

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
PO Box 1408 , Room 100
167 Lombard Ave.
Winnipeg
Manitoba
R3C 2Z1
Bid Fax: (204) 983-0338

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 Stanley Knowles Fit-up	
Solicitation No. - N° de l'invitation ET025-131746/A	Date 2012-11-30
Client Reference No. - N° de référence du client PWGSC	
GETS Reference No. - N° de référence de SEAG PW-\$PWZ-080-8310	
File No. - N° de dossier PWZ-2-35218 (080)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-01-14	Time Zone Fuseau horaire Central Standard Time CST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Almonte, Cathleen	Buyer Id - Id de l'acheteur pwz080
Telephone No. - N° de téléphone (204) 984-6664 ()	FAX No. - N° de FAX (204) 983-7796
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Public Health Agency of Canada Stanley Knowles Building 391 York Ave WINNIPEG Manitoba R3C2Z1 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 - Western
Region
P.O. Box 1408, Room 100
167 Lombard Ave.
Winnipeg
Manitoba
R3C 2Z1

Delivery Required - Livraison exigée See Herein	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

REQUEST FOR PROPOSAL (RFP)

Fit-Up - Stanley Knowles Building, PHAC/HC, 391 York Avenue, Winnipeg Manitoba

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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.
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.

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); R1410T (2012-11-19), General Instructions to Proponents (GI) 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 "General Procedures and Standards";
 - (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 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 North American Free Trade Agreement (NAFTA), the World Trade Organization - Agreement on Government Procurement (WTO-AGP) and the Agreement on Internal Trade (AIT).

SI5 CODE OF CONDUCT AND CERTIFICATIONS - RELATED DOCUMENTATION

By submitting a bid, the Proponent certifies, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the R1410T (2012-11-19) General Instructions to Proponents (GI). The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Proponent certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Proponent, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Proponent and any of the Proponent's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Proponents who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Proponent. Proponents bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Proponents bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names have not been received by the time the evaluation of bids is completed, Canada will inform the Proponent of a time frame within which to provide the information. Failure to comply will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Proponent provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

SI6 - WEB SITES

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.justice.gc.ca/en/E-5.401/index.html>

Federal Contractors Program (FCP)

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<http://www.hrsdc.gc.ca/eng/labour/equality/fcp/index.shtml>

Certificate of Commitment to Implement Employment Equity form LAB 1168

<http://www.servicecanada.gc.ca/cgi-bin/search/eforms/index.cgi?app=profile&form=lab1168&dept=sc&lang=e>

Code of Conduct for Procurement

<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

Consent to a Criminal Record Verification (PWGSC-TPSGC 229 form)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>

Lobbying Act

<http://laws.justice.gc.ca/en/L-12.4/?noCookie>

Contracts Canada

<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>

Canadian economic sanctions

<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

National Joint Council (NJC) Travel Directive

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

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;
 - (b) the General Terms, Conditions and Clauses, as amended, identified as:
 - R1210D (2012-11-19), GC1 - General Provisions
 - R1215D (2011-05-16), GC2 - Administration of the Contract
 - R1220D (2011-05-16), GC3 - Consultant Services
 - R1225D (2012-07-16), GC4 - Intellectual Property
 - R1230D (2012-07-16), GC5 - Terms of Payment
 - R1235D (2011-05-16), GC6 - Changes
 - R1240D (2011-05-16), GC7 - Taking the Services Out of the Consultant's Hands, Suspension or Termination
 - R1245D (2012-07-16), GC8 - Dispute Resolution
 - R1250D (2012-07-16) R1650D (2012-07-16), GC9 - Indemnification and Insurance
 - (c) Project Brief / Terms of Reference;
 - (d) the document entitled "General Procedures and Standards";
 - (e) any amendment to the solicitation document incorporated in the Agreement before the date of the Agreement;
 - (f) 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.
 - (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 "General Procedures and Standards";

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(i) the proposal.

SUPPLEMENTARY CONDITIONS (SC)

SC1 SUPPLEMENTARY CONDITIONS

There are no supplementary conditions which apply to the Agreement.

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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SUBMISSION REQUIREMENTS AND EVALUATION

- SRE 1 General Information
- SRE 2 Proposal Requirements
- SRE 3 Submission Requirements and Evaluation
- SRE 4 Price of Services
- SRE 5 Total Score
- SRE 6 Submission Requirements - Checklist

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An 'Overview of the Selection Procedure' can be found in R1410T General Instructions to Proponents (GI3).

1.2 Calculation of Total Score

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

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

SRE 2 PROPOSAL REQUIREMENTS

2.1 Requirement for Proposal Format

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

- ◆ Submit one (1) bound signed original plus five (5) bound copies of the proposal
- ◆ Paper 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
- ◆ Double-sided submissions are preferred
- ◆ 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") fold-out sheets 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

2.2 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 (optional - contents not evaluated)
- ◆ Completed Consultant Team Identification (Appendix A)
- ◆ Completed and signed Declaration Form (Appendix B)
- ◆ Front page of the RFP
- ◆ Front page of revision(s) to the RFP
- ◆ Price Proposal Form (Appendix C)
- ◆ Index and Section Dividers not containing technical information

Consequence of non-compliance with number of pages will be that any pages which extend beyond first thirty (30) pages 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.

MANDATORY CRITERIA:		MET	NOT MET
1.	Submissions must be received in the designated bid receiving unit on or before the date and time indicated in the solicitation document.		
2.	Submit a maximum of thirty (30) pages per SRE's - pages in excess of the first thirty (30) will be removed.		
3.	Complete and Submit Team Identification information.		
4.	Complete and Submit the signed Declaration form.		
5.	Achieve an individual criterion pass mark of 60%, and an overall pass mark of 60%.		
6.	Complete, sign, and submit the Price Proposal form in a separate envelope. All price proposals which are greater than 25 % above the average price will cause their respective complete proposals to be set aside and receive no further consideration.		

3.1.1 Licensing, Certification or Authorization

The proponent shall be an individual consulting firm or joint venture licensed, or eligible to be licensed, to provide the necessary professional services to the full extent that may be required by provincial or territorial law in the province of Manitoba.

3.1.2 Consultant Team Identification

The consultant team to be identified must include the following: experience in Structural Engineering, Mechanical Engineering, Electrical Engineering, Cost Estimating, Scheduling, and Architectural and Interior Design.

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 R1410T General Instructions to Proponents, GI9 Limitation of Submissions).

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

Proponent (prime consultant) **Architects** - must be registered and authorized to practice in the province of Manitoba. Architects by the Manitoba Architects Association (MAA).

Key Sub-consultants / Specialists

Interior Designers - must at minimum be in good standing with the Professional Interior Designers Institute of Manitoba (PIDIM) and hold the designation of Professional Interior Designer.

Mechanical Engineer - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba

Electrical Engineer - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba
 Mechanical Engineer must provide current examples relevant experience in both corporate and health care design construction within the last 5 years.

of
and

Structural Engineer - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba Structural Engineer.

Acoustical Engineer - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM).

Cost Estimating Specialist - must be a registered professional quantity surveyor capable of addressing cost estimating as per NPMS standards which can be found at this link

<http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>

3.1.3 Declaration/Certification Form(s)

Proponents must complete, sign and submit the following:

- Declaration/Certifications Form found in Appendix B.

3.1.4 Code of Conduct Certifications

Proponents should provide, with their proposal or promptly thereafter, a complete list of names of all individuals who are currently directors of the Proponent. If such a list has 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 provide such a list within the required time frame will render the proposal non-responsive. Proponents must always submit the list of directors before contract award.

3.2 RATED REQUIREMENTS

3.2.1 Achievements of Proponent on Projects

The prime consultant (i.e. Architect) must have experience in corporate office & healthcare design and must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Select a **maximum** of five total (5) projects (i.e. three corporate projects and three healthcare projects) undertaken within the last five (5) years. Joint venture submissions are not to exceed the maximum number of projects. Only the first five (5) 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

3.2.2 Achievements of Key Sub-consultants and Specialists on Projects

The subconsultants must demonstrate the following:

Professional Interior Designers must have experience in corporate office & healthcare design projects and must have experience working with large scale furniture projects. Professional Interior Designers must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Mechanical Engineers must have experience in corporate office & healthcare design projects. Professional Mechanical Engineers must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Electrical Engineers must have experience in corporate office & healthcare design projects. Professional Electrical Engineers must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Structural Engineers must have experience in corporate office & healthcare design projects. Structural Engineers must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Acoustical Engineers must have experience in corporate office & healthcare design projects. Acoustical Engineers must provide current examples of relevant experience in both corporate and healthcare design and construction within the last 5 years.

Select a **maximum** of five total (5) projects (i.e. three corporate projects and three healthcare projects) undertaken within the last five years per key sub consultant or specialist. Only the first five (5) 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 multidisciplinary 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

Price envelopes will remain sealed and only the technical components of the proposals which are deemed 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	1.5	0 - 10	0 - 15
Achievements of Key Personnel on Projects	2.0	0 - 10	0 - 20
Understanding of the Project	2.0	0 - 10	0 - 20
Scope of Services	1.0	0 - 10	0 - 10
Management of Services	1.0	0 - 10	0 - 10
Design Philosophy / Approach / Methodology	0.5	0 - 10	0 - 5

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Technical Rating	10.0		0 - 100
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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:

NON RESPONSIVE	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 expert understanding of the requirements.
	Weaknesses cannot be corrected	Generally doubtful that weaknesses can be corrected	Weaknesses can be easily corrected	No significant weaknesses	No apparent weaknesses
	Proponent lacks qualifications and experience	Proponent does not have minimum qualifications and experience	Proponent has minimum 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 all 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 project's needs	Sample projects generally not related to this project's needs	Sample projects generally related to this project's needs	Sample projects directly related to this project's needs	Leads in sample projects directly related to this project's needs
	Extremely poor, insufficient to meet performance requirements	Little capability to meet performance requirements	Minimum acceptable capability, should meet minimum performance	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 sixty (60) 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 sixty (60) points.

SRE 4 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals which have achieved the pass mark of sixty (60) points will be opened upon completion of the technical evaluation. An average price is determined by adding all the price proposals together and dividing the total by the number of price proposals being opened.

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:

The lowest price proposal receives a Price Rating of 100

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.

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.

Solicitation No. - N° de l'invitation

ET025-131746/A

Amd. No. - N° de la modif.

File No. - N° du dossier

PWZ-2-35218

Buyer ID - Id de l'acheteur

pwz080

Client Ref. No. - N° de réf. du client

PWGSC

CCC No./N° CCC - FMS No/ N° VME

Please follow detailed instructions in R1410T General Instructions to Proponents, G116 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
- Code of Conduct Certifications- list of directors
- Proposal - one (1) bound original plus five bound copies.
- Front page of RFP - completed and signed
- Front page(s) of any solicitation amendment - completed and signed

In a separate envelope:

- Price Proposal form - one (1) completed and submitted in a separate envelope

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, or eligible to be, licensed, 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 - Architect):

Firm or Joint Venture Name:

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

.....
.....
.....
.....

II. Key Sub Consultants / Specialists:

Interior Designer

Firm Name:

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

.....
.....
.....
.....

Mechanical Engineer

Firm Name:

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

.....
.....
.....
.....

Solicitation No. - N° de l'invitation

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ET025-131746/A

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Client Ref. No. - N° de réf. du client

File No. - N° du dossier

CCC No./N° CCC - FMS No/ N° VME

PWGSC

PWZ-2-35218

Electrical Engineer

Firm Name:
.....
.....

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

.....
.....
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.....
.....

Structural Engineer

Firm Name:
.....
.....

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

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.....
.....

Acoustical Engineer

Firm Name:
.....
.....

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

.....
.....
.....
.....
.....

Cost Estimating Specialist

Firm Name:
.....
.....

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

.....
.....
.....
.....
.....

Solicitation No. - N° de l'invitation

ET025-131746/A

Client Ref. No. - N° de réf. du client

PWGSC

Amd. No. - N° de la modif.

File No. - N° du dossier

PWZ-2-35218

Buyer ID - Id de l'acheteur

pwz080

CCC No./N° CCC - FMS No/ N° VME

APPENDIX B - DECLARATION/CERTIFICATIONS FORM

Project Title:

Name of Proponent:

Street Address:

Mailing Address
(if different than street address)

City:

City:

Prov./Terr./State:

Prov./Terr./State:

Postal/ZIP Code:

Postal/ZIP Code:

Telephone Number:()

Fax Number: ()

E-Mail:

Procurement Business Number:

<p>Type of Organization:</p> <p>_____ Sole Proprietorship</p> <p>_____ Partnership</p> <p>_____ Corporation</p> <p>_____ Joint Venture</p>	<p>Size of Organization:</p> <p>Number of Employees _____</p> <p>Graduate Architects / Professional Engineers _____</p> <p>Other Professionals _____</p> <p>Technical Support _____</p> <p>Other _____</p>
---	---

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Federal Contractors Program (FCP) - Certification

Pursuant to GI 12, The Proponent must complete the following certification.

1. The Proponent, or, if the Proponent is a joint venture the member of the joint venture, certifies its status with FCP, as follows:

The Proponent or the member of the joint venture

- (a) () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada,
- (b) () is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c.44;
- (c) () is subject to the requirements of the FCP, having a workforce of 100 or more full time or part-time permanent employees, or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC, (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;
- (d) () is subject to the FCP, and has a valid certificate number as follows: _____ (e.g. has not been declared an ineligible contractor by HRSDC).

Please check the appropriate item above. Further information on the FCP is available on the HRSDC Web site.

2. If the Proponent does not fall within the exceptions enumerated in 1. (a) or (b), or does not have a valid certificate number confirming its adherence to the FCP, the Proponent must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

Former Public Servant (FPS) - Certification

Contracts with 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 with FPS, proponents must provide the information required below.

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, in the context of the fee abatement formula, 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 to the *Canada Pension Plan Act*, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

Is the Proponent a FPS in receipt of a pension as defined above?

YES () NO ()

If so, the Proponent must provide the following information:

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

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)**Work Force Reduction Program**

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 reduction program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including the Goods and Services Tax or Harmonized Sales Tax.

Certification

By submitting a proposal, the Proponent certifies that the information submitted by the Proponent in response to the above requirements is accurate and complete.

APPENDIX B - DECLARATION/CERTIFICATIONS FORM (CONT'D)

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	
..... 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: _____.

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

E-mail: _____

This Appendix "B" should be completed and submitted with the proposal, but may be submitted afterwards as follows: if Appendix "B" is not completed and submitted with the proposal, the Contracting Authority will so inform the Proponent and provide the Proponent with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the proposal non-responsive.

APPENDIX C - PRICE PROPOSAL FORM

INSTRUCTIONS: Complete this Price Proposal Form and submit in a **separate sealed envelope** with the Name of Proponent, Name of Project, PWGSC Solicitation Number, and the words "PRICE PROPOSAL FORM" typed on the outside of the envelope. Price Proposals are not to include GST/HST.

PROPOSANTS SHALL NOT ALTER THIS FORM

Project Title:

Name of Proponent:

The following will form part of the evaluation process:

REQUIRED SERVICES

- ◆ **Fixed Fee** (R1230D (2012-07-16), GC 5 - Terms of Payment)

Fixed fees should include fees and disbursements for all disciplines and specialties to be requested to ensure that all necessary services are covered in this contract.

REQUIRED SERVICES (RS)

FIXED FEE

(INCLUDING DISBURSEMENTS)

RS 2.2 Project Review and approval

\$.....

RS 2.3 Pre-Design Service

\$.....

RS 2.4 Schematic Design Service

\$.....

RS 2.5 Design Development Service

\$.....

RS 2.6 Design Services

\$.....

RS 2.7 Tender Services

\$.....

RS 2.8 Construction Support Service

\$.....

RS 2.9 Commissioning Service

\$.....

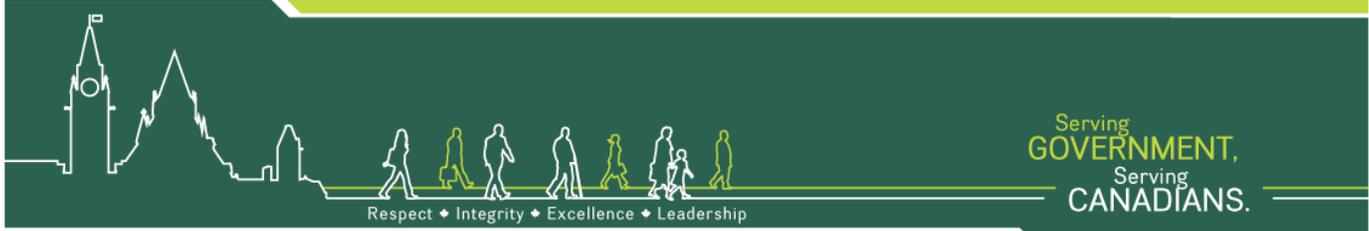
RS 2.10 Post Construction Service

\$.....

MAXIMUM FIXED FEES

\$.....

(Required Services including Disbursements)



GENERAL PROCEDURES & STANDARDS

For Professional & Design Services

MMXI Edition



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I INTRODUCTION

I.1 GENERAL PROCEDURES AND STANDARDS

I.1.1 GENERAL

- .1 These PWGSC *General Procedures and Standards* (P&S) have been developed to:
 - .1 Facilitate the development of a rational, well-documented design process; and
 - .2 Ensure compliance with federal government standards, PWGSC Policies and Treasury Board directives.

I.1.2 HARMONIZATION WITH THE TERMS OF REFERENCE (TOR)

- .1 The P&S document must be used in conjunction with the TOR, as the two documents are complimentary.
- .2 The TOR describes project-specific requirements, services and deliverables while the GP&S document outlines with minimum standards and procedures common to all projects.
- .3 In the case of a conflict between the two documents, the requirements of the TOR override this document.

I.2 PROJECT DELIVERY

I.2.1 GENERAL REQUIREMENTS

- .1 The project delivery requirements outlined in this section are applicable to the design and construction of all PWGSC projects in Western Region, unless otherwise indicated in the TOR.
- .2 Under the direction of the Consultant, the Consultant team shall provide fully integrated and coordinated professional and design services for the delivery of a project, in accordance with the requirements in the TOR and as contained herein.
- .3 The Consultant must:
 - .1 Obtain written authorization from the Departmental Representative before proceeding from one phase of work to the next phase of a project;
 - .2 Coordinate all services with the Departmental Representative;
 - .3 Deliver each project utilizing best practices in support of User Department needs, respecting the approved financial budget, schedule, scope, quality energy budget;
 - .4 Establish a cohesive functional partnership and open communication between all members of the project delivery team throughout all phases of the project life;
 - .5 Ensure that the Consultant team has an in-depth understanding and collective 'buy-in' of the project requirements, scope, budget and scheduling objectives, working constructively to build a collaborative and cooperative team approach with knowledgeable and timely input and contribution by all project team members, including representatives from PWGSC and the User Department;
 - .6 Conduct rigorous quality assurance reviews during the design and construction phases, including the application of value engineering principles during the design of all complex systems;
 - .7 Provide a written response to all PWGSC comments included in Quality Assurance reviews conducted throughout the design of the project;
 - .8 If any alterations are required during the development of the design, analyse the impact on all project components and resubmit for approval before proceeding further;
 - .9 Establish and maintain a change control procedure for scope changes;



- .10 Ensure that an experienced Project Architect or Project Engineer is assigned to each project, who shall be responsible for the production, coordination and delivery of all design and construction documents for all project disciplines;
- .11 Prepare a continuous risk identification and management program employing effective methodologies to ensure construction safety as well as claims avoidance;
- .12 Provide continuous and comprehensive documentation of the project at all stages of the project implementation;
- .13 Ensure continuity of key personnel and maintain a dedicated working team for the life of the project;

I.2.2 SERVICE DELIVERY FOR ALL PROJECTS

- .1 For all projects, the Consultant shall:
 - .1 Deliver the project to be within:
 - .1 The established construction budget,
 - .2 The key milestones, according to the established project schedule.
 - .2 Ensure that each Consultant team member:
 - .1 Understands the project requirements, for seamless delivery of the required services;
 - .2 Functions as a cohesive partnership with open communication between all members of the project delivery team throughout all phases of the project life;
 - .3 Function as an integrated and focused team with an in-depth understanding and collective 'buy-in' of the project requirements, scope, budget and scheduling objectives.
 - .3 Provide;
 - .1 Full co-ordination of services with other consultants engaged by PWGSC,
 - .2 A continuous risk management program to address the risks associated specifically with this project, including construction safety and claims avoidance issues.
 - .4 Deliver the work in a professional manner during all phases of the project, employing best practices for budget, schedule, quality, and scope management;
 - .5 Maintain continuity of key personnel and maintain a dedicated working team for the life of the project.

I.2.3 SERVICE DELIVERY (BUILDINGS)

- .1 For Building projects, where an Architectural firm is the Prime Consultants, the Consultant team shall, as a minimum, adhere to the standards of services outlined in the "Canadian Handbook of Practice for Architects - Volume 2 Management" (latest edition) distributed by the Royal Architectural Institute of Canada (RAIC).

I.2.4 SERVICE DELIVERY (ENGINEERING)

- .1 For Engineering projects, where an Engineering firm is the Prime Consultants, the Consultant team shall adhere to the standards of services established by the Professional Engineering Association in the Province or Territories where the project is located.

I.3 PROCUREMENT OF GOODS AND SERVICES

I.3.1 PUBLIC PROCUREMENT

- .1 Public procurement by Canada is legislated and guided by a number of international and national trade agreements, and acts, as well as policies, directives, and guidelines provided by the Treasury Board Secretariat (TBS) and PWGSC.



- .2 There is one over-arching principle for all PWGSC procurement activities: Integrity. Subordinate to this are guiding principles, which provide the framework for PWGSC procurement process.
- .3 For further information refer to the following web link;
 - .1 <http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

I.3.2 INTEGRITY AND GUIDING PRINCIPLES

- .1 PWGSC procurement processes will be open, fair and honest.
- .2 Client Service:
 - .1 PWGSC will make every reasonable effort to satisfy the operational requirements of its clients, while obtaining the best value in each procurement process.
- .3 National Objectives:
 - .1 PWGSC procurement activities will advance established government policies, within the limits imposed by international trade obligations.
- .4 Competition:
 - .1 PWGSC procurement will be competitive, with specific exceptions.
- .5 Equal Treatment:
 - .1 PWGSC must ensure that all potential bidders of a particular requirement are subject to the same conditions.
- .6 Accountability:
 - .1 PWGSC is accountable for the integrity of the contracting process.



2 REQUIRED SERVICES STANDARDS

2.1 GENERAL

- .1 Where Services are called for in the project specific TOR, the standards outlined in the following articles apply.

2.2 COST MANAGEMENT

2.2.1 GENERAL

- .1 The following provides a general indication of the information needed by the Consultant's cost estimator to prepare specific classifications of estimates.
- .2 These are the minimum requirements only and should be supplemented where additional information exists or is warranted.
- .3 Construction cost estimates are to be prepared and submitted to PWGSC at various stages during the design process.
- .4 In addition to the Consultants' estimate, PWGSC may have independent estimates performed to compare with the Consultant estimate.

2.2.2 TREASURY BOARD (TB) SUBMISSIONS

- .1 Projects that are subject to TB approval are normally submitted twice.
 - .1 The first submission is for Preliminary Project Approval (PPA) at Pre-Design or Schematic Design stage of a project and must include an Indicative Estimate for the cost of the work.
 - .2 The second submission is for Effective Project Approval (EPA) at the completion of Design Development or Pre-Tender stage of a project and must include a Substantive Estimate for the cost of the work.
- .2 The Treasury Board estimate definitions are:
 - .1 Indicative Estimate;
 - .1 A low quality, order of magnitude estimate that is not sufficiently accurate to warrant TB approval as a Cost Objective.
 - .2 Substantive Estimate;
 - .1 An estimate which is of sufficiently high quality and reliability as to warrant TB approval as a Cost Objective for the project phase under consideration.
 - .2 It is based on detailed systems and component design, taking into account all project objectives and deliverables.
- .3 TB Terminology:
 - .1 Constant dollar estimate;
 - .1 This is an estimate expressed in terms of the dollars of a particular base fiscal year.
 - .1 It includes no provision for inflation.
 - .2 Cash flows over a number of fiscal years may also be expressed in constant dollars of the base year including no allowance for inflation in the calculation of costs.
 - .2 Budget-year (BY) dollar estimate:
 - .1 Budget year dollars is also be referred to as Nominal dollars or Current dollars.
 - .1 This is an estimate based on costs arising in each FY of the project schedule.
 - .2 It is escalated to account for inflation and other economic factors affecting the period covered by the estimate.
 - .2 The costs and benefits across all periods should initially be tabulated in budget year dollars for three following reasons:



- .1 First; this is the form in which financial data are usually available,
- .2 Second; adjustments, such as tax adjustments, are accurately and easily made in budget year dollars,
- .3 Finally; working in budget-year dollar enables the analyst to construct a realistic picture over time, taking into account changes in relative prices.

2.2.3 CLASSES OF ESTIMATES

- .1 PWGSC applies a detailed, four level, classification using the terms Class A, B, C and D.
- .2 Apply these estimate classifications at the project stages as defined in the TOR.
- .3 For projects required to be submitted to TB for approval:
 - .1 An Indicative Estimate shall be at least a class 'D'; and
 - .2 A Substantive Estimate shall be at least a class 'B'.

2.2.4 CLASS 'D' (INDICATIVE) ESTIMATE

- .1 Based upon a comprehensive statement of requirements and an outline of potential solutions, this estimate is to provide an indication of the final project cost, and allow for ranking of all the options being considered.
- .2 Submit Class 'D' cost estimates in elemental analysis format, in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors, with cost per m² for current industry statistical data for the appropriate building type and location.
- .3 Include a summary in the cost estimate, plus full back up, showing items of work, quantities, unit prices, allowances and assumptions.
- .4 The level of accuracy of a class D cost estimate shall be such that no more than a 20% design contingency allowance is required.

2.2.5 CLASS 'C' ESTIMATE

- .1 Based on a comprehensive list of requirements and assumptions, including a full description of the preferred Schematic Design option, construction experience, design experience and market conditions, this estimate must be sufficient for making the correct investment decision.
- .2 Submit Class 'C' cost estimates in elemental analysis format, in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors, with cost per m² for current industry statistical data for the appropriate building type and location.
- .3 Include a summary in the cost estimate, plus full back up, showing items of work, quantities, unit prices, allowances and assumptions.
- .4 The level of accuracy of a class C cost estimate shall be such that no more than a 15% design contingency allowance is required.

2.2.6 CLASS 'B' (SUBSTANTIVE) ESTIMATE

- .1 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 must provide for the establishment of realistic cost objectives and be sufficient to obtain effective project approval.
- .2 Submit Class 'B' cost estimates in both elemental analysis format and trade divisional format, in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors.
- .3 Include a summary in the cost estimate, plus full back up, showing items of work, quantities, unit prices, allowances and assumptions.
- .4 The level of accuracy of a class 'B' cost estimate shall be such that no more than a 10% design contingency allowance is required.

2.2.7 CLASS 'A' (PRE-TENDER) ESTIMATE



- .1 Based on completed construction drawings and specifications prepared prior to calling competitive tenders, this estimate must be sufficient to allow a detailed reconciliation and/or negotiation with any contractor's tender.
- .2 Submit Class 'A' cost estimates in both elemental analysis format and trade divisional format, in accordance with the latest edition issued by the Canadian Institute of Quantity Surveyors.
- .3 Include a summary in the cost estimate, plus full back up, showing items of work, quantities, unit prices, allowances and assumptions.
- .4 The level of accuracy of a class 'A' cost estimate shall be such that no more than a 5% design contingency allowance is required.

2.3 SCHEDULE MANAGEMENT

2.3.1 SCHEDULER

- .1 The Scheduler shall provide a Project Planning and Control Schedule for the project, for the purpose of Planning, Scheduling, Progress Monitoring (Time Management), during all the design phases up to the construction procurement phase.
- .2 A qualified Scheduler, with experience commensurate with the complexity of the project, is required to develop and monitor the project schedule during the design process.
- .3 The Scheduler shall adhere to good industry practices for schedule development and maintenance, as recognized by the Project Management Institute (PMI).
- .4 PWGSC presently utilizes the Primavera Suite software and Microsoft Project for its current Control Systems and any software used by the consultant should be fully integrated with either of these programs, using one of the many commercially available software packages.

2.3.2 PROJECT SCHEDULE

- .1 A Detailed Project Schedule is a schedule developed in reasonable detail to ensure adequate Time Management planning and control of the project.
- .2 Project Schedules are used as a guide for the planning, design and implementation phases of the project, as well as to communicate to the project team when activities are to happen, based on network techniques using Critical Path Method (CPM).
- .3 When building a Project Schedule, the Consultant must consider:
 - .1 The level of detail required for control and reporting;
 - .2 The reporting cycle shall be monthly, unless otherwise identified in the Terms of Reference;
 - .3 What is required for reporting in the Project Teams Communications Plan; and
 - .4 The nomenclature and coding structure for naming of scheduled activities, which must be submitted to the Project Manager for acceptance.

2.3.3 MILESTONES

- .1 The Major Milestones are standard Deliverables and Control Points within NPMS and are required in all schedule development.
- .2 These Milestones will be used in Time Management Reporting within PWGSC as well as used for monitoring project progress using Variance Analysis.
- .3 Milestones may also be external constraints such as the completion of an activity, exterior to the project, affecting the project.

2.3.4 ACTIVITIES

- .1 All activities will need to be developed based on:
 - .1 Project Objectives;
 - .2 Project Scope;



- .3 Milestones;
 - .4 Meetings with the project team; and
 - .5 The scheduler's full understanding of the project and its processes.
- .2 Subdivide the elements down into smaller more manageable pieces that organize and define the total scope of work in levels that can be scheduled, monitored and controlled.
- .1 This process will develop the Activity List for the project.
- .3 Each activity will describe the work to be performed using a verb and noun combination (i.e. Review Design Development Report).
- .4 These elements will become activities, interdependently linked in the Project Schedule.

2.3.5 SCHEDULE REVIEW AND APPROVAL

- .1 Once the scheduler has identified and properly coded all the activities to the acceptance of the Project Manager, the activities are then sorted into a logical order and appropriate duration are applied to complete the schedule.
- .2 The scheduler, together with the Project Team, can then analyze the schedule to see if the milestone dates meet the project timelines and then adjust the schedule accordingly by modifying durations or changing logic.
- .3 When the schedule has been satisfactorily prepared, the scheduler can present the detailed schedule back to the Project Team for acceptance and application as the project baseline.
- .4 There may be several iterations before the schedule meets with the Project Teams agreement and the critical project timelines.
- .5 The final agreed version must be copied and saved as the baseline to monitor variances during the design process.

2.3.6 SCHEDULE MONITORING AND CONTROL

- .1 Once Baseline, the schedule can be better monitored, controlled and reports can be produced.
- .2 Monitoring is performed by, comparing the baseline activities completed and milestone dates to the actual and forecast dates to identify the variance and record any potential delays, outstanding issues and concerns and provide options for dealing with any serious planning and scheduling issues.
- .3 There will be several schedules generated from the analysis of the baseline schedule as outlined in the Required Services Sections of the TOR.
- .4 Each updated schedule reflects the progress of each activity to date, any logic changes, both historic and planned, projections of progress and completion indicating the actual start and finish dates of all activities being monitored.
- .5 The Scheduler is to provide continuous monitoring and control, timely identification and early warning of all unforeseen or critical issues that affect or potentially affect the project in accordance with the TOR.
- .6 If unforeseen or critical issues arise, the Scheduler will advise the Project Manager and submit proposed alternative solutions in the form of an Exception Report.
 - .1 An Exception Report will include sufficient description and detail to clearly identify:
 - .1 Scope Change: Identifying the nature, reason and total impact of all identified and potential project scope changes affecting the project;
 - .2 Delays and accelerations: Identifying the nature, the reason and the total impact of all identified and potential duration variations;
 - .3 Options Enabling a Return to the project baseline: Identifying the nature and potential effects of all identified options proposed to return the project within baselined duration.



- .7 At each submission or deliverable stage, provide an updated schedule and exception report.

2.4 RISK MANAGEMENT

2.4.1 CONTEXT

- .1 The Departmental Representative prepares the Risk Management Plan.
- .2 The Departmental Representative may ask for assistance from the Consultant Team for identification of risk items and factors arising from the technical requirements of the project.

2.5 WASTE MANAGEMENT

2.5.1 PROTOCOL

- .1 The Construction, Renovation, and Demolition (CRD) Non-hazardous Solid Waste Management Protocol to which PWGSC is bound, provides direction on the undertaking of non-hazardous solid waste management actions on projects.
 - .1 The protocol is designed to meet the federal requirements, provincial/territorial policies and the objectives of the PWGSC Sustainable Development Strategy (SDS).
- .2 The contractor must implement a solid waste management program.
- .3 Contractors must be instructed to plan for extra project time when implementing CRD waste diversion initiatives.
 - .1 Added labour costs can be recuperated and waste management costs savings can be achieved through reduced tipping fees, avoided haulage costs, and the sale of reusable and recyclable materials.

2.5.2 CONSULTANT RESPONSIBILITIES

- .1 Research and investigate hazardous waste disposal strategies in context of the project and make recommendations.
- .2 Include in the contract documents, a requirement for the contractor to develop a waste reduction and management plan during the construction of this project.
- .3 Identify, on the site plan where large (garbage) bins shall be stored, as well as easy disposal truck access/exit to/from same, to assist the Contractor in reducing waste or re-cycling of materials on and off site.

2.6 TECHNICAL REPORTS

2.6.1 PURPOSE

- .1 This section provides direction and standards for the preparation of reports delivered to PWGSC during all the various stages of project delivery and for specific services such as investigations, studies, analysis, strategies, audits, surveys, programs, plans, etc.
- .2 Technical Reports are official government documents, which are typically used to support an application for approval or to obtain authorization or acceptance and as such they 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 Ensure that all pages are numbered in sequence; and
 - .6 Be printed double-sided, if hard copies are produced.

2.6.2 STANDARDS FOR PWGSC TECHNICAL REPORTS

- .1 Standard practice for the organization of technical reports requires:



- .1 A cover page, clearly indicating the nature of the report, the date, the PWGSC reference number and who prepared the report;
 - .2 A Table of Contents;
 - .3 An Executive Summary;
 - .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;
 - .5 Appendices used for lengthy segments of the report, supplementary and supporting information and / or for separate related documents.
- .2 The report content must:
- .1 Ensure that the executive summary is a true condensed version of the report following the identical structure, including only key points and results / recommendations requiring review and / or approval;
 - .2 Use a proper numbering system (preferably legal numbering), for ease of reference and cross-reference;
 - .1 The use of 'bullets' is to be avoided.
 - .3 Use proper grammar, including using complete sentences, in order to ensure clarity, avoid ambiguity and facilitate easy translation into French, if required;
 - .1 The use of undefined technical terms, industry jargon and cryptic phrases are to be avoided.
 - .4 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.

2.6.3 PRE-DESIGN REPORT CONTENT

- .1 Administrative aspects to be included (but not limited to) are:
 - .1 Quality management process for the consultant team;
 - .2 Confirmation that all necessary pre-design documentation required for this project is available and confirmation that the information is still current and up-to-date.
- .2 Regulatory Analysis aspects to be included (but not limited to) are:
 - .1 Preliminary summary of regulatory and statutory requirements, authorities having jurisdiction, and codes, regulations, and standards.
- .3 Program Analysis aspects to be included (but not limited to) are a review and analysis of:
 - .1 Functional program, User Department reports and studies, Space data sheets, Work stations, offices, common areas and commercial space requirements, Laboratories, Data Room requirements, etc.
- .4 Site Analysis aspects to be included (but not limited to) are a review and analysis of:
 - .1 Site features and restrictions (i.e. landscape features, topographical feature, climatic influences, setback requirements, easements, existing buildings, and / or structures.);
 - .2 Subsurface, geotechnical analysis of soils;
 - .3 Municipal infrastructure, subsurface and above grade services, including capacities and limitations (i.e. storm water drainage, fire protection, domestic water, power, telecommunications,);
 - .4 Historical/archaeological features, previous uses;
 - .5 Environmental features including sustainable design opportunities.
- .5 Building Analysis aspects to be included (but not limited to) are a review and analysis of:
 - .1 Substructure, including foundations and basement(s), parking;
 - .2 Shell, including superstructure, interior structural systems, exterior enclosure, roofing;
 - .3 Interiors, including interior construction, stairs, interior finishes;



- .4 Services, including conveying (elevators, escalators), plumbing, HVAC, fire protection, electrical, telecommunications, building automation;
- .5 Equipment and furnishings;
- .6 Special construction and demolition, materials abatement.
- .6 Budget, Schedule, and Risk Analysis aspects to be included (but not limited to) are:
 - .1 Updated Class 'D' estimate and revised schedule;
 - .2 Analysis of risk implications and preliminary mitigation strategies.
- .7 Sustainable Development Strategies
 - .1 Proposed policy for the project to minimize environmental impacts consistent with the project objectives and economic constraints, including:
 - .1 Recommendations on Sustainable Development Design standards to be applied to the project;
 - .2 Achievable levels for LEED® or Green Globes certification;
 - .3 Preliminary sustainability targets for water and energy use, waste reduction etc.
 - .2 Environmental impacts and application of the Canadian Environmental Assessment (CEA) Act.

2.6.4 SCHEMATIC DESIGN REPORT CONTENT

- .1 Standard practice for the organization of technical reports requires:
 - .1 Executive Summary;
 - .2 Regulatory Analysis;
 - .1 Preliminary building code analysis,
 - .2 Preliminary zoning analysis,
 - .3 Fire and life safety strategy, and
 - .4 Preliminary standards analysis.
 - .3 Program Analysis;
 - .1 Updated Functional Program requirements,
 - .2 Preliminary horizontal and vertical zoning diagrams,
 - .3 Spatial relationship diagrams,
 - .4 Facilities services strategy,
 - .5 Basic area calculations and analyses.
 - .4 Site Analysis;
 - .1 Drawings, renderings and supporting 3D visualization illustrating the building and site,
 - .2 Site features and restrictions (i.e. landscape features, topographical features, climatic influences, setback requirements, easements, existing buildings and/or structures etc.),
 - .3 Subsurface features,
 - .4 Municipal infrastructure, subsurface and above grade services, including capacities and limitations (i.e. storm water drainage, fire protection, domestic water, power, telecommunications etc.),
 - .5 Historical site features,
 - .6 Archaeological features,
 - .7 Environmental features including sustainable design strategies (i.e. storm water management, landscaping etc.).
- .2 Building Analysis and Design Options;
 - .1 Architectural,



- .1 Prepare a site plan indicating relationships, landscape concept, building outlines, main accesses, roadways, vehicular and pedestrian traffic patterns,
 - .2 Provide building plans, showing relative disposition of main accommodation areas, circulation patterns, floors, horizontal and vertical space relationships, mechanical / electrical shafts,
 - .3 Include elevations, sections and typical wall details for the building envelope,
 - .4 Provide perspectives and / or 3D visualization diagrams, and
 - .5 Calculate the gross building area and provide a net area summary of all accommodation areas required.
- .2 Civil,
- .1 Describe the overall impact on the site systems infrastructure,
 - .2 Verify of all site services information,
 - .3 Provide a site plan showing the existing building, proposed site services, building service connections, site drainage, roads, parking and sidewalks, and
 - .4 Include a preliminary analysis of the impact on existing systems, where contributing to existing sewer lines.
- .3 Structural / Seismic,
- .1 Describe the potential impact on the existing building structure and include any required structural modifications and /or upgrades,
 - .2 Provide a general description of structures, including systems considered and benefits/disadvantages,
 - .3 Include design loads for all load cases, and
 - .4 Prepare concept drawings of structural systems proposed, including typical floor plans, foundations, lateral systems and explanatory sketches.
- .4 Mechanical Engineering,
- .1 Provide narratives describing the following,
 - .1 Overview,
 - .2 Code & Standards Considerations & Concerns,
 - .3 Potential Energy Conservation Measures,
 - .4 Description of three distinct mechanical options including,
 - .1 Narratives of each option,
 - .2 Discussion of advantages and disadvantages of each,
 - .3 System schematics sufficient to describe each option,
 - .4 Preliminary energy analysis for each,
 - .5 Discussion of recommendations.
- .5 Electrical Engineering,
- .1 Provide an electrical design synopsis, describing the electrical work in sufficient detail for assessment and acceptance by the Departmental Representative,
 - .1 Include feasibility and economic studies of proposed systems complete with cost figures and loads, and in accordance with Sustainable Development requirements.
 - .2 Prepare a site plan showing the location of electrical and telecommunication service entrances.
 - .3 Prepare floor plans indicating locations and size of,
 - .1 Major electrical equipment and distribution centres,
 - .2 Telecommunications rooms, closets and major conduits,



- .4 Provide Normal and Emergency power distribution details, including a diagram showing the distribution up to distribution centres on each floor,
- .5 Indicate typical lighting concepts for the interior and exterior environments,
- .6 Indicate typical ceiling (or floor) distribution systems for lighting, power and telecommunications, and
- .7 Provide concept descriptions of Fire alarm and Security systems.
- .3 Commissioning;
 - .1 Provide preliminary commissioning plan.
- .4 Cost Management;
- .5 Schedule Management;
- .6 Furniture / Equipment;
 - .1 Prepare a Furniture Recommendation Report based on the Functional Program and on parameters developed in conjunction with the Departmental Representative and the Client / User. Report to include an examination of the following;
 - .1 Procurement process and requirements,
 - .2 Furniture type and layout,
 - .3 Panel screen height,
 - .4 Power requirements,
 - .5 Finishes.
 - .2 Recommendations are to take into consideration current inventory of furniture and reflect the client's vision, functional requirements, proposed planning alternatives, space allocation and project budget.
 - .3 Prepare a Class 'C' cost estimate for refurbishment of existing furniture and / or the purchase of new furniture and equipment.
 - .4 Document scheduling requirements for refurbishment of existing furniture and / or the procurement of new furniture and equipment.
- .7 Budget;
 - .1 Class 'C' Estimates for each option.
- .8 Schedule;
 - .1 Milestone project schedule including allowances for reviews and approvals for each stage of the project life cycle.
- .9 Risk Analysis;
 - .1 Report on any deviations that may affect cost or schedule and recommend corrective measures.
- .10 Sustainable Development Strategies;
 - .1 Indicate how each option can meet the sustainability targets, and
 - .2 Provide energy simulations of the proposed design options, including estimated annual energy cost as predicted by using current energy cost for the appropriate area.
- .11 Response to PWGSC Quality Assurance Report ; and
- .12 Project Log tracking all approved major decisions including those affecting changes to project scope, budget and schedule.

2.6.5 DESIGN DEVELOPMENT REPORT CONTENT

- .1 Executive Summary
- .2 Regulatory Analysis
 - .1 Preliminary building code analysis;



- .2 Preliminary zoning analysis;
- .3 Fire and life safety strategy;
- .4 Preliminary standards analysis
- .3 Program Analysis
 - .1 Updated Functional Program requirements
 - .2 Preliminary horizontal and vertical zoning diagrams;
 - .3 Facilities services strategy;
 - .4 Basic area calculations and analyses;
- .4 Site Analysis
 - .1 Drawings, renderings and supporting 3D visualization illustrating the building and site,
 - .2 Site features and restrictions (i.e. landscape features, topographical features, climatic influences, setback requirements, easements, existing buildings and/or structures etc.);
 - .3 Subsurface features;
 - .4 Municipal infrastructure, subsurface and above grade services, including capacities and limitations (i.e. storm water drainage, fire protection, domestic water, power, telecommunications etc.);
 - .5 Historical site features;
 - .6 Archaeological features;
 - .7 Environmental features including sustainable design strategies (i.e. storm water management, landscaping etc.);
- .5 Building Analysis and Design Options
 - .1 Architectural
 - .1 Prepare a site plan showing the building and Infrastructure items including the following:
 - .1 Pedestrian, vehicular, security, delivery service access,
 - .2 Provide floor plans of each level (including the roof) showing all accommodation required, including all necessary circulation areas, stairs, elevators, and ancillary spaces anticipated for service use. Indicate building grids, modules, and key dimensions.
 - .3 Provide reflected ceiling plans of ceilings with special features.
 - .4 Show elevations of all exterior building facades indicating all doors and windows, accurately sized and projected from the floor plans and sections.
 - .1 Clearly indicate levels for grade, all floors, ceilings, roof and penthouse levels.
 - .5 Develop cross-sections through the building to show floor levels, room heights, inner corridor elevations, etc.
 - .6 Identify primary architectural materials proposed for the exterior and interior of the building, including choice of finishes.
 - .7 Provide plans and preliminary details for millwork, built-in furniture and lab casework.
 - .8 Provide detail sections of walls with special design features requiring illustration and explanation at this stage, such as firewalls, acoustical barriers, security partitions, isolation or separation of laboratory spaces, etc.
 - .9 Special construction and demolition, including heritage conservation and rehabilitation requirements, hazardous materials abatement,
 - .10 Provide sections and details for any spaces requiring acoustic security.
 - .1 Include STC ratings for doors, transfer ducts and other assemblies
 - .2 Civil



- .1 Further refine site plans showing site services and building service connections referenced to proposed building outlines, site access roads and sidewalks, including existing and proposed grades and drainage improvements.
- .2 Indicate locations of manholes (complete with invert elevations), valves, and fire hydrant locations.
- .3 Identify proposed pipe sizes and slopes, where applicable, and include pipe invert elevations at building foundation.
- .4 Identify, by means of Design Summary Sheets, pipe capacity and estimated flows for storm and sanitary sewers. Where contributing to an existing sewer, include analysis of impact on existing systems.
- .5 Provide Hydraulic Analysis of any relevant alterations to existing water distribution system in the vicinity of the proposed building to confirm anticipated maximum available fire flow. Calculate and compare site flows to building site fire flow.
- .6 Provide typical trench and related details, including profiles of below grade services.
- .3 Structural
 - .1 Provide drawings indicating modifications to existing structure and new structural systems, structural materials, cladding details, fireproofing methods and other significant or unusual details.
 - .2 Indicate all design loads, e.g. dead and live loads on all plans with atypical loads marked. Live loads to include localized seismic, wind and snow.
 - .3 Provide brief design calculations including outputs from computerized analysis.
- .4 Mechanical
 - .1 Provide narratives describing the following
 - .1 Overview
 - .2 Code & Standards Analysis
 - .3 Site Services & Utilities
 - .4 Fire Protection Systems
 - .5 Plumbing Systems
 - .6 Heating Systems
 - .7 Cooling Systems
 - .8 Ventilation Systems
 - .9 Exhaust Systems
 - .10 Insulation
 - .11 Humidification Systems
 - .12 Acoustic and sound control measures
 - .13 Controls
 - .14 Energy Conservation Measures & Energy Analysis & Report
 - .2 Provide system schematics for heating water, chilled water, ventilation and plumbing systems.
 - .3 Provide catalogue cut sheets of representative equipment for each type of component to be used on the project.
 - .4 Provide preliminary layout drawings showing locations of all major components.
 - .5 Provide brief design calculations including outputs from computerized analysis.
- .5 Electrical
 - .1 Update the electrical design synopsis for the selected option. Provide data on the total connected load, the maximum demand and diversity factors, and the sizing of the emergency load.



- .2 Elaborate on proposed emergency power scheme and provide preliminary installation details for any emergency generator installation.
 - .3 Indicate metering locations on distribution diagram.
 - .4 Provide typical lighting, power and telecommunication system details for all workspaces.
 - .5 Include lighting design and control schemes for typical lighting arrangements.
 - .6 Elaborate on exterior lighting scheme. Provide typical fixture concepts.
 - .7 Provide a fire alarm riser diagram.
 - .8 Indicate security system major conduit requirements on floor plans.
 - .9 Provide typical security system details (conduit and boxes) that will be included on construction drawings.
 - .10 Provide brief design calculations including outputs from computerized analysis.
- .6 Sustainable Development Strategies:
- .1 Indicate how each option can meet the sustainability targets
 - .2 Provide energy simulations of the proposed design options, including estimated annual energy cost as predicted by using current energy cost for the appropriate area,
- .7 Response to PWGSC Quality Assurance Report

2.7 CODES, ACTS, STANDARDS, REGULATIONS

2.7.1 GENERAL

- .1 The Codes, Acts, Standards and Guidelines listed in the following articles, may apply to this project. The Consultant must identify and analyse the applicable documents in the Code Analysis.
- .2 In all cases the most stringent Code, standard and guideline shall apply.

2.7.2 PWGSC DOCUMENTS AVAILABLE FROM PWGSC PROJECT MANAGER:

- .1 PWGSC Fit-Up Standards: Technical Reference Manual;
- .2 Public Works and Government Services MD Standards – Departmental Representative to provide on request;
 - .1 MD 15000; Environmental Standards for Office Accommodation,
 - .2 MD 15116-2006; Computer Room Air conditioning Systems,
 - .3 MD-15126; Laboratory HVAC (currently in draft form),
 - .4 MD 15128; Laboratory Fume Hoods: Guidelines for owners, design professionals and maintenance personnel – 2008,
 - .5 MD 15129; Guidelines for Perchloric Acid fumehoods and their exhaust systems – 2006,
 - .6 MD 15161; Control of Legionella in Mechanical Systems - 2006,
 - .7 MD 250005; Energy Monitoring and Control Systems Design Guidelines - 2009,
- .3 PWGSC Best Practice; Prescribing indoor humidity levels for Federal Buildings - 2006,
- .4 Public Works and Government Services Commissioning Standards and Guidelines,
- .5 PWGSC Commissioning Manual CP-I version 2006.

2.7.3 CODES AND REGULATIONS:

- .1 The NRC National Building Code of Canada 2010;
- .2 The NRC National Fire Code of Canada, 2010;
- .3 The NRC National Plumbing Code of Canada 2010;
- .4 The NRC Model National Energy Code for Buildings 2011;
- .5 CSA C22.1-09, Canadian Electrical Code Part I Safety Standard for Electrical Installations and CE Code Handbook. Amendments for Provinces;



- .6 Canadian Code for Preferred Packaging;
- .7 National Electrical Manufacturers Association (NEMA);
- .8 Electrical and Electronic Manufacturers' Association of Canada (EEMAC);
- .9 American National Standards Institute/Institute of Electrical and Electronics Engineers (ANSI/IEEE) - ANSI/IEEE C62.41-1991, Surge Voltages in Low-Voltage AC Power Circuits;
- .10 American Society for Testing and Materials (ASTM);
- .11 ASTM F 1137-00(2006), Specification for Phosphate/Oil and Phosphate/Organic Corrosion Protective Coatings for Fasteners;
- .12 The Canada Labour Code;
- .13 <http://laws.justice.gc.ca/en/L-2/>
- .14 The Canada Occupational Health and Safety Regulations;
- .15 <http://laws.justice.gc.ca/eng/SOR-86-304/index.html>
- .16 All other Territorial and Municipal Acts, Codes, By-laws and regulations appropriate to the area of concern.

2.7.4 STANDARDS AND GUIDELINES PRODUCED BY THE GOVERNMENT OF CANADA:

- .1 Standards and Directives of the Treasury Board (TB):
 - .1 <http://www.tbs-sct.gc.ca/pol/index-eng.aspx?tree=standard>
 - .2 <http://www.tbs-sct.gc.ca/pol/index-eng.aspx?tree=directive>
 - .3 And including:
 - .1 Accessibility Standard for Real Property,
 - .1 <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12044>
 - .2 Fire Protection Standard.
 - .1 <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316>
- .2 Labour Canada's, Fire Commissioner of Canada Standards;
 - .1 http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/index.shtml.
 - .2 And including,
 - .1 FC-301 Standard for Construction Operations, June 1982,
 - .2 FC-302 Standard for Welding and Cutting, June 1982,
 - .3 FC-311 Standard for Record Storage, May 1979.
 - .4 FC-403 Fire Protection Standard for sprinkler Systems, November 1994
- .3 The Standards and Guidelines for the Conservation of Historic Places in Canada
 - .1 www.historicplaces.ca;
- .4 Labour Canada's, Technical Documents;
 - .1 http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/index.shtml
 - .2 And Including,
 - .1 Fire Protection for Information Technology Facilities and Equipment.
- .5 Canadian Food Inspection Agency's Containment Standard for Facilities Handling Plant Pests.
- .6 Public Health Agency of Canada's Laboratory Biosafety Guidelines, 3rd Edition,
- .7 Canadian Council of Animal Care's Guidelines on: Laboratory Animal Facilities – Characteristics, Design and Development.

2.7.5 HEALTH CANADA STANDARDS AND GUIDELINES:

- .1 Guidelines for Canadian Drinking Water Quality – Sixth Edition – 1996;
- .2 Guidelines for Canadian Drinking Water Quality – Summary Table – Dec 2010;



- .3 Guidance for Providing Safe Drinking Water in Areas Of Federal Jurisdiction – Version I – 2005;
- .4 The Canadian Council of Ministers of the Environment (CCME) ;
- .5 Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (CCME, 2003);
- .6 Canada – Wide Strategy for the Management of municipal Waste Water Effluent;
- .7 The Canadian Environmental Protection Act (CEPA, 1999);
- .8 The Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, published in Canada Gazette Part II on June 12, 2008 (Registration SOR/2008-197).

2.7.6 STANDARDS AND GUIDELINES:

- .1 Air Conditioning and Refrigeration Institute (ARI);
- .2 American Conference of Governmental Industrial Hygienists (ACGIH, Industrial Ventilation Handbook);
- .3 Air Diffusion Council (ADC);
- .4 Air Movement and Control Association (AMCA);
- .5 American Association of State Highway and Transportation Officials (AASHTO) Standards
- .6 American National Standards Institute (ANSI);
- .7 ANSI/AIHA Z9.5, Laboratory Ventilation;
- .8 .1 ANSI/NEMA C82.1-04, Electric Lamp Ballasts-Line Frequency Fluorescent Lamp Ballast;
- .9 .2 ANSI/NEMA C82.4-02, Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps;
- .10 ANSI/TIA/EIA-606- Administration Standard for the Telecommunications Infrastructure of Commercial Buildings;
- .11 ANSI Z358.1, Emergency Eyewash and Shower Equipment;
- .12 American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), including but not limited to;
 - .1 ASHRAE Laboratory Design Guide,
 - .2 ASHRAE Standards and Guidelines,
 - .3 ASHRAE Applications Handbook – 2007,
 - .4 ASHRAE HVAC Systems and Equipment Handbook – 2008,
 - .5 ASHRAE Fundamentals Handbook – 2009,
 - .6 ASHRAE Refrigeration Handbook – 2010,
 - .7 ASHRAE 52.2 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size – 2007,
 - .8 ANSI/ASHRAE 55, Thermal Environmental Conditions for Human Occupancy – 2004,
 - .9 ANSI/ASHRAE 62.1, Ventilation for Acceptable Indoor Air Quality – 2010,
 - .10 ASHRAE 90.1, Energy Efficient Design of New Buildings – 2010,
 - .11 ASHRAE 105: Standard Method of Measuring and Expressing Building Energy Performance,
 - .12 ASHRAE 110, Method of Testing Performance of Laboratory Fume Hoods,
 - .13 ASHRAE 111; Practices for Measurement, Testing, Adjusting and Balancing of Building HVAC&R Systems,
 - .14 ASHRAE 114; Energy Management Control Systems Instrumentation, and
 - .15 ASHRAE 135; BACnet: A Data Communication Protocol for Building Automation and Control Networks.
- .13 Asphalt Institute Standards for Hot Mix;



- .14 American Society of Mechanical Engineers (ASME);
- .15 American Society for Testing and Materials (ASTM);
- .16 American Water Works Association (AWWA) Standards;
- .17 American Welding Society (AWS);
- .18 Associated Air Balance Council (AABC);
- .19 Canadian Standards Association;
- .20 CSA A23.3-04 (2010) Design of Concrete Structures;
- .21 CSA B51-09 Boiler, pressure vessel and pressure piping Code;
- .22 CSA B52-05 Mechanical Refrigeration Code;
- .23 CSA B64-01 Backflow Preventers and Vacuum Breakers;
- .24 CSA B139-09 Installation Code for Oil Burning Equipment;
- .25 CSA B149.1-10 Natural Gas and Propane Installation Code;
- .26 CSA B651-04 Accessible Design for the Built Environment;
- .27 CSA C22.2 No. 41-07 Grounding and Bonding Equipment;
- .28 CSA S16-09 Design of Steel Structures;
- .29 CSA Z204-1994 Guideline for Managing Indoor Air Quality in Office Buildings;
- .30 CSA Z320-11 Building Commissioning Standard & Check Sheets;
- .31 CSA Z316.5-94, Fume Hoods and Associated Exhaust Systems;
- .32 CAN/CSA-23.1-04 and CAN/CSA-A23.2-04 Concrete materials and methods of concrete construction; and Methods of test and standard practice for concrete CAN/CSA-C22.2 No. 214-94 "Communications Cables";
- .33 CAN/CSA-C22.3 No.3-[98(R2007)], Electrical Co-ordination;
- .34 CAN/CSA-B651-04(R2010), Accessible Design for the Built Environment;
- .35 CAN3 C235-[83(R2010)], Preferred Voltage Levels for AC Systems, 0 to 50,000 V;
- .36 CAN/CSA-T528-93, "Design Guidelines for Administration of Telecommunications Infrastructure in Commercial Buildings", Canadian Standards Association;
- .37 CAN/ULC – S524-06 Standard for the Installation of Fire Alarm Systems;
- .38 CAN/ULC – S537-04 Fire Alarm System Verification Report;
- .39 CAN/ULC – S102-07 Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies;
- .40 CAN/ULC – S102.2-07 Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies
CAN/ULC S112-M90 (R2001) Standard Methods of Fire Test of Fire-Damper Assemblies;
- .41 CAN/ULC S115-05 Standard Method of Fire Tests of Fire stop Systems;
- .42 International Mechanical Code – Latest Version;
- .43 Institute of Boiler and Radiation, Hydronic Institute (IBR);
- .44 Manufacturers Standardization Society of Valve and Fitting Industry (MSS);
- .45 National Fire Protection Association (NFPA), including;
 - .1 NFPA 10; Standard for Portable Fire Extinguishers – 2010,
 - .2 NFPA 13; Standard for Installation of Sprinkler Systems – 2010,
 - .3 NFPA 14; Standard for Installation of Standpipe and Hose Systems – 2010,
 - .4 NFPA 24: Standard for the Installation of Private Fire Service Mains and Their Appurtenances-2010,
 - .5 NFPA 30; Flammable and Combustible Liquids Code,
 - .6 NFPA 45; Standard on Fire Protection for Laboratories Using Chemicals,
 - .7 NFPA 1142: Standard on Water Supplies for Suburban and Rural Fire Fighting-2007.



- .46 SEFA I.2, Scientific Equipment & Furniture Association;
- .47 Sheet Metal and Air Conditioning Contractors National Association (SMACNA);
- .48 Transportation Association of Canada (TAC) Guide for Canadian Roads;
- .49 Manual of Uniform Traffic Control Devices (MUTCD);
- .50 Telecommunications Industry Association (TIA);
 - .1 Commercial Building Telecommunications Cabling Standard TIA/EIA-568,
 - .1 Part 1: General Requirements, TIA/EIA-568-B.1,
 - .2 Part 2: Balanced Twisted Pair Cabling Components, TIA/EIA-568-B.2,
 - .3 Addendum 1 - Transmission Performance Specification for 4-pair 100 Ohm Category 6 Cabling, TIA/EIA-568-B.2-1,
 - .4 Optical Fibre Cabling Components Standards, TIA/EIA-568-B.3.
 - .2 ANSI/TIA/EIA-569-A Commercial Building Standards for Telecommunications pathways and spaces,
 - .3 Pathways and Spaces, ANSI/TIA/EIA-569-B,
 - .4 Telecommunications Infrastructure Standard for Data centers TIA-942,
 - .5 J-STD-607-A Commercial Building Grounding and - Bonding Requirements for Telecommunications.
- .51 Underwriters' Laboratories of Canada (ULC);
- .52 ULC/CSA Approval is required for all electrical and mechanical equipment.

2.7.7 STANDARDS AND GUIDELINES FOR TRANSPORTATION

- .1 Canadian Highway Bridge Design Code
- .2 Transportation Association of Canada - Manuals, Guides and Handbooks.

2.8 COMMISSIONING PROCESS

2.8.1 GENERAL

- .1 This section summarizes the PWGSC commissioning process, the requirements and associated roles and responsibilities as they relate to the various phases in the delivery of a project.
- .2 It is to be used as a guide in further developing the commissioning plan, specification and related documents for a project.
- .3 Commissioning is not a replacement for good design and construction practices.
 - .1 It requires coordinated efforts on the part of all parties involved in the Project.
- .4 The Commissioning overlaps the design phase through construction and into the operation phase.
- .5 The PWGSC Commissioning Manual CP.1 4th edition, November 2006, is available for free download at the following site:
 - .1 <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/tech/miseenservice-commissioning/manuel-manual-eng.html>
- .6 The PWGSC Commission Manual CP.2 – Commissioning Glossary is available for free download at the following site:
 - .1 <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/tech/miseenservice-commissioning/manuel-manual-b-eng.html>
- .7 “Commissioning” is a quality assurance process, in which the functional requirements of the Owner/occupant and the operational requirements of facility management are proven to function as intended.



- .8 The “commissioning process” is a planned program of quality management and information transfer that extends through all phases of a project’s development and delivery, up to and including the warranty period.
- .9 The process consists of a series of checks and balances to ensure that the work is designed, installed and proven to operate as intended.
- .10 Commissioning has two main components, functional and operational.
 - .1 The functional component deals with:
 - .1 Security, Health (indoor air quality) and occupant safety;
 - .2 Comfort (temperature, relative humidity, ventilation, air flow patterns, air purity and well being);
 - .3 Cost-effectiveness of design; and
 - .4 Systems and equipment supporting Owner’s functional requirements.
 - .2 The operational component deals with:
 - .1 Operation and Maintenance (O&M) issues; e.g., design review with a particular concern for the operation and maintenance of the systems today and in the future, when repairs are required;
 - .2 Performance evaluation of systems and equipment;
 - .3 Accessibility to O&M Documentation; and
 - .4 Review of the training plan against the current needs now and in the future.

2.8.2 COMMISSIONING PLAN

- .1 The Commissioning Plan will typically be developed by the Contractor through his own Commissioning Agent.
- .2 The Commissioning Plan is the project-specific document and which describes the process for verifying that all built works meet the Investor's requirements within the limits of the working documents.
- .3 It is essential that the Consultant provide specifications that detail requirements for all submittals and testing in each Specification Section in order for the Contractor to properly prepare a complete Commissioning Plan.
- .4 The Commissioning Plan will be reviewed and accepted by the Departmental Representative prior to commencement of construction.
- .5 The Commissioning Plan may require periodic update throughout design.

2.8.3 COMPONENT VERIFICATION

- .1 Component verification sheets (CV) sheets are developed by the Consultant and incorporated in the contract documents to ensure the facility is an operating entity and meets the requirements as described in the Agreement.
- .2 The CV sheets are intended to monitor and track the supply and shop drawing requirements associated with each component. The *Consultant* must verify that the components being installed in the built works are acceptable to their design and the approved shop drawings.
- .3 The commissioning process requires the documentation of all the components installed as part of a system that will have performance verification testing conducted.
- .4 Sample CV sheets for various types of components are to be provided by the Consultant in Div 01.

2.8.4 SYSTEM & INTEGRATED SYSTEM TESTING

- .1 The “performance verification tests” (PVTs) are developed by the Design-Builder to ensure the facility is an operating entity and meets the requirements as described in the Agreement.



- .2 The PVTs are intended to demonstrate the functional performance of the systems & integrated system during the various modes of operation, against the design intent. Each test must be uniquely identified and reflected in the contractor's commissioning schedule.
- .3 Once the contract has been awarded the Design-Builder must monitor the sub-contractor's process to help ensure the timely completion of these tests. The Design-Builder must witness each test. The Design-Builder must provide final certification of the test results. After an acceptable review of the test document, the PWGSC Commissioning Specialist will recommend to the Departmental Representative the acceptance or rejection of the test results.
- .4 Sample PVT sheets for various types of system are to be provided by the Consultant in Div 01.

2.8.5 TEST REQUIREMENTS

- .1 Each CV or PVT shall be uniquely named, numbered and categorized by discipline.
- .2 Tests shall define:
 - .1 Test Purpose;
 - .2 System design narrative;
 - .3 Test Prerequisites;
 - .4 Testing Procedures;
 - .5 Test Comments; and
 - .6 Test Sign-off Block.
- .3 System Performance Verifications Tests
 - .1 These tests have prerequisites that are to be completed and approved prior to conducting the tests, which, may include but are not limited to:
 - .1 CV and PVT sheets developed and accepted,
 - .2 Contractor proving start-up and tests,
 - .3 Manufacturers start-ups,
 - .4 Consultant has certified testing, adjusting & balancing (TAB) results, per TAB specification.
 - .1 TAB work must be completed and approved prior to the control system Pts.
 - .5 Associated control device calibrations and physical point verifications are completed and approved.
 - .1 Note, control system end to end checks to be completed and approved prior to the control system PVTs.
 - .6 Other specified deliverables, i.e. factory test reports, O&M submissions, etc.
 - .7 System performance tests associated with the integrated systems under test,
 - .8 Integrated System Performance Verifications,
 - .9 Fire alarm verifications.

2.8.6 COMMISSIONING (EVALUATION) REPORT

- .1 The Commissioning (Evaluation) Report must provide:
 - .1 An executive summary,
 - .2 Completed CV and PVT sheets,
 - .3 A complete assessment of the project,
 - .4 Lessons learned from this project and any necessary recommendations,
 - .5 Variances between the actual and planned levels of performance,
 - .6 An evaluation of the validation and acceptance process and of the commissioning phase.

2.8.7 OVERVIEW OF ROLES AND RESPONSIBILITIES



- .1 The following provides a general overview of the roles, responsibilities and implementation of the commissioning process. The commissioning process is a logical sequence of verifications from component verifications through to system & integrated system, performance verification testing.
- .2 At completion of the commissioning process all results are documented and audited for acceptance.

2.8.8 MAJOR TASKS AND RESPONSIBILITIES

- .1 Schematic Design and Design Development Phase:
 - .1 Consultant;
 - .1 Develop commissioning strategy,
 - .2 Develop preliminary commissioning plan.
 - .2 Construction Documentation Phase:
 - .1 Consultant;
 - .1 Complete the final commissioning plan,
 - .2 Specify the Commissioning requirements in Div 01 and provide sample Commissioning CV and PCT sheets in Div 01 for Bidders purposes,
 - .3 Develop project specific CV and PVT sheets.
 - .3 Construction Phase:
 - .1 Consultant;
 - .1 Monitor and report on contract commissioning activities,
 - .2 Finalize development of job specific CV and PVT sheets,
 - .3 Review and certify component verification sheets as they are completed by the Contractor, and
 - .4 Review commissioning schedule
 - .2 Contractor;
 - .1 Comply with the requirements in the Specifications,
 - .2 Complete the component verification,
 - .3 Conduct the equipment system start-up and proving, and
 - .4 Develop the commissioning schedule, reflecting the PVTs.
 - .4 Commissioning Phase
 - .1 Consultant
 - .1 Witness all system and integrated systems tests,
 - .2 Review and certify commissioning test results,
 - .3 Track and compile all commissioning documentation submitted by the contractor and confirm that all commissioning tasks are completed,
 - .4 Incorporate all commissioning documentation into a preliminary commissioning report and recommend interim acceptance.
 - .5 Identify “deferred” commissioning tests due to seasonal constraints, etc.
 - .2 Contractor
 - .1 Comply with the requirements in the specifications,
 - .2 Conduct the system testing, and
 - .3 Conduct the integrated system testing.
 - .5 Operating Phase
 - .1 Consultant
 - .1 Provide advice and recommendations for fine tuning, if required,
 - .2 Witness “deferred” commissioning tests,



- .3 Review and certify “deferred” systems test results,
- .4 Incorporate deferred system test results and all other commissioning documentation into a final commissioning report with an executive summary recommending final acceptance.
- .2 Contractor
 - .1 Address warranty issues,
- .6 Evaluation Phase
 - .1 Consultant
 - .1 Provide advice and recommendations during the final evaluation.

2.9 CONSTRUCTION DOCUMENTS

2.9.1 PURPOSE

- .1 This section provides direction in the preparation of construction contract documents (namely specifications, drawings and addenda) for PWGSC.
- .2 Drawings, specifications and addenda must be complete and clear, in order that a contractor can prepare a bid without guesswork. Standard practice for the preparation of construction contract documents requires that:
 - .1 Drawings are the graphic means of showing work to be done, as they depict shape, dimension, location, quantity of materials and relationship between building components.
 - .2 Specifications are written descriptions of materials and construction processes in relation to quality, colour, pattern, performance and characteristics of materials, installation and quality of work requirements.
 - .3 Addenda are changes to the construction contract documents or tendering procedures, issued during the tendering process.

2.9.2 PRINCIPLES FOR PWGSC CONTRACT DOCUMENTS

- .1 PWGSC’s contract documents are based on common public procurement principles.
- .2 PWGSC does not use Canadian Construction Document Committee (CCDC) documents.
- .3 The construction contract and the terms and conditions are prepared and issued by PWGSC, along with all other related bidding and contractual documents.
 - .1 For more detailed information, the clauses are available on the following web site:
 - .2 <http://ccua-sacc.tpsgc-pwgsc.gc.ca/pub/acho-eng.jsp>
 - .3 Any questions should be directed through the PWGSC Project Manager.

2.9.3 QUALITY ASSURANCE

- .1 Consultants are required to undertake their own quality control process and must review, correct and coordinate (between disciplines) their documents before issuing them to PWGSC.

2.9.4 ADDENDA

- .1 Format
 - .1 Prepare addenda using the format shown in Appendix ‘C’.
 - .2 No signature type information is to appear.
 - .3 Every page of the addendum (including attachments) must be numbered consecutively.
 - .4 All pages must have the PWGSC project number and the appropriate addendum number.
 - .5 Sketches shall appear in the PWGSC format, stamped and signed.
 - .6 No Consultant information (name, address, phone #, consultant project # etc.) may appear in the addendum or its attachments (except on sketches).
- .2 Content



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

2.9.5 SUBMISSIONS

- .1 For each construction document submission, the Consultant shall provide:
 - .1 A completed and signed Checklist for the Submission of Construction Documents (See Appendix 'B')
 - .2 Original specification; printed one side on 216 mm x 280 mm white bond paper.
 - .3 Index, as per Appendix 'C'
 - .4 Reproducible original drawings; sealed and signed by the design authority.
 - .5 Addenda (if required), as per Appendix 'D;' (to be issued by PWGSC)
- .2 Tender information:
 - .1 Include a description of all units and estimated quantities to be included in unit price table.
 - .2 Include a list of significant trades including costs.
 - .1 PWGSC will then determine which trades, if any, will be tendered through the Bid Depository.
- .3 Government Electronic Tendering System (MERX):
 - .1 Consultants shall provide an electronic true copy of the final documents (specifications and drawings) on one or multiple CD-ROM in Portable Document Format (PDF) without password protection and printing restrictions.
 - .2 The electronic copy of drawings and specifications is for bidding purposes only and do not require to be signed and sealed.

2.9.6 PWGSC ROLE

- .1 PWGSC shall provide:
 - .1 General and Special Instructions to Bidders
 - .2 Bid and Acceptance Form
 - .3 Standard Construction Contract Documents

2.10 SPECIFICATIONS

2.10.1 GENERAL

- .1 In preparing project specifications, the Consultant must use the current edition of the National Master Specification (NMS) in accordance with the "NMS User's Guide".

2.10.2 NATIONAL MASTER SPECIFICATION (NMS)

- .1 In preparing project specifications, the Consultant must use the current edition of the National Master Specification (NMS) in accordance with the "NMS User's Guide".
- .2 The NMS is a master construction specification available in both official languages, which is divided into 48 Divisions (Masterformat 2004) and is used for a wide range of construction and/or renovation projects.
- .3 The Consultant retains overriding responsibility for content and shall edit, amend and supplement the NMS as deemed necessary to produce an appropriate project specification, free of conflict and ambiguity.

2.10.3 SPECIFICATION ORGANIZATION

- .1 Narrow scope sections describing single units of work are preferred for more complex work; however, broad scope sections may be more suitable for less complex work.
- .2 Use either the NMS 1/3 - 2/3 page format or the Construction Specifications Canada full-page format.



- .3 For specifications not included in the NMS, but required for the project, follow the number and title recommendations of Masterformat 2004
- .4 Number each page and start each Section on a new page
- .5 Bind specifications
- .6 Include Division I, edited to PWGSC requirements.
- .7 Note: Consultant's name is not to be indicated in the specifications..

2.10.4 TERMINOLOGY

- .1 Use the term "Departmental Representative" instead of Engineer, PWGSC, Owner, Consultant or Architect.
- .2 "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.
- .3 Notations such as: "verify on site", "as instructed", "to match existing", "example", "equal to" or "equivalent to", "to be determined on site by "Departmental Representative", should not be indicated in the specifications as this promotes inaccurate and inflated bids.
- .4 Specifications must permit bidders to calculate all quantities and bid accurately.
 - .1 If quantities are impossible to identify (i.e. cracks to be repaired) give an estimated quantity for bid purposes (unit prices).
- .5 Ensure that the terminology used throughout the specifications is consistent and does not contradict the applicable standard construction contract documents.

2.10.5 DIMENSIONS

- .1 Dimensions are to be in metric only (no dual dimensioning).

2.10.6 STANDARDS

- .1 As references in the NMS may not be up to date, it is the responsibility of the consultant to ensure that the project specification uses the latest applicable edition of all references quoted.
- .2 Canadian standards should be used wherever possible.

2.10.7 SPECIFYING MATERIALS

- .1 The practice of specifying actual brand names, model numbers, etc., is against departmental policy except for special circumstances.
- .2 The method of specifying materials shall be by using industry recognized standards.
- .3 If the above method cannot be used and where no standards exist, specify by a non-restrictive, non-trade name "prescription" or "performance" specifications.
- .4 In exceptional or justifiable circumstances, or if no standards exist and when a suitable non-restrictive, non-trade name "prescription" or "performance" specification cannot be developed; specify by trade name
- .5 Include all known materials acceptable for the purpose intended, and in the case of equipment, identify by type and model number.

2.10.8 ACCEPTABLE PRODUCTS AND MATERIALS

- .1 The term "Acceptable Manufacturers" must not be used, as this restricts competition and does not ensure the actual material or product will be acceptable.
 - .1 A list of words and phrases that should be avoided is included in the NMS User's Guide.
- .2 Listing of acceptable products or materials is to be an exception, due to a unique specification or for the purpose of assisting bidders in identifying lesser known potential products or materials.



- .3 For exceptions, provide justifiable reasons for listing products and materials and submit to the *Departmental Representative* for acceptance.
- .4 When authorized to list acceptable products or materials, list all, with a minimum of three (3), trade names of products and materials acceptable for the intended purpose.

2.10.9 ALTERNATE PRODUCTS AND MATERIALS

- .1 Alternates must be approved by addendum issued by the *Departmental Representative* in accordance with Instructions to bidders.
- .2 Review applications for approval of alternate products and materials and provide recommendations to the *Departmental Representative*.
- .3 Compare products/materials to specifications. Do not compare product-to-product or material-to-material.

2.10.10 SEPARATE AND ALTERNATE PRICES

- .1 Do not include Separate or Alternate Pricing .

2.10.11 SOLE SOURCING

- .1 Sole sourcing for materials and work may be used for proprietary systems (i.e. fire alarm systems, EMCS systems).
- .2 Substantiation and/or justification will be required.
- .3 Prior to including sole source materials and/or work, the Consultant must contact the *Departmental Representative* to obtain the approval for the sole sourcing.

2.10.12 UNIT PRICES

- .1 Unit prices are used where the quantity can only be estimated (e.g. earth work) and the approval of the Project Manager must be sought in advance of their use.

2.10.13 CASH ALLOWANCES

- .1 Construction contract documents should be complete and contain all of the requirements for the contractual work.
- .2 Cash allowances are to be used only under exceptional circumstances (i.e. utility companies, municipalities), where no other method of specifying is appropriate.
- .3 Obtain approval from the Project Manager in advance to include cash allowances and then use "Section 01 21 00 - Allowances" of the NMS to specify the criteria.

2.10.14 WARRANTIES

- .1 It is the practice of PWGSC to have a 12-month warranty and to avoid extending warranties for more than 24 months.
- .2 When it is deemed necessary to extend a warranty beyond the 12 month period provided for in the General Conditions of the contract, obtain approval from the Project Manager.
- .3 Delete all references to manufacturers' guarantees.

2.10.15 SCOPE OF WORK

- .1 No paragraphs noted as "Scope of Work" are to be included.

2.10.16 SUMMARY AND SECTION INCLUDES

- .1 In Part -I All Sections; do not use (delete):
 - .1 "Summary" and
 - .2 "Section Includes."

2.10.17 RELATED SECTIONS

- .1 In Part I All Sections; do not use (delete)

2.10.18 INDEX



- .1 List all the plans and specification sections with correct number of pages, section names and correct drawing titles in the format shown in Appendix C.

2.10.19 HEALTH AND SAFETY

- .1 Confirm with the Project Manager to determine if there are any instructions to meet regional requirements.

2.10.20 EXPERIENCE AND QUALIFICATIONS

- .1 Remove experience and qualification requirements from specification sections.

2.10.21 PREQUALIFICATION

- .1 Do not include in the specification any mandatory contractor and/or subcontractor prequalification requirements that could become a contract award condition.
- .2 If a prequalification process is required, contact the Project Manager.
- .3 There should be no references to certificates, transcripts or license numbers of a trade or subcontractor being included with the bid.

2.10.22 CONTRACTING ISSUES

- .1 Specifications describe the workmanship and quality of the work.
 - .1 Contracting issues should not appear in the specifications.
- .2 Division 00 of the NMS is not used for PWGSC projects.
- .3 Remove all references within the specifications, to the following:
 - .1 General Instructions to Bidders
 - .2 General Conditions
 - .3 CCDC documents
 - .4 Health and Safety requirements
 - .5 Priority of documents
 - .6 Security clauses
 - .7 Terms of payment or holdback
 - .8 Tendering process
 - .9 Bonding requirements
 - .10 Insurance requirements
 - .11 Alternative and separate pricing
 - .12 Site visit (Mandatory or Optional)
 - .13 Release of Lien and deficiency holdbacks

2.11 DRAWINGS

2.11.1 GENERAL

- .1 Drawings shall be in accordance with PWGSC Western CADD Standards and CSA B78.3.
- .2 Refer to:
 - .1 <http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/ouest-western/tm-toe-eng.html>
 - .2 The above link is subject to change
 - .3 The Consultant shall check with the Project Manager to ensure that the link is current.
- .3 Download and use the Toolkit which includes drawing border templates, layer utility and drawing standards checker.

2.11.2 TITLE BLOCKS

- .1 Use PWGSC title block for drawings and sketches (including addenda).

2.11.3 DIMENSIONS

- .1 Dimensions are to be in metric only (no dual dimensioning).

2.11.4 TRADE NAMES



- .1 Trade names on drawings are not acceptable.
- .2 Refer to SECTON 2.3, SPECIFICATIONS; 2.3.6 Specifying Materials for specifying materials by trade name.

2.11.5 SPECIFICATION NOTES

- .1 No specification type notes are to appear on any drawing.

2.11.6 TERMINOLOGY

- .1 Use the term "Departmental Representative" instead of Engineer, PWGSC, Owner, Consultant or Architect.
- .2 "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.
- .3 Notations such as: "verify on site", "as instructed", "to match existing", "example", "equal to" or "equivalent to", "to be determined on site by "Departmental Representative", may not be indicated on the drawings or in the specifications as this promotes inaccurate and inflated bids.
- .4 Specifications & drawings must permit bidders to calculate all quantities and bid accurately.
- .5 If quantities are impossible to identify (i.e. cracks to be repaired) give an estimated quantity for bid purposes (unit prices).
- .6 Ensure that the terminology used throughout the drawings & specifications is consistent and does not contradict the applicable standard construction contract documents.

2.11.7 INFORMATION TO BE INCLUDED

- .1 Drawings must show the quantity and configuration of the project, the dimensions and details of how it is constructed.
- .2 There should be no references to future work and no any information that will be changed by future addenda.
- .3 The scope of work should be clearly detailed and elements not in contract should be eliminated or kept to an absolute minimum.

2.11.8 DRAWING NUMBERS

- .1 Number drawings in sets according to the type of drawing and the discipline involved as follows:
 - .1 The requirements of SECTION 2 PWGSC NATIONAL CADD STANDARD will supersede these requirements, where warranted.
- .2 During the Design Phase of the project each submission and review must be noted on the Notes block of the drawing title, but at the time of construction document preparation, all revision notes should be removed.

Discipline	Drawing
Demolition	D1, D2, etc.
Architectural	A1, A2, etc.
Civil	C1, C2, etc.
Landscaping	L1, L2, etc.
Mechanical	M1, M2, etc.
Electrical	E1, E2, etc.
Structural	S1, S2, etc.
Interior Design	ID1, ID2, etc.

2.11.9 PRINTS



- .1 Print with black lines on white paper.
- .2 Blue prints are acceptable for document submissions at stages outlined in the TOR.
- .3 Confirm with Departmental Representative the size of prints to be provided for review purposes.

2.11.10 BINDING

- .1 Staple or otherwise bind prints into sets.
- .2 Where presentations exceed 20 sheets, the drawings for each discipline may be bound separately for convenience and ease of handling.

2.11.11 LEGENDS

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

2.11.12 SCHEDULES

- .1 Where schedules occupy entire sheets, locate them next to the plan sheets or at the back of each set of drawings for convenient reference.
 - .1 See CGSB 33-GP-7 Architectural Drawing Practices for schedule arrangements.

2.11.13 NORTH POINTS

- .1 On all plans include a north point.
- .2 Orient all plans in the same direction for easy cross-referencing.
- .3 Wherever possible, lay out plans so that the north point is at the top of the sheet.

2.11.14 DRAWING SYMBOLS

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



3 PROJECT ADMINISTRATION

3.1 GENERAL REQUIREMENTS FOR ALL PROJECTS

- .1 The administration requirements outlined in this section are applicable to all PWGSC projects in Western Region, unless otherwise indicated in the TOR.
- .2 “Project Team” refers to key representatives involved in this project.
- .3 All team members must maintain a professional, cordial and collaborative relationship.

3.2 LANGUAGE

- .1 Construction documents must be prepared in 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 Public Works and Government Services Canada administers the project on behalf of Canada and exercises continuing control over the project during all phases of development.
- .2 This project is to be organized, managed and implemented in a collaborative manner.
- .3 The PWGSC project management team, the Consultant, the Contractor and the User Department teams are to work cooperatively at every stage of the design and construction process in order to assure the creation of a successful and meaningful work of architecture.
- .4 Under the leadership of the PWGSC Departmental Representative, all team members are responsible for establishing and maintaining a professional and cordial relationship.

3.4.2 NATIONAL PROJECT MANAGEMENT SYSTEM

- .1 PWGSC uses the National Project Management System (NPMS) for management of its building projects in order to align with the Federal Government approvals processes. Refer to the PWGSC NPMS web site for more details.
- .2 <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>
- .3 This GP&S document speaks to services that are normally provided by the professional during the Project Delivery Phase of the NMPS.

3.4.3 DESIGN STAGE

- .1 Pre-design Process
 - .1 The purpose of this phase is to analyze all project requirements including codes, regulations, programming, sustainability, cost, time management and risk to demonstrate a full understanding of the project
 - .2 The approved deliverable will become the formal project work plan and will be utilized throughout the project to guide the delivery.
- .2 Schematic Design Process
 - .1 The purpose of this phase is to explore three distinctly different design options and to analyze them against the project requirements.
 - .2 The Schematic Design will be in sufficient detail to illustrate and communicate the project characteristics.
 - .1 Provide a detailed review and analysis of the project requirements including all updates and amendments to ensure all requirements are fully integrated into the Schematic Design.



- .2 Out of this process the Schematic Design will be accepted and authorization to proceed to Design Development will be based on the accepted Schematic Design.
- .3 The *Departmental Representative*, in concert with others shall choose one option to be further developed.
 - .1 Although the *Consultant* is required to identify a preferred option, the *Departmental Representative* may select another option.
 - .2 The approved deliverable will become the formal project work plan and will be utilized throughout the project to guide the delivery.

3.4.4 IMPLEMENTATION STAGE

- .1 Design Development Process
 - .1 The purpose of this phase is to further develop the design option selected for refinement at the Schematic Design stage.
 - .2 The Design Development documents consist of drawings and other documents to describe the scope, quality and cost of the project in sufficient detail to facilitate design approval, confirmation of code compliance, detailed planning of construction and project approval.
 - .3 This design will be used as the basis for preparation of construction documents.
 - .4 The approved deliverable will become the formal project work plan and will be utilized throughout the project to guide the delivery.
- .2 Commissioning Process
 - .1 “Commissioning” is a quality assurance process, in which the functional requirements of the Owner/occupant and the operational requirements of facility management are tested, verified and proven to function as intended.
 - .2 Commissioning deliverables occur at various phases throughout the project as detailed in section 2.8.
 - .3 Commissioning shall be in accordance with the PWGSC Commissioning Manual CP.1 (2003).
- .3 Construction Document Process
 - .1 The purpose of this phase is to translate design development documents into construction drawings and specifications, for use by the contractor to determine a cost for the work and to construct the building.
- .4 Contract Procurement Process
 - .1 The purpose of this phase is to obtain and evaluate bids/proposals from qualified contractors to construct the project, as per the Construction Contract Documents and to award the construction contract according to government regulations.
- .5 Construction Contract Administration Process
 - .1 The purpose of this phase is to implement the project in compliance with the Construction Contract Documents and to direct and monitor all necessary or requested changes to the scope of work during construction, commissioning and closeout.

3.4.5 CLOSEOUT STAGE

- .1 Post Construction Process
 - .1 The purpose of this phase is to ensure the orderly completion and recording of all aspects of the work during the construction and liaise with the Public Works And Government Services Canada and other agencies as appropriate to close out the project.

3.4.6 ENGINEERING PROJECTS



- .1 Refer to the project specific TOR where the stages for an Engineering Project differs slightly.

3.5 LINES OF COMMUNICATION

- .1 In general, communications will be through the Departmental Representative, unless directed otherwise.
 - .1 This includes formal contact between the Consultant, the Contractor, 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 During construction tender call, PWGSC will conduct all correspondence with bidders and award the contract.

3.6 MEETINGS

- .1 The Departmental Representative will arrange meetings throughout the project, with representatives from:
 - .1 The User Department;
 - .2 PWGSC
 - .3 The Consultant team; and
 - .4 The Contractor (during the construction phase)
- .2 Standing agenda items shall include:
 - .1 Project Schedule,
 - .2 Cost,
 - .3 Risk,
 - .4 Quality,
 - .5 Health and safety

3.7 CONSULTANT RESPONSIBILITIES

- .1 The “Consultant Team” includes the Consultant’s staff, sub-consultants and specialists.
 - .1 This team must maintain its expertise for the duration of the project.
 - .2 The team must include qualified registered architectural and engineering professionals, with extensive relevant experience, capable of providing all required services.
 - .3 Team members may be qualified to provide services in more than one discipline.
 - .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 phase before proceeding to the next phase.
 - .2 Accurately communicating design, budget, and scheduling issues to staff, sub-consultants and specialists.
 - .3 Co-ordinating input for the Departmental Representative’s Risk Management Plan
 - .4 Co-ordinating the quality assurance process and ensuring that submissions of sub-consultants are complete and signed-off by reviewers;
 - .5 During the design phases:
 - .1 Attend meetings,
 - .2 Record the issues and decisions,
 - .3 Prepare and distribute minutes within two working days of the meeting,



- .4 Ensure all meetings are green i.e. using electronic documents or double-sided hard copies and
- .5 Ensure sub-consultants attend required meetings.
- .6 During the construction phase:
 - .1 Attend meetings and provide site inspection services
 - .2 Ensure sub-consultants provide site inspection services and attend required meetings.
- .3 The Consultant is responsible for:
 - .1 Coordinating and directing the work of all team activities, sub-consultants and specialists
 - .2 Preparing a design that meets project requirements.
 - .3 Obtaining approvals on behalf of the Departmental Representative from the User and other levels of government such as provincial and municipal governments
 - .1 The Consultant shall adjust the documentation to meet the requirements of these authorities.

3.8 PWGSC RESPONSIBILITIES

- .1 Administration
 - .1 PWGSC administers the project and exercises continuing control over the project during all phases of development.
 - .2 The following administrative requirements apply during all phases of the project delivery.
- .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 re-design and re-submit at no extra cost.
- .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 and for compliance with the contract.
- .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.
 - .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.
- .5 PWGSC Professional & Technical Resources Team
 - .1 Provides professional advice and quality assurance reviews of consultant deliverables by Architectural and Engineering professional disciplines.
 - .2 Offers expert technical advice on related project issues, such as functional programming, options analysis, risk management, cost planning, scheduling, contract interpretation, specifications, terms of reference, commissioning, claims management, project delivery approach and project compliance.



- .3 Participates regularly in design phases and may attend (during construction), contractor meetings and conduct field reviews on behalf of the Departmental Representative.
- .4 Provides a Design Manager for the project, who will coordinate the services of the Professional & Technical Resources Team through the Departmental Representative;
 - .1 The Design Manager is the assembler and coordinator of the Resources Team of Architects, Engineers, Interior Designers, Project Planners, Cost Planners and Commissioning Specialists, all with specific areas of expertise.
- .6 PWGSC Commissioning Specialist represents the Departmental Representative's interests in the commissioning process for buildings by:
 - .1 Providing technical advice on O&M matters, operational criteria and quality assurance on the commissioning process throughout the project life cycle;
 - .2 Coordinating and overseeing internal PWGSC commissioning activities during all project phases to ensure that O&M concerns are addressed;
 - .3 Working closely with the Consultant, the Consultant's Commissioning Manager, the Contractor, and the Departmental Representative for Commissioning activities and,
 - .4 Reviews all documentation and reported results relative to commissioning throughout the project delivery.

3.9 USER DEPARTMENT RESPONSIBILITIES

- .1 The User Department Project Leader
 - .1 Is accountable for the expenditure of public funds and delivery of the project in accordance with terms accepted by the Treasury Board
 - .2 Reports to senior User Department executive management
 - .3 Will play several critical roles for the successful implementation of the project, as follows:
 - .1 Coordinate the quality, timing and completeness of information and decisions relating to issues related to the functional performance of the facility;

3.10 REVIEW AND APPROVAL BY PROVINCIAL AND MUNICIPAL AUTHORITIES

- .1 The federal government generally defers to provincial and municipal authorities for specific regulations, standards and inspections but in areas of conflict, the more stringent authority prevails.
- .2 Municipal authority review
 - .1 The purpose of this review is information and awareness;
 - .2 Submissions will be reviewed at the completion of specific phases as outlined in the Required Services Section of the TOR.

3.11 BUILDING PERMITS AND OCCUPANCY PERMITS

- .1 The Consultant will support the Contractor in applying for building permits by providing the required documentation.
 - .1 These documents will be submitted at phases as requested by the municipal authorities.
 - .2 The Consultant will negotiate and resolve building permit related issues.
- .2 The Consultant shall support the Contractor in its application for an occupancy permit and coordinate the resolution of all outstanding issues relating to the permit.
- .3 The Contractor shall pay for the permits on behalf of PWGSC.

3.12 TECHNICAL AND FUNCTIONAL REVIEWS

- .1 This includes both COE reviews and User Department reviews.



- .1 The Purpose of these reviews is technical and functional quality assurance;
 - .2 Submissions will be reviewed at the completion of specific phases as outlined in the Required Services Section of the TOR.
- .2 HRSDC Reviews of building projects
- .1 The purpose of these reviews is for fire protection, health and life safety;
 - .2 Submissions will be reviewed at the completion of specific phases as outlined in the Required Services Section of the TOR.



APPENDIX A CHECKLISTS

A.1 CHECKLIST FOR THE SUBMISSION OF CONSTRUCTION DOCUMENTS

A1.1 TITLE BLOCK

Project Title:		Date:	
Project Location:		Project Number:	
Consultant's Name:		Contract Number:	
PWGSC PM:	Review Stage:		

A1.2 STANDARDS & GUIDELINES

ITEM	Checked by:	Progress Submission	Pre-Tender or Tender Ready Submission	Comments:
I. General				
The design meets the requirements of;				
.1	National Building Code - 2005			
.2	National Fire Code - 2005			
.3	National Plumbing Code - 2005			
.4	Canada Labour Code			
.5	NFPA 10 - Standard for Portable Fire Extinguishers - 2002			
.6	NFPA 13 - Standard for the Installation of Sprinkler Systems - 2007			
.7	NFPA 14 – Standard for the Installation of Standpipe and Hose Systems - 2003			
2. Treasury Board				
The design meets the requirements of;				
.1	Chapter 3-6: Fire Protection Standard for Correctional Institutions. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13580			
.2	Chapter 3-2: Fire Protection Standard for Design & Construction. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13581			
.3	Fire Protection Standard for Electronic Data Processing			



Equipment. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13582				
<p>3. HRSDC Fire Protection Engineer Standards</p> <p>The design meets the requirements of;</p>				
.1 Federal Fire Protection Standards. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/index.shtml				
.2 FC-403 Standard for Sprinkler Systems. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/403/page00.shtml				
.3 FC-311-M Standard for Record Storage. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/311/page00.shtml				
<p>4. Labour Canada Standards</p> <p>The design meets the requirements of;</p>				
.1 Canada Labour Code. http://laws.justice.gc.ca/en/L-2/				
.2 Canada Occupational Health and Safety Regulations. http://laws.justice.gc.ca/eng/SOR-86-304/index.html				
.3 Movable Storage Units Standard. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/mobile.shtml				
<p>5. ASHRAE Standards</p> <p>The design meets the requirements of;</p>				
.1 ANSI/ASHRAE 55 – 2004 Thermal Environmental Conditions for Human Occupancy				
.2 ASHRAE 62.1 – 2007 – Ventilation for Acceptable Indoor Air Quality				
.3 ASHRAE Applications Handbook				
.4 ASHRAE Fundamentals Handbook				



6. PWGSC MD Standards					
The design meets the requirements of;					
.1	MD 15116 – Computer Room Air Conditioning Systems - 2006				
.2	MD 15128 – Minimum Guidelines for Laboratory Fume Hoods – March 2004				
.3	MD 15129 – Perchloric Acid Fume Hoods - 2006				
.4	MD 15161 – Guidelines for the control of Legionella in mechanical systems				
.5	MD 250005 – Energy Monitoring and Control Systems Design Guidelines - 2009				

AI.3 SPECIFICATIONS – ALL DISCIPLINES

ITEM	Checked by:	Progress Submission	Pre-Tender or Tender Ready Submission	Comments:
1. General				
The Specifications meet the requirements of;				
.1	The NMS Users Guide. .			
.2	Masterformat 2004			
.3	The current edition of the NMS database			
.4	Deletion of “Related Sections” and “Section Includes” throughout.			
.5	PWGSC GCs for projects tendered through PWGSC			
.6	Consistent use of CCDC or other for privately tendered projects.			
.7	Non-proprietary Specifications.			
.8	Being completely edited with removal of all square choice brackets and Spec Notes.			
.9	Including all relevant Sections as evident by the by the scope of work indicated by the drawings.			
.10	Not referring to the Tender Submission (Contract B)			
.11	Use of command imperative style of language.			
.12	Formatting in either the NMS			



	1/3 - 2/3 page format or the Construction Specifications Canada full page format.				
.13	Each Section starting on a new page and the Project Number, Section Title, Section Number and Page Number show on the header of each page only.				
.14	Specification headers not including date or consultant's name.				
.15	Departmental Representative being used throughout instead of Engineer, PWGSC, Owner, Consultant or Architect. (That is; the contractual entity)				
.16	Non use of notations such as: "verify on site", "as instructed", "to match existing", "example", "equal to", "equivalent to" and "to be determined on site by".				
.17	Dimensions being provided in metric only.				
.18	Indicating the latest edition of all references noted in Part 1 of each Section and that un-used reference Standards are deleted.				
.19	No bolding of text.				
.20	Use of Western Regions standard payments procedures clause.				

AI.4 DRAWINGS GENERAL – ALL DISCIPLINES

ITEM	Checked by:	Progress Submission	Pre-Tender or Tender Ready Submission	Comments:
1. General The Drawings meet the requirements of;				
.1 PWGSC Western Region AutoCAD drafting standards.				
.2 Using the "toolkit" and the "drawing checker".				
.3 All dimensions in SI. No dual dimensioning has been used.				
.4 Providing a north arrow.				
.5 Providing a legend on all relevant sheets.				
.6 Indicating grid lines on all				



	sheets.				
.7	Using standard scales. (1:50, 1:100 etc.)				
.8	Cross referencing and detailing is consistent.				
.9	No Specifications on drawings.				
.10	All notes being written in the command imperative style of speech.				
.11	Not naming the "Contractor" or "sub trades" in the notes.				
.12	Numbering all rooms on all floor plans.				
.13	Using appropriate line weights to differentiate new versus existing versus demolition.				
.14	Using font sizes and types following PWGSC drafting standards.				
.15	Providing separate drawings for demolition and new work.				
.16	Drawing acceptance by the FPE of HRSDC.				

AI.5 DRAWINGS - DISCIPLINE SPECIFIC

ITEM	Checked by:	Progress Submission	Pre-Tender or Tender Ready Submission	Comments:
1. Architectural The Drawings meet the requirements of;				
.1 Providing a Building Code Analysis.				
.2 Indicating fire separations and firewalls and rating.				
.3 Providing a complete site plan with all related details.				
.4 Providing a fully detailed reflected ceiling plan showing lighting, diffusers, sprinkler heads, etc.				
.5 Wall sections being coordinated with the structural and other disciplines drawings.				
.6 Building elevations showing all mechanical and electrical ancillaries.				
.7 Sub surface drainage being shown on the foundation plans and coordinated with all other disciplines.				



.8	Accessibility conforming to CAN/CSA 651-04.				
.9	Coordination of door, finish, hardware schedules in conjunction with fire separations and other disciplines.				
.10	All conflict points identified by BIM have been resolved.				
2. Structural					
The Drawings meet the requirements of;					
.1	Ensuring that General Notes provide additional information that is NOT covered in Specifications.				
.2	Remove all information that is or should be covered by the Specifications.				
.3	Note loads used for design.				
.4	PWGSC policy of using general product descriptions, not proprietary product names followed.				
.5	Table of Abbreviations used provided.				
.6	Section bubbles properly cross referenced.				
.7	Coordination with all other disciplines.				
3. Mechanical					
The Drawings meet the requirements of;					
.1	Separate drawings for Plumbing, HVAC, Fire Suppression, etc.				
.2	Provision for humidification with a clean source of water and no standing water				
.3	Provision of separate HVAC zoning for each unique thermal zone.				
.4	Providing Ventilation to ASHRAE 62.1.				
.5	Meets all requirements of ASHRAE 62.1, Section 5.				
.6	All thermostats are wall mounted.				
.7	The building and systems and equipment meeting all requirements of Section 5 of ASHRAE 62.1.				
.8	Conformance to ASHRAE 55 for;				
.1	Operative				



	temperature .2 Air motion .3 Radiant Temperature Asymmetry .4 Draft .5 Vertical Temperature Difference .6 Floor Surface Temperature .7 Temperature Variations with Time .8 Cyclic Variations .9 Drifts and Ramps				
.9	Providing building cross-sections at all key locations showing clearances for the mechanical installation and access for maintenance.				
.10	Providing sufficient access to mechanical equipment for maintenance.				
.11	Providing mechanical schematics showing design pressure and temperatures as well as all instrumentation and control points labels.				
.12	Design complies with all referenced PWGSC MD Standards.				
.13	Equipment schedules on the drawings coordinate and agree with the Book Specifications.				
.14	Duct attenuation is designed to conform to the STC requirements shown on the architectural drawings.				
.15	Coordination with all other disciplines.				
4. Electrical					
The Drawings meet the requirements of;					
.1	Separate drawings for Lighting, Power, Fire Alarm System, Communication and Data, Security & CCTV etc.				
.2	Verification and acceptance of the Grounding condition for this project.				
.3	The Overcurrent and Short Circuit Study and confirming all components are fully coordinated.				
.4	The Arch-Flash Study and confirming all components are fully coordinated.				
.5	Providing Arch protection				



	warning signs and labeling.				
.6	Providing lighting Levels in accordance with the National Building Code and IESNA recommendations.				
.7	Not using Armored Cable. Using Armored Cable will be allowed only for jumping from one light fixture to the other in a distance up to 3m.				
.8	Providing identification for each circuit including: .1 Name .2 Voltage, .3 Phase, .4 Amps, .5 Circuit-s .6 Fed from Panel, Destination.				
.9	The Voltage Drop Calculation for each circuit and conformance to CEC requirements.				
.10	Providing phase load and total load for each panel and ensuring proper balance of the Electrical System.				
.11	Coordination with all other disciplines.				
	5. Civil The Drawings meet the requirements of;				
.1	The design criteria. (e.g. design vehicle for surface structures, design period and other data for WM.WW, SW and other systems including data and calculations showing design requirements and provided capacities)				
.2	The reference standards. (e.g. minimum service connection pipe or minimum WM size, etc have been used for municipal works, name the local authority whose standards are used.)				
.3	Indicating existing sub-grade soil properties and strength that has been used for the design is indicated on drawings or in a report.				
.4	Indicating Bench Marks used for the Topographic Survey are shown with Northing, Easting and elevation data.				
.5	Indicating the Final				



	Geometric layout for existing and new infrastructures and facilities including centerline of all access roads and pipes. The data provided includes Northing and Easting of all points including start and end point and for all other points wherever there is change in direction, and all horizontal curve data				
.6	Providing typical X-sections for all structures, including type, thickness of various materials for pavement structures, and pipe diameter, material types and thickness and SDR values.				
.7	Providing design grades and slopes.				
.8	Providing details for all infrastructures and facilities indicating all works and type of materials and all geometrics and dimensions..				
.9	Coordination with all other disciplines.				



APPENDIX B SPECIFICATION TOC STANDARDS

B.1 GENERAL

B1.1 SPECIFICATIONS

.1 List all Divisions, Sections (by number and title) and number of pages.

B1.2 DRAWINGS

.1 List all Drawings by number and title.

B.2 SAMPLE OF TABLE OF CONTENTS

Project No: R.xxxxxx	Table of Contents	Index Page I of xx
-------------------------	-------------------	-----------------------

SPECIFICATIONS:

- .3
- .4
- No. Pages
- .5 Division 01 – GENERAL REQUIREMENTS
- .6 01 11 00 – Summary of Work xx pages
- .7 01 14 00 – Work Restrictions xx pages
- .8 01 29 00 – Payment Procedures xx pages
- .9 Division 02 – EXISTING CONDITIONS
- .10 ETC.
- .11

DRAWINGS:

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



APPENDIX C ADDENDUM FORMAT STANDARD

C.1 SAMPLE OF ADDENDUM FORMAT

CI.1 DRAWINGS

- .1 Indicate drawing number and title, then list changes or indicate revision number and date, and re-issue drawing with addendum.

CI.2 SPECIFICATIONS

- .1 Indicate section number and title.
- .2 List all changes (i.e. delete, add or change) by article or paragraph

Project Title:	Addendum No:
Project Location:	Project Number:
Consultant's Name:	Date:
The following changes in the bid documents are effective immediately. This addendum will form part of the contract documents	
Drawings	
1 AI Architectural	
Specifications	
1 Section 01 00 10 - General Instructions	
.1 Delete article (xx) entirely.	
.2 Refer to paragraph (xx) and revise "xxx", to read "xxxx"..	
2 Section 23 05 00 - Common Work Results - Mechanical	
.1 Add new article (x.xx) as follows:	



APPENDIX D DIGITAL TENDER DOCUMENTS STANDARDS

D.1 CONVENTION STANDARDS FOR TENDER DOCUMENTS

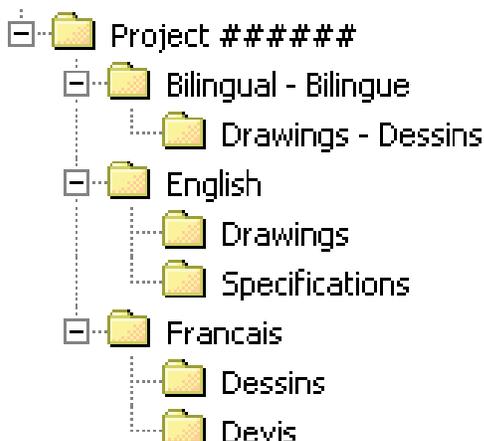
DI.1 USER MANUAL

- .1 Refer to the User manual on directory structure and naming convention standards for construction tender documents on CD ROM.
 - .1 Issued by: Real Property Contracting Directorate, PWGSC,
 - .2 Version 1.0, May 2005.

DI.2 PREFACE

- .1 The Government of Canada (GoC) has committed to move towards an electronic environment for the majority of the services it offers.
- .2 This covers the advertisement and distribution of contract opportunities, including construction solicitations.
- .3 As a result, it is now necessary to obtain a copy of construction drawings and specifications (in PDF format *without* password protection) on one or multiple CD-ROM to facilitate for the GoC the transfer of the construction drawings and specifications electronically to the Government Electronic Tendering System (GETS).
- .4 There is therefore a need to adopt a common directory structure and file-naming convention to ensure that the information made available to contractors electronically and in hard (printed) copy is in accordance with the sequence adopted in the real property industries, both for design and construction.
- .5 This manual defines the standard to be followed by both consultants and print shops at time of formatting and organizing the information, whether drawings and specifications are created by scanning print documents or saved as PDF files from the native software (AutoCAD, NMS Edit, MS-Word, etc...) in which these were created.
- .6 It is important to note that the procedure described in this manual is not an indication that consultants are relieved from following the established standards for the production of drawings and specifications.
- .7 The sole purpose of this manual is to provide a standard for the organization and naming of the electronic files that will be recorded on CD-ROM.

DI.3 DIRECTORY STRUCTURE



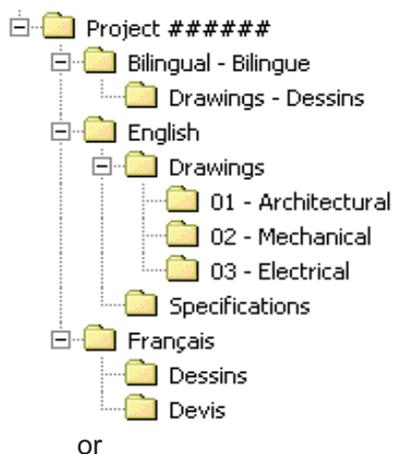


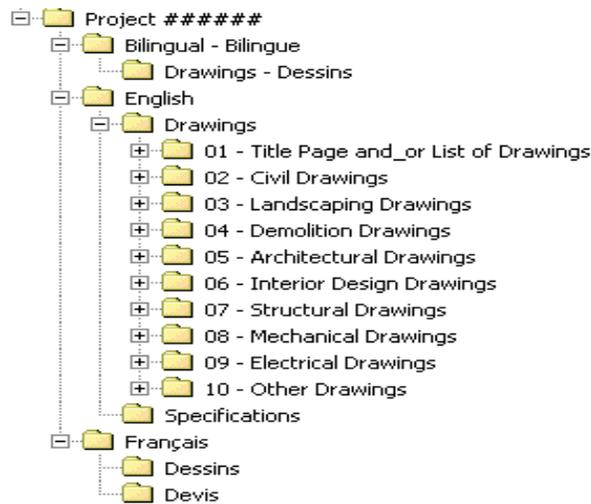
DI.4 1ST, 2ND AND 3RD TIER SUB-FOLDERS

- .1 Each CD-ROM, whether it is for the original solicitation (tender call) or for an amendment (addendum), must have the applicable elements of the following high-level Directory Structure created:
- .2 The following important points are to be noted about the Directory Structure:
 - .1 The “Project #####” folder is considered the 1st Tier of the Directory Structure where ##### represents each digit of the Project Number.
 - .2 The Project Number must always be used to name the 1st Tier folder and it is always required.
 - .3 Free text can be added following the Project Number, to include such things as a brief description or the project title;
- .3 The “Bilingual - Bilingue”, “English” and “Français” folders are considered the 2nd Tier of the Directory Structure. The folders of the 2nd Tier **cannot** be given any other names since 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 sub-folders of the 3rd Tier;
- .4 The “Drawings - Dessins”, “Drawings”, “Specifications”, “Dessins” and “Devis” folders are considered the 3rd Tier of the Directory Structure. 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.
- .5 IMPORTANT NOTE:
 - .1 The applicable elements of the Directory Structure (1st, 2nd and 3rd Tier folders) are always required and cannot be modified.

DI.5 4TH TIER SUB-FOLDERS FOR DRAWINGS

- .1 The “Drawings – Dessins”, “Drawings” and “Dessins” folders must have 4th Tier sub-folders created to reflect the various disciplines of the set of drawings.
- .2 Because the order of appearance of the sub-folders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the sub-folders in the “Drawings – Dessins”, “Drawings” and “Dessins” folders.
- .3 Note:
 - .1 The first sub-folder 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.
- .4 Examples of 4th Tier sub-folders for drawings:





DI.6 NAMING CONVENTION - 4TH TIER DRAWINGS

- .1 The 4th Tier sub-folders for drawings must adhere to the following standard naming convention.
 - .1 For the “Drawings” and “Dessins” folders:
 - 1 ## - Y, Where:
 - 1 ## = A two digit number ranging from 01 to 99 (leading zeros must be included)
 - 2 Y = The title of the folder
 - 2 Example: 03 – Mechanical
 - .2 For the “Drawings - Dessins” folder:
 - 1 ## - Y – Z, Where:
 - 1 ## = A two digit number ranging from 01 to 99 (leading zeros must be included)
 - 2 Y = The English title of the folder
 - 3 Z = The French title of the folder
 - 2 Example: 04 - Electrical – Électricité
- .2 It should be noted that the numbering of the 4th Tier sub-folders is for sorting purposes only and is not tied to a specific discipline. For example, “Architectural” could be numbered 05 for a project where there is four other disciplines before “Architectural” in the set of drawings or 01 in another project where it’s the first discipline appearing in the set.
- .3 It is essential to ensure that the order of the drawings on the CD-ROM be exactly the same as in the hard copy set. GETS will sort each drawing for both screen display and printing as per the following rules:
 - .1 The alphanumerical sorting is done on an ascending order;
 - .2 The alphanumerical order of the sub-folders 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-folder will be printed in alphanumerical order before the drawings in the 02 sub-folder etc...);
 - .3 Each drawing PDF file within each sub-folder will also be sorted alphanumerically. This will determine the order of appearance on the screen as well as the order of printing



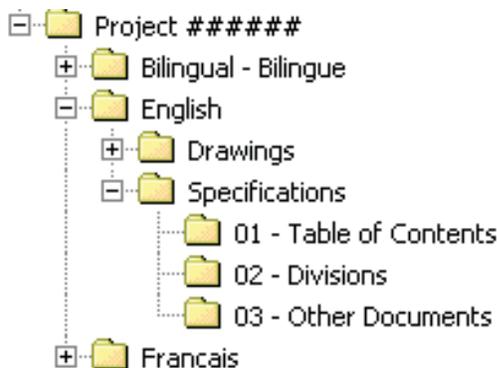
(i.e. Drawing A001 will be printed before Drawing A002, Drawing M02 before Drawing M03, etc...).

DI.7 4TH TIER SUB-FOLDERS FOR SPECIFICATIONS

- .1 The “Specifications” and “Devis” folders must have 4th Tier sub-folders created to reflect the various elements of the specifications.
- .2 Because the order of appearance of the sub-folders on the screen will also determine the order of printing, it is necessary to start with a number the identification name of the sub-folders in the “Specifications” and “Devis” folders.
- .3 Examples of 4th Tier sub-folders for specifications:



or



DI.8 NAMING CONVENTION - 4TH TIER SPECIFICATIONS

- .1 The 4th Tier sub-folders for specifications must adhere to the following standard naming convention.
 - .1 For the “Specifications” and “Devis” folders:
 - 1 ## - Y, Where:
 - 1 ## = A two digit number ranging from 01 to 99 (leading zeros must be included)
 - 2 Y = The title of the folder
 - 2 Example: 02 – Divisions
 - .2 It should be noted that the numbering of the 4th Tier sub-folders is for sorting purposes only and is not tied to an element of the specifications.



- .3 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:
- .4 The alphanumerical sorting is done on an ascending order;
 - .1 The alphanumerical order of the sub-folders 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 sub-folder will be printed, in alphanumerical order before the PDF files in the 02 sub-folder, etc...);
 - .2 Each specifications PDF file within each sub-folder will also be sorted alphanumerically.
 - 1 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...).

DI.9 NAMING CONVENTION FOR PDF FILES

- .1 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 sub-folder of the Directory Structure.

DI.10 DRAWINGS

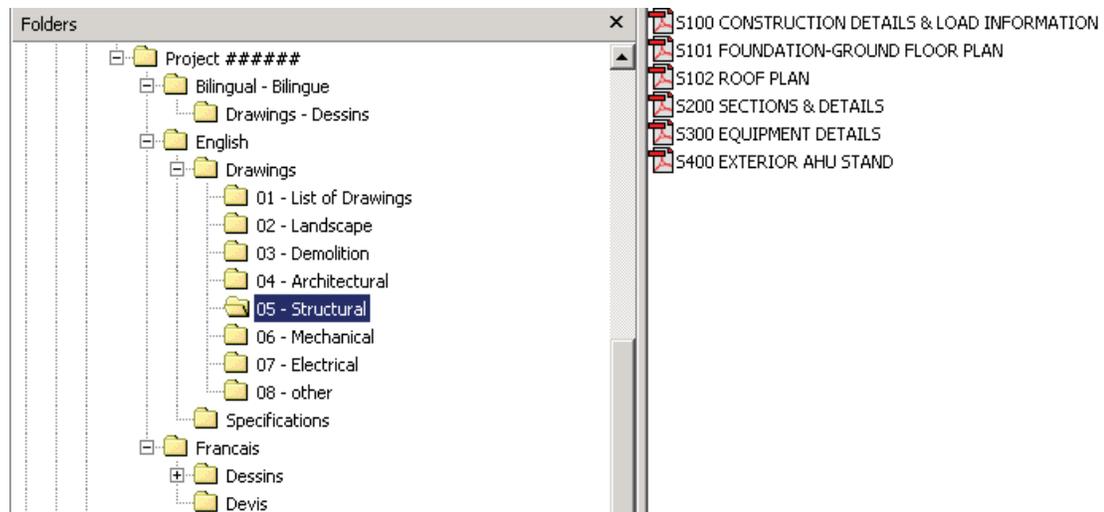
- .1 Each drawing must be a separate single page PDF file.
- .2 The naming convention of each drawing must be:
 - .1 X### - Y, Where;
 - 1 X = The letter or letters from the drawing title block ("A" for Architectural or "ID" for Interior Design for example) associated with the discipline,
 - 2 ### = The drawing number from the drawing title block (one to three digits),
 - 3 Y = The drawing name from the drawing title block (for bilingual drawings, the name in both English and French is to appear).
 - .2 Example; A001 - First Floor Details.
- .3 Each drawing that will be located in the appropriate discipline 4th Tier sub-folders must be named with the same letter ("A" for Architectural Drawings for example) and be numbered.
- .4 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).
- .5 The following important points about drawings are to be noted:
 - .1 The drawing PDF files within each sub-folder 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.
 - 1 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);
 - .2 If drawing PDF files are included in the "Bilingual - Bilingue" folder, these cannot be included as well in the "English" and/or "Français" folders;
 - .3 If drawings not associated with a particular discipline are not numbered (Title Page or List of Drawings for example), these will be sorted alphabetically.
 - 1 While this does not represent a problem if there is only one drawing in the sub-folder, 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.

- 1 ## - Y, Where:
 - 1 ## = A two digit number ranging from 01 to 99 (leading zeros must be included)
 - 2 Y = The name of the drawing
- 2 Example:
 - 1 01 - Title Page
 - 2 02 - List of Drawings

- .4 If numbers are not used in the PDF files name, “*List of Drawings*” will be displayed before “*Title Page*” because “L” comes before “T” in the alphabet.

DI.11 EXAMPLE OF A 4TH TIER DRAWINGS SUBFOLDER’S CONTENT:



DI.12 SPECIFICATIONS

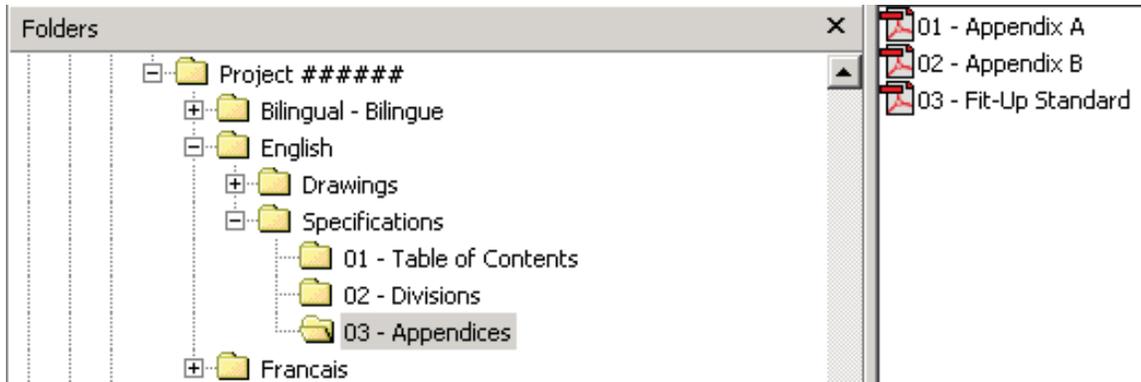
- .1 Each Specifications Division must be a separate PDF file and all pages contained in each PDF file must have the same physical size (height, width).
- .2 The Plans and Specifications Index must also be a separate PDF file.
- .3 If there are other documents that are part of the Specifications (e.g.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

DI.13 DOCUMENTS OTHER THAN SPECIFICATIONS DIVISIONS

- .1 Because PDF files within the Specifications sub-folders are sorted alphanumerically (in ascending order) for both on screen display and printing order, all files that appear in folders other than the “*Divisions*” sub-folder must be named using a number:
 - .1 ## - Y, Where:
 - 1 ## = Two digit number ranging from 01 to 99 with leading zeros required
 - 2 Y = Name of the document
 - .2 Example: 01 - Plans and Specifications Index



DI.14 EXAMPLE OF A SUB-FOLDER CONTENT (SUB-FOLDER OTHER THAN “DIVISIONS”):



DI.15 SPECIFICATIONS DIVISIONS

- .1 The Specifications Divisions must be named as follows:
 - .1 Division ## - Y, Where:
 - 1 Division ## = The actual word “Division” followed by a space and a two digit number ranging from 01 to 99 (with leading zeros required)
 - 2 Y = Name of the Specifications Division as per CSC/CSI MasterFormat™
 - .2 Example: Division 05 – Metals
- .2 The following important point about specifications is to be noted:
 - .1 The Numbering of the Divisions cannot be altered from CSC/CSI MasterFormat™ even if some Divisions are not used in a given project.
 - 1 For example, Division 05 will always remain Division 05 even if Division 04 is not used for a given project.

DI.16 EXAMPLE OF A “DIVISIONS” SUB-FOLDER CONTENT:





DI.17 CD-ROM LABEL

- .1 Each CD-ROM is to be labelled with the following information:
 - .1 Project Number;
 - .2 Project Title;
 - .3 Documents for Tender;
 - .4 CD X of X.
- .2 Example:
 - .1 Project 123456;
 - .2 Repair Alexandra Bridge;
 - .3 Documents for Tender;
 - .4 CD 1 of 1.



APPENDIX E PDF CREATION STANDARDS

E.1 CONVERTING CONSTRUCTION DRAWINGS INTO PDF

EI.1 REFERENCE GUIDE

- .1 Refer to the basic reference guide on converting construction drawings into portable document format (PDF), Issued by Real Property Contracting Directorate. PWGSC, Version 1.0, May 2005.

EI.2 PREFACE

- .1 Portable Document Format (PDF) is the standard format for documents that are posted on the Government Electronic Tendering System (GETS).
- .2 There is therefore a need to obtain from architectural and engineering consultants an electronic copy of drawings and specifications in PDF for tendering Government of Canada (GoC) construction projects.
- .3 In order to have the highest quality in term of resolution and printing, consultants should to the greatest extent possible have the PDF drawing and specification files derived from the native software in which they were created. Scanning is permissible but only in special circumstances, for example when there is no electronic version of a drawing being included in a construction tender package.
- .4 The purpose of this document is to provide basic information on the conversion of Computer Aided Design and Drafting (CADD) drawings in PDF. Creating a PDF file from a CADD drawing is a relatively simple process once all the necessary configurations and settings are in place.
 - .1 It actually should not take any longer than it would take to create a plot file or to send a drawing to a printer.
 - .2 The information in this guide is not intended to cover all technical aspects of the conversion, which can be done using various methods, but rather to highlight important points about the process and file settings.
 - .3 The conversion of specifications is not covered in this basic reference guide since it does not require any special configuration or setting.
- .5 The information provided in this basic reference guide is not an indication that consultants are relieved from following the established standards for the production of drawings and specifications.
 - .1 The sole purpose of this guide is to provide basic information on the PDF conversion process bearing in mind that additional detailed technical information is available from the various software manufacturers.

EI.3 PRINTER DRIVERS

- .1 Adobe Acrobat provides two different printer drivers that are able to convert CADD drawing into PDF format, Acrobat PDF Writer and Acrobat Distiller.
- .2 Before creating a PDF file from a CADD drawing, a choice must be made as to which one will be used.
- .3 Acrobat PDF Writer is a non-PostScript printer driver that works best with documents that don't contain complex graphics.
- .4 Acrobat Distiller is a PostScript printer driver that works best with documents that contain PostScript fills, Encapsulated PostScript (EPS) graphics, or other complex elements.
- .5 It is recommended that Acrobat Distiller be used to create PDF file of architectural and engineering drawings due to their size and complex graphical nature.



EI.4 PRINTER CONFIGURATION

- .1 Before converting a CADD drawing to PDF, an Acrobat printer configuration file for the PDF paper size needs to be created.
- .2 This function can be done in the CADD software rather than using a custom paper size defined for the Acrobat distiller feature.
- .3 The recommended method is to add a PostScript Adobe plotter in the CADD software and making the necessary setting in terms of media source and size, scale and orientation.
- .4 The configuration can then be re-used to simplify the conversion process for future files that use the same page size.
- .5 As an alternative, although not recommended, a custom-defined size can be created in Acrobat Distiller in the *properties* menu.

EI.5 CREATING PDF FILES

- .1 Once the printer configuration has been done in the CADD software, open Acrobat Distiller and make the necessary settings in the *preferences* and *job options* sub-menu.
 - .1 Ensure that the page size match the sheet size selected in the CADD software to create the file.
 - .2 Particular settings can be saved under different names for future use.
- .2 With the Acrobat Distiller application open, ensure the required sheet size is displayed in the job options window. Then it is simply a matter of bringing the CADD file into the Acrobat Distiller creation box.
- .3 A progress bar will show during the conversion and the newly converted PDF file should open up and be displayed for verification.

EI.6 PDF FILES SETTINGS

- .1 Security
 - .1 Adobe Acrobat contains security features that can be used to secure the files by restricting any changes to the files.
 - .2 Since the files will be posted on MERX and will be used for printing copies, the files must not be password protected and must allow printing.

EI.7 DRAWING ORIENTATION

- .1 The final PDF drawing files must be displayed on the screen in the same direction that the users are intended to view them. This can be achieved by adjusting the setup of the plotter. If the drawing is not oriented properly after the conversion, it can be rotated manually within Adobe Acrobat.

EI.8 FONT TYPE

- .1 In order to avoid any problems during the conversion and to minimize the potential for font display errors, the fonts used for the production of construction drawings must be PostScript or True Type fonts.

EI.9 RESOLUTION

- .1 Since the PDF files will be used for printing, it is important that a proper resolution be selected. It is recommended to select 600 dots per inch (dpi).

EI.10 SCALE

- .1 When choosing the Plot scale in Adobe, it is important to choose the 1:1 scale to ensure the integrity of the scale from which the drawings were created in the CADD software.

EI.11 SCANNING



- .1 Scanning is not recommended and should be done only when the drawing is not available electronically.
- .2 When scanning a drawing, it is important that it be done in real size (scale 1:1) to ensure that the scale remains intact in subsequent printing.
- .3 It is recommended that each scanned drawing be opened and verified to ensure that the resolution, scale and border are of an acceptable quality.

EI.12 FINAL CHECKLIST

- .1 When the drawing file has gone through the PDF conversion, it is recommended to open it and verify the following:
 - .1 That the sheet size displayed is what was intended to be created (the size is viewable in the lower left corner of the drawing);
 - .2 That the orientation of the sheet is correct;
 - .3 That the line types, line weights and fonts match the CADD drawing.
 - .4 That the PDF file is in black and white;
 - .5 That each drawing is a single PDF file;
 - .6 That the PDF file is not password protected and printable.
- .2 If all the items are verified, the PDF file is useable.

EI.13 ADDITIONAL INFORMATION

- .1 For more information about the creation of PostScript and EPS files please refer to the User's Guide of the CADD software being used to produce the drawings. For more information about creating PDF file please refer to the Acrobat Distiller User's Guide and/or visit the Adobe Web site at www.adobe.com.



APPENDIX F DEFINITIONS

F.1 TERMINOLOGY

TERMS	DESCRIPTION
As-builts/Record Drawings	See Record Drawings
Base Building	Refers to the building shell, as opposed to the tenant fit-up. It includes finished floors, exterior walls, interior core, finished ceilings with lighting, and other building systems for the planned general use of the building. Generally, the work for the base building is separate from the work for tenant-fit-ups
Circulation	Space used, primarily by people, to move from one area to another. It includes major as well as secondary aisles.
Client	A term that refers to the client, the client department or user department
Co-location	Placing items together for better organization
Consultant	The word refers both to an individual consultant, or a consultant team. The consultant is generally selected by PWGSC using a Request for Proposal.
Contractor	The company, organization or firm who is responsible for the construction of the project
Consolidation	Reducing the number of co-located items by placing them in a common floor facility to eliminate duplication of space.
Constant dollar estimate	This is an estimate expressed in terms of the dollars of a particular base fiscal year.
Cost Specialist	Refers to the cost estimating, planning and control team or an individual performing these functions.
Current dollar estimate	Refer to: <i>budget year dollars</i>
Budget-year dollars	This is an estimate based on costs arising in each FY of the project schedule, which is escalated to account for inflation and other economic factors affecting the period covered by the estimate Budget year dollars is also be referred to as Nominal dollars or Current dollars
Departmental Representative	The person designated in the contract, or by written notice to the Consultant or Contractor, to act for PWGSC for the purposes of the contract. It can also be a person designated in writing by the Departmental Representative to act on his/her behalf. In most cases, the PWGSC Project Manager is the Departmental Representative
EMV	Expected monetary value of risk event (i.e. cost or saving to the project if risk event occurs)



Final Certificate of Completion	A document issued by the Project Manager after the final inspection by the Project Acceptance Board. The final payment to the Contractor by PWGSC is based on the final certificate of completion
Final Inspection	The inspection performed by the Project Acceptance Board after project completion and after correction of deficiencies identified during Interim Inspection
Fit-up for initial occupancy	The preparation of accommodation for initial occupancy, in accordance with the federal Fit-up Standards. This fit-up may include alternations to the base building and its building systems.
Fit-up of existing space for reuse, Refit	Work required to alter space previously occupied by one organization to meet the requirements of a different organization.
Fit-Up Cost Limits	The funding limits for the fit-up of office accommodation. The limits are based on the average cost per useable square meter, for fit-up elements in specific urban centres across Canada, and are updated from time to time. The limits do not include soft costs or items funded by clients or under base building costs.
Fit-Up Items	Components that are installed removed or relocated to prepare the space for occupancy. They include partition walls, doors, frames, hardware, counters and cabinetry, modifications to base building systems, etc. as detailed in the Fit-up standards. Some base building components are included in consultant scope of work, such as the flooring and the ceiling finishes or telecommunications spaces and related environmental controls.
Focus Group	Group sessions held to establish qualitative requirements. They are most effective at the strategic planning level. They are used primarily to translate the Client Department's mission statement into organizational requirements and to assess planning alternatives
Full-time equivalent.	It measures of labour utilization in the federal government which approximates the actual number of persons "employed" by the government for carrying out the unit of work
Functional space equation	Identifies space requirements (in usable m2) by group along with summary of the total space required for all groups.
Gross Space	The total floor space
High risk	A project (or element of a project) may be assessed as high risk if one or more hazards exist in a significant way and, unless mitigated, would result in probable failure to achieve project objectives
Impact	The result of the occurrence of an event on the project either positive or negative (i.e. a schedule delay as a result of late delivery of a piece of equipment may have a high negative impact on a project; increased access to a construction site due to early departure of occupants in an office space may have positive



	<p>impact on a project).</p> <p>The Impact of individual Risk Events can be qualified as low, medium, high or quantified in terms of time, cost (immediate cost or in-service cost (O&M)) or performance.</p>
Interim Certificate of Completion	The certificates issued by Project manager following the Interim Inspection. Interim payment to the Contractor by PWGSC is based on the interim certificates. This payment takes place of a regular progress claim.
Interim Inspection	The inspection performed by the Project Acceptance Board after substantial completion of the project. A list of deficiencies is prepared, and subject to the Contractor's agreement to correct these, the Project Manager accepts the work and prepares the interim certificates
LEED®	Leadership in Energy & Environmental Design; an environmental rating system
Low risk	A project (or element of a project) should be assessed as low risk if hazards do not exist or have been reduced to the point where routine project management control should be capable of preventing any negative effect on the attainment of project objectives
Medium risk	A project (or element of a project) may be assessed as medium risk if some hazards exist but have been mitigated to the point that allocated resources and focused risk management planning should prevent significant negative effect on the attainment of project objectives
National Project Management System	The system used by PWGSC for management of its projects. It replaces the earlier Project Delivery System (PDS).
PI Forms	Product Information forms; used in commissioning documentation
Probability	The likelihood that an event will occur (i.e. Low, Medium, High)
Project Acceptance Board	A team assembled by the Project Manager to perform interim and final inspections of the Client Department's improvements.
PV Forms	Performance Verification forms; used in commissioning documentation
Record drawings	Drawings used to record field deviations, dimensional data, and changes or deviations from the 'Construction Document-Issued for Construction'. They indicate the work as 'actually' installed. They are also called as-builts
Rentable Space	Usable space plus space occupied by columns, convectors, elevator lobbies and washrooms. It also includes some common base building areas such as telephone and janitorial closets.
Request for Proposal	The document used for requesting consultant services. It includes the Terms of Reference as well as other contracting documents



Risk management	The art and science of identifying, analysing, and responding to risk factors throughout the life of a project and in the best interests of its objectives
Risk Event	A discrete occurrence that may affect the project for better or worse (i.e. late delivery of a piece of equipment is a “risk event” that may cause a schedule delay)
Scheduler	Refers to the Time Scheduler; also referred to as Time Specialist
Space Equation	A spreadsheet that reflects the Client’s organizational structure, functional requirements, and proposed planning alternatives. It is used to determine the total usable area required to accommodate the following: Open and enclosed workstations/worksettings; Support space; Special purpose space circulation factor; Building loss factor; Total population; and Total space required; and Summary by group
Space Optimization	Maximizing the utilization of space.
Special Purpose Spaces	Non-standard spaces required to accommodate activities that are essential to departmental programs. This space is often not suitable for conversion to office accommodation because of its special requirements. Examples include: laboratories, health units or clinics, meeting or training complexes which serve outside groups, processing space, departmental libraries, gymnasiums, warehouses, file or storage areas not allowed by the PWGSC Fit-Up Standards, trade shops, mailrooms, computer training rooms, cash offices and similar spaces requiring special service and security features and hearing rooms.
Support Space	Space for typical office support functions not included in workstation or circulation space but necessary for office operation. The Fit-Up Standards identify specific sizes and ratios for kitchenette / recycling centre / lunchroom / resource areas, shared equipment spaces, meeting rooms, quiet / touch down rooms, printer stations, reception / mail drop / waiting / display areas and coat / storage closets. Limited allowances for “Other” support spaces including non-dedicated workstations, storage rooms, LAN rooms, breakout rooms, interview rooms, training rooms, reading rooms etc. are also identified in the Fit-Up Standards.
Terms of Reference	A document prepared by PWGSC when requesting Consultant services, which forms part of the RFP and is also included in the Consultant Agreement with PWGSC.
Universal Footprint	One standard module which can be multiplied to accommodate



	all office functions including workstations, support space and special purpose space
Usable space, “Walk-on” Space	The space, in M ² , that is actually usable by the occupant. Measurement calculations do not include columns and convectors, building service areas and accessory areas.
Worksettings	Common work areas that support both collaboration and privacy. They include: teaming areas, non-dedicated workstations, privacy nooks, resource areas and multipurpose areas.
Workstations	An enclosed or open area dedicated for the use of individual employees.

F.2 ACRONYMS

ACRONYM	DESCRIPTION
A&E	Architecture & Engineering
AHJ	Authorities Having Jurisdiction
AMP	Asset Management Report
ASAE	American Society of Agricultural Engineers
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASPE	American Society of Plumbing Engineers
BCC	Building components and connectivity
BCR	Building Condition Report
BMM	Building Maintenance Manual
CAD	Computer aided drawing
CCDC	Canadian Construction Document Committee
CBIP	Commercial building incentive program
COE	PWGSC Centre of Expertise
EMCS	Energy Monitoring & Control System
EPA	Effective Project Approval
FHBRO	Federal Heritage Building Restoration Office
FOBS	Federal Office Building Standards (PWGSC)
FTE	Full-time equivalent
HCP	Heritage Conservation Program
HRSDC	Human Resources and Skills Development Canada
IT/MM	Information Technology/Multi-media
MMS	Maintenance management system
NBC	National Building Code
NCA	National Capital Area;
NCR	National Capital Region;
NFBC	National Farm Building Code
NGMA	National Greenhouse Manufacturers' Association
NMS	The National Master Specification used by PWGSC



NPMS	National Project Management System
OAA	Ontario Association of Architects
O&M	Operation and Maintenance
P&S	General Procedures and Standards
PA	Project administration
PI	Product Information
PD	Project Description
PM	Project Manager
PV	Performance verification
PWGSC	Public Works and Government Services Canada
RAIC	Royal Architectural Institute of Canada
RAS	Requirements and Standards
RS	Required Services
RSR	Resident site services
RPCD	Real Property Contracting Directorate
TOR	Terms of Reference



Architectural & Engineering Centre of Expertise

TERMS OF REFERENCE

Health Canada & Public Health Agency of Canada Co-location Accommodation Fit-up

For;
Health Canada &
Public Health Agency of Canada
391 York Avenue
(Stanley Knowles Building)
Winnipeg, Manitoba, Canada



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I PROJECT DESCRIPTION

I.1 GENERAL

I.1.1 PURPOSE

- .1 Public Works & Government Services Canada (PWGSC) requires the services of an architectural firm, acting as prime consultant together with a multi-disciplinary team of sub-consultants for the provision of service required for this project.

I.1.2 THE PWGSC GENERAL PROCEDURES AND STANDARDS DOCUMENT (GP&S)

- .1 The TOR document must be used in conjunction with the GP&S, as the two documents are complimentary.
- .2 The TOR describes project-specific requirements, services and deliverables while the GP&S document outlines with minimum standards and procedures common to all projects.
- .3 In the case of a conflict between the two documents, the requirements of the TOR override the GP&S Document.
- .4 Refer to Appendix A for the GP&S Document.
- .5 The Consultant shall edit and incorporate Section 01 74 21 Construction / Demolition Waste Management and Disposal, (CDWMD) complete with supporting appendices, into the specifications. The Consultant shall review and comment on the CDWMD submissions made by the Contractor. Refer to Appendix B.

I.1.3 THE GOVERNMENT OF CANADA THE GOC WORKPLACE 2.0 FIT-UP STANDARDS

- .1 The TOR document must be used in conjunction with the Government of Canada the GOC Workplace P2.0 Fit-up Standards (GOC WP2.0 Standards), as the two are complimentary.
- .2 The TOR describes services of an architectural firm, acting as prime consultant together with a multi-disciplinary team of sub-consultants for the provision of service required for this project while the GOC WP2.0 Standards document outlines the minimum standards and procedures common to all accommodation fit-up projects.
- .3 In the case of a conflict between the two documents, the requirements of the GOC WP2.0 Standards will override the TOR and GP&S Documents.

I.1.4 PROJECT INFORMATION

Project Information	
Project Title:	Health Canada & Public Health Agency of Canada Co-location Accommodation Fit-up
Project Address:	391 York Avenue, Winnipeg, Manitoba, Canada (Stanley Knowles Building)
Solicitation Number:	Will be assigned by RPC
Contract Number:	N/A
PWGSC Project Number:	R.056754.002
PWGSC Contracting Officer:	TBC



I.2 BACKGROUND INFORMATION

I.2.1 NEED & GOALS

1. Health Canada (HC) and the Public Health Agency of Canada (PHAC) are at present two distinct entities but there is a strong future possibility that PHAC will be repatriated under HC. The intent is to manage the design & construction phases together in a co-location accommodation fit-up between HC & PHAC in anticipation of future program changes. Crown-owned space at the Stanley Knowles Building located at 391 York Avenue, Winnipeg, Manitoba has been acquired for a term of 10 years commencing on November 1, 2014 as follows:
 - .1 HC requirements include combined general purpose administrative office space and special purpose space of approximately 1,543.7 uM² (usable)/1,744.4 rM² (rentable).
 - .1 A total of 92 full time employees (FTEs) will be relocated to 391 York Avenue (i.e. 21 FTEs presently occupying space at 240 Graham & 71 FTEs presently occupying space at the custodial lab at 510 Lagimodiere Boulevard).
 - .2 In accordance with the GOC WP2.0 Standards (refer to Appendix E), the 92 FTEs will be comprised of two Leadership workers and 90 Fixed worker types.
 - .3 The four HC programmes to be relocated to the new Crown-owned space at the Crown-owned Stanley Knowles Building at 391 York Avenue include:
 - .1 Public Service Occupational Programs (PSOHP);
 - .2 Occupational and Critical Incident Stress Management (OCISM);
 - .3 Compliance and Enforcement;
 - .4 Health Programs.
 - .4 The two programmes PSOHP (11 FTEs) and OCISM (8 FTEs) include components which are not compliant with the GOC WP2.0 Standards (i.e. enclosed offices may be allowed to accommodate client privacy issues). Business case for approval to be exempted from the GOC WP2.0 Standards is pending.
 - .2 PHAC requirements include combined general purpose administrative office space and special purpose space of approximately 1,883.8 uM² (usable)/2,128.7 rM² (rentable).
 - .1 A total of 125 full time employees (FTEs) will be relocated to the new Crown-owned space at 391 York Avenue from present lease space located at 275 Portage Avenue, Winnipeg, Manitoba.
 - .2 In accordance with the GOC WP2.0 Standards, the 125 FTEs will be comprised of seven Leadership workers, 113 Fixed Worker and five Free Address worker types.
2. Crown-owned space has been acquired for HC & PHAC in the basement, on the entire main floor and the west half of the second floor at 391 York Avenue (refer to the basement, main & second floor drawings in the document "PHAC HC SKB Drawings with Notes" in Appendix C):
 - .1 All 125 FTEs from PHAC will occupy approximately 1,660 uM² on the main floor plate.
 - .2 HC staff is to fill the remaining 342 uM² of the main floor plate along with 976.9 uM² of the west half of the second floor.
 - .3 Presently, 60 M² of the second floor plate is occupied by HC staff at 391 York Avenue. This 60 M² must either be relocated to another area outside of the space to be fit-up or



- incorporated into the fit-up space. If the 60 M² is to be incorporated into the fit-up space, the total FTE count will increase.
- .4 HC staff presently occupying the 3rd & higher floors at 391 York Avenue may have to be re-located to the main & 2nd fit-up floors as well thereby increasing the total FTE count.
 - .5 HC & PHAC storage and a portion of the common support and special purpose spaces will be located in the basement of 391 York Avenue.
3. The fit-up in-service date of November 1, 2014 at 391 York Avenue is non-negotiable as there are no lease renewal options for HC & PHAC staff at the current locations that they occupy.
 4. Due to space constraints on the first and second floors, there may be a requirement for HC and PHAC to share common support areas such as kitchenettes, meeting rooms etc.
 5. Existing mechanical high density mobile filing systems (from various manufacturers) will be relocated to 391 York Avenue.
 6. HC & PHAC will be responsible for the procurement/supply of all medical equipment. HC & PHAC will provide the technical medical equipment specifications in order for the consultants to incorporate these items & their requirements into the design and construction documents.
 7. The new furniture to be installed at 391 York Avenue is panel systems furniture with panel-hung components & storage. This furniture will be procured by PWGSC on behalf of HC & PHAC via the National master Standing Offer for Panel Systems (i.e. the federal government pre-approved basket of goods). The consultant will work in conjunction with PWGSC, HC & PHAC to provide the necessary documents & drawings to support the Government of Canada furniture procurement processes as required by the project. Furniture specifications are not part of the consultant's scope of work.
 8. The consultant shall be responsible for creating an inventory list /tagging/tracking & relocating the existing furniture to be re-used (i.e. freestanding work surfaces, office & meeting room furniture, seating, lateral files, mobile pedestal files etc.) and equipment (i.e. printers, copiers etc.). The consultant will be responsible for coordinating the relocation of the inventory with the movers.
 9. HC & PHAC will be responsible for surplus furniture and equipment disposal.
 10. The design will be for renovations to the interior of an existing Crown-owned building, relocation of existing & new equipment/furniture and demolition and some base building work (i.e. Generator / electrical switching panels and coordination with existing building systems)
 11. Consultant must coordinate with Shared Services Canada for all IT, voice, data and audio-visual requirements.

1.2.2 USER DEPARTMENT

- .1 The User Departments referred to throughout the TOR are Health Canada (HC) and Public Health Agency of Canada (PHAC).
- .2 Health Canada's Mission
 - .1 Health Canada is the federal department responsible for helping the people of Canada maintain and improve their health.

Health Canada is committed to improving the lives of all of Canada's people and to making this country's population among the healthiest in the world as measured by longevity, lifestyle and effective use of the public health care system.

<http://www.hc-sc.gc.ca/ahc-asc/activit/about-apos/index-eng.php#mission>



- .3 Public Health Agency of Canada's Mission
 - .1 Public Health Agency of Canada's goal is to promote and protect the health of Canadians through leadership, partnership, innovation and action in public health.
http://www.phac-aspc.gc.ca/about_apropos/index-eng.php

I.2.3 EXISTING CONDITIONS

- .1 Refer to Appendix D for "AVS Asset Performance Report Stanley Knowles Building Winnipeg P600013A March 2010" (August 2012 - Specially Edited for Proposed Interior Renovations).

I.2.4 CONSTRAINTS AND CHALLENGES

- .1 The Consultant will be required to become familiar with the project site and obtain local information as required.
- .2 The Consultant is required to obtain security clearances for all his/her firm's personnel as well as any sub-consultants to visit the project site for reasons, such as, site reviews, attendance for site design meetings, etc. Security clearance checks may include credit checks. Both consultant & contractor must qualify for Reliable security status. If the security clearance level is higher than Reliable, the firm must designate a DOS and conduct / submit clearances to Federal department responsible for processing. Time frames for security clearances are dependent upon the level of the clearance and can take upwards of six to eight weeks.
- .3 The consultant shall assist the contractor in all required permit submissions and certifications as outlined in the City of Winnipeg Permit System Guidelines. The Consultant will provide a prompt response to all inquiries from the reviewers of the city planning office. The consultant will provide close out certification to the city of Winnipeg and HRSDC.
- .4 All site visits must be arranged through the Departmental Representative.
- .5 The construction on the project site will be performed during the full operation of the facilities. Project phasing must be planned to ensure that disruption to the daily operation of the facilities is kept to a minimum. Sound generating work to be carried out after hours.
- .6 The work will be carried out during normal working hours (8:00 am to 4:30 pm), when the Institution is fully occupied and operational.
- .7 There are no restrictive hours related to loading dock usage.
- .8 Environmental conditions must be kept under control during all phases of the work.
- .9 The project scope must be tailored to meet the User Department's budget. Diligent cost estimating and cost control is required.
- .10 Consultant's key personnel must be available to respond to emergencies upon notification.
- .11 Floor slabs on main & the second floor may not be able to accommodate high density mobile shelving units without the addition of structural reinforcement. There is no structural floor loading capacity study available for the first and second floor of 391 York Avenue. The need for x-rays or ultrasound investigations maybe required and coordination with occupants below the main and second floor slabs is crucial and may require after hours work.
- .12 Is possible that the existing HC & PHAC mechanical high density mobile shelving units cannot be modified to accommodate storage of Protected A, Protected B and confidential information as per RCMP publication "G1-028 Security Use of Mobile Shelving".
- .13 The total FTE counts may increase by 10 to 12%.



- .14 Standard furniture power poles cannot accommodate the high ceiling heights at 391 York Avenue.
- .15 A design challenge is to expose the ceiling where possible to allow penetration of natural daylight from the exterior glazing in a functional & aesthetically pleasing manner while taking into account that the existing dropped ceilings in various areas conceal electrical, voice/data & mechanical items above. These concealed items may not be suited to removal without major cost implications.

I.2.5 PROJECT DELIVERY APPROACH

- .1 This project will use a traditional design-bid-build approach.
- .2 It is anticipated that twelve (12) separate tender packages and one digital copy will be required for this project:
 - .1 Base building, including Multimedia, IT, and security systems pathways infrastructure,
 - .2 Mechanical, Electrical, Structural & Acoustical.
- .3 The Consultant shall prepare the each tender package and ensure full co-ordination of the work of all disciplines.

I.3 SUMMARY OF DESIGN WORK

I.3.1 RENOVATION /FIT-UP WORK

- .1 The project requires design work to complete the renovation/fit-up of general purpose administrative office space and special purpose space of approximately 1,543.7 uM² (usable)/1,744.4 rM² (rentable) for Health Canada and 1,883.8 uM² (usable)/2,128.7 rM² (rentable) for Public Health Agency of Canada to be undertaken at the Stanley Knowles Building at 391 York Avenue, Winnipeg, Manitoba.

I.3.2 COMMON AREA WORK

- .1 This Work consists of reconfiguration of the facility to fit-up Health Canada and Public Health Agency of Canada and common areas
 - .1 The provision of additional common area services includes:
 - .1 Common LAN room(s);
 - .2 Lobby and circulation spaces;
 - .3 Basement storage.

I.4 OBJECTIVES

I.4.1 GENERAL GOALS

- .1 Ensure the design is efficient and cost effective considering both initial cost and operation & maintenance costs over a life cycle of 25 years.

I.4.2 FUNCTIONAL REQUIREMENTS

- .1 The preliminary spatial program accompanying this TOR defines User Department's functional requirements. Refer to appendices.

I.4.3 DESIGN PERFORMANCE

- .1 Provide a building that meets the functional needs of Health Canada and Public Health Agency as indicated in the preliminary spatial program in the TOR.
 - .1 Respects the natural environment and the historic context of the City of Winnipeg.



- .2 Responds to the operational and preliminary spatial needs of the User Departments, as identified in the preliminary spatial program in the Appendices F to G.
- .3 Meets or exceeds the requirements of the current National Building Code and all codes and standards having jurisdiction.
- .4 Will endure and remain serviceable for its unique purpose by:
 - .1 Incorporating suitable high quality materials into the design that are of a quality, durable and are constructed with the best workmanship possible;
 - .2 Employing advanced systems and technologies to support contemporary operating requirements with capacity for growth and change;
 - .3 Fully integrating all components and systems, including architectural, structural, mechanical, electrical, IT, multimedia, and security design; and
 - .4 Welcomes access by visitors while respecting security requirements.
- .2 The building must:
 - .1 Provide a healthy and safe working environment that meets or exceeds all codes for fire, health, and life safety, including the Canada Labour Code, that fully supports optimum work productivity;
 - .2 Provide efficient and productive accommodations with planning configurations and workspaces that are flexible, functional, responsive and efficient in keeping with current PWGSC, Treasury Board, Health Canada and User Department Standards;
 - .3 Fully integrate and optimize the performance of components and systems;
 - .4 Embody contemporary sustainable design and application principles and is implemented in an environmentally responsible manner;
 - .5 Be designed for ease of maintenance, with systems that can be accessed and easily repaired and / or replaced during the building's life cycle;
 - .6 Provide physical security for occupants in accordance the security requirements as outline by the client department. Provide integration with User systems for security and information IT/MM service. HC & PHAC's security requirements as follows:
 - .1 Security system must make provisions for monitoring entry doors (i.e. intrusion detection). Security methodology & security monitoring device locations must be considerations in the over all security system design;
 - .2 Provide card reader access to the client's space;
 - .3 Provide card reader access to compartmentalized areas and enclosed support spaces within the client space (i.e. file rooms, meeting rooms, etc.);
 - .4 Rolled mesh in the perimeter walls not required;
 - .5 Enhanced sound security (i.e. enhanced STC ratings, etc.) in rooms that are identified in the Special Purpose Space listing (i.e. ECC, EPR Coordinator, and one other office only) as per Appendices F and G.

I.4.4 HERITAGE

- .1 The Stanley Knowles Building is designated as "Recognized" Federal Heritage Building by the Federal Heritage Building Review Office (FHBRO). Hence, implement the project following a conservation approach based on accepted principles and practices described in the Standards and Guidelines for the Conservation of Historic Places in Canada. Implement solutions using a minimum intervention approach causing the least harm to the heritage character of the building.
- .2 The FHBRO Heritage character statement for the Stanley Knowles Building can be found at this link <http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=4144>



- .3 The FHBRO Heritage character statement is mainly applicable to the building exterior and the interior main floor lobby area. The work for this project will encompass interior renovations to the fit-up space and some base building work.

I.4.5 ENVIRONMENTAL/SUSTAINABLE DEVELOPMENT

- .1 The following sustainability principles will be incorporated into the project plan:
 - .1 Energy Efficiency
 - .2 Water Use Efficiency
 - .3 Environmental Impact
 - .4 Waste Management
 - .5 Life Cycle Management
- .2 The Consultant shall develop a sustainability strategy and adhere to performance criteria based on conforming to the intent of BOMA Best. This document can be downloaded from the following website:
<http://www.bomabest.com/>
- .3 Use the Athena® Sustainable Material Institute's Eco calculator to assess alternatives at the schematic design phase, for environmental impacts.
- .4 While there is no requirement to submit a formal application to obtain BOMA Best certification for this project, the minimum sustainability target is set to be equivalent to BOMA Best Level I. Consultant to provide documentation to the Departmental Representative substantiating that BOMA Best Level I requirements have been met.
- .5 Ensure that the renovation is at least 30% more energy efficient than the most current version of the Model National Energy Code for buildings.

I.4.6 PROJECT DELIVERY

- .1 Deliver the project within the construction budget established during preliminary project approval.
- .2 Deliver the project within the key milestones and according to the detailed project schedule listed in I.6.2 Anticipated Milestone Dates.
- .3 Ensure that each Consultant team member understands the project requirements, for seamless delivery of the required services.
- .4 Ensure co-ordination of services with other consultants hired by PWGSC.
- .5 Provide a quality management plan that includes rigorous quality reviews.
- .6 Provide a continuous risk management program; address the risks associated specifically with this project. The a hard copy of the Asbestos Management Plan for 391 York Avenue is available to the consultant for review upon submission of request to PWGSC.

I.5 SUMMARY OF SERVICES AND QUALIFICATIONS

I.5.1 GENERAL SERVICES

- .1 The prime consultant will provide a full consulting team including the following consultant services and specialties:
 - .1 Professional Architectural Services;
 - .1 Architecture - architects must have experience in corporate office & healthcare design and must be registered and authorized to practice in the province of Manitoba.
 - .2 Interior Design - must at minimum be in good standing with the Professional Interior Designers Institute of Manitoba (PIDIM) and hold the designation of



- Professional Interior Designer. Professional Interior Designers must have experience in corporate office & healthcare design projects and must have experience working with large scale furniture projects.
- .3 Proponents (i.e. architects & interior designers) must provide current examples of relevant experience in both corporate and health care design and construction within the last 5 years.
- .2 Professional Engineering Services
 - .1 Structural Engineering - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba.
 - .2 Mechanical Engineering - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba.
 - .1 The mechanical engineer must have experience in plumbing, heating, ventilating, air-conditioning, controls, and fire protection.
 - .2 In addition to the Codes, Acts, Standards and Guidelines that are listed in the GP&S Document, and in this document, the work must be in accordance with the following:
 - .1 CSA/CAN Z317.1-09 Special Requirements for Plumbing Installations in Health Care Facilities
 - .2 CSA/CAN Z317.2-10 Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities
 - .3 ANSI/ASA S3.1-1999 (R2008) American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Room
 - .3 The following is a brief overview of the mechanical systems at the Stanley Knowles Building:
 - .1 Plumbing – sanitary sewer as well as domestic hot and cold water systems for plumbing fixtures
 - .2 Heating – thermostatically controlled perimeter hot water convectors; hot water is provided by three boilers in the penthouse
 - .3 Cooling – thermostatically controlled fan coil units in the ceiling space; chilled water is provided by a chiller in the penthouse and a dry cooler on the roof. All LAN Rooms are cooled by a split system air-conditioning unit with the condensing unit in the ceiling space
 - .4 Ventilation - conditioned outside air, ducted to the inlet of each fan coil unit from two make-up units; exhaust is provided in each washroom
 - .5 Humidification – a steam boiler provides steam to dispersion units in the two make-up air units
 - .6 Controls – a Siemens Insight 600 Apogee system is provided
 - .7 Fire Protection – wet sprinkler system with fire hose cabinets complete with fire extinguishers as well as fire extinguishers throughout the building
 - .3 Electrical Engineering - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba.
 - .4 Acoustical Engineering - must be registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and authorized to practice in the province of Manitoba.



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- .5 Sub- consultant Proponents (i.e. Structural, Electrical, Mechanical & Acoustical Engineering) must provide current examples of relevant experience in both corporate and health care design and construction within the last 5 years.
 - .2 Cost Estimating Specialist - must be a registered professional quantity surveyor capable of addressing cost estimating as per NPMS standards which can be found at this link <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/index-eng.html>



1.6 SCHEDULE

1.6.1 GENERAL

- .1 Deliver the project to be ready for occupancy in accordance with the project milestone listing identified below.
- .2 Completion dates shown are relative to an assumed in-service date of November 1, 2014.
- .3 Prepare a Project Schedule, in accordance with the milestone list.

1.6.2 ANTICIPATED MILESTONE DATES

Project Phase	Milestone Completion Date
Consultant Contract Award	Nov 2012
Schematic Design	Dec 2012
Design Development	Jan 2013
Construction Documents	Feb– Aug 2013
Final Construction Documents	Aug 2013
Construction Start	Sept 2013
Completion of Request for Volume Discount (RVD) Descriptor(s) & Drawings	Jan 2014
Submission of Furniture Request for Volume Discount (RVD) Descriptor & Drawings to Ottawa Headquarters Furniture Division	Jan 2014
Panel Systems Furniture Suppliers Generated by PWGSC Ottawa Headquarters Furniture Division for RVD	Feb 2014
Furniture RVD Processing (by PWGSC Western Region Acquisitions Team)	Apr 2014
Furniture RVD Posting Period	Apr 2014
Furniture RVD Analysis & Award	May 2014
Furniture Color & Finish Selection	May 2014
Furniture Order Placement	June 2014
Manufacture of Furniture	June 2014
Furniture Delivery	Aug 2014
Substantial Completion of Construction	Sept 2014
Furniture On-site Arrival & Installation Set-up (Note: Substantial Completion of Construction must coincide with this stage – early September)	Sept 2014
Furniture Installation	Sept 2014
Commissioning Completion, Final Inspection and Acceptance	Oct 2014
Completion of Furniture Deficiencies	Oct 2014
Final In-Service Date	Nov 2014
Post Construction Ten Month Warranty Evaluation	Aug 2015



1.7 COST

1.7.1 CONSTRUCTION BUDGET

- .1 The construction estimate does not include Project Management fees, administration costs, and Consultant fees, Risk Allowance, Escalation or GST and is in 'Budget-Year (Current)' dollars.
- .2 The budget/estimates and cash flow must be provided by funding accountability and fiscal year.

1.7.2 ESTIMATED CONSTRUCTION COST

- .1 The estimated construction cost (excluding GST), is anticipated at this time to be as follows:

Estimated Construction Cost	Budget-Year \$ HC Portion	Budget-Year \$ PHAC Portion
Fit-up	\$ 504,476	\$ 626,550
Contingency	\$ 183,445	\$ 227,837
Commissioning	\$ 27,517	\$ 34,175
Cost Calculator p2 Items	\$ 447,570	\$ 542,649
Client Fit-up (p2) <ul style="list-style-type: none"> .1 HC- includes \$74,613 contingency. .2 PHAC- includes \$68,963 contingency. 	\$ 686,438	\$ 574,979
Construction Budget at Time of Tender	\$ 1,849,446	\$ 2,006,190
Fixtures/Equipment <ul style="list-style-type: none"> .1 HC- To be procured by client. .2 PHAC- \$275,000 (\$200,000 Generator, \$40,000 LAN HVAC, \$35,000 UPS) 	\$ 0	\$ 275,000
Furniture <ul style="list-style-type: none"> .1 HC- \$412,750 panels; \$281,929 panel-hung components & storage. .2 PHAC- \$152,600 panels; \$394,000 panel hung components & storage. 	\$ 695,000	\$ 902,600

1.8 EXISTING DOCUMENTATION

1.8.1 AVAILABLE FOR THE CONSULTANT

- .1 Limited as-built drawings and Operation & Maintenance Manuals will be available on the project site and the Consultant will be responsible for verifying the accuracy of the information incorporated into the design.
- .2 The Consultant will be provided with AutoCAD scaled floor plans of the building.
 - .1 The drawings will require modifications by the Consultant.
- .3 In addition to the GP&S document, the project requirements will be based on the following documents:



- .1 AVS Asset performance Report Stanley Knowles Building Winnipeg P600013A March 2010” (August 2012 - Specially Edited for Proposed Interior Renovations) – refer to Appendix D
- .2 The GOC WP2.0 Standards – refer to Appendix E
- .3 HC Preliminary Spatial Program/Special Purpose Space/Medical Equipment Specifications – Stanley Knowles Building, Winnipeg, MB – refer to Appendix F
- .4 PHAC Preliminary Spatial Program/Special Purpose Space – Stanley Knowles Building, Winnipeg, MB – refer to Appendix G

Note: The space calculations are allowances only and subject to change based on actual space constraints to be confirmed by the consultant’s programming; however, the overall HC & PHAC rentable/usable M² of fit-up space must not to be exceeded in the design.

- .4 The Consultant will be able to access a hard copy of Asbestos Management Plan for 391 York Avenue upon submission of request to the PWGSC Departmental Representative.
- .5 The Consultant must retro-fit existing mechanical high density mobile shelving units at the Stanley Knowles Building to the following HRSDC guidelines and RCMP publications:
 - .1 HRSDC guideline “Mobile Shelving-Fire Protection Design Requirements”.
http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/mobile.shtml
 - .2 RCMP publication “G1-028 Security Use of Mobile Shelving Requirements”.
<http://www.rcmp-grc.gc.ca/physec-secmat/pubs/g1-028-eng.htm>

1.8.2 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.

1.9 CODES, ACTS, STANDARDS, REGULATIONS

1.9.1 GENERAL

- .1 A listing of Codes, Acts, Standards and Guidelines potentially applicable to this project are contained in the GP&S Document.
- .2 All Authorities Having Jurisdiction (AHJ) on this project are:
 - .1 The local AHJs;
 - .2 The Fire Protection Engineer of Labour Canada;
 - .3 Treasury Board of Canada.
- .3 The Consultant must identify, analyze and design the project in accordance with the requirements of all AHJs and all current and applicable Codes, Acts, Standards and Guidelines and Legislation.
 - .1 The applicability of various Codes, Acts, Standards and Guidelines listed in the GP&S document arise out of direct and indirect references in documents which apply to Federal buildings, such as the Canada Labour Code.
 - .2 The consultant team must be fully versed with the legislation and requirements that are unique to Federal Government buildings in Canada.
 - .3 The consultant team must be fully versed with the legislation and requirements that are unique to Federal Government projects tendered through Public Works & Government Services Canada.



2 REQUIRED SERVICES

2.1 GENERAL REQUIREMENTS

2.1.1 SERVICES

- .1 Pre-Design Service;
- .2 Schematic Design Service
- .3 Design Development Service:
- .4 Furniture & Equipment
- .5 Design Service; to provide construction documents for review by PWGSC at 33%, 66%, 99%, 100% completion stages. Construction documents to include furniture & equipment.
- .6 Tender Services - to assist the Departmental Representative:
- .7 Construction Support Service:
- .8 Post Construction Service.

2.2 PROJECT REVIEW AND APPROVAL

2.2.1 GENERAL

12. Comply with all applicable laws and regulatory requirements as required by the General Conditions of the Contract.

2.2.2 FEDERAL GOVERNMENT

- .1 The federal authorities having jurisdiction over this project are:
 - .1 PWGSC;
 - .1 Formal Effective Project Approval (EPA) is required after the completion of the Design Development phase,
 - .2 The submission for approval is intended to confirm that all project requirements have been met and that scheduling and budget projections will be respected. This confirmation requires PWGSC and User acceptance as well as sign-off by all agencies on all submissions and approvals,
 - .3 The project cannot proceed to tender until EPA is received.
 - .2 HRSDC for fire prevention engineering services and life safety;
 - .1 The purpose of this review is fire protection, health and life safety,
 - .2 Submission documents shall be in the following format: drawings and specifications,
 - .3 Submission will be reviewed at schematic design phase, and construction documents at 99% completion,
 - .4 Expected turnaround time is 2 weeks and
 - .5 For each review, provide four submissions plus any follow-up submission.
 - .3 HC & PHAC for functional design, multimedia, IT and security systems;
 - .4 Environment Canada for environmental regulations;

2.2.3 PWGSC REVIEWS, APPROVALS AND PRESENTATIONS

- .1 Project delivery team approval
 - .1 This includes both the PWGSC Professional & Technical Team reviews and User approval.
 - .1 The purpose of this review is technical quality assurance.
 - .2 Expected turnaround time is 2 weeks.
 - .3 For each review, provide one submission plus any follow-up submissions.



2.2.4 PROVINCIAL, TERRITORIAL AND MUNICIPAL AUTHORITIES

- .1 The federal government generally defers to provincial and municipal authorities for specific regulations, standards and inspections but in areas of conflict, the more stringent authority prevails.
- .2 Municipal authority review
 - .1 The purpose of this review is information and awareness;
 - .2 Submission documents shall be in the following format: drawings and specifications;
 - .3 Submission will be reviewed at schematic design phase, design development and construction documents at 99% completion;
 - .4 Expected turnaround time is 2-4 weeks.
 - .5 For each review, provide [one submissions] plus any follow-up submission.

2.3 PRE-DESIGN SERVICE

2.3.1 GENERAL

- .1 The Consultant Team will review and analyze all available project information, consult with the Departmental Representative, and deliver a comprehensive Pre-Design Report.

2.3.2 SCOPE AND ACTIVITIES

- .1 The Consultant shall:
 - .1 Visit the project site, analyze site conditions, document any conditions that will impact project delivery & design and report the results to the Departmental Representative;
 - .2 Review:
 - .1 All existing reports, documents and material related to the project, including the preliminary spatial program and the requirements identified in the TOR,
 - .2 Potential for environmental impacts and application of the Canadian Environmental Assessment (CEA) Act,
 - .3 Information available on existing facilities, including:
 - .1 Substructure, foundations, basement, etc.;
 - .2 Interiors, including interior construction, interior finishes, etc.;
 - .3 Services, including plumbing, HVAC, fire protection, electrical, telecommunications, building automation, etc.;
 - .4 Equipment and furnishings;
 - .5 Special construction and demolition, including heritage structures, hazardous materials abatement etc.
 - .3 Analyse:
 - .1 All the program information and project requirements to identify any conflicts or potential additional work and indicate the impact on project scope, schedule and costs;
 - .2 All existing information relating to this project and compare with site conditions;
 - .3 Sustainable design opportunities, strategies, budgets (i.e. energy, water, waste, etc.) and achievable targets for BOMA Best Level 1;
 - .4 Base- building requirements for Information Services, Multi-media, Security and heritage requirements to confirm design standards;
 - .5 The Heritage Conservation Guidelines requirements and confirm design standards.
 - .4 Identify:



- .1 All additional information that will be required to deliver the project; confirm that the information is correct and indicate any missing information that needs to be provided;
- .2 All authorities having jurisdiction (AHJ) over the project and applicable codes, regulations and standards that apply; and
- .3 Any conflicts that will need to be addressed with respect to scope, quality, schedule, cost.
- .5 Report:
 - .1 On adjustments required to the budget, risk analysis and schedule, including allowances for reviews and approvals for each stage of the project life cycle.
- .2 The Electrical Consultant shall:
 - .1 Visit the project site, analyze site conditions, document any conditions that will impact project delivery & design and report the results to the Departmental Representative;
 - .2 Review:
 - .1 All existing reports, documents and material related to the project, including the functional program and the requirements identified in the TOR,
 - .2 Potential for environmental impacts and application of the Canadian Environmental Assessment (CEA) Act,
- .3 All life safety systems including but not limited to Grounding, Fire Alarm, and Security to be verified for their condition
- .4 Review all existing electrical documentation available related to the project.
- .5 Analyse the power, telecommunication, controls, and security requirements for equipment to be relocated such as:
 - .1 Fridge/freezers including one special immunization 'hi risk' freezer (Sanyo Medical ESTSE).
 - .2 Patient immunization chair.
 - .3 Rolling storage file cabinets
 - .4 Ups system,
 - .5 TV and other equipment including cable TV or satellite service.
 - .6 X Ray Fluorescent Analyzer Machine: (Thermo Scientific PTS2630) portable, counter mounted and plugs into a standard wall outlet.
 - .7 Audio Booth.
- .6 Identify and recapitulate the electrical requirements for each area, with special attention to:
 - .1 Each exam room
 - .2 The 'eye' exam room.
 - .3 Pesticide Lab - Standard lighting for such rooms may be acceptable.
- .7 Investigate the emergency power requirements, controls and monitoring.
- .8 Identify all additional information that will be needed to deliver the project.
- .9 Describe each of the improvements.

2.3.3 DELIVERABLES

- .1 The Consultant shall:
 - .1 Prepare and submit a Pre-Design Report, for review and acceptance by the Departmental Representative and revise as required.
 - .1 Refer to the GP&S Document for contents and report content.



- .2 Provide Final Functional Program of space requirements based on consultation with users, including space data sheets and documents in appendices as required.
- .3 Provide an updated Class D estimate, which will become the Construction Cost Plan and must include projected escalation costs to the completion of the project
- .4 Provide validation and updated milestone project schedule.

2.4 SCHEMATIC DESIGN SERVICE

2.4.1 GENERAL

- .1 The Consultant Team will review and analyze all available project information, consult with the Departmental Representative, and deliver a comprehensive Schematic Design Report.

2.4.2 SCOPE & ACTIVITIES

- .1 The Consultant shall:
 - .1 Prepare a minimum of three (3) viable alternative options for each discipline to meet the functional and technical requirements for the project;
 - .1 Analyse and develop each option with regard to the project goals including cost and schedule for each design option,
 - .2 Develop each Design Option in sufficient detail to clearly indicate all key elements in the design, including, (but not limited) to details outlined herein.
 - .2 Review, validate and update the details of the Final Functional Program requirements, including space data sheets and documents in appendices as required;
 - .3 Update the sustainable design strategy;
 - .4 Update the budget, schedule and risk analysis and identify any conflicts that will need to be addressed with respect to scope, quality, schedule, cost,;
 - .1 Prepare a Class 'C' Cost Estimate for each option.
- .2 Out of this process one option will be selected as the basis to proceed to Design Development.
 - .1 The Departmental Representative, in concert with others shall select the preferred option to be further developed.
 - .2 Although the Consultant is required to identify a preferred option, the Departmental Representative reserves the right to select another option.

2.4.3 DELIVERABLES

- .1 The Consultant shall:
 - .1 Prepare and submit the Schematic Design Report, for review and acceptance by the Departmental Representative;
 - .1 Refer to the GP&S Document for contents and report content.
 - .2 Prepare a detailed Class 'C' estimate for each option.
 - .3 Indicate the results of the environmental impacts assessment as determined by the Athena Sustainable Material Institutes Eco calculator, for new construction and major renovations
 - .4 Schedule
 - .1 Provide updated milestone project schedule including allowances for reviews and approvals for each stage of the project life cycle;
 - .5 Risk Analysis
 - .1 Updated report on any deviations that may affect cost or schedule and recommend corrective measures,



.6 Updated Project Log

2.5 DESIGN DEVELOPMENT SERVICE

2.5.1 GENERAL

- .1 Further develop the option selected for refinement at the completion of Schematic Design.
- .2 Prepare the Design Development documents, which consist of drawings and other documents to describe the scope, quality and cost of the project in sufficient detail to facilitate design approval, confirm code compliance and obtain authorization to prepare the construction documents.

2.5.2 SCOPE AND ACTIVITIES

- .1 The Consultant shall:
 - .1 Further develop the selected schematic design option and expand the intent for each design discipline to complete the Design for this project,
 - .1 Develop sub-system options for various disciplines, for example, chiller options for mechanical systems;
 - .2 Present / submit the design for review and approval to committees, review groups and authorities having jurisdiction as required,
 - .3 Prepare a class 'B' cost estimate, update the schedule and the risk analysis and identify any conflicts that will need to be addressed with respect to scope, quality, schedule, cost,
 - .4 Continue to review all applicable statutes, regulations and by-laws in relation to the design of the project and conduct a detailed code analysis;
 - .5 Analyse the constructability of the project and advise on the construction phasing process and duration,
 - .6 Develop outline specifications for all systems and principle components and equipment, including manufacturers literature for principal equipment and system components proposed for use in the project,
 - .1 Update the sustainable design strategy and report on sustainability targets using the sustainability assessment tools for BOMA Best Level I.
 - .7 Provide a waste diversion assessment of the waste materials from the project site in a spreadsheet format.
 - .1 This shall be incorporated into the Construction/Demolition Waste Management and Disposal NMS specifications.
 - .8 Coordinate multi-disciplinary approach to sustainability, program design, site design, building design and commissioning;
 - .9 Analyse environmental impacts as determined by Eco calculator.

2.5.3 DELIVERABLES

- .1 The Consultant shall:
 - .1 Prepare and submit the Design Development Report, for review and acceptance by the Departmental Representative.
 - .1 Refer to the GP&S Document for contents and report content.
 - .2 Provide an outline Specification.
 - .3 Provide a Class "B" cost estimate representing the increased level of design detail now available.
 - .1 Use detailed costs, i.e. measured quantities with minimal allowances or lump sums.
 - .2 Include escalation rates projected through to the implementation of the project.



- .3 After acceptance, the Class B estimate shall become the updated Construction Cost Plan.
- .4 Provide a preliminary Commissioning Plan. Consultant shall provide function commissioning sheets for start-ups.
- .5 Schedule
 - .1 Provide updated milestone project schedule including allowances for reviews and approvals for each stage of the project life cycle;
- .6 Risk Analysis
 - .1 Updated report on any deviations that may affect cost or schedule and recommend corrective measures,
 - .2 Updated Project Log

2.6 DESIGN SERVICES

2.6.1 GENERAL

- .1 The objective of this stage is to translate the Preliminary Phase findings into construction drawings and specifications for the purpose of tendering.
- .2 The Consultant must obtain written authorization from the Departmental Representative before proceeding with Construction Documents.

2.6.2 SCOPE AND ACTIVITIES

- .1 Create construction documents in accordance with the General P&S Document,
 - .1 Design according to the budget and schedule,
 - .1 Non-compliances will require revisions to the contract documents.
 - .2 Update the cost estimates
 - .1 Provide a cost breakdown by unit rate and/or trade for review of bids and comparison with the successful Contractor's cost breakdown.
 - .3 Update the project schedule
 - .4 Establish a quality control process for the construction and contract administration stage

2.6.3 ELECTRICAL REQUIREMENTS

- .1 The Consultant shall:
 - .1 Create Electrical construction documents in accordance with the GP&S Document;
 - .2 Design according to the budget and schedule;
 - .1 Non-compliances will require revisions to the contract documents.
 - .3 Update the cost estimates;
 - .1 Provide a cost breakdown by unit rate and/or trade for review of bids and comparison with the successful Contractor's cost breakdown.
 - .4 Update the project schedule;
 - .5 Establish a quality control process for the construction and contract administration stage.
 - .6 Make available as-built detailed drawings and design space to suit the new requirements .
 - .7 Lighting to be conforming to NBC, and IESNA recommendation.
 - .8 The majority of the existing fluorescent lighting is 347 V with a modular wiring plug-in system. Provide options including the costs for each option, and present to the PWGSC for:



- .1 Utilizing the existing lighting re-lamping and re-lancing and utilizing the existing control and wiring if possible and
- .2 New lighting layout c/w new lighting fixtures utilizing T5 28W lamps and new energy saving lighting controls. Lights and controls to be coordinated with existing building systems and upgrades.
- .9 Perform a comprehensive photometric study and provide a detailed report complete with min max and average Lux in each area.
- .10 Provide Running Man signs as per CEC.
- .11 A fulfillment of rule 2-306 CEC, CSA Z462, IEEE standard 1584 and NFPA 70E regarding to Arc-Flash Hazard Analysis, Warning Signs and Labelling will be required.
- .12 Provide Voltage Drop Calculation for each feeder to ensure compliance with CEC.
- .13 Make available power, telecommunication, Fire Alarm, Security distribution solutions.
- .14 Provide Power distribution including normal, emergency and UPS,
- .15 Identify the Emergency power requirements and size the emergency generators capacity accordingly.
- .16 Analyse and re-locate the existing UPS System .
- .17 Make available new additional panels and conduits to accommodate new increased circuits loading.
- .18 Provide Phase load and total load for each panel.
- .19 - Dedicated neutral is to be provided for each circuit.
- .20 Telecommunication distribution to be as per Fit-up standards.
- .21 Provide panic alarms within each exam room.
- .22 Coordinate with Architectural for Patient immunization chair 'workable' space and provide cables as required from the floor up. Confirm with client all detail requirements.
- .23 Audio Booth: The existing unit is outdated. Coordinate with client the new solution to meet their operational needs. Some of the main characteristics to be considered for new Audio Booth are:
 - .1 Installation Specification,
 - .2 Space clearance,
 - .3 Power requirements,
 - .4 Restraints and viewing windows,
 - .5 Door Swings options,
 - .6 Overall height,
 - .7 Remote control etc.
- .24 Provide emergency power for 'hi risk' special immunization freezer (Sanyo Medical ESTSE). Ensure continues power 24/7.
- .25 Each exam room will require various wall receptacles including some above counter where applicable for the various loose equipment. Coordinate all the requirements with client.
- .26 The 'eye' exam room to be of sufficient length for the testing equipment and accommodate equipment controls and power requirements. Coordinate with client all power and Architectural all the requirements.



- .27 Pesticide Lab to be designed as per National Lab Standards. Power Panel, power outlets and Telecommunication outlets as per National Lab Standards and Client specific requirements. Provide IT connections for daily conferences across Canada.
 - .28 Provide Power connections for portable counter mounted X Ray Fluorescent Analyzer Machine: (PTS2630) Ensure meeting the Safety code 34.
 - .29 New telecommunication wiring is to be Cat 5e.
 - .30 Provide new Fire Alarm System to NBC. Fire Alarm Paging as per base building requirements.
 - .31 Confirm the Access Control requirements and compatibility with other building tenants and system capacities.
 - .32 Validate the requirements for Intrusion System
 - .33 Confirm the requirements for any Exterior wall outlets.
- .2 The Consultant shall:
- .1 Participate in partnering and team building;
 - .1 Prepare documents in support of BOMA Best Level I sustainability standard.
 - .2 Prepare preliminary move/occupancy strategy;
 - .3 Finalize Implementation Plan noting all project constraints;
 - .4 Coordinate the work of various disciplines, including scope changes required to remain within budget;
 - .5 In consultation with Departmental Representative, approve construction materials, processes and specifications considering sustainability and commissioning;
 - .6 Apply a process of continuing cost control, with increasing level of detail during production of contract/construction documents,;
 - .1 At each review, prepare an up-to-date estimate demonstrating compliance with the Construction Cost Plan,
 - .2 Non-compliances will require revisions to the contract documents,
 - .7 Prepare a Class A cost estimate at the pre-tender phase, using 100% measured quantities;
 - .1 Provide a cost breakdown by trade for review of bids and comparison with the successful Contractor's cost breakdown.
 - .8 Advise Departmental Representative and resolve issues FHBRO, NCC or other governmental authority officials raise, and adjust Construction Documents as required;
 - .9 Provide written response to PWGSC comments at 33%, 66%, 99% and 100% completion review stages and integrate comments into final construction documents;
 - .10 Participate in the risk management process;
 - .11 Update Project Log tracking approved major decisions;
 - .12 Update the schedule;
 - .13 Establish quality control process for construction and contract administration phase.;
 - .14 Provide commissioning specifications, PI/PV forms, training plans and integrated systems testing; include PI/PV forms within applicable sub-sections of the specifications.
- .3 Furniture & Equipment – the consultant shall:
- .1 Update project schedule and deliverables for new and existing to be re-used furniture and equipment within the time management section,



- .2 Provide base building information for services and security pathways and service infrastructure,
- .3 Prepare plans and descriptors at 33%, 66%, 99% and 100% stage in accordance with the Government of Canada Furniture Procurement Strategies (i.e. included but not limited to National Master Standing Offers, Supply Arrangements etc.)
- .4 Prepare drawings and specifications indicating:
 - .1 Location of:
 - .1 Acoustical screens and critical installation dimensions,
 - .2 All panel- supported work surfaces, storage and related components, for all work stations,
 - .3 Accessories and lighting components to be supported from the panels, such as:
 - .1 Work surfaces or other panel hung components.
 - .2 Identify these components on interior elevations or on isometric views of typical workstation types,
 - .2 Telephone, electrical and data source locations,
- .5 Provide a list of:
 - .1 Accessories and lighting components,
 - .2 Screens, complete with electrical harnesses, top/basefeeds and power/voice/data outlets,
- .6 Provide a legend indicating type, size, panel insert materials and electrical requirements etc.
- .7 Coordinate the installation of new & existing furniture to be re-used.
- .8 Provide deficiency reports(s) for new furniture & work with PWGSC and the successful furniture manufacturer(s) to resolve deficiencies.
- .9 Incorporate existing furniture & equipment to be re-used into the drawings. Make provisions in the legend to distinguish between new furniture/equipment from existing. Indicate power/voice/data requirements of existing furniture/equipment.
- .10 Incorporate existing/new medical equipment into the drawings. Make provisions in the legend for existing & new medical equipment. Indicate power/voice/data requirements for all medical equipment.

2.6.4 DELIVERABLES

- .1 33% complete Construction Documents.
 - .1 A Class "C" Estimate
 - .2 An updated project schedule
 - .3 Construction Drawings
 - .1 Drawings should reflect 33% completeness with all Plan, Elevation, Details, and Sections shown.
 - .4 Specifications
 - .1 Index to specifications
- .2 66% complete Construction Documents.
 - .1 A Class "B" Estimate
 - .2 An updated project schedule
 - .3 Construction Drawings



- .1 Drawings should reflect 66% completeness with all Plan, Elevation, Details, and Sections shown.
- .4 Specifications
 - .1 Index to specifications
 - .2 Draft Division I including draft Commissioning Sections.
- .3 99% complete Construction Documents, fully coordinated as if ready for tender.
 - .1 This submission incorporates all revisions required by the review of the previous submission.
 - .2 The Consultant shall submit documents to the PWGSC Departmental Representative.
 - .3 The submittal shall include:
 - .1 A Class "A" Elemental Estimate
 - .2 A unit price table,
 - .3 An updated project schedule
 - .4 Construction Drawings
 - .1 Drawings should reflect 99% completeness with a complete design without any unfinished details.
 - .5 Complete Specifications.
 - .1 Specifications should be complete with all sections and thoroughly coordinated with the Drawings.
 - .6 Response to PWGSC written comments of previous submittal.
 - .4 Construction Documents ready for tendering.
 - .1 This submission incorporates all revisions required by the review of the previous submission.
 - .2 The Consultant shall submit documents to the Departmental Representative, HRSDC, local municipality, or any other Authority having jurisdiction.
 - .3 The submittal shall include:
 - .1 Signed and sealed documents.
 - .2 An updated Class 'A' cost elemental estimate.
 - .3 A unit price table,
 - .4 An updated project schedule
 - .5 Construction Drawings & Specifications
 - .1 As per the General P&S Document..
 - .6 Response to PWGSC written comments of previous submittal
 - .7 Advise the Departmental Representative of all issues raised by other officials and all Consultants' responses.
 - .4 The Consultant must confirm in writing that:
 - .1 The documents are ready to be issued for tender;
 - .2 The checklist in the GP&S Document has been reviewed in concert with the requirements of the Consultant Agreement; and
 - .3 A full review and coordination of the Contract Documents are complete and in accordance with professional standard of care.



2.7 TENDER SERVICES

2.7.1 GENERAL

- .1 The object of this phase is to support the Departmental Representative with the tender.
- .2 The Contract Authority for this project is the Real Property Contracting branch (RPC) of PWGSC.

2.7.2 SCOPE AND ACTIVITIES

- .1 When requested, the Consultant will be required to;
 - .1 Provide the Departmental Representative with information required by bidders to interpret construction documents.
 - .2 Prepare addenda, in response to all questions within two (2) business days during the bidding period and submit to Departmental Representative,
 - .3 Attend pre-tender site visits,
 - .4 If PWGSC decides to re-tender the project, or any specific tender package, provide full services to the Departmental Representative,
 - .5 During Bid Review and Analysis, assist the Departmental Representative, as required, by analyzing and reconciling any differences between pre-tender estimates and submitted bids.

2.8 CONSTRUCTION SUPPORT SERVICE

2.8.1 GENERAL

- .1 The object of this phase is to support the Departmental Representative with the construction phase and ensure the quality, budget and schedule of the project.

2.8.2 SCOPE AND ACTIVITIES

- .1 The Consultant shall:
 - .1 Share all project information with PWGSC.
 - .1 All material specifications, mixes and test results shall be turned over to the Departmental Representative for future maintenance by PWGSC and others
 - .2 This service is required for each construction package developed.
 - .2 For General Services
 - .1 Provide [ten (10)] copies of reviewed shop drawings.
 - .2 Prepare record drawings and specifications based on Contractor's as-builts;
 - .3 Update Project Log tracking approved major decisions, including those impacting project scope, budget and schedule,
 - .4 Prepare and issue a communications protocol and a shop drawing review protocol in consultation with the Departmental Representative
 - .5 Update sustainability documentation to reflect changes during construction,
 - .6 Provide acoustic performance report
 - .7 Provide Area Measurement/ Space Usage Report,
 - .3 For Site Visits
 - .1 Provide bi-weekly field reviews and as required to fulfil the Consultant's professional obligations to monitor the construction activities throughout the construction period and keep *Departmental Representative* informed of work progress,
 - .1 Reject unsatisfactory work,
 - .2 Provide written reports.
 - .4 For Construction & contract administration



- .1 Provide Time Management Report, based on Contractor's submissions and on-site performance
- .2 Provide additional drawings to clarify, interpret or supplement Construction Documents,
- .3 Interpret contract documents as required,
- .4 Assist the Departmental Representative to prepare Certificate of Substantial Completion and provide sign-off,
- .5 Arrange construction meetings, update Master Schedule, obtain detailed cost breakdown from the contractor, ensure compliance with labour laws and bylaws, , provide construction inspection services, provide clarifications, measure work, provide detail drawings and examine shop drawings, monitor training,
- .6 Review work at regular intervals to determine conformity with the contract documents and keep Departmental Representative informed of work progress,
- .7 Review and comment on various documents such as Contractor's Progress Claims and updated schedules,
- .8 Monitor performance of the Contractor,
- .9 Offer timely technical advice time on all disputes and claims between PWGSC and the Contractor,
- .10 Conduct inspections and reject unsatisfactory work,
- .11 Authorize special tests, inspections and minor works that do not impact project cost and schedule,
- .12 Furnish supplemental instructions to the Contractor with reasonable promptness or in accordance with a schedule for such instructions agreed to by PWGSC and the Contractor,
- .13 Determine the amounts owing to the Contractor based on work progress, and certify payments to the Contractor and
- .14 Provide Post-Construction Evaluation report.
- .5 Permits
 - .1 Assist the Contractor and provide required documentation in order to obtain the building permit.
- .6 For cost services:
 - .1 Assist the Construction team with cost management advice, if requested;
 - .2 Evaluate change orders; claims, work completed and cash flow.
 - .3 After issue of contract provide details for evaluating the project's cost performance and
- .7 For Scheduling Services:
 - .1 Report Review contractor's monthly schedule report; report findings and recommendations to the PWGSC for further discussion with the Contractor.
- .8 For Changes to the work:
 - .1 Assist the Departmental Representative to prepare CCN's and COs, to be issued by the Departmental Representative.
- .9 Assist the Departmental Representative to prepare Certificate of Final Completion and provide sign-off.



2.9 COMMISSIONING SERVICE

2.9.1 GENERAL

- .1 The purpose of the Commissioning Service is to ensure that a fully functioning project is delivered to the Client.

2.9.2 SCOPE AND SERVICES

- .1 Integrated and comprehensive commissioning for the project in accordance with the requirements in the P&S document,
- .2 The project will be accepted and the Certificate of Substantial Completion will be issued only after:
 - .1 Successful completion of integrated systems tests, life safety support systems tests and after meeting all requirements of the authority having jurisdiction
 - .2 All test certificates, commissioning reports and commissioning documentation have been approved by the Departmental Representative
- .3 During the Construction Phase:
 - .1 Monitor and report on contract commissioning activities,
 - .2 Review and certify verification sheets as they are completed by the contractor, and
 - .3 Review commissioning schedule
 - .4 Witness all component, system and integrated systems tests,
 - .5 Review and comment on commissioning test results,
 - .6 Provide advice and recommendations for fine tuning,
 - .7 Finalize the Design Intent Report and Client / Users O&M Manual to reflect as-commissioned operation and maintenance of each system,

2.9.3 DELIVERABLES

- .1 Commissioning Plan,
- .2 Commissioning Specifications in Div 01,
- .3 CV Sheets to be executed by the Contractor,
- .4 PVT Sheets to be executed by the Contractor,
- .5 Reviewed and Accepted Commissioning (Evaluation) Report.

2.10 POST CONSTRUCTION SERVICE

2.10.1 GENERAL

- .1 The purpose of this phase is to support the Departmental Representative in obtaining all final documents required for project close out.

2.10.2 SCOPE AND ACTIVITIES

- .1 Project Close-out Services
 - .1 Revise documentation to reflect all changes, revisions and adjustments after completion of commissioning
 - .2 Prepare record drawings and specifications based on Contractor's as-builts;
 - .3 Prepare and submit Final Certificate of Completion and final records.
 - .4 Review the Operations and Maintenance Manual.
 - .5 Review the integrated Commissioning Manual.
 - .6 Participate in Lessons Learned workshops if requested
- .2 Warranty Services
 - .1 Monitor and certify rectification of deficiencies before expiry of warranties



- .2 Monitor environmental and life safety system checks to be carried out by Contractor/O&M staff before expiration of warranties
- .3 Sign off on the Final Completion of the construction contract,
- .4 Participate in warranty inspections with *Departmental Representative* and Contractor
- .5 Provide warranty deficiency list,
- .6 Provide Final Warranty Review report.

2.10.3 DELIVERABLES

- .1 Warranty Deficiency List
- .2 Final Certificate
- .3 As-Built and Record Drawings and As-Built Specifications.
- .4 Comments to O&M Manual
- .5 Signed final Commissioning Manual
- .6 Sign-off on Warranty
- .7 Copies of “letters of certification” forwarded to the contractor regarding full compliance with the City of Winnipeg Permit/occupancy requirements as outlined by the City of Winnipeg. Utilize most current template and guidelines provide by the City of Winnipeg.



3 PROJECT ADMINISTRATION

3.1 GENERAL REQUIREMENTS

3.1.1 PWGSC PROCEDURES AND STANDARDS

- .I In addition to adhering to the general project administration requirements contained in section 2 of the GP&S document, the Consultant shall comply with the project specific requirements in this section.

[Edit for variations to the General P&S Document]

3.1.2 LANGUAGE

- .I [No variation]

3.1.3 MEDIA

- .I [No variation]

3.1.4 PROJECT MANAGEMENT

- .I [No variation]

3.1.5 LINES OF COMMUNICATION

- .I [No variation]

3.1.6 MEETINGS

- .I [Define frequency and location and type of meetings]

3.1.7 CONSULTANT RESPONSIBILITIES

- .I [No variation]

3.1.8 PWGSC RESPONSIBILITIES

- .I [No variation]

3.1.9 USER DEPARTMENT RESPONSIBILITIES

- .I [No variation]

3.1.10 REVIEW AND APPROVAL BY PROVINCIAL AND MUNICIPAL AUTHORITIES

- .I [No variation]

3.1.11 BUILDING PERMITS AND OCCUPANCY PERMITS

- .I [No variation]

3.1.12 TECHNICAL AND FUNCTIONAL REVIEWS

- .I [No variation]



4 APPENDICES

4.1 APPENDIX A

4.1.1 GP&S DOCUMENT

4.2 APPENDIX B

4.2.1 SECTION 01 74-21 CONSTRUCTION DEMOLITION WASTE MANAGEMENT & DISPOSAL W/ SUPPORTING APPENDICES

4.3 APPENDIX C

4.3.1 PHAC HC SKB DRAWINGS WITH NOTES

4.4 APPENDIX D

4.4.1 AVS ASSET PERFORMANCE REPORT STANLEY KNOWLES BUILDING WINNIPEG P60001 3A MARCH 2010 (AUGUST 2012 – SPECIALLY EDITED FOR PROPOSED INTERIOR RENOVATIONS)

4.5 APPENDIX E

4.5.1 THE GOVERNMENT OF CANADA WORKPLACE 2.0 STANDARDS

4.6 APPENDIX F

4.6.1 HC PRELIMINARY SPATIAL PROGRAM/SPECIAL PURPOSE SPACE/MEDICAL EQUIPMENT SPECIFICATIONS – STANLEY KNOWLES BUILDING, WINNIPEG, MB

4.7 APPENDIX G

4.7.1 PHAC PRELIMINARY SPATIAL PROGRAM/SPECIAL PURPOSE SPACE – STANLEY KNOWLES BUILDING, WINNIPEG, MB

WASTE AUDIT worksheet for PWGSC Construction, Renovation and Demolition Projects

Create multiple worksheets detailing potential quantities for either reuse, recycling or landfill. Mark each worksheet accordingly

Worksheet for: Total Inventory Potential Reuse Potential Recycling Potential Landfill

Project Name	
Project Type (Construction, Renovation or Demolition)	
Floor/Area (sq. m)	
Site Address	
Contact Person & Telephone	
Date	

* Add or delete materials as project requires

WASTE CATEGORY AND MATERIAL	Units	Total Units	Weight (kg) per unit of measurement	Estimated Weight (Metric Tonnes)	Volume (cubic yards)
Masonry and Pavement					
Asphalt (cu. m.)	cu. m.		2400.00	0.00	
Concrete (walls, floors, stairs)	cu. m.		2400.00	0.00	
Brick, block, etc.	cu. m.		1840.00	0.00	
Stone (foundation)	cu. m.		1473.80	0.00	
Glass masonry	cu. m.			0.00	
Marble	cu. m.		2563.00	0.00	
Granite	cu. m.		2750.00	0.00	
Clay tile	cu. m.			0.00	
Other	cu. m.			0.00	
			TOTAL	0.00	TOTAL: 0
Walls and Ceilings					
Drywall (12.5 mm)	sq. m.		9.74	0.00	
Drywall (19 mm)	sq. m.		12.25	0.00	
Cellulose insulation	sq. m.		6.41	0.00	
Fiberglass insulation	sq. m.		6.41	0.00	
Solid SM insulation	sq. m.		11.54	0.00	
Ceiling tile (19 mm standard)	sq. m.		6.82	0.00	
Glass (5 - 6 mm)	sq. m.			0.00	
Acoustic composite (ceilings, walls)	sq. m.		0.30	0.00	
Other	sq. m.			0.00	
			TOTAL	0.00	TOTAL: 0
Metal					
Steel (structural, stairs, fabrications, joists, deck, siding)	weight		600.00	0.00	
Aluminum (structural, siding)			2700.00	0.00	
Light Metal				0.00	
Studs	lm. of wall			0.00	
Ceiling grid	sq. m.		1.41	0.00	
Steel mesh				0.00	
Miscellaneous				0.00	
Other				0.00	
			TOTAL	0.00	TOTAL: 0
Mechanical					
HVAC					
Solid ducts	weight		26238.00	0.00	
Flex ducts	weight		5180.00	0.00	
Metal diffuser (600 X600)	each			0.00	
Light diffuser (boot only)	each			0.00	
Plastic grilles (600 X 600)	each			0.00	
VAV boxes	weight			0.00	
Heat coils	weight			0.00	
A/C units	weight		90.00	0.00	
			TOTAL	0.00	TOTAL: 0
Plumbing					
Copper piping (12.5 to 19mm)	lin. m.		1833.30	0.00	
Steel piping (38 to 50mm)	lin. m.		220.00	0.00	
Plastic piping (38 to 50mm)	lin. m.			0.00	
			TOTAL	0.00	TOTAL: 0
Fixtures					
Sinks (ceramic/porcelain)	each		10.00	0.00	
Sinks (metal)	each		10.00	0.00	
Faucets	each			0.00	
Water Closet	each		46.00	0.00	
Urinals (wall hung)	each		29.00	0.00	
			TOTAL	0.00	TOTAL: 0
Other					
			TOTAL	0.00	TOTAL: 0
Windows and Doors					
Doors					
Wood (solid or hollow core)	each		20.00	0.00	
Metal (hollow metal)	each		30.00	0.00	
Garage	each		135.00	0.00	
Frame (wood)	each		23.33	0.00	
Frame (metal)	each		2.33	0.00	
Windows				0.00	
Wood frame	each		216.36	0.00	
Plastic frame	each		125.10	0.00	
Aluminum frame	each		216.67	0.00	

For Project Planning Purposes (i.e. number of bins required)

Door Hardware				0.00	
Locksets	each		2.50	0.00	
Hinges, plates, stops, etc.	each		2.50	0.00	
Other (closers, operators, etc.)	each		2.50	0.00	
Other				0.00	
			TOTAL	0.00	TOTAL: 0
Wood					
Rough (crating, timber, etc.)	weight			0.00	
Dimension (3 m studs)	each		2.83	0.00	
Plywood (17mm)	sq. m.		0.08	0.00	
Hardwood (floor)	sq. m.		0.02	0.00	
Other				0.00	
			TOTAL	0.00	TOTAL: 0
Millwork and Finish Carpentry					
Baseboards and casing (50 mm ht.)	each			0.00	
Lower cabinets (c/w doors)	each		44.10	0.00	
Upper cabinets (c/w doors)	each			0.00	
Counters (9' sections)	each		45.65	0.00	
Other				0.00	
			TOTAL	0.00	TOTAL: 0
Flooring					
Carpet (roll)	sq. m.		2.44	0.00	
Carpet tile	sq. m.		2.98	0.00	
Sheet vinyl and linoleum	sq. m.		2.98	0.00	
Rubber cove or carpet base	lin. m.		0.52	0.00	
Terrazzo - 25 mm	sq. m.		0.02	0.00	
Ceramic Tiles	sq. m.		0.21	0.00	
Other				0.00	
			TOTAL	0.00	TOTAL: 0
Electrical					
Wiring					
Data	weight			0.00	
Electrical (aluminum, copper, iron, etc)	weight			0.00	
Junction and outlet boxes (standard)	each		3800.00	0.00	
Cover plates	each			0.00	
Electrical panels	weight			0.00	
Conduit (25 mm)	lin. m.			0.00	
Conduit (50 mm)	lin. m.			0.00	
			TOTAL	0.00	TOTAL: 0
Lighting					
Fluorescent fixture (600 X 1200)	each		0.82	0.00	
Fluorescent fixture (300 X 1200)	each		0.08	0.00	
Ballast	each		4432.00	0.00	
Lamps	each			0.00	
Complete fixture (600 X 1200)	each			0.00	
Complete fixture (300 X 1200)	each			0.00	
Emergency battery lights	each		6.66	0.00	
Exit lights	each		1.00	0.00	
Fire bells/alarms	each			0.00	
Micellaneous (switches, sensors, etc.)	each		600.00	0.00	
			TOTAL	0.00	TOTAL: 0
Other					
			TOTAL	0.00	TOTAL: 0
Roofing					
Shingles - asphalt	sq. m.		10.72	0.00	
Tin	sq. m.		616.76	0.00	
Copper	sq. m.			0.00	
Waterproof EDPM	sq. m.		796.67	0.00	
Waterproof PVC	sq. m.			0.00	
Tar and gravel	sq. m.		608.85	0.00	
Other	sq. m.			0.00	
			TOTAL	0.00	TOTAL: 0
Specialties & Miscellaneous					
Office Furnishings					
Furniture (workstations and chairs)	each				
Shelving	each				
Bulletin and white boards	each				
Building Furnishings					
Window Coverings (rolling shutters, blinds)	each				
Signs	each				
Lockers	each				
Metal partition (toilet)	each				
Plastic partition (toilet)	each				
Stud-type partition (demountable)	each				
Specilaized Equipment					
Food service equipment	each				
Parking control equipment	each				
Waste/cleaning equipment	each				
Refrigeration equipment	each				
Lifts	each				
Elevators	each				
Escalators	each				
Dumbwaiters	each				
Communications	each				
Telecom raceways/cables	each				
Terminals and connectors	each				
Other	each				

			TOTAL	0.00	TOTAL:	0
Packaging						
Cardboard Packaging	weight		60.00	0.00		
Plastic packaging	weight			0.00		
Other				0.00		
			TOTAL	0.00	TOTAL:	0
Other				0.00		
				0.00		
				0.00		
				0.00		
				0.00		
			TOTAL	0.00	TOTAL:	0
				0.00	CUBIC	
			TOTAL	0.00	YARDS:	0
			TOTAL	METRIC TONNES:	0.00	

WASTE AUDIT SUMMARY form for PWGSC Construction, Renovation and Demolition Projects

Project Type (Construction, Renovation or Demolition)	Project Name
Area (sq. m)	
Site Address	
Contact Person & Telephone	
Audit Date	

WASTE CATEGORY	Waste Audit Summary				Potential Diversion Rate
	Estimated Quantity Generated (Metric Tonnes)	Reuse	Recycle	Landfill	
Masonry and Pavement	0.00			0.00	#DIV/0!
Walls and Ceilings	0.00			0.00	#DIV/0!
Metal	0.00			0.00	#DIV/0!
Mechanical:					
HVAC	0.00			0.00	#DIV/0!
Plumbing	0.00			0.00	#DIV/0!
Fixtures	0.00			0.00	#DIV/0!
Other	0.00			0.00	#DIV/0!
Windows and Doors	0.00			0.00	#DIV/0!
Wood	0.00			0.00	#DIV/0!
Millwork and Finish Carpentry	0.00			0.00	#DIV/0!
Flooring	0.00			0.00	#DIV/0!
Electrical:					
Wiring	0.00			0.00	#DIV/0!
Lighting	0.00			0.00	#DIV/0!
Other	0.00			0.00	#DIV/0!
Roofing	0.00			0.00	#DIV/0!
Specialties & Miscellaneous	0.00			0.00	#DIV/0!
Packaging	0.00			0.00	#DIV/0!
Other	0.00			0.00	#DIV/0!
TOTALS	0.00	0.00	0.00	0.00	#DIV/0!

WASTE REDUCTION WORK PLAN worksheet for PWGSC Construction, Renovation and Demolition Projects

Project Name	
Project Type (Construction, Renovation or Demolition)	
Area (sq. m)	
Site Address	
Contact Person & Telephone	
Date	

WASTE CATEGORY AND MATERIAL	Estimated Quantity (Metric Tonnes)	Proposed Action to Reduce, Reuse or Recycle Material	Projected Quantity (Metric Tonnes)		
			Reuse	Recycle	Landfill
Masonry and Pavement					
Asphalt (cu. m.)	0.00				0.00
Concrete (walls, floors, stairs)	0.00				0.00
Brick, block, etc.	0.00				0.00
Stone (foundation)	0.00				0.00
Glass masonry	0.00				0.00
Marble	0.00				0.00
Granite	0.00				0.00
Clay tile	0.00				0.00
Other	0.00				0.00
Walls and Ceilings					
Drywall (12.5 mm)	0.00				0.00
Drywall (19 mm)	0.00				0.00
Cellulose insulation	0.00				0.00
Fiberglass insulation	0.00				0.00
Solid SM insulation	0.00				0.00
Ceiling tile (19 mm standard)	0.00				0.00
Glass (5 - 6 mm)	0.00				0.00
Acoustic composite (ceilings, walls)	0.00				0.00
Other	0.00				0.00
Windows and Doors					
Doors					
Wood (solid or hollow core)	0.00				0.00
Metal (hollow metal)	0.00				0.00
Garage	0.00				0.00
Windows					
Wood frame	0.00				0.00
Plastic frame	0.00				0.00
Aluminum frame	0.00				0.00
Door Hardware					
Locksets	0.00				0.00
Hinges, plates, stops, etc.	0.00				0.00
Other (closers, operators, etc.)	0.00				0.00
Other	0.00				0.00
Wood					
Rough (crating, timber, etc.)	0.00				0.00
Dimension (3 m studs)	0.00				0.00
Plywood (17mm)	0.00				0.00
Hardwood (floor)	0.00				0.00
Other	0.00				0.00
Milwork and Finish Carpentry					

Baseboards and casing (50 mm ht.)	0.00				0.00
Lower cabinets (c/w doors)	0.00				0.00
Upper cabinets (c/w doors)	0.00				0.00
Counters	0.00				0.00
Other	0.00				0.00
Flooring					
Carpet (roll)	0.00				0.00
Carpet tile	0.00				0.00
Sheet vinyl and linoleum	0.00				0.00
Rubber core or carpet base	0.00				0.00
Terrazzo - 25 mm	0.00				0.00
Ceramic Tiles	0.00				0.00
Other	0.00				0.00
Metal					
Steel (structural, stairs, fabrications, joists, deck, siding)	0.00				0.00
Aluminum (structural, siding)	0.00				0.00
Light Metal	0.00				0.00
Studs	0.00				0.00
Ceiling grid	0.00				0.00
Miscellaneous	0.00				0.00
Other	0.00				0.00
Mechanical					
HVAC					
Solid ducts	0.00				0.00
Flex ducts	0.00				0.00
Metal diffuser (600 X 600)	0.00				0.00
Light diffuser (boot only)	0.00				0.00
Plastic grilles (600 X 600)	0.00				0.00
VAV boxes	0.00				0.00
Heat coils	0.00				0.00
A/C units	0.00				0.00
Plumbing					
Copper piping (12.5 to 19mm)	0.00				0.00
Steel piping (38 to 50mm)	0.00				0.00
Plastic piping (38 to 50mm)	0.00				0.00
Fixtures	0.00				0.00
Sinks (ceramic/porcelain)	0.00				0.00
Sinks (metal)	0.00				0.00
Faucets	0.00				0.00
Water Closet	0.00				0.00
Urinals (wall hung)	0.00				0.00
Other	0.00				0.00
Electrical					
Wiring					
Data	0.00				0.00
Electrical (aluminum, copper, iron, etc)	0.00				0.00
Junction and outlet boxes (standard)	0.00				0.00
Cover plates	0.00				0.00
Electrical panels	0.00				0.00
Conduit (25 mm)	0.00				0.00
Conduit (50 mm)	0.00				0.00
Lighting					
Fluorescent fixture (600 X 1200)	0.00				0.00
Fluorescent fixture (300 X 1200)	0.00				0.00

WASTE REDUCTION WORK PLAN SUMMARY form for PWGSC Construction, Renovation and Demolition Projects

Project Name	
Project Type (Construction, Renovation or Demolition)	
Area (sq. m)	
Site Address	
Contact Person & Telephone	
Date	

WASTE CATEGORY	Waste Management Summary							Potential Diversion Rate	Start date	End Date
	Estimated Quantity (Metric Tonnes)	Proposed Action to Reduce, Reuse or Recycle Material	Reuse	Recycle	Landfill	Projected Quantity (Metric Tonnes)	Rate			
Masonry and Pavement	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Walls and Ceilings	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Windows and Doors	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Wood	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Millwork and Finish Carpentry	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Flooring	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Metal	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Mechanical:										
HVAC	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Plumbing	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Fixtures	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Electrical:										
Wiring	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Lighting	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Roofing	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Specialties & Miscellaneous	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Packaging	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		
TOTALS	0.00		0.00	0.00	0.00	0.00	0.00	#DIV/0!		

ORGANIZATION	NAME	ADDRESS	Schedule E		POSTAL	PHONE	TOLL-FREE	FAX	EMAIL	WEBSITE	COMMENTS
			CITY	PROVINCE							
A Town and Country Towing		1145 Redonda	Winnipeg	Manitoba	R3G 2Z2	204 222 2080					
A-1 Environmental Services		1447 Dugald Rd	Winnipeg	Manitoba	R2J 0H3	204 237 3681		204 233 0790			Pick-up, storage, and disposal of waste oil, waste diesel, gasoline and jet fuel. Drop off for oil containers and filters.
Able Wholesale Jobbers Co.		65 Higgins	Winnipeg	Manitoba	R2B 0A9	204 783 7587		204 942 4400			Will purchase/accept used office furniture for re-sale.
Aime Pantel - Used Oil Collection		Box 226	Notre Dame	Manitoba		204 248 2110					Pick up and drop-off depot service.
A-Plus Restaurant Equipment & Sales		925 Main St	Winnipeg	Manitoba	R2W 3P2	204 783 7587		204 942 4400			Buys and sells used restaurant equipment and furniture
Basar Heating and Air Conditioning Ltd.	Jim Young	199 Eagle Drive	Winnipeg	Manitoba	R2R 1V4	204 633 5587		204 633 0618			
BFI Canada Inc.	Clifford Lechow, District Manager	P.O. Box 1590, 375 Oak Point Highway	Winnipeg	Manitoba	R2R 1T9	204 633 9730					This company rents containers for collecting cardboard (for recycling) from the commercial sector. They also collect office paper.
Canadian Waste Services Inc. (a subsidiary of Waste Management Inc. which is headquartered in Houston, Texas)	Trevor Wuerch	70 Paramount Road	Winnipeg	Manitoba	R2X 2W3	204 956 6360					This company rents containers for collecting cardboard (for recycling) from the commercial sector.
Carpenter Co. (Canada)	Rick Didora	30 Hutchings Street	Winnipeg	Manitoba	R2X 2X1	204 694 6080				http://www.carpenter.com/ndex.htm	Note that this company provides cardboard pick-up and hauling services from the commercial sector in Winnipeg, Portage la Prairie, and Brandon. This company accepts (on a case by case basis) used carpet underlay (as long as it is "clean" meaning without staples or other metal) and polyurethane foam (such as the foam inside of sofas) which they recycle at their plant in Calgary and use to make new polyurethane products. It is their preference that the material be baled and that it weigh not more than 150 lb per bale. They may be able to accept the material in loose (unbaled) form. Note that in the case that they require the material to be baled, and they do not have a transportable baler at the time, large recycling companies typically have transportable balers that are used to bale cardboard but which could also be used for this purpose according to Carpenter Co. (Canada). Inquire by phone for details.
Cbi Used Office Furniture		1040 Empress St.	Winnipeg	Manitoba	R3G 3H4	204 783 1689		204 783 1689			Purchases and sells used office furniture
CEDA Environmental Services		45 Terracon Place	Winnipeg	Manitoba	R2J 4B3	204 235 0773		204 235 0771	rkuiba@wasteco.com		They collect, store, and transfer regulated and non-regulated hazardous waste. The waste is then transported to an approved treatment facility.
Chisick Metal Ltd.	Cliff & Mark Chisick	2141 Logan Ave	Winnipeg	Manitoba	R2R 0J3	204 632 1045		204 694 1637		http://www.chisickmetal.com	
Clean Harbors Canada Inc.		1147 Henry Ave	Winnipeg	Manitoba	R3E 1V6	204 956 9770				http://www.cleanharbors.com	
Contrac Corp	Bill Reid	1246 Brockville	Winnipeg	Manitoba		204 895 3534					This company provides salvage services for restorations and demolitions. They also sell used building materials from their salvaging operations.
Deanco Food Equipment		1335 Arlington Street	Winnipeg	Manitoba	R2X 1S8	204 586 6755					Buy, sells, rents, and trades food service equipment and parts. Also offers equipment cleaning.
Derksen Demolition Ltd			Winnipeg	Manitoba		204 782 5516		204 222 3299			Provides salvage and demolition services to offices, stores, heritage buildings, and warehouses.
Economy Furniture Co Ltd		844 Main Street	Winnipeg	Manitoba	R2W 3P1	204 582 6271					Purchases and will pick-up used furniture.
Enviro West Inc.	Ron Lamoureux	1090 Kenaston Blvd.	Winnipeg	Manitoba	R3P 0R7	204 987 9600		204 987 9601	www@envirowestinc.com		
Eveready Industrial Services		325 Transport Rd.	Winnipeg	Manitoba	R2C 2Z2	204 669 7867		204 654 4679			They provide services related to commercial hazardous waste.
F & T Enterprises Used Restaurant Equipment		3140 St Mary's Road	Winnipeg	Manitoba	R2N 4A8	204 257 5471		204 257 6540			Buy and sells used restaurant equipment
General Scrap & Car Shredder		Box 67 Boniface Station	Winnipeg	Manitoba	R2H 3B4	204 222 4221		204 224 0561			
Gerrard Scrap Metal		350 14th Street NE	Portage la Prairie	Manitoba	R1N 3P1	204 239 6371					Accepts all scrap metal at their facility (may provide collection service).
Great Northern Lumber & Forest Products Inc		200 555 Hervo	Winnipeg	Manitoba	R3T 3L6	204 474 5047	866 677 7883	204 487 1160	bayridge@mb.sympatico.ca		Lumber remanufacturer
Hanslip A D Excavating & Demolition Ltd			Winnipeg	Manitoba		204 791 8979					Provides salvaging and demolition services to both commercial and residential clients. Will "salvage anything of value" and sell it to smaller businesses or contractors for re-use.
Harbour View Recycling		1818 Springfield Rd.	Springfield	Manitoba		204 224 4010					
Hard Rock Construction Ltd.		Lot 50 Garven Road	East St. Paul	Manitoba	R2E 1C9	204 222 5782					Haul gravel and granular waste from construction sites
Haulrite Environmental Ltd.		598 Gunn Road	Winnipeg	Manitoba	R2C 5G2	204 222 5269		204 224 9680			Haul non-recyclable waste from commercial sites and collect cardboard and scrap metal for recycling (for some clients).
Hazco Environmental Services Ltd.	Phil Spring	Unit 1 - 325 Parkdale Road	St. Andrews	Manitoba	R1A 3N9	204 832 4561	800 667 0444	204 832 3203	winnipeg@hazco.com	http://www.hazcoenv.com	
Hildebrand Auto Wreckers	Leonard Kettler	Box 349	Plum Coulee	Manitoba	R0G 1R0	204 829 3698		204 829 3649			

Imrie Demolition Ltd. & Asbestaway		363 William Avenue	Winnipeg	Manitoba	R3A 0H8	204 943 8000												This company specializes in providing concrete breaking services for commercial and residential clients. They also accept used building materials at their warehouse; it is necessary to call ahead to make arrangements to drop-off items or view items that are available for resale.
Industrial Container Services		1101 Pacific Avenue	Winnipeg	Manitoba	R3E 1G7	204 775 5650												
Industrial Metals Processing	Murray Holt	550 Messier St.	Winnipeg	Manitoba	R2J 0G5	204 233 1908												204 233 1933
Interlake Salvage & Recycling	Julie & Michael Clarke	Box 548	Stonewall	Manitoba	R0C 2Z0	204 467 9344												204 467 9449
Kelly's Trucking Ltd.		1948 Brookside Blvd.	Winnipeg	Manitoba	R3C 2E9	204 633 1839												Haul gravel
Laconis Restaurant Supplies		971 Main Street	Winnipeg	Manitoba	R2W 3P6	204 956 0588												Sells used restaurant supplies and appliances
Magnet Industries Ltd.		571 Messier St	Winnipeg	Manitoba	R2J 3S5	204 233 7151												Buys and sells scrap metal
Manitoba Association for Resource Recovery Corp.		35 - 1313 Border Street	Winnipeg	Manitoba	R3H 0X4	204 632 5255	888 410 1440	204 633 9380	marcc@center.net	http://www.useoilrecycling.com	Visit this website to identify the collection services (mostly drop-off depots) for used oil, filters, and container recycling throughout Manitoba.							
Manitoba Conservation, Pollution Prevention Branch (programs division)		Manitoba Conservation - Pollution Prevention Branch - 123 Main Street Suite 160	Winnipeg	Manitoba	R3C 1A5	204 945 7042	800 282 8069 7042	204 945 1211	jferguson@gov.mb.ca	http://www.gov.mb.ca/consevation/pollutionprevention/wasprevention.html	Visit this site to access provincial information pertaining to waste reduction and prevention including action plans, State of the Environment reports, funding programs, awards, and more.							
Manitoba Ozone Protection Industry Association Inc.		2141-B Henderson Highway	Winnipeg	Manitoba	R2G 1P8	204 338 0804		204 338 0810	mopia@mb.sympatico.ca	http://www.mopia.mb.ca								
Manitoba Product Stewardship Corporation		280 - 530 Kenaston Blvd	Winnipeg	Manitoba	R3N 1Z4	204 989 6222				http://www.mpssc.com/								
Manitoba's Waste Reduction Website	Andrea Swain or Sasha Brown	402 -250 McDermot Avenue	Winnipeg	Manitoba	R3B 0S5	204 772 7239			info@reducingwaste.ca	http://www.reducingwaste.ca	This new site (launched in October 2003) is the premiere source of information related to waste management and waste reduction in Manitoba.							
Maple Leaf Construction		777 Erin Street	Winnipeg	Manitoba	R3G 2W2	204 783 7091		204 786 3106	blake@mapleleafconstruction.mb.ca		Collects used concrete and asphalt (there is no collection cost if the material is free of metal)							
Marion Trucking Ltd.		578 McTavish Street	Winnipeg	Manitoba	R2J 0E9	204 237 3171		204 237 5039										
McPhillips Salvage Ltd.		222 McPhillips St.	Winnipeg	Manitoba	R3E 2J9	204 774 3004		204 334 3108										
Metro Waste			Winnipeg	Manitoba		204 632 4457		204 632 4459	tgillard@materiaisrecovery.com	http://www.metrowaste.com/winnipeg.htm								
Mid Canada Soil Treatment Ltd.		89 Cliffwood Drive	Winnipeg	Manitoba	R2J 3N2	204 255 3932												
Miller Environmental Corporation		65 Trotter Bay	Winnipeg	Manitoba	R3T 3R3	204 925 9600		204 925 9601			Handle mostly commercial and residential hazardous waste. They have a facility to treat selected hazardous waste materials on-site (not including materials containing PCBs)							
Orloff Scrap Metals	Shelby Orloff David Orloff Marvin Orloff	410 King Street	Winnipeg	Manitoba	R2W 5H8	204 589 4303		204 589 4304										
Palliser Furniture Ltd		70 Lexington Park	Winnipeg	Manitoba	R2G 4H2	204 988 3976		204 988 5604		http://www.palliser.com	Collects wood products to make particle board							
Paragon Envirocycle Inc.	Manfred Hirsch	Box 16	Winnipeg	Manitoba	R2C 2Z2	204 224 1679		204 224 4547			They deal with hazardous waste and also will remove oil and fuel tanks and underground tanks. They will remove asbestos and dispose of it in an approved landfill. They will also remove PCB ballists which are transported to Alberta for treatment.							
Paragon Industries Ltd./Salvage Supermarket	Manfred Hirsch	1042 Oxford Street West (Oxford Street and Springfield Road)	Winnipeg	Manitoba		204 224 3238		204 224 4547		http://www.autobaun.mb.ca/salvage	This demolition company (Paragon Industries Ltd.) also operates a retail outlet (Salvage Supermarket) for used building materials salvaged from its deconstruction and demolition projects. Has been in business since 1977, primarily services the commercial sector, and provides boiler removal, asbestos abatement, scrap processing, and site remediation.							
Rakowski Cartage & Wrecking Ltd		1227 Redonda, Rural Route 5	Winnipeg	Manitoba	R3C 2Z2	204 233 0402		204 231 2005			Collects used concrete							
Red Baron 5000		1833 Logan Avenue	Winnipeg	Manitoba		204 632 4864					Will salvage any materials that can be re-used or recycled.							
Resource Conservation Manitoba		#2 - 70 Albert Street	Winnipeg	Manitoba		204 925 3777			rcm@mb.sympatico.ca	http://www.resourceconservation.mb.ca								
Rodway Refrigeration & Air Conditioning		759 Wall Street	Winnipeg	Manitoba	R3G 2T6	204 786 4881		204 786 5082			Buys and sells used restaurant equipment.							
Salvation Army	Dave Molten	Unit 1 - 111 Inksbrook Drive	Winnipeg	Manitoba			800 757 4483				Furniture pick-up services in Saskatoon are coordinated by the central office in Winnipeg, Manitoba. Staff at the central office make arrangements with local drivers in Saskatoon to pick-up used, donated furniture.							
Springfield Salvage	Tony Klimchak	1990 Springfield Road	Winnipeg	Manitoba	R2H 3B4	204 224 4184		204 224 0561			This company mostly sells used steel and occasionally sells used plastic piping.							
St Boniface Pallet		200 Panet Road	Winnipeg	Manitoba	R2J 0S3	204 233 0383					Buys and sells pallets							
Tessler's Iron & Metal Co. Ltd.	Ken	#10 Charles Street	Winnipeg	Manitoba	R2W 4A1	204 586 2704		204 586 2706			This company accepts/purchases all types of scrap metal. They provide bin service. Inquire by phone.							

The Habitat Re-Store Al Leighton	75 Archibald Street	Winnipeg	Manitoba	R2J 0V7	204 233 5160	204 233 5271	aleighton@habitat.mb.ca	http://www.geocities.com/Pick-etFence/8771/ ; http://www.habitat.ca/restores.html	The Habitat Re-Store is a retail outlet that sells used and surplus building materials and provides used building material salvaging services.
The Old House Revival Co.	245B McDermot Avenue	Winnipeg	Manitoba	R3B 0S7	204 477 4286	204 944 0122		http://www.oldhouserevival.com	Sells old architectural features and items including tin roof tiles, antiques, wood features, grates, and stained glass.
Tiger Ventures Demolition	2303 North Road	East St. Paul	Manitoba		204 661 9510	204 654 9278			Will salvage all materials possible and sell the materials to used building materials stores, construction companies, or recyclers. They also keep materials that they can use within their own company (re-use!).
Tire Stewardship Board	202 - 1100 Concordia Avenue	Winnipeg	Manitoba	R2K 4B8	204 661 3242	204 668 9704	mbtirebd@skyweb.ca	http://www.skyweb.ca/~mbtirebd/web.htm	
Unique Concrete	1270 Sturgeon	Winnipeg	Manitoba	R2Y 2L6	204 889 2748				
W M Imrie Holdings	20 Meade Street	Winnipeg	Manitoba	R3B 3P3	204 943 8000	204 944 0526			Sells building materials from their demolitions (including metal, brick, and doors).
WasteCo. Environmental Services Ltd.	Brad Herbachuk, Area Sales Manager 45 Terracon Place	Winnipeg	Manitoba	R2J 4B3	204 235 0773			http://www.wasteco.com	"Comprehensive environmental solutions, waste management services and products are available through WasteCo, along with expertise in management of dangerous goods and hazardous materials." This company owns and operates seven soil recycling facilities in western Canada where they treat soil until it meets an acceptable level (as determined by federal and provincial regulations) and then use it as landfill cover (as an alternative to disposing of it in class two landfills). They provide a range of environmental and waste management services (note that they do not deal with solid waste). Visit their website for more information.
Winnipeg Construction Association	290 Burnell Street	Winnipeg	Manitoba	R3G 2A7	204 775 8664	204 783 6446	info@wpgca.com	http://www.wpgca.com	WCA coordinates The Manitoba Construction Environment Task Force
Winnipeg Heavy Construction Association	1236 Ellice Avenue	Winnipeg	Manitoba	R3G 2E7	204 947 1379	204 943 2279	info@mhca.ca	http://www.mhca.mb.ca	

PART 1 - GENERAL

1.1 ATTACHMENTS

- .1 The following appendices are attached to this specification:
 - .1 Waste Audit - Appendix A.
 - .2 Waste Reduction Workplan form– Appendix B.
 - .3 Final Diversion Report form - Appendix C.
 - .4 Waste Material Tracking Form - Appendix D
 - .5 CRD Waste Market Research Report (Appendix E)
- .2 All of the above can be provided in either Microsoft Excel or Word Formats.

1.2 QUALITY
ASSURANCE

- .1 After award of Contract, a mandatory site examination will be held for this project for all Contractors and/or Subcontractors responsible for the demolition/deconstruction waste management. Date, time and location to be arranged by Departmental Representative.
- .2 Waste Management at Project Meetings:
 - .1 Waste Management Coordinator to provide an update on the status of waste diversion and management activities at each meeting. A written weekly summary report of this status shall also be provided by the WMC. Refer to Appendix C, Final Diversion Report form, and Appendix D, Waste Material Tracking Form

1.3 WASTE
MANAGEMENT GOALS

- .1 Prior to the start of the Work, schedule and conduct kick-off meeting with Departmental Representative and Subcontractors to review and discuss PWGSC's waste management goals and the Contractor's proposed Waste Reduction Workplan for the Construction, Renovation and/or Demolition (CRD) waste to be generated by the Project.
- .2 PWGSC's Waste Management Goal by weight for this project is 75% to be diverted from landfill of the Project's total CRD waste. Prior to Project close-out, provide Departmental Representative with documentation, including weigh bills, completed tracking forms and a Final Diversion Report, certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.

.3 The following represent the target percentages for reuse and/or recycling for specific materials:

.1	Masonry and Pavement	90%
.2	Walls and Ceilings	90%
.3	Metal	100%
.4	Mechanical – HVAC	100%
.5	Mechanical – Plumbing Piping	100%
.6	Mechanical – Fixtures	100%
.7	Mechanical - Other	90%
.8	Windows and Doors	100%
.9	Wood	80%
.10	Millwork and Finish Carpentry	80%
.11	Flooring	80%
.12	Electrical – Wiring/Conduit/Boxes	80%
.13	Electrical - Lighting	80%
.14	Electrical - Other	90%
.15	Roofing	90%
.16	Miscellaneous	80%

.4 Minimize the amount of non-hazardous solid waste generated by the project and accomplish maximum source reduction, reuse and recycling of the solid waste that is produced by the CRD activities.

.5 Protect the environment and prevent environmental pollution and damage

1.4 REFERENCES

- .1 Environmental Protection Act, Ontario 3R's Regulations for waste management programs applicable to construction and demolition projects greater than 2000 square meters:
 - .1 Reg. 102/94, Waste Audits and Waste Reduction Workplans
 - .2 Reg. 103/94, Source Separation Programs
- .2 Canadian Construction Association (CCA):
 - .1 Standard Construction Document CCA 81-2001 : A Best Practices Guide to Solid Waste Reduction
- .3 Public Works and Government Services Canada:
 - .1 2002 National Construction, Renovation and Demolition Non-Hazardous Solid Waste Management Protocol

1.5 DEFINITIONS

- .1 Approved/Authorized recycling facility: Waste recycler

approved by the Departmental CRD Representative.

- .2 Construction, Renovation and/or Demolition (CRD) Waste: Solid, non-hazardous waste material generated during construction, demolition, and/or renovation activities
- .3 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
- .4 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .5 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using in altered form. Does not include burning, incinerating, or thermally destroying waste.
- .6 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project, or storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .7 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .8 Source Separation: Acts of keeping different types of waste materials separate from the point at which they are deconstructed, disassembled, or demolished.
- .9 Waste Audit: Detailed inventory of the estimated quantities of waste materials into categories of reuse, recycling or landfill. Requires quantifying by weight the estimated amounts of material and waste to be generated during construction, demolition, deconstruction, or renovation.
- .10 Waste Diversion Report: Detailed report of final results, quantifying cumulative weights and percentages of waste materials reused, recycled and landfilled over the course of the Project. Measures success against WRW goals and identifies lessons learned.

- .11 Waste Management Coordinator: Contractor representative responsible for supervising on-site waste management activities as well as coordinating required submittals and reports.
- .12 Waste Reduction Workplan: Report which outlines the strategy to optimize opportunities for reduction, reuse, and recycling of waste materials generated by the Project. Specifies diversion goals, implementation and reporting procedures, anticipated results and responsibilities. The Waste Reduction Work plan is based on information acquired from the Waste Audit (Appendix A).
- .13 Waste Source Separation Program: The implementation and coordination of ongoing activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and the potential to reduce disposal costs.

1.6 DOCUMENTS

- .1 Maintain and post in a visible, accessible area at job site, one copy of following documents:
 - .1 Waste Audit.
 - .2 Waste Reduction Workplan.
 - .3 Waste Source Separation Program.

1.7 SUBMITTALS

- .1 Submittals in accordance with Section 01 00 00.
- .2 Prepare and submit following prior to Project start-up:
 - .1 Waste Audit (Appendix A)
 - .2 Waste Reduction Workplan
 - .3 Waste Source Separation Program
- .3 Prepare and submit the following weekly throughout the Project or at intervals agreed to by the Departmental Representative :
 - .1 Receipts, scale tickets, waybills, and/or waste disposal receipts that show quantities and types of materials reused, recycled, or disposed of
 - .2 Updated Waste Material Tracking Form – See Appendix D for sample form.
 - .3 A written summary report detailing the cumulative amounts of waste materials reused, recycled and landfilled, and a brief status of the ongoing waste management activities. See Appendix C for sample Diversion Report form to track waste amounts.

- .4 Submit the following documentation prior to final payment:
 - .1 The Final Waste Diversion Report - indicating the final quantities by material types (in tonnes) salvaged for reuse, recycling or disposal in landfill and the recycling centres, re-use depots, landfills and other waste processors that received these waste materials (See Appendix C)
 - .2 Provide all remaining receipts, scale tickets, waybills, waste disposal receipts that confirm the quantities and types of materials reused, recycled, or disposed of and their destination
 - .3 Failure to submit could result in hold back of final payment.
- .5 Prior to removing materials containing lead-based paint, submit test results confirming leachable lead criterion levels. Materials with a leachable lead criterion above 5.0mg/L must be labeled as hazardous waste in accordance with Manitoba's Classification Criteria for Products, Substances and Organisms Regulation (Dangerous Goods Handling and Transportation Act) and must be disposed of appropriately and in accordance with any applicable regulations

1.8 WASTE AUDIT

- .1 Prior to demolition submit a completed Waste Audit for review by the Departmental CRD Representative. (See Appendix A)
- .2 The Waste Audit provides a detailed estimate of the types and quantities of waste materials and their potential for reuse and/or recycling.
- .3 Post Waste Audit on-site where workers are able to review content.

1.9 WASTE REDUCTION WORKPLAN

- .1 Prior to the Project start-up prepare and submit a written Waste Reduction Workplan report.
- .2 Structure Waste Reduction Workplan to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .3 WRW will identify the strategy to optimize diversion through reduction, reuse, and recycling of materials, based on information acquired from the Waste Audit (Appendix A).
- .4 The Waste Reduction Workplan report should include but is not limited to:
 - .1 Realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.

- .2 Destination of materials listed.
- .3 Deconstruction/disassembly techniques and sequencing.
- .4 Recycler or reclaimer requirements.
- .5 Schedule for deconstruction/disassembly.
- .6 Location.
- .7 Security.
- .8 Protection.
- .9 Materials handling and removal procedures.
- .10 Clear labelling of storage areas.
- .11 Details on materials handling and removal procedures.
- .12 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill. Detailed and Summary Waste Reduction Workplan forms provided in Appendix B

- .5 Post Waste Reduction Workplan where workers at site are able to review content.
- .6 Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

1.10 WASTE
SOURCE SEPARATION
PROGRAM

- .1 As a part of the Waste Reduction Workplan, prepare and submit for review a Waste Source Separation Program prior to project start-up.
- .2 The Waste Source Separation Program shall detail the contractors methodology and planned on-site activities for separation of reusable and recyclable waste material from the other waste intended for landfill, including separation of materials known to contain lead-based paint (based on the Designated Substance Survey).
- .3 Provide all on-site facilities and containers for separation and storage of materials.
- .5 Provide training for employees/trades in the handling and separation of materials for reuse and/or recycling.
- .6 Clearly and securely label all containers to identify types/conditions of materials accepted and assist employees/trades in separating materials accordingly.

1.11 USE OF SITE
AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by existing facility.

1.12 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely

and orderly progress of Work.

1.13 WASTE DIVERSION
RESOURCES

- .1 The contractor is responsible for researching and locating waste diversion resources and service providers.
- .2 The sources listed in the regional CRD Waste Market Research (see Appendix E) are provided for reference only and are not considered to be either completely accurate or comprehensive and are not endorsed by PWGSC in any way.

PART 2 - PRODUCTS

- .1 Not Used.

PART 3 - EXECUTION

3.1 Processing of
Waste Materials

- .1 Implement the Waste Reduction Workplan and Waste Source Separation Program generated for the project in compliance with approved methods and as reviewed by the Departmental Representative.
- .2 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .3 Locate containers in designated locations or areas approved by the Departmental Representative
- .4 Keep separation areas clean and neatly organized. Separation activities shall not interfere with the daily operations of the building or areas of use.
- .5 Collect, handle, and store separated materials using methods which minimize material damage.
- .6 Store materials to be reused or recycled on-site in locations indicated or as directed by the Departmental Representative
- .7 Transport salvaged materials off-site to approved and/or authorized recycling facility or to users of material for recycling.
- .8 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .9 Protect, stockpile, store and catalogue salvaged items.

3.2 WEIGHING
MATERIALS

- .1 Unless otherwise agreed to by the Departmental Representative, all materials are to be weighed, whether designated for reuse,

recycling, other diversion, or landfill.

- .2 Where agreed by the Departmental Representative, weights of materials not weighed directly, will be obtained using measure values and unit weights.

3.4 PROTECTION

- .1 Unless specified otherwise, materials removed and salvaged become the property of the Contractor.
- .2 Protect salvaged materials intended for reuse on the site from damage. Catalogue and/or inventory all materials salvaged for reuse on-site.
- .3 Protect structural components not for removal or demolition from movement or damage.
- .4 Support affected structures. If safety of building is endangered, cease operations and immediately notify the Departmental Representative.
- .5 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
- .6 Avoid co-mingling of materials intended for reuse or recycling. If required, remove co-mingled materials to off-site processing facility for separation.

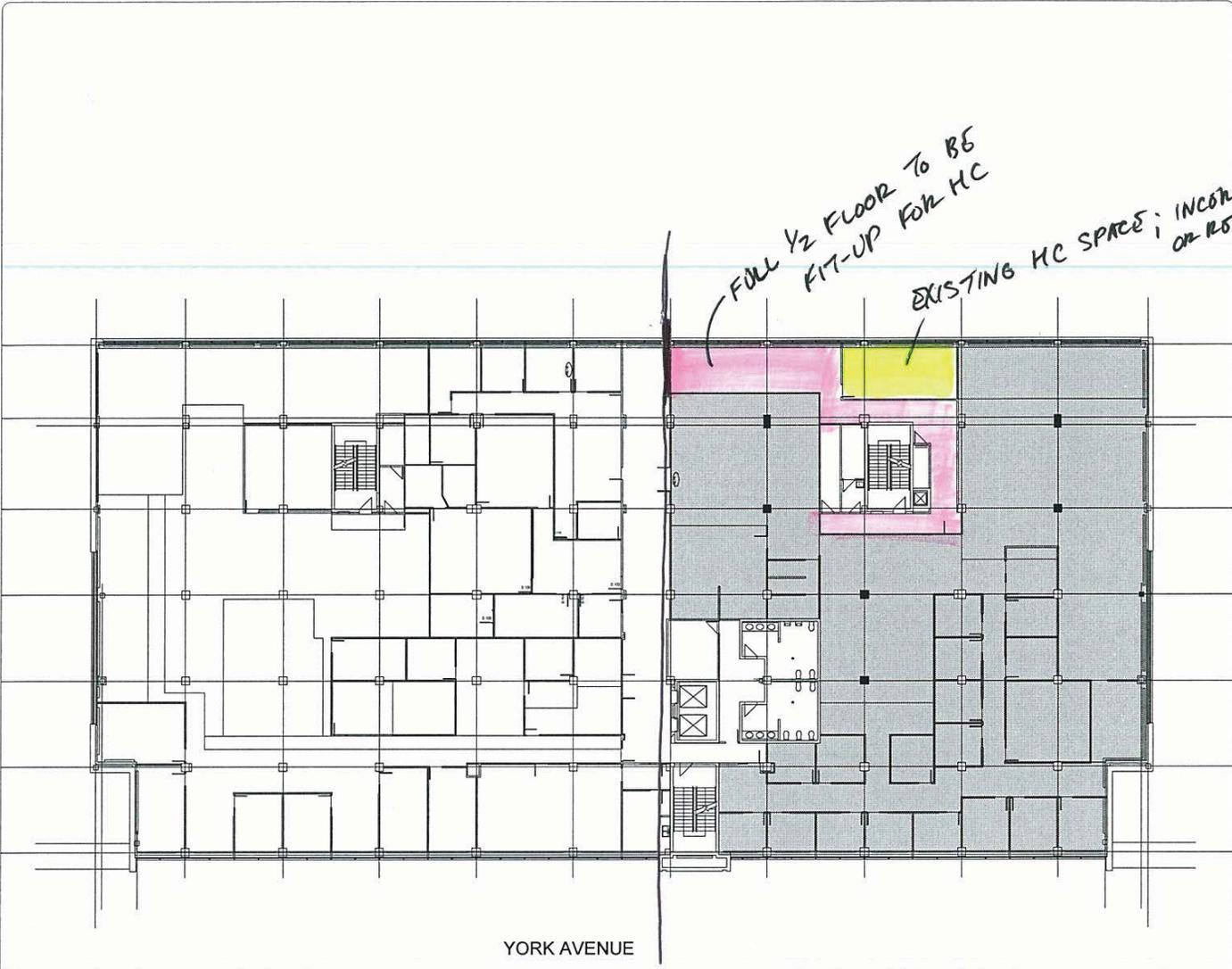
3.5 DISPOSAL OF WASTES

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
- .2 Do not bury rubbish or waste materials, and do not dispose of waste into waterways, storm, or sanitary sewers.
- .3 Prior to disposal of materials which contain lead-based paint, submit samples for testing. Materials with a leachable lead criterion above 5.0mg/L must be labeled as hazardous waste in accordance with Manitoba's Classification Criteria for Products, Substances and Organisms Regulation (Dangerous Goods Handling and Transportation Act) and must be disposed of appropriately and in accordance with any applicable regulations

3.6 DOCUMENTATION AND RECORDS

- .1 Keep accurate records of all construction waste generated and sent off-site during the Project using the sample Waste Material Tracking Form provided in Appendix D. The information tracked should include:
 - .1 Number and size of bins.
 - .2 Waste type(s) of each bin.
 - .3 Total tonnage generated of specific material.
 - .4 Tonnage reused or recycled of specific material.
 - .5 Reused or recycled waste destination.
- .2 Obtain receipts, scale tickets, and/or waybills for all waste

- materials removed from site. Where the receiver cannot provide the noted proof of delivery, provide copy of Waste Material Tracking Form signed by the receiver. (See Appendix D)
- .3 Prepare weekly Summary Waste Diversion Reports summarizing waste removal activities and quantities from site. (See Appendix C)
 - .4 At the completion of the project, prepare a written Final Waste Diversion Report and summary indicating all final quantities of materials reused, recycled, or disposed of as well as the following:
 - .1 Identify final diversion results and measure success against goals from the WRW
 - .2 Compare final quantities/percentages diverted with initial projections in Waste Audit and Waste Reduction Workplan, explaining variances
 - .3 Supporting documentation (e.g., waybills and tracking forms)
 - .4 Description of issues, resolutions and lessons learned



FULL 1/2 FLOOR To BE FIT-UP FOR HC
 EXISTING HC SPACE; INCORPORATE OR RELOCATE

YORK AVENUE

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

Real Property Branch
 Western Region
 Stanley Knowles Federal Building
 391 York AVE
 Winnipeg, MB
 Property: P600013 MUB: - RPU: 60000329

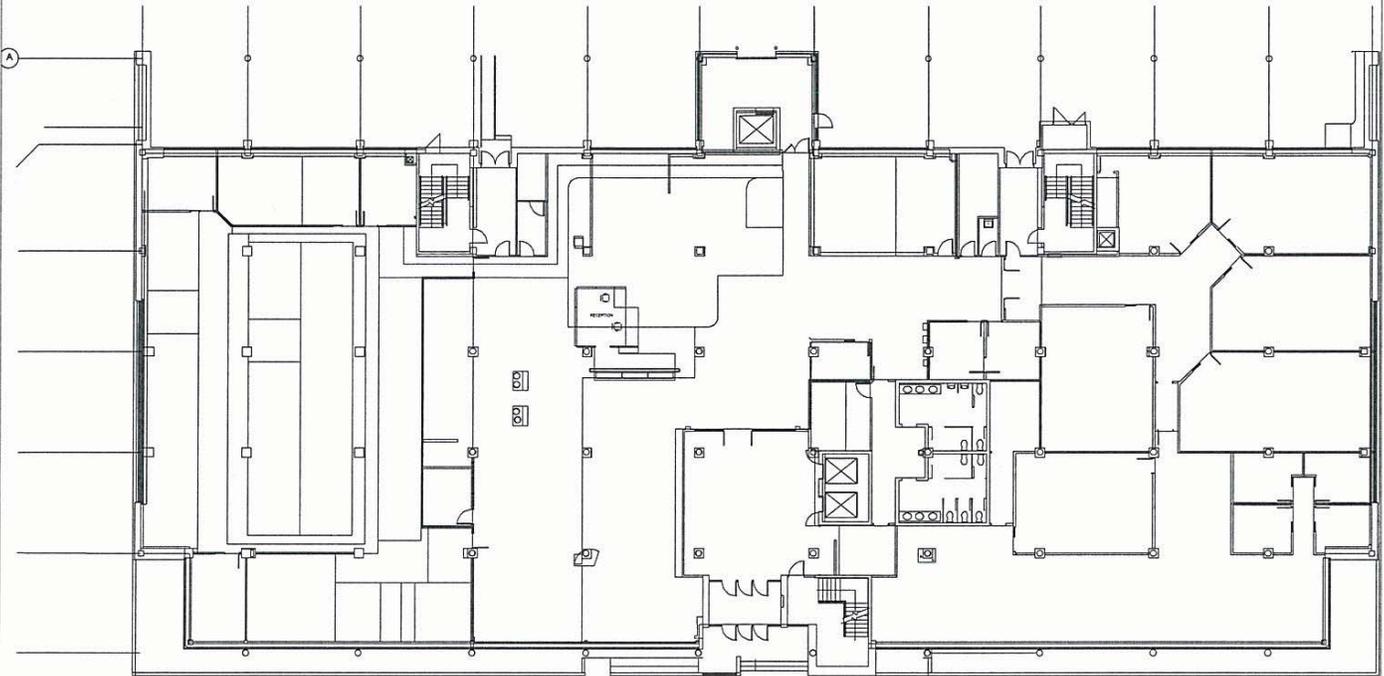
Drawing Title: **SECOND FLOOR**
 Measured by:
 Drawn by:
 Checked by:
 Revised by:
 Approved by:
 Project Number:
 LAN Directory:
 Drawing file: STK02T06.DET
 Drawing date: June 19, 2012
 Folder: ...\STANLEY KNOWLES FEDERAL BUILDING

Legend:

	m2 (Usable)	m2 (Rentable)	TENANT
	976.9	1,152.4	9999 Vacant-Marketable-Federal
	30m (APPROX)		
	30m (APPROX)		

(HC)






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

Real Property Branch
 Western Region
 Stanley Knowles Federal Building
 391 York AVE
 Winnipeg, MB
 Property: P600013 MUB: - RPU: 60000329

Drawing Title: MAIN FLOOR

Measured by:
 Drawn by:
 Checked by:
 Revised by:
 Approved by:
 Project Number:
 LAN Directory:

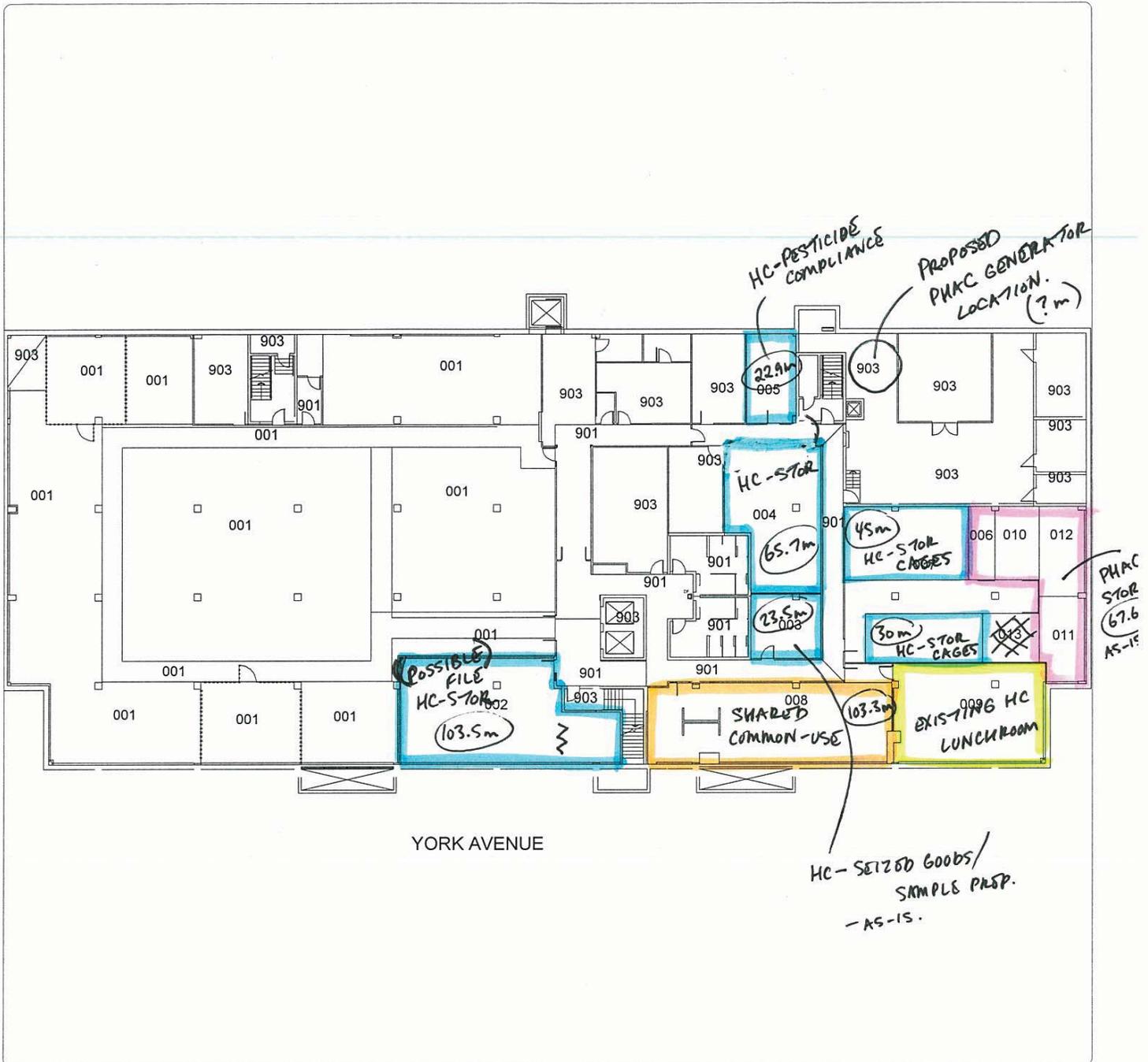
Drawing file: STK01T06.DET
 Drawing date: June 19, 2012
 Folder: ...STANLEY KNOWLES FEDERAL BUILDING

Legend: m2 SPACE DESCRIPTION

FULL FLOOR TO BE FIT-UP:

- PHAC - 1,660 m² (APPROX)
- HC - 342 m² (REST OF FLOOR)
- 2,002 m² •





Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

Real Property Branch
Western Region

Stanley Knowles Federal Building
391 York AVE
Winnipeg, MB

Property: P600013 MUB: - RPU: 60000329

Drawing Title: **BASEMENT FLOOR**
Measured by: Wst-Mb Team - Lead by Don Bowlby
Drawn by: Wst-Mb Team - Lead by Don Bowlby
Checked by: Don Bowlby
Revised by: Don Bowlby
Approved by: FSDA - D. Bowlby
Project Number: 403886
LAN Directory:

Drawing file: STKB1T06.DET
Drawing date: June 19, 2012
Folder: ...\STANLEY KNOWLES FEDERAL BUILDING

Legend: m2 SPACE DESCRIPTION



SHARED COMMON - 103.3 m²
 HC SEIZED GOODS / SAMPLE PRSP. (AS-IS) - 23.5 m²
 HC PESTICIDE COMPLIANCE - 22.9 m²
 HC STORAGE CAGES - 75 m² + 65.7 m²
 PHAC STORAGE CAGES (AS-IS) - 67.6 m²
 (+ AVAILABLE FILE STORAGE AREAS - 103.5 m²)

AVS

Asset Performance Report

Stanley Knowles Federal Building Winnipeg P600013A



March 2010

August 2012 – Specially Edited for Proposed Interior Renovations

Submitted by: Williams Engineering Canada Inc.
Edmonton, Alberta

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Section removed – not applicable to proposed interior renovations.	
Appendix Event Summary Listing by Discipline	Tab

Details	Values
Replacement Cost New	19,294,471
Construction Year (YYYY)	1959
Gross Area (square meters)	13,820
Date of current BCR	3/15/2010

Narratives

BCR Project Team and Documents

This BCR dated March, 2010 was prepared for PWGSC by Williams Engineering Inc.

The following personnel provided reporting for the project:

Property: David Elson
 Architectural: David Elson
 Structural: Paige Cline, E.I.T.
 Conveying & Mechanical: Jim Thompson, P.Eng.
 Electrical: Bill Johnson, P.Eng.

Building History

The Stanley Knowles Building was originally constructed in 1959 but a major renovation and addition was constructed in 1990-92 that included asbestos removal and replacement of all major building systems.

BCR Executive Summary

Public Works and Government Services Canada (PWGSC) requested a Level II Building Condition Report (BCR) be conducted on the Government of Canada Stanley Knowles Building in Winnipeg, with regard to property, architectural, structural, conveying, mechanical, and electrical. A site inspection was conducted between October 27 to October 29, 2009.

Services performed by Williams Engineering Canada Inc. for this assignment were conducted in a manner consistent with that level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Engineering judgement has been applied in developing the opinions and recommendations in this report. All information (reports, drawings, documents, or interviews with other personnel and consultants) provided to Williams Engineering Canada Inc. is deemed to be accurate and true. As such, Williams Engineering Canada Inc. will not be held liable for opinions based on inaccurate or misleading information.

The concealed nature of many of the conditions existing within a building are not always reflected on the interior or exterior surfaces, site conditions, and/or by the equipment within the facility. Also, a number of conditions are subject to change over time. Those making use of this report are cautioned of these possibilities, and of the risks generally inherent in visually based facility evaluations.

The scope of work for this report did not include any investigation into designated substances such as asbestos, lead, PCBs, or other regulated materials, or an evaluation, inspection, testing or assessment for any mould, fungi, or spores.

Williams Engineering Canada Inc. acknowledges that the interpretation of codes by authorities is a discretionary process. Williams Engineering Canada Inc. has no information about the specific interpretation of codes made by individuals representing the authorities having jurisdiction at the time this report was prepared. Building code requirements may only be fully realized when clear construction intent is presented by drawings, prepared for construction, and/or permit applications. However, direction can be given by the authorities having jurisdiction from drawings that clearly indicate the layout and occupancy of the space partitioning and occupancy of the space being developed.

Williams Engineering Canada Inc. is unaware of any related ongoing or previously completed reports, studies or investigations, other than those identified, for this building. In order to properly understand the opinions, recommendations, and suggestions expressed in this report, reference must be made to the whole of the report, and not portions thereof. In the event that additional information, data, or drawings are made available, Williams Engineering Canada Inc. requests the right to be advised, and to issue revisions to this report.

Overview Architectural & Structural Condition

The four storey Stanley Knowles Building in downtown Winnipeg is a good example of mid-twentieth century modernist architecture. The exterior of the building is clad with Tyndal limestone panels interspersed with ribbon style aluminum windows and some curtain wall portions for a strong contrasting facade. An understated granite base is continued into the main entrance lobby as a wall finish. The main floor has a high ceiling enhancing the openness of the spaces. The second floor extends over the main floor at the front of the building over a planter and over a rear parking area. The interior of the building features many floor finishes intended for heavy duty use such as terrazzo, ceramic tiling, painted concrete and linoleum. The basement level predominantly houses storage and service rooms while the upper floors house a variety of offices for the federal government. As the interior finishes of this building are varied, so is their relative condition. While most of the interior finishes are durable and long-lasting, some have already been replaced since the last major renovation and others are near the end of their anticipated life. The building envelope appears to be in good condition. Generally speaking, the building is well maintained.

The Stanley Knowles Building is comprised of an original two floor building with an additional two floors, added in 1990. The building is comprised of a substructure of cast-in-place concrete bell piles with grade beams. The crawl space is serviced with a 3" concrete slab-on-grade floor. The floor systems of the lower level, first floor, second floor, and third floor consists of a cast-in-place structural concrete slab with concrete joists, supported on concrete beams and columns. The fourth floor contains a concrete topping on metal decking with open web steel joists supported on a steel beam and column framework. The main roof is comprised of metal roof decking with open web steel joists supported on a steel beam and column framework. The rooftop penthouses are serviced with metal roof decking and open web steel joists supported on steel beams and columns in addition to a cast-in-place structural concrete slab. Overall the structural components of the Stanley Knowles Building are in good condition.

Overview Site Condition

The site is in downtown Winnipeg south of Portage Avenue. The property encompasses the south half of a typical downtown city block. The south east and west sides of the building are to the face of the City sidewalks except the main level is partially recessed to allow for a planter extending along the south length of the building. Granite finished steps lead from the sidewalk to the recessed main entrance doors. The main level on the north side of the building is also recessed to provide for sheltered employee parking. The parking area is paved with asphalt pavement directly off a public lane. The pavement, front steps and planters are in good condition with no evidence of deferred maintenance.

Compliance with Accessibility Standards

A base building accessibility audit was conducted by PWGSC - Maintenance Management, Winnipeg during the last three years. The audit report, obtainable from Maintenance Management - Edmonton, contains the overall compliance rating and cost estimates for all required upgrades in accordance to the 2004 CSA Accessibility Standard.

Code Compliance Summary

The scope of the work for this BCR was to identify any obvious code issues and deficiencies noted during the condition assessment. It was not to conduct a complete code compliance audit. There have been changes to the various codes since the building was constructed in 1959 and major renovations in 1990-1992. Any significant renovations, modifications or retrofit of the building will require a thorough review of existing code requirements. Direct and indirect code-related improvements identified will need to be addressed at that time. No obvious code issues were noted during the site inspection.

Overview of Vertical & Horizontal Transportation Condition

The building is provided with two United Technologies passenger elevators, located in the centre of the building. One Federal freight elevator has been installed on the north side of the building. All three elevators were upgraded in 1994 and appeared in good condition.

Overview of Mechanical Systems Condition

The Stanley Knowles building is provided with a hot water perimeter radiation system, which is the primary source of heat for the first, second, third and fourth floors. The heated hot water is produced by three Rendamax boilers, located in the west penthouse mechanical room. Entrances, loading docks, soffit areas, and crawl spaces are provided with heat by hydronic force flows and/or unit heaters.

The building is supplied with cooling by a McQuay chiller and a Baltimore Air Coil (BAC) cooling tower, which are located in the east penthouse and the roof respectively. A BAC fluid cooler is installed on the roof, and is operated to provide free cooling when the outdoor conditions are satisfactory. The chilled water is supplied to the cooling coils of the fan coil units.

The building is supplied with conditioned fresh air by two Engineered Air indirect fired make-up air units, complete with a cooling system, and located in the penthouse mechanical rooms. Ductwork distributes the conditioned fresh air from each make-up air unit to the dropped ceiling space on each floor. Fan coil units and variable air volume (VAV) boxes, located in the drop ceiling space supply the occupied areas with ventilation air.

The majority of the mechanical equipment and systems in the Stanley Knowles building were upgraded in 1994, therefore are 15 years of ages, and appeared in good condition. Estimated costs have been provided for the replacement of the mechanical equipment over the next 30 years.

Compliance with TBS Temp., Humidity & Ventilation Targets

The Stanley Knowles building is provided with a humidity system, cooling and heating systems, and ventilation system. We believe these systems are capable of meeting TBS temperature, humidity and ventilation targets. Further testing would be required to confirm if the targets are actually being achieved.

Overview of Electrical Systems Condition

The electrical systems in this building are in good condition and have been well maintained. The building is provided with a 2000 amp 347/600 volt electrical service, supervised fire alarm system, and fluorescent lighting throughout. The distribution and lighting systems were replaced when a major renovation and addition were completed in 1992 and are in good condition. Major upgrading or replacement of the fire alarm system is anticipated in the near future.

00. Property

Section removed – not applicable to proposed interior renovations.

01. Architectural & Structural

01.1A-010 Footings & Foundations

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	338,483
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	2,764
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. The original drawings were dated March 30, 1957. In addition, renovation as-built drawings were dated May 1970.

The drawings indicate that the foundation is comprised of cast-in-place concrete bell piles (caissons). The bell piles range from 3'-0" diameter to 3'-6" diameter shaft with a bell size of 4'-0" to 7'-6" diameter. The drawings indicate vertical and spiral reinforcing in all piles, in addition to #3 rings @ 48" off centre below spiral.

Perimeter cast-in-place concrete foundation walls were supported on exterior piles/caissons. In addition, cast-in-place foundation walls were constructed around the elevator shaft.

Component Condition & Anticipated Replacement Date

The majority of the foundation system was concealed from view below grade. No test openings were made to expose these elements. The crawl space allowed for a visual inspection, of a sample, of the exposed foundation system.

The foundation system appeared to be in good condition and is expected to last the full life cycle of the building.

The anticipated replacement date is 2067, which is beyond the BCR's 30 year plan, thus no events are indicated.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

01.1A-011 Basement Walls

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	850,463
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	2,764
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. The drawings included the original building designs, dated March 30, 1957 as well as renovation as-builts dated May 1970.

The wall system of the basement was comprised of perimeter cast-in-place concrete which are continuous from the crawl space in certain areas. Cast-in-place concrete walls were located around the elevator shaft. The concrete walls were conventionally reinforced.

Component Condition & Anticipated Replacement Date

Portions of the basement walls were concealed from grade due to architectural finishes. The portions that were exposed appeared to be in good condition. The basement walls are expected to last the full life cycle of the building.

The anticipated replacement date is 2067, which is beyond the BCR's 30 year plan, thus no events are indicated.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

01.2-010C10 Frame - Concrete + Steel

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	160,350
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. The drawing set was comprised of original drawings, dated March 30, 1957, and renovation as-built drawings, dated May 1970.

The first and second floor framing system was comprised of cast-in-place concrete columns, which range in size and shape. The drawing indicated conventional reinforcement which includes ties or spirals and vertical rebar. Along the north wall, there were steel beams and columns. These steel beams and columns were installed when the third and fourth floors were added.

The third and fourth floor frames were comprised of a steel framework. Various size steel beams were supported on interior and exterior steel columns. These framing systems were installed in the 1970 renovation.

Component Condition & Anticipated Replacement Date

The vast majority of the framing systems were concealed from view due to architectural finishes. No test openings were made to expose these structural elements.

The building's framing system appears in good condition and is expected to last the full life cycle of the building.

The anticipated replacement date is 2067, which is beyond the BCR's 30 year plan. Thus no events are indicated for the framing systems.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

01.2-020C10 Slab on Grade - Concrete

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	12,527
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	100
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. The set of drawings provided included original drawings dated March 30, 1957 and renovation as-built drawings dated May 1970.

The drawings indicate that the floor system, located in the crawl space, was 3" cast-in-place concrete slab-on-grade, conventionally reinforced.

The floor system for the mechanical room, located in the northeast corner of the basement, was a 5" cast-in-place concrete slab-on-grade conventionally reinforced. The floor was noted to be approximately 2' higher than the crawl space slab and 4' lower than the supported basement floor.

Component Condition & Anticipated Replacement Date

The concrete slab-on-grade appeared to be in good condition, thus no repairs are recommended at this time. The concrete slab is expected to last the full life cycle of the building.

The anticipated replacement date for the concrete slab-on-grade is 2067, which is beyond the BCR's 30 year plan. Thus no event is included.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

01.2-030C05 Slab above Grade - Concrete

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	2,000,137
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. Original drawings, dated March 30, 1957 and renovation as-built drawings, dated May 1970 were included in the provided set.

The floor system for the basement, first, second and third floor was comprised of 3" cast-in-place concrete structural slab with 10" cast-in-place concrete joists. The ribbing was oriented east-west and was supported on concrete beams oriented north-south. The drawings indicate bridging joists along the exterior perimeter and double joists in various locations. The second and third floors also included 2½" reinforced concrete slab on 1½" cellular decking, along the north side of the building.

The floor system for the fourth floor was comprised of 2½" reinforced concrete slab on 1½" cellular decking, supported by steel beams and columns.

The rooftop mechanical room penthouse floors were comprised of 4" reinforced concrete slab on 1½" cellular decking supported on a steel framework.

Component Condition & Anticipated Replacement Date

The majority of the floor systems were concealed from view due to architectural finishes such as carpeting and suspended ceilings.

The lower level floor was exposed in the supply / warehouse area. The finish on the concrete slab showed multiple alligator cracking throughout the storage area. Maintenance reported that the cracking may have happened at time of original construction and has not deteriorated or progressed in the last 10 years. No repair recommendations are made at this time as the cracking appears to be an esthetic concern in a non-public area.

The remaining floor systems appeared to be in good condition, including the concrete slab of the rooftop penthouses. However, a vertical deflection was noted in the southeast corner of the first floor. No signs of distress were observed at this location from the first floor or the lower level; therefore, no repair recommendations are made at this time.

Overall, the elevated floors appear to be in good condition with an anticipated replacement date of 2067. This is beyond the BCR's 30 year plan, thus no events are indicated.

Assessment Criteria

Physical damage or deterioration

Default

Existence

Yes

Alligator cracking of lower level concrete topping.

01.2-040C10 Roof Structure-Concrete Joist + Steel Deck

<u>Details</u>	<u>Values</u>
Expected Life	110
Component Cost	7,927
Component BPR Rating	Satisfactory
Last Major Action Year	1978
Component Condition	Good
Quantity	2,764
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Structural drawings were provided by the Department of Public Works. The original drawings were dated March 30, 1957. In addition, renovation as-built drawings were dated May 1970.

The structural roof elements of the main roof and the roof for the rooftop penthouses are comprised of 1 1/2", 22 gauge metal roof decking supported by open web steel joists. The steel joists span between the steel beam and column framework.

Component Condition & Anticipated Replacement Date

The majority of the structural components for the main roof were concealed from view due to architectural finishes, such as a suspended ceiling and by the roof membrane. The main roof showed no signs of distress and thus no repair recommendations are made at this time.

The structural roof elements of the penthouse rooftop units were concealed for fire rating; however, no signs of distress were noted.

The anticipated replacement date for the structural roof components is 2067, which is beyond the BCR's 30 year plan, thus no events are indicated.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

Exterior components removed from report – not applicable for proposed interior renovations.

01.3A-075 Window Coverings

<u>Details</u>	<u>Values</u>
Expected Life	30
Component Cost	136,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	1,250
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Most of the office areas have horizontal blinds on the perimeter windows. Some areas have vertical blinds.

Component Condition & Anticipated Replacement Date

The window coverings appear to be in good condition but do require occasional repair and maintenance. The anticipated replacement date is 2025.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Window coverings in an upper floor office area

01.5-010C01 Concrete Block Partition

<u>Details</u>	<u>Values</u>
Expected Life	100
Component Cost	150,000
Component BPR Rating	Satisfactory
Last Major Action Year	1959
Component Condition	Good
Quantity	1,000
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Concrete block is used for some partitions in the basement and to encase some vertical shafts throughout the building.

Component Condition & Anticipated Replacement Date

The walls appear to be in good condition, no large cracking was in evidence. Since the anticipated replacement date is 2059, which is beyond this BCR's 30 year cycle, no event is offered.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

01.5-010C10 Interior Glazed Opening

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	98,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	160
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There are interior glazed windows found on all levels, predominantly used as sidelights. The majority are in aluminum frames, some are in steel frames.

Component Condition & Anticipated Replacement Date

Both the windows and the steel and aluminum frames appear to be in good condition. Damaged or broken glass would be replaced as part of regular maintenance. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Aluminum framed glass office partition.

01.5-012C01 Gypsum Board Partition with Studs

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	1,370,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good

Quantity	6,915
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The interior partitions are typically constructed of steel stud and gypsum wallboard.

Component Condition & Anticipated Replacement Date

Alteration and replacement of interior partitions is determined by changes in functional layout. The partitions may last for an indefinite period. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Typical gypsum board finished partition walls.

01.5-013C10 Washroom Partitions

<u>Details</u>	<u>Values</u>
Expected Life	30
Component Cost	60,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	40
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The washrooms have floor mounted enameled steel partitions.

Component Condition & Anticipated Replacement Date

The partitions appear to be in good condition with operating hardware. The anticipated replacement date is 2025.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Enameled steel washroom partitions

01.5-050C05 Glass & Glazed Doors

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	51,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	8
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There are some interior glazed aluminum doors on the main, third and fourth floors.

Component Condition & Anticipated Replacement Date

The doors and frames are in good operating condition. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Interior glazed aluminum framed door.

01.5-050C15 Metal Doors

<u>Details</u>	<u>Values</u>
Expected Life	60
Component Cost	113,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	59
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There are numerous metal doors and frames in the building, many with a fire resistance rating. Selected doors have integral glazing.

Component Condition & Anticipated Replacement Date

The doors and frames appear to be in good working order. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Hollow metal door in a pressed steel frame.

01.5-050C20 Softwood Doors

<u>Details</u>	<u>Values</u>
Expected Life	40
Component Cost	155,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	218
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The majority of the interior doors are made of a solid softwood core in aluminum, wood or steel frames.

Component Condition & Anticipated Replacement Date

The doors appear to be in good operating condition. Doors may be replaced due to changes in decor or functional layout. The anticipated replacement date is 2035.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



An oak laminated door with a solid softwood core

01.5-060C15 Wall Paint

<u>Details</u>	<u>Values</u>
Expected Life	5
Component Cost	294,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	17,300
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

All the interior gypsum board walls have been painted with an interior latex paint.

Component Condition & Anticipated Replacement Date

The wall surfaces throughout the building appeared to be in good condition. Some areas have been more recently re-painted. It is recommended that budgets be carried to re-paint 1/4 of the interior surfaces every five years, starting in 2011.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



The interior paint scheme of one office area.

CP Replacement [01.5-060C15 Wall Paint]

Details

Values

Brief Description (40 Characters)	Re-paint 1/4 of the walls.
Original Event Year	Unspecified
Current event Year (YYYY)	2016
Estimated Event Cost	\$81,030

Narratives

Event Description

Re-paint 1/4 of the interior gypsum board wall finishes.

Event Justification & Strategy

Maintain a clean and upgraded interior.

Implication of Event Deferral (Risks)

Wall surfaces may become marred and stained and colour schemes may not match current trends.

01.5-060C17 Vinyl Wall Covering

<u>Details</u>	<u>Values</u>
Expected Life	30
Component Cost	1,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	15
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Vinyl wall coverings are used as a feature in the building lobby as well as an area on the fourth floor.

Component Condition & Anticipated Replacement Date

The wall coverings are in good condition with no visible damage. The anticipated replacement date is 2025.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Vinyl wall covering in the main entrance lobby

01.5-060C30 Granite Special Wall Finishes

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	35,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	110
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Granite wall tiling is used to enhance the image of the main entrance building lobby. It is also used as a feature in the elevator lobbies of the upper floors.

Component Condition & Anticipated Replacement Date

The granite surface appears to be in good condition. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Granite tiling in the building lobby

01.5-070C05 Carpeting

<u>Details</u>	<u>Values</u>
Expected Life	5
Component Cost	940,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Average
Quantity	9,120
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The majority of the floor areas of the building are covered with carpet in the form of commercial broadloom or carpet tile.

Component Condition & Anticipated Replacement Date

Throughout the building, the carpeting is of various age and condition. The newer carpeted areas are finished with carpet tile. It is recommended that 1/4 of all carpet areas be replaced every five years, starting in 2010.

Assessment Criteria

Excessive wear

Default

Existence

Yes

Some broadloom commercial carpets are in poor condition.



Newer carpet tile flooring

CP Replacement [01.5-070C05 Carpeting]

Details

Values

Brief Description (40 Characters)	Replace 1/4 of all carpeting.
Original Event Year	Unspecified
Current event Year (YYYY)	2015
Estimated Event Cost	\$231,126

Narratives

Event Description

Replace 1/4 of the commercial broadloom carpeting and the carpet tiles capturing all areas that exhibit evidence of excessive wear.

Event Justification & Strategy

The carpeting will have reached the end of its anticipated life. Some carpet areas are exposed to heavier traffic than other areas and will show signs of wear earlier.

Implication of Event Deferral (Risks)

Heavily worn carpet will appear stained and dirty and may create a tripping hazard.

01.5-070C10 Ceramic Floor Tile

<u>Details</u>	<u>Values</u>
Expected Life	43
Component Cost	164,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	810
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Ceramic floor tiling is used in all the washrooms and as the floor surface in much of the public space on the main floor.

Component Condition & Anticipated Replacement Date

The ceramic floors are in good condition, with an anticipated replacement date of 2038.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Note the ceramic floor tiling.

01.5-070C25 Linoleum or Sheet Vinyl Floor

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	129,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	710
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Linoleum flooring is used in the basement level as well in some areas on the third and fourth floors. Some of the upper floors have inlaid patterns.

Component Condition & Anticipated Replacement Date

The linoleum is a heavy duty floor finish that appears to be in good condition on all levels. The anticipated replacement date is 2020.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



A linoleum floor used in a basement corridor

CP Replacement [01.5-070C25 Linoleum or Sheet Vinyl Floor]

Details

Values

Brief Description (40 Characters)	Replace linoleum flooring
Original Event Year	Unspecified
Current event Year (YYYY)	2020
Estimated Event Cost	\$129,291

Narratives

Event Description

Replace the linoleum flooring used in staff and service areas in the basement and on the third and fourth floors.

Event Justification & Strategy

The flooring will have reached the end of its anticipated life.

Implication of Event Deferral (Risks)

Heavily worn linoleum will be difficult to clean and maintain. It will be marred from heavy use, seams may separate and could potentially lift creating a tripping hazard.



Typical linoleum flooring

01.5-070C50 Rubber Floor

<u>Details</u>	<u>Values</u>
Expected Life	30
Component Cost	11,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	40
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Rubber floor tiling is used in a couple of office areas on the main level.

Component Condition & Anticipated Replacement Date

The rubber floor tiles appear to be in good condition. Rubber floor tiles are a heavy duty flooring material and will last for an extended period. The anticipated replacement date is 2025.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

01.5-070C60 Vinyl Floor Tile

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	12,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Average

Quantity	155
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Vinyl composition floor tiles are used in some service rooms of the basement, main and second floors.

Component Condition & Anticipated Replacement Date

The floor tiling appears to be in good condition. Properly maintained, the floor tiles may last for an extended period. The anticipated replacement date is 2020.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

RP Replacement [01.5-070C60 Vinyl Floor Tile]

Details

Values

Brief Description (40 Characters)	Replace vinyl floor tiling
Original Event Year	Unspecified
Current event Year (YYYY)	2020
Estimated Event Cost	\$10,987

Narratives

Event Description

Replace the vinyl composition floor tiles found in some service areas in the basement and on the main and second floors.

Event Justification & Strategy

The floor tiles will have reached the end of their anticipated life.

Implication of Event Deferral (Risks)

Replacements for broken and damaged tiles may no longer be available. Heavily worn tiles are difficult to clean and maintain.

01.5-070C65 Terrazzo Floor

Details

Values

Expected Life	50
Component Cost	445,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	965
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Patterned terrazzo flooring is used as the floor finish in many of the main public corridors throughout the building.

Component Condition & Anticipated Replacement Date

The terrazzo flooring appears to be in good condition with no evidence of significant wear or cracking. Terrazzo flooring is a heavy duty floor finish. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Terrazzo flooring with inlaid patterns used in corridors

01.5-070C75 Raised Floor Systems

<u>Details</u>	<u>Values</u>
Expected Life	40
Component Cost	5,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	20
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There is a small raised floor area in the central public portion of the main floor.

Component Condition & Anticipated Replacement Date

The raised floor appears to be in good condition. The anticipated replacement date is 2035.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



A raised floor in central area of the main floor

01.5-080C10 Gypsum Board Ceiling

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	111,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	600
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Ceilings over the main entrance lobby, the upper elevator lobbies and the washroom vestibule have recessed gypsum board feature ceilings. The washrooms also have gypsum board ceilings.

Component Condition & Anticipated Replacement Date

The ceilings are in good condition with no evidence of cracks. With regular repair and maintenance the ceilings may last for an extended period. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

01.5-080C15 Metal Panel Ceiling

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	2,400
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	15
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The main entrance vestibule has a linear metal ceiling.

Component Condition & Anticipated Replacement Date

The metal ceiling is in good condition with no evidence of corrosion or staining. The anticipated replacement date is beyond the 30 year budget period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

01.5-080C30 Suspended Acoustic Panel Ceiling

<u>Details</u>	<u>Values</u>
Expected Life	40
Component Cost	1,324,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	11,300
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The majority of the office areas and corridors are covered with a 600mm x 1200mm suspended acoustic ceiling system.

Component Condition & Anticipated Replacement Date

The suspended acoustic ceiling system appears to be in good condition. Stained and damaged ceiling tiles are replaced as required within the maintenance budget. Ceiling systems are replaced due to changes in decor and functional layout. The anticipated replacement date for 1/4 of the building is 2035.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



A suspended acoustic ceiling in an of the open office area.

01.5-080C37 Ceiling Paint

<u>Details</u>	<u>Values</u>
Expected Life	5
Component Cost	17,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	600
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Paint has been applied to the plaster and gypsum board ceilings.

Component Condition & Anticipated Replacement Date

The painted ceilings appear to be in good condition. It is recommended that 1/4 of the ceilings be painted on a five year cycle in concert with the schedule for painting of the interior walls.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



A painted gypsum board bulkhead and recessed ceiling

RP Replacement [01.5-080C37 Ceiling Paint]

Details

Values

Brief Description (40 Characters)	Re-paint 1/4 of painted finished ceilings
Original Event Year	Unspecified
Current event Year (YYYY)	2015
Estimated Event Cost	\$4,202

Narratives

Event Description	Re-paint 1/4 of the gypsum board and plaster ceilings found on all levels.
Event Justification & Strategy	The paint finish will have reached the end of its anticipated life.
Implication of Event Deferral (Risks)	The painted surface will become dirty and stained impacting the distribution of lighting.

01.5A-055 Interior Door Hardware

Details

Values

Expected Life	35
Component Cost	218,000
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	285
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The interior doors have latchsets and hinges. Some have closers and other associated hardware.

Component Condition & Anticipated Replacement Date

The hardware is in good working order. The replacement date is 2030.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Interior door hardware, this door has a powered operator

01.6A-025 Fixed or Permanent Furnishing (Millwork)

<u>Details</u>	<u>Values</u>
Expected Life	35
Component Cost	87,500
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	45
Measurement unit/ Metric	m
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There are built-in upper and lower cabinets with counters in staff rooms and coffee areas throughout the building.

Component Condition & Anticipated Replacement Date

The cabinets appear to be in good condition. The anticipated replacement date is 2030.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



The built-in cabinetry of a staff-room area

02. Conveying Systems

Section removed – not applicable to proposed interior renovations.

03. Mechanical

03.1A-010 CHP Related Heat Exchangers

<u>Details</u>	<u>Values</u>
Expected Life	35
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	1
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with the following heat exchanger:

East penthouse mechanical room: Alfa Laval plate heat exchanger model M15-BFG, which services the fluid cooler.

Component Condition & Anticipated Replacement Date

The plate heat exchanger appeared in good condition, is 15 years of age, with an anticipated replacement date of 2029.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

03.1A-020 Duct Systems

<u>Details</u>	<u>Values</u>
Expected Life	65
Component Cost	287,053
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with a duct system, which distributes the conditioned fresh air from the make-up air units into the ceiling space of each floor. Fan coils, located in the drop ceiling space, distribute a mixture of return and fresh air into the occupied space via ductwork.

Various exhaust air fans are also equipped with duct systems.

Component Condition & Anticipated Replacement Date

The distribution duct systems appeared in good condition. Since the replacement date is estimated to be 2059, and is beyond this BCR's 30 year replacement cycle, no event is offered.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

03.1A-023 DX Split AHU - Cool

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	2001
Component Condition	Good
Quantity	56
Measurement unit/ Metric	Cool tons
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The basement main electrical room, is provided with cooling by a split DX cooling system, consisting of the following:

- 1 - Mitsubishi MU12EN evaporator
- 1 - Mitsubishi MS12EN condenser

The two Engineered Air make-up air units are equipped with a split DX cooling system, with a cooling coil installed in the ductwork and the condensers located on the roof, and are as follows:

- 2 - Carrier 38AKS014 condensing units, which service the Engineered Air DJ-100.
- 2 - Carrier 38AKS016 condensing units, which service the Engineered Air DJ-140.

Component Condition & Anticipated Replacement Date

The Mitsubishi DX split AHU is approximately 15 years of age, appeared in good condition, with an anticipated replacement date of 2019.

The four Carrier condensing units are 8 years of age, appear in good condition, with an anticipated replacement date of 2026.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

03.1A-024 Computer Cooling AHU

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	119,397
Component BPR Rating	Satisfactory
Last Major Action Year	1999
Component Condition	Good
Quantity	10
Measurement unit/ Metric	Cool tons
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Each of the five LAN rooms are equipped with a DX split cooling system, which consist of the following:

- 1 - Mitsubishi model PU18EK condenser
- 1 - Mitsubishi PK18FK evaporator

The server room at the Indian Residential School is provided with cooling by a Liebert model DMC022WGP02, which uses chilled water for cooling.

Component Condition & Anticipated Replacement Date

The Mitsubishi computer room cooling systems are approximately 15 years of age, appeared in good condition, with an anticipated replacement date of 2019.

The Liebert cooling unit is approximately 10 years of age, appeared in good condition, with an anticipated replacement date of 2024.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

CP Replacement [03.1A-024 Computer Cooling AHU]

<u>Details</u>	<u>Values</u>
Brief Description (40 Characters)	Replace LAN room cooling units
Original Event Year	Unspecified
Current event Year (YYYY)	2019
Estimated Event Cost	\$174,873

Narratives

Event Description

Replace following cooling units and related equipment in each of the five LAN rooms:

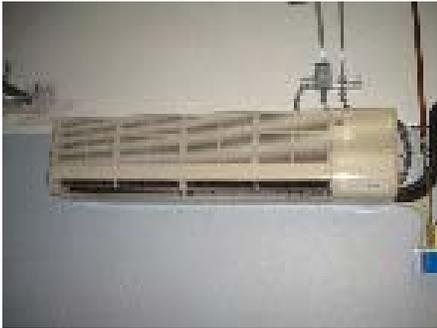
- 1 - Mitsubishi model PU18EK condenser
- 1 - Mitsubishi PK18FK evaporator

Event Justification & Strategy

The cooling units are at the end of their life cycle.

Implication of Event Deferral (Risks)

The cooling units will begin to fail and require additional maintenance.



Mitsubishi evaporator located in one of the LAN rooms



Mitsubishi condenser located outside one of the LAN rooms

CP Replacement [03.1A-024 Computer Cooling AHU]

Details

Values

Brief Description (40 Characters)	Replace Liebert cooling unit
Original Event Year	Unspecified
Current event Year (YYYY)	2024
Estimated Event Cost	\$43,718

Narratives

Event Description

Replace the Liebert model DMC022WGP02, located in the Indian Residential School, and related equipment.

Event Justification & Strategy

The cooling unit is at the end of its life cycle.

Implication of Event Deferral (Risks)

The unit will begin to fail and result in additional maintenance.



Liebert cooling unit located in the Indian Residential School

03.1A-030 Ventilation Fans

<u>Details</u>	<u>Values</u>
Expected Life	44
Component Cost	60,939
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	30
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with the following ventilation fans:

1 - Loren Cook 300 CPV exhaust air fan is equipped with a VFD, located on the roof, and controls the level of CO2 in the west side of the building.

1 - Loren Cook 210 CPV exhaust air fan @ 2509 L/S, is equipped with a VFD, located on the roof, and controls the level of CO2 in the east side of the building.

1 - Loren Cook 165 ACEB exhaust air fan @ 880 L/S, located on the roof, dedicated to the washrooms.

1 - Loren Cook 120 CEB exhaust air fan @ 240 L/S, located on the roof, dedicated to the washrooms.

4 - Delhi D212 booster fan, supplies conditioned fresh air into ceiling space of floors 1,2,3,4 on east side of the building, located in ceiling space for each respective floor.

- 5 - Delhi D212 booster fan, supplies conditioned fresh air into ceiling space of floors B,1,2,3,4 on west side of the building, located in ceiling space for each respective floor.
- 8 - Fantech B1004M5 exhaust air fans @ 50 L/S, located in the electrical rooms on floors 1,2,3,4, controls temperature in electrical rooms by exhausting hot air from electrical room.
- 9 - Fantech FX5 humidity sensing fans, located in the ceiling space near each steam dispersion system.
- 1 - Penn Z8H washroom exhaust air fan, located in ceiling space of the 4th floor DND washroom.

Component Condition & Anticipated Replacement Date

The ventilation fans are approximately 15 years of age, appear in good condition, with an anticipated replacement date of 2038.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Three roof mounted ventilation fans

03.1A-032 Humidifiers

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	17,640
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	9
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with humidity by a steam boiler, via a steam piping distribution system, to 9 steam dispersion systems located throughout the building. The humidification system consists of the following equipment:

- 1 - Burnham V906 steam boiler, complete with a power burner, located in the west penthouse mechanical room.
- 1 - Condensate tank.
- 2 - Condensate pumps @ 5 hp.
- 2 - Pulsatron model 9437-01-04 chemical feed pumps
- 1 - Waterite model A60/760 water softener (in the process of being installed during our site visit)
- 6 - Pure model 50-10 steam dispersion systems
- 2 - Pure model 60-20 steam dispersion systems
- 1 - Pure model 70-20 steam dispersion system

Component Condition & Anticipated Replacement Date

The steam humidification system was installed in 1994, appeared in good condition, with an anticipated replacement date of 2024.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

CP Replacement [03.1A-032 Humidifiers]

<u>Details</u>	<u>Values</u>
Brief Description (40 Characters)	Replace humidification equipment
Original Event Year	Unspecified
Current event Year (YYYY)	2024
Estimated Event Cost	\$81,981

Narratives

Event Description

Replace the following humidification system equipment and related equipment:

- 1 - Burnham V906 steam boiler, complete with a power burner, located in the west penthouse mechanical room.
- 1 - Condensate tank.
- 2 - Condensate pumps @ 5 hp.
- 2 - Pulsatron model 9437-01-04 chemical feed pumps
- 1 - Waterite model A60/760 water softener
- 6 - Pure model 50-10 steam dispersion systems
- 2 - Pure model 60-20 steam dispersion systems
- 1 - Pure model 70-20 steam dispersion system

Event Justification & Strategy

The humidification equipment is at the end of its life cycle.

Implication of Event Deferral (Risks)

The equipment will begin to fail and result in increased maintenance.



Steam boiler located in west penthouse mechanical room



Typical steam dispersion system

03.1A-034 Make-up Air AHU

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	4,230
Component BPR Rating	Unsatisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	2
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with conditioned fresh air by two Engineered Air indirect fired make-up air units, which are as follows:

- An Engineered Air DJ-100 make-up air unit, located in the east penthouse mechanical room, and is equipped with a supply air fan, filters, and heating burner.
- The west penthouse is provided with an Engineered Air DJ-140 make-up air unit, which is equipped with a supply air fan, filters, and heating burner.

Both units are provided with a cooling system, which is included in the section 03.1A-123 DX Split AHU - Cool.

Component Condition & Anticipated Replacement Date

The two Engineered Air make-up air units are 15 years of age, appear in good condition, with an anticipated replacement date of 2019.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



The Engineered Air DJ-100 make-up air unit, located in the east penthouse mechanical room

CP Replacement [03.1A-034 Make-up Air AHU]

<u>Details</u>	<u>Values</u>
Brief Description (40 Characters)	Replace two make-up air units
Original Event Year	Unspecified
Current event Year (YYYY)	2019
Estimated Event Cost	\$105,985

<u>Narratives</u>	
Event Description	Replace the Engineered Air DJ-100 and DJ-140 make-up air units, complete with related equipment.
Event Justification & Strategy	Both make-up air units are at the end of their life cycle.
Implication of Event Deferral (Risks)	Both make-up air units will begin to fail which will result in a shortage of fresh air for the occupants of the building.

03.1A-034 Make-up Air AHU - Cleaning

<u>Details</u>	<u>Values</u>
Expected Life	5
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good

Quantity	2
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with conditioned fresh air by two Engineered Air indirect fired make-up air units, which are as follows:

- An Engineered Air DJ-100 make-up air unit, located in the east penthouse mechanical room, and is equipped with a supply air fan, filters, and heating burner.
- The west penthouse is provided with an Engineered Air DJ-140 make-up air unit, which is equipped with a supply air fan, filters, and heating burner.

Both units are provided with a cooling system, which is included in the section 03. 1A-123 DX Split AHU - Cool.

Component Condition & Anticipated Replacement Date

We recommend the two make-up air units and related cooling coil, be cleaned every five years, starting in 2012.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.

RP Life Extension [03.1A-034 Make-up Air AHU - Cleaning]

Details

Values

Brief Description (40 Characters)	Clean make-up air units and coils
Original Event Year	Unspecified
Current event Year (YYYY)	2017
Estimated Event Cost	\$3,000

Narratives

Event Description

Clean the fan and burner in each make-up air unit, and their respective cooling coil. Both make-up air units are located in the penthouse mechanical room.

Event Justification & Strategy

The life cycle of the make-up air unit will be extended and the system will be more efficient.

Cost Line was not used. Our estimated cost for the work identified is approximately \$3,000.00.

Implication of Event Deferral (Risks)

The two make-up air systems will not be as efficient.

03.1A-040 Heating & Cooling Piping Systems

<u>Details</u>	<u>Values</u>
Expected Life	65
Component Cost	168,383
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with both a heating and cooling distribution piping system, which includes control valves for both systems.

Component Condition & Anticipated Replacement Date

Both piping systems appeared in good condition, and both are provided with chemical treatment and should have infinite life. Since the replacement date is estimated to be 2059, and is beyond this BCR's 30 year replacement cycle, no event is offered.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

03.1A-060 Terminal Units

<u>Details</u>	<u>Values</u>
Expected Life	40
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	193
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with the following terminal units:

- 4 - Engineered Air hot water force flow units, located in first floor soffit space.
- 3 - Engineered Air hot water heating force flow units, located near entrances.
- 1 - Mars hot water heating air curtain, located at front entrance.

- 2 - Engineered Air hot water unit heaters, located in loading dock.
- 3 - Engineered Air hot water unit heaters, located in west mechanical penthouse.
- 3 - Engineered Air hot water unit heaters, located in east mechanical penthouse.
- 2 - Engineered Air hot water unit heaters, located in sub-basement.
- 100 - Engineered Air fan coil units, located in the ceiling space of the occupied areas.
- 41 - Titus variable volume boxes, located in the ceiling space of the occupied areas.
- 12 - Chromola electric unit heaters, located in the crawl space.

The building is supplied with heat by approximately 880m of hot water heating baseboard cabinet and fin, located around the perimeter of the building on the first, second, third and fourth floors, which we estimate at approximately 22 terminal units.

Component Condition & Anticipated Replacement Date

The force flows, air curtain, unit heaters, fan coil units, and VAV boxes are 15 years of age, appeared in good condition, with an anticipated replacement date of 2034.

The perimeter radiation system appeared in good condition, is 15 years of age, with an anticipated replacement date of 2044. As this date is beyond the BCR's 30 year replacement cycle, no event will be offered.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Baseboard radiation cabinet

03.2A-020 Direct Digital Control

<u>Details</u>	<u>Values</u>
Expected Life	5
Component Cost	198,050
Component BPR Rating	Unsatisfactory
Last Major Action Year	2005
Component Condition	Good
Quantity	1,800
Measurement unit/ Metric	pt
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is equipped with a Siemens Insight 600 Apogee building management system (BMS), which controls all the mechanical equipment.

Component Condition & Anticipated Replacement Date

The BMS was installed in 1994, appeared in generally good condition, and the front end has been upgraded in 2005.

As upgrades to the BMS's software are ongoing, we have allowed for an allocation of \$15,000.00 every five years starting in 2010, which we believe may allow the existing BMS to remain operational over the next 35 years. As the anticipated replacement date is 2044, which is beyond this BCR's 30 year replacement cycle, no replacement event will be offered.

Assessment Criteria

Outdated software

Default

Existence

Yes

Software is outdated and should be updated every 5 years starting in 2010.

03.3A-010 Plumbing Piping

<u>Details</u>	<u>Values</u>
Expected Life	65
Component Cost	82,587
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	1,300
Measurement unit/ Metric	m
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with a domestic water system, which consists of domestic cold, domestic hot, and domestic hot re-circulation piping systems, which are located in the drop ceiling space of each occupied floor.

Component Condition & Anticipated Replacement Date

The domestic water piping systems appeared in good condition. Since the replacement date is estimated to be 2059, and is beyond this BCR's 30 year replacement cycle, no event is offered.

Assessment Criteria

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.

Existence

03.3A-015 Plumbing Fixtures and Accessories

<u>Details</u>	<u>Values</u>
Expected Life	35
Component Cost	97,021
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	109
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with the following plumbing fixtures located in the washrooms, janitor rooms and kitchens:

- 43 - water closets
- 10 - urinals
- 2 - showers
- 33 - lavatories
- 16 - kitchen sinks
- 5 - mop sinks

Component Condition & Anticipated Replacement Date

All the plumbing fixtures are 15 years of age, appeared in good condition, with an anticipated replacement date of 2029.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Typical lavatories, located in the washrooms



Typical handicapped water closet, located in the washrooms



Typical urinals, located in the men's washroom

03.3A-045 Drinking Fountain

<u>Details</u>	<u>Values</u>
Expected Life	35
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	5
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is equipped with five Elkay model EBFSA-8-1A drinking fountains, one located on each floor. The drinking fountains operate with R-134A refrigerant.

Component Condition & Anticipated Replacement Date

The drinking fountains were installed in 1994, appeared in good condition, with an anticipated replacement date of 2029.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



One of the Elkey drinking fountains, located on an occupied floor

03.5A-050 Sprinkler Systems

<u>Details</u>	<u>Values</u>
Expected Life	65
Component Cost	323,135
Component BPR Rating	Satisfactory
Last Major Action Year	1994
Component Condition	Good
Quantity	13,800
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The building is provided with both a wet and dry sprinkler system, which are supplied by two 150 mm fire water services. The dry sprinkler system has been installed in the loading dock and the covered parking area along the north side of the building. The remainder of the building is equipped with a wet sprinkler system. The sprinkler tree is located in a basement mechanical room and is provided with alarm valves, jockey pump, Siamese connection, and an air compressor for the dry system.

Component Condition & Anticipated Replacement Date

The sprinkler system is 15 years of age and appeared in good condition. Since the replacement date is estimated to be 2059, and is beyond this BCR's 30 replacement cycle, no event has been offered.

We recommend the sprinkler tree should be equipped with an approved double check valve, to protect the domestic water system. We have not included an event for this item, because the double check valve may not have been required when the building was upgraded in 1995.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.



Sprinkler tree located in a basement mechanical room

04. Electrical

04.1A-010 Primary Switch Gear

<u>Details</u>	<u>Values</u>
Expected Life	60
Component Cost	38,487
Component BPR Rating	Satisfactory
Last Major Action Year	1993
Component Condition	Good
Quantity	1
Measurement unit/ Metric	sum
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The main electrical service to the building consists of 2000 amp 347/600 volt 3 phase 4 wire feed from the pad mounted 1000 kVA utility transformer located behind the building. A Square D 2000 amp main breaker is located in the main electrical room as part of the main switchboard.

Component Condition & Anticipated Replacement Date

The primary switch gear is in good condition and is tested on a regular basis. It is not anticipated that replacement will be required within the 30 year timeframe of this report.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Electrical Main Switch

04.2A-010 Secondary Switchgear

<u>Details</u>	<u>Values</u>
Expected Life	60
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	1
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The 347/600 volt main distribution consists of 2 panels to feed the major loads in the building. Each panel contains Square D Micrologic solid state breakers and are located in the main electrical room. A total of 14 circuit breakers in the 2 panels feed the 347/600 volt distribution system for the building.

Component Condition & Anticipated Replacement Date

The secondary switchgear is in good condition and has been well maintained. A short circuit coordination study was done in 1995. Thermal scans are done on a yearly basis. It is not expected to have to replace the equipment within the 30 year time frame of this report.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Main distribution panel

04.2A-011 MCC

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	16,036
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	2
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

There are two Motor Control Centres (MCC) in the building. The main MCC is located in the mechanical penthouse and a smaller MCC is located in the basement mechanical room.

Component Condition & Anticipated Replacement Date

The Motor Control Centres are in good condition. Complete replacement of the MCCs is not anticipated within the 30 year timeframe of this report although individual starters may required upgrading during this period.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Motor Control Centre in mechanical room

04.2A-020 Secondary Transformer

<u>Details</u>	<u>Values</u>
Expected Life	50
Component Cost	28,063
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	6
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The following 600-120/208 volt dry type transformers are located throughout the building to provide 120/208 volt power:
 2 - 75 kVA transformers on floors 1,2,3, and 4 for auxiliary power and small motor loads.
 2 - 75 kVA transformers in basement for auxiliary power and small motor loads.
 45 kVA transformer feeding Panel P
 45 kVA transformer feeding panel in penthouse

Component Condition & Anticipated Replacement Date

The distribution transformers appeared to be in good condition and should not require replacement within the 30 year timeframe of this report.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Typical secondary transformer

04.2A-050 Cabling Raceways & Bus Ducts

<u>Details</u>	<u>Values</u>
Expected Life	60
Component Cost	662,307
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	1
Measurement unit/ Metric	sum
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

A combination of TECK cables, wire and conduit are used for the electrical wiring in the building. A 1000 amp 347/600 volt vertical bus duct supplies the upper floors in the building. The electrical feeders and distribution system throughout the building appears to have been completely replaced during the major renovation in 1992.

Component Condition & Anticipated Replacement Date

The base wiring system and bus duct in the building is in good condition and should not required replacement within the 30 year timeframe of this report.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Close up of bus duct

04.2A-070 Distribution Panels

<u>Details</u>	<u>Values</u>
Expected Life	60
Component Cost	0
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good

Quantity	44
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The following is an approximate count of the distribution panels in the building:

- 9 - 347/600 volt 225 amp Distribution Panels
- 8 - 120/208 volt 400 amp Main Distribution Panels (CDP)
- 27 - 120/208 volt 100 amp Sub-distribution Panels

Component Condition & Anticipated Replacement Date

A visual review was made of the majority of the distribution panels and no major deficiencies were noted. All panels were replaced in 1992 and are in good condition. Replacement of the distribution panels is not expected within the 30 year timeframe of this report.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Typical distribution panel

04.3A-010 General Lighting

<u>Details</u>	<u>Values</u>
Expected Life	30
Component Cost	242,953
Component BPR Rating	Unsatisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	2,000
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

A variety of light fixtures are installed in the building. Fluorescent fixtures are used almost exclusively for the office areas with main fixture being a 4 lamp recessed fluorescent with either a prismatic lens or a small cell parabolic lens for reduced glare. Service areas and equipment rooms utilize fluorescent strip lights. Recessed compact fluorescent fixtures are also used in some corridors and lobbies. All fixtures are controlled by a Douglas low voltage control system.

Component Condition & Anticipated Replacement Date

All lighting systems were replaced when the major upgrade was done to the building in 1992. All light fixtures installed at that time utilized T8 lamps and electronic ballasts. It is anticipated that the next major upgrade will occur in 2022 and will require the replacement of most of the light fixtures in the building to improve energy efficiency.

The light level in most office areas was measured at between 500 and 700 Lux which is sufficient for the tasks being performed. The light level measured at several locations in the corridors was around 250 Lux.

BPR Narrative (Mandatory if component rating is unsatisfactory)

Proposed review and correction of low voltage lighting control system was budgeted in 2006/07, 2007/08 and 2008/09 but deferred due to funding priorities.

Assessment Criteria

Control problems

Default

Existence

Yes



Typical office lighting system

CP Replacement [04.3A-010 General Lighting]

<u>Details</u>	<u>Values</u>
Brief Description (40 Characters)	Replace Lighting Systems
Original Event Year	Unspecified
Current event Year (YYYY)	2022
Estimated Event Cost	\$1,442,000

Narratives

Event Description

The fluorescent lighting system for most of the areas in the building are expected to require replacement in 2022.

Event Justification & Strategy

The existing light fixtures will be reaching the end of their life and more energy efficient fixtures will become available.

Implication of Event Deferral (Risks)

Increased failure of fixtures and requirement for more energy efficient lighting systems.

04.3A-020 Exit Lighting

Details

Values

Expected Life	30
Component Cost	5,613
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Good
Quantity	56
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Bilingual LED type exit signs are installed throughout the building along all exit paths to assist in orderly evacuation of the building.

Component Condition & Anticipated Replacement Date

It appears all exit lights were installed in 1992 and are in good condition. It is anticipated that replacement will be required in 2022.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Typical EXIT light fixture.

CP Replacement [04.3A-020 Exit Lighting]

<u>Details</u>	<u>Values</u>
Brief Description (40 Characters)	Replace Exit Lighting
Original Event Year	Unspecified
Current event Year (YYYY)	2022
Estimated Event Cost	\$46,354

Narratives

Event Description

Replace exit lights throughout the building.

Event Justification & Strategy

It is anticipated that the exit lights will require replacement in 2022.

Implication of Event Deferral (Risks)

Failure of fixtures may result.

04.3A-040 Emergency Lighting

<u>Details</u>	<u>Values</u>
Expected Life	20
Component Cost	9,621
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Fair
Quantity	1
Measurement unit/ Metric	ea
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

Selected fixtures along exit routes are energized through the UPS system located in the basement electrical room.

Component Condition & Anticipated Replacement Date

The UPS system provides 40 minutes of backup power capacity in the case of a utility failure. As the minimum code requirement is for 30 minutes standby there is a small margin of error. The system should be load tested monthly to insure it meets the 30 minute requirement. Consideration should be given to the installation of emergency generator possibly located in an environmental enclosure behind the building.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.



UPS System for emergency lighting

04.5A-010 Fire Alarm System

<u>Details</u>	<u>Values</u>
Expected Life	20
Component Cost	92,209
Component BPR Rating	Satisfactory
Last Major Action Year	1992
Component Condition	Fair
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

An Edwards Model EST IRC-3 fire alarm system is installed in the building. The system consists of a main annunciator panel at the main entrance to the building and the main equipment panels in the main electrical room. Smoke detectors are located throughout the building and duct detectors in the air handling system. Speakers are installed throughout the building for audible annunciations and strobes have been added in certain areas. The base system appears to have been installed in 1992 with a Voice Communications System that is controlled from the front security desk was added in 2001.

Component Condition & Anticipated Replacement Date

The fire alarm system is in fair condition and is tested yearly. It is anticipated that a new system will be required in 2012.



Fire alarm equipment panels

04.5A-030 Communication Systems

<u>Details</u>	<u>Values</u>
Expected Life	25
Component Cost	371,245
Component BPR Rating	Satisfactory
Last Major Action Year	1995
Component Condition	Good
Quantity	1
Measurement unit/ Metric	sum
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

The communication service to the building consists of two 100mm rigid steel conduits containing a 800 pair telephone cable and a Bell System fibreoptic cable.

Component Condition & Anticipated Replacement Date

The communications service to the building appears to be adequate for the present use of the facility. The main switchboard is anticipated to require upgrading in 2020.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to “No”, they have been removed from this element.



Main telephone termination backboard

04.5A-040 Security System

<u>Details</u>	<u>Values</u>
Expected Life	15
Component Cost	83,389
Component BPR Rating	Unsatisfactory
Last Major Action Year	2006
Component Condition	Good
Quantity	13,820
Measurement unit/ Metric	m2
Assessment criteria list	ACL 2 - Check List

Narratives

Component Description

A card access system is installed on many doors in the building to control access to the various departments in the building. The system is controlled from a computer in the building superintendent's office.

A CCTV system is also installed in the building with the main control at the front security desk.

Component Condition & Anticipated Replacement Date

The card access and CCTV systems appears to be in good condition but are anticipated to require upgrading in 2016.

BPR Narrative (Mandatory if component rating is unsatisfactory)

Project on BMP to upgrade existing system to digital.

Assessment Criteria

Existence

Since all Assessment Criteria were defaulted to "No", they have been removed from this element.



Security and door control system control computer

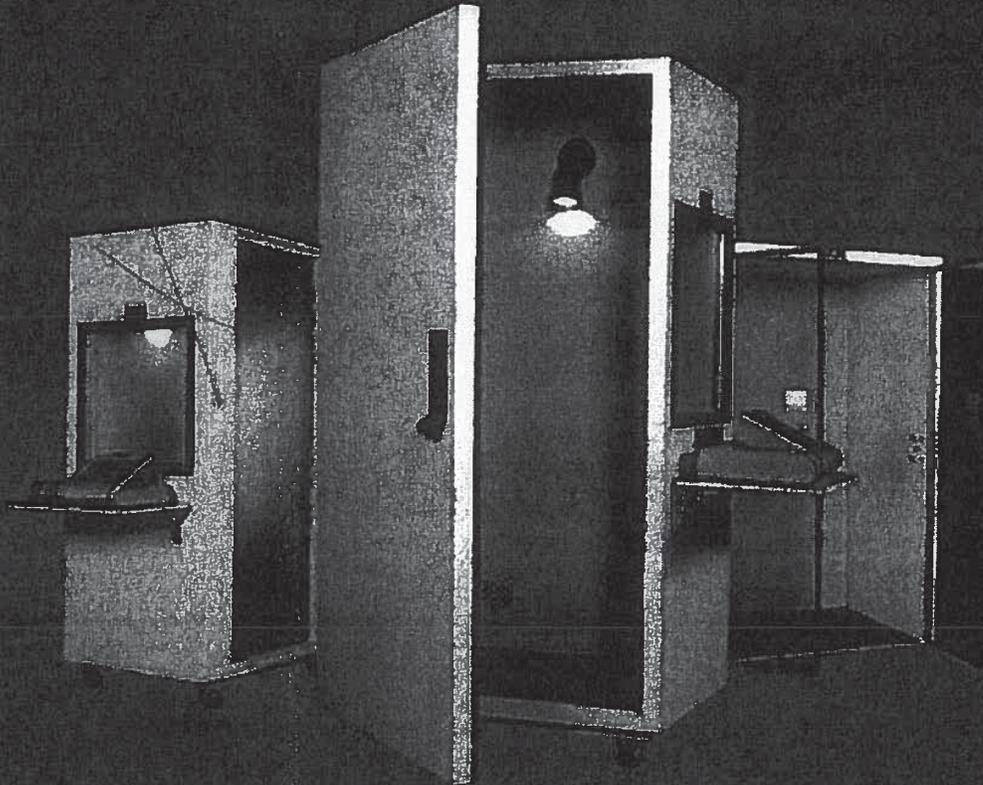
10. Whole Building Expenditures

Section removed – not applicable to proposed interior renovations.

ECKEL

NOISE CONTROL TECHNOLOGIES

Engineered for high performance.
Ready to use. Uncompromised in pre-assembled
audiometric booths.



AUDIOMETRIC SCREENING BOOTHS

UNIQUE, PROVEN DESIGN

Unique all-panels construction ensures reliable acoustic performance and consistent noise reduction.

SIZE

The Eckel Audiometric Booths maximize interior space, yet are compact enough to easily pass through a standard door.

EASY, COMFORTABLE ACCESS

Large open entry door allows easy access to patients of all ages. The Eckel Audiometric Booth's interior

interior is spacious enough to accommodate a mother and child or an elderly person who would have difficulty entering and exiting most other booths.

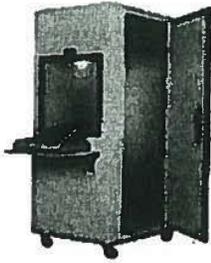
OUTSTANDING PERFORMANCE

The Eckel Audiometric Booths are constructed by experienced acoustical engineers and technicians using industry standard acoustic materials. The interior is finished with a soft, sound-absorbing material. The exterior Eckel wall construction utilizes a heavy-duty, long-life epoxy resin.

MODELS AB-4230 AB-4240 AB-4250 AB-150 AB-200 AB-2000

ECKEL AUDIOMETRIC BOOTH

MODEL AB-4230 | MODEL AB-4240
MODEL AB-4250



MODEL AB-4230
MODEL AB-4240
MODEL AB-4250

Eckel Audiometric Booths are the most practical and economical units available - high quality audiometric booths specially engineered to provide outstanding acoustic performance. The advanced design features cam-lock construction, which provides flexibility in moving, storing, and shipping. The cam-lock design ensures that acoustic integrity, durability and utility remain intact. No other audiometric booth on the market offers this superior construction and quality. The booth is delivered assembled, ready to use. The knock-down packaging is offered as an option or for bulk export shipping. The flush-mounted entry door with continuous magnetic seal allows the person being tested to enter and exit easily. Lighting, carpet, vibration isolators (heavy duty casters are optional), six universal 1/4" (6.3 mm) phone jack panel, and forced air ventilation, are all standard.

SPECIFICATIONS

CONSTRUCTION:

The Eckel Audiometric AB-4200 Series booths feature unique all-steel, cam-locking, interlocking panel, 2" (50 mm) construction.

DOOR:

Heavy flush-mounted door with continuous perimeter magnetic seal. Universal door swing, LH or RH hinge, can be changed in the field by rotating the door panel.

WINDOW:

23" x 23" (584 mm x 584 mm) square framed, double-glazed acoustic window. Interior sound absorbing barrier. Allows excellent visual observation and monitoring. Frame removable for maintenance or glass replacement.

VENTILATION:

Stenciled forced air ventilation is standard. Ventilation is activated when light is turned on. Noise levels with ventilation comply with ANSI standards.

ELECTRICAL:

Unit is pre-wired and includes an 8' (2438 mm) 3 wire extension cord which plugs into booth. Lighting fixture incorporates light/fan switch. 120V-60Hz is standard, 240V-50Hz available on request.

JACK PANEL:

Standard Jack panel includes six (colour coded) 1/4" N112B phone jacks with plugs. Additional connectors available as accessories for most applications.

FINISH:

Standard finish is textured polyurethane enamel in light beige; other colours available on request at additional charge.

CARPET:

Commercial quality, colour coordinated carpeting is provided in the booth's interior.

VIBRATION ISOLATORS / H.D. CASTERS

Choice of neoprene in shear isolators mounted on steel rails or H.D. casters (2 swivel, 2 locking)

PACKAGING:

Single units are packaged assembled on a skid and protected by H.D. carton or bulk crated for shipping.

WEIGHTS

& MEASURES

AB-4230	600 lbs / 273 kg net 660 lbs / 295 kg ship wt.	36" x 26" x 68" 965 x 660 x 1727mm	42" x 30" 75" 1067 x 762 x 1905mm
AB-4240	710 lbs / 323 kg net 760 lbs / 345 kg ship wt.	38" x 36" x 68" 965 x 914 x 1727mm	42" x 40" 75" 1067 x 1016 x 1905mm
AB-4250	800 lbs / 363 kg net 870 lbs / 395 kg ship wt.	38" x 46" x 68" 965 x 1168 x 1727mm	42" x 50" 75" 1067 x 1270 x 1905mm

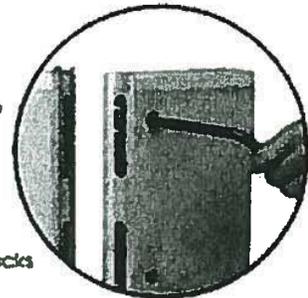
OPTIONAL ACCESSORIES

- Non-standard jacks
- Non-standard colours
- Window in door
- Swivel chair on heavy duty chrome base
- Fold-down shelf
- Shipped Unassembled

* Specifications subject to change without notice

STANDARD FEATURES

- 2" (50 mm) Cam-Lock Panel System
- 27 1/8" W x 70" H Door (687 mm x 1778 mm)
- Universal LHM or RHM Door
- 23" W x 23" H (584 mm x 584 mm) Double Glazed Square Framed Window
- Pre-wired Electrical Ready to use
- Light Switch, Fan Switch
- Six 1/4" (6.3 mm) Phone Jacks (colour coded)
- In-wall Ventilation
- Vibration Isolators / H.D. Casters
- Colour: Standard Eckel Beige
- Fully Do-mountable



Health Canada Special Purpose Space Requirements Relocation Project - Stanley Knowles Building, Winnipeg, MB

Public Service Occupational Programs (PSOHP):

This branch will be compartmentalized, based on security requirements to be confirmed through a Threat and Risk Assessment. There may be a requirement for enclosed offices with soundproofing within the compartment; however, this is a non-compliant request that must be approved by the APM of Real Property, PWGSC. To be confirmed prior to schematic design.

- **14.5 m²u Immunization clinic room.** This room must include a millwork lab with sink and space for an immunization fridge with failure alarm, a storage fridge and an immunization chair. This chair needs a turning radius of 70 inches. Space will have an electrical outlet protected against power outages (linked to generator for the immunization fridge).
- **14 m²u Examination room** requires millwork with sink and space for a clinical examination table. Requires the installation of examination curtains around the examination table.
- **18 m²u Testing clinic room.** Millwork with a sink. Space and cabinet storage for the following equipment:
 - Hearing booth (6'2" X 5'3" X 7'9" booth at approximately 1000 lbs), may require floor loading
 - Desk for audiogram equipment
 - Area for spirometry and vision screening equipment
 - Storage area for testing equipment and educational material
 - A clear area 13 feet in length for vision testing
- **5 m²u Barrier Free Patient washroom** (toilet and sink), in same area
- **42 m²u Secure File room** for confidential medical files requiring double lock and a rolling file storage system. Require **696 linear feet of shelving space**. Floor loading is required.
- **8.5 m²u Secondary file room with 147 linear feet rolling shelving unit** storage (separate from secure file room for departmental files) Floor loading is required.
- Fire protection for files storage rooms in accordance with HRSDC, Labour Canada, Fire Protection Policies and Standards including FC 311(M) Standard for Record Storage and Mobile Shelving – Fire Protection Design Requirements. The files are classified as Protected B.

Occupational and Critical Incident Stress Management (OCISM):

This branch will be compartmentalized, based on security requirements to be confirmed through a Threat and Risk Assessment. There may be a requirement for enclosed offices with soundproofing within the compartment; however, this is a non-compliant request that must be approved by the APM of Real Property, PWGSC. To be confirmed prior to schematic design.

- **20 m²u Secure File room** for confidential medical files requiring double lock, with a rolling Kardex file system. (Note: Some medical files belong to clients with Secret security clearance). Require **252 linear feet of shelves** (i.e. Require 6 bays with seven 6- foot shelves each; each bay has 42 linear feet of shelving space). Floor loading required.
- **16 m²u Central Registry room** with (a) **147 linear feet rolling shelving unit** storage

(require seven 36 inch-wide banks with 7 shelves per bank, AND (b) space for **8 double-locked filing cabinets(36"x22")**). These unique filing cabinets contain information that needs to be double locked and cannot be placed on the rolling file system. Floor loading required.

- Fire protection for files storage rooms in accordance with HRSDC, Labour Canada, Fire Protection Policies and Standards.

Compliance and Enforcement:

- **10 m2u secure locked room** to hold seized tobacco products until court/legal proceedings are complete and samples can be destroyed.
- **10 m2u room for sample preparation and storage of pesticides** with separate ventilation, millwork with a sink and a fridge/freezer for sample preparation and storage of pesticides.
- **19 m2u secure basement storage cage (slab to slab)** for evidence and long term storage of seized goods; and,
- **11 m2u sample preparation area** - should be adjacent to the storage cage area and segregated from the main office with a secure door, to be used for exhibit review in case of an investigation. A stand alone computer (internet access is not blocked and is not on Health Canada network) in this segregated area is to be used during investigations to record exhibits etc. The sample prep bench should also be designed with appropriate lighting to allow digital photography. A pharmaceutical grade fridge will be used in this space.
- **25 m2u basement storage**
- **7 m2u secure room** close to the RDO for dedicated RDO files on shelves and file cabinets including a secure file cabinet. Possible floor loading.
- **10 m2u secure file room** IM mobile RDO files, 6 foot 6 inch x 12 feet in area. Floor loading required.
- **21 m2u basement file storage** - boxes of files to be stored on shelves.
- Fire protection for files storage rooms in accordance with HRSDC, Labour Canada, Fire Protection Policies and Standards including FC 311(M) Standard for Record Storage and Mobile Shelving – Fire Protection Design Requirements. The files are classified as Protected B.

Health Programs:

- **24 m2u basement storage space**

Public Health Agency of Canada Special Purpose Space Requirements Relocation Project - Stanley Knowles Building, Winnipeg, MB

- **77 m2u Records Storage** for files of varying security level (as per existing) requiring a rolling file storage system. Floor loading required. (Replaces room currently located on 7th floor, 275 Portage Ave).
- **75 m2u Basement Storage Cage(s)** that will be taken as-is. No fit-up required.
- **66 m2u Emergency Command Centre (ECC)**. This room is similar to a large boardroom with audio-visual/ conferencing capability and 10 data/phone connections to the PHAC/ HC networks. This will be an ECC in the event of public health emergencies and will connect to the main EOCs in Ottawa; backup power is required for all services of this room (see generator requirement). This setup currently exists on the 7th floor of 275 Portage Avenue. Specialty equipment to be relocated. Adequate cooling is required for to suit the occupancy of this room.
- **10 m2u ECC Coordinator Room**. This room will house the ECC coordinator, who is considered an SPS FTE. This room should be adjacent to the ECC and requires enhanced sound privacy, v/c capabilities (above-standard electrical likely) and security. Backup power is required for all services of this room, as above. This setup currently exists on the 7th floor of 275 Portage Avenue.
- A new generator is required for the backup power requirements of the ECC and ECC coordinator rooms, and services to these rooms. The client has not been able to determine the capacity required as they do not have the in-house expertise to do so, therefore A&ECoE or consultant recommendations in this regard will be required. PHAC currently tie in to the generator located in the loading area of 275 Portage, but will not be relocating it and have indicated it is likely larger than required.
- Fire protection for files storage rooms in accordance with HRSDC, Labour Canada, Fire Protection Policies and Standards including FC 311(M) Standard for Record Storage and Mobile Shelving – Fire Protection Design Requirements. The files are classified as Protected B.