

GENERAL

1. THE ELECTRICAL SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC) AND WITH ALL PROVINCIAL AND MUNICIPAL LAWS, RULES AND ORDINANCES.
2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOUR AND EQUIPMENT NECESSARY FOR INSTALLING, TESTING AND PLACING IN INITIAL OPERATION THE COMPLETE ELECTRICAL SYSTEM.
3. EXAMINE ALL PLANS AND SPECIFICATIONS PERTAINING TO THIS CONTRACT. NOTIFY CONTRACT ADMINISTRATOR OF ERRORS OR OMISSIONS BEFORE SUBMITTING THE PRICE. FAILING SUCH NOTIFICATION, THIS CONTRACTOR SHALL MEET ALL SUCH REQUIREMENTS WITHOUT EXTRA COST TO THE CITY.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL NECESSARY FEES AND GIVE ALL NECESSARY NOTICES.
5. ALL WORK COMPLETED SHALL BE ACCOMPLISHED IN A FIRST CLASS & WORKMAN LIKE STYLE
6. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BE CSA AND LOCALLY APPROVED.
7. ALL WORK SHALL BE LAID OUT IN ITS MECHANICAL APPEARANCE. IT SHALL BE LOGICALLY ARRANGED FOR SIMPLICITY OF ACCESSIBILITY AND ELECTRICAL EFFICIENCY.
8. THE CONTRACTOR SHALL PROVIDE LAMACOID NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT/DEVICES AND SHALL MOUNT THE NAMEPLATES ON ALL EQUIPMENT TO INDICATE FUNCTION, VOLTAGE AND POWER OF DEVICES.
9. THIS SPECIFICATION IS NOT INTENDED TO RESTATE THE APPLICABLE CODES. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL GROUNDING, ETC. AND FOLLOWING ALL WIRING METHODS.
10. THE CONTRACTOR SHALL EXAMINE THE CONDITIONS OF THE SITE AND SHALL BE RESPONSIBLE FOR ALL EQUIPMENT, MATERIAL, AND LABOUR NECESSARY FOR THE WORK REQUIRED FOR THIS PROJECT.
11. PRIOR TO SCHEDULING FINAL INSPECTION, THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS COMPLETED AND IN PARTICULAR THAT OPERATION AND MAINTENANCE MANUALS ARE COMPLETED, ALL NAMEPLATES INSTALLED, VERIFICATION TESTS HAVE BEEN DONE AND CERTIFICATES HAVE BEEN RECEIVED THAT INDICATE WORK INSTALLED CONFORMS TO ALL REQUIREMENTS.
12. ALL DEVICES, WIRING AND ELECTRICAL EQUIPMENT SHALL BE SECURELY ATTACHED TO THE POLES TO ACCEPTABLE INDUSTRY STANDARDS.

DELIVERABLES

1. THE CONTRACTOR SHALL MAINTAIN ONE SET OF PLANS AT JOB SITE WHICH HE SHALL CLEARLY NOTE ALL CHANGES OR DEVIATIONS FROM THE CONTRACT DOCUMENT AS THE JOB PROGRESSES. THE CONTRACTOR SHALL SUBMIT THE MARKED-UP PLANS TO THE CONTRACT ADMINISTRATOR AT THE COMPLETION OF THE WORK.
2. THE CONTRACTOR SHALL PROVIDE THREE COPIES OF OPERATIONS & MAINTENANCE (O & M) MANUALS. THE O & M MANUALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TECHNICAL BULLETIN #15 ISSUED BY THE JOINT MAA/WCA COMMITTEE AND THE CONTRACT GENERAL CONDITIONS. THE CONTRACTOR SHALL SUBMIT ONE PRELIMINARY COPY PRIOR TO THE COMPLETION OF WORK, REVISE AS DIRECTED AND SUBMIT FINAL COPIES TO THE CONTRACT ADMINISTRATOR.

LAYOUT

1. THE CONTRACTOR SHALL LAYOUT ALL WORK, ESTABLISHING ALL LINES, LEVELS AND CENTRES AND SHALL ASSUME RESPONSIBILITY FOR ANY ERRORS RESULTING FROM FAILURE TO USE ADEQUATE CAUTION.

WOOD POLES

1. THE POLES FOR MOUNTING OF THE SNOW DUMP LIGHTING WILL CONSIST OF SIX (6) 18.2 METER WOOD POLES OF CLASS 3 TYPE.
2. WOOD POLES:
 - (A) TO CONFORM TO CAN/CSA - 015
 - (B) PRESERVATIVES TO CONFORM TO CAN/CSA - 080
 - (C) SPECIFICATION AND DIMENSIONS TO MEET ANSI-051
3. THE 18.2 METER WOOD POLES SHALL BE SET TO A MINIMUM DEPTH OF 2.6 METERS. DIAMETER OF HOLES SHALL BE 400mm LARGER THAN BUTT OF POLE. POLES SHALL BE TAMPED IN WITH LIMESTONE USING A HYDRAULIC TAMPER. LIMESTONE FOR BACKFILL SHALL BE ¾ DOWN.
4. ANCHORS SHALL BE 280mm (11") POWER INSTALLED SCREW ANCHORS COMPLETE WITH 25 x 2130mm (1" x 7') ROD AND TWIN EYE NUT.
5. GUY WIRES SHALL BE A MINIMUM OF 5/16" 160 GRADE GALVANIZED STEEL.
6. ALL GUY WIRES SHALL BE INSULATED WITH 25KV GUY INSULATORS AND MADE UP OF A MINIMUM OF 5/16" PRE-FORMED GUY GRIPS.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL YELLOW POLY GUY SHIELDS ON ALL GUY WIRES.

CUSTOMER SERVICE POINT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND PROVIDE ALL REQUIREMENTS OF MANITOBA HYDRO TO PROVIDE A 120/240V 100A CUSTOMER SERVICE POINT AT THE DISTRIBUTION POLE.

LIGHTING

1. DISTRIBUTION LIGHTING SHALL CONSIST OF ONE (1) 70W 120V COBRAHEAD TYPE 3 MEDIUM SEMI-CUTOFF DISTRIBUTION INSTALLED ABOVE THE ELECTRICAL DISTRIBUTION AT A HEIGHT OF 7.6 METERS ABOVE GRADE ON A 2M (6 FOOT) ARM.
2. SNOW DUMP LIGHTING (AREA DEFINED IN DRAWING E-1) SHALL MEET THE FOLLOWING LIGHTING CRITERIA:
 - (A) ≥ 4.0 LUX AVERAGE ILLUMINANCE
 - (B) ≤ 4.0 AVERAGE/MIN
 - (C) ≤ 20 MAX/MIN
 - (D) LIGHT LOSS FACTOR = 0.7
3. FLOODLIGHTS SHALL MEET THE FOLLOWING CRITERIA:
 - (A) CSA APPROVED OR ULC LISTED
 - (B) SUITABLE FOR WET LOCATION, IP55 OR HIGHER RATING CONSTRUCTION
 - (C) HEAVY-DUTY DIE-CAST HOUSING
 - (D) CORROSION RESISTANT HARDWARE
 - (E) AIMING DEGREE INDICATOR
 - (F) HEAT AND SHOCK RESISTANT TEMPERED GLASS LENS
 - (G) MOUNTED ON A BRACKET
 - (H) LAMP SHALL BE 1000W HPS
 - (I) LUMINAIRES SHALL BE 240V COMPLETE WITH ISOLATED BALLAST
 - (J) APPROVED FLOODLIGHTS INCLUDE:
 - (i) PF1K-01-S-3-6X2 GE LIGHTING SYSTEMS;
 - (ii) TFA 1000S RN 240 LPI CSA - LITHONIA LIGHTING;
 - (iii) OR APPROVED EQUAL.

FLOODLIGHT AIMING AND ACCEPTANCE TESTING

1. THE CONTRACTOR SHALL MEET THE CONTRACT ADMINISTRATOR ON SITE TO VERIFY/AIM FLOODLIGHTS AND TO MEASURE LIGHTING LEVELS ON COMPLETION OF THE WORK. NOTE THAT SITE VISIT WILL BE REQUIRED AFTER DARK.

GROUNDING

1. THE ENTIRE INSTALLATION SHALL BE GROUNDED IN CONFORMANCE WITH LATEST EDITION OF THE CEC.

DISTRIBUTION AND PANEL

1. DISTRIBUTION SHALL BE 120/240V SINGLE PHASE, 100A, 3W.
2. DISTRIBUTION SHALL BE MOUNTED ON 1200mmx2400mm (4'x8') BACKBOARD SECURELY ATTACHED TO THE DISTRIBUTION WOOD POLE USING 3 16mm BOLTS SPACED EQUALLY ALONG BACKBOARD, COMPLETE WITH 57mm WASHERS ON EACH SIDE OF THE POLE.
3. BACKBOARD SHALL BE PRESSURE TREATED PLYWOOD, 19mm (¾") THICK AND COMPLETE WITH TWO COATS OF GRAY WEATHERPROOF PAINT.
4. MAIN BREAKER AND ALL ENCLOSURES TO BE LOCKABLE, KEYED THE SAME AND NEMA 3R RATED.
 - (A) THE CONTRACTOR TO COORDINATE ALL LOCKS WITH STREETS MAINTENANCE; CONTACT KEN BOYD AT 986-5076.
 - (B) THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF KEYS FOR THE LOCKABLE DEVICES.
5. MAIN BREAKER SHALL BE:
 - (A) LOCKABLE IN "OFF" POSITION;
 - (B) NEMA 3R TYPE;
 - (C) 240V, 100A, WITH NEUTRAL.
6. PANELBOARD/BREAKERS SHALL MEET THE FOLLOWING CRITERIA:
 - (A) PANELBOARDS TO CSA C22.2 NO. 29 - 1989 (R2004);
 - (B) MINIMUM OF TWELVE (12) BREAKERS, INCLUDING AT LEAST TWO SPARES;
 - (C) LIGHTING BREAKERS SHALL BE ABLE TO BE LOCKED IN "OFF" POSITION;
 - (D) MULTI-POLE BREAKERS SHALL BE OF ONE PIECE CONSTRUCTION WITH COMMON TRIP;
 - (E) MAINS SHALL BE SUITABLE FOR BOLT-ON WITH THERMAL AND MAGNETIC TRIPPING. EACH BREAKER SHALL BE IDENTIFIED WITH PERMANENT NUMBER IDENTIFICATION AS TO CIRCUIT NUMBER;
 - (F) TUBS CODE GAUGE GALVANIZED STEEL, REVERSIBLE TOP AND BOTTOM, SOLDERLESS CONNECTIONS, COPPER BUS WITH NEUTRAL OF SAME AMPERE RATING AS MAINS. ADJUSTABLE MOLDED INSULATOR ASSEMBLIES INTEGRAL WITH BUS BARS;
 - (G) NAMEPLATE SHALL INDICATE PANEL DESIGNATION AND VOLTAGE;
 - (H) COMPLETE CIRCUIT DIRECTORY WITH TYPEWRITTEN LEGEND SHOWING LOCATION AND LOAD OF EACH CIRCUIT;
 - (I) TRIM AND DOOR FINISHED SHALL BE BAKED GRAY ENAMEL SURFACE MOUNTED;
 - (J) NEMA 3R RATED AND LOCKABLE.

FENCING AND CONCRETE BASES

1. ALL FENCING AND CONCRETE BASES TO BE DONE BY CITY STANDARD CONSTRUCTION SPECIFICATION CW3550. CW3550 LOCATED AT: www.winnipeg.ca/matmgt/Spec/Default.stm

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT



PROJECT: Snow Disposal Site - Wilkes Ave

SHEET TITLE: Specifications

ENG. STAMP		PROJECT NO. 106-2007	
DRAWN BY: VC	CHECKED BY: GWA	APPROVED BY: GWA	
SCALE:		DATE: 25 June, 2007	
DWG. NO. E-6		REV. 0	