

	TITLE:			
	Engineering Specification			
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APPROVED: C.S. Malone	GCM0001		OF	0
REV. DATE: 2003-02-17			9	

RESIDENTIAL SUBDIVISION

BILL OF MATERIALS

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REVISION SHEET

Revision	Description	Date	Initial
0	Original Document	2003-02-17	km/csm

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1.0 Introduction

This specification is intended for use by Residential Developers who choose to install underground electrical distribution which will be turned over to Hydro Ottawa. The following tables detail the Hydro Ottawa Specification or the manufacturer & catalogue number for the purchase of materials for use on Hydro Ottawa's distribution system.

Some projects may require dual-voltage transformers as well as primary cable rated at higher than the BIL of the existing distribution system. It is the responsibility of the Developer to determine Hydro Ottawa's requirements for each project prior to ordering any material.

There shall be no substitution of material listed in this specification without written authorization from Hydro Ottawa.

TABLE 1 - 27.6/16 kV Distribution

Item	Specification or Manufacturer & Model #
Padmounted Transformer 16kV	Hydro Ottawa Specification GMS0003 – Latest Revision
Primary Cable, 28kV, 1/0 AWG Aluminum	Hydro Ottawa Specification GMS0008 – Latest Revision
Secondary cable	Hydro Ottawa Specification GMS0005 – Latest Revision
Load Break Elbow	T&B #274LR-H5230A-CS854
Bushing Insert	T&B #2701A4(1)-CS854
Feed-Thru, Double	T&B #274FT-CS854
Insulated Parking Bushing	T&B #272SOP-CS854
Elbow Surge Arrester (21kV)	COOPER #3238019C21M or T&B #273ESA-21
Parking Stand Arrester (21kV)	COOPER #3237758C21M or T&B #273PSA-21
Insulated Cap with Ground	T&B #273DRGA-CS854
½" Silicon Bronze bolt c/w nut, flat washers, belleville washer of the same material (secondary bus bar & ground bus)	N/A
Connector Lug (secondary bus bars & ground bus)	IlSCO #Au-250-1/2
Connector, Compression Lug, Meter Base - Secondary Cables	3/0 AWG – IlSCO ACC 3/0 250 Kcmil – IlSCO ACC 250
Connector, Secondary Cable Splice	3/0 AWG – IlSCO ASC 3/0 250 Kcmil – IlSCO ASC 250 500 Kcmil – LaPrairie – KSN050PTN 500 Kcmil to 250 Kcmil – Laprairie KSR050P025
Connector, Concentric Neutral Tie	AMP – 600529 (#2 AWG to #2 AWG)
Insulator, Secondary Cable Splice Cold Shrink	3/0 AWG & 250 Kcmil - 3M – 8426-11 500 Kcmil – 3M - 8426-18
Tape	Vinyl – 3M – Super 88 or 3M #37 Rubber – 3M – Scotch 130C Linerless Rubber Splicing Tape Mastic – 3M – Scotch Seal 2229 Mastic Tape Compound
Rags	Clean, 100% Cotton
Faulted Circuit Indicator	Hydro Ottawa Specification GMS0006 – Latest Revision
Switching Cabinet Fibreglass	Nordic #ND-150
Plastic ID Tags (primary, secondary)	Laminated Plastic Tag 110mm x 65mm GBC#3200004
Tie Wrap (primary, secondary cable ID)	Black, Weather Resistant, Polypropylene, 7.13" X 0.184"
Paper Card (primary, secondary cable ID)	Rolland Tint, +10 Cover, Grey - Primary, Yellow - Secondary, Weight 130m
Transformer Numbers	Adhesive, 75mm – Seton T49112(NL3)-#
Cable Pulling Lubricant	"Polywater J" – American Polywater Corporation or "Cable Glide" – CRC Industries
Ground Rod	Standard 3m x 19mm GALVANIZED
2/0 AWG Copper, 19 Str, Soft Drawn Bare	As Per ASTM B 3
Ground Rod Connector	Appropriate Size, CSA Approved
Conductive Paste	Burndy Penetrox

TABLE 2 – 13.2/7.62 kV Distribution

Item	Specification or Manufacturer & Model #
Padmounted Transformer 7.4/2.4 kV (dual voltage)	Hydro Ottawa Specification GMS0003 – Latest Revision
Primary Cable, 15kV, 1/0 AWG Copper	Hydro Ottawa Specification GMS0008 – Latest Revision
Secondary cable	Hydro Ottawa Specification GMS0005 - Latest Revision
Load Break Elbow	T&B #166LR-B-5230A2
Bushing Insert	T&B #1601A4R
Feed-Thru, Double	T&B #164FT-DRGA
Insulated Parking Bushing	T&B #161SOP
Elbow Surge Arrester	COOPER #3238018C10M or T&B # 167ESA-10
Parking Stand Arrester	COOPER #3237686C10M or T&B #167PSA-10
Insulated Cap with Ground	T&B #168DRG
1/2" Silicon Bronze bolt c/w nut, flat washers, belleville washer of the same material (secondary bus bar & ground bus)	N/A
Connector Lug (secondary bus bars & ground bus)	IlSCO #Au-250-1/2
Connector, Compression Lug, Meter Base - Secondary Cables	3/0 AWG – IlSCO ACC 3/0 250 Kcmil – IlSCO ACC 250
Connector, Secondary Cable Splice	3/0 AWG – IlSCO ASC 3/0 250 Kcmil – IlSCO ASC 250 500 Kcmil – LaPrairie – KSN050PTN 500 Kcmil to 250 Kcmil – Laprairie KSR050P025
Connector, Concentric Neutral Tie	AMP – 600403 (#1/0 AWG#1/0 AWG)
Insulator, Secondary Cable Splice Cold Shrink	3/0 AWG & 250 Kcmil – 3M – 8426-11 500 Kcmil – 3M – 8426-18
Tape	Vinyl – 3M – Super 88 or 3M #37 Rubber – 3M – Scotch 130C Linerless Rubber Splicing Tape Mastic – 3M – Scotch Seal 2229 Mastic Tape Compound
Rags	Clean, 100% Cotton Rags
Faulted Circuit Indicator	Hydro Ottawa Specification GMS0006 – Latest Revision
Switching Cabinet Fiberglass	Nordic #ND-150
Plastic ID Tags (primary, secondary)	Laminated Plastic Tag 110mm x 65mm GBC#3200004
Tie Wrap (primary, secondary cable ID)	Black, Weather Resistant, Polypropylene, 7.13" x 0.184"
Paper Card (primary, secondary cable ID)	Rolland Tint, +10 Cover, Grey – Primary, Yellow - Secondary, Weight 130m
Transformer Numbers	Adhesive, 75mm – Seton T49112(NL3)-#
Cable Pulling Lubricant	"Polywater J" – American Polywater Corporation or "Cable Glide" – CRC Industries
Ground Rod	Standard 3m x 19mm GALVANIZED
2/0 AWG Copper, 19 Str, Soft Drawn Bare	As Per ASTM B 3
Connector, Ground Rod	Appropriate Size, CSA Approved
Conductive Paste	Burndy Penetrox

TABLE 3 – 12.47/7.2 kV Distribution

Item	Specification or Manufacturer & Model #
Padmounted Transformer 16/7.2kV (dual voltage)	Hydro Ottawa Specification GMS0003 – Latest Revision
Primary Cable, 28kV, 1/0 AWG Aluminum or 15kV, 1/0 AWG Copper (as specified by Hydro Ottawa)	Hydro Ottawa Specification GMS0008 – Latest Revision
Secondary cable	Hydro Ottawa Specification GMS0005 - Latest Revision
Load Break Elbow	T&B #274LR-H5230A-CS854
Bushing Insert	T&B #2701A4(1)-CS854
Feed-Thru, Double	T&B #273-DRGA-CS854
Insulated Parking Bushing	T&B #272SOP-CS854
Elbow Surge Arrester	COOPER #3238018C09M or T&B 167ESA-10
Parking Stand Arrester	COOPER #3237686C09M or T&B #167PSA-10
Insulated Cap with Ground	T&B #273DRGA-CS854
1/2" Silicon Bronze bolt c/w nut, flat washers, belleville washer of the same material (secondary bus bar & ground bus)	N/A
Connector Lug (secondary bus bars & ground bus)	IlSCO #Au-250-1/2
Connector, Compression Lug, Meter Base - Secondary Cables	3/0 AWG – IlSCO ACC 3/0 250 Kcmil – IlSCO ACC 250
Connector, Secondary Cable Splice	3/0 AWG – IlSCO ASC 3/0 250 Kcmil – IlSCO ASC 250 500 Kcmil – LaPrairie – KSN050PTN 500 Kcmil to 250 Kcmil – Laprairie KSR050P025
Connector, Concentric Neutral Tie	AMP – 600403 (#1/0 AWG#1/0 AWG)
Insulator, Secondary Cable Splice Cold Shrink	3/0 AWG & 250 Kcmil – 3M – 8426-11 500 Kcmil – 3M – 8426-18
Tape	Vinyl – 3M – Super 88 or 3M #37 Rubber – 3M – Scotch 130C Linerless Rubber Splicing Tape Mastic – 3M – Scotch Seal 2229 Mastic Tape Compound
Rags	Clean, 100% Cotton Rags
Faulted Circuit Indicator	Hydro Ottawa Specification GMS0006 – Latest Revision
Switching Cabinet Fiberglass	Nordic #ND-150
Plastic ID Tags (primary, secondary)	Laminated Plastic Tag 110mm x 65mm GBC#3200004
Tie Wrap (primary, secondary cable ID)	Black, Weather Resistant, Polypropylene, 7.13" x 0.184"
Paper Card (primary, secondary cable ID)	Rolland Tint, +10 Cover, Grey – Primary, Yellow - Secondary, Weight 130m
Transformer Numbers	Adhesive, 75mm - Seton T49112(NL3)-#
Cable Pulling Lubricant	"Polywater J" - American Polywater Corporation or "Cable Glide" – CRC Industries
Ground Rod	Standard 3m x 19mm GALVANIZED
2/0 AWG Copper, 19 Str, Soft Drawn Bare	As Per ASTM B 3
Connector, Ground Rod	Appropriate Size, CSA Approved
Conductive Paste	Burndy Penetrox

TABLE 4 – 8.32/4.8 kV Distribution

Item	Specification or Manufacturer & Model #
Padmounted Transformer 4.8kV or 16/4.8kV (dual voltage) as specified by Hydro Ottawa	Hydro Ottawa Specification GMS0003 – Latest Revision
Primary Cable, 28kV, 1/0 AWG Aluminum or 15kV, 1/0 AWG Copper (as specified by Hydro Ottawa)	Hydro Ottawa Specification GMS0008 – Latest Revision
Secondary cable (as specified by Hydro Ottawa)	Hydro Ottawa Specification GMS0005 - Latest Revision
Load Break Elbow (as specified by Hydro Ottawa)	T&B #166LR-B-5230A-CS854 or T&B #274LR-H5230A-CS854
Bushing Insert (as specified by Hydro Ottawa)	T&B #1601A4(1)-CS854 or T&B #2701A4(1)-CS854
Feed-Thru, Double (as specified by Hydro Ott.)	T&B #164FT-DRGA-CS854 or T&B #273-DRGA-CS854
Insulated Parking Bushing (as specified by Hydro Ottawa)	T&B #161SOP or T&B #272SOP-CS854
Elbow Surge Arrester	COOPER #3238018C06M or T&B #167ESA-6
Parking Stand Arrester	COOPER #3237686C06M or T&B #167PSA-6
Insulated Cap with Ground (as specified by Hydro Ottawa)	T&B #160DRG or T&B #270DRG-CS854
1/2" Silicon Bronze bolt c/w nut, flat washers, belleville washer of the same material (secondary bus bar & ground bus)	N/A
Connector Lug (secondary bus bars & ground bus)	IlSCO #Au-250-1/2
Connector, Compression Lug, Meter Base - Secondary Cables	3/0 AWG – IlSCO ACC 3/0 250 Kcmil – IlSCO ACC 250
Connector, Secondary Cable Splice	3/0 AWG – IlSCO ASC 3/0 250 Kcmil – IlSCO ASC 250 500 Kcmil – LaPrairie – KSN050PTN 500 Kcmil to 250 Kcmil – Laprairie KSR050P025
Connector, Concentric Neutral Tie	AMP – 600403 (#1/0 AWG#1/0 AWG)
Insulator, Secondary Cable Splice Cold Shrink	3/0 AWG & 250 Kcmil – 3M – 8426-11 500 Kcmil – 3M – 8426-18
Tape	Vinyl – 3M – Super 88 or 3M #37 Rubber – 3M – Scotch 130C Linerless Rubber Splicing Tape Mastic – 3M – Scotch Seal 2229 Mastic Tape Compound
Rags	Clean, 100% Cotton Rags
Faulted Circuit Indicator	Hydro Ottawa Specification GMS0006 – Latest Revision
Switching Cabinet Fibreglass	Nordic #ND-150
Plastic ID Tags (primary, secondary)	Laminated Plastic Tag 110mm x 65mm GBC#3200004
Tie Wrap (primary, secondary cable ID)	Black, Weather Resistant, Polypropylene, 7.13" x 0.184"
Paper Card (primary, secondary cable ID)	Rolland Tint, +10 Cover, Grey – Primary, Yellow - Secondary, Weight 130m
Transformer Numbers	Adhesive, 75mm - Seton T49112(NL3)-#
Cable Pulling Lubricant	"Polywater J" - American Polywater Corporation or "Cable Glide" – CRC Industries
Ground Rod	Standard 3m x 19mm GALVANIZED
2/0 AWG Copper, 19 Str, Soft Drawn Bare	As Per ASTM B 3
Connector, Ground Rod	Appropriate Size, CSA Approved
Conductive Paste	Burndy Penetrox

TABLE 5 – 4.16/2.4 kV Distribution

Item	Specification or Manufacturer & Model #
Padmounted Transformer 7.4/2.4kV (dual voltage)	Hydro Ottawa Specification GMS0003 – Latest Revision
Primary Cable, 15kV, 1/0 AWG Copper	Hydro Ottawa Specification GMS0008 – Latest Revision
Secondary cable	Hydro Ottawa Specification GMS0005 - Latest Revision
Load Break Elbow	T&B #166LR-B-5230A2
Bushing Insert	T&B #1601A3R
Feed-Thru, Double	T&B #164FT-DRGA
Insulated Parking Bushing	T&B #161SOP
Elbow Surge Arrester	COOPER #3238018C03M or T&B # 167ESA-3
Parking Stand Arrester	COOPER #3237686C03M T&B #167PSA-3
Insulated Cap with Ground	T&B #168DRG
1/2" Silicon Bronze bolt c/w nut, flat washers, belleville washer of the same material (secondary bus bar & ground bus)	N/A
Connector Lug (secondary bus bars & ground bus)	IlSCO #Au-250-1/2
Connector, Compression Lug, Meter Base - Secondary Cables	3/0 AWG – IlSCO ACC 3/0 250 Kcmil – IlSCO ACC 250
Connector, Secondary Cable Splice	3/0 AWG – IlSCO ASC 3/0 250 Kcmil – IlSCO ASC 250 500 Kcmil – LaPrairie – KSN050PTN 500 Kcmil to 250 Kcmil – Laprairie KSR050P025
Connector, Concentric Neutral Tie	AMP – 600403 (#1/0 AWG#1/0 AWG)
Insulator, Secondary Cable Splice Cold Shrink	3/0 AWG & 250 Kcmil – 3M – 8426-11 500 Kcmil – 3M – 8426-18
Tape	Vinyl – 3M – Super 88 or 3M #37 Rubber – 3M – Scotch 130C Linerless Rubber Splicing Tape Mastic – 3M – Scotch Seal 2229 Mastic Tape Compound
Rags	Clean, 100% Cotton Rags
Faulted Circuit Indicator	Hydro Ottawa Specification GMS0006 – Latest Revision
Switching Cabinet Fiberglass	Nordic #ND-150
Plastic ID Tags (primary, secondary)	Laminated Plastic Tag 110mm x 65mm GBC#3200004
Tie Wrap (primary, secondary cable ID)	Black, Weather Resistant, Polypropylene, 7.13" x 0.184"
Paper Card (primary, secondary cable ID)	Rolland Tint, +10 Cover, Grey – Primary, Yellow - Secondary, Weight 130m
Transformer Numbers	Adhesive, 75mm – Seton T49112(NL3)-#
Cable Pulling Lubricant	"Polywater J" - American Polywater Corporation or "Cable Glide" – CRC Industries
Ground Rod	Standard 3m x 19mm GALVANIZED
2/0 AWG Copper, 19 Str, Soft Drawn Bare	As Per ASTM B 3
Connector, Ground Rod	Appropriate Size, CSA
Conductive Paste	Burndy Penetrox