

# UNDERGROUND CONDUCTOR STANDARDS

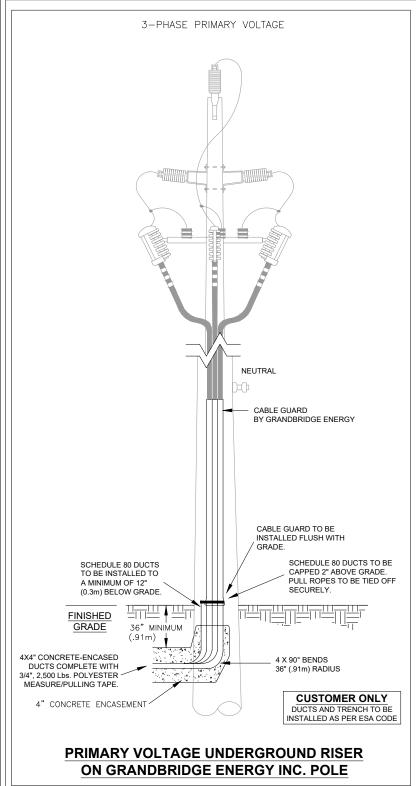
Issued by: Engineering Department

GrandBridge Energy Inc.

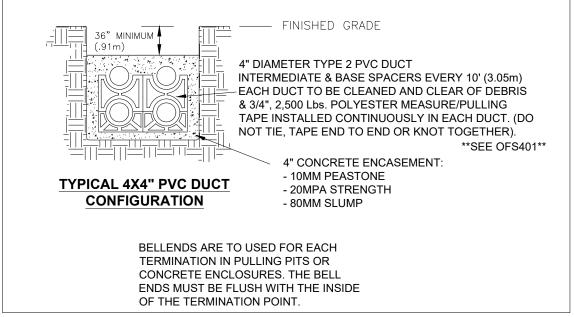
Effective: **September 7, 2023** 

Approved by Gurdeep Bansal, P.Eng.

Approval is given in accordance with Ontario Regulation 22/04. There are no undue hazards. It is suitable for the intended application and will be adequately inspected.



- (1) WHEN 3-PHASE PRIMARY RISERS ARE TO BE INSTALLED. THE ELECTRICAL CONTRACTOR IS TO CONTACT GRANDBRIDGE ENERGY INC. TO DETERMINE THE POSITION OF DUCTS AT THE BASE. OF THE RISER POLE PRIOR TO DUCT INSTALLATION. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR TYING DOWN THE DUCT BANK TO PREVENT FLOATING OF THE DUCTS. ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE FOR VIBRATING AND/OR FORMING OF THE CONCRETE WHEN DIRECTED TO DO SO BY GRANDBRIDGE ENERGY INC. REFER TO THE LATEST MATERIAL & CONSTRUCTION SPECIFICATIONS MANUAL.
- (2) ELECTRICAL CONTRACTOR MUST ARRANGE TO HAVE DUCT BANK INSPECTED BY GRANDBRIDGE ENERGY INC.
- CONTRACTOR IS TO INSTALL GROUNDING AS PER OFS401.



TRENCH WIDTH	# OF WARNING TAPES	TAPE PLACEMENT
UP TO 305mm (12")	1	CENTRED ON THE TRENCH.
GREATER THAN 305mm (12") UP TO AND INCLUDING 762mm (30")	2 (OR MORE)	PLACED NO MORE THAN 76mm (3") FROM THE SIDE OF THE TRENCH AND NOT MORE THAN 305mm (12") APART.
GREATER THAN 762mm (30")	3 (OR MORE)	PLACED NO MORE THAN 76mm (3") FROM THE SIDE OF THE TRENCH AND NOT MORE THAN 305mm (12") APART.

NOTE: THE TRENCH WIDTH EXCLUDES THE ADDED WIDTH FOR JOINT USE GAS LINE INSTALLATION (IE. HYDRO PART OF TRENCH ONLY).

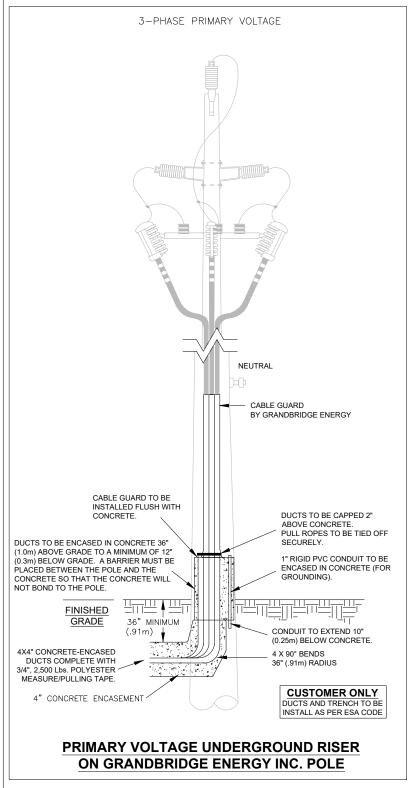
5	Sep 7, 2023	UPDATED LOGO	JKM	
4	Jul 5, 2017	REMOVED CONCRETE BARRIER, ADDED SCH80	SJ	
3	Apr 4, 2016	ADDED CONCRETE BARRIER TO DUCTS	SJ	
2	Jun 25,2012	REVISED WARNING TAPE INFO	TM	
REV. 1	Mar 23,2010	Note 3 - grounding details	BG ∤8	CHEK'D.



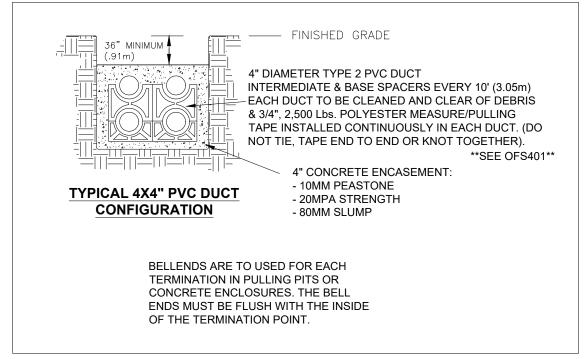
		TITLE: 3ø PF	TITLE: 3ø PRIMARY HIGH-VOLTAGE			
		UNDERGROUND RISERS ON ENEGY+ INC.				
		POLE	S			
		DATE:	SCALE:	W.O.No.:	DRAWN BY:	
		AUG. 31, 2005.	N.T.S.		JON JAROSZ	
Ì				DRAWING No		
	CASE VANDERLOO				1	
	DESIGNED BY	APPROVED	BY P.FNG.		)- I	

APPROVED BY P.ENG.

DESIGNED BY



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2				
1	Sep 7, 2023	UPDATED LOGO	JKM	
0	JUL 5, 2017	CREATED DWG FOR C.E. DUCTS	SJ	K'D.
REV	DATE		ВУ	CHE



TITLE: 3-PHASE PRIMARY HIGH-VOLTAGE UNDERGROUND RISERS ON GRANDBRIDGE ENERGY INC. POLES WITH CONCRETE ENCASED

 DATE: DUCTS
 SCALE:
 W.O.No.:
 DRAWN BY:

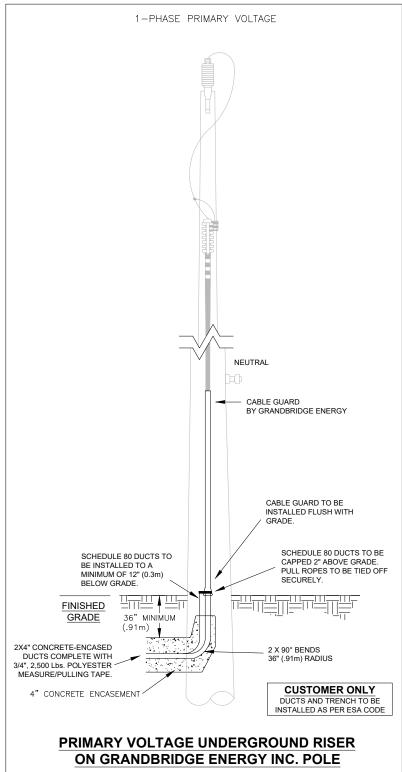
 JUL 5, 2017
 N.T.S.
 DRAWING No.

CASE VANDERLOO

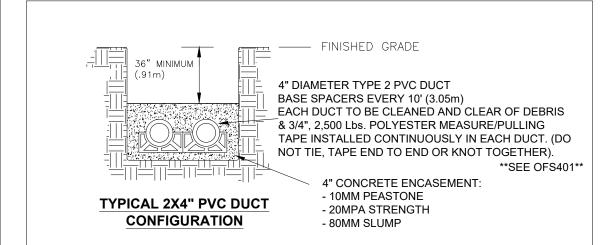
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BELL ENDS ARE TO USED FOR EACH TERMINATION IN PULLING PITS OR CONCRETE ENCLOSURES. THE BELL ENDS MUST BE FLUSH WITH THE INSIDE OF THE TERMINATION POINT.

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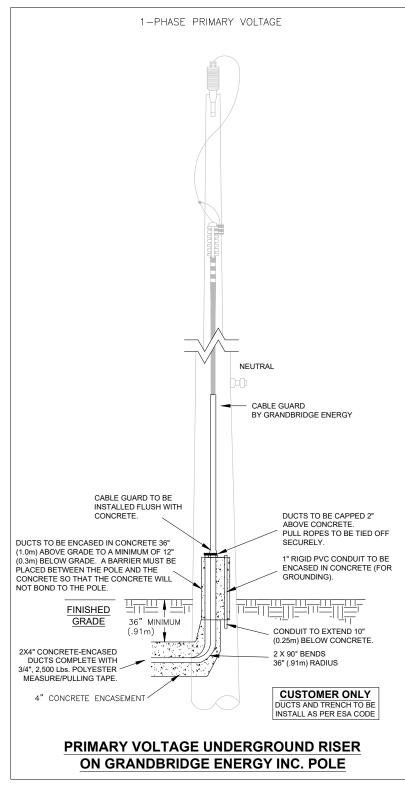
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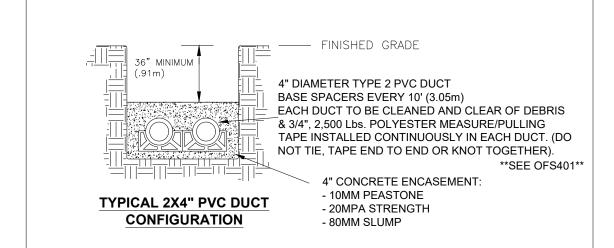
TITLE: 1-PHASE PRIMARY HIGH-VOLTAGE UNDERGROUND RISER ON GRANDBRIDGE ENERGY INC. POLES

DATE: SCALE: W.O.No.: DRAWN BY NTS

DESIGNED BY APPROVED BY P.ENG. UC



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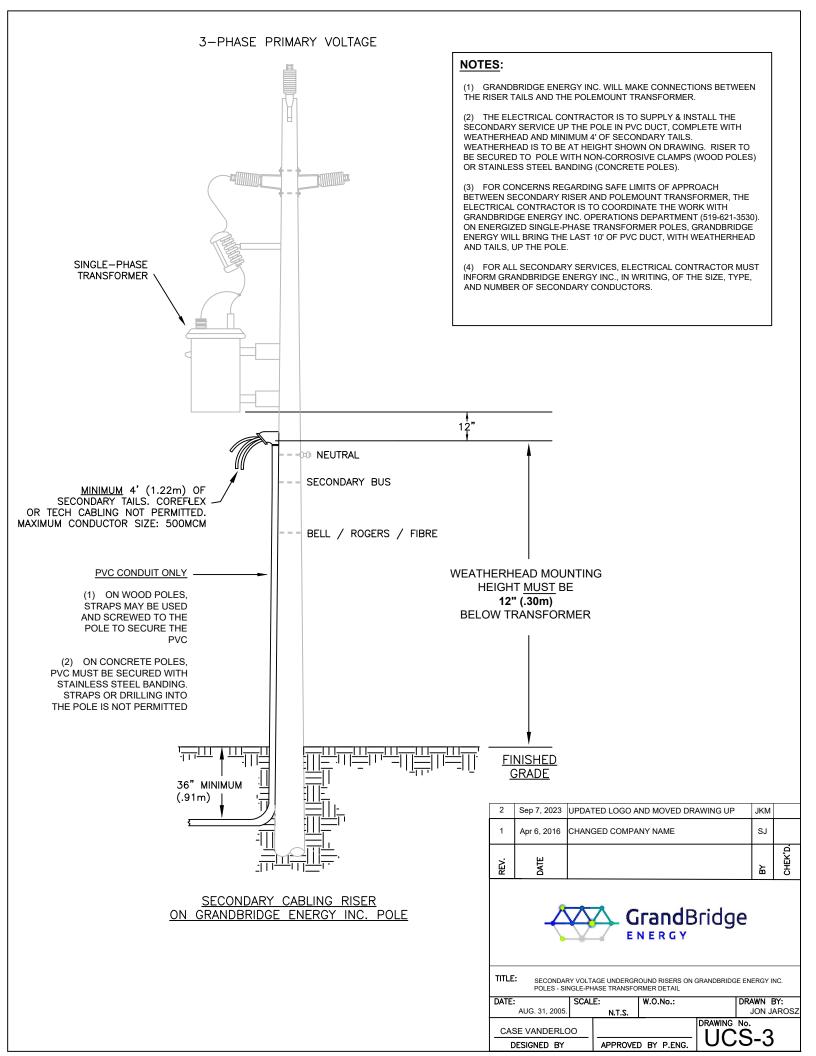
W.O.No.:

DRAWN BY:

DRAWING No.

UCS-1A-CON

APPROVED BY P.ENG



# NOTES: GRANDBRIDGE ENERGY INC. WILL MAKE CONNECTIONS BETWEEN THE RISER TAILS AND THE SECONDARY CABLING. (2) $\,$ The electrical contractor is to supply & install the secondary service up the pole in PVC duct, COMPLETE WITH WEATHERHEAD AND MINIMUM 4' OF SECONDARY TAILS. WEATHERHEAD IS TO BE AT HEIGHT SHOWN ON DRAWING. RISER TO BE SECURED TO POLE WITH NON-CORROSIVE CLAMPS (WOOD POLES) OR STAINLESS STEEL BANDING (CONCRETE POLES). (3) FOR ALL SECONDARY SERVICES, ELECTRICAL CONTRACTOR MUST INFORM CAMBRIDGE & NORTH DUMFRIES HYDRO INC., IN WRITING, OF THE SIZE, TYPE, AND NUMBER OF SECONDARY CONDUCTORS. NEUTRAL -SECONDARY BUS MINIMUM 4' (1.22m) OF SECONDARY TAILS. COREFLEX OR TECH CABLING NOT PERMITTED. BELL / ROGERS / FIBRE MAXIMUM CONDUCTOR SIZE: 500MCM WEATHERHEAD MUST BE AT EXISTING ON WOOD POLES, SECONDARY CABLING LEVEL. IF NO SECONDARY STRAPS MAY BE USED CABLING IS PRESENT, WEATHERHEAD MUST BE AND SCREWED TO THE AT NEUTRAL CONDUCTOR LEVEL POLE TO SECURE THE (2) ON CONCRETE POLES, PVC MUST BE SECURED WITH STAINLESS STEEL BANDING. STRAPS OR DRILLING INTO THE POLE IS NOT PERMITTED **FINISHED GRADE** 36" MINIMUM (.91m) Sep 7, 2023 UPDATED LOGO .IKM ՝ **Grand**Bridge SECONDARY CABLING RISER ON GRANDBRIDGE ENERGY INC. POLE SECONDARY VOLTAGE UNDERGROUND RISERS ON GRANDBRIDGE ENERGY INC. POLES TITLE: DATE: SCALE: W.O.No.: DRAWN BY: NTS AUG. 31, 2005. JON JAROSZ DRAWING No. CASE VANDERLOO APPROVED BY P.ENG. DESIGNED BY

