NOVA SCOTIA POWER INC.
UTILITY SERVICE REQUIREMENTS
FEBRUARY, 2009
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SCOPE

This document sets forth the minimum utility requirements for electrical service in the province of Nova Scotia, for all areas served by Nova Scotia Power Incorporated (NSPI). It is not to be regarded as a design specification and is not all inclusive with respect to the installation of electrical equipment or wiring.

These utility service requirements are in addition to the Canadian Electrical Code, Part 1 (CEC), the NSPI Electrical Inspection Authority, and NSPI Utility Standards.

Construction shall not be undertaken based solely on this document, contact with both the Supply and Inspection Authorities is required for confirmation of site specific requirements and/or conditions.

DEFINITIONS

Complex Structure:
A complex structure is any structure that would be difficult to supply with a single utility service due to its physical characteristics or electrical requirements. The designation of a structure as ‘complex’ must be mutually agreed upon by both the Supply and Inspection Authorities.

Customer:
A Customer is defined as a person or company who is receiving, intends to receive, or has received electrical energy or electrical services from NSPI. Requests for service may be made by someone acting legally on behalf of the person or company.

Consumer’s Service Conductors:
This term refers to Consumer owned conductors. On an overhead entrance these would typically be the conductors in the service conduit from the point at which the Supply Authority makes connection at the service head to the Customer’s first service enclosure. On an underground entrance these would be the underground cables from the utility secondary system, or transformer to the Customer’s first service enclosure.

Firewall/Fire separation:
Where occupancies of a building are separated by a firewall or a fire separation, the occupancies may be considered as separate buildings for the purpose of electrical service. Firewalls and fire separations must be constructed in compliance with the National Building Code and confirmed as such in writing by a recognized building inspector, architect, or professional engineer.
Inspection Authority:
The Nova Scotia Department of Labour and Workforce Development has responsibility for enforcement of the Electrical Requirements in the Province of Nova Scotia. Nova Scotia Power’s Electrical Inspection Department is authorized by their office to enforce the Canadian Electrical Code, Part 1 within NSPI’s Service Area. The NSPI Electrical Inspection Department will also enforce the Utility Standards where applicable.

Inspection Department:
Within this document refers to the Nova Scotia Power Electrical Inspection Department.

Multiple Occupancy Buildings:
This includes strip malls or plazas, duplex, row and semi-detached housing, and other such structures.

Primary:
As used in this document in relation to voltages, primary means voltages in excess of 750 volts.

Safe Clearances Report:
A power services safe clearance report is a detailed report identifying any potential safety issues/hazards to the requested party who is required to complete work in close proximity of NSPI plant (lines or equipment). A copy of this report is provided to the requestor.

Service Box:
An approved assembly consisting of a metal box or cabinet constructed so that it may be locked or sealed, containing either service fuses and a service switch or a circuit breaker, and of such design that either the switch or circuit breaker may be manually operated when the box is closed.

Supply Authority (Interchangeable with Utility):
Nova Scotia Power, having the authority to supply electrical energy within its service area.

Utility Approval:
Written or verbal approval from the Utility.

Utility Supply Conductors:
This term refers to the utility owned conductors connecting the Consumer’s Service Conductors to the utility’s system or transformer.
2 DEVIATIONS FROM REQUIREMENTS

Utility and/or Inspection Department Approval is necessary for deviations from these requirements.

3 THE CANADIAN ELECTRICAL CODE

These Utility Service Requirements contain references to the Canadian Electrical Code, Part 1. This document does not however, constitute a complete explanation of all CEC rules, which apply to service entrances.

Where the Canadian Electrical Code refers to compliance with the requirements of the local Supply Authority, then NSPI shall be consulted for approval.

4 INTERFERENCE WITH UTILITY EQUIPMENT

The Supply Authority does not permit unauthorized disconnection or removal of meters, meter seals, utility supply conductors or any of its equipment. Requests for disconnection or removal of utility equipment shall be made to the NSPI’s call center at (800)-428-6230.

Unauthorized removal of NSPI revenue meters may result in charges for retesting of the meter.

5 REQUIREMENTS FOR SERVICE CONNECTION

Service entrances will be connected upon compliance with the following requirements:

a) Supply Authority approval of the service entrance location, capacity and provisions for metering equipment.

b) A valid wiring permit, for the installation, issued by NSPI.

c) Authorization for a utility connection from the Inspection Department.

d) For all consumer service entrances, or sub-services, larger than 250 Amps or 250 volts, the customer or their agent shall submit plans and specifications to the utility. Submittal of electrical plans shall comply with NSPI Electrical Inspection Bulletin B-2-014 “Submittal of Electrical Plans for Inspection Department Acceptance”.

e) Compliance of the installation with all other requirements of this document and the Canadian Electrical Code, Part 1.
f) Establishment of all easement and right-of-way requirements as specified in Section 5.1.

g) A valid building permit when the municipal government with jurisdiction requires one for the facility being built by the customer.

5.1 Easements and Right of Way Requirements:

The customer has overall responsibility for obtaining any easements or licenses. Where a service route as approved by the Supply Authority crosses private property the Customer shall be responsible for supplying and clearing the route.

The Customer is responsible for any costs incurred by NSPI in acquiring easements or licenses where regulations do not allow the customer to obtain them on behalf of NSPI.

The actual right-of-way dimensions and orientation details may vary by location. The Supply Authority will provide and confirm the requirements on a case by case basis.

5.2 Changes in Service Requirements Before Connection

Should the customer change the service voltage and/or the capacity requirements or any other electrical parameters of the new service after NSPI has installed the facilities to meet the original requirements, then the customer must pay all additional costs associated with reworking the new NSPI plant.

The customer is also responsible for all costs associated with physical changes that arise after utility facilities and equipment are installed according to the original site layout.

6 SUPPLY VOLTAGES

NSPI will normally supply one service with standard voltages and characteristics as specified in this section.

When multiple supplies of different voltages or characteristics are requested for a single building (complex structure), approval must be obtained from the Supply Authority by the Customer or their Agent. Approval from the Inspection Authority for designation as this type of structure should also be obtained.

The Customer shall supply all transformation necessary to serve loads utilizing voltages different from that which is normally supplied by NSPI.
The frequency of all supply voltages is 60 hertz.

Refer to Section 13 for requirements associated with service at primary voltages, which includes padmount transformer installations. Contact must be made with the Supply Authority for confirmation of the requirements for each particular installation.

6.1 Secondary Supply Voltages

The following are standard secondary and service voltages:

a) 120/240 volt, single phase, three wire; or

b) 120/208 volt, three phase, four wire grounded wye; or

c) 347/600 volt, three phase, four wire grounded wye.

Where a high resistance grounded installation is requested, the configuration must be approved by the Supply Authority, and must conform to the Canadian Electrical Code.

Electric service may be provided to customers at other voltages with special permission from the supply authority.

Existing non-standard installations shall be changed to conform with these requirements when alterations are made to the service. Consultation with the Engineering Department for the area in which the service resides is necessary.

7 LARGE ELECTRIC LOADS

Operating large loads such as motors, electric furnaces, electric welders, air conditioners, heat pumps, etc., can produce momentary voltage sag or ‘flicker’: It is the responsibility of the Customer to ensure that electric loads which can produce momentary voltage sags or flicker are configured or controlled in such a way that sag or flicker is minimized.

The operating requirements of large loads should be given consideration during design of the service entrance. Consultation with the Supply Authority is required to ensure the adequacy of the Utility supply equipment. Failure to do so will result in charges to the customer for costs associated with any reworking of newly installed NSPI equipment that is required.
8 ELECTRIC MOTORS

8.1 Motor Sizes:

a) The maximum motor sizes permitted for starting across the line shall be:
   i) Single phase, 5.6 kW (7.5 horsepower);
   ii) Three phase 120/208 V, 11.2 kW (15 horsepower);
   iii) Three phase 347/600 V, 30 kW (40 horsepower).

b) Larger motors are permitted where:
   i) The Customer installs reduced voltage or variable frequency start; or
   ii) Upon examination of the utility’s system capabilities and the motor’s characteristics, Utility Approval for starting across the line is granted.

8.2 Motor Protection:

The Customer shall be responsible to provide all motor protection as per the CEC.

NOTE: Normal overload protection will likely not provide adequate protection during loss of one supply phase. Loss of one phase of the utility supply (or of the building distribution system) may cause overheating and damage to three phase motors. Therefore, protection against the loss of one supply phase is recommended and shall be the responsibility of the customer.

9 TRANSFER EQUIPMENT FOR STANDBY POWER SYSTEMS

Transfer switches for transferring the source of power from the utility system to a standby power system must meet the requirements of CEC 14-612. The switch shall not allow the two sources to operate in parallel to prevent energizing or back feeding a de-energized utility distribution line on which crews may be working.

Other devices such as purpose built meter base accessories that accommodate the connection of standby generators are also acceptable and must have the approval of the Inspection Authority.
10 SERVICE CAPACITY

10.1 Single Phase

a) The maximum single-phase overhead service entrance capacity shall be 600 amps.

b) The maximum single-phase service entrance capacity run underground terminating at a utility pole shall be 400 amps.

c) Notwithstanding paragraphs (a) and (b), an 800 amp single phase underground service may be permitted with Utility Approval. Installation shall be in accordance with Section 13.

10.2 Three Phase

a) The maximum overhead three phase, 120/208 volt service entrance capacity shall be 600 amps.

b) The maximum overhead three phase, 347/600 volt service entrance capacity shall be 200 amps.

c) The maximum three-phase, 120/208 volt service entrance capacity run underground terminating at a utility pole shall be 600 amps.

d) The maximum three-phase, 347/600 volt service entrance capacity run underground terminating at a utility pole shall be 400 amps.

e) Notwithstanding paragraphs (a) and (b) above, larger overhead service ampacities may be permitted with Supply Authority approval. These are generally industrial or commercial buildings that are supplied from platform mounted utility transformers that are connected to the building by short conductors of large trade size. This type of installation is not preferred.

f) Services on which the required transformer capacity exceeds 225 kVA, three phase, regardless of service voltage, will normally be supplied from a padmount transformer. Installation details for padmounted transformers are in Section 13. Other transformer arrangements/designs are possible, consult with the supply authority.
11 SERVICE TO RESIDENTIAL BUILDINGS (SINGLE OR MULTIPLE OCCUPANCY)

a) Normally, one set of utility supply conductors is run to a residential multi-occupancy building.

b) Where more than one set of utility supply conductors is run to a residential multiple occupancy building:
   i) The occupancies shall be completely self-contained (i.e. no indoor access between occupancies); and
   ii) The occupancies shall not be located one above the other; and
   iii) The occupancies shall have a separate entrance with direct access to ground level.

c) Fire pumps or other emergency systems can be supplied from a second utility supply.

d) Complex structures may have more than one utility supply. Both the Supply and Inspection Authorities must approve all installations where more than one supply service is requested or required.

e) See Section 12 and Appendix B for service entrance guidelines.

12 SERVICE ENTRANCES

12.1 General

Before commencing any service entrance installation (new, relocation, or upgrade of service) the Customer or their agent shall contact NSPI to obtain approval for the route of the utility supply conductors. The location of the service head and the location of the point of attachment for the utility supply conductors shall be in accordance with both the Canadian Electrical Code and NSPI standards.

The responsibility for obtaining easements (in a form specified by NSPI) and developing the right of way (ROW) are the responsibility of the customer as specified previously in Section 5.1.
12.2 Service Entrance Disconnect

a) As per CEC Rule 6-206, subrule (1), paragraph (e), the main service disconnect shall be located as close as practicable to the point where the customer’s service conductors enter the building. ‘As close as practicable’ shall not be more than 3 m in length and applies to the section of raceway which enters the building before it enters the main service switch.

b) When applied to a mobile home, in particular a skirted mobile home, as close as practicable shall not be more than 7.5 m. When mobile homes are set on a permanent foundation, as close as practicable shall be as per paragraph a) above.

12.3 Temporary Service Entrances

a) A temporary service entrance is intended to be used for non-permanent, short-term applications and for construction power.

b) Overhead temporary services may be mounted on:
   i) Construction shacks or trailers equipped with a service mast; or
   ii) A customer owned pole or tripod structure in accordance with NSPI Standard Drawings SS-ED-22M and SS-ED-23M, SS-ED-23MA, or
   iii) A utility owned secondary service pole, or
   iv) A utility owned service pole that is supporting primary voltage and is dedicated to one customer, or
   v) A tree that is sound and free of rot, and has a minimum diameter of 125 mm at the service attachment point; furthermore, there may be no limbs within a 1m radius of the attachment point.

c) Where a temporary service is installed on a utility pole as permitted in b) iii and iv above, it shall be installed with the weatherhead at a height that will place it in the secondary zone. For a pole with open secondary, the weatherhead will be above the two hot legs and below the neutral, for a pole with service cable only (triplex) the weatherhead must be within 150 mm of the triplex attachment point. If primary voltage conductors are on the pole, or if the installer is uncertain of the voltage, then the installer will contact the Supply Authority for a Safe Clearances Report (see Appendix A) before installing the service.
d) Temporary services connecting to an underground supply point shall be in accordance with drawing 8U-ED-40M.

**NOTE:** Copies of drawings referenced above are included in Appendix C.

12.4 Prefabricated Homes

As with buildings constructed on site, the Customer shall obtain approval from the Supply Authority for the route of the utility supply conductors and the location of the service entrance for prefabricated homes (modular homes, mini homes, etc.) being constructed for a specific building lot.

12.5 Mobile Homes

A transportable dwelling unit constructed to be towed on its own chassis.

a) As with buildings constructed on site, the Customer shall obtain approval from the Supply Authority for the route of the utility supply conductors and the location of the service entrance for mobile homes.

b) For the maximum length of service conduit permitted, see clause 12.2 (b) - Service Entrance Disconnect.

c) Service wires supplying one mobile home shall not pass over the roof of any other home.

d) Where the service wire crosses over a mobile home roof, the minimum clearance to the roof shall be 915 mm in accordance with drawings SS-ED-24M and SS-ED-25M.

12.6 Recreational Vehicles:

Service to recreational vehicles shall be considered to be permanent as regards the requirements of the service entrance and all supporting structures. The customer is responsible for the cost associated with the installation of an approved pole or other suitable structure that is acceptable to both the Supply Authority and the Inspection Department, and must be capable of supporting the service entrance equipment.
12.7 Utility Supply Conductors Point Of Attachment At Building:

a) The point of attachment at buildings shall be in accordance with the CEC and NSPI drawings SS-ED-10M, SS-ED-11M, SS-ED-12M, SS-ED-13M, SS-ED-14M, J-ED-23M, J-ED-24M as appropriate.

b) The point of attachment shall maintain a minimum conductor clearance of 1.0 meter from windows, doors, fire escapes and porches.

c) The point of attachment shall be such that it allows the utility to maintain a minimum design clearance of 1.0 m horizontal or 2.5m vertical between the utility supply conductors and building surfaces that are readily accessible.

d) Where existing service entrances are upgraded or repairs are made to the service entrance above the meter base, minimum height and clearance requirements as per the CEC and NSPI Standards shall be met.

e) NSPI will supply the attachment device, the customer must install it.

f) If the point of attachment to a service mast exceeds 1.1m above the roof line, then the mast shall be guyed or braced.

12.8 Customer’s Service Stacks And Conduits:

a) The maximum number of service raceways shall not exceed four to any one building.

b) Multiple service weatherheads for a single customer on a building shall be located within 300 mm of each other to allow for connection to a single set of utility supply conductors.

12.9 Service Entrances on Utility Poles:

Service entrances and meters shall only be permitted on utility poles as follows:

a) Service entrance and meter may be installed on a service pole that carries only utility secondary conductors.

b) In the case where a service pole is supporting primary voltage and is dedicated to one customer, then service entrance and meter may be installed on the pole.
c) On a mainline primary pole, service raceway and length of conductor shall be installed in accordance with drawing OU-ED-22M (meters are not permitted on main line primary poles).

d) CATV power supplies may be installed on utility poles, and shall be in accordance with drawing J-ED-15M.

**NOTE:** Prior approval of the supply authority is required for installations in accordance with paragraphs (b), (c) and (d) above. Approval shall include a completed Safe Clearances Report, (see Appendix A for an example).

13 SERVICES REQUIRING PRIMARY EQUIPMENT

Some larger facilities will require the installation of a transformer that is too large for a mounting on a single pole and/or a primary line extension. The customer will be referred to the local Engineering or Planning Office for particulars and approval.

All NSPI Standard Drawings referred to in this section are included in Appendix C.

13.1 **Policy**

NSPI Regulation 2.1 regarding transformer installation states the following:

“When in the Company's opinion, it is impractical to provide the customer’s electrical requirements from existing Company facilities the customer must, on the request of the Company, provide suitable transformer(s) space on the customer’s premises for the necessary transformers. The type and location of primary service equipment must be approved by the Company for each installation”.

The space for the primary service equipment may be in the form of a suitable room inside the building or a designated space on the property outside the building.

13.2 **Customer Responsibilities**

13.2.1 The customer shall provide NSPI with site drawings and an estimate of connected electrical load at the earliest possible stage of planning. This will permit the Utility to determine an acceptable method of service and point of supply. It will also provide lead time for the ordering of electrical equipment.
13.2.2 The customer shall provide, as soon as possible, electrical plans for
the buildings and other facilities/structures which are to be submitted
to the Inspection Authority and accepted before service arrangements
can be finalized.

13.2.3 The following requirements must be met before temporary or
permanent service connection can be provided:

(a) A building permit must have been obtained from the applicable
municipal authority.

(b) Authorization must be given by the electrical inspection
authority.

(c) An electric service contract must be completed by the party
accepting responsibility for the electric service account. A
security deposit may be required as part of the service
contract.

13.2.4 The customer shall be responsible for the additional expense of any
temporary service required for construction power. Arrangements
must be made with NSPI for the connection of a temporary service.

13.2.5 The customer will be required to make a capital contribution if the
service requirements exceed the Utility's normal service allowance.
The allowance consists of 92 metres of overhead line extension or 46
meters of high voltage underground cable. Payment of the
contribution will be required before electric service can be provided.

13.2.6 The customer shall provide, own and maintain all secondary voltage
electrical equipment. This includes the electrical cables from the
customer's main disconnect switch to the padmounted transformer
and the connectors required for the secondary terminations on the
transformer (see Appendix D). The secondary cables shall be
installed by the electrical contractor such that the end of each
secondary cable extends a minimum of 2 metres above the
transformer base. This is required to ensure sufficient cable for
connection to the transformer. The connection of secondary cables to
the transformer will be done by NSPI.

13.2.7 All customer-owned electrical equipment must be inspected and
approved by the appropriate inspection authority.
13.2.8 The customer shall provide, own and maintain the civil structures necessary to support the high voltage electrical equipment. The civil structures generally consist of a concrete base for the padmounted transformer and a concrete encased ductbank for the high voltage cable. The ductbank and the transformer base must be inspected and approved by NSPI.

13.2.9 The customer shall provide NSPI with easements pertaining to the ductbank and transformer installations which will allow the Company to install and maintain the primary service equipment.

13.3 NSPI Responsibilities

13.3.1 NSPI will normally supply, own and maintain the high voltage cable, complete with terminations, and the padmounted transformer. (In certain cases, the customer may arrange or be required to supply the high voltage cable and the transformer. These situations will be rare and will be dealt with on an individual basis.)

13.3.2 Connection of all cables to the transformer unit will be performed by NSPI.

13.4 Duct Banks

The customer shall provide a suitable underground ductbank as shown on Dwg. 1U-ED-12M and Dwg. 1U-ED-14M. If telephone ducts are not required, they may be eliminated along with the wooden plank separation. Drawing 5U-ED-10M shows details of the non-joint use duct bank. Appendix 5 contains an approved hardware and materials list to be used in conjunction with the drawings in this document. Item numbers shown in circles or ovals on the drawings are cross-referenced in this listing to the appropriate description and part numbers.

The following specifications must be met;

13.4.1 All ducts and fittings must be approved by a recognized Certification Agency. (e.g., CSA or ULC)

13.4.2 All Primary Ducts are to be concrete encased unless otherwise specified by NSPI. Secondary ducts may be direct buried.
13.4.3 Ducts must be supported by approved spacers. Wire or metal ties are not to be used to support the electrical ducts.

13.4.4 Duct risers at poles shall face away from the flow of vehicular traffic and shall not be installed on the curb or sidewalk side of the terminal pole.

13.4.5 Ducts shall be carefully installed and all joints are to be glued unless the duct system is specifically designed for friction or snap fit. Such duct systems must be preapproved by NSPI Engineering. Foreign material is to be kept out of the ducts.

13.4.6 Long sweep 90 degree rigid PVC or heavy wall FRE bends shall be used at both the pole and the concrete pad. PVC type DBII or FRE may be used for the remainder of the duct run.

13.4.7 The standard duct size shall be 100 mm. When the equivalent of more than 3 90 degree bends are required between pulling points, or the duct run is in excess of 90 metres in length, 125 mm duct shall be used.

13.4.8 The primary ductbank and concrete pad are to be formed and inspected by the Utility before pouring any concrete. In joint use applications representatives from both NSPI and Aliant must be called for inspection purposes. A 75 mm envelope of concrete is required around the ductbank.

13.4.9 All ducts are to be swabbed and a 4 mm polyethylene fish line installed in each duct. Ducts are to be sealed with proper caps at both ends.

13.4.10 A 1.5 m separation shall be maintained between the ductbank and a fuel storage system or a steam line. See Drawing NO. 1U-ED-41M for details on the required separation between ductbanks and various underground structures.

13.4.11 A 1.5 m minimum horizontal separation shall be maintained between a high voltage ductbank and a swimming pool.

13.4.12 A ductbank shall not run directly above or below other underground systems such as water, sewer, or communications. An electrical ductbank may cross other underground systems at right angles as long as a minimum separation of 60 mm is maintained.
13.4.13 Under some conditions, it will be necessary to place some reinforcing steel in the ductbank. Typical examples include fluid or unstable soil conditions or where a ductbank passes under a retaining wall or building foundation. Details of the proposed installation must be approved by NSPI.

13.4.14 At the riser pole, there is to be a 12 mm spacer between each duct and the pole.

13.4.15 Marker tape approved by NSPI shall be installed above all primary ductbanks. The marker tape shall be located 300 mm below finished grade. Installation of this tape must be verified by NSPI before it is covered.

13.4.16 The ductbank shall be placed under the cable compartment portion of the concrete base (the portion adjacent to the rectangular hole). It shall not be placed under the transformer part (the remaining portion) of the concrete base. Refer to Figure 13.5.1 in the following section.

13.5 Customer Owned Secondary Cable

13.5.1 Secondary cables, whether directly buried or in duct, shall not be placed under the transformer section of the concrete transformer base (see Figure 13.5.1 for definition of each area). The secondary cables are to be placed under the cable compartment section of the transformer base.

![Figure 13.5.1: Transformer Pad Allocations](image-url)
13.5.2 Secondary cables are not to be installed in the high voltage section of the transformer.

13.5.3 Secondary cables are to be connected to the transformer using approved compression lugs (see Appendix 4). The compression lugs are to be supplied by the customer and installed by NSPI. NSPI will supply the stainless steel connection hardware.

13.5.4 Permanent secondary cables are not to be energized or used for temporary service without permission from NSPI.

13.6 Ground Tie

The customer shall provide a ground tie between the padmounted transformer and the riser pole (see Drawing No. 1U-ED-12M and 1U-ED-14M). The ground tie shall be a bare copper conductor installed beneath the concrete ductbank. It may also be installed immediately adjacent to the ductbank (on either side). When installed under the ductbank, it shall be inspected by NSPI prior to pouring the concrete for the ductbank. When installed beside the ductbank it shall be verified by NSPI prior to backfilling the trench. NSPI will connect the ground tie to the riser pole ground rod.

13.7 Concrete Transformer Base

Where a padmounted transformer is required, the Customer shall contact the Utility, and will be referred to the Engineering Department for design and approval requirements regarding transformer pad location and construction standards, trenching and duct installation details, grounding, concrete specifications, cable installation guidelines, etc.

The customer shall provide a suitable concrete base for the padmounted transformer. The base shall be constructed to NSPI specifications using the drawings found in this document. NSPI will select the appropriate transformer size based on estimated load information provided by the customer and other pertinent factors.

Section 13.8 of this bulletin contains a Transformer Pad Selection Guide which references the drawings pertaining to each transformer base size.

A fire-resisting barrier or vehicular protection may be required in certain circumstances. Section 13.9 outlines the requirements for fire-resisting barriers. Section 13.10 outlines the requirements for vehicular protection.
13.7.1 The transformer base shall be inspected by NSPI during construction and approval given before any backfilling or pouring of concrete.

13.7.2 The concrete base shall be located in an area that is permanently accessible by NSPI maintenance vehicles. It shall be located within 3 m of a roadway, parking lot, or other reasonable means of access.

13.7.3 The area surrounding the transformer shall be kept clear of any obstructions (bushes, trees, posts, etc.) for a distance of one meter out from all sides of the concrete base.

13.7.4 Grounding around the concrete base shall be provided by the customer in accordance with Drawings 10U-ED-11M and 30M. Ground rods are not to be installed under the concrete base. The grounding installation must be inspected by NSPI before it is covered over.

13.7.5 The use of pre-cast transformer bases is acceptable if they have been constructed in accordance with NSPI specification and have been approved by NSPI.

13.7.6 No padmounted transformer shall be installed on a pad until the concrete has been allowed to set for a minimum of forty-eight hours.

13.8 Fibreglass or Composite Transformer Base

Notwithstanding clause 13.7, the customer may provide a suitable base for the padmounted transformer that is constructed of fiberglass, plastic or a composite material. Approval of NSPI Distribution Standards Department is required before purchase or installation.

13.9 Fire-Resisting Barriers

A fire-resisting barrier shall be required if a transformer will be installed within 3 meters of any combustible surface or material on a building or within 6 meters of any door, window, or ventilation opening on a building. The fire-resisting barrier must be constructed between the transformer and the door, window, ventilation opening or combustible surface.

In case of dispute, the local Inspection Authority in conjunction with the Supply Authority shall determine the barrier requirements.
13.9.1 The fire-resisting barrier shall be constructed of concrete block or two layers of masonry brick.

13.9.2 The fire-resisting barrier shall consist of one, two, or three walls, with or without a concrete top.

13.9.3 When only one or two walls are being constructed, the height of the barrier wall shall not exceed 1.9 m. If circumstances require a height in excess of 1.8 m, then a three-walled structure complete with a concrete top shall be constructed instead.

13.9.4 Where a concrete top is installed, a minimum clearance of 150 mm shall be maintained from the top of the transformer to the underside of the concrete top. Unless otherwise notified by NSPI, the minimum height of the walls shall be as follows: for single phase transformers the minimum height of the three walls shall be 2.0 m; for three-phase 150 – 500 kVA transformers the minimum height shall be 2.0 m; and for three-phase 750 – 2500 kVA transformers the minimum height shall be 2.4 m.

13.9.5 Where a three-walled barrier is constructed, the transformer cable compartment must face the open side of the barrier structure as shown in the drawings. Therefore the transformer pad must be oriented with the cable compartment (and thus the opening in the fire barrier) away from the building, combustible material, or windows, doors, etc., in order to satisfy the requirements of the electrical code regarding fire-resisting barriers.

13.10 Mechanical Protection

Vehicular protection is required to protect the transformer from being accidentally hit by vehicles. This is most commonly applied for transformers close to driveways, parking lots, or loading bay areas. If it is judged by NSPI that the transformer would be in danger of being hit by traffic, protection will be required on one or more sides. This shall be constructed as shown on Drawing No. 6U-ED-40M.
13.11 Definition of Backfill Materials

The transformer base (or pad) drawings refer to several types of backfill materials.

1. Gravel backfill – shall consist of well graded, clean granular material containing no material larger than 50 mm in size and shall meet the requirements of gravel – Class C as specified by the Department of Transportation.

2. Crushed rock backfill – shall consist of 20 mm clear crushed rock. Crushed rock backfill shall be used as a base for certain construction, as specified.

3. Crushed stone topping – shall consist of angular shaped, hard, igneous rock, crushed, screened and washed. Soft rock, shale, or slate is not acceptable. The product shall be of uniform quality throughout and shall be free of flat, elongated, round or other objectionable pieces. No earth, sod, silt, clay or any foreign or vegetative matter shall be allowed in this material. The purpose of the crushed stone topping is to reduce electric shock hazard and provide a stable working surface around the padmounted transformer.

13.12 Primary Line Extensions

Individual customers are entitled to a 92 metre overhead line extension credit. If required, NSPI will determine the point of attachment at both the customers’ point of connection and NSPI plant. Any length over this amount will require a capital contribution from the customer.

Customers must contact the NSPI to determine the suitability of any lines near the site of the new service. Not all lines are suitable for direct attachment of customers. NSPI must determine which line(s) are suitable for the installation being considered. Site planning by the customer should not assume the point of connection or routing for primary lines as this is the responsibility of NAPI.

Refer to NSPI regulation 2.6 on line extensions.
14 METERING

General
All meter installations shall comply with NSPI Metering Standards. Existing non-standard installations shall be changed to conform with these standards when alterations are made to the service.

All new and upgraded three phase 4 wire meter installations, self-contained or transformer rated shall require 3 element meters to be installed. Three phase 2 ½ element meters are only used for replacement of existing 2 ½ element meters.

Specialized metering installations not covered by these standards shall be developed by Regional Engineering and approved by Meter Services.

14.1 Electrical Contractor’s Responsibilities

1) The electrical contractor shall supply and install all meter sockets, cabinets, conduit (for CT & PT secondary leads as required) and current transformers lugs.

2) The contractor is responsible for the installation of transformers in metal enclosures as per the requirements of Canadian Electrical Code for enclosures for instrument transformers (Rule 6-404). Enclosures shall have provision for sealing.

3) The contractor is responsible for connections to the primary side of current transformers.

NOTE: #1 NSPI will supply all revenue class potential and current transformers.

NOTE: #2 NSPI will supply and install colour-coded secondary wiring from current transformers to meter socket and wiring to the primary and secondary side of potential transformers.

14.2 Meter Locations

1) The Meter and associated metering equipment shall be in locations satisfactory to both inspection and supply authority (refer to Canadian Electrical Code Part I, Rules 6-402 and 6-408, and metering standards MS 7.0). The center of the meter shall not be higher than 1.8 m or lower than 1.4 m from the floor or ground level. Meters and metering equipment may be placed outdoors if they are of weatherproof construction or in weatherproof enclosures.
2) Normally meter sockets are to be located on the outside of the building. Utility approval is required for meter sockets to be located inside of buildings with the exception of multiple occupancy buildings with more than four meter positions.

3) Meters shall not be located in bins, clothes closets, bathrooms, stairways, high ambient temperature room, dangerous or hazardous locations, or in any similar undesirable places.

4) For multiple meter installations, as in apartment buildings, office buildings, industrial complexes, etc., the meters shall be conveniently grouped and readily accessible to Meter Readers and Installers during normal business hours.

5) A clear working space of 1.0 m minimum must be provided in front of all meter panels, free of any temporary or permanent obstruction. Passageways and working space around electrical equipment shall not be used for storage and must be kept free from obstruction. (Canadian Electrical Code, Part I, Rules 2-300 through 2-322 deal with these and related items).

6) Every meter shall be installed in a level position and solidly fixed to a wall or other support supplied by the customer, free from excessive vibration. If the meter location proves to be susceptible to vandalism or frequent breakage by other means, a protective enclosure shall be installed at the customer's expense.

7) When a customer requires a recessed wall installation, adequate room must be provided to install/remove meters and faceplate of the meter base.

8) For temporary service enclosures the meter base shall be installed on the outside of the weatherproof box. (Ref. Electrical Inspection Bulletin B-76-008)

14.3 Instrument Transformers – 0 to 600 volts

1) NSPI will supply the necessary Instrument Transformers; however, the contractor must arrange to have them installed at his expense at the factory or in the field. Refer to Metering Standard MS 4.0 for standard layouts.

2) In the case of factory-built custom switchgear, space is to be provided for instrument transformers and test blocks which are readily accessible for inspection; the compartment or enclosure for instrument transformers must have provision for sealing.
3) The instrument transformers are to be electrically connected on the load side of the service box immediately after customer main service switch (C.E. Code Part I, Rule 6-402[2]).

14.4 Secondary Wiring

1) Electrical raceway shall be supplied and installed by the contractor from instrument transformer cabinets or primary metering equipment to meters in minimum sizes noted below:
   a) Single phase service 2 & 3-wire meter, 20 mm (3/4”).
   b) Three phase four-wire service, 25 mm (1”).

2) The raceway run shall be as short as practical; however, no run may exceed 30 m or contain the equivalent of more than three 90-degree bends.

3) All meters, meter sockets, metal raceways, cabinets, etc. shall be bonded to ground in accordance with Canadian Electrical Code Part I, Section 10.

14.5 Service (System) Neutral

1) The service (system) neutral conductor is to be connected to all single-phase meter sockets up to and including 200 A. For single-phase transformer rated installations the instrument transformer cabinet must be bonded either through metallic conduit or suitably rated conductor (Canadian Electrical Code, Table 16). The neutral shall pass through the cabinet unbroken.

2) Every three phase, four-wire system being metered with instrument transformers shall have the service neutral available at the main switch. The neutral must be accessible (at a lug) for line to neutral metering.

3) In some installations, the customer does not require phase-to-neutral voltage; however, NSPI is required by Measurement Canada to use phase-to-neutral connections on low potential installations.

4) For further details on system neutral sizing requirements refer to Canadian Electrical Code Rule 4-022.
14.6 Three Phase Self-contained Metering Above 300V

1) All three phase self-contained metering installations on services or sub-services above 300 Volts shall have a disconnect on the line side of the meter. This disconnect shall be immediately adjacent to, or integrated with, the meterbase.

2) An isolated neutral conductor is required when the meter base is located on the load side of the disconnecting means.

NOTES:

A. All three phase self-contained services or sub-services above 300 V shall have a disconnect on the line side of the meter and shall be immediately adjacent to or integrated with the meter base.

B. Isolated neutral required when meter base is located on load side of disconnecting means.

C. Meter bases to be used in conjunction with instrument transformer type meters shall be combination type to accept the test switch.
14.7 Primary Metering

NSPI Regulation 4.4 states the following: “Metering will normally be at the secondary side of the transformer. Should the customer's requirements make it necessary for the Company to provide primary metering, then the customer will be required to make a capital contribution equal to the additional cost of the primary metering.”

The additional costs referred to in the regulation as quoted above include full equipment purchase and installation costs (unless otherwise noted) for the following;

a) primary metering equipment,

b) installation of any poles, platforms, foundations, or other supporting structures as required for the equipment,

c) changes and modifications to existing NSPI facilities as required to accommodate the primary metering,

d) removal of any facilities as required to accommodate the primary metering,

e) any other modifications or additions as required to accommodate the installation.
15 SERVICE REQUEST PROCESS

**NSPI UTILITY SERVICE REQUEST PROCESS FLOW CHART**

Customer or Their Agent Contacts NSPI Call Center at 428-6230, Requests Service

- Request is Assigned to Planner
- Planner Contacts Customer
  - Determines Location of Service Entrance, Utility Connection Work Required, Customer Requirements
  - Electrician Requests Wiring Permit

- NSPI Completes Install of Supply Facilities as Required
- Temporary Service Erected In Location Agreed with Planner
- Electrician Requests Inspection/Connection Requested by Electrician
- Crew Assigned, Inspection and Connection Completed
- Utility and Inspection Requirements are Completed
- Permanent Connection Made by NSPI Crew

- Electrician Completes Permanent Wiring, Service Entrance Location as Agreed with Planner
- Wiring Inspector Completes Inspection
## Nova Scotia Power Inc.
### Utility Service Requirements

#### Appendix A

**Power Services Safe Clearance Report**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Date</th>
<th>Yr.</th>
<th>Mth.</th>
<th>Day</th>
<th>Time</th>
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<th>Underground System</th>
<th>Construction Presently</th>
<th>Proposed Start Date</th>
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<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
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<tr>
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<td>Underway</td>
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**Comments/Instructions/Sketch**

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**See Disclaimer on Back.**

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**N.S. Power Representative**

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<thead>
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<th>Name:</th>
<th>Position:</th>
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**Firm's Representative**

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<th>Involvement of Firm to Project</th>
<th>Owner</th>
<th>Consultant</th>
<th>Gen. Cont.</th>
<th>Sub-Cont.</th>
<th>Other</th>
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<th>Date:</th>
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<table>
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<tr>
<th>Disclaimer:</th>
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<tbody>
<tr>
<td>1. All cable markings are approximate.</td>
</tr>
<tr>
<td>2. Hand digging is required within one metre of the cable markings.</td>
</tr>
<tr>
<td>3. Nova Scotia Power is to be called if there is digging at sites other</td>
</tr>
<tr>
<td>than those specified on the Clearance Report.</td>
</tr>
<tr>
<td>4. This document is not to be used for future reference as cables may</td>
</tr>
<tr>
<td>be moved without notice.</td>
</tr>
<tr>
<td>5. Nova Scotia Power cannot assume any responsibility for customer-owned</td>
</tr>
<tr>
<td>underground cables. NSPI will not indicate these on the Clearance</td>
</tr>
<tr>
<td>Report.</td>
</tr>
<tr>
<td>6. Nova Scotia Power is not able to locate underground telephone or</td>
</tr>
<tr>
<td>cable TV cables. The telephone company and the cable company should</td>
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<tr>
<td>be contacted directly.</td>
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<tr>
<td>7. If there is any doubt or question about the location of NSPI cables,</td>
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<tr>
<td>you must contact the NSPI representative before digging.</td>
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<td>8. Duct banks and manholes are not to be exposed or undermined without</td>
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<tr>
<td>specific approval of NSPI. Should it become necessary to expose or</td>
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<tr>
<td>undermine power facilities, NSPI will indicate the required action</td>
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<td>to protect the integrity of these facilities. Costs for same is the</td>
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<tr>
<td>responsibility of Contractor.</td>
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<tr>
<td>9. Should it be deemed necessary by NSPI, NSPI will provide an &quot;on site&quot;</td>
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<tr>
<td>inspector. Costs for same will be the responsibility of Contractor.</td>
</tr>
<tr>
<td>10. Contractor and/or its agents are responsible for all cost incurred</td>
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<tr>
<td>for the restoration of service and repair of power facilities</td>
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<td>damaged as a result of excavation.</td>
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*Instructions are based on conditions at the time of assessment.*

*The N.S. Occupational Health and Safety Act and Regulations must be followed.*
APPENDIX B
SERVICE ENTRANCE AND METERING CONFIGURATIONS
NOVA SCOTIA POWER INC.
UTILITY SERVICE REQUIREMENTS

NOVA SCOTIA POWER - DISTRIBUTION STANDARD

SINGLE FAMILY DWELLING

6-102(1)
6-200(1)

NOT PERMITTED

6-102(1)

SINGLE FAMILY DWELLING WITH BASEMENT APARTMENT

6-200(2) - MAX 4

ALTERNATE

drawn __________ approved __________
APPENDIX C
NSPI STANDARD DRAWINGS
CONCRETE ENCASED DUCTS

DIRECT BURIED DUCTS

NOTES:
A. DEPTH SHALL BE INCREASED TO 1000 mm IN VEHICULAR AREAS. MAY BE REDUCED TO 600 mm IF VOLTAGE DOES NOT EXCEED 750 VOLTS PHASE TO PHASE.
B. MUST BE INCREASED TO 300 mm IF ONE UTILITY'S DUCTS ARE NOT CONCRETE ENCASED.
C. NATIVE BACKFILL MATERIAL SHALL NOT CONTAIN ROCKS OVER 50 mm IN DIAMETER FOR THE FIRST 300 mm OVER DUCTS OR CABLES. CLASS 'A' GRAVEL IS ACCEPTABLE.
D. BACKFILL TO BE COMPACTED EVERY 300 mm MINIMUM.
E. IF POWER CABLES OPERATING AT DIFFERENT VOLTAGES ARE INSTALLED IN THE SAME TRENCH THE LOWEST VOLTAGE CABLES SHALL BE INSTALLED ADJACENT TO THE COMMUNICATIONS CIRCUIT.
F. ALL CROSSINGS OF THE COMMUNICATIONS AND NSPI DUCTS SHALL BE AT RIGHT ANGLES WITH A MINIMUM CLEARANCE OF 300 mm.
G. NUMBER, SIZE AND TYPE OF CONDUIT/DUCTS TO BE SPECIFIED BY THE USER UTILITY.
H. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
NOTES:
A. REFER TO DWG. NO. 1U-ED-41M FOR ROADWAY/DRIVEWAY REQUIREMENTS
MAY BE REDUCED TO 600 mm IF VOLTAGE DOES NOT EXCEED 750 VOLTS
PHASE TO PHASE.
B. FUEL STORAGE APPLIES TO OIL, PROPANE OR GASOLINE TANKS OR PIPELINES
C. 1500 mm IS THE REQUIRED CLEARANCE WHETHER THE DUCTS ARE CONCRETE
ENCASED OR DIRECT BURIED.
D. MAY BE REDUCED TO 600 mm WHERE THE FUEL STORAGE TANK HOLDS LESS
THAN 7600 LITRES.
E. UNDERGROUND POWER CABLES SHALL NOT BE ROUTED UNDER STORAGE
TANKS CONTAINING FLAMMABLE LIQUIDS OR GAS.
F. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
NOTES:
A. ALL CROSSINGS SHALL BE AT RIGHT ANGLES WITH A MINIMUM CLEARANCE OF 300 mm.
B. THE MINIMUM CONCRETE COVER OVER THE DUCTS SHALL BE 75 mm AND SHALL HAVE A MINIMUM STRENGTH OF 20 MPa @ 28 DAYS.
C. IF THE WIDTH OF THE DUCT BANK EXCEEDS 550 mm, THEN ADDITIONAL STRENGTHENING MAY BE REQUIRED AS DEFINED IN CSA STANDARD C22.3, No. 7-M.
D. NATIVE BACKFILL MATERIAL SHALL NOT CONTAIN ROCKS OVER 50 mm IN DIAMETER FOR THE FIRST 300 mm OVER DUCTS OR CABLES. CLASS 'A' GRAVEL IS ACCEPTABLE.
E. BACKFILL TO BE COMPACTED EVERY 300 mm.
F. WHERE THE DUCT BANK/CONDUIT IS INSTALLED BENEATH A DRAINAGE DITCH THE MINIMUM DEPTH OF BURIAL SHALL BE MAINTAINED FROM THE BOTTOM OF THE DRAINAGE DITCH.
G. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

DISTRIBUTION
UNDERGROUND
STANDARDS

MINIMUM CLEARANCES UNDER ROADWAYS/DRIVEWAYS

DATE: 2008-09-15
STD NO: 1U-ED-44M
DRAWN: H. V. HUYNH
NOTES:
A. CONCRETE - 30 MPa @ 28 DAYS.
B. REFER TO DWG. NO. 6U-ED-11M FOR REINFORCING DETAILS.
C. REFER TO DWG. NO. 6U-ED-12M FOR FIRE-RESISTING BARRIER IF REQUIRED.
D. REFER TO DWG. NO. 10U-ED-30M FOR GROUNDING DETAILS.
E. REFER TO DWG. NO. 2U-ED-20M FOR CONDUIT DETAILS.
F. REFER TO DWG. NO. 2U-ED-22M FOR CABLE TRAINING DETAILS.
G. LEAVE A MINIMUM OF 2000mm OF SECONDARY CABLE ABOVE THE PAD TO ALLOW FOR CABLE TRAINING AND TERMINATING ON THE TRANSFORMER.

DISTRIBUTION
UNDERGROUND
STANDARDS

CONCRETE PAD FOR
SINGLE-PHASE PADMOUNT TRANSFORMER
50 kV A - 167 kV A

DATE: 2008-09-15  STD NO: 6U-ED-10M
DRAWN: H. V. HUYNH  Sheet of
REBAR SCHEDULE

C1001 - #10M BAR X 1010mm LG - 6 REQ'D
C1002 - #10M BAR X 1600mm LG - 20 REQ'D
C1003 - #10M BAR X 350mm LG - 28 REQ'D
C1004 - #10M BAR X 1500mm LG - 14 REQ'D
C1005 - #10M BAR X 1250mm LG - 14 REQ'D (SEE DETAIL 'A')
C1007 - #10M BAR X 1760mm LG - 6 REQ'D
C1008 - #10M BAR X 1850mm LG - 6 REQ'D

SECTION A-A

NOTES:
A. REINFORCING - 400 MPa YIELD.
B. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
REBAR SCHEDULE
C1006 - #10M BAR X LG VARIES - 10 REQ'D (SEE DETAIL 'A')

CONCRETE BLOCK OR TWO LAYERS OF MASONRY BRICKS (200mm NOMINAL THICKNESS)
CONTINUOUS CONCRETE CAP

C1006 VERTICAL REBAR @ 400 C/C (SEE DETAIL 'A')
BLOCK-LOCK OR EQUAL TRUSS REINFORCING @ 400 C/C HORIZONTALLY

FOR PAD BASE REINFORCING SEE DWG. NO. 6U-ED-11M

SECTION A-A

NOTES:
A. REINFORCING - 400 MPa YIELD.
B. WHEN HOLLOW CONCRETE BLOCK IS USED, ALL OPENINGS IN THE BLOCK SHALL BE FILLED WITH MORTAR.
C. IF MASONRY BRICK IS USED, PLACE VERTICAL REBAR (C1006) BETWEEN COLUMNS.
D. SLOPE TRANSFORMER PAD TOWARDS OPEN END - 1:200.
E. REFER TO DWG. NO. 6U-ED-13M FOR CONCRETE TOP IF REQUIRED.
F. FOR TYPICAL CONSTRUCTION DETAILS REFER TO DWG. NO. 6U-ED-38M.
G. LENGTH OF BAR WILL BE DETERMINED BY HEIGHT OF WALL, OR WALLS, REQUIRED TO SATISFY CANADIAN ELECTRICAL CODE REQUIREMENTS. FOR A BARRIER WITH A TOP, THE MINIMUM HEIGHT OF THE WALLS SHALL BE 2000mm AND THE BAR DIMENSION SHALL BE 2500mm TOTAL (2200mm ON THE LONG LEG AND 300mm ON THE SHORT LEG).

DISTRIBUTION
UNDERGROUND STANDARDS

FIRE-RESISTING BARRIER FOR SINGLE-PHASE PADMOUNT TRANSFORMER
50 kV A - 167 kV A

DATE: 2008-09-15  STD NO: 6U-ED-12M
DRAWN: H. V. HUYNH Sheet of
PLAN VIEW

* FOR OIL CONTAINMENT SLAB SEE 6U-ED-50M

SPARE 100mm PVC RIGID CONDUIT TO BE CAPPED OFF WITH A NYLON FISH WIRE INSIDE (ITEM N1000)

CABLE PROTECTOR (ITEM C1054 OR C1064) TO BE FLUSH WITH CONCRETE

150mm CRUSHED STONE TOPPING EXTENDING 1000mm FROM EDGE OF PAD IN ALL DIRECTIONS

FINISHED GRADE

150

380

125

95

150

300 TYP

C1063 CEMENT WITH PVC SOLVENT CEMENT OR C1061 OR C1066

CRUSHED ROCK

SECTION A-A

NOTES:
A. CONCRETE - 30 MPa @ 28 DAYS.
B. REFER TO DWG. NO. 6U-ED-21M FOR REINFORCING DETAILS.
C. REFER TO DWG. NO. 6U-ED-22M FOR FIRE-RESISTING BARRIER IF REQUIRED.
D. REFER TO DWG. NO. 10U-ED-30M FOR GROUNDING DETAILS.
E. LEAVE A MINIMUM OF 2000mm OF SECONDARY CABLE ABOVE THE TOP OF THE PAD.

DISTRIBUTION UNDERGROUND STANDARDS

CONCRETE PAD FOR THREE-PHASE PADMOUNT TRANSFORMER 150 kV A - 500 kV A

DATE: 2008-09-15 STD NO: 6U-ED-20M
DRAWN: H. V. HUYNH Sheet of
PLAN VIEW

REBAR SCHEDULE
C1001 - #10M BAR X 2100mm LG - 12 REQ'D
C1002 - #10M BAR X 2300mm LG - 16 REQ'D
C1003 - #10M BAR X 1450mm LG - 4 REQ'D

SECTION A-A

NOTES:
A. REINFORCING - 400 MPa YIELD.
B. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

DISTRIBUTION
UNDERGROUND
STANDARDS

REINFORCING DETAILS FOR CONCRETE PAD
THREE-PHASE PADMOUNT TRANSFORMER
150 kV A - 500 kV A

DATE: 2008-09-15  STD NO: 6U-ED-21M
DRAWN: H. V. HUYNH  Sheet of
REBAR SCHEDULE

PLAN VIEW

C1004 - #10M BAR X LG VARIES - 10 REQ'D (SEE DETAIL 'A')

CONCRETE BLOCK OR TWO LAYERS OF MASONRY BRICKS (200mm NOMINAL THICKNESS)

CONTINUOUS CONCRETE CAP

SECTION A-A

NOTES:
A. REINFORCING - 400 MPa YIELD.
B. WHEN HOLLOW CONCRETE BLOCK IS USED, ALL OPENINGS IN THE BLOCK SHALL BE FILLED WITH MORTAR.
C. IF MASONRY BRICK IS USED, PLACE VERTICAL REBAR (C1004) BETWEEN COLUMNS.
D. SLOPE TRANSFORMER PAD TOWARDS OPEN END - 1:200.
E. FOR TYPICAL CONSTRUCTION DETAILS REFER TO DWG. NO. 6U-ED-38M.
F. FOR CONCRETE TOP, IF REQUIRED FOR FIRE-RESISTING BARRIER, REFER TO DWG. NO. 6U-ED-23M.
G. LENGTH OF BAR WILL BE DETERMINED BY HEIGHT OF WALL. OR WALLS, REQUIRED TO SATISFY CANADIAN ELECTRICAL CODE REQUIREMENTS. FOR A BARRIER WITH A TOP, THE MINIMUM HEIGHT OF THE WALLS SHALL BE 2000mm AND THE BAR DIMENSION SHALL BE 2500mm TOTAL (2200mm ON THE LONG LEG AND 300mm ON THE SHORT LEG).

DISTRIBUTION
UNDERGROUND
STANDARDS

FIRE-RESISTING BARRIER FOR THREE-PHASE PADMOUNT TRANSFORMER
150 kV A - 500 kV A

DATE: 2008-09-15
DRAWN: H. V. HUYNH
REBAR SCHEDULE

C1501 - #15M BAR X 2300mm LG - 6 REQ'D
C1502 - #15M BAR X 1600mm LG - 8 REQ'D

NOTES:
A. CONCRETE - 30 MPa @ 28 DAYS.
B. REINFORCING - 400 MPa YIELD.
C. DO NOT LIFT PRECAST TOP UNTIL IT HAS BEEN ALLOWED TO CURE FOR A MINIMUM OF SEVEN DAYS.
D. USE 3/4" EYE-BOLTS (89 kN STRENGTH AS PER CSA STD C83, ITEM B-24) FOR LIFTING CONCRETE TOP. THESE BOLTS ARE LISTED UNDER ITEM #B12 IN THE STANDARD HARDWARE AND MATERIAL LIST.
E. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
FOR OIL CONTAINMENT SLAB SEE 6U-ED-51M

CABLE PROTECTOR (ITEM C1061 OR C1064) TO BE FLUSH WITH CONCRETE
SPARE 100 mm PVC RIGID CONDUIT TO BE CAPPED OFF WITH A NYLON FISH WIRE INSIDE (ITEM N1000)
150 mm CRUSHED STONE TOPPING EXTENDING 1000 mm FROM EDGE OF PAD IN ALL DIRECTIONS

FINISHED GRADE

CRUSHED ROCK

CEMENT WITH PVC SOLVENT CEMENT

SECTION A-A

NOTES:
A. CONCRETE - 30 MPa @ 28 DAYS.
B. REFER TO DWG. NO. 6U-ED-25M FOR REINFORCING DETAILS.
C. REFER TO DWG. NO. 10U-ED-30M FOR GROUNDING DETAILS.
D. LEAVE A MINIMUM OF 2000 mm OF SECONDARY CABLE ABOVE TOP OF PAD.
E. WHEN THE SECONDARY CABLES ARE LARGER THAN #750 kcmil THE 'DEEP-WELL' TRANSFORMER PAD IS REQUIRED. REFER TO DWG. NO. 6U-ED-26M FOR MODIFIED TRANSFORMER PAD CONSTRUCTION DETAILS.
PLAN VIEW

REBAR SCHEDULE

C1005 - #10M BAR X 2900mm LG - 38 REG'D
C1007 - #10M BAR X 2190mm LG - 8 REG'D

SECTION C-C

NOTES:
A. REINFORCING - 400 MPa YIELD.
B. WHEN THE SECONDARY CABLES ARE LARGER THAN #750 kcmil THE 'DEEP-WELL' TRANSFORMER PAD IS REQUIRED. REFER TO DWG. NO. 6U-ED-26M FOR MODIFIED CONSTRUCTION AND PAD REINFORCING DETAILS.
SECTION B-B
(DWG. NO. 6U-ED-25M)

REFER TO DWG. NO. 6U-ED-25M FOR REINFORCING DETAILS AND REBAR SCHEDULE FOR UPPER PART OF PAD

SECTION C-C
(DWG. NO. 6U-ED-25M)

REFER TO DWG. NO. 6U-ED-25M FOR REINFORCING DETAILS AND REBAR SCHEDULE FOR UPPER PART OF PAD

SECTION D-D
(DWG. NO. 6U-ED-25M)

REBAR SCHEDULE

C1501 - #15M EAR X 2900 mm LG = 6 REG'D
C1502 - #15M EAR X 1700 mm LG = 8 REG'D
C1503 - #15M EAR X 990 mm LG = 4 REG'D

DETAIL 'B'

NOTES:
A. REINFORCING - 350 MPa YIELD.
B. TRANSFORMER PAD CONSTRUCTION TO BE AS SHOWN ONLY WHEN THE SECONDARY CABLES ARE LARGER THAN #750 kcmil.
C. LEAVE A MINIMUM OF 2000 mm OF SECONDARY CABLE ABOVE SLAB.
REBAR SCHEDULE

C1008 - #10M BAR X LG VARIES - 15 REG'D (SEE DETAIL 'A')

CONCRETE BLOCK OR TWO LAYERS OF MASONRY BRICKS (200 mm NOMINAL THICKNESS)

CONTINUOUS CONCRETE CAP

DISTRICT UNDERGROUND STANDARDS

FIRE-RESISTING BARRIER FOR THREE-PHASE PADMOUNT TRANSFORMER
750 kV·A - 2500 kV·A

DATE: 2008-08-14 STD NO: 6U-ED-28M
DRAWN: H. V. HUYNH Sheet of
PLAN VIEW

TYPICAL SECTION

REBAR SCHEDULE
C1501 - #15M BAR X 2800 mm LG - 14 REQ'D
C1502 - #15M BAR X 2500 mm LG - 15 REQ'D

DETAIL 'A'
3/8" COARSE-THREAD NUT TO BE WELDED TO BOTTOM PLATE

2-GALV CHECKER PLATES 10 X 100 X 100 WELDED TO STEEL PIPE SLEEVE (TOP & BOTTOM). CHECKER PLATES TO BE DRILLED WITH 22 mm DIA HOLE. TOP PLATE AND CONCRETE TO BE FLUSH.

1" DIA (SCHEDULE 40) GALV STEEL PIPE SLEEVE

NOTES:
A. CONCRETE - 30 MPa @ 28 DAYS.
B. REINFORCING - 400 MPa YIELD.
C. DO NOT LIFT PRECAST TOP UNTIL IT HAS BEEN ALLOWED TO CURE FOR A MINIMUM OF SEVEN DAYS.
D. USE 3/4" EYE-BOLTS (89kN STRENGTH AS PER CSA STD C83, ITEM B-24) FOR LIFTING CONCRETE TOP. THESE BOLTS ARE LISTED UNDER ITFM #B12 IN THE STANDARD HARDWARE AND MATERIAL LIST.
VERTICAL REBAR @ 400 C/C
(SEE DWG. NO. 6U-ED-12M)

BLOCK-LOCK OR EQUAL TRUSS REINFORCING
@ 400 C/C HORIZONTALLY

BOTH ENDS TO BE CLOSED IN WITH CONCRETE BLOCK AFTER FORMS ARE REMOVED

200 X 400 OPENING FOR DUCT ENTRANCE (BOTH ENDS)

SINGLE-PHASE PAD CONSTRUCTION

VERTICAL REBAR @ 600 C/C
(SEE DWG. NO. 6U-ED-22M OR 6U-ED-28M)

BLOCK-LOCK OR EQUAL TRUSS REINFORCING
@ 400 C/C HORIZONTALLY

THREE-PHASE PAD CONSTRUCTION

NOTES:
A. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
**NOTES:**

A. THE PVC CONDUIT, OR EQUIVALENT, MUST BE INSTALLED TO INSULATE THE STEEL PIPE AND THUS PREVENT TRANSFER OF DANGEROUS TOUCH POTENTIAL IN THE EVENT OF A FAULT.

B. STAND-OFFS SHALL BE PLACED SO AS TO NOT OBSTRUCT ANY DOORS OR RESTRICT THE SAFE OPERATION OF THE UNIT. IN ALL CASES, THEY SHALL BE A MINIMUM OF 1000mm FROM THE EDGE OF THE PAD ALONG THE FRONT SIDE.

C. THE MAXIMUM ALLOWABLE DISTANCE BETWEEN STAND-OFFS SHALL BE 1300mm.


E. STAND-OFFS NEED ONLY BE LOCATED ON SIDES WHERE VEHICULAR TRAFFIC MAY BE A HAZARD.
CUSTOMER MATERIAL
1. FACE - MINIMUM 4"x0"x 2"x0"x 3/4" PLYWOOD OR BOARDS
2. FRAMING - 2"x 4" LUMBER
3. BASE - MINIMUM 4"x0"x 2"x0"x 3/4" (SAME AS FACE)
4. 10' GROUND ROG OR GROUND PLATE
5. SQUARE METER SOCKET
6. WEATHERPROOF SERVICE ENTRANCE RATED SWITCH
7. CONDUIT OR CABLE CLAMP
8. GROUND WIRE CLAMP
9. RIGID CONDUIT (PVC OR METAL) OR ARMoured CABLE (TECK 90 OR ACW090)

WEIGHT ON BASE - MINIMUM 330 kg. (ROCK, BLOCK, CONCRETE)

ELECTRICAL - MUST MEET CANADIAN ELECTRICAL CODE FOR TEMPORARY SERVICES. CENTER OF METER TO BE MINIMUM 1.4 M FROM GROUND.

NOTES
1. CARE SHOULD BE TAKEN IF DRIVING GROUND ROD, NOT TO HIT UNDERGROUND CABLE. GROUND PLATE IS RECOMMENDED.
2. STRUCTURE IS TO BE SECURELY ASSEMBLED TO ASSURE RIGIDITY & MOUNTED ON LEVEL GROUND.
3. CONDUIT TO BE SECURELY FASTENED TO STRUCTURE.
4. STRUCTURE MUST NOT IMPEDE ACCESS TO URO BOX.
5. CARE SHOULD BE TAKEN THAT URO BOX AREA IS LEFT IN A SAFE MANNER.
6. SERVICE SWITCH MUST BE CAPABLE OF BEING LOCKED.
7. WHEN MORE THAN ONE SET OF WIRE CONDUCTOR IS INSTALLED IN URO BOX-TEMPORARY WIRE CONDUCTOR MUST BE IDENTIFIED BY LABELLING.
8. STRUCTURE TO BE PLACED ON CUSTOMER PROPERTY - NOT TO IMPED PEDESTRIAN AREA ON SIDEWALKS OR BLOCK FIRE HYDRANTS.
NOTES:
A. FOR PADMOUNT TRANSFORMER INSTALLATIONS THE GROUND WIRE SHALL PASS THROUGH THE CONNECTOR IN A CONTINUOUS LOOP AROUND THE TRANSFORMER PAD. REFER TO DWG NO 10U-ED-30M.
B. FOR DISTRIBUTION LINES WHERE THREE GROUND RODS ARE USED THE GROUND WIRE SHALL PASS THROUGH THE CONNECTOR IN A CONTINUOUS LOOP AROUND THE POLE. REFER TO DWG NO 10U-ED-10M.
NOTES:
B. REFER TO DWG. NO. 10U-ED-11M FOR GROUND ROD CONNECTION DETAILS.
C. THE GROUND TIE SHALL BE A BARE COPPER CONDUCTOR INSTALLED UNDERNEATH THE CONCRETE ENCASED DUCTBANK OR ADJACENT TO THE DIRECT BURIED CONDUITS. THE MINIMUM WIRE SIZE SHALL BE #2/0 AWG. THE GROUND TIE SHALL INTERCONNECT THE PADMOUNT GROUND TO THE RISER POLE GROUND ROD(S) AND ANY OTHER PADMOUNT GROUND. UNDER SPECIAL CIRCUMSTANCES A CUSTOMER GROUND TIE FROM THE PAD TO THE CUSTOMER SERVICE SWITCH MAY BE REQUIRED BY THE INSPECTION AUTHORITY.

SAME AS (G-ED-30M)
NOTES:
A. FOR ROADWAY/DRIVEWAY REQUIREMENTS, DEPTH OF BURIAL TO BE 1000 mm. (NSPI: REFER TO DWG. NO. 1U-ED-44).
B. REFER TO DWG. NO. 1U-ED-12M FOR BONDING OF POWER CABLE GUARDS.
C. REFER TO SECTION '50' FOR OVERHEAD POWER TERMINATION DETAILS.
D. DUCTS SHALL BE SECURED TO THE POLE WITH CONDUIT STRAPS AND HAVE A 12 mm THICK PLYWOOD BOARD SPACER BEFORE CONCRETE IS Poured.
E. DUCT RUNS SHALL BE FORMED BY THE CUSTOMER OR HIS AGENT AND INSPECTED BY NSPI AND COMMUNICATION REPRESENTATIVES PRIOR TO POURING OF CONCRETE, MARKER TAPE TO BE INSTALLED AS SHOWN.
F. GROUND WIRE MOLDING TO BE STAPLED TO POLE EVERY 600 mm.
G. 100 mm DUCTS SHALL NORMALLY BE USED BY NSPI IN SPECIAL CIRCUMSTANCES, WHEN MORE THAN THREE 90° BENDS ARE NEEDED BETWEEN CABLE PULLING POINTS, OR DUCT RUN EXCEEDS 32 m, 125 mm DUCTS SHALL BE USED.
H. ANY METAL USED FOR FORMING CONCRETE AT THE BASE OF THE POLE SHALL BE REMOVED.
I. ALL DUCTS MUST BE CLEANED AND SWABBED, THEN CAPPED FOR PROTECTION.
J. DUCTS SHALL NOT BE INSTALLED ON THE CURB OR TRAFFIC SIDES OF THE POLE.
K. ON DEADEND STRUCTURES THE POSITION OF THE DUCTS MAY BE REVERSED TO FACILITATE COMMUNICATIONS DEADING.
L. STRAP CABLES UNDER GUARD EVERY 3000 mm AND CABLE GUARD TO POLE EVERY 1200 mm.
M. NUMBER, SIZE AND TYPE OF CONDUITS/DUCTS TO BE SPECIFIED BY THE USER UTILITY.
N. GROUND TIE TO BE INSTALLED BENEATH THE DUCTBANK AND CONNECTED TO THE PADMOUNT GROUND. (NSPI: REFER TO DWG. NO. 1U-ED-30M).
M. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

SAME AS (1U-ED-14M)

DISTRIBUTION OVERHEAD STANDARDS
NSPI AND COMMUNICATIONS JOINT USE

JOINT USE DUCT TERMINATION FOR UNDERGROUND PRIMARY SERVICE (MORE THAN 750 VOLTS)

DATE: 2008-08-14 STD NO: J-ED-14M
DRAWN: H. V. HUYNH Sheet of
A. NSP SERVICES SAFE CLEARANCE REPORT 5P012 SHALL BE ISSUED FOR ALL INSTALLATIONS. WEATHER-HEAD NOT TO BE INSTALLED IN PRIMARY ZONE.

B. POWER CABINET NOT TO BE INSTALLED ON ANY POLE THAT HAS A THREE PHASE GANG OPERATED SWITCH, IS A CORNER WITH ANGLE GREATER THAN 20 DEGREES, HAS ANY POWER CABLE OR CONDUIT RISERS, OR HAS A THREE PHASE TAKE-OFF.

POWER CABINET NOT TO BE INSTALLED ON ANY POLE WITH COMMUNICATIONS CABLE OR CONDUIT RISERS, OTHER COMMUNICATIONS EQUIPMENT INSTALLED ON IT, OR WHERE IT MAY IMPede THE USE OF STRAND MOUNTED WORK EQUIPMENT. CABINET MUST BE INSTALLED ON THE OPPOSITE SIDE OF POLE FROM ANY LARGE SPLICE.

C. PLACE RIGID PVC CONDUIT AS FAR AWAY AS IS PRACTICAL FROM TELEPHONE PLANT.

D. NO PART OF THE POWER SUPPLY BOX MAY PROTRUDE INTO A VEHICLE LANE REGARDLESS OF WHICH SIDE OF THE POLE THE BOX OR LANE IS ON. (THIS INCLUDES DRIVEWAY SPACES)

E. THE CABINET SHALL BE OFFSET A MIN. 150mm FROM THE POLE TO ALLOW FOR CLIMBING SPACE.

F. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

G. CATV POWER CABINET NEUTRAL BUS TO BE CONNECTED TO A DEDICATED GROUNDING ELECTRODE, SEPARATE FROM THE UTILITY GROUNDING ELECTRODE. THE ELECTRODE FOR THE POWER SUPPLY CABINET MUST BE BONDED TO THE UTILITY ELECTRODE. CATV GROUNDING ELECTRODE TO BE INSTALLED AS PER CEC RULE 10-700
CUSTOMER'S MATERIAL
1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
6. OFFSET CONDUIT REDUCER
7. RIGID CONDUIT
8. ROOF FLASHING
9. MAST SUPPORT MEMBER
10. SERVICE MAST CLAMP, GALVANIZED, 2½"
11. 6mm GALVANIZED STEEL WIRE
12. METER BASE

NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE BRACKET AND THE MAST IN A LOCATION SATISFACTORY TO BOTH THE INSPECTION DEPT. AND THE SUPPLY AUTHORITY, AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3kN.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
C. CUSTOMER'S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750mm BEYOND THE SERVICE HEAD.
D. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
E. DRIP LOOP ON SERVICE CONDUCTORS TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
F. REFER TO CHART SS-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
G. ANCHORING AND GUARDING TO BE IN ACCORDANCE WITH SECTION 'A'.
H. 2½" GALVANIZED STEEL MAST TUBING OR 2½" MINIMUM GALVANIZED RIGID STEEL CONDUIT ARE ACCEPTABLE AS SERVICE MASTS. RIGID ALUMINUM CONDUIT IS NOT ACCEPTABLE.
I. ITEM NO. 6 IS NOT REQUIRED WHEN THE MAST IS CONNECTED DIRECTLY TO A 2½" HUB ON THE METER CONNECTION BOX.
J. COMMUNICATION DROP WIRE MAY BE ATTACHED TO THE MAST WITH MINIMUM CLEARANCES AS SHOWN. IF SUSPENSION STRAND IS USED, THE CLEARANCE BETWEEN POWER CABLE DRIP LOOP AND ALIANT STRAND SHALL BE INCREASED TO 1.0 METRES.
K. AT THE DISCRETION OF THE NSP REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, AND ALIANT DISTRICT MANAGER (O.P.E.), OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAC CONDITIONS AS SPECIFIED IN CHART J-1M.
NOTES:

A. The customer shall be responsible for installing the power service attachment device on new homes at the time of construction and ensuring the attachment will support a horizontal load of 3kN.

B. Material required for power service attachment shall be supplied by NSP.

C. Customer’s service entrance conductors shall each extend not less than 750mm beyond the service head.

D. Service attachment shall be installed a minimum of 150mm below the service head.

E. Drip loop on service conductors to be left at the pole and house connection.

F. Refer to chart SS-1M for recommended sizes of triplex cable to be used.

G. Anchoring and guying to be in accordance with section 'A'.

H. At the discretion of regional engineering, or his representative, and Aliant district manager (O.P.E.I.), or his representative, minimum service attachment height may be increased or decreased to meet clearance requirements under maximum sag conditions as specified in chart J-1M.

I. Communication drop wire shall be attached with minimum clearances as shown. If suspension strand is used, the clearance between power cable drip loop and Aliant strand shall be increased to 1000 mm.
NOTES:
A. REFER TO DWG. NO. 1U-ED-44M FOR ROADWAY/DRIVEWAY REQUIREMENTS.
B. REFER TO DWG. NO. 1U-ED-12M FOR BONDING OF CABLE GUARDS.
C. DUCTS SHALL BE SECURED TO THE POLE WITH CONDUIT STRAPS AND HAVE A 12 mm THICK PLYWOOD BOARD SPACER BEFORE CONCRETE IS POURED.
D. DUCT RUNS SHALL BE FORMED BY THE CUSTOMER OR HIS AGENT AND INSPECTED BY NSPI REPRESENTATIVES PRIOR TO POURING OF THE CONCRETE. MARKER TAPE TO BE INSTALLED AS SHOWN.
E. FOR JOINT USE DETAILS REFER TO DWG. NO. 1U-ED-14M.
F. ALL DUCTS MUST BE SWABBED, THEN CAPPED FOR PROTECTION.
G. ALL DUCTS SHALL HAVE A NYLON FISH LINE (ITEM N1000) INSTALLED PRIOR TO CAPPING.
H. STRAP CABLES UNDER GUARD EVERY 3000 mm AND CABLE GUARD TO POLE EVERY 1200 mm.
I. STAPLED GROUND WIRE MOULDINGS TO POLE EVERY 1200 mm.
J. 100 mm DUCTS SHALL NORMALLY BE USED. IN SPECIAL CIRCUMSTANCES WHEN MORE THAN THREE 90 BENDS ARE NEEDED BETWEEN CABLE PULLING POINTS, OR DUCT RUN EXCEEDS 92 m, 125 mm DUCTS SHALL BE USED.
K. FOR TERMINATION DETAILS REFER TO DWG. NO.'S 5U-ED-11M TO 5U-ED-13M.
L. DUCTS SHALL NOT BE INSTALLED ON THE CURB OR TRAFFIC SIDES OF THE POLE.
NOTES:
A. MINIMUM COVER REQUIREMENTS FOR DIRECT BURIED CONDUIT IN VEHICULAR AREAS IS 1000mm.
B. FOR BONDING OF CABLE GUARDS, REFER TO DWG. NO. 10U-ED-12M.
C. NATIVE BACKFILL MATERIAL SHALL NOT CONTAIN ROCKS OVER 50mm IN DIAMETER FOR THE FIRST 300mm ABOVE CONDUIT.
D. BACKFILL SHALL BE COMPACTED EVERY 300mm MINIMUM.
E. FOR JOINT USE DETAILS, REFER TO DWG. NO. 1U-ED-25M.
F. ALL CONDUIT MUST BE CLEANED, HAVE NYLON FISH LINE (ITEM N1000) INSTALLED, AND THEN CAPPED FOR PROTECTION.
G. STRAP CABLE TO THE POLE EVERY 3000mm AND THE CABLE GUARD TO THE POLE EVERY 1200mm.
H. STAPLE GROUND WIRE MOULDING TO THE POLE EVERY 600mm.
I. CONDUIT RUNS SHALL BE CONSTRUCTED BY THE CUSTOMER OR HIS AGENT AND BE INSPECTED BY NSPI REPRESENTATIVES PRIOR TO BACKFILLING.
J. GROUND WIRE TO EXTEND DOWN POLE, THROUGH CONNECTOR, AND AROUND POLE IN A CONTINUOUS LOOP BACK TO GROUND.
K. THE CONDUIT SHALL NOT BE INSTALLED ON THE CURB OR TRAFFIC SIDE OF THE POLE.
L. MARKER TAPE (ITEM M1000) SHALL BE INSTALLED ABOVE THE CONDUIT FOR ITS ENTIRE LENGTH, AS SHOWN.
M. NOT APPLICABLE TO CUSTOMER OWNED SERVICE ENTRANCE.
SAME AS (5U-ED-20M)
NOTES:
A. MINIMUM #/0 ALUMINUM POLY-COVERED CONDUCTOR SHALL BE USED FOR X2 BOND TO SYSTEM NEUTRAL.
B. PVC CONDUIT TO BE STRAPPED TO POLE EVERY 1200 mm.
C. GROUND WIRE M OULDING TO BE STAPLED TO POLE EVERY 600 mm.
D. TOP OF SERVICE HEAD TO BE LOCATED 300 mm BELOW SYSTEM NEUTRAL.
E. FOR TERMINAL INSTALLATION DETAILS REFER TO SECTION '4U' OF THE U/G STANDARDS MANUAL.
F. FOR CONDUIT TERMINATION DETAILS REFER TO DWG. NO. OU-ED-20M.
G. MINIMUM LENGTH OF SECONDARY CABLE AS MEASURED FROM WEATHERHEAD TO END OF CONDUCTOR.
   FOR MAKING CONNECTIONS AND FORMING DRIP LOOP SHALL BE 1.5 m WHEN CONNECTING DIRECTLY TO
   THE TRANSFORMER TERMINALS AND 1.0 m WHEN CONNECTING DIRECTLY TO THE SECONDARY CONDUCTORS.
H. USE AN APPROVED INHIBITOR WHEN THE TRANSFORMER TERMINAL IS OF DISIMIAR
   MATERIAL THAN THE CONDUCTOR TERMINAL.
I. THE CUSTOMER IS RESPONSIBLE FOR SUPPLYING AND INSTALLING THE SERVICE
   HEAD, CABLE AND RIGID PVC CONDUIT.

DISTRIBUTION
OVERHEAD/UNDERGROUND STANDARDS

OVERHEAD TRANSFORMER TERMINATION DETAILS
UNDERGROUND SERVICE DIRECTLY TO A CUSTOMER

DATE: 2008-10-20
DRAWN: H. V. HUYNH

STD NO: OU-ED-22M
Sheet of
NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE ATTACHMENT DEVICE TO THE BUILDING AT THE TIME OF CONSTRUCTION AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3KN.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
C. CUSTOMER'S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750mm BEYOND THE SERVICE HEAD.
D. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
E. DRIP LOOP TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
F. REFER TO CHART J-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
G. ANCHORING AND GUYING TO BE IN ACCORDANCE WITH SECTION 'A'.
H. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-1M AND SECTION "V".
CUSTOMER’S MATERIAL

1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
3. RIGID CONDUIT
4. METER BASE

NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE ATTACHMENT DEVICE TO THE BUILDING AT THE TIME OF CONSTRUCTION AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3000N.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
C. CUSTOMER’S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750MM BEYOND THE SERVICE HEAD.
D. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150MM BELOW THE SERVICE HEAD.
E. DROP LOOP TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
F. REFER TO CHART J-IM FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
G. ANCHORING AND GUARDING TO BE IN ACCORDANCE WITH SECTION "A".
H. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-IM AND SECTION "V".

DISTRIBUTION OVERHEAD STANDARDS

TRIPLEX SERVICE CONNECTION FOR SINGLE DWELLING (NEW CONSTRUCTION)
120/240V (200A OR LESS)

DATE: 2008-08-14  STD NO: SS-ED-11M
DRAWN: H. V. HUYNH  Sheet of
CUSTOMER'S MATERIAL

1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
3. RIGID CONDUIT
4. METER BASE

NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE ATTACHMENT DEVICE TO THE BUILDING AT THE TIME OF CONSTRUCTION AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3kN.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
C. CUSTOMER’S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750mm BEYOND THE SERVICE HEAD.
D. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
E. DRIP LOOP TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
F. REFER TO CHART SS-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
G. SEALING COMPOUND SHALL BE APPLIED TO PHASE CONNECTIONS. NEUTRAL CONNECTIONS SHALL BE BARE.
H. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-1M AND SECTION "V".
I. THE RIGID CONDUIT MAY BE INSTALLED IN SUCH A MANNER AS TO LOCATE A METER AT EACH END OF THE STRUCTURE.
J. A DUPLEX HOUSE MAY HAVE TWO SERVICE CONNECTIONS INSTALLED, IN A MANNER AS TO LOCATE ONE AT EACH END OF THE STRUCTURE. AN ADDITIONAL CHARGE MAY APPLY FOR THIS CONFIGURATION. SEE SS-ED-10M AND SS-ED-11M.

DISTRIBUTION OVERHEAD STANDARDS

TRIPLEX SERVICE CONNECTION FOR DUPLEX HOUSE (NEW CONSTRUCTION)
120/240V (200A OR LESS)

DATE: 2008-08-14  STD NO: SS-ED-12M
DRAWN: H. V. HUYNH  Sheet of
CUSTOMER'S MATERIAL

1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
3. OFFSET CONDUCT REDUCER
4. RIGID CONDUIT
5. ROOF FLASHING
6. MAST SUPPORT MEMBER
7. SERVICE MAST CLAMP, GALV., 2 1/2"
8. 6mm GALVANIZED STEEL WIRE
9. METER BASE
10. GS CONDUIT
11. TUBE-TRIPLEX® 600 MM-3/4"
12. SHEATH

NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE BRACKET AND MAST IN A LOCATION SATISFACTORY TO BOTH THE INSPECTION DEPT. AND THE SUPPLY AUTHORITY, AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3 KN.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
C. CUSTOMER'S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750mm BEYOND THE SERVICE HEAD.
D. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
E. DRIP LOOP TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
F. REFER TO CHART SS-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
G. ANCHORING AND GUYING TO BE IN ACCORDANCE WITH SECTION "A".
H. 2 1/2" GALVANIZED STEEL MAST TUBING OR 2 1/2" MINIMUM GALVANIZED RIGID STEEL CONDUIT ARE ACCEPTABLE AS SERVICE MASTS. RIGID ALUMINUM CONDUIT IS NOT ACCEPTABLE.
I. ITEM No. 6 IS NOT REQUIRED WHEN THE MAST IS CONNECTED DIRECTLY TO A 2 1/2" HUB ON THE METER CONNECTION BOX.
J. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-1M AND SECTION "V".
K. REFER TO SWM 4.02 FOR CONNECTOR INSTALLATIONS.

DISTRIBUTION
OVERHEAD
STANDARDS

TRIPLEX SERVICE CONNECTION ON SERVICE MAST
120/240V (200A OR LESS)

DATE: 2008-08-14 STD NO: SS-ED-13M
DRAWN: H. V. HUYNH Sheet of
NOTES:
A. FOR RE-CONNECTION OF AN EXISTING SERVICE NSP SHALL SUPPLY AND INSTALL THE SERVICE ATTACHMENT DEVICE.
B. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
C. DRIPLoop TO BE LEFT AT THE POLE AND HOUSE CONNECTION.
D. REFER TO CHART SS-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
E. ANCHORING AND GUYING TO BE IN ACCORDANCE WITH SECTION 'A'.
F. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-1M AND SECTION "V".

DISTRIBUTION
OVERHEAD
STANDARDS

TRIPLEX SERVICE CONNECTION
FOR EXISTING SINGLE DWELLINGS
120/240V (200A OR LESS)

DATE: 2008-08-14
STD NO: SS-ED-14M
DRAWN: H. V. HUYNH
Sheet of
CUSTOMER'S MATERIAL

1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
3. CONDUIT
4. SERVICE MAST CLAMPS, GALVANIZED
5. SOCKET METER BASE
6. SERVICE ENTRANCE SWITCH RATED NEMA3
7. GROUND ROD IN ACCORDANCE WITH C.E. CODE PART I
8. GROUND ROD CLAMP
9. GROUND WIRE IN ACCORDANCE WITH C.E. CODE PART I
10. 20mm WOOD MOUNTING BOARD OR WEATHERPROOF BOX
11. SUPPORTING STRUCTURE TO BE SUPPLIED BY CONTRACTOR - WOOD POLE WITH MINIMUM TOP DIAMETER OF 125mm
12. INSULATING MOULDING AND STAPLES
13. GUying ASSEMBLY

NOTES:
A. FASTEN MOUNTING BOARD/BOX SECURELY TO POLE.
B. SERVICE ATTACHMENT HEIGHT SHALL BE INCREASED WHERE ADDITIONAL GROUND CLEARANCES ARE REQUIRED.
C. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

DISTRIBUTION OVERHEAD STANDARDS

TEMPORARY SERVICE STRUCTURE WITH WOOD POLE
120/240 VOLTS (200 AMPS OR LESS)

DATE: 2008-08-14  STD NO: SS-ED-22M
DRAWN: H. V. HUYNH  Sheet of
CUSTOMER'S MATERIAL

1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTOR, INSULATED
3. CONDUIT
4. SERVICE MAST CLAMPS, GALVANIZED
5. SOCKET METER BASE
6. SERVICE ENTRANCE SWITCH RATED NEMA3
7. GROUND ROD IN ACCORDANCE WITH C.E. CODE PART I
8. GROUND ROD CLAMP
9. GROUND WIRE IN ACCORDANCE WITH C.E. CODE PART I
10. MINIMUM 50mm X 150mm WOOD PLANKS
11. MINIMUM 50mm X 100mm WOOD STAKES
12. 20mm WOOD MOUNTING BOARD OR WEATHERPROOF BOX
13. SUPPORTING STRUCTURE TO BE SUPPLIED BY CONTRACTOR - THREE 50mm X 150mm SPRUCE PLANKS OR SOLID 150mm X 150mm WOOD PLANK
14. INSULATING MOLDING AND STAPLES

NOTES:
A. FASTEN MOUNTING BOARD/BOX SECURELY TO POLE.
B. SERVICE ATTACHMENT HEIGHT SHALL BE INCREASED WHERE ADDITIONAL GROUND CLEARANCES ARE REQUIRED.
C. THE ELECTRICAL INSPECTOR AND ZONE REPRESENTATIVE MUST ENSURE THE TEMPORARY SUPPORT IS SAFE FOR SERVICE ATTACHMENT AND REJECT ALL THOSE CONSIDERED TO BE INADEQUATE.
D. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

DISTRIBUTION OVERHEAD STANDARDS

TEMPORARY SERVICE STRUCTURE WITH PLANKS 120/240 VOLTS (200 AMPS OR LESS)

DATE: 2008-08-14
STD NO: SS-ED-23M
DRAWN: H. V. HUYNH
CUSTOMER'S MATERIAL

1. SERVICE HEAD.
2. SERVICE ENTRANCE CONNECTOR, INSULATED.
3. CONDUIT.
4. SERVICE MAST CLAMPS.
5. SOCKET METER BASE.
6. SERVICE ENTRANCE SWITCH RATED NEMA 3.
7. GROUND ROD IN ACCORDANCE WITH CANADIAN ELECTRICAL CODE, PART 1.
8. GROUND ROD CLAMP.
9. GROUND WIRE INSTALLED IN ACCORDANCE WITH CANADIAN ELECTRICAL CODE, PART 1.
10. MINIMUM 50mm X 150mm X 4800mm WOOD PLANKS.
11. MINIMUM 50mm X 100mm WOOD STAKES.
12. 20mm WOOD MOUNTING BOARD OR WEATHERPROOF BOX, METER TO BE LOCATED OUTSIDE OF BOX.
13. SUPPORTING STRUCTURE TO BE SUPPLIED BY CONTRACTOR - THREE 50mm X 150mm SPRUCE PLANKS OR SOLID 150mm X 150mm WOOD PLANK.
14. 5/8" GALVANIZED MACHINE BOLTS THROUGH PLANKS.
15. MINIMUM 50mm X 100mm CROSS BRACES.

NOTES:
A. SERVICE ATTACHMENT HEIGHT SHALL BE INCREASED WHERE ADDITIONAL GROUND CLEARANCES ARE REQUIRED.
B. THE ELECTRICAL INSPECTOR OR ZONE REPRESENTATIVE MUST ENSURE THE TEMPORARY SUPPORT IS SAFE FOR SERVICE ATTACHMENT AND REJECT ALL THOSE CONSIDERED TO BE INADEQUATE.
C. STRUCTURE SHOULD BE INSTALLED ON AS LEVEL GROUND AS POSSIBLE WITH FOUR 50mm X 150mm WOOD PLANKS FOR BRACING DOWN TO THE 50mm X 150mm CROSS MEMBERS ON THE GROUND.
D. IF PROPER STAKING CANNOT BE OBTAINED THEN MINIMUM 50kg WEIGHTS PLACED ON 20mm PLYWOOD NAILD TO CROSS BRACES SHALL BE USED.
E. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
CUSTOMER'S MATERIAL
1. SERVICE HEAD
2. SERVICE ENTRANCE CONDUCTORS, INSULATED
3. MAST SUPPORT MEMBER
4. SERVICE MAST CLAMPS, 2 1/2" GALV., BOLTED TYPE
   (FOR WALL SUPPORT DETAILS SEE DWG. NO. SS-ED-25M)
5. METER BASE
6. RIGID CONDUIT AND FITTINGS
7. 6mm GALVANIZED STEEL WIRE

NOTES:
A. WHERE THE SERVICE CROSSES OVER, OR RUNS PARALLEL TO, THE MOBILE HOME ROOF TO
ATTACH TO THE SERVICE BRACKET, MINIMUM CLEARANCE TO THE ROOFLINE SHALL BE 1.0m.
B. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE BRACKET AND MAST IN
A LOCATION SATISFACTORY TO BOTH THE INSPECTION DEPT. AND THE SUPPLY AUTHORITY
AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3 kN.
C. THE CUSTOMER SHALL BE RESPONSIBLE FOR PROVIDING WALL SUPPORT FOR THE MAST IN
ACCORDANCE WITH DISTRIBUTION STANDARD DWG. NO. SS-ED-25M.
D. MATERIAL REQUIRED FOR SERVICE ATTACHMENT SHALL BE SUPPLIED BY NSP.
E. CUSTOMER'S SERVICE ENTRANCE CONDUCTORS SHALL EACH EXTEND NOT LESS THAN 750mm
BEYOND THE SERVICE HEAD.
F. SERVICE ATTACHMENT SHALL BE INSTALLED A MINIMUM OF 150mm BELOW THE SERVICE HEAD.
G. DRIP LOOP TO BE LEFT AT POLE AND HOUSE CONNECTION
H. REFER TO CHART J-1M FOR RECOMMENDED SIZES OF TRIPLEX CABLE TO BE USED.
I. 2 1/2" GALVANIZED STEEL MAST TUBING OR 2 1/2" MINIMUM RIGID STEEL CONDUIT ARE
ACCEPTABLE AS SERVICE MASTS. RIGID ALUMINUM CONDUIT IS NOT ACCEPTABLE.
J. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE,
MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO
MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS
SPECIFIED IN CHART J-1M AND SECTION "V".
K. REFER TO SWM 4.02 FOR CONNECTOR INSTALLATIONS.
L. REFER TO ELECTRICAL INSPECTION BULLETIN 6-96-04 FOR MAX. SPAN MAY BE
INCREASED TO 36m PROVIDED AN APPROVED MAST SUPPORT SYSTEM IS USED.

DISTRIBUTION
OVERHEAD
STANDARDS

TRIPLEX SERVICE CONNECTION FOR MOBILE HOME
120V/240V (200A OR LESS)
EXTERIOR DETAILS OF CUSTOMER'S SERVICE
MAST INSTALLATION

DATE: 2008-08-14
DRAWN: H. V. HUYNH

NOVA SCOTIA POWER
An Emera Company

Registered Professional Engineer

J. A. McFADGEN
PROVINCE OF NOVA SCOTIA
5069

Sheet of
CUSTOMER'S MATERIAL

1. SERVICE HEAD
2. SERVICE CONDUCTORS, INSULATED
3. MAST SUPPORT MEMBER
4. SERVICE MAST CLAMP, 2 1/2" GALV., BOLTED-TYPE
5. METER BASE
6. RIGID CONDUIT AND FITTINGS
7. 6mm GALVANIZED STEEL WIRE
8. 1/2" GALVANIZED BOLT AND SQUARE WASHER
9. 50mm X 150mm WOODEN MEMBERS SECURED BETWEEN STUDS OR ON INTERIOR WALL SURFACE

NOTES:
A. WHERE THE SERVICE CROSSES OVER, OR RUNS PARALLEL TO, THE MOBILE HOME ROOF TO ATTACH TO THE SERVICE BRACKET, THE MINIMUM CLEARANCE TO THE ROOFLINE SHALL BE 1.0m.
B. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE BRACKET AND MAST IN A LOCATION SATISFACTORY TO BOTH THE INSPECTION DEPARTMENT AND THE SUPPLY AUTHORITY, AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3 kN.
C. THE CUSTOMER SHALL BE RESPONSIBLE FOR PROVIDING WALL SUPPORT FOR THE SERVICE MAST BY MEANS OF CLAMPS BOLTED THROUGH THE EXTERIOR WALL AND 50mm X 150mm WOODEN MEMBERS SECURED BETWEEN STUDS OR ON AN INTERIOR WALL SURFACE.
D. REFER TO SWM 4.02 FOR CONNECTOR INSTALLATIONS.
E. REFER TO ELECTRICAL INSPECTION BULLETIN 6-96-04 FOR MAX. SPAN MAY BE INCREASED TO 38m PROVIDED AN APPROVED MAST SUPPORT SYSTEM IS USED.
NOTES:
A. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLING THE SERVICE ATTACHMENT DEVICE IN A LOCATION SATISFACTORY TO BOTH THE INSPECTION DEPT. AND THE SUPPLY AUTHORITY, AND ENSURING THE ATTACHMENT WILL SUPPORT A HORIZONTAL LOAD OF 3 KN.
B. MATERIAL REQUIRED FOR SERVICE ATTACHMENT TO THE BUILDING SHALL BE SUPPLIED BY NSP.
C. CUSTOMER'S SERVICE ENTRANCE CONDUCTORS SHALL EXTEND NOT LESS THAN 750 mm BEYOND THE SERVICE HEAD.
D. DRIP LOOP TO BE LEFT AT POLE AND HOUSE CONNECTION.
E. REFER TO CHART T-4M FOR RECOMMENDED SERVICE CONDUCTOR SIZES TO BE USED FOR SINGLE CABLE INSTALLATION OMIT THE BOTTOM CIRCUIT.
F. AT THE DISCRETION OF REGIONAL ENGINEERING, OR HIS REPRESENTATIVE, MINIMUM SERVICE ATTACHMENT HEIGHT MAY BE INCREASED OR DECREASED TO MEET CLEARANCE REQUIREMENTS UNDER MAXIMUM SAG CONDITIONS AS SPECIFIED IN CHART J-1M AND SECTION "V".

DISTRIBUTION
OVERHEAD
STANDARDS

PARALLEL SERVICE CONNECTION AT THE SERVICE ENTRANCE TRIPLEX OR QUADRUPLEX

DATE: 2008-08-14  STD NO: SS-ED-26M
DRAWN: H. V. HUYNH  Sheet of

NOVA SCOTIA POWER
An Emera Company
APPENDIX D
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APPENDIX E

NSPI APPROVED UNDERGROUND MATERIALS
# NOVA SCOTIA POWER INC.
## UTILITY SERVICE REQUIREMENTS

### Approved Material and Hardware List

**General Notes:**
1. Only the specified manufacturers’ material or hardware as listed will be accepted by NSPI.
2. The item numbers refer to the number shown inside a circle (or ellipse) on the drawings.

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SCEPTER 83-040-21-100 |
| CI065    | Conduit – End cap for use on 4” (100 mm) diameter conduit | SCEPTER CAP55 |
| C1066    | Conduit – Coupling PVC to PVC, for use on 4” (100 mm) DB Type II conduit | SCEPTER EC55 |
| CI067    | Conduit – Coupling FRE to FRE, for use on 4” (100 mm) FRE conduit | FRE 40-4010 |
| C1068    | Conduit – Adaptor coupling, Rigid PVC to DB Type II, for use on 4” (100 mm) conduit | SCEPTER 83-0357-0040 |
| C59      | Ground Rod Connector – bronze, for no. 20 (3/4) rod and #2/0 copper conductor | ERICO/CPH34S  
BURNDY GRC3426  
T&B JAB 34C |
| C68      | Connector – OKLIP, for copper to copper connections (#1/0 strd. to #4/0 strd.) | PENN UNION VT-2  
BURNDY KVS-28  
BLACKBURN 2B40  
HUBBELL K3 |
| C94      | Copper Wire - #2 AWG, bare, 7 strand | N/A |
| C95      | Copper Wire - #2/0 AWG, bare, 7 strand | N/A |
| M1000    | Marker Tape – Caution, Bured Electric Line – polyethylene, black lettering on RED background, 150 mm (6”) width | ALLEN SYSTEMS  
#0761315  
PANDUIT HTU-6Y-E  
T & B NA-0708 |
| N1000    | Nylon Fish Line – Polyethylene braided twine, 4 mm diameter | IMP GROUP LTD.  
COMPUTER #07-0044 |
| R12      | Ground Rod – steel, 20 x 3000 (3/4” x 10’), with top 250 mm (10’) galvanized | SLACAN 9340  
HUBBELL 8620 |