3-Phase Electrical Service Information Package

for Owners, Electricians and Electrical Consultants

Preamble:

The following package has been prepared in order to provide information and approximate timelines for obtaining a 3 phase electrical service from Oshawa Power in the City of Oshawa.

This does not include all information but provides a general overview of requirements. We advise developers to pass this information to their electrical consultants and electricians to avoid proceeding with designs, purchase of equipment or construction that does not meet Oshawa Powers' standards and requirements.

If there are any questions as to where the customer will be receiving their service from or what primary voltages are existing by their property please contact Oshawa Power.

TABLE OF CONTENTS

GENERAL REQUIREMENTS

1. Application for Service

- To apply for a 3 phase electrical service in Oshawa the customer/electrician/electrical consultant is required to provide all of the information detailed in the Project Requirement List found in Appendix A.
- Once all of the information has been received and checked, the timelines found in Appendix C will present an idea of the various stages of the design, approval process, material/equipment procurement and construction that may apply and the approximate timing for each.

2. Size and Voltage of Available Services

- A chart showing the available transformer sizes that Oshawa Power will provide based on the Main Switch size and secondary voltage requested is shown in Appendix B.
- If Oshawa Power is providing a 44kV service the customer shall own/maintain the main load break switch and transformer.

3. Underground Service – Oshawa Powers' Responsibilities

For an underground service requiring a padmount transformer the following applies:

- Oshawa Powers' inspector shall inspect the excavation, gravel, ground grid and installed base before any back filling is done, to ensure the installation meets Oshawa Powers' standards.
- Oshawa Power shall supply and install the primary cable.
- If Oshawa Power is supplying the transformer they shall install it on the base.
- Oshawa Power shall supply and install all ducts between the property line and Oshawa Powers' pole or switchgear supplying the Customer.
- Oshawa Power shall terminate the primary and secondary cables and make the final connections to the Oshawa Powers' electric distribution system.

4. Underground Service – Customer's Responsibilities

For an underground service requiring a padmount transformer the following applies:

- The Customer shall stake the location of the transformer, mark finished grade, pin the corners, excavate the area for the transformer base and provide locates.
- The Customer shall supply and install clear stones, transformer base, grounding grid, and bollards to Oshawa Powers' standards (UGS-022, UGS-023 & UGS-015).
- The Customer shall supply and install Oshawa Powers' approved transformer base and bollards.
- The Customer shall supply and install 100mm Dia. Type II PVC ducts (concrete encased at all 45° or 90° elbows and under any driveway or parking area), quantity to be determined by Oshawa Power, from the new transformer base to the property line.
- The Customer shall supply and install the secondary service cables from the electrical room to the pad-mounted transformer. The Customer must install one of the following cable sizes: #2, 1/0, 2/0, 3/0, 4/0, 250MCM, 350MCM, 500MCM for either copper or aluminum cable. 750MCM cable may be used in aluminum only.
- The Customer shall supply and install bollards if required, as per Oshawa Powers' standards, quantity and location to be specified by Oshawa Powers' Technical Services Department.

5. Padmount Transformer Area Requirements

- Transformers require a 4.0m X 4.0m area adjacent to a road, driveway or parking area that is accessible by a bucket truck and situated so that the operator is facing traffic.
- Trees cannot be planted within 3.0m of the transformer/switchgear. Shrubbery cannot be planted within 1.5 metres of the edge of the transformer/switchgear and 3.0m on the operating side.
- No structures, utility cabinets, streetlights etc. can be within 3.0m of the operating side of the transformer/switchgear or 1.5m (2.4m for metal structures) of the non-operating sides.

6. Metering

- The metering standards for different size services is shown in Appendix D.
- The switchgear specifications must be received and approved by Oshawa Power 16 to 20 weeks prior to energization.
- Oshawa Power will only accept Bar Type CT's in the switchgear.
- The metering room shall be at ground level and have an exterior door.

Energy Efficiency Incentives

Oshawa Power proudly offers Save On Energy incentives for buildings that exceed the building code in terms of energy efficiency. We also endorse the programming within the upcoming Durham Community Energy plan. For Help applying to the Residential New Construction and High Performance New Construction Programs, contact CDM@opuc.on.ca.

1. EV Charging Stations

Oshawa Power also provides consultation with respect to EV charger installation for developers on their property as well as offering support for dedicate stand also Electric Vehicle charging stations.

Oshawa Power has developed their own dedicated standards for Electric Vehicle Supply Transformers. These standards facilitate with the smooth installation of such services and also supports Oshawa Powers' strategic initiative of creating infrastructure for electric vehicles in the City of Oshawa.

Appendix A: Commercial Service Project Requirements

100 Simcoe Street South
Oshawa, Ontario
L1H 7M7
Tel. (905) 723-4623
Fax (905) 571-1015
contactus@opuc.on.ca
www.opuc.on.ca

Commercial or Industrial Service Request Application Form

Please return **all completed forms with required signature(s)** to the Operations Division Assistant by email at Connections@opuc.on.ca

NOTES:

1. Additional information may be required to proceed with the service request.
2. Applicants are cautioned not to incur any major expenses until all necessary connection approvals from Oshawa PUC Networks Inc. ("OPUCN") have been received.
3. Please contact us by email at Connections@opuc.on.ca if you have not received a reply from OPUCN acknowledging receipt of your submission within 5 working business days of submitting.
4. Please ensure that the address on the ESA Connection Authorization matches the service address provided (including unit number if applicable). Connection will only be provided to application with ESA address and description that matches the Confirmation or Offer-to-Connect.
5. *Your personal information is collected on this form by Oshawa Power under the authority of the Ontario Energy Board Act, S.O. 1998, c. 15, Schedule B and the Electricity Act, 1998. Personal information will be used only for the purposes set out in Oshawa Power's Privacy Policy Statement. If you have any questions about this collection please contact: Privacy Officer, Oshawa Power by telephone at 905-723-4623, or by e-mail at: privacy@opuc.on.ca*

Oshawa PUC Networks Inc. (OPUCN) requires the following information before any work by OPUCN for servicing can be initiated as identified in our Conditions of Service.

Item #	Item	Response	Date Received
1	Civic Address for Project	Address: _____	
2	Project Manager Contact Information	Name: _____ Address: _____ Phone: _____ Mobile: _____ Fax: _____ Email: _____	
3	Name and Address of Project Owner/Developer • Required for Offer to Connect • Contact Name With fax and phone Numbers • Usually the name of who is paying for the service	Name: _____ Address: _____ Phone: _____ Mobile: _____ Fax: _____ Email: _____	
4	Proposed In-Service Date		
5	Main Switch Size (Amperes)		
6	Proposed Secondary Voltage		
7	Expected Peak Demand (Watts)		
8	Single-line diagram showing the proposed metering configuration (if applicable)		

9	Switchgear details including detailed specifications for the switchgear manufacturer for the utility metering compartment with proposed configuration for instrument transformer mounting (If applicable).	
10	Dedicated electrical room location and dimensions (clearly labeled)	
11	Proposed remote meter location and distance to switch gear (If Applicable)	
12	Proposed physical meter layout	
13	Electronic drawings scaled 1:1 in AutoCAD™ 2016 or earlier (**See reverse for specific requirements**)	
14	Survey plan and site plan indicating the proposed location of the electrical service with respect to public rights-of-way and lot lines (2 Paper copies of Each or included in AutoCAD drawing)	
15	Street Furniture Plan (2 Paper Copies or included in AutoCAD drawing)	
16	Location of other services as indicated on the City of Oshawa's Composite Utility Plan to at least the centre line of the roadway	
17	Legal description of the lands	

	Complete Submission Received:	Date:_____	Project Manager Initial: ____	Tech Services Initial: _____

Note: OPUCN will provide an offer to connect within 60 days of receiving complete information. OPUCN will add your project to the queue and then proceed with an Offer to Connect or Confirmation. This process with begin upon receipt of a complete submission from the Customer's Project Manager. Any revisions to the above information made by the customer may be treated as a new submission received at the date of revision depending on the effect the revision has on the design or requirements.

AutoCAD Requirements:

Please provide the following information on unique layers in a 1:1 scaled AutoCAD™ 2016 or earlier file:

- ☐ Lot Lines
- ☐ Road
- ☐ Poles
- ☐ Sidewalk
- ☐ Trench
- ☐ Lot and/or block Numbers
- ☐ Driveway
- ☐ Transformer
- ☐ Curb
- ☐ Buildings
- ☐ Street Names
- ☐ Municipal Address

Revisions		
Item #	Description	Date Received

Customer Signature (*required*)**:** _____ **Date:**_____

Appendix B: Three Phase Transformer Sizes Offered

OSHAWA PUC NETWORKS INC.

Appendix B

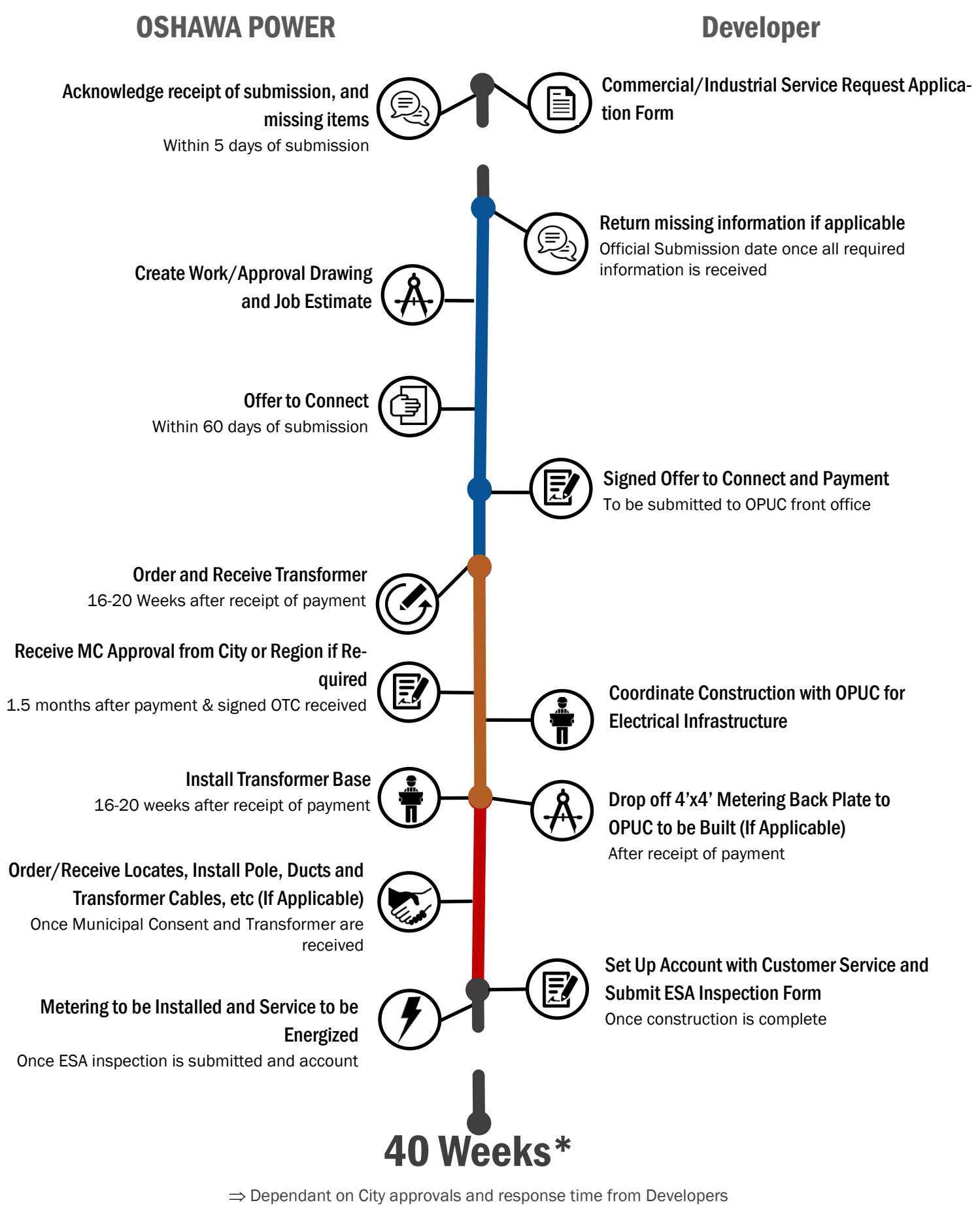
Three Phase Transformer Sizes Offered

Main Switch Size (A)	Voltage (V)	
	208/120 V	600/347 V
100	3x25 kVA OHPM	3x25 kVA OHPM
200	3x25 kVA OHPM	150 kVA Pad-Mounted
400	150 kVA Pad-Mounted	300 kVA Pad-Mounted
600	150 kVA Pad-Mounted	500 kVA Pad-Mounted
800	300 kVA Pad-Mounted	750 kVA Pad-Mounted
1000	300 kVA Pad-Mounted	750 kVA Pad-Mounted
1200	300 kVA Pad-Mounted	1000 kVA
1600	500 kVA Pad-Mounted	44kV
2000 or Larger	44kV	44kV

Unless specified as 44 kV the transformer primary will be 13.8 kV

Appendix C: Timelines for a Three Phase Service Offer and Connection

Commercial Development Application Timeline



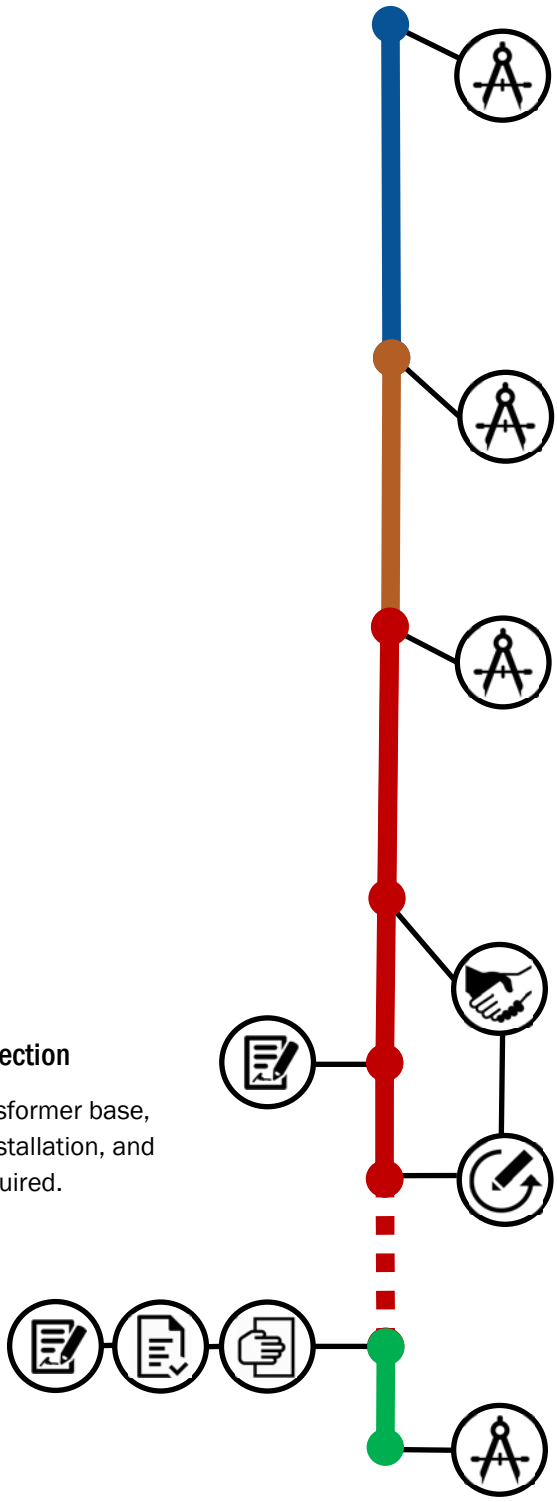
⇒ Dependant on City approvals and response time from Developers

Appendix D: Transformer Installation Timeline

Transformer Installation Sequence

Oshawa Power

Developer



Stake and Excavate

Developer to safely stake all four corners and excavate the new transformer location.

Refer to Oshawa Power Distribution System Construction Standards UGS-022 & UGS-023 for details.

Transformer Base Installation

Developer to supply and install the Oshawa Power approved transformer base.

Refer to Oshawa Power Distribution System Construction Standards UGS-011 & UGS-018 for details.

Grounding Grid and Bollard Installation

Developer to supply and install the Oshawa Power approved grounding grid and bollards.

Refer to Oshawa Power Distribution System Construction Standards UGS-015 for details.

Developer to Contact Oshawa Power for Inspection

Developer to contact the Oshawa Power Distribution Department (905) 723-4626 ext. 5272 to schedule the inspection of the transformer base.

Oshawa Power Performs Inspection

Oshawa Power to inspect transformer base, grounding grid and bollards installation, and make recommendations if required.

(If Required) Developer to Make Revisions

Developer to review and revise any changes recommended by Oshawa Power.

Oshawa Power Approval

Oshawa Power field inspector issues approval.

Developer to Perform Backfill

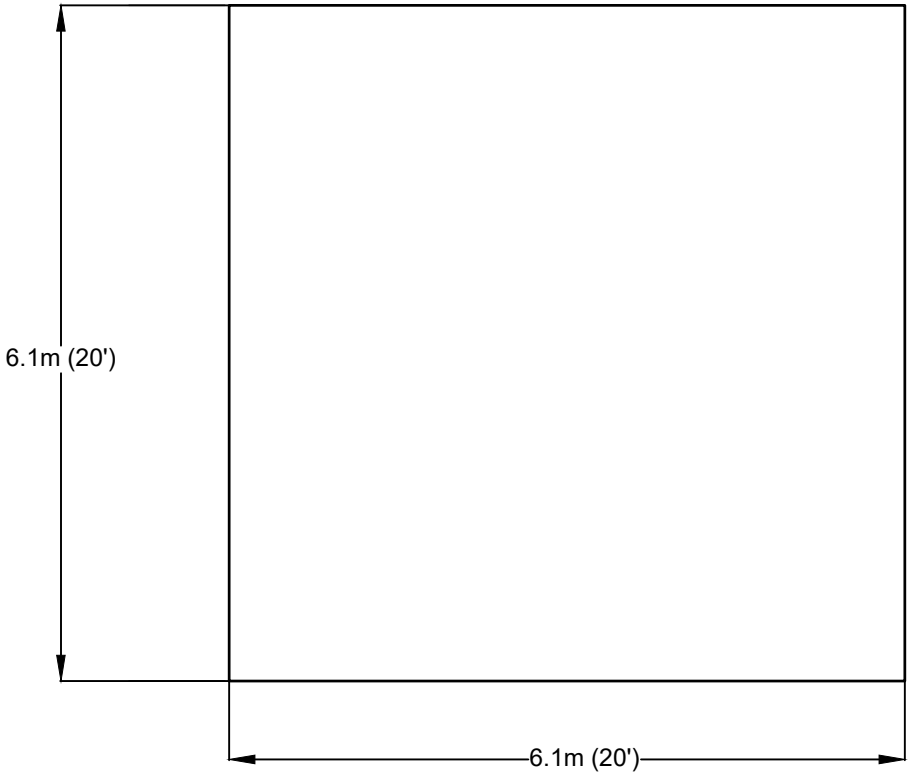
Developer to safely perform backfill of the respective area.

⇒ Construction specifications are subject to change

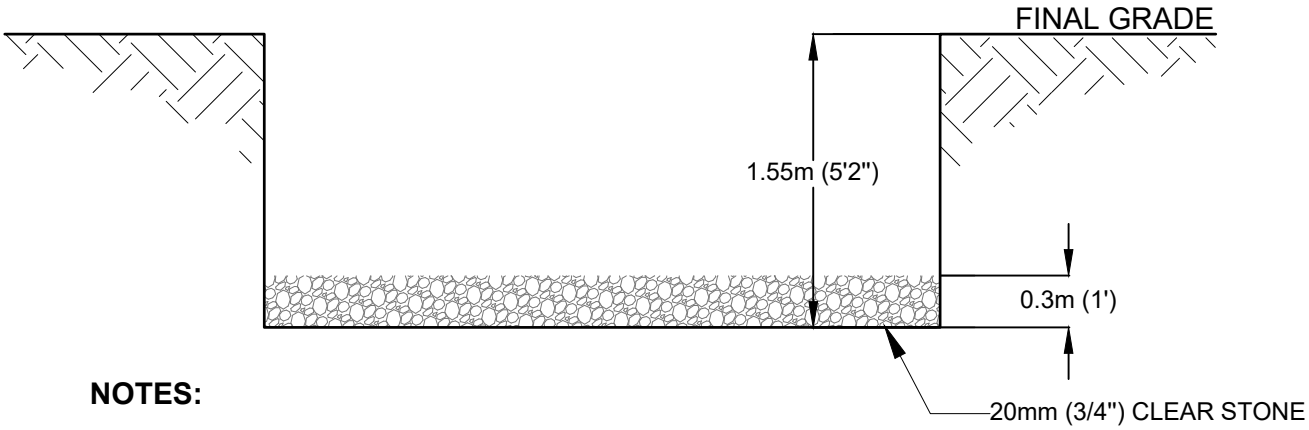
⇒ Please see the latest Oshawa Power Distribution System Construction Standards for details

Appendix E: Transformer Base Excavation Details

TOPOGRAPHIC DETAIL



SIDE PROFILE DETAIL



NOTES:

1. FINAL GRADE TO BE CLEARLY MARKED.
2. DEVELOPER TO PIN ALL FOUR CORNERS.
3. DEVELOPER TO SUPPLY AND INSTALL CLEAR STONES.
4. DEVELOPER TO SUPPLY AND INSTALL THE OSHAWA POWER APPROVED TRANSFORMER BASE.
5. DEVELOPER TO CONTACT THE DISTRIBUTION DEPARTMENT TO SCHEDULE THE INSPECTION OF THE TRANSFORMER BASE.

Oshawa Power

TITLE: EXCAVATING DETAIL FOR THE INSTALLATION OF A THREE PHASE TRANSFORMER BASE

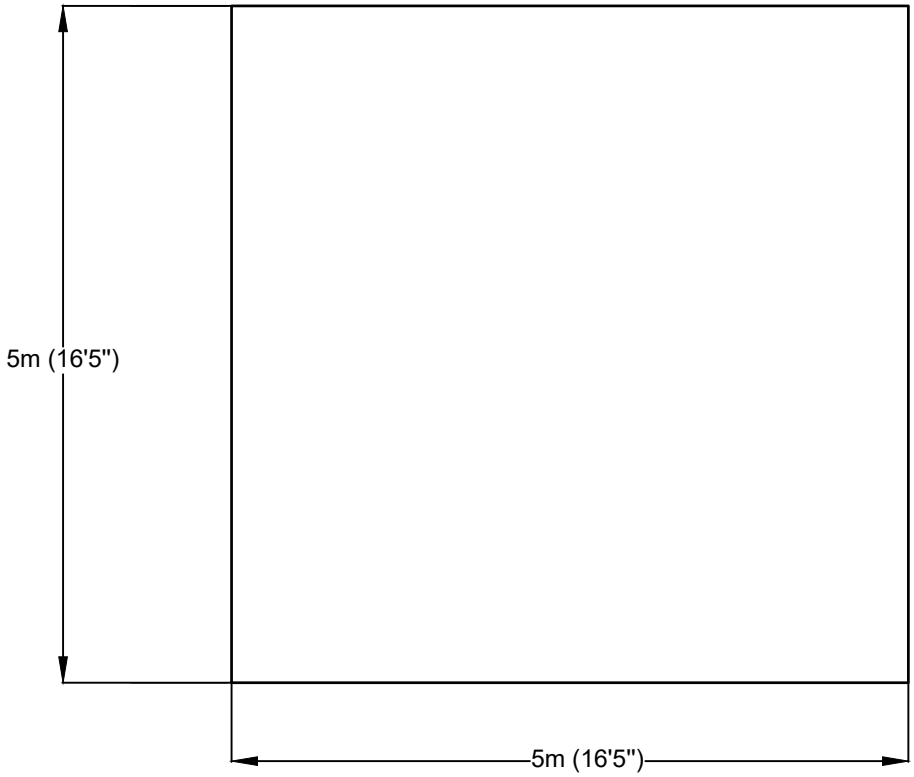
DRAWN:	CHECKED:	APPROVED:
MJH:lc	ZS	MN

SCALE:	DATE:	REV:
NTS	FEB 18, 2020	3

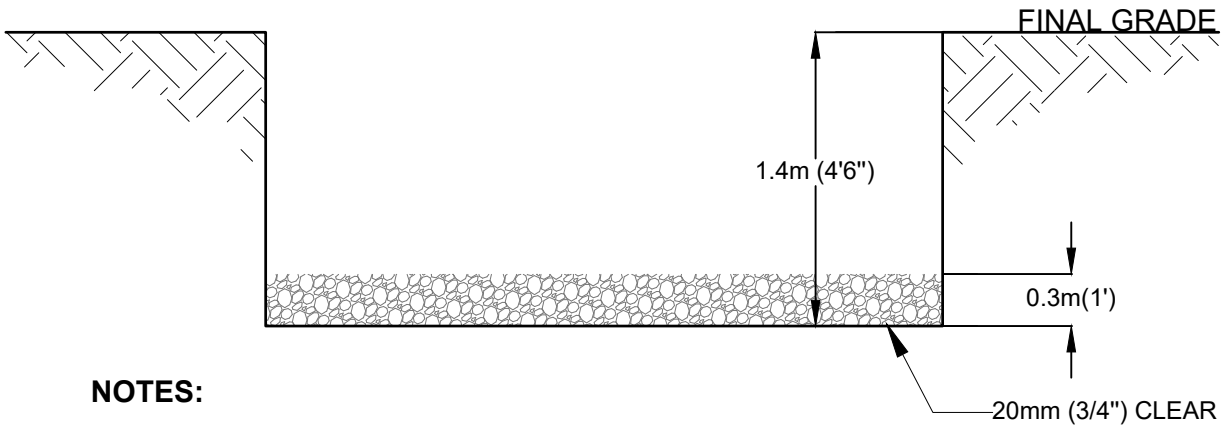
REV	DESCRIPTION	APP
3	MODIFIED INSTALLATION	Z.SYED
2	MODIFIED DEPTH OF HOLE	Z.SYED
1	ADDED CRUSHED STONE	Z.SYED
0	INITIAL RELEASE	Z.SYED

REVISION HISTORY

TOPOGRAPHIC DETAIL



SIDE PROFILE DETAIL



NOTES:

1. FINAL GRADE TO BE CLEARLY MARKED.
2. DEVELOPER TO PIN ALL FOUR CORNERS.
3. DEVELOPER TO SUPPLY AND INSTALL CLEAR STONES.
4. DEVELOPER TO SUPPLY AND INSTALL THE OSHAWA POWER APPROVED TRANSFORMER BASE.
5. DEVELOPER TO CONTACT THE DISTRIBUTION DEPARTMENT TO SCHEDULE THE INSPECTION OF THE TRANSFORMER BASE.

Oshawa Power	TITLE: EXCAVATING DETAIL FOR THE INSTALLATION OF A SINGLE PHASE TRANSFORMER BASE IN A SUBDIVISION, SMALL RESIDENTIAL AND COMMERCIAL		
	DRAWN: AY:lc	CHECKED: ZS	APPROVED: MN
	SCALE: NTS	DATE: FEB 18, 2020	REV: 0

REV	DESCRIPTION	APP
0	INITIAL RELEASE	Z.SYED FEB-20

REVISION HISTORY

Appendix F: Meter Standards

APPENDIX D - OSHAWA PUCN METER STANDARDS

No.	Voltage (V)	# of meter bases	Current (A)	Phase	Wire	KW demand expected	Outdoor/Indoor	Meter Room Required	Single Line Diagram Required	Meter Base Type	Smart Meter	Interval meter/ Phone line	4'x4'x12" Cabinet	Switchgear Drawings	Outdoor Remote Meter Cabinet	UG/OH	OPUCN Standard #'s
1	120	1	<=200	1	2	<50	Outdoor	No	No	4 Jaw Socket	Yes	No	No	No	No	Both	*See Roger
2	120/240	1	<=200	1	3	<50	Outdoor	No	No	4 Jaw Socket	Yes	No	No	No	No	UG	12-001
3	120/240	2	<=200	1	3	<50	Outdoor	No	No	4 Jaw Socket	Yes	No	No	No	No	UG	12-005
4	120/240	3	<=200	1	3	<50	Outdoor	No	No	4 Jaw Socket	Yes	No	No	No	No	UG	12-005
5	120/240	4	<=200	1	3	<50	Outdoor	No	No	4 Jaw Socket	Yes	No	No	No	No	UG	12-005
6	120/240	>4	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	UG	12-005
7	120/240	1	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	OH	12-003
8	120/240	2	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	OH	12-007
9	120/240	3	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	OH	12-007
10	120/240	4	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	OH	12-007
11	120/240	>4	<=200	1	3	<50	Outdoor	Yes	No	4 Jaw Socket	Yes	No	No	No	No	OH	12-007
12	120/240	1	>200	1	3	>1	Outdoor	No	No	Single Phase Tx Rated	Yes	No	No	No	Yes	UG	12-009
13	120/240	1	>200	1	3	>1	Outdoor	No	No	Single Phase Tx Rated	Yes	No	No	No	Yes	OH	12-011
14	120/240	>1	>200A Main	1	3	>1	Outdoor	Yes	Yes	4 Jaw Socket	Yes	No	No	Yes**	No	Both	12-035
15	120/208	1	<=200	3	3 Wire Network	<50	Indoor	YES	No	5 Jaw Socket	Yes	No	No	No	No	Both	12-037
16	120/208	2	<=200	3	3 Wire Network	<50	Indoor	YES	Yes	5 Jaw Socket	Yes	No	No	No	No	Both	12-037
17	120/208	3	<=200	3	3 Wire Network	<50	Indoor	YES	Yes	5 Jaw Socket	Yes	No	No	No	No	Both	12-037
18	120/208	4	<=200	3	3 Wire Network	<50	Indoor	YES	Yes	5 Jaw Socket	Yes	No	No	No	No	Both	12-037
19	120/208	>4	<=200	3	3 Wire Network	<50	Indoor	YES	Yes	5 Jaw Socket	Yes	No	No	No	No	Both	12-037
20	120/208	1	<=200	3	4	<50	Indoor	YES	No	7 Jaw Socket	Yes	No	No	No	No	Both	12-039
21	120/208	1	<=200	3	4	>50	Indoor	YES	No	7 Jaw Socket	Yes	No	No	No	No	Both	12-039
22	120/208	1	>=200 =<800	3	4	<50	Indoor	YES	Yes	Remote enclosure	Yes	No	YES*	YES*	Yes	Both	12-039
23	120/208	1	>=200 =<800	3	4	>50	Indoor	YES	Yes	Remote enclosure	Yes	No	YES*	YES*	Yes	Both	12-029, 12-041, 12-043 or 12-025
24	120/208	1	>800	3	4	>200	Indoor	YES	Yes	Remote enclosure	No	Yes	No	YES	Yes	Both	12-029, 12-041, 12-043
25	347/600	1	<=200	3	4	<50	Indoor	YES	No	7 Jaw Socket	Yes	No	No	No	No	Both	12-021
26	347/600	1	<=200	3	4	>50	Indoor	YES	No	7 Jaw Socket	Yes	No	No	No	No	Both	12-021
27	347/600	1	>=200 <=800	3	4	>200	Indoor	YES	Yes	Remote enclosure	No	Yes	YES*	YES*	Yes	Both	12-041, 12-029, 12-043 or 12-025
28	347/600	1	>800	3	4	>200	Indoor	YES	Yes	Remote enclosure	No	Yes	No	Yes	Yes	Both	12-041, 12-029, 12-043
29	347/600	1	>0 A	3	3 Wire Delta	>1	Indoor	Contact Metering	Yes	Contact Metering	See MM	Contact Metering	No	See MM	See MM	Both	NO STANDARD
30	>600	Contact Metering	>0 A	>=1	>=1	>1	Indoor	Contact Metering	Yes	Contact Metering	See MM	Yes	No	See MM	Yes	Both	NO STANDARD

* Can be either SINGLE DISCONNECT SWITCH WITH 4'X4' X12" CABINET OR SWITCHGEAR

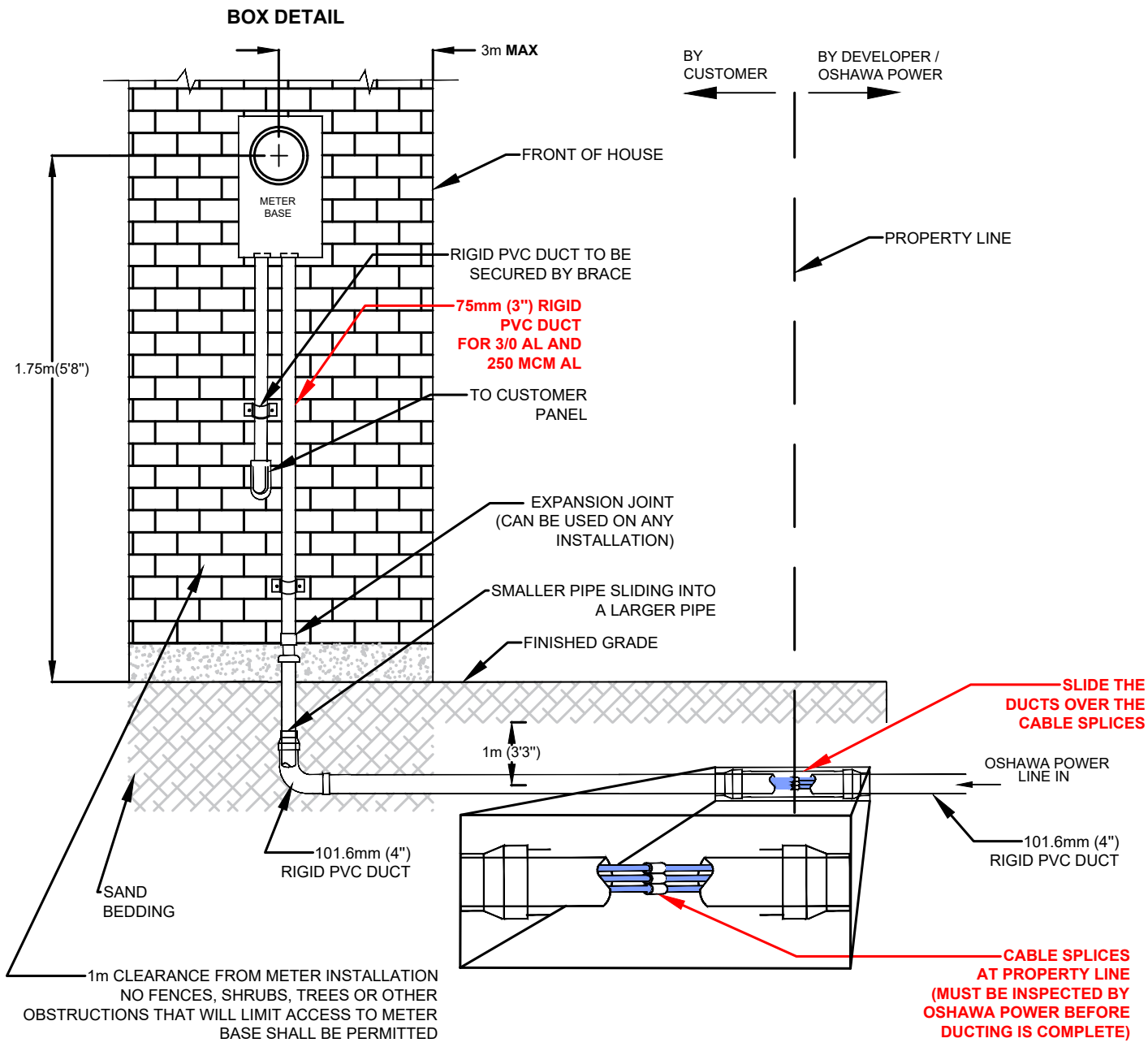
** If customer is using a meter center, typically more than 10 meters.

MM = Metering Manager

OUTDOOR METER WITH FULLY DUCTED SYSTEM

12-100

RESIDENTIAL UNDERGROUND ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3-WIRE, 120/240V



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY THE OPUCN METER DEPARTMENT.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
5. CABLE SPLICES AT THE PROPERTY LINE MUST BE INSPECTED BY OSHAWA POWER BEFORE DUCTING IS COMPLETE.

OSHAWA POWER APPROVED METER SOCKET TYPES

	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
APPROVED METER SOCKETS	* BS2-TV	E400RO	*LU2

*COMPLETE WITH MECHANICAL LUGS

CONVERSION TABLE

METRIC	IMPERIAL (APPROX.)	METRIC	IMPERIAL (APPROX.)
3m	10'-0"	101.6mm	4"
1.75m	5'-8"	75mm	3"
1m	3'-3"		

Oshawa Power

TITLE: SINGLE PHASE RESIDENTIAL UNDERGROUND - EXTERIOR WALL WITH UNDERGROUND CONDUIT CONNECTION

DRAWN: LC | CHECKED: ZS | APPROVED: MN:RE

SCALE: NTS | DATE: APR 16, 2020 | REV: 0

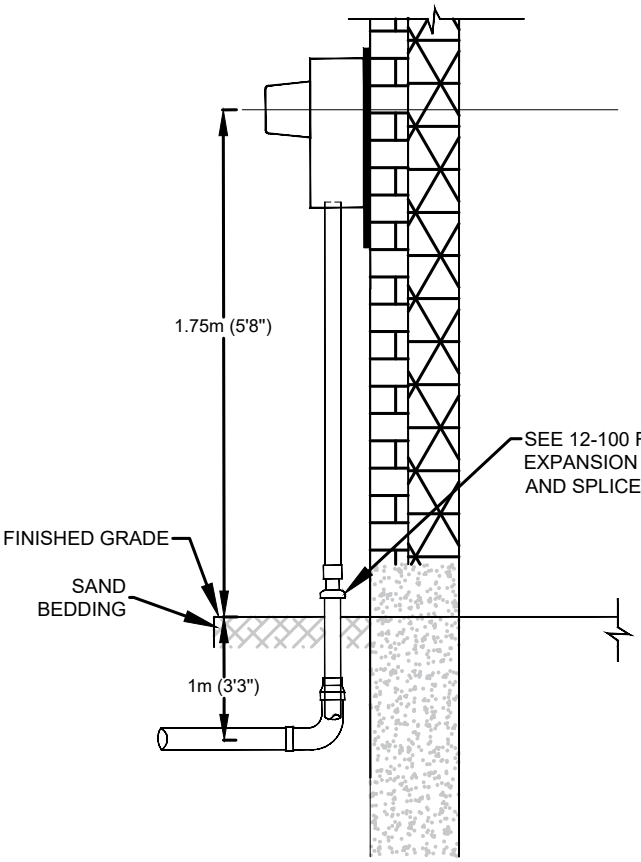
REV	DESCRIPTION	APP
2		
1		
0	INITIAL RELEASE	Z.SYED/R.ERSIL APR-20

REVISION HISTORY

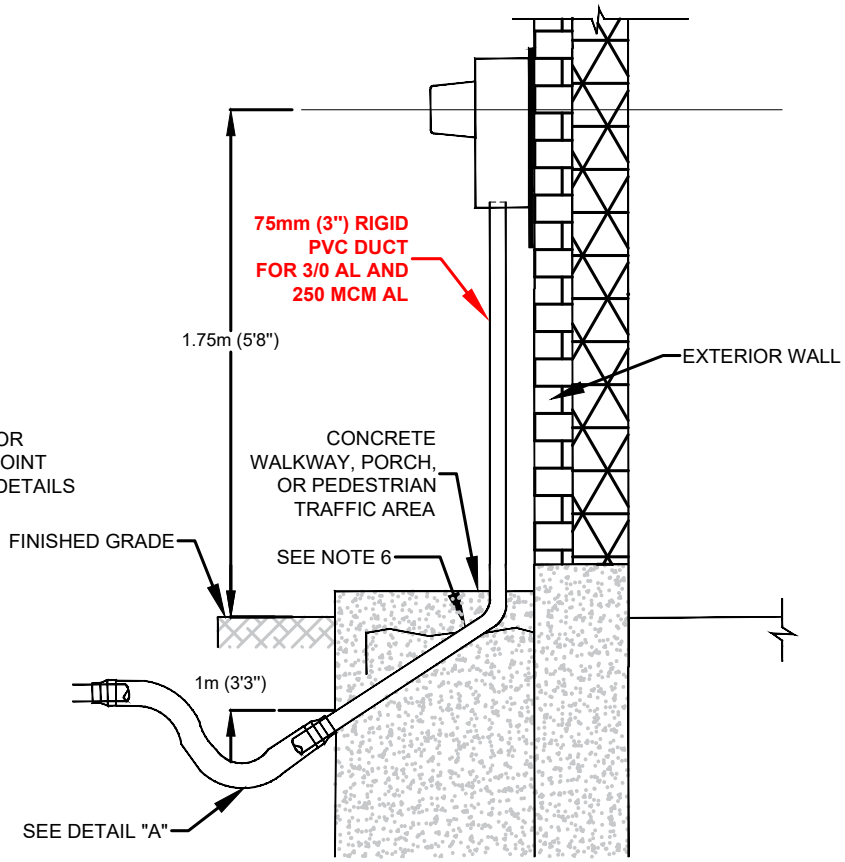
OUTDOOR METER ENCLOSURE WITH FULLY DUCTED SYSTEM SIDE VIEW DETAILS

12-101

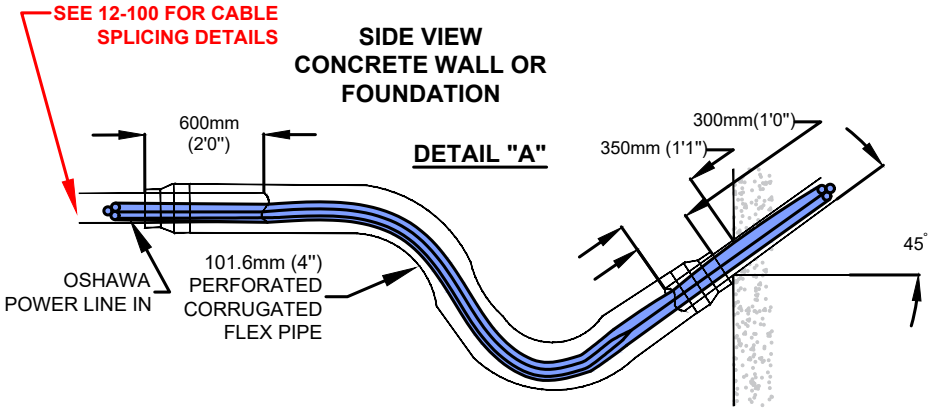
RESIDENTIAL UNDERGROUND ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3-WIRE, 120/240V



SIDE VIEW CONCRETE WALL OR FOUNDATION



SIDE VIEW CONCRETE WALKWAY, PORCH, OR PEDESTRIAN TRAFFIC AREA



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. METER SOCKET MUST BE MOUNTED ON AN OUTSIDE ALL AT A LOCATION APPROVED BY OSHAWA POWER.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
5. CABLE SPLICES AT THE PROPERTY LINE MUST BE INSPECTED BY OSHAWA POWER BEFORE DUCTING IS COMPLETE.
6. IF REQUIRED, MAXIMUM OF TWO 90 DEGREE BENDS AT A MINIMUM 12" DISTANCE ARE ALLOWED FROM METER BASE TO CORRUGATED FLEX PIPE

OSHAWA POWER APPROVED METER SOCKET TYPES

	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
APPROVED METER SOCKETS	* BS2-TV	E400RO	*LU2

*COMPLETE WITH MECHANICAL LUGS

CONVERSION TABLE

METRIC	IMPERIAL (APPROX.)	METRIC	IMPERIAL (APPROX.)
1.75m	5'-8"	300mm	1'-0"
1m	3'-3"	101.6mm	4"
600mm	2'-0"	75mm	3"
350mm	1'-1"		

Oshawa Power

TITLE: SINGLE PHASE RESIDENTIAL UNDERGROUND - EXTERIOR WALL WITH UNDERGROUND CONDUIT CONNECTION SIDE VIEW DETAILS

DRAWN: LC | CHECKED: ZS | APPROVED: MN:RE

SCALE: NTS | DATE: APR 16, 2020 | REV: 0

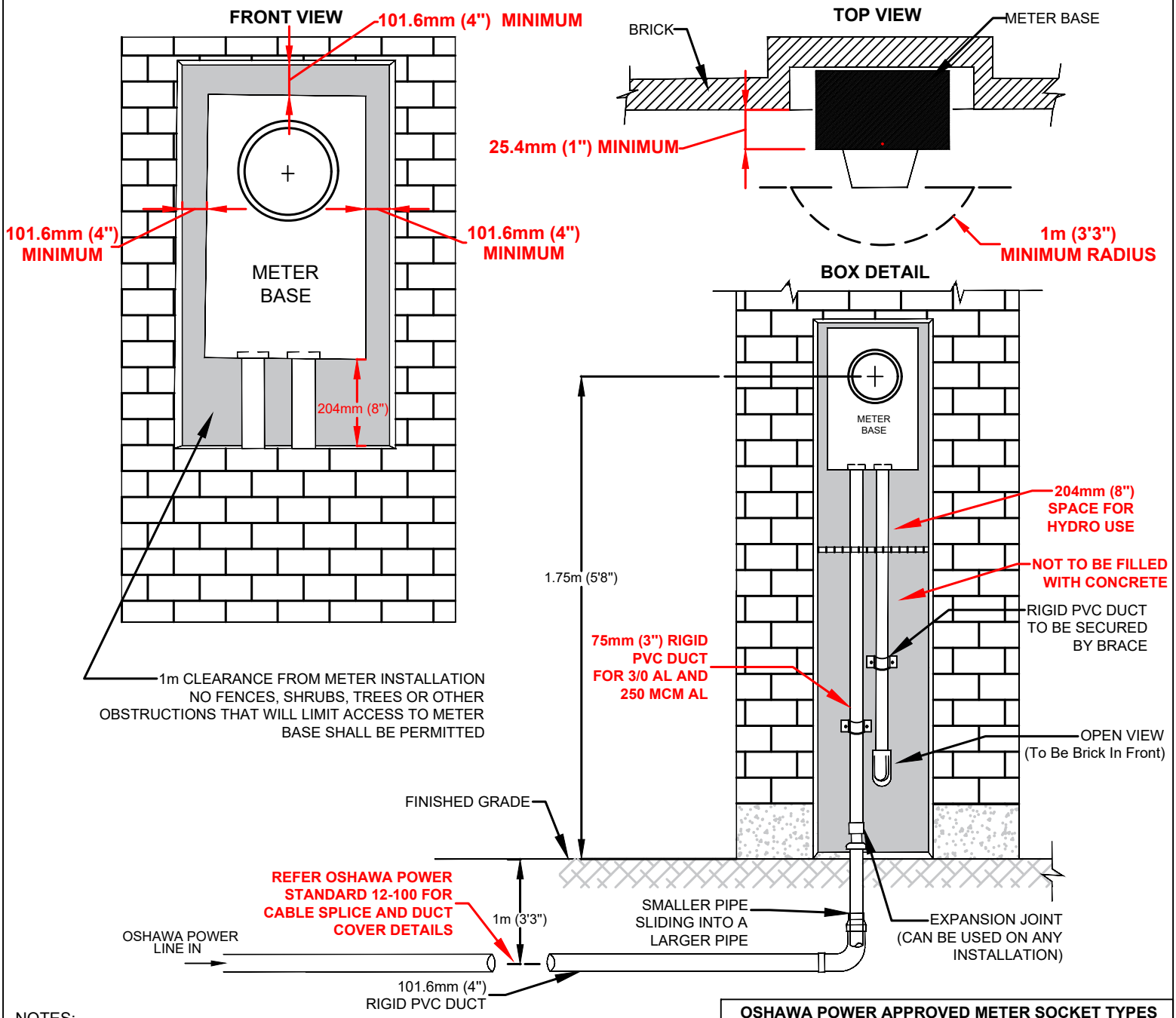
REV	DESCRIPTION	APP
2		
1		
0	INITIAL RELEASE	Z.SYED/R.ERSIL APR-20

REVISION HISTORY

RECESSED OUTDOOR METER ENCLOSURE WITH FULLY DUCTED SYSTEM

12-102

RESIDENTIAL UNDERGROUND ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3-WIRE, 240/120V



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. METER SOCKET MUST BE SECURED TO THE INSIDE OF THE WALL OPENING.
3. MINIMUM 204mm CLEARANCE FOR HYDRO USE AND INCREASE SPACE REQUIRED FOR INSTALLATION OF OTHER UTILITY BOXES.
4. METER BASE FACE MUST BE **MINIMUM** 25.4mm (1") OUTSIDE THE BRICK WALL.
5. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
6. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. CABLE SPLICES AT THE PROPERTY LINE MUST BE INSPECTED BY OSHAWA POWER BEFORE DUCTING IS COMPLETE.

OSHAWA POWER APPROVED METER SOCKET TYPES

	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
APPROVED METER SOCKETS	* BS2-TV	E400RO	*LU2

*COMPLETE WITH MECHANICAL LUGS

CONVERSION TABLE

METRIC	IMPERIAL (APPROX.)	METRIC	IMPERIAL (APPROX.)
1.75m	5'-8"	75mm	3"
1m	3'-3"	25.4mm	1"
204mm	8"		
101.6mm	4"		

Oshawa Power

TITLE: SINGLE PHASE RESIDENTIAL UNDERGROUND - RECESSED WALL ENCLOSURE WITH UNDERGROUND CONDUIT CONNECTION

DRAWN: LC | CHECKED: ZS | APPROVED: MN:RE

SCALE: NTS | DATE: APR 16, 2020 | REV: 0

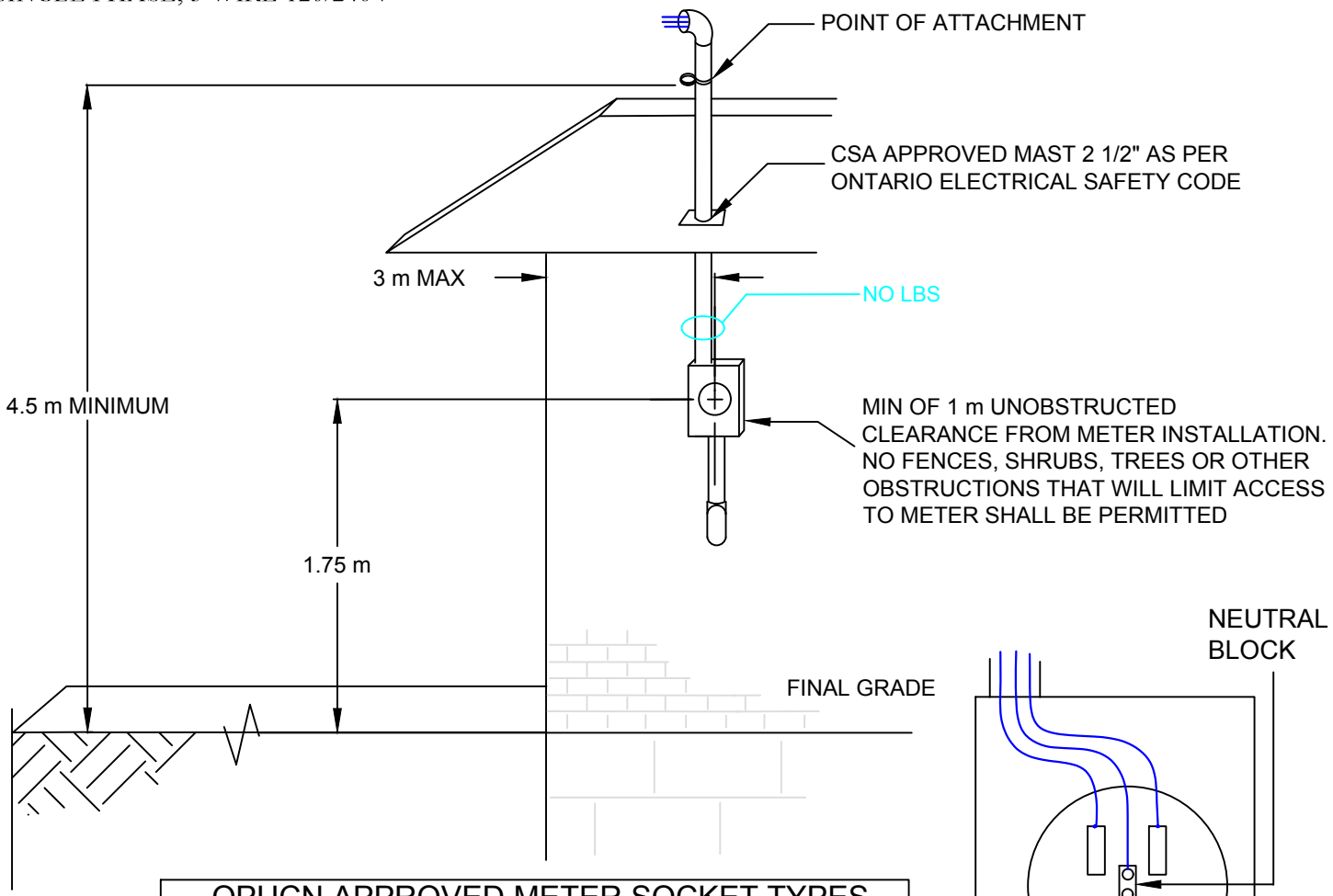
REV	DESCRIPTION	APP
2		
1		
0	INITIAL RELEASE	Z.SYED/R.ERSIL APR-20

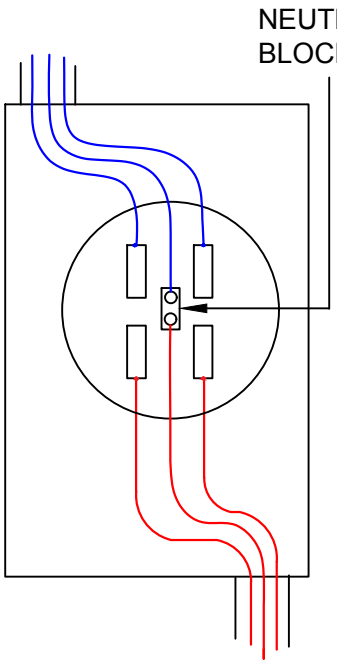
REVISION HISTORY

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

RESIDENTIAL OVERHEAD ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3 WIRE 120/240V

12-003





OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
APPROVED METER SOCKETS	* BS2-TV	*SLC400RW /E400RO	*LU2
*COMPLETE WITH MECHANICAL LUGS			

NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
5. NO LB, LL OR LR FITTINGS ON THE LINE SIDE (AHEAD OF) THE METER BASE.
6. MINIMUM 1M CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1m	3'-3"
1.75m	5'-8"
3m	10'-0"
4.5m	15'-0"

Oshawa PUC Networks Inc.

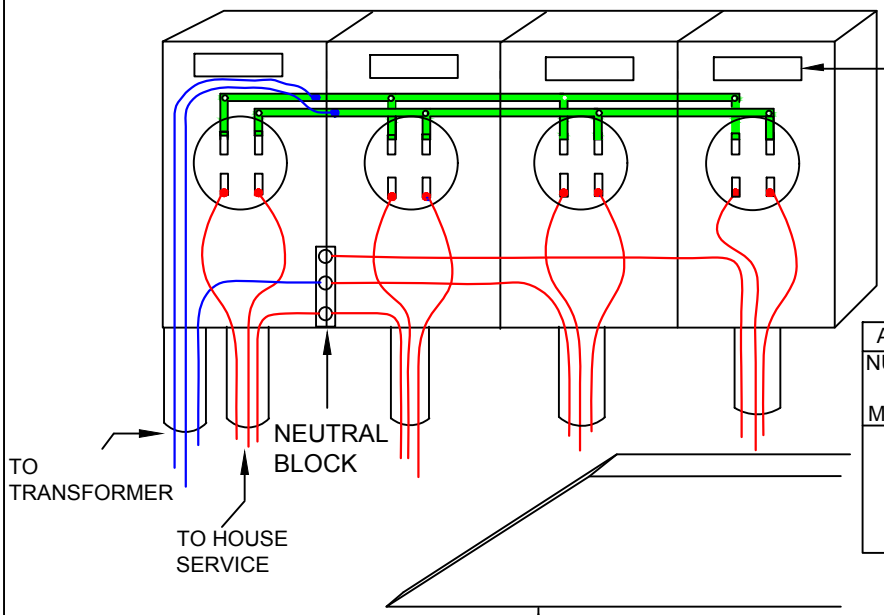
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

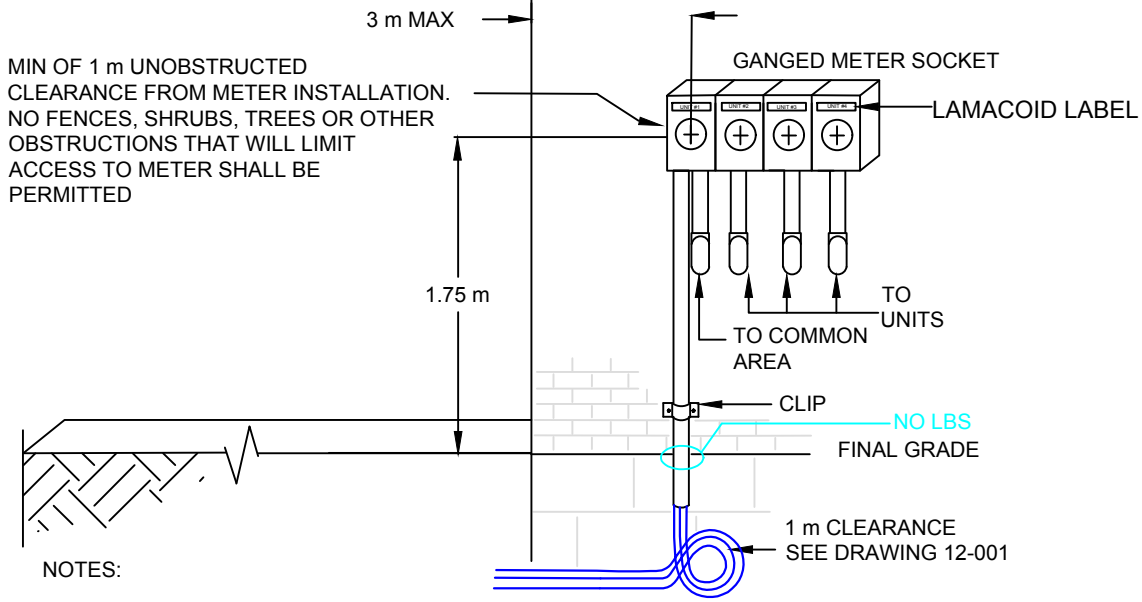
RESIDENTIAL UNDERGROUND MULTIPLE ELECTRICAL SERVICES &
METER SOCKETS
SINGLE PHASE, 3 WIRE 120/240V

12-005A

4 GANG METER BASE



APPROVED METER SOCKET TYPES (200A MAIN)			
NUMBER OF METERS	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
2	BD2-V/BD2-VH	H22R	2K2
3	BD3-V/BD3-VH	H23R	3K2
4	BD4-V/BD4-VH	H24R	4K2



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT AN UNOBSTRUCTED LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MAXIMUM NUMBER OF SERVICES TO BE 3 PLUS 1 HOUSE SERVICE
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
6. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1m	3'-3"
1.75m	5'-8"
3m	10'-0"

Oshawa PUC Networks Inc.

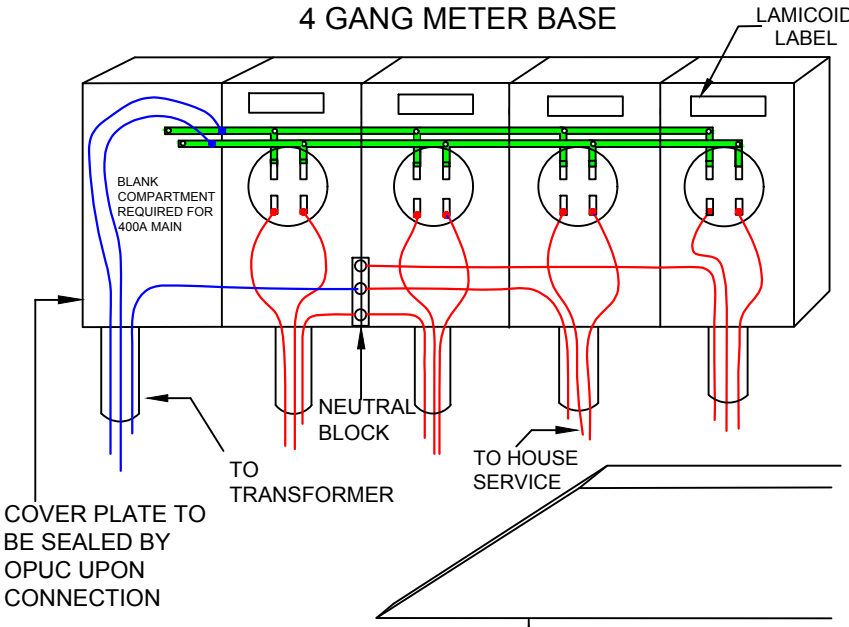
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10,2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

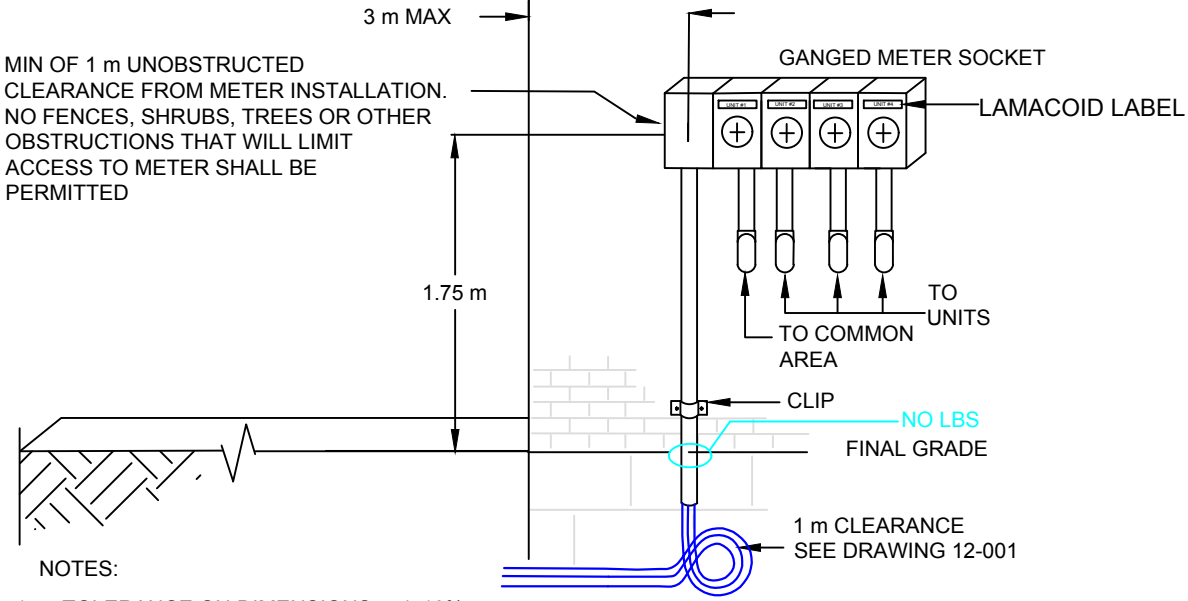
RESIDENTIAL UNDERGROUND MULTIPLE ELECTRICAL SERVICES & METER SOCKETS
SINGLE PHASE, 3 WIRE 120/240V

12-005B

4 GANG METER BASE



APPROVED METER SOCKET TYPES (400A MAIN)			
NUMBER OF METERS	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
2	BS42-V/BS42-VH	HC42R	2K4
3	BS43-V/BS43-VH	HC43R	3K4
4	BS44-V/BS44-VH	HC44R	4K4



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT AN UNOBSTRUCTED LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MAXIMUM NUMBER OF SERVICES TO BE 3 PLUS 1 HOUSE SERVICE
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
6. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1m	3'-3"
1.75m	5'-8"
3m	10'-0"

Oshawa PUC Networks Inc.

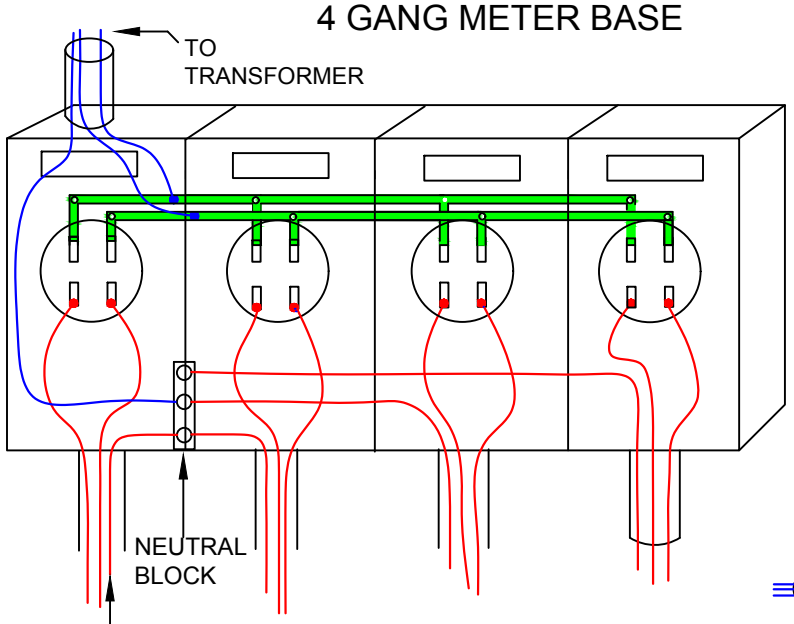
DRAWN:	CKD:	APP:	
KAB:EJA			
DATE: OCTOBER 1, 2018	SCALE: NTS	REV: 1	

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

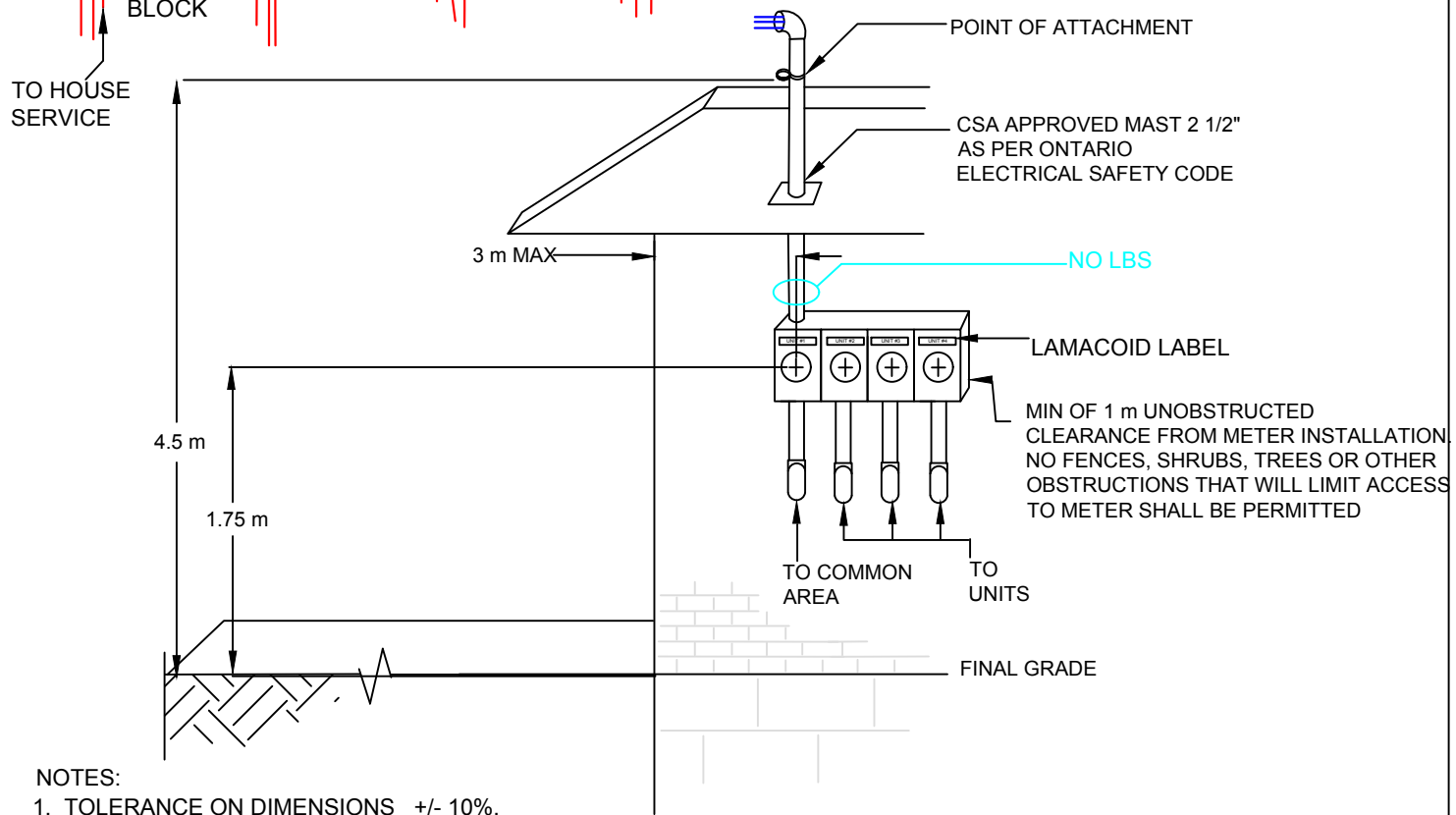
RESIDENTIAL OVERHEAD MULTIPLE ELECTRICAL SERVICES & METER SOCKETS
SINGLE PHASE, 3 WIRE 120/240V, 200A

12-007A

4 GANG METER BASE



METER BASES (200A MAIN)			
NUMBER OF METERS	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
2	BD2-V/BD2-VH	H22R	2K2
3	BD3-V/BD3-VH	H23R	3K2
4	BD4-V/BD4-VH	H24R	4K2



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MAXIMUM NUMBER OF SERVICES TO BE 3 PLUS 1 HOUSE SERVICE
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
6. MINIMUM 1 m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"
4.5 m	15'-0"

Oshawa PUC Networks Inc.

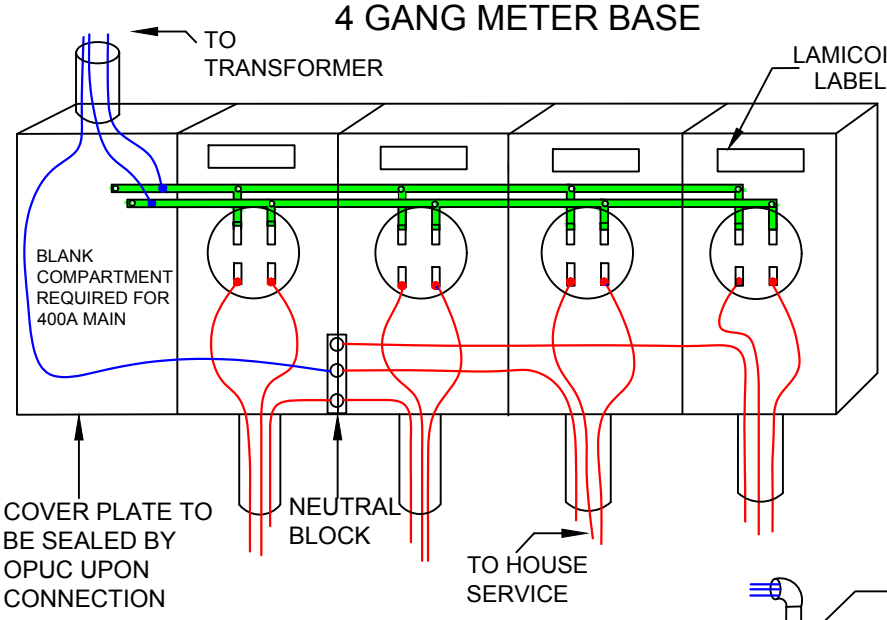
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

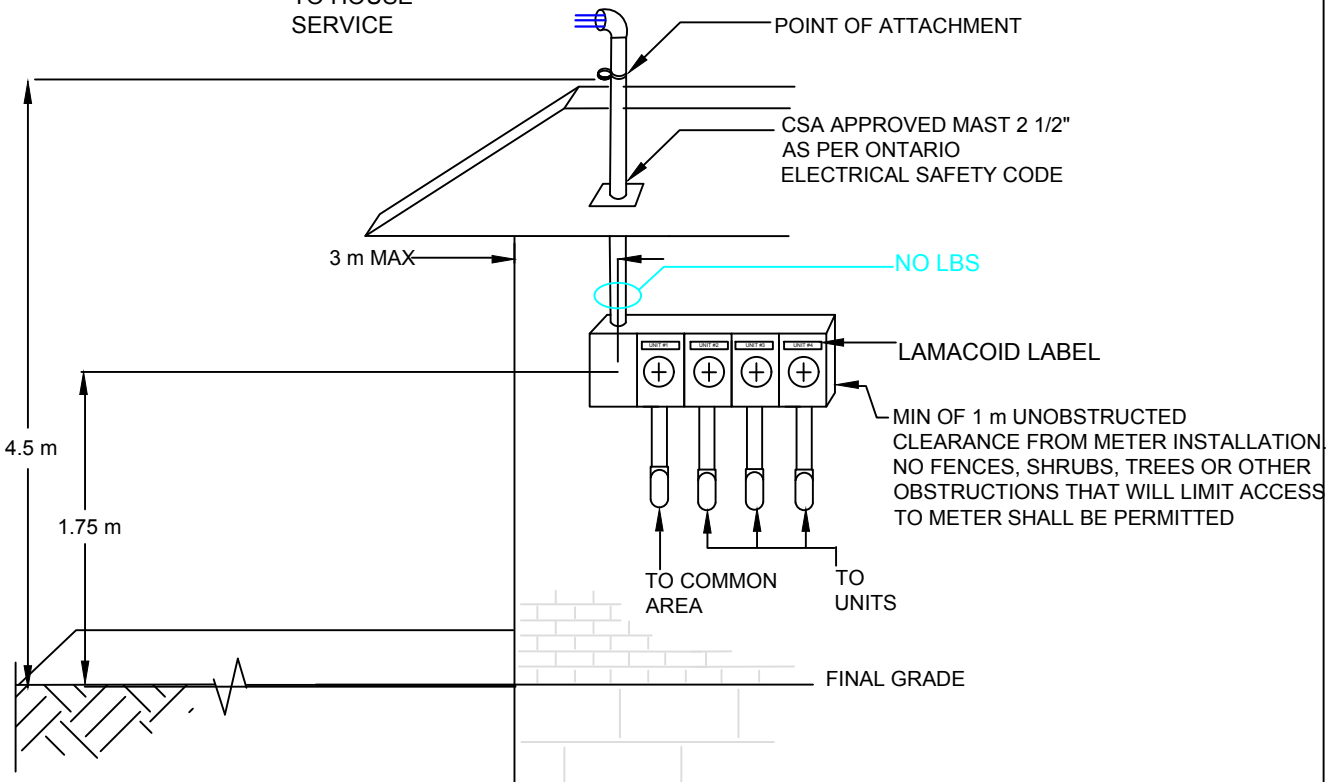
RESIDENTIAL OVERHEAD MULTIPLE ELECTRICAL SERVICES &
METER SOCKETS
SINGLE PHASE, 3 WIRE 120/240V, 400A

12-007B

4 GANG METER BASE



METER BASES (400A MAIN)			
NUMBER OF METERS	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
2	BS42-V/BS42-VH	HC42R	2K4
3	BS43-V/BS43-VH	HC43R	3K4
4	BS44-V/BS44-VH	HC44R	4K4



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MAXIMUM NUMBER OF SERVICES TO BE 3 PLUS 1 HOUSE SERVICE
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
6. MINIMUM 1 m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"
4.5 m	15'-0"

Oshawa PUC Networks Inc.

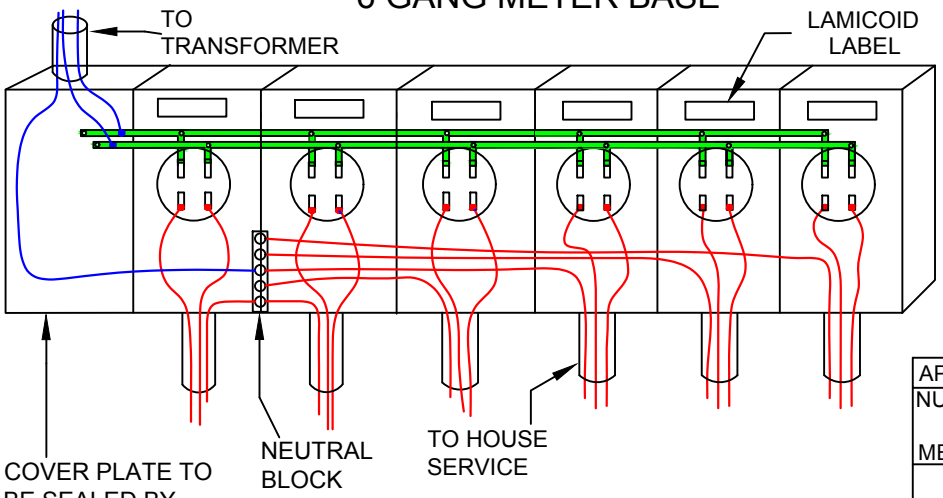
DRAWN:	CKD:	APP:	
KAB:EJA			
DATE: AUGUST 30, 2018	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

RESIDENTIAL OVERHEAD MULTIPLE ELECTRICAL SERVICES &
METER SOCKETS
SINGLE PHASE, 3 WIRE 120/240V, 200A & 400A

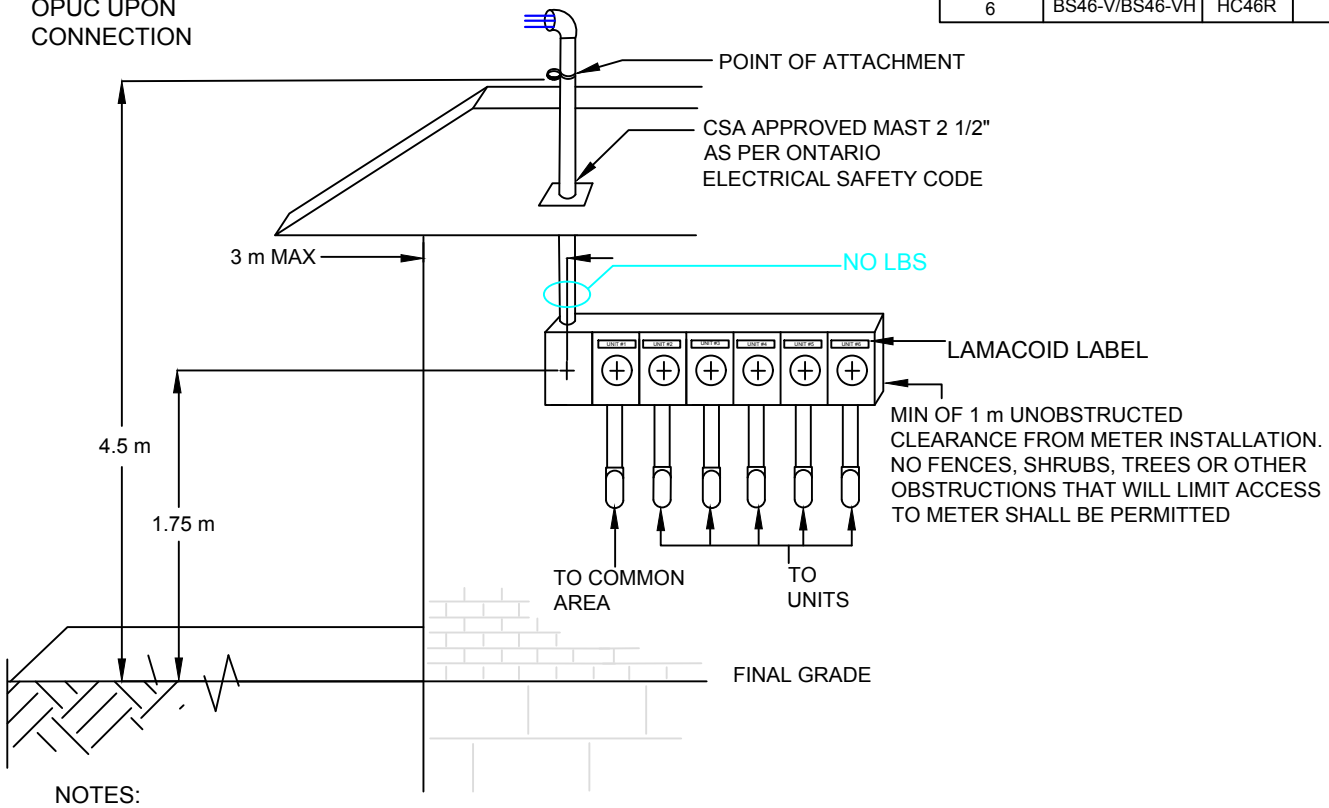
12-007C

6 GANG METER BASE



METER BASES (200A MAIN)	
NUMBER OF METERS	MANUFACTURER
	CUTLER-HAMMER
5	5KN1
6	6KN1

APPROVED METER SOCKET TYPES (400A MAIN)			
NUMBER OF METERS	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
5	BS45-V/BS45-VH	HC45R	5K4
6	BS46-V/BS46-VH	HC46R	6K4



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. MAXIMUM NUMBER OF SERVICES TO BE 3 PLUS 1 HOUSE SERVICE
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
6. MINIMUM 1 m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
7. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"
4.5 m	15'-0"

Oshawa PUC Networks Inc.

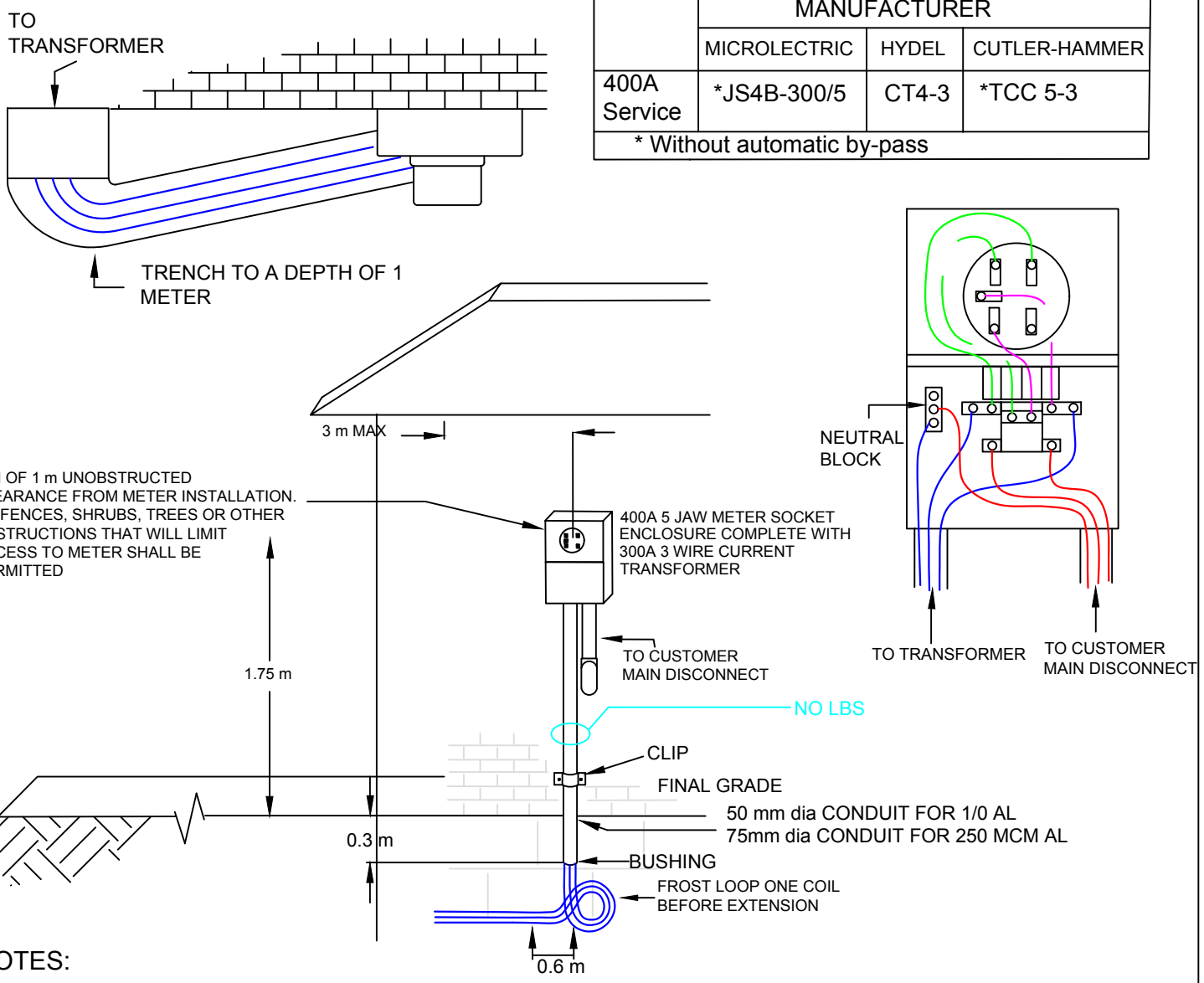
DRAWN:	CKD:	APP:	
KAB:AY			
DATE: JUNE 26, 2019	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

RESIDENTIAL & SMALL COMMERCIAL 400A UNDERGROUND ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3 WIRE 120/240V

12-009

OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
400A Service	*JS4B-300/5	CT4-3	*TCC 5-3
* Without automatic by-pass			



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
5. MINIMUM 1 m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
6. NO LB, LC, LR ON LINE SIDE

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
0.3 m	1'-0"
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"

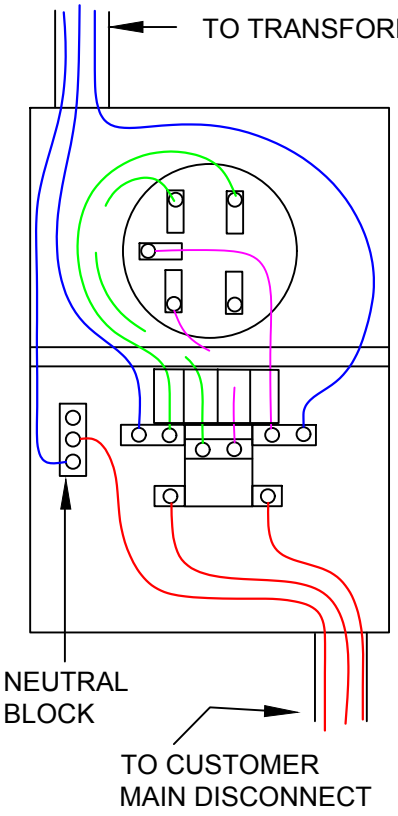
Oshawa PUC Networks Inc.

DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10, 2017	SCALE: NTS		REV: 1

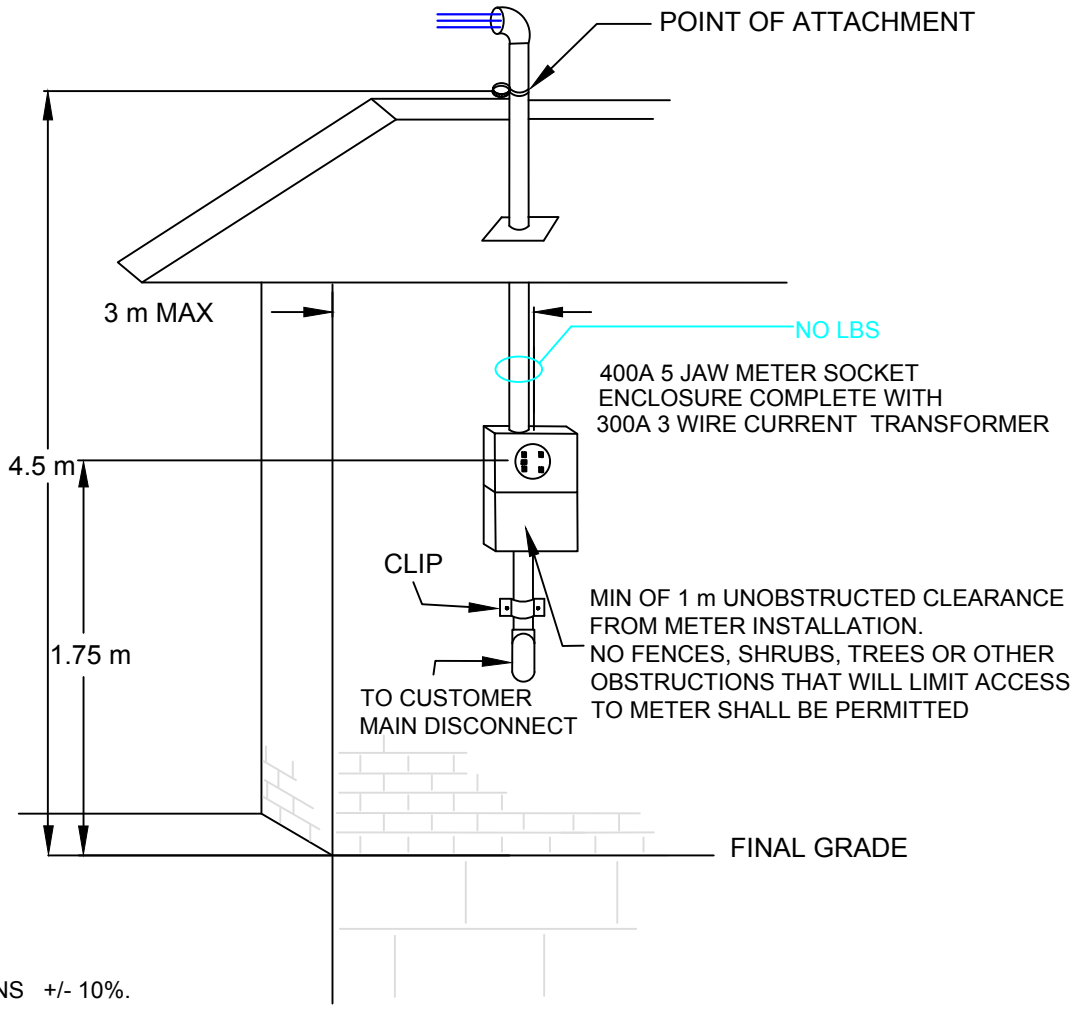
OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

RESIDENTIAL & SMALL COMMERCIAL 400A OVERHEAD ELECTRICAL
SERVICE & METER SOCKET
SINGLE PHASE, 3 WIRE 120/240V

12-011



OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
400A Service	*JS4B-300/5	CT4-3	*TCC 5-3
* Without automatic by-pass			



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
5. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
6. EACH METER SOCKET POSITION REQUIRES PERMANENT AND LEGIBLE LAMACOID LABEL UNIT IDENTIFICATION.
7. NO LB, LC, LR ON LINE SIDE

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"
4.5 m	15'-0"

Oshawa PUC Networks Inc.

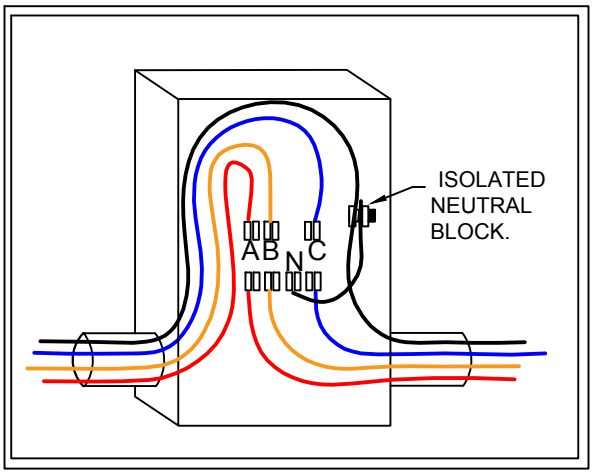
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10,2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

3 PHASE 120/208, 347/600

METER INSTALLATION REQUIREMENTS

12-021

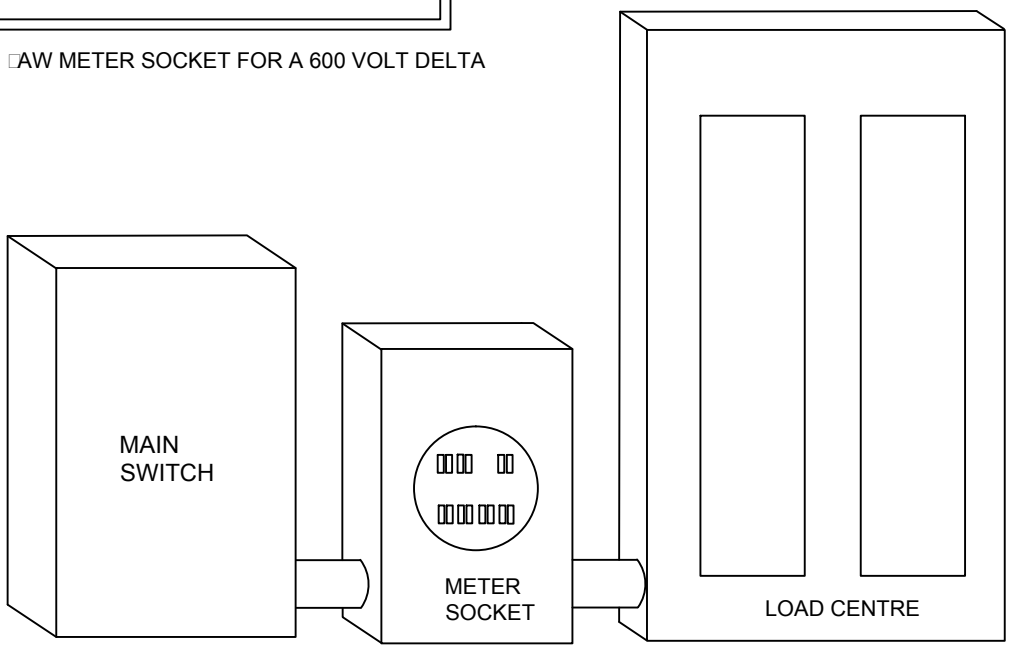


WIRING A 7 □AW METER SOCKET FOR A 600 VOLT DELTA SERVICE

OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
100A	*PL17-INTCV	*SFC 703PW	*P17-0-IN1
200A	*PL27-INTCV	*STC 703PK	*[1]P27-IN2

*ALL ALL SOCKETS TO COME WITH INSULATED NEUTRAL BLOCKS
[1] - OVERHEAD ONLY

600 V DECTA SERVICE



NOTES:

1. A 7 □AW METER SOCKET SHALL BE INSTALLED FOR 347/600 VOLT SERVICES.
2. METER SOCKET NEUTRAL CONDUCTOR SHALL BE RUN THROUGH AN ISOLATED NEUTRAL BLOCK. THE NEUTRAL TICKLER WIRE SHALL BE CONNECTED TO THE ISOLATED NEUTRAL BLOCK LOCATED IN THE METER SOCKET.
3. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. THE ROOM SHALL HAVE A LIGHT, RECEPTACLE AND EXTERNAL DOOR WITH OPUCN KEY BOX INSTALLED (SEE 12-041)
4. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
5. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
2 m	6'-6"

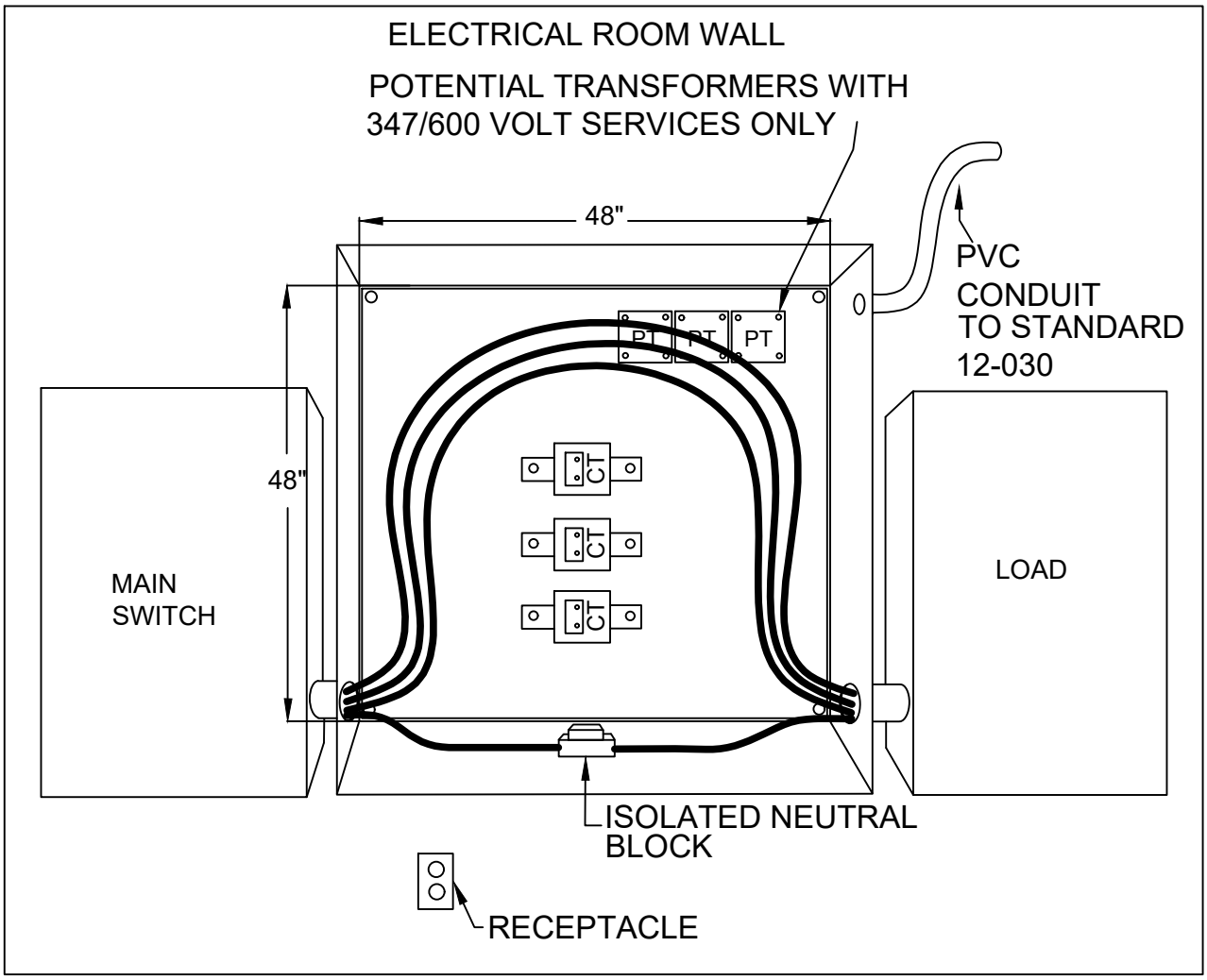
Oshawa PUC Networks Inc.

DRAWN: KAB	CKD:	APP:	
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

ELECTRICAL SERVICE WITH INSTRUMENT TRANSFORMERS & A REMOTE METER METER CABINET INSTALLATION REQUIREMENTS

12-025



NOTES:

1. PHASE CONDUCTORS SHALL BE LOOPED TO THE TOP OF THE CABINET AS SHOWN.

2. ALL NEUTRAL CONDUCTORS SHALL BE RUN THROUGH AN ISOLATED NEUTRAL BLOCK.

3. THE METERING SECONDARY CONDUIT SHALL BE CONTINUOUS 30 mm dia PVC WITH NO ACCESSIBLE OPENINGS BETWEEN THE METER CABINET AND THE OUTSIDE METER ENCLOSURE. LOCATION APPROVED BY METER DEPARTMENT (I.E. 'NO LBS').THE LOCATION OF THE SECONDARY CONDUIT WILL BE DETERMINED BY THE LOCATION OF THE OUTSIDE METER ENCLOSURE. THE CONDUIT SHALL NOT INTERFERE WITH THE PLACEMENT OR CONNECTION OF THE METERING INSTRUMENT TRANSFORMERS. IF THE CONDUIT MUST INTERFERE WITH THE CABINET'S BACK PLATE, THE BACK PLATE SHALL BE CUT SO THE CONDUIT IS NOT OBSTRUCTED.

4. MAXIMUM ALLOWABLE SECONDARY CONDUIT LENGTH TO BE 15 m.

5. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. WHERE A HINGED DOOR IN AN OPEN POSITION WOULD BLOCK AN EXIT ROUTE, A FURTHER 1m OF CLEARANCE FROM THE EDGE OF THE OPEN DOOR SHALL BE PROVIDED. THE ROOM SHALL HAVE A LIGHT AND A RECEPTACLE.

6. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
30mm	1 1/4"
1 m	3'-3"
1.22 m	48"m
2 m	6'-6"
15 m	50'-0"

Oshawa PUC Networks Inc.

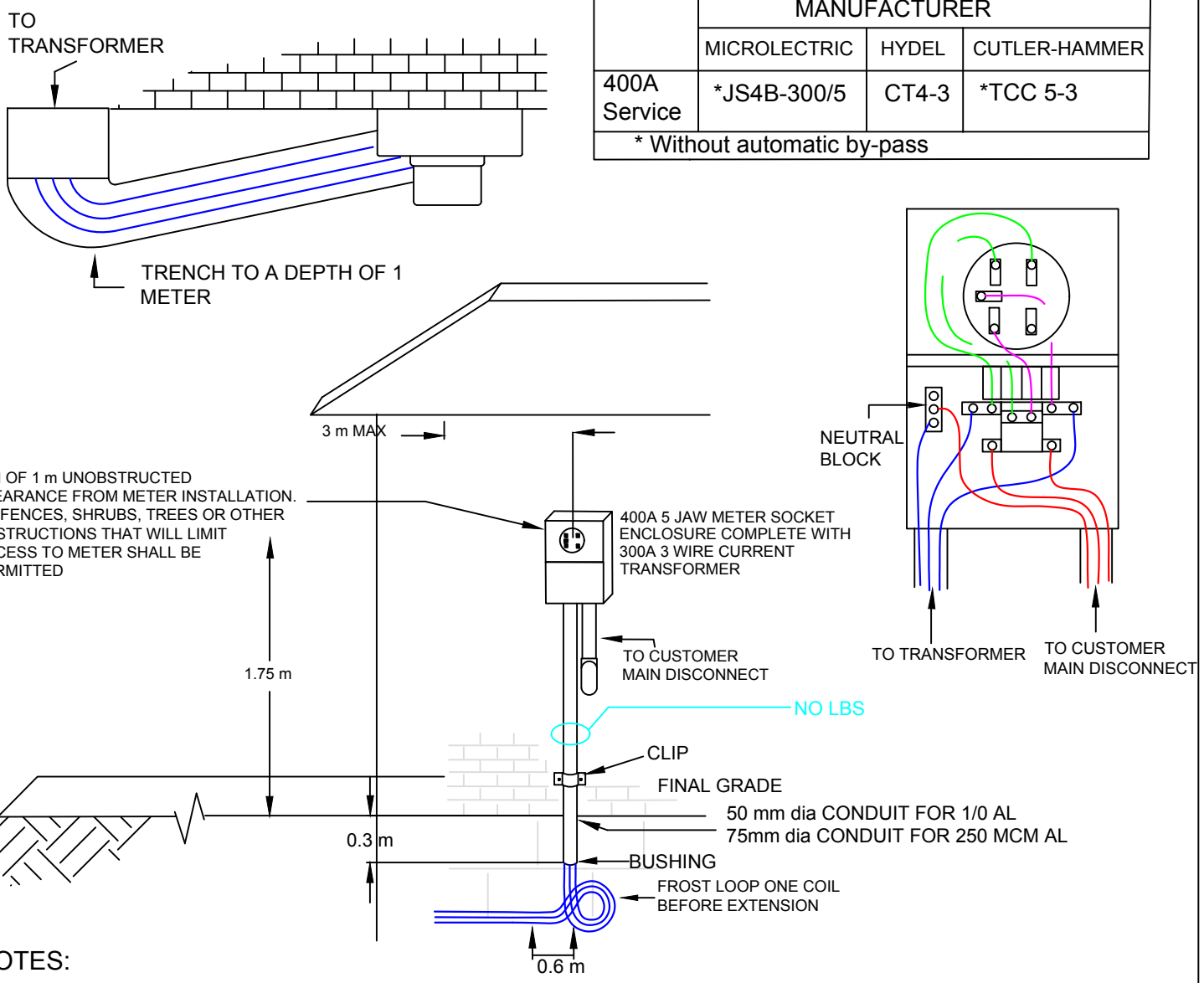
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 11,2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

RESIDENTIAL & SMALL COMMERCIAL 400A UNDERGROUND ELECTRICAL SERVICE & METER SOCKET
SINGLE PHASE, 3 WIRE 120/240V

12-009

OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
400A Service	*JS4B-300/5	CT4-3	*TCC 5-3
* Without automatic by-pass			



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. THE METER SOCKET MUST BE MOUNTED ON AN OUTSIDE WALL AT A LOCATION APPROVED BY OPUCN METER DEPARTMENT TO CO-ORDINATE WITH DISTRIBUTION ON THE STREET.
3. ELECTRICAL SERVICE SHALL MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
4. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.
5. MINIMUM 1 m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
6. NO LB, LC, LR ON LINE SIDE

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
0.3 m	1'-0"
1 m	3'-3"
1.75 m	5'-8"
3 m	10'-0"

Oshawa PUC Networks Inc.

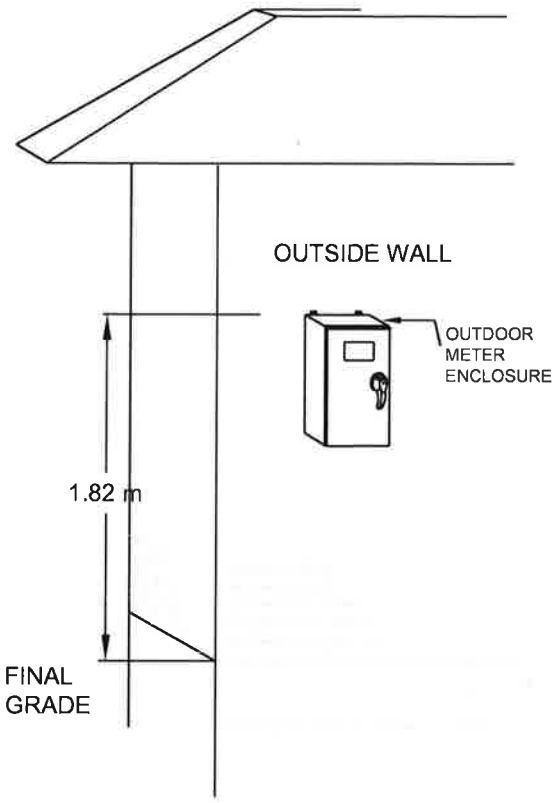
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 10, 2017	SCALE: NTS		REV: 1

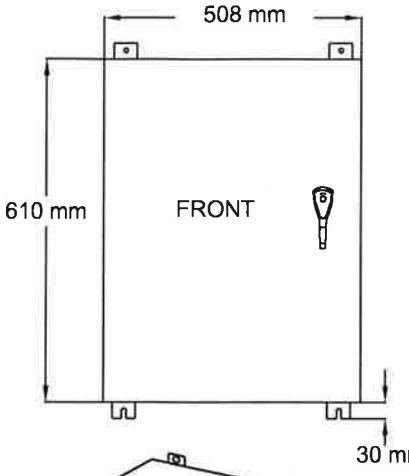
OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

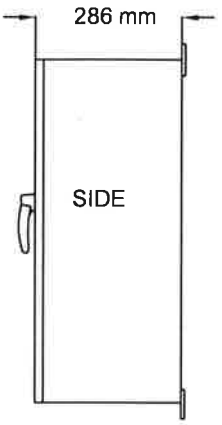
ELECTRICAL SERVICE WITH INSTRUMENT TRANSFORMERS & A REMOTE METER OUTDOOR METER ENCLOSURE INSTALLATION REQUIREMENTS – NON-INTERVAL METER

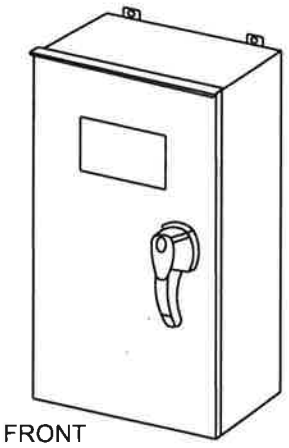
12-030

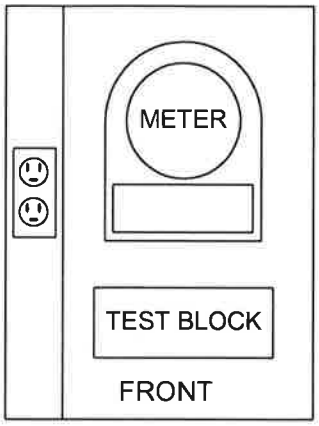
OUTDOOR METER ENCLOSURE











NOTES:

1. THE OUTDOOR REMOTE METER ENCLOSURE IS AVAILABLE FOR PICK UP AT OUR STORES DEPARTMENT LOCATED ON BAGOT STREET IN OSHAWA ONCE THE TOTAL CHARGES FROM OPUCN ARE PAID.
2. THE METER ENCLOSURE IS TO BE MOUNTED AT A HEIGHT OF 1.82 m FROM THE TOP OF THE ENCLOSURE TO FINISHED GRADE IN A LOCATION EASILY ACCESSIBLE TO OUR METER READERS.
3. THE METERING SECONDARY CONDUIT SHALL BE CONTINUOUS 30 mm dia PVC WITH NO ACCESSIBLE OPENINGS BETWEEN THE METER CABINET AND THE OUTSIDE METER ENCLOSURE APPROVED BY METERING DEPARTMENT. (I.E. "NO LBS').IF THE CONDUIT FROM THE METER CABINET COMES DIRECTLY INTO THE BACK OF THE OUTDOOR METER ENCLOSURE, IT SHALL BE LOCATED NO FURTHER THAN 63.5 mm FROM IT'S INSIDE EDGE. IF THE CONDUIT MUST INTERFERE WITH THE ENCLOSURE'S BACK PLATE, THE BACK PLATE SHALL BE NEATLY CUT SO THE CONDUIT IS NOT OBSTRUCTED. THE PREFERRED LOCATION OF THE SECONDARY CONDUIT SHALL BE FROM THE BACK, CENTER AND BOTTOM.
4. MAXIMUM ALLOWABLE SECONDARY CONDUIT LENGHT TO BE 15 m.
5. AN EMPTY 12.7 mm dia PVC CONDUIT SHALL BE INSTALLED FROM THE OUTSIDE METER ENCLOSURE TO THE ELECTRICAL ROOM.
6. ONCE THE OUTDOOR METER ENCLOSURE IS MOUNTED AND THE CONDUIT IS COMPLETE, THE BACK PLATE NOTCHED OUT FOR CONDUIT, IS TO BE RETURNED TO THE METER DEPARTMENT FOR WIRING.
7. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.
8. MINIMUM 1m CLEARANCE IS REQUIRED BETWEEN THE GAS METER/RELIEF VENT AND THE ELECTRIC METER SOCKET.
9. 120 VOLT RECEPTACLE REQUIRED INSIDE ENCLOSURE

CONVERSION TABLE			
METRIC	IMPERIAL (APPROX.)	METRIC	IMPERIAL (APPROX.)
12.7 mm	1/2"	508 mm	1'-8"
30 mm	1 1/4"	610 mm	2'-0"
63.5 mm	2 1/2"	1.82 m	6'-0"
286 mm	11 1/4"	15 m	50'-0"

Oshawa PUC Networks Inc.

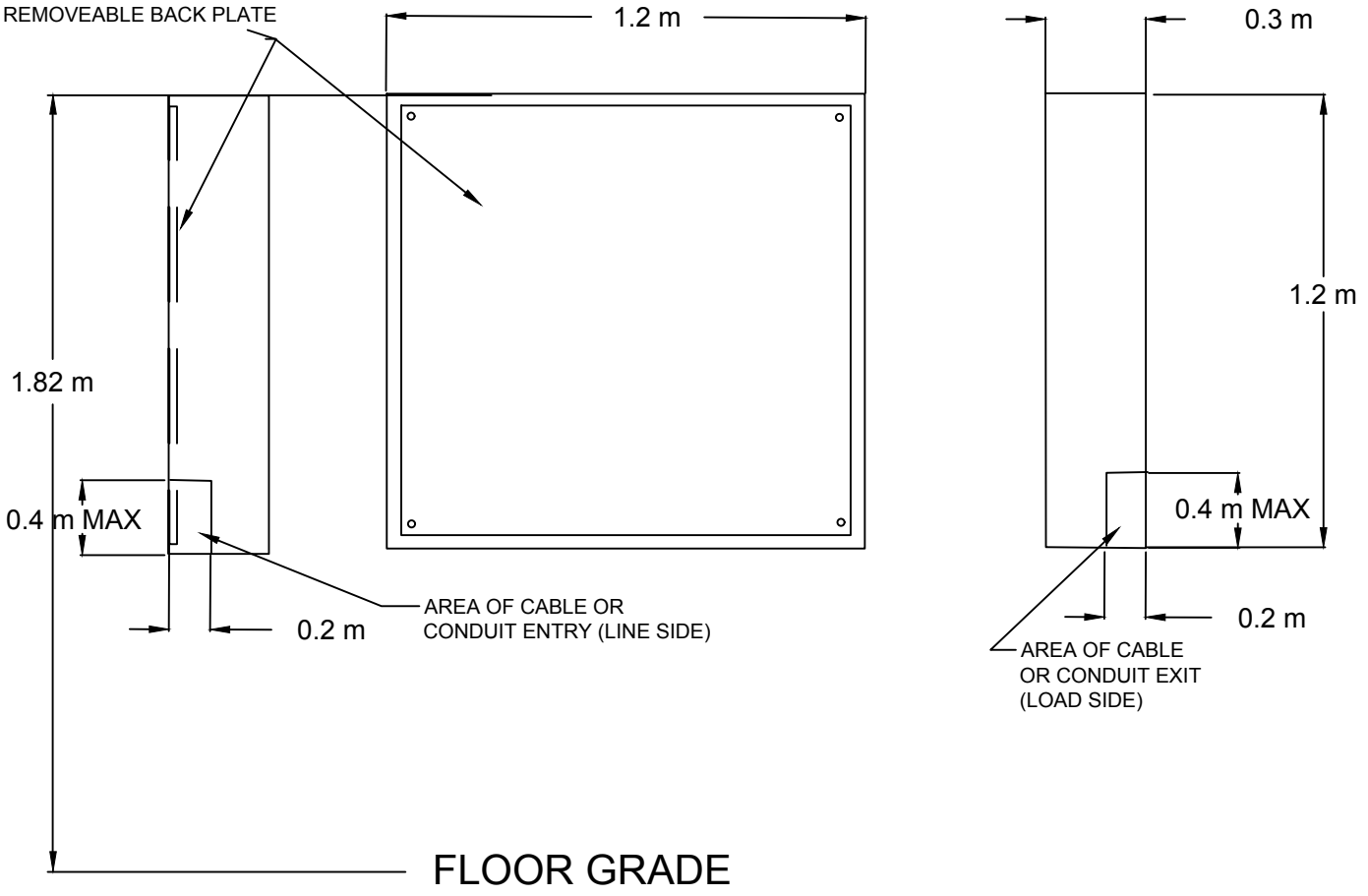
DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

ELECTRICAL SERVICE WITH INSTRUMENT TRANSFORMERS & A REMOTE METER METER CABINET SPECIFICATIONS

12-031

(IN CONJUNCTION WITH 12-033 AND 12-041)



NOTES:

1. TOLERANCE ON DIMENSIONS +/- 10%.
2. LINE AND LOAD SIDES CAN BE REVERSED
3. METER CABINETS SHALL HAVE TWO SIDE-HINGED DOORS, OPENING AT THE CENTRE AND HAVE PROVISION FOR PADLOCKING.
4. BACK PLATE TO BE BROUGHT INTO OPUCN'S METER SHOP WITH LINE, LOAD AND CONDUCTOR SIZE CLEARLY MARKED (MAXIMUM CONDUCTOR SIZE TO BE 500 kcmil)
5. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. FROM THE EDGE OF THE OPEN DOOR SHALL BE PROVIDED. THE ROOM SHALL HAVE A LIGHT AND A RECEPTACLE. WHERE A HINGED DOOR IN AN OPEN POSITION WOULD BLOCK AN EXIT ROUTE, A FURTHER 1 m OF CLEARANCE
6. THE METER ROOM SHALL HAVE AN EXTERNAL DOOR AND A OPUCN INSTALLED LOCKED KEY BOX AS SHOWN. THE CUSTOMER SHALL PROVIDE A KEY FOR THE ELECTRICAL ROOM.
7. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
0.2 m	0'-8"
0.3 m	1'-0"
0.4 m	1'-4"
1 m	3'-3"
1.2 m	4'-0"
1.82 m	6'-0"
2 m	6'-6"

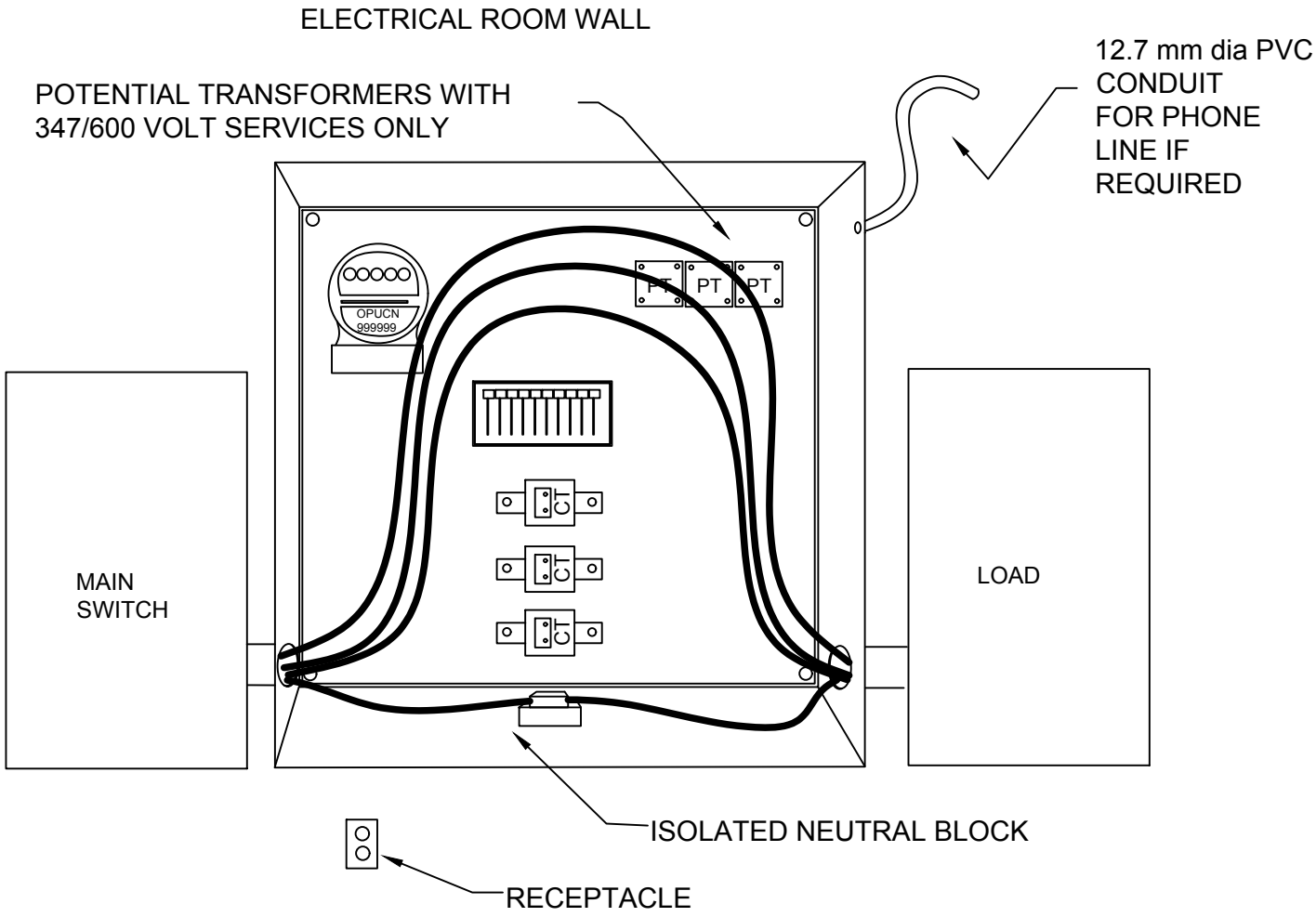
Oshawa PUC Networks Inc.

DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 11,2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

12-033

ELECTRICAL SERVICE WITH INSTRUMENT TRANSFORMERS & METER IN METER CABINET
METER CABINET INSTALLATION REQUIREMENTS
3 PHASE, 120/208V OR 347/600V
(IN CONJUNCTION WITH 12-031 AND 12-041)



NOTES:

1. PHASE CONDUCTORS SHALL BE LOOPED TO THE TOP OF THE CABINET AS SHOWN.

2. ALL NEUTRAL CONDUCTORS SHALL BE RUN THROUGH AN ISOLATED NEUTRAL BLOCK.

3. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. WHERE A HINGED DOOR IN AN OPEN POSITION WOULD BLOCK AN EXIT ROUTE, A FURTHER 1m OF CLEARANCE FROM THE EDGE OF THE OPEN DOOR SHALL BE PROVIDED. THE ROOM SHALL HAVE A LIGHT AND A RECEPTACLE.

4. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM. ELECTRICAL SERVICES WITH A EXPECTED LOAD REQUIRING AN INTERVAL METER

5. ELECTRICAL SERVICES OVER 500 kVA REQUIRE THE INSTALLATION OF AN INTERVAL METER. THE CUSTOMER SHALL PROVIDE AND MAINTAIN A DEDICATED PHONE LINE FOR THAT METER. THE PHONE LINE MUST BE ACTIVE AND A NUMBER SHALL BE PROVIDED BEFORE THE SERVICE CAN BE ENERGIZED.

6. THE PHONE LINE SHALL BE INSTALLED IN 12.7 mm dia PVC CONDUIT FROM THE TELEPHONE ROOM TO THE METER CABINET.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
12.7 mm	1/2"
1 m	3'-3"
2 m	6'-6"

Oshawa PUC Networks Inc.

DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

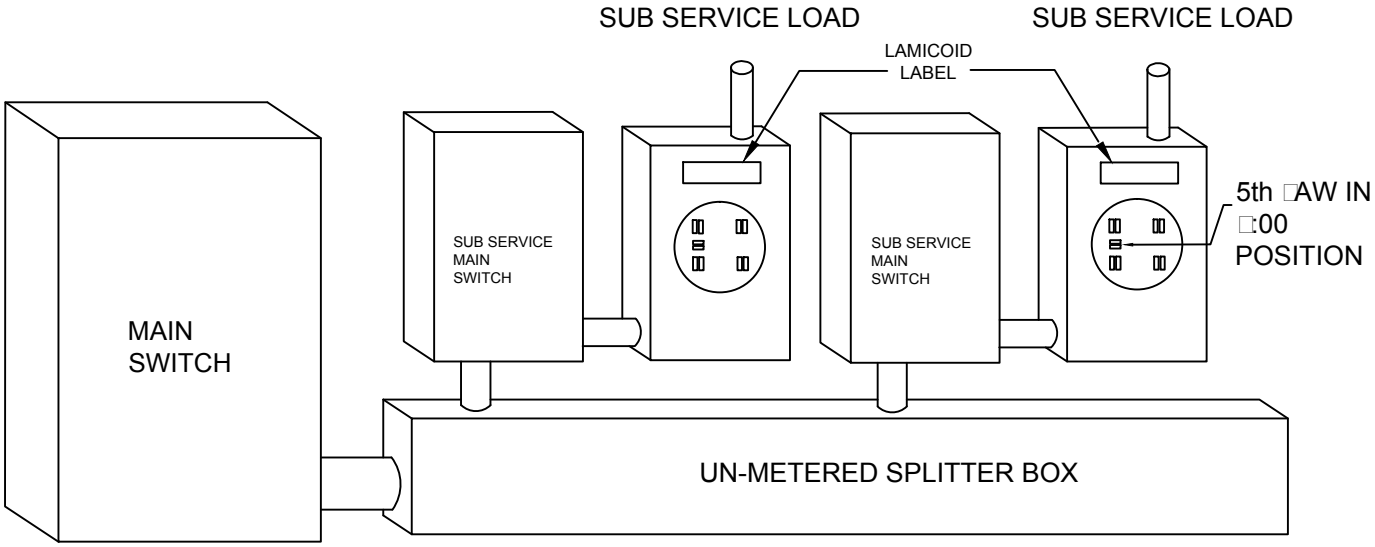
OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

12-037

MULTIPLE ELECTRICAL SERVICES IN AN ELECTRICAL ROOM
METER INSTALLATION REQUIREMENTS - 120/208 V NETWORK 5th JAW METER SOCKETS

(IN CONJUNCTION WITH 12-041)

OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
100A	*BE1-5-INTCV	*SE400RW	*K1M-0
200A	*BS2-5-INTCV	*EK400R0	*LM2
*ALL ALL SOCKETS TO COME WITH INSULATED NEUTRAL BLOCKS			



NOTES:

1. ALL METER SOCKET NEUTRAL CONDUCTORS SHALL BE RUN THROUGH AN ISOLATED NEUTRAL BLOCK. THE NEUTRAL TICKLER WIRE SHALL BE CONNECTED TO THE ISOLATED NEUTRAL BLOCK LOCATED IN THE METER SOCKET.

2. ALL SUB SERVICE METER SOCKETS SHALL BE CLEARLY MARKED TO IDENTIFY THE UNIT NUMBER AND PHYSICAL LOCATION OF THE UNIT USING LAMICOIDS.

3. THE UN-METERED SPLITTER BOX SHALL HAVE PROVISION FOR PADLOCKING.

4. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. THE ROOM SHALL HAVE A LIGHT, RECEPTACLE AND EXTERNAL DOOR WITH OPUCN KEY BOX INSTALLED (SEE MS-015)

5. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.

6. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
2 m	6'-6"

Oshawa PUC Networks Inc.

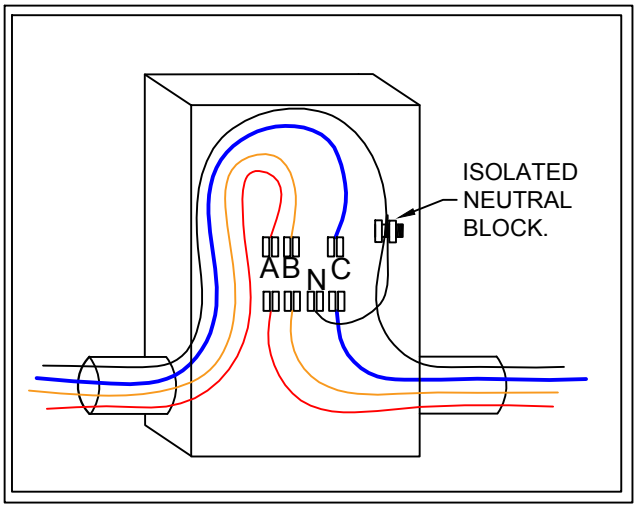
DRAWN: KAB	CKD:	APP:	
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

12-03

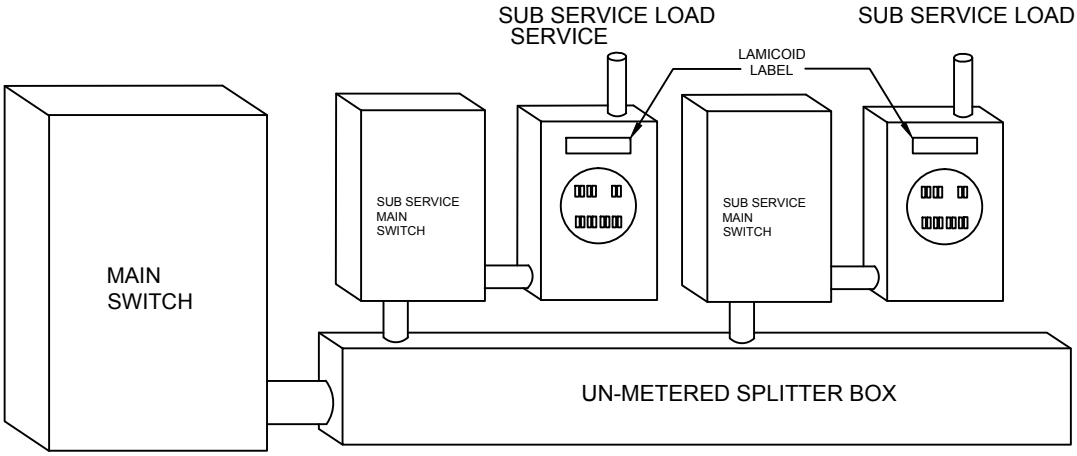
MULTIPLE ELECTRICAL SERVICES IN AN ELECTRICAL ROOM
METER INSTALLATION REQUIREMENTS - 3 PHASE 120/208V & 347/600V
7 JAW METER SOCKET

(IN CONJUNCTION WITH 12-041)



OPUCN APPROVED METER SOCKET TYPES			
	MANUFACTURER		
	MICROLECTRIC	HYDEL	CUTLER-HAMMER
100A	PL17-INTCV	SFC 730PK	P17-0-IN1
200A	PL27-INTCV	STC 730PK	[1]P27-IN2
*ALL SOCKETS TO COME WITH INSULATED NEUTRAL BLOCKS 1 - OVERHEAD ONLY			

WIRING A 7 □AW METER SOCKET FOR A 600 VOLT DELTA



NOTES:

1. ALL METER SOCKET NEUTRAL CONDUCTORS SHALL BE RUN THROUGH AN ISOLATED NEUTRAL BLOCK. THE NEUTRAL TICKLER WIRE SHALL BE CONNECTED TO THE ISOLATED NEUTRAL BLOCK LOCATED IN THE METER SOCKET.

2. ALL SUB SERVICE METER SOCKETS SHALL BE CLEARLY MARKED TO IDENTIFY THE UNIT NUMBER AND PHYSICAL LOCATION OF THE UNIT USING LAMICIODS.

3. THE UN-METERED SPLITTER BOX SHALL HAVE PROVISION FOR PADLOCKING.

4. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. THE ROOM SHALL HAVE A LIGHT, RECEPTACLE AND EXTERNAL DOOR WITH OPUCN KEY BOX INSTALLED (SEE MS-015)

5. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.

6. REFER TO "OPUCN APPROVED METER SOCKET TYPES" FOR SOCKET REQUIREMENTS.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
2 m	6'-6"

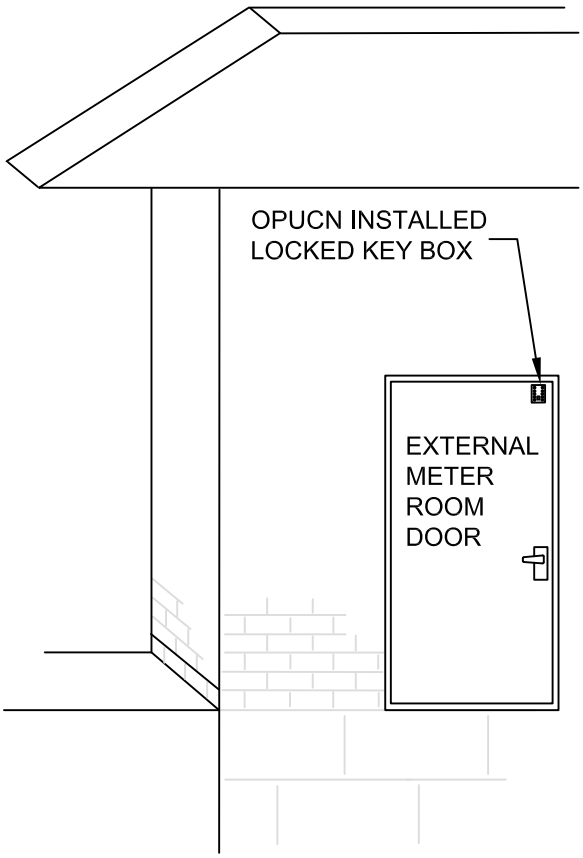
Oshawa PUC Networks Inc.

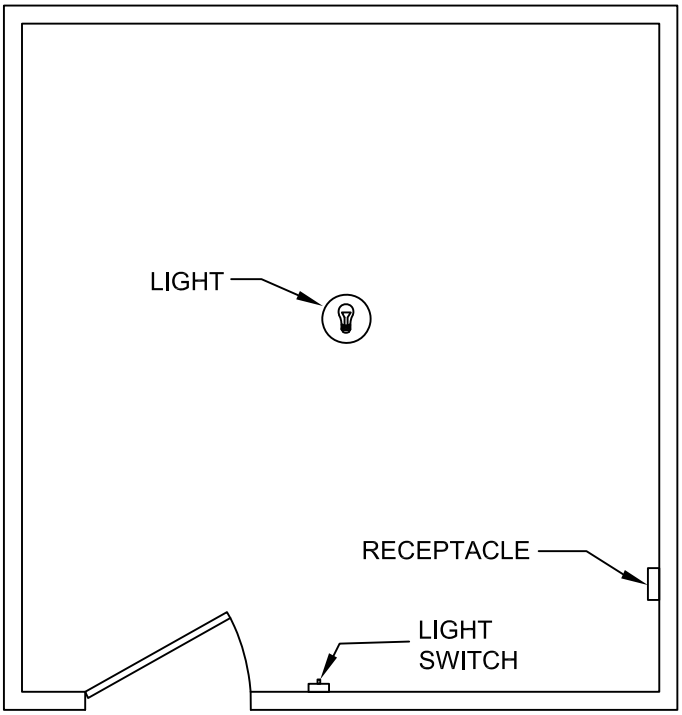
DRAWN: KAB	CKD:	APP:	
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

METER ROOM SPECIFICATIONS

12-041





NOTES:

1. THE METER ROOM SHALL HAVE AN EXTERNAL DOOR AND A OPUCN INSTALLED LOCKED KEY BOX AS SHOWN. THE CUSTOMER SHALL PROVIDE A KEY FOR THE ELECTRICAL ROOM.

2. THE METER ROOM SHALL HAVE A LIGHT, A LIGHT SWITCH NEAR THE ENTRANCE DOOR AND A DUPLEX RECEPTACLE CLOSE TO THE METERING EQUIPMENT.

3. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. WHERE A HINGED DOOR IN AN OPEN POSITION WOULD BLOCK AN EXIT ROUTE, A FURTHER 1m OF CLEARANCE FROM THE EDGE OF THE OPEN DOOR SHALL BE PROVIDED.

4. THE ELECTRICAL ROOM SHALL NOT BE USED FOR STORAGE OR CONTAIN EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION.

5. THE CUSTOMER SHALL IDENTIFY EACH SERVICE BY ADDRESS AND/OR UNIT NUMBER IN A PERMANENT AND LEGIBLE MANNER.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
1 m	3'-3"
2 m	6'-6"

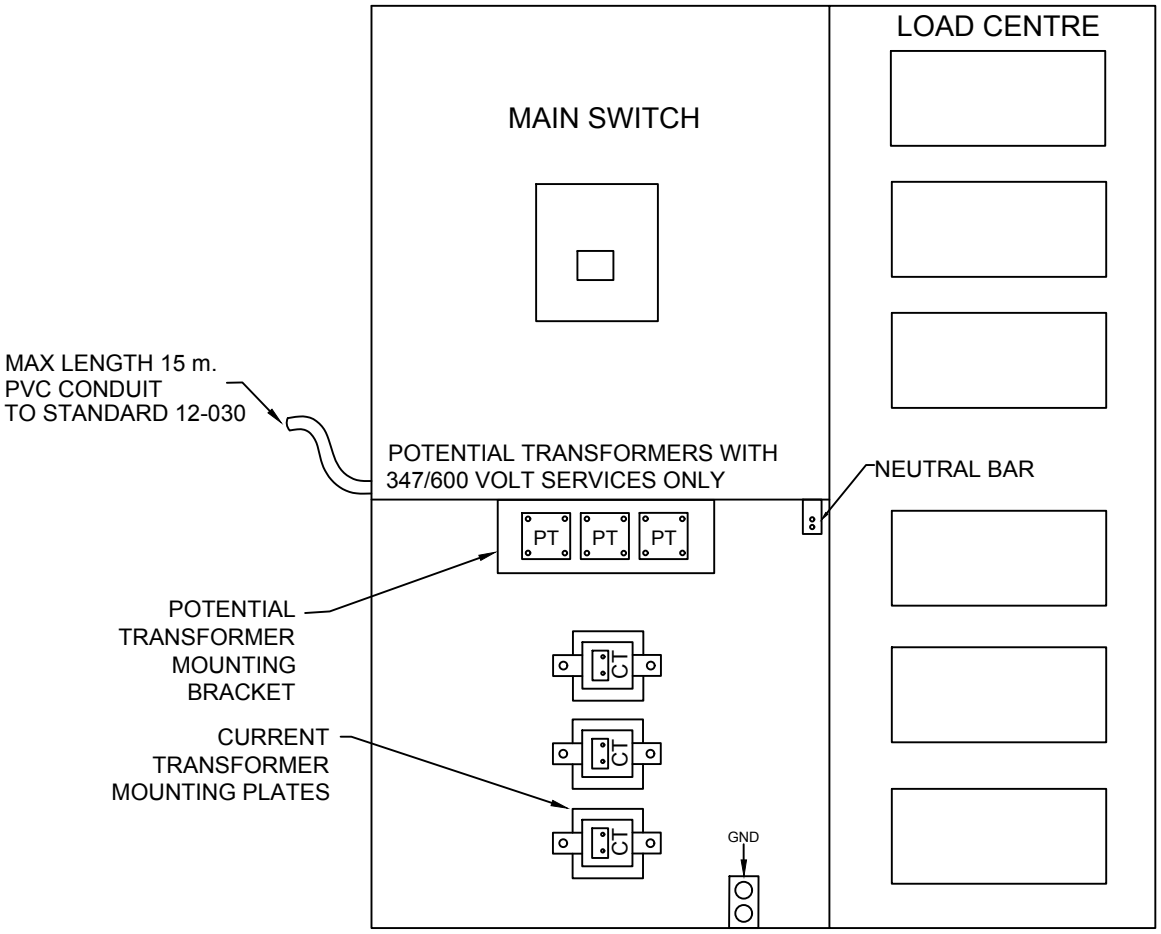
Oshawa PUC Networks Inc.

DRAWN: KAB	CKD:	APP:	
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

ELECTRICAL SERVICE WITH SWITCHGEAR & A REMOTE METER
INSTRUMENT TRANSFORMER INSTALLATION REQUIREMENTS
3 PHASE, 120/208V OR 347/600V

12-043



NOTES:

1. OPUCN SHALL APPROVE SWITCH GEAR DRAWINGS BEFORE CONSTRUCTION OF SWITCH GEAR.

2. SWITCH GEAR SHALL BE ORDERED TO ACCEPT OPUCN SPECIFIED INSTRUMENT TRANSFORMERS.

3. IF THE SWITCH GEAR IS TO BE USED ON A SINGLE PHASE SERVICE, THE SWITCH GEAR SHALL BE ORDERED TO ACCEPT A 3 WIRE CURRENT TRANSFORMER.

4. THE METERING SECONDARY CONDUIT SHALL BE CONTINUOUS 30 mm dia PVC WITH NO ACCESSIBLE OPENINGS BETWEEN THE METER CABINET AND THE OUTSIDE METER ENCLOSURE. (I.E. "NO LBS'). THE LOCATION OF THE SECONDARY CONDUIT WILL BE DETERMINED BY THE LOCATION OF THE OUTSIDE METER ENCLOSURE LOCATION APPROVED BY METERING DEPARTMENT.

5. MAXIMUM ALLOWABLE SECONDARY CONDUIT LENGTH TO BE 15 m.

6. THE METER ROOM MUST BE DESIGNED TO HAVE A MINIMUM OF 1 m CLEARANCE IN FRONT OF THE ELECTRICAL AND METERING EQUIPMENT. THIS SPACE SHALL HAVE A MINIMUM HEADROOM OF 2 m. WHERE A HINGED DOOR IN AN OPEN POSITION WOULD BLOCK AN EXIT ROUTE, A FURTHER 1m OF CLEARANCE FROM THE EDGE OF THE OPEN DOOR SHALL BE PROVIDED. THE ROOM SHALL HAVE A LIGHT AND A RECEPTACLE.

7. THE ELECTRICAL SERVICE MUST MEET ALL ESA INSPECTION STANDARDS AND SHALL BE INSPECTED BY ESA BEFORE CONNECTION TO THE DISTRIBUTION SYSTEM.

CONVERSION TABLE	
METRIC	IMPERIAL (APPROX.)
30mm	1 1/4"
1 m	3'-3"
2 m	6'-6"
15 m	50'-0"

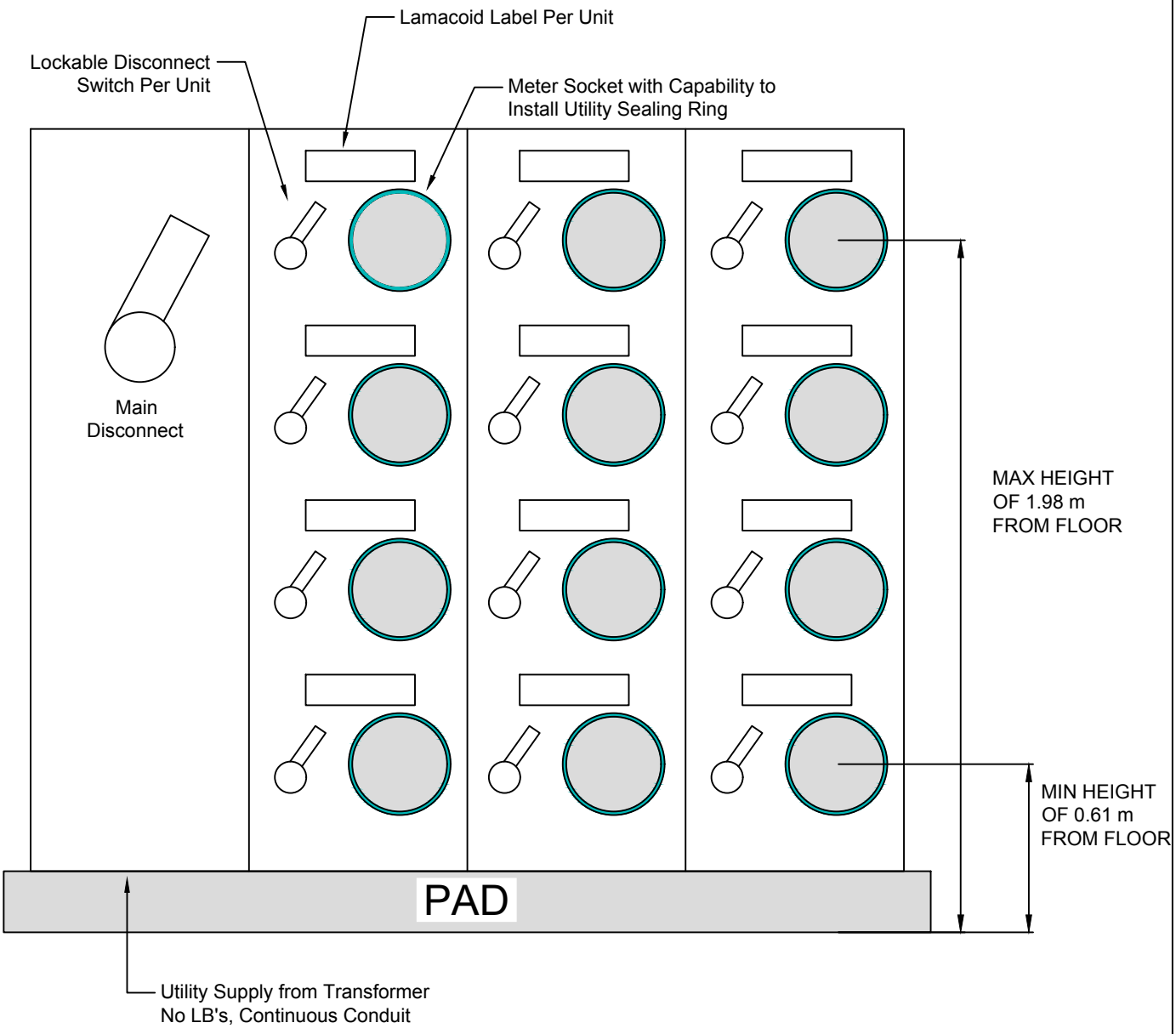
Oshawa PUC Networks Inc.

DRAWN:	CKD:	APP:	
KAB			
DATE: MAY 11, 2017	SCALE: NTS		REV: 1

OSHAWA PUC NETWORKS INC. DISTRIBUTION STANDARDS

MULTI-UNIT METER CENTRE
120/240V 1 PHASE
120/208V 3 PHASE
347/600V 3 PHASE

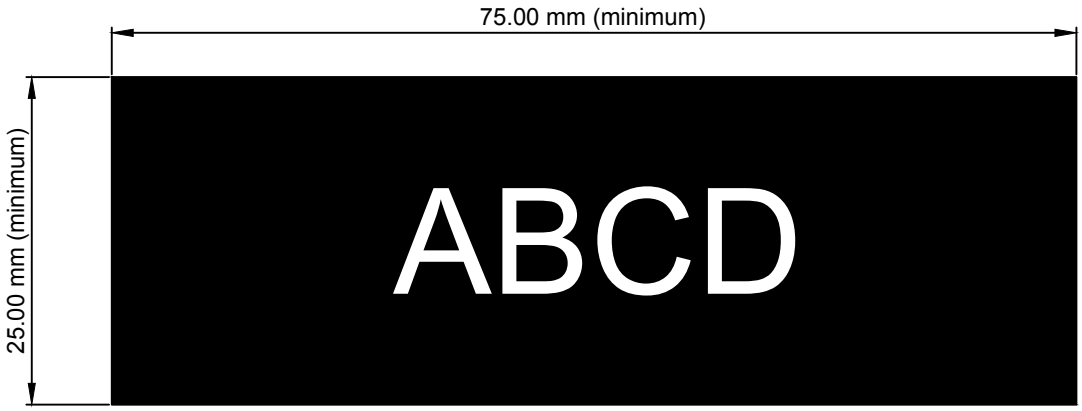
12-044



NOTES:

1. PLEASE PROVIDE METERING WITH METER CENTRE SPECIFICATIONS / DRAWINGS PRIOR TO PROCURING.
2. MINIMUM METER SOCKET HEIGHT OF 0.61m FROM THE FLOOR.
3. METER CENTRES HAVE NO LIMITATION ON NUMBER OF METERS.
4. 1m CLEARANCE IN FRONT OF THE MULTI-METER SWITCHBOARD.
5. METER CENTRE MUST COMPLY WITH STANDARD 12-041.

Oshawa PUC Networks Inc.	DRAWN: PAC	CKD: RE	APP:
	DATE: JUNE 19, 2018	SCALE: NTS	REV: 1



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ABCD = MAIN / BASEMENT / UPPER

NOTES:

1. MUST BE PERMANENTLY FIXED OUTDOOR / OR INDOOR METER BASE.
2. LAMACOID LABELS MUST BE ON THE METER BASE PRIOR TO ENERGIZATION.

FOR RESIDENTIAL - LAMACOID LABEL WILL IDENTIFY THE POSITION OF THE UNIT IN THE BUILDING. **Eg: MAIN / BASEMENT / UPPER**

IF THE BUILDING HAS MULTIPLE UNITS ON A LEVEL, THEN A UNIT NUMBER MUST BE ADDED. **Eg: MAIN Unit X / BASEMENT Unit X / UPPER Unit X**

FOR COMMERCIAL - LAMACOID LABEL WILL IDENTIFY THE **UNIT NUMBER ONLY**.

Oshawa Power

TITLE: LAMACOID LABEL MINIMUM REQUIREMENT SAMPLE LABEL

DRAWN:	CHECKED:	APPROVED:
PAC:lc	ZS	RE

SCALE:	DATE:	REV:
NTS	MAR 2, 2020	2

REV	DESCRIPTION	APP
2	CHG WORDING	R.ERSIL/Z.SYED MAR-20
1	CHG WORDING	R.ERSIL JUN-18
0	INITIAL RELEASE	R.ERSIL JUN-18

REVISION HISTORY

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Oshawa, ON L1H 7M7

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