



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Public Works and Government Services Canada
Canada Place/Place du Canada
10th Floor/10e étage
9700 Jasper Ave/9700 ave Jasper
Edmonton
Alberta
T5J 4C3
Bid Fax: (418) 566-6167

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet AAFC Laboratory Facilities Maintena	
Solicitation No. - N° de l'invitation EP922-230501/A	Date 2022-08-22
Client Reference No. - N° de référence du client AAFC EP922-230501	
GETS Reference No. - N° de référence de SEAG PW-\$PWU-183-12303	
File No. - N° de dossier PWU-2-45018 (183)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Mountain Daylight Saving Time MDT on - le 2022-09-20 Heure Avancée des Rocheuses HAR	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Tikhonovitch (RPC), Alex	Buyer Id - Id de l'acheteur pwu183
Telephone No. - N° de téléphone (780) 901-7940 ()	FAX No. - N° de FAX (418) 566-6167
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF PUBLIC WORKS AND GOVERNMENT SERVICES CANADA HARRY HAYS BUILDING 759- 220 4 AVE SE CALGARY Alberta T2G4X3 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Public Works and Government Services Canada
Canada Place / Place du Canada
10th Floor / 10e étage
9700 Jasper Ave / 9700 ave Jasper
Edmonton
Alberta
T5J 4C3

Delivery Required - Livraison exigée See Herein – Voir ci-inclus	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Agriculture and Agri-Food Canada (AAFC) Laboratory Facilities Maintenance Audit, St. Hyacinthe, Quebec

REQUEST FOR PROPOSAL (RFP)

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PART 1 - SUPPLEMENTARY INSTRUCTIONS TO PROPONENTS (SI)

SI1 INTRODUCTION

1. Public Works and Government Services Canada (PWGSC) intends to retain an individual consulting firm or joint venture to provide the professional services for the project as set out in this Request for Proposal (RFP).
2. This is a single phase selection process. The nature of the requirement and the anticipated limited number of response by the industry leads PWGSC to believe that this approach will not unduly force a large number of firms to expend an overall unreasonable amount of effort in response to PWGSC.
3. Proponents responding to this RFP are requested to submit a full and complete proposal. The proposal will cover not only the qualifications, experience and organization of the proposed Consultant Team, but also the detailed approach to the work, and the pricing and terms offered. A combination of the technical and price of services submissions will constitute the proposal.
4. Proponents must use Canada Post Corporation's (CPC) Connect service to transmit their proposals electronically.

Due to the nature of the bid solicitation, transmission of proposals by facsimile is not recommended for administrative reasons but offered to proponents to provide an alternative opportunity in case of incompatibility or inability to transmit by CPC Connect service.

Proponents must refer to GI16 Submission of proposal, and [SRE 2 Proposal Requirements](#), of the bid solicitation, for further information.

SI2 PROPOSAL DOCUMENTS

1. All instructions, general terms, conditions and clauses identified in the RFP by number, date and title, are hereby incorporated by reference into and form part of this solicitation and any resultant contract.

All instructions, general terms, conditions and clauses identified in the RFP by number, date and title, are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2. The following are the proposal documents:
 - (a) Supplementary Instructions to Proponents (SI);
General instructions (GI) – Architectural and/or Engineering services – Request for Proposal; Submission Requirements and Evaluation (SRE);
 - (b) the general terms, conditions and clauses, as amended, identified in the Agreement clause;
 - (c) Project Brief / Terms of Reference;
 - (d) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";

- (e) any amendment to the solicitation document issued prior to the date set for receipt of proposals;
and
 - (f) the proposal, Declaration/Certifications Form and Price Proposal Form.
3. Submission of a proposal constitutes acknowledgment that the Proponent has read and agrees to be bound by these documents.

SI3 QUESTIONS OR REQUEST FOR CLARIFICATION

Questions or requests for clarification during the solicitation period must be submitted in writing to the Contracting Authority named on the RFP - Page 1 at e-mail address : alex.tikhonovitch@pwgsc-tpsgc.gc.ca as early as possible. Enquiries should be received no later than 10 working days prior to the closing date identified on the front page of the Request for Proposal. Enquiries received after that date may not be answered prior to the closing date of the solicitation.

SI4 CANADA'S TRADE AGREEMENTS

This procurement is subject to the provisions of the Canadian Free Trade Agreement (CFTA).

SI5 CERTIFICATIONS

1. Integrity Provisions – Declaration of Convicted Offences

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Proponent must **provide with its bid, as applicable**, to be given further consideration in the procurement process, the required documentation as per [General instructions 1 \(GI1\), Integrity Provisions – Proposal, section 3b](#).

2. Federal Contractors Program for Employment Equity - Proposal Certification

By submitting a proposal, the Proponent certifies that the Proponent, and any of the Proponent's members if the Proponent is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's website](#)

Canada will have the right to declare a proposal non-responsive if the Proponent, or any member of the Proponent if the Proponent is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

SI6 WORKERS COMPENSATION

- 1. The recommended Proponent shall provide to the Contracting Authority, prior to Contract award:**
- a) a Workers Compensation Board letter of good standing, also listing covered Directors, Principals, Proprietor(s) or Partners who will be or who are anticipated to be present on the work site(s).

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2. The recommended Proponent shall deliver all of the above documents to the Contracting Authority on or before the date stated (usually 3-5 days after notification) by the Contracting Authority. Failure to comply with the request may result in the proposal being declared non-compliant.

SI7 WEBSITES

The connection to some of the Web sites in the RFP is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Employment Equity Act

<http://laws-lois.justice.gc.ca/eng/acts/E-5.401/index.html>

Federal Contractors Program (FCP)

<https://www.canada.ca/en/employment-social-development/corporate/portfolio/labour/programs/employment-equity/federal-contractors.html>

Certificate of Commitment to Implement Employment Equity form LAB 1168

<https://catalogue.servicecanada.gc.ca/content/EForms/en/Detail.html?Form=LAB1168>

Ineligibility and Suspension Policy

<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>

Code of Conduct for Procurement

<https://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/index-eng.html>

Lobbying Act

<http://laws-lois.justice.gc.ca/eng/acts/L-12.4/?noCookie>

Buy and Sell

<https://buyandsell.gc.ca/>

Supplier Registration Information

<https://srisupplier.contractsCanada.gc.ca>

Consultant Performance Evaluation Report Form

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913-1.pdf>

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Canadian sanctions

https://www.international.gc.ca/world-monde/international_relations-relations_internationales/sanctions/index.aspx?lang=eng&_ga=2.4399216.2143508984.1600280756-1424234476.1600280756

National Joint Council (NJC) Travel Directive

<http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php>

PART 2 - GENERAL INSTRUCTIONS (GI) – ARCHITECTURAL AND/OR ENGINEERING SERVICES – REQUEST FOR PROPOSAL

GI1 Integrity provisions - proposal

1. The *Ineligibility and Suspension Policy* (the “Policy”) in effect on the date the bid solicitation is issued, and all related Directives in effect on that date, are incorporated by reference into, and form a binding part of the bid solicitation. The Proponent must comply with the Policy and Directives, which can be found at [Ineligibility and Suspension Policy \(https://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html).
2. Under the Policy, charges and convictions of certain offences against a Supplier, its affiliates or first tier sub-consultants, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Supplier is ineligible to enter, or is suspended from entering into a contract with Canada. The list of ineligible and suspended Suppliers is contained in PWGSC’s Integrity Database. The Policy describes how enquiries can be made regarding the ineligibility or suspension of Suppliers.
3. In addition to all other information required in the bid solicitation, the Proponent must provide the following:
 - a. by the time stated in the Policy, all information required by the Policy described under the heading “Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement”; and
 - b. with its bid, a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier sub-consultants that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy. The list of foreign criminal charges and convictions must be submitted using an Integrity Declaration Form, which can be found at [Declaration form for procurement \(https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html).
4. Subject to subsection 5, by submitting a bid in response to this bid solicitation, the Proponent certifies that:
 - a. it has read and understands the [Ineligibility and Suspension Policy \(https://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html);
 - b. it understands that certain domestic and foreign criminal charges and convictions, and other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
 - c. it is aware that Canada may request additional information, certifications, and validations from the Proponent or a third party for purposes of making a determination of ineligibility or suspension;
 - d. it has provided with its bid a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier sub-consultants that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy;
 - e. none of the domestic criminal offences, and other circumstances, described in the Policy that will or may result in a determination of ineligibility or suspension, apply to it, its affiliates and its proposed first tier sub-consultants; and

- f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
5. Where a Proponent is unable to provide any of the certifications required by subsection 4, it must submit with its bid a completed Integrity Declaration Form, which can be found at [Declaration form for procurement \(https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html).
6. Canada will declare non-responsive any bid in respect of which the information requested is incomplete or inaccurate, or in respect of which the information contained in a certification or declaration is found by Canada to be false or misleading in any respect. If Canada establishes after award of the Contract that the Proponent provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Proponent to be ineligible for award of a contract for providing a false or misleading certification or declaration.

G12 Definitions

In this Request for Proposal (RFP), the following words or phrases have the corresponding meaning.

"Applicable Taxes":

The Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

"Consultant Team":

The team of consultants, specialists and sub-consultants, including the Proponent, proposed by the Proponent to perform the services required.

"Key Personnel":

Staff of the Proponent, sub-consultants and specialists proposed to be assigned to this project.

"Price Rating":

A rating assigned to the price component of a proposal and subsequently used to establish a Price Score for inclusion as a percentage of the total score to be established following the evaluation and rating of technical proposals.

"Proponent":

The person or entity (or, in the case of a joint venture, the persons or entities) which submits a proposal. It does not include the parent, subsidiaries or other affiliates of the Proponent, or its sub-consultants.

"PWGSC Evaluation Board":

The board established to evaluate and rate proposals. Board members represent a broad cross-section of professional qualifications and experience.

"Technical Rating":

A rating assigned to the technical component of a proposal in the selection procedure and subsequently used to establish a Technical Score for inclusion as a percentage of the total score.

G13 Overview of selection procedure

The following is an overview of the selection procedure.

G13.1 Proposal

1. Proponents submit the "technical" component of their proposal in one section and the proposed price of the services (price proposal) in a second section in accordance with the instructions

contained in the proposal documents.

2. The information that Proponents are required to provide is set out in detail elsewhere in the RFP.
3. In response to the RFP, interested Proponents submit a proposal in which they:
 - a. indicate whether the proposal is submitted by an individual firm or by a joint venture;
 - b. if the proposal is submitted by a joint venture, describe the proposed legal and working relationships of the joint venture and the benefits to be gained by the formation of the joint venture;
 - c. identify the prime consultants and key sub consultants and specialists proposed for inclusion in the Consultant Team, and the proposed organizational structure of the Team;
 - d. describe the extent to which proposed members of the Consultant Team have successfully performed services for projects comparable to the project which is the subject of the proposal;
 - e. identify the professional accreditation, experience, expertise and competence of the Consultant Team and Key Personnel proposed to be assigned to perform the required services.
 - f. comply with all other requirements set out in the RFP.

G13.2 Proposal evaluation and rating

1. Technical components of all responsive proposals are reviewed, evaluated and rated by a Public Works and Government Services Canada (PWGSC) Evaluation Board in accordance with the criteria, components and weight factors set out in the RFP. Upon completion of the evaluation, Technical Ratings are established.
2. Proposals achieving the minimum Technical Score specified in the Submission Requirements and Evaluation section of the RFP are further considered.
3. The price proposals of all responsive proposals are considered upon completion of the technical evaluation. When there are three or more responsive proposals, an average price is determined by adding all the price proposals together and dividing the total by the number of price proposals opened. This calculation will not be conducted when one or two responsive proposals are received.
4. All price proposals which are greater than 25 percent above the average price will cause their respective complete proposals to be set aside and receive no further consideration.
5. The remaining price proposals are rated as follows:
 - a. The lowest price proposal receives a Price Rating of 100.
 - b. The second, third, fourth and fifth lowest prices receive Price Ratings of 80, 60, 40, and 20 respectively. All other price proposals receive a Price Rating of 0.
 - c. On the rare occasion where two (or more) price proposals are identical, these price proposals receive the same rating and the corresponding number of following ratings are skipped.

- d. The Price Rating is multiplied by a predetermined percentage factor to establish a Price Score.
6. A price proposal in excess of any maximum funding limit, when this limit has been set in the Supplementary Instructions to Proponents, may result in disqualification of the complete proposal.

G13.3 Total score

1. The total overall score (Total Score) assigned to each Proponent's complete proposal is calculated as the aggregate of:
 - a. the Technical Score, and
 - b. the Price Score.
2. The Proponent receiving the highest Total Score is the first entity that the PWGSC Evaluation Board will recommend for the provision of the required services.

G13.4 Notification

PWGSC normally expects to advise in writing unsuccessful Proponents within one week after PWGSC has entered into a contractual arrangement with the successful Proponent.

G14 Procurement Business Number

Proponents are required to have a Procurement Business Number (PBN) before contract award. Proponents may register for a PBN online at [Supplier Registration Information \(https://srisupplier.contractscanada.gc.ca/index-eng.cfm?af=ZnVzZWJldGlvdj1yZWdpc3Rlci5pbmRybyZpZD0y&lang=eng\)](https://srisupplier.contractscanada.gc.ca/index-eng.cfm?af=ZnVzZWJldGlvdj1yZWdpc3Rlci5pbmRybyZpZD0y&lang=eng).

G15 Responsive proposals

To be considered responsive, a proposal must meet all of the mandatory requirements set out in the RFP. No further consideration in the selection procedure will be given to a Proponent submitting a non-responsive proposal.

G16 Completion of submission

The Proponent shall base the proposal on the applicable proposal documents listed in the Supplementary Instructions to Proponents.

G17 Proposal price

Unless specified otherwise elsewhere in the proposal documents:

- a. the price proposal shall be in Canadian currency, and
- b. the price proposal shall not include any amount for Applicable Taxes, and
- c. the requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All proposals including such provision will render the proposal non-responsive.

G18 Communications—solicitation period

To ensure the integrity of the competitive bid process, enquiries and other communications regarding the RFP must be directed only to the Contracting Authority identified in the RFP. Failure to comply with this requirement may result in the proposal being declared non-responsive.

To ensure consistency and quality of information provided to proponents, significant enquiries received and their replies will be posted on the Government Electronic Tendering Service (GETS).

G19 Limitation of submissions

1. A Proponent may not submit more than one proposal. This limitation also applies to the persons or entities in the case of a joint venture. If more than one proposal is received from a Proponent (or, in the case of a joint venture, from the persons or entities), all such proposals shall be rejected and no further consideration shall be given.
2. A joint venture is defined as an association of two or more parties which combine their money, property, knowledge, skills, time or other resources in a joint business enterprise agreeing to share the profits and the losses and each having some degree of control over the enterprise.
3. An arrangement whereby Canada contracts directly with a prime consultant who may retain sub-consultants or specialist consultants to perform portions of the services is not a joint venture arrangement. A sub-consultant or specialist consultant may, therefore, be proposed as part of the Consultant Team by more than one Proponent. The Proponent warrants that it has written permission from such sub-consultant or specialist consultant to propose their services in relation to the services to be performed.
4. Notwithstanding paragraph 3. above, in order to avoid any conflict of interest, or any perception of conflict of interest, a Proponent shall not include in its submission another Proponent as a member of its consultant team, as a sub-consultant or specialist consultant.
5. Any joint venture entered into for the provision of professional services or other services must be in full compliance with the requirements of any provincial or territorial law pertaining thereto in the Province or Territory in which the project is located.

G110 Licensing requirements

1. Consultant Team members and Key Personnel shall be licensed or certified to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the Province or Territory in which the project is located.
2. By virtue of submission of a proposal, the Proponent certifies that the Proponent's Consultant Team and Key Personnel are in compliance with the requirements of subsection 1 above. The Proponent acknowledges that PWGSC reserves the right to verify any information in this regard and that false or erroneous certification may result in the proposal being declared non-responsive.

G111 Rejection of proposal

1. Canada may reject a proposal where any of the following circumstances is present:
 - a. the Proponent has been declared ineligible for selection, following unsatisfactory performance in a previous project as determined in accordance with the department's performance review procedures;
 - b. an employee, sub-consultant or specialist consultant included as part of the proposal has been declared ineligible, for selection for work with the department in accordance with the performance review procedure referred to in paragraph 1.(a), which would render the employee, sub-consultant or specialist consultant ineligible to bid on the requirement, or the portion of the requirement the employee, sub-consultant or specialist consultant is to perform;
 - c. the Proponent is bankrupt or where, for whatever reason, its activities are rendered inoperable for an extended period;
 - d. evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Proponent, any of its employees, any sub-consultant or any specialist consultant included as part of the proposal;
 - e. evidence satisfactory to Canada that based on past conduct or behavior, the Proponent, a sub-consultant, a specialist consultant or a person who is to perform the Services is unsuitable or has conducted himself/herself improperly;
 - f. with respect to current or prior transactions with the Government of Canada,
 - i. Canada has exercised its contractual remedies of taking the services out of the consultant's hands, suspension or termination for default with respect to a contract with the Proponent, any of its employees, any sub-consultant or any specialist consultant included as part of the proposal;
 - ii. Canada determines that the Proponent's performance on other contracts, including the quality of the services provided and the quality and timeliness of the delivery of the project, is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
2. Where Canada intends to reject a proposal pursuant to subsection 1.(f), the Contracting Authority will so inform the Proponent and provide the Proponent ten (10) days within which to make representations, before making a final decision on the proposal rejection.

G112 Not applicable

Not applicable

G113 Insurance requirements

The successful Proponent shall be required to obtain and maintain Professional Liability and Commercial General Liability insurance coverage in accordance with the requirements set out elsewhere in the proposal documents.

G114 Joint venture

1. A joint venture is an association of two or more parties who combine their money, property, knowledge, expertise or other resources in a single joint business enterprise, sometimes referred as a consortium, to bid together on a requirement. Proponents who bid as a joint venture must indicate clearly that it is a joint venture and provide the following information:
 - a. the name of each member of the joint venture;
 - b. the Procurement Business Number of each member of the joint venture;
 - c. the name of the representative of the joint venture, i.e. the member chosen by the other members to act on their behalf, if applicable;
 - d. the name of the joint venture, if applicable.
2. If the information is not clearly provided in the proposal, the Proponent must provide the information on request from the Contracting Authority.
3. The proposal and any resulting contract must be signed by all the members of the joint venture unless one member has been appointed to act on behalf of all members of the joint venture. The Contracting Authority may, at any time, require each member of the joint venture to confirm that the representative has been appointed with full authority to act as its representative for the purposes of the bid solicitation and any resulting contract. If a contract is awarded to a joint venture, all members of the joint venture will be jointly and severally or solidarily liable for the performance of any resulting contract.

G115 Composition of Consultant Team

By submitting a proposal, the Proponent represents and warrants that the entities and persons proposed in the proposal to perform the required services will be the entities and persons that will perform the services in the fulfillment of the project under any contractual arrangement arising from submission of the proposal. If the Proponent has proposed any person in fulfillment of the project who is not an employee of the Proponent, the Proponent warrants that it has written permission from such person (or the employer of such person) to propose the services of such person in relation to the services to be performed.

G116 Submission of proposal

G116.1 Submission of proposal

1. Canada requires that each proposal, at solicitation closing date and time or upon request from the Contracting Authority, be signed by the Proponent or by an authorized representative of the Proponent. If a proposal is submitted by a joint venture, it must be in accordance with [section G114](#).
2. It is the Proponent's responsibility to:

- a. submit a proposal, duly completed, in the format requested, on or before the solicitation closing date and time set;
- b. send its proposal only to the Bid Receiving Unit of Public Works and Government Services Canada (PWGSC) specified below, by the date and time indicated on page 1 of the bid solicitation.

In the case of submission of a hard copy proposal, send its proposal only to:

**Bid Receiving Public Works and Government Services Canada
Canada Place, Suite 1000
9700 Jasper Avenue
Edmonton AB, T5J 4C3**

In the case of submission by CPC Connect, see instructions in G116.2.1 below.
In the case of submission by Facsimile, see instructions in G116.2.2 below.

- c. obtain clarification of the requirements contained in the RFP, if necessary, before submitting a proposal;
 - d. ensure that the Proponent's name, return address, the solicitation number and description, and solicitation closing date and time are clearly visible on the envelope or the parcel(s) containing the proposal; and
 - e. provide a comprehensive and sufficiently detailed proposal that will permit a complete evaluation in accordance with the criteria set out in this RFP.
3. The technical and price components of the proposal must be submitted in separate sections in accordance with the instructions contained in the proposal documents.
 4. Timely and correct delivery of proposals to the office designated for receipt of proposals is the sole responsibility of the Proponent. PWGSC will not assume or have transferred to it those responsibilities. All risks and consequences of incorrect delivery of proposals are the responsibility of the Proponent.
 5. Proposals and supporting information may be submitted in either English or French.
 6. Canada will make available Notices of Proposed Procurement (NPP), bid solicitations and related documents for download through the Government Electronic Tendering Service (GETS). Canada is not responsible and will not assume any liabilities whatsoever for the information found on websites of third parties. In the event an NPP, bid solicitation or related documentation would be amended, Canada will not be sending notifications. Canada will post all amendments using GETS. It is the sole responsibility of the Proponent to regularly consult GETS for the most up-to-date information. Canada will not be liable for any oversight on the Proponent's part nor for notification services offered by a third party.

G116.2 Transmission by CPC Connect or facsimile

1. CPC Connect
 - a. Proposals may be submitted by using Canada Post Corporation's (CPC) Connect service (https://www.canadapost.ca/web/en/products/details.page?article=epost_connect_send_a):

The only acceptable email address to use with CPC Connect for responses to this bid solicitation issued by PWGSC regional offices is:

ROReceptionSoumissions.WRBidReceiving@tpsgc-pwgsc.gc.ca

Note: Proposals will not be accepted if emailed directly to this email address. This email address is to be used to open an CPC Connect conversation, as detailed in b., or to send proposals through an CPC Connect message if the proponent is using its own licensing agreement for CPC Connect.

- b. To submit a proposal using CPC Connect service, the Proponent must either:
- i. send directly its proposal only to the specified PWGSC Bid Receiving Unit, using its own licensing agreement for CPC Connect provided by Canada Post Corporation; or
 - ii. send as early as possible, and in any case, at least six business days prior to the solicitation closing date and time (in order to ensure a response), an email that includes the bid solicitation number to the specified PWGSC Bid Receiving Unit requesting to open an CPC Connect conversation. Requests to open an CPC Connect conversation received after that time may not be answered.
- c. If the Proponent sends an email requesting CPC Connect service to the specified Bid Receiving Unit in the bid solicitation, an officer of the Bid Receiving Unit will then initiate an CPC Connect conversation. The CPC Connect conversation will create an email notification from Canada Post Corporation prompting the Proponent to access and action the message within the CPC Connect conversation. The Proponent will then be able to transmit its proposal afterward at any time prior to the solicitation closing date and time.
- d. If the Proponent is using its own licensing agreement to send its proposal, the Proponent must keep the CPC Connect conversation open until at least 30 business days after the solicitation closing date and time.
- e. The bid solicitation number should be identified in the CPC Connect message field of all electronic transfers.
- f. It should be noted that the use of CPC Connect service requires a Canadian mailing address. Should a Proponent not have a Canadian address, they may use the Bid Receiving Unit address specified in the solicitation in order to register for the CPC Connect service.
- g. For proposals transmitted by CPC Connect service, Canada will not be responsible for any failure attributable to the transmission or receipt of the proposal including, but not limited to, the following:
- i. receipt of a garbled, corrupted or incomplete proposal;
 - ii. availability or condition of the CPC Connect service;
 - iii. incompatibility between the sending and receiving equipment;
 - iv. delay in transmission or receipt of the proposal;
 - v. failure of the Proponent to properly identify the proposal;
 - vi. illegibility of the proposal;
 - vii. security of proposal data; or
 - viii. inability to create an electronic conversation through the CPC Connect service.
- h. The Bid Receiving Unit will send an acknowledgement of the receipt of proposal document(s) via the CPC Connect conversation, regardless of whether the conversation was initiated by the supplier using its own license or the Bid Receiving Unit. This acknowledgement will confirm only the receipt of proposal document(s) and will not confirm if the attachments may

be opened nor if the content is readable.

- i. Proponents must ensure that they are using the correct email address for the Bid Receiving Unit when initiating a conversation in CPC Connect or communicating with the Bid Receiving Unit and should not rely on the accuracy of copying and pasting the email address into the CPC Connect system.
- j. A proposal transmitted by CPC Connect service constitutes the formal proposal of the Proponent and must be submitted in accordance with [section GI16.1](#).

2. Facsimile

- a. Proposals may be submitted by facsimile.

The only acceptable facsimile number for responses to bid solicitations issued by this PWGSC regional office is:

Bid Fax: 1-418-566-6167.

- b. For proposals transmitted by facsimile, Canada will not be responsible for any failure attributable to the transmission or receipt of the faxed proposal including, but not limited to, the following:
 - i. receipt of garbled, corrupted or incomplete proposal;
 - ii. availability or condition of the receiving facsimile equipment;
 - iii. incompatibility between the sending and receiving equipment;
 - iv. delay in transmission or receipt of the proposal;
 - v. failure of the Proponent to properly identify the proposal;
 - vi. illegibility of the proposal; or
 - vii. security of proposal data.
- c. A proposal transmitted by facsimile constitutes the formal proposal of the Proponent and must be submitted in accordance with [section GI16.1](#).

GI17 Late submissions

1. PWGSC will return or delete proposals delivered after the stipulated solicitation closing date and time, unless they qualify as a delayed proposal as described in GI17.2. For late proposals submitted using means other than the Canada Post Corporation's CPC Connect service, the physical proposal will be returned. For proposals submitted electronically, the late proposal will be deleted. As an example, proposals submitted using Canada Post Corporation's CPC Connect service, conversations initiated by the Bid Receiving Unit via the CPC Connect service pertaining to a late proposal, will be deleted. Records will be kept documenting the transaction history of all late proposals submitted using CPC Connect.
2. A proposal delivered to the specified bid receiving unit after the solicitation closing date and time but before the contract award date may be considered, provided the proponent can prove the delay is due solely to a delay in delivery that can be attributed to the Canada Post Corporation (CPC) (or national equivalent of a foreign country). Private courier (Purolator Inc., Fedex Inc., etc.) is not considered to be part of CPC for the purposes of delayed proposals.
 - a. The only pieces of evidence relating to a delay in the CPC system that are acceptable to PWGSC are:

- i. a CPC cancellation date stamp;
- ii. a CPC Priority Courier bill of lading;
- iii. a CPC Xpresspost label;

that clearly indicates that the proposal was sent the day before the solicitation closing date.

- b. The only pieces of evidence relating to a delay in the CPC Connect service provided by CPC system that are acceptable to PWGSC is a CPC CPC Connect service date and time record indicated in the CPC Connect conversation history that clearly indicates that the proposal was sent before the solicitation closing date and time.
3. Misrouting, traffic volume, weather disturbances, labour disputes or any other causes for the late delivery of proposals are not acceptable reasons for the proposal to be accepted by PWGSC.
 4. Postage meter imprints, whether imprinted by the Proponent, the CPC or the postal authority outside Canada, are not acceptable as proof of timely mailing.

G118 Not applicable

G119 Acceptance of proposal

1. Canada may accept any proposal, or may reject any or all proposals.
2. In the case of error in the extension or addition of unit prices, the unit price will govern.
3. While Canada may enter into an agreement or contractual arrangement without prior negotiation, Canada reserves the right to negotiate with Proponents on any procurement.
4. Canada reserves the right to cancel or amend the RFP at any time.

G120 Legal capacity

The Proponent must have the Legal capacity to contract. If the Proponent is a sole proprietorship, a partnership or a corporate body, the Proponent must provide, if requested by the Contracting Authority, a statement and any requested supporting documentation indicating the laws under which it is registered or incorporated together with the registered or corporate name and place of business. This also applies to Proponents submitting a proposal as a joint venture.

G121 Debriefing

Should a Proponent desire a debriefing, the Proponent should contact the person identified on the front page of the RFP within 15 working days of the notification of the results of the solicitation. The debriefing will include an outline of the strengths and weaknesses of the submission, referring to the evaluation criteria. The confidentiality of information relating to other submissions will be protected. The debriefing may be provided in writing, by telephone or in person.

G122 Financial capability

1. Financial capability Requirement: The Proponent must have the financial capability to fulfill this requirement. To determine the Proponent's financial capability, the Contracting Authority may, by written notice to the Proponent, require the submission of some or all of the financial information detailed below during the evaluation of proposals. The Proponent must provide the following information to the Contracting Authority within fifteen (15) working days of the request or as specified by the Contracting Authority in the notice:
 - a. Audited financial statements, if available, or the unaudited financial statements (prepared by the Proponent's outside accounting firm, if available, or prepared in-house if no external statements have been prepared) for the Proponent's last three fiscal years, or for the years that the Proponent has been in business if this is less than three years

(including, as a minimum, the Balance Sheet, the Statement of Retained Earnings, the Income Statement and any notes to the statements).

- b. If the date of the financial statements in (a) above is more than five months before the date of the request for information by the Contracting Authority, the Proponent must also provide, unless this is prohibited by legislation for public companies, the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement), as of two months before the date on which the Contracting Authority requests this information.
 - c. If the Proponent has not been in business for at least one full fiscal year, the following must be provided:
 - i. the opening Balance Sheet on commencement of business (in the case of a corporation, the date of incorporation); and
 - ii. the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement) as of two months before the date on which the Contracting Authority requests this information.
 - d. A certification from the Chief Financial Officer or an authorized signing officer of the Proponent that the financial information provided is complete and accurate.
 - e. A confirmation letter from all of the financial institution(s) that have provided short-term financing to the Proponent outlining the total of lines of credit granted to the Proponent and the amount of credit that remains available and not drawn upon as of one month prior to the date on which the Contracting Authority requests this information.
 - f. A detailed monthly Cash Flow Statement covering all the Proponent's activities (including the requirement) for the first two years of the requirement that is the subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Proponent's major sources and amounts of cash and the major items of cash expenditures on a monthly basis, for all the Proponent's activities. All assumptions made should be explained as well as details of how cash shortfalls will be financed.
 - g. A detailed monthly Project Cash Flow Statement covering the first two years of the requirement that is the subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Proponent's major sources and amounts of cash and the major items of cash expenditures, for the requirement, on a monthly basis. All assumptions made should be explained as well as details of how cash shortfalls will be financed.
2. If the Proponent is a joint venture, the financial information required by the Contracting Authority must be provided by each member of the joint venture.
 3. If the Proponent is a subsidiary of another company, then any financial information in 1. (a) to (e) above required by the Contracting Authority must be provided by the ultimate parent company. Provision of parent company financial information does not by itself satisfy the requirement for the provision of the financial information of the Proponent, and the financial capability of a parent cannot be substituted for the financial capability of the Proponent itself unless an agreement by the parent company to sign a Parental Guarantee, as drawn up by Public Works and Government Services Canada (PWGSC), is provided with the required information.

4. Financial Information Already Provided to PWGSC: The Proponent is not required to resubmit any financial information requested by the Contracting Authority that is already on file at PWGSC with the Contract Cost Analysis, Audit and Policy Directorate of the Policy, Risk, Integrity and Strategic Management Sector, provided that within the above-noted time frame:
 - a. the Proponent identifies to the Contracting Authority in writing the specific information that is on file and the requirement for which this information was provided; and
 - b. the Proponent authorizes the use of the information for this requirement.

It is the Proponent's responsibility to confirm with the Contracting Authority that this information is still on file with PWGSC.

5. Other Information: Canada reserves the right to request from the Proponent any other information that Canada requires to conduct a complete financial capability assessment of the Proponent.
6. Confidentiality: If the Proponent provides the information required above to Canada in confidence while indicating that the disclosed information is confidential, then Canada will treat the information in a confidential manner as permitted by the [Access to Information Act \(https://laws-lois.justice.gc.ca/eng/acts/A-1/\)](https://laws-lois.justice.gc.ca/eng/acts/A-1/), R.S., 1985, c. A-1, section 20(1) (b) and (c).
7. Security: In determining the Proponent's financial capability to fulfill this requirement, Canada may consider any security the Proponent is capable of providing, at the Proponent's sole expense (for example, an irrevocable letter of credit from a registered financial institution drawn in favour of Canada, a performance guarantee from a third party or some other form of security, as determined by Canada).
8. In the event that a proposal is found to be non-compliant on the basis that the Proponent is considered not to be financially capable of performing the subject requirement, official notification shall be provided to the Proponent.

G123 Performance evaluation

Proponents shall take note that the performance of the Consultant during and upon completion of the services shall be evaluated by Canada. The evaluation includes all or some of the following criteria: Design, Quality of Results, Management, Time and Cost. Should the Consultant's performance be considered unsatisfactory, the Consultant may be declared ineligible for future contracts. The form [PWGSC-TPSGC 2913-1 \(https://www.tpsgc-pwgsc.gc.ca/app-acq/forms/2913-1-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/app-acq/forms/2913-1-eng.html), SELECT - Consultant Performance Evaluation Report, is used to record the performance.

GI24 Proposal costs

No payment will be made for costs incurred in the preparation and submission of a proposal in response to the Request for proposal. Costs associated with preparing and submitting a proposal, as well as any costs incurred by the Proponent associated with the evaluation of the proposal, are the sole responsibility of the Proponent.

GI25 Conflict of interest—unfair advantage

1. In order to protect the integrity of the procurement process, Proponents are advised that Canada may reject a proposal in the following circumstances:
 - a. if the Proponent, any of its sub-consultants, any of their respective employees or former employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;
 - b. if the Proponent, any of its sub-consultants, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other Proponents and that would, in Canada's opinion, give or appear to give the Proponent an unfair advantage.
2. The experience acquired by a Proponent who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This Proponent remains however subject to the criteria established above.
3. Where Canada intends to reject a proposal under this section, the Contracting Authority will inform the Proponent and provide the Proponent an opportunity to make representations before making a final decision. Proponents who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a proposal, the Proponent represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Proponent acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

GI26 Limitation of liability

Except as expressly and specifically permitted in this RFP, no Proponent or Potential Proponent shall have any claim for any compensation of any kind whatsoever in relation to this RFP, or any aspect of the procurement process, and by submitting a proposal each Proponent shall be deemed to have agreed that it has no claim.

GI27 Code of Conduct for Procurement—proposal

The [Code of Conduct for Procurement \(https://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html) provides that Proponents must respond to bid solicitations in an honest, fair and comprehensive manner, accurately reflect their capacity to satisfy the requirements set out in the bid solicitation and resulting contract, submit bids and enter into contracts only if they will fulfill all obligations of the Contract. By submitting a bid, the Proponent is certifying that it is complying with the *Code of Conduct for Procurement*. Failure to comply with the *Code of Conduct for Procurement* may render the bid non-responsive.

GI28 Bid Challenge And Recourse Mechanisms

- (a) Several mechanisms are available to potential Proponents to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages Proponents to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
- Office of the Procurement Ombudsman (OPO)
 - Canadian International Trade Tribunal (CITT)
- (c) Proponents should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Proponents should therefore act quickly when they want to challenge any aspect of the procurement process.

PART 3 - TERMS, CONDITIONS AND CLAUSES

AGREEMENT

1. The Consultant understands and agrees that upon acceptance of the offer by Canada, a binding Agreement shall be formed between Canada and the Consultant and the documents forming the Agreement shall be the following:

- (a) the Front Page and this Agreement clause;
the General Terms, Conditions and Clauses, as amended, identified as:

R1210D	2021-12-02	General Condition (GC) 1 - General Provisions – Architectural and/or Engineering Services
R1215D	2016-01-28	General Condition (GC) 2 - Administration of the Contract – Architectural and/or Engineering Services
R1220D	2015-02-25	General Condition (GC) 3 - Consultant Services
R1225D	2015-04-01	General Condition (GC) 4 - Intellectual Property
R1230D	2018-06-21	General Condition (GC) 5 - Terms of Payment – Architectural and/or Engineering Services
R1235D	2011-05-16	General Condition (GC) 6 – Changes
R1240D	2018-06-21	General Condition (GC) 7 - Taking the Services Out of the Consultant's Hands, Suspension or Termination
R1245D	2016-01-28	General Condition (GC) 8 - Dispute Resolution – Architectural and/or Engineering Services
R1250D	2017-11-28	General Condition (GC) 9 - Indemnification and Insurance
Supplementary Conditions		
Agreement Particulars		

- (b) Project Brief / Terms of Reference;
(c) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
(d) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
(e) the proposal, the Declaration/Certifications Form and the Price Proposal Form.
2. The documents identified above by title, number and date are hereby incorporated by reference into and form part of this Agreement, as though expressly set out herein, subject to any other express terms and conditions herein contained.

The documents identified above by title, number and date are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site:
<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>

3. If there is a discrepancy between the wording of any documents that appear on the following list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

Solicitation No. - N° de l'invitation
EP922-230501/A
Client Ref. No. - N° de réf. du client
AAFC EP922-230501

Amd. No. - N° de la modif.
File No. - N° du dossier
PWU-2-45018

Buyer ID - Id de l'acheteur
PWU183
CCC No./N° CCC - FMS No./N° VME

- (a) any amendment or variation in the Agreement that is made in accordance with the terms and conditions of the Agreement;
- (b) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
- (c) this Agreement clause;
- (d) Supplementary Conditions;
- (e) General Terms, Conditions and Clauses;
- (f) Agreement Particulars;
- (g) Project Brief / Terms of Reference;
- (h) the document entitled "Doing Business with PWGSC Documentation and Deliverables Manual";
- (i) the proposal.

PART 4 - SUPPLEMENTARY CONDITIONS (SC)

SC1 SUPPLEMENTARY CONDITIONS

There are no supplementary conditions which apply to the Agreement.

SC2 SECURITY REQUIREMENT

There is no security requirement applicable to this Agreement.

SC3 LANGUAGE REQUIREMENTS.

1. Communication between Canada and the Consultant shall be in the language of choice of the Consultant Team, which shall be deemed to be the language of the Consultant's proposal.
2. The Consultant's services during construction tender call (such as addenda preparation, tenderers' briefing meetings, technical answers to questions by bidders, including translation of bidder's questions) shall be provided expeditiously in both languages, as necessary.
3. The Consultant's services during construction shall be provided in the language of choice of the Contractor. The successful Contractor will be asked to commit to one or other of Canada's official languages upon award of the Construction Contract and, thereafter construction and contract administration services will be conducted in the language chosen by the Contractor.
4. Other required services in both of Canada's official languages (such as construction documentation) are described in detail in the Project Brief.
5. The Consultant Team, including the Prime Consultant, Sub-Consultants and Specialists Consultants shall ensure that the services being provided in either language shall be to a professional standard.

SC4 DURATION OF THE CONTRACT

The consultant must perform and complete the services described in the project statement by June 2023.

PART 5 – SUBMISSION REQUIREMENTS AND EVALUATION (SRE)

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An 'Overview of the selection procedure' can be found in General instructions 3 (GI3), Overview of selection procedure.

1.2 Calculation of Total Score

For this project the Total Score will be established as follows:

Technical Rating x 90 %	=	Technical Score (Points)
Price Rating x 10%	=	Price Score (Points)
<hr/> Total Score	=	<hr/> Max. 100 points

SRE 2 PROPOSAL REQUIREMENTS

2.1 Proposal via CPC Connect service

This bid solicitation allows and encourages proponents to use the CPC Connect service provided by Canada Post Corporation to transmit their proposal electronically.

If the Proponent chooses to submit its proposal electronically through CPC Connect service, Canada requests that the Proponent submits its proposal in accordance with section GI16, [Submission of proposal](#), of the General Instructions. The CPC Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

Canada requests that the proposal be gathered per separate electronic document (attachment) as follows:

Section I: Technical Proposal;

Section II: Price Proposal.

The electronic attachment should be labelled with the name of the section and the Solicitation Number.

If the Proponent is simultaneously providing copies of its proposal using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through CPC Connect service, the wording of the electronic copy provided through CPC Connect service will take precedence over the wording of the other copies.

2.2 Proposal in Hard Copies

If the Proponent chooses to submit its proposal in hard copies, Canada requests that the Proponent submits its proposal in separately bound sections as follows:

Section I: Technical Proposal (submit one (1) bound original plus one (1) electronic copy on a data storage device)

Section II: Price Proposal (submit one (1) bound original in a separate sealed envelope.)

Double-sided submissions are preferred.

2.3 Proposal by Facsimile

Due to the nature of the bid solicitation, proposals transmitted by facsimile is not recommended for administrative reasons but offered to proponents to provide an alternative opportunity in case of incompatibility or inability to transmit by CPC Connect service.

If the Proponent submits its proposal by facsimile, Canada requests that the following sections be clearly identified and separated in the proposal:

Section I: Technical Proposal

Section II: Price Proposal

2.4 Requirement for Proposal Format

The following proposal format information should be implemented when preparing the proposal.

- Paper (or page) size should be - 216mm x 279mm (8.5" x 11")
- Minimum font size - 11 point Times or equal
- Minimum margins - 12 mm left, right, top, and bottom
- One (1) 'page' means one side of a 216mm x 279mm (8.5" x 11") sheet of paper
- 279mm x 432 mm (11" x 17") papers (or pages) for spreadsheets, organization charts etc. will be counted as two pages.
- The order of the proposals should follow the order established in the Request for Proposal SRE section

2.5 Specific Requirements for Proposal Format

The maximum number of pages (including text and graphics) to be submitted for the Rated Requirements under SRE 3.2 is thirty (30) pages.

The following are not part of the page limitation mentioned above;

- Covering letter
- Cover page
- Tab/Dividers used to solely identify the sections of the proposal, provided they are free of all other text and/or graphics
- Table of Contents
- Consultant Team Identification ([Appendix A](#))
- Declaration/Certifications Form ([Appendix B](#))
- Integrity Provisions – Required Documentation

Solicitation No. - N° de l'invitation
EP922-230501/A
Client Ref. No. - N° de réf. du client
AAFC EP922-230501

Amd. No. - N° de la modif.
File No. - N° du dossier
PWU-2-45018

Buyer ID - Id de l'acheteur
PWU183
CCC No./N° CCC - FMS No./N° VME

- Front page of the RFP
- Front page of revision(s) to the RFP
- Price Proposal Form ([Appendix C](#))

Consequence of non-compliance: any pages which extend beyond the above page limitation and any other attachments will be extracted from the proposal and will not be forwarded to the PWGSC Evaluation Board members for evaluation.

SRE 3 SUBMISSION REQUIREMENTS AND EVALUATION

3.1 MANDATORY REQUIREMENTS

Failure to meet the mandatory requirements will render the proposal as non-responsive and no further evaluation will be carried out.

3.1.1 Licensing, Certification or Authorization

The proponent shall be a Mechanical/Maintenance/Reliability Specialist, licensed or certified to provide the necessary professional services to the full extent that may be required by provincial law in Quebec.

3.1.2 Consultant Team Identification

The consultant team to be identified must include the following:

Proponent (prime consultant) - Mechanical/Maintenance/Reliability Specialist - CMRP (Certified Maintenance & Reliability Professional) certification from the SMRP (Society for Maintenance and Reliability Professionals) or PEMAC Asset Management Association of Canada or at least 15 years of asset management, maintenance and reliability experience of plant equipment in a commercial, industrial, educational or laboratory setting. Must be fluent in French and English (written and oral).

Key Sub-consultants / Specialists - architect, electrical engineer, mechanical engineer, structural engineer, civil engineer.

If the proponent proposes to provide multidisciplinary services that might normally be provided by a sub-consultant, this should be indicated here.

Information required - name of firm, key personnel to be assigned to the project. For the prime consultant indicate current license and/or how you intend to meet the provincial or territorial licensing requirements. In the case of a joint venture identify the existing or proposed legal form of the joint venture (refer to [General instructions 9 \(GI9\) Limitation of submissions](#)).

An example of an acceptable format (typical) for submission of the team identification information is provided in [Appendix A](#).

3.1.3 Declaration/Certifications Form

Proponents must complete, sign and submit the following:

- [Appendix B](#), Declaration/Certifications Form as required.

3.1.4 Integrity Provisions – Required documentation

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Proponent must provide, **as applicable**, to be given further consideration in the procurement process, the required documentation as per General instructions 1 ([GI1](#)), [Integrity Provisions – Proposal](#), **section 3a**.

3.2 RATED REQUIREMENTS

3.2.1 Achievements of Proponent on Projects

Describe the Proponent's accomplishments, achievements and experience as prime consultant on projects.

Select a **maximum** of 3 projects undertaken within the last 10 years. Joint venture submissions are not to exceed the maximum number of projects. Only the first 3 projects listed in sequence will receive consideration and any others will receive none as though not included.

Information that should be supplied:

- clearly indicate how this project is comparable/relevant to the requested project.
- brief project description and intent. Narratives should include a discussion of design philosophy / approach to meet the intent, design challenges and resolutions.
- budget control and management - i.e. contract price & final construction cost - explain variation
- project schedule control and management - i.e. initial schedule and revised schedule - explain variation
- client references - name, address, phone and fax of client contact at working level - references may be checked
- names of key personnel responsible for project delivery
- awards received

The Proponent (as defined in General instructions 2 ([GI2 Definitions](#))) must possess the knowledge on the above projects. Past project experience from entities other than the Proponent will not be considered in the evaluation unless these entities form part of a joint venture Proponent.

Please indicate those projects which were carried out in joint venture and the responsibilities of each of the involved entities in each project.

3.2.2 Achievements of Key Sub-consultants and Specialists on Projects

Describe the accomplishments, achievements and experience either as prime consultant or in a sub-consultant capacity on projects. If the Proponent proposes to provide multi-disciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.

Select a **maximum** of 3 projects undertaken within the last 10 years per key sub consultant or specialist. Only the first 3 projects listed in sequence (per key subconsultant or specialist) will receive consideration and any others will receive none as though not included.

Information that should be supplied:

- clearly indicate how this project is comparable/relevant to the requested project.
- brief project description and intent. Narratives should include a discussion of design philosophy / approach to meet the intent, design challenges and resolutions.
- budget control and management
- project schedule control and management
- client references - name, address, phone and fax of client contact at working level - references may be checked
- names of key personnel responsible for project delivery
- awards received

3.2.3 Achievements of Key Personnel on Projects

Describe the experience and performance of key personnel to be assigned to this project regardless of their past association with the current proponent firm. This is the opportunity to emphasize the strengths of the individuals on the team, to recognize their past responsibilities, commitments and achievements.

Information that should be supplied for each key personnel:

- professional accreditation
- accomplishments/achievements/awards
- relevant experience, expertise, number of years experience
- role, responsibility and degree of involvement of individual in past projects

3.2.4 Understanding of the Project:

The proponent should demonstrate understanding of the goals of the project, the functional/technical requirements, the constraints and the issues that will shape the end product.

Information that should be supplied:

- The functional and technical requirements
- Broader goals (federal image, sustainable development, sensitivities)
- The relationship between this commission and any earlier studies completed for PWGSC
- Significant issues, challenges and constraints
- Project schedule and cost. Review schedule and cost information and assess risk management elements that may affect the project
- The Client User's philosophies and values

3.2.5 Scope of Services:

The proponent should demonstrate capability to perform the services and meet project challenges and to provide a plan of action.

Information that should be supplied:

- Scope of Services - detailed list of services
- Work Plan - detailed breakdown of work tasks and deliverables
- Project schedule - proposed major milestone schedule
- Risk management strategy

3.2.6 Management of Services:

The Proponent should describe how he /she proposes to perform the services and meet the constraints; how the services will be managed to ensure continuing and consistent control as well as production and communication efficiency; how the team will be organized and how it will fit in the existing structure of the firms; to describe how the team will be managed. The proponent is also to identify sub-consultant disciplines and specialists required to complete the consultant team.

If the Proponent proposes to provide multi-disciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.

Information that should be supplied:

- Confirm the makeup of the full project team including the names of the consultant sub-consultants and specialists personnel and their role on the project.
- Organization chart with position titles and names (Consultant team). Joint Venture business plan, team structure and responsibilities, if applicable
- What back-up will be committed
- Profiles of the key positions (specific assignments and responsibilities)
- Outline of an action plan of the services with implementation strategies and sequence of main activities
- Reporting relationships
- Communication strategies
- Response time: demonstrate how the response time requirements will be met

3.2.7 Design Philosophy / Approach / Methodology

The proponent should elaborate on aspects of the project considered to be a major challenge which will illustrate design philosophy / approach / methodology. This is the opportunity for the Proponent to state the overall design philosophy of the team as well as their approach of resolving design issues and in particular to focus on the unique aspects of the current project.

Information that should be supplied:

- Design Philosophy / Approach / Methodology
- Describe the major challenges and how your team approach will be applied to those particular challenges.

3.3 EVALUATION AND RATING

Only the technical components of the proposals which are responsive will be reviewed, evaluated and rated by a PWGSC Evaluation Board in accordance with the following to establish Technical Ratings:

Criterion	Weight Factor	Rating	Weighted Rating
Achievements of Proponent	2.0	0 - 10	0 - 20
Achievements of Key Sub-consultants / Specialists	1.0	0 - 10	0 - 10
Achievements of Key Personnel on Projects	2.0	0 - 10	0 - 20
Understanding of the Project	1.5	0 - 10	0 - 15
Scope of Services	1.0	0 - 10	0 - 10
Management of Services	1.0	0 - 10	0 - 10
Design Philosophy / Approach / Methodology	1.5	0 - 10	0 - 15
Technical Rating	10.0		0 - 100

Generic Evaluation Table

PWGSC Evaluation Board members will evaluate the strengths and weaknesses of the Proponent's response to the evaluation criteria and will rate each criterion with even numbers (0, 2, 4, 6, 8 or 10) using the generic evaluation table below:

	INADEQUATE	WEAK	ADEQUATE	FULLY SATISFACTORY	STRONG
0 point	2 points	4 points	6 points	8 points	10 points
Did not submit information which could be evaluated	Lacks complete or almost complete understanding of the requirements.	Has some understanding of the requirements but lacks adequate understanding in some areas of the requirements.	Demonstrates a good understanding of the requirements.	Demonstrates a very good understanding of the requirements.	Demonstrates an excellent understanding of the requirements.
	Weaknesses cannot be corrected	Generally doubtful that weaknesses can be corrected	Weaknesses can be corrected	No significant weaknesses	No apparent weaknesses
	Proponent do not possess qualifications and experience	Proponent lacks qualifications and experience	Proponent has an acceptable level of qualifications and experience	Proponent is qualified and experienced	Proponent is highly qualified and experienced
	Team proposed is not likely able to meet requirements	Team does not cover all components or overall experience is weak	Team covers most components and will likely meet requirements	Team covers all components - some members have worked successfully together	Strong team - has worked successfully together on comparable projects
	Sample projects not related to this requirement	Sample projects generally not related to this requirement	Sample projects generally related to this requirement	Sample projects directly related to this requirement	Leads in sample projects directly related to this requirement

	Extremely poor, insufficient to meet performance requirements	Little capability to meet performance requirements	Acceptable capability, should ensure adequate results	Satisfactory capability, should ensure effective results	Superior capability, should ensure very effective results
--	---	--	---	--	---

To be considered further, proponents **must** achieve a minimum Technical Rating of fifty (50) points out of the hundred (100) points available as specified above.

No further consideration will be given to proponents not achieving the pass mark of fifty (50) points.

SRE 4 PRICE OF SERVICES

All price proposals corresponding to responsive proposals which have achieved the pass mark of fifty (50) points will be considered upon completion of the technical evaluation. When there are three or more responsive proposals, an average price is determined by adding all the price proposals together and dividing the total by the number of price proposals being opened. This calculation will not be conducted when one or two responsive proposals are received.

All price proposals which are greater than twenty-five percent (25%) above the average price will be set aside and receive no further consideration.

The remaining price proposals are rated as follows:

- A. The lowest price proposal receives a Price Rating of 100
- B. The second, third, fourth and fifth lowest prices receive Price Ratings of 80, 60, 40, and 20 respectively. All other price proposals receive a Price Rating of 0.
- C. On the rare occasions where two (or more) price proposals are identical, the matching price proposals receive the same rating and the corresponding number of following ratings are skipped.

The Price Rating is multiplied by the applicable percentage to establish the Price Score.

SRE 5 TOTAL SCORE

Total Scores will be established in accordance with the following:

Rating	Possible Range	% of Total Score	Score (Points)
Technical Rating	0 - 100	90	0 - 90
Price Rating	0 - 100	10	0 - 10
Total Score		100	0 - 100

The Proponent receiving the highest Total Score is the first entity that the Evaluation Board will recommend for the provision of the required services. In the case of a tie, the proponent submitting the lower price for the services will be selected.

SRE 6 SUBMISSION REQUIREMENTS - CHECKLIST

The following list of documents and forms is provided with the intention of assisting the Proponent in ensuring a complete submission. The Proponent is responsible for meeting all submission requirements.

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Please follow detailed instructions in General instructions 16 (GI16) Submission of proposal. Proponents may choose to introduce their submissions with a cover letter.

- Team Identification - see typical format in [Appendix A](#)
- Declaration/Certifications Form - completed and signed - form provided in [Appendix B](#)
- Integrity Provisions – Required documentation – **as applicable** in accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>) and as per General instructions [1 \(GI1\), Integrity Provisions](#) – Proposal, **section 3a.**
- Integrity Provisions - Declaration of Convicted Offences – **with its bid, as applicable** in accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>) and as per General instructions [1 \(GI1\), Integrity Provisions](#) – Proposal, **section 3b.**
- Proposal
- Front page of RFP
- Front page(s) of any solicitation amendment
- Price Proposal Form completed and submitted in a separate section.

For hard copy Proposal:

- Proposal - one (1) original plus one (1) electronic copy on a data storage device
- Price Proposal Form – only one (1) Price proposal Form completed and submitted in a separate envelope

For CPC Connect Proposal:

- Proposal - one (1) electronic document attached to the message
- Price Proposal Form – one (1) Price proposal Form completed and submitted in a separate electronic document attached to the message

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PART 6 - AGREEMENT PARTICULARS

The Agreement Particulars will be issued at time of award of contract and will identify the fee to be paid to the Consultant for the services determined in the Price Proposal Form.

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APPENDIX A - TEAM IDENTIFICATION FORMAT

For details on this format, please see SRE in the Request For Proposal.

The prime consultant and other members of the Consultant Team shall be licensed or certified or otherwise authorized to provide the necessary professional services to the full extent that may be required by provincial or territorial law.

I. Prime Consultant (Proponent - Mechanical/Maintenance/Reliability Specialist):

Firm or Joint Venture Name:

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

II. Key Sub Consultants / Specialists:

Architect (if not a joint venture)

Firm Name

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

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Electrical Engineer (if not a joint venture)

Firm Name

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

Mechanical Engineer (if not a joint venture)

Firm Name

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

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Structural Engineer (if not a joint venture)

Firm Name

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

Civil Engineer (if not a joint venture)

Firm Name

Key Individuals and provincial professional licensing status and/or professional accreditation:

Role	Name of Firm	Name of Key Individuals	Professional Licence(s) or Accreditations

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APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title	Agriculture and Agri-Food Canada (AAFC) Laboratory Facilities Maintenance Audit, St. Hyacinthe, Quebec
----------------------	---

Name of Proponent		Street Address	
Telephone number:		Mailing Address	
Fax number:			
Proponent's Proposed Site or premises Requiring Safeguard Measures (refer to SI? Security Requirement):			N/A
<i>Street number / name</i> <i>Unit/Suite/Apartment number</i> <i>City, Province / Territory</i> <i>Postal Code</i>			
Email Address:			
Procurement Business Number:			

Type of Organizations		Size of Organization	Number of Employees
<input type="checkbox"/> Sole Proprietorship			_____
<input type="checkbox"/> Partnership			Graduate Architects / Professional Engineers _____
<input type="checkbox"/> Corporation			Other Professionals _____
<input type="checkbox"/> Joint Venture			Other _____

Former Public Servant (FPS) - Certification

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, proponents must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of proposals is completed, Canada will inform the Proponent of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the proposal non-responsive.

Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- (a) an individual;
- (b) an individual who has incorporated;
- (c) a partnership made of former public servants; or
- (d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament Retiring Allowances Act*, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Proponent a FPS in receipt of a pension?

Yes | No

If so, the Proponent must provide the following information, for all FPS in receipt of a pension, as applicable:

- (a) name of former public servant;
- (b) date of termination of employment or retirement from the Public Service.

By providing this information, proponents agree that the successful Proponent's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of

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the published proactive disclosure reports in accordance with Contracting Policy Notice: 2019-01 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Proponent a FPS who received a lump sum payment pursuant to the terms of a work force reduction program?

Yes | No

If so, the Proponent must provide the following information:

- (a) name of former public servant;
- (b) conditions of the lump sum payment incentive;
- (c) date of termination of employment;
- (d) amount of lump sum payment;
- (e) rate of pay on which lump sum payment is based;
- (f) period of lump sum payment including start date, end date and number of weeks;
- (g) number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

Name of Proponent:

DECLARATION:

I, the undersigned, being a principal of the proponent, hereby certify that the information given on this form and in the attached proposal is accurate to the best of my knowledge. If any proposal is submitted by a partnership or joint venture, then the following is required from each component entity.

Name

Signature

Title

I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture

Name

Signature

Title

I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture

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Name

Signature

Title

I have authority to bind the Corporation / Partnership / Sole Proprietorship / Joint Venture

During proposal evaluation period, PWGSC contact will be with the following person:

Name

Telephone Number: () _____ Fax Number: () _____

E-mail: _____

The above certifications should be completed and submitted with the proposal, but may be submitted afterwards as follows: if the above certifications are not completed and submitted with the proposal, the Contracting Authority will inform the Proponent of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the above certifications within the time frame provided will render the proposal non-responsive.

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APPENDIX C - PRICE PROPOSAL FORM

INSTRUCTIONS:

- Complete this Price Proposal Form and submit in accordance with the instructions in this solicitation;
- Price Proposals are not to include Applicable Taxes;
- PROPONENTS SHALL NOT ALTER THIS FORM

Project Title: Agriculture and Agri-Food Canada (AAFC) Laboratory Facilities Maintenance Audit, St. Hyacinthe, Quebec

Name of Proponent:

The following will form part of the evaluation process

REQUIRED SERVICES

Fixed Fee R1230D (2018-06-21) [GC 5 - Terms of Payment – Architectural and/or Engineering Services](#)

SERVICES	FIXED FEE
Facilities Maintenance Audit	\$.....
MAXIMUM FIXED FEES	\$.....

*Travel time and/or expenses will not be reimbursed separately (Refer to R1230D (2018-06-21), GC 5.12 – Disbursements).

**All inclusive hourly rate is applicable to both normal working hours and any other shift work as required.

TOTAL COST OF SERVICES FOR PROPOSAL EVALUATION PURPOSE

Total Fee for Required Services \$.....

Total Evaluated Fee = Total Fee for Required Services

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The following will NOT form part of the evaluation process

THE FOLLOWING HOURLY RATES MAY BE USED FOR FUTURE CONTRACT AMENDMENTS

Principals	
	Name(s)
	Hourly rate
1	\$.....
2	\$.....
3	\$.....
4	\$.....
5	\$.....
X	\$.....

Staff	
	Name(s)
	Hourly rate
1	\$.....
2	\$.....
3	\$.....
4	\$.....
5	\$.....
6	\$.....
7	\$.....
8	\$.....
9	\$.....
10	\$.....
11	\$.....
12	\$.....
13	\$.....
14	\$.....
15	\$.....

END OF PRICE PROPOSAL FORM

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APPENDIX D - DOING BUSINESS WITH PWGSC DOCUMENTATION AND DELIVERABLES MANUAL

See attached document

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APPENDIX E - TERMS OF REFERENCE

See attached document



Doing Business with PWGSC

Documentation and Deliverables Manual



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Revisions

Version	Date	Description
0.1	August 14, 2017	Draft version for consultation.
1.0	January 12, 2018	Original Issuance

1 General

1.1 Effective Date

January 12, 2018

1.2 Authority

This manual is issued by the authority of the Director General, Technical Services, Real Property Branch (RPB), Public Works and Government Services Canada (PWGSC).

1.3 Purpose

This document provides architectural and engineering (A&E) consultants with the requirements for producing deliverables for PWGSC projects in order to ensure a well-documented design process, and facilitate review by PWGSC staff.

1.4 Scope

This document shall apply to design-bid-build projects undertaken by PWGSC on its own behalf as well as for other government departments (OGDs). It is applicable to all regions of PWGSC and can be supplemented with regional addendum.

1.5 Harmonization with Terms of Reference

This document shall be used in conjunction with the project's Project Brief / Terms of Reference (TOR). In case of a conflict between documents, the requirements of the TOR prevail over those of this document.

1.6 Departmental Name Change

In the fall of 2015, Public Works and Government Services Canada (PWGSC) was renamed Public Services and Procurement Canada (PSPC).

This name change is occurring in a phased approach, and for most documents PSPC should be used. However, all contract documents shall use the legal name Public Works and Government Services Canada (PWGSC) until the name has been changed in legislation.

1.7 Terminology

This document utilizes the following terminology:

- “shall” is used to express a requirement, a provision the Consultant is obligated to meet; “should” is used to express a recommendation; and
- “may” is used to express an option or that which is permissible within the limits of this document.

1.8 Definitions

Addenda: Changes to the construction documents or tendering procedures, issued during the tendering process.

Construction Documents: The drawings and specifications (including addenda).

Drawings: The graphic means of showing work to be done, as they depict shape, dimension, location, quantity of materials and relationship between building components.

Reports: Written account given of a particular matter after thorough investigation or consideration prepared by the Consultant.

Specifications: Written descriptions of materials and construction processes in relation to quality, colour, pattern, performance and characteristics of materials, installation and quality of work requirements.

2 Construction Documents

2.1 General

This section provides direction to Consultant firms on the preparation of construction documents (namely specifications and drawings) to be submitted to PWGSC for real property projects across Canada.

Specifications, drawings, and addenda shall be complete and clear so that contractors can prepare bids without guesswork.

2.1.1 Principles of PWGSC Contract Documents

Contact documents shall be prepared based on common public procurement principles. PWGSC does not use Canadian Construction Documents Committee (CCDC) documents.

PWGSC is responsible for preparing and issuing the construction contract and the terms and conditions as well as all other related bidding and contractual documents. For detailed information, the standard acquisition clauses and conditions commonly used by PWGSC in the contracting process are available on the buyandsell.gc.ca website.

2.1.2 Translation

When bilingual documents are required in the Terms of Reference, all documentation including drawings, specifications, reports as well as all bidder questions shall be in both official languages.

Ensure that English and French documents are equal in all respects. There can be no statements where one version takes precedence over the other.

2.1.3 Construction Documents Definitions

Unless otherwise indicated in the Project Brief / Terms of Reference, construction document submissions (33%, 50 or 66%, 99%, and 100% / final) shall meet the definitions outlined below. Further discipline based requirements may be included in the TOR.

- 33%: shall demonstrate general intent of design and compliance and alignment with relevant standards. Summary specification required, but not a full specification.
- 50% or 66%: shall show full system, all components, requirements, and lack only minor details on drawings. Specifications shall be well advanced and contain major work and material requirements and lack only minor details.
- 99%: shall be for final review by PWGSC, lacking no detail and complete with a project specific specification.
- 100% (or final): shall address comments by PWGSC as required, signed and sealed by the responsible design professional in compliance with various provincial jurisdiction requirements, ready for tender.

2.1.4 Quality Assurance

It is the sole responsibility of the Consultant firms to undertake their own quality control process and to review, correct, and coordinate their documents (between disciplines). The Consultant shall also ensure the constructability of their design.

2.1.5 Quality Assurance Deliverables

For every construction document submission (33 %, 50 % or 66 %, 99 % and 100 %), the Consultant shall provide:

- a completed and signed Checklist for the Submission of Construction Documents (see Appendix A); and
- an index as per Appendix B.

2.1.6 Terminology & Quantities

The Consultant shall use the term “Departmental Representative” instead of Engineer, PWGSC, Owner, Consultant or Architect. “Departmental Representative” means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor.

Notations such as “verify on site,” “as instructed,” “to match existing,” “example,” “equal to,” “equivalent to,” and “to be determined on site by Departmental Representative” shall not be indicated in specifications nor in drawings, as such wording promotes inaccurate and inflated bids.

Construction documents shall permit bidders to bid accurately. If a precise quantity is impossible to identify (e.g. cracks to be repaired), then provide an estimated quantity for bidding purposes (to be used in conjunction with unit prices). Ensure that the terminology used throughout construction documents is consistent and does not contradict applicable codes and standards.

2.1.7 Units of Measure

All units of measure within drawings and specifications shall be based on the International System of Units (SI).

2.2 Drawings

2.2.1 General

Drawings shall be prepared in accordance with the [PWGSC National CADD Standard](#) and the Canadian Standards Association CSA B78.5-93: *Computer-Aided Design Drafting (Buildings)*. Drawing shall also meet the following criteria:

- dimensions shall be in metric only (no dual dimensioning);
- no trade names present on any drawings; and
- no specification-type notes are on any drawing.

2.2.2 Information to be Included

Drawings should show the quantities of the elements, the configuration of the project, the dimensions, and details of how the work is constructed. There should be no references to future work or information that will be changed by future addenda. The scope of work should be clearly detailed, and elements not in the Contract should be eliminated or kept to an absolute minimum.

2.2.3 Title Blocks and Revision Notes

PWGSC title block shall be used for drawings and sketches (including addenda).

The percent of drawing completion should be included in the revision notes. Revision notes shall be inputted during design development, but cleared for 100% complete drawing (ready for tender).

2.2.4 Drawing Numbers

Drawings should be numbered in sets according to the type of drawing and the discipline involved as indicated in the following table. The requirements of the *PWGSC National CADD Standard* supersede these requirements, where warranted.

Discipline	Drawing
Demolition	D01, D02, etc.
Architecture	A01, A02, etc.
Civil	C01, C02, etc.
Landscaping	L01, L02, etc.
Mechanical	M01, M02, etc.
Electrical	E01, E02, etc.
Structural	S01, S02, etc.
Interior Design	ID01, ID02, etc.

2.2.5 Presentation Requirements

Present the drawings in sets, providing the applicable demolition, site plan, civil, landscaping, architecture, structural, mechanical, and electrical drawings in that order. All drawings should be of uniform standard size.

2.2.6 Legends

Provide a legend of symbols, abbreviations, references, etc., on the front sheet of each set of drawings, or in the case of large sets of drawings, provided the legend immediately after the title sheet and index sheets.

2.2.7 Schedules and Tables

Where schedules or tables occupy entire sheets, locate them at the back of each set of drawings for convenient reference.

2.2.8 North Arrow

Include a north arrow on all plans. Orient all plans in the same direction for easy cross-referencing. Wherever possible, lay out plans so that the north point is at the top of the sheet.

2.2.9 Drawing Symbols

Follow generally accepted drawing conventions, understandable by the construction trades and in accordance with PWGSC publications.

2.2.10 As-Built Drawings

As-built drawings are official record drawings and shall represent as constructed conditions including location and size of equipment, devices, plumbing lines, mechanical and electrical equipment, structural elements etc. As-built drawings shall be updated in CAD, handwritten notes are not acceptable.

2.2.11 Submission Format

Unless otherwise stated in the Terms of Reference, drawing submissions shall be in electronic and hard copy format.

2.2.11.1 Drawing Hard Copy Deliverable Format

Drawing submitted in hard copy shall be:

- printed to scale with black lines on white paper;
- bound with staple or other means into sets, where presentations exceed 50 sheets, the drawings for each discipline may be bound separately for convenience and ease of handling; and
- of a paper size as agreed to with the Departmental Representative.

2.2.11.2 Drawing Electronic Copy Deliverable Format

Drawing submitted electronically shall be provided:

- without password protection or printing restrictions;
- in two formats:
 - PDF/E-1 (in compliance with ISO 24517-1);
 - .dwg format; and
- in accordance with Appendix D.

2.3 Building Information Modelling (BIM)

PWGSC is committed to using non-proprietary or “OpenBIM” standards. As such, the Consultant is not required to use any specific proprietary software format. For the sake of legacy information quality, the Consultant shall use the international standards of interoperability for BIM (IFC) in all cases where models are submitted. Consultants shall work with software that is compliant to this standard.

Where used, BIM shall not replace the submission requirements outlined by this document. Rather, consultants shall submit models in addition requirements outlined herein.

Where BIM is used, models and modelled information shall be submitted in the following two formats:

- .native (whichever format is native to the Modelling software used by the Consultant);
- .ifc (Industry Foundation Classification – IFC4 – [ISO 16739:2013](#)); and

All Modelled Information, and Model Information Exchanges shall conform to:

- Project-specific requirements, such as they are laid out in the Project Execution Plan, Project Documentation and Model Element Table; and
- The project-identified BIM Standards & Guidelines.

Models for electronic submissions shall be organized as per Appendix D.

2.4 Specifications

2.4.1 National Master Specification

Specifications prepared for PWGSC shall follow the most current version of the [National Master Specification \(NMS\)](#) format offered by the National Research Council.

The Consultant has overriding responsibility for the content of construction project specifications. For each specification, he or she shall edit, amend, and supplement the NMS template as deemed necessary to produce an appropriate project specification free of conflict and ambiguity. The Consultant should refer to the latest *NMS User's Guide* and *NMS Development Guide* issued by the National Research Council for further guidance on using the NMS.

2.4.2 Index

Specifications shall include an index which list all specification sections, including numbers of pages, as well as the division and section names in the format shown in Appendix B.

2.4.3 Specification Organization

Narrow scope sections describing single units of work should be used for complex work. Broad scope sections may be used for less complex work. The Consultant shall use consistently for the entire specification either the NMS 1/3 page format, the NMS 2/3-page format or the Construction Specifications Canada (CSC) full-page format.

Start each section on a new right hand page and show the PWGSC project number, NMS section title, NMS section number, page number, and specification date on each page. The project title, and Consultant's name are not to be indicated.

2.4.4 Standards

Code and standard references in the NMS may not be up to date, the Consultant shall ensure that the project specification use the current applicable edition of all references quoted.

2.4.5 Specifying Materials

Specifications should make use of generic names in referencing construction materials. The Consultant should refer to the latest version of the *NMS Development Guide* issued by the National Research Council for further details. The term "Acceptable Manufacturers" shall not be used, as this restricts competition and does not ensure the actual material or product will be acceptable.

2.4.5.1 Alternate Products and Materials

Alternative materials to those specified may be considered during the solicitation period; however, the onus will be on the Consultant to review and evaluate all requests for approval of alternative materials.

2.4.5.2 Sole Sourcing

Sole sourcing of materials and/or work is only allowed in exceptional and justifiable circumstances. Prior to including sole source materials and/or work, the Consultant shall contact the Departmental Representative to obtain approval for the sole sourcing. Consultants shall provide proper justification for all individual sole source requirements.

Sole sourcing for materials and work may be required when performing work on existing proprietary systems, such as fire alarm systems, building automation systems (BAS) etc.

Wording for the sole source of work should be in Part 1 as follows:

Designated Contractor

- .1 Retain the services of [_____] to do the work of this section.

Wording for the sole source of building automation system should be in Part 1 as follows:

Designated Contractor

- .1 Retain the services of [_____] or its authorized representative to complete the work of all building automation system sections.

Wording for the sole source of building automation system should be in Part 2 as follows:

Materials

- .1 There is an existing [_____] system presently installed in the building. All materials must be selected to ensure compatibility with the existing [_____] system.

Wording for the sole source of materials (i.e. fire alarm systems) should be in Part 2 as follows:

Acceptable Materials

- .1 The only acceptable materials are [_____].

2.4.6 Measurement for Payment

The measurement for payment shall be provided in lump sum or unit prices.

2.4.6.1 Unit Prices

Unit prices should only be used in instances where the quantity can only be roughly estimated (e.g. earth work). The approval of the Departmental Representative shall be sought in advance of their use. In each applicable NMS section where unit prices are used, add new or replace paragraph title “Measurement for Payment” with “Unit Prices.” and use the following wording:

[The work for this section] or [define the specific work if required, e.g. rock excavation] will be paid based on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form.

Provide a unit price table, sample shown below, to designate the work to which a unit price arrangement applies. The table shall include:

- the price per unit and the estimated total price for each item listed;
- a complete description of each type of work covered; and
- items as described in the referenced specification section.

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity	Price per Unit GST/HST extra	Estimated Total Price GST / HST extra
TOTAL ESTIMATED AMOUNT						

2.4.7 Cash Allowances

Construction documents shall be complete and contain all of the requirements for the contractual work. Cash allowances are to be used only under exceptional circumstances (i.e. utility companies, municipalities), where no other method of specifying pricing is appropriate.

To include cash allowances, obtain approval from the Departmental Representative in advance, and use Section 01 21 00 – Allowances of the NMS to specify the criteria.

2.4.8 Warranties

The 12-month warranty period specified in PWGSC’s standard acquisition clauses and conditions with regard to the contract should typically be retained as is. Extended warranties should only be used where experience has shown that serious defects are likely to appear after expiry of the standard one-year warranty period. When necessary to extend beyond the 12 month warranty period,

use the following wording in Part 1 of the applicable technical sections, under the heading “Extended Warranty”:

For the work of this Section [____], the 12 month warranty period is extended to [____] months.

Where the extended warranty is intended to apply to a particular part of a specification section, modify the previous text as follows:

For [____], the 12 month warranty period is extended to [____] months.

2.4.9 Miscellaneous Requirements

Paragraphs noted as “Scope of Work” shall not be included. Within Part 1 – General of specifications, the paragraphs “Summary” and “Section Includes” shall not be utilized.

2.4.10 Specification Coordination

All sections of the specifications shall be coordinated, including the “Related Sections” portion of specifications and appendices. References to non-existent sections shall not be present within the specifications.

2.4.11 Regional Guide

The Consultant should contact the Departmental Representative to obtain the region’s requirements for Division 01 (General Requirements) or other short-form specifications as appropriate.

2.4.12 Health and Safety

All project specifications are required to include Section 01 35 29 – Health and Safety Requirements. Confirm with the Departmental Representative to determine if there are any instructions to meet regional requirements.

2.4.13 Subsurface Investigation Reports

If required, subsurface investigation report(s) shall be included after Section 31, and the following paragraph added to Section 31:

Subsurface Investigation Report(s)

- .1 Subsurface investigation report(s) are included in the specification following this section.

If the Departmental Representative determines that it is not practical to include the subsurface investigation report(s), alternate instructions will be provided.

Where tender documents are to be issued in both official languages, the subsurface investigation report(s) shall be issued in both languages.

In addition to providing the subsurface investigation report(s), the foundation information required by the current *National Building Code of Canada* (Division C, Part 2, 2.2.4.6) shall be included on foundation drawings.

2.4.14 Prequalification and Pre-Award Submissions

Do not include in the specifications any mandatory contractor and/or subcontractor prequalification or pre-award submission requirements that could become a contract award condition. If a

prequalification process or a pre-award submission is required, contact the Departmental Representative.

There should be no references to certificates, transcripts, samples, the license numbers of a trade or subcontractor, or any other documentation or item being included with the bid.

2.4.15 Contracting Issues

Specifications describe the workmanship and quality of the work and shall not contain any contracting issues. Division 00 of the NMS is not used by PWGSC, except for the Seals page 00 01 07 and the Table of Contents 00 01 10. In specifications, remove all references to the following:

- general instructions to bidders;
- general conditions;
- Canadian Construction Documents Committee (CCDC) documents;
- priority of documents;
- security clauses and clearances;
- terms of payment or holdback;
- the tendering process;
- bonding requirements;
- insurance requirements;
- alternative and separate pricing;
- site visits (mandatory or optional); and
- the release of lien and deficiency holdbacks.

2.4.16 Specification Submission Format

Unless otherwise stated in the Terms of Reference, specification submissions shall be in electronic and hard copy format.

2.4.16.1 Specification Hard Copy Deliverable Format

Specifications submitted in hard copy shall be printed on both sides of 216 mm x 280 mm white bond paper.

2.4.16.2 Specification Electronic Copy Deliverable Format

Specifications submitted electronically shall be:

- provided in PDF/A (in compliance with ISO 19005) format, without password protection and printing restrictions; and
- in accordance with Appendix D.

2.5 Addenda

2.5.1 Format

Prepare addenda using the format shown in Appendix C. No signature-type information is to appear.

Every page of the addendum (including attachments) shall be numbered consecutively. All pages shall have the PWGSC project number and the appropriate addendum number. Sketches shall appear in the PWGSC format, signed and sealed.

No Consultant information (name, address, phone #, Consultant project #, etc.) should appear in addenda or their attachments (except on sketches).

2.5.2 Content

Each item should refer to an existing paragraph of the specification or note/detail on the drawings. The clarification style is not acceptable.

Where there are many or major changes to a section or drawing, consider deleting the entire section or drawing and replacing it with a new version.

3 Cost Estimates

3.1 Cost Estimates Submission Formats

3.1.1 Format

Construction cost estimates for projects shall be prepared in the elemental analysis format, which is in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors (CIQS) for all PWGSC regions excluding Quebec. Within Quebec region the cost estimates shall be prepared in the Unifomat II format.

3.1.2 Contents

All cost estimates shall contain the following:

- introduction narrative complete with an outline description of the cost estimate basis;
- description of information obtained and used in the cost estimate including the date received;
- listing of notable inclusions;
- listing of notable exclusions;
- listing of items/issues carrying significant risk;
- summary of the itemized cost estimate;
- itemized breakdown of cost estimate by elemental analysis for Class B, C, and D; and
- itemized breakdown of costs estimate in both elemental analysis and National Master Specification division format for Class A, including measured quantities, unit rate pricings and amounts for each item of work.

Allowances, if deemed necessary by Consultant, shall contain the following:

- design allowance to cover unforeseen items during design phase;
- escalation allowance for changes in market conditions between the date of the cost estimate and the date tender is called;
- construction allowance to cover unforeseen items during construction; and
- the basis of calculations of the above allowances.

3.2 Classes of Cost Estimates for Construction Projects

PWGSC applies a detailed, four-level classification using the terms Class A, B, C and D. Apply these estimate classifications at the project stages as defined in the TOR. For projects required to be submitted to Treasury Board (TB) for approval: an indicative estimate shall be at least a Class D and a Substantive Estimate shall be at least a Class B.

3.2.1 Class D (Indicative) Estimate

Based upon a comprehensive statement of requirements, an outline of potential solutions and/or functional program, this estimate is to provide an indication of the final project cost that will enable ranking to be made for all the options being considered. This cost estimate shall be prepared in elemental analysis format. The level of accuracy of a Class D cost estimate shall be such that no more than a 20% design allowance is required.

3.2.2 Class C Estimate

Based on schematic/conceptual design and/or comprehensive list of project requirements, this estimate shall be adequately detailed and shall be sufficient for making the correct investment decision. This cost estimate shall be based on measured quantities of all items of work and prepared

in elemental analysis format. The level of accuracy of a Class C cost estimate shall be such that no more than a 15% design allowance is required.

3.2.3 Class B (Substantive) Estimate

Based on design development drawings and outline specifications, which include the preliminary design of all major systems and subsystems, as well as the results of all site/installation investigations, this estimate shall provide for the establishment of realistic cost objectives and be sufficient to obtain effective project approval.

This cost estimate shall be based on measured quantities of all items of work and prepared in elemental analysis format. The level of accuracy of a Class B cost estimate shall be such that no more than a 10% design allowance is required.

3.2.4 Class A (Pre-Tender) Estimate

Based on completed construction drawings and specifications prepared prior to calling competitive tenders, this estimate shall be sufficient to allow a detailed reconciliation and/or negotiation with any contractor's tender submission. This cost estimate shall be based on fully measured quantities of all items of work and prepared in both elemental analysis and Trade division format as per MasterFormat™. The level of accuracy of a Class A cost estimate shall be such that no more than a 5% design allowance is required.

4 Project Schedules

4.1 Schedule Format

Project schedules shall be submitted in the .mpp file extension (compatible with MS Project). The schedule shall include:

- major and minor milestones;
- activities representing discrete elements of work assigned to one person which:
 - are named using verb-noun combination (i.e. Review Design Development Report);
 - contain realistic durations in days;
- project logic linking activities with appropriate relationships finish-start (FS), finish-finish (FF), start-start (SS); and
- Identification of the critical path activities.

4.2 Progress Report

The progress report shall detail the progress of each activity up to the date of the report. It shall also include any logic changes made, both historic and planned; projections of progress and completion; as well as the actual start and finish dates of all activities being monitored.

The contents of each progress report will vary depending on the requirements at each project phase. A progress report should include:

- an executive summary;
- a narrative report;
- a variance report;
- a criticality report;
- an exception report (as required);
- the master schedule with cash flow projections; and
- the detailed project schedule (network diagram or bar charts).

4.2.1 Executive Summary

The executive summary should provide a synopsis of narrative, variance, criticality and exception report, and is not to exceed one page.

4.2.2 Narrative Report

The project narrative shall detail the work performed to date, comparing work progress to planned, and presenting current forecasts. This report should summarize the progress to date, explaining current and possible deviations and delays and the required actions to resolve delays and problems with respect to the Detailed Schedule, and Critical Paths.

4.2.3 Variance Report

The variance report, with supporting schedule documentation, should detail the work performed to date and compare work progress to work planned. It should summarize the progress to date and explain all causes of deviations and delays and the required actions to resolve delays and problems with respect to the detailed schedule and critical paths. The variance report shall be presented in the following format:

Paper size: Letter
Paper format: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision Block
Body text: Narratives for each report to match other reports
Columns: Activity ID, Activity Name, Planned Finish, Revised Finish, Variance, Activity % Complete

4.2.4 Criticality Report

The criticality report identifies all activities and milestones with negative, zero, and up to five days' Total Float. It is used as a first sort for ready identification of the critical paths, or near-critical paths, through the entire project. The criticality report shall be presented in the following format:

Paper size: Letter
Orientation: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision Block
Body text: Narratives for each report to match other reports
Columns: Activity ID, Activity Name, Duration, Start, Finish, Activity % Complete, Total Float

4.2.5 Exception Report

The exception report shall be provided when unforeseen or critical issues arise. The Consultant shall advise the Departmental Representative and submit the details and proposed solutions in the form of an exception report. The report shall include sufficient description and detail to clearly identify:

- scope changes, including identifying the nature, reason, and total impact of all identified and potential project scope changes affecting the project;
- delays and accelerations, including identifying the nature, reason, and total impact of all identified and potential duration variations; and
- options enabling a return to the project baseline, including Identifying the nature and potential effects of all proposed options for returning the project within the baselined duration.

The exception report shall be provided in the following format:

Paper size: Letter
Orientation: Portrait
Title format: Project Title, Report Type, Print Date, Data Date, Revision
Body text: Narrative to match other reports

Paper size: Letter
Orientation: Landscape
Title format: Project Title, Report Type, Print Date, Data Date, Revision
Columns: Activity ID, Activity Name, Duration, Remaining Duration, Start, Finish, Total Float

4.2.6 Master Schedule

A master schedule including cash projection shall be provided in the following format:

Paper size: 11X17
Orientation: Landscape
Columns: Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish,
Total Float
Footer format: Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting: Early Start, then Early Finish, then Activity ID based on the WBS.

4.2.7 Detailed Project Schedule

A detailed project schedule shall be provided along with a network diagram or bar charts in the following format:

Paper size: 11X17
Orientation: Landscape
Columns: Activity ID, Activity Name, Duration, Activity % Complete, Start, Finish,
Total Float
Footer format: Project Title, Report Type, Print Date, Data Date, Revision Block
Sorting: Early Start, then Early Finish, then Activity ID based on the WBS.

Appendix A Checklist for the Submission of Construction Documents

Date:	
Project Title:	Project Location:
Project Number:	Contract Number:
Consultant's Name:	PWGSC Departmental Representative
Review Stage (stages may vary at discretion of project team): 33% <input type="checkbox"/> 50% or 66% <input type="checkbox"/> 99% <input type="checkbox"/> 100% <input type="checkbox"/>	

Drawings\Design			
Item	Verified by	Explanations	Action By
1 Index			
1a The index shows a complete listing of drawing titles and numbers.			
2 Title Blocks			
2a The title block is as per the <i>PWGSC National CADD Standard</i> .			
3 Units			
3a All units of measure are metric.			
4 Trade Names			
4a Trade names are not used.			
5 Specification Notes			
5a There are no specification-type notes.			
6 Terminology			
6a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."			
6b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.			
7 Information to be included			
7a The project quantities, configurations, dimensions, and construction details are included.			
7b References to future work and elements not in the tender documents do not appear or are kept to an absolute minimum and clearly marked.			

Drawings\Design			
Item	Verified by	Explanations	Action By
8 Quality Assurance			
8a Coordination review of the design between various disciplines has been completed by the Consultant.			
8b Constructability review of design has been performed.			
9 Signing and Sealing			
9a Every final drawing bears the seal and signature of the responsible design professional in compliance with various provincial jurisdiction requirements.			

Specifications			
Item	Verified by	Explanations	Action by
1 National Master Specification			
1a The current edition of the National Master Specification (NMS) has been used.			
1b Sections have been included for all work identified on drawings and sections have been edited.			
2 Index			
2a The index shows a complete list of specifications sections with the correct number of pages.			
3 Organization			
3a Either the NMS 1/3- or 2/3-page format or the Construction Specifications Canada full-page format is used consistently for the entire specifications.			
3b Each section starts on a new page and the project number, section title, section number, page number and date is shown on each page.			
3c The Consultant's name is not indicated.			
4 Terminology			
4a The term "Departmental Representative" is used instead of "Engineer," "PWGSC," "Owner," "Consultant," or "Architect."			
4b Notations such as "verify on site," "as instructed," "to match existing," "example," "equal to," "equivalent to," and "to be determined on site by" are not used.			
5 Dimensions			
5a Dimensions are provided in metric only.			
6 Standards			
6a The current edition of all references quoted is used.			
7 Specifications Materials			
7a The method of specifying materials uses recognized standards. Actual brand names and model numbers are not specified.			
7b Materials are specified using standards and performance criteria.			

Specifications			
Item	Verified by	Explanations	Action by
7c Non-restrictive, non-trade name “prescription” or “performance” specifications are used throughout.			
7d The term “Acceptable Manufacturers” is not used.			
7e No sole sourcing has been used.			
7f If sole sourcing has been used, the correct wording has been used and a justification, estimate, and specification have been provided to the Departmental Representative for the sole-sourced products.			
8 Measurement for Payment			
8a Unit prices are used only for work that is difficult to estimate.			
9 Cash Allowances			
9a No cash allowances have been used or if they have, approval from the Departmental Representative has been received.			
10 Miscellaneous Requirements			
10a No paragraphs noted as “Scope of Work” are included.			
10b In Part 1 - General of any section, the paragraphs “Summary” and “Section Includes” are not used.			
11 Specification Coordination			
11a The list of related sections and appendices are coordinated.			
12 Health and Safety			
12a Section 01 35 29.06 – Health and Safety Requirements is included.			
13 Subsurface Investigation Reports			
13a Subsurface investigation reports are included after Section 31.			
14 Prequalifications			
14a There are no mandatory contractor and/or subcontractor prequalification requirements or references to certificates, transcripts, licence numbers of a trade or subcontractor, or other such documentation or item included in the bid.			

Specifications			
Item	Verified by	Explanations	Action by
15 Contracting Issues			
15a Contracting issues do not appear in the specifications.			
15b Division 00 of the NMS is not used except 00 01 07 (Seals Page) and 00 01 10 (Table of Contents).			
16 Quality Assurance			
16a There are no specification clauses with square brackets “[]” or lines “_” indicating that the document is incomplete or missing information.			
17 Signing and Sealing			
17a Every final specification bears the seal and signature of the responsible design professional as required. Seals and signatures shall be shown in NMS section 00 01 07.			

I confirm that the drawings and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing, I am certifying that all items noted above have been addressed.

Consultant's Representative: _____

Firm name: _____

Signature: _____ Date: _____

Appendix B Drawings and Specifications Table of Contents Template

B.1 General

List all drawings by number and title.

For specifications, list all divisions, sections (by number and title), and the number of pages in each section.

B.2 Sample Table of Contents

Project No: _____ **Table of Contents** **Index**
Page 1 of ____

DRAWINGS:

C-1 Civil
L-1 Landscaping
A-1 Architecture
S-1 Structural
M-1 Mechanical
E-1 Electrical

SPECIFICATIONS:

DIVISION	SECTION	NO. OF PAGES
01	01 00 10 – General InstructionsXX
	01 14 25 – Designated Substances ReportXX
	01 35 30 – Health and SafetyXX
23	23 xx xx	
26	26 xx xx	

Appendix C Addenda Formatting Template

C.1 Instructions

To re-issue a drawing with an addendum:

- indicate the drawing number and title; and
- list the changes or indicate the revision number and date.

To re-issue a specification with an addendum:

- indicate the section number and title; and
- list all changes (i.e. deletions, additions, and replacements) by article or paragraph.

The addendum, drawings and specifications should be sent as separate files.

C.2 Sample Addendum

Date: _____

Addendum Number: _____

Project Number: _____

**The following changes in the bid documents are effective immediately.
This addendum will form part of the construction documents.**

DRAWINGS:

- 1 A1 Architecture
.1

SPECIFICATIONS:

- 1 Section 01 00 10 – General Instructions
 - .1 Delete article (xx) entirely.
 - .2 Refer to paragraph (xx.x),
delete the following: ...
and replace with the following: ...
- 2 Section 23 05 00 – Common Work Results - Mechanical
 - .1 Add new article (x) as follows:

Appendix D Directory Structure and Naming Convention Standards for Construction Tender Documents

D.1 Electronic Submissions

Electronic submittals of drawings, specification and models shall be in the following format unless otherwise specified in the Terms of Reference or instructed by the Departmental Representative:

- On media burned to read only memory (ROM) on either CD-ROM or DVD+R where:
 - CD-ROMs comply with ISO 9660:1988 standards;
 - DVD+Rs are 4.7 GB, single-sided, single-layer and comply with ISO/IEC 17344:2006 standards;
 - media is “closed” upon completion of burning; and
 - media is usable in such a way that files may be accessed and copied from it.

If BIM model size is greater than storage capacity of a DVD, refer to Terms of Reference or contact the Departmental Representative for transmission instructions.

Some projects may require the Consultant to upload files to an electronic system outlined in the Terms of Reference or as instructed by the Departmental Representative.

D.2 Directory Structure

D.2.1 1st Tier Subfolder

The 1st tier of the directory structure shall be “Project #####” where ##### represents each digit of the Project Number. The Project Number must always be used to name the 1st tier folder and it is always required. Free text can be added following the Project Number, to include such things as a brief description or the project title.

D.2.2 2nd Tier Subfolder

The 2nd tier of the directory structure shall consist of: “Bilingual - Bilingue”, “English” and “Français” folders. The folders of the 2nd tier cannot be given any other names since the Government Electronic Tendering System (GETS) uses these names for validation purposes. At least one of the “Bilingual - Bilingue”, “English” and “Français” folders is always required, and these must always have one of the applicable subfolders of the 3rd tier.

D.2.3 3rd Tier Subfolder

The 3rd tier of the directory structure shall consist of: “Drawings - Dessins”, “Drawings”, “Models”, “Specifications”, “Reports”, “Dessins”, “Modèles”, “Devis” and “Rapports”. The folders of the 3rd tier cannot be given any other names since GETS also uses these names for validation purposes. There must be always at least one of the applicable 3rd tier folder in each document.

D.2.4 4th Tier Subfolder - Drawings

The 4th-tier subfolders for Drawings should reflect the various disciplines of the set of drawings. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Drawings – Dessins”, “Drawings” and “Dessins” folders. The first subfolder must be always reserved for the Title Page and/or the List of Drawings unless the first drawing of the set is an actual numbered discipline drawing.

The 4th tier “Drawings” and “Dessins” folder shall follow the naming convention:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder Example: 03 – Mechanical

For the “Drawings - Dessins” folder:

= Y - Z

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the English title of the folder

Z = the French title of the folder

Example:

04 - Electrical – Électrique

The numbering of the 4th tier subfolders is for sorting purposes only and is not tied to a specific discipline. For example, “Architecture” could be numbered 05 for a project where there is four other disciplines before “Architecture” in the set of drawings or 01 in another project where it’s the first discipline appearing in the set.

The order of the drawings shall be the same as in the hard copy set. GETS will sort each drawing for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order;
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the drawing PDF files in the 01 sub-older will be printed in alphanumerical order before the drawings in the 02 sub- folder etc.);

Each drawing PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Drawing A001 will be printed before Drawing A002, Drawing M02 before Drawing M03, etc.).

D.2.5 4th-Tier Subfolders for Specifications

The “Specifications” and “Devis” folders must have 4th tier subfolders created to reflect the various elements of the specifications. Because the order of appearance of the subfolders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the subfolders in the “Specifications” and “Devis” folders.

The 4th tier subfolders for specifications must adhere to the following standard naming convention for the “Specifications” and “Devis” folders:

- Y

Where:

= a two digit number ranging from 01 to 99 (leading zeros must be included)

Y = the title of the folder

Example:

02 – Divisions

Numbering of the 4th tier subfolders is for sorting purposes only and is not tied to an element of the specifications.

It is essential to ensure that the order of the elements of the specifications on the CD-ROM be exactly the same as in the hard copy. GETS will sort each element of the specifications for both screen display and printing as per the following rules:

- The alphanumerical sorting is done on an ascending order.
- The alphanumerical order of the subfolders determines the order of appearance on the screen as well as the order of printing (as an example: all the specifications PDF files in the 01 subfolder will be printed, in alphanumerical order before the PDF files in the 02 subfolder, etc.).
- Each specifications PDF file within each subfolder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing (i.e. Division 01 will be printed before Division 02, 01 - Appendix A before 02 - Appendix B, etc.).

D.2.6 Directory Structure Example

The following is an example of the directory structure for the tender document, refer to previous sections for requirements, and use only sections applicable to the given project:

```
Project #####
  Bilingual – Bilingue
    Drawings – Dessins
      01 - Drawing List – Liste des dessins
      02 – Demolition – Démolition
      03 – Architecture – Architectural
      04 – Civil – Civil
      05 – Landscaping - Aménagement paysager
      06 – Mechanical – Mécanique
      07 – Electrical – Électricité
      08 – Structural - Structural
      09 – Interior Design – Aménagement intérieur
  English
    Drawings
      01 - Drawing List
      02 – Demolition
      03 – Architecture
      04 – Civil
      05 – Landscaping
      06 – Mechanical
      07 – Electrical
      08 – Structural
      09 – Interior Design
    ...
    Models
    Specifications
      01 – Index
      02 – Divisions
      03 – Appendices
    Reports
  Français
    Dessins
    Modèles
    Devis
    Rapports
```

D.3 Naming Convention for PDF Files

Each drawing, specifications division or other document that are part of the tender documents must be converted in PDF format (without password protection) in accordance with the following standard naming convention and each PDF file must be located in the appropriate subfolder of the directory structure.

D.3.1 Drawing File Names

Each drawing must be a separate single page PDF file. The naming convention of each file shall be:

X### - Y

Where:

X = the letter or letters from the drawing title block (“A” for Architecture or “ID” for Interior Design for example) associated with the discipline

= the drawing number from the drawing title block (one to three digits)

Y = the drawing name from the drawing title block (for bilingual drawings, the name in both English and French is to appear).

Example:

A001 - First Floor Details

Each drawing that will be located in the appropriate discipline 4th tier subfolders must be named with the same letter (“A” for Architecture Drawings for example) and be numbered. The drawing number used to name the PDF file must match as much as possible the drawing number of the actual drawing (the exception being when leading zeros are required).

The following important points about drawings are to be noted:

- The drawing PDF files within each subfolder are sorted alphanumerically for both displaying and printing. If there are more than 9 drawings in a particular discipline the numbering must use at least two numerical digits (i.e. A01 instead of A1) in order to avoid displaying drawing A10 between A1 and A2. The same rule applies when there are more than 99 drawings per discipline i.e. three digits instead of two must be used for the numbering (for example M003 instead of M03);
- If drawing PDF files are included in the “Bilingual - Bilingue” folder, these cannot be included as well in the “English” and/or “Français” folders;
- If drawings not associated with a particular discipline are not numbered (title page or list of drawings for example), these will be sorted alphabetically. While this does not represent a problem if there is only one drawing in the subfolder, it could disrupt the order when there are two or more drawings. If the alphabetical order of the drawings name does not represent the order on the hard copy set, the drawings are to be named as per the following standard convention when converted in PDF format to ensure proper display and printing order.

D.3.2 Specifications

Each specifications division must be a separate PDF file and all pages contained in each PDF file must have the same physical size (height, width). The drawings and specifications index must also be a separate PDF file. If there are other documents that are part of the Specifications (e.g. Appendix or other) these are to be separate PDF files as well.

D.3.3 Documents Other Than Specifications Divisions

Because PDF files within the Specifications subfolders are sorted alphanumerically (in ascending order) for both on screen display and printing order, all files that appear in folders other than the “Divisions” subfolder must be named using a number:

- Y

Where:

= Two digit number ranging from 01 to 99 with leading zeros required

Y = Name of the document

Example:

01 – Drawings and Specifications Index

D.3.4 Specifications Divisions

The specifications divisions must be named as follows:

Division ## - Y

Where:

Division ## = the actual word “Division” followed by a space and a two digit number ranging from 01 to 99 (with leading zeros required)

Y = name of the Specifications Division as per CSC/CSI MasterFormat™

Example:

Division 05 – Metals

The Numbering of the Divisions cannot be altered from CSC/CSI MasterFormat™ even if some Divisions are not used in a given project. For example, Division 05 will always remain Division 05 even if Division 04 is not used for a given project.

D.4 Media Label

The CD-ROM or DVD+R shall be labeled with the following information:

Project Number / Numéro de projet

Project Title / Titre du projet

Documents for Tender / Documents pour appel d'offres

Disk X of/de X

Example:

Project 123456 / Projet 123456

Repair Alexandra Bridge / Réparation du pont Alexandra

Documents for Tender / Documents pour appel d'offres

Disk 1 of/de 1



Engineering Services

TERMS OF REFERENCE

AAFC Laboratory Facilities Maintenance Audit

For:

Agriculture and Agri-Food
Canada (AAFC)

St. Hyacinthe Research and
Development Centre

St. Hyacinthe, Quebec

August 18, 2022



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1 PROJECT DESCRIPTION

1.1 GENERAL

1.1.1 PURPOSE OF THE TERMS OF REFERENCE (TOR)

- .1 Public Works & Government Services Canada (PWGSC) requires the services of a Facilities Maintenance Audit specialist (Consultant), acting as the Prime Consultant with a multi-disciplinary team of sub-consultants for the delivery of services required for this project.

1.1.2 PROJECT INFORMATION

Project Information	
Project Title:	AAFC Laboratory Facilities Maintenance Audit (FMA)
Project Location:	St. Hyacinthe Research and Development Centre 3600 Blvd Casavant Ouest St. Hyacinthe, Québec
PWGSC Project Number:	R.121297
PWGSC Departmental Representative:	Michael Lyzaniwski

1.2 BACKGROUND INFORMATION

1.2.1 USER DEPARTMENT

- .1 The User Department referred to throughout the TOR is Agriculture and Agri-Food Canada (AAFC).
- .2 AAFC provides information, research and technology, policies, and programs to achieve an environmentally sustainable, innovative and competitive agriculture, agri-food and agri-based products sector that proactively manages risk.

1.2.2 USER DEPARTMENT'S NEED

- .1 AAFC requires a comprehensive Facilities Maintenance Audit for the Saint Hyacinthe Food Research and Development Centre (FRDC) located in Saint Hyacinthe, Quebec.

1.2.3 EXISTING CONDITIONS

- .1 The Saint Hyacinthe Food Research and Development Centre is located at 3600 Blvd Casavant Ouest in Saint Hyacinthe, Québec and was established in 1987. It is one of Agriculture and Agri-Food Canada's network of 20 research and development centres.
- .2 The Saint-Hyacinthe FRDC is made up of two buildings (the main office lab facility and a chemical storage building) built between 1986 and 2003.
 - .1 Main Building - gross area of 13,750 m² and is comprised of several blocks:
 - .1 Blocks A, B, C, and D are the central sector of the building. Built in 1986, they are on two (2) floors, with a crawl space;



- .2 Block E was built in 1997, on one (1) floor accommodating a conference center and library;
- .3 Block F was built in 2003 on two (2) floors, and has a basement and one (1) lean-to accommodating laboratories and offices.
- .4 The Main Building includes offices, laboratories and pilot plants.
- .2 Hazardous Products Warehouse was built in 1989, and is approximately 185 meters square on one (1) floor.
- .3 The aging infrastructure and equipment is in need of repair. The recent transfer of maintenance responsibilities from Public Services and Procurement Canada (PSPC) managing maintaining the infrastructure back to AAFC has left the FRDC without a reliable Preventative Maintenance Program.
- .4 The Centre has no computerized maintenance management system (CMMS). The intent is to use the Plant Maintenance component that is part of the Microsoft-Excel (MS-Excel) Database.

1.2.4 CHALLENGES AND CONSTRAINTS

- .1 All site visits must be arranged through the Departmental Representative.
 - .1 Visits to the Work site may be affected by Provincial Public Health measures implemented as a result of the COVID-19 pandemic. Access may be restricted or completely prohibited at any time and alternate means of gathering the information relevant to the design may be required.
 - .2 All Consultant personnel accessing the Work site for any reason must have attested to being fully vaccinated for COVID-19.
- .2 Work will be carried out during normal working hours, when the facility is fully occupied and operational.

1.3 OUTLINE OF WORK

1.3.1 FACILITIES MAINTENANCE AUDIT (FMA)

- .1 The project requires investigation and analysis to develop a Facilities Maintenance Audit (FMA) for the AAFC that considers facilities management best practices and includes:
 - .1 Gathering information to develop a systems data base;
 - .2 Reviewing and analysing data gathered, and;
 - .3 Preparing a systems operations and maintenance plan following three service levels.

1.4 OBJECTIVES

1.4.1 GENERAL GOALS

- .1 Based on the information gathered and facilities management best practices, deliver an FMA that:
 - .1 Meets the indicated requirements of the User Department;
 - .2 Outlines the strategy for ongoing maintenance activities at the facility, and;



- .3 Supports the maintenance and development of effective and efficient facilities.
- .2 Provide an integrated process involving:
 - .1 Interdisciplinary collaboration, including all stakeholders as identified and facilities maintenance audit specialists;
 - .2 Agreed upon design principles and decision-making protocols.

1.4.2 PROJECT DELIVERY

- .1 Coordinate all services with the Departmental Representative.
- .2 Establish a cohesive functional partnership and open communication between all members of the project delivery team throughout the project.
- .3 Maintain continuity of key personnel and a dedicated working team for the life of the project.
- .4 Establish and maintain a Project Management Plan.

1.5 SUMMARY OF SERVICES AND SPECIALTIES

1.5.1 GENERAL SERVICES

- .1 Provide a full Consultant Team, experienced in conducting facility maintenance audits, including the following specialist services:
 - .1 Facilities Maintenance Audit specialist;
 - .1 Project Lead.
 - .2 Other applicable Facilities Maintenance specialists as required;
 - .3 Cost Estimating specialist.

1.6 SCHEDULE

1.6.1 GENERAL

- .1 Deliver the project in accordance with the project milestone listing identified below.
- .2 Prepare a Project Schedule in accordance with the milestone list.

1.6.2 ANTICIPATED MILESTONE DATES

Project Phase	Milestone Completion Date (est.)	Number of Weeks
Consultant Contract Award	September 2022	0
Phase 1 – Develop Systems Data Base		8
Phase 2 – Systems Data Review and Analysis		6
Phase 3 – Systems Operations and Maintenance Planning		12
60% Draft French MS-Excel Database system		4
60% Draft FMA Report Submission		4
Quality Assurance Review		2



90% Draft French MS-Excel Database system		2
90% Draft FMA Report Submission		2
Quality Assurance Review		2
Final French and English MS-Excel Database system	June 2023	1
Final FMA Report Submission	June 2023	1

1.7 EXISTING DOCUMENTATION

1.7.1 AVAILABLE FOR THE CONSULTANT

- .1 Maintenance Data Base.
 - .1 Microsoft Excel spread sheet of over 3,400 pieces of building equipment and is limited to a few component descriptors such as: inventory number, component description, room location, ID number, equipment classification, system location, component condition and floor location.
 - .2 All of the data is in French.
 - .3 Refer to Appendix A for sample data.
- .2 Equipment Conversions Template.
 - .1 Refer to Appendix B.
- .3 PWGSC, Real Property Services, Facility Maintenance Guideline.
 - .1 Refer to Appendix C.

1.7.2 DISCLAIMER

- .1 Reference information will be available in the language in which it is written.
- .2 The documentation may be unreliable and is offered, "as is" for the information of the Consultant.

1.8 CODES, ACTS, STANDARDS, REGULATIONS

- .1 In addition to Provincial and Municipal Acts, Codes, By-laws and Regulations appropriate to the area of concern, the following Codes, Acts, Standards and Guidelines are applicable to this project (in the event of a conflict between codes, the more stringent shall take precedence):
 - .1 NRC National Building Code of Canada, 2020;
 - .2 NRC National Fire Code of Canada, 2020;
 - .3 NRC National Plumbing Code of Canada, 2020;
 - .4 NRC National Energy Code of Canada for Buildings, 2020;
 - .5 ASTM 917-15 (Life Cycle Assessment);
 - .6 Canadian Biosafety Standards and Guidelines, latest editions;
 - .7 Canadian Food Inspection Agency (CFIA) Standards;
 - .8 The Canada Labour Code (CLC);



- .9 The Canada Occupational Health and Safety Regulations;
- .10 PWGSC Asset Integrity Standard:
 - .1 [Asset Integrity Standard - Document centre - RPB - PWGSC \(tpsgc-pwgsc.gc.ca\)](https://tpsgc-pwgsc.gc.ca)
 - .2 The Consultant must prepare the FMA in accordance with the requirements of all other applicable Codes, Acts, Standards, Guidelines, Legislation associated with Facilities Maintenance.



2 REQUIRED SERVICES

2.1 PROJECT REVIEW AND ACCEPTANCE

2.1.1 GENERAL

- .1 Prepare a comprehensive assessment and document requirements to maintain the Saint Hyacinthe FRDC.
- .2 Comply with all applicable laws and regulatory requirements as required by the General Conditions of the Contract.
- .3 Evaluations must be made in terms of similar facilities operating with prudent property management practices as well as against accepted industry standards for property management. Management practices must confirm to standards from Treasury Board, Canada Labour, Environment Canada, and all other organizations.

2.1.2 QUALITY ASSURANCE REVIEWS, ACCEPTANCE AND PRESENTATIONS

- .1 The draft and final report submissions will be reviewed by PWGSC and the User Department.
- .2 At each submission:
 - .1 Review submissions to be posted on the project FTP site (e.g. AutoDesk BIM 360 Docs) in searchable PDF format;
 - .2 Expected turnaround time for each review is ten (10) working days;
 - .3 The Consultant Team will receive review comments in the form of an editable MS Word document or MS Excel document;
 - .1 Provide a single coordinated written response within five (5) working days of receiving review comments.

2.2 FACILITIES MAINTENANCE AUDIT SERVICE

2.2.1 GENERAL - SCOPE AND ACTIVITIES

- .1 The consultant shall establish a close working relationship with AAFC and the PSPC Project Manager.
- .2 Participate in meetings, prepare minutes and decision logs.
- .3 The following is a list of suggested phases AAFC has developed in order to guide the project. The consultant will obtain written authorization from the Departmental Representative before proceeding from one project phase to another:
 - .1 Phase 1 – Develop Systems Data Base.
 - .2 Phase 2 – Systems Data Review and Analysis.
 - .3 Phase 3 – Systems Operations and Maintenance Planning.

2.2.2 PHASE 1 – DEVELOP SYSTEMS DATA BASE ACTIVITIES

- .1 For each building, develop a list of component, sub-system, and integrated system data sheets.
- .2 Complete the data base for each component, system, and integrated system based on the existing spreadsheet of 3,400 pieces of equipment as well as those not documented in the existing building inventory system.
 - .1 Provide each component, sub-system, and integrated system with:



- .1 Unique identifier numbers;
- .2 Brief description covering manufacturer part numbers;
- .3 Capacity;
- .4 Life-cycle;
- .5 Condition, and;
- .6 Typical maintenance requirements.
- .2 Tag equipment with identifier numbers.
- .3 Provide comments on the condition and age of major components and sub-systems.
 - .1 Identify components and equipment that experience chronic and costly repairs;
 - .2 Identify equipment in most need of maintenance;
 - .3 Identify and analyse repetitive breakage, and;
 - .4 Compare equipment maintenance costs with replacement cost.
- .4 Complete the maintenance record for each component, sub-system, system (architectural, structural, mechanical, electrical, grounds), and integrated system.
- .5 Prepare a skills profile, labour hours, and maintenance tasks required for each inventory card under the following three service level scenarios:
 - .1 Level 1: Mandatory Only: essential services to meet code and legislative requirements.
 - .2 Level 2: Mandatory and Mission Critical: to ensure that minimum maintenance is performed to allow the facility to continue to function and meet program objectives.
 - .3 Level 3: Optimum: to ensure that maintenance and preventative maintenance is performed on a routine basis.
- .6 Review and comment on the amount of outstanding work orders and assess the short term resource requirements to eliminate work backlog.

2.2.3 PHASE 2 – SYSTEMS DATA REVIEW AND ANALYSIS ACTIVITIES

- .1 Review, document, and comment on the current level of both preventative maintenance and general maintenance services. Determine its usefulness in terms of cost, effectiveness, content, format, timeliness, and reporting at the FRDC.
- .2 Determine the associated costs for utilities, operations, maintenance, repair, project management, and associated services currently provided.
- .3 Review and document the costs of existing maintenance contracts provided by third parties.
 - .1 Assess cost benefits of these contracts.
 - .2 Determine if there are other opportunities to contract out maintenance tasks where it is cost beneficial.
 - .3 Determine if there are existing third party maintenance contracts that should be conducted by in-house maintenance staff.
- .4 Review the management control and decision points.



- .5 Determine AFFC personnel costs including benefits and overtime, occupancy, and operating, as well as miscellaneous costs such as travel, training, tools, vehicle costs, etc. associated with service delivery.
- .6 Provide recommended skill sets necessary for each maintenance staff to perform the three service level scenarios.
- .7 Review facility manager's needs to properly maintain the facility.
- .8 Review the facility manager's administrative tasks including the following:
 - .1 Investigation and validation of client requests;
 - .2 Determination of funding codes for requests;
 - .3 Creation and monitoring of work orders and equipment;
 - .4 Investigation of OHS items and initiation of corrective actions;
 - .5 Contract administration;
 - .6 Project administration,
 - .7 Utility monitoring and sign-off;
 - .8 Permit applications, and;
 - .9 Documentation and budget control for all of the above.
- .9 Compare personnel costs (wage rates and benefits) to outside non-governmental equivalents.
 - .1 The review shall not include time spent on program related activities (ie. Construction and maintenance of scientific projects and/or equipment).

2.2.4 PHASE 3 – SYSTEMS OPERATIONS AND MAINTENANCE PLANNING ACTIVITIES

- .1 Develop a number of plans for the three service level scenarios (Mandatory Only, Mandatory and Mission Critical, and Optimum), to enhance the delivery of operations, maintenance, utilities, repair, and project and facilities management at the FRDC.
- .2 At minimum, all plans for each of the three scenarios shall include the following:
 - .1 A comparative analysis between existing maintenance operations and the maintenance requirement outlined for each of the three service levels.
 - .2 The number and classification levels of maintenance staff required to operate each facility under the three service levels.
 - .3 Recommend changes to the management structure outlined under the three service levels.
 - .4 Propose organization charts illustrating the reporting relationship for each of the three service levels for each site.
 - .1 Provide an operating plan for the proposed organization chart that includes silent hours.
 - .5 Provide training requirements for each of the three service levels based on existing personnel skill profiles for each site.
 - .6 Provide recommendation for maintenance services to be either contracted out or managed by in-house staff for all three service level scenarios.



- .7 Prepare a risk summary (legislative penalties, fines, early rust-out issues, staff moral, associated costs, etc.) for each of the three service levels.
- .8 Provide a populated data base that is input into the working MS-Excel Database template provided by AAFC.
 - .1 Expand the template as required to include all requirements outlined in Phase 1 – Develop Systems Data Base Activities.
- .9 Prepare a functioning French MS-Excel Database system ready to be used by Facilities Maintenance Staff at the Saint-Hyacinthe Food Research and Development Center.
 - .1 The level of data base completion in the MS-Excel Database system should be for Level 3: Optimum service.
 - .2 MS-Excel Database is to be in French.
- .10 Provide solutions on maintaining the FRDC with the existing maintenance staff, the existing operating and maintenance budget.

2.2.5 DELIVERABLES

- .1 Meet with AAFC project authority and PWGSC Representative to review findings and for AAFC approval of all material prior to proceeding to 60% and 90% stages.
- .2 Draft 60% French MS-Excel Database system.
- .3 Draft 60% FMA Report submissions documenting applicable Scope and Activities in sections:
 - .1 Phase 1 – Develop Systems Data Base;
 - .2 Phase 2 – Systems Data Review and Analysis.
- .4 Draft 90% French MS-Excel Database system.
- .5 Draft 90% FMA Report submissions documenting applicable Scope and Activities section:
 - .1 Phase 3 – Systems Operations and Maintenance Planning.
- .6 For 60% and 90% draft FMA submissions, provide one (1) electronic searchable PDF copy on the project FTP site.
 - .1 Revise as required
- .7 Final French and English MS-Excel Database system.
- .8 Final FMA Report documenting all Scope and Activities sections.
 - .1 Final FMA Report is to be presented to AAFC as a formal presentation.
 - .1 Provide one (1) electronic searchable PDF copy on the project FTP site and ten (10) bound hardcopies of the report.



3 PROJECT ADMINISTRATION

3.1 GENERAL REQUIREMENTS

- .1 The administration requirements outlined in this section are applicable to all PWGSC projects in the Western Region, unless otherwise indicated in the TOR.

3.2 LANGUAGE

- .1 All written and verbal communication, as well as meetings are to be conducted in French.
- .2 The consultant must be bi-lingual. Document must be prepared in both official languages.
 - .1 Final submissions to be issued in both French and English.

3.3 MEDIA

- .1 The Consultant shall not respond to any media inquiry.
- .2 Direct all media requests to the Departmental Representative.

3.4 PROJECT MANAGEMENT

3.4.1 GENERAL

- .1 PWGSC administers the project on behalf of Canada and exercises continual control over the project during all phases of the Work.
- .2 The PWGSC project management team, the Consultant Team and the User Department teams are to work cooperatively at every stage in order to assure a successful project.

3.5 LINES OF COMMUNICATION

- .1 All communications will be through the Departmental Representative, unless directed otherwise.
 - .1 This includes formal contact between the Consultant Team, the PWGSC Project Team and the User Department.
- .2 Direct communication between members of the PWGSC Project Team on routine matters may be required for resolution of technical issues.
 - .1 However, this shall not alter project scope, Budget or schedules, unless confirmed in writing by the Departmental Representative.

3.6 MEETINGS

3.6.1 GENERAL

- .1 The Departmental Representative will arrange meetings throughout the project, with representatives from:
 - .1 The User Department;
 - .2 PWGSC, and;
 - .3 The Consultant Team.
- .2 Project Start-up Meeting:
 - .1 Shall be arranged and facilitated by the Departmental Representative, and;



- .2 Includes the PWGSC AECOE Design Manager, User Department Representatives and the Consultant Team.
- .3 Allow for three (3) meetings with PWGSC, User Department and the Consultant Team to be held via teleconference.
 - .1 The consultant will provide meeting agendas, chair the meetings, record, and distribute meeting minutes.

3.7 CONSULTANT RESPONSIBILITIES

3.7.1 GENERAL

- .1 The Consultant Team includes the Consultant's staff, sub-consultants and specialists.
 - .1 This team must maintain the same, or better, level of expertise, as presented in their proposal, for the duration of the project;
 - .2 The team must include qualified facilities maintenance audit specialist with extensive relevant experience and who are capable of providing all required services;
 - .1 Professional registrations / certifications must remain current.
 - .3 Team members may be qualified to provide services in more than one discipline, and;
 - .4 The Consultant may expand the team to include additional disciplines.
- .2 The Consultant is responsible for:
 - .1 Obtaining Departmental Representative Acceptance for each project stage before proceeding to the next stage;
 - .2 Accurately communicating project information, budget, and scheduling issues to staff, sub-consultants and specialists;
 - .3 Developing and coordinating a comprehensive quality assurance process to ensure that submissions are accurate, complete and meet TOR requirements.
- .3 Chair meetings.
- .4 Record the issues and decisions.
- .5 Prepare and distribute meeting minutes within two (2) working days of the meeting.
- .6 Ensure sub-consultants attend all required meetings.

3.8 PWGSC RESPONSIBILITIES

3.8.1 ADMINISTRATION

- .1 PWGSC administers the project and exercises continual control over the project including the following administrative requirements.

3.8.2 REVIEWS

- .1 PWGSC will review the Work at various stages and reserves the right to reject unsatisfactory Work at any stage.
- .2 If later reviews show that earlier Acceptances must be withdrawn, the Consultant shall revise and re-submit the project submission at no extra cost.



3.8.3 ACCEPTANCE

- .1 PWGSC Acceptance of submissions from the Consultant simply indicates that - based on a general review - the material complies with governmental objectives and practices and meets overall project objectives.
- .2 Acceptance does not relieve the Consultant of professional responsibility for the Work or compliance with the contract.

3.8.4 PWGSC PROJECT MANAGEMENT

- .1 The Project Manager assigned to the project is the Departmental Representative.
- .2 The Departmental Representative is directly responsible for:
 - .1 The progress and administration of the project, on behalf of PWGSC;
 - .2 Day-to-day project management and is the Consultant's single point of contact for project direction, and;
 - .3 Providing authorizations to the Consultant on various tasks throughout the project.
- .3 Unless directed otherwise by the Departmental Representative, the Consultant obtains all Federal approvals necessary for the Work.

3.8.5 PWGSC ARCHITECTURE AND ENGINEERING CENTRE OF EXPERTISE (AECOE)

- .1 Provides advisory services and Quality Assurance Reviews of Consultant deliverables.
- .2 Participates in meetings as and when required.
- .3 Provides a Design Manager for the project who will coordinate the services of AECOE.

3.9 USER DEPARTMENT RESPONSIBILITIES

3.9.1 USER DEPARTMENT PROJECT LEADER

- .1 Is accountable for the expenditure of public funds and delivery of the project in accordance with the terms accepted by the Treasury Board.
- .2 Reports to the senior User Department executive management.
- .3 Will play several critical roles for the successful implementation of the project, including:
 - .1 User Department and Operational personnel with detailed knowledge of the facility;
 - .2 Coordination of the quality, timing and completeness of information and decisions relating to issues related to the facility.

3.10 TECHNICAL REPORTS

- .1 Technical Reports are official government documents, which are used to support an application for approval or to obtain authorization or Acceptance. Technical Reports must:
 - .1 Be complete, clear and professional in appearance and organization, with proper reference to related parts and contents in the report;
 - .2 Clearly outline the intent, objectives, process, results and recommendations;



- .3 Present the flow of information and conclusions in a logical, easy to follow sequence;
- .4 Be in written narrative, graphic, model (traditional and/or computer generated), and photographic format, which can be web enabled;
- .5 Have all pages are numbered in sequence, and;
- .6 Be printed double-sided, if hard copies are produced.
- .2 Standard practice for the organization of technical reports include:
 - .1 A cover page, clearly indicating the nature of the report, the date, the PWGSC project number and who prepared the report;
 - .2 A Table of Contents;
 - .3 An Executive Summary;
 - .1 A true condensed version of the report following the identical structure, including only key points and results/recommendations requiring review and/or approval;
 - .4 The body of the report is to be structured such that the reader can easily review the document and locate, respond to and/or reference related information contained elsewhere in the report easily;
 - .5 Appendices are to be used for lengthy segments of the report, supplementary and supporting information and/or for separate related documents.
- .3 The report content must:
 - .1 Use a proper numbering system (preferably legal numbering), for ease of reference and cross-reference;
 - .1 The use of 'bullet points' are to be avoided.
 - .2 Use proper grammar, including using complete sentences, for clarity, to avoid ambiguity and facilitate easy translation into French or English, if required;
 - .1 The use of undefined technical terms, industry jargon and cryptic phrases are to be avoided.
 - .3 Be written as efficiently as possible, with only essential information included in the body of the report and supporting information in an appendix if needed.



4 DEFINITIONS

4.1 PURPOSE

4.1.1 DOCUMENT DEFINITIONS:

- .1 Definition of words and phrases in the Terms of Reference (TOR) to:
 - .1 Expand the detail associated with the services and deliverables addressed in the above Documents, and;
 - .2 Provide a clear understanding of the project scope, procedures, and quality performance requirements.

4.2 DEFINITIONS

4.2.1 ACCEPTANCE

- .1 A formal action taken by an assigned person with authority (contractual or otherwise) to declare some aspect of the project is permitted to proceed.

4.2.2 BUDGET

- .1 Developed using Cost Estimates and the Project Schedule.
- .2 Provides a view of how much the project is estimated to cost both in total and periodic terms.
- .3 Determines the cost performance baseline for use in cost management variance analysis such as, determining earned performance value.
- .4 Is aligned with funding limits to confirm funding availability/appropriation.

4.2.3 "CANADA", "CROWN"/"HER MAJESTY"

- .1 Her Majesty the Queen in right of Canada.

4.2.4 COLLABORATIVE PROJECT DELIVERY

- .1 The Collaborative Project Delivery approach promotes and facilitates knowledge collaboration between design and construction professionals and subject matter experts to create optimal design and construction solutions and methodologies in order to achieve an appropriate, timely and fiscally responsible Quality project delivery.
 - .1 Recognizes that project success is tied to all Project Team members' success in the integrated process.
 - .1 The Collaborative Project Delivery process starts at the Pre-Design with Departmental Representative as Lead Partnering Session and the Consultant, as Lead, project start-up meeting early in Schematic Design.
 - .1 Collaborative Project Delivery is an interactive process which continues throughout the project life cycle.
 - .2 Joint Project Team goals include:
 - .1 Ownership and focus on Quality including, Owner Project Requirements (OPR), Basis of Design (BOD) as well as Budget and schedule performance;
 - .2 Focus on optimizing the design and construction as a whole to fulfill the PWGSC Quality expectations;



- .3 Mutual support for the project procedures and management;
- .4 Leveraging Value Engineering, Life Cycle Costing and commissioning skills, and;
- .5 Creation of an innovative learning environment.

4.2.5 CONSULTANT

- .1 Engineering firm acting in the capacity of Prime Consultant and professional of record for the provision of services described in the TOR.
 - .1 The Consultant, led by the Asset Management specialist, manages and coordinates the Consultant Team (refer to Definition).
 - .1 Refer also to section 1.5 – Summary of Services and Specialties.

4.2.6 CONSULTANT TEAM

- .1 The Consultant and their sub-consultants.

4.2.7 DEPARTMENTAL REPRESENTATIVE (DR)

- .1 The person designated in the Contract, or by written notice to the Contractor/Consultant, to act as the Departmental Representative for the purposes of being a Contract entity.

4.2.8 LIFE CYCLE COSTING (LCC)

- .1 LCC methodology, used during investment analysis and planning, design, construction and procurement, employs a comprehensive economic comparison of competing options.
- .2 Comparison of competing options is to be made between ideas similar in nature that are designed to satisfy the same basic function or set of functions.
- .3 LCC interpretation, as related to competing options assessment.
 - .1 The sum of the present values that are associated with investment costs, capital costs, installation costs, energy costs, operating costs, maintenance costs, and disposal costs, over the lifetime of the project.
- .4 Refer to industry standard practices for measuring life cycle costs of the building and building systems such as, ASTM Standards.

4.2.9 PROJECT TEAM

- .1 Typically includes entities, such as:
 - .1 Departmental Representative,
 - .2 Consultant Team;
 - .3 Independent third parties also in contract with PWGSC, and;
 - .4 User Department and Operational personnel.

4.2.10 QUALITY

- .1 The degree to which the Work meets or exceeds the Project requirements and expectations.

4.2.11 WORK

- .1 Refer to Contract Documents: General Conditions (GCs).

4.2.12 WORK BREAKDOWN STRUCTURE (WBS)

- .1 Integral to schedules and project execution plans.



5 APPENDIX A

5.1 FRDC SAMPLE OF COMPONENTS RECORDS

ID d'inventaire	Description	Pièce	ID Référence	Qté	Classe d'équipement	Type d'équipement	Condition
45663	Ventilateur d'évacuation V44-21E	Toit C et D	30-45663-VENT/EVAC/V44-21E	1	Système d'extraction des contaminants	Système de hotte de laboratoire	3 - Acceptable
45664	Couteau Interrupteur V44-21E	Toit C et D	05-45664-D-T-I6H7/V44-21E	1	Sectionneur	Sectionneur sans fusible	3 - Acceptable
45665	Moteur Électrique V44-21E .75 HP	Toit C et D	30-45665-MOT/ELEC/V44-21E	1	Moteur	Ventilation	3 - Acceptable
45667	Couteau Interrupteur V44-22E	Toit C et D	05-45667-D-T-I6H10/V44-22E	1	Sectionneur	Sectionneur sans fusible	3 - Acceptable
45669	Puisard Exterieur	PÉRIMÈTRE	55-45669-PUISARD	1	Système de collecteur d'eau pluviale	Bassin de captation	3 - Acceptable
45670	Ventilateur de surplus de chaleur des gros compresseurs à air	A-302	30-45670-VENT/EVAC/V43-20E	1	Ventilateur d'évacuation	Général	3 - Acceptable
45671	Moteur de ventilateur pour compresseurs à air 5HP	A-302	30-45671-MOT/ELEC/V43-20E	1	Moteur	Ventilation	3 - Acceptable
45672	Contrôles Pneumatique	A-302	15-45672-CONT/PNEU/V43-20E	1	Contrôles pneumatiques	Panneau	3 - Acceptable



6 APPENDIX B

6.1 EQUIPMENT CONVERSIONS TEMPLATE



7 APPENDIX C

7.1 PWGSC, REAL PROPERTY SERVICES, FACILITY MAINTENANCE GUIDELINES

R = Required (the value of the field cannot be blank)
 O = Optional (the value of the field can be blank)
 D = Defaulted (the value is determined automatically, no input is required)
 C = Conditional (The value is required if certain conditions are met)

Field Name	Technical Name	Type	R/O/D/C	Picklist/Manual	Picklist Provided	Picklist Appl	Max No.	Description	Additional Comments
Inventory number	INVNR	CHAR	R	M			25	Inventory number	This number is used to identify a piece of equipment in order to make sure no duplicates are being uploaded. If no barcode number is available, just use your own unique code. The code used is not linked to anything else in the system other than the piece of equipment it is identifying. If no barcode is available use the format: site-building#-equipment e.x. BRDC94-FE. Translated this means Brandon R&D Centre building 94 – Fire Extinguisher.
Equipment description	EQCTX	CHAR	R	M			40	Equipment description	Name of equipment you are inputting.
Valid from date	DATSL	DATS	R	M			8	Valid from date	This date is crucial for equipment installation at functional location, <i>historically</i> if it is required to show the date of installation of equipment in the past, the 'valid from date' must also exist in the past. If this date is not provided, the current date will be defaulted. The date must be formatted in YYYYMMDD with no separator.
Type of Technical Object	EQART	CHAR	R	P	Yes	EAM	10	Type of Technical Object	Equipment object type which categorizes similar pieces of equipment. Each cell has a drop down menu for you which you can select the Object Type which best matches the piece of equipment you are inputting. You can find the full list of equipment types in the "Picklist" sheet.
Purchase Order	GROES	CHAR	O	M			18	Purchase Order	Historical PO# could be added
Gross Weight	BRGEW	CHAR	O	M			17	Gross Weight	If gross weight has been entered, its unit of measurement becomes mandatory. If equipment weight is not entered, this field should be blank.
Weight Unit	GEWEI	UNIT	C	P	Yes	EAM	3	Weight Unit	This is the vendor number in SAP system.
Vendor number	ELIEF	CHAR	O	P	No	AP	10	Vendor number	This field is mandatory but it does not have to be exact. If no exact date is available, input the year it was acquired or a best estimate of the date of acquisition. The field is automatically formatted to YYYYMMDD. Up to 17 digits followed by decimal number, for example 8002.23.
Acquisition date	ANSDT	DATS	R	M			8	Acquisition date	If acquisition value is entered, the currency key becomes mandatory. For example CAD for Canadian dollar, or USD for US dollar
Acquisition Value	ANSWT	CHAR	O	M			17	Acquisition Value	Asset's manufacturer is required, if unknown, enter NA
Currency Key	WAERS	CUKY	C	M			5	Currency Key	Year of equipment construction. For example 2016.
Manufacturer of asset	HERST	CHAR	O	M			30	Manufacturer of asset	Month of equipment construction. For example 02 for February
Year of construction	BAUJJ	CHAR	O	M			4	Year of construction	
Month of construction	BAUMM	CHAR	O	M			2	Month of construction	

Field Name	Field Type	Field Length	Field Position	Field Description
Manufacturer model number	CHAR	20	1-20	Asset's serial number.
Manufacturer serial number	CHAR	30	1-30	You can add any additional information in regard to equipment in this field. This field is searchable.
Manufacturer part number	CHAR	30	1-30	If equipment is a capital asset, enter the asset number from the SAP System.
Warranty end date	DATS	8	1-8	if equipment is a betterment to a capital asset, enter the sub-number. If not identified, value '0' is automatically entered here, if the asset number is provided in the sheet.
Room number	CHAR	30	1-30	This is the cost center that your ISM's (Integrated Service Manager) budget is assigned to. Each ISM / site has a main cost / Fund center in which the pay CMB Integrated Services expenditures from. Use that one. We suggest you ask your ISM or perhaps one of the accounts payables clerks.
Sort field	CHAR	12	1-12	Planner group represents Facility Management centres.
Main Asset Number	CHAR	4	1-4	Each cell in this field has a dropdown menu from which you can pick from. A full list of values can be found in the "picklist" sheet.
Asset Sub Number	CHAR	10	1-10	Work centre where maintenance tasks performed. Each cell in this field has a dropdown menu from which you can pick from. A full list of values can be found in the "picklist" sheet.
Cost Center	CHAR	3	1-3	Catalog profile which lists the various codes related to equipment maintenance. The catalog profile key is the same as the object type. The cells in this field are formatted to match whatever is inputted in cell D "EQUIP_OBJ_TYPE"
Planner group	CHAR	8	1-8	Functional location where equipment is installed. For example if a piece of equipment installed at Administration Lab Complex at Harrow R&D Centre and belongs to component D30 HVAC then enter 110354-D20. This code represents the buildings DFRP # and the functional location within the building. A list of codes for functional locations can be found in the Objects .
Main Work Centre	CHAR	30	1-30	Catalog document. This is crucial in term of assigning equipment "historically" to functional location for various reporting purpose. Please see field EQUI_VALID_FROM. If no date is maintained the current date will be defaulted. The text in this field will automatically format to YYYYMMDD.
Catalog Profile	CHAR	6	1-6	Specify time of installation. The text in this field will automatically format to HHMMSS with no separator. If not specified, 120000 will be defaulted.
Functional Location	CHAR	8	1-8	
Installation date	DATS	8	1-8	
Installation time	TIMS	6	1-6	

EQUI_OBL_TYPE	EQUI_WEIGHT_UNIT	EQUI_PLAN_GRP	EQUI_MAIN_MC
A1010 - Standard Foundation	G-Gram	F00 - AAFC-St. John's FM	AFM-STJ (St. John)
A1030 - Slab on Grade	KG-Kilogram	F01 - AAFC-Charlotte FM	AFM-CHA (Charlotte)
A1011 - Wall Foundations	LB-Pound	F02 - AAFC-Harrington FM	AFM-HRR (Harrington)
A1012 - Column Foundations & Pile Caps	MG-Milligram	F03 - AAFC-Kentville FM	AFM-KEN (Kentville)
A1013 - Perimeter Drainage & Insulation	OZ-Ounce	F04 - AAFC-Nappan FM	AFM-NAP (Nappan)
A1031 - Standard Slab on Grade	TO-Tonne (1000 kg)	F05 - AAFC-Fredericton FM	AFM-FRD (Fredericton)
A1032 - Structural Slab on Grade	TON-Ton (2000 lb)	F06 - AAFC-Benton R. FM	AFM-BEN (Benton R)
A1033 - Inclined Slab on Grade		F07 - AAFC-Hyacinthe FM	AFM-HYA (Hyacinthe)
A1034 - Trenches, Pits & Bases		F08 - AAFC-St. Jean FM	AFM-SJE (St. Jean)
A2020 - Basement Walls		F09 - AAFC-L'Acadie FM	AFM-ACA (L'Acadie)
A2021 - Basement Wall Construction		F10 - AAFC-Clothilde FM	AFM-CLO (Clothilde)
A2022 - Moisture Protection		F11 - AAFC-Frelighs FM	AFM-FRE (Frelighs)
A2023 - Basement Wall Insulation		F12 - AAFC-Quebec FM	AFM-QUC (Quebec)
A2024 - Interior Skin		F13 - AAFC-Normandin FM	AFM-NOR (Normandin)
B1010 - Floor Construction		F14 - AAFC-Sherbrooke FM	AFM-SHE (Sherbrooke)
B1020 - Roof Construction		F15 - AAFC-Ottawa FM	AFM-OTT (Ottawa)
B1014 - Ramps		F16 - AAFC-Guelph FM	AFM-GPH (Guelph)
B1015 - Exterior Stairs and Fire Escapes		F17 - AAFC-London FM	AFM-LDN (London)
B1029 - Other Roof Systems		F18 - AAFC-Jordan FM	AFM-JDN (Jordan)
B1016 - Floor Raceway Systems		F19 - AAFC-Vineland FM	AFM-VIN (Vineland)
B1021 - Flat Roof Construction		F20 - AAFC-Harrow FM	AFM-HRW (Harrow)
B1011 - Suspended Basement Floors Construction		F21 - AAFC-Morden FM	AFM-MOR (Morden)
B1012 - Upper Floors Construction		F22 - AAFC-Brandon FM	AFM-BDN (Brandon)
B1013 - Balcony Floors Construction		F23 - AAFC-Phillips FM	AFM-PHL (Phillips)
B2010 - Exterior Walls		F24 - AAFC-Portage FM	AFM-POR (Portage)
B2020 - Exterior Windows		F25 - AAFC-Saskatoon FM	AFM-SKT (Saskatoon)
B2030 - Exterior Doors		F26 - AAFC-Scott FM	AFM-SCT (Scott)
B2021 - Windows		F27 - AAFC-Melfort FM	AFM-MEL (Melfort)
B2032 - Solid exterior doors		F28 - AAFC-Outlook FM	AFM-OUT (Outlook)
B2031 - Glazed doors & entrances		F29 - AAFC-Swift C. FM	AFM-SWF (Swift C)
B2013 - Exterior Louvers, Screens, and Fencing		F30 - AAFC-Indian H. FM	AFM-IHR (Indian H)
B2011 - Exterior Wall Construction		F31 - AAFC-Leithbridge FM	AFM-LEB (Leithbridge)
B2012 - Parapets		F32 - AAFC-Vauxhall FM	AFM-VAU (Vauxhall)
B2014 - Exterior Sun Control Devices		F33 - AAFC-Onefour FM	AFM-ONE (Onefour)
B2015 - Balcony Walls & Handrails		F34 - AAFC-Lacombe FM	AFM-LAC (Lacombe)
B2022 - Curtain Walls		F35 - AAFC-Beaveridge FM	AFM-BVR (Beaveridge)
B2023 - Storefronts		F36 - AAFC-Summerland FM	AFM-SMR (Summerland)
B2033 - Revolving Doors		F37 - AAFC-Agassiz FM	AFM-AGA (Agassiz)
B2034 - Overhead Doors		F38 - AAFC-Clearbrook FM	AFM-CLR (Clearbrook)
B2039 - Other Doors & Entrances			
B2016 - Exterior soffits			
B3010 - Roof Coverings			
B3020 - Roof Openings			
B3012 - Traffic Toppings & Paving Membranes			
B3013 - Roof Insulation & Fill			
B3014 - Flashings & Trim			

B3015 - Roof Eaves and Soffits
B3016 - Gutters and Downspouts
B3021 - Glazed Roof Openings
B3022 - Roof Hatches
B3023 - Gravity Roof Ventilators
C1010 - Partitions
C1020 - Interior Doors
C1030 - Interior Fittings
C1016 - Interior Balustrades and Screens
C1037 - General Fittings & Misc. Metals
C1036 - Closet Specialties
C1011 - Fixed Partitions
C1012 - Demountable Partitions
C1013 - Retractable Partitions
C1014 - Site Built Toilet Partitions
C1015 - Site Built Compartments Cubicles
C1017 - Interior Windows & Storefronts
C1022 - Interior Door Frames
C1023 - Interior Door Hardware
C1024 - Interior Door Wall Opening Elements
C1025 - Interior Door Sidelights & Transoms
C1026 - Interior Hatches & Access Doors
C1027 - Door Painting & Decoration
C1031 - Fabricated Toilet Partitions
C1032 - Fabricated Compartments & Cubicles
C1033 - Storage Shelving and Lockers
C1034 - Ornamental Metals and Handrails
C1035 - Identifying Devices
C2010 - Stairs Construction
C2020 - Stair Finishes
C2011 - Regular Stairs
C2012 - Curved Stairs
C2013 - Spiral Stairs
C2014 - Stair Handrails and Balustrades
C2021 - Stair, Tread, and Landing Finishes
C2022 - Stair Soffit Finishes
C2023 - Stair Handrail & Balustrade Finishes
C3010 - Wall Finishes
C3020 - Floor Finishes
C3030 - Ceiling Finishes
C3011 - Wall Finishes to Inside Exterior Walls
C3012 - Wall Finishes to Interior Walls
C3013 - Column Finishes
C3021 - Floor Toppings
C3022 - Traffic Membranes
C3023 - Hardeners and Sealers
C3024 - Flooring

C3025 - Carpeting
D1010 - Elevators & Lifts
D1090 - Other Conveying Systems
D1093 - Hoists & Cranes
D1012 - Freight Elevators
D1011 - Passenger Elevators
D1013 - Lifts
D2010 - Plumbing Fixtures
D2020 - Domestic water distribution
D2030 - Sanitary Waste Equipment
D2040 - Rain Water Drainage
D2090 - Other Plumbing Systems
D2011 - Water Closets
D2012 - Urinals
D2013 - Lavatories
D2014 - Sinks
D2015 - Bathtubs
D2016 - Wash Fountains
D2017 - Showers
D2018 - Drinking Fountains and Coolers
D2019 - Bidets and Other Plumbing Fixtures
D2021 - Cold Water Service
D2022 - Hot Water Service
D2023 - Domestic Water Supply Equipment
D2031 - Waste Piping
D2032 - Vent Piping
D2033 - Floor Drains
D2034 - Sanitary Waste Equipment
D2035 - Pipe Insulation
D2042 - Roof Drains
D2043 - Rainwater Drainage Equipment
D2044 - Pipe Insulation
D2091 - Gas Distribution
D2092 - Acid Waste Systems
D2093 - Interceptors
D2094 - Pool Piping and Equipment
D2095 - Decorative Fountain Piping Devices
D2099 - Other Piping Systems
D3010 - Energy Supply
D3020 - Heat Generating system
D3030 - Cooling generating systems
D3040 - Distribution systems
D3050 - Terminal and packaging units
D3060 - Controls and instrumentation
D3070 - Systems Testing & Balancing
D3090 - Other HVAC systems & Equipment
D3011 - Oil Supply System

D3012 - Gas Supply System
D3013 - Coal Supply System
D3014 - Steam Supply System
D3015 - Hot Water Supply System
D3016 - Solar Energy System
D3017 - Wind Energy System
D3021 - Boilers
D3022 - Boiler Room Piping & Specialties
D3023 - Auxiliary Equipment
D3024 - Insulation
D3031 - Chilled Water Systems
D3032 - Direct Expansion Systems
D3041 - Air Distribution Systems
D3042 - Exhaust Ventilation Systems
D3043 - Steam Distribution Systems
D3044 - Hot Water Distribution
D3045 - Chilled Water Distribution
D3046 - Change-over Distribution System
D3047 - Glycol Distribution Systems
D3051 - Terminal Self-Contained Units
D3052 - Package Units
D3061 - Heating Generating Systems
D3062 - Cooling Generating Systems
D3063 - Heating/Cooling Air Handling Units
D3064 - Exhaust & Ventilating Systems
D3065 - Hoods and Exhaust Systems
D3066 - Terminal Devices
D3067 - Energy Monitoring & Control
D3068 - Building Automation Systems
D3069 - Other Controls & Instrumentation
D3071 - Piping System Testing & Balancing
D3072 - Air Systems Testing & Balancing
D3073 - HVAC Commissioning
D3079 - Other Systems Testing and Balancing
D3091 - Special Cooling Systems & Devices
D3092 - Special Humidity Control
D3093 - Dust & Fume Collectors
D3094 - Air Curtains
D3095 - Air Purifiers
D3096 - Paint Spray Booth Ventilation
D3097 - General Construction Items (HVAC)
D4010 - Sprinklers
D4020 - Standpipes
D4030 - Fire Protection Specialties
D4090 - Other Fire Protection
D4011 - Sprinkler Water Supply
D4012 - Sprinkler Pumping Equipment

D4013 - Dry Sprinkler System
D4021 - Standpipe Water Supply
D4022 - Pumping Equipment
D4023 - Standpipe Equipment
D4024 - Fire Hose Equipment
D4031 - Fire Extinguishers
D4032 - Fire Extinguisher Cabinets
D4091 - Carbon Dioxide Systems
D4092 - Foam Generating Equipment
D4093 - Clean Agent Systems
D4094 - Dry Chemical System
D4095 - Hood & Duct Fire Protection
D5010 - Electrical Service & Distribution
D5020 - Lighting & Branch Wiring
D5030 - Communication & Security
D5090 - Other Electrical Systems
D5011 - High Tension Service & Dist.
D5012 - Low Tension Service & Dist.
D5021 - Branch Wiring Devices
D5022 - Lighting Equipment
D5031 - Public Address & Music Systems
D5032 - Intercommunication & Paging System
D5033 - Telephone Systems
D5034 - Call Systems
D5035 - Television Systems
D5036 - Clock and Program Systems
D5037 - Fire Alarm Systems
D5038 - Security and Detection Systems
D5039 - Local Area Networks
D5091 - Grounding Systems
D5092 - Emergency Light & Power Systems
D5093 - Floor Raceway Systems
D5094 - Other Special Systems & Devices
D5095 - General Construction Items (Elect.)
G2010 - Roadways
G2030 - Pedestrian Paving
G2040 - Site Development
G2050 - Landscaping
G2011 - Bases and Sub-Bases
G2012 - Paving & Surfacing
G2013 - Curbs Gutters & Drains
G2014 - Guardrails and Barriers
G2015 - Painted Lines
G2016 - Markings & Signage
G2017 - Vehicular Bridges
G2021 - Bases and Sub-Bases
G2022 - Paving & Surfacing

G2023 - Curbs, Rails & Barriers
G2024 - Parking Booths & Equipment
G2025 - Markings & Signage
G2031 - Paving & Surfacing
G2032 - Edging
G2033 - Exterior Steps
G2034 - Pedestrian Bridges
G2041 - Fences & Gates
G2042 - Retaining Walls
G2043 - Terrace & Perimeter Walls
G2044 - Signage
G2045 - Site Furnishings
G2046 - Fountains, Pools, & Watercourses
G2047 - Playing Fields
G2048 - Flagpoles
G2049 - Miscellaneous Structures
G2051 - Fine Grading & Soil Preparation
G2052 - Erosion Control Measures
G2053 - Top Soil and Planting Beds
G2054 - Seeding and Sodding
G2055 - Planting
G2056 - Planters
G2057 - Irrigation Systems
G2059 - Other Landscape Features
G3010 - Water Supply
G3020 - Sanitary Sewer
G3030 - Storm Sewer
G3040 - Heating Distribution
G3050 - Cooling Distribution
G3060 - Fuel Distribution
G3011 - Potable Water Distribution and Storage
G3012 - Non Potable Water Distrib. and Storage
G3013 - Well Systems
G3014 - Fire Protection Distribution and Storage
G3015 - Pumping Stations
G3016 - Package Water Treatment Plants
G3021 - Piping
G3022 - Manholes & Cleanouts
G3023 - Septic Disposal Systems
G3024 - Lift Stations
G3025 - Packaged Water Waste Treatment Plants
G3026 - Septic Tanks
G3027 - Drain Fields
G3031 - Piping
G3032 - Manholes
G3033 - Headwalls & Catch Basins
G3034 - Lift Stations

G3035 - Retention Ponds
G3036 - Ditches & Culverts
G3041 - Steam Supply
G3042 - Condensate Return
G3043 - Hot Water Supply System
G3044 - Pumping Stations
G3051 - Chilled Water Piping
G3052 - Wells for Cooling/Heating
G3053 - Pumping Stations
G4010 - Electrical Distribution
G4020 - Site Lighting
G4030 - Site Communications & Security
G4090 - Other Site Electrical
G4011 - Substations
G4012 - Overhead Power Distribution
G4013 - Underground Power Distribution
G4021 - Fixtures & Transformers
G4022 - Poles
G4023 - Wiring Conduits & Ductbanks
G4024 - Site Lighting Controls
G4031 - Site Communications Systems
G4032 - Site Security & Alarm Systems
G4091 - Cathodic Protection
G4092 - Site Emergency Power Generation
G9010 - Service and Pedestrian Tunnels
G9011 - Service Tunnels
G9012 - Trench Boxes
G9013 - Pedestrian Tunnels

B - Objects		Functional location			Equipment		Assembly	
		Code	Desc.English	Desc.French				
D30	HVAC		CVCA					X
D3010	Energy Supply		Approvisionnement énergétique					X
D3020	Heat Generating system		Systèmes de production de chaleur					X
D3030	Cooling generating systems		Systèmes de refroidissement					X
D3040	Distribution systems		Réseaux de distribution					X
D3050	Terminal and packaging units		Appareils autonomes ou monoblocs					X
D3060	Controls and instrumentation		Commandes et instruments					X
D3070	Systems Testing & Balancing		Essai et équilibrage des systèmes					X
D3090	Other HVAC systems & Equipment		Autres systèmes et équipement de CVCA					X
D3011	Oil Supply System		Système d'alimentation en mazout					X
D3012	Gas Supply System		Système d'alimentation en gaz					X
D3013	Coal Supply System		Système d'alimentation en charbon					X
D3014	Steam Supply System		Système d'alimentation en vapeur d'eau					X
D3015	Hot Water Supply System		Système d'approvisionnement en eau chaude					X
D3016	Solar Energy System		Système d'énergie solaire					X
D3017	Wind Energy System		Système d'énergie éolienne					X
D3021	Boilers		Chaudières					X
D3022	Boiler Room Piping & Specialties		Tuyauterie et éléments particuliers de salle des chaudières					X
D3023	Auxiliary Equipment		Matériel auxiliaire					X
D3024	Insulation		Isolant					X
D3031	Chilled Water Systems		Systèmes de réfrigération d'eau					X
D3032	Direct Expansion Systems		Systèmes à détente directe					X
D3041	Air Distribution Systems		Systèmes de distribution d'air					X
D3042	Exhaust Ventilation Systems		Systèmes de ventilation d'extraction					X
D3043	Steam Distribution Systems		Système de distribution en vapeur d'eau					X
D3044	Hot Water Distribution		Distribution d'eau chaude					X
D3045	Chilled Water Distribution		Distribution d'eau réfrigérée					X
D3046	Change-over Distribution System		Systèmes de distribution de permutation					X

D3047	<i>Glycol Distribution Systems</i>	<i>Systèmes de distribution d'air</i>	X
D3051	<i>Terminal Self-Contained Units</i>	<i>Appareils autonomes ou monoblocs</i>	X
D3052	<i>Package Units</i>	<i>Systèmes frigorifiques autonomes</i>	X
D3061	<i>Heating Generating Systems</i>	<i>Systèmes de production de chaleur</i>	X
D3062	<i>Cooling Generating Systems</i>	<i>Systèmes de refroidissement</i>	X
D3063	<i>Heating/Cooling Air Handling Units</i>	<i>Appareils de traitement de l'air et de chauffage/refroidissement</i>	X
D3064	<i>Exhaust & Ventilating Systems</i>	<i>Systèmes de ventilation d'extraction</i>	X
D3065	<i>Hoods and Exhaust Systems</i>	<i>Hottes et systèmes d'extraction</i>	X
D3066	<i>Terminal Devices</i>	<i>Dispositifs terminaux</i>	X
D3067	<i>Energy Monitoring & Control</i>	<i>Surveillance et contrôle d'énergie</i>	X
D3068	<i>Building Automation Systems</i>	<i>Systèmes d'immotique</i>	X
D3069	<i>Other Controls & Instrumentation</i>	<i>Autres contrôles et instruments</i>	X
D3071	<i>Piping System Testing & Balancing</i>	<i>Essai et équilibrage des systèmes de tuyauterie</i>	X
D3072	<i>Air Systems Testing & Balancing</i>	<i>Essai et équilibrage des systèmes d'air</i>	X
D3073	<i>HVAC Commissioning</i>	<i>Mise en service des systèmes de CVCA</i>	X
D3079	<i>Other Systems Testing and Balancing</i>	<i>Essai et équilibrage d'autres systèmes d'air</i>	X
D3091	<i>Special Cooling Systems & Devices</i>	<i>Systèmes et dispositifs de refroidissement spéciaux</i>	X
D3092	<i>Special Humidity Control</i>	<i>Dispositifs spéciaux de régulation de l'humidité</i>	X
D3093	<i>Dust & Fume Collectors</i>	<i>Systèmes d'aspiration de la poussière et de la fumée</i>	X
D3094	<i>Air Curtains</i>	<i>Rideaux d'air</i>	X
D3095	<i>Air Purifiers</i>	<i>Purificateurs d'air</i>	X
D3096	<i>Paint Spray Booth Ventilation</i>	<i>Ventilation de la cabine de peinture</i>	X
D3097	<i>General Construction Items (HVAC)</i>	<i>Éléments de construction générale pour les systèmes CVCA</i>	X
B - Objects			
Code	Desc English	Desc French	
D20	Plumbing	Plomberie	X
D2010	Plumbing Fixtures	Appareils sanitaires	X
D2020	Domestic water distribution	Distribution d'eau domestique	X
D2030	Sanitary Waste Equipment	Matériel pour déchets sanitaires	X
			Assembly
			Equipment
			Functional location

D2040	Rain Water Drainage	Drainage des eaux de pluie		X	
D2090	Other Plumbing Systems	Autres systèmes de plomberie		X	
D2011	Water Closets	Toilettes			X
D2012	Urinals	Urinoirs			X
D2013	Lavatories	Lavabos			X
D2014	Sinks	Éviers			X
D2015	Bathtubs	Baignoires			X
D2016	Wash Fountains	Lavabos collectifs			X
D2017	Showers	Douches			X
D2018	Drinking Fountains and Coolers	Fontaines et refroidisseurs			X
D2019	Bidets and Other Plumbing Fixtures	Bidets et autres appareils de plomberie			X
D2021	Cold Water Service	Alimentation en eau froide			X
D2022	Hot Water Service	Alimentation en eau chaude			X
D2023	Domestic Water Supply Equipment	Matériel d'alimentation en eau domestique			X
D2031	Waste Piping	Tuyauterie sanitaire			X
D2032	Vent Piping	Tuyau d'évent			X
D2033	Floor Drains	Avaloirs de sol			X
D2034	Sanitary Waste Equipment	Matériel pour déchets sanitaires			X
D2035	Pipe Insulation	Isolation de tuyau			X
D2042	Roof Drains	Avaloirs de toit			X
D2043	Rainwater Drainage Equipment	Matériel de drainage de l'eau de pluie			X
D2044	Pipe Insulation	Isolation de tuyau			X
D2091	Gas Distribution	Distribution de gaz			X
D2092	Acid Waste Systems	Systèmes d'évacuation des déchets acides			X
D2093	Interceptors	Intercepteurs			X
D2094	Pool Piping and Equipment	Tuyauterie et matériel de piscine			X
D2095	Decorative Fountain Piping Devices	Dispositifs de canalisation des fontaines décoratives			X
D2099	Other Piping Systems	Autres réseaux de tuyauterie			X
B - Objects					
			Functional location	Equipment	Assembly

Code	Desc English	Desc French	Functional location	Equipment	Assembly
A10	Foundations	Foundations	X		
A1010	Standard Foundation	Foundations normales		X	
A1030	Slab on Grade	Dalle sur terre-plein		X	
A1011	Wall Foundations	Foundations de murs			X
A1012	Column Foundations & Pile Caps	Fondation de colonnes et semelle sur pieu			X
A1013	Perimeter Drainage & Insulation	Drainage et isolation du périmètre			X
A1031	Standard Slab on Grade	Dalle sur terre-plein normale			X
A1032	Structural Slab on Grade	Dalle sur terre-plein de structure			X
A1033	Inclined Slab on Grade	Dalle sur terre-plein inclinée			X
A1034	Trenches, Pits & Bases	Tranchées, fossés et bases			X
A1035	Under-Slab Drainage & Insulation				
B - Objects					
Code	Desc English	Desc French	Functional location	Equipment	Assembly
A20	Basement Construction	Construction du sous-sol	X		
A2020	Basement Walls	Mur de sous-sol		X	
A2021	Basement Wall Construction	Construction de murs de sous-sol			
A2022	Moisture Protection	Protection contre l'humidité			
A2023	Basement Wall Insulation	Isolation des murs de sous-sol			
A2024	Interior Skin	Revêtement intérieur			
B - Objects					
Code	Desc English	Desc French	Functional location	Equipment	Assembly
B10	Super Structure	Superstructure	X		

C1012	Demountable Partitions	Cloisons amovibles		X
C1013	Retractable Partitions	Cloisons rétractables		X
C1014	Site Built Toilet Partitions	Cloisons de toilettes assemblées sur place		X
C1015	Site Built Compartments Cubicles	Cubicules et compartiments assemblés sur place		X
C1017	Interior Windows & Storefronts	Fenêtres et vitrines intérieures		X
C1022	Interior Door Frames	Cadres de porte intérieurs		X
C1023	Interior Door Hardware	Quincaillerie de porte intérieure		X
C1024	Interior Door Wall Opening Elements	Éléments de l'ouverture murale pour porte intérieure		X
C1025	Interior Door Sidelights & Transoms	Fenêtre latérale et impostes de porte intérieure		X
C1026	Interior Hatches & Access Doors	Trappes et portes d'accès		X
C1027	Door Painting & Decoration	Peinture et décoration de porte		X
C1031	Fabricated Toilet Partitions	Cloisons de toilettes assemblées		X
C1032	Fabricated Compartments & Cubicles	Compartiments et cubicules assemblés		X
C1033	Storage Shelving and Lockers	Étagères et casiers de rangement		X
C1034	Ornamental Metals and Handrails	Métaux et rampes décoratifs		X
C1035	Identifying Devices	Dispositifs d'identification		X
B - Objects				
Code	Desc English	Desc French	Functional location	Assembly
C20	Stairs	Escaliers	X	
C2010	Stairs Construction	Construction d'escaliers		X
C2020	Stair Finishes	Finitions des escaliers		X
C2011	Regular Stairs	Escaliers normaux		X
C2012	Curved Stairs	Escaliers tournants		X
C2013	Spiral Stairs	Escaliers en colimaçon		X
C2014	Stair Handrails and Balustrades	Mains-courantes et garde-corps d'escaliers		X
C2021	Stair Tread, and Landing Finishes	Finition des marches et paliers		X
C2022	Stair Soffit Finishes	Finition de sous-face d'escaliers		X
C2023	Stair Handrail & Balustrade Finishes	Finition des mains-courantes et garde-corps		X

B - Objects		Functional location			Equipment	Assembly
		Code	Desc English	Desc French		
C30	Interior Finishes	Revêtements intérieurs		X		
C3010	Wall Finishes	Finis muraux			X	
C3020	Floor Finishes	Revêtements des planchers			X	
C3030	Ceiling Finishes	Finis des plafonds			X	
C3011	Wall Finishes to Inside Exterior Walls	Finition de l'intérieur des murs extérieurs				X
C3012	Wall Finishes to Interior Walls	Finition des murs intérieurs				X
C3013	Column Finishes	Finition des colonnes				X
C3021	Floor Toppings	Revêtements des planchers				X
C3022	Traffic Membranes	Membranes d'aires de circulation				X
C3023	Hardeners and Sealers	Durcisseurs et produits de scellement				X
C3024	Flooring	Revêtements de sol				X
C3025	Carpeting	Moquette				X
C3026	Bases, Curbs and Trim	Plinthes, bordures et couvre-joints				X
C3027	Access Pedestal Flooring	Plancher technique				X
C3031	Ceiling Finishes	Finis des plafonds				X
C3032	Suspended Ceilings	Plafonds suspendus				X
C3033	Other Ceilings	Autres plafonds				X
B - Objects		Functional location			Equipment	Assembly
		Code	Desc English	Desc French		
D10	Conveying	Systèmes de transport		X		
D1010	Elevators & Lifts	Ascenseurs et monte-charge			X	
D1090	Other Conveying Systems	Autres systèmes transporteurs			X	

B - Objects		Functional location			Equipment		Assembly	
		Code	Desc English	Desc French				
D50	Electrical	Électricité		X				
D5010	Electrical Service & Distribution	Services et distribution électrique			X			
D5020	Lighting & Branch Wiring	Éclairage et distribution secondaire			X			
D5030	Communication & Security	Sécurité des communications			X			
D5090	Other Electrical Systems	Autres systèmes électriques			X			
D5011	High Tension Service & Dist.	Service et distribution électrique de haute tension				X		
D5012	Low Tension Service & Dist.	Service et distribution électrique de basse tension				X		
D5021	Branch Wiring Devices	Circuits de dérivation				X		
D5022	Lighting Equipment	Appareils d'éclairage				X		
D5031	Public Address & Music Systems	Systèmes d'annonce publique et de musique ambiante				X		
D5032	Intercommunication & Paging System	Intercommunication et système de radiomessagerie				X		
D5033	Telephone Systems	Systèmes téléphoniques				X		
D5034	Call Systems	Systèmes d'appel				X		
D5035	Television Systems	Systèmes de télévision				X		
D5036	Clock and Program Systems	Systèmes d'horloges et de programme				X		
D5037	Fire Alarm Systems	Systèmes d'alarme incendie				X		
D5038	Security and Detection Systems	Systèmes de sécurité et de détection de l'intrusion				X		
D5039	Local Area Networks	Réseaux locaux				X		
D5091	Grounding Systems	Systèmes de mise à la terre				X		
D5092	Emergency Light & Power Systems	Systèmes d'éclairage et d'alimentation de secours				X		
D5093	Floor Raceway Systems	Systèmes de canalisation de plancher				X		
D5094	Other Special Systems & Devices	Autres systèmes et dispositifs spéciaux				X		
D5095	General Construction Items (Elect.)	Éléments de construction générale pour les systèmes électriques				X		

B - Objects			Functional location	Equipment	Assembly
Code	Desc English	Desc French			
E10	Equipment	Matériel		X	
E1020	Institutional Equipment	Matériel institutionnel		X	
E1090	Other Equipment	Autre matériel		X	
E1021	Ecclesiastical Equipment	Matériel ecclésiastique		X	
E1022	Library Equipment	Matériel de bibliothèque		X	
E1023	Theater & Stage Equipment	Matériel de scène et de cinéma		X	
E1024	Instrumental Equipment	Matériel musical		X	
E1025	Audio-visual Equipment	Matériel audiovisuel		X	
E1026	Detention Equipment	Matériel de détention		X	
E1027	Laboratory Equipment	Équipement de laboratoire		X	
E1028	Medical Equipment	Matériel médical		X	
E1029	Other Institutional Equipment	Autre matériel institutionnel		X	
E1091	Maintenance Equipment	Matériel d'entretien		X	
E1092	Solid Waste Handling Equipment	Matériel de manutention des déchets solides		X	
E1093	Food Service Equipment	Matériel des services d'alimentation		X	
E1094	Residential Equipment	Matériel résidentiel		X	
E1095	Unit Kitchens	Cuisines		X	
E1097	Window Washing Equipment	Matériel de lavage des fenêtres		X	
E1099	Other Equipment	Autre matériel		X	

B - Objects			Functional location	Equipment	Assembly
Code	Desc English	Desc French			
F10	Special Construction	Construction particulière	X		

Code	Desc English	Desc French	Functional location	Equipment	Assembly
F1010	Special Structures	Structures spéciales		X	
F1020	Integrated Construction	Installations intégrées		X	
F1030	Special Construction Systems	Systèmes de construction spéciale		X	
F1021	Integrated Assemblies	Ensembles intégrés			X
F1022	Special Purpose Rooms	Locaux à vocation particulière			X
F1023	Other Integrated Construction	Autres installations intégrées			X
F1031	Sound, Vibration & Seismic Const.	Constructions insonorisées, anti-vibrations et parasismiques			X
F1032	Radiation Protection	Radioprotection			X
F1033	Special Security Systems	Systèmes de sécurité particuliers			X
F1034	Vaults	Chambres fortes			X
F1039	Other Special Construction Systems	Autres systèmes de construction spéciale			X
B - Objects					
Code	Desc English	Desc French	Functional location	Equipment	Assembly
F20	Selective Building Demolition	Démolition sélective de bâtiment	X		
F2010	Building Elements Demolition	Démolition d'éléments de bâtiment		X	
F2011	Building Interior Demolition	Démolition de l'intérieur du bâtiment			X
F2012	Building Exterior Demolition	Démolition de l'extérieur du bâtiment			X
B - Objects					
Code	Desc English	Desc French	Functional location	Equipment	Assembly
G20	Site Preparation	Préparation des lieux	X		

	Roadways	Chaussées	
G2010			
G2030	Pedestrian Paving	Surface piétonnière	X
G2040	Site Development	Aménagement du site	X
G2050	Landscaping	Aménagement paysager	X
G2011	Bases and Sub-Bases	Couches de base et de fondation	X
G2012	Paving & Surfacing	A-phalutage et surfacage	X
G2013	Curbs Gutters & Drains	Bordures, caniveaux et drains	X
G2014	Guardrails and Barriers	Glissières de sécurité et barrières	X
G2015	Painted Lines	Lignes peintes	X
G2016	Markings & Signage	Marquage et signalisation	X
G2017	Vehicular Bridges	Ponts routiers	X
G2021	Bases and Sub-Bases	Couches de base et de fondation	X
G2022	Paving & Surfacing	A-phalutage et surfacage	X
G2023	Curbs, Rails & Barriers	Trottoirs, garde-corps et barrières	X
G2024	Parking Booths & Equipment	Guérite de stationnement et matériel	X
G2025	Markings & Signage	Marquage et signalisation	X
G2031	Paving & Surfacing	A-phalutage et surfacage	X
G2032	Edging	Bordures	X
G2033	Exterior Steps	Escaliers extérieurs	X
G2034	Pedestrian Bridges	Passerelles pour piétons	X
G2041	Fences & Gates	Clôtures et barrières	X
G2042	Retaining Walls	Murs de soutènement	X
G2043	Terrace & Perimeter Walls	Terrasse et murs périmétriques	X
G2044	Signage	Signalisation	X
G2045	Site Furnishings	Mobilier extérieur	X
G2046	Fountains, Pools, & Watercourses	Fontaines, piscines et cours d'eau	X
G2047	Playing Fields	Terrains de jeux	X
G2048	Flagpoles	Mâts	X
G2049	Miscellaneous Structures	Structures diverses	X
G2051	Fine Grading & Soil Preparation	Nivellement de finition et préparation du sol	X
G2052	Erosion Control Measures	Mesures de lutte contre l'érosion	X
G2053	Top Soil and Planting Beds	Terre végétale et zones de plantation	X
G2054	Seeding and Sodding	Ensemencement et gazonnement	X

G3034	Lift Stations	Station de relèvement		X	
G3035	Retention Ponds	Bassins de rétention		X	
G3036	Ditches & Culverts	Fossés et ponceaux		X	
G3041	Steam Supply	Alimentation en vapeur		X	
G3042	Condensate Return	Retour des condensats		X	
G3043	Hot Water Supply System	Système d'approvisionnement en eau chaude		X	
G3044	Pumping Stations	Postes de pompage		X	
G3051	Chilled Water Piping	Tuyauterie pour eau refroidie		X	
G3052	Wells for Cooling/Heating	Puits de refroidissement/chauffage		X	
G3053	Pumping Stations	Postes de pompage		X	
G3054	Cooling Towers on Site	Tour de refroidissement sur place		X	
G3061	Fuel Piping	Tuyauterie du circuit de carburant		X	
G3062	Fuel Equipment	Appareils à combustible		X	
G3063	Fuel Storage Tanks	Réservoirs de stockage des combustibles		X	
G3064	Fuel Dispensing Stations	Stations de distribution de carburant		X	
B - Objects					
Code	Desc English	Desc French	Functional location	Equipment	Assembly
G40	Site Electrical Utilities	Services d'électricité sur l'emplacement :	X		
G4010	Electrical Distribution	Distribution électrique		X	
G4020	Site Lighting	Éclairage du site		X	
G4030	Site Communications & Security	Communications et sécurité du site		X	
G4090	Other Site Electrical	Autres systèmes électriques du site		X	
G4011	Substations	Sous-stations			X
G4012	Overhead Power Distribution	Distribution électrique aérienne			X
G4013	Underground Power Distribution	Réseau souterrain de distribution d'électricité			X
G4021	Fixtures & Transformers	Appareils et transformateurs			X
G4022	Poles	Poteaux			X
G4023	Wiring Conduits & Ductbanks	Câblage, conduits et massifs de conduits souterrains			X
G4024	Site Lighting Controls	Dispositifs de régulation de l'éclairage du site			X

FACILITY MAINTENANCE GUIDELINES

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POLICY STATEMENT

Real Property Services is to:

- maintain facilities in a manner that adheres to safety, health and environmental standards mandated by applicable laws, codes, regulations and PWGSC's Strategic Business Objectives.
- maintain facilities that support delivery of mandated government programs and productive work environments for our clients.
- maintain efficient facilities by adopting practices that optimize their useful life and operational performance at minimum life cycle cost, for the benefit of our clients, the environment, the government and the taxpayer.
- enable effective decision making by providing necessary and sufficient information on facilities and facility maintenance activities in a timely and effective manner.

REAL PROPERTY SERVICES FACILITY MAINTENANCE ENVIRONMENT

Federal Government Environment

Federal departments and agencies face many challenges to change, reduce and refocus core business activities and services. Real Property Services (RPS) is committed to establish its organization as their real property expert and advisor and has created an integrated, one-stop service delivery which includes facilities planning, coordination, management, and disposal to support real property needs.

Real Property Services Business Environment

RPS has been entrusted by the government as its principle agent for quality real property services. This role is crucial, not only to the success of federal departments and agencies in the delivery of their programs, but also to the achievement of broader government objectives.

RPS is committed to redefining its relationships with the private sector to take into account government emphasis on increased partnering and contracting out where services can be provided more cost effectively by the private sector. RPS is also moving away from a position of real or perceived competition with the private sector to one of problem identification, client needs definition and strategic brokering with the private sector to meet client needs. In addition, RPS is seeking opportunities to collaborate with provincial governments in the delivery of services, and supporting Canadian firms in pursuing international work. Together these initiatives will result in significant changes to RPS.

The services component provides various professional and technical real property services (including architectural and engineering, real estate, and property and facility management) that are available to departments and agencies, as "optional" services, on a fee-for-service basis at market-based rates.

Real Property Services Challenges

The future success of RPS hinges on its ability to effectively satisfy its clients needs in the new RPS business environment. This will require RPS to also renew and revitalize its people, its culture and its business operations. Meeting these challenges will require a variety of specific initiatives to redesign the organization and business processes, training and supporting core staff, and empowering and rewarding its employees for valued contributions to its objectives.

Realizing the RPS vision "to be recognized as adding value to achieving client and government objectives through the delivery of the most timely and affordable real property program and services" will require an immediate and fundamental change in virtually every aspect of RPS operation.

This facility maintenance policy and associated guidelines are established to provide a strategic FM direction for RPS to meet these challenges.

REAL PROPERTY SERVICES FACILITY MAINTENANCE PRINCIPLES

Principles are fundamental truths. Foremost among the provision of facility maintenance is the principle that RPS is committed to meet the stated and implied needs of its client departments and agencies, while recognizing the interests of other stakeholders in facility maintenance. The operating principles of technical excellence, economic optimization, managerial excellence and efficiency are to be adopted to support the fundamental principle of providing excellence in service delivery.

Technical Excellence Operating Principles

RPS, as a provider of facility maintenance services, will work with its clients to ensure that it supports an efficient conduct of client operations through the facility maintenance services it provides. It will adopt practices and methods which enable continuous improvement to the quality and value of maintenance service to its clients and its occupants. These improvements will be realized through:

- adoption of quality management methods to continuously improve service to clients, including the implementation of a performance measurement system which will enable best practices to be identified and shared; and
- establishment of an information environment which will provide support to all levels in RPS, the department, our clients and partners.

The provision of maintenance service excellence must also recognize the interests of other stakeholders, in addition to clients. These can be summarized as follows:

- Real Property Services (RPS) is obligated to ensure that its inventory of facility structures, systems and equipment are maintained with due diligence so as to protect the health and safety of its occupants, the general public, the environment and the investment in the facility;
- the delivery of facility maintenance services must reflect the department's obligation to comply with legislation and mandatory regulations; and

- RPS should be cognizant of manufacturer's design and operating specifications and industry adopted standards and practices in the conduct of facility maintenance. At the same time, RPS should have the confidence in its technical competence to lead the industry in the development and adoption of new standards and practices.

Economic Optimization Operating Principles

RPS is committed to provide excellence in the delivery of facility maintenance services at an acceptable and affordable cost. RPS will adopt sound facility maintenance practices that promote efficiency and effectiveness. This can be realized through:

- the adoption of a life-cycle approach to facility maintenance in which decisions are made in light of their impact on the total life cycle cost (including energy and maintenance costs) of a facility from concept, through design and in-service to disposal; and
- the use of decision support systems to ensure that technical decisions are made to meet client's requirements and minimize the life cycle costs (for example through establishing optimum replacement policies and preventive maintenance schedules).

Managerial and Administration Principles for Excellence

The functions of management are to plan, organize, direct and coordinate activities to achieve the objectives of the organization. Extensive experience in the field of quality management has shown that a significant number of operational problems have resulted from management's inability to provide the support necessary to enable operational resources to perform their jobs well. Management is to establish a facility maintenance service delivery framework, adopt sound facility maintenance practices that enable attainment of efficiency gains, and establish attainable objectives for its employees. Management must ensure that employees have the appropriate skills and knowledge required to perform their designated tasks. Management is to delegate the level of authority required to perform these tasks and supply any tools which would make performance of the tasks safer or substantially more productive.

Managerial excellence can be achieved through:

- working with clients to understand their needs and reaching agreement with them as to how RPS can provide support which meets their needs;
- effectively planning and co-ordinating maintenance activities with a focus on reduced costs and disruptions to client business activities;
- providing management support to front-line organizations to empower them with the authority, resources, skills, knowledge and tools to meet the objectives agreed to with clients;
- monitoring and reporting facility maintenance activities in a consistent and objective manner to ensure that "best practices" are identified and shared with facility maintenance service providers while respecting legislative, regulatory and policy requirements; and
- establishing a basis for effective financial planning and budgeting by forecasting resource requirements for maintenance activities.

REAL PROPERTY FACILITY MAINTENANCE CYCLE

The real property facility maintenance cycle includes eight fundamentals:

- business opportunity identification and review;
- assessment of overall facility operating condition;
- identification of maintenance service requirements;
- preparation of maintenance plans and schedules;
- develop the Maintenance Service Package;
- Maintenance Service Package decision;
- implementation of the Maintenance Service Package; and
- monitoring compliance to policies, regulations, legislation and client agreements.

Business Opportunity Identification and Review

RPS is committed to operate within a "heartbeat of the client", which may present renewed business opportunities. Facility maintenance providers are expected to participate in exploring opportunities that can enable RPS to better satisfy client needs. In addition, every effort must be made to assess the opportunities and ensure commitments made are in the best interest of the client, the department and the government.

In addressing business opportunities, employees are to:

- be encouraged and motivated to search for and identify business opportunities;
- communicate opportunities presented to management for concurrence;
- review opportunities within the context of government policies;
- establish possible return on investment (ROI) in pursuing the opportunity;
- assess possible impacts on current resources and succession plans; and
- assess possible risks and public reactions to proposed commitments.

Assessment of Overall Facility Operating Condition

A facility assessment is to be conducted as a prerequisite to determining the scope of maintenance requirements. This exercise is an essential means to enable effective planning and implementation of the facility maintenance process. The assessment is to include an in-depth review of the facility, its structure, its systems and its equipment to determine its overall operating condition. The result of the review must determine the facility's current operating condition as well as the resources and scope of work that will be required to restore and (or) maintain that facility at a pre-defined level of operating efficiency.

The assessment must also consider the following factors:

- the age and condition of the facility's structures, systems and equipment;
- the departmental and (or) client capital investment strategy for the facility;

- the current and future operational and maintenance budget limitations for the facility;
- mandatory regulations, legislation, manufacturer and other maintenance service requirements; and
- the level and scope of maintenance services agreed to in the initial occupancy agreement with the client (if applicable).

Assessing an RPS Facility

Assessment of a facility requires:

- assessment related inspections (described herein);
- review of historic maintenance costs and activities; and
- overall Facility Condition Report (Property Managers Handbook).

.1 Initial Facility Assessment

An initial facility assessment is to be performed when an existing or newly constructed facility is added to the RPS portfolio, or when a facility in the RPS portfolio is renovated.

In cases where facilities are newly constructed or renovated it is preferred that the assessment be conducted as an integral part of the overall commissioning process. Maintenance service requirements are to be identified and verified throughout the commissioning process and included in the proposed maintenance service package for approval.

.2 On-going Facility Assessment

RPS is expected to review facility maintenance practices on a periodic basis to ensure mandatory requirements are adhered to and services are delivered in accordance with the Maintenance Service Package agreement. This assessment is necessary to support RPS's vision as being recognized as "adding value" in response to the dynamics of the respective client program needs.

.3 Final Facility Assessment

Where RPS has obligated operation and maintenance responsibilities for a client's facility, or if the facility is being removed from the RPS portfolio, RPS is expected to validate the base inventory, pertinent maintenance services and other related information prior to termination of obligated operation and maintenance responsibilities.

Facility Structures, Systems and Equipment Inventory

It is essential to establish a facility's structures, systems and equipment inventory for new facilities or review an existing inventory prior to preparing a facility assessment. The inventory identification system to be applied must be consistent with that set out in Annex B of this guideline.

There are two types of facilities inventory;

- Base inventory; and

- Non-base inventory.
- .4 **Base Inventory**
- Base inventory are structures (structural and architectural items), systems and related equipment that require maintenance. They are unique and essential to the operation of each facility. The particulars of each inventory item must be accurately maintained and used as the basis for establishing the facility maintenance requirements.
- .5 **Non-Base Inventory**
- Non-base inventory are systems and equipment that are housed in the facility in addition to the facility's base inventory. The non-base inventory generally support a client's specific operations that are critical to their mandated program activities. In instances where a client or tenant's systems or equipment is to be maintained by RPS, the specific items in question are to be identified along with the base inventory for the facility and maintained in a common information repository.

Identification of Maintenance Service Requirements

These guidelines provide the overall direction for conducting RPS facility maintenance. The major activities to be undertaken within the scope of maintenance are:

- Time-Based Maintenance;
- Event-Based Maintenance;
- Warranty Related Maintenance;
- Authority-Based Inspections;
- Maintenance Projects; and
- Operational Requirements.

Time-Based Maintenance (Preventive Maintenance Inspections)

Time-based maintenance is comprised of preventive maintenance inspections which identify predetermined scheduled maintenance and inspection procedures that must be applied to RPS facilities as defined and scheduled in order to comply with this and other government policies. Consistency in inspection procedures applied will vary dependent on the level of complexity of the facility's structures, its systems and equipment as well as the manner in which the respective procedures are to be administered.

Preventive maintenance inspections are recurring, cyclical (calendar driven) inspection routines required to ensure efficient and safe operation of the facility's structures, its systems and equipment. These inspections are preventive in nature and may require systematic examination, testing, cleaning, lubrication, minor adjustment, replacement of worn equipment parts, and, where absolutely necessary and practicable, conducting minor repair.

These types of inspections are applied primarily to electrical and mechanical equipment as well as the architectural and (or) structural components that are of significant importance to the facility's operation. Due diligence and adherence to this and other government policies must be

exercised in undertaking such inspections in order to reduce disruption within the facility, to avoid endangerment of human life and to protect the capital investment.

Specific preventive maintenance inspections are identified as mandatory due to legislated or regulated requirements. These inspections must be carried out as specified. Failure to comply with the requirements may pose a danger to the facility, its occupants, the environment, and the general public.

Preventive maintenance inspections are based on the maintenance service offerings which consists of Mandated Maintenance (Level One), Life Cycle Maintenance (Level Two) and Enhanced Maintenance (Level Three). These maintenance service offerings are supported by the Preventive Maintenance Checklists. These "standard" checklists as found in Annex C to this guideline serve as the basis for each of the service offerings.

.1 Mandated Maintenance

Mandated maintenance is to be recognized as Level One maintenance service activities. It is the minimum level of service activities that must be conducted on a routine basis for any federal government facility to comply with safety, health and environmental standards mandated by applicable laws, codes, regulations, other government policies and PWGSC's Strategic Business Objectives.

PWGSC is obligated to satisfy the minimum requirements of all applicable mandated (Level One) inspections. Funding for mandated maintenance is to be provided, without exception.

Notwithstanding other mandated maintenance requirements, this level of maintenance will provide substantiation for the annual certification set out in the Life Safety System Compliance Testing manual.

Where interpretation among legislation and mandatory regulations conflicts, inspectors are to exercise due diligence and implement the most stringent of the legislation, mandatory regulation or other government policies. In each instance of conflict, such findings must be promptly reported for further assessment and verification of the action taken.

.2 Life Cycle Maintenance

Life Cycle maintenance is Level Two maintenance service activities that are to be conducted for any federal government facility as a practical means to extend the useful life of a facility's structure, its systems and equipment, while ensuring mandatory regulations and legislated requirements are fulfilled. Level two maintenance is the recommended level of service designed to protect the capital investment while adhering to mandatory regulations and legislations.

.3 Enhanced Maintenance

Enhanced maintenance is Level Three maintenance service activities to be conducted within any federal government facility which houses specialized operations that are essential to national security, social, economic and

environmental programs. These program operations may demand sophisticated operating systems and equipment that must offer a high degree of reliability and functional availability to its tenants' operations.

This level of service extends beyond the scope of Mandated and Life Cycle requirements with the intended purpose to maximise the useful life of the facility's structures, its operating systems and equipment, and to protect the value of the programs conducted in such facilities. It may also be considered as a form of reliability centred maintenance designed to reduce the severity of operational failure and the potential for economic and (or) environmental disaster.

Event-Based Maintenance

Event-based maintenance is comprised of Corrective Maintenance, Service Calls, and Predictive Maintenance Inspections. These activities are generated in response to an event or condition affecting a facility's structure, systems or equipment, or a disruption to the conduct of the tenants' business operation. Every effort must be made to reduce event-based maintenance where possible without compromise to the facility's operations.

.4 Corrective Maintenance

Corrective Maintenance is maintenance work activities conducted and (or) is required to restore a facility's structure, its systems or equipment, to a pre-defined or originally designed level of functional operation. Corrective Maintenance work is often a result of Preventive Maintenance, Service Calls or Standard Operating Procedures.

Corrective Maintenance is maintenance work that is limited to 40 hours inclusive of all trades in scope, or maintenance work that may consume resources to a total cost of \$5,000.00. Work in excess of \$5,000.00 is considered a Maintenance Project.

.5 SERVICE CALLS

Service Calls are requests for facility maintenance services, which take the form of client service demands ranging in scope from cleaning complaints to notification of major damage to a facility. They differ from Corrective Maintenance work in that public relations with the tenant plays a major role. The caller must perceive that response to the Service Call was prompt and handled in a courteous and professional manner.

Service calls may result in a high degree of unexpected facility maintenance service activities. Managers are therefore required to analyze each service call and promptly react to rectify reported problems. Managers are also required to be vigilant and monitor recurring deficiencies, trends and problems, and report the findings for resolution. Information regarding corrective maintenance or maintenance projects resulting from service calls must be recorded against the facility's structures, its systems or equipment as appropriate and maintained to facilitate future analysis and maintenance planning.

Failure to promptly respond to service calls may pose a danger to the facility, its occupants, the environment, the general public, and may have a negative impact upon Real Property Services' reputation as a quality "value-added" service provider.

.6 Condition Monitoring (Predictive Maintenance)

Condition monitoring is similar in scope to preventive maintenance except that the actual inspection schedule is determined by specific monitoring procedures and not by calendar dates. An event trigger such as hours of operation, temperature, oil sample analysis, etc., is to be established for specified systems or equipment to generate a maintenance requirement. All condition monitoring inspection requirements are to be identified and maintained along with the preventive maintenance inspection requirements (PM Checklists) in a common information repository which is readily accessible to maintenance personnel.

These types of inspections are applied primarily to mechanical or electrical equipment that are of significant importance to the facility's operation and for which meaningful conditions can be monitored. Due diligence and adherence to this and other government policies must be exercised in undertaking such inspections in order to reduce disruption within the facility, avoiding endangerment of human life and to protect the capital investment.

Warranty Related Maintenance

.7 Preventive (or Predictive) Maintenance for Warrantied Items

Preventive or predictive maintenance conducted for an inventory item under warranty will be performed in accordance with the manufacturer's or supplier's instructions and in a manner that ensures the warranty's conditions are not violated.

.8 Corrective Maintenance for Warrantied Items

Corrective maintenance (repairs) activities for items under warranty are to be performed solely by the manufacturer or supplier who holds the warranty, unless a delay in performing the maintenance activity could pose a danger to the facility, the environment, tenants or the general public. Determining when this exception is applicable is to be assessed on a case by case basis while exercising due diligence.

Authority-Based Inspections

Authority-based inspections are comprised of investigative inspections, external authority inspections, management inspections and client inspections.

.9 Investigative Inspections

Investigative inspections must be conducted to assess current technical and functional operating conditions of the facility's structure, its systems and equipment. These inspections may also facilitate internal maintenance audits which can determine if requirements of the maintenance service package are

being fulfilled. Where these inspections warrant specialized skills, assistance should be sought and obtained from other internal departmental or private sector contractors.

Inspectors conducting investigative inspections must not make adjustments or repairs to deficiencies discovered during this inspection, unless they are duly authorized. Instead, inspectors are required to report all inspection findings to the appropriate authority for direction of the corrective action.

.10 External Authority Inspections

External authority inspections must be conducted in order to comply with specific legal and mandated requirements for maintaining facility systems and equipment. These inspections are usually carried out by the responsible federal, provincial or municipal government department or agency. Departments and agencies may employ private sector contractors to conduct the inspections on their behalf. Failure to comply with this type of inspection is a violation of the law and departmental employees are required to ensure the conduct of such inspections are adequately accommodated.

.11 Management Inspections

The conduct for executing management inspections must be followed in accordance with the directions provided in the Property Manager's Handbook. These inspections require an assessment of the overall operating efficiency of the facility's structure, its systems and equipment. Findings from these inspections must be provided in the form of a Facility Performance Review, Level 1, and Facility Condition Review, Levels 2 & 3, for further review and assessment.

Management inspections may include other activities such as an investigative inspection. Management inspections may be regularly scheduled events. They may also occur as a result of an external authority or client inspection.

.12 Client Inspections

Client inspections are inspections requested by a client that are above and beyond those identified in the Facility Management Plan. Client inspections may result from:

- a requirement for an evaluation of maintenance service provision;
- an assessment of current facility conditions to determine if modifications to the Facility Management Plan are required; and
- the clients requirements to obtain an independent condition report to support a specific client need.

Client inspections can be performed by RPS employees or by private sector contractors on behalf of the client. Departmental representatives are required

to co-operate with the conduct of client inspections and accommodate designated inspectors during the inspection.

Maintenance Projects

Maintenance projects are maintenance activities identified in the Facility Management Plan or maintenance requirements identified as a result of preventive maintenance inspections, service calls or corrective maintenance that are in excess of five thousand dollars (\$5,000). The conduct for maintenance projects are not defined in these Guidelines. Refer to the Property Managers Handbook.

Operational Requirements

Operational requirements can be considered as technical or business in scope.

.13 Technical Operation Requirements

Technical operation requirements are generally described in Posted Procedures or in Standard Operating Procedures. The documented instructions are to be used by maintenance personnel as the approved and desired method to perform assigned facility maintenance tasks.

Posted Procedures

Posted procedures identify the maintenance or operational activities that are to be performed on a daily or weekly basis. The procedures provide specific and clear instructions that should be followed in order to reduce confusion or misunderstandings with other procedures and to facilitate site training and orientation for new or replacement resources. These procedures are to be unique and adapted to a specific facility, its systems and equipment. Posted procedures are generally not related to legislation, mandatory regulations or departmental and other government policies.

Standard Operating Procedures (SOP's)

Standard (or standing) operating procedures are to be developed, maintained and updated on a regular basis to ensure current practices, codes and regulations are being implemented in a consistent and logical operational sequences. These procedures are generally not to be modified at the site level. Where modifications are deemed necessary, they are to be reported immediately. SOP's are to be followed to ensure:

- consistent conformance and implementation by all operational staff;
- due diligence is practiced through recorded documentation;
- protocols and procedures are established for all levels of:
 - environmental stewardship;
 - life safety compliance;
 - asbestos management;
 - technical protocols and procedures; and
 - emergency preparedness.

.14 Business Operational Requirements

Shutdown Notifications

A shutdown is a closure of technical or functional operational activities within a facility. Managers are required to exercise due diligence to properly co-ordinate shutdown activities and, where appropriate, schedule other applicable maintenance activities to reduce the need for additional shutdowns.

A shutdown notification is to be issued to the client and designated tenant representatives whenever a maintenance activity is likely to disrupt tenant operations. The notification is to be issued to designated tenant representatives in a timely fashion to ensure that the tenants are provided the opportunity to plan for the disruption and prepare contingencies as appropriate.

Notification of a shutdown is to be made available to all sections within RPS which may be affected by the shutdown or to service areas that can use the opportunity to co-ordinate other work activities during the shutdown.

Preparation of Maintenance Plans and Schedules

It is imperative for RPS to plan facility maintenance in accordance with the departmental strategic vision. RPS is to establish and implement a framework to effectively manage the maintenance of mandated facilities. The framework must establish the basis for co-ordinating management for the full spectrum of accountabilities that is delegated to designated RPS managers.

Operational Planning

Operational plans are to be developed on the basis of client demands and the departmental strategic vision. Plans are to clearly define and establish facilities maintenance activities and the appropriate resources to effectively conduct planned maintenance business for the coming fiscal year.

Frequent performance assessments are to be conducted. Findings on other information gathered is to be used to facilitate modifications to current operating plans and maintenance practices, and as a means to enable continuous improvement in organizational operating strategies.

Tactical Planning

.1 Maintenance Requirements Definition

Facility maintenance work plans are to be developed that define and establish the overall requirements for specific maintenance activities to be conducted in accordance with client demands and RPS's strategic mandate.

As a minimum and without exception, maintenance requirements are to be defined and established within the scope of Mandated (Level One) Maintenance service offerings. Preferably and where possible, maintenance requirements are to be defined and established within the scope of Life Cycle or Enhanced Maintenance service offerings. Work plans are to be created

that identify the maintenance requirements including sufficient resources to conduct the maintenance activities.

.2 Forecasting

Program expenditure forecasts and main estimates are to be prepared for approval. The forecasts are to include consolidation of proposed resource requirements for each cost or responsibility center depending on the size and complexity of the proposed maintenance activity to be conducted for the facility within a specific program.

.3 Review

Proposed facility maintenance requirements are to be reviewed and proposed work plans adjusted appropriately to ensure consistency with organizational expenditure targets that have been established for the branch's facility maintenance program forecast submission process.

.4 Consolidation

Proposed resource requirements and planned work activity are to be consolidated by cost (and) or responsibility center for RPS's overall forecast submission review process requirements.

.5 Budgetary Requirements and Approval

Funding requirements for facility maintenance activities are to be identified as part of the annual Building Management Plan (BMP) process. Client Service Unit Directors and Managers will challenge and approve individual Building Management Plans.

In instances where there is a funding shortfall identified through the Annual Reference Level Update (ARLU) and Main Estimates process, individual BMPs including facility maintenance activities and schedules will have to be adjusted to reflect this situation.

Defining Maintenance Requirements

Several factors must be considered when determining the level of facility maintenance required to maintain the facility structure, systems and equipment. These factors include:

- mandated inspections and other departmental policies for facility maintenance;
- disruption to business operations housed within the facility in the event of system or equipment failure;
- liability as a result of failure to the facility's structure, systems and equipment;
- reduction of "event-based" maintenance and other operating costs; and
- due diligence for acquisition of capital replacement items for facility structures, systems and equipment.

Safety Requirements

Maintenance inspectors are to establish the safety and well being of a facility, its occupants and the general public as the key priority for conducting inspection duties. Where systems and equipment are located in hazardous areas or if other factors pose potential danger to maintenance inspectors, the Preventive or Predictive Maintenance Checklists, and operational Posted Procedures are to be reviewed and modified to ensure that designated inspectors are made aware of these potentially hazardous site specific situations.

It is also imperative that RPS employees and private sector contractors conducting maintenance activities on behalf of the department be adequately trained and certified as deemed necessary and that due diligence is exercised to maintain an acceptable level of safety to the facility, its occupants and the general public.

Operations and Maintenance Resources

Operations and maintenance service personnel, including private sector contractors, are encouraged to participate in the continuous improvement process for facility maintenance services by reporting maintenance problems of a local nature and by providing recommendations and other assistance in the review and planning process for maintenance of the facilities.

Equipment Condition

A principal objective of facility maintenance is to ensure that the facility's structures, systems and equipment are continually maintained in proper operating condition. Older or poorly maintained structures, systems or equipment may require a higher level of servicing to maintain the minimum level of operational efficiency. Requirements to support this objective must be well defined, approved and incorporated into planned maintenance activities prior to implementation.

.6 Damage Due to Excessive Wear

Systems and equipment that are identified as being subject to greater than normal vibration, overloading or operational abuse, may require increased inspection frequencies and (or) specialized inspections using tailored inspection checklists. Increased inspection demands may also be required to offset possibilities for excessive wear as a result of harsh environmental conditions such as excessive humidity or high levels of airborne dust. Such levels of inspection are to be properly planned and approved prior to implementation.

.7 Susceptibility to Loss of Adjustment

Where equipment is identified as requiring frequent re-adjustment or where an equipment manufacturer recommends monitoring beyond the scope of the preventive or predictive maintenance checklists, inspection schedules are to be modified to ensure that these special requirements are included. Such levels of inspection are to be properly planned and approved prior to implementation.

Frequency of Inspection

Frequency of inspection for facility structures, systems and equipment must be properly allocated to ensure effective resource utilization and adequate servicing. Inspection activities are to be carefully monitored to reduce over-maintenance or compensate for inspections that are too infrequent. Failure to meet pre-defined facility inspection requirements may result in

unexpected repair, replacement or liability costs to the department. It is also likely to create undue hazards to the facility, its occupants and the general public.

Preventive maintenance inspection frequencies outlined in the Mandated (Level One) Maintenance Checklists are determined by the requirements defined in legislation, mandatory regulations and other departmental policies. The frequencies for conducting these inspections must not be modified unless mandated inspection frequencies conflict. **Where interpretation among legislation and mandatory regulations conflicts, inspectors are to exercise due diligence and implement the most stringent of the legislation, mandatory regulation or other government policies. In each instance of conflict, such findings must be promptly reported for further assessment and verification of the action taken.**

Inspection frequencies that are pre-defined for Life Cycle and Enhanced (Levels Two and Three) Maintenance, with the exception of those identified as being legislated and regulated inspections, are recommended inspection frequencies. They are to be carefully monitored and modified as applicable and according to the specific requirements for the facility's structures, systems and equipment including the client's business needs.

Inspection frequencies are to be based on the following:

- pre-defined legislated or mandated inspection time periods;
- client demands or specific tenant operational requirements;
- the age and operating condition and history of the facility's structure, systems or equipment;
- established departmental inspection programs;
- manufacturers' servicing recommendations;
- seasonal weather conditions and demands;
- current operational and historic use of the systems and equipment;
- current level of available resources, their experience and skills; and
- other factors pertinent to the operations of a facility's systems or equipment.

Facility Maintenance History

Facility maintenance history is actual data related to time and event-based maintenance activities. It is to be maintained and used for assessing operating deficiency patterns and to track repetitive service activities resulted from premature equipment failures, improper installations, defective equipment parts, or inadequate system designs. Such findings are to be reported and used to enhance the facility maintenance services delivery process.

Facility Maintenance Inspection Scheduling

Preparation of inspection schedules requires the determination of when various types of facility maintenance inspections are to be carried out. The schedule is to include identification of specific resources required to service each facility.

Facility maintenance inspection scheduling is dynamic and requires careful consideration of various operational factors in order to ensure that;

- client and tenant priorities are at the forefront during maintenance activities;
- assigned work priorities are satisfied;
- disruption to client or tenant operations is minimized;

- requirements are specific to the facility's systems and equipment;
- legislated and regulated requirements are fulfilled;
- appropriate resources are available to conduct the scheduled activities;
- all resources assigned to provide the level of services are fully qualified and (or) certified;
- holidays, weather forecasts and other seasonal conditions are considered;
- logistics are considered and applied in conducting the activities;
- cost effectiveness is considered to reduce travel costs;
- resources are effectively utilized to maximize productivity; and
- proper practices are adopted to facilitate co-ordination of planned shutdown activities.

Work Priorities

Work priorities are to be assigned to all time-based and event-based maintenance activities. Work priorities are to be monitored and the activity schedule modified to ensure that priority requirements are satisfied. Maintenance work priorities are divided into four categories; Emergency, Urgent, Routine and Low Priority.

.8 Emergency

A priority of "Emergency" is defined as a deficiency or breakdown that requires immediate attention to reduce the potential for danger to occupants, the general public, the environment, or the facility. Maintenance identified with this priority must be responded to immediately and must be reported without delay to designated managers. Specific emergency procedures are to be established for each operating unit.

.9 Urgent

A priority of "Urgent" is defined as a deficiency or breakdown that requires same day attention to reduce the potential for danger to occupants, the general public, the environment or the facility. Work identified as Urgent must be reported immediately to designated managers.

.10 Routine

A priority of "Routine" is defined as essential maintenance requirements which should be rectified at the earliest opportunity possible. It is considered as deficiencies or breakdowns that do not impair current operations or pose any danger to the occupants, the general public, the environment, or the facility. This priority of work is to be completed within one week.

.11 Low Priority

Low Priority work includes deficiencies that are similar to those considered as Routine, but are of a less important nature. They are deficiencies which do not pose any immediate risk to the facility, its systems, its equipment or its occupants. Deficiencies classified as Low Priority are to be included

where possible with other planned maintenance and repair work for advance budget and operational planning.

Inspection Work Packages (Grouping)

Inspection work packages are groupings of maintenance activities assembled into work packages for execution by designated resources. Inspection work packages are to include logical groups of facility structures, systems and equipment requiring maintenance to efficiently utilize servicing resources. Grouping multiple items into inspection work packages minimizes paperwork and simplifies the monitoring process.

Subject areas for consideration in preparing inspection work packages are:

- optimum utilization of the inspectors' time and skills to complete the expected tasks. Managers are expected to exercise judgment and create inspections packages that are reasonable and achievable without conflicts;
- logistical routing which provides a logical ordering of maintenance activities designed to reduce travel time; and
- trade grouping which refers to the level of technical competence or certification which the inspector must possess to perform a variety of specific maintenance tasks.

Develop Maintenance Service Package

In developing a facility management plan with a client, in particular the maintenance service package, RPS must:

- clearly communicate the specifics of maintenance service offered;
- demonstrate the rationale for the proposed facility maintenance service level;
- identify client and RPS accountabilities and responsibilities;
- establish and maintain effective communication of all events;
- ensure commitments made are within the scope of the department's mandate; and
- ensure commitments to the client can be fulfilled without compromise.

Maintenance Service Package Decision

Approval of the Maintenance Service Package

Once the maintenance service package has been accepted by the client, RPS employees are to ensure that all commitments identified in the agreement are effectively implemented. The client is to be informed and concurrence received at the earliest opportunity of any deviation from the maintenance plan.

Rejection of the Maintenance Service Package

In the event that the maintenance service package is rejected by the client or an existing client service agreement is terminated, RPS will ensure that all mandated inspections including external authority inspections are carried out in accordance with all relevant policies and guidelines. Mandatory maintenance is to continue until the client has made alternate arrangements for maintenance.

PWGSC is obligated to satisfy the minimum requirements of all applicable mandated inspections for facilities it manages.

Implementation of the Maintenance Service Package

Resources performing facility maintenance activities, whether RPS employees or private sector contractors, must be fully trained and (or) certified for that particular maintenance activity or in the use of specialized tools and equipment as deemed necessary.

Work Control and Administration

Work control and administration provides for the effective realization of maintenance activities. Functional activities include:

- maintaining detailed schedules for maintenance activities;
- assignment of maintenance tasks and provision for appropriate resource/s;
- validating completion of the work and assuring compliance with checklist requirements;
- recording results for reporting/record management;
- recording and ensuring that recommendations and follow-up work is appropriately actioned and that results are recorded to enable maintenance analysis at various levels, particularly the equipment level; and
- recording details of maintenance activities for such things as costs, time, dates, materials and contracts used in the deployment of the task.

Inspection Report Process

When a deficiency is identified, as part of an inspection, care must be taken to diagnose the deficiency and to describe it and the factors involved in its repair. Diagnosis should take place at the time of the inspection or immediately thereafter. It is to identify the facility, inventory identification code number, and location of the equipment item, and including the following:

- description of the problem with the equipment or architectural item;
- requirements to repair it, e.g., material, parts, special equipment, tools, or expertise;
- estimated time and labour requirements;
- estimated labour, material and other costs;
- negative impacts on the client's operation, facility occupants or the facility itself as a result of a breakdown;
- priority identifier; and
- other, if any, external factors are involved, e.g., shutdowns, power outages, etc. and what would be the effect to the client or facility.

NOTE: If required, sketches or pictures should be included.

Use of Private Sector Contractors

Maintenance contracts, standing offer agreements and overall operating and maintenance contracts require that private sector contractors honor all aspects of this and other government policies without exception. This does not, however, limit in any way departmental accountability and responsibility in facility maintenance.

Recording Obligations

Records are to be kept of all activities related to the delivery of the facility's maintenance service package. This applies to facilities operated and maintained by RPS employees as well as private sector contractors. These records are required for a variety of purposes including financial, legal and technical issues. They are required to be maintained in both printed and electronic formats.

.1 External Reporting Obligations

In compliance with prevailing legislation, mandatory regulations and other government agency requirements, pertinent information are required to be maintained for maintenance activities. To determine the location, record content, and duration the information is to be maintained, please refer to the particular legislation, mandatory requirement, policy or guideline for the subject area effected.

.2 Internal Reporting Obligations

Notwithstanding the external reporting requirements previously mentioned all maintenance records and reports not required for external reporting or record keeping are to be maintained for a minimum of five fiscal years. The medium and location of these records are determined locally, and in accordance with departmental information management guidelines.

Monitoring Compliance to Policies, Regulations, Legislation and Client Agreements

An internal audit process is to be developed and maintained to monitor compliance with this policy, client contracted requirements, and to assess the efficiency of its implementation.

Information on all activities associated with facility maintenance must be monitored on an on-going basis. Periodic reports must be prepared and analyzed in addition to those prepared for the annual assessment conducted in preparation for the Facility Performance Review process. Completed maintenance activities are to be monitored on a continual basis to ensure work orders are in compliance with this policy and to detect trends that impacts the effectiveness of planned inspections and the facility maintenance process.

Monitor Performance

Inspectors are required to identify and report deficiencies in facility structures, systems or equipment that may be in place as a result of improper design, inconsistencies to standard specifications, faulty installation, operational abuse, or are deficient due to abnormal component deterioration.

Monitor Energy Efficiency

Energy conservation is an essential factor in operating and maintaining the facility's structure, systems and equipment. Detection of deficiencies that are energy related and are significant in nature must be properly analyzed, corrected and monitored. Information on such issues must be properly documented and communicated.

Monitor Maintenance Effectiveness

Maintenance activities are to be monitored on a continual basis to ensure facility maintenance activities are in compliance with this and other government policies to detect developing trends

that may impact the effectiveness of inspections and the facility maintenance process. Trend analysis of the data is to be conducted to facilitate effective planning and decision making that justifies recommendations for capital investments to repair or replace facility structures, systems or equipment.

Monitor Life Safety Compliance Testing

Compliance with all Life Safety Compliance Testing requirements is mandatory. Inspections identified as Mandated (Level One) or other checklists (Levels Two and Three) indicating that regulations apply, shall be the vehicle by which inspections are carried out. Through the application of this policy management will be provided with substantial detail for the annual "Life Safety Compliance Testing Certificate" exercise as required in the "Life Safety Compliance Testing Manual".

Monitor Environmental Compliance

Compliance with environmental regulations is mandatory. RPS personnel and private sector contractors carrying out facility maintenance activities must adhere to the requirements of the Canadian Environmental Protection Act (CEPA). Identified facility structures, systems and equipment are regulated by this act in addition to asbestos, PCBs, Halon systems, CFC's, underground fuel tanks and chemical storage inventories. Incorporation of maintenance checks, through planned inspections combined with accurate documentation of inspection findings is a feasible means to facilitate appropriate feedback and to fulfill obligated environmental responsibilities.

Monitor Maintenance Resource Utilization

Managers are required to use completed maintenance activity information for monitoring the operating efficiency. Developing trends indicating excessive resources utilized to conduct corrective maintenance work or in responding to service calls are to be further analyzed and used to enable business process improvements and to enhance the quality of facility maintenance services.

Conduct Facility Performance Review

Facility Performance Reviews are to be conducted on each facility as defined in the Property Manager's Handbook.

Quality Assurance

Management is obligated to ensure optimum quality in the delivery of facility maintenance services. All RPS employees must be vigilant and establish feasible means to ensure quality service delivery related to facility maintenance activities as the basis for achieving reliability, serviceability and maintainability.

Quality Control

In support of the overall quality objectives, RPS has established a Quality Control Organization. This organization will watch over the provision and monitoring of quality standards, checklists, statistical models, and their effective deployment and maintenance.

FACILITIES MAINTENANCE OPERATIONAL IMPLEMENTATION

General

Successful implementation of facility maintenance will require sustained commitment by all involved. RPS is to ensure this policy and guideline is understood, implemented and maintained at all levels of the organization. To fulfill this commitment, the

organization is expected to fully commit itself to this mandate and provide adequate operational and administrative support as well as appropriate training and tools to enable employees to effectively execute their duties.

Training

To support RPS's commitment to operational excellence, resources designated to manage or perform facility maintenance activities are to be provided appropriate and sustained training. Training requirements for designated resources will vary dependent on the level and scope of the activities involved.

Subject areas targeted for continuous training includes:

- adopted facility maintenance management practices, principles, policies, standards and guidelines;
- technical training in the area of facility structures, systems, equipment and maintenance related specialized tools;
- office automation and cross-functional administrative systems applications; and
- adopted facility maintenance techniques and standards in areas such as safety and the environment.

Tools and Equipment

RPS employees involved with facility maintenance are to be equipped with appropriate tools and equipment required to effectively conduct their assigned maintenance tasks in accordance with departmental and other government policies. Private sector contractors are expected to provide the tools and equipment required to complete their tasks unless other provisions are agreed to within the terms of the contract.

Communication

Industry and government organizations regard cost effective and timely information a key communication mechanism to effectively conduct business. RPS also regards communication as vital to the success of its facility maintenance objectives. Tracking maintenance activities and servicing events requires proper communication methods to ensure personnel at all levels of the organization and their clients, are fully aware of current operating trends, program developments, this and other government policies.

Commitment

RPS shall ensure this policy and guidelines is understood, implemented and maintained at all levels within the organization. Commitment to the philosophy of this policy must be evident at all levels within the organization. RPS is also expected to issue regular communiqués, etc., and circulate them throughout their respective organization to amplify the commitment.

Teamwork

RPS employees and private sector contractors designated to conduct maintenance activities are expected to maintain a team approach in delivering their services to achieve the stated objectives. RPS is also required to encourage and establish a healthy

working environment: One that fosters the spirit of partnership and efforts to achieve common goals.

Research and Development

Continual research and development is a necessity to encourage and to maintain a cycle of continual improvement for facility maintenance. RPS employees are to continually seek alternate solutions, methods and practices. In addition, management is to ensure that requisite funds be allotted to support this requirement and that knowledge of proven advancements are to be shared among government organizations participating in facility maintenance.

Authority and Responsibility

It is imperative that employees be delegated the appropriate level of authority for the roles assigned and responsibilities to be undertaken to support effective co-ordination and execution of RPS facility maintenance service activities.

Performance Assessment

RPS is required to continually review opportunities to improve operational effectiveness and to enable more modern and flexible services to our clients. Measurement of operational performance will assist departmental and client organizations to better understand the inner workings of facility maintenance business. It will also enable RPS to measure the level or rates of success the organization has attained.

ANNEX A

References

References

The following legislation and Treasury Board policies (as well as departmental policies not included below) have an impact on federal real property servicing activities and the requirements of this policy:

Canada Labour Code (Labour Code):

The Labour Code is Chapter L-2 of the Revised Statutes of Canada, 1985. The Canada Occupational Safety and Health Regulations (COSHR) pursuant to the Code are contained in the Canada Gazette Part II.

Treasury Board's occupational safety and health directives and standards:

The Treasury Board directives and standards which are supplementary to the Labour Code, Chapters 2 to 2-20 of the Occupational Safety and Health (OSH) volume of the Treasury Board Manual (TBM). Directives on the use and occupancy of buildings (Chapter 2-17) and hazardous confined spaces (Chapter 2-7).

Boiler, pressure vessel and elevating device inspection requirements:

Both standards appear in the COSHR. Treasury Board provides additional direction in Chapters 2-1 and 2-4 of OSH volume.

Environmental policy:

Chapter 1-8 of TBM, contains the policies and provides references to the legislation and processes applicable to federal facilities.

Fire protection requirements and standards:

Part III of the Material, Services and Risk Management volume of the TBM and Chapters 3 to 3-6 of the OSH volume contain requirements in addition to those of the Labour Code and the COSHR.

National Building Code:

National Fire Code of Canada:

LSSCTP:

Life Safety Compliance Testing Manual

ANNEX B

System and Equipment Codes

GENERAL

The concatenation of system code, equipment code and unit counter uniquely identifies an inventory item within a building. Where a new code is required, the Contractor shall request direction from the AM.

System Code		Equipment Code		Unit Counter
30		050		001

System Code: A two character numeric field used to identify building systems in general classification terms. In this instance "30" refers to a ventilation system.

Equipment Code: A three character numeric field used to identify the particular type of equipment within a system. This coding block is always used in association with the System Code referred to above. In this instance "050" represents an air handling unit.

Unit Counter: An up to five character alphanumeric field used to separate like equipment within a building.

System Codes

Code	Title	Description
05	Electrical Service and Distribution Low Voltage (31 - 750V)	Includes external power supply entrance to a building such as transformer vault, (including equipment), main distribution panel or switch gear, bus ways, secondary transformers, disconnect switches, distribution panels, splitter troughs, and associated hardware.
06	Electrical Service and Distribution High Voltage (>750V)	Same as above
10	Electrical Auxiliary and Standby Power	Includes standby generators (auxiliary power units), wind turbines, solar, uninterruptible power supply (UPS). This includes all related hardware i.e.. Robonic switching, supply and exhaust fans. Storage battery systems for emergency lighting will be included in Fire Protection and Alarm Systems (See section 60).
15	Control/Monitoring Systems	Electrical/electronic systems includes remote central or direct control of building systems, equipment or monitoring devices interfaced with panels, field sensors, relays including all interconnecting wiring, cabling, piping, conduit. To include power systems dedicated to this system.
20	Heating	Equipment that provides heat to a building/facility such as high and low pressure steam/hot water, etc. along with their associated components (i.e.. condensate returns, feed water pumps, etc.) "DOES NOT INCLUDE POTABLE WATER SUPPLY".
25	Refrigeration	Equipment that uses a mechanical closed loop consisting of an evaporation, compressor, metering device and condenser for the purpose of heat rejection. Examples to be considered are air conditioners, heat pumps, chillers, reach-in / walk-in coolers and freezers and absorption systems.
30	Ventilation/Air Distribution	All equipment primarily designed for the distribution and control of temperature, humidity, cleanliness and movement of air.
40	Compressed Air, Auxiliary & Process	Includes equipment such as compressors, air dryers and related pneumatic control equipment.
50	Water Supply	Hot and cold potable water supply equipment. Equipment to be considered includes drinking fountains, backflow preventers, domestic hot water boilers, etc.
55	Plumbing/Drainage	Equipment designed for the supply, circulation and/or disposal of water (non-potable) and other fluids. Items include water closets, sump pumps, lavatories, drains, water spouts, etc.
60	Fire Protection & Alarm	Equipment/systems designed to warn, to impede and/or stop a fire. It includes, fire alarm panels and components, emergency lighting, voice communications, smoke exhausters, stairwell pressurization fans, sprinkler systems, fire booster, pumps, etc.
65	Vertical & Horizontal Transporting Devices	All transporting equipment for persons and/or materials. e.g.. dock levelers, conveyors, elevators, dumbwaiters, vertical wheelchair lifts, escalators, etc.
70	Security	Devices that assist in the physical security of the building/facility such as closed circuit television surveillance systems, photocell, infrared or laser beam systems, key card access, etc.

Code	Title	Description
72	Environmental	Equipment/systems that require management and accountability as per the Canadian Environmental Protection Act (CEPA). Items include PCB storage sites, chemical handling (CFCs & Halon), above and below ground storage tanks, asbestos, pesticides and sewage/solid waste disposal, etc.
75	Special Purpose	Systems not previously designated and/or client owned equipment which are maintained by the Department.
79	Energy	Systems designed for the conservation measurement and recording of energy consumption. Items include electric meters, gas/oil meters, water meters, etc.
80	Architectural/Structural	Includes building components other than equipment that requires periodic technical inspection. Items to be considered include roofs, chimneys, stacks, windows, doors, etc.
85	Grounds	Includes exterior items that are associated with the building/facility such as roads, retaining walls, fences, parking areas, access ways, storm drainage, landscaping, etc.
90	Cafeteria	All major kitchen and service equipment such as coffee urns, deep fat fryers, stoves, etc., which are crown-owned and consequently should be maintained by PWGSC. NOTE: DOES NOT INCLUDE REFRIGERATION EQUIPMENT (SEE SECTION 25)

Equipment Codes

Code	Title	Description
005	Filters, Washable & Disposable	A device to remove contaminants in particulate form from air. NOTE: Does not include electrostatic (See item 139) or Air Purifiers (See item 140)
006	Filter, Hepa	High efficiency particulate aerosol designed to remove airborne substances and retain such by products up to an efficiency of 99.97%.
007	Filter, Water	A device to remove water born contaminants. This includes sand filters, zeolite filters, etc.
009	Aerator / Blower	A device used to expose air to chemical and/or mechanical action.
010	Air Compressor	A device which pressurizes ambient air and provides same through a distribution network. This includes pneumatic control systems, air activated power tools, etc.
015	Vacuum Pump	A device used to lower the ambient pressure below atmospheric (14.7 PSIG) pressure.
016	Vacuum Cleaner	A device used to remove airborne contaminants by lowering the ambient pressure below atmospheric (14.7 PSIG) pressure.
020	Air Conditioner , Built-up	A direct expansion system that uses an open compressor to circulate refrigerant. The evaporator and condenser are usually mounted remote of the compressor.
025	Air Conditioner, Packaged	A direct expansion system that uses a hermetic or semi-hermetic compressor to circulate refrigerant, The compressor, evaporator, metering device and condenser are mounted as one assembly. This includes room and rooftop units. NOTE: Does not include heat pumps (See item 407).
030	Air Conditioner, Split	A direct expansion system that uses a hermetic or semi-hermetic compressor to circulate refrigerant. The compressor and condenser (condensing unit) are usually located separately from the evaporator.
035	Air Conditioner, Window	A direct expansion system that uses a hermetic compressor to circulate refrigerant. The entire refrigeration system is housed in one unit. These units are portable for ease of installation and/or removal. They may or may not include a heat source (i.e.. electric or hot gas heating).
036	Air Conditioner, Room	
050	Air Handling Unit	A unit designed to circulate treated air. Components generally include some or all of the following: fan assemblies, heat transfer coil (heating and/or cooling), louvers, screens as well as ductwork inspection and cleaning.
052	Agitator Bio Waste	A device used to cause motion in a confined fluid. This includes biowaste and chemical vessels, tanks and/or chamber.
055	Air Valve (vent)	A device, either manual or automatic to remove air from the highest point of a coil or piping assembly.
057	Autoclave	A strong vessel used for chemical reactions at high pressures and temperatures to sterilize and destroy micro-organisms.
058	Ash Removal	A system for the powered removal of ash from boilers and furnaces.
060	Battery Charger (Includes Batteries)	An electric device used to charge batteries and used in conjunction with batteries for conversion of electrical energy into chemical energy within a cell or battery. Includes dry cell, nickel cadium and lead/acid batteries.

Code	Title	Description
065	Backflow Preventer	A plumbing device designed to protect potable (drinking) water from contamination by other building water systems.
070	Boiler, Hot Water	A pressure vessel designed to store hot water at pressures < 15 PSIG or > 15 PSIG and to act as a source of hot water for heating or other purposes.
075	Boiler, Steam	A pressure vessel designed to store high temperature, high pressure steam at pressures <15 PSIG or > 15 PSIG. Provides a source of steam for heating or other purposes.
090	Burner, Oil Fired	Includes domestic burner, rotary cup burner, steam atomizer burner water and fan assembly.
091	Burner, Gas/Propane Fired	Includes natural gas burner and liquefied petroleum (propane) gas burner.
092	Burner, Combination	
093	Bus way	A raceway consisting of metal troughing (including elbows, tees, crosses, in addition to straight runs), containing conductors, the conductors being supported on insulators. (Includes all electrical bus ways past the transformer vault, substation).
095	Bus work and Structure Insulators	Includes all bus work, insulators, meter transformer bushings and fuses within the transformer vault (substation).
096	Load Break Switch	Devices equipped with quick make and break mechanisms, arcing and main contacts and "Arc-quencher" to handle load and fault currents without danger to operating personnel.
097	Cables, Primary and Secondary Feeders	Includes all primary and secondary cable feeders, primary air break or oil break switches, primary lighting arresters and high tension fuses and hardware where applicable within the transformer vault (substation).
098	Carbon Monoxide Monitor / Controller	A device which monitors or controls carbon monoxide in parking garages (part of Ventilation System).
099	Gas Detection, Monitors (Includes Confined Spaces)	A device (permanently mounted or portable) used for the detection of oxygen deficiencies, carbon monoxide, hydrogen sulphide, CFCs (refrigerants), lower explosive limits, etc.
100	Chiller, Absorption	A low pressure refrigeration machine that uses chemicals and a source of heat to generate cooling water.
105	Chiller, Centrifugal	A self-contained, low pressure power driven refrigeration unit, consisting of a refrigerant evaporator, compressor and water-cooled condenser, used to provide chilled water to air conditioning system. Includes intercooler.
110	Chiller, Reciprocating	A high pressure piston type compressor usually operated by an electric motor combining a compressor and chilled water evaporator as one unit. The air or water-cooled condenser may be remote or part of the assembly.
120	Circuit Breaker	An electromechanical device designed to open a current-carrying circuit, under both overload and short circuit conditions without injury to the device. This term applies to the automatic type designed to trip on a predetermined over current. (Relays, dash pots, current transformer, tripping and other devices used for the operation of the breakers form part of the circuit breaker). These include the following designations: Main oil type, air, drawout, molded case, SF-6, etc.

Code	Title	Description
123	Excitor	An electrical device designed to generate an electrical magnetic field (EMF)
124	DC Generator	An electrical device designed to generate electrical energy through the use of an armature and brushes.
125	Capacitor Bank/	A group of capacitors connected in parallel designed to provide the desired Kilowatt Amperage.
"	Surge Protection/	An electrical device designed to limit voltage and current to predetermined values to protect connected electrical loads.
"	Transient Voltage Unit	An electrical device designed to protect electrical equipment from any other voltage sources other than that which is normally supplied.
126	Voltage Regulator	
127	Alternator	
128	Capacitor	
130	Cooling Coil/	A device (heat exchanger) designed to remove heat from surrounding medium, usually air or water. These generally are fabricated to include a housing, coils of piping, fins, etc.
"	Evaporator	A device (heat exchanger) designed to remove heat from the surrounding medium (i.e.. air, water or brine) that uses a refrigerant to accomplish this action.
135	Heating Coil	A device (heat exchanger) designed to add or release heat to the surrounding medium (i.e.. air, water, etc.). These usually consist of a housing, coils of piping, fins, etc.
136	Terminal Hot Water Reheat	A device designed to provide instantaneous hot water on demand. They generally include a housing, reservoir, heat source (electric, gas, propane, etc.), strainer and drain. These are generally located as close to the source of demand as possible (i.e.. shower, sink, etc.)
137	Cold Room	A refrigerated space (cooler or freezer) that is part of the permanent structure of a facility / building, i.e.. wine cellar, meat freezer, vegetable or pastry cooler, etc. Does not include walk in coolers / freezers (See item 980).
139	Filter, Electrostatic	A device designed to clean air by giving dust particles an electric charge. This causes the particles to be attracted to a plate so they can be removed from air.
140	Air Purifier	A device to remove odours and particulates (contaminants) from air. Usually consist of a prefilter, gaseous phase media, intermediate filter and particulate final filter.
142	Condenser, Evaporative	A device which uses open spray or spill water and air to cool the refrigerant. Usually consists of the following: condenser, sump, make-up water pump, spray bars, wooden slots, etc. May or may not include fan assembly.
144	Communication Systems	Equipment designed to communicate visually or audibly to the building / facility occupants. This includes the following: intercoms, security radio equipment, public address systems, wireless (portable phones, 2 way radios, etc.) equipment, visual (x-ray, closed circuit TV), etc.
145	Garbage Compactor	A unit that compresses waste materials prior to disposal.
147	Compressed Air Dryer	A device which utilizes a refrigeration system to remove moisture from the ambient air prior to distributing same through a pneumatic network.

Code	Title	Description
148	Compressor, Refrigeration	A device designed to add the heat of compression to a refrigerant and circulate the same throughout the refrigeration system (condenser metering device, evaporator and associated piping). These include reciprocating (open, semi-hermetic, hermetic) and rotary compressors. NOTE: Does not include centrifugal compressors (See item 105)
150	Condenser, Air Cooled	Part of refrigeration system (heat exchanger) that uses surrounding air as a medium to convert the high pressure, high temperature vapour received from the compressor to a high pressure, high temperature liquid through the heat of rejection.
151	Condenser, Water Cooled	Part of refrigeration system (heat exchanger) that uses water as a medium to reject heat from the refrigerant.
152	Controls, Combustion	A system of controls on combustion equipment for the safe and efficient operation of the combustion equipment.
153	Controls, Electric and Electronic	Electrically operated control devices (does not include motor control centre).
154	Controls, System	Devices used with a computer or multiplexed monitoring, alarm, security, fire, energy, environmental or control system.
155	Controls, Pneumatic	A control system using compressed air as the operational medium. NOTE: Does not include valve assemblies. i.e.. pressure reducing valves PRV (See item 523)
156	Controls Feed Water	A device that monitors and controls the flow of feed water to a boiler.
158	Controls Gas Analyzer	A device for sampling and analyzing exhaust gases. May be used to give alarms, record, indicate or control.
160	Convectector, Hot Water	A heat transfer unit using the principle of either natural or forced convection. Natural convection is used for heating and forced convection may be used in both heating and cooling applications.
170	Converter	A heat transfer mechanism that operates with two different mediums i.e. steam and water, brine and chilled water, etc.
172	Conveyor	A mechanism for moving materials from one point to another. It may be manual or power operated.
180	Cooling Tower	A device which cools by water evaporation in air. NOTE: This is to be used for all types of condensers except refrigeration type (see item 142 Evaporative Condenser).
185	Dust Collector (All types)	A Device designed to remove dust and particulates from air. Generally used in woodworking and metal working shop area.
186	Dampers	A valve or plate for controlling draft or the flow of gases including air. These include electric, electronic, pneumatic, gravity and fire suppression dampers. NOTE: Fire Suppression dampers include fire, smoke, ceiling and combination dampers.
190	De-aerator	A unit that removes the entrained gases from the circulating media of heating or cooling systems.
195	Dehumidifier	A device designed to remove moisture from air. This can be accomplished by cooling the air below its dewpoint.
199	De-superheater	A device to remove excess heat or energy from superheated steam.
200	Disconnects (Isolating Switches)	A switching device designed to electrically isolate equipment from its source of power.

Code	Title	Description
205	Main Disconnect	A switching device disconnecting under load a building or facility from its electrical source.
210	Distribution Panel	A single panel or group of panel units designed for assembly in the form of a single panel, including buses and with or without switches and/or automatic over current protection devices, or other equipment, for the control of light, heat, or power circuits and constructed for installation as a complete unit in an enclosure.
212	Panelboard, Lighting and Appliance Branch Circuit	A panelboard having more than 10 percent of its overcurrent devices rated 30 amperes or less, for which a neutral connection is provided.
215	Distribution Splitter Trough (Splitter)	An enclosure containing terminal plates or bus bars having main and branch connectors.
216	DDC Control Cabinet	
220	Distribution Switchboard (Switchboard)	A panel or assembly of panels on which is mounted any combination of switching, measuring, controlling and protective device, buses, and connections, designed with a view of successfully carrying and rupturing the maximum fault current encountered when controlling incoming and outgoing feeders.
223	Sump Pit	A holding area with or without a pump designed for the temporary storage and removal of water and other fluid products.
230	Dock Load Leveler	An elevator dockboard designed to reach the floor of various vehicles. May be manual, hydraulic or electric operated.
235	Drains	Floor / Roof / Trench / Sump types provide a means by which excessive water is channeled out of a building and prevents deterioration of the asset.
238	Dumbwaiters	An elevating device to move materials from one elevation to another. May be manual, hydraulic or electric operated.
239	Electric Motor	Item Code not intended for use for fractional horsepower motor which is usually a component part of an equipment item.
240	Elevator	A hoisting or lowering mechanism with a car or platform which moves in guides in a substantially vertical direction.
245	Economizer	A heat transfer device located within the breaching of a broiler stack.
250	Emergency Generator (System)	A generator which is a self-contained rotary plant for producing emergency electrical power and normally driven by a prime mover, such as a diesel, gasoline or gas engine or turbine engine. Inspection should include the whole system and would consist of all equipment associated with the emergency generator to the point where the emergency electrical power is supplied (at and including electrical transfer switch or switches) in the event of failure of normal (Hydro) power. The emergency system would consist of fuel tanks, supply pipes and associated pumps, the cooling system of the prime mover (air dampers, louvers, fresh air ducts and/or city water supply), starting batteries, electrical generator, generator switchboard, transfer switches, and all wiring and equipment associated with the above up to and including the electrical transfer switches (panels).
"	Diesel Generator Set	A plant for producing electricity where the generator is driven by a diesel engine.

Code	Title	Description
"	Gasoline or Gas Generator Set	A plant for producing electricity where the generator is driven by a gasoline or gas operated engine.
"	Turbine Generator Set	A plant for producing electricity where the generator is driven by a turbine engine.
253	End Devices	Devices which are used to transmit signals in pneumatic, electric and electronic control systems. These include sensors, transducers, transmitters, receivers, relays, etc.
255	Escalator/Moving Walkways	A moving staircase or walkway designed to transport people and/or materiel horizontally or vertically from one area to another.
257	Heat Exchanger	A device used to transfer heat from a warm area or surface to a cooler area or surface. These include air to air, liquid to liquid, liquid to air, compressed plate, heat wheels, etc.
258	Exhaust Air Valve	
259	Expansion Joint, Piping	A device installed in a piping system (Steam, water, air, etc.) used to compensate for expansion or contraction caused by temperature or pressure variations.
260	Fan Assembly, Supply/Return	A radial or axial flow device used for the distribution of air. NOTE: This does not include fans that are part of an air handling unit (item 050).
261	Fan, Ceiling (Circulation)	A device used for the destratification of air.
265	Fan, Combustion	A forced and/or induced draft fan on combustion units.
270	Fan, Exhaust	To remove stale air or fumes, includes dampers - manual or motorized where applicable.
271	Fan, Exhaust (ash)	An exhaust fan for the removal of ashes from a system. Also called air exhauster.
272	Fume Hood System	A device designed to function as a ventilated enclosed work space to capture, confine and exhaust all fumes, vapours and particulates generated within the fume hood.
273	Fume Hood Assembly	This includes the fan(s) and the associated duct work separate from the fume hood itself.
280	Fan Coil Unit (Cabinet Heater / Cooler)	An individually controlled unit fan and coil unit for heating and/or cooling and regulated by means of a thermostat controlling either fan or supply valve.
281	Fan Unit Ventilator	An individually controlled fan assembly and housing designed to circulate air.
290	Fire Alarm System General	A system designed to alert occupants and the fire department audibly and/or visibly in case of a fire. The following components are included: manual pull stations, heat detectors, bells, smoke detectors, strobe lights, end of line (EOL) devices, etc.
295	Fire Alarm and Voice Communication (System) Integrated	Provides voice communication between the central alarm and control facility and all floor areas and exit stairways by means of loudspeakers and emergency telephone handsets.
300	Fire Dampers and Fire Stop Flaps	A damper equipped with fusible links that close when actuated by heat to prevent the spread of fire. Usually located in exhaust ducts.

Code	Title	Description
305	Fire Doors & Separation Doors	A fire resisting door of wood, metal or both e.g. door of a boiler furnace, heat actuated fire door in passageways and stairways and self-closing fire door in passageways and stairways.
310	Fire Extinguishers - Portable	A portable apparatus that ejects water or other extinguishing chemicals for purposes of putting out small fires. Includes Water Pump, tank, water expellant - Gas Operated, Dry Chemical, Carbon dioxide, Soda Acid - Tech. Std. Ref. No. D.F.C. 401.4
311	Fire Extinguisher (System) - CO ₂	A CO ₂ gas extinguishing system permanently attached with manual and/or automatic actuating devices.
312	Fire Extinguisher (System) - Dry Chemical	A dry chemical extinguishing system permanently attached with manual and/or automatic actuating device.
313	Fire Extinguisher (System) - Halon	A Halon extinguishing system permanently attached with manual and/or automatic actuating devices.
315	Fire Hydrants	A discharge pipe with a valve and spout to which a fire hose can be attached for drawing water.
325	Fire Pump, Supply/Booster	A device that provides a high volume of water under pressure for fire fighting purposes. Includes a pump driven by an internal combustion engine (electric, diesel, gas, etc.)
330	First Aid Kit	A container complete with emergency first aid equipment strategically located for personnel use.
331	First Aid Eyewash Station	A water source designed specifically for eye flushing.
332	Emergency Alarms - Washrooms	Manually activated safety alarms installed in washrooms.
335	Flash Tank	A device for changing the phase state from hot water to steam and for separating the hot water from steam.
337	Vehicle Lift	A device for raising mobile transportation equipment in order to carry out repairs / maintenance on same.
338	Freight Platform Lift	A device for raising / lowering materials and personnel.
339	Furnace, Warm Air (Electric)	A self contained appliance designed to supply heated air directly or through a duct system utilizing electrical elements. Usually consists of a fan assembly, plenum, heating element, etc.
340	Furnace, Warm Air (Gas or Oil)	A self contained appliance designed to supply heated air directly or through a duct system using gas or oil as a heat source. Usually consists of a fan assembly, plenum, heat source, exhaust (chimney), etc.
341	Heater, Ramp	Under surface ramp or sidewalk imbedded heaters. May be electric, steam, hot water or glycol.
342	Heater, Electric - Duct	Electric heating elements installed in ducts.
343	Heater, Electric - Baseboard	Individual electric heaters supply room perimeter heat.
344	Heater, Electric - Unit	Ceiling mounted unit heaters with fans using electricity as source of heat.
345	Hoist (pneumatic - hydraulic)	Hoist with hydraulic piston set in floor. Operated by air pressure. NOTE: Does not include vehicle lift (see item 337)
346	Heater Cables	

Code	Title	Description
347	Hoist, Manual/Electric	An apparatus used for raising and lowering objects. These can be portable or attached to a monorail system.
348	Hoist, Overhead (Traveling Bridge Crane)	A device used for raising / lowering objects. Consists of an overhead rail assembly, gears, pull-up, ropes, chains, etc.
350	Humidifier	A unit that adds moisture to the air. Includes steam, spray and drum types.
355	Incinerator	Furnace for burning waste.
360	Induction Unit	An under-the-window unit for heating/cooling, which mixes supply and room air in the unit by induced draft.
361	Sand Trap	
362	Interceptor, Grease or Oil	A strainer and trap installed in the drain or waste system of kitchens, automobile service areas and car washes to entrap and prevent greases and oils entering the common sewage system.
363	Sediment Trap	
364	Interface Panel	A remote panel and associated electric circuits which provide interface with various input and output signals used to monitor and control energy, safety, security or fire alarm systems or functions.
365	Irrigation (System)	Component parts usually consist of piping, valves, pumps and control devices. Checklist may also be used for maintenance of decorative water fountains.
370	Lighting Emergency (System)	A system having an independent power supply that, upon disruption of the normal power supply, automatically engages its independent source to provide illumination for egress from building, and to essential service rooms, work areas and security areas.
379	Lighting, Interior	Includes all indoor light fixtures and standards along with its associated wiring. This includes programmed lighting systems.
380	Lighting, Outside (System)	Consists of outdoor lighting fixtures and standards, including associated wiring and equipment such as underground and/or overhead wiring, panel boards, transformers, switches, time switches, photoelectric switches, etc., which forms a part of whole of the outdoor electrical service whole from the source of the electric supply for and to the lighting fixtures and lamps.
381	Lightning Rod	A device designed to protect buildings and circuits from electrical interference by grounding.
383	Master Clock	A clock that controls slave clocks which form a clock system whereby all slave clocks keep the same time as the master. The master clock generates periodic signals used for synchronization of the slave clocks.
384	Metering Equipment	
385	Mixing Box	A heat transfer mechanism where air with different conditions of temperature are mixed prior to distribution to the conditioned space.
386	Motor Control Centre (MCC)	Essentially a switchboard which also contains starters at a central location to protect and start and stop motors at various locations.
387	Piping Systems	Piping, tubing, etc. designed to convey water, steam, glycol, gas, etc. to major components. NOTE: Does not include pneumatic systems. (See item 155, Control, Pneumatic)

Code	Title	Description
388	Plumbing, Fixtures	Devices normally associated with plumbing systems, i.e.. taps, drains, laundry tubs, sinks, water closets, etc.
389	Printer Terminal	A device used as a "hard copy" recording device used with a monitoring system to provide written records of events occurring in systems. May include associated keyboards.
390	Power Door Operator	Hydraulic, electric or pneumatic operated.
391	PCB Storage Site	A storage area designed for the temporary containment of PCBs.
395	Preheater, Oil	A facility for heating no. 5 and 6 fuel oil to reduce viscosity to aid pumping and burning.
396	Pressure Regulating Valves	A device which controls the internal pressure of a system.
397	Projector, Slide	A passive information visual display device to provide visual displays to assist operator functions. May include input keyboards.
398	Pressure Reducing Valves	A device which lowers the internal pressure of the system to a pre-set point.
400	Pump, General	Includes pump and motor and associated piping and valves.
401	Pump, Steam	Any pump that is steam driven.
405	Pump, Condensate	Pumps which return the condensed steam to the boiler as water and which are associated with steam turbines.
407	Heat Pump	A reverse cycle refrigeration system for both heating and cooling purposes.
410	Pump, Sump	Maintains water level by pumping away excess through drains.
411	Pump Sewage Station	Prefabricated sewage pumping station
412	Catch Basins	
413	Manholes	
420	Relay Panel	A device which is designed as an intermediate point of control and switching electrical action.
422	Recorder	A device used to record electrical, gaseous or liquid flow. Includes chilled water, hot water, steam, electricity, etc.
423	Energy Meter, Combined	Electronic device which integrates flow, temperature and pressure transmissions from end devices into energy values. This unit can accommodate any combination of steam, chilled water and electrical metering.
424	Energy Meter, Chilled Water	Electronic device which integrates flow, temperature and pressure transmissions from end devices into energy values. This unit accommodates only chilled water metering.
425	Energy Meter, Steam	Electronic device which integrates flow, temperature and pressure transmissions from end devices into energy values. This unit accommodates only steam metering.
426	Energy Meter, Electrical	Electronic device which integrates flow, temperature and pressure transmissions from end devices into energy values. This unit accommodates only electrical metering.
427	Energy Meter, HTHW	Electronic device which integrates flow, temperature and pressure transmissions from end devices into energy values. This unit accommodates only HTHW metering.

Code	Title	Description
428	Emergency Shower	A water source complete with enclosure for personnel protection.
429	Scrubbers	A device designed to remove contaminants caused by electrical or mechanical breakdowns, i.e.. burnouts.
430	Sewage Treatment System / Sewage Sterilizer	A system designed to remove harmful bacteria from sewage. Includes all components.
431	Solar Collector (System)	Devices designed to convert solar energy to mechanical or electrical energy.
432	Soot Blower	A device used to remove unburned products of combustion from boiler heating surfaces and other heating accessories.
433	Traveling Screen System	A device used to collect major debris and prevent obstructions from entering the fluid intake of water treatment systems
439	Smoke Control Systems (High Rise Buildings)	A venting system used to pressure buildings and reduce smoke levels during fires.
440	Sprinkler, Automatic, Dry Pipe	Used in areas where piping may be exposed to freezing temperatures. The piping contains compressed air that holds back the water by means of a dry pipe valve. When a sprinkler nozzle opens, the air is released permitting the dry pipe valve to open and water is then admitted into the piping system and out the nozzles.
445	Sprinkler, Preaction / Deluge	Fire Suppression system.
450	Sprinkler, Automatic, Wet Pipe	Normally used in areas where temperature is maintained above 32° F (0° C). In this type of system, all the piping is filled up to the sprinklers with water under pressure. When heat actuates the sprinkler, water is immediately sprayed over the area below.
455	Sprinkler, Commercial Cooking Equipment	Fire suppression system generally used for kitchen hoods, etc. CO ₂ is generally incorporated as an agent.
460	Standpipe and Hose	A piping system with a water supply under pressure to which fire hoses can be connected. The exterior outlets for use by fire departments are located on the street side of the building or property. Interior pipe connections are usually contained in hose cabinets which are located on all floors near the exits, and at an approximate distance.
470	Starter/Contactor	An electric device for accelerating a motor from rest to normal speed, and for stopping the motor, and usually implies inclusion of overload protection.
471	Starter, Combination	A device containing a disconnect switch and starter in same enclosure.
475	Water Distiller	An apparatus designed for removing impurities from water. Includes all components, i.e.. heat source, tank, piping, etc.
479	Superheater	A device to add energy to saturated steam in the absence of water.
480	Tank, Storage - Gravity	A non-pressurized storage vessel designed to supply a distribution network
481	Tank, Storage - Pressurized	A pressurized storage vessel designed to supply a distribution network.
482	Tank, Septic	An underground storage container designed to store and treat human waste. Includes distribution network, i.e.. pumps, siphons, tile fields, etc. as well as holding tanks.

Code	Title	Description
483	Tank, Fuel	A storage vessel designed to contain petroleum fuels that is to be supplied to a distribution network. Includes both above and below ground storage tanks.
484	Tank, Chemical Holding	A storage facility designed to store chemicals on a temporary basis or to accommodate spills.
485	Terminal, Computer	Video display screens / processing units designed to allow maintenance personnel to interface with automated building systems.
486	Variable Air Volume Boxes	Enclosure in duct system designed to mix and modulate hot and cold air prior to distribution to occupied or designed spaces. Includes valves, dampers, etc.
487	Transfer Switch, Automatic	Electrical switch gear designed to transfer power under load either from commercial power to emergency power or vice versa.
490	Transformer - Askarel & Oil Filled	Electromagnetic device which transfers electrical energy from primary circuit into variations of voltage in secondary circuits.
491	Transformer - Dry Type	Electromagnetic device which transfers electrical energy from primary circuit into variations of voltage in secondary circuits.
500	Transformer Vault	A secured room or area specifically designed to house major electrical components such as main breakers, bus, transformers, etc. Includes fans, pumps and associated equipment contained within the area.
502	Gearbox	A device which mechanically increases or decreases the speed and power output.
503	Turbine, Steam	
504	Cyclone	Unit (non Powered) that uses natural convection and forced drafts to remove ash and particulates from flue gases.
505	Agitator	Motor driven palette used to mix chemical solutions.
506	Motor, Diesel	
507	Turbocharger	
510	Traps / Strainers	Apparatus used in piping systems (steam, water, glycol, etc.) used to capture impurities and particulates to prevent their circulation throughout the system.
520	Unit Heater	A self contained space heater using electricity, petroleum fuels or steam to produce heat.
521	Underground Electrical Services	Includes all aspects of electrical services that are distributed underground. Includes manholes, pulpits, cables, conductors, etc. as well as associated equipment, i.e.. fans and ventilation equipment.
523	Valves, Control (Pneumatic)	Includes all controls associated with pneumatic systems, i.e.. Pressure Reducing Valves (PRV), actuators, etc.
524	Uninterruptible Power Systems (UPS)	An apparatus designed to provide continuous electrical power in support of primary power failure.
526	Valve, Steam, Pressure Reducing	A device used to regulate steam pressure for delivery throughout the system.
530	Water Cooler, Unit	Dispenses potable water. It may also contain a refrigeration unit to cool the water.
540	Water Cooler, Central Station	A system for dispensing potable water which normally consists of a chilling unit, distribution piping, drinking fountains and controls.

Code	Title	Description
545	Water Softener, Demineralizer	External equipment for the removal of minerals by chemical, ion exchange or other means. Includes distiller.
550	Water Heater, Domestic	Includes, electrical, gas fired, steam or hot water types, if applicable.
559	Recovery Systems (Precious Metals)	System generally in laboratories for the recovery of precious metals (gold, silver, etc.)
560	Water Treatment Systems	Water treatment for potable water, glycol boilers, feed water, chilled water, condenser water, humidifier spray water, etc. Includes chemical mixing tanks, pot feeders and associated components.
565	Well Pump	A device designed to supply water from an underground reservoir or well. These include room/house, submersible and turbine types.
601	Overhead Electrical Distribution, Exterior	
602	Exterior Sub Station	
603	Grounding System	
700	Security, Panic Buttons, Motorized Gates (Electrical & Mechanical)	
710	Natural Gas / Propane Distribution Components	Includes all piping, valves, connections and components that are utilized for gas/propane heating, laboratory, etc. systems.
750	Gaseous Fluids	Elements in gaseous forms used for laboratories and other special purposes. Includes nitrogen, oxygen, carbon dioxide (CO ₂), etc.
755	Cryogenic Fluids	Elements which have a boiling point below -250° F/121°C and are generally used in liquid form. Includes oxygen, nitrogen, helium, etc. in liquid form. These are generally used in laboratories, hospitals, etc.
800	Building Interior, General	Includes all general areas such as ceilings, walls, doors, floors, stairs, windows, etc.
801	Building Exterior, General	Includes all general areas, including walls, glazing, doors, stairs, etc. NOTE: Does not include Emergency Exit Doors (see Item 813).
805	Areaways	Includes areas immediately adjacent to the building/facility. Items for consideration are: louvers, vents, grilles, frames, concrete sidewalls, window wells, etc.
810	Chimneys & Stacks	Piping/Conduits for the venting of products of combustion to the atmosphere.
813	Emergency Exit Doors	An Exit Door used only for emergency evacuation from the building/facility. Normally equipped with "Panic Hardware" that will open when pressure not exceeding 15 pounds is applied to the releasing device in the direction of the egress travel. It is equipped with a self closing device, that when in the closed position the door will lock and cannot be opened from the outside.
814	Doors, Interior	
815	Entrance Doors	Includes manual and power actuated hinged, revolving, sliding and vestibule doors.

Code	Title	Description
820	Exterior Stairs & Railings	Includes exterior steps, staircases, fire stairs, etc. along with any attached metal, wooden, etc. railings.
825	Exterior Walls	Includes all types of wall materials, i.e.. masonry, concrete, metal, stucco, wood shingles, etc. along with any that are designed for security and/or ornamental purposes.
830	Foundations, Footings & Supports	Includes all building/facility support construction.
835	Barriers & Fences	Includes exterior metal, wire mesh, chain linked, barbed wire, wooden, masonry and combination metal, wood and masonry fences and barriers. Security and ornamental fences are included.
840	Flag Poles	Includes all outdoor flag poles mounted on grounds, roof or building exterior.
850	Grounds and Approaches	Includes all landscaped areas made up of lawn, shrubs, trees, flowers, pathways, etc.
851	Roads, Approaches and Parking Areas (Paved)	Includes sweep asphalt and concrete surfaces, driveways and adjoining sidewalks generally used by employees, visitors and commercial traffic.
855	Overhead Doors	Includes power and manually activated overhead doors.
857	Protective Plates	Includes steel and other fabricated plates that are utilized as a safe method of entering a building enclosure.
860	Painting	Includes all painted surfaces.
861	Walls, Interior	Includes all interior walls i.e.. load bearing, partition and party walls that are constructed using masonry products, veneers, gypsum or plaster, concrete, etc. Also includes ceramic, marble and mirror tiles as well as wall coverings (wall paper, fabric, wall carpet, etc.).
862	Floors	Refers to all types of floor surfaces including terrazzo, concrete, linoleum, carpet, wood, marquetry, etc. as well as tiled surfaces (ceramic, marble, quarry, etc.).
863	Ceilings	Includes all interior ceilings fabricated from gypsum or plaster, metal, fibre or wood board facing, metal etc. Also includes covering such as acoustic tiles, paper, fabric and carpet, etc.
866	Blowout Panels (Explosion Venting)	Includes all types of panels and their associated hardware that are used for venting in case of an explosion.
870	Roof	All types of roofs.
871	Anchor Points/Permanently Installed Suspended Platforms	Roof anchor points and permanently installed platforms used for window cleaning.
873	Self Contained Breathing Apparatus (Air Packs)	Includes all portable respirators.
875	Shelving	Includes all types o shelving portable and permanent along with their fastening hardware.
880	Walls, Stone & Masonry	Includes the exterior of stone, brick, concrete block structures and buildings clad with precast panels.

Code	Title	Description
890	Storm Drainage	A system of conduits and collection basins to assemble and control rainwater or other types of excess water.
895	Windows, Exterior	Includes wood, vinyl and metal clad windows as well as double hung and storm windows.
896	Venetian Blinds	Includes all horizontal and vertical type blinds. These can be manually or power operated.
897	Draperies	Includes all types of draperies.
900	Cafeteria/Kitchen Appliances (General)	Includes all appliances i.e.. stoves, urns, potato peelers, grilles, pots, etc. normally found in commercial kitchens and cafeterias. NOTE: Does not include refrigerated equipment or appliances that are described separately from this checklist (see 900 series checklists).
902	Waste Disposal Unit	Power actuated device designed to individually dispose of organic food waste.
905	Dishwasher, Commercial	Power actuated device designed for the cleaning and sanitation of food service cutlery and dishwares.
908	Dishwasher, Conveyer	A belt system used to return dirty dishes from dining area to the kitchen.
910	Kitchen Range Hood (Commercial)	Metal hood complete with filters and exhaust system designed to remove odours and smoke from kitchen and cooking surface areas.
912	Ovens, Commercial (Gas/Electric/Steam)	Includes all commercial type kitchen ovens.
915	Steam Kettle	
918	Pressure Cooker - Steam	
920	Garbage Refrigerator	Refrigerated room for temporary storage of wet waste.
925	Garbage Can Washer	A power device used for washing garbage containers.
930	Ice Cream Cabinet	A freezer unit specifically designed for the short term storage of ice cream.
935	Ice Cube Maker	A refrigerated unit designed for the production and storage of ice cubes or ice flakes. These can be of the water cooled or air cooled variety.
940	Food Mixer	Non Portable (Fixed) appliance designed for the mixing of food products.
941	Meat Slicer/Saw	A power actuated non portable (fixed) device utilized for cutting and slicing meat.
944	Patty Machine	A power activated device designed for forming patties from meat and other food products.
955	Serving Table (Heated)	A server that is heated (electrical, steam, etc.) for the preparation and temporary storage of food.
960	Reach In/ Pass Through Refrigerator	A refrigerated unit designed for the temporary storage of food and beverages that can be accessed from one or two sides. These can be portable or permanently mounted. The refrigeration unit can be contained within or remotely installed.
965	Beverage Dispenser	A refrigerated unit designed for the temporary storage and dispensing of beverages (milk, soda, etc.).
970	Vegetable Peeler	A powered device designed for peeling vegetables.

Code	Title	Description
980	Walk In Refrigerator/Freezer	A self contained refrigerated storage area that is not part of the building structure designed to store perishable products (meat, vegetables, pastries, medical supplies, etc.)

ANNEX C

Preventive Maintenance Checklists

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL ONE

FILENAME	FREQUENCY	REG.	DESCRIPTION
006-0411.sam	04 - Every 3 Months	CLC	HEPA Filters
010-0111.sam	01 - Annually	CLC	Air compressor (Pressure Vessel Inspection)
050-0111.sam	01 - Annually	CLC	Air Handling Unit
050-0141.sam	01 - Annually	CLC	Air Handling Unit, Roof Mounted, Gas Fired
050-0411.sam	04 - Every 3 Months	CLC	Air Handling Unit
050-0441.sam	04 - Every 3 Months	CLC	Air Handling Unit, Roof Mounted, Gas Fired
050-1211.sam	12 - Monthly	CLC	Air Handling Unit
050-5a21.sam	5A - Every 5 Years	CLC	Ductwork Inspection & Cleaning
050-5a31.sam	5A - Every 5 Years	CLC	Louvers and Screens
065-0101.sam	01 - Annually	NPC	Backflow Preventer
070-0111.sam	01 - Annually	CLC	Boiler, Hot Water, Inspection
075-0111.sam	01 - Annually	CLC	Boiler, Steam, Inspection
098-0411.sam	04 - Every 3 Months	CLC	Carbon Monoxide Monitor
098-2a11.sam	2A - Every 2 Years	CLC	Carbon Monoxide Monitor
099-0111.sam	01 - Annually	CLC	Gas Monitor (Confined Spaces)
099-0211.sam	02 - Every 6 Months	CLC	Gas Monitor (Confined Spaces)
099-1211.sam	12 - Monthly	CLC	Gas Monitor (Confined Spaces)
139-0211.sam	02 - Every 6 Months	CLC	Filter Electrostatic
139-1211.sam	12 - Monthly	CLC	Filter Electrostatic
140-0111.sam	01 - Annually	CLC	Air Purifier
190-0111.sam	01 - Annually	CLC	Dearator
200-0111.sam	01 - Annually	NFC 2.6.1.6	Disconnects (HVAC)
238-0111.sam	01 - Annually	CLC	Dumbwaiter
238-1211.sam	12 - Monthly	CAN3-B44	Dumbwaiter
240-0111.sam	01 - Annually	CLC	Elevator
240-0131.sam	01 - Annually	CLC	Elevating Device, Wheelchair Lift
240-0421.sam	04 - Every 3 Months	NFC 7.2.2	Elevating, High Buildings
240-1211.sam	12 - Monthly	CAN3-B44	Elevator
240-1231.sam	12 - Monthly	CAN3-B355	Elevating Device, Wheelchair Lift
250-0111.sam	01 - Annually	NFC 6.7	Emergency Generator
250-1211.sam	12 - Monthly	NFC 6.7	Emergency Generator
250-2a11.sam	2A - Every 2 Years	NFC 6.7	Emergency Generator
250-3a11.sam	3A - Every 3 Years	NFC 6.7	Emergency Generator
250-5211.sam	52 - Weekly	NFC 6.7	Emergency Generator
250-5a11.sam	5A - Every 5 Years	NFC 6.7	Emergency Generator
255-0111.sam	01 - Annually	CLC	Escalator
255-0121.sam	01 - Annually	CLC	Moving Walkways
255-1211.sam	12 - Monthly	CAN3-B44	Escalator

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL ONE

FILENAME	FREQUENCY	REG.	DESCRIPTION
255-1221.sam	12 - Monthly	CAN3-B44	Moving Walkways
273-0111.sam	01 - Annually	CLC	Fume Hood Assembly
290-0111.sam	01 - Annually	NFC 6.3	Fire Alarm (System), General
290-1211.sam	12 - Monthly	NFC 6.3	Fire Alarm (System), General
295-0111.sam	01 - Annually	NFC 6.3	Fire Alarm & Voice Communication System
295-1211.sam	12 - Monthly	NFC 6.3	Fire Alarm & Voice Communication System
300-0111.sam	01 - Annually	NFC 2.2.2.4	Fire Dampers & Stop Flaps
305-0111.sam	01 - Annually	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-1211.sam	12 - Monthly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-5211.sam	52 - Weekly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
310-0111.sam	01 - Annually	NFC 6.2.4	Fire Extinguishers, Portable
310-1211.sam	12 - Monthly	NFC 6.2.4	Fire Extinguishers, Portable
310-5a11.sam	5A - Every 5 Years	NFC 6.2.4	Fire Extinguishers, Portable
310-xa11.sam	12A - Every 12 Year	NFC 6.2.4	Fire Extinguishers, Portable
311-0111.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-0211.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-5211.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - CO2
312-0111.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-0211.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-5211.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
313-0111.sam	01 - Annually	NFC 6.8	Fire Extinguisher System - Halon
313-0211.sam	02 - Every 6 Months	NFC 6.8	Fire Extinguisher System - Halon
313-0212.sam	02 - Every 6 Months	NFC 6.8	Fire Extinguisher System - Halon
313-1211.sam	12 - Monthly	NFC 6.8	Fire Extinguisher System - Halon
315-0111.sam	01 - Annually	NFC 6.6.4	Fire Hydrants
315-0121.sam	01 - Annually	NFC 6.6.4	Fire Hydrants
315-5211.sam	52 - Weekly	NFC 6.6.1.2	Fire Hydrants
325-0111.sam	01 - Annually	NFC 6.6.3	Fire Pump, Gas or Diesel
325-0121.sam	01 - Annually	NFC 6.6.3	Fire Pump, Electric
325-0211.sam	02 - Every 6 Months	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1211.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1221.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Electric
325-2a11.sam	2A - Every 2 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-3a11.sam	3A - Every 3 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5211.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5221.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Electric
331-5211.sam	52 - Weekly	ANSI Z358.1	First Aid Eyewash Station
338-0111.sam	01 - Annually	CLC	Freight Platform Lift

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL ONE

FILENAME	FREQUENCY	REG.	DESCRIPTION
338-1211.sam	12 - Monthly	CAN3-B44	Freight Platform Lift
355-0111.sam	01 - Annually	NFC 2.6.2	Incinerator
355-0211.sam	02 - Every 6 Months	NFC 2.6.2	Incinerator
362-0121.sam	01 - Annually	CCME-EPC-LS	Oil/Water Separator
362-1221.sam	12 - Monthly	CCME-EPC-LS	Oil/Water Separator
370-0111.sam	01 - Annually	NFC 6.7.1.6	Lighting, Emergency (battery powered)
370-1211.sam	12 - Monthly	NFC 6.7.1.6	Lighting, Emergency (battery powered)
391-1211.sam	12 - Monthly	CEPA 92-507	PCB Storage Site
428-0211.sam	52 - Weekly	ANSI Z358.1	Emergency Shower
439-0411.sam	04 - Every 3 Months	NFC 7	Smoke Control Systems in High Buildings
440-0111.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0211.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0611.sam	06 - Every 2 months	NFC 6.5. /	Sprinkler, Dry Pipe
440-1211.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-3a11.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-5211.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Dry Pipe
445-0111.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0211.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0611.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-1211.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-3a11.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-5211.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
450-0111.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0211.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0611.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-1211.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-5211.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Wet Pipe
455-0111.sam	01 - Annually	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-0211.sam	02 - Every 6 Months	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-1211.sam	12 - Monthly	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
460-0111.sam	01 - Annually	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-1211.sam	12 - Monthly	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-5a11.sam	5A - Every 5 Years	NFC 6.4 & 6	Standpipe and Hose Cabinet
480-0111.sam	01 - Annually	NFC 6.6	Tank, Gravity (Water Tower)
480-1211.sam	12 - Monthly	NFC 6.6	Tank, Gravity (Water Tower)
480-2a11.sam	2A - Every 2 Years	NFC 6.6	Tank, Gravity (Water Tower)
480-5211.sam	52 - Weekly	NFC 6.6	Tank, Gravity (Water Tower)
480-5a11.sam	5A - Every 5 Years	NFC 6.6	Tank, Gravity (Water Tower)

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL ONE

FILENAME	FREQUENCY	REG.	DESCRIPTION
481-0111.sam	01 - Annually	NFC 6.6	Tank, Pressurized (Water)
481-1211.sam	12 - Monthly	NFC 6.6	Tank, Pressurized (Water)
481-2a11.sam	2A - Every 2 Years	NFC 6.6	Tank, Pressurized (Water)
481-5211.sam	52 - Weekly	NFC 6.6	Tank, Pressurized (Water)
483-0111.sam	01 - Annually	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-0121.sam	01 - Annually	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-0131.sam	01 - Annually	NFC 4.3.17	Tank, Underground, Fuel Storage
483-1221.sam	12 - Monthly	CCME - EPC	Tank, Underground, Fuel Storage
483-5211.sam	52 - Weekly	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-5221.sam	52 - Weekly	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-5231.sam	52 - Weekly	CCME - EPC	Tank, Underground, Fuel Storage
484-0111.sam	01 - Annually	CLC	Tank, Chemical Holding
487-1211.sam	12 - Monthly	NFC 6.7	Transfer Switch, Automatic
487-3a11.sam	3A - Every 3 Years	NFC 6.7	Transfer Switch, Automatic
500-0111.sam	01 - Annually	C22.1-94	Transformer Vault
602-0211.sam	02 - Every 6 Months		Exterior Sub-Station
602-5211.sam	52 - Weekly		Exterior Sub-Station
603-5a11.sam	5A - Every 5 Years	C22.1-94	Grounding System
810-0111.sam	01 - Annually	NFC 2.6.1.4	Chimney and stack
813-1211.sam	12 - Monthly	NFC 2.7.2	Emergency Exit Doors
820-0211.sam	02 - Every 6 Months	NFC 2.7.1.6	Exterior Stairs and Railings
855-0121.sam	01 - Annually	CLC	Overhead Doors, Powered
866-0111.sam	01 - Annually	NFPA 68	Blowout Panels (Explosion Venting)
873-0111.sam	01 - Annually	CLC	Self Contained Breathing Apparatus (Air Packs)
873-0411.sam	04 - Every 3 Months	CLC	Self Contained Breathing Apparatus (Air Packs)
873-1211.sam	12 - Monthly	CLC	Self Contained Breathing Apparatus (Air Packs)
873-5211.sam	52 - Weekly	CLC	Self Contained Breathing Apparatus (Air Packs)
910-0111.sam	01 - Annually	NFC 2.6 & 6	Kitchen Range Hood, Commercial
910-5211.sam	52 - Weekly	NFC 2.6 & 6	Kitchen Range Hood, Commercial
980-0111.sam	01 - Annually	CLC	Walk-In Refrigerator / Freezer

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
005-0122.sam	01 - Annually		Disposable Roll Type Filters
005-0412.sam	04 - Every 3 Months		Disposable & Washable Filters
005-0422.sam	04 - Every 3 Months		Disposable Roll Type Filters
005-1222.sam	12 - Monthly		Disposable Roll Type Filters
006-0412.sam	04 - Every 3 Months	CLC	HEPA Filters
007-xxxx.sam	00 - UNKNOWN		Filter, Water
009-0112.sam	01 - Annually		Aerator / Blower
009-0212.sam	02 - Every 6 Months		Aerator / Blower
009-1212.sam	12 - Monthly		Aerator / Blower
010-0112.sam	01 - Annually	CLC	Air compressor (Pressure Vessel Inspection)
010-0122.sam	01 - Annually		Air Compressor
010-0222.sam	02 - Every 6 Months		Air Compressor
010-1222.sam	12 - Monthly		Air Compressor
015-xxxx.sam	00 - UNKNOWN		Vacuum Pump
016-0412.sam	04 - Every 3 months		Vacuum Cleaner (Central)
020-0112.sam	01 - Annually		Air Conditioner, Built-Up
020-0412.sam	04 - Every 3 Months		Air Conditioner, Built-Up
025-0112.sam	01 - Annually		Air Conditioner, Packaged
025-0412.sam	04 - Every 3 Months		Air Conditioner, Packaged
025-1212.sam	12 - Monthly		Air Conditioner, Packaged
030-0112.sam	01 - Annually		Air Conditioner, Hermetic Condensing Unit
030-1212.sam	12 - Monthly		Air Conditioner, Hermetic Condensing Unit
035-0112.sam	01 - Annually		Air Conditioner, Window Unit (Fall)
035-0122.sam	01 - Annually		Air Conditioner, Window Unit (Spring)
036-0112.sam	01 - Annually		Air Conditioner, Room
036-1212.sam	12 - Monthly		Air Conditioner, Room
040-0112.sam	01 - Annually		Air Conditioner, Window, Heating/Cooling (Fall)
040-0122.sam	01 - Annually		Air Conditioner, Window, Heating/Cooling (Spring)
050-0112.sam	01 - Annually	CLC	Air Handling Unit
050-0142.sam	01 - Annually	CLC	Air Handling Unit, Roof Mounted, Gas Fired
050-0212.sam	02 - Every 6 Months		Air Handling Unit
050-0412.sam	04 - Every 3 Months	CLC	Air Handling Unit
050-0442.sam	04 - Every 3 Months	CLC	Air Handling Unit, Roof Mounted, Gas Fired
050-1212.sam	12 - Monthly	CLC	Air Handling Unit
050-3a32.sam	3A - Every 3 Years	CLC	Louvers and Screens
050-5a22.sam	5A - Every 5 Years	CLC	Ductwork Inspection & Cleaning
052-0212.sam	02 - Every 6 Months		Agitator, Bio Waste
055-0112.sam	01 - Annually		Air Valve (Air Vent)

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO			
FILENAME	FREQUENCY	REG.	DESCRIPTION
057-xxxx.sam	00 - UNKNOWN		Autoclave
058-0012.sam	As Required		Ash Removal
060-0112.sam	01 - Annually		Battery & Charger
060-0412.sam	04 - Every 3 Months		Battery & Charger
065-0102.sam	01 - Annually	NPC	Backflow Preventer
070-0112.sam	01 - Annually	CLC	Boiler, Hot Water, Inspection
070-0122.sam	01 - Annually		Boiler, Hot Water (Gas/Oil)
070-0132.sam	01 - Annually		Boiler, Hot Water (Electric)
070-0142.sam	01 - Annually		Boiler, Hot Water, Small Package Type
070-0422.sam	04 - Every 3 Months		Boiler, Hot Water (Gas/Oil)
070-0432.sam	04 - Every 3 Months		Boiler, Hot Water (Electric)
070-1242.sam	12 - Monthly		Boiler, Hot Water, Small Package Type
070-5222.sam	52 - Weekly		Boiler, Hot Water (Gas/Oil)
070-5232.sam	52 - Weekly		Boiler, Hot Water (Electric)
075-0112.sam	01 - Annually		Boiler, Steam, Inspection
075-0122.sam	01 - Annually		Boiler, Steam
075-5222.sam	52 - Weekly		Boiler, Steam
090-0112.sam	01 - Annually		Burner, Oil-Fired
091-0112.sam	01 - Annually		Burner, Gas/Propane Fired
093-6a12.sam	6A - Every 6 Years		Busway
095-3a12.sam	3A - Every 3 Years		Bus Work and Structure Insulators
096-3a12.sam	3A - Every 3 Years		Load Break Switch (Pole Mounted Fused Cut-out)
096-6a12.sam	6A - Every 6 Years		Load Break Switch (Pole Mounted Fused Cut-out)
097-6a12.sam	6A - Every 6 Years		Cables, Primary & Secondary Feeders
098-0412.sam	04 - Every 3 Months	CLC	Carbon Monoxide Monitor
098-2a12.sam	2A - Every 2 Years	CLC	Carbon Monoxide Monitor
099-0112.sam	01 - Annually	CLC	Gas Monitor (Confined Spaces)
099-0212.sam	02 - Every 6 Months	CLC	Gas Monitor (Confined Spaces)
099-1212.sam	12 - Monthly	CLC	Gas Monitor (Confined Spaces)
100-0112.sam	01 - Annually		Chiller, Absorption Type
100-1212.sam	12 - Monthly		Chiller, Absorption Type
100-2a12.sam	2A - Every 2 Years		Chiller, Absorption Type
100-3a12.sam	3A - Every 3 Years		Chiller, Absorption Type
105-0112.sam	01 - Annually		Chiller, Centrifugal
105-0412.sam	04 - Every 3 Months		Chiller, Centrifugal
105-1212.sam	12 - Monthly		Chiller, Centrifugal
110-0112.sam	01 - Annually		Chiller, Reciprocating
110-1212.sam	12 - Monthly		Chiller, Reciprocating

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
120-0152.sam	01 - Annually		Circuit Breaker, Main Gas Type, SF-6
120-3a22.sam	3A - Every 3 Years		Circuit Breaker, Air
120-3a32.sam	3A - Every 3 Years		Circuit Breaker, Draw Out
120-3a42.sam	3A - Every 3 Years		Moulded Case Breaker
120-6a12.sam	6A - Every 6 Years		Circuit Breaker, Main, Oil
120-6a22.sam	6A - Every 6 Years		Circuit Breaker, Air
120-6a32.sam	6A - Every 6 Years		Circuit Breaker, Draw Out
123-xxxx.sam	00 - UNKNOWN		Excitor
124-xxxx.sam	00 - UNKNOWN		DC Generator
125-0112.sam	01 - Annually		@Title@Capacitor Bank
125-xxxx.sam	00 - UNKNOWN		Capacitor Bank/Surge Protection/Transient Voltage
126-xxxx.sam	00 - UNKNOWN		Voltage Regulator
127-xxxx.sam	00 - UNKNOWN		Alternator
128-0212.sam	02 - Every 6 Months		Capacitor
128-3a12.sam	3A - Every 3 Years		Capacitor
130-0112.sam	01 - Annually		Cooling Coil, Water, Start-Up
130-0122.sam	01 - Annually		Cooling Coil, Water, Shut Down
130-0132.sam	01 - Annually		Cooling Coil, Sprayed
130-0142.sam	01 - Annually		Cooling Coil, Direct Expansion (DX)
130-0432.sam	04 - Every 3 Months		Cooling Coil, Sprayed
130-1232.sam	12 - Monthly		Cooling Coil, Sprayed
130-1242.sam	12 - Monthly		Cooling Coil, Direct Expansion (DX)
135-0112.sam	01 - Annually		Heating Coil, Water
135-0122.sam	01 - Annually		Heating Coil, Steam
136-xxxx.sam	00 - UNKNOWN		Terminal Hot Water Reheat
137-0112.sam	01 - Annually		Cold Room System
137-0412.sam	04 - Every 3 Months		Cold Room System
139-0212.sam	02 - Every 6 Months	CLC	Filter Electrostatic
139-1212.sam	12 - Monthly	CLC	Filter Electrostatic
140-0112.sam	01 - Annually	CLC	Air Purifier
142-xxxx.sam	00 - UNKNOWN		Condenser Evaporative
145-0212.sam	02 - Every 6 Months		Compactor, Garbage
147-0112.sam	01 - Annually		Compressed Air Dryer
148-0112.sam	01 - Annually		Compressor, Refrigeration
148-0212.sam	02 - Every 6 Months		Compressor, Refrigeration
150-0122.sam	01 - Annually		Condenser, Air Cooled (Start-Up)
150-0132.sam	01 - Annually		Condenser, Air Cooled (Shut-Down)
150-1212.sam	12 - Monthly		Condenser, Air Cooled

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
151-0122.sam	01 - Annually		Condenser, Water Cooled (Start-Up)
151-0132.sam	01 - Annually		Condenser, Water Cooled (Shut-Down)
151-1212.sam	12 - Monthly		Condenser, Water Cooled
152-3a12.sam	3A - Every 3 Years		Controls, Combustion
153-6a12.sam	6A - Every 6 Years		Controls, Electric/Electronic
154-1212.sam	12 - Monthly		Control System
154-3a12.sam	3A - Every 3 Years		Control System
155-0112.sam	01 - Annually		Controls, Pneumatic
156-xxxx.sam	00 - UNKNOWN		Controls, Feedwater
158-xxxx.sam	00 - UNKNOWN		Controls, Gas Analyser
160-0112.sam	01 - Annually		Convectors, Hot Water
160-6a12.sam	6A - Every 6 Years		Convectors, Hot Water
170-2a12.sam	2A - Every 2 Years		Converter
172-0412.sam	04 - Every 3 Months		Conveyor
172-3a12.sam	3A - Every 3 Years		Conveyor
180-0112.sam	01 - Annually		Cooling Tower
180-0122.sam	01 - Annually		Cooling Tower (Shut-Down)
180-1212.sam	12 - Monthly		Cooling Tower
180-5212.sam	52 - Weekly		Cooling Tower
185-0112.sam	01 - Annually		Dust Collector
186-0112.sam	01 - Annually		Dampers, Electric
186-0122.sam	01 - Annually		Dampers, Pneumatic
190-0112.sam	01 - Annually	CLC	Dearator
195-xxxx.sam	00 - UNKNOWN		Dehumidifier
199-0112.sam	01 - Annually		Desuperheater
200-0112.sam	01 - Annually	NFC 2.6.1.6	Disconnects (HVAC)
200-6a12.sam	6A - Every 6 Years		Disconnects
205-6a12.sam	6A - Every 6 Years		Main Disconnect
210-0112.sam	01 - Annually		Distribution Panel (Panelboard)
210-6a12.sam	6A - Every 6 Years		Distribution Panel (Panelboard)
212-0112.sam	01 - Annually		Panelboard, Lighting & Appliances
212-6a12.sam	6A - Every 6 Years		Panelboard, Lighting & Appliance
215-6a12.sam	6A - Every 6 Years		Distribution Splitter Trough
216-xxxx.sam	00 - UNKNOWN		DDC Control Cabinet
220-0412.sam	04 - Every 3 Months		Distribution Switchboard
220-3a12.sam	3A - Every 3 Years		Distribution Switchboard
223-0112.sam	01 - Annually		Sump Pit
230-0112.sam	01 - Annually		Dock Leveller

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
230-0212.sam	02 - Every 6 Months		Dock Leveller
235-0112.sam	01 - Annually		Drains, Floor
235-0122.sam	01 - Annually		Drains, Roof
235-2a32.sam	2A - Every 2 Years		Drains, Trench
238-0112.sam	01 - Annually	CLC	Dumbwaiter
238-1212.sam	12 - Monthly	CAN3-B44	Dumbwaiter
239-0112.sam	01 - Annually		Motor, Electric
240-0112.sam	01 - Annually	CLC	Elevator
240-0132.sam	01 - Annually	CLC	Elevating Device, Wheelchair Lift
240-0422.sam	04 - Every 3 Months	NFC 7.2.2 &	Elevator, High Buildings
240-1212.sam	12 - Monthly	CAN3-B44	Elevator
240-1232.sam	12 - Monthly	CAN3-B355	Elevating Device, Wheelchair Lift
245-xxxx.sam	00 - UNKNOWN		Economiser
250-0112.sam	01 - Annually	NFC 6.7	Emergency Generator
250-1212.sam	12 - Monthly	NFC 6.7	Emergency Generator
250-2a12.sam	2A - Every 2 Years	NFC 6.7	Emergency Generator
250-3a12.sam	3A - Every 3 Years	NFC 6.7	Emergency Generator
250-5212.sam	52 - Weekly	NFC 6.7	Emergency Generator
250-5a12.sam	5A - Every 5 Years	NFC 6.7	Emergency Generator
253-0012.sam	00 - As Required		End Devices
255-0112.sam	01 - Annually	CLC	Escalator
255-0122.sam	01 - Annually	CLC	Moving Walkways
255-1212.sam	12 - Monthly	CAN3-B44	Escalator
255-1222.sam	12 - Monthly	CAN3-B44	Moving Walkways
257-0112.sam	01 - Annually		Heat Exchanger, Air to Air
257-0122.sam	01 - Annually		Heat Exchanger, Liquid to Liquid
257-0132.sam	01 - Annually		Heat Exchanger, Liquid to Air
257-0142.sam	01 - Annually		Heat Exchanger, Compressed-Plate Type
257-0152.sam	01 - Annually		Heat Exchanger, Heat Wheel
257-0452.sam	04 - Every 3 Months		Heat Exchanger, Heat Wheel
258-xxxx.sam	00 - UNKNOWN		Exhaust Air Valves
259-2a12.sam	2A - Every 2 Years		Expansion Joint, Piping
260-0112.sam	01 - Annually		Fan, Supply/Return
260-0212.sam	02 - Every 6 Months		Fan, Supply/Return
260-0412.sam	04 - Every 3 Months		Fan, Supply/Return
260-1212.sam	12 - Monthly		Fan, Supply/Return
261-0112.sam	01 - Annually		Fan, Ceiling (Circulation)
261-3a12.sam	3A - Every 3 Years		Fan, Ceiling (Circulation)

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
265-xxxx.sam	00 - UNKNOWN		Fan, Combustion
270-0112.sam	01 - Annually		Fan, Exhaust
270-0122.sam	01 - Annually		Fan, Exhaust (Roof Mount)
270-0212.sam	02 - Every 6 Months		Fan, Exhaust
270-0412.sam	04 - Every 3 Months		Fan, Exhaust
270-1212.sam	12 - Monthly		Fan, Exhaust
273-0112.sam	01 - Annually	CLC	Fume Hood Assembly
280-2a12.sam	2A - Every 2 Years		Fan Coil Unit (Cabinet Heater/Cooler)
281-0112.sam	01 - Annually		Fan, Unit Ventilator
290-0112.sam	01 - Annually	NFC 6.3	Fire Alarm (System), General
290-1212.sam	12 - Monthly	NFC 6.3	Fire Alarm (System), General
295-0112.sam	01 - Annually	NFC 6.3	Fire Alarm & Voice Communication System
295-1212.sam	12 - Monthly	NFC 6.3	Fire Alarm & Voice Communication System
300-0112.sam	01 - Annually	NFC 2.2.2.4	Fire Dampers & Stop Flaps
305-0112.sam	01 - Annually	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-1212.sam	12 - Monthly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-5212.sam	52 - Weekly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
310-0112.sam	01 - Annually	NFC 6.2.4	Fire Extinguishers, Portable
310-1212.sam	12 - Monthly	NFC 6.2.4	Fire Extinguishers, Portable
310-5a12.sam	5A - Every 5 Years	NFC 6.2.4	Fire Extinguishers, Portable
310-xa12.sam	12A - Every 12 Year	NFC 6.2.4	Fire Extinguishers, Portable
311-0112.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-0212.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-5212.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - CO2
312-0112.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-0212.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-5212.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
313-0112.sam	01 - Annually	NFC 6.8	Fire Extinguisher System - Halon
313-0212.sam	02 - Every 6 Months	NFC 6.8	Fire Extinguisher System - Halon
313-1212.sam	12 - Monthly	NFC 6.8	Fire Extinguisher System - Halon
315-0112.sam	01 - Annually	NFC 6.6.4	Fire Hydrants
315-0122.sam	01 - Annually	NFC 6.6.4	Fire Hydrants
315-5212.sam	52 - Weekly	NFC 6.6.1.2	Fire Hydrants
325-0112.sam	01 - Annually	NFC 6.6.3	Fire Pump, Gas or Diesel
325-0122.sam	01 - Annually	NFC 6.6.3	Fire Pump, Electric
325-0212.sam	02 - Every 6 Months	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1212.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1222.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Electric

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
325-2a12.sam	2A - Every 2 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-3a12.sam	3A - Every 3 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5212.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5222.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Electric
330-0212.sam	02 - Every 6 Months		First Aid Kit
331-5212.sam	52 - Weekly	ANSI Z358.1	First Aid Eyewash Station
335-0112.sam	01 - Annually		Flash Tank
337-xxxx.sam	00 - UNKNOWN		Vehicle Lift
338-0112.sam	01 - Annually	CLC	Freight Platform Lift
338-1212.sam	12 - Monthly	CAN3-B44	Freight Platform Lift
339-0112.sam	01 - Annually		Furnace, Electric, Warm Air
339-0612.sam	06 - Every 2 Months		Furnace, Electric, Warm Air
339-3a12.sam	3A - Every 3 Years		Furnace, Electric, Warm Air
340-0112.sam	01 - Annually		Furnace, Gas or Oil, Warm Air
340-0612.sam	06 - Every 2 Months		Furnace, Gas or Oil, Warm Air
340-3a12.sam	3A - Every 3 Years		Furnace, Gas or Oil, Warm Air
341-0122.sam	01 - Annually		Heater, Ramp, Glycol
341-3a12.sam	3A - Every 3 Years		Heater, Ramp, Electric
342-3a12.sam	3A - Every 3 Years		Heater, Electric, Duct
343-3a12.sam	3A - Every 3 Years		Heater, Electric, Baseboard/Convector
344-0112.sam	01 - Annually		Heater, Electric, Fan Unit
344-3a12.sam	3A - Every 3 Years		Heater, Electric, Fan Unit
345-0112.sam	01 - Annually		Hoist, Pneumatic/Hydraulic
345-0412.sam	04 - Every 3 Months		Hoist, Pneumatic/Hydraulic
345-1212.sam	12 - Monthly		Hoist, Pneumatic/Hydraulic
346-2a12.sam	2A - Every 2 Years		Heater Cables
347-xxxx.sam	00 - UNKNOWN		Hoist, Electric/Manual
348-0122.sam	01 - Annually		Travelling Bridge Crane
348-0212.sam	02 - Every 6 Months		Travelling Bridge Crane
348-0412.sam	04 - Every 3 Months		Travelling Bridge Crane
348-0422.sam	04 - Every 3 Months		Travelling Bridge Crane
348-1212.sam	12 - Monthly		Travelling Bridge Crane
350-0112.sam	01 - Annually		Humidifier, Steam
350-0122.sam	01 - Annually		Humidifier, Spray Type
350-0132.sam	01 - Annually		Humidifier, Drum Type
350-0422.sam	04 - Every 3 Months		Humidifier, Spray Type
350-0432.sam	04 - Every 3 Months		Humidifier, Drum Type
350-1212.sam	12 - Monthly		Humidifier, Steam

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
350-1222.sam	12 - Monthly		Humidifier, Spray Type
355-0112.sam	01 - Annually	NFC 2.6.2	Incinerator
355-0212.sam	02 - Every 6 Months	NFC 2.6.2	Incinerator
355-0213.sam	02 - Every 6 Months	NFC 2.6.2	Incinerator
360-0112.sam	01 - Annually		Induction Unit
360-3a12.sam	3A - Every 3 Years		Induction Unit
361-xxxx.sam	00 - UNKNOWN		Trap, Sand
362-0112.sam	01 - Annually		Oil Trap Disposal
362-0122.sam	01 - Annually	CCME-EPC-LS	Oil/Water Separator
362-0212.sam	02 - Every 6 Months		Grease Trap Pump Out
362-1222.sam	12 - Monthly	CCME-EPC-LS	Oil/Water Separator
363-xxxx.sam	00 - UNKNOWN		Trap, Sediment
364-6a12.sam	6A - Every 6 Years		Interface Panel
365-0112.sam	01 - Annually		Irrigation System (Spring)
365-0122.sam	01 - Annually		Irrigation System (Fall)
370-0112.sam	01 - Annually	NFC 6.7.1.6	Lighting, Emergency (battery powered)
370-1212.sam	12 - Monthly	NFC 6.7.1.6	Lighting, Emergency (battery powered)
379-5a12.sam	5A - Every 5 Years		Lighting Interior
380-0112.sam	01 - Annually		Lighting, Exterior
380-3a12.sam	3A - Every 3 Years		Lighting, Exterior
381-3a12.sam	3A - Every 3 Years		Lightning Rod
381-6a12.sam	6A - Every 6 Years		Lightning Rod
383-0212.sam	02 - Every 6 Months		Master Clock
384-0112.sam	01 - Annually		Metering Equipment
385-0112.sam	01 - Annually		Mixing Boxes
385-6a12.sam	6A - Every 6 Years		Mixing Boxes
386-0112.sam	01 - Annually		Motor Control Centre
386-3a12.sam	3A - Every 3 Years		Motor Control Centre
387-3a12.sam	3A - Every 3 Years		Piping Systems
388-0112.sam	01 - Annually		Plumbing Fixtures
390-0112.sam	01 - Annually		Power Door Operator
391-1212.sam	12 - Monthly	CEPA 92-507	PCB Storage Site
395-xxxx.sam	00 - UNKNOWN		Preheater, Oil
396-xxxx.sam	00 - UNKNOWN		Pressure Regulating Valve
398-xxxx.sam	00 - UNKNOWN		Pressure Reducing Valve
400-0112.sam	01 - Annually		Pump, General
400-0212.sam	02 - Every 6 Months		Pump, General
400-0412.sam	04 - Every 3 Months		Pump, General

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
400-1212.sam	12 - Monthly		Pump, General
401-1212.sam	12 - Monthly		Pump, Steam (Direct Acting)
401-3a12.sam	3A - Every 3 Years		Pump, Steam (Direct Acting)
405-0112.sam	01 - Annually		Pump, Condensate
405-1212.sam	12 - Monthly		Pump, Condensate
407-0112.sam	01 - Annually		Heat Pump
407-3a12.sam	3A - Every 3 Years		Heat Pump
410-1212.sam	12 - Monthly		Sump Pump, Float Type
410-1222.sam	12 - Monthly		Sump Pump, Submersible
410-2a12.sam	2A - Every 2 Years		Sump Pump, Float Type
411-xxxx.sam	00 - UNKNOWN		Pump, Sewage Station
412-xxxx.sam	00 - UNKNOWN		Catch Basin
413-0112.sam	01 - Annually		@Title@Electrical Cable Manhole, Pull-pit & Duct
413-xxxx.sam	00 - UNKNOWN		Manhole
420-6a12.sam	6A - Every 6 Years		Relay Panel
423-xxxx.sam	00 - UNKNOWN		Energy Meter, Combined
424-3a12.sam	3A - Every 3 Years		Energy Meter, Chilled Water
425-2a12.sam	2A - Every 2 Years		Energy Meter, Steam
426-3a12.sam	3A - Every 3 Years		Energy Meter, Electrical
427-3a12.sam	3A - Every 3 Years		Energy Meter, High Temp. Hot Water
428-0212.sam	52 - Weekly	ANSI Z358.1	Emergency Shower
429-xxxx.sam	00 - UNKNOWN		Scrubbers
430-0012.sam	AR - As Required		Sewage Sterilizer
430-0222.sam	02 - Every 6 Months		Sewage Treatment System
430-1222.sam	12 - Monthly		Sewage Treatment System
430-5222.sam	52 - Weekly		Sewage Treatment System
431-0112.sam	01 - Annually		Solar Collector (System)
431-0122.sam	01 - Annually		Solar Collector (System)
431-0412.sam	04 - Every 3 Months		Solar Collector (System)
431-3a12.sam	3A - Every 3 Years		Solar Collector (System)
432-xxxx.sam	00 - UNKNOWN		Soot Blower
433-xxxx.sam	00 - UNKNOWN		Travelling Screen System
439-0412.sam	04 - Every 3 Months	NFC 7	Smoke Control Systems in High Buildings
439-xxxx.sam	00 - UNKNOWN		Smoke Control Systems (High Rise Buildings)
440-0112.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0212.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0612.sam	06 - Every 2 months	NFC 6.5. /	Sprinkler, Dry Pipe
440-1212.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Dry Pipe

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
440-3a12.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-5212.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Dry Pipe
445-0112.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0212.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0612.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-1212.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-3a12.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-5212.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
450-0112.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0212.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0612.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-1212.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-5212.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Wet Pipe
455-0112.sam	01 - Annually	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-0212.sam	02 - Every 6 Months	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-1212.sam	12 - Monthly	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
460-0112.sam	01 - Annually	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-1212.sam	12 - Monthly	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-5a12.sam	5A - Every 5 Years	NFC 6.4 & 6	Standpipe and Hose Cabinet
470-0112.sam	01 - Annually	NFC 6.4 & 6	Starter / Contactor
470-3a12.sam	3A - Every 3 Years	NFC 6.4 & 6	Starter / Contactor
471-0112.sam	01 - Annually	NFC 6.4 & 6	Combination Starter
471-3a12.sam	3A - Every 3 Years	NFC 6.4 & 6	Combination Starter
475-0112.sam	01 - Annually	NFC 6.4 & 6	Water Distiller
479-xxxx.sam	00 - UNKNOWN		Superheater
480-0112.sam	01 - Annually	NFC 6.6	Tank, Gravity (Water Tower)
480-1212.sam	12 - Monthly	NFC 6.6	Tank, Gravity (Water Tower)
480-2a12.sam	2A - Every 2 Years	NFC 6.6	Tank, Gravity (Water Tower)
480-5212.sam	52 - Weekly	NFC 6.6	Tank, Gravity (Water Tower)
480-5a12.sam	5A - Every 5 Years	NFC 6.6	Tank, Gravity (Water Tower)
481-0112.sam	01 - Annually	NFC 6.6 / C	Tank, Pressurized (Water)
481-1212.sam	12 - Monthly	NFC 6.6	Tank, Pressurized (Water)
481-2a12.sam	2A - Every 2 Years	NFC 6.6 / C	Tank, Pressurized (Water)
481-2a13.sam	2A - Every 2 Years	NFC 6.6 / C	Tank, Pressurized (Water)
481-5212.sam	52 - Weekly	NFC 6.6 / C	Tank, Pressurized (Water)
482-0112.sam	01 - Annually	NFC 6.6	Tank, Septic System
482-0212.sam	02 - Every 6 Months	NFC 6.6	Tank, Septic System
482-3a12.sam	3A - Every 3 Years	NFC 6.6	Tank, Septic System

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
482-6a12.sam	6A - Every 6 Years		Tank, Septic System
483-0112.sam	01 - Annually	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-0122.sam	01 - Annually	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-0132.sam	12 - Monthly	CCME - EPC	Tank, Underground, Fuel Storage
483-5212.sam	52 - Weekly	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-5222.sam	52 - Weekly	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-5232.sam	52 - Weekly	CLC	Tank, Underground, Fuel Storage
484-0112.sam	01 - Annually		Tank, Chemical Holding
486-3a12.sam	3A - Every 3 Years		Variable Air Volume Boxes
487-1212.sam	12 - Monthly	NFC 6.7	Transfer Switch, Automatic
487-3a12.sam	3A - Every 3 Years	NFC 6.7	Transfer Switch, Automatic
490-3a12.sam	3A - Every 3 Years		Transformer, Askarel/Oil Filled
491-0412.sam	04 - Every 3 Months		Transformer, Vented Dry
491-3a12.sam	3A - Every 3 Years		Transformer, Vented Dry
491-6a12.sam	6A - Every 6 Years		Transformer, Vented Dry
500-0112.sam	01 - Annually	C22.1-94	Transformer Vault
502-xxxx.sam	00 - UNKNOWN		Gearbox
503-xxxx.sam	00 - UNKNOWN		Turbine, Steam
504-xxxx.sam	00 - UNKNOWN		Cyclone
506-xxxx.sam	00 - UNKNOWN		Motor, Diesel
507-xxxx.sam	00 - UNKNOWN		Turbocharger
510-0112.sam	01 - Annually		Traps and Strainers
520-0112.sam	01 - Annually		Unit Heater
520-2a12.sam	2A - Every 2 Years		Unit Heater
521-6a12.sam	6A - Every 6 Years		Underground Electrical Service
523-0112.sam	01 - Annually		Valves, Control (Pneumatic)
524-0112.sam	01 - Annually		Uninterruptible Power System (UPS)
524-0412.sam	04 - Every 3 Months		Uninterruptible Power System (UPS)
524-1212.sam	12 - Monthly		Uninterruptible Power System (UPS)
526-2a12.sam	2A - Every 2 Years		Valve, Steam, Pressure Reducing
530-2a12.sam	2A - Every 2 Years		Water Cooler, Unit (Drinking Fountain)
540-0112.sam	01 - Annually		Water Cooler, Central Station
540-0412.sam	04 - Every 3 Months		Water Cooler, Central Station
540-3a12.sam	3A - Every 3 Years		Water Cooler, Central Station
545-0412.sam	04 - Every 3 Months		Water Softener, Demineralizer
545-5212.sam	52 - Weekly		Water Softener, Demineralizer
550-0112.sam	01 - Annually		Water Heater, Domestic
550-3a12.sam	3A - Every 3 Years		Water Heater, Domestic

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO			
FILENAME	FREQUENCY	REG.	DESCRIPTION
559-xxxx.sam	00 - UNKNOWN		Recovery Systems (Precious Metals)
560-0112.sam	01 - Annually		Water Treatment System (Boiler Feed)
560-0122.sam	01 - Annually		Water Treatment System (Pot Feeder)
560-0132.sam	01 - Annually		Water Treatment System (Domestic Water)
560-0442.sam	04 - Every 3 Months		Water Treatment System (Glycol)
560-1222.sam	12 - Monthly		Water Treatment System (Pot Feeder)
560-5232.sam	52 - Weekly		Water Treatment System (Domestic Water)
565-0122.sam	01 - Annually		Well, Pump, Submersible
565-0132.sam	01 - Annually		Well, Pump, Turbine
565-5212.sam	52 - Weekly		Well, Pump Room/House
601-2a12.sam	2A - Every 2 Years		Overhead Electrical Distribution (Exterior)
601-6a12.sam	6A - Every 6 Years		Overhead Electrical Distribution (Exterior)
602-0212.sam	02 - Every 6 Months		Exterior Sub-Station
602-5212.sam	52 - Weekly		Exterior Sub-Station
603-5a12.sam	5A - Every 5 Years	C22.1-94	Grounding System
700-0122.sam	01 - Annually		Security, Motorized Gates (Mechanical)
700-0132.sam	01 - Annually		Security, Motorized Gates (Electrical)
710-xxxx.sam	00 - UNKNOWN		Natural Gas/Propane Distribution System
750-xxxx.sam	00 - UNKNOWN		Gaseous Fluids
755-xxxx.sam	00 - UNKNOWN		Cryogenic Fluids
800-0112.sam	01 - Annually		Interior, General
801-0112.sam	01 - Annually		Exterior, General
805-0112.sam	01 - Annually		Areaways
810-0112.sam	01 - Annually	NFC 2.6.1.4	Chimney and stack
813-0112.sam	01 - Annually		Emergency Exit Doors
813-1212.sam	12 - Monthly	NFC 2.7.2	Emergency Exit Doors
814-2a12.sam	2A - Every 2 Years		Doors, Interior
815-0112.sam	01 - Annually		Entrance, Door
820-0212.sam	02 - Every 6 Months	NFC 2.7.1.6	Exterior Stairs and Railings
825-0112.sam	01 - Annually		Walls, Exterior
830-0112.sam	01 - Annually		Foundations, Footings and Supports
835-0112.sam	01 - Annually		Barriers & Fences
840-0112.sam	01 - Annually		Flagpole
850-0212.sam	02 - Every 6 Months		Grounds and Approaches (Inspection)
851-0112.sam	01 - Annually		Roads, Approaches, Parking (Paved Areas)
855-0112.sam	01 - Annually		Overhead Door, Manual
855-0122.sam	01 - Annually		Overhead Doors, Powered
855-0222.sam	02 - Every 6 Months		Overhead Doors, Powered

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO

FILENAME	FREQUENCY	REG.	DESCRIPTION
857-0012.sam	AR - As Required		Protective Plates
860-0112.sam	01 - Annually		Painting
861-0112.sam	01 - Annually		Walls, Interior
862-0112.sam	01 - Annually		Floors
863-0112.sam	01 - Annually		Ceilings
866-0112.sam	01 - Annually	NFPA 68	Blowout Panels (Explosion Venting)
870-0212.sam	02 - Every 6 Months		Roofs
873-0112.sam	01 - Annually	CLC	Self Contained Breathing Apparatus (Air Packs)
873-0412.sam	04 - Every 3 Months	CLC	Self Contained Breathing Apparatus (Air Packs)
873-1212.sam	12 - Monthly	CLC	Self Contained Breathing Apparatus (Air Packs)
873-5212.sam	52 - Weekly	CLC	Self Contained Breathing Apparatus (Air Packs)
875-0112.sam	01 - Annually		Shelving
890-0112.sam	01 - Annually		Storm Drainage
895-0112.sam	01 - Annually		Windows
896-0012.sam	AR - As Required		Venetian Blinds
897-0012.sam	AR - As Required		Draperies
900-0112.sam	01 - Annually		Cafeteria/Kitchen, Appliances
902-0112.sam	01 - Annually		Waste Disposal Unit
902-0412.sam	04 - Every 3 Months		Waste Disposal Unit
905-0112.sam	01 - Annually		Dishwasher, Commercial
905-1212.sam	12 - Monthly		Dishwasher, Commercial
908-0112.sam	01 - Annually		Dishwasher, Conveyor
908-0212.sam	02 - Every 6 Months		Dishwasher, Conveyor
908-1212.sam	12 - Monthly		Dishwasher, Conveyor
910-0112.sam	01 - Annually	NFC 2.6 & 6	Kitchen Range Hood, Commercial
910-5212.sam	52 - Weekly	NFC 2.6 & 6	Kitchen Range Hood, Commercial
912-0112.sam	01 - Annually		Oven, Commercial (Gas/Electric/Steam)
915-0112.sam	02 - Every 6 Months		Steam Kettle
918-0212.sam	02 - Every 6 Months		Pressure Cooker, Steam
920-0112.sam	01 - Annually		Garbage Refrigerator
920-0412.sam	04 - Every 3 Months		Garbage Refrigerator
925-0112.sam	01 - Annually		Garbage Can Washer
930-2a12.sam	2A - Every 2 Years		Ice Cream Cabinet
935-0112.sam	01 - Annually		Ice Cube Maker
940-0212.sam	02 - Every 6 Months		Food Mixer
940-2a12.sam	02 - Every 6 Months		Food Mixer
941-0112.sam	01 - Annually		Meat Slicer / Saw
944-0112.sam	01 - Annually		Patty Machine

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL TWO			
FILENAME	FREQUENCY	REG.	DESCRIPTION
955-0112.sam	01 - Annually		Serving Table, Heated
960-2a12.sam	2A - Every 2 Years		Refrigerator / Refrigerated Display Case
965-0112.sam	01 - Annually		Beverage Dispenser
970-0112.sam	01 - Annually		Vegetable Peeler
980-0112.sam	01 - Annually		Walk-In Refrigerator / Freezer
980-0412.sam	04 - Every 3 Months		Walk-In Refrigerator / Freezer

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
005-0223.sam	02 - Every 6 Months		Disposable Roll Type Filters
005-1213.sam	12 - Monthly		Disposable & Washable Filters
005-1223.sam	12 - Monthly		Disposable Roll Type Filters
005-5223.sam	12 - Weekly		Disposable Roll Type Filters
006-0413.sam	04 - Every 3 Months	CLC	HEPA Filters
007-xxxx.sam	00 - UNKNOWN		Filter, Water
009-0113.sam	01 - Annually		Aerator / Blower
009-0413.sam	04 - Every 3 Months		Aerator / Blower
009-5213.sam	52 - Weekly		Aerator / Blower
010-0113.sam	01 - Annually	CLC	Air compressor (Pressure Vessel Inspection)
010-0123.sam	01 - Annually		Air Compressor
010-0223.sam	02 - Every 6 Months		Air Compressor
010-5223.sam	52 - Weekly		Air Compressor
015-xxxx.sam	00 - UNKNOWN		Vacuum Pump
016-1213.sam	12 - Monthly		Vacuum Cleaner (Central)
020-0113.sam	01 - Annually		Air Conditioner, Built-Up
020-1213.sam	12 - Monthly		Air Conditioner, Built-Up
025-0113.sam	01 - Annually		Air Conditioner, Packaged
025-0213.sam	02 - Every 6 Months		Air Conditioner, Packaged
025-0413.sam	04 - Every 3 Months		Air Conditioner, Packaged
025-1213.sam	12 - Monthly		Air Conditioner, Packaged
030-0113.sam	01 - Annually		Air Conditioner, Hermetic Condensing Unit
030-0213.sam	02 - Every 6 Months		Air Conditioner, Hermetic Condensing Unit
030-1213.sam	12 - Monthly		Air Conditioner, Hermetic Condensing Unit
035-0113.sam	01 - Annually		Air Conditioner, Hermetic Condensing Unit
035-0123.sam	01 - Annually		Air Conditioner, Window Unit (Fall)
035-1233.sam	12 - Monthly		Air Conditioner, Window Unit (Spring)
036-0113.sam	01 - Annually		Air Conditioner, Window Unit
036-0213.sam	02 - Every 6 Months		Air Conditioner, Room
036-1213.sam	12 - Monthly		Air Conditioner, Room
040-0113.sam	01 - Annually		Air Conditioner, Room
040-0123.sam	01 - Annually		Air Conditioner, Window, Heating/Cooling (Fall)
040-1233.sam	12 - Monthly		Air Conditioner, Window, Heating/Cooling (Spring)
050-0133.sam	01 - Annually	CLC	Air Conditioner, Window, Heating/Cooling
050-0213.sam	02 - Every 6 Months	CLC	Louvers and Screens
050-0243.sam	02 - Every 6 Months	CLC	Air Handling Unit
050-0413.sam	04 - Every 3 Months	CLC	Air Handling Unit, Roof Mounted, Gas Fired
050-1243.sam	12 - Monthly	CLC	Air Handling Unit
			Air Handling Unit, Roof Mounted, Gas Fired

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
050-3a23.sam	3A - Every 3 Years	CLC	Ductwork Inspection & Cleaning
050-5213.sam	52 - Weekly	CLC	Air Handling Unit
052-0213.sam	02 - Every 6 Months		Agitator, Bio Waste
055-0113.sam	01 - Annually		Air Valve (Air Vent)
057-xxxx.sam	00 - UNKNOWN		Autoclave
058-0013.sam	As Required		Ash Removal
060-0213.sam	02 - Every 6 Months		Battery & Charger
060-1213.sam	12 - Monthly		Battery & Charger
065-0103.sam	01 - Annually	NPC	Backflow Preventer
070-0113.sam	01 - Annually	CLC	Boiler, Hot Water, Inspection
070-0123.sam	01 - Annually		Boiler, Hot Water (Gas/Oil)
070-0133.sam	01 - Annually		Boiler, Hot Water (Electric)
070-0143.sam	01 - Annually		Boiler, Hot Water, Small Package Type
070-0423.sam	04 - Every 3 Months		Boiler, Hot Water (Gas/Oil)
070-0433.sam	04 - Every 3 Months		Boiler, Hot Water (Electric)
070-1243.sam	12 - Monthly		Boiler, Hot Water, Small Package Type
070-5223.sam	52 - Weekly		Boiler, Hot Water (Gas/Oil)
070-5233.sam	52 - Weekly		Boiler, Hot Water (Electric)
075-0113.sam	01 - Annually	CLC	Boiler, Steam, Inspection
075-0123.sam	01 - Annually		Boiler, Steam
075-5223.sam	52 - Weekly		Boiler, Steam
090-0113.sam	01 - Annually		Burner, Oil-Fired
091-0113.sam	01 - Annually		Burner, Gas/Propane Fired
093-3a13.sam	3A - Every 3 Years		Busway
095-0113.sam	01 - Annually		Bus Work and Structure Insulators
096-0113.sam	01 - Annually		Load Break Switch (Pole Mounted Fused Cut-out)
096-3a13.sam	3A - Every 3 Years		Load Break Switch (Pole Mounted Fused Cut-out)
097-3a13.sam	3A - Every 3 Years		Cables, Primary & Secondary Feeders
098-0113.sam	01 - Annually	CLC	Carbon Monoxide Monitor
098-1213.sam	12 - Monthly		Carbon Monoxide Monitor
099-0113.sam	01 - Annually	CLC	Gas Monitor (Confined Spaces)
099-0213.sam	02 - Every 6 Months	CLC	Gas Monitor (Confined Spaces)
099-1213.sam	12 - Monthly	CLC	Gas Monitor (Confined Spaces)
100-0113.sam	01 - Annually		Chiller, Absorption Type
100-1213.sam	12 - Monthly		Chiller, Absorption Type
100-2a13.sam	2A - Every 2 Years		Chiller, Absorption Type
100-3a13.sam	3A - Every 3 Years		Chiller, Absorption Type
105-0113.sam	01 - Annually		Chiller, Centrifugal

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
105-0413.sam	04 - Every 3 Months		Chiller, Centrifugal
105-1213.sam	12 - Monthly		Chiller, Centrifugal
110-0113.sam	01 - Annually		Chiller, Reciprocating
110-1213.sam	12 - Monthly		Chiller, Reciprocating
120-0123.sam	01 - Annually		Circuit Breaker, Air
120-0133.sam	01 - Annually		Circuit Breaker, Draw Out
120-0143.sam	01 - Annually		Moulded Case Breaker
120-0153.sam	01 - Annually		Circuit Breaker, Main Gas Type, SF-6
120-3a13.sam	3A - Every 3 Years		Circuit Breaker, Main, Oil
120-3a23.sam	3A - Every 3 Years		Circuit Breaker, Air
120-3a33.sam	3A - Every 3 Years		Circuit Breaker, Draw Out
123-xxxx.sam	00 - UNKNOWN		Excitor
124-xxxx.sam	00 - UNKNOWN		DC Generator
125-0113.sam	01 - Annually		@Title@Capacitor Bank
125-xxxx.sam	00 - UNKNOWN		Capacitor Bank/Surge Protection/Transient Voltage
126-xxxx.sam	00 - UNKNOWN		Voltage Regulator
127-xxxx.sam	00 - UNKNOWN		Alternator
128-0113.sam	01 - Annually		Capacitor
128-1213.sam	02 - Monthly		Capacitor
130-0113.sam	01 - Annually		Cooling Coil, Water, Start-Up
130-0123.sam	01 - Annually		Cooling Coil, Water, Shut Down
130-0133.sam	01 - Annually		Cooling Coil, Sprayed
130-0143.sam	01 - Annually		Cooling Coil, Direct Expansion (DX)
130-0233.sam	02 - Every 6 Months		Cooling Coil, Sprayed
130-0433.sam	04 - Every 3 Months		Cooling Coil, Sprayed
130-1243.sam	12 - Monthly		Cooling Coil, Direct Expansion (DX)
130-5233.sam	52 - Weekly		Cooling Coil, Sprayed
130-5243.sam	52 - Weekly		Cooling Coil, Direct Expansion (DX)
135-0113.sam	01 - Annually		Heating Coil, Water
135-0123.sam	01 - Annually		Heating Coil, Steam
136-xxxx.sam	00 - UNKNOWN		Terminal Hot Water Reheat
137-0213.sam	02 - Every 6 Months		Cold Room System
137-1213.sam	12 - Monthly		Cold Room System
139-0213.sam	02 - Every 6 Months	CLC	Filter Electrostatic
139-1213.sam	12 - Monthly	CLC	Filter Electrostatic
140-0113.sam	01 - Annually	CLC	Air Purifier
142-xxxx.sam	00 - UNKNOWN		Condenser Evaporative
144-0113.sam	01 - Annually		Communications System

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
145-0413.sam	04 - Every 3 Months		Compactor, Garbage
147-0113.sam	01 - Annually		Compressed Air Dryer
148-0113.sam	01 - Annually		Compressor, Refrigeration
148-0413.sam	04 - Every 3 Months		Compressor, Refrigeration
148-1213.sam	12 - Monthly		Compressor, Refrigeration
150-0123.sam	01 - Annually		Condenser, Air Cooled (Start-Up)
150-0133.sam	01 - Annually		Condenser, Air Cooled (Shut-Down)
150-5213.sam	52 - Weekly		Condenser, Air Cooled
151-0123.sam	01 - Annually		Condenser, Water Cooled (Start-Up)
151-0133.sam	01 - Annually		Condenser, Water Cooled (Shut-Down)
151-5213.sam	52 - Weekly		Condenser, Water Cooled
152-0113.sam	01 - Annually		Controls, Combustion
153-3a13.sam	3A - Every 3 Years		Controls, Electric/Electronic
154-0113.sam	01 - Annually		Control System
154-5213.sam	52 - Weekly		Control System
155-0213.sam	02 - Every 6 Months		Controls, Pneumatic
156-xxxx.sam	00 - UNKNOWN		Controls, Feedwater
158-xxxx.sam	00 - UNKNOWN		Controls, Gas Analyser
160-0113.sam	01 - Annually		Convectors, Hot Water
160-3a13.sam	3A - Every 3 Years		Convectors, Hot Water
170-0113.sam	01 - Annually		Converter
172-0113.sam	01 - Annually		Conveyor
172-1213.sam	12 - Monthly		Conveyor
180-0113.sam	01 - Annually		Cooling Tower
180-0123.sam	01 - Annually		Cooling Tower (Shut-Down)
180-1213.sam	12 - Monthly		Cooling Tower
180-5213.sam	52 - Weekly		Cooling Tower
185-0213.sam	02 - Every 6 Months		Dust Collector
186-0113.sam	01 - Annually		Dampers, Electric
186-0123.sam	01 - Annually		Dampers, Pneumatic
190-0113.sam	01 - Annually	CLC	Dearator
195-xxxx.sam	00 - UNKNOWN		Dehumidifier
199-0113.sam	01 - Annually		Desuperheater
200-0113.sam	01 - Annually	NFC 2.6.1.6	Disconnects (HVAC)
200-3a13.sam	3A - Every 3 Years		Disconnects
205-3a13.sam	3A - Every 3 Years		Main Disconnect
210-0413.sam	04 - Every 3 Months		Distribution Panel (Panelboard)
210-3a13.sam	3A - Every 3 Years		Distribution Panel (Panelboard)

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
212-0413.sam	04 - Every 3 Months		Panelboard, Lighting & Appliances
212-3a13.sam	3A - Every 3 Years		Panelboard, Lighting & Appliance
215-3a13.sam	3A - Every 3 Years		Distribution Splitter Trough
216-xxxx.sam	00 - UNKNOWN		DDC Control Cabinet
220-0113.sam	01 - Annually		Distribution Switchboard
220-1213.sam	12 - Monthly		Distribution Switchboard
223-0113.sam	01 - Annually		Sump Pit
230-0113.sam	01 - Annually		Dock Leveller
230-0413.sam	04 - Every 3 Months		Dock Leveller
235-0133.sam	01 - Annually		Drains, Trench
235-0213.sam	02 - Every 6 Months		Drains, Floor
235-0223.sam	02 - Every 6 Months		Drains, Roof
235-1213.sam	12 - Monthly		Drains, Floor
238-0113.sam	01 - Annually	CLC	Dumbwaiter
238-1213.sam	12 - Monthly	CAN3-B44	Dumbwaiter
239-0113.sam	01 - Annually	CLC	Motor, Electric
240-0113.sam	01 - Annually	CLC	Elevator
240-0133.sam	01 - Annually	CLC	Elevating Device, Wheelchair Lift
240-0423.sam	04 - Every 3 Months	NFC 7.2.2 &	Elevator, High Buildings
240-1213.sam	12 - Monthly	CAN3-B44	Elevator
240-1233.sam	12 - Monthly	CAN3-B355	Elevating Device, Wheelchair Lift
245-xxxx.sam	00 - UNKNOWN		Economiser
250-0113.sam	01 - Annually	NFC 6.7	Emergency Generator
250-1213.sam	12 - Monthly	NFC 6.7	Emergency Generator
250-2a13.sam	2A - Every 2 Years	NFC 6.7	Emergency Generator
250-3a13.sam	3A - Every 3 Years	NFC 6.7	Emergency Generator
250-5213.sam	52 - Weekly	NFC 6.7	Emergency Generator
250-5a13.sam	5A - Every 5 Years	NFC 6.7	Emergency Generator
253-0013.sam	00 - As Required		End Devices
255-0113.sam	01 - Annually	CLC	Escalator
255-0123.sam	01 - Annually	CLC	Moving Walkways
255-1213.sam	12 - Monthly	CAN3-B44	Escalator
255-1223.sam	12 - Monthly	CAN3-B44	Moving Walkways
257-0113.sam	01 - Annually		Heat Exchanger, Air to Air
257-0123.sam	01 - Annually		Heat Exchanger, Liquid to Liquid
257-0133.sam	01 - Annually		Heat Exchanger, Liquid to Air
257-0143.sam	01 - Annually		Heat Exchanger, Compressed-Plate Type
257-0153.sam	01 - Annually		Heat Exchanger, Heat Wheel

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE

FILENAME	FREQUENCY	REG.	DESCRIPTION
257-1253.sam	12 - Monthly		Heat Exchanger, Heat Wheel
258-xxxx.sam	00 - UNKNOWN		Exhaust Air Valves
259-0113.sam	01 - Annually		Expansion Joint, Piping
260-0213.sam	02 - Every 6 Months		Fan, Supply/Return
260-0413.sam	04 - Every 3 Months		Fan, Supply/Return
260-5213.sam	52 - Weekly		Fan, Supply/Return
261-0113.sam	01 - Annually		Fan, Ceiling (Circulation)
261-0213.sam	02 - Every 6 Months		Fan, Ceiling (Circulation)
265-xxxx.sam	00 - UNKNOWN		Fan, Combustion
270-0213.sam	02 - Every 6 Months		Fan, Exhaust
270-0223.sam	02 - Every 6 Months		Fan, Exhaust (Roof Mount)
270-0413.sam	04 - Every 3 Months		Fan, Exhaust
270-5213.sam	02 - Weekly		Fan, Exhaust
273-0113.sam	01 - Annually	CLC	Fume Hood Assembly
280-0113.sam	01 - Annually		Fan Coil Unit (Cabinet Heater/Cooler)
281-0213.sam	02 - Every 6 Months		Fan, Unit Ventilator
290-0113.sam	01 - Annually	NFC 6.3	Fire Alarm (System), General
290-1213.sam	12 - Monthly	NFC 6.3	Fire Alarm (System), General
295-0113.sam	01 - Annually	NFC 6.3	Fire Alarm & Voice Communication System
295-1213.sam	12 - Monthly	NFC 6.3	Fire Alarm & Voice Communication System
300-0113.sam	01 - Annually	NFC 2.2.2.4	Fire Dampers & Stop Flaps
305-0113.sam	01 - Annually	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-1213.sam	12 - Monthly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
305-5213.sam	52 - Weekly	NFC 2.2.2.4	Fire Doors & Fire Separation Doors
310-0113.sam	01 - Annually	NFC 6.2.4	Fire Extinguishers, Portable
310-1213.sam	12 - Monthly	NFC 6.2.4	Fire Extinguishers, Portable
310-5a13.sam	5A - Every 5 Years	NFC 6.2.4	Fire Extinguishers, Portable
310-xa13.sam	12A - Every 12 Year	NFC 6.2.4	Fire Extinguishers, Portable
311-0113.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-0213.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - CO2
311-5213.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - CO2
312-0113.sam	01 - Annually	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-0213.sam	02 - Every 6 Months	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
312-5213.sam	52 - Weekly	NFC 6.3.1.2	Fire Extinguisher System - Dry Chemical
313-0113.sam	01 - Annually	NFC 6.8	Fire Extinguisher System - Halon
313-0213.sam	02 - Every 6 Months	NFC 6.8	Fire Extinguisher System - Halon
313-1213.sam	12 - Monthly	NFC 6.8	Fire Extinguisher System - Halon
315-0113.sam	01 - Annually	NFC 6.6.4	Fire Hydrants

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE

FILENAME	FREQUENCY	REG.	DESCRIPTION
315-0123.sam	01 - Annually	NFC 6.6.4	Fire Hydrants
315-5213.sam	52 - Weekly	NFC 6.6.1.2	Fire Hydrants
325-0113.sam	01 - Annually	NFC 6.6.3	Fire Pump, Gas or Diesel
325-0123.sam	01 - Annually	NFC 6.6.3	Fire Pump, Electric
325-0213.sam	02 - Every 6 Months	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1213.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-1223.sam	12 - Monthly	NFC 6.6.3	Fire Pump, Electric
325-2a13.sam	2A - Every 2 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-3a13.sam	3A - Every 3 Years	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5212.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5213.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Gas or Diesel
325-5223.sam	52 - Weekly	NFC 6.6.3	Fire Pump, Electric
330-1213.sam	02 - Monthly		First Aid Kit
331-5213.sam	52 - Weekly	ANSI Z358.1	First Aid Eyewash Station
335-0113.sam	01 - Annually		Flash Tank
337-xxxx.sam	00 - UNKNOWN		Vehicle Lift
338-0113.sam	01 - Annually	CLC	Freight Platform Lift
338-1213.sam	12 - Monthly	CAN3-B44	Freight Platform Lift
339-0113.sam	01 - Annually		Furnace, Electric, Warm Air
339-0213.sam	02 - Every 6 Months		Furnace, Electric, Warm Air
339-1213.sam	02 - Monthly		Furnace, Electric, Warm Air
340-0113.sam	01 - Annually		Furnace, Gas or Oil, Warm Air
340-0213.sam	02 - Every 6 Months		Furnace, Gas or Oil, Warm Air
340-1213.sam	02 - Monthly		Furnace, Gas or Oil, Warm Air
341-0113.sam	01 - Annually		Heater, Ramp, Electric
341-0123.sam	01 - Annually		Heater, Ramp, Glycol
342-0113.sam	01 - Annually		Heater, Electric, Duct
343-0113.sam	01 - Annually		Heater, Electric, Baseboard/Convector
344-0113.sam	01 - Annually		Heater, Electric, Fan Unit
344-0213.sam	02 - Every 6 Months		Heater, Electric, Fan Unit
345-0113.sam	01 - Annually		Hoist, Pneumatic/Hydraulic
345-0213.sam	02 - Every 6 Months		Hoist, Pneumatic/Hydraulic
345-1213.sam	02 - Monthly		Hoist, Pneumatic/Hydraulic
345-5213.sam	52 - Weekly		Hoist, Pneumatic/Hydraulic
346-0113.sam	01 - Annually		Heater Cables
347-xxxx.sam	00 - UNKNOWN		Hoist, Electric/Manual
348-0113.sam	01 - Annually		Travelling Bridge Crane
348-0213.sam	02 - Every 6 Months		Travelling Bridge Crane

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
348-0413.sam	04 - Every 3 Months		Travelling Bridge Crane
348-0423.sam	04 - Every 3 Months		Travelling Bridge Crane
348-1213.sam	12 - Monthly		Travelling Bridge Crane
350-0113.sam	01 - Annually		Humidifier, Steam
350-0123.sam	01 - Annually		Humidifier, Spray Type
350-0133.sam	01 - Annually		Humidifier, Drum Type
350-0423.sam	04 - Every 3 Months		Humidifier, Spray Type
350-0433.sam	04 - Every 3 Months		Humidifier, Drum Type
350-5213.sam	52 - Weekly		Humidifier, Steam
350-5223.sam	52 - Weekly		Humidifier, Spray Type
355-0113.sam	01 - Annually	NFC 2.6.2	Incinerator
355-0213.sam	02 - Every 6 Months	NFC 2.6.2	Incinerator
360-0113.sam	01 - Annually		Induction Unit
360-0213.sam	02 - Every 6 Months		Induction Unit
361-xxxx.sam	00 - UNKNOWN		Trap, Sand
362-0123.sam	01 - Annually	CCME-EPC-LS	Oil/Water Separator
362-0213.sam	02 - Every 6 Months		Oil Trap Disposal
362-1213.sam	02 - Monthly		Grease Trap Pump Out
362-1223.sam	12 - Monthly		Oil/Water Separator
363-xxxx.sam	00 - UNKNOWN		Trap, Sediment
364-3a13.sam	3A - Every 3 Years		Interface Panel
365-0113.sam	01 - Annually		Irrigation System (Spring)
365-0123.sam	01 - Annually		Irrigation System (Fall)
370-0113.sam	01 - Annually	NFC 6.7.1.6	Lighting, Emergency (battery powered)
370-1213.sam	12 - Monthly	NFC 6.7.1.6	Lighting, Emergency (battery powered)
379-3a13.sam	3A - Every 3 Years		Lighting Interior
380-0113.sam	01 - Annually		Lighting, Exterior
380-0213.sam	02 - Every 6 Months		Lighting, Exterior
381-0113.sam	01 - Annually		Lightning Rod
381-3a13.sam	3A - Every 3 Years		Lightning Rod
383-0213.sam	02 - Every 6 Months		Master Clock
384-1213.sam	12 - Monthly		Metering Equipment
385-0113.sam	01 - Annually		Mixing Boxes
385-0213.sam	02 - Every 6 Months		Mixing Boxes
385-3a13.sam	3A - Every 3 Years		Mixing Boxes
386-0113.sam	01 - Annually		Motor Control Centre
386-0213.sam	02 - Every 6 Months		Motor Control Centre
387-0113.sam	01 - Annually		Piping Systems

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
388-0213.sam	02 - Every 6 months		Plumbing Fixtures
388-1213.sam	12 - Monthly		Plumbing Fixtures
389-0113.sam	01 - Annually		Printer Terminal
390-0113.sam	01 - Annually		Power Door Operator
391-1213.sam	12 - Monthly	CEPA 92-507	PCB Storage Site
395-xxxx.sam	00 - UNKNOWN		Preheater, Oil
396-xxxx.sam	00 - UNKNOWN		Pressure Regulating Valve
397-0113.sam	01 - Annually		Projector, Slide
398-xxxx.sam	00 - UNKNOWN		Pressure Reducing Valve
400-0113.sam	01 - Annually		Pump, General
400-0213.sam	02 - Every 6 Months		Pump, General
400-0413.sam	04 - Every 3 Months		Pump, General
400-5213.sam	52 - Weekly		Pump, General
401-0113.sam	01 - Annually		Pump, Steam (Direct Acting)
401-5213.sam	52 - Weekly		Pump, Steam (Direct Acting)
405-0113.sam	01 - Annually		Pump, Condensate
405-5213.sam	52 - Weekly		Pump, Condensate
407-0113.sam	01 - Annually		Heat Pump
407-3a13.sam	3A - Every 3 Years		Heat Pump
410-0113.sam	01 - Annually		Sump Pump, Float Type
410-1213.sam	12 - Monthly		Sump Pump, Float Type
410-1223.sam	12 - Monthly		Sump Pump, Submersible
411-xxxx.sam	00 - UNKNOWN		Pump, Sewage Station
412-xxxx.sam	00 - UNKNOWN		Catch Basin
413-0113.sam	01 - Annually		@Title@Electrical Cable Manhole, Pull-pit & Duct
413-xxxx.sam	00 - UNKNOWN		Manhole
420-3a13.sam	3A - Every 3 Years		Relay Panel
423-xxxx.sam	00 - UNKNOWN		Energy Meter, Combined
424-0113.sam	01 - Annually		Energy Meter, Chilled Water
425-0113.sam	01 - Annually		Energy Meter, Steam
426-0113.sam	01 - Annually		Energy Meter, Electrical
427-0113.sam	01 - Annually		Energy Meter, High Temp. Hot Water
428-0213.sam	52 - Weekly	ANSI Z358.1	Emergency Shower
428-0413.sam	04 - Every 3 Months		Emergency Shower
429-xxxx.sam	00 - UNKNOWN		Scrubbers
430-0013.sam	AR - As Required		Sewage Sterilizer
430-0213.sam	02 - Every 6 Months		Sewage Treatment System
430-1213.sam	12 - Monthly		Sewage Treatment System

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
430-5213.sam	52 - Weekly		Sewage Treatment System
431-0113.sam	01 - Annually		Solar Collector (System)
431-0123.sam	01 - Annually		Solar Collector (System)
431-1213.sam	12 - Monthly		Solar Collector (System)
431-3a13.sam	AA - Every 3 Years		Solar Collector (System)
432-xxxx.sam	00 - UNKNOWN		Soot Blower
433-xxxx.sam	00 - UNKNOWN		Travelling Screen System
439-0413.sam	04 - Every 3 Months	NFC 7	Smoke Control Systems in High Buildings
439-xxxx.sam	00 - UNKNOWN		Smoke Control Systems (High Rise Buildings)
440-0113.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0213.sam	02 - Every 2 Months	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-0613.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-1213.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-3a13.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Dry Pipe
440-5213.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Dry Pipe
445-0113.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0213.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-0613.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-1213.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-3a13.sam	3A - Every 3 Years	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
445-5213.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Preaction / Deluge
450-0113.sam	01 - Annually	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0213.sam	02 - Every 6 Months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-0613.sam	06 - Every 2 months	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-1213.sam	12 - Monthly	NFC 6.5 / 6	Sprinkler, Wet Pipe
450-5213.sam	52 - Weekly	NFC 6.5 / 6	Sprinkler, Wet Pipe
455-0113.sam	01 - Annually	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-0213.sam	02 - Every 6 Months	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
455-1213.sam	12 - Monthly	NFC 2.6.1.9	Sprinkler, Commercial Cooking Equipment
460-0113.sam	01 - Annually	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-1213.sam	12 - Monthly	NFC 6.4 & 6	Standpipe and Hose Cabinet
460-5a13.sam	5A - Every 5 Years	NFC 6.4 & 6	Standpipe and Hose Cabinet
470-0113.sam	01 - Annually		Starter / Contactor
470-0213.sam	02 - Every 6 Months		Starter / Contactor
471-0113.sam	01 - Annually		Combination Starter
471-0213.sam	02 - Every 6 Months		Combination Starter
475-0113.sam	01 - Annually		Water Distiller
479-xxxx.sam	00 - UNKNOWN		Superheater

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
480-0113.sam	01 - Annually	NFC 6.6	Tank, Gravity (Water Tower)
480-1213.sam	12 - Monthly	NFC 6.6	Tank, Gravity (Water Tower)
480-2a13.sam	2A - Every 2 Years	NFC 6.6	Tank, Gravity (Water Tower)
480-5213.sam	52 - Weekly	NFC 6.6	Tank, Gravity (Water Tower)
480-5a13.sam	5A - Every 5 Years	NFC 6.6	Tank, Gravity (Water Tower)
481-0113.sam	01 - Annually	NFC 6.6	Tank, Pressurized (Water)
481-1213.sam	12 - Monthly	NFC 6.6	Tank, Pressurized (Water)
481-2a13.sam	2A - Every 2 Years	NFC 6.6	Tank, Pressurized (Water)
481-5213.sam	52 - Weekly	NFC 6.6	Tank, Pressurized (Water)
482-0213.sam	02 - Every 6 Months		Tank, Septic System
482-0413.sam	04 - Every 3 Months		Tank, Septic System
482-2a13.sam	2A - Every 2 Years		Tank, Septic System
482-4a13.sam	4A - Every 4 Years		Tank, Septic System
483-0113.sam	01 - Annually	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-0123.sam	01 - Annually	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-0133.sam	01 - Annually	NFC 4.3.17	Tank, Underground, Fuel Storage
483-1223.sam	12 - Monthly	CCME - EPC	Tank, Underground, Fuel Storage
483-5213.sam	52 - Weekly	CAN/CSA B13	Tank, Aboveground, Inside, Fuel Storage
483-5223.sam	52 - Weekly	CCME-EPC-LS	Tank, Aboveground, Outside, Fuel Storage
483-5233.sam	52 - Weekly	CCME - EPC	Tank, Underground, Fuel Storage
484-0113.sam	01 - Annually	CLC	Tank, Chemical Holding
485-0113.sam	01 - Annually		Terminal, Computer
486-0113.sam	01 - Annually		Variable Air Volume Boxes
487-1213.sam	12 - Monthly	NFC 6.7	Transfer Switch, Automatic
487-3a13.sam	3A - Every 3 Years	NFC 6.7	Transfer Switch, Automatic
490-0113.sam	01 - Annually		Transformer, Askarel/Oil Filled
491-0113.sam	01 - Annually		Transformer, Vented Dry
491-1213.sam	12 - Monthly		Transformer, Vented Dry
491-3a13.sam	3A - Every 3 Years		Transformer, Vented Dry
500-0113.sam	01 - Annually	C22.1-94	Transformer Vault
502-xxxx.sam	00 - UNKNOWN		Gearbox
503-xxxx.sam	00 - UNKNOWN		Turbine, Steam
504-xxxx.sam	00 - UNKNOWN		Cyclone
506-xxxx.sam	00 - UNKNOWN		Motor, Diesel
507-xxxx.sam	00 - UNKNOWN		Turbocharger
510-0213.sam	02 - Every 6 Months		Traps and Strainers
520-0113.sam	01 - Annually		Unit Heater
520-1213.sam	12 - Monthly		Unit Heater

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
521-3a13.sam	3A - Every 3 Years		Underground Electrical Service
523-0213.sam	02 - Every 6 Months		Valves, Control (Pneumatic)
524-0213.sam	02 - Every 6 Months		Uninterruptible Power System (UPS)
524-1213.sam	12 - Monthly		Uninterruptible Power System (UPS)
524-5213.sam	52 - Weekly		Uninterruptible Power System (UPS)
526-0113.sam	01 - Annually		Valve, Steam, Pressure Reducing
530-0113.sam	01 - Annually		Water Cooler, Unit (Drinking Fountain)
540-0113.sam	01 - Annually		Water Cooler, Central Station
540-0213.sam	02 - Every 6 Months		Water Cooler, Central Station
540-1213.sam	12 - Monthly		Water Cooler, Central Station
545-1213.sam	12 - Monthly		Water Softener, Demineralizer
545-5213.sam	52 - Weekly		Water Softener, Demineralizer
550-0113.sam	01 - Annually		Water Heater, Domestic
550-0213.sam	02 - Every 6 Months		Water Heater, Domestic
559-xxxx.sam	00 - UNKNOWN		Recovery Systems (Precious Metals)
560-0123.sam	01 - Annually		Water Treatment System (Pot Feeder)
560-0133.sam	01 - Annually		Water Treatment System (Domestic Water)
560-0213.sam	02 - Every 6 Months		Water Treatment System (Boiler Feed)
560-1243.sam	12 - Monthly		Water Treatment System (Glycol)
560-5223.sam	52 - Weekly		Water Treatment System (Pot Feeder)
560-5233.sam	52 - Weekly		Water Treatment System (Domestic Water)
565-0223.sam	02 - Every 6 Months		Well, Pump, Submersible
565-0233.sam	02 - Every 6 Months		Well, Pump, Turbine
565-5213.sam	52 - Weekly		Well, Pump Room/House
601-0113.sam	01 - Annually		Overhead Electrical Distribution (Exterior)
601-3a13.sam	3A - Every 3 Years		Overhead Electrical Distribution (Exterior)
602-0213.sam	02 - Every 6 Months		Exterior Sub-Station
602-5213.sam	52 - Weekly		Exterior Sub-Station
603-5a13.sam	5A - Every 5 Years	C22.1-94	Grounding System
700-0223.sam	02 - Every 6 Months		Security, Motorized Gates (Mechanical)
700-0233.sam	02 - Every 6 Months		Security, Motorized Gates (Electrical)
700-1213.sam	12 - Monthly		Security, Panic Buttons
710-xxxx.sam	00 - UNKNOWN		Natural Gas/Propane Distribution System
750-xxxx.sam	00 - UNKNOWN		Gaseous Fluids
755-xxxx.sam	00 - UNKNOWN		Cryogenic Fluids
800-0213.sam	02 - Every 6 Months		Interior, General
801-0213.sam	02 - Every 6 Months		Exterior, General
805-0213.sam	02 - Every 6 Months		Areaways

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
810-0113.sam	01 - Annually	NFC 2.6.1.4	Chimney and stack
813-0213.sam	02 - Every 6 Months		Emergency Exit Doors
813-1213.sam	12 - Monthly	NFC 2.7.2	Emergency Exit Doors
814-0113.sam	01 - Annually		Doors, Interior
815-0213.sam	02 - Every 6 months		Entrance, Door
820-0213.sam	02 - Every 6 Months	NFC 2.7.1.6	Exterior Stairs and Railings
825-0213.sam	02 - Every 6 months		Walls, Exterior
830-0213.sam	02 - Every 6 Months		Foundations, Footings and Supports
835-0113.sam	02 - Every 6 Months		Barriers & Fences
840-0213.sam	02 - Every 6 Months		Flagpole
850-0123.sam	01 - Annually		Grounds and Approaches (Spring Maintenance)
850-0133.sam	01 - Annually		Grounds and Approaches (Fall Maintenance)
851-0213.sam	02 - Every 6 Months		Roads, Approaches, Parking (Paved Areas)
855-0123.sam	01 - Annually		Overhead Doors, Powered
855-0213.sam	02 - Every 6 Months		Overhead Door, Manual
855-0423.sam	04 - Every 3 Months		Overhead Doors, Powered
860-0113.sam	01 - Annually		Painting
861-0113.sam	01 - Annually		Walls, Interior
862-0113.sam	01 - Annually		Floors
863-0113.sam	01 - Annually		Ceilings
866-0113.sam	01 - Annually	NFPA 68	Blowout Panels (Explosion Venting)
870-0213.sam	02 - Every 6 Months		Roofs
873-0113.sam	01 - Annually	CLC	Self Contained Breathing Apparatus (Air Packs)
873-0413.sam	04 - Every 3 Months	CLC	Self Contained Breathing Apparatus (Air Packs)
873-1213.sam	12 - Monthly	CLC	Self Contained Breathing Apparatus (Air Packs)
873-5213.sam	52 - Weekly	CLC	Self Contained Breathing Apparatus (Air Packs)
875-0113.sam	01 - Annually		Shelving
890-0213.sam	02 - Every 6 Months		Storm Drainage
895-0213.sam	02 - Every 6 Months		Windows
896-0013.sam	AR - As Required		Venetian Blinds
897-0013.sam	AR - As Required		Draperies
900-0213.sam	02 - Every 6 Months		Cafeteria/Kitchen, Appliances
902-0213.sam	02 - Every 6 Months		Waste Disposal Unit
902-1213.sam	02 - Monthly		Waste Disposal Unit
905-0413.sam	04 - Every 3 Months		Dishwasher, Commercial
905-5213.sam	52 - Weekly		Dishwasher, Commercial
908-0113.sam	01 - Annually		Dishwasher, Conveyor
908-0413.sam	04 - Every 3 Months		Dishwasher, Conveyor

PREVENTIVE MAINTENANCE CHECKLISTS - LEVEL THREE			
FILENAME	FREQUENCY	REG.	DESCRIPTION
908-5213.sam	52 - Weekly		Dishwasher, Conveyor
910-0113.sam	01 - Annually	NFC 2.6 & 6	Kitchen Range Hood, Commercial
910-5213.sam	52 - Weekly	NFC 2.6 & 6	Kitchen Range Hood, Commercial
912-0113.sam	01 - Annually		Oven, Gas or Electric (Commercial)
912-0213.sam	02 - Every 6 Months		Oven, Commercial (Gas/Electric/Steam)
915-0213.sam	02 - Every 6 Months		Steam Kettle
918-0413.sam	04 - Every 3 Months		Pressure Cooker, Steam
920-0213.sam	02 - Every 6 Months		Garbage Refrigerator
920-1213.sam	12 - Monthly		Garbage Refrigerator
925-0213.sam	02 - Every 6 Months		Garbage Can Washer
930-0113.sam	01 - Annually		Ice Cream Cabinet
935-0213.sam	02 - Every 6 Months		Ice Cube Maker
940-0113.sam	01 - Annually		Food Mixer
940-0213.sam	02 - Every 6 Months		Food Mixer
941-0213.sam	02 - Every 6 Months		Meat Slicer / Saw
944-0213.sam	02 - Every 6 Months		Patty Machine
955-0213.sam	02 - Every 6 Months		Serving Table, Heated
960-0113.sam	01 - Annually		Refrigerator / Refrigerated Display Case
965-0213.sam	02 - Every 6 months		Beverage Dispenser
970-0213.sam	02 - Every 6 Months		Vegetable Peeler
980-0213.sam	02 - Every 6 Months		Walk-In Refrigerator / Freezer
980-1213.sam	12 - Monthly		Walk-In Refrigerator / Freezer