

A1 SIZE - 594mm x 841mm

GENERAL NOTES:

- ALL CONDUIT AND CABLING IS NEW AND TO BE PROVIDED BY THE CONTRACTOR.
- ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW UNLESS OTHERWISE INDICATED AS EXISTING.

CONSTRUCTION NOTES:

- PROVIDE NEW 75KVA OUTDOOR AUTOTRANSFORMER XFMR-C670 TO SERVICE CHLORINE SCRUBBER SCBR-C670. AUTOTRANSFORMER PROVIDED BY ELECTRICAL CONTRACTOR. CABLE AND CONDUIT TO BE RUN ABOVE SLAB. PROVIDE SUPPORTS AS REQUIRED.
- PROVIDE NEW CHLORINE GAS SCRUBBER TO BE LOCATED OUTSIDE. CONTRACTOR TO PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. SCRUBBER PROVIDED BY MECHANICAL CONTRACTOR.
- PROVIDE 60A RATED, NON-FUSIBLE, WEATHERPROOF DISCONNECT SWITCH DS-C670.
- PROVIDE NEW ON/OFF DAMPER ACTUATORS AS SHOWN INCLUDING ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR THE COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. PROVIDE ALL MOUNTING ACCESSORIES REQUIRED TO INSTALL ACTUATORS. CONTRACTOR IS RESPONSIBLE FOR MOUNTING SCHEME. ACTUATORS ARE TO BE NEMA 4X COMPLIANT AND PROVIDE WEATHERPROOF ENCLOSURE FOR ALL OUTDOOR ACTUATORS
- PROVIDE NEW EXHAUST FAN EF-C640, EF-C641, EF-C642, AND EF-C644 AS SHOWN. CONTRACTOR TO PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF POWER AND CONTROLS.
- PROVIDE NEW FLOW SWITCH ON EXISTING SAFETY SHOWER IN CHLORINATOR EQUIPMENT ROOM. EXISTING SAFETY SHOWER IS FROM MANUFACTURER ENCON. PROVIDE FLOW SWITCH ALARM KIT PART #0210000. CONTRACTOR TO FEED POWER TO FLOW SWITCH RELAY FROM PNL-E, CCT 49. PROVIDE ALL NEW CONDUIT AND CABLING FOR A COMPLETE AND WORKING SYSTEM.
- PROVIDE NEW 600V DUCT HEATER HCE-C620 AND ALL CONDUIT AND CABLING REQUIRED FOR THE COMPLETE INSTALLATION OF POWER AND CONTROLS. DUCT HEATER TO INCLUDE CONTROL PANEL, THERMOSTAT AND SENSOR. PROVIDE HEATER CONTROL PANEL CP-C620. REFER TO HEATER SCHEMATIC 1-0650M-E0052 FOR WIRING DETAILS AND 1-0650M-A0082 FOR PANEL LAYOUT.
- PROVIDE NEW 120V SUPPLY FAN SF-C630 COMPLETE WITH DAMPER ACTUATOR AND ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR POWER AND CONTROL. DAMPER ACTUATOR IS LOCATED IN TONNER SCALE ROOM AS SHOWN. REFER TO MECHANICAL DRAWINGS.
- PROVIDE NEW 208V HEATERS HTR-C663 AND HTR-C664 IN VESTIBULES COMPLETE WITH BUILT IN THERMOSTAT. PROVIDE ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF POWER AND CONTROLS.
- PROVIDE MAKE-UP AIR UNITS AHU-C601 AND AHU-C602 WITH INTEGRAL OPEN/CLOSE DAMPERS OUTSIDE LOCATED ON THE CHLORINE BUILDING ROOF. PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR A COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. MAKE-UP AIR UNIT PROVIDE BY MECHANICAL CONTRACTOR.
- RETAIN EXISTING ATI D12 CHLORINE GAS DETECTOR CONTROLLER AND RENAME AIT-C6903-2. RELOCATE CONTROLLER TO TONNER SCALE ROOM AND PROVIDE ALL ADDITIONAL WIRING AND CONDUIT REQUIRED. PROVIDE PULL BOX AT EXISTING LOCATION TO EXTEND EXISTING ANALOG SIGNAL CABLING AND CONDUIT.
- RETAIN EXISTING CHLORINE GAS SENSOR. EXISTING LOCATION TO BE RETAINED. PROVIDE NEW GAS GENERATOR MODULE ASSOCIATED WITH CONTROLLER AND SENSOR. CONNECT NEW WIRING TO EXISTING CONTROLLER AS PER DRAWING 1-0640M-A0073. REFER TO MANUFACTURER INFORMATION FOR INSTALLATION.
- PROVIDE NEW TONNER ROOM OCCUPANCY LIGHT AS SHOWN. OCCUPANCY LIGHT TO BE GREEN AND ACTIVE WHEN AHU-C601 OR AHU-C602 IS RUNNING. CONTRACTOR TO PROVIDE ALL NECESSARY MOUNTING ACCESSORIES AND SIGNAGE THAT READS "SUPPLY AIR ON". COORDINATE WITH CONTRACT ADMINISTRATOR SIZE AND DESCRIPTION PRIOR TO PRODUCTION.
- PROVIDE NEW TEMPERATURE TRANSMITTERS AS SHOWN ON DRAWING. PROVIDE NEW CABLING AND CONDUIT.
- PROVIDE NEW EMERGENCY SHOWER FLOW SWITCH AS PART OF VENDOR SUPPLIED PACKAGE AS SHOWN ON DRAWING. PROVIDE NEW CABLING AND CONDUIT FOR PLC MONITORING.
- PROVIDE NEW PRESSURE DIFFERENTIAL TRANSMITTER PDT-M6012. PROVIDE NEW CABLING AND CONDUIT. TRANSMITTER TO MEASURE BETWEEN TONNER ROOM AND OUTSIDE. PROVIDE ALL NECESSARY EQUIPMENT TO FACILITATE INSTALLATION.
- PROVIDE NEW SWITCH FOR TONNER ROOM OCCUPANCY STATUS. PROVIDE ALL NEW CABLING AND CONDUIT.
- PROVIDE NEW NEMA 4X CHLORINE GAS ALARM HORN/STROBE AS SHOWN. PROVIDE SAME NEMA 4X MAKE/MODEL AS EXISTING GAS DETECTION HORN/STROBE DEVICE AA-C6903-3 LOCATED ABOVE EXISTING TONNER ROOM ENTRY DOOR. REFER TO DRAWING 1-0640M-A0074 FOR DETAILS. CONTRACTOR TO CONFIRM EXISTING CIRCUIT ON SITE AND TIE IN NEW DEVICES TO EXISTING. PROVIDE WARNING SIGNAGE (RED WITH WHITE LETTERS) THAT READ "CHLORINE ALARM.
- REPLACE ALL EXISTING RECEPTACLE COVER PLATES WITHIN THE CHLORINE BUILDING SPACE WITH WEATHERPROOF COVERS SUITABLE FOR USE IN CATEGORY 2 LOCATIONS AS PER SECTION 22 OF THE CEC.
- ALL EXISTING EMT CONDUIT SYSTEMS INCLUDING ALL PULL BOXES OR JUNCTION BOXES THAT ARE NOT NEMA 4X RATED ARE TO BE PAINTED WITH A NON CORROSIVE PAINT TO COMPLY WITH CATEGORY 2 CLASSIFICATION.
- PROVIDE NEW VENTILATION CONTROL PANEL CP-C601 FOR AIR HANDLING UNITS AHU-M601 AND AHU-M602. ENCLOSURE TO BE NEMA 4X RATED AND SUITABLE FOR CEC CATEGORY 2 LOCATIONS. REFER TO DRAWING 1-0650M-A0078 FOR PANEL LAYOUT.

- INSTRUMENTATION DEVICES LOCATIONS ARE APPROPRIATE. CONTRACTOR TO COORDINATE WITH THE CITY TO DETERMINE OPTIMAL LOCATION FOR EQUIPMENT BASED ON EXISTING CONFIGURATION.
- CONTRACTOR IS RESPONSIBLE TO CALIBRATE ALL NEW INSTRUMENTATION DEVICES. CONTRACTOR TO VERIFY WITH CONTRACT ADMINISTRATOR THE DEVICE TO CALIBRATE TO
- PROVIDE 120V MOTOR STARTER PANEL FOR SUPPLY SF-C630 AND EXHAUST FAN EF-C642. PANELS ARE LOCATED IN CHLORINE EQUIPMENT ROOM. ENCLOSURES ARE TO BE NEMA 4X RATED. REFER TO MOTOR SCHEMATICS DRAWINGS FOR DETAILS. CONTRACTOR TO DESIGN PANEL AS PER SCHEMATIC. PANEL SHALL BE SIZED TO FIT IN THE DESIGNATED LOCATION AS SPACE IS LIMITED. CONTRACTOR TO INFORM CONTRACT ADMINISTRATOR IF SPACE WILL BE AN ISSUE AND IF MODIFICATIONS HAVE TO BE MADE PRIOR TO CONSTRUCTING PANEL.
- PROVIDE NEW 200A RATED, NON-FUSIBLE DISCONNECT SWITCH FOR AHU-C601 AND NEW 60A RATED, NON-FUSIBLE DISCONNECT SWITCH FOR AHU-C602. BOTH DISCONNECTS ARE TO BE WEATHERPROOF. DISCONNECT SHALL BE COMPLETE WITH AUXILIARY CONTACTS FOR READY SIGNAL.
- PROVIDE NEW 15A RATED, NON-FUSIBLE, DISCONNECT SWITCH FOR EXHAUST FANS SF-C630, EF-C640, EF-C641, EF-C642, AND EF-C644. INDOOR SWITCHES TO BE NEMA 4X, OUTDOOR TO BE WEATHERPROOF. PROVIDE DISCONNECT COMPLETE WITH AUXILIARY CONTACT FOR READY SIGNAL.
- PROVIDE NEW TEMPERATURE SWITCH IN TONNER STORAGE ROOM VESTIBULES. PROVIDE NEW CABLING AND CONDUIT.
- PROVIDE 120V MOTOR STARTER PANEL FOR EXHAUST FANS EF-C640, EF-C641, AND EF-C644. PANELS ENCLOSURES ARE TO BE NEMA 4X RATED. REFER TO MOTOR SCHEMATICS DRAWINGS FOR DETAILS. CONTRACTOR TO DESIGN PANEL AS PER SCHEMATIC. PANEL SHALL BE SIZED TO FIT IN THE DESIGNATED LOCATION.
- PROVIDE NEW GAS DETECTION CONTROLLER/TRANSMITTERS, AIT-C6903-1, AND AIT-C6903-3 FOR CHLORINE DETECTION. PROVIDE NEW CABLING, CONDUIT, AND ALL NECESSARY MOUNTING ACCESSORIES. REFER TO DWG. 1-0650M-A0072 AND A0074. CONTRACTOR TO LOCATE CONTROLLER TO ENSURE EXISTING CONTROLLER CAN REMAIN OPERATIONAL PRIOR TO SWITCHOVER.
- PROVIDE NEW GAS DETECTOR SENSORS AE-C6903-1 AND, AE-C6903-3. SENSORS ARE LOCATED ON WALL BELOW GAS DETECTION HEADS. PROVIDE NEW CABLING, CONDUIT AND ALL NECESSARY MOUNTING HARDWARE. MOUNT SENSOR NEAR GROUND LEVEL. REFER TO DRAWING 1-0650M-A0072 AND A0074 FOR WIRING DETAILS.
- PROVIDE NEW KEYED BYPASS SWITCH COMPLETE WITH INDICATING PILOT HOUSED IN A NEMA 4X ENCLOSURE FOR THE CHLORINE DETECTION SYSTEM LOCATED IN THE TONNER SCALE ROOM. REFER TO DRAWING 1-0650M-A0026 AND A0081. PROVIDE NEW CABLING/CONDUIT TO FACILITATE EQUIPMENT IN EXISTING SYSTEM.
- PROVIDE NEW JUNCTION BOX, JBA-C6903, FOR CHLORINE DETECTION SYSTEM TO FACILITATE CONNECTION TO EXISTING HVAC PLC AND CHLORINE NOTIFICATION EQUIPMENT. REFER TO JUNCTION BOX LAYOUT DRAWING 1-0650M-A0079 AND CHLORINE DETECTION LOOP DRAWINGS FOR DETAILS.
- CHLORINE TONNER ROOM AND CHLORINATOR EQUIPMENT ROOM SPACE IS LIMITED DUE TO EXISTING EQUIPMENT AND CONDUIT RUNS. CONTRACTOR TO COORDINATE WITH OWNER AND CONTRACTOR ADMINISTRATOR FINAL EQUIPMENT LOCATION AND CABLE ROUTING METHODOLOGY PRIOR TO INSTALLATION.
- PROVIDE NEW E-STOP C/W WITH COVER, HC-809-HS-2 AND HC-809-HS-3, IN THE NEW TONNER STORAGE VESTIBULES FOR THE CHLORINE EMERGENCY ISOLATION SYSTEM. CONTRACTOR TO WIRE IN SERIES WITH THE EXISTING E-STOP AT THE CHLORINATOR EQUIPMENT ROOM ENTRANCE AND CONNECTED TO THE MODIFIED CHLORINE EMERG. ISOLATION SYSTEM. REFER TO DRAWING 1-0650M-A0026. PROVIDE LAMACOID SIMILAR TO EXISTING E-STOP
- INSTALL RECEPTACLES A MINIMUM OF 750 mm ABOVE THE ROOF FINISHED FLOOR TO ACCOMMODATE SNOW ACCUMULATION. RECEPTACLE SHALL BE 5-20R CSA CONFIGURATION, PROTECTED BY A CLASS A TYPE GFCI BREAKER, AND TO HAVE A WET LOCATION COVERPLATE MARKED "EXTRA-DUTY" AS PER CITY OF WINNIPEG BYLAW 26-710. RECEPTACLE TO BE LOCATED WITHIN 7.5 METERS OF AHU-C601. NOTE NEW RECEPTACLE IS NOT REQUIRED NEAR EF-C640 AND EF-C641 AS EXISTING RECEPTACLES IS LOCATED WITHIN 7.5 METERS FROM EQUIPMENT.
- PROVIDE 600V POWER TO NEW TANKLESS WATER HEATER, U-C534, FOR THE EMERGENCY SAFETY SHOWERS. PROVIDE NEW CABLING AND CONDUIT FROM SOURCE TO HEATER.
- PROVIDE NEW REMOTE I/O PANEL CP-C827 LOCATED IN THE CHLORINATOR EQUIPMENT ROOM. PROVIDE FIBRE SIGNAL FROM HVAC PLC PANEL CP-M826 LOCATED IN THE PUMPHOUSE MECHANICAL ROOM. REFER TO CP-C827 AUTOMATION DRAWINGS FOR MORE DETAILS.
- PROVIDE NEW OVERHEAD DOOR COMPLETE WITH CONTROLS. WIRE AND CONNECT POWER AND CONTROLS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE NEW FUSED (15A) DISCONNECT SWITCH. EXISTING CABLING/CONDUIT FROM SOURCE PANEL TO BE REUSED AND EXTENDED TO FACILITATE CONNECTION TO NEW OVERHEAD DOOR. PROVIDE ALL NECESSARY EQUIPMENT REQUIRED FOR CABLE MODIFICATION. PROVIDE NEW CABLING/CONDUIT FROM DISCONNECT SWITCH AND CONTROLLER TO MOTOR UNIT.
- TIE BOTH NEW AND EXISTING CHLORINE ALARM HORN/STROBES INTO NEW CHLORINE DETECTION SYSTEM. PROVIDE AND MODIFY CABLING AND CONDUIT ACCORDINGLY.
- NEW VESTIBULE IS EQUIPPED WITH NEW WATER DRAINAGE PIPE BELOW GRADE TO ACCOMMODATE EMERGENCY SAFETY SHOWER. CONTRACTOR TO PROVIDE HEAT TRACE ON THE PORTION OF THE PIPE BELOW VESTIBULE. REFER TO DRAWINGS 1-0650M-E0046 & E0047 FOR HEAT TRACE DETAILS.
- PROVIDE NEW DOOR CONTACT AND ASSOCIATED CABLING/CONDUIT FOR TONNER STORAGE ROOM AND WIRE STATUS TO REMOTE I/O PANEL. REFER TO LOOP DRAWING 1-0650M-A0077.
- PROVIDE NEW MODULATING DAMPER ACTUATOR INCLUDING ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR A COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. PROVIDE ALL MOUNTING ACCESSORIES REQUIRED TO INSTALL ACTUATORS. CONTRACTOR IS RESPONSIBLE FOR MOUNTING SCHEME. ACTUATOR TO BE NEMA 4X COMPLIANT.

- PROVIDE NEW OUTDOOR TEMPERATURE TRANSMITTER. PROVIDE NEW CABLING AND CONDUIT. MOUNT AT ROOFTOP LEVEL.
- CONTRACTOR TO RELOCATE EXISTING HEATER AS SHOWN TO ACCOMMODATE THE THE NEW VESTIBULE IN THE TONNER STORAGE ROOM. CONTRACTOR EXTEND CABLE/CONDUIT ACCORDINGLY TO FACILITATE RELOCATION.
- CONTRACTOR TO PROVIDE AIR FLOW SWITCH TO PROVE ASSOCIATED HVAC EQUIPMENT IS RUNNING. LOCATION OF FLOW SWITCH ON DRAWING IS APPROXIMATE. CONFIRM ON SITE OPTIMAL LOCATION OF FLOW SWITCH IN DUCT FOR EACH HVAC UNIT. FINAL LOCATION TO BE DETERMINED AFTER COMMISSIONING BASED ON PERFORMANCE. REFER TO MECHANICAL AND P&ID DRAWINGS FOR FURTHER DETAILS.

METRIC

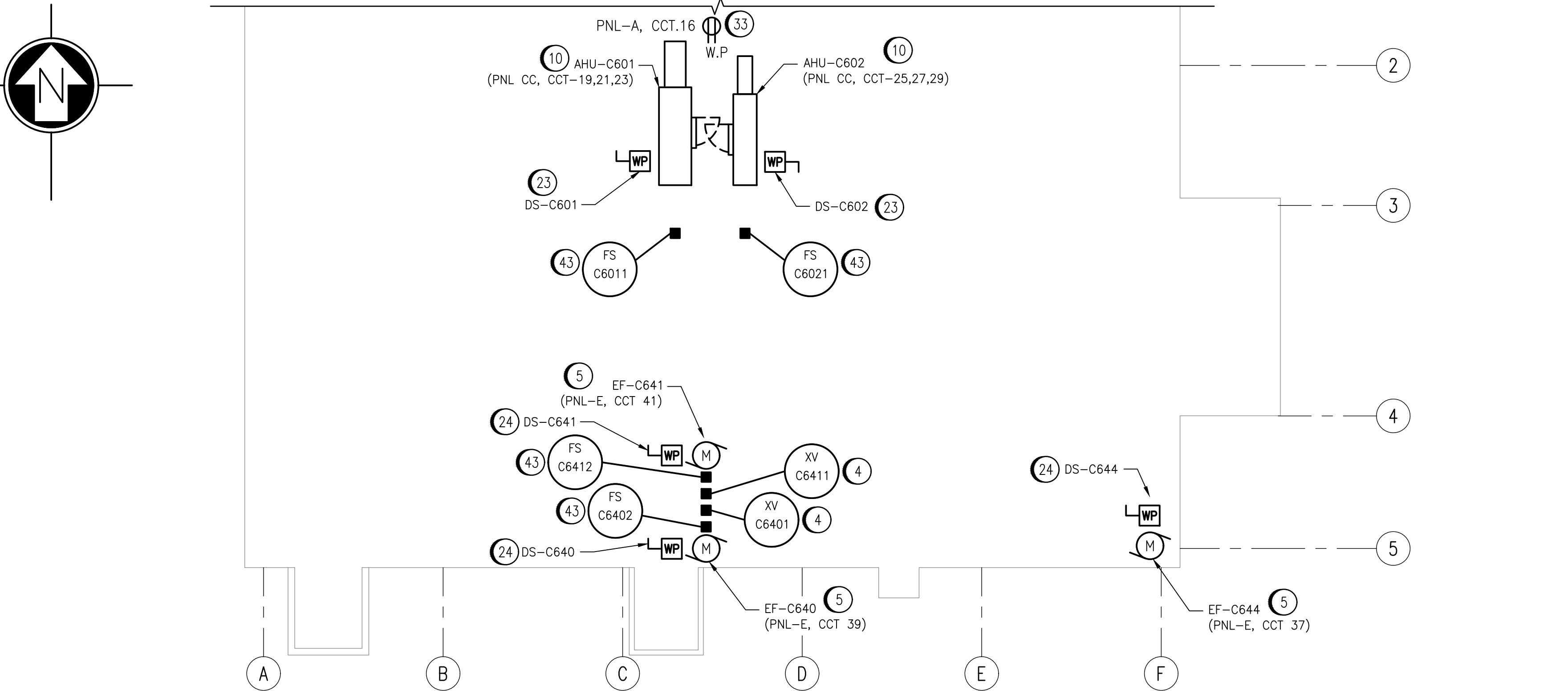
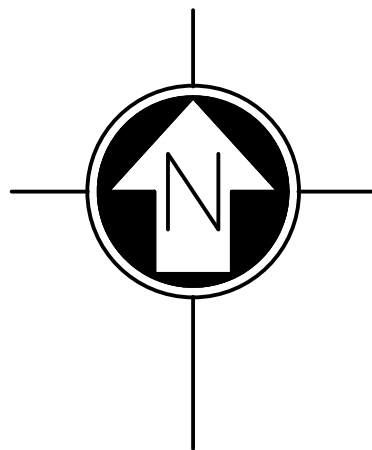
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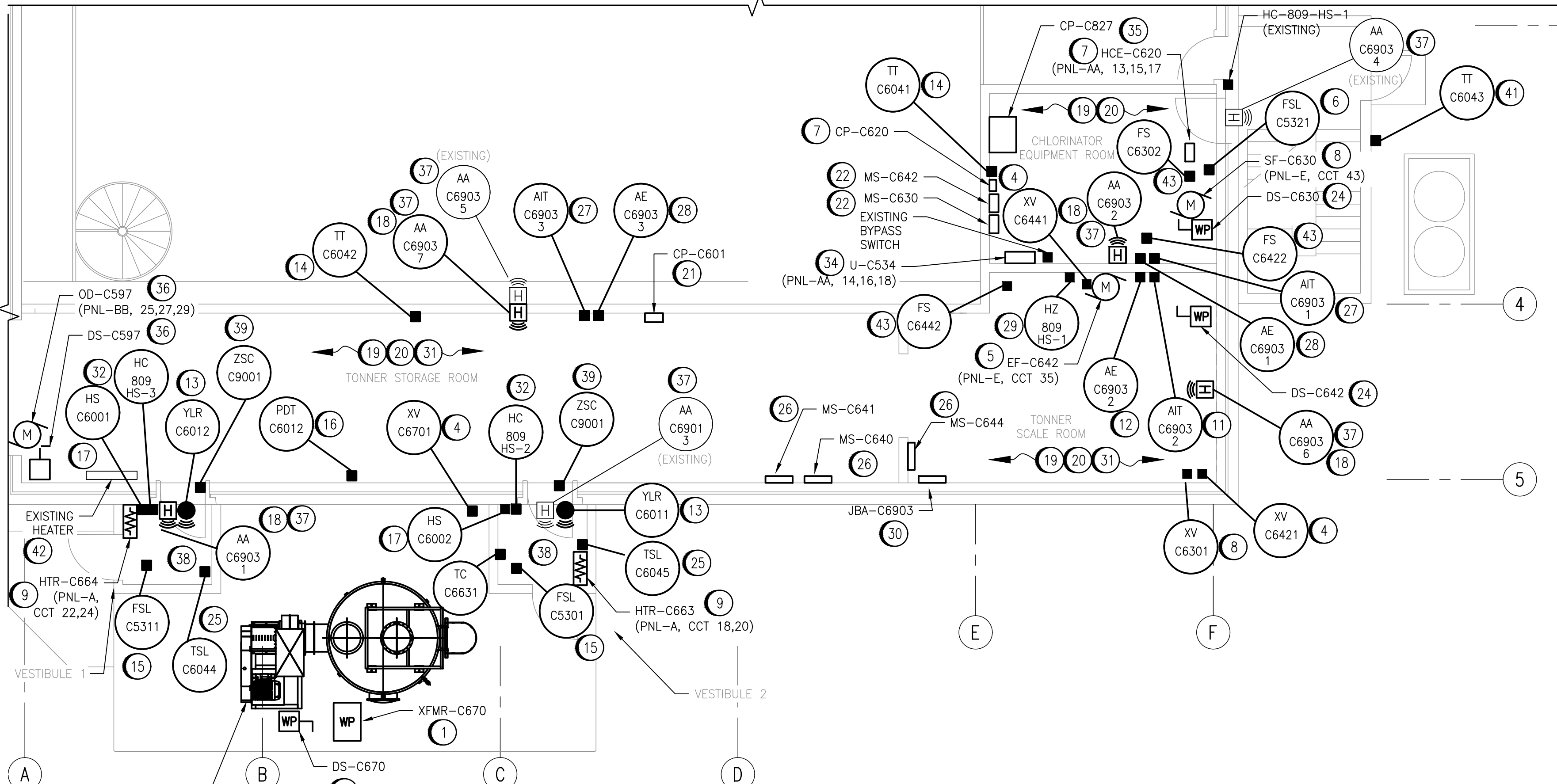


No. 4489



ROOF LEVEL - NEW EQUIPMENT

SCALE: 1:100



MAIN FLOOR - NEW EQUIPMENT

SCALE: 1:75

- 1-0650M-E0048-56 ALL CONNECTION DIAGRAMS AND STARTER SCHEMATICS
- 1-0650M-E0015-17 ALL ELECTRICAL SINGLE LINE DIAGRAMS
- 1-0650M-A0068-77 ALL AUTOMATION LOOP DRAWINGS

DRAWING NUMBER REFERENCE DRAWINGS

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER AND CONSTRUCTION	2025/04/30	VE	VE



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DESIGNED BY: B. WILKS	CHECKED BY: V. ELIMBAN
DRAWN BY: B. WILKS	APPROVED BY: V. ELIMBAN
SCALE: AS SHOWN	ISSUED FOR CONSTRUCTION BY: M. SKINNER
DATE: 2023/05/11	DATE: 2025/04/30

CONSULTANT NO.:

ENGINEER'S SEAL



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

HURST PUMPING STATION
CHLORINE SYSTEM UPGRADES
ELECTRICAL EQUIPMENT AND INSTRUMENTATION LAYOUT
MAIN FLOOR

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0650M-E0045	001	00	A1