

# ELECTRICAL SPECIFICATIONS

## SCOPE OF WORK

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES, THE SUPPLY AND INSTALLATION OF ALL ELECTRICAL ITEMS REQUIRED FOR THE UPGRADES TO THE GALT AVE. LIFT STATION AND THE ASSOCIATED SITE WORKS. THIS SPECIFICALLY INCLUDES BUT IS NOT LIMITED TO:

- SUPPLY AND INSTALL TWO NEW TWO POLE 20A BREAKERS IN THE EXISTING SINGLE PHASE 240V DISTRIBUTION PANEL.
- SUPPLY AND INSTALL A NEW 1HP MAGNETIC STARTER FOR THE NEW SUPPLY FAN.
- SUPPLY AND INSTALL ALL POWER AND CONTROL WIRING FOR THE NEW EXHAUST FAN.
- SUPPLY AND INSTALL ALL EXTERIOR LIGHTING. FOR ELEVATIONS, VIEW THE ARCHITECTURAL DRAWINGS.
- SUPPLY AND INSTALL TWO NEW FLUORESCENT LIGHTS AS SPECIFIED TO REPLACE THE EXISTING LIGHTS WITHIN THE PUMPING STATION (MAIN LEVEL).
- SUPPLY AND INSTALL A NEW RACEWAY AND INGROUND JUNCTION BOX AS DETAILED FOR FUTURE FEATURE LIGHTING. THE NEW RACEWAY SHALL TERMINATE IN A NEW JUNCTION BOX WITHIN THE PUMPHOUSE BUILDING. RACEWAY SHALL BE WATER TIGHT AND SHALL HAVE A PULL CABLE INSTALLED.
- SUPPLY AND INSTALL A NEW PHOTOCCELL AND TWO POLE LIGHTING CONTACTOR. NEW EXTERIOR LIGHTING SHALL BE CONNECTED TO ONE POLE OF THE CONTACTOR, THE SPARE POLE SHALL BE WIRED OUT TO THE NEW EXTERIOR RACEWAY FOR USE IN THE FUTURE FEATURE LIGHTING. (WIRING SHALL BE TERMINATED AT THE INTERIOR PORTION OF THE RACEWAY.)
- REMOVE AND REPLACE THE EXISTING METER SOCKET.
- REMOVE ABANDONED CONDUIT ON THE EXTERIOR OF THE BUILDING.
- CO-ORDINATE WITH MTS TO TEMPORARILY DISCONNECT THE EXISTING PHONE SERVICE WHILE CONSTRUCTION IS UNDERWAY. DISCONNECT THE EXISTING CONDUIT FOR THE PHONES. RECONNECT THE PHONE SERVICE TO THE EXISTING LOCATION USING NEW CONDUIT WITHIN THE NEW WALL CONSTRUCTION. CONTRACTOR SHALL PAY ALL ASSOCIATED MTS COSTS.
- CO-ORDINATE WITH GENERAL CONTRACTOR DURING REMOVAL OF EXISTING CLADDING AND DIGGING AROUND SERVICE ENTRANCE.
- CO-ORDINATE WITH HYDRO FOR THE RELOCATION OF THE TRANSFORMER TO A LOCATION 1m AWAY FROM THE NEW EXTERIOR CLADDING. (THE CITY WILL PAY THE HYDRO CONTRIBUTION COST)
- SUPPLY AND INSTALL A NEW 300A BURIED FEEDER FROM THE SECONDARY OF THE TRANSFORMER TO THE EXISTING MAIN DISCONNECT. ENSURE NEW FEEDER DOES NOT INTERFERE WITH THE NEW BUILDING CLADDING.

## EXECUTION SPECIFICATIONS

**SUBMITTALS**  
SUBMIT PRODUCT DATA FOR ALL EQUIPMENT. ACCEPTABLE MATERIALS SHALL BE AS SPECIFIED, CODE APPROVED OR OWNER APPROVED. ALL MATERIAL SHALL BE NEW, UNLESS SPECIFIED OTHERWISE. SUBMIT SHOP DRAWINGS ON ALL CONTRACTOR PROVIDED EQUIPMENT.

THE INTENT OF THE DRAWINGS AND TECHNICAL PROVISIONS IS TO INCLUDE ALL LABOUR, PRODUCTS AND SERVICES NECESSARY TO COMPLETE WORK, TESTED AND READY FOR OPERATION.

DRAWING IS DIAGRAMMATIC ONLY, AND DOES NOT SHOW ALL DETAILS. INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING, STRUCTURAL STEEL, EXISTING WALLS, ETC. ARE TO BE TAKEN IN THE FIELD. THE CONTRACTOR SHALL MAKE, WITHOUT ADDITIONAL EXPENSE TO OWNER NECESSARY CHANGES OR ADDITIONS TO RUNS TO ACCOMMODATE STRUCTURAL CONDITIONS. LOCATION OF DEVICES IS TO BE ALTERED WITHOUT CHARGE TO OWNER, PROVIDED THE CHANGE IS MADE BEFORE FINAL INSTALLATION, IT DOES NOT NECESSITATE ADDITIONAL MATERIALS AND ALL SUCH CHANGES ARE RATIFIED BY OWNER'S REPRESENTATIVE AND RECORDED ON RECORD SET OF DRAWINGS.

DRAWING SHOWS GENERAL LOCATION FOR EQUIPMENT AND CIRCUITS; INSTALL THEM IN SUCH A WAY AS TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF SPACE THROUGH WHICH THEY PASS.

CONTRACTOR SHALL KEEP AN ON-GOING SET OF "AS-BUILT" DRAWINGS ON SITE FOR REVIEW BY OWNER OR ENGINEER AT ANY TIME. DRAWINGS TO BE TURNED OVER UPON COMPLETION OF PROJECT.

ALL PENETRATIONS THROUGH WALLS SHALL PROPERLY PASS THROUGH AND MAINTAIN VAPOUR, AIR AND WEATHER BARRIERS.

**EXECUTION**  
INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS, THE CANADIAN ELECTRICAL CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO ENSURE PROPER INSTALLATION.

**CO-ORDINATION**  
CONTRACTORS SHALL CO-ORDINATE WHERE REQUIRED WITH OTHER TRADES TO DETERMINE REQUIREMENTS FOR COMPLETE AND OPERABLE SYSTEMS. COMPENSATION SHALL NOT BE MADE FOR COSTS RESULTING FROM A LACK OF CO-ORDINATION.

## INSTRUCTIONS TO BIDDERS

RESPONSIBILITY TO DETERMINE WHICH DIVISION OR SECTION PROVIDES VARIOUS PRODUCTS AND WORK, RESTS WITH THE CONTRACTOR. ADDITIONAL COMPENSATION WILL NOT BE CONSIDERED BECAUSE OF DIFFERENCES IN INTERPRETATION OF TECHNICAL PROVISIONS. THE CONTRACTOR SHALL REVIEW THE ENTIRE CONTRACT INCLUDING ALL FRONT-END DOCUMENT STIPULATING ALL SPECIAL AND GENERAL CONDITIONS FOR THE WORK.

EXAMINE THE SITE, BUILDING AND LOCAL CONDITIONS AFFECTING WORK OF THIS CONTRACT. EXAMINE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS TO ENSURE WORK CAN BE PERFORMED WITHOUT CHANGES, AS SHOWN ON CONTRACT DRAWINGS. NO ALLOWANCE WILL BE MADE LATER FOR NECESSARY CHANGES, UNLESS IT HAS BEEN BROUGHT TO CONTRACT ADMINISTRATOR'S ATTENTION IN WRITING, PRIOR TO CLOSING OF TENDERS.

## PRODUCT SPECIFICATIONS:

**WIRING AND CONDUIT**  
ALL WIRING SHALL BE RWU90 (RATED TO THE APPROPRIATE VOLTAGE) RUN IN CONDUIT, OR TECK 90 WHERE RUN IS OUTSIDE. NO WIRING SHALL BE SMALLER THAN #12AWG. ALL LARGER WIRING SHALL BE SIZED ACCORDING TO THE CEC OR AS INDICATED. CONDUIT SHALL BE EMT FOR USE WITHIN THE BUILDING AND RIGID PVC FOR BURIAL OUTDOORS.

CONDUIT SHALL BE BURIED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.

### CIRCUIT BREAKERS

ALL CIRCUIT BREAKERS SHALL BE SIZED AS LISTED AND TO MATCH EXISTING.

### LIGHTING

ALL NEW LIGHTING SHALL BE AS SPECIFIED IN THE LIGHTING SCHEDULE.

### MOTOR STARTER/ FAN CONTROL

STARTER SHALL BE RATED TO HANDLE THE EQUIPMENT TO WHICH IT IS CONNECTED (1 HP). STARTER SHALL BE EQUIPPED WITH APPROPRIATE OVERLOADS. STARTER SHALL BE EQUIPPED WITH A RUN LIGHT AND A REMOTE HAND/OFF/AUTO SWITCH. THE NEW STARTER SHALL BE WALL MOUNTED ON PLYWOOD. STARTER SHALL HAVE INTEGRAL DISCONNECT SWITCH AND NEMA 12 ENCLOSURE. ACCEPTABLE MANUFACTURERS: CUTLER HAMMER, SIEMENS, ALLEN BRADLEY.

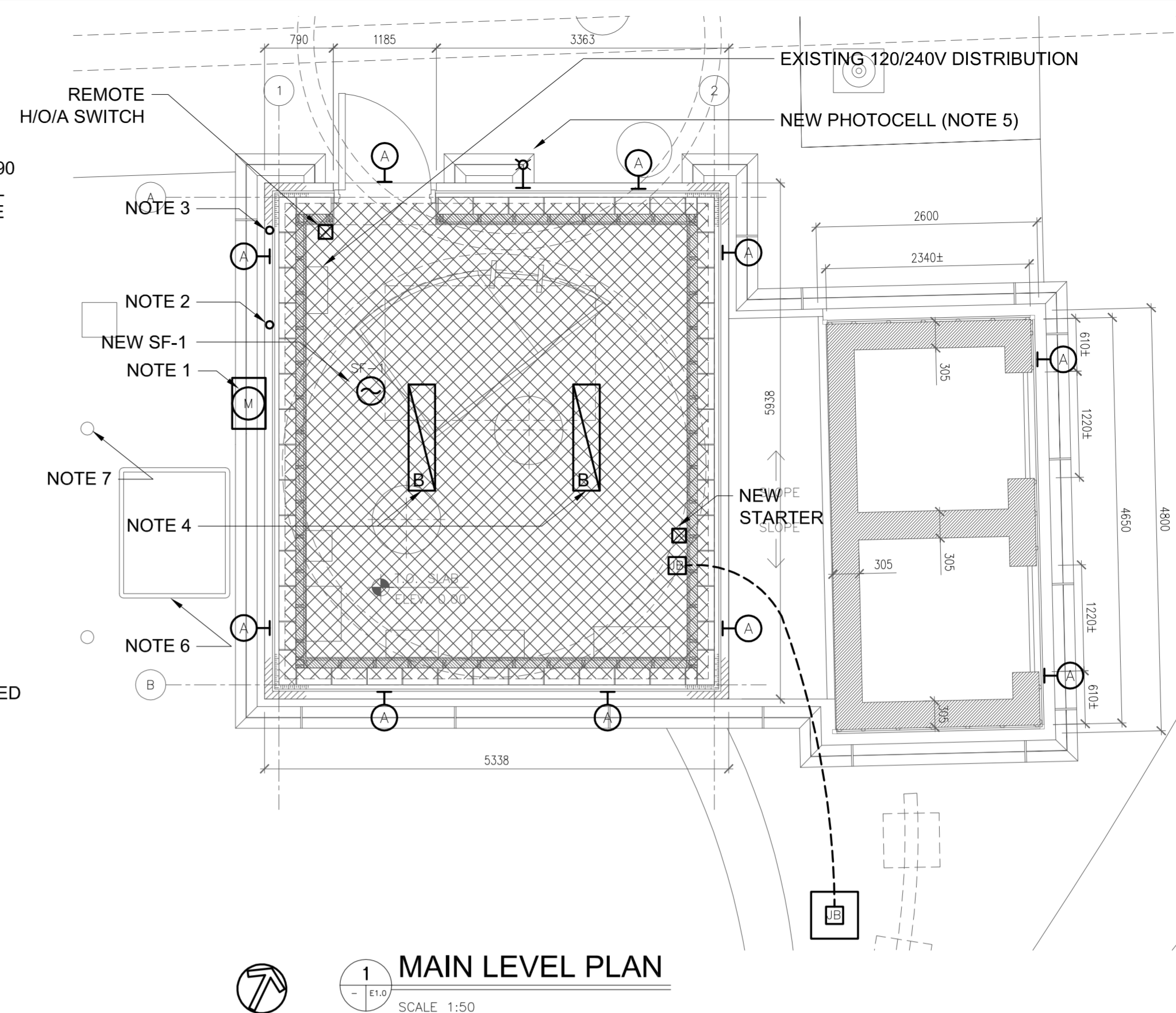
CONTRACTOR SHALL PROVIDE AND INSTALL A SPACE THERMOSTAT. WHEN IN AUTO MODE, THE SPACE THERMOSTAT WILL RUN THE FAN. THE REMOTE HAND/OFF/AUTO SWITCH SHALL BE MOUNTED NEAR THE ENTRANCE DOOR OF THE BUILDING.

LOCATION FOR THE THERMOSTAT SHALL BE DETERMINED ON SITE.

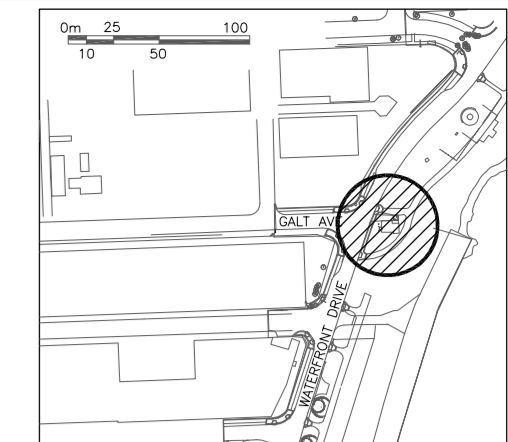
### LIGHTING CONTACTOR

NEW LIGHTING CONTACTOR SHALL BE A TWO POLE CONTACTOR IN A NEMA 12 ENCLOSURE. EACH POLE SHALL BE RATED TO SWITCH A FULL 20A MAGNETIC CIRCUIT. CONTACTOR SHALL BE FAIL CLOSED TYPE. CONTACTOR SHALL BE COMPLETE WITH A HAND/OFF/AUTO SWITCH. ACCEPTABLE MANUFACTURERS: CUTLER HAMMER, SIEMENS, ALLEN BRADLEY.

TAG NUMBER	DESCRIPTION	ACCEPTABLE MANUFACTURER	ACCEPTABLE MODEL NUMBER
①	LANDSCAPING ENCLOSURE - BODY	CARSON INDUSTRIES	'M' SERIES G1324-18
②	LANDSCAPING ENCLOSURE - RING	CARSON INDUSTRIES	'M' SERIES G1324-PR
③	LANDSCAPING ENCLOSURE - COVER	CARSON INDUSTRIES	'M' SERIES G1324-PC
④	PVC MOLDED JUNCTION BOX	IPEX	JB664



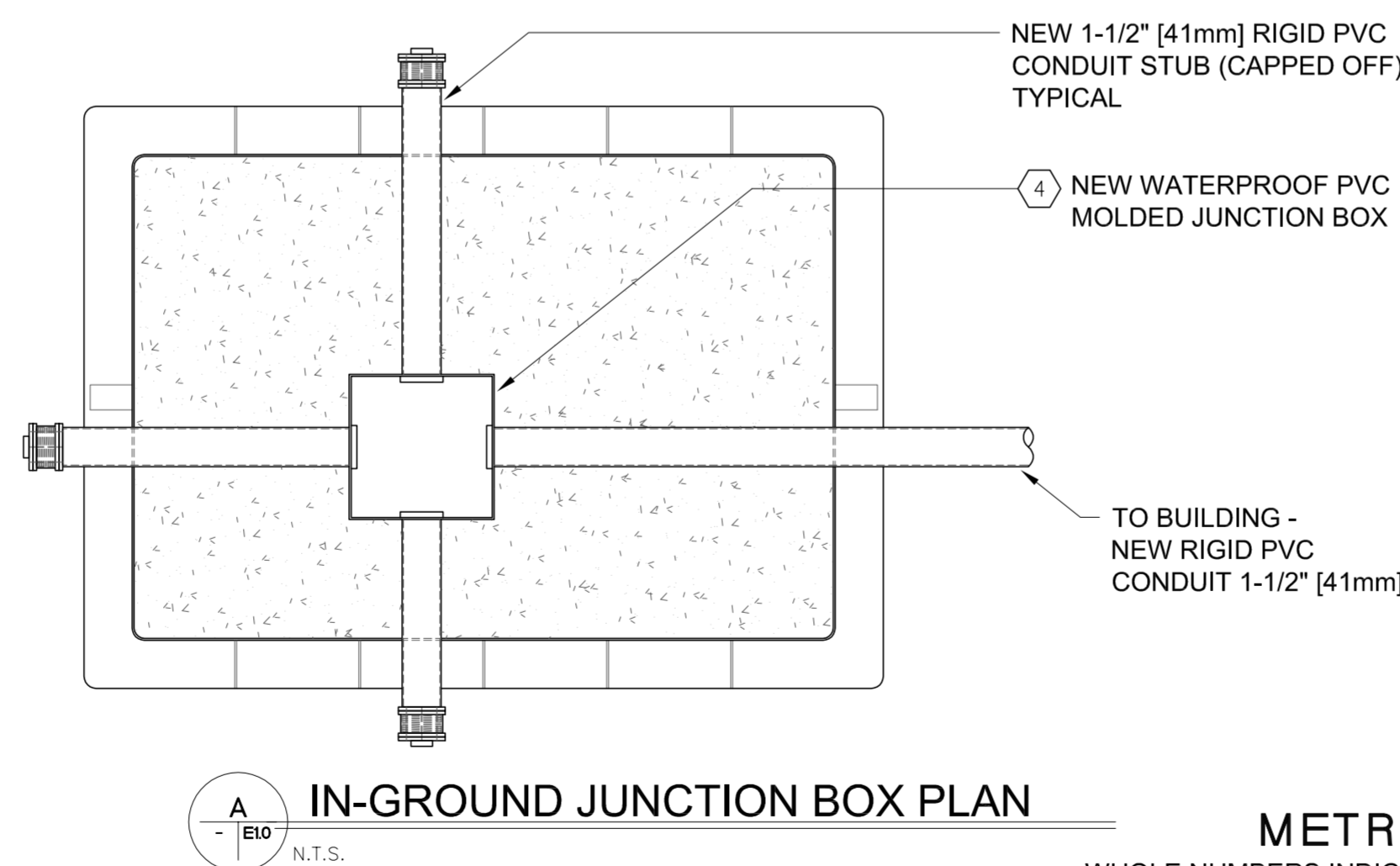
**MAIN LEVEL PLAN**  
SCALE 1:50



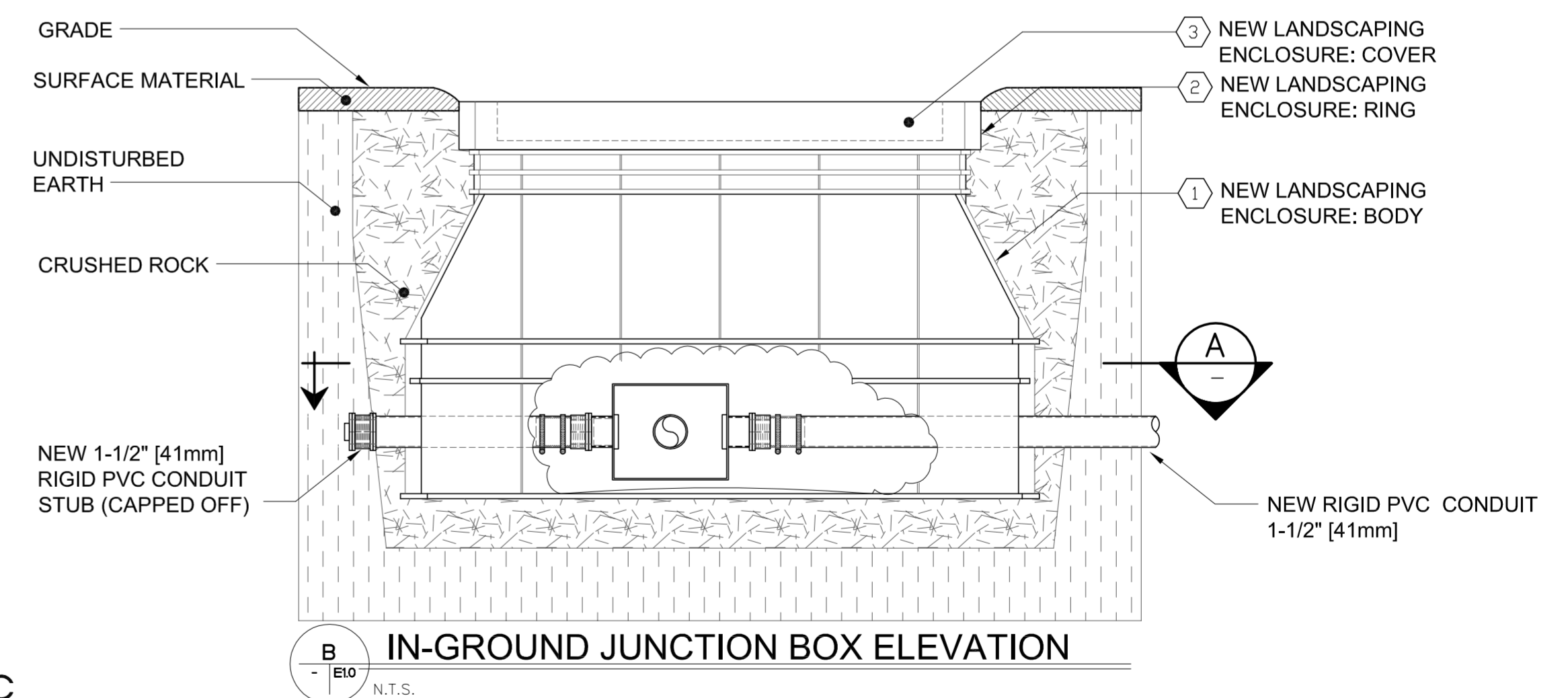
**KEYPLAN**

## NOTES:

1. REMOVE EXISTING METER AND REATTACH TO NEW WALL SURFACE.
2. REMOVE AND DISPOSE OF ABANDONED CONDUIT.
3. COORDINATE WITH MTS TO DISCONNECT EXISTING FEED AND RECONNECT ON COMPLETION. INSTALL CONDUIT WITHIN NEW WALL STRUCTURE.
4. SUPPLY AND INSTALL NEW FLUORESCENT LIGHTS. REMOVE AND DISPOSE OF EXISTING INCANDESCENT FIXTURES.
5. COORDINATE FINAL LOCATION OF PHOTOCCELL WITH CONTRACT ADMINISTRATOR ON-SITE.
6. CONTRACTOR SHALL SUPPLY AND INSTALL NEW SECONDARY FEEDERS FROM THE NEW TRANSFORMER LOCATION TO THE EXISTING SERVICE ENTRANCE SWITCH. FEEDERS SHALL BE SIZED TO 300A. CONTRACTOR SHALL ENSURE PROPER CLEARANCES WITH NEW BUILDING CLADDING TO ACCOMMODATE THE NEW SERVICE FEEDERS. THE CONTRACTOR SHALL CO-ORDINATE THE TRANSFORMER RELOCATION WITH HYDRO. THE CITY OF WINNIPEG WILL COVER ALL HYDRO COSTS.
7. REMOVE EXISTING BOLLARDS. SUPPLY AND INSTALL TWO NEW BOLLARDS TO SUIT HYDRO'S NEW TRANSFORMER LOCATION.



**IN-GROUND JUNCTION BOX PLAN**  
N.T.S.



**IN-GROUND JUNCTION BOX ELEVATION**  
N.T.S.

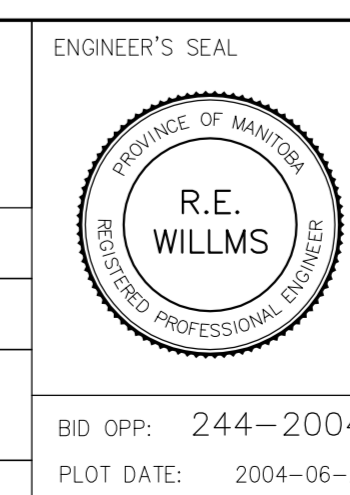
## METRIC

WHOLE NUMBERS INDICATE MILLIMETERS  
DECIMALIZED NUMBERS INDICATE METRES

LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	VOLTAGE	LAMPS	ACCEPTABLE MATERIALS
A	HID EXTERIOR WALL PACK. CUT OFF TRIM AND ENERGY EFFICIENT BALLAST. TAMPERPROOF C/W REQUIRED SCREWDRIVERS.	120V	70W HPS	FAIL SAFE: HP HW BB HE 70W H 120V VRSD
B	1 X 4 SURFACE MOUNT WRAPAROUND C/W ACRYLIC LENS AND ELECTRONIC BALLAST. (WHITE BODY) VAPOUR TIGHT. LOW-TEMPERATURE BALLAST.	120V	2-32W T8 4100°K	METALUX: VT2-232-DR-120-EB81-WL HUBBELL: WM232B LITHONIA LIGHTING: FCD 232 120 GEB OR GEB10 CSA



DESIGNED BY	AP	CHECKED BY	REW
DRAWN BY	GCN	APPROVED BY	
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
NO.	ISSUED FOR TENDER	DATE	REVISIONS
1	04/05/10	REW	
NO.	REVISIONS	DATE	BY
		2004 04 21	



**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT

**Winnipeg**

**GALT FLOOD PUMPING STATION REDEVELOPMENT**  
GENERAL ELECTRICAL & INSTALLATION DETAILS

CONSULTANT DRAWING NUMBER: 02-206-09 E1.0  
SHEET 1 OF 1  
CITY DRAWING NUMBER: LD-3025

ENGINEER'S SEAL: R.E. WILLMS  
BID OPP: 244-2004  
PLOT DATE: 2004-06-22