

**1 SITE PLAN**  
M6.1 SCALE 1:200 METRIC

**MECHANICAL SITE SERVICING KEYNOTES**

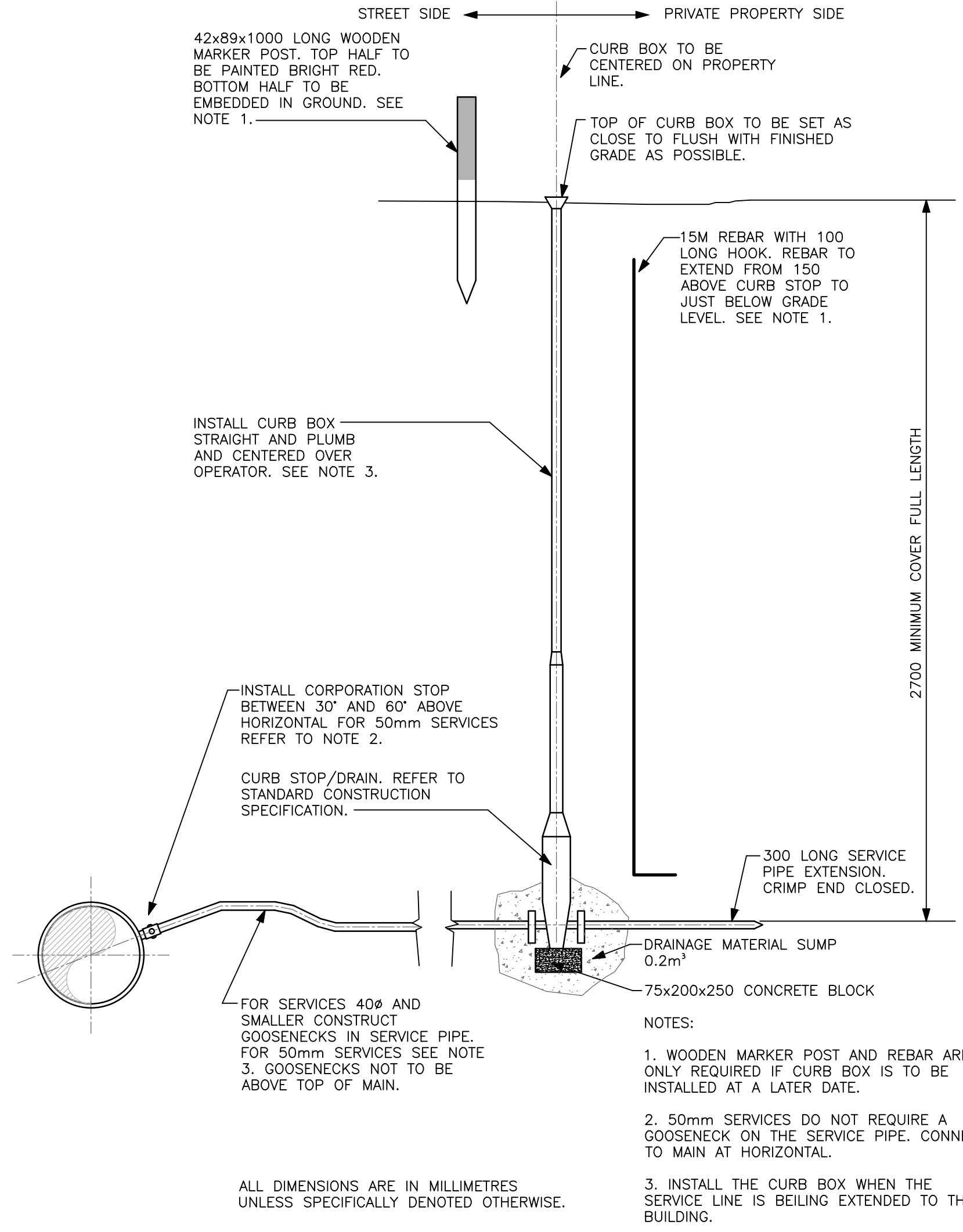
- XX ← DENOTES KEYNOTE ON DRAWING
- 1 CONNECT NEW GAS SERVICE TO EXISTING GAS UTILITY AT APPROXIMATE LOCATION SHOWN. CONTRACTOR TO DETERMINE EXACT LOCATION OF EXISTING GAS UTILITY ON SITE AND COORDINATE APPLICATION AND INSTALLATION OF NEW GAS SERVICE WITH OWNER AND GAS UTILITY.
- 2 NEW GAS METER/REGULATOR SET WITH A CAPACITY OF 51m<sup>3</sup>/hr(1800ft<sup>3</sup>/hr) AT 34.5kPa (5psi) OPERATING PRESSURE. CONTRACTOR TO CO-ORDINATE APPLICATION AND INSTALLATION OF NEW GAS SERVICE WITH OWNER AND GAS UTILITY.
- 3 GAS LINE UP ABOVE GRADE TIGHT TO BUILDING FOUNDATION. COORDINATE INSTALLATION WITH GAS UTILITY.
- 4 PROVIDE 600mmx900mm CONCRETE PAD FOR GAS METER. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND GAS UTILITY.
- 5 PIPE BOLLARD PROTECTION AROUND GAS METER PROVIDED BY GAS UTILITY.
- 6 SEE MAIN FLOOR PLUMBING PLAN 1/M6.2 FOR CONTINUATION OF GAS UTILITY.
- 7 CONNECT NEW 19mm WATER SERVICE TO EXISTING 100mm WATER SERVICE AT APPROXIMATE LOCATION SHOWN. CONTRACTOR TO DETERMINE EXACT LOCATION ON SITE.
- 8 NEW UNDERGROUND ISOLATION VALVE. SEE DETAIL 2/M6.1.
- 9 SEE MAIN FLOOR PLUMBING PLAN 1/M6.2 FOR CONTINUATION OF WATER LINE INTO BUILDING.
- 10 CONNECT NEW 100mm SANITARY SEWER SERVICE TO EXISTING MANHOLE AT APPROXIMATE LOCATION SHOWN BELOW FROST LEVEL. CONTRACTOR TO DETERMINE EXACT LOCATION ON SITE.
- 11 SEE MAIN FLOOR PLUMBING PLAN 1/M6.1 FOR CONTINUATION OF SANITARY SEWER SERVICE WITHIN BUILDING.

**MECHANICAL SITE SERVICING GENERAL NOTES**

1. SITE SERVICES CONTRACTOR TO CO-ORDINATE ALL UNDERGROUND PIPING WITH THE OWNER, GENERAL CONTRACTOR, GAS UTILITY, ELECTRICAL UTILITY, TELEPHONE UTILITY, ETC.
2. ALL SERVICES TO BE INSTALLED AS PER THE NATIONAL PLUMBING CODE OF CANADA, PROVINCIAL CODE, AND MUNICIPAL STANDARDS & REQUIREMENTS.
3. ALL NATURAL GAS PIPING TO BE INSTALLED AS PER THE CANADIAN GAS INSTALLATION CODE AND NATURAL GAS UTILITY STANDARDS & REQUIREMENTS.
4. UTILITY INFORMATION SHOWN WAS OBTAINED FROM OWNER INFORMATION. CONTRACTOR TO FIELD DETERMINE EXACT LOCATIONS & INVERTS OF ALL EXISTING SITE AND UTILITY SERVICES PRIOR TO EXCAVATION.
5. ALL PIPING IS SHOWN SCHEMATICALLY.
6. CONTRACTOR IS RESPONSIBLE FOR ALL MUNICIPAL AND UTILITY PERMIT FEES, INSPECTION FEES, CONNECTION FEES, BONDING, ETC.
7. CONTRACTOR TO MAKE GOOD AND LEVEL TO SURROUNDINGS AS PER MUNICIPAL STANDARDS AND REQUIREMENTS. ALL SURFACES ON TOWN AND/OR ADJACENT PROPERTY DISTURBED AS A RESULT OF UNDERGROUND UTILITY INSTALLATION INCLUDING ASPHALT SURFACES, GRAVEL SURFACES, CONCRETE CURBS, CONCRETE SIDEWALKS, LANDSCAPED AREAS, ETC.
8. PROTECT ALL EXISTING UNDERGROUND UTILITIES FROM DAMAGE DURING CONSTRUCTION.
9. ON COMPLETION OF UTILITY INSTALLATION PERFORM ALL LEAKAGE AND PRESSURE TEST ON WATER AND SEWER SERVICES AS PER MUNICIPAL STANDARDS AND REQUIREMENTS AND AS PER AWWA MANUAL.
10. ALL NEW PIPING, FITTINGS, AND EQUIPMENTS TO BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
11. STERILIZE NEW WATER SERVICES WITH CHLORINE AS PER THE SASKATCHEWAN PLUMBING CODE & MUNICIPAL STANDARDS AND PROVIDE DETAILED WRITTEN RECORDS, FLUSH SYSTEM AND HAVE BACTERIOLOGICAL TESTS COMPLETED AT A CERTIFIED LABORATORY. RESULTS TO CONFORM TO SASKATCHEWAN ENVIRONMENT AND MUNICIPALITY PRIOR TO WATER USAGE.
12. ALL MATERIALS AND CONSTRUCTION TO MEET MUNICIPALITY STANDARD CONSTRUCTION SPECIFICATIONS.
13. CONTRACTOR IS RESPONSIBLE FOR THE COST OR REPAIR OF ANY DAMAGE TO ADJACENT PROPERTY OR WORKS LOCATED THEREON THAT MAY OCCUR AS A RESULT OF UNDERTAKING WORK FOR WHICH THE PERMIT IS REQUIRED.

**SITE SERVICING LEGEND**

EXISTING	PROPOSED	
---	---	WATER
---	---	SANITARY SEWER
---	---	GAS LINE
⊙	⊙	U/G ISOLATION VALVE
⊗	⊗	MANHOLE
	⊙	GAS METER
	⊙	GAS REGULATOR
	⊙	GAS ISOLATION VALVE
MHR = XXX.XXX		MANHOLE RIM
INV. = XXX.XXX		PIPE INVERT



**U/G WATER ISOLATION VALVE INSTALLATION DETAIL**

**2**  
M6.1 SCALE: NTS

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**McGinn Engineering Ltd.**  
OF SASKATCHEWAN  
ASSOCIATION OF PROFESSIONAL ENGINEERS

**CERTIFICATE OF AUTHORIZATION**  
McGinn Engineering Ltd.  
No. 124

Permission to Consult held by:  
DISCIPLINE: **M.E.C.E.** SASK. REG. NO. **9879** SIGNATURE: *[Signature]*

Professional Seal:



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Project Title:  
**HEADER BUILDING AND GREENHOUSES**

INDIAN HEAD, SASKATCHEWAN

Issue Record:

Revisions:

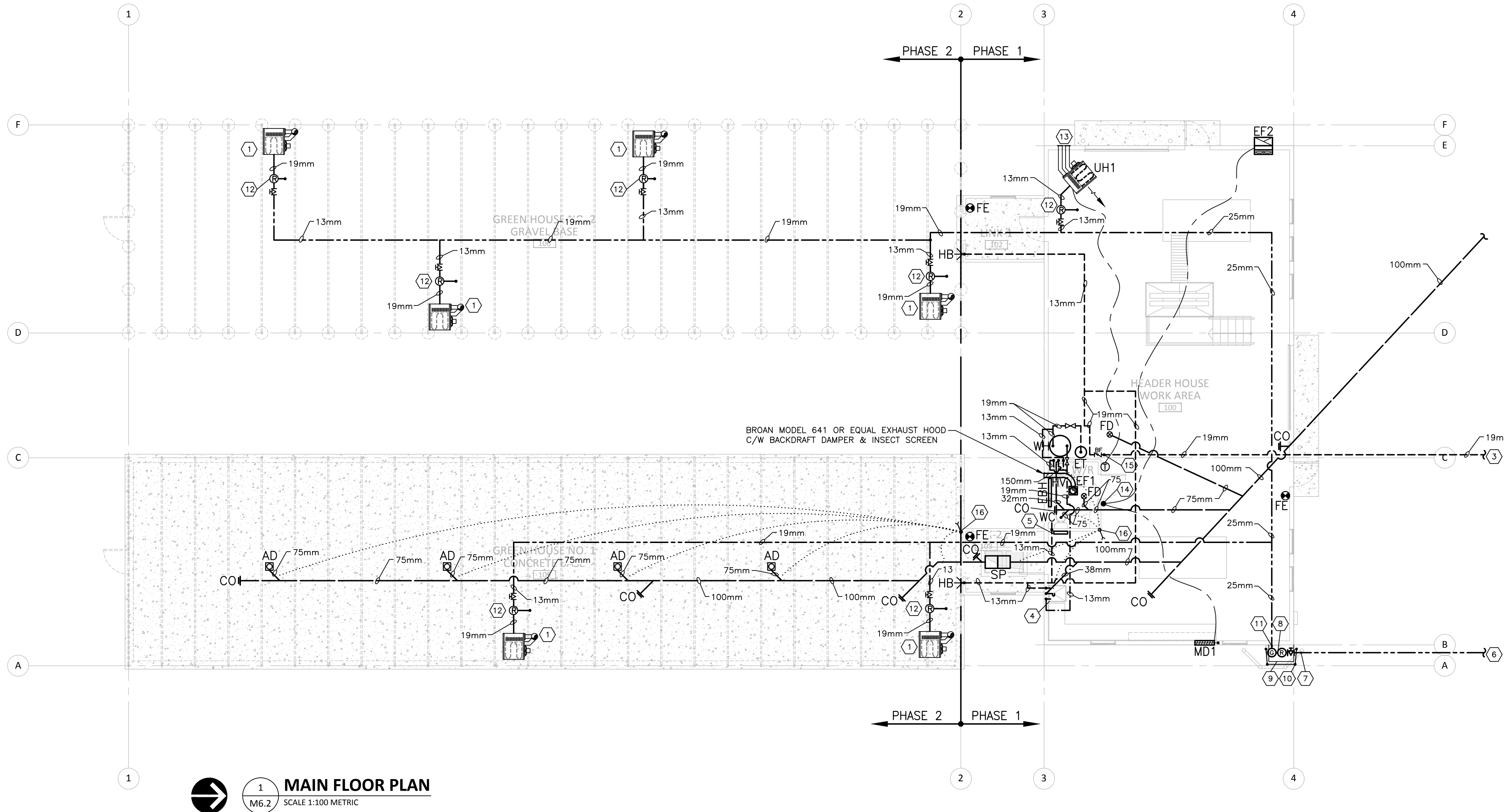
**MECHANICAL SITE SERVICING PLAN**

Designed By: **GAS** Scale: **AS NOTED**  
Drawn By: **DAN** Date: **2015.11.30**  
Checked By: **GAS** Date: **NOV. 2015**  
Project No.: **4859**

**M6.1**

Revision No.: \_\_\_\_\_ Date: \_\_\_\_\_  
Issued For: **TENDER**

Date Issued: **2016.01.06**  
Date Plotted: **2016.01.06**



**1 MAIN FLOOR PLAN**  
SCALE 1:100 METRIC

H.V.A.C. LEGEND	
PROPOSED	
	THERMOSTAT
	FLEXIBLE DUCT
	SUPPLY AIR DUCT UP
	SUPPLY AIR DUCT DOWN
	RETURN AIR DUCT UP
	RETURN AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN

PLUMBING LEGEND	
PROPOSED	
	NATURAL GAS
	COLD WATER
	VENT LINE
	HOT WATER
	SANITARY SEWER
	FLOOR DRAIN
	CLEANOUT
	PIPE UP
	NATURAL GAS METER
	NATURAL GAS REGULATOR
	GAS ISOLATION VALVE
	REDUCED PRESSURE TYPE BACKFLOW PREVENTER

**H.V.A.C. GENERAL NOTES**

- ALL DUCTING SHOWN SCHEMATICALLY.
- ALL DUCT SIZES ARE NET SIZES.
- ALL DUCT TAKE-OFFS TO BE 45° CONICAL WITH BALANCING DAMPERS.
- DUCTING TO BE CONNECTED TO ALL FAN UNITS WITH CANVAS CONNECTIONS.
- ALL MAIN SUPPLY PLENUM ELBOWS TO BE MITERED WITH TURNING VANES.
- DUCT ELBOW RADII TO BE MINIMUM 1.5 TIMES THE TURNING DIMENSION.
- ALL DUCTING TO BE INSTALLED IN A GOOD WORKMANSHIP LIKE MANNER AS PER SMACNA STANDARDS. ALL EXPOSED DUCTWORK TO BE PAINTED TO MATCH ARCHITECTURAL.
- COORDINATE ROUTING OF DUCTWORK IN CEILING WITH ELECTRICAL TO ENSURE ADEQUATE ACCESS TO ELECTRICAL SYSTEMS IS MAINTAINED AT THE HIGHEST POSSIBLE LEVEL.
- INSULATE ALL EXHAUST DUCTWORK FOR A DISTANCE OF 10ft. FROM THE BUILDING OUTLET COMPLETE WITH 1" FOILBACK FIBREGLASS INSULATION TO BE CANVAS WRAPPED IN FINISHED AREAS ONLY.
- ENSURE ALL FLUE GAS AND EXHAUST OUTLETS ARE AT LEAST 10ft. AWAY FROM THE NEAREST FRESH AIR INTAKE.
- ALL EQUIPMENT TO BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

**PLUMBING GENERAL NOTES**

- ALL PLUMBING LINES SHOWN SCHEMATICALLY.
- ALL WATER PIPING TO RUN CONCEALED IN FINISHED AREAS WITHIN CEILING SPACE, CRAWLSPACE, AND WALLS. PAINT ALL EXPOSED PIPING AS PER ARCHITECTURAL. ALL SEWER LINES TO RUN CONCEALED BELOW SLAB AND IN WALLS.
- ALL WATER LINES TO BE COVERED WITH 13mm (1/2") INSULATION AND WITH PVC JACKET IN EXPOSED AREAS.
- ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- ALL PIPING TO FIXTURES AND EQUIPMENT TO RUN CONCEALED WHERE POSSIBLE.
- ALL WATER CONNECTIONS TO FIXTURES TO BE 13mm (1/2") UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR TO SUPPLY AND INSTALL PLUMBING VENTS, TRAP SEAL PRIMERS, CLEANOUTS, AND ISOLATION VALVES AS PER CODE.
- INSTALL ALL GAS FIRED EQUIPMENT AND PIPING IN ACCORDANCE WITH THE CANADIAN GAS CODE AND GAS UTILITY REQUIREMENTS.
- SOLDERS AND FLUXES HAVING A LEAD CONTENT IN EXCESS OF 0.2% SHALL NOT BE USED.
- CONTRACTOR TO FIELD DETERMINE THE EXACT LOCATION OF ALL EXISTING BUILDING SERVICES.
- PVC AND PLASTIC PIPING MAY BE USED WHERE PERMITTED BY CODE. NO EXPOSED PLASTIC PIPING AT WATER CLOSETS. EXPOSED PIPING TO BE CHROME.
- ALL PLUMBING TO BE INSTALLED IN ACCORDANCE WITH THE CANADIAN PLUMBING CODE, PROVINCIAL PLUMBING CODES, AND MUNICIPAL BYLAWS.
- PROVIDE FIRESTOPS AT ALL PIPING THAT PASSES THROUGH FIRE SEPARATIONS.
- PROVIDE TRUEBRO PREFABRICATED INSULATION PACKAGE OVER ALL EXPOSED WATER SUPPLIES AND WASTES AT BARRIER FREE SINKS DESIGNATED AS "HV".

**PLUMBING KEYNOTES (xx) — DENOTES KEYNOTE ON DRAWING**

- GREENHOUSE GAS FIRED UNIT HEATER SUPPLIED BY OTHERS. CONTRACTOR TO INSTALL COMPLETE WITH VENTING THRU ROOF/WALL & GAS PIPING. UNITS ARE 250 MBH INPUT.
- SEE MECHANICAL SITE SERVICES PLAN 1/M6.1 FOR CONTINUATION OF 100mm SANITARY SEWER SERVICE.
- SEE MECHANICAL SITE SERVICES PLAN 1/M6.1 FOR CONTINUATION OF 19mm WATER SERVICE.
- EXISTING SINK RELOCATED BY OWNER. CONTRACTOR TO INSTALL & CONNECT.
- TEMPERED WATER EYE WASH STATION SUPPLIED BY OWNER. HANG UNIT ON WALL.
- SEE MECHANICAL SITE SERVICES PLAN 1/M6.1 FOR CONTINUATION OF NEW GAS SERVICE. COORDINATE APPLICATION & INSTALLATION OF GAS SERVICE WITH OWNER & GAS UTILITY.
- GAS LINE UP ABOVE GRADE TIGHT TO BUILDING FOUNDATION. CONTRACTOR TO CO-ORDINATE WITH GAS UTILITY.
- NEW GAS METER/REGULATOR SET WITH A CAPACITY OF 51m<sup>3</sup>/hr (1800ft<sup>3</sup>/hr) @ 34kpa (5psi) PRESSURE. CONTRACTOR TO COORDINATE APPLICATION AND INSTALLATION OF GAS SERVICE WITH OWNER & GAS UTILITY.
- PROVIDE 600mm X 900mm CONCRETE PAD FOR GAS METER. CO-ORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND GAS UTILITY.
- PIPE BOLLARD PROTECTION AROUND GAS METER PROVIDED BY GAS UTILITY.
- GAS SERVICE UP ALONG WALL & SUPPORTED ALONG WALL @ 5ft CENTERS. RUN PIPE THRU WALL UP HIGH & SEAL @ WALL PENETRATION WEATHER TIGHT WITH CAULKING & ESCUTCHEON.
- TYPICAL GAS REGULATOR FROM 5psi BUILDING GAS PRESSURE TO QUINCE GAS EQUIPMENT OPERATING PRESSURE. VENT THRU ROOF OR WALL & SEAL VENT @ WALL PENETRATION WEATHER TIGHT.
- TYPICAL UNIT HEATER VENT AND INTAKE OUT THRU EXTERIOR WALL. SEAL @ PIPE PENETRATION THRU WALL WEATHER TIGHT.
- VENTILATION SYSTEM ON/OFF SWITCH.
- WATER SERVICE UP ABOVE GRADE TO REDUCE PRESSURE TYPE BACKFLOW PREVENTER. PIPE BACKFLOW PREVENTER DRAIN TO NEAREST DRAIN.
- 75mm PLUMBING VENT UP THRU ROOF.

**MECHANICAL EQUIPMENT SCHEDULE**

- EF1 – EXHAUST FAN #1**  
SUPPLY AND INSTALL A BROAN QT SERIES CEILING EXHAUST FAN MODEL QTXE090C OR EQUAL. UNIT TO PROVIDE 23.6 1/8" EXHAUST @ 63Kpa S.P. W/A FRACTIONAL H.P. MOTOR @ 115 VOLT, SINGLE PHASE, AND A 0.60 SONE SOUND RATING. UNIT TO BE COMPLETE WITH BACKDRAFT DAMPER, VIBRATION ISOLATORS, AND INSECT SCREEN. DUCT UNIT OUT THRU WALL TO WALL EXHAUST OUTLET. UNIT TO OPERATE FROM A SEPARATE SWITCH WITHIN WASHROOM.
- EF2 – EXHAUST FAN #2**  
SUPPLY AND INSTALL A GREENHECK MODEL SBF-20 WALL PROPELLER TYPE BELT DRIVEN EXHAUST FAN OR EQUAL. UNIT TO EXHAUST 850 1/8" @ 63Kpa S.P. WITH A 1/2 H.P. MOTOR AT 115 VOLT, SINGLE PHASE, 1445 rpm. UNIT TO BE COMPLETE WITH INSECT SCREEN, VIBRATION ISOLATORS, BACKDRAFT DAMPER, UNIT SLEEVE, MOTOR GUARD & WEATHERHOOD. SEE DETAIL 2/M6.3.
- UH1 – UNIT HEATER #1**  
SUPPLY AND INSTALL A LENNOX MODEL TUA150SNF1 GAS-FIRED, HORIZONTAL, SEPARATED COMBUSTION UNIT HEATER OR EQUAL. UNIT TO PROVIDE 44kW HEATING INPUT, 35 kW HEATING OUTPUT AND 1395 1/8" W/A 1/8 H.P. MOTOR @ 115 VOLT, SINGLE PHASE. HANG UNIT AS HIGH AS POSSIBLE, TIGHT TO UNDERSIDE OF ROOF STRUCTURE c/w 125mm# VENT AND 100mm# COMBUSTION AIR INTAKE THRU WALL, HORIZONTAL TERMINATION, ELECTRONIC IGNITION, AND DIGITAL THERMOSTAT. UNIT WEIGHT IS APPROXIMATELY 118kg.
- MD1 – MOTORIZED DAMPER #1**  
SUPPLY AND INSTALL A GREENHECK MODEL WD-320, 711x711 MOTORIZED DAMPER OR EQUAL. UNIT TO BE C/W 115 VOLT DAMPER MOTOR. MOUNT UNIT UP HIGH IN WALL COMPLETE WITH 711x711 AROULITE K666 EXTERIOR LOUVER. UNIT 'MD1' TO OPERATE WITH EXHAUST FAN 'EF2' THRU AN ON/OFF SWITCH. SEE DETAIL 1/M6.3.
- CO – CLEANOUT (MEDIUM LOAD TRAFFIC – FINISHED AREAS)**  
SUPPLY AND INSTALL A WADE MODEL 6000-3 FLOOR CLEANOUT C/W ALL DUCO COATED CAST IRON BODY W/ FLASHING FLANGE, REMOVABLE POSITIVE GASKET SEAL CLOSURE PLUG AND HEAVY DUTY 6" (150mm) ROUND ADJUSTABLE NICKEL BRONZE FRAME AND COVER. FOR WATER PROOFED AREAS PROVIDE FC FLANGE WITH FLASHING CLAMP.
- HW – BARRIER FREE WATER CLOSET (BARRIER FREE FLUSH TANK, 4.8L/D)**  
SUPPLY AND INSTALL AN AMERICAN STANDARD "CHAMPION PRO" MODEL 211AA154 LOW FLUSH, HIGH EFFICIENCY, ELONGATED RIM, BARRIER FREE WATER CLOSET OR EQUAL. UNIT TO BE C/W 16 1/2" HIGH BOWL, INSULATED TANK, 4.8 LITRES/FLUSH (1.07gpf), LEED QUALIFIED, FULLY GLAZED TRAPWAY, OVERSIZED 3" FLUSH VALVE WITH CHEMICAL RESISTANT FLAPPER, AND BOLT DOWN TANK COVER. SUPPLY TO BE TECK 471316 RIGID/FLEX CLOSET SUPPLY WITH LOCKSHIELD ANGLE STOPS AND FLEXIBLE RISER. PROVIDE AMERICAN STANDARD MODEL 5901.100 HEAVY DUTY OPEN FRONT SEAT LESS COVER.
- HV – COUNTER MOUNTED LAVATORY (BARRIER FREE DESIGN)**  
SUPPLY AND INSTALL A CRANE "ACCESS PRO" LAVATORY 1580 OR EQUAL. FAUCET TO BE DELTA 500WF 100mm (4") CENTER SET SINGLE HANDLE FAUCET WITH 100mm (4") BLADE HANDLE. SUPPLY TO BE TECK 471312 RIGID/FLEX SUPPLIES WITH LOCKSHIELD STOPS AND FLEXIBLE RISERS. TRAP TO BE TECK 33T301 32mm (1 1/4") CAST BRASS P-TRAP. WASTE TO BE TECK 33T290 32mm (1 1/4") OFFSET BRASS OPEN GRID.
- WH – WATER HEATER**  
SUPPLY AND INSTALL A BRADFORD WHITE COMMERCIAL ELECTRIC-FLEX MODEL CE-24053-3 ELECTRIC WATER HEATER OR EQUAL. UNIT TO PROVIDE 40 GPM US STORAGE CAPACITY, 3000/3000 WATT SIMULTANEOUS HEATING CAPACITY AT 240 VOLT, SINGLE PHASE, AND A 24 USGALLON PER HOUR RECOVERY AT 100°F TEMPERATURE RISE. UNIT TO BE COMPLETE WITH T&P RELIEF VALVE, FULLY AUTOMATIC CONTROLS, AND 3/4" HOT AND COLD WATER CONNECTIONS. SEE WATER HEATER PIPING SCHEMATIC 4/M6.3.
- ET – POTABLE EXPANSION TANK**  
SUPPLY AND INSTALL A WATTS MODEL PLT5 POTABLE WATER EXPANSION TANK OR EQUAL. SEE DETAIL 4/M6.3.
- SP – 2-COMPARTMENT SEPARATION PIT**  
2-COMPARTMENT SEPARATION PIT. SEE DETAIL 3/M6.3 & STRUCTURAL DRAWINGS FOR DETAILS.
- HB – INTERIOR HOSEBIB**  
SUPPLY & INSTALL A TYPICAL 13mm INTERIOR HOSEBIB WITH VACUUM BREAKER.
- EBH – ELECTRIC BASEBOARD HEATER**  
SUPPLY & INSTALL A 500 WATT CHROMALOX OR EQUAL ELECTRIC BASEBOARD HEATER COMPLETE WITH BUILT-IN THERMOSTAT CONTROL.
- FD – FLOOR DRAIN**  
SUPPLY AND INSTALL A WADE MODEL 1000-C-R5 75mm (3") FLOOR DRAIN. ALL EPOXY COATED CAST IRON BODY, TRAP GUARD, ANCHOR FLANGE W/ SEEPAGE OPENINGS AND ADJUSTABLE ROUND HEAVY DUTY STAINLESS STEEL STRAINER.
- FE – FIRE EXTINGUISHER**  
SUPPLY AND INSTALL A NATIONAL FIRE EQUIPMENT MODEL ABC-10G LB. DRY CHEMICAL FIRE EXTINGUISHER OR EQUAL. EXTINGUISHER WITH A RATING OF 4-A, 60-B-C. UNIT TO BE MOUNTED ON WALL WITH STEEL MOUNTING BRACKET.
- AD – AREA DRAIN**  
SUPPLY & INSTALL A MIFAB MODEL F1100-S-5 CAST IRON SQUARE FLOOR DRAIN WITH ANCHOR FLANGE, WEEPHOLES, SEDIMENT BUCKET, & SQUARE STRAINER.

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**HEADER BUILDING AND GREENHOUSES**

INDIAN HEAD, SASKATCHEWAN

Issue Record:

Revisions:

**HVAC AND PLUMBING LAYOUT**

Designed By: GAS Scale: AS NOTED  
Drawn By: DAN Date: 2015.11.30  
Checked By: GAS Date: NOV 2015

Project No: **4859**

**M6.2**

Revision No.: Date:

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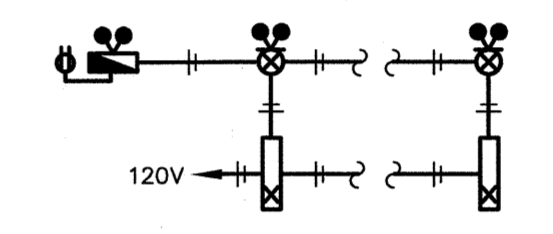






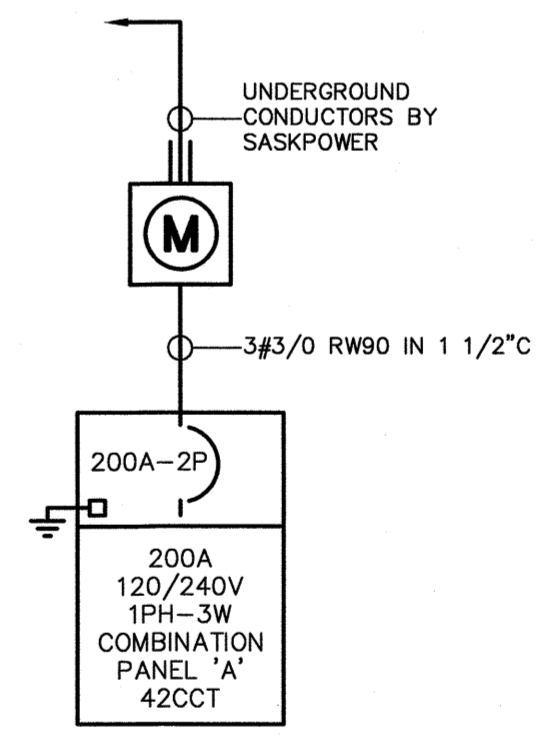
**SYMBOL SCHEDULE**

- Linear luminaire, 'B1--a' denotes panel circuit # and switch.
- Night light luminaire.
- Wall mounted luminaire. 'A' denotes type.
- Single pole switch.
- Single pole switches in multiple.
- Photocell by electrical contractor.
- Duplex receptacle.
- Duplex receptacle on separate circuit. Provide lamacoid label indicating "SC".
- Duplex receptacle weather proof.
- 30A-2P dryer receptacle, verify location.
- Ground fault duplex receptacle.
- 20A T-slot duplex receptacle.
- Special outlet to match owners equipment. Confirm voltage, amperage, poles and configuration prior to installation.
- Combination voice/data outlet c/w cover plate. Run one(1) 3/4" conduit to accessible ceiling space or crawlspace.
- Motor. Refer to mechanical for exact location. For roof mounted equipment, supply and install wire and connect a separate circuit GFI receptacle in accordance with C.E.C. rule 26-704.
- Disconnect switch to suit application. By electrical contractor.
- Motorized damper control wiring by mechanical contractor, 120V power supply by electrical contractor.
- Junction box.
- Electric heater. "C" denotes type, see electric heating schedule. "1000" denotes watts.
- denotes heater c/w built in thermostat. ○ denotes heater controlled by remote thermostat. Provide low voltage relays if required. Refer to mechanical for details.
- LED Emergency double head fixture c/w two(2) 6W (540 lumen) LED heads. Wire to battery bank. Lumacell.
- Combination LED pictogram egress sign/emergency double head fixture c/w two(2) 6W (540 lumen) LED lamps and integral battery backup (minimum 30 minutes). Lumacell.
- Underground service point. Co-ordinate location with SaskPower prior to rough-in. Run main feeders to utility preferred location. Provide weatherproof customer service termination enclosure, protection shield, trenching, backfilling, etc. Obtain utility contribution charges from utility for owner.
- Underground service point. Co-ordinate location with SaskTel prior to rough-in. Relocate distribution to utility preferred location. Run 4" conduit from service head to telephone backboard.



**EMERGENCY LIGHTING AND SIGNAGE**  
N.T.S.

1. CONDUCTORS SIZED TO MANUFACTURERS RECOMMENDATIONS. MAXIMUM 5% VOLTAGE DROP.
2. WIRE AND CONNECT DC TO ALL COMPONENTS.
3. PROVIDE 30 MINUTE CAPACITY UNDER FULL LOAD.
4. INTERLOCK WITH NORMAL LIGHTING CIRCUIT TO ACTIVATE EMERGENCY LIGHTING UPON LOSS OF NORMAL LIGHTING IN THE AREA. FOR EACH EMERGENCY LIGHTING HEAD, PROVIDE ZONE SENSING RELAYS AS REQUIRED.



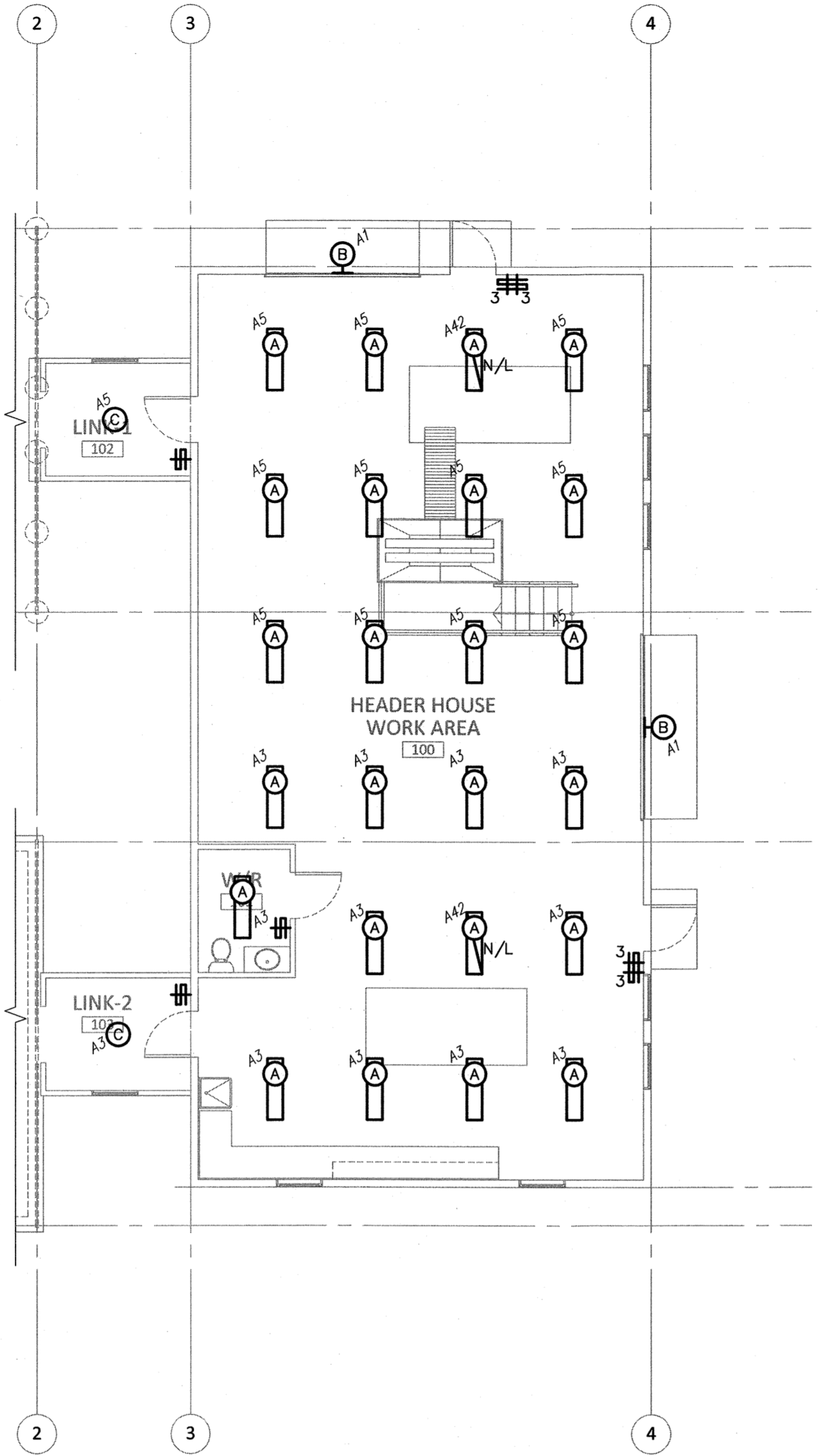
**SINGLE LINE DIAGRAM**  
N.T.S.

\* SIZE CIRCUIT BREAKER AND WIRING ACCORDING TO THE FINAL NAMEPLATE RATING ON THE EQUIPMENT.

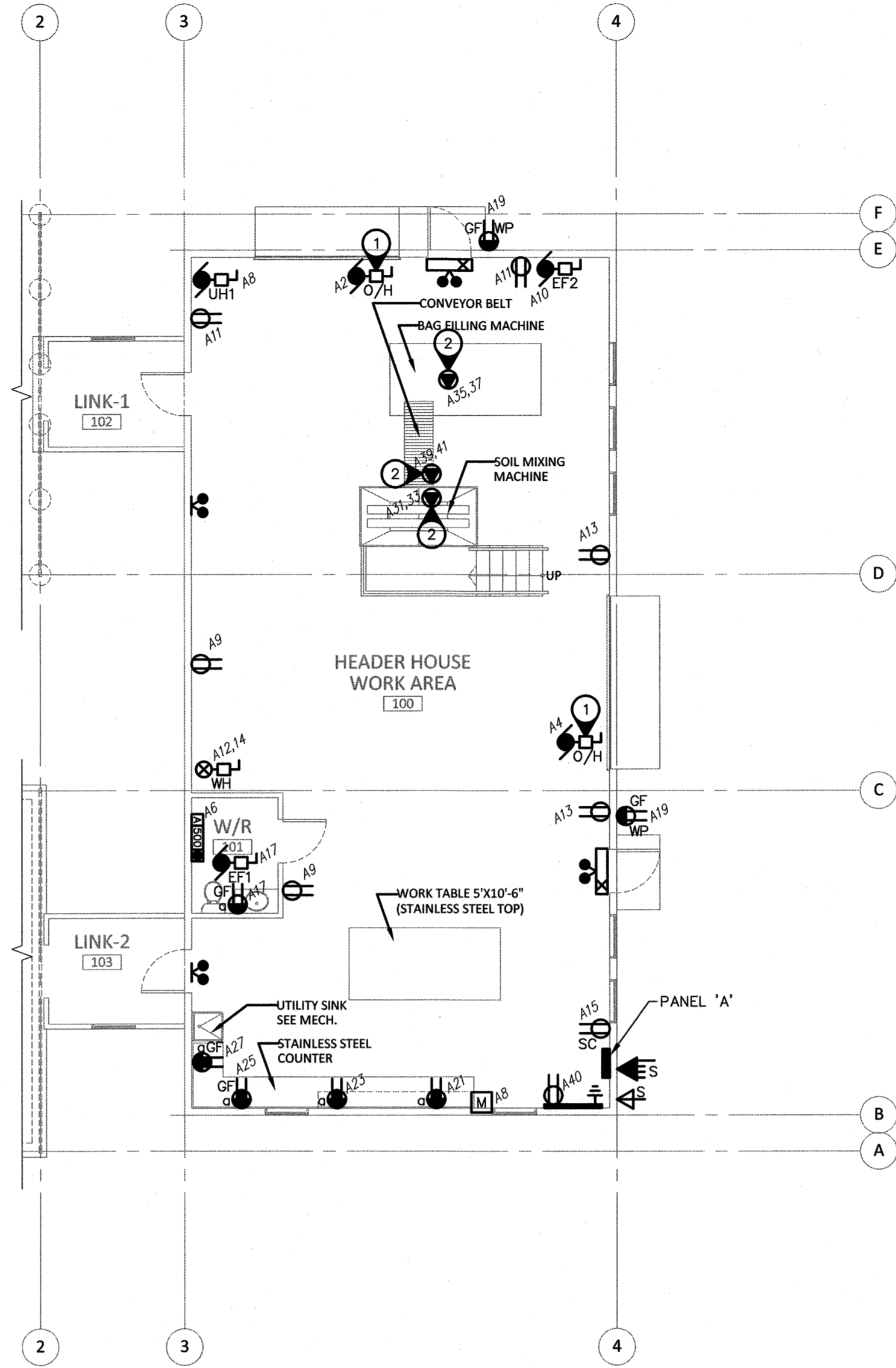
PANEL MOUNTING LOCATION	'A' SURFACE HEADER HOUSE	VOLTAGE MAIN BUS	120/240V-1PH-3W 200A	REMARKS	C/W DOOR
EXTERIOR LIGHTING	15 1	2	20	O/H DOOR	
LIGHTING	15 3	4	20	O/H DOOR	
LIGHTING	15 5	6	15	ELECTRIC BASEBOARD HEATER	
SPARE	15 7	8	15	UHI, MOTORIZED DAMPER	
RECEPTACLES	15 9	10	15	EF-2	
RECEPTACLES	15 11	12	40	WH	
RECEPTACLES	15 13	14		#B WIRE	
SC RECEPTACLES	15 15	16		SPACE	
GF RECEPTACLE, EF1	15 17	18		SPACE	
EXTERIOR RECEPTACLE	15 19	20		SPACE	
T-SLOT GF RECEPTACLE	20 21	22		SPACE	
T-SLOT GF RECEPTACLE	20 23	24		SPACE	
T-SLOT RECEPTACLE	20 25	26	15	UHI(PHASE 2)	
T-SLOT RECEPTACLE	20 27	28	15	UHI(PHASE 2)	
SPARE	15 29	30	15	UHI(PHASE 2)	
MIXER	15 31	32	15	SPACE	
	33	34	15	SPACE	
BAGGER	70 35	36	15	SPACE	
#4 WIRE	37	38	15	SPACE	
CONVEYOR	15 39	40	15	TELEPHONE PANEL	
	41	42	15	NIGHTLIGHTING/EMERGENCY LIGHTING	

**SPECIFIC ELECTRICAL NOTES**

1. WIRE AND CONNECT OVERHEAD DOOR OPERATOR AND ALL RELATED CONTROLS AS PRE MANUFACTURERS RECOMMENDATIONS.
2. SPECIAL RECEPTACLE FOR OWNERS EQUIPMENT. CONFIRM EXACT REQUIREMENTS ON SITE. SUSPENDED RECEPTACLE FROM CEILING.



**1 MAIN FLOOR PLAN - LIGHTING**  
E1.0 SCALE 1/4" = 1' 0"



**1 MAIN FLOOR PLAN - POWER AND SYSTEMS**  
E1.0 SCALE 1/4" = 1' 0"

LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	MOUNTING	CATALOG NUMBER	LAMPS
A	4' LED LUMINAIRE	SURFACE	LITHONIA LIGHTING LBL 4 60L E21 LP840	55W LED
B	LED FLOOD LIGHT	SURFACE	LITHONIA LIGHTING DSXW1 LED 20C 700 40K 13M MVOLT	47W LED
C	LED DOWNLIGHT	SURFACE	LITHONIA LIGHTING FMML 7 840	10W LED

LUMINAIRE SCHEDULE NOTES:  
1. ALL FLUORESCENT BALLAST TO BE ELECTRONIC. MB HYDRO "POWER SMART" APPROVED.  
2. ALL FLUORESCENT LAMPS TO BE 3500K & 85 CRI, UNLESS OTHERWISE NOTED.  
3. PROVIDE PHOTOCCELL CONTROL FOR ALL OUTDOOR LUMINAIRES.

MOTOR SCHEDULE								
NO.	DESCRIPTION	LOCATION	VOLTAGE	HP/W/MCA	C.B.	COND.	STARTER	NOTES
UH1	RADIANT HEATER	WORK AREA	120V-1PH	1/8 HP	15A-1P	#12	-	1
EF1	EXHAUST FAN	WASHROOM	120V-1PH	FRAC.	15A-1P	#12	-	1
EF2	EXHAUST FAN	WORK AREA	120V-1PH	1/4 HP	15A-1P	#12	-	1
MD1	MOTORIZED DAMPER	WORK AREA	120V-1PH	FRAC.	15A-1P	#12	-	1
WH	WATER HEATER	WORK AREA	240V-1PH	6000W	40A-2P	#8	-	1

SPECIFIC NOTES:  
1. WIRE AND CONNECT AS REQUIRED, REFER TO MECHANICAL.  
2. MAGNETO STARTER BY ELECTRICAL CONTRACTOR.  
3. MANUAL STARTER BY ELECTRICAL CONTRACTOR.  
4. COORDINATE INSTALLATION OF PATHWAYS TO PIT FOR SUMP PUMP WIRING.  
5. WIRE AND CONNECT INDOOR UNIT TO TERMINALS S1 AND S2 ON OUTDOOR UNIT.

GENERAL NOTES:  
A. MANUAL STARTERS TO BE C/W OVERCURRENT PROTECTION.  
B. ALL DISCONNECT SWITCHES TO BE SUPPLIED BY ELECTRICAL CONTRACTOR.  
C. ELECTRICAL CONTRACTOR TO PROVIDE CIRCUIT BREAKERS AND WIRING ACCORDING TO THE FINAL NAMEPLATES OF ALL THE MECHANICAL EQUIPMENT.  
D. ALL LOW VOLTAGE CONTROL WIRING BY MECHANICAL CONTRACTOR.  
E. ALL LINE VOLTAGE CONTROL WIRING BY ELECTRICAL CONTRACTOR - REFER TO MECHANICAL SECTION. CO-ORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR.

HEATING SCHEDULE						
TYPE	WATTS	VOLTAGE	DESCRIPTION	MANUFACTURER	CATALOGUE NO.	NOTES
A	500	120	BASEBOARD	OUELLET	ODI0502	1

SPECIFIC HEATING NOTES:  
1. C/W BUILT-IN THERMOSTAT OR WIRED TO REMOTE THERMOSTAT AS SHOWN ON DRAWINGS.  
2. RECESSED UNLESS OTHERWISE INDICATED. C/W BUILT-IN THERMOSTAT UNLESS OTHERWISE INDICATED.  
3. C/W BUILT-IN THERMOSTAT. MOUNT SECURELY WHERE INDICATED TO THE SATISFACTION OF THE ENGINEER.

GENERAL HEATING NOTES:  
A. VOLTAGE TO BE AS INDICATED ABOVE UNLESS OTHERWISE NOTED ON DRAWINGS.

ASSOCIATION OF PROFESSIONAL ENGINEERS  
OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
NOVA 3 ENGINEERING LTD.  
NUMBER 752  
PERMISSION TO CONSULT HELD BY:  
DISCIPLINE: ELECTRICAL REG. NO.: 8006 SIGNATURE: V. Thielmann

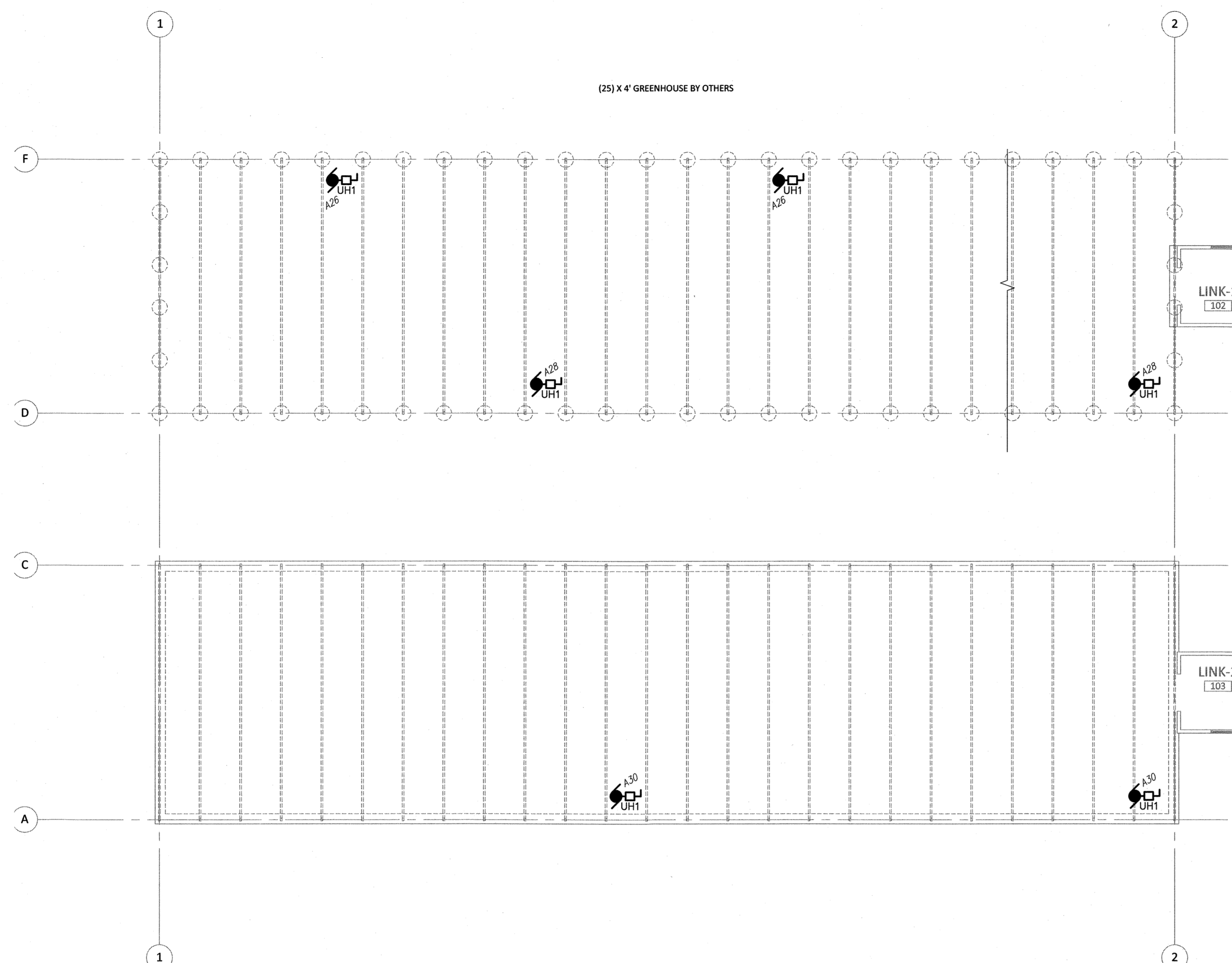
**ELECTRICAL -  
FLOOR PLANS  
PHASE 1**

Designed By: AJT Scale: AS INDICATED  
Drawn By: AJT Date: 2016.01.06  
Checked By: VJT Date: 2016.01.06  
Project No.: 4859

**E1.0**

Revision No.: R# Date: 2016.01.06  
Issued For: TENDER  
Date Issued: 2016.01.06  
Date Plotted: 2016.01.06





**1 MAIN FLOOR PLAN - POWER AND SYSTEMS**  
 E1.0 SCALE 1/4" = 1' 0"

MOTOR SCHEDULE									
NO.	DESCRIPTION	LOCATION	VOLTAGE	HP/W/MCA	C.B.	COND.	STARTER	NOTES	
UH1	RADIANT HEATER	WORK AREA	120V-1PH	1/8 HP	15A-1P	#12	-	1	

**SPECIFIC NOTES**  
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 2. MAGNETIC STARTER BY ELECTRICAL CONTRACTOR.  
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**GENERAL NOTES**  
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Project Title:  
**HEADER BUILDING AND GREENHOUSES**

INDIAN HEAD, SASKATCHEWAN

Notes:

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Issue Record:  
 YY.MM.DD/Issued For/Issued To/Issued By

Revisions:  
 R# Brief Description/YY.MM.DD/Revised By

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**ELECTRICAL - FLOOR PLANS PHASE 2**

Designed By: AJT Scale: AS INDICATED  
 Drawn By: AJT Date: 2016.01.06  
 Checked By: VJT Date: 2016.01.06  
 Project No.: 4859

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