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Public Works and Government Services Canada

Original

Forillon National Park
Penouille
Renovation of reception Building

Specifications – Building Services

BPR

Ref. N° : 24039E

November 2014

Forillon national Park
Penouille
Renovation of reception Building

Specifications – Building Services

Ref/N. : 24039E
Novembre 24th 2014

PRESENTED FOR

Public Works and Government Services Canada
3, Passage du Chien-d'Or, 3e étage
Québec (Québec) G1R 3Z8

PRESENTED BY

BPR-Bâtiment inc.
464, boulevard Saint-Germain Ouest
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Prepared by :

INGÉNIEUR
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Mathieu OUELLET, ing. 2014-11-24
(N°OIQ 5007579)

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E06	Electricity, description and details
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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. American National Standards Institute (ANSI)/American Society of Mechanical Engineers International (ASME)

.1 ANSI/ASME B16.18-[01], Cast Copper Alloy Solder Joint Pressure Fittings.

.2 ANSI/ASME B16.22-[01], Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

.3 ANSI/ASME B16.24-[01], Cast Copper Alloy Pipe Flanges and Flanged Fittings, Class 150, 300, 400, 600, 900, 1500 and 2500.

B. ASTM International Inc.

.1 ASTM B 88M-[05], Standard Specification for Seamless Copper Water Tube (Metric).

C. Canadian Standards Association (CSA International)

.1 CSA B242-[05], Groove and Shoulder Type Mechanical Pipe Couplings.

D. Department of Justice Canada

.1 Canadian Environmental Protection Act, 1999, c. 33 (CEPA).

E. Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

F. Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS).

.1 MSS-SP-80-[03], Bronze Gate, Globe, Angle and Check Valves.

G. National Research Council (NRC)/Institute for Research in Construction

.1 NRCC 38728, National Plumbing Code of Canada (NPC) - [1995].

1.03 ACTION SUBMITTALS

A. Provide submittals

B. Product Data:

.1 Provide manufacturer's printed product literature and datasheets for insulation and adhesives, and include product characteristics, performance criteria, physical size, finish and limitations.

C. Closeout Submittals:

.1 Provide maintenance data for incorporation into manual

PARTIE 2 - PRODUCTS

2.01 PIPING

A. Domestic hot, cold and recirculation systems, within building.

.1 Above ground: copper tube, hard drawn, type K: to ASTM B 88M.

.2 Buried or embedded: copper tube, soft annealed, type K: to ASTM B 88M, in long lengths and with no buried joints.

2.02 FITTINGS

A. Bronze pipe flanges and flanged fittings, Class 150 and 300: to ANSI/ASME B16.24.

B. Cast bronze threaded fittings, Class 125 and 250: to ANSI/ASME B16.15.

C. Cast copper, solder type: to ANSI/ASME B16.18.

D. Wrought copper and copper alloy, solder type: to ANSI/ASME B16.22.

E. NPS 2 and larger: ANSI/ASME B16.18 or ANSI/ASME B16.22 roll grooved to CSA B242.

F. NPS 1 ½ and smaller : cast copper to ANSI/ASME B16.18; with 301 stainless steel internal components and EPDM seals. Suitable for operating pressure to 1380 kPa.

2.03 JOINTS

A. Rubber gaskets, [latex-free] [1.6] mm thick: to AWWA C111.

B. Bolts, nuts, hex head and washers: to ASTM A 307, heavy series.

C. Solder: 95/5 tin copper alloy.

D. Teflon tape: for threaded joints.

E. Grooved couplings: designed with angle bolt pads to provide rigid joint, complete with EPDM gasket.

F. Dielectric connections between dissimilar metals: dielectric fitting, complete with thermoplastic liner.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Install in accordance with NPC Province(s) Plumbing Code] and local authority having jurisdiction.

B. Assemble piping using fittings manufactured to ANSI standards.

C. Install CWS piping below and away from HWS and HWC and other hot piping so as to maintain temperature of cold water as low as possible.

D. Connect to fixtures and equipment in accordance with manufacturer's written instructions unless otherwise indicated.

3.02 VALVES

A. Isolate equipment, fixtures and branches with ball valves.

3.03 PRESSURE TESTS

A. Greater of 1 times maximum system operating pressure or 860 kPa.

3.04 DÉSINFECTION

A. Flush out, disinfect and rinse system to requirements of authority having jurisdiction.

B. Upon completion, provide laboratory test reports on water quality for Consultant approval.

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C. Closeout Submittals:

.1 Provide maintenance data for incorporation into manual

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F. Dielectric connections between dissimilar metals: dielectric fitting, complete with thermoplastic liner.

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C. Install CWS piping below and away from HWS and HWC and other hot piping so as to maintain temperature of cold water as low as possible.

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A. Greater of 1 times maximum system operating pressure or 860 kPa.

3.04 DÉSINFECTION

A. Flush out, disinfect and rinse system to requirements of authority having jurisdiction.

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. ASTM D2235, Specification for Solvent Cement for Acrylonitrille – Butadiene – Stryrene (ABS) Plastic Pipe and Fittings.

B. ASTM D2564, Specification for Solvent Cements for Poly (Vinyl-Chloride) (PVC) Plastic Pipe and Fittings.

C. CAN/CSA-Series B1800-[06], Thermoplastic Nonpressure Pipe Compendium - B1800 Series.

1.03 ACTION SUBMITTALS

A. Provide submittals

B. Product Data:

1. Provide manufacturer's printed product literature and datasheets for piping and adhesives, and include product characteristics, performance criteria, physical size, finish and limitations.

PARTIE 2 - PRODUCTS

2.01 PIPING AND FITTINGS

A. For buried and above ground DWV piping to :

1. CAN/CSA B1800.

2.02 JOINTS

A. Solvent weld for PVC: to ASTM D 2564.

B. Solvent weld for ABS: to ASTM D 2235.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Install in accordance with Provincial Plumbing Code and local authority having jurisdiction.

3.02 TESTING

A. Pressure test buried systems before backfilling.

B. Hydraulically test to verify grades and freedom from obstructions.

3.03 PERFORMANCE VERIFICATION

A. Cleanouts:

1. Ensure accessible and that access doors are correctly located.
2. Open, cover with linseed oil and re-seal.

B. Test to ensure traps are fully and permanently primed.

C. Ensure fixtures are properly anchored, connected to system and effectively vented.

D. Affix applicable label (storm, sanitary, vent, pump discharge) c/w directional arrows every floor or 4.5 m (whichever is less).

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. CSA B51-[03(R2007)], Boiler, Pressure Vessel, and Pressure Piping Code.

B. CAN/CSA-C309, Performance Requirements for Glass-Lined Storage Tanks for Household Hot Water Service.

1.03 ACTION SUBMITALS

A. Provide submittals.

B. Product Data:

1. Provide manufacturer's printed product literature and datasheets for domestic water heater, and include product characteristics, performance criteria, physical size, finish and limitations.

1.04 CLOSEOUT SUBMITTALS

A. Provide maintenance and engineering data for incorporation into manual

1.05 WARRANTY

A. For the Work of this Section, 12 months warranty period prescribed in General Conditions is extended to number of years specified for each product.

PARTIE 2 - PRODUCTS

2.01 ELECTRIC WATER HEATER

A. See specification on sheet P04.

2.02 TRIM AND INSTRUMENTATION

A. Drain valve: NPS [1] with hose end.

B. Thermometer: 100 mm dial type with red pointer and thermowell filled with conductive paste.

C. ASME rated temperature and pressure relief valve sized for full capacity of heater, having discharge terminating over floor drain and visible to operators.

D. Magnesium anodes adequate for 20 years of operation and located for easy replacement.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's recommendations.

B. Provide structural steel for horizontal mounted tanks.

C. Provide insulation between tank and supports.

TREMBLAY BOIS MIGNAULT LEMAY

S.E.N.C.R.L.
AVOCATS

Me Pierre-Alexandre Fortin
pafortin@tremblaybois.qc.ca

Le 24 novembre 2014

Par courriel seulement : serge.ruest@bpr.ca

Monsieur Serge Ruest, ing. B. Ing.

Objet : Césalon Pierre c. Jean-Marc Breton et Diane Legault et Aviva Canada inc. c. Municipalité de St-Médard
V/🗁 100-627
N/🗁 351-483/MMQ

Cher Monsieur Ruest,

Pourriez-vous faire une lettre (très courte) qui concerne votre constat des lieux et de l'absence de sentier de VTT suite à vos recherches, dans le secteur, et de la pancarte qui autorise les VTT dans le rang 8 ou la 2e avenue, ni aucun passage de véhicule tout terrain.

Finalement, vous auriez à insérer en annexe votre tableau de la fédération des QUAD (le même que dans votre rapport).

Nous vous remercions de l'attention portée à la présente et vous prions d'agréer, cher Monsieur, nos meilleurs sentiments.

TREMBLAY BOIS MIGNAULT LEMAY S.E.N.C.R.L.

Pierre-Alexandre Fortin

PAF/gb

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3.01 SANS OBJET 2

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 ACTION SUBMITTALS

A. Provide submittals

B. Shop drawings to show:
   1. Mounting arrangements.
   2. Operating and maintenance clearances.

C. Shop drawings and product data accompanied by:
   1. Detailed drawings of bases, supports, and anchor bolts.
   2. Acoustical sound power data, where applicable.
   3. Points of operation on performance curves.

D. Closeout Submittals
   1. Provide operation and maintenance data for incorporation into manual
   2. Operation data to include:
      a. Operation instruction for systems and component.

E. As-built drawings
   1. Prior to start of Testing, Adjusting and Balancing for HVAC, finalize production of as-built drawings.
   2. Perform testing, adjusting and balancing for HVAC using as-built drawings.
   3. Submit completed reproducible as-built drawings with Operating and Maintenance Manuals.

PARTIE 2 - PRODUITS

2.01 SANS OBJET

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3.01 SANS OBJET

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 SUMMARY

A. Section Includes:

1. Materials and requirements for the identification of piping systems, duct work, valves and controllers, including the installation and location of identification systems.
2. Sustainable requirements for construction and verification.

1.03 REFERENCES

A. Canadian General Standards Board (CGSB).

B. CAN/CGSB-24.3-[92], Identification of Piping Systems.

1.04 ACTION SUBMITTALS

A. Product data to include paint colour chips, other products specified in this section.

PARTIE 2 - PRODUCTS

2.01 MANUFACTURER'S EQUIPMENT NAMEPLATES

A. Metal or plastic laminate nameplate mechanically fastened to each piece of equipment by manufacturer.

B. Lettering and numbers raised or recessed.

C. Information to include, as appropriate:

1. Equipment: manufacturer's name, model, size, serial number, capacity.
2. Motor: voltage, Hz, phase, power factor, duty, frame size.

2.02 SYSTEM NAMEPLATES

A. Colours :

1. black letters, white background (except where required otherwise by applicable codes).

B. Construction

1. 3 mm thick laminated plastic or white anodized aluminum, matte finish, with square corners, letters accurately aligned and machine engraved into core.

C. Sizes

1. Conform to following table.

Size #mm	Sizes (mm x mm)	No. of lines	Height of letters (mm)
1	10 x 50	1	3
2	13 x 75	1	5
3	13 x 75	2	3
4	20 x 100	1	8
5	20 x 200	1	8
6	20 x 100	2	5
7	25 x 125	1	12
8	25 x 125	2	8
9	35 x 200	1	20

2. Use maximum of 25 letters/numbers per line.
3. Locations:
   a. Terminal cabinets, control panels: use size # 5.
   b. Equipment in Mechanical Rooms: use size # 9.
4. Identification for PWGSC Preventive Maintenance Support System (PMSS):
   a. Use arrangement of Main identifier, Source identifier, Destination identifier.
   b. Equipment in Mechanical Room:
      1) Main identifier: size #9.
      2) Source and Destination identifiers: size #6.
      3) Terminal cabinets, control panels: size #5.
   c. Equipment elsewhere: sizes as appropriate.

2.03 EXISTING IDENTIFICATION SYSTEMS

A. Apply existing identification system to new work

B. Before starting work, obtain written approval of identification system from Consultant.

2.04 PIPING SYSTEMS

A. Identify contents by background colour marking, pictogram (as necessary), legend; direction of flow by arrows. To CAN/CGSB 24.3 except where specified otherwise.

B. Arrows showing direction of flow

1. Outside diameter of pipe or insulation less than 75 mm: 100 mm long x 50 mm high.
2. Outside diameter of pipe or insulation 75 mm and greater: 150 mm long x 50 mm high.

C. Extent of background colour marking:

1. To full circumference of pipe or insulation.
2. Length to accommodate pictogram, full length of legend and arrows.

D. Materials for background colour marking, legend, arrows:

1. Pipes and tubing 20 mm and smaller: waterproof and heat-resistant pressure sensitive plastic marker tags.
2. Other pipes: pressure sensitive vinyl with protective overcoating, waterproof contact adhesive undercoating, suitable for ambient of 100% RH and continuous operating temperature of 150 degrees C and intermittent temperature of 200 degrees C.

2.05 DUCTWORK SYSTEMS

A. 50 mm high stencilled letters and directional arrows 150 mm long x 50 mm high. Colours: back, or co-ordinated with base colour to ensure strong contrast.

2.06 INSCRIPTIONS UNILINGUES/BILINGUES

A. Identification in English and French.

B. Use one nameplate and label for both languages.

PARTIE 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.02 NAMEPLATES

A. Locations :

1. In conspicuous location to facilitate easy reading and identification from operating floor.
2. Provide for nameplates on hot and/or insulated surfaces..

3.03 DUCTWORK SYSTEMS

A. Install identification :

1. On long straight runs in open areas in boiler rooms, equipment rooms, galleries, tunnels: at not more than 17 m intervals and more frequently if required to ensure that at least one is visible from any one viewpoint in operating areas and walking aisles. Près de chaque endroit où un conduit change de direction.
2. Adjacent to each change in direction.
3. At least once in each small room through which piping or ductwork passes.
4. On both sides of visual obstruction or where run is difficult to follow.
5. On both sides of separations such as walls, floors, partitions.
6. Where system is installed in pipe chases, ceiling spaces, galleries, confined spaces, at entry and exit points, and at access openings.
7. At beginning and end points of each run and at each piece of equipment in run.
8. At point immediately upstream of major manually operated or automatically controlled valves, and dampers. Where this is not possible, place identification as close as possible, preferably on upstream side.
9. Identification easily and accurately readable from usual operating areas and from access points.
    a. Position of identification approximately at right angles to most convenient line of sight, considering operating positions, lighting conditions, risk of physical damage or injury and reduced visibility over time due to dust and dirt.

Roy, Christian

De: Maxime Boulay Grenier <MaximeBoulayGrenier@cwallen.qc.ca>
Envoyé: 24 novembre 2014 10:44
À: Roy, Christian
Cc: Municipalitée St-Damase (st-damase@globetrotter.net)
Objet: RE: St-Damase- Quittances complémentaires requsies et avis de non-paiement

Merci Christian, nous faisons le suivi auprès de nos sous-traitant et nous vous reviendrons très bientôt.

Salutations,

Maxime Boulay Grenier, Ing. Jr | Gérant de projets maximeboulaygrenier@cwallen.qc.ca | www.allen-entrepreneurgeneral.com | T. 418-882-2277, poste 250 | F. 418-882-2721

P S.V.P. pensez à l'environnement avant d'imprimer ce courriel.
Avis de confidentialité - Cette communication est réservée à l'usage du destinataire nommé et sa teneur est confidentielle. Tout autre lecteur, hormis une personne mandatée par ledit destinataire, devra considérer par la présente que sa diffusion, sous toutes les formes, est strictement interdite. La personne qui reçoit cette communication par erreur est priée d'avertir immédiatement notre réception ou l'envoyeur.

-----Message d'origine-----
De : Roy, Christian [mailto:Christian.Roy@tetratech.com]
Envoyé : 24 novembre 2014 10:33
À : Maxime Boulay Grenier
Cc : Municipalitée St-Damase (st-damase@globetrotter.net) Objet : TR:St-Damase- Quittances complémentaires requsies et avis de non-paiement

Bonjour Maxime,

Pour faire suite aux quittances soumises à la Municipalité antérieurement, cette dernière m'informe que les quittances suivantes seraient manquantes afin de tenir comptes des sous-traitants et fournisseurs qui ont déclarés officiellement leurs contrats lors des travaux, soit:

- ACI (+- 15 000$);
- Les feuillages du Québec inc. (+- 12 938$);
- Signaction (+- 22 993$);
- Les entreprises Florent Chouinard inc. (+- 421 700$);
- Maçonnerie BSL inc. (+- 18 000$).

De même un avis de non-paiement a été transmis par JTD, selon les documents ci-joints.

En ce sens, bien vouloir assurer le suivi complémentaires requis et transmettre les quittances et entente de paiement complémentaires requises à la Municipalité afin de permettre la libération du paiement dans les meilleurs délais.

Merci d'assurer le suivi requis et salutations!

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PARTIE 1 - GÉNÉRALITÉS

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 SUMMARY

A. TAB is used throughout this Section to describe the process, methods and requirements of testing, adjusting and balancing for HVAC.

B. TAB means to test, adjust and balance to perform in accordance with requirements of Contract Documents and to do other work as specified in this section.

1.03 QUALIFICATIONS OF TAB PERSONNEL

A. Submit names of personnel to perform TAB to Consultant within 90 days of award of contract.

B. Provide documentation confirming qualifications, successful experience.

C. TAB: performed in accordance with the requirements of standard under which TAB Firm's qualifications are approved:

1. Associated Air Balance Council, (AABC) National Standards for Total System Balance, MN-1-2002.
2. National Environmental Balancing Bureau (NEBB) TABES, Procedural Standards for Testing, Adjusting, Balancing of Environmental Systems-1998.
3. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), HVAC TAB HVAC Systems - Testing, Adjusting and Balancing-2002.

D. Recommendations and suggested practices contained in the TAB Standard: mandatory

E. Use TAB Standard provisions, including checklists, and report forms to satisfy Contract requirements.

F. Use TAB Standard for TAB, including qualifications for TAB Firm and Specialist and calibration of TAB instruments.

G. Where instrument manufacturer calibration recommendations are more stringent than those listed in TAB Standard, use manufacturer's recommendations.

H. TAB Standard quality assurance provisions such as performance guarantees form part of this contract.

1. For systems or system components not covered in TAB Standard, use TAB procedures developed by TAB Specialist.
2. Where new procedures, and requirements, are applicable to Contract requirements have been published or adopted by body responsible for TAB Standard used (AABC, NEBB, or TABB), requirements and recommendations contained in these procedures and requirements are mandatory.

1.04 PURPOSE OF TAB

A. Test to verify proper and safe operation, determine actual point of performance, evaluate qualitative and quantitative performance of equipment, systems and controls at design, average and low loads using actual or simulated loads.

B. Adjust and regulate equipment and systems to meet specified performance requirements and to achieve specified interaction with other related systems under normal and emergency loads and operating conditions.

C. Balance systems and equipment to regulate flow rates to match load requirements over full operating ranges.

1.05 EXCEPTIONS

A. TAB of systems and equipment regulated by codes, standards to satisfaction of authority having jurisdiction.

1.06 CO-ORDINATION

A. Schedule time required for TAB (including repairs, re-testing) into project construction and completion schedule to ensure completion before acceptance of project.

B. Do TAB of each system independently and subsequently, where interlocked with other systems, in unison with those systems.

1.07 PRE-TAB REVIEW

A. Review contract documents before project construction is started and confirm in writing to Consultant adequacy of provisions for TAB and other aspects of design and installation pertinent to success of TAB.

B. Review specified standards and report to Consultant in writing proposed procedures which vary from standard.

C. During construction, co-ordinate location and installation of TAB devices, equipment, accessories, measurement ports and fittings.

1.08 START-UP

A. Follow start-up procedures as recommended by equipment manufacturer unless specified otherwise.

B. Follow special start-up procedures specified elsewhere in Division 23.

1.09 OPERATION OF SYSTEMS DURING TAB

A. Operate systems for length of time required for TAB and as required by Consultant for verification of TAB reports.

1.10 START OF TAB

A. Notify Consultant [7] days prior to start of TAB.

B. Start TAB when building is essentially completed, including:

1. Installation of ceilings, doors, windows, other construction affecting TAB.
2. Application of weatherstripping, sealing, and caulking.
3. Pressure, leakage, other tests specified elsewhere Division 23.
4. Provisions for TAB installed and operational.
5. Start-up, verification for proper, normal and safe operation of mechanical and associated electrical and control systems affecting TAB including but not limited to:
   a. Proper thermal overload protection in place for electrical equipment.
   b. Air systems:
      1) Filters in place, clean
      2) Duct systems clean
      3) Ducts, air shafts, ceiling plenums are airtight to within specified tolerances.
      4) Correct fan rotation.
      5) Fire, smoke, volume control dampers installed and open.
      6) Outlets installed, volume control dampers open.

1.11 APPLICATION TOLERANCES

A. Do TAB to following tolerances of design values:

B. HVAC systems: plus 5 %, minus 5 %.

1.12 ACCURACY TOLERANCES

A. Measured values accurate to within plus or minus [2] % of actual values.

1.13 INSTRUMENTS

A. Calibrate in accordance with requirements of most stringent of referenced standard for either applicable system or HVAC system.

1.14 TAB REPORT

A. TAB report to show results in SI units and to include:

1. Project record drawings.
2. System schematics.

B. Submit 6 copies of TAB Report to Consultant for verification and approval, in both official languages in D-ring binders, complete with index tabs.

1.15 VERIFICATION

A. Reported results subject to verification by Consultant.

B. Pay costs to repeat TAB as required to satisfaction of Consultant.

PARTIE 2 - PRODUCTS

2.01 NOT USED

PARTIE 3 - EXECUTION

3.01 NOT USED

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PARTIE 1 - GENERALS

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. ANSI/NFPA 90A : Installation of Air Conditioning and Ventilating Systems.

B. ANSI/NFPA 90B : Installation of Warm Air Heating and Air Conditioning Systems.

C. ASHRAE/IESNA 90.1 : Energy Standard for Buildings Except Low-Rise Residential Buildings.

D. ASTM C553-02 : Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.

E. ASTM C1290-04 : Standard Specification for Flexible Fibrous Glass Blanket Insulation Used to Externally Insulate HVAC Ducts.

F. ASTM C449 : Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulation and Finishing Cement.

G. ASTM C534-03 : Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.

H. CGSB 51-GP-52Ma-[89], Vapour Barrier, Jacket and Facing Material for Pipe, Duct and Equipment Thermal Insulation.

1.03 DEFINITIONS

A. For purposes of this section:

1. "CONCEALED" - insulated mechanical services and equipment in suspended ceilings and non-accessible chases and furred-in spaces.
2. "EXPOSED" - means "not concealed" as previouslydefined.
3. Insulation systems - insulation material, fasteners, jackets, and other accessories.

B. TIAC Codes

1. CRD: Code Round Ductwork,
2. CRF: Code Rectangular Finish

1.04 ACTION SUBMITTALS

A. Provide submittals

B. Product Data:

1. Provide manufacturer's printed product literature and datasheets for duct insulation, and include product characteristics, performance criteria, physical size, finish and limitations.

   a. Description of equipment giving manufacturer's name, type, model, year and capacity.

   b. Details of operation, servicing and maintenance.

C. Manufacturers' Instructions:

1. Provide manufacture's written duct insulation jointing recommendations. and special handling criteria, installation sequence, cleaning procedures.

1.05 QUALITY ASSURANCE

A. Qualifications

1. specialist in performing work of this section, and have at least 3 years successful experience in this size and type of project, qualified to standards and member of TIAC.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site in original factory packaging, labelled with manufacturer's name, address and ULC markings.

PARTIE 2 - PRODUCTS

2.01 FIRE AND SMOKE RATING

A. To CAN/ULC-S102:

1. Maximum flame spread rating: 25.

2. Maximum smoke developed rating: 50.

2.02 INSULATION

A. Thermal conductivity ("k" factor) not to exceed specified values at 24 degrees C mean temperature when tested in accordance with ASTM C 335.

B. TIAC Code C-2: Mineral fibre blanket to ASTM C 553 faced [with] [without] factory applied vapour retarder jacket to CGSB 51-GP-52Ma (as scheduled in PART 3 of this section).

1. Mineral fibre: to ASTM C 553.

2. Jacket: to CGSB 51-GP-52Ma.

3. Maximum "k" factor: to ASTM C 553.

2.03 JACKETS

A. Canvas:

1. 220 gm/m² cotton, plain weave, treated with dilute fire retardant lagging adhesive to ASTM C 921.

B. Lagging adhesive: compatible with insulation

1. Maximum VOC limit 50 g/L to GSES GS-36.

2.04 ACCESSORIES

A. Vapour retarder lap adhesive:

1. Water based, fire retardant type, compatible with insulation.

B. ULC Listed Canvas Jacket:

1. 220 gm/m² cotton, plain weave, treated with dilute fire retardant lagging adhesive to ASTM C 921.

C. Tape: self-adhesive, aluminum, reinforced, 75 mm wide minimum.

PARTIE 3 - EXECUTION

3.01 APPLICATION

A. Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.02 PRE-INSTALLATION REQUIREMENTS

A. Pressure test ductwork systems complete, witness and certify.

B. Ensure surfaces are clean, dry, free from foreign material.

3.03 INSTALLATION

A. Install in accordance with TIAC National Standards.

B. Apply materials in accordance with manufacturers instructions and as indicated.

C. Use 2 layers with staggered joints when required nominal thickness exceeds 75 mm.

D. Maintain uninterrupted continuity and integrity of vapour retarder jacket and finishes. Ensure hangers, and supports are outside vapour retarder jacket.

3.04 DUCTWORK INSULATION SCHEDULE

A. Insulation types and thicknesses: conform to following table:

Services	Thickness (mm)
Plenum Exhaust	50mm
Exhaust duct on a distance of 3m (10 ft) inside de building from exhaust plenum.	50mm

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 SUMMARY

A. Section Includes :

1. Thermal insulation for piping and piping accessories in commercial type applications.

1.03 REFERENCES

A. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) :

1. ASHRAE Standard 90.1-[01], Energy Standard for Buildings Except Low-Rise Residential Buildings (IESNA co-sponsored; ANSI approved; Continuous Maintenance Standard)

B. American Society for Testing and Materials International (ASTM)

1. ASTM C 449/C 449M-[00], Standard Specification for Mineral Fiber-Hydraulic-Setting Thermal Insulating and Finishing Cement.
2. ASTM C 547-[2003], Mineral Fiber Pipe Insulation.
3. ASTM C 921-[03a], Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.

C. Canadian General Standards Board (CGSB)

1. CGSB 51-GP-52Ma-[89], Vapour Barrier, Jacket and Facing Material for Pipe, Duct and Equipment Thermal Insulation.
2. CAN/CGSB-51.53-[95], Poly (Vinyl Chloride) Jacketting Sheet, for Insulated Pipes, Vessels and Round Ducts.

D. Department of Justice Canada (Jus)

1. Canadian Environmental Assessment Act (CEAA), 1995, c. 37.
2. Canadian Environmental Protection Act (CEPA), 1999, c. 33.
3. Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

E. Health Canada/Workplace Hazardous Materials Information System (WHMIS)

1. Material Safety Data Sheets (MSDS)

F. Manufacturer's Trade Associations

1. Thermal Insulation Association of Canada (TIAC): National Insulation Standards (Revised 2004).

G. Underwriters' Laboratories of Canada (ULC)

1. CAN/ULC-S102-[03], Surface Burning Characteristics of Building Materials and Assemblies.
2. CAN/ULC-S701-[01], Thermal Insulation, Polystyrene, Boards and Pipe Covering.
3. CAN/ULC-S702-[1997], Thermal Insulation, Mineral Fibre, for Buildings
4. CAN/ULC-S702.2-[03], Thermal Insulation, Mineral Fibre, for Buildings, Part 2: Application Guidelines.

1.04 DEFINITIONS

A. For purposes of this section :

1. "CONCEALED" - insulated mechanical services in suspended ceilings and non-accessible chases and furred-in spaces.
2. "EXPOSED" - will mean "not concealed" as specified.

B. TIAC ss :

1. CRF: Code Rectangular Finish.
2. CPF: Code Piping Finish.

1.05 ACTION SUBMITTALS

A. Product Data :

1. Submit manufacturer's printed product literature, specifications and datasheet. Include product characteristics, performance criteria, and limitations.

1.06 QUALITY ASSURANCE

A. Installer: specialist in performing work of this Section, and have at least 3 years successful experience in this size and type of project, member of TIAC.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.

PARTIE 2 - PRODUCTS

2.01 FIRE AND SMOE RATING

A. In accordance with CAN/ULC-S102

1. Maximum flame spread rating: 25
2. Maximum smoke developed rating: 50

2.02 INSULATION

A. Mineral fibre specified includes glass fibre, rock wool, slag wool.

B. Thermal conductivity ("k" factor) not to exceed specified values at 24 degrees C mean temperature when tested in accordance with ASTM C 335.

C. TIAC Code C-2: mineral fibre blanket faced with factory applied vapour retarder jacket (as scheduled in PART 3 of this section.

1. Mineral fibre: to CAN/ULC-S702 and ASTM C 547
2. Jacket: to CGSB 51-GP-52Ma.

D. TIAC Code A-6: flexible unicellular tubular elastomer

1. Insulation: with vapour retarder jacket
2. Jacket: to CGSB 51-GP-52Ma.
3. Certified by manufacturer: free of potential stress corrosion cracking corrodants.

2.03 INSULATION SECUREMENT

A. Tape: self-adhesive, aluminum, 50 mm wide minimum.

B. Contact adhesive: quick setting.

C. Canvas adhesive: washable

D. Tie wire: 1.5 mm diameter stainless steel

E. Bands: stainless steel, 19mm wide, 0.5 mm thick

2.04 JACKETS

A. Polyvinyl Chloride (PVC)

1. One-piece moulded type to CAN/CGSB-51.53 with pre-formed shapes as required.
2. Minimum service temperatures: -20 degrees C.
3. Maximum service temperature: 65 degrees C
4. Moisture vapour transmission: 0.02 perm.
5. Fastenings :
   a. Use solvent weld adhesive compatible with insulation to seal laps and joints
   b. Tacks
   c. Pressure sensitive vinyl tape of matching colour

PARTIE 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet

3.02 PRE-INSTALLATION REQUIREMENT

A. Pressure testing of piping systems and adjacent equipment to be complete, witnessed and certified.

B. Surfaces clean, dry, free from foreign material.

3.03 INSTALLATION

A. Install in accordance with TIAC National Standards

B. Apply materials in accordance with manufacturers instructions and this specification

C. Use two layers with staggered joints when required nominal wall thickness exceeds 75 mm

D. Maintain uninterrupted continuity and integrity of vapour retarder jacket and finishes
   1. Install hangers, supports outside vapour retarder jacket

E. Supports, Hangers
   1. Apply high compressive strength insulation, suitable for service, at oversized saddles and shoes where insulation saddles have not been provided.

3.04 PIPING INSTALLATION SCHEDULES

A. Includes valves, valve bonnets, strainers, flanges and fittings unless otherwise specified.

B. TIAC Code: C-2 with vapour retarder jacket.
   1. Seals: lap seal adhesive, lagging adhesive
   2. Installation: TIAC Code: 1501-C

C. TIAC Code: A-2
   1. Seals: lap seal adhesive, lagging adhesive.
   2. Installation: TIAC Code: 1501-H

D. Thickness of insulation as listed in following table.
   1. Run-outs to individual units and equipment not exceeding 4000 mm long.
   2. Do not insulate exposed runouts to plumbing fixtures, chrome plated piping, valves, fittings.

Application	TIAC Code	Tickness (mm)
Domestic Cold Water	C-2	25
Domestic Hot Water	A-1	25

E. Finishes

1. Exposed indoors: PVC jacket
2. Installation: to appropriate TIAC code CRF/1 through CPF/5.

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 SUMMARY

A. Section Includes:

1. Materials and installation of low-pressure metallic ductwork, joints and accessories.

1.03 REFERENCES

A. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE).

B. American Society for Testing and Materials International, (ASTM).

1. ASTM A 480/A 480M-[03c], Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip.
2. ASTM A 635/A 635M-[02], Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Carbon, Hot Rolled.
3. ASTM A 653/A 653M-[03], Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.

C. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).

1. SMACNA HVAC Duct Construction Standards - Metal and Flexible, 2nd Edition [1995] and Addendum No. 1, [1997].
2. SMACNA HVAC Air Duct Leakage Test Manual, [1985], 1st Edition.

PARTIE 2 - PRODUCTS

2.01 SEAL CLASSIFICATION

A. Classification as follows:

Maximum pressure Pa	Seal Class (SMACNA)
500	[C]

B. Seal classification:

1. Class C: transverse joints and connections made air tight with tape. Longitudinal seams unsealed.

2.02 SEALANT

A. Sealant: oil resistant, water borne, flame resistant duct sealant. Temperature range of minus 30 degrees C to plus 93 degrees C.

2.03 TAPE

A. Tape: polyvinyl treated, open weave fiberglass tape, 75 mm wide.

2.04 DUCT LEAKAGE

A. In accordance with SMACNA HVAC Air Duct Leakage Test Manual.

2.05 FITTINGS

A. Fabrication: to SMACNA.

B. Radiused elbows.

1. Round: five piece. Centreline radius: 1.5 times diameter.

C. Transitions:

1. 30 degrees maximum included angle.

2.06 GALVANIZED STEEL

A. Lock forming quality: to ASTM A 653/A 653M.

B. Thickness, fabrication and reinforcement: to ASHRAE and SMACNA.

2.07 HANGERS AND SUPPORTS

A. Hangers and Supports:

1. Strap hangers: of same material as duct but next sheet metal thickness heavier than duct.
2. Hanger configuration: to ASHRAE and SMACNA.
3. Hangers: galvanized steel angle with galvanized steel rods to ASHRAE and SMACNA.

PARTIE 3 - EXECUTION

3.01 GENERAL

A. Do work in accordance ASHRAE and SMACNA.

3.02 WATERTIGHT DUCT

A. Provide watertight duct for:

1. Exhaust plenum

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 SUMMARY

A. Section Includes:

1. Supply, return and exhaust grilles and registers, for commercial use.

1.03 ACTION SUBMITTALS

A. Submit manufacturer's printed product literature, specifications and datasheet. Include product characteristics, performance criteria, and limitations.

B. Indicate following :

1. Capacity.
2. Noise criteria.
3. Pressure drop.

PARTIE 2 - PRODUCTS

2.01 GENERAL

A. To meet capacity, pressure drop, terminal velocity, throw, noise level, neck velocity as indicated.

B. Frames:

1. Full perimeter gaskets.
2. Concealed fasteners.
3. Colour: as directed by Consultant.
4. Grilles, registers and diffusers of same generic type, products of one manufacturer.

PARTIE 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.02 INSTALLATION

A. Install with screws in countersunk holes where fastenings are visible.

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. Canadian Standards Association (CSA International)

1. CSA C22.1, Canadian Electrical Code, Safety Standard for Electrical Installations.

B. Electrical and Electronic Manufacturer's Association of Canada (EEMAC)

1. EEMAC 2Y-1-[1958], Light Gray Colour for Indoor Switch Gear.

C. Institute of Electrical and Electronics (IEEE)/National Electrical Safety Code Product Line (NESC)

1. IEEE SP1122-[2000], The Authoritative Dictionary of IEEE Standards Terms, 7th Edition.

1.03 DEFINITIONS

A. Electrical and electronic terms: unless otherwise specified or indicated, terms used in these specifications, and on drawings, are those defined by IEEE SP1122.

1.04 DESIGN REQUIREMENTS

A. Operating voltages: to CAN3-C235.

B. Motors, electric heating, control and distribution devices and equipment to operate satisfactorily at 60 Hz within normal operating limits established by above standard.

1. Equipment to operate in extreme operating conditions established in above standard without damage to equipment.

1.05 QUALITY ASSURANCE

A. Qualifications: electrical Work to be carried out by qualified, licensed electricians who hold valid Master Electrical Contractor license or apprentices as per the conditions of Provincial Act respecting manpower vocational training and qualification.

1.06 SYSTEM STARTUP

A. Instruct operating personnel in operation, care and maintenance of systems, system equipment and components.

B. Provide these services for such period, and for as many visits as necessary to put equipment in operation, and ensure that operating personnel are conversant will aspects of its care and operation.

1.07 OPERATING INSTRUCTIONS

A. Provide for each system and principal item of equipment as specified in technical sections for use by operation and maintenance personnel.

B. Operating instructions to include following :

1. Start up, proper adjustment, operating, lubrication, and shutdown procedures.
2. Safety precautions.
3. Procedures to be followed in event of equipment failure.
4. Other items of instruction as recommended by manufacturer of each system or item of equipment.

PARTIE 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Material and equipment to be CSA certified. Where CSA certified material and equipment are not available, obtain special approval from authority having jurisdiction before delivery to site.

B. Factory assemble control panels and component assemblies.

2.02 WIRING TERMINATIONS

A. Ensure lugs, terminals, screws used for termination of wiring are suitable for either copper or aluminum conductors.

2.03 EQUIPMENT IDENTIFICATION

A. Identify electrical equipment with nameplates and labels as follows:

1. Nameplates: lamicoid 3 mm thick plastic engraving sheet, black matt finish face, white core, lettering accurately aligned and engraved into core mechanically attached with self tapping screws.
2. Wording on nameplates and labels to be approved by Consultant prior to manufacture.

B. Disconnects, starters and contactors: indicate equipment being controlled and voltage.

C. Terminal cabinets and pull boxes: indicate system and voltage.

D. Transformers: indicate capacity, primary and secondary voltages.

2.04 WIRING IDENTIFICATION

A. Identify wiring with permanent indelible identifying markings, coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.

B. Maintain phase sequence and colour coding throughout.

C. Colour coding: to CSA C22.1

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Do complete installation in accordance with CSA C22.1 except where specified otherwise.

3.02 NAMEPLATES AND LABELS

A. Ensure manufacturer's nameplates, CSA labels and identification nameplates are visible and legible after equipment is installed.

3.03 LOCATION OF OUTLETS

A. Do not install outlets back-to-back in wall; allow minimum 150 mm horizontal clearance between boxes.

B. Change location of outlets at no extra cost or credit, providing distance does not exceed 3000 mm, and information is given before installation.

C. Locate light switches on latch side of doors.

3.04 MOUNTING HEIGHTS

A. Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.

B. If mounting height of equipment is not specified or indicated, verify before proceeding with installation.

C. Install electrical equipment at following heights unless indicated otherwise

1. Local switches: 1400 mm
2. Wall receptacles :
   a. General: 300 mm
   b. Above top of continuous baseboard heater: 200 mm
   c. Above top of counters or counter splash backs: 175 mm
   d. In mechanical rooms: [1400] mm
3. Panelboards: as required by Code or as indicated

3.05 CO-ORDINATION OF PROTECTIVE DEVICES

A. Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to required values and settings.

3.06 FIELD QUALITY CONTROL

A. Load Balance :

1. Measure phase current to panelboards with normal loads (lighting) operating at time of acceptance; adjust branch circuit connections as required to obtain best balance of current between phases and record changes.

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PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 PRODUCT DATA

A. Provide Product Data.

PARTIE 2 - PRODUCTS

2.01 BUILDING WIRES

A. Conductors: stranded for [10] AWG and larger. Minimum size: [12] AWG;

B. Copper conductors: size as indicated, with 1000V insulation of cross-linked thermosetting polyethylene material rated RW90 XLPE or RWU90 XLPE.

2.02 TECK 90 CABLE

A. Conductors :
   1. Grounding conductor: copper
   2. Circuit conductors: copper

B. Insulation :
   1. Cross-linked polyethylene XLPE
   2. Rating: , 1000 V

C. Inner jacket: polyvinyl chloride material

D. Armour: aluminum.

E. Overall covering: thermoplastic polyvinyl chloride, compliant to applicable Building Code classification for this project.

F. Fastenings :
   1. One hole aluminum straps to secure surface cables 50 mm and smaller. Two hole steel straps for cables larger than 50 mm.
   2. Channel type supports for two or more cables.

G. Connectors:
   1. approved for TECK cable

2.03 ARMOURED CABLES

A. Conductors: insulated, copper, size as indicated.

B. Armour: interlocking type fabricated from aluminum strip.

C. Connectors: anti short connectors.

PARTIE 3 - EXECUTION

3.01 GENERAL CABLE INSTALLATION

A. Wiring in walls: typically drop or loop vertically from above to better facilitate future renovations. Generally wiring from below and horizontal wiring in walls to be avoided unless indicated.

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3.02 EQUIPMENT GROUNDING 3

3.03 FIELD QUALITY CONTROL 3

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENT

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE).

1. ANSI/IEEE 837-[1989(R1996)], Qualifying Permanent Connections Used in Substation Grounding.

B. Canadian Standards Association, (CSA International)

PARTIE 2 - PRODUCTS

2.01 EQUIPMENT

A. Grounding conductors: bare stranded copper, size as indicated.

B. Insulated grounding conductors: green

C. Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to :

1. Grounding and bonding bushings.
2. Protective type clamps.
3. Bolted type conductor connectors.
4. Bonding jumpers, straps.
5. Pressure wire connectors

PARTIE 3 - EXECUTION

3.01 INSTALLATION GENERAL

A. Install complete permanent, continuous grounding system including, electrodes, conductors, connectors, accessories. Where EMT is used, run ground wire in conduit.

B. Install connectors in accordance with manufacturer's instructions.

C. Protect exposed grounding conductors from mechanical injury.

D. Use mechanical connectors for grounding connections to equipment provided with lugs.

E. Soldered joints not permitted.

F. Install flexible ground straps for bus duct enclosure joints, where such bonding is not inherently provided with equipment.

G. Install separate ground conductor to outdoor lighting standards.

3.02 EQUIPMENT GROUNDING

A. Install grounding connections to typical equipment included in, but not necessarily limited to following list. Service equipment, transformers, switchgear, duct systems, frames of motors, motor control centres, starters, control panels, building steel work, generators, elevators and escalators, distribution panels, outdoor lighting.

3.03 FIELD QUALITY CONTROL

A. Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of local authority having jurisdiction over installation.

B. Perform tests before energizing electrical system.

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PARTIE 2 - PRODUCTS 2

2.01 SUPPORT CHANNELS 2

PARTIE 3 - EXECUTION 2

3.01 INSTALLATION 2

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

PARTIE 2 - PRODUCTS

2.01 SUPPORT CHANNELS

A. U shape, size 41 x 41 mm, 2.5 mm thick, surface mounted or suspended.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Support equipment, conduit or cables using clips, spring loaded bolts, cable clamps designed as accessories to basic channel members.

B. Suspended support systems :

1. Support individual cable or conduit runs with 6 mm dia threaded rods and spring clips.
2. Support 2 or more cables or conduits on channels supported by 6 mm dia threaded rod hangers where direct fastening to building construction is impractical.

C. For surface mounting of two or more conduits use channels.

D. Provide metal brackets, frames, hangers, clamps and related types of support structures where indicated or as required to support conduit and cable runs.

E. Do not use wire lashing or perforated strap to support or secure raceways or cables.

F. Do not use supports or equipment installed for other trades for conduit or cable support except with permission of other trade and approval of Consultant.

G. Install fastenings and supports as required for each type of equipment cables and conduits, and in accordance with manufacturer's installation recommendations.

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2.02 CONDUIT BOXES 2

2.03 FITTINGS – GENERAL 2

2.04 SERVICE FITTINGS 2

PARTIE 3 - EXECUTION 3

3.01 INSTALLATION 3

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. CSA C22.1, Canadian Electrical Code.

PARTIE 2 - PRODUITS

2.01 OUTLET AND CONDUIT BOXES GENERAL

A. Size boxes in accordance with CSA C22.1.

B. 102 mm square or larger outlet boxes as required;

C. Gang boxes where wiring devices are grouped;

D. Blank cover plates for boxes without wiring devices;

E. Combination boxes with barriers where outlets for more than one system are grouped ;

2.02 CONDUIT BOXES

A. Cast FS or FD aluminum boxes with factory-threaded hubs and mounting feet for surface wiring of devices.

2.03 FITTINGS – GENERAL

A. Bushing and connectors with nylon insulated throats.

B. Knock-out fillers to prevent entry of debris.

C. Conduit outlet bodies for conduit up to 35mm and pull boxes for larger conduits.

D. Double locknuts and insulated bushings on sheet metal boxes.

2.04 SERVICE FITTINGS

A. 'High tension' receptacle fitting made of 2 piece die-cast aluminum with brushed aluminum housing finish for 1 duplex or two duplex receptacles. Bottom plate with two knockouts for centered or offset installation. 12 x 102 mm extension piece as indicated.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Support boxes independently of connecting conduits;

B. For flush installations mount outlets flush with finished wall using plaster rings to permit wall finish to come within 6 mm of opening.

C. Provide correct size of openings in boxes for conduit, mineral insulated and armoured cable connections. Do not install reducing washers.

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3.01 MANUFACTURER'S INSTRUCTIONS 3

3.02 INSTALLATION 3

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. Canadian Standards Association (CSA International)

1. CAN/CSA C22.2 No. 18-98(R2003), Outlet Boxes, Conduit Boxes, Fittings and Associated Hardware, A National Standard of Canada.
2. CSA C22.2 No. 45-M1981(R2003), Rigid Metal Conduit.
3. CSA C22.2 No. 83-M1985(R2003), Electrical Metallic Tubing.
4. CSA C22.2 No. 211.2-M1984(R2003), Rigid PVC (Unplasticized) Conduit.
5. CAN/CSA C22.2 No. 227.3-05, Nonmetallic Mechanical Protection Tubing (NMPT), A National Standard of Canada (February 2006).

1.03 ACTION SUBMITTALS

A. Product data: submit manufacturer's printed product literature, specifications and datasheets.

B. Instructions: submit manufacturer's installation instructions.

PARTIE 2 - PRODUCTS

2.01 CONDUITS

A. Rigid metal conduit: to CSA C22.2 No. 45, galvanized steel threaded;

B. Electrical metallic tubing (EMT): to CSA C22.2 No. 83, with couplings.

C. Rigid pvc conduit: to CSA C22.2 No. 211.2

2.02 CONDUIT FASTENINGS

A. One hole steel straps to secure surface conduits NPS 2 (50 mm) and smaller; Two hole steel straps for conduits larger than NPS 2 (50 mm).

B. Channel type supports for two or more conduits.

C. Threaded rods, 6 mm diameter, to support suspended channels.

2.03 FISH CORD

A. Polypropylene 5 mm (1/4"), traction resistent 5 kN.

PARTIE 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.02 INSTALLATION

A. Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass;

B. Conceal conduits except in mechanical and electrical service rooms and in unfinished areas;

C. Use epoxy coated conduit underground or in corrosive areas.

D. Use electrical metallic tubing (EMT) except in cast concrete or above 2.4 m not subject to mechanical injury.

E. Use rigid pvc conduit underground.

F. Use flexible metal conduit for connection to motors in dry areas, connection to recessed incandescent fixtures without prewired outlet box, connection to surface or recessed fluorescent fixtures.

G. Minimum conduit size for lighting and power circuits: NPS 3/4 (19 mm).

H. Install fish cord in empty conduits.

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1.02 REFERENCES 2

1.03 SHOP DRAWINGS AND PRODUCT DATA 2

PARTIE 2 - PRODUCTS 2

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2.02 RECEPTACLES 2

2.03 COVER PLATES 3

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3.01 INSTALLATION 3

PARTIE 1 - GENERAL

1.01 DOCUMENTS CONNEXES RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. CSA-C22.2 No.111, General-Use Snap Switches;

B. CSA-C22.2 No.55-, Special Use Switches;

C. CSA-C22.2 No.42, General Use Receptacles, Attachment Plugs and Similar Devices.

1.03 SHOP DRAWINGS AND PRODUCT DATA

A. Submit shop drawings and product data.

PARTIE 2 - PRODUCTS

2.01 SWITCHES

A. 15 A, 120 V, single pole switches to: CSA-C22.2 No.55 and CSA-C22.2 No.111.

B. Manually-operated general purpose ac switches with following features :
   1. Terminal holes approved for No. 10 AWG wire.
   2. Silver alloy contacts.
   3. Urea or melamine moulding for parts subject to carbon tracking
   4. Suitable for back and side wiring.
   5. White toggle.

C. Toggle operated fully rated for tungsten filament and fluorescent lamps, and up to 80% of rated capacity of motor loads.

D. Switches of one manufacturer throughout project.

2.02 RECEPTACLES

A. Duplex receptacles, CSA type 5-15 R, 125 V, 15 A, U ground, to: CSA-C22.2 No.42 with following features :
   1. White area moulded housing.
   2. Suitable for No. 10 AWG for back and side wiring.
   3. Break-off links for use as split receptacles.

4. Eight back wired entrances, four side wiring screws.
5. Triple wipe contacts and rivetted grounding contacts.

B. Other receptacles with ampacity and voltage as indicated.

C. Receptacles of one manufacturer throughout project.

2.03 COVER PLATES

A. Cover plates for wiring devices to: CSA-C22.2 No.42.1.

B. Cover plates from one manufacturer throughout project.

C. plastic white cover plates, thickness 2.5 mm for wiring devices mounted in flush-mounted outlet box.

D. Weatherproof double lift spring-loaded cast aluminum cover plates, complete with gaskets for duplex receptacles as indicated.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Switches :
1. Install single throw switches with handle in "UP" position when switch closed.
2. Install switches in gang type outlet box when more than one switch is required in one location.

B. Receptacles :
1. Install receptacles in gang type outlet box when more than one receptacle is required in one location.

C. Cover plates :
1. Install suitable common cover plates where wiring devices are grouped.
2. Do not use cover plates meant for flush outlet boxes on surface-mounted boxes.

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PARTIE 3 - EXECUTION 2

3.01 INSTALLATION 2

3.02 LUMINAIRE ALIGNMENT 2

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 RÉFÉRENCES

A. Canadian Standards Association (CSA International)

B. Underwriters' Laboratories of Canada (ULC)

1.03 ACTION SUBMITTALS

A. Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

B. Provide complete photometric data prepared by independent testing laboratory.

PARTIE 2 - PRODUCTS

2.01 LIGHTING FIXTURE

A. As indicated in luminaire schedule.

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Locate and install luminaires as indicated

B. Provide adequate support to suit ceiling system.

3.02 LUMINAIRE ALIGNMENT

A. Align luminaires mounted in continuous rows to form straight uninterrupted line.

B. Align luminaires mounted individually parallel or perpendicular to building grid lines.

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3.01 INSTALLATION 3

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. CSA C22.2 No. 141 FM1985 (C1999), Unit Equipment fo Emergency Lighting.

1.03 ACTION SUBMITTALS

A. Submit product data.

B. Data to indicate system components, mounting method, source of power and special attachments.

1.04 WARRANTY

A. For batteries, the 12 months warranty period prescribed in General Conditions is extended to 120 months, with no-charge replacement during the first 5 years and pro-rate charge on the second 5 years.

PARTIE 2 - PRODUCTS

2.01 EQUIPMENT

A. Supply voltage 120 V AC.

B. Output voltage 24 V DC.

C. Operating time - ½ h à 2 h.

D. Battery: sealed, maintenance free.

E. Charger: solid state, multi-rate, voltage/current regulated, inverse temperature compensated, short circuit protected with regulated output of plus or minus 0.01V for plus or minus 10% input variations.

F. Solid state transfer circuit.

G. Low voltage disconnect: solid state, modular, operates at 80% battery output voltage

H. Signal lights: solid state, for 'AC Power ON' and 'High Charge'.

I. Lamp heads: integral on unit or remote, 345 degrees horizontal and 180 degrees vertical adjustment.

J. Cabinet: suitable for direct or shelf mounting to wall and c/w knockouts for conduit. Removable or hinged front panel for easy access to batteries.

K. Auxiliary equipment :
   1. Ammeter.
   2. Voltmeter
   3. Test switch
   4. Battery disconnect device
   5. Cord and plug connection for AC

PARTIE 3 - EXECUTION

3.01 INSTALLATION

A. Install unit equipment and remote mounted fixtures.

B. Direct heads.

C. Connect exit lights to unit equipment.

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PARTIE 3 - EXECUTION 3

3.01 EXAMINATION 3

3.02 INSTALLATION 3

3.03 SITE TEST AND INSPECTION 4

PARTIE 1 - GENERAL

1.01 RELATED REQUIREMENTS

A. The general conditions of contract, including section of specification and sections of division 01 apply to this section.

1.02 REFERENCES

A. National Fire Protection Association (NFPA)
   1. NFPA 70, Article 517, National Electric Code.
   2. NFPA 101, Life Safety Code.

B. Electronic Industries Association (EIA)
   1. REC 12749, Power Supplies.
   2. RS 16051, Sound Systems.

C. Underwriters Laboratories of Canada (ULC)
   1. CAN/ULC-S304, Signal Receiving Centre and Premise Burglar Alarm Control Units.
   2. CAN/ULC-S306-, Intrusion Detection Units.
   3. ULC-S318, Power Supplies for Burglar Alarm Systems.
   4. ORD-C634, Connectors and Switches for Use with Burglar Alarm Systems.

D. Underwriters' Laboratories (UL)
   1. UL 603-[1998], Standard for Power Supplies For Use With Burglar-Alarm Systems.
   2. UL 639-[1997], The Standard for Intrusion-Detection Units.

1.03 ACTION SUBMITTALS

A. Product Data :
   1. Submit manufacturer's instructions, printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.
   2. Submit:
      a. Functional description of equipment
      b. Technical data for devices
      c. Device location plans and cable lists
      d. Devices mounting location detail drawings
      e. Typical devices connection detail drawings
   3. Shop drawings to indicate project layout, mounting heights and locations, wiring diagrams, detection device coverage patterns.

4. Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties :
   a. Submit UL Product Safety Certificates
   b. Submit verification Certificate that service company is ULC/UL List alarm service company
   c. Submit verification Certificate that intrusion alarm system is Certified Alarm System

1.04 WARRANTY

A. For materials, the 12 month warranty period prescribed in General Conditions is extended to 60 months.

B. Extended warranty period must include warranty meeting specified performance requirements, for specified time period.

C. Manufacturer's Warranty: submit, for Consultant's acceptance, manufacturer's standard warranty document executed by authorized company official.

PARTIE 2 - PRODUCTS

2.01 MATERIALS

A. See description on drawing sheet.

PARTIE 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for intrusion detection installation in accordance with manufacturer's written instructions.

3.02 INSTALLATION

A. Install panels, intrusion detection system and components in accordance with manufacturer's written installation instructions to locations, heights and surfaces shown on reviewed shop drawings.

B. Install panels, intrusion detection system and components secure to walls, ceilings or other substrates.

C. Install required boxes in inconspicuous accessible locations.

D. Conceal conduit and wiring.

3.03 SITE TEST AND INSPECTION

A. Visual verification: objective is to assess quality of installation and assembly and overall appearance to ensure compliance with Contract Documents. Visual inspection to include :

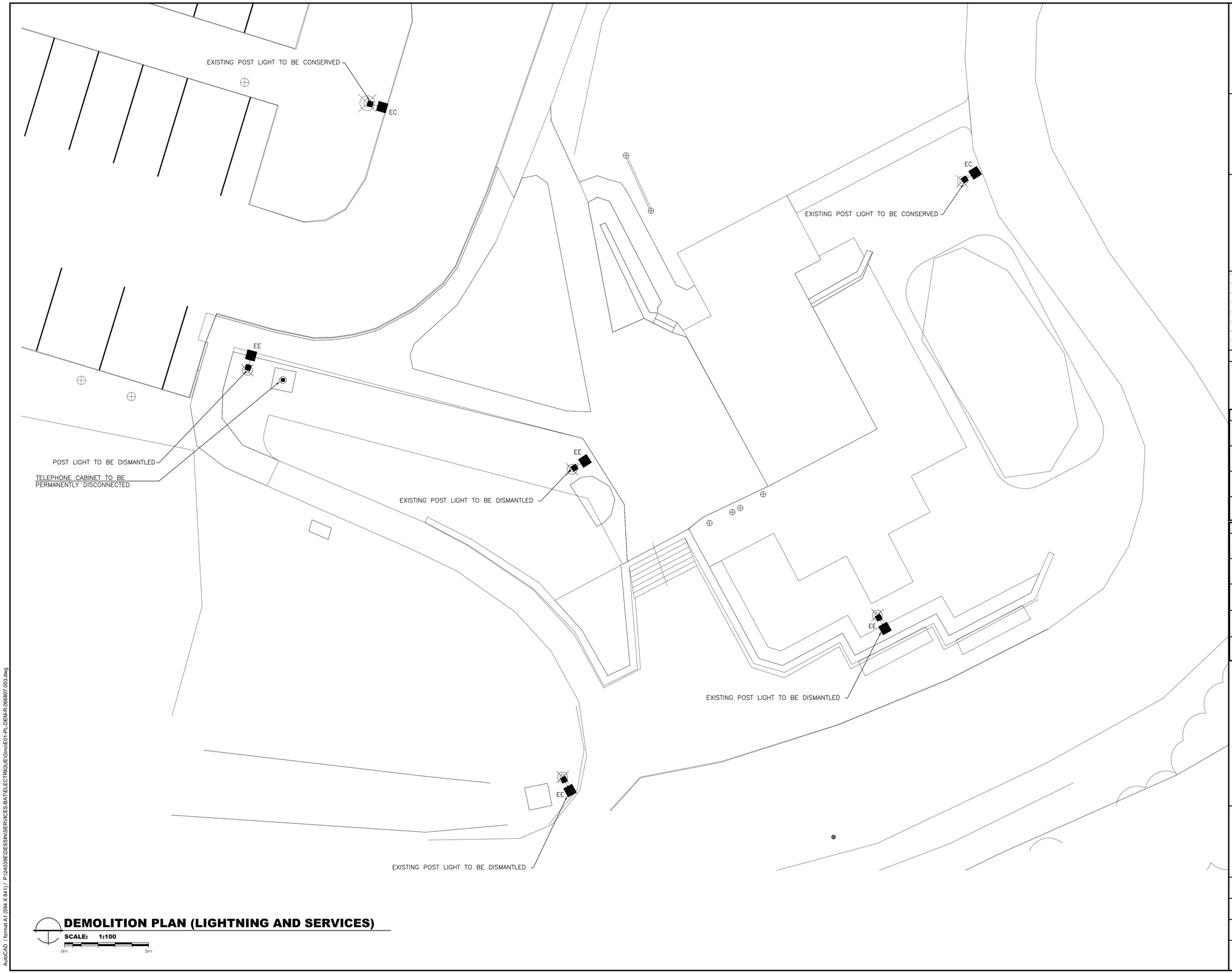
1. Sturdiness of equipment fastening
2. Non-existence of installation related damages.
3. Compliance of device locations with reviewed shop drawings
4. Compatibility of equipment installation with physical environment
5. Inclusion of all accessories
6. Device and cabling identification

B. Technical verification: purpose to ensure that all systems and devices are properly install and free of defects and damage. Technical verification includes :

1. Measurements of coverage patterns
2. Connecting joints and equipment fastening
3. Compliance with manufacturer's specification, product literature and installation instructions

C. Operational verification: purpose to ensure that devices and systems' performance meet or exceed established functional requirements. Operational verification includes :

1. Operation of each device individually and within its environment
2. Operation of each device in relation with programmable schedule and or/specific functions



DEMOLITION PLAN (LIGHTNING AND SERVICES)

SCALE: 1:100

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2	ISSUED FOR TENDER	2014-11-21
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B. Localisation
C. On sheet No

CONCEPTION: DESING:

Conçu par: Designed by:
Mathieu Roussel, tech.

Dessiné par: Drawn by:
Mathieu Roussel, tech.

Verifié par: Checked by:
Mathieu Ouellet, ing.

Chargé de projet: Project manager by:
Mathieu Ouellet, ing.

VALIDÉ PAR: VALIDATED BY:

Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARK CANADA AGENCY

Titre du dessin: Drawing title:

ELECTRICITY DEMOLITION PLAN LIGHTNING AND SERVICES DIRECT EMBEDMENT

Date: 2014-09-29

Échelle: SHOWN Scale:

Réf. Consultant: Ref. Consultant: R.066807.004

Feuille: E01 / 07 Sheet:

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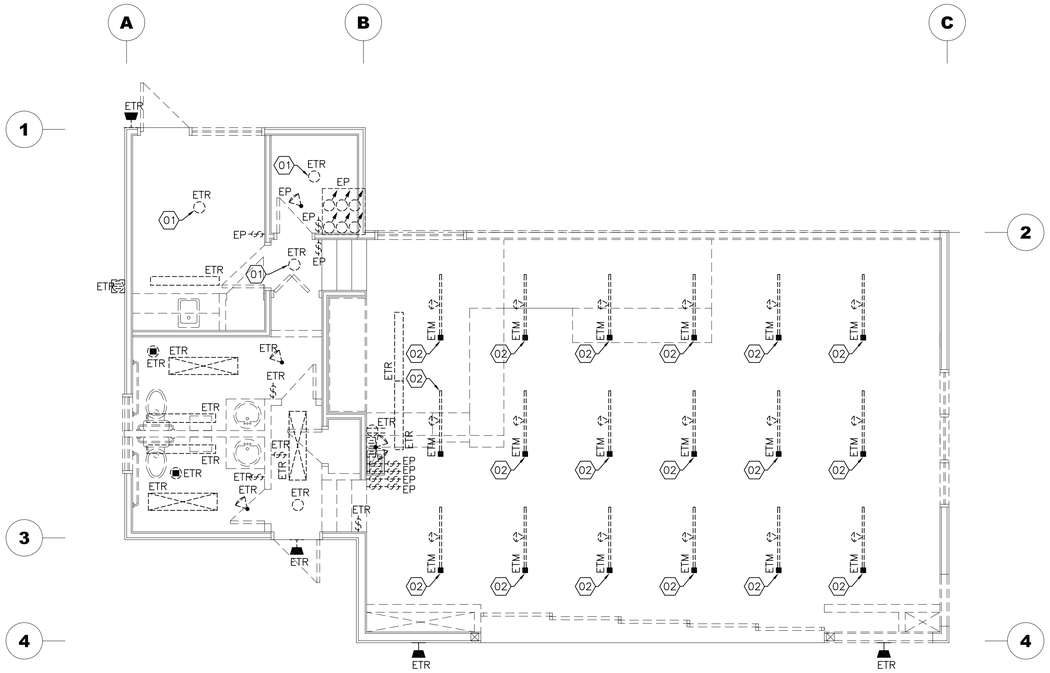

DEMOLITION PLAN (LIGHTNING)

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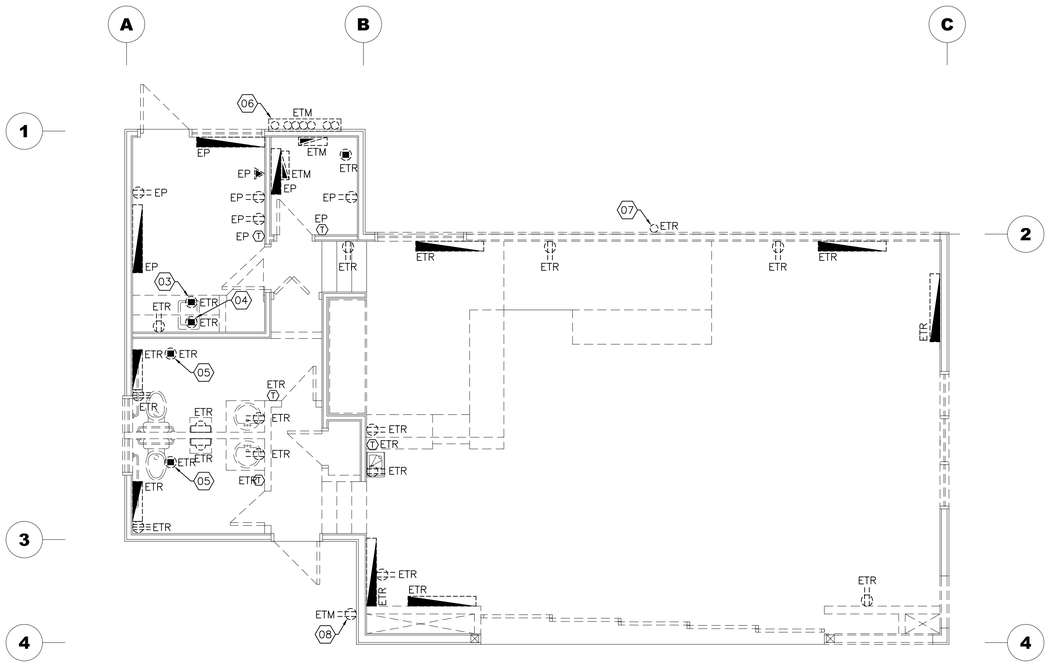

DEMOLITION PLAN (SERVICES)

SCALE: 1:50

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SPEPIFIC NOTES:

01 EXISTING LIGHTING DEVICE TO BE DISMANTLED, CONSERVE THE EXISTING BYPASS (120ø/60 HZ) FOR THE CONNEPTION OF A NEW DEVICE LOCATED NETR (REFER TO CONSTRUCTION PLAN)

02 EXISTING LIGHTNING DEVICE TO BE MODIFIED, PERFORM THE REPLACEMENT OF THE LAMP ACCORDING TO THE INSTRUCTIONS MENTIONED ON THE CONSTRUCTION PLAN.

03 EXISTING SUCTION HOOD TO BE PERMANENTLY DISMANTLED.

04 EXISTING SERVICE MODULE (STORE/REFRIGERATOR) TO BE PERMANENTLY DISMANTLED.

05 EVACUATION FAN TO BE PERMANENTLY DISCONNEPTED.

06 ELEPTRICAL DUCT INPUT C/W METER AND EXISTING ELEPTRICAL WALL DUCTS TO BE PROTEPTED DURING THE REPAIIR WORKS OF THE BUILDING'S EXTERIOR COATING, PERFORM THE DISPLACEMENT OF THE EXISTING GROUNDING ROD TO ALLOW THE EXPANSION WORKS OF THE BUILDING (REFER TO THE CONSTRUCTION PLAN).

07 EXISTING TELEPOMMUNICATION WIRING TOWARDS ROOF ANTENNA, TO BE MODIFIED IN ORDER TO CONCEAL ALL WETRING IN A NON-APPARENT WAY INSIDE THE BUILDING (REFER TO THE CONSTRUCTION PLAN).

08 EXISTING EXTERIOR ELEPTRICAL OUTLET TO BE MODIFIED, PERFORM THE REPLACEMENT OF THE OUTLET ACCORDING TO THE INSTRUCTIONS MENTIONED ON THE CONSTRUCTION PLAN.

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Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

ELEPTRICITY DEMOLITION PLAN LIGHTNING AND SERVICES HOME BUILDING

Date: 2014-09-29

Feuille: **E02** / 07

Échelle: SHOWN Scale:

Réf. Consultant: Ref. Consultant: **R.066807.004**

Sheet:

No de réference: Ministère:

Reference no Ministry:

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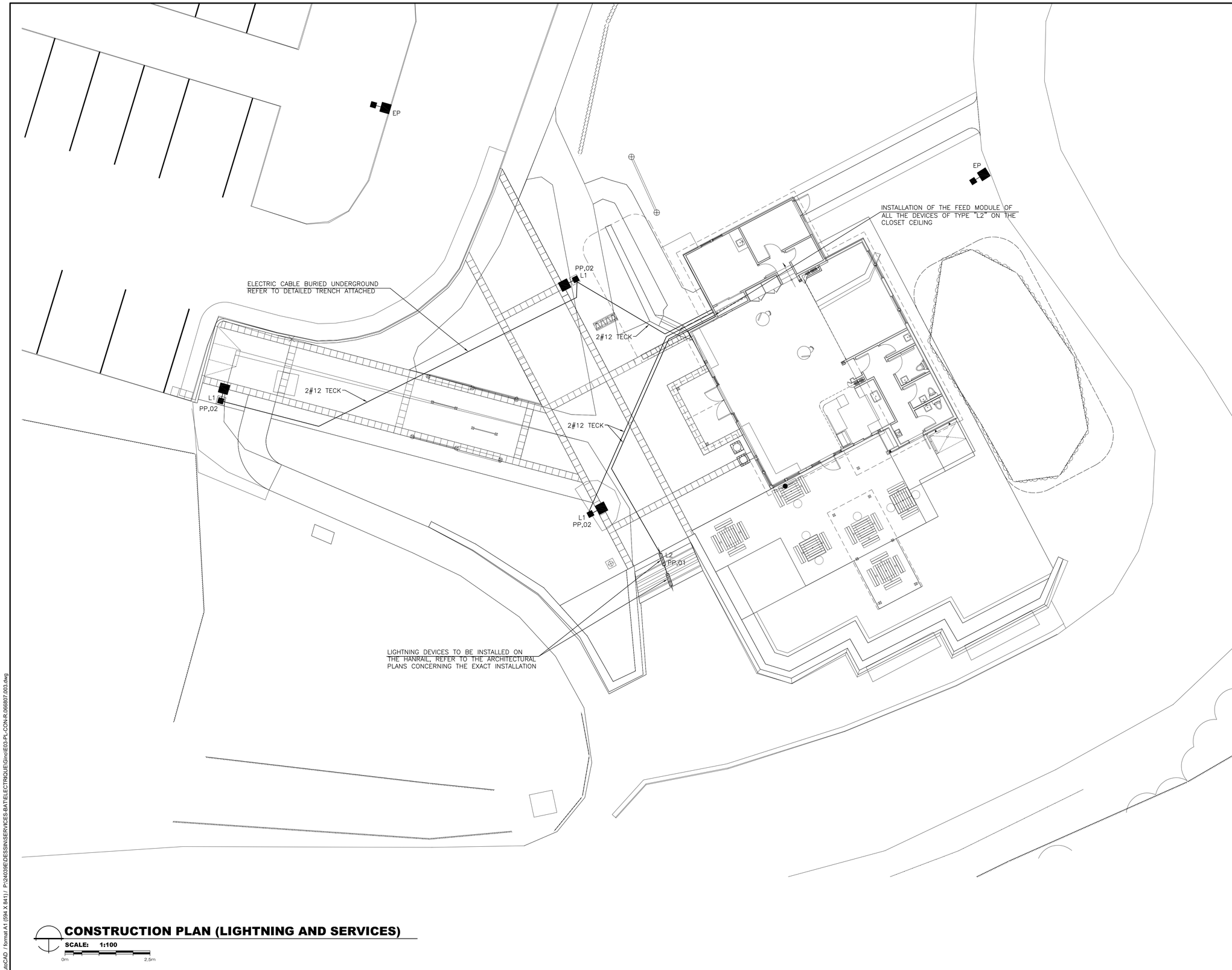

CONSTRUCTION PLAN (LIGHTNING AND SERVICES)

SCALE: 1:100

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PENOUILLE AREA

REPAIR OF HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

ELECTRICITY CONSTRUCTION PLAN LIGHTNING AND SERVICES DIRECT EMBEDMENT

Date: 2014-09-29

Échelle: SHOWN Scale:

Réf. Consultant: Ref. Consultant: R.066807.004

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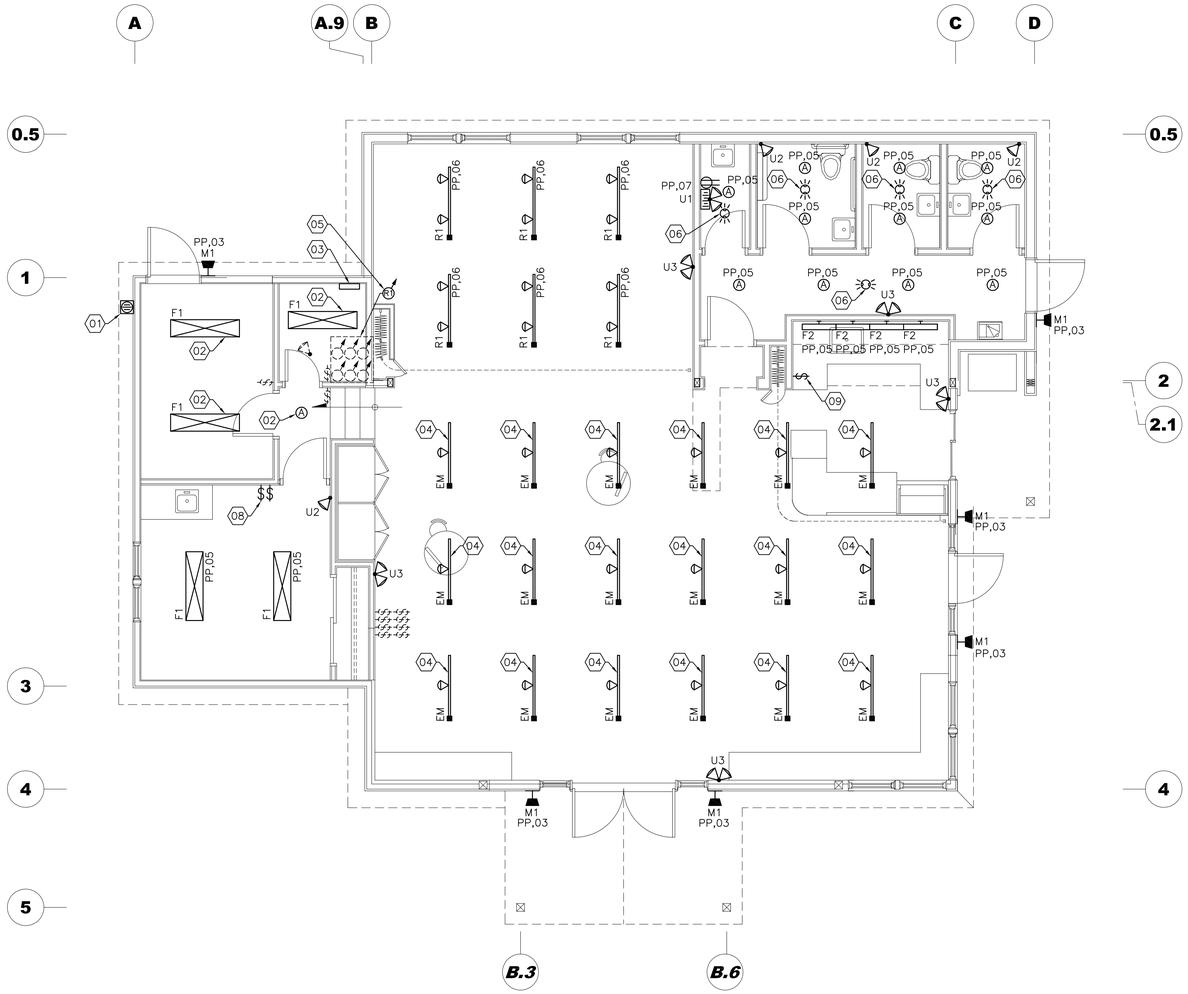

CONSTRUCTION PLAN (LIGHTING)

SCALE: 1:50

0m 2,5m

SPECIFIC NOTES:

01 NEW PHOTOELECTRIC CELL FOR LIGHTING CONTROL, REFER TO THE DESCRIPTION OF THE LIGHTING CONTROL SYSTEM, CONNECT TO THE EXTERIOR LIGHTING CONTROL PANEL (2#18).

02 NEW LIGHTING DEVICE TO BE CONNECTED TO THE EXISTING BYPASS CONSERVED DURING THE DEMOLITION WORKS (REFER TO THE DEMOLITION PLAN).

03 NEW EXTERIOR LIGHTING CONTROL PANEL, EXACT LOCATION OF THE EQUIPMENTS IN THE ROOM TO BE COORDINATED ON SITE.

04 PERFORM THE REPLACEMENT OF THE INCANDESCENT LAMP TO THE DEVICE PROJECTOR BY A NEW LED LAMP HAVING A COLOUR TEMPERATURE OF ±3500°K, WITH A LIFE CYCLE OF MORE THAN 25,000 HOURS, PHILIPS OR LITHONIA BRAND, COORDINATE ON SITE THE EXACT LEVEL TYPE LAMP AS WELL AS ITS POWER.

05 NEW DINNER (CONTROL OF THE NEW LIGHTING RAILS) TO BE INSTALLED NEAR THE EXISTING DIMMERS LOCATED IN THE MECHANICAL ROOM. EXACT LOCATION OF THE ROOM TO BE COORDINATED ON SITE.

06 NEW MOVEMENT DETECTOR FOR LIGHTING CONTROL OF THE ROOM, MULTI-TECHNOLOGY TYPE DETECTOR FOR OPERATION AT 360°, SPECIFIED PRODUCTS: LEVITON #OSC10-MOW, OTHER ACCEPTABLE PRODUCT: HUBBEL, LEGRAND/WATTSTOPPER..

07 NEW MOVEMENT DETECTOR FOR LIGHTING CONTROL OF THE ROOM AND CONTROL OF THE 1-VE-01 CONTROL SYSTEM (REFER TO THE VENTILATION PLANS). MULTI-TECHNOLOGY TYPE DETECTOR FOR OPERATION AT 360°, POWER FEED AND RELAY. SPECIFIED PRODUCT: LEVITON #OSC10-MOW / #OSA-20-00 (OTHER ACCEPTABLE PRODUCT: HUBBEL, LEGRAND/WATTSTOPPER).

08 NEW CONTROL SWITCH CONNECTED TO THE EVACUATION FAN #2-VE-01 OF THE ROOM. REFER TO THE SERVICE PLANS..

09 NEW CONTROL SWITCH FOR LIGHTING FIXTURES TYPE "F2".

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Conçu par: Designed by:
Mathieu Roussel, tEPh.

Dessiné par: Drawn by:
Mathieu Roussel, tEPh.

Verifié par: Checked by:
Mathieu Ouellet, ing.

Chargé de projet: Project manager:
Mathieu Ouellet, ing.

VALIDÉ PAR: VALIDATED BY:

Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

PARC NATIONAL DU CANADA

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR
PARKS CANADA AGENCY

Titre du dessin: Drawing title:

ELEPTRICITY
CONSTRUCTION PLAN
LIGHTING
HOME BUILDING

Date: 2014-09-29

Échelle: Scale: SHOWN

Feuille: E04 / 07

Réf. Consultant: Ref. Consultant: R.066807.004

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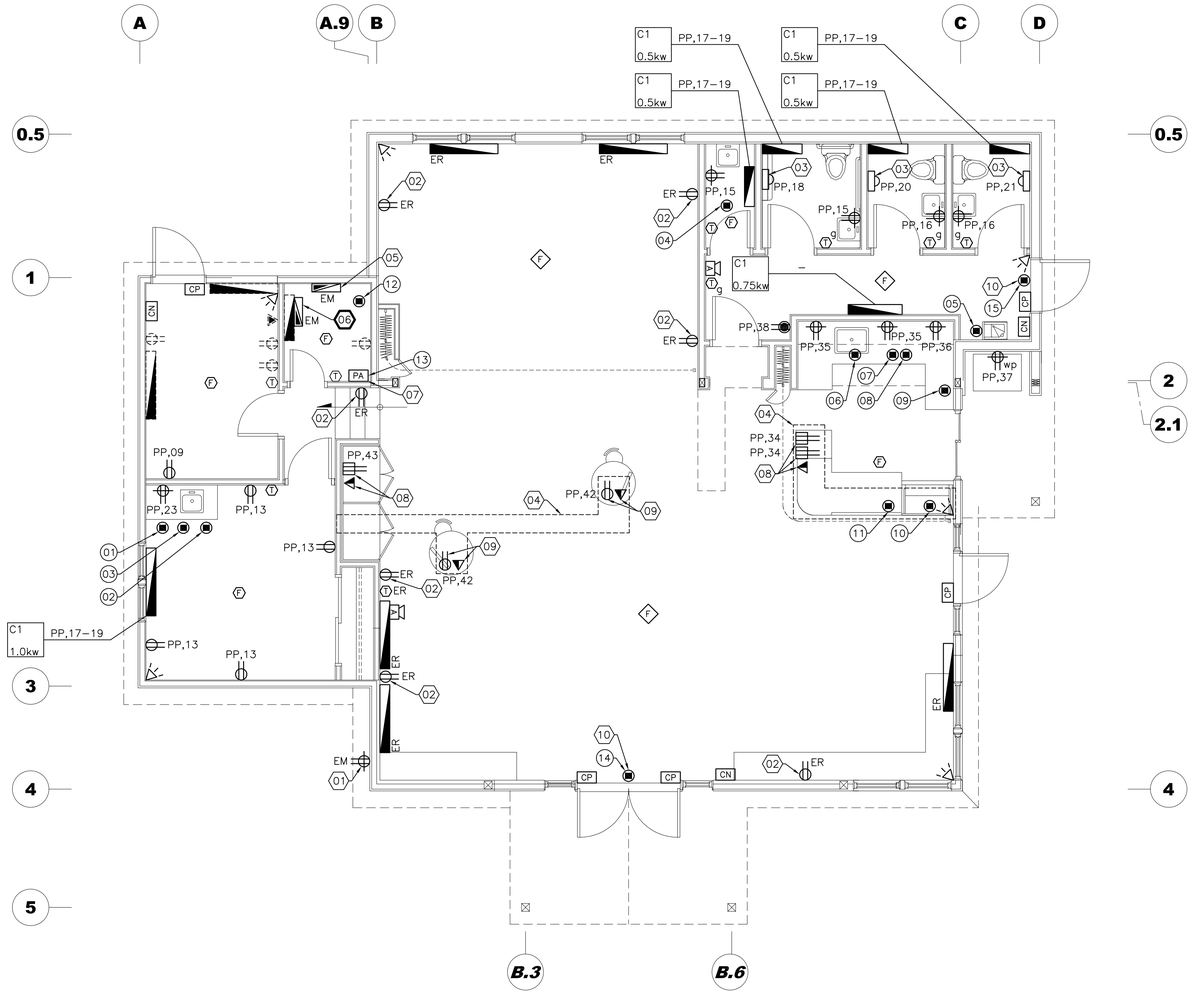

CONSTRUCTION PLAN (SERVICES)

SCALE: 1:50

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GENERAL NOTES:

– ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MAKING THE CONNECTION OF ALL TELECOMMUNICATIONS OUTPUTS (DATA AND PHONE) INDICATED ON THIS PLAN. THESE DEVICE MUST BE CONNECTED VIA CATEGORY 6E TELECOMMUNICATIONS CABLES AND BE CONNECTED TO THE EXISTING MECHANICAL ROOM. PROVIDE LENGHT OF ADDITIONAL 3m WIRING INSIDE THE EXISTING MECHANICAL ROOM.

SPECIFIC NOTES:

01 EXISTING 120V POWER OUTLET TO BE REPLACED BY A DOUBLE 120V POWER OUTLET OF "DDFT" TYPE C/W WATER–RESISTANT CASE ACCORDING TO THE TECHNICAL SPECIFICATION PRESCRIPTIONS.

02 EXISTING 120V POWER OUTLET RELOCATED AND REPLACED BY A OUTLET C/W DECORATIVE PLATE ACCORDING TO THE TECHNICAL SPECIFICATION PRESCRIPTION.

03 EXISTING SPEED HAND–DRYER WITH THE FOLLOWING CHARACTERISTICS: MOULDED ALUMINIUM COVER, MULTIPLE HOT AIR JET TECHNOLOGY, BRUSH UNIVERSAL MOTOR WITH THERMAL PROTECTION, AIR FLOW OF 105 PCM, INFRARED CAPTOR, 1100W OF POWER, 120V/1ø/60hz FEED. SPECIFIED PRODUCT: OUELLET #OAF1102 (OTHER ACCEPTABLE PRODUCTS: EXCEL, NOVA, STELPRO, WORLD AIR DRYER).

04 MAKE THE TRANSITION FOR THE NEW SERVICES (ELECTRIC AND TELECOMMUNICATION) OF THIS SECTOR BY A NEW TRENCH UNDER SLAB IN COORDINATION WITH THE GENERAL CONTRACTOR.

05 EXISTING 120–240V/1ø/60hz ELECTRICAL PANEL MODIFIED ACCORDING TO THE DISMANTLED BYPASSES DURING THE DEMOLITION WORKS. UPDATE THE IDENTIFICATION SHEETS OF THE PANEL BYPASSES.

06 NEW 120–240V/1ø/60hz ELECTRICAL PANEL IN REPLACEMENT OF THE DISMANTLED EXISTING PANEL. MAKE THE NECESSARY MODIFICATION TO THE MASTER CABLING IN ORDER TO ADEPT TO THE CONNECTION OF THE NEW PANEL. CONNECT THE EXISTING AND CONSERVED BYPASSES TO THE NEW PANEL. REFER TO THE ELECTRICAL PANEL DETAILED "PP".

07 NEW INTRUSION ALARM PANEL. REFER TO THE DETAILED INSTRUCTION ALARM SYSTEM.

08 POWER OUTLETS AND TELECOMMUNICATION OUTPUTS INTEGRATED TO THE FITTINGS, EXACT LOCATION TO BE COORDINATED ON SITE.

09 INSTALL THE OUTLETS AND TELECOMMUNICATION OUTPUTS ON THE FLOOR THROUGH A PVC BUILT–IN CASE C/W ALUMINIUM FINISH COVER OF TYPE HUBBELL "SYSTEM ONE" (OTHER ACCEPTABLE PRODUCTS: LEVITON, PASS & SEYMOUR).

10 COMPLETE CONNECTION OF THE MOTORIZED DOOR SYSTEM, INCLUDING ALL LOW VOLTAGE WORKS AT THE CONNECTION LEVEL OF THE DOOR CONTROLS. REFER TO THE ARCHITECTURAL PLANS.

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REPAIR OF THE HOME BUILDING

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ELECTRICITY CONSTRUCTION PLAN SERVICES HOME BUILDING

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LIGHTING DEVICES CHART

TYPE	LAMP(S) TYPE, POWER AND/OR LUMINOUS FLUX	QTY.	COL.	INSTALLATION ENC.	WALL	SURF.	SUSP.	VOLTAGE	TOTAL POWER	SPECIFIED PRODUCT	OTHER ACCEPTABLE PRODUCTS	NOTES
F1	DEL 48W	–	3500°K			X		120V	48W	COOPER #4WNLED–LD1–41–F–UNV–L835–U	HUBBELL, LITHONIA, PHILIPS	
F2	DEL 10W	–	3000°K			X		120V	10W	COOPER #HU10–24–D–8–30–P–HU107	HUBBELL, LITHONIA, PHILIPS	19
A	DEL 18W	–	3500°K	X				120V	18W	COOPER #H550RICAT–ML5612835–594TBZB	HUBBELL, LITHONIA, PHILIPS	19
R1	DEL	–	3500°K	X				120V	–	COOPER #L700–P (PROJECTEUR) SINGLE CIRCUIT LIGHTING RAIL (4pi)	HUBBELL, LITHONIA, PHILIPS	16,18,19
M1	DEL 9W	–	4000°K		X			120V	9W	COOPER #303–W2–LEDB2–4000–UNV–T4–DIMELV	HUBBELL, LITHONIA, PHILIPS	19
L1	DEL 65W	–	4000°K			X		120V	65W	PHILIPS–LUMEC #CAND1–PC–1A–65W42LED4K–R–RR3–120 C/A ROUND POLE, 18pi HIGH	COOPER, HUBBELL, SCHRÉDER.	19
L2	DEL	–	3500°K			X		120V	–	HEICO LIGHTING #DLEDBAR24''IES–POLYOPTIK–180–3500K(x2)	HUBBELL, LITHONIA, PHILIPS	18,19
U1	DEL 5W	2	–		X			120Vca 24Vcc	550W	BEGUELLI #NV–24–550–LED–MR16–AT	EMERGI–LITE, LUMACELL, STANPRO	
U2	DEL 5W	1	–		X			24Vcc	5W	BEGUELLI #SR–1–LED–MR16	EMERGI–LITE, LUMACELL, STANPRO	
U3	DEL 5W	2	–		X			24Vcc	10W	BEGUELLI #SR–2–LED–MR16	EMERGI–LITE, LUMACELL, STANPRO	

NOTES

1. FLUORESCENT LAMP(S), SEE DESCRIPTION ON TECHNICAL SPECIFICATION
2. ELECTRONIC BALLAST, SEE DESCRIPTION ON TECHNICAL SPECIFICATION
3. DIMMING ELECTRONIC BALLAST, __@100%, SEE DESCRIPTION ON TECHNICAL SPECIFICATION
4. HIGH POWER FACTOR BALLAST
5. ACRYLIC LENS OF TYPE 12 (0.125")
6. SMOOTH FINISH OPAL ACRYLIC LENS
7. MOUNTING FRAME FOR GYPSUM CEILING
8. WIRE MESH PROTECTION
9. UNIT AGAINST VANDALISM (POLYCARBONATE SCREEN, METALLIC SCREEN AND RESISTANT SCREWS)
10. SPECULAR REFLECTOR
11. SUSPENSION ROD(S) __mm LONG
12. LAMP HALOGEN 20000 HOURS
13. 130V INCANDESCENT LAMP
14. PHOTOELECTRIC CELL
15. NUMBER OF FACES AND MOUNTINGS ACCORDING TO THE NEEDS , SEE PLANS
16. DEL LAMP SYLVANIA, PHILIPS OR GE BRAND (LAMP TYPE AND POWER TO COORDINATE AT SITE REGARD TO THE EXISTENTS EQUIPMENTS)
17. METALLIC HALIDE LAMP WITH IMPULSION START UP
18. LIGHTING EQUIPEMENT WITH FEED MODULE
19. ARCHITECT'S CHOICE OF COLOUR FROM THE MANUFACTURER'S STANDARD RANGE
20. WHITE
21. BRONZE
22. GREY

SPECIFIC CONNECTIONS CHART

ITEM	DESCRIPTION	CAPACITY A	HP	KW	VOLTAGE V	ϕ	CIRCUIT	CONDUCTORS NUMBER	CALIBER (AWG)	Ø CONDUCT (mm)	OUTPUT TO CEILING	TO WALL	TO FLOOR	TYPE RACC. OUTLET	DIRECT	FLOOR THICKNESS (mm)	NOTES
1	MICROWAVE				120	1	PP,10	2	12	19		X		X		–	1
2	REFRIGERATOR				120	1	PP,11	2	12	19		X		X		–	1
3	FAN 2–VE–01				120	1	PP,12	2	12	19	X				X	–	2
4	FAN 1–VE–01				120	1	PP,14	2	12	19	X				X	–	2
5	WATER FOUNTAIN F–1				120	1	PP,22	2	12	19		X		X		–	2,3
6	MICROWAVE			1	120	1	PP,25	2	12	19		X		X		–	1
7	PANINI PRESS	15			240	1	PP,27–29	3	12	19		X		X		–	1,4
8	COFFEE MACHINE				120	1	PP,26	2	12	19		X		X		–	1
9	FREEZER	1.6	1/4		240	1	PP,28–30	3	12	19		X		X		–	1
10	REFRIGERATED COUNTER			0.38	120	1	PP,32	2	12	19			X	X		–	1
11	REFRIGERATOR	1.1	1/6		240	1	PP,31–33	3	12	19			X	X		–	1
12	WATER HEATER CE–1			3.8	240	1	PP,39–41	3	10	19			X		X	–	2
13	INTRUSION ALARM				120	1	PP,40	2	12	19			X		X	–	–
14	MOTORIZED DOOR				120	1	PP,44	2	12	19		X		X		–	1
15	MOTORIZED DOOR				120	1	PP,45	2	12	19		X		X		–	1

NOTES

1. REFER TO THE ARCHITECTURAL PLANS (FURNITURE) CONCERNING THE EXACT LOCATION OF THE EQUIPMENTS.
2. REFER TO THE MECHANICAL PLANS CONCERNING THE EXACT LOCATION OF THE EQUIPMENT.
3. EQUIPMENT TO BE CONNECT THROUGH AN ELECTRICAL OUTLET OF "DDFT" TYPE.
4. EQUIPMENT TO BE CONNECT THROUGH AN ELECTRICAL OUTLET OF"6–20P" TYPE.

HEATING DEVICES CHART

TYPE	DENSITY/ CAPACITY	VOLTAGE	INSTALLATION ENC.	CEILING	SURF.	SPECIFIED PRODUCT	OTHER ACCEPTABLE PRODUCTS	NOTES
C1	900W/m (275W/pi)	240V 1ϕ			X	OUELLET SÉRIE OFM	STELPRO SÉRIE B	
(T)	5000W	208/240V 1ϕ			X	OUELLET #OTH2750P	STELPRO #STE402P+	
g						OUELLET #F29–0198 (GARDE PROTECTEUR)	STELPRO #TG511A1000	

NOTES

1. INTEGRATED THERMOSTAT
2. INTEGRATED 24V RELAY
3. INTEGRATED 24V RELAY AND TRANSFORMER
4. THROUGH ELECTRONIC WALL THERMOSTAT

INTRUSION ALARM SYSTEM:

INTRUSION ALARM SYSTEM, INCLUDING THE FOLLOWING MAIN COMPONENTS:

(1) INTRUSION ALARM PANEL DSC #PC–1832.
(1) EXTENSION PANEL OF 8 ZONES DSC #PC–5108.
(1) SUPERVISED TRANSFORMER DSC #PC–5200.
(2) 120V TRANSFORMERS #PIT–1640C.
(2) 7.2 AHR 12V BATTERIES.
(1) LINE CAPTOR #CA38A.
(1) EXTRA CASE FOR TRANSFORMER AND ZONE EXTENSION PANEL.

INTRUSION ALARM ACCESSORIES (REFER TO PLANS CONCERNING THE QUANTITY).

ACL KEYBOARDS DSC #PK–5501.
DOOR CONTACT.
DOUBLE TECHNOLOGY MOVEMENT DETECTOR WITH DSC SUPPORT #LC104PI.
FIRE DETECTOR #2012JA.
HEAT DETECTOR #CR–135.
15W SIREN.

ELECTRICAL CONTRACTOR SHALL SUPPLY, INSTALL AND CONNECT THE ALARM COMPONENTS. THE SYSTEM START–UP SHALL BE DONE THROUGH THE AUTHORIZED REPRESENTATIVE–DISTRIBUTOR OF THE COMPONENTS (GARVEX PROTECTION) BORNE BY ELECTRICAL CONTRACTOR

OTHER ACCEPTABLE PRODUCTS ON ENGINEER APPROVAL

LIGHTING CONTROL SYSTEM (EXTERIOR):

RELAY LIGHTING PANEL, TYPE NEMA 1 CASE FOR SURFACE MOUNTING WITH A CAPACITY OF 8 RELAYS, 4 RELAYS OF NORMALLY CLOSED TYPE, DIGITAL CLOCK WITH INTEGRATED MODEM, 120–347V/1ø/60hz FEED, 6 INPUTS FOR DRY CONTACTS.

SPECIFIED PRODUCT: ACUITY BRANDS/LC&D LIGHTING CONTROLS "BLUEBOX" #GR1408LTENC–SMNE1/GR1408LTINT/(4)NCL–DTCMOD–CNDV–D6.
OTHER ACCEPTABLE PRODUCTS: COOPER, CRISTAL CONTROLS, DOUGLAS.

DIGITAL PHOTOELECTRIC CELL FOR EXTERIOR INSTALLATION.

SPECIFIED PRODUCT: ACUITY BRANDS/LC&D LIGHTING CONTROLS #PCELL–2WO–BB–CSA.
OTHER ACCEPTABLE PRODUCTS: COOPER, CRISTAL CONTROLS, DOUGLAS.

ELECTRICAL CONTRACTOR SHALL CONNECT LIGHTING CIRCUITS #PP,01–PP,02,P,03 TO THE LIGHTING CONTROL PANEL AND START UP THE SYSTEM IN COORDINATION WITH THE OWNER.

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ELECTRICITY DESCRIPTIONS AND DETAILS LEGEND

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LIGHTING AND CONTROL

REFER TO LIST OF LUMINAIRES FOR DESCRIPTION OF DEVICES.

- 1 B15a — LIGHTING DEVICE ON CEILING, (TYPE 1) CONNECTED ON PANEL "B" cct#15, CONTROLLED BY COMMUTATOR "a"
- LIGHTING DEVICE INSTALLED ON WALL.
- REGLETTE TYPE FLUORESCENT LIGHTING DEVICE
- SURFACE OR SUSPENDED FLUORESCENT LIGHTING DEVICE (REFER TO LUMINAIRES CHART)
- BUILT–IN FLUORESCENT LIGHTING DEVICE
- LIGHTING RAIL
- DISTANCE EMERGENCY LIGHTING HEAD (SINGLE OR DOUBLE)
- EMERGENCY LIGHTING ACCUMULATOR, C/W SUPPORT OR SUITABLE SHELF END CORD FOR 120V BRANCH LINE (FORESEE 15A–125V SINGLE OUTLET NEAR)
- PHOTOELECTRIC CELL
- 3 4 — 15A–125V SINGLE–POLE SWITCH (3=3 BUS / 4=4 BUS)
- SEVERAL OUTLETS UNDER A COMMON PLATE
- 10 — DIMMER FOR INCANDESCENTS (10=1000W / 15=1500W / 20=2000W)
- 6 — LOW VOLTAGE DIMMER (6=600VA–450W / 10=1000VA–800W / 15=1500VA–1200W)
- DO NOT REGROUP THESE DEVICES UNDER A COMMON PLATE
- MOVEMENTS DETECTOR ON CEILING 180° OR 360°

OUTLETS AND DEVICES

- 20A 30A — DOUBLE 15A–125V OUTLET (20A=20Amperes / 30A=30Amperes)
- DOUBLE 15A–125V OUTLET OVER A COUNTER OR ACCORDING TO INDICATIONS
- 20A–125V DOUBLE OUTLET (5–20R)
- SEVERAL OUTLETS UNDER A COMMON PLATE
- 15A–125V OUTLET C/W INTEGRATED DIFFERENTIAL CIRCUIT–BREAKER OF CLASS "A"
- SPECIAL OUTLET (125/250V, 250V, 600V, ETC.) ACCORDING TO INDICATIONS ON PLANS.
- OUTLET INCORPORATED ON FIXTURES OR TO A MOVABLE PARTITION–WALL
- OUTLET ON JUNCTION BOX INSTALLED IN CEILING SPACE
- OUTLET INSTALLED ON CEILING
- CONNECTION OF A SPECIAL DEVICE
- J — JUNCTION OR PULL BOX

COMMUNICATION

UNLESS OTHERWISE STATED, ALL WALL OUTPUT WILL CONSIST OF A BOX 4"x4" (100mm x100mm) WITH PLASTER PLATE AND WILL BE CONNECTED TO THE CEILING SPACE WITH EN EMPTY ¾" (21mm) PROVIDE WITH A PULLING NYLON THREAD.

- TELEPHONE OUTPUT
- COMPUTER OUTPUT (DATA)
- COMBINED TELEPHONE/DATA OUTPUT

EXTERIOR LIGHTING

- POST LIGHT
- PROJECTOR ON BUILDING WALL
- PHOTOELECTRIC CELL
- BURIED DUCTS OR CABLES

DISTRIBUTION

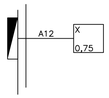
- 120/208V SERVICE PANEL
- 120/240V SERVICE PANEL
- 347/600V OR 600V SERVICE PANEL
- LIGHTING RELAY PANEL (LOW VOLTAGE)

SURFACE INSTALLATION
BUILT–IN INSTALLATION

HEATING

- T — LOW VOLTAGE THERMOSTAT (24V)
- T — SECTOR VOLTAGE ELECTRONIC THERMOSTAT
- HAND–DRYER (BOTTOM AT 40"(1016mm))
- BASEBOARD HEATER OR ARCHITECTURAL CONVECTOR

EXAMPLE



CIRCUIT #12–PANEL 'A'
DEVICE TYPE
(REFER TO HEATING DEVICES CHART FOR MODEL, VOLTAGE, ETC.)
CAPACITY (kW)

SECURITY

- PA — MAIN ALARM PANEL
- MOVEMENT DETECTOR
- A — ALARM HORN
- CP — DOOR CONTACT
- CN — NUMERIC KEYBOARD
- F — SMOKE DETECTOR
- F — HEAT DETECTOR

ABBREVIATIONS

WP	WEATHER PROOF EQUIPMENT
C/W	COMPLETE WITH...
℄	CENTRE LINE
C/C	CENTRE/CENTRE
←ou EB	DOWN
○ou EH	UP
MALT	GROUNDING
MALTI	ISOLATED GROUNDING
CV	EMPTY DUCT
A/D	ABOVE
ETR	EQUIPMENT TO BE REMOVED
EP	EQUIPMENT TO BE PRESERVED
ETR	EQUIPMENT TO BE RELOCATED
ER	EQUIPMENT RELOCATED TO ITS NEW LOCATION
ETM	EQUIPMENT TO BE MODIFIED
EM	MODIFIED EQUIPMENT
ETD	EQUIPMENT TO BE DISCONNECTED
HM	MOUNTING HEIGHT

MOUNTING HEIGHT

(UNLESS OTHERWISE STATED)

ELECTRICAL PANEL = COVER TOP AT 1830mm
OUTLETS = 400mm
OUTPUT TEL/DATA/TV/MICRO = 400mm
OUTLETS OR TÉL/DATA COUNTER = 175mm ABOVE
INTERR./DIMMERS/SPEED CONTROL/ VOLUME CONTROL/TIMER/SELECTOR = 1200mm
THERMOSTAT = 1200mm
(DO NOT INSTALL ABOVE A DIMMER)
FIRE ALARM STATION/FIREMEN TEL. = 1200mm
BELL/HORN/SPEAKER/STROB. LAMP = 2100mm

NOTES

1. THE SYMBOLS ARE NOT ALL NECESSARILY USED ON THE DRAWINGS OF THIS PROJECT.
2. UNLESS OTHERWISE STATED, ALL ELECTRICAL EQUIPMENTS REPRESENTED IN DOTTED LINES ON THE DRAWINGS ARE EXISTENT AND TO BE CONSERVED.
3. THE EQUIPMENTS DRAWN IN CONTINUOUS LINE ARE NEW OR RELOCATED, WHEN SHOWN ON PLANS OR VIEWS OF THE NEW ARRANGEMENTS AND EXISTENTS TO BE REMOVED OR RELOCATED WHEN SHOWN ON THE DEMOLITION PLANS.
4. ALL EXCAVATION, BACKFILLING, COMPACTION, CONCRETE, CORRUGATED IRON PIPING, LAND TERRACING (PAVING OR OTHERS) WORKS, ETC. WILL BE DONE BY AND AT GENERAL CONTRACTOR EXPENSES.

PANEL PP — location S. MÉC. — Total Charge — kW. — Built–In ○
voltage 120/240–1PH–3F — number of circuits 84 — — A — surface ●

*	comments	watts per circuits	others	propelling force	heating	outlets	lighting	Disj. amperes	Disj. poles	bus bar of 225 A.		Disj. poles	Disj. amperes	lighting	outlets	heating	propelling force	others	watts per circuits	comments	*
	Exter. ramp light	50					X	15	1	1	2	1	15	X					–	Ext. lamp light	
	Exter. ramp light	60					X	15	1	3	4	1	15							Free	
	Int. light	320					X	15	1	5	6	1	15	X					1200	Int. light	
	Emerg. Bat	550					X	15	1	7	8	1	15							Free	
	Refrig. (debarc)	800				X		15	1	9	10	1	15		X				1000	Kitchen labour	
	Kitchen refrig.	800				X		15	1	11	12	1	15				X		50	Fan 2–VE–01	
	Kitchen outlets	400				X		15	1	13	14	1	15				X		300	Fan 1–VE–01	
	DDFT san. block	300				X		20	1	15	16	1	20		X				300	DDFT san. block	
	Kitchen block heat	3750			X			20	2	17	18	1	15				X		1100	Hand–dryer	
										19	20	1	15				X		1100	Hand–dryer	
	Hand–dryer	1100		X				15	1	21	22	1	20		X				800	Fountain	
	DDFT Kitchen	150				X		20	1	23	24	1	15							Free	
	Kitchen labour	1000				X		15	1	25	26	1	15		X				300	Coffee machine	
	Panini press	3600				X		15	2	27	28	2	15		X				500	Freezer	
										29	30										
	Refrigerator	500				X		15	2	31	32	1	15		X				400	Refrig. counter	
										33	34	1	15		X				200	Cash register	
	DDFT Kitchen	300				X		20	1	35	36	1	20		X				150	DDFT kitchen	
	DDFT Ext.	150				X		20	1	37	38	1	20		X				150	Corridor	
	Water heater	3800			X			30	2	39	40	1	15					X	500	Intrusion alarm	
										41	42	1	15		X				800	Room outlets	
	Modem outlet	100				X		15	1	43	44	1	15				X		500	Motorized door	
	Motorized door	500		X				15	1	45	46	1	20							Free	
	Free							15	1	47	48	1	15							Free	
	Free							15	1	49	50	1	15							Free	
*	Existent #1	–						15	1	51	52	1	15						–	Existent #2	*
*	Existent #3	–						15	1	53	54	1	20						–	Existent #4	*
*	Existent #6	–						15	1	55	56	1	15						–	Existent #7	*
*	Existent #8	–						15	1	57	58	1	15						–	Existent #9	*
*	Existent #10	–						20	1	59	60	2	30							Existent #12–14	*
*	Existent #15	–						20	1	61	62										
*	Existent #16	–						20	1	63	64	1	20						–	Existent #17	*
*	Existent #18	–						20	1	65	66	1	15						–	Existent #19	*
*	Existent #21	–						20	1	67	68	1	20						–	Existent #40	*
*	Existent #24–26	–						20	2	69	70	2	30							Existent #28–30	*
										71	72										
*	Existent #31–33	–						30	2	73	74	2	20							Existent #36–38	*
										75	76										
*	Existent #32–34	–						30	2	77	78	1	15						–	Existent #39	*
										79	80	1	15							Free	
*	Existent #35–37	–						20	2	81	82	1	15							Free	
										83	84	1	15							Free	
	subtotal										subtotal										

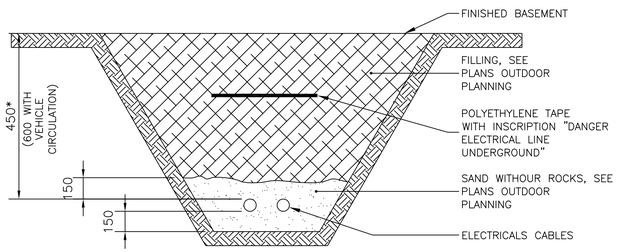
NOTES:

– NEW 120–240V/1ø/60hz ELECTRICAL PANEL, 225A, 84 CIRCUITS, C/W MAIN 200A MAIN BREAKER, DOOR LOCK KEY, BOLT BREAKERS (10ka). PRODUCT SPECIFIED: CUTLER–HAMMER (OTHER ACCEPTABLE: SIEMENS, SQUARE D).

* : EXISTING BYPASS RECONNECTED TO THE NEW PANEL THROUGH A NEW CIRCUIT–BREAKER.

DETAIL OF THE "PP" ELECTRICAL PANEL

SCALE: NONE



NOTES:

EXCAVATION, BACKFILLING, COMPACTION, CONCRETE, AND LAND TERRACING (PAVING OR OTHER) BY THE GENERAL CONTRACTOR, IN COORDINATION WITH THE ELECTRICAL CONTRACTOR.

* SEE CHART 53 OF THE QUÉBEC ELECTRICAL CODE.

TRENCH DETAIL FOR ELECTRICAL CABLES

SCALE: NONE

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1	ISSUED FOR COORDINATION	2014-11-18

A. No du détail — A. Detail No
B. Localisation — B. Localisation
C. Sur feuille No — C. On sheet No

CONCEPTION: DESING:
Conçu par: Designed by: Mathieu Roussel, tech.
Dessiné par: Drawn by: Mathieu Roussel, tech.
Verifié par: Checked by: Mathieu Ouellet, ing.
Chargé de projet: Project manager by: Mathieu Ouellet, ing.
VALIDÉ PAR: VALIDATED BY:
Gestionnaire de projet: Project manager: Antoine l'Italien Savard, arch.
Gestionnaire principal de projet: Project director: Sophie Huot, ing.

Projet: Project:
FORILLON CANADA NATIONAL PARk
PENOUILLE AREA
REPAIR OF THE HOME BUILDING
FOR CANADA PARKS AGENCY

Titre du dessin: Drawing title:
ELECTRICITY DETAILS AND LEGEND

Date: 2014-09-29
Échelle: Scale: NONE
Feuille: E07 / 07
Sheet:
Réf. Consultant: Ref. Consultant: R.066807.004
No de référence: Ministère: Reference no Ministry:

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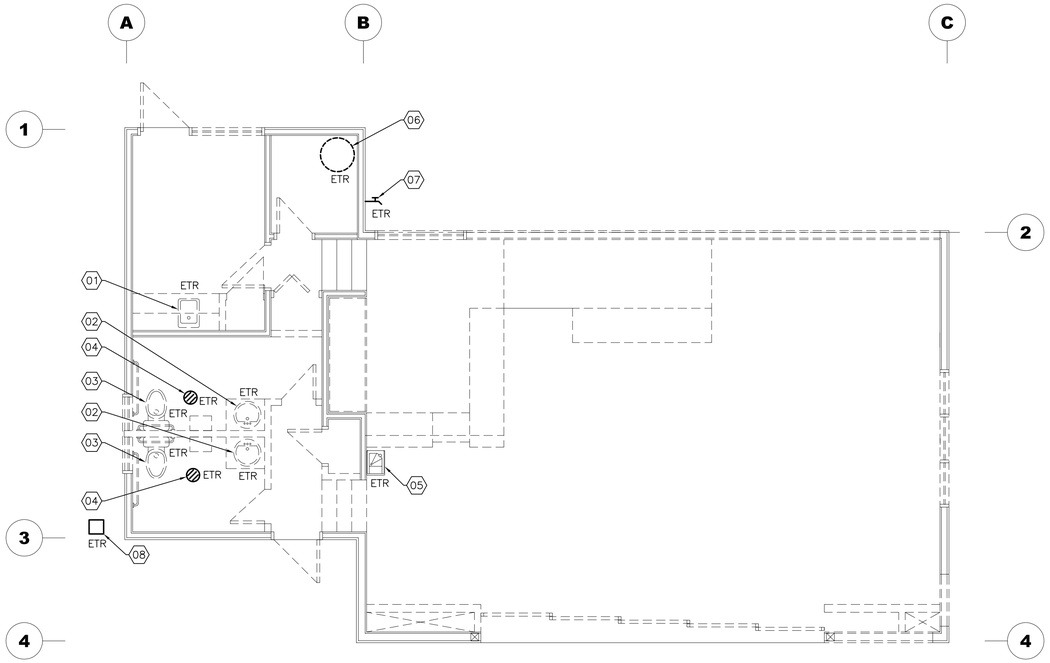

DEMOLITION PLAN (FEED AND DRAINAGE)

SCALE: 1:50

0m 2,5m

SPECIFIC NOTES:

01 SERVICES MODULE C/W EXISTING SINK TO BE COMPLETELY DISMANTLED C/W ALL RELATED ACCESSORIES. DISMANTLE THE SANITY DRAIN UP TO THE WALL LEVEL AND TEMPORARILY SEAL IT BLANK. PRESERVE THE VENT AND FEED PIPING (HOT AND COLD WATER) ON THE WALL FOR THE CONNECTION OF A NEW NEAR-LOCATED DEVICE (REFER TO THE CONSTRUCTION PLAN).

02 EXISTING SINK TO BE COMPLETELY DISMANTLED C/W ALL RELATED ACCESSORIES AND PIPING. DISMANTLE THE SANITARY DRAIN UP TO THE FLOOR LEVEL AND SEAL IT TO BLANK. COMPLETELY DISMANTLE THE VENT AND FEED PIPING (HOT AND COLD WATER).

03 FLUSH LATRINE TO BE COMPLETELY DISMANTLED C/W ALLA RELATED ACCESSORIES AND PIPING. DISMANTLE THE SANITARY DRAIN AT FLOOR LEVEL AND SEAL IT TO BLANK. COMPLETELY DISMANTLE THE FEED PIPING (COLD WATER).

04 FLOOR DRAIN TO BE DISMANTLED. DISMANTLE THE SANITARY DRAIN AT FLOOR LEVEL AND SEAL IT TO BLANK.

05 EXISTING REFRIGERATED WATER FONTAIN TO BE COMPLETELY DISMANTLED C/W ALL RELATED ACCESSORIES AND PIPING. DISMANTLE THE SANITARY DRAIN UP TO THE FLOOR LEVEL AND SEAL IT TO BLANK. DISMANTLE THE COMPLETE VENT AND FEED PIPING (COLD WATER).

06 EXISTING WATER HEATER TO BE DISMANTLED. PRESERVE ALL RELATING PIPING FOR THE CONNECTION OF A NEW EQUIPMENT (REFER TO THE CONSTRUCTION PLAN).

07 EXISTING EXTERIOR WATER VALVE TO BE DISMANTLED C/W ALL RELATED PIPING. DISMANTLED THE COMPLETE FEED PIPING (COLD WATER).

08 WATER SUPPLY OF EXISTING EXTERIOR FOUNTAIN TO BE DISMANTLED C/W ALL RELATED PIPING. DISMANTLE THE COMPLETE FEED PIPING (COLD WATER).

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Mathieu Roussel, tech.

Dessiné par: / Drawn by:
Mathieu Roussel, tech.

Verifié par: / Checked by:
Mathieu Ouellet, ing.

Chargé de projet: / Project manager by:
Mathieu Ouellet, ing.

VALIDÉ PAR: / VALIDATED BY:

Gestionnaire de projet: / Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: / Project director:
Sophie Huot, ing.

Projet: / Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: / Drawing title:

PLUMBING DEMOLITION PLAN FEED AND DRAINAGE HOME BUILDING

Date: 2014-09-29

Échelle: / Scale: SHOWN

Réf. Consultant: / Ref. Consultant: **R.066807.004**

Feuille: / Sheet: **P01 / 05**

No de réference: Ministère: / Reference no Ministry:

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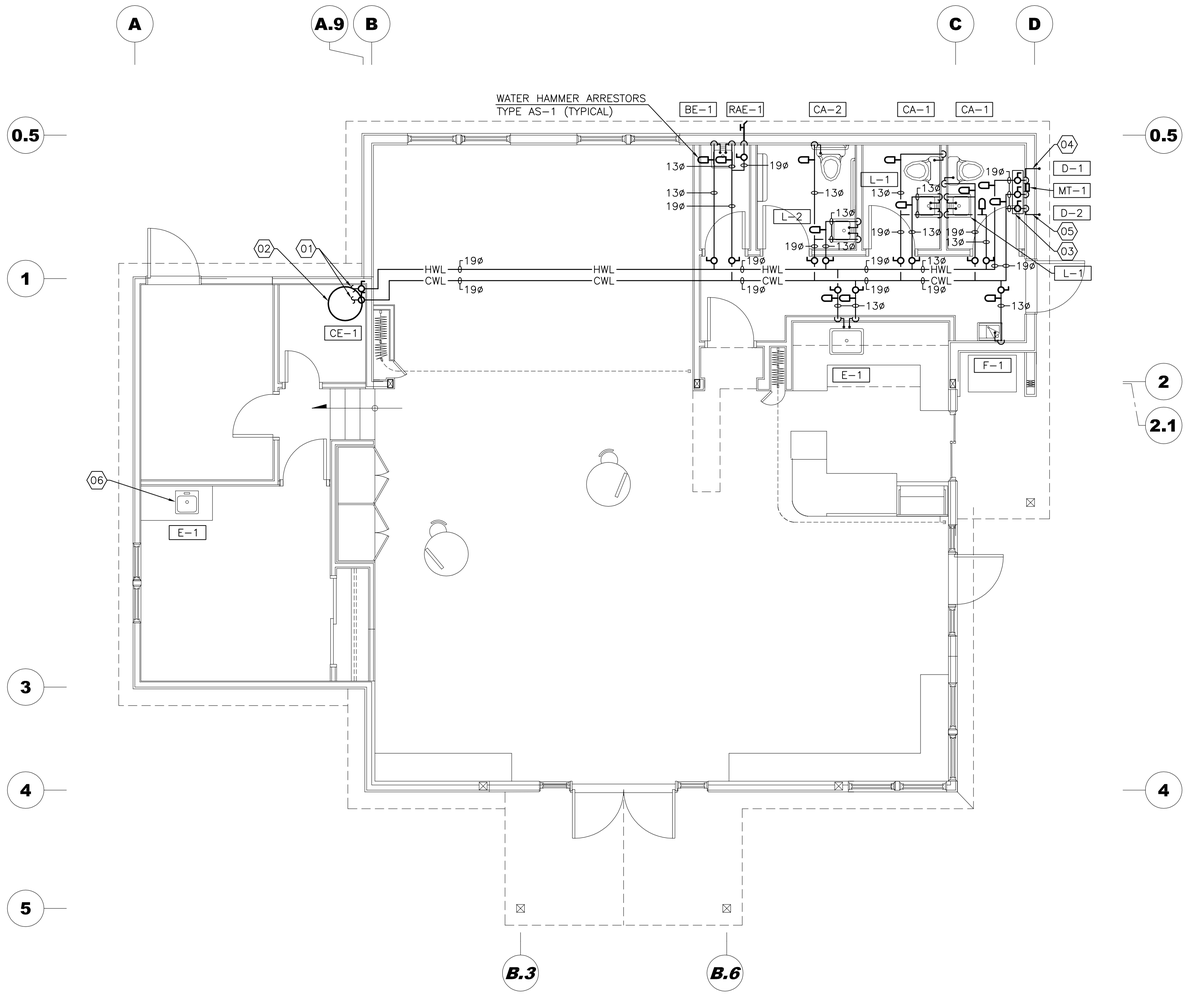

CONSTRUCTION PLAN (FEED)

SCALE: 1:50

0m 2,5m

SPECIFIC NOTES:

01 NEW FEED PIPING (HOT AND COLD WATER) TO BE CONNECTED TO THE MAIN EXISTING PIPING OF THE MECANICAL ROOM.

02 NEW WATER HEATER TO BE CONNECTED TO THE RELATED, PRESEVERD AND EXISTING PIPING. REFER TO THE INSTALLATION DETAIL TYPE.

03 ISOLATING FAUCET TO BE INSTALLED ON WALL. SUPPLY AND INSTALL AN ARCHITECTURAL DOOR ACCESS IN ORDER TO ALLOW ACCESS AND OPERATION.

04 TIMED WALL SHOWER KIT. REFER TO THE ARCHITECTURAL PLANS CONCERNING THE EXACT LOCATION OF THE EQUIPMENT.

05 TIMED WALL FEET SHOWER KIT. REFER TO THE ARCHITECTURAL PLANS CONCERNING THE EXACT LOCATION OF THE EQUIPMENT.

06 NEW COUNTER SINK TO BE CONNECTED TO THE EXISTING FEED PIPING (HOT AND COLD WATER) PRESERVED DURING THE DEMOLITION WORKS (REFER TO THE DEMOLITION PLAN). SUPPLY, INSTALL AND CONNECT SHOCK ABSORBER (TYPE AS-1) TO THE EXISTING FEED PIPING OF THE EQUIPMENT.

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Gestionnaire de projet: Project manager:
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Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

PLUMBING CONSTRUCTION PLAN FEED HOME BUILDING

Date: 2014-09-29

Échelle: SHOWN Scale:

Feuille: P02 / 05

Sheet:

Réf. Consultant: Ref. Consultant: R.066807.004

No de réference: Ministère:

Reference no Ministry:

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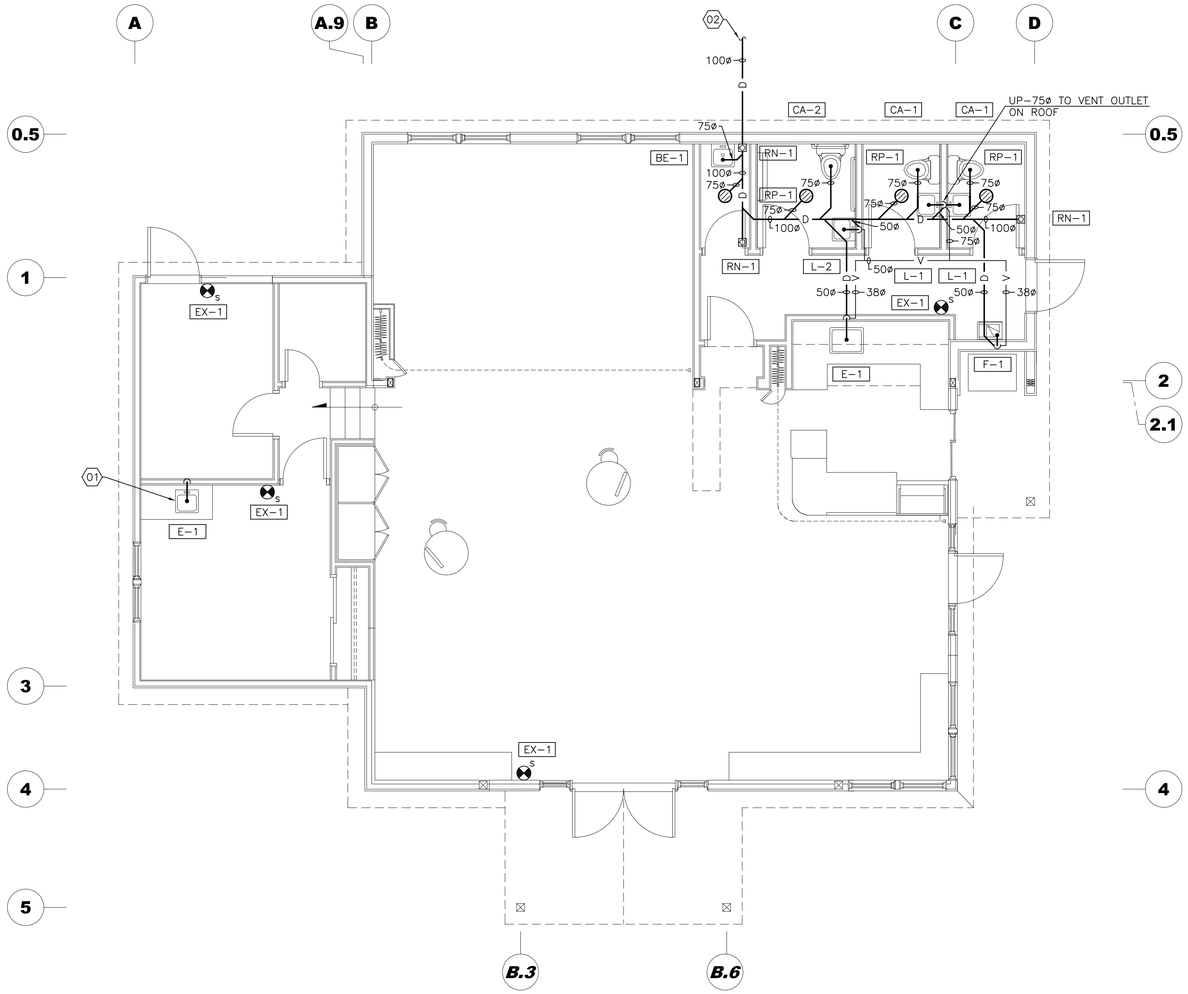

CONSTRUCTION PLAN (DRAINAGE)

SCALE: 1:50

0m 2,5m

SPECIFIC NOTES:

01 NEW SINK C/W ACCESSORIES TO BE CONNECTED TO THE PRESERVED EXISTING PIPING DURING THE DEMOLITION WORKS (REFER TO THE DEMOLITION PLAN).

02 NEW SANITARY DRAINAGE PIPE TO CONNECT TO EXISTING PLUMBING DRAIN CONNECTION WITH THE SEPTIC TANK (±12m). COORDINATE ON SITE.

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Chargé de projet: Project manager:
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VALIDÉ PAR: VALIDATED BY:

Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR
PARKS CANADA AGENCY

Titre du dessin: Drawing title:

PLUMBING
CONSTRUCTION PLAN
DRAINAGE
HOME BUILDING

Date: 2014-09-29

Échelle: SHOWN Scale:

Feuille: P03 / 05 Sheet:

Réf. Consultant: Ref. Consultant: **R.066807.004**

No de réference: Ministère: Reference no Ministry:

SPECIFIC NOTES:

AS-1 LOW LEAD WATER HAMMER ARRESTORS, COPPER BODY, POLYPROPYLENE PISTON WITHOUT MAINTENANCE, AIR PRECHARGE OF 60 PSI, OPERATING TEMPERATURE BETWEEN 0.5°C AND 82°C, MAXIMUM OPERATING PRESSURE OF 150 PSI, CONNECTION DIAMETER OF 13mm.

SPECIFIED PRODUCT: WATTS #LF15M2-A.
OTHER ACCEPTABLE PRODUCTS: MIFAB, SIOUX CHIEF, ZURN.

BE-1 TERRAZZO MAINTENANCE TRAY, DIMENSIONS OF 610x610x254mm, CAST BRASS RETURN OF 75mmø WITH STAINLESS STEEL MESH, ALUMINIUM FLANGE PROTECTORS, 914mm (19mmø) LONG NOSE WITH CHROME FINISH CONNECTION AND STAINLESS STEEL WALL TIE, STAINLESS STEEL MOP STEND 610mm LONG INCLUDING 3 SPRING CANS, CALIBER 20 STAINLESS STEEL WALL PROTECTION PANELS, TIGHTNESS PACKING.

SPECIFIED PRODUCT: STERN-WILLIAMS #MTB-2424-A20-T35-T40-BP-TC3.
OTHER ACCEPTABLE PRODUCTS: ACORN, FIAT, ZURN.

POLISH-CHROME FINISH WALL FAUCET, 208mm CENTRE DISTANCE, HEAVY YELLOW BRASS APPARENT BODY, 1/4 TURN CERAMIC DISC CARTRIDGE, CONNECTION FOR UNRESTRICTED CONNECTION, PROJECTION OF 140mm BETWEEN THE WALL AND THE NOZZLE EXIT, VACUUM BREAKER INTEGRATED TO BODY, TWO METALLIC LEVER HANDLES.

SPECIFIED PRODUCTS: CHICAGO FAUCETS #305VB-369VP-XK
OTHER ACCEPTABLE PRODUCTS: DELTA, ZURN.

SUPPLY A SEAL TRAP LOCALLY MANUFACTURED, MADE WITH THE SAME MATERIAL AS THE DRAINAGE PIPE.

CA-1 FLOOR TANK FLUSH LATRINE INCLUDING THE FOLLOWING COMPONENTS:

FLUSH LATRINE 381mm HIGH, VITREOUS CHINA WITH ANTIMICROBIAL COATING, SIPHON JET FLUSHING ACTION SYSTEM AND CLEANING ACTION RINSE RING, 6 LITERS PER CYCLE, SANITARY BARRIER AND 4 APPLICATION POINTS FOR THE TANK, 2 PIECES, INSULATED TANK, BOLTED TANK COVER, FLUSH TOWER OF 76mm IN DIAMETER WITH CHECK VALVE, FLUSH FAUCET WITH METALLIC TUBE, EXTENDED BOWL, 54mm PLUNGER COMPLETELY FROZEN, FLOOR EVACUATION, BOLT COVERS.

SPECIFIED PRODUCT: AMERICAN STANDARD "CADET PRO ALLONGÉ" #215CA.074
OTHER ACCEPTABLE PRODUCTS: KOHLER, TOTO, ZURN.

FLUSH LATRINE EXTRA-STRONG SEAT, EXTENDED TYPE, OPEN IN FRONT, SOLID PLASTIC STRUCTURE WITH ANTIMICROBIAL PROTECTION, WHITE, NO COVER, ANCHOR RODS AND STAINLESS STEEL NUTS.

SPECIFIED PRODUCT: CENTOCO #AM500STSCCSS.
OTHER ACCEPTABLE PRODUCTS: BEMIS, KOHLER, OLSONITE, TOTO, ZURN.

FEED FOR FLUSH LATRINE, POLISHED BRASS, POLISH-CHROME FINISH, RUGGED STOP VALVE BRACKET, 13mm FEED CONNECTION, , RIGID HORIZONTAL NIPPLES 76mm LONG, VANDALISM-PROOF REMOVABLE KEYS, FINISHING PLATE AND UPRIGHT FLEXIBLE COLUMNS IN BRAIDED STAINLESS STEEL.

SPECIFIED PRODUCT: MCGUIRE #LFH166LKN3RB.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

SUPPLY A FLOOR FLANGE (SAME MATERIAL AS THE DRAINAGE PIPING), WITH BRASS BOLTS AND RUBBER PACKING.

CA-2 FLUSH LATRINE ADAPTED TO TANK FLOOR INCLUDING THE FOLLOWING COMPONENTS:

FLUSH LATRINE 419mm HIGH, VITREOUS CHINA WITH ANTIMICROBIAL COATING, SIPHON JET FLUSHING ACTION SYSTEM AND CLEANING ACTION RINSE RING, 6 LITERS PER CYCLE, SANITARY BARRIER AND 4 APPLICATION POINTS FOR THE TANK, 2 PIECES, INSULATED TANK, BOLTED TANK COVER, FLUSH TOWER OF 76mm IN DIAMETER WITH CHECK VALVE, FLUSH FAUCET WITH METALLIC TUBE, EXTENDED BOWL, 54mm PLUNGER COMPLETELY FROZEN, FLOOR EVACUATION, BOLT COVERS.

SPECIFIED PRODUCT: AMERICAN STANDARD "CADET PRO ALLONGÉ" #215AA.074.
OTHER ACCEPTABLE PRODUCTS: KOHLER, TOTO, ZURN.

EXTRA-STRONG FLUSH LATRINE SEAT, EXTENDED TYPE, OPEN IN FRONT, SOLID PLASTIC STRUCTURE WITH ANTIMICROBIAL PROTECTION, WHITE, WITH COVER, ANCHOR RODS AND STAINLESS STEEL NUTS.

SPECIFIED PRODUCT: CENTOCO #AM820STS.
OTHER ACCEPTABLE PRODUCTS: BEMIS, KOHLER, OLSONITE, TOTO, ZURN.

FEED FOR FLUSH LATRINE, POLISHED BRASS, POLISH-CHROME FINISH, RUGGED STOP VALVE BRACKET, 13mm FEED CONNECTION, RIGID HORIZONTAL NIPPLES 76mm LONG, VANDALISM-PROOF REMOVABLE KEYS, FINISHING PLATE AND UPRIGHT FLEXIBLE COLUMNS IN BRAIDED STAINLESS STEEL, LOW-LEAD CONTENT.

SPECIFIED PRODUCT: MCGUIRE #LFH166LKN3RB.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

SUPPLY A FLOOR FLANGE (SAME MATERIAL AS THE DRAINAGE PIPING), WITH BRASS BOLTS AND RUBBER PACKING.

CE-1 ELECTRIC WATER HEATER INCLUDING THE FOLLOWING COMPONENTS:

279 LITER CAPACITY ELECTRIC WATER HEATER, 50mm INSULATION, POWER OF 3800W, MAGNESIUM ANODE, BRASS FLUSHING FAUCET, BOTTOM WATER ENTRANCE, TANK INTERIOR WITH DOUBLE GLASS THICKNESS, FEED OF 240V/1ø/60hz, 19mm DE DIAMETER CONNECTION.

SPECIFIED PRODUCT: GIANT "SUPER CASCADE" #172EPS-3F8M.
OTHER ACCEPTABLE PRODUCTS: A.O. SMITH, JOHN WOOD, RHEEM.

THERMAL EXPANSION TANK, STEEL TANK, POLYPROPYLENE MEMBRANE, PRECHARGE OF 55 PSIG, 2 GALLON VOLUME, 19mm DIAMETER CONNECTION, TANK CONSTRUCTION WITH ASME APPROVAL.

SPECIFIED PRODUCT: AMTROL "THERM-X-TROL" #ST-5C.
OTHER ACCEPTABLE PRODUCTS: EXPANFLEX, FLO FAB, WATTS, ZURN.

LOW-LEAD SAFETY VALVE, 19mm DIAMETER CONNECTION, ADJUSTMENT TO 689 KPA.

SPECIFIED PRODUCT: WATTS #LF100XL-8.
OTHER ACCEPTABLE PRODUCTS: BRAUKMANN, ZURN.

LOW-LEAD VACUUM BREAKER, 19mm DE DIAMETER CONNECTION.

SPECIFIED PRODUCT: WATTS #LFN36-M1.
OTHER ACCEPTABLE PRODUCTS: BRAUKMANN, ZURN.

INSTALL THE WATER HEATER IN COMPLIANCE WITH THE CONNECTION DETAIL TYPE.

D-1 WALL SHOWER INCLUDING THE FOLLOWING COMPONENTS:

SIMPLE BUILT-IN FAUCET FOR SHOWER WITH INTEGRATED STOP VALVE AND PURGE SLEEVE, TIMED PUSH BUTTON WITH ABS AND SELF-CLEANING MOUNTED ON A 160x160mm STAINLESS STEEL PLATE AND ANTI-VANDALISM FIXATION.

SPECIFIED PRODUCT: PRESTO "SÉRIE 500 SB" #38340.
OTHER ACCEPTABLE PRODUCTS: ACORN, ZURN.

SOLID BRASS FIXED SHOWER HEAD, POLISH CHROME FINISH, WALL-MOUNTED.

SPECIFIED PRODUCT: POWERS #141-868.
OTHER ACCEPTABLE PRODUCTS: ACORN, ZURN.

INSTALL THE SHOWER HEAD AT 1800mm HIGH AND THE FAUCET AT 1200mm HIGH.

D-2 WALL SHOWER (FEET) INCLUDING THE FOLLOWING COMPONENTS:

SIMPLE BUILT-IN SHOWER FAUCET WITH AN INTEGRATED STOP VALVE AND PURGE SLEEVE. TIMED PUSH BUTTON WITH ABS AND SELF-CLEANING MOUNTED ON A 160x160mm STAINLESS STEEL PLATE AND ANTI-VANDALISM FIXATION.

SPECIFIED PRODUCT: PRESTO "SÉRIE 500 SB" #38340.
OTHER ACCEPTABLE PRODUCTS: ACORN, ZURN.

SOLID BRASS SHOWER HEAD, POLISH-CHROME FINISH, WALL-MOUNTED.

SPECIFIED PRODUCT: POWERS #141-868.
OTHER ACCEPTABLE PRODUCTS: ACORN, ZURN.

INSTALL THE SHOWER HEAD AT 450mm HIGH AND THE FAUCET AT 1200mm HIGH.

E-1 COUNTER-TOP SINK INCLUDING THE FOLLOWING COMPONENTS:

SIMPLE SINK MOUNTED ON COUNTER, SINGLE CENTRAL PERFORATION, 521x508x208mm DEEP, REAR SHELF, STAINLESS STEEL 18-10, TYPE 302, 0.9mm THICK (CALIBER 20), SATIN-FINISH TANK AND FLANGE, MOUNTING HARDWARE, SEALING DEVICE UNDER THE FLANGE, 90mm STRAINER-BASKET WITH A 38mm TUBULAR EXTENSION CORD.

SPECIFIED PRODUCT: FRANKE COMMERCIAL #LBS6808-1/1.
OTHER ACCEPTABLE PRODUCTS: ELKAY, NOVANNI.

SINGLE CONTROL FAUCET, POLISH-CHROME FINISH, FOR SINGLE CENTRAL PERFORATION, CERAMIC DISC CARTRIDGES WITHOUT WASHERS, 12 LPM VENTILATOR, 225mm PROJECTION SPOUT, LEVER HANDLE. ADJUSTABLE TEMPERATURE LIMITER, LOW LEAD.

SPECIFIED PRODUCT: HANSA "HANSACUISINE" #5490 2203
OTHER ACCEPTABLE PRODUCTS: AMERICAN STANDARD "DXV", DELTA, GROHE, RIOBEL.

SINK FEED, POLISHED BRASS, POLISH-CHROME FINISH, RUGGED STOP VALVE BRACKET, 10mm FEED CONNECTION, 76mm LONG RIGID HORIZONTAL NIPPLES, VANDALISM-PROOF REMOVABLE KEYS, FINISHING PLATE AND UPRIGHT FLEXIBLE COLUMNS IN BRAIDED STAINLESS STEEL, LOW LEAD.

SPECIFIED PRODUCT: MCGUIRE #LFH165LKN3RB.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

SUPPLY A 38mm DIAMETER SEAL TRAP WITH CLEANOUT, WITH THE SAME MATERIAL AS THE DRAINAGE PIPE.

EX-1 SURFACE PORTABLE EXTINGUISHER, POWDER WITH MONOAMMONIUM BASE IN AN ENAMELLED STEEL CONTAINER, PERMANENT PRESSURE, RECHARCHEABLE, WITH A FLEXIBLE HOSE AND A FITTING EITH SHUT-OFF VALVE, FIGHTS FIRES OF CLASSES A, B AND C, ULC APPROVED, RATED CAPACITY OF 4.5kg (10 LBS.), WALL BRACKET.

SPECIFIED PRODUCT: PYRO-CHEM / FLAG-FIRE #PC10SABC+1.
OTHER ACCEPTABLE PRODUCT: ANSUL, CHUBB, DIAMOND, THE WILLIAMS BROTHER CORP.

F-1 DRINKING FOUNTAIN INCLUDING THE FOLLOWING COMPONENTS:

LOW-LEAD UNIVERSAL COOLING FOUNTAIN, INTEGRATED STRAINER OF 100 MICRONS, TOP MADE OF STAINLESS STEEL WITH REMOVABLE ONE-PIECE JET PROTECTOR, GALVANIZED STEEL RUGGED FRAME, PUSH BUTTON MANUAL ACTIVATION, 8 GAL/H. COOLER, FEED OF 120V/1ø/60hz 4.4A.

SPECIFIED PRODUCT: FRANKE COMMERCIAL #KEPV8AC-STN.
OTHER ACCEPTABLE PRODUCTS: ACORN, HAWS, STERN WILLIAMS.

FEED FOR POTABLE WATER FOUNTAIN, POLISHED BRASS, POLISH-CHROME FINISH, IN-LINE STOP VALVE, VANDALISM-PROOF REMOVABLE KEY, 10mm FEED CONNECTION.

SPECIFIED PRODUCT: MCGUIRE #LFHST11LK.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

WALL MOUNTING BRACKET, STEEL ANCHOR PLATE, STEEL COLUMNS WITH EPOXY COATING AND ANCHOR BLOCKS WELDED TO FLOOR.

SPECIFIED PRODUCT: WATTS #CA-321.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, ZURN.

L-1 WALL SINK INCLUDING THE FOLLOWING COMPONENTS:

WALL MOUNTED SINK, 622x508x208mm DEEP, VITREOUS CHINA, OVERFLOW IN BACK, SEMI-COLUMN, SINGLE-HOLE FAUCET APRON.

SPECIFIED PRODUCT: AMERICAN STANDARD "CADET" #0236.001/0044.000.
OTHER ACCEPTABLE PRODUCTS: KOHLER, TOTO, ZURN.

LOW-LEAD ELECTRONIC FAUCET, POLISH-CHROME FINISH, 6 LPM FLOW, OPTOELECTRONIC (INFRARED), PRESENCE DETECTOR, 6 VDC LITHIUM BATTERY, UNIT WITH PHOTOVOLTAÏC CELL TO RECHARGE THE BATTERY.

SPECIFIED PRODUCT: HANSA "HANSAMIX-S" #5077 2220.
OTHER ACCEPTABLE PRODUCTS: DELTA, TOTO.

LOW-LEAD THERMOSTATIC MIXER, CAST BRONZE CONSTRUCTION, STAINLESS STEEL DISC AND SPRING, NO-RETURN VALVES, PRECISION OF 1.7°C, 13mm DIAMETER CONNECTION.

SPECIFIED PRODUCT: WATTS #LFMMV-M1.
OTHER ACCEPTABLE PRODUCTS: APOLLO, POWERS, ZURN.

SINK FEED, POLISHED BRASS, POLISH-CHROME FINISH, RUGGED STOP VALVE BRACKET, 10mm FEED CONNECTION, 76mm LONG RIGID HORIZONTAL NIPPLES, VANDALISM-PROOF, REMOVABLE KEYS, FINISHING PLATE AND UPRIGHT FLEXIBLE COLUMNS IN BRAIDED STAINLESS STEEL, LOW-LEAD.

SPECIFIED PRODUCT: MCGUIRE #LFH165LKN3RB.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

RETURN WITH OPEN STRAINER, ONE-PIECE BRASS BODY CAST, ANTI-MICROBIC PROTECTION, CALIBER 17, 32mm DIAMETER.

SPECIFIED PRODUCT: MCGUIRE #155ASAN.
OTHER ACCEPTABLE PRODUCTS: DELTA, OS&B.

SEAL TRAP, ANTI-MICROBIC PROTECTION, ADJUSTABLE CAST BRASS BODY, SLIDING NUT, 32mm DIAMETER, DEEP WALL FLANGE AND HORIZONTAL SEAMLESS TUBE.

SPECIFIED PRODUCT: MCGUIRE #8872CBSAN.
OTHER ACCEPTABLE PRODUCTS: DELTA, ZURN.

SINK BRACKET WITH CONCEALED ARMS, UNBALANCED STEEL COLUMNS WITH EPOXY COATING AND WELDED FEET, TRANSVERSE PLATE WITH INTEGRATED CLAMPING FIXTURES, SLIDING AND ADJUSTABLE STRAPS FOR ARMS, IRON ADJUSTABLE CONCEALED ARMS WITH LEVELLING FIXATION SCREWS.

SPECIFIED PRODUCT: WATTS #TCA-411-HD.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, ZURN.

SUPPLY A SEALER FOR THE INSTALLATION OF THE SINK.

L-2 ADAPTED WALL SINK INCLUDING THE FOLLOWING COMPONENTS:

WALL-MOUNTED SINK, 622x508x208mm DEEP, VITREOUS CHINA, OVERFLOW IN BACK, SEMI-COLUMN, SINGLE-HOLE FAUCET APRON.

SPECIFIED PRODUCT: AMERICAN STANDARD "CADET" #0236.001/0044.000.
OTHER ACCEPTABLE PRODUCTS: KOHLER, TOTO, ZURN.

LOW-LEAD ELECTRONIC FAUCET, POLISH-CHROME FINISH, 6 LPM FLOW, OPTOELECTRONIC (INFRARED), PRESENCE DETECTOR, 6 VDC LITHIUM BATTERY, UNIT WITH PHOTOVOLTAÏC CELL TO RECHARGE THE BATTERY.

SPECIFIED PRODUCT: HANSA "HANSAMIX-S" #5077 2220.
OTHER ACCEPTABLE PRODUCTS: DELTA, TOTO.

LOW-LEAD THERMOSTATIC MIXER, CAST BRONZE CONSTRUCTION, STAINLESS STEEL DISC AND SPRING, NON-RETURN VALVES, PRECISION DE 1.7°C, 13mm DIAMETER CONNECTION.

SPECIFIED PRODUCT: WATTS #LFMMV-M1.
OTHER ACCEPTABLE PRODUCTS: APOLLO, POWERS, ZURN.

SINK FEED, POLISHED BRASS, POLISH-CHROME FINISH, RUGGED STOP VALVE BRACKET, 10mm FEED CONNECTION, 76mm LONG RIGID HORIZONTAL NIPPLES, VANDALISM-PROOF REMOVABLE KEYS, FINISHING PLATE AND UPRIGHT FLEXIBLE COLUMNS IN BRAIDED STAINLESS STEEL, LOW-LEAD.

SPECIFIED PRODUCT: MCGUIRE #LFH165LKN3RB.
OTHER ACCEPTABLE PRODUCTS: BRASSCRAFT, DALH, ZURN.

UNBALANCED RETURN WITH OPEN STRAINER, ONE-PIECE BRASS BODY CAST, ANTI-MICROBIC PROTECTION, CALIBER 17, 32mm DE DIAMETER.

SPECIFIED PRODUCT: MCGUIRE #155WCSAN.
OTHER ACCEPTABLE PRODUCTS: DELTA, OS&B.

SEAL TRAP, ANTI-MICROBIC PROTECTION, ADJUSTABLE CAST BRASS BODY, SLIDING NUT, 32mm DIAMETER, DEEP WALL FLANGE AND HORIZONTAL SEAMLESS TUBE.

SPECIFIED PRODUCT: MCGUIRE #8872CBSAN.
OTHER ACCEPTABLE PRODUCTS: DELTA, ZURN.

SINK BRACKET WITH CONCEALED ARMS, UNBALANCED STEEL COLUMNS WITH EPOXY COATING AND WELDED FEET, TRANSVERSE PLATE WITH INTEGRATED CLAMPING FIXTURES, SLIDING AND ADJUSTABLE STRAPS FOR ARMS, IRON ADJUSTABLE CONCEALED ARMS WITH LEVELLING FIXATION SCREWS.

SPECIFIED PRODUCT: WATTS #TCA-411-HD.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, ZURN.

SUPPLY A SEALER FOR THE INSTALLATION OF THE SINK.

MT-1 LOW-LEAD THERMAL MIXER, CAST BRONZE CONSTRUCTION, STAINLESS STEEL DISC AND SPRING, CHECKS VALVES, PRECISION AT 1.7°C, 13mm CONNEXION.

PRODUIT SPÉCIFIÉ: WATTS #LFMMV-M1.
AUTRES PRODUITS ACCEPTABLES: APOLLO, POWERS, ZURN.

WALL-MOUNTED ANTI-FREEZE OUTDOOR WATER FAUCET, KEY OPERATED, CHROME-FINISH APPARENT PLATE, INTEGRATED VACUUM BREAKER, 19mm DIAMETER CONNECTION.

SPECIFIED PRODUCT: WATTS #HY-420.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, MIFAB, ZURN.

RN-1 CAST IRON CLEANOUT ADJUSTABLE EPOXY COATED FLOOR.

SPECIFIED PRODUCT: WATTS #CO-100-C-R.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, MIFAB, ZURN.

RP-1 FLOOR RETURN INCLUDING THE FOLLOWING COMPONENTS:

CAST IRON ADJUSTABLE EPOXY COATED RETURN FLOOR, 127mm DIAMETER STAINLESS STEEL RUGGED MESH, SEDIMENT BASKET.

SPECIFIED PRODUCT: WATTS #FD-1100-B.
OTHER ACCEPTABLE PRODUCTS: JAY R. SMITH, MIFAB, ZURN.

ANTIGAS SEWER RETURN WITH ELASTOMETER MEMBRANE.

SPECIFIED PRODUCT: PROSET SYSTEMS "TRAP-GUARD".
OTHER ACCEPTABLE PRODUCTS: MIFAB, SURE SEAL.

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Modification		Date
2	ISSUED FOR TENDER	2014-11-21
1	ÉMIS POUR COORDINATION	2014-11-18

A. No du détail
B. Localisation
C. Sur feuille No

A B C

A. Detail No
B. Localisation
C. On sheet No

CONCEPTION: DESING:
Conçu par: Designed by:
Mathieu Roussel, tech.
Dessiné par: Drawn by:
Mathieu Roussel, tech. / Danielle Roy, tech.
Verifié par: Checked by:
Mathieu Ouellet, ing.
Chargé de projet: Project manager by:
Mathieu Ouellet, ing.
VALIDÉ PAR: VALIDATED BY:
Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.
Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON
CANADA NATIONAL PARK

PENOUILLE AREA

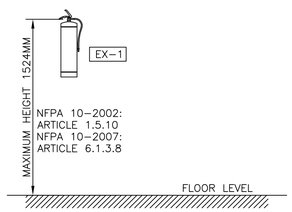
REPAIR OF THE HOME BUILDING

FOR CANADA PARKS AGENCY

Titre du dessin: Drawing title:

DESCRIPTIONS
PLUMBING

Date: 2014-09-29
Feuille: P04 / 05
Échelle: NONE Scale:
Réf. Consultant: Ref. Consultant: R.066807.004
Sheet:
No de réference: Ministère: Reference no Ministry:

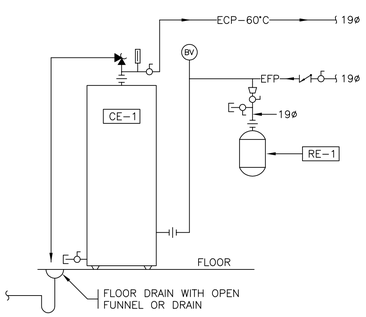


NOTES:

1. THE BOTTOM OF THE PORTABLE EXTINGUISHERS SHALL IN NO CASE BE LOCATED WITHIN 100MM (4") OF THE FLOOR LEVEL.

INSTALLATION DETAIL TYPE - PORTABLE EXTINGUISHER

SCALE: NONE



CONNECTION DETAIL TYPE - ELECTRICAL WATER HEATER

SCALE: NONE

PLUMBING

D	DRAIN OR SANITARY DRAIN
V	VENT
CWL	COLD POTABLE WATER
HWL	HOT POTABLE WATER
	VACUUM CHECK VALVE
	SCREWED UNION
	WATER HAMMER ARRESTORS
	PRESSURE AND TEMPERATURE SAFETY VALVE
	APPARENT EXTERIOR WATER FAUCET
	CLEANOUT
	CLEANOUT WITH ACCESS TO THE FLOOR
	THERMOMETER
	CONCENTRIC REDUCER
	SEALED-TIGHT STOPPER
	UPRIGHT PIPING
	DOWNRIGHT PIPING
	BOTTOM CONNECTION
	ABOVE CONNECTION
	FLOOR DRAIN
	FLOOR DRAIN WITH FUNNEL
S	PORTABLE, SURFACE EXTINGUISHER

ETM	EQUIPMENT TO BE MODIFIED
ETR	EQUIPMENT TO BE RELOCATED
EP	EQUIPMENT TO BE PRESERVED
ETR	EQUIPMENT TO BE REMOVED
ER	RELOCATED EQUIPMENT
N	NEW EQUIPMENT

C	SEAL BLANK AT THIS POINT
R	CONNECT AT THIS POINT
E	REMOVE UP TO THIS POINT AND SEAL BLANK IF NECESSARY
	EXISTING TO BE PRESERVED
	EXISTING TO BE REMOVED
	NEW

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C. Sur feuille No / C. On sheet No

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Chargé de projet: / Project manager by:
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Gestionnaire de projet: / Project manager:
Antoine l'Italien Savard, arch.
Gestionnaire principal de projet: / Project director:
Sophie Huot, ing.

Projet: / Project:
FORILLON CANADA NATIONAL PARK
PENOUILLE AREA
REPAIR OF THE HOME BUILDING
FOR CANADA PARKS AGENCY

Titre du dessin: / Drawing title:
PLUMBING DETAILS AND LEGEND

Date: 2014-09-29
Échelle: / Scale: SHOWN
Réf. Consultant: / Ref. Consultant: **R.066807.004**
Feuille: / Sheet: **P05 / 05**
No de réference: / Reference no
Ministère: / Ministry:

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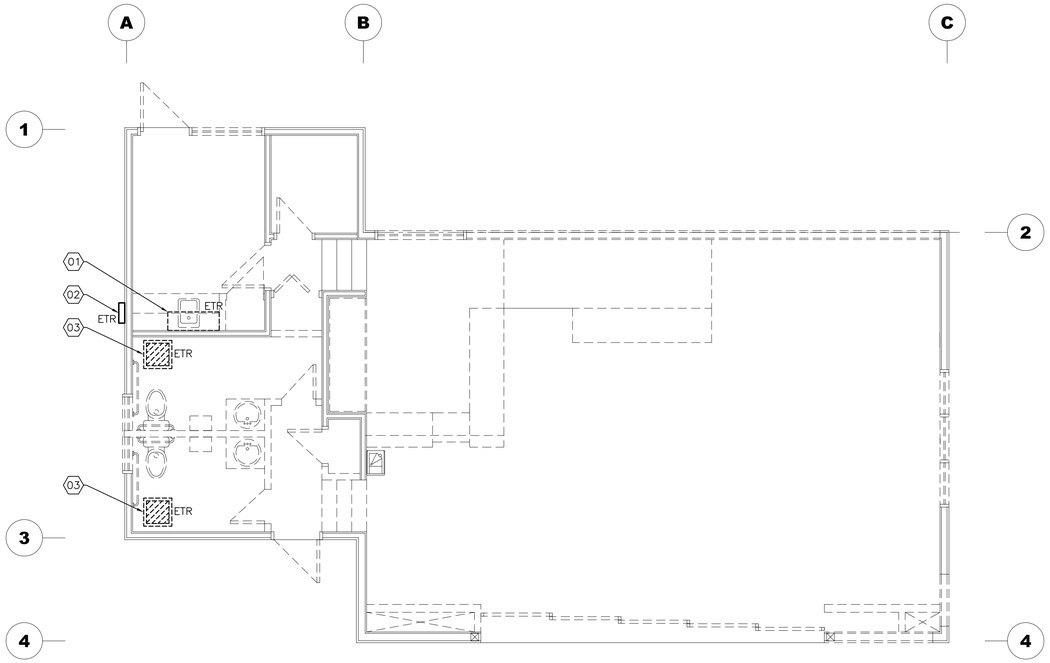

DEMOLITION PLAN (VENTILATION)

SCALE: 1:50

0m 2,5m

SPECIFIC NOTES:

01 EXISTING KITCHEN HOOD TO BE DISMENTLED C/W ALL RELATED ACCESSORIES AND DUCTS.

02 EXISTING AIR EXHAUST COVER TO BE DISMANTLED C/W ALL RELATED ACCESSORIES ANS DUCTS.

03 EXISTING EXHAUST FAN TO BE DISMANTLED C/W ALL RELATED ACCESSORIES AND DUCTS.

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Mathieu Ouellet, ing.

VALIDÉ PAR: VALIDATED BY:

Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

VENTILATION DEMOLITION PLAN HOME BUILDING

Date: 2014-09-29

Feuille: V01 / 03

Échelle: SHOWN Scale:

Réf. Consultant: Ref. Consultant: **R.066807.004**

Sheet:

No de réference: Ministère:

Reference no Ministry:

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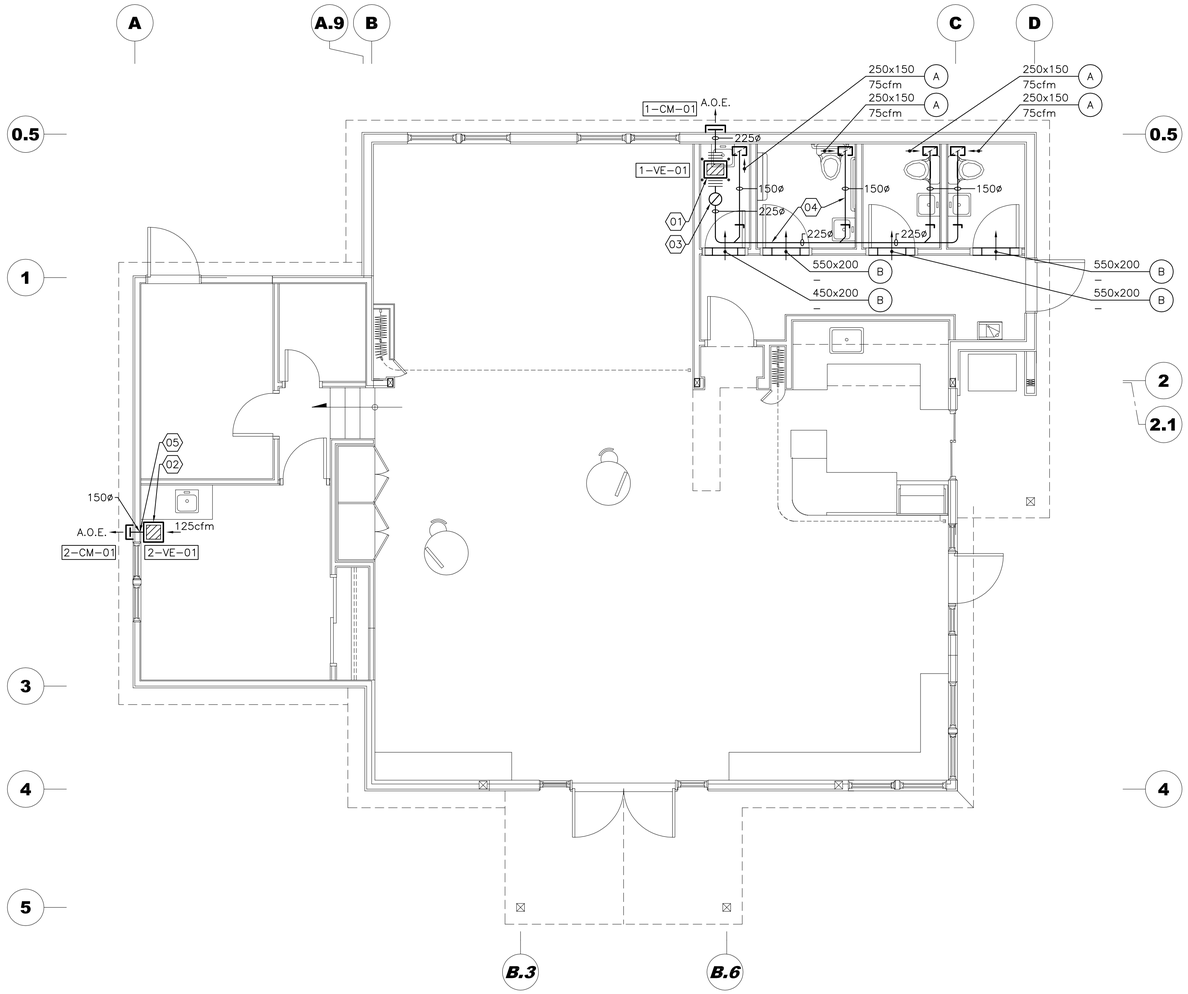

CONSTRUCTION PLAN (VENTILATION)

SCALE: 1:50

0m 2,5m

SPECIFICS NOTES:

01 EXHAUST FAN 1-VE-01 SUSPENDED FROM CEILING TOWARDS 4 THREADED RODS, 4 ANTI-VIBRATION SPRINGS AND SUPPORTS OF "CANTRUSS" TYPE UNDER THE EQUIPMENT. ALSO SUPPLY AND INSTALL 75mm FLEXIBLE NEOPRENE CONNECTIONS AT THE ENTRY AND EXIT OF THE FAN. FAN CONTROL BY THE ELECTRICAL CONTRACTOR.

02 EXHAUST FAN 2-VE-01 LOCATED IN THE ATTIC, SUSPENDED FROM CEILING TOWARDS 4 THREADED RODS, 4 ANTI-VIBRATION SPRINGS AND SUPPORTS OF "CANTRUSS" TYPE UNDER THE EQUIPMENT. ALSO SUPPLY AND INSTALL 75mm FLEXIBLE NEOPRENE CONNECTIONS AT THE ENTRY AND EXIT OF THE FAN. FAN CONTROL BY THE ELECTRICAL CONTRACTOR.

03 RISE EXHAUST DUCT 225ø TO ATTIC, EXACT LOCATION TO BE COORDINATE AT THE SITE IN TERMS OF THE STRUCTURE BUILDING.

04 EXHAUST DUCTS LOCATED IN THE ATTIC. EXACT LOCATION TO BE COORDINATE AT THE SITE.

05 EXHAUST DUCTS 150ø LOCATED IN THE ATTIC.

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A. No du détail
B. Localisation
C. Sur feuille No

A. Detail No
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C. On sheet No

CONCEPTION: DESING:

Conçu par: Designed by:
Mathieu Roussel, tech.

Dessiné par: Drawn by:
Mathieu Roussel, tech.

Verifié par: Checked by:
Mathieu Ouellet, ing.

Chargé de projet: Project manager by:
Mathieu Ouellet, ing.

VALIDÉ PAR: VALIDATED BY:

Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.

Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

VENTILATION CONSTRUCTION PLAN HOME BUILDING

Date: 2014-09-29

Échelle: Scale: SHOWN

Feuille: V02 / 03

Sheet:

Réf. Consultant: Ref. Consultant: **R.066807.004**

No de réference: Ministère:

Reference no Ministry:

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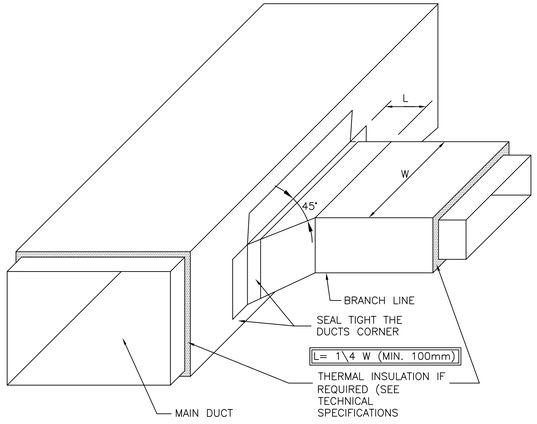
GRILL CHART

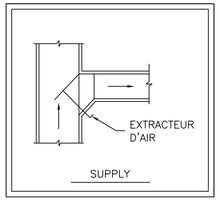
PLAN IDENTIFICATION	MARK	MODEL	ACCESSORIES
A	KRUEGER	AFS585-H	C,G,I
B	KRUEGER	5600A	C,J

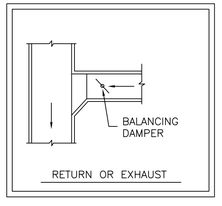
ACCESSOIRES:

A- AIR EQUALIZER
B- AW WHITE COLOURED FIRE ENAMEL FINISH
C- FIRE ENAMEL FINISH, ARCHITEC'S CHOICE OF COLOUR ANONG MANUFACTURER'S
D- NUMBER OF TRACKS INDICATED ON PLANS
E- PANEL 300x300.
F- PANEL 600x600.
G- SHEATH GRID.
H- NON-SHEATH GRID.
I- "SURFACE" FRAME TYPE, 32mm LARGE.
J- ONE GRID AND TWO 32mm FRAMES.
K- 12x12 TILE.
L- FOR INSTALLATION ON A "T" INVERTED CEILING STRUCTURE.
M- OPPOSED BLADES DAMPER.

NOTES: OTHER ACCEPTABLE PRODUCTS: NAILOR, TITUS.







NOTE: CONSUL THE TECHNICAL SPECIFICATIONS FOR THE BALANCING DAMPERS

BRANCH LINE DETAIL TYPE

SCALE: NONE

EQUIPMENTS DESCRIPTIONS:

1-CM-01 AIR EXHAUST COVER INCLUDING THE FOLLOWING CHARATERISTICS:

- CALIBER 24 GLOSSY GALVANIZES STEEL CONSTRUCTION.
- ALUMINIUM BACKDRAFT DAMPER.
- ENAMEL FINISH, ARCHITEC'S CHOICE OF COLOR.
- DIMENSIONS OF 300mm LARGE, 300mm HIGH, 125mm DEEP.
- CONNECTION DIAMETER OF 225mm.

SPECIFIED PRODUCT: COMÉTAL #SM-409.
OTHER ACCEPTABLE PRODUCT: LMI, MÉTALLICO.

HIDE-OUT TYPE COVER INCLUDING THE FOLLOWING CHARATERISTICS:

- CALIBER 24 GLOSSY GALVANIZES STEEL CONSTRUCTION.
- 13mm x 13mm REMOVABLE MESH
- ENAMEL FINISH, ARCHITEC'S CHOICE OF COLOR.
- DIMENSIONS DE 400mm DE LARGEUR, 400mm DE HAUTEUR, 150mm DE PROFONDEUR.

SPECIFIED PRODUCT: COMÉTAL #CS-100.
OTHER ACCEPTABLE PRODUCT: LMI, MÉTALLICO.

2-CM-01 AIR EXHAUST COVER INCLUDING THE FOLLOWING CHARATERISTICS:

- CALIBER 24 GLOSSY GALVANIZES STEEL CONSTRUCTION.
- ALUMINIUM BACKDRAFT DAMPER.
- ENAMEL FINISH, ARCHITEC'S CHOICE OF COLOR.
- DIMENSIONS OF 300mm LARGE, 300mm HIGH, 125mm DEEP.
- CONNECTION DIAMETER OF 150mm.

SPECIFIED PRODUCT: COMÉTAL #SM-406.
OTHER ACCEPTABLE PRODUCT: LMI, MÉTALLICO.

HIDE-OUT TYPE COVER INCLUDING THE FOLLOWING CHARATERISTICS:

- CALIBER 24 GLOSSY GALVANIZES STEEL CONSTRUCTION.
- 13mm x 13mm REMOVABLE MESH
- ENAMEL FINISH, ARCHITEC'S CHOICE OF COLOR.
- DIMENSIONS DE 400mm DE LARGEUR, 400mm DE HAUTEUR, 150mm DE PROFONDEUR.

SPECIFIED PRODUCT: COMÉTAL #CS-100.
OTHER ACCEPTABLE PRODUCT: LMI, MÉTALLICO.

1-VE-01 EXHAUST FAN INCLUDING THE FOLLOWING CHARATERISTICS:

- GALVANIZED STEEL CONSTRUCTION WITH ACOUSTIC INSULATION.
- CENTRIFUGAL FAN.
- BACKDRAFT DAMPER.
- MOTOR FOR A CONTINUED OPERATION WITH THERMAL PROTECTION, MOUNTED ON ANTI-VIBRATION INSULATORS.
- DIRECT DRIVE MOTOR.
- INLINE DISTRIBUTION.
- SHOP-MOUNTED FAN SPEED CONTROL.
- MOTOR O-ODP, 0.06 HP, 120V/1ø/60hz.
- FLOW OF 300 CFM AT 0.5" EXTERNAL STATIC PRESSURE DROP.
- FAN SPEED OF 1490 RPM.
- SOUND LEVEL AT 3.9 SONES.

SPECIFIED PRODUCT: PENN-BARRY #Z8HTDA.
OTHER ACCEPTABLE PRODUCT: LOREN COOK, TWIN CITY.

2-VE-01 EXHAUST FAN INCLUDING THE FOLLOWING CHARATERISTICS:

- GALVANIZED STEEL CONSTRUCTION WITH RUST-RESISTANT LINING.
- THERMOPLASTIC ARCHITECTURAL GRILL.
- BACKDRAFT DAMPER.
- MOTOR WITH THERMAL PROTECTION, MOUNTED ON ANTI-VIBRATION INSULATORS.
- DIRECT DRIVE MOTOR.
- FEED 120V/1ø/60hz, 27.9w.
- FLOW AT 125 CFM À 0.25" EXTERNAL STATIC PRESSURE DROP.
- FAN SPEED OF 911 RPM.
- SOUND LEVEL AT 0.5 SONES.

SPECIFIED PRODUCT: PANASONIC #FV-15VQ5.
OTHER ACCEPTABLE PRODUCT: BROAN, DELTA "BREEZ".

VENTILATION

UNILIGN DUCT

MANUEL DAMPER

EAI EXTERIOR AIR INTAKE

AOE AIR OUTLET TOWARDS THE EXTERIOR

TYPE: SEE CHART

DIMENSION

X

FLOW

GRID OR DIFFUSER

ETM	EQUIPMENT TO BE MODIFIED
ETR	EQUIPMENT TO BE RELOCATED
EP	EQUIPMENT TO BE PRESERVED
EE	EQUIPMENT TO BE REMOVED
ER	RELOCATED EQUIPMENT
N	NEW EQUIPMENT
EH	ABOVE
EB	BELOW
NF	NORMALLY CLOSED
NO	NORMALLY OPENED
O	SEAL-TIGHT AT THIS POINT
R	CONNECT AT THIS POINT
E	REMOVE UP TO THIS POINT AND SEAL BLANK IF NECESSARY
	EXISTANT TO BE PRESERVED
	EXISTANT TO BE REMOVE
	NEW

Travaux publics et Services gouvernementaux Canada
Public Works and Government Services Canada

Région du Québec
Équipe services clients Patrimoine
Quebec Region
Client Services Team Heritage

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464, bou. St-Germain Ouest, Rimouski (Québec) G5L 3P1
Téléphone : 418 723-8151 Téléphone : 1 877 723-8151
Télécopieur : 418 723-7822

Modification		Date
2	ISSUED FOR TENDER	2014-11-21
1	ISSUED FOR COORDINATION	2014-11-18

A. No du détail
B. Localisation
C. Sur feuille No

A. Detail No
B. Localisation
C. On sheet No

CONCEPTION: DESING:
Conçu par: Designed by:
Mathieu Roussel, tech.
Dessiné par: Drawn by:
Mathieu Roussel, tech.
Verifié par: Checked by:
Mathieu Ouellet, ing.
Chargé de projet: Project manager by:
Mathieu Ouellet, ing.
VALIDÉ PAR: VALIDATED BY:
Gestionnaire de projet: Project manager:
Antoine l'Italien Savard, arch.
Gestionnaire principal de projet: Project director:
Sophie Huot, ing.

Projet: Project:

FORILLON CANADA NATIONAL PARK

PENOUILLE AREA

REPAIR OF THE HOME BUILDING

FOR PARKS CANADA AGENCY

Titre du dessin: Drawing title:

VENTILATION DESCRIPTIONS, DETAILS AND LEGEND

Date: 2014-09-29
Feuille: V03/03
Échelle: SHOWN Scale:
Réf. Consultant: Ref. Consultant: R.066807.004
Sheet:
No de réference: Reference no
Ministère: Ministry:

AutoCAD / format A1 (594 X 841) / P:\24039\EDESSINS\SERVICES-BAT\ELECTRIQUE\V03-DT-CON-R.066807.003.dwg