

**APPENDIX 'F' – MANITOBA HYDRO ALLOWABLE EXCAVATION AROUND
EXISTING POLES AND ANCHORS: DRAWING CD 30-55**

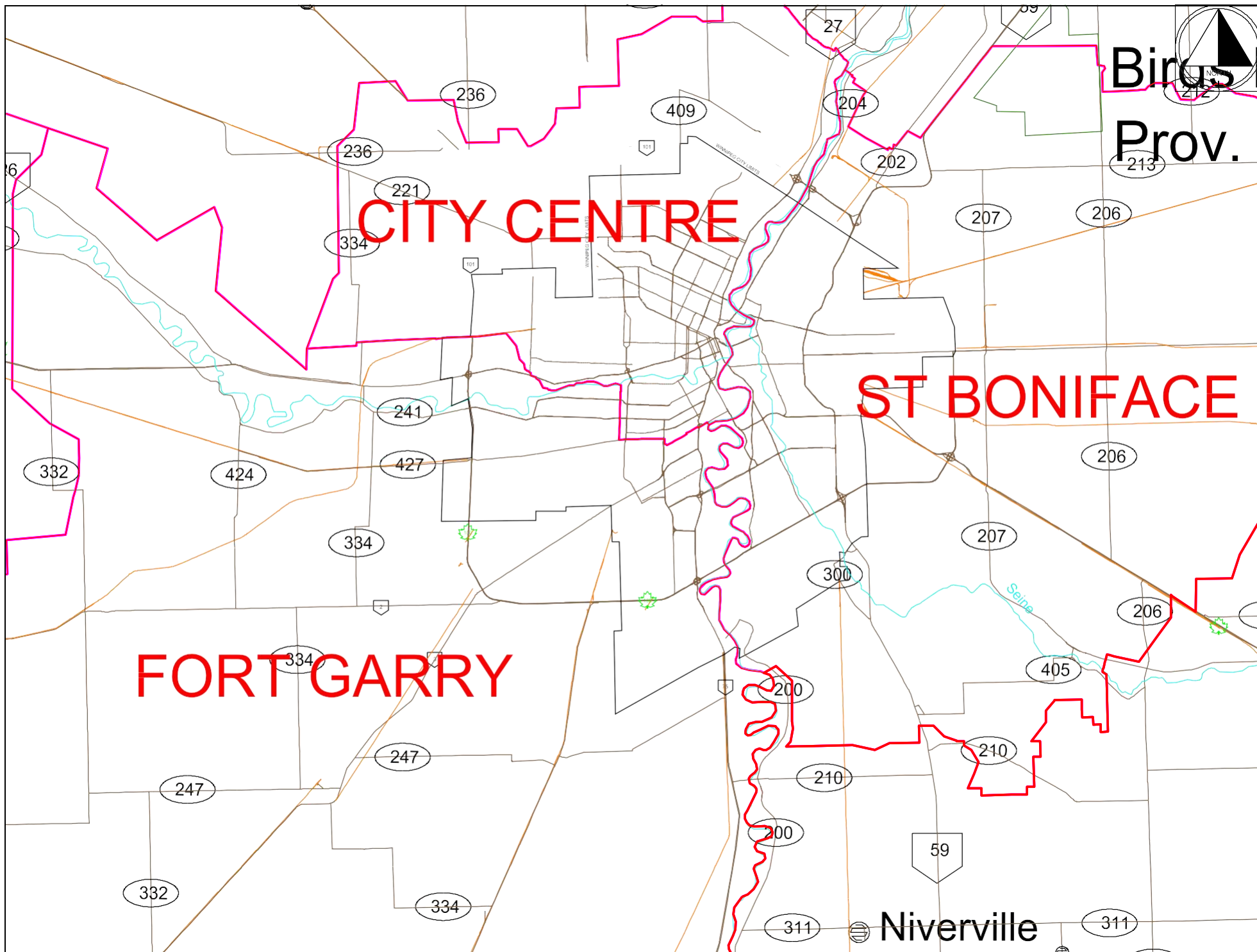


Table 1
Minimum depth of burial of cables and duct and chamber systems
 (See Clauses 5.1.2, 5.1.3 and 5.2.)

Type of system	Depth of burial, mm			
	Surface of the earth	Bottom of ditches	Under parkways or lawns	Under roadways
Communication cables	600*	750*	450*	600*
Communication drops	450*	600*	450*	450*
Supply cables >750 V	750*‡	1000*‡	750*‡	1000*‡
Supply cables ≤750 V	600*‡	750*‡	600*‡	1000*‡
Duct and subsurface chamber system	450†	600†	450†	600†

* See Clause 5.1.4 for reduced depth of burial at cable crossings and Clause 5.1.5 where these values are not practical.

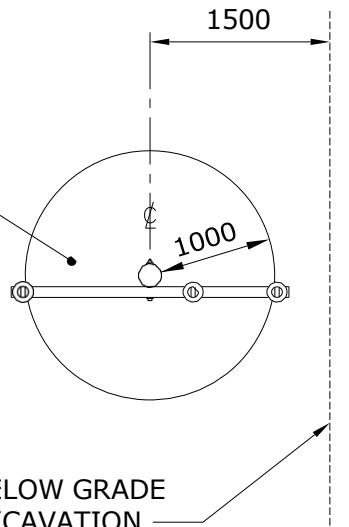
† See Clause 5.2.2 where these depths cannot be achieved.

‡ This depth of burial may be reduced where the underground supply cable transitions to an above-ground structure (e.g., a pole) within a distance as short as possible from the structure without exceeding 1.5 m.

FOR CHANGES IN GRADE,
THE MINIMUM AMOUNT OF
UNDISTURBED EARTH TO BE
LEFT ALL AROUND POLES
SHALL BE 1000mm

PLAN

BELOW GRADE
EXCAVATION

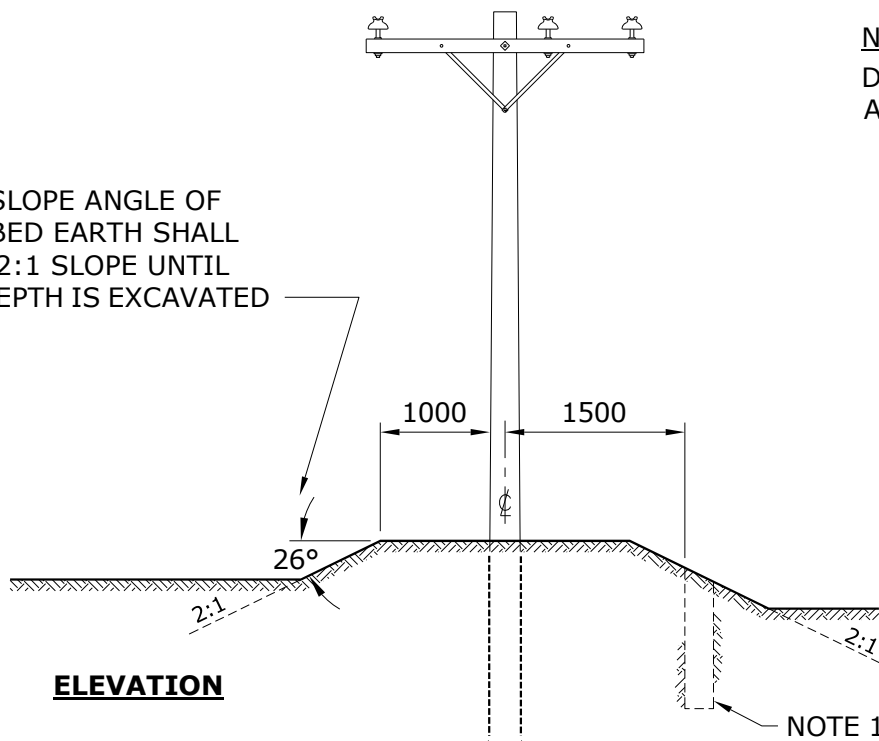


NOTE:

DIMENSIONS SHOWN
ARE MILLIMETRES.

MAXIMUM SLOPE ANGLE OF
UNDISTURBED EARTH SHALL
BE 26° OR 2:1 SLOPE UNTIL
DESIRED DEPTH IS EXCAVATED

ELEVATION



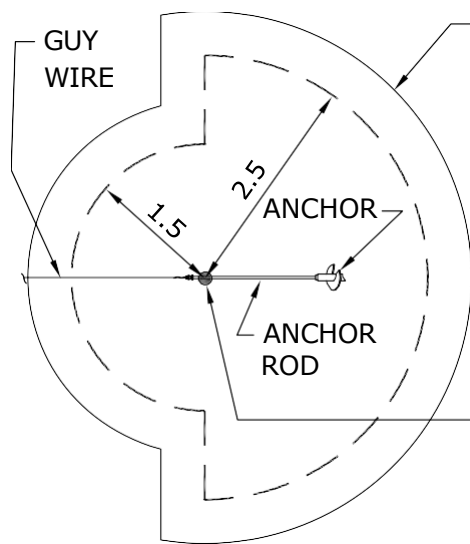
NOTE:

1. THE MINIMUM SEPARATION (TO ANY SIDE OF A POLE) FOR EXCAVATIONS DEEPER THAN 500mm WITHOUT DISTRIBUTION ENGINEERING INVOLVEMENT SHALL BE 1500mm, EXCAVATIONS TO BE BACKFILLED & TAMPED TO MAINTAIN SLOPE. A CIVIL ENGINEER SHOULD BE CONSULTED FOR ANY LARGER (TEMPORARY OR PERMANENT) EXCAVATIONS.

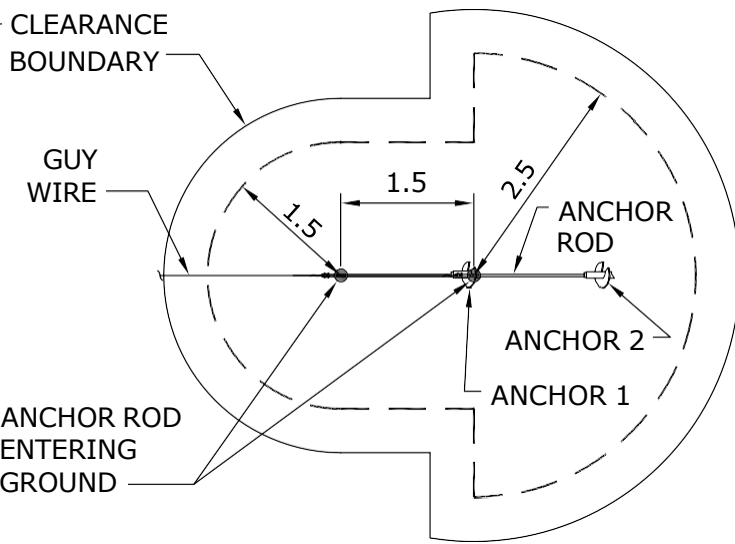
SUPERCEDES ORIGINAL SEALED BY E. WIEBE ON 94-07-11

APPROVED		REVISIONS		MANITOBA HYDRO DISTRIBUTION STANDARDS	
ORIGINAL DRAWING SEALED BY D.R. ORR 19-05-17	23-01	4	ADDED SHEET 2 - EXCAVATION LIMITS AROUND ANCHORS	ALLOWABLE EXCAVATIONS AROUND EXISTING POLES AND ANCHORS	
	19-04	3	REVISED NOTE 1, RESEALED		
	06-02	2	REVISED SLOPE & ADDED MORE EXPLANATION TO NOTES		
DRAWN C.A.	CHECKED G.D./C.W.		DATE 19-04	CD 30-55	SHT 0001 OF 2 REV 04

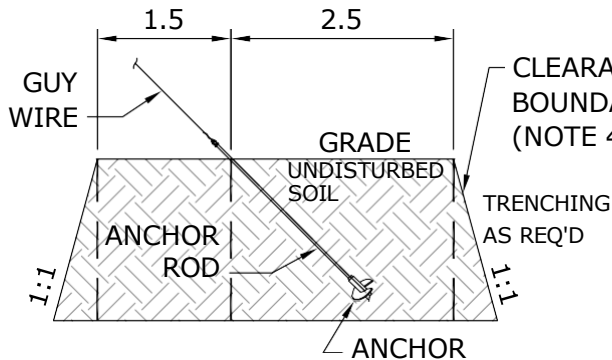
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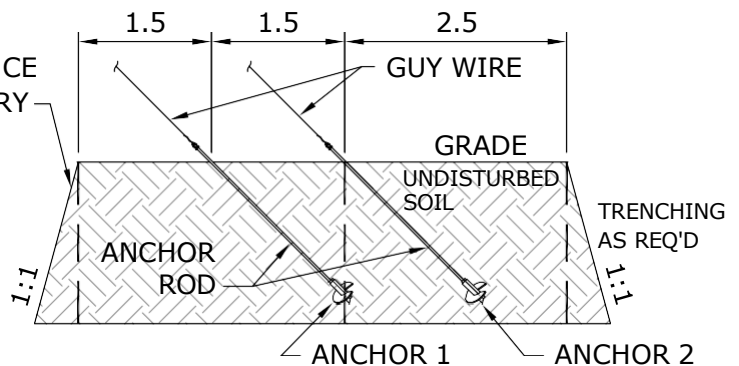
SINGLE ANCHOR - TOP VIEW



MULTIPLE ANCHOR - TOP VIEW



SINGLE ANCHOR - PLAN VIEW



MULTIPLE ANCHOR - PLAN VIEW

NOTES:

1. EXCAVATION ZONE LIMITS ARE ONLY APPLICABLE FOR NORMAL OR BETTER SOIL CONDITIONS. FOR POOR OR SWAMP SOIL CONDITIONS, CONTACT DISTRIBUTION ENGINEERING BEFORE BEGINNING ANY WORK.
2. IF THERE ARE MULTIPLE ANCHORS IN-LINE, ADD ANOTHER 1.5m FOR EACH ADDITIONAL ANCHOR TO THE 1.5m MINIMUM DIMENSION.
3. THIS DRAWING SHOWS A PISA ANCHOR, IT IS APPLICABLE FOR ALL ANCHOR TYPES.
4. EXCAVATION TO BE DONE AT MAXIMUM ANGLE OF 45° SLOPE AWAY FROM THE CLEARANCE BOUNDARY. THE HORIZONTAL AND VERTICAL CUTS SHALL NOT BE STEEPER THAN 1:1 RATIO TO PREVENT CAVE-IN.
5. IF AT ANY TIME IN THE COURSE OF EXCAVATION THE POLE OR ITS SUPPORTING EQUIPMENT APPEARS TO BECOME UNSTABLE TO ANY DEGREE, WORK SHALL BE HALTED IMMEDIATELY AND DISTRIBUTION ENGINEERING SHALL BE CONTACTED BEFORE PROCEEDING WITH ANY ADDITIONAL EXCAVATION.
6. IF THE SPECIFIED CLEARANCES CANNOT BE MET, CONTACT DISTRIBUTION ENGINEERING BEFORE BEGINNING ANY WORK.
7. DIMENSIONS SHOWN ARE IN METERS.

APPROVED		REVISIONS		MANITOBA HYDRO DISTRIBUTION STANDARDS	
ORIGINAL DRAWING SEALED BY C. WEERAKOON 23-01-30				ALLOWABLE EXCAVATIONS AROUND EXISTING POLES AND ANCHORS	
DRAWN C.A.	CHECKED G.D.	DATE 23-01	CD 30-55		SHT 0002 OF 2
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