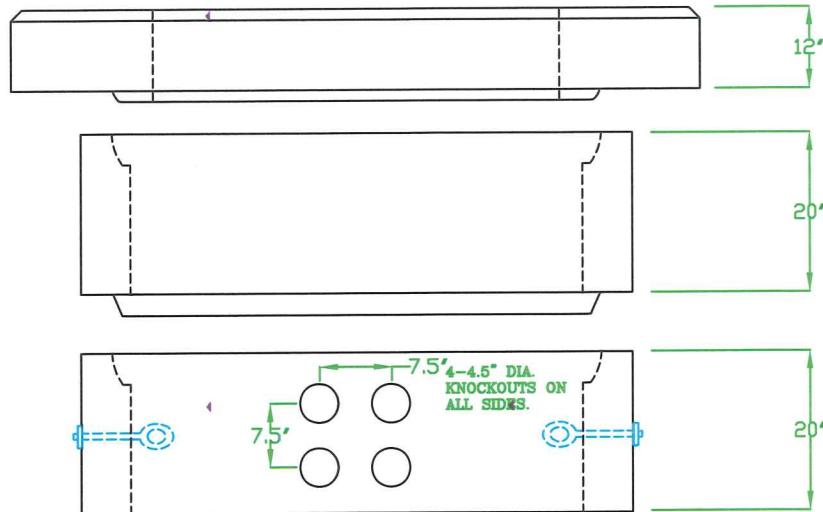
HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

**FIGURE 6**

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CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1



TOP VIEW



SIDE VIEW

TRANSFORMER VAULT NOTES:

1. CONCRETE TO BE 5000 PSI HIGH EARLY STRENGTH.
2. SIDE WALLS REINFORCED WITH WIRE AND ROD.
3. TOP TO BE REINFORCED TO SUPPORT H-20 WHEEL LOAD.
4. CONCRETE TO BE COMPACTED WITH VIBRATOR.
5. GALVANIZED PULL EYES ON SPECIAL ORDER.
6. ADDITIONAL DUCT OPENINGS ON SPECIAL ORDER.
7. GROUNDING LEADS TO BE LONG ENOUGH TO EXTEND FIVE FEET ABOVE PAD OPENING.
8. CONDUIT OPENINGS TO HAVE BELL ENDS FLUSH WITH INSIDE WALL.
9. PAD TO BE INSTALLED ON 12" BED OF 1.5" CRUSHED STONE.
10. TOP OF PAD TO BE 4" ABOVE FINISHED GRADE.
11. 3/8" DIA x 1.5" LONG FULL THREAD STAINLESS STEEL PENTA HEAD BOLT & CUPPED WASHER (4) PLACES
12. VAULT SHALL BE UTILITY PRECAST FE-3-T 1000 OR EQUIVALENT.

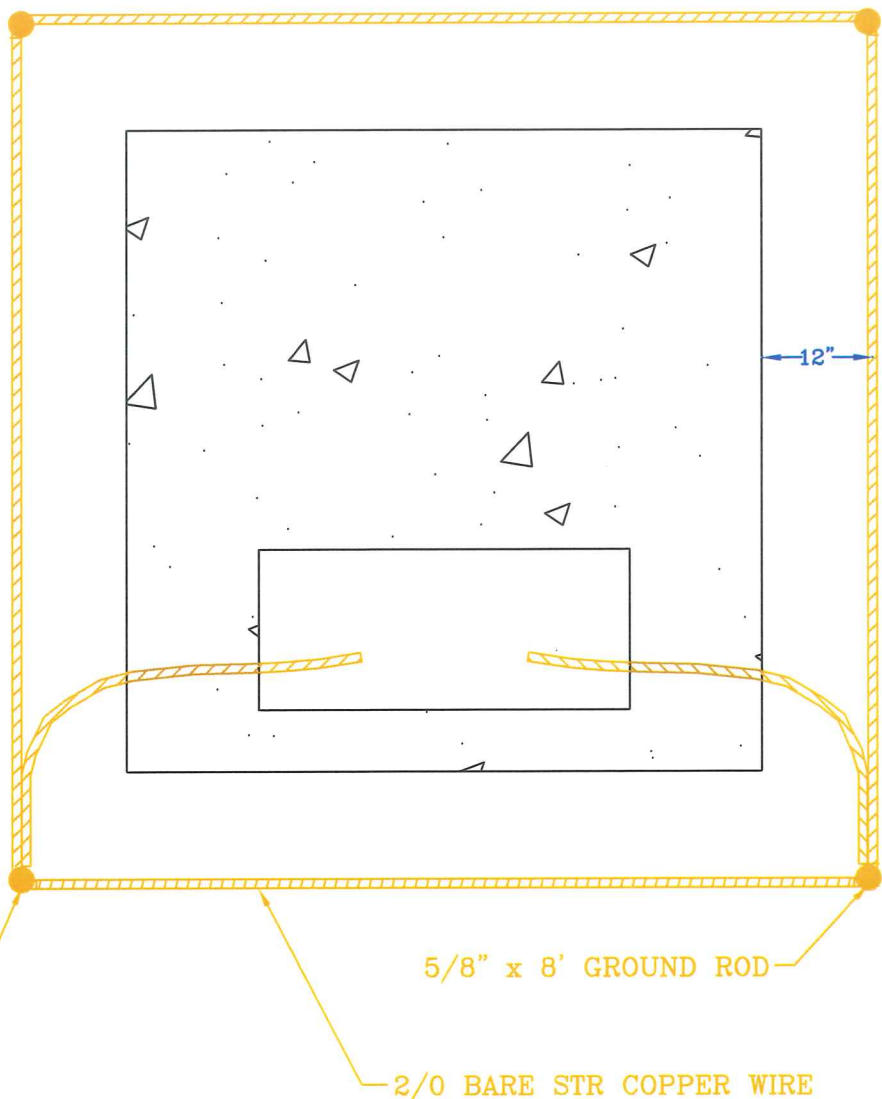
TRANSFORMER VAULT LARGER THAN 500 KVA

WORK BY CONTRACTOR  
(NOT TO SCALE)

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 7

DRAWN BY: <i>JST</i>	APP'D BY: <i>JH</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1



ALL GROUNDING CONNECTIONS MUST BE CADWELDED

5/8" x 8' GROUND ROD

2/0 BARE STR COPPER WIRE

NOTES

1. GROUNDING LEADS TO BE LONG ENOUGH TO EXTEND FIVE FEET ABOVE PAD OPENING.
2. GROUNDING LEADS TO ENTER THE VAULT FROM THE SIDES FROM EITHER A HOLE DRILLED INTO THE WALL OR FROM ONE OF THE CONDUIT OPENINGS. WHEN USING THE CONDUIT OPENINGS, THE OPENING SHOULD BE SEALED AGAINST MOISTURE.

THREE PHASE TRANSFORMER VAULT GROUNDING LAYOUT

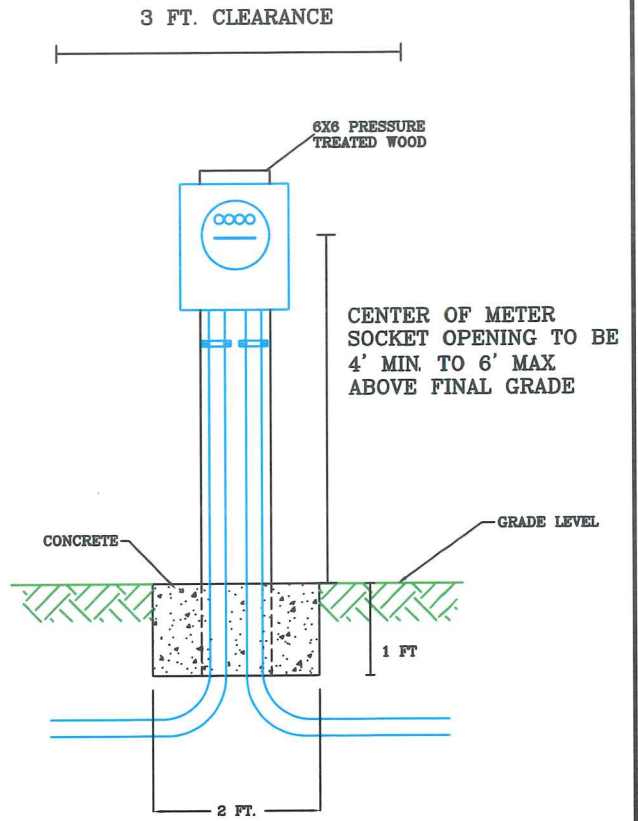
WORK BY CONTRACTOR  
(NOT TO SCALE)

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

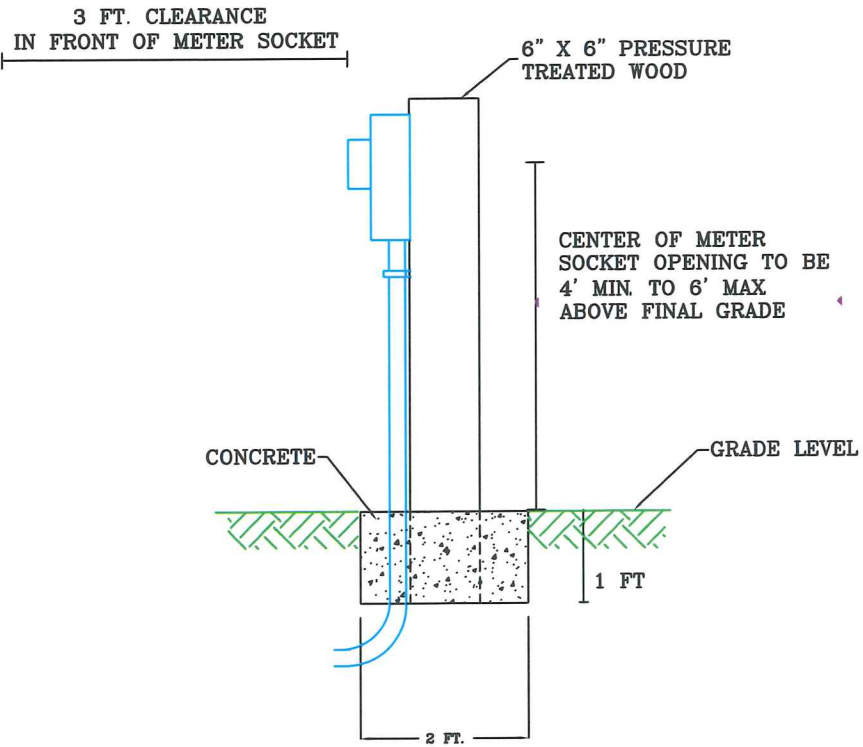
**FIGURE 8**

DRAWN BY: <i>JD</i>	APP'D BY: <i>JD</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1

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FRONT VIEW



SIDE VIEW

PEDESTAL MOUNTED METER SOCKET INSTALLATION

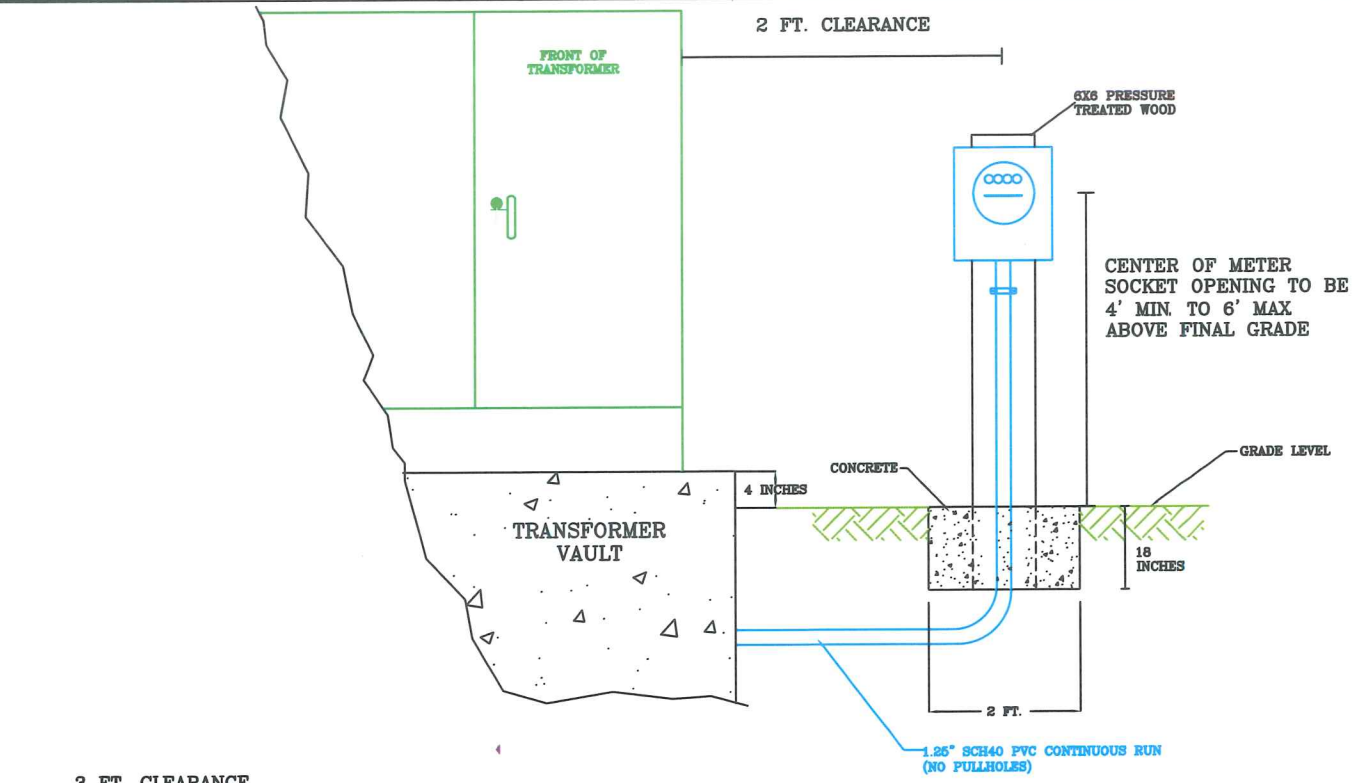
WORK BY CONTRACTOR  
(NOT TO SCALE)

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

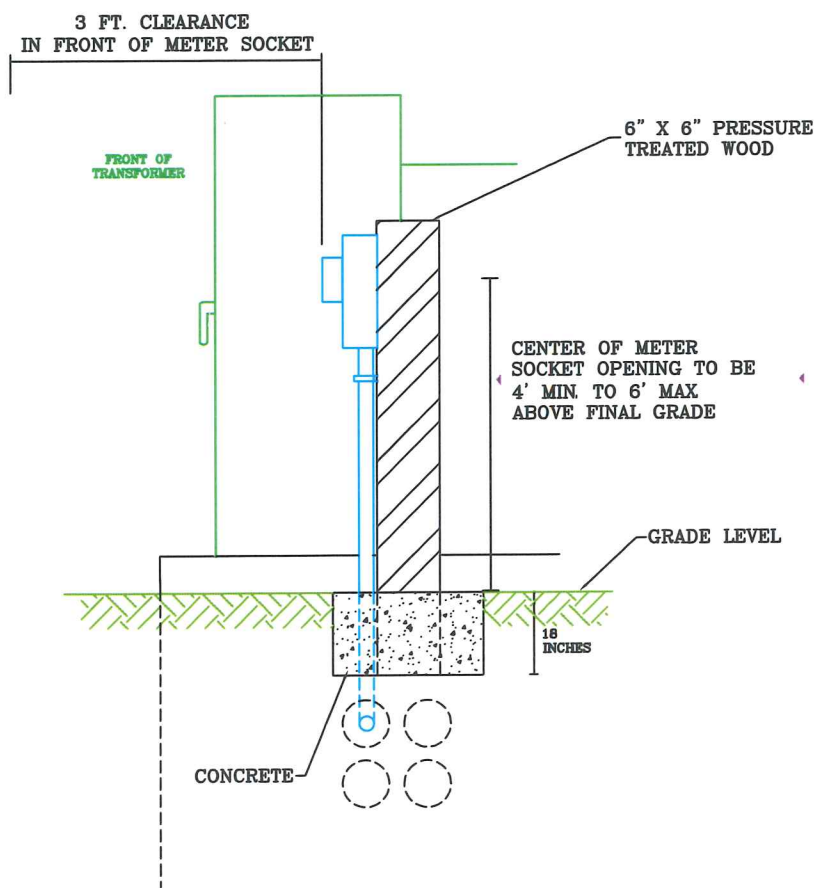
**FIGURE 9**

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CHECKED BY:	DATE: 17 DECEMBER, 2006	SHEET 1 OF 1

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FRONT VIEW



SIDE VIEW

PEDESTAL MOUNTED CT RATED METER SOCKET

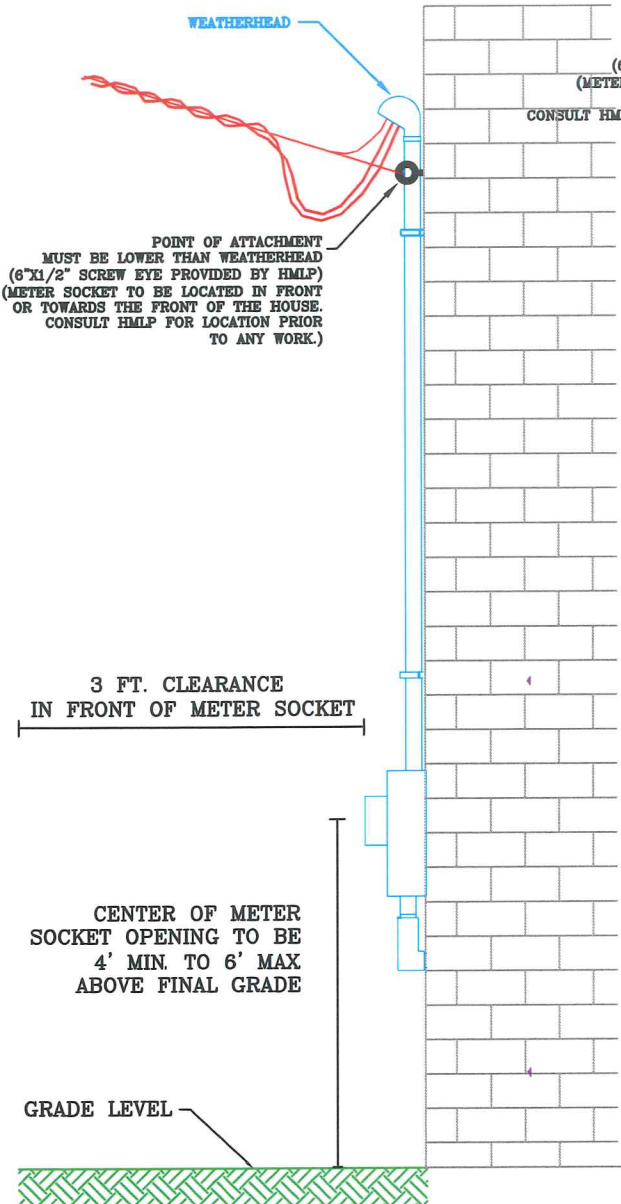
WORK BY CONTRACTOR  
(NOT TO SCALE)

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

**FIGURE 10**

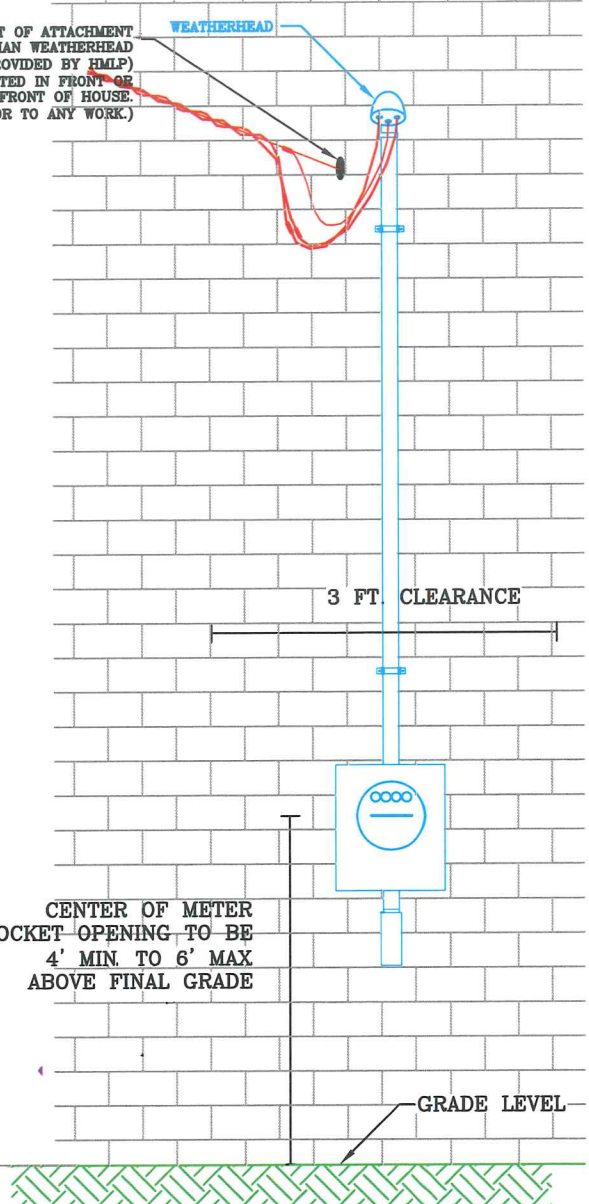
DRAWN BY: <i>[Signature]</i>	APP'D BY: <i>[Signature]</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2006	SHEET 1 OF 1

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SIDE VIEW

POINT OF ATTACHMENT  
MUST BE LOWER THAN WEATHERHEAD  
(6"x1/2" SCREW EYE PROVIDED BY HMLP)  
(METER SOCKET TO BE LOCATED IN FRONT OF  
TOWARDS THE FRONT OF HOUSE.  
CONSULT HMLP FOR LOCATION PRIOR TO ANY WORK.)



FRONT VIEW

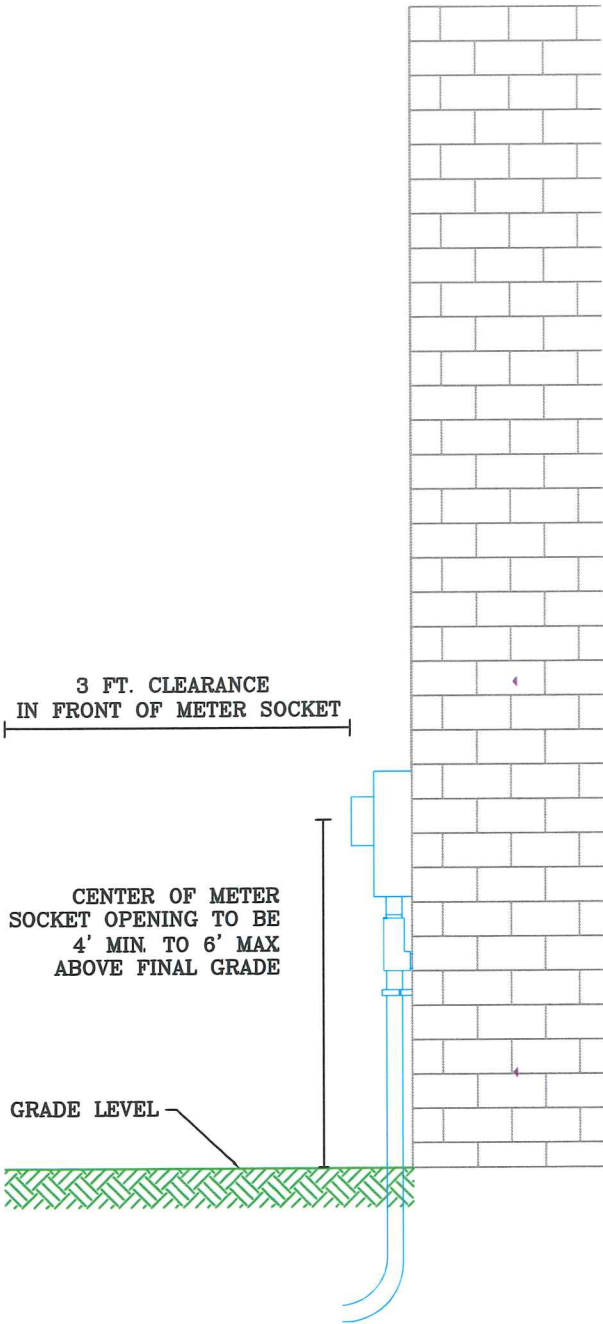
HOUSE MOUNTED METER SOCKET - OVERHEAD

WORK BY CONTRACTOR  
(NOT TO SCALE)

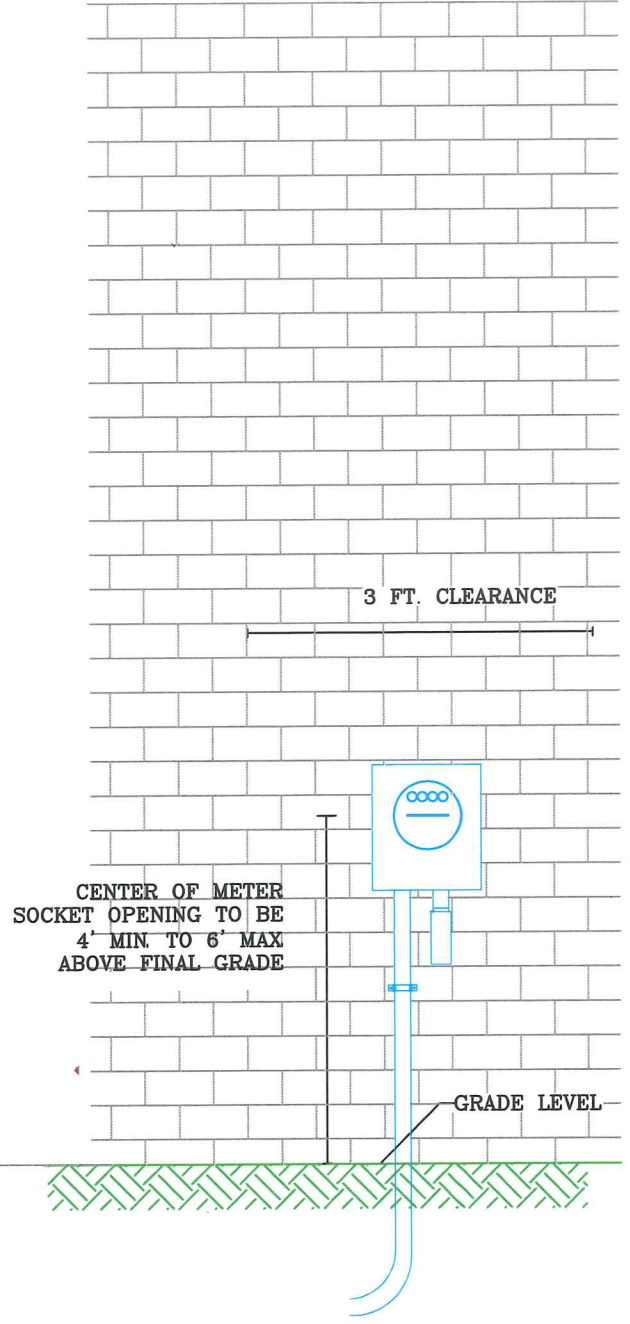
HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

**FIGURE 11**

DRAWN BY: <i>JG</i>	APP'D BY: <i>JG</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1



SIDE VIEW



FRONT VIEW

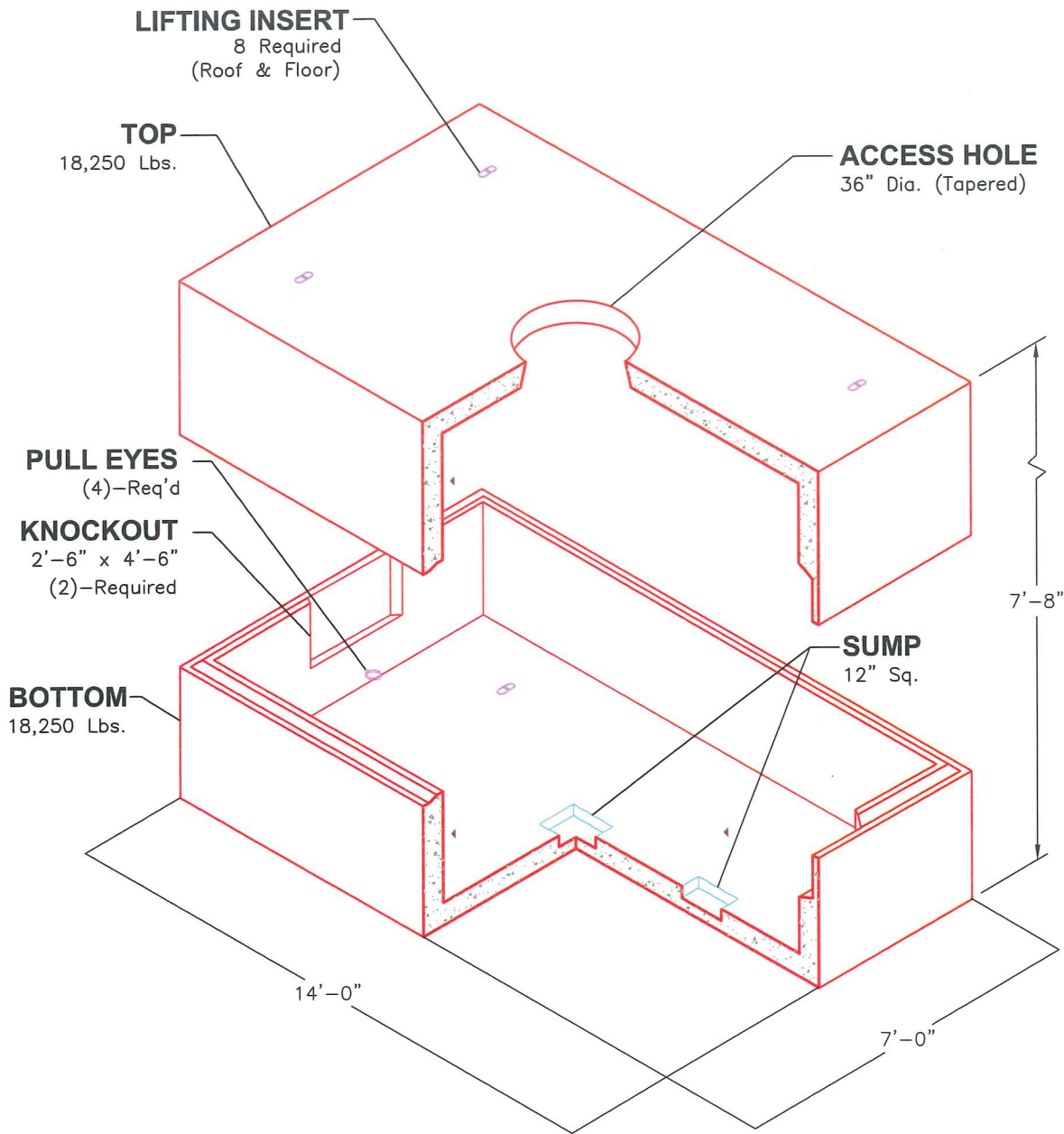
HOUSE MOUNTED METER SOCKET - UNDERGROUND

WORK BY CONTRACTOR  
(NOT TO SCALE)

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 12

DRAWN BY: <i>JS</i>	APP'D BY: <i>JS</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2008	SHEET 1 OF 1



**MH 6X13-66-TW**

**6'-0" x 13'-0" x 6'-6" I.D.  
Electric Manhole Two Way  
NEES  
36,500 Lbs**



Division

70 East Brookfield Rd. N. Brookfield, MA. 01535-0187  
Phone: 800.242.7314 Fax: 508.867.3721

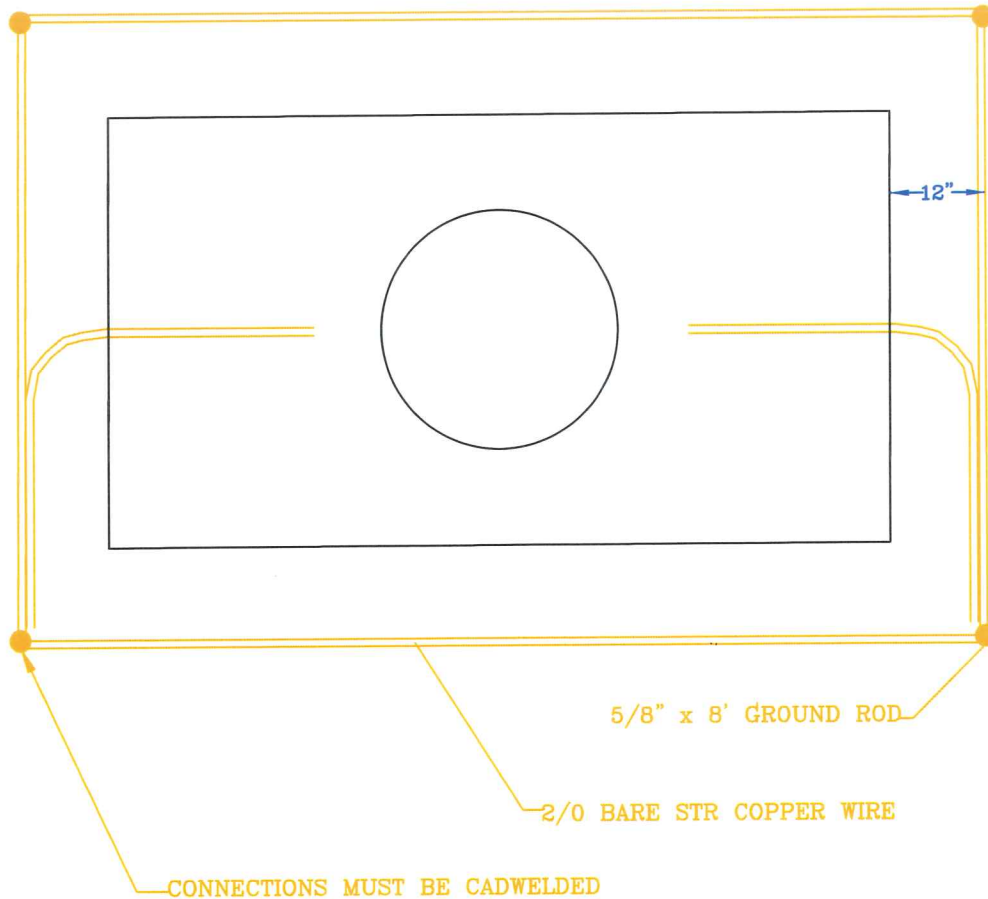
Copyright © 2003 Oldcastle Precast  
www.chaseprecast.com

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

**FIGURE 13**

DRAWN BY: <i>[Signature]</i>	APP'D BY: <i>[Signature]</i>	SCALE: NONE
CHECKED BY:	DATE: 17 DECEMBER, 2003	SHEET 1 OF 1





**NOTES**

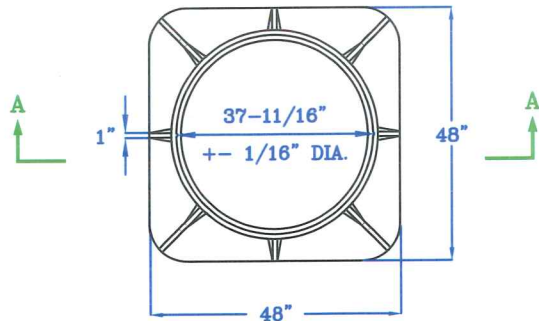
1. CONCRETE IS 6" THICK ALL AROUND.
2. END WALLS ON BASE DRILLED FOR 1-1/2" EYEBOLTS.
3. ACMELITE SEALANT USED BETWEEN SHIPLAP JOINTS.
4. VAULT REINFORCED WITH STEEL.
5. 5000 LB. HIGH EARLY CONCRETE.
6. CONCRETE COMPACTED WITH VIBRATOR.
7. MANHOLE TO BE BUILT TO SUPPORT H-20 WHEEL LOAD.
8. GALVANIZED PULL EYES ON EACH END WALL.
9. ADDITIONAL DUCT OPENINGS ON SPECIAL ORDER.
10. ALL PRIMARY MANHOLES SHALL HAVE GROUNDING GRIDS INSTALLED AS SHOWN IN THE DETAIL DRAWING. THE GROUNDING GRID SHALL BE INSTALLED APPROXIMATELY THREE FEET BELOW GRADE LEVEL AND THE CONNECTIONS SHALL BE CADWELDED. TEN FOOT TAILS SHALL BE LEFT INSIDE THE MANHOLE.
11. CONDUIT OPENINGS TO HAVE 4" BELL ENDS FLUSH WITH INSIDE WALL.
12. MANHOLE TO BE INSTALLED ON 12" BED OF 1.5" CRUSHED STONE.
13. TOP OF MANHOLE SHALL BE AT A DEPTH EQUAL TO THE HEIGHT OF COVER IN ORDER FOR COVER TO BE FLUSH WITH GRADE.

PRIMARY MANHOLE - GROUNDING GRID

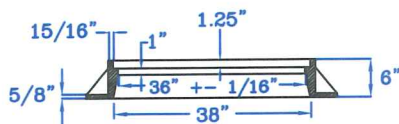
HINGHAM MUNICIPAL LIGHTING PLANT  
 ENGINEERING DEPARTMENT  
 HINGHAM, MASSACHUSETTS

**FIGURE 14**

DRAWN BY: <i>DT</i>	APP'D BY: <i>JJK</i>	SCALE: NONE
CHECKED BY:	DATE: 30 JANUARY, 2008	SHEET 1 OF 1



TOP VIEW

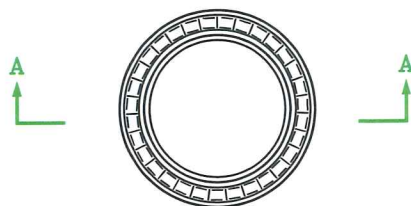


SECTION A - A

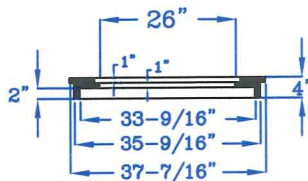
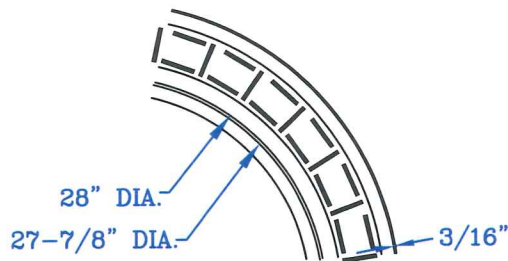
## 36" MANHOLE FRAME

### NOTES

1. PER EUA MATERIAL SPECIFICATION FRA-2.
2. USE WITH MANHOLE COVER ADAPTER RING PER EUA MATERIAL SPECIFICATION RIN-1.
3. USE MANHOLE COVER PER EUA MATERIAL SPECIFICATION COV-1.
4. USAGE: ALL LOCATIONS, BOTH LIGHT AND HEAVY DUTY.
5. MANUFACTURER & CAT. #: LEBARON. LE386



TOP VIEW



SECTION A - A

## 26" - 36" MANHOLE RING

### NOTES

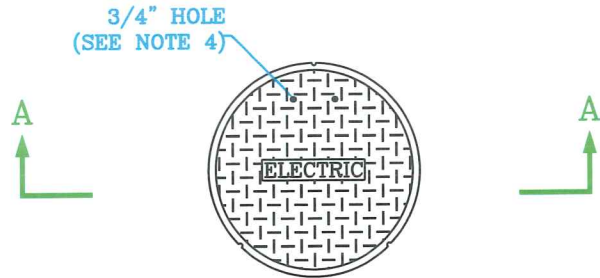
1. PER EUA MATERIAL SPECIFICATION RIN-1.
2. FITS 36" MANHOLE FRAME PER EUA MATERIAL SPECIFICATION FRA-2.
3. USE 26" MANHOLE COVER PER EUA MATERIAL SPECIFICATION COV-1.
4. USAGE: ALL LOCATIONS, BOTH LIGHT AND HEAVY DUTY.
5. MANUFACTURER & CAT. #: LEBARON. L2836X1

## MANHOLE FRAME AND RING DETAIL

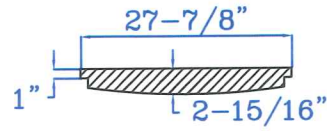
HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 15

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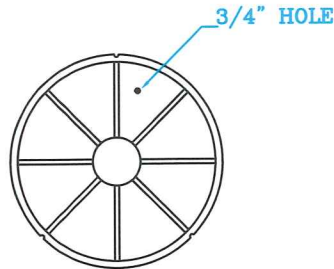


TOP VIEW



FLAT SURFACE FLUSH WITH FRAME

SECTION A - A



BOTTOM VIEW

NOTES

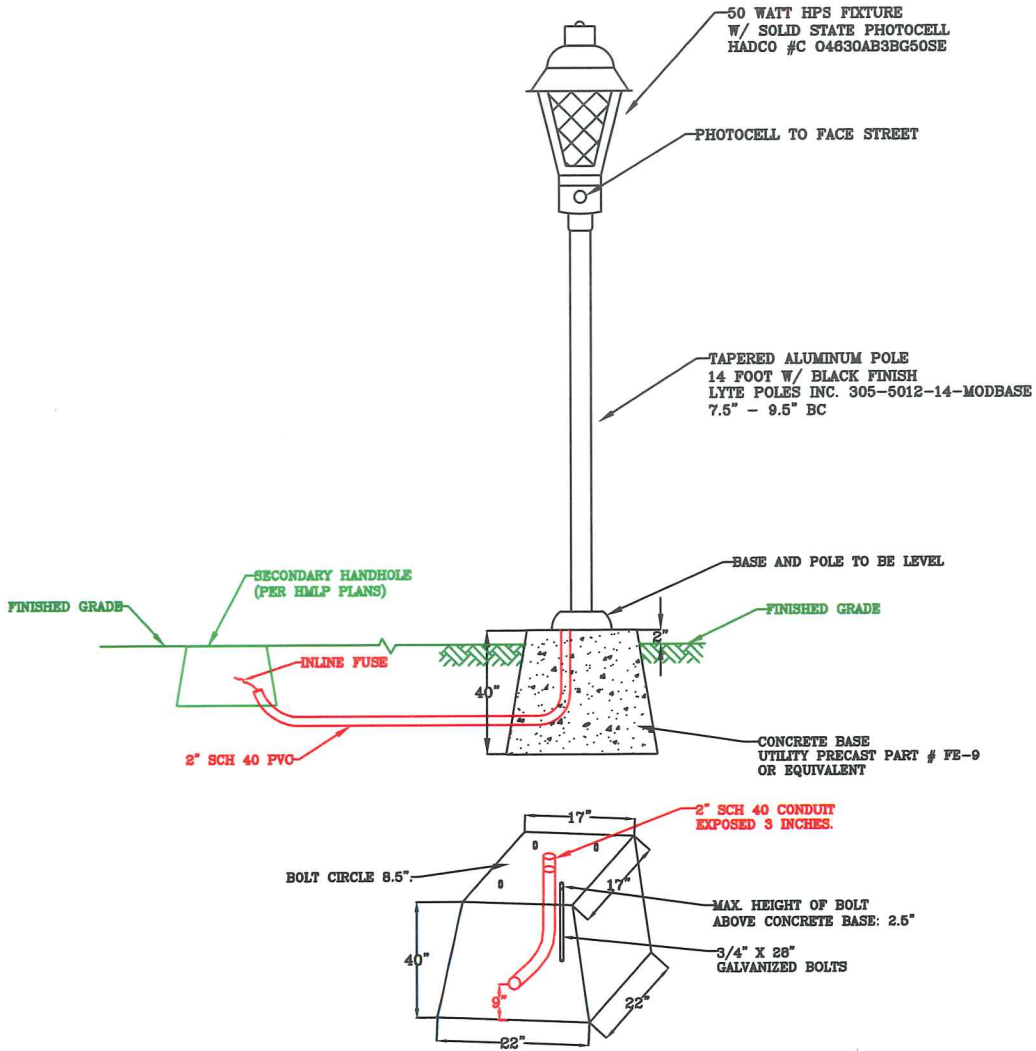
1. PER EUA MATERIAL SPECIFICATION COV-1.
2. FITS MANHOLE FRAME AND MANHOLE FRAME RING PER EUA MATERIAL SPECIFICATIONS FRA-1 AND RIN-1.
3. HOLE SHALL BE LOCATED APPROX. AS SHOWN, IN THE QUADRANT TO THE LEFT OF THE RIB RUNNING THROUGH THE CENTERLINE OF COMPANY LOGO.
4. USAGE: ALL LOCATIONS, BOTH LIGHT AND HEAVY DUTY.
5. MANUFACTURER & CAT. #: LEBARON. L28C11

26" MANHOLE COVER

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 16

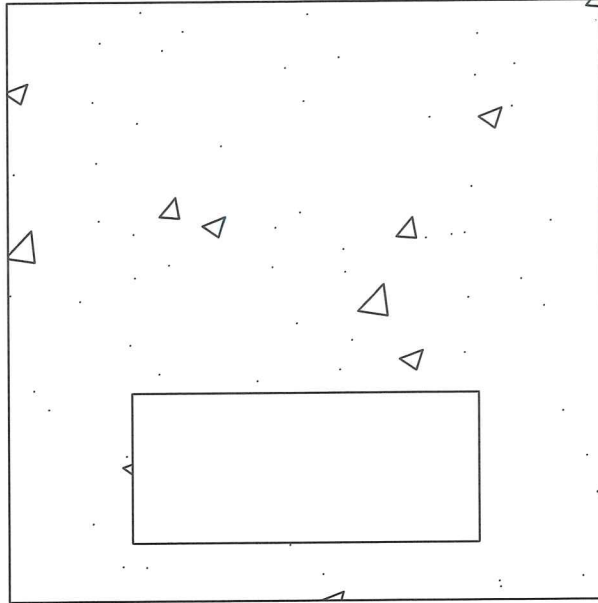
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**STREET LIGHT POLE AND BASE INSTALLATION**  
**(WORK BY CONTRACTOR)**  
**NOT TO SCALE**

CONTACT INFO FOR LIGHT POLE AND HEAD:  
 HURRY ASSOCIATES: BOB STACEY, 339-200-8377

HINGHAM MUNICIPAL LIGHTING PLANT ENGINEERING DEPARTMENT HINGHAM, MASSACHUSETTS		
<b>FIGURE 17</b>		
DRAWN BY: <i>JL</i>	APP'D BY: <i>JL</i>	SCALE: NONE
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36"

NOTES

1. BOLLARDS TO BE MINIMUM SIX INCHES IN DIAMETER. STEEL PIPE FILLED WITH CONCRETE.
2. BOLLARDS TO BE MINIMUM THREE FEET IN THE GROUND ENCASED IN CONCRETE
3. BOLLARDS TO EXTEND THREE FEET ABOVE FINAL GRADE LEVEL.
4. BOLLARDS TO BE THREE FEET AWAY FROM THE CORNERS OF THE EQUIPMENT VAULTS AS SHOWN IN THE FIGURE ABOVE AS TO NOT INTERFERE WITH THE OPERATION OF THE EQUIPMENT DOORS.
5. BOLLARDS TO BE INSTALLED WHERE THE EQUIPMENT VAULTS ARE LESS THAN FIVE FEET AWAY FROM THE EDGE OF PAVEMENT.

HINGHAM MUNICIPAL LIGHTING PLANT  
 ENGINEERING DEPARTMENT  
 HINGHAM, MASSACHUSETTS

**FIGURE 18**

DRAWN BY: <i>JG</i>	APP'D BY: <i>JG</i>	SCALE: NONE
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## NOTES

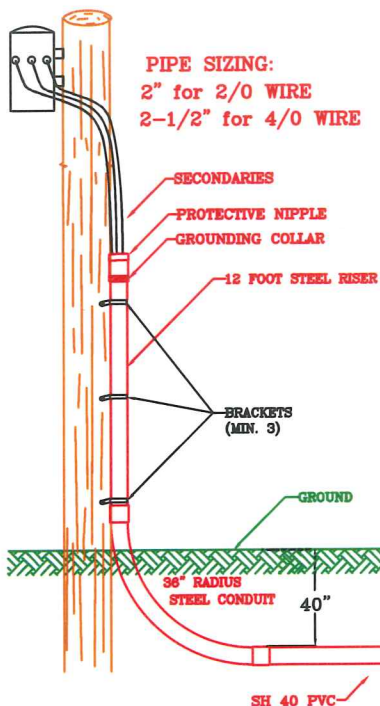
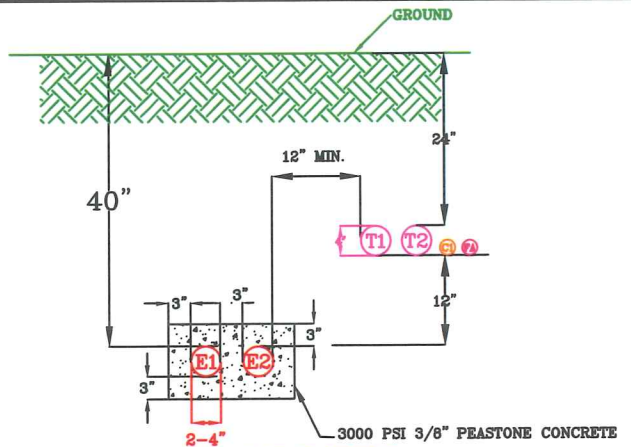
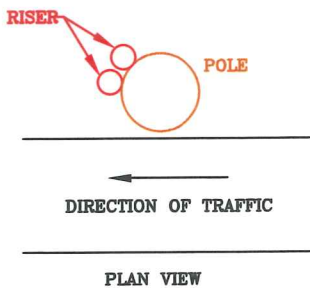
1. ALL TRENCHES SHALL BE EITHER UNDISTURBED OR COMPACTED EARTH. NO ROCKS LARGER THAN 2 INCHES IN DIAMETER SHALL BE PRESENT IN THE TRENCH BASE OR THE BACKFILL MATERIAL.
2. ALL PRIMARY AND SECONDARY CONDUITS MUST BE 4" SCH 40 PVC ENCASED IN CONCRETE UNLESS OTHERWISE SPECIFIED BY HMLP. CONCRETE SHALL BE A MINIMUM OF 3000 PSI WITH 3/8" PEASTONE MIX, AND SHALL ENCASE THE CONDUITS WITH A MINIMUM OF 3" OF COVER. CONCRETE HAS TO SET FOR A MINIMUM OF 24 HOURS BEFORE BACKFILLING. HIGH-EARLY ADDITIVES IN THE CONCRETE TO EXPEDITE CURING OF CONCRETE MAY BE CONSIDERED ON A CASE BY CASE BASIS.
3. THE MINIMUM RADIUS FOR ALL BENDS SHALL BE THIRTY SIX INCHES. PREFORMED BENDS SHALL ONLY BE USED ON RISER SWEEPS, VAULT AND PAD SWEEPS. ALL OTHER BENDS IN THE MAIN RUN SHALL BE FORMED BY BENDING STRAIGHT SECTIONS OF CONDUIT WITH A HEATING DEVICE.
4. THE MINIMUM DEPTH FOR ALL HMLP CONDUITS SHALL BE FORTY INCHES.
5. SPACERS SHALL BE USED TO SEPARATE THE CONDUITS AS SHOWN. SPACERS SHALL BE INSTALLED AT FIVE FOOT INTERVALS ALONG THE CONDUIT RUN. CONDUITS SHALL BE TIED TO THE SPACERS TO PREVENT THEM FROM FLOATING DURING THE CONCRETE POUR.
6. THE MINIMUM SEPARATION BETWEEN ELECTRIC CONDUITS AND TELEPHONE & CATV CONDUITS SHALL BE TWELVE INCHES VERTICALLY AND TWELVE INCHES HORIZONTALLY. ALL OTHER UTILITIES SHALL HAVE A MINIMUM OF TWENTY FOUR INCHES OF SEPARATION FROM ELECTRIC CONDUITS. PLEASE CONSULT APPROPRIATE UTILITIES FOR THEIR REQUIREMENTS.
7. ALL CONDUITS MUST HAVE WEATHERPROOF MEASURING TAPE (MULE TAPE) INSTALLED BY CONTRACTOR. 4" CONDUITS MUST HAVE 1800 LB. MULE TAPE INSTALLED. 5" AND 6" CONDUITS MUST HAVE 2500 LB. MULE TAPE INSTALLED. ALL CONDUITS MUST BE MANDREL PROOFED OUT AND WITNESSED BY HMLP PERSONAL. MULE TAPE MUST BE ONE CONTINUOUS PIECE FOR EACH CONDUIT FOR ACCURATE MEASUREMENTS. CONTRACTOR MUST TAKE MEASUREMENTS, RECORD THEM ON AN AS-BUILT AND PROVIDE THEM TO HMLP.
8. ALL CONDUIT, PAD AND VAULT INSTALLATION AS SHOWN IN THE PROVIDED PLANS MUST BE INSPECTED BY AN HMLP REPRESENTATIVE BEFORE ENCASING IN CONCRETE OR BACKFILLING. A MINIMUM OF FORTY EIGHT HOURS NOTICE MUST BE GIVEN FOR SCHEDULING INSPECTIONS.
9. ALL TRANSFORMER PADS, SPLICE VAULTS AND CABINETS SHALL BE LOCATED IN THE UTILITY EASEMENT, A MINIMUM OF FIVE FEET AWAY FROM ANY ROADWAYS, DRIVEWAYS, AND SIDEWALKS. BOLLARDS MUST BE INSTALLED AS SPECIFIED AROUND ANY EQUIPMENT THAT IS LESS THAN TEN FEET AWAY FROM ANY ROADWAYS, DRIVEWAYS, AND SIDEWALKS.
10. CONDUITS SHALL ENTER THE SINGLE-PHASE TRANSFORMER PADS, HAND-HOLES, AND CABINETS FROM THE BOTTOM AS SHOWN IN THE PLANS. CONDUITS SHALL ONLY EXTEND FOUR INCHES ABOVE THE BASE OF THE PAD OR VAULT. MANHOLES AND THREE-PHASE TRANSFORMER VAULTS HAVE KNOCKOUTS ON THEIR SIDES FOR CONDUIT ENTRY.
11. ALL TRANSFORMER PADS, PRIMARY SPLICE VAULTS AND CABINETS SHALL HAVE GROUNDING GRIDS INSTALLED AS SHOWN IN THE DETAIL DRAWINGS. THE GROUNDING GRID SHALL BE INSTALLED APPROXIMATELY TWO FEET BELOW GRADE LEVEL AND THE CONNECTIONS SHALL BE CADWELDED. ENOUGH SLACK SHALL BE LEFT INSIDE THE VAULT TO EXTEND TWO FEET ABOVE THE VAULT SURFACE.
12. ALL TRANSFORMER PADS, HAND-HOLES, MANHOLES, AND PRIMARY SWITCH BASES AND CABINETS SHALL BE INSTALLED ON 12 INCHES OF 3/4 INCH STONE FOR DRAINAGE PURPOSES.
13. SWEEPS TO RISER CONDUITS AND RISER CONDUITS SHALL BE RIGID STEEL. ONE CONDUIT SHALL BE EXTENDED TEN FEET UP THE POLE WITH GROUNDING COLLAR INSTALLED ON THE RISERS. SPARE CONDUIT SHOULD BE CAPPED AT SWEEP. LOCATION OF RISER CONDUITS TO BE DETERMINED BY HMLP.
14. HMLP SHALL DETERMINE THE CONDITION AND SUITABILITY OF A POTENTIAL RISER POLE PRIOR TO ANY WORK PERFORMED BY CONTRACTOR.
15. FOR SINGLE PHASE TRANSFORMER PADS USE NORDIC FIBERGLASS PAD #GS-37-43-32C-CE-2, HIGHLINE PRODUCTS HL-48-SO, OR EQUIVALENT.
16. FOR THREE-PHASE TRANSFORMERS UP TO 500 KVA USE UTILITY PRECAST FE-3-48-2 VAULT OR EQUIVALENT. FOR THREE-PHASE TRANSFORMERS OVER 500 KVA USE UTILITY PRECAST FE-3-T 1000 OR EQUIVALENT.
17. FOR SECONDARY SPLICE VAULTS USE CARSON INDUSTRIES M-SERIES 2436-18 VAULT, CDR \_A10-2436-18, OR EQUIVALENT UNLESS OTHERWISE NOTED BY HMLP. SECONDARY VAULTS SHALL BE EQUIPPED WITH THE CONCRETE COVER IN SIDEWALKS AND WALKWAYS, CARSON M-SERIES MODEL 2436-PC OR EQUIVALENT. FOR NON-TRAFFIC AREAS, USE CARSON L-SERIES MODEL 2436-3B OR EQUIVALENT. INSTALL SECONDARY VAULTS AT GRADE LEVEL.
18. ALL SECONDARY HANDHOLE COVERS MUST HAVE "ELECTRIC" EMBOSSED ON THEM.
19. FOR ABOVE GROUND SPlicing CABINETS USE NORDIC FIBERGLASS ND-362454-MG-110-X-X OR EQUIVALENT FOR SINGLE-PHASE APPLICATIONS, AND NORDIC FIBERGLASS ND-325-MG-2C5A-X-X OR EQUIVALENT FOR THREE-PHASE APPLICATIONS. GROUNDING OF THESE CABINETS SHALL BE THE SAME AS THE TRANSFORMER PAD GROUNDING.
20. EACH STREET LIGHT CIRCUIT SHALL BE FUSED AND FUSE DEVICES SHALL BE INSTALLED IN THE SECONDARY HAND-HOLE BY THE CONTRACTOR. STREET LIGHT WIRES SHALL BE INSTALLED FROM HAND-HOLE TO LIGHT BY CONTRACTOR. HMLP WILL TERMINATE THE WIRE IN THE HAND-HOLE.
21. UTILITY PRECAST OF WAREHAM (508) 291-1314 CARRIES THE THE BASES FOR THE STREET LIGHTS. MENTION HINGHAM LIGHT WHEN ORDERING SINCE NO PART NUMBER IS AVAILABLE.
22. TELEPHONE, CATV, AND FIRE ALARM CONDUITS SHOWN IN "TYPICAL UTILITY DUCTBANK CROSS SECTION" DRAWING ARE FOR REFERENCE PURPOSES ONLY. PLEASE CONSULT APPROPRIATE UTILITY COMPANY FOR THEIR REQUIREMENTS.
23. QUANTITY AND LOCATION OF OTHER UTILITY CONDUITS ON RISER POLES MUST BE APPROVED BY HMLP BEFORE INSTALLATION.
24. METER SOCKETS SHALL BE ON THE OUTSIDE OF THE BUILDING IN THE FRONT HALF. NO EXCEPTIONS. THE LOCATION OF THE METER SOCKET MUST BE APPROVED BY HMLP PRIOR TO ANY WORK PERFORMED BY CONTRACTOR.
25. METER SOCKETS SHALL BE EASILY ACCESSIBLE. NO OBSTRUCTIONS OF ANY KIND TO ACCESS THE METERS SHALL BE PERMITTED. A MINIMUM OF A THREE FOOT RADIUS OF CLEARANCE SHALL BE MAINTAINED AROUND THE METER SOCKET AT ALL TIMES.
26. ALL METER SOCKETS 200AMPS AND ABOVE SHALL BE EQUIPPED WITH A MANUAL BYPASS LEVER. NO EXCEPTIONS.
27. THE CENTER OF THE METER SOCKET OPENING SHALL BE A MINIMUM OF FOUR FEET, AND A MAXIMUM OF SIX FEET ABOVE FINAL GRADE.
28. SERVICE CONDUCTORS SHALL BE COPPER. ABSOLUTELY NO EXCEPTIONS.
29. ANY METER SOCKET SEAL THAT IS CUT WILL REQUIRE AN HMLP UA # AND A PERMIT FROM THE TOWN OF HINGHAM INSPECTOR OF WIRES.
30. CONSULT WIRING INSPECTOR FOR OTHER SERVICE REQUIREMENTS.
31. CONSULT HMLP FOR NEW REQUIREMENTS ON UNDERGROUND SERVICES.

HINGHAM MUNICIPAL LIGHTING PLANT  
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HINGHAM, MASSACHUSETTS

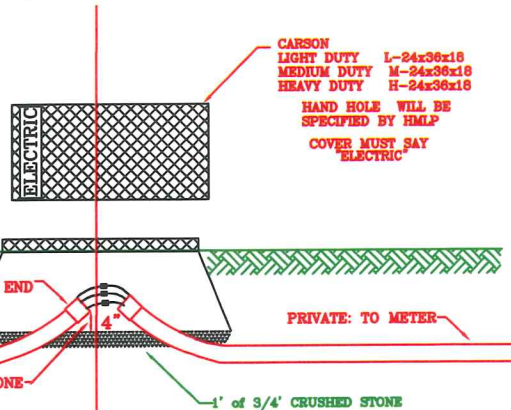
FIGURE 19

DRAWN BY: <i>JS</i>	APP'D BY: <i>JS</i>	SCALE: NONE
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HAND HOLE TO BE SET IN BETWEEN  
THE PUBLIC WAY/PRIVATE  
PROPERTY LINE



PUBLIC WAY:  
HMLP OWNERSHIP

PRIVATE PROPERTY:  
CUSTOMER OWNERSHIP

NOTE:  
PUBLIC WAY/ PRIVATE PROPERTY LINE SHOULD  
BE DETERMINED BY A LAND SURVEYOR.

**SECONDARY RISER POLE WITH HANDHOLE INSTALLATION**  
(WORK BY CONTRACTOR)  
NOT TO SCALE

HINGHAM MUNICIPAL LIGHTING PLANT  
ENGINEERING DEPARTMENT  
HINGHAM, MASSACHUSETTS

FIGURE 20

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CHECKED BY:	DATE: 17 September 2014	SHEET: 1 OF 1