Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Public Works Government Services Canada- Bid Receiving / Réception des soumissions
189 Prince William Street
Room 421
Saint John
New Brunswick
E2L 2B9

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
Consultant Svcs,RCMP J.Div.Mod.Proj

Solicitation No. - N° de l'invitation
E0227-123011/A

Date
2012-03-06

Client Reference No. - N° de référence du client
R.0033439.001

GETS Reference No. - N° de référence de SEAG
PW-$PWB-020-3064

File No. - N° de dossier
PWB-1-34207 (020)

CCC No./N° CCC - FMS No./N° VME

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2012-04-17

Time Zone
Fuseau horaire
Atlantic Daylight Saving Time ADT

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☐ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à:
Donovan, Janine PWB

Buyer Id - Id de l'acheteur
pwb020

Telephone No. - N° de téléphone
(506) 636-5347 ( )

FAX No. - N° de FAX
(506) 636-4376

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:
Consultant Services
RCMP J. Division Modernization Proj
Fredericton
New Brunswick
Canada

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

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**

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Canada

DEMANDE DE PROPOSITIONS (DDP)
TABLE DES MATIÈRES

Le but de cette table des matières est de clarifier la structure générale de tout ce document.

Faire affaire (Annexe D)

Gestion des locaux actuels - plans d’étage (annexe F)

Espace requis pour les groupes à reconfigurer (annexe G)

Répartition des groupes de travail fonctionnels par étage (annexe H)

Identification des groupes fonctionnels délocalisés à un espace loué pendant la durée des travaux de construction (annexe I)

Emplacements existants (annexe J)

INSTRUCTIONS PARTICULIÈRES AUX PROPOSANTS (IP)

IP1 INTRODUCTION

1. Travaux publics et Services gouvernementaux Canada (TPSGC) a l'intention de faire appel à une entreprise ou à une coentreprise d'experts-conseils pour assurer les services professionnels requis dans le cadre du projet, selon les modalités exposées dans la présente Demande de propositions (DDP).

2. En raison du temps et des dépenses considérables à consacrer à la préparation, à la présentation et à l'évaluation des propositions complètes, on demande aux soumissionnaires qui donnent suite à cette DDP de présenter une proposition en deux phases. La proposition relative à la première phase ne portera que sur les compétences, l'expérience et la structure organisationnelle de l'équipe de l'expert-conseil proposée. Lorsqu'on aura évalué et coté leur proposition, on fera connaître aux soumissionnaires leur classement relatif et on leur donnera l'occasion de décider s'ils veulent ou non continuer de participer au processus, en présentant une proposition dans le cadre de la phase 2. Cette dernière proposition portera sur la méthode de travail détaillée, de même que sur les prix et les conditions proposés. Les propositions présentées dans le cadre des phases 1 et 2 constitueront la proposition finale. Cette procédure respecte les modalités relatives aux appels d'offres publics, dans le cadre des accords commerciaux signés par le Canada. Toutefois, on l'appliquera, que le marché soit visé ou non par un accord commercial.

3. Au début, on invite les entreprises à présenter une proposition dans le cadre de la première phase de la procédure de sélection exposée ci-après. La proposition de la phase 1 ne doit comprendre que les renseignements demandés dans la DDP; l'évaluation et la cotation des propositions ainsi présentées ne porteront que sur les renseignements demandés au cours de la phase 1. **DANS CETTE PHASE, ON NE DOIT PAS SOUMETTRE DE DOCUMENT SUR LE PROJET VISÉ.**

IP2 DOCUMENTS DE LA PROPOSITION

1. Les documents qui constituent la proposition sont les suivants :

   (a) Instructions particulières aux proposants (IP);
   R1110T (2011-05-16), Instructions générales aux proposants (IG);

   Exigences de présentation et évaluation des propositions (EPEP);

(b) les clauses, conditions et modalités générales, et les modifications qui s'y rapportent, identifiées dans la clause Entente;

(c) l'Énoncé de projet;

(d) le document intitulé « Faire affaire »;

(e) toute modification au document de la DDP émise avant la date prévue de présentation des propositions dans le cadre de la phase 2;

(f) la proposition présentée dans le cadre de la phase 1 et le formulaire de déclaration/d'attestations; et

(g) la proposition présentée dans le cadre de la phase 2 et le formulaire de proposition de prix.

2. La présentation d'une soumission constitue une affirmation que le soumissionnaire a lu ces documents et accepte les modalités qui y sont énoncées.

3. Toutes les instructions, les clauses et les conditions identifiées dans la DDP et le contrat subséquent par un numéro, une date et un titre sont incorporées par renvoi et font partie intégrante de la DDP et du contrat subséquent comme si elles y étaient formellement reproduites.

Toutes les instructions, les clauses et les conditions identifiées dans la DDP et le contrat subséquent par un numéro, une date et un titre sont reproduites dans le guide des Clauses et conditions uniformisées d'achat publié par TPSGC. Le guide est disponible sur le site Web de TPSGC : http://achatsetventes.gc.ca/politiques-et-lignes-directices/

IP3 QUESTIONS OU DEMANDES D'ÉCLAIRCISSEMENT

Les questions ou les demandes d'éclaircissement pendant la durée de la DDP dans le cadre de la phase 1 doivent être soumises par écrit le plus tôt possible à l'autorité contractante dont le nom figure à la page 1 de la DDP. Les demandes de renseignements ou d'éclaircissement devraient être reçues au plus tard **dix (10) jours** ouvrables avant la date limite indiquée sur la page couverture de la DDP. En ce qui concerne les demandes de renseignements ou

d'éclaircissement reçues après cette date, il se peut qu'on n'y répondre pas avant la date de clôture pour la présentation des propositions.

IP4 ACCORDS COMMERCIAUX SIGNÉS PAR LE CANADA

Ce besoin est assujetti aux dispositions de l'Accord de libre-échange nord-américain (ALÉNA) et l'Accord sur les marchés publics de l'Organisation mondiale du commerce (AMP-OMC).

IP5 MODIFICATIONS À LA CLAUSE R1410T (2011-05-16) Instructions générales aux proposants (IG)

L'article "IG1 Code de conduite pour l'approvisionnement" est supprimé et remplacé par ce qui suit:

IG1 Code de conduite et attestations

1. Les soumissionnaires doivent se conformer au Code de conduite pour lapprovisionnement. En plus de se conformer au Code de conduite pour l'approvisionnement, les soumissionnaires doivent répondre aux demandes de soumissions de façon honnête, juste et exhaustive, rendre compte avec précision de leur capacité de satisfaire aux exigences énoncées dans la demande de soumissions et le contrat subséquent, présenter des soumissions et conclure des contrats uniquement s'ils sont en mesure de satisfaire à toutes les obligations du contrat. En vue d'assurer l'ouverture, l'équité et la transparence du processus d'approvisionnement, les activités suivantes sont interdites :

   a) le paiement d'honoraires conditionnels à une personne visée par la Loi sur le lobbying (1985, ch. 44 [4e suppl.]);

   b) la corruption, la collusion, le truquage de soumission, ou toute autre activité anticoncurrentielle au cours du processus d'approvisionnement.

2. En présentant une proposition, le soumissionnaire atteste qu'à l'exception des cas d'infractions pour lesquelles il a obtenu un pardon ou s'est vu accorder un traitement de clémence, ni lui ni sa société mère, ses filiales ou ses autres affiliées n'ont jamais été reconnus coupables d'une infraction criminelle à l'égard des activités énoncées en a) ou b) ci-dessus, ou ne sont visés par des

accusations criminelles en instance concernant lesdites activités, déposées après le 1er septembre 2010.

3. Les soumissionnaires reconnaissent, en outre que la commission de certaines infractions les rendra inadmissibles à l'obtention d'un contrat. En présentant une proposition, le soumissionnaire atteste qu'à l'exception des cas d'infractions pour lesquelles il a obtenu un pardon, ni lui ni sa société mère, ses filiales ou ses autres affiliées n'ont jamais été reconnus coupables ou ne font l'objet d'accusations criminelles en instance concernant une infraction visée par l'une des dispositions suivantes :

   l'article 121 (*Fraudes envers le gouvernement* et *Entrepreneur qui souscrit à une caisse électorale*), l'article 124 (*Achat ou vente d'une charge*), l'article 380 (*Fraude commise au détriment de sa Majesté*), ou l'article 418 *(Vente d'approvisionnements défectueux à Sa Majesté*) du Code criminel du Canada, ou l'alinéa 80(1)(d) (*Fausse inscription, faux certificat ou faux rapport*), le paragraphe 80(2) (Fraude commise au détriment de Sa Majesté) ou l'article 154.01 (*Fraude commise au détriment de Sa Majesté*) de la *Loi sur la gestion des finances publiques*.

4. Aux fins du présent article, les entreprises, les organisations ou les particuliers sont des entités affiliées au soumissionnaire si 1) le soumissionnaire ou l'entité contrôle directement ou indirectement l'autre ou a le pouvoir de le faire, ou 2) un tiers a le pouvoir de contrôler le soumissionnaire et l'entité. Les indices de contrôle comprennent, sans s'y limiter, une gestion ou une propriété interdépendante, la désignation d'intérêts des membres d'une famille, le partage d'installations et d'équipement, l'utilisation conjointe d'employés ou une entité créée suite au dépôt d'accusations ou aux condamnations envisagées dans le présent article dont la gestion, la propriété ou les employés principaux sont les mêmes que ou similaires à ceux du soumissionnaire faisant l'objet d'accusations ou d'une condamnation, selon le cas.

5. L'autorité contractante déclarera une proposition non recevable, si elle constate que des renseignements contenus dans les attestations envisagées ci-dessus ne sont pas véridiques.

6. Lorsque le soumissionnaire, sa société mère, ses filiales ou ses autres affiliées ont plaidé coupables à une infraction envisagée aux paragraphes 1 et 3, le soumissionnaire doit inclure dans sa proposition, une copie certifiée de documents du Bureau de la concurrence du Canada démontrant qu'un traitement de clémence a été accordé, ou une copie certifiée de documents de la Commission nationale des libérations conditionnelles démontrant qu'un pardon a été obtenu, à l'égard desdites infractions.

7. Le soumissionnaire, sa société mère, ses filiales ou ses autres affiliées ne doivent pas faire l'objet d'accusations ou de condamnations envisagées aux paragraphes 1 et 3, pendant la durée de tout contrat subséquent découlant de cette demande de soumissions.

IP6 EXIGENCES RELATIVES À LA SÉCURITÉ

1. Ce marché contient des exigences relatives à la sécurité tel que décrit dans les conditions supplémentaires, article CS 2.

IP7 PLAFOND DU COÛT DE CONSTRUCTION

Le coût estimatif de construction préparé par l'expert-conseil ne doit pas excéder le plafond du coût de construction précisé dans les Conditions supplémentaires

IP8 SITES WEB

La connexion à certains des sites Web se trouvant dans la DDP est établie à partir d'hyperliens. La liste suivante énumère les adresses de ces sites Web.

Loi sur l'équité en matière d'emploi
http://laws.justice.gc.ca/fr/showtdm/cs/E-5.401

Programme de contrats fédéraux (PCF)
http://www.rhdcc.gc.ca/fra/travail/egalite/pcf/index.shtml

Formulaire LAB 1168 Attestation d'engagement pour la mise en oeuvre de l'équité en matière d'emploi
http://www.servicecanada.gc.ca/cgi-bin/search/eforms/index.cgi?app=profile&form=lab1168&dept=sc&lang=f

Code de conduite pour l'approvisionnement
http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-fra.html

Loi sur le lobbying
http://laws-lois.justice.gc.ca/fra/lois/L-12.4/index.html?noCookie

Contrats Canada
https://www.achatsetventes.gc.ca/

Données d'inscription des fournisseurs
https://srisupplier.contractscanada.gc.ca/

Formulaire du rapport d'évaluation du rendement de l'expert-conseil
http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913-1.pdf

Sanctions économiques canadiennes
http://www.international.gc.ca/sanctions/index.aspx?lang=fra

Directive sur les voyages du Conseil national mixte
http://www.njc-cnm.gc.ca/directive/index.php?dlabel=travel-voyage&lang=fra&did=10&merge=2

CLAUSES, CONDITIONS ET MODALITÉS GÉNÉRALES

ENTENTE

1. L'expert-conseil comprend et convient que sur acceptation de l'offre par le Canada, une entente ayant force obligatoire doit être conclue entre le Canada et l'expert-conseil et les documents qui constituent l'entente doivent être les documents suivants :

   (a) la page de couverture et la présente clause « Entente »;
   (b) les clauses, conditions et modalités générales, ainsi que les modifications qui s'y rapportent, désignées comme suit :
   R1210D (2011-05-16), CG1 - Dispositions générales
   R1215D (2011-05-16), CG2 - Administration du contrat
   R1220D (2011-05-16), CG3 - Services d'expert-conseils
   R1225D (2011-05-16), CG4 - Droits de propriété intellectuelle
   R1230D (2011-05-16), CG5 - Modalités de paiement
   R1235D (2011-05-16), CG6 - Modifications
   R1240D (2011-05-16), CG7 - Services retirés à l'expert-conseil, suspension ou résiliation
   R1245D (2011-05-16), CG8 - Règlements des conflits
   R1250D (2011-05-16), CG9 - Indemnisation et assurance
   Conditions supplémentaires
   Particularités de l'entente
   (c) l'Énoncé de projet;
   (d) le document intitulé « Faire affaire »;
   (e) toute modification au document de la DDP incorporée dans l'entente avant la date de l'entente;
   (f) la proposition de la phase 1 et le formulaire de déclaration/d'attestations; et
   (g) la proposition de la phase 2 et le formulaire de proposition de prix.

2. Les documents identifiés ci-dessus par un numéro, une date et un titre, sont incorporés par renvoi à l'entente et en font partie intégrante comme s'ils y étaient formellement reproduits, sous réserve des autres conditions contenues dans la présente.

   Les documents identifiés ci-dessus par un numéro, une date et un titre, sont reproduits dans le guide des Clauses et conditions uniformisées d'achat (CCUA) publié par Travaux publics et Services gouvernementaux Canada (TPSGC). Le

guide est disponible sur le site Web de TPSGC à l'adresse suivante : http://ccua-sacc.tpsgc-pwgsc.gc.ca/pub/acho-fra.jsp.

3. S'il se trouvait une divergence ou un conflit d'information dans les documents suivants, ces derniers auraient priorité dans l'ordre suivant :

a) toute modification ou tout changement apporté à l'entente conformément aux modalités et conditions de l'entente;
b) toute modification au document de l'invitation à soumissionner émise avant la date prévue de présentation des propositions;
c) la présente clause « Entente »;
d) Conditions supplémentaires;
e) les clauses, conditions et modalités générales;
f) Particularités de l'entente;
g) l'Énoncé de projet / Cadre de référence;
h) le document intitulé « Faire affaire »;
i) la proposition.

CONDITIONS SUPPLÉMENTAIRES (CS)

CS1 EXIGENCES RELATIVES À LA SÉCURITÉ

AUCUN filtrage de sécurité n'est nécessaire, les personnes concernées n'ayant pas accès à de l'information ou à des biens de nature délicate. Le personnel de l'entrepreneur sera accompagné, au besoin, pour se rendre en certains endroits de l'installation ou de l'enceinte, par du personnel de la Gendarmerie royale canadienne (GRC) ou par des personnes autorisées par la GRC à l'accompagner en son nom.

Le personnel de l'entrepreneur doit se soumettre à une vérification de conformité aux lois et règlements effectuée par la GRC sur place, avant de pénétrer dans l'installation ou l'enceinte. La GRC se réserve le droit de refuser l'accès à toute installation ou enceinte. La GRC se réserve le droit de refuser à tout employé de l'entrepreneur, à tout moment, l'accès total ou partiel à toute installation ou enceinte.

CS2 EXIGENCES LINGUISTIQUES

1. La communication entre l'expert-conseil et Canada sera dans la langue choisie par l'expert-conseil et son équipe; il est convenu que la langue choisie sera celle dans laquelle la proposition de l'expert-conseil a été soumise.

2. Les services de l’expert-conseil durant la période d’invitation à soumissionner pour la construction (tels que la préparation d’addenda, participation aux réunions des soumissionnaires, réponses aux soumissionnaires) seront assurés promptement dans les deux langues officielles du Canada, le cas échéant.

3. Les services de l’expert-conseil durant la construction seront assurés dans la langue choisie par l’entrepreneur. L’entrepreneur retenu sera invité à choisir une ou l’autre des deux langues officielles du Canada au moment de l’adjudication du contrat de construction et à partir de ce moment les services durant la construction et d’administration du contrat de construction seront assurés dans la langue choisie par l’entrepreneur.

4. D’autres services requis dans les deux langues officielles du Canada (tel que la documentation de construction) sont décrits dans l’Énoncé de projet.

5. L’équipe de l’expert-conseil, les sous-experts-conseils et les experts-conseils spécialisés doivent s’assurer que les services qu’ils fournissent sont d’une qualité professionnelle dans l’une ou l’autre des langues.

CS3 PLAFOND DU COÛT DE CONSTRUCTION

1. Le plafond du coût de construction est de 12 000 000$ (excluant la TPS et la TVH).

2. Conformément à l’article CG3.11 Contrôle des coûts, durant toutes les étapes de l’élaboration du projet, le coût estimatif de construction préparé par l'expert-conseil n'excédera pas le plafond du coût de construction tel que précisé ci-dessus. Cette divulgation de fonds disponible n’engage pas le Canada à verser à l’expert-conseil des honoraires fondés sur ce dit montant.

CS4 Débours

Les frais suivants doivent être compris dans les honoraires exigés pour la prestation des services de l’expert-conseil et ne doivent pas être remboursés séparément :

Le temps et les frais de déplacement liés à la prestation des services offerts dans un rayon de 200km de Fredericton ou dans un rayon de 200 km du bureau local de l’expert-conseil, selon la distance la plus courte.

Le temps et les frais de déplacement pour la prestation de services offerts à l’extérieur du rayon de 200 km de Fredericton ou du rayon de 200 km du bureau local de l’expert-conseil, selon la distance la plus courte, seront remboursés sans majoration de prix, conformément aux lignes directrices du Conseil du Trésor en vigueur au moment du déplacement ou en fonction des taux de déplacement de l’entreprise, selon le montant le moins élevé.

CS5 MODIFICATIONS À LA CLAUSE R1210D

Les articles GC1.3 et CG1.4 de la clause R1210D (2011-05-16), CG1 - Dispositions générales sont modifiés comme suit:

Le titre et le texte de CG1.3 sont supprimés et le titre "Sans objet" est ajouté.

Le texte du paragraphe CG1.4.2 est supprimé et remplacé par "La cession des présentes sans le consentement précité ne libère l'expert-conseil ou le cessionnaire d'aucunes des obligations que lui impose l'entente et n'impose aucune responsabilité au Canada.".

PARTICULARITÉS DE L’ENTENTE

Les Particularités de l’entente seront émises à l’adjudication du contrat et identifieront les honoraires à verser à l’expert-conseil pour les services tels que déterminés dans le formulaire de proposition de prix.

Mandatory Requirements

Bidders are responsible to ensure adequate information is enclosed in their bid submission to determine the following criteria. Failure to do so will result in their proposal being considered non-responsive.

Phase One Submission (See SRE 3.1 for complete list):

The proponent or its key personnel shall be an Architect, 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 New Brunswick.

The consultant team to be identified at this time must include the following:

Proponent (prime consultant) - Architectural
Key Sub-consultants / Specialists - Interior Design, Mechanical, Electrical, Structural, Elevator, Cost Specialist and Commissioning Resource

Proponents must complete, sign and submit the following:

- Team Identification form (sample found in Appendix "A")
- Declaration Form found in Appendix B.

Phase Two Submission (See SRE 4.1 for complete list)

Consultant Team Verification - submittal of a statement indicating the Consultant Team identified in Phase One is being carried over to Phase Two.

Price Proposal form completed, signed and submitted in a separate envelop. Form(s) provided in Appendix C.

SUBMISSION REQUIREMENTS AND EVALUATION

SRE SUBMISSION REQUIREMENTS AND EVALUATION

SRE 1 GENERAL INFORMATION

1.1 Reference to the Selection Procedure

An 'overview of the selection procedure' can be found in GI 3 of R1110T (2011-05-16), General Instructions of Proponents

1.2 Calculation of Total Score

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

Phase One Rating x 30%	=	Phase One Score (Points)
Phase Two Technical Rating x 60%	=	Technical Score (Points)
Phase Two Price Rating x 10%	=	Price Score (Points)
Total Score	=	Max. 100 Points

SRE 2 PROPOSAL REQUIREMENTS

2.1 Requirement for Proposal Format (for phases one and two)

The following proposal format information should be implemented when preparing the Phase One and Phase Two proposals.

- Phase One - Submit one bound signed original plus six (6) bound copies of the proposal
- Phase Two - Submit one bound signed original plus six (6) 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 219mm x 279mm (8.5" x 11") sheet of paper
- 279mm x 432mm (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 Phase One Specific Requirements for Proposal Format

- Maximum number of pages including text and graphics: **thirty (30)** pages

Consequence of non-compliance: any pages which extend beyond the maximum limits indicated, will be extracted from the proposal and will not be forwarded to the PWGSC Evaluation Boards members for evaluation.

The following page descriptions are required but are not considered to be part of the thirty pages submitted:

- letter of introduction
- team identification sample format form, Appendix A
- declaration form, Appendix B

2.3 Phase Two Specific Requirements for Proposal Format

- Maximum number of pages including text and graphics: **thirty (30)** pages

Consequence of non-compliance: any pages which extend beyond the maximum limits indicated, will be extracted from the proposal and will not be forwarded to the PWGSC Evaluation Boards members for evaluation.

The following page descriptions are required but are not considered to be part of the thirty pages submitted:

- covering letter
- Consultant Team Verification
- Front page of revision(s) to the RFP
- Price Proposal form (Appendix C)

SRE 3 PHASE ONE SUBMISSION REQUIREMENTS AND EVALUATION

Intent: The intent of Phase One evaluation activities is to verify that the submissions meet the mandatory screening requirements and to evaluate and rate the proposed teams.

3.1 Mandatory Requirements

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

3.1.1 Licensing, Certification or Authorization

The proponent or its key personnel shall be an Architect, 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 New Brunswick.

3.1.2 Consultant Team Identification

During Phase One only the proponent and key sub-consultants are identified**.** During Phase Two other sub-consultants or specialists may be identified. Those sub-consultants identified at Phase Two are those considered to play a lesser role in the entire project context.

The consultant team to be identified at this time must include the following:

Proponent (prime consultant) - Architectural
Key Sub-consultants / Specialists - Interior Design, Mechanical, Electrical, Structural, Elevator, Cost Specialist and Commissioning Resource

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

Proponents will be required to carry over the consultant team identified in Phase One to Phase Two.

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

3.1.3 Declaration/Certification Form(s)

Proponents must complete, sign and submit the following:

- Team Identification form (sample found in Appendix "A")
- Declaration Form found in Appendix B.

3.2 Rated Requirements

The evaluation criteria for the Phase One proposal addresses only the previous achievements and experiences of the proposed Consultant Team. No material is to be prepared or presented on the subject project itself. The Phase One proposal provides the opportunity for proponents to present their past work in the context of the proposed project. It is at this time that interested firms submit to PWGSC a history of their

accomplishments in order to establish the capabilities of their teams and lead designers as well as other key team members.

3.2.1 Achievements of Proponent on Projects

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

Select a **maximum** of 3 projects undertaken within the last 10 years. Joint venture submissions are not to exceed the maximum number of projects.

Information to be supplied:

- clearly indicate how this project is comparable/relevant to the requested project.
- brief project description and intent. Narratives shall 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
- brief description and intent of Sustainable Development related initiatives. Identify roles and achievements.
- provide clarification of how issues of this project directly relate to those design criteria outlined in PD 6 Project Objectives
- describe how the design team worked as a team in a co-ordinated effort to produce a 'holistic' design to obtain acceptable solutions. Describe team building experience, including organization and management of team.
- Project award(s) and or recognition(s)

3.2.2 Achievements of Key Sub-Consultants and Specialists on Projects

Describe the accomplishments, achievements and experience either as prime consultant or in a sub-consultant capacity on projects. If the Proponent proposes to provide multidisciplinary services which might otherwise be performed by a sub-consultant, this should be reflected here.
Select a **maximum** of 3 projects undertaken within the last 10 years per key sub consultant or specialist.

Information to be supplied:

- clearly indicate how this project is comparable/relevant to the requested project and services required/requested.

▪brief project description and intent. Narratives shall include a discussion of design philosophy / approach to meet the intent, design challenges and resolutions.
▪budget control and management (Mechanical, Electrical, Elevator and Cost Specialist only)
▪project schedule control and management (Mechanical and Electrical only)
▪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

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 to be supplied for each team member:

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

3.3 Evaluation and Rating

Past experience of the Proponent and the consultant team will be evaluated at the Phase One submission stage and the scores for this evaluation will be carried over to the Phase Two submission.

Phase One proposals which are responsive will be reviewed, evaluated and rated by a PWGSC Evaluation Board in accordance with the following:

Criterion	Weight Factor	Rating	Weighted Rating
Achievements of Proponent	3.0	0 - 10	0 - 30
Achievements of Key Sub-consultants / Specialists	4.5	0 - 10	0 - 45
Achievements of Key Personnel on Projects	2.5	0 - 10	0 - 25
Phase One Rating	10.0		0 - 100

The Phase One rating which is assigned to each responsive proposal in accordance with the procedure outlined in the General Instructions to Proponents is the total weighted rating assigned to the Phase One proposal in accordance with the above table. The Phase One rating is recorded

for subsequent inclusion as a percentage of the total score to be established following the evaluation and rating of Phase Two proposals.

SRE 4 PHASE TWO SUBMISSION REQUIREMENTS AND EVALUATION

Intent: The intent of Phase Two evaluation activity is to verify that the submissions meet the mandatory screening requirements, to evaluate and rate the proposals and to recommend contract award to the Proponent with the highest total score.

4.1 Mandatory Requirements

Only those submissions which have met the following requirements will be evaluated and rated by a PWGSC Evaluation Board:

4.1.1 Having submitted a responsive Phase One proposal

4.1.2 Consultant Team Verification submittal of a statement indicating the Consultant Team identified in Phase One is being carried over to Phase Two.

Consequence of non-compliance: proposals will be returned to Proponent, unread. Price envelope will be returned, unopened.

4.2 Rated Requirements

Intent: The evaluation criteria for the Phase Two proposal addresses the Consultant Team's "understanding of the project" i.e. technical, schedule and estimate requirements, "scope of services" "management of services" and "design philosophy/approach" based on the requirements described in the Project Brief. Past achievements and experience of the Proponent and Key Sub-Consultants are evaluated in Phase One and will not be re-evaluated in Phase Two. The Phase Two Proposal gives the proponents the opportunity to describe what they intend to offer PWGSC in terms of their understanding of the project, scope of services and management of the project.

The following requirements will be evaluated and rated by a PWGSC Evaluation Board. The price proposal of each Proponent may or may not be opened.

4.2.1 Understanding of the Project:

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

Information to be supplied:

▪The functional and technical requirements
▪Project Objectives
▪Broader goals (federal image, sustainable development, sensitivities)
▪Significant issues, challenges and constraints.
▪Project schedule and cost. Review schedule and cost information and assess risk management elements that may affect the project
▪Resident site supervision. Review additional services and provide methodology/proposal for the provision of resident site supervision.
▪The Client User's philosophies and values.

4.2.2 Scope of Services:

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

Information that should be supplied by the consultant:

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

4.2.3 Management of Services:

The Proponent is to 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 to 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. The Consultant Team should include as a minimum the following:

- Architect, Interior Designer, Structural Engineer, Mechanical Engineer, Electrical Engineer, Elevator Engineer, Cost Specialist, and Commissioning Specialist.

▪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)
▪Approach and Methodology for Risk Management and Stakeholder Management and Integrated Consultant Team Quality Assurance (comes with a list of Senior Reviewers for each discipline and their experience profile)
▪Outline action plan of the services with implementation strategies and sequence of main activities
▪Reporting relationships
▪Communication strategies
▪Demonstrate how the response time requirements will be met.

4.2.4 Design Philosophy / Approach / Methodology

The proponent is to 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 to be supplied:
▪Design Philosophy / Approach / Methodology
▪Describe the major challenges and how your team approach will be applied to those particular challenges.

4.3 Evaluation and Rating

4.3.1 Technical Rating

Phase Two proposals that are responsive (i.e. which meet all the mandatory requirements set out in the RFP) will be reviewed, evaluated and rated by a PWGSC Evaluation Board. In the first instance, price envelopes will remain sealed and only the technical components of the Phase Two proposal will be evaluated, in accordance with the following, to establish Technical Ratings:

Criterion	Weight Factor	Rating	Weighted Rating
Understanding of the Project	2.0	0 - 10	0 - 20
Scope of Services	2.0	0 - 10	0 - 20
Management of Services	2.0	0 - 10	0 - 20
Design Philosophy/Approach/Methodology	4.0	0 - 10	0 - 40
Phase Two Technical Rating	10.0		0 - 100

4.3.2 Combined Technical Rating

The Phase One Rating and Phase Two Technical Rating will be combined to establish a Combined Technical Score:

Combined Rating	Possible Range	% of Total Score	Score (Points)
Phase One Rating	0 - 100	30	0 - 30
Phase Two Technical Rating	0 - 100	60	0 - 60
Combined Technical Score		90	0 - 90

To be considered further, proponents **must** achieve a minimum Combined Technical Score of fifty-four (54) points out of the ninety (90) points available as specified above.

No further consideration will be given to proponents not achieving the pass mark of fifty-four (54) points.

SRE 5 PRICE OF SERVICES

All price proposal envelopes corresponding to responsive proposals which have achieved the pass mark of fifty-four (54) points are 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 cause their respective complete proposal to be set aside and receive no further consideration.

Price proposals will be 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.

Example:

Price Proposal	Price Rating
$100.00	100
$125.00	80
$140.00	60
$140.00	60
$190.00	20
$191.00	0

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

SRE 6 TOTAL SCORE

Total Scores will be established in accordance with the following:

Rating	Possible Range	% of Total Score	Score (Points)
Phase One Rating	0 - 100	30	0 - 30
Phase Two Technical Rating	0 - 100	60	0 - 60
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 be approached in order to finalize the details of a contractual agreement 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 7 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.

Please follow detailed instructions in "Submission of Proposals", GI16 of R1110T (2011-05-16), General Instructions of Proponents .
Proponents may choose to introduce their submissions with a cover letter.

PHASE ONE:

☑ Proposal - one signed original and 6 copies required
☑ Team Identification - see typical format in Appendix A
☑ Declaration/ Certification completed and signed form(s) - form(s) provided in Appendix B

PHASE TWO:

☑ Verification of Team confirmed Phase One team identification information; signed and dated
☑ Proposal - one signed original and 6 copies required
☑ Front page of RFP completed and signed

In a separate envelope:

☑ Price Proposal form completed, signed and submitted in a separate envelope, Form(s) provided in Appendix C.

PROJECT BRIEF
TABLE OF CONTENTS

DESCRIPTION OF PROJECT

PROJECT BRIEF

The Project Brief is provided by Public Works and Government Services Canada (PWGSC) to:

- inform prospective Consultants regarding the nature of the project being conducted by the department, during the Consultant selection process.
- direct and assist the Consultant in carrying out a building project for the Department.

As such, the Project Brief is:

- included as part of the Request for Proposals (two-phase procedure).
- forms part of the Explanatory Instructions referred to in the Consultant's Agreement.

The Project Brief is comprised of the following four sections:

- **Description of Project**
- **Project Administration**
- **Required Services**
- **Additional Services**

For standards relating to the service provisions herein please refer to the current version of the document "Doing Business with A&ES (Atlantic Region)." The standards in "Doing Business with A&ES (Atlantic Region)" must be adhered to in conjunction with this scope of services. For additional detail with respect to current CADD standards which must be followed, refer also to "PWGSC, RPS Atlantic Region CADD Data Specification (Latest Version)". These documents are both found in the Appendices.

PD 1 IDENTIFICATION OF PROJECT

Public Works and Government Services Canada (PWGSC) intends to retain a Consultant Design Team (referred to as the Consultant) of architects, engineers and specialists, for the provision of the professional services required for this project. The services for the project shall be as described in this Request for Proposal document with deliverables specified as noted.

1.1	**PWGSC Project Title:**	Renovation of the RCMP J Division Headquarters Building
1.2	**Location of Project:**	1445 Regent Street, Fredericton, New Brunswick
1.3	**PWGSC Project Number:**	R.033439.001
1.4	**Clients / Users:`**	PWGSC (Owner/Investor)
1.5	**PWGSC Project Manager**	Leonard D'Souza, Project Manager Tel: (506) 636-5953 Fax: (506) 636-4408 E-mail: Leonard.D'Souza@pwgsc-tpsgc.gc.ca

The Project Manager assigned to the project is the Departmental Representative as defined in General Conditions of the Consultant Agreement.

The Project Manager is the Departmental officer directly concerned with the project and responsible for its progress. The Project Manager is the liaison between the Consultant, Public Works and Government Services Canada Resources, the Commissioning Manager, the Contractor and the Tenant Department (RCMP).

PD 2 KEY INFORMATION

2.1 DESCRIPTION

The intent of this project is to renovate the RCMP J division headquarters building located in Fredericton, New Brunswick which will remain nearly fully occupied and operational during construction. It is anticipated that approximately one-half (1/2) a floor will be made available at a time for renovations.

This project will include:

- major upgrades to the mechanical and electrical base systems with associated modifications to the architectural components,
- significant upgrades to the elevator
- changes to the interior layouts of approximately 70% of the building on floors 1 to 4. These changes will also result in changes to the electrical and mechanical distribution systems.
- preparing an inventory of the existing furniture in the affected areas and maintaining the inventory up to date during design and construction. In addition, Prepare a list of additional furniture / components required to complete the design.
- preparation of a construction phasing plan. An area of approximately 1000m2 will be available for internal swing space during phasing. This space will not be one contiguous space but will be made up from several smaller spaces.

Except as required for mechanical or electrical services, the project will not include work on the building envelope.

2.2 COST

Construction Cost Limit

The Construction Cost as determined and set by PWGSC Class “D” Estimates is estimated at $12,000,000. excluding HST.

2.3 PROJECT SCHEDULE -

Stage	Time duration
Consultant award:	Start
Concept design/class “C”:	8 weeks
Design development/Class “B”:	22 weeks
EPA Approval:	46 weeks
	Construction tender call: 91 weeks (anticipated start June 2014)
Contract award:	109 weeks
Construction Completion:	213 weeks
Warranty period:	265 weeks

Preliminary Project Approval (PPA)
Effective Project Approval (EPA)

2.4 FUNDING ALLOCATION

The project funding has been approved to develop the preliminary design and Class “B” estimate only. The consultant services to be provided will be phased in accordance with the proposed project schedule. Following award of the consultant contract the consultant shall commence work up to and including all services form RS1 to RS4 inclusive. This shall also include all related services in RS8, RS9, RS11 and RS12.

At the time of submission and acceptance of the Preliminary Design and Class “B” estimate at the end of RS4 the consultant shall cease any further work until PWGSC has received Effective Project Approval (EPA) and has formally notified the consultant that work under the contract can proceed.

It is anticipated the approval process may take up to 6 months (120 working days). Upon receipt of EPA the consultant will be advised in writing to proceed. Should the project not receive approval to proceed this agreement may be terminated in accordance with GC7 (Taking the Services out of the Consultant's Hands, Suspension or Termination.)

At the end of RS5, the consultant shall cease any further work until PWGSC has formally notified the consultant that work under the contract can proceed.
PWGSC internal approval will be required before proceeding to tender call.

Should the project not receive approval to proceed this agreement may be terminated in accordance with GC7 (Taking the Services out of the Consultant's Hands, Suspension or Termination.)

PD 3 PROJECT BACKGROUND

3.1 HISTORY OF PROJECT

The RCMP J-Division office building located at 1445 Regent Street in Fredericton with an overall gross area of 17,500 square meters, consists of five (5) floors, and a penthouse. The office building was built in 1985 with minor renovations carried out between 1986 and 2010.

The majority of the building was originally designed for general office space with a substantial portion designed for special purpose functions such as barracks, holding cells, etc.

The building was designed for sole use by the RCMP and will continue to be used solely for this .

The building currently houses 324 employees.

The mechanical systems are original and consist of 20 separate air handling and 55 exhaust units located through out the space and floors. Two central air handling units are required to replace 17 existing units. Two heat recovery ventilation units located in a new penthouse are required to replace the exhaust fans. Structural work is required. Two air handling units supplying air to the garage and one supplying air to the penthouse are not included in the replacement.

Building deficiencies that have been identified include:

- mechanical systems have not been adjusted for changes in floor plans;
- age of existing Air handling units (AHU) / difficulty in maintaining
- concerns for air quality;
- power distribution systems are original and are deteriorating. Some components are obsolete and replacement parts are unavailable;
- lighting is inadequate and the fixtures are at the end of their useful lives;
- data and communication wiring has been modified as much as possible to accommodate technology; however, it does not comply with current standards;

- no common grid for electrical and data systems;
- the conveying systems (two passenger elevator and one passenger / freight elevator) are also original and are due for life cycle replacement.
- Configuration and usage of space.

PD 4 EXISTING DOCUMENTATION

4.1 EXISTING DOCUMENTATION INCLUDED FOR ALL PROPONENTS

- Team Identification Format - Phase One (Attached as Appendix “A”)
- Declaration Form - Phase One (Attached as Appendix “B”)
- Price Proposal Form - Phase Two (Attached as Appendix “C”)
- Doing Business with A&ES (Atlantic Region) - Current Version (Attached as Appendix “D”)
- Commissioning manual (Attached as Appendix ”E”)

- Existing space measurement floor plans (Attached as Appendix "F")
- Space requirements for groups to be reconfigured (Attached as Appendix "G")
- Distribution of functional workgroups by floor (Attached as Appendix "H")
- Idenfication of functional groups moved to leased space for the duration of the construction (Attached as Appendix "I")
- Existing location of functional workgroups (Appendix "J")

4.2 EXISTING DOCUMENTATION - TO BE MADE AVAILABLE TO THE SUCCESSFUL PROPONENT

- RCMP Physical Security Standards and Design Specification Guide
- Latest PWGSC Building Condition Reports
  - PWGSC Documentation on “Factors Affecting IAQ” - “General Considerations” and “IAQ Guidelines” - “Specific Design Considerations
  - PWGSC Documentation on “Considerations for Open Offices, Closed Offices, Boardrooms and Meeting Rooms”, “Balancing Absorption and Reflection”, “Layout”, “Ceilings”, and “General Recommendations”

- PWGSC Documentation on “Thermal Comfort and Environmental Factors” and “General Recommendations”

- Available Existing as Built Drawings (hard copy only)

- Space measurement drawings in CADD format.

- Original Air balancing reports

- Operations and maintenance manual for new Energy Management Control System.

  - Basic Reference Guide on Converting Construction Documents to Portable Document Format (PDF)

  - CP1 - CP13 Commissioning Guidelines

  - Commissioning Manual CP1 - 2006

- User Manual on Directory Structure and Naming Convention Standard for Construction Tender Documents on CD-ROM
-

PD 5 PROGRAM

5.1 BUILDING PROGRAM

Overview of Project Requirements

The mechanical systems are original and consist of 20 separate air handling and 55 exhaust units located through out the space and floors. Two central air handling units are required to replace 17 existing units. Two heat recovery ventilation units located in a new penthouse are required to replace the exhaust fans. Two air handling units supplying air to the garage and one air handling unit supplying air to the penthouse are not included in the replacement.

The electrical system has a number of issues and a complete rebuild of the electrical system is required. This includes main distribution, lighting and communications system.

Changes in use of the building has resulted in some work groups being located in spaces originally designed for special purpose functions. In other portions of the building, changes in work groups has resulted in layouts which are not efficient and in some cases groups not located adjacent to primary work partners. Approximately 70% of the building layout on floors 1 to 4 will require reconfiguration.

It is the intent to reuse as much of the existing furniture as possible in the final layout. The consultant is required to provide a list of additional furniture / components required to complete the design.

The building layout will be reconfigured to accommodate the current population of 324 employees. The consultant is to confirm at the concept design the final number of occupants.

A detailed list of the space requirements for the work groups to be located in the portion of the building which will require reconfiguration is included in Appendix 'G' General Office Space requirements.

Plans indicating the areas which are to be reconfigured as well as a proposed distribution of the workgroups for these areas are included in Appendix 'H' Distribution by floor. The plans also indicate areas which do not require reconfiguration.

The groups which will be moved to leased space outside the building for the duration of the construction are identified in Appendix 'I' Sections to be moved out to leased space.

The location of the various work groups is shown in Appendix J.

PD 6 PROJECT OBJECTIVES

6.1 PRIMARY OBJECTIVES

The primary objectives of this project are as follows:

6.1.1. To **upgrade aged and/or obsolete building components** and systems which are reaching the end of their useful lives.

6.1.2 To reconfigure approximately 70% of the interior space on floors 1 to 4 to better accommodate the functional groups.

6.1.3 To complete the project while the facility is **occupied**.

6.2 Sustainable Development

The project will not be required to meet a specific LEED certification level. However, sustainability is to be integrated into the design of all disciplines. The consultant will be required to provide a description of the sustainable design aspects included in the design.

6.3 Building Systems

6.3.1 Architectural Objectives

This project has two aspects which will impact the architectural component of the building:

1. Changes resulting from the upgrades to the mechanical and electrical systems.

   These will include but not be limited to items such as new service rooms, new service shafts, new penthouse, reconfiguration of existing service spaces. The lighting system will be completely upgraded and this will result in the replacement of the existing suspended acoustical ceiling system as it is metric in size.

2. Changes required as a result of the reconfiguration of the interior layout.

As stated in section PD 5.1, approximately 60% of the interior layout on floors 1 to 4 will be reconfigured to better accommodate changes in tenant requirements. The intent is to remove as many interior partitions as possible in order to open up the space. There will still be separations required between various work groups and a separation will also be required along the main circulation route leading to exits and elevators. Within each work group there will be requirements for hard walled rooms and there will be common use meeting rooms and business centers on each floor.

Flooring in the reconfigured areas will be replaced.

The following section provides information on the general requirements for the reconfiguration of the interior layouts.

6.3.2 Interior Layout Objectives

As stated in section PD 5, approximately 60% of the interior layouts of floors 1 to 4 will be reconfigured to better accommodate tenant requirements.

Some preliminary work has been carried out which includes:
- identification of the functional groups,
- detailed space requirements for each functional group,
- proposed distribution of the functional groups by floor,
- plans indicating which areas are to be reconfigured.

This information is included in Appendices G and H as stated earlier.

The consultant will be responsible to review this information with the RCMP and to further develop the requirements in order to prepare the interior layouts.

The consultant will be responsible to review RCMP security requirements (wall types, door hardware, power and communication requirements) to ensure these are integrated into the layouts.

The layouts will need to adhere to PWGSC’s fit up standards. A copy of these will be provided to the successful proponent.

As stated in section PD 6.4 Phasing, a number of temporary layouts will likely be required due to construction phasing. The consultant will be responsible to develop these temporary layouts in addition to the final ones.

It is the intent to reuse as much of the existing free standing and systems furniture as possible. The consultant will be responsible to prepare an inventory of existing furniture within the affected areas and maintain this inventory up to date during design and construction. In addition, the consultant is required to provide a list of additional furniture / components required to complete the design. This list will be provided to PWGSC who will be responsible to procure it.

6.3.3 Mechanical Objectives

6.3.3.1 General Requirements

This section identifies criteria for the design of ventilating, air conditioning systems, Energy Monitoring & Control Systems (EMCS) and fire protection systems.

In general the mechanical objectives are as follows:

- Remove 17 existing compartmental air handling units located in mechanical rooms on levels 1 to 4
- Two air handling units supplying air to the garage and one air handling unit supplying air to the penthouse are not included in the replacement.
- Supply and install 2 new AHU's located in a new roof mechanical penthouse. Provide structural modifications to roof as required.
- Reuse the existing fresh air and relief air duct risers
- Connect new supply and return from the new AHU's to the existing floor distribution ductwork
- Replace diffusers and grilles as required to accommodate a new ceiling grid
- Remove approximately 55 exhaust fans presently installed throughout the 4 levels and replace with 1 or 2 ERV's located in the new roof penthouse.
- Reuse the existing exhaust air duct riser.
- Make changes required to the distribution ductwork as required to suit any new zoning or space changes on the floors
- Building will be occupied during the renovation period.
- All existing duct risers shall be pressure tested to ensure they are suitable for the new system,
- All existing ductwork shall undergo duct cleaning

As this project is to be implemented in phases while the building is partially occupied and functional, design and specification must be carefully done to ensure working environment and building systems function in occupied area meet all standards while under construction. This includes dust control, noise, temperature, humidity and IAQ, etc.

Mechanical systems and equipment should be co-ordinated with the architectural, structural, electrical and other building systems and be compatible with the building fabric. They should consist of systems selected for reliability, durability, flexibility, accessibility and ease of operation.

Mechanical systems should be adapted to support all performance objectives, typically involving sustainable development, fire safety, security, and improved operations & maintenance.

The system selection should be justified in accordance with the project requirements. The system selection should consider performance, service, maintenance, the total cost of ownership, as well as the operation cost. Tenant needs and the applicable code requirements shall be considered.

Systems and equipment should be fail-safe and of a quality consistent with the anticipated building life and the required reliability of service. Distribution runs should be accessible, and allow for inexpensive and future load shifts alterations.

Mechanical engineering should consolidate layouts using the minimum space consistent with maintenance and service requirements. Systems should be designed considering the potential impact of power outages.

Mechanical systems should be specifically designed to function at both full load and part load associated with all projected occupancies and modes of operation.

Maintainability and reliability are major concerns in the operation of Federal buildings. As such, the design and installation of all mechanical equipment and components should allow for removal and replacement of major equipment such as air-handling equipment, as well as sub-components such as heating and cooling coils.

The new air handling systems are to be interconnected to allow for partial supply to all areas if one system should fail. Proposed systems and equipment are to be evaluated by PWGSC for their offerings of advanced technology. However, PWGSC does not allow use of experimental, or unproven equipment or systems. Documented proof of historical capability and adaptability of all equipment and systems proposed for a project should be made available to PWGSC.

Heat recovery systems should be used for all air exhausts. Outdoor air should be used for free cooling whenever economically feasible.

Air distribution should be achieved by means resulting in proper air diffusion and mixing, without short-circuiting of supply air into return air openings.

6.3.3.2 Codes, Standards and Guidelines

The latest editions of publications and standards listed here are intended as guidelines for design. They are mandatory where referenced as such in the text of this chapter or in applicable codes. The list is not meant to restrict the use of additional guides or standards. When publications and standards are referenced as mandatory, any recommended practices or features should be considered "required". The requirements of all other Authorities having Jurisdiction shall apply.

PWGSC Guides and Standards

- PWGSC MD 15116 Computer Room Air Conditioning
- PWGSC MD 15116S Supplement to MD 15116
- PWGSC: MD 13800: EMCS Design Guide
- PWGSC Commissioning Manuals and Guidelines
- PWGSC Documentation Submission Standards
- PWGSC: National Master Specifications.
- PWGSC Seismic Design Guideline

Other Canadian Publications

- CAN/CSA B44: Safety Code for Elevators
- CAN/CSA B52: Mechanical Refrigeration Code
- CAN/CSA B149: Natural Gas & Propane Code
- CAN/CSA Z204: Guideline for Managing Indoor Air Quality in Office Buildings
- CAN/CSA282: Emergency Electrical Power Supply for Buildings
- "Canada Labour Code, part II". Human Resources Development Canada.
- Canadian Electrical Code
- Federal Halocarbon Regulations, Canadian Environmental Protection Act
- Ozone Depleting Substances Regulation, Canadian Environmental Protection Act
- "Handbook of Occupational Safety and Health". Treasury Board of Canada. · Occupational Health and Safety Act and Regulations for Construction Projects
- National Fire Code of Canada
- National Plumbing Code
- National Building Code
- Model National Energy Code for Buildings
- Treasury Board Standards and Guidelines

United States Publications

- ASHRAE: Handbook of Fundamentals.
- ASHRAE: Handbook of HVAC Applications.
- ASHRAE: Handbook of HVAC Systems and Equipment.
- ASHRAE: Handbook of Refrigeration.
- ASHRAE: Standard 15: Safety Code for Mechanical Refrigeration.
- ASHRAE: Standard 52: Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter.
- ASHRAE: Standard 55: Thermal Environmental Conditions for Human Occupancy.
- ASHRAE: Standard 62: Ventilation for Acceptable Indoor Air Quality.
- ASHRAE: Standard 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings.
- ASHRAE: Standard 100: Energy Conservation in Existing Buildings.
- ASHRAE: Standard 105: Standard Method of Measuring and Expressing Building Energy Performance.
- ASHRAE: Standard 111: Practices for Measurement, Testing, Adjusting and Balancing of Building HVAC Systems.
- ASHRAE: Standard 114: Energy Management Control Systems I instrumentation.
- ASHRAE: Standard 135: BACnet: A Data Communication Protocol for Building Automation and Control Networks.
- ASHRAE: Guideline #4: Preparation of Operating and Maintenance Documentation for Building Systems.
- American National Standards Association: ANSI Z 223.1.
- American Society of Mechanical Engineers: ASME Manuals.
- American Society of Plumbing Engineers: ASPE Data Books.
- Associated Air Balance Council: National Standards for total system balance
- NFPA Standards
- SMACNA Standards

6.3.3.3 Commissioning

Refer to RS12 for details on commissioning.

In general, the Consultant should identify and co-ordinate commissioning practices and procedures with the PWGSC Project Manager, and the Commissioning Authority, for the project's performance goals. Co-ordinate with all other disciplines to enable required testing and certifications. The mechanical specifications should include those testing and certification requirements that involve construction contractors.

Examples of performance goals for mechanical systems include:

- Functionality of each mechanical system separately, and, in combination with other systems
- Indoor environmental quality
- Functionality of the EMCS
- Functionality of Fire and Life Safety Systems

6.3.3.4 Design Criteria

6.3.3.4.1 Outside Design Criteria

Outside design criteria shall be based on weather data tabulated in the latest edition of the National Building Code and its supplements.

6.3.3.4.2 Indoor Design Criteria

Table 5.1: Indoor Temperature

Parameter	Occupied	Unoccupied	Measurement Location
Heating mode (winter)	21 deg C	18 deg C	Waist height
Cooling Mode (summer)	24 deg C	No cooling	Waist height
Vertical Temp. Gradient	3 deg C, between 100 - 1700 mm Above finished floor		
Floor temperature	18-29 deg C	18-29 deg C	

Exceptions

Loading Docks	At least 10 deg C
Mechanical Rooms	At least 12 deg C
Locker Rooms, Washrooms	No cooling required in summer/Winter: at least 21^0 C
Vestibules, Storage areas	No cooling required in summer/Winter: at least 18^0 C
Telecommunications Rooms	A maximum temperature of 21^0 C

Table 5.2: Indoor Humidity

Parameter	Relative Humidity
Winter	minimum 30%
Summer	Less than 60%

Exceptions: Computer Rooms, Kitchens, Printing Rooms, non air-conditioned rooms

Table 5.3: Other Requirements

Parameter	Ventilation
Ventilation rate	At least 10 l/sec per person
Space Air motion	0.15 - 0.25 m/s
Supply Air Filtration	MERV13 filters with MERV 8 pre-filter
Carbon Dioxide	Less than 800 ppm

Outside Air Intakes and Exhausts

The placement and location of outside air intakes is critical to the health and safety of the occupants inside a building. The intakes should be located at least 5 metres above ground level. These grills must be designed to include security grills and cross talk silencers as per current RCMP design standards. Table 5-4 provides a guide for minimum separation distances between ventilation air intakes and other building features. Care should be taken to avoid the possibility of re-circulating exhaust air with outside air by properly locating intakes and outlets in relation to prevailing wind direction.

Mechanical exhaust systems should be provided to meet the following minimum requirements:

- Washroom: Use the greater of 10L/s per m2 of floor area or 24 L/sec per sanitary fixture.
- Conform to current Labour Code, Part 2
- Adequate exhaust from parking areas, locker rooms, garbage rooms, heat generating mechanical/ electrical rooms, meeting rooms, etc.
- Make-up air for the above exhaust systems may be obtained from the adjacent corridors and offices provided that there is enough make-up air supplied into the building such that the above-noted exhaust systems are not adversely affected.

Table 5-4 Air Intake Minimum Separation Distances

Object	Minimum Distance (m)
Property line	1.0
Garage entry, loading dock	7.0
Driveway, street or public way	3.0
Limited access highway	7.0
Ground level	5.0
Roof	0.5
Cooling tower or evaporative condensers	5.0
Exhaust fans and plumbing vents	3.0
Kitchen supply and exhaust air	7.0

6.3.3.4.3 Indoor Air Quality

Prior to occupancy of each renovated space and after all works including painting are done, VOC release should be accelerated by maintaining the space temperature to 21 deg C for at least a a full week (24/7) with outside air purge cycle be provided to air-handling equipment enabling removal of VOC build-ups. This should be continued for an additional week after occupancy.

PWGSC recognizes the importance of adequate ventilation to maintain indoor air quality. The ventilation rates of ASHRAE Standard 62 are the minimum acceptable in Federal buildings. The outside air should be maintained under all conditions for a variable air volume system. Measurement devices should be provided to assure outdoor air intake rates are maintained within 90 percent of required levels during occupied hours.

Supply air should be evenly distributed to fully cover the entire occupied space. The minimum air supply at all times to achieve occupied space air motion requirement during the space occupancy should be maintained.

Where occupancy requirements are likely to generate high levels of airborne particles, special air filtration should be provided on the return air system or dedicated and localized exhaust systems should be used to contain airborne particulates.

6.3.3.4.4 Internal Heat Gain

Occupancy Levels

The minimum occupancy should be determined as per the ASHRAE "62 Standard" or from the functional program, whichever is the greater. Sensible and latent loads per person should be based on the latest edition the ASHRAE "Handbook of Fundamentals".

For dining areas and other high occupancy spaces, occupancy loads should represent the number of seats available.

Lighting and other Equipment Loads

Lighting loads should be based on actual design loads. Other Equipment loads should be obtained through the PWGSC Project Manager from the client

Internal heat gain from all appliances-electrical, gas, or steam-should be taken into account. When available, manufacturer-provided heat gain and usage schedules should be utilized to determine the block and peak cooling loads. Typical rate of heat gain from selected office equipment should be based on the latest edition of the ASHRAE "Handbook of Fundamentals".
For exact cooling load calculations, the values provided by the electrical consultant from actual design based on the functional program requirements should be used.

Zoning Criteria

Separate systems should be provided for interior and perimeter zones.

The HVAC system should be carefully zoned such that unoccupied areas can be set back for energy conservation without total shutdown.

Interior control zones should not exceed 140 m2 per zone for open office areas or a maximum of three offices per zone for closed offices. Perimeter zones should be no more than 4 metres from an outside wall along a common exposure and should not exceed 50m2. Rooms and/or exposure that have unique load variations should have individual zones.

Independent zones should be provided for spaces such as dedicated printing and photocopying rooms, meeting rooms, entrance lobbies and atriums, kitchen areas, dining areas, childcare centers, physical fitness areas and mailrooms.

The supply of zone cooling and heating should be sequenced to prevent the simultaneous operation of heating and cooling systems for the same zone. Supply air temperature reset control should be utilized to extend economizer operations and to reduce the magnitude of reheating, re-cooling or mixing of supply air streams.

6.3.3.5 Mechanical Spaces

Adequate Mechanical Rooms should be provided so that each piece of equipment can be safely maintained.

Mechanical Room Placement

Mechanical rooms should be located such that heat and sound will not be readily transmitted to other parts of the building. No mechanical equipment except for exhaust fans should be installed on the roof of the building unless protected from the weather by provision of a penthouse enclosure. Roof top air handling units are not recommended, unless there are compelling reasons use them. The transmission of

noise and vibration from mechanical penthouses to the floors below should be minimized and resulting

Careful attention should be given to the design of the vibration isolation system.

Service Access

Space should be provided around all HVAC system equipment as recommended by the manufacturer and in compliance with local code requirements for routine maintenance. Access doors or panels should be provided in ventilation equipment, ductwork and plenums as required for in-site inspection and cleaning. Equipment access doors or panels should be readily operable and sized to allow full access. Large central equipment should be situated to facilitate its replacement. The necessity of providing for the replacement of major equipment over the life of the building should be recognized, and it should be insured that provisions are made to remove and replace, without damage to the building structure, the largest and heaviest component that cannot be further broken down.

Roof mounted equipment should be readily accessible for maintenance by elevator cab stop or a large stairway. The use of temporary ladders, steep stairwells and ship's ladders should be avoided.

Confined Space

Such type of space should be avoided or made to fall outside such classification where feasible.

Heating and Ventilation of Mechanical Rooms

All mechanical rooms shall be mechanically ventilated to maintain room space conditions as indicated in the National Building Code, and, ASHRAE 15. A minimum of 1 ACH (Air Change per hour) is required.

6.3.3.6 Special Spaces

Special Purpose Areas

Mechanical requirements for special purpose areas should be finalized with Client representatives during design development.

24-Hour Spaces

All areas designated as requiring 24-hour operations should be provided with a dedicated and independent HVAC system.

Elevator Machine Rooms

Space temperature conditions should be maintained room as required by equipment specifications, and in accordance with CAN/CSA B44 Safety Code for Elevators. Consider the use of secondary chilled water for cooling, and the use of elevator machine heat rejection for heating. Ensure that the elevator design minimizes the draw of interior air through stack effect.

Vestibule Pressurization

A dedicated air handling unit will be provided for pressurization of the vestibule areas.

6.3.3.7 HVAC Systems

General

All Federal Government buildings are officially designated as non-smoking. There should be no smoking areas within the building or its lobbies.

Where possible, HVAC components like dampers, VAV boxes, and coils should be located outside of private offices to minimize disturbance. Components are ideally placed above corridors and other circulation routes. The horizontal routing of major HVAC systems should be kept above the corridors and open spaces.

Potential for water damage should be minimized by careful design of HVAC components with provision for drainage of condensate, and leakage from damaged pipes or coils. Water protection should also address frost proofing of pipes, coils, ducts, and, also, condensation over ducts, pipes, and equipment.

All work regarding HVAC systems should be co-ordinated and integrated where possible with other divisions including architectural, structural, and, electrical.

Psychometric analyses (complete with chart diagrams) should be prepared for each air-handling unit application, characterizing full and part load operating conditions. Air-handling unit/coil designs should assure that conditioned space temperatures and humidity levels are within an acceptable range, per programmed requirements, and ASHRAE Standards 55 and 62.

Air Filters

Air filtration should be provided in every air-handling system. Air-handling units should have a disposable pre-filter and a final filter. The filter media should be rated in accordance with ASHRAE Standard 52. Pre-filters should be MERV 8 or better. Final filters should be MERV 13 or better. Filter racks should be designed to minimize the bypass of air around the filter media with a maximum bypass leakage of 0.5 percent.

Air Delivery Devices

Ceiling diffusers should be specifically designed for VAV air distribution. "Dumping" action at reduced air volume and sound power levels at maximum air volume should be minimized.

6.3.3.8 Humidification and Water Treatment

Humidifiers and Direct Evaporative Coolers

Make-up water for humidification systems should originate directly from a domestic cold-water source.
For humidification, use natural gas fired steam humidifiers. All associated equipment and piping should be of corrosion resistant material where required.

Hot Water Heating Systems

The existing heating system consists of two natural gas fired hot water boilers located in the penthouse. There are no changes anticipated for the heating system with the exception of the removal of the existing AHU heating coils and piping, possible changes to the perimeter heating zoning and piping to new AHU heating coils.

Freeze Protection

PWGSC does not encourage the use of Ethylene Glycol as a heat transfer fluid, due to its toxicity. Non-toxic substitutes such as Potassium Formate based formulations or propylene glycol should be considered as an alternative to Ethylene Glycol.

6.3.3.9 Heat Recovery Systems

Heat recovery systems should be utilized in all ventilation units (100 percent fresh air units) and where the temperature differentials between supply air and exhaust air is

significant. Heat recovery systems should operate at a minimum of 70 percent efficiency.

Chilled Water Systems

The existing chilled water system consists of two liquid chillers locates in the penthouse and a cooling tower mounted outside on the adjacent roof area. There are no changes anticipated for the chilled water system with the exception of the removal of the existing AHU cooling coils and piping and piping to the new AHU cooling coils.

Special Cooling Systems

Computer Room Air-Conditioning Units

The requirements of MD15116 Computer Room Air Conditioning should be met.

6.3.3.10 Hydronic Systems

Constant flow closed loop circuits should be piped in reverse return. Each terminal unit or coil should be provided with isolation valves on both the supply and return, and a flow-indicating balance valve on the return line. Isolation valves should be provided on all major pipe branches, such as at each floor level, building wing or mechanical room. Only minor changes to the heating systems on floors 1 to 4 are anticipated.

6.3.3.11 Noise Control, Vibration Control and Seismic Design

For Acoustical criteria for all building spaces refer to "Selection Guide for Vibration Isolation," ASHRAE 99 Application Handbook, Chapter 46.

Fans, pumps, compressors and other moving machinery are to be set on foundations isolated from the building structure to prevent transmission of noise and vibration. Heavy Reciprocating

Noise and Vibration Isolation

Refer to and incorporate the basic design techniques as described in ASHRAE Applications Handbook, Sound and Vibration Control. Isolate all moving equipment in the building.

Mechanical Shafts and Chases

Mechanical shafts and chases should be closed at top and bottom, as well as the entrance to the mechanical room. Any piping and ductwork should be isolated as it enters the shaft to prevent propagation of vibration to the building structure. All openings for ducts and piping should be sealed. The existing fresh air relief air and exhaust air shafts are to be reused

Ductwork

Use of silencers is the preferred method for reducing fan-generated noise. If acoustic liners are used, all installation and commissioning procedures should be clearly specified to eliminate any possible environmental problems.

All ductwork connections to equipment having motors or rotating components should be made with 150mm length of flexible connectors.

Noise Control in VAV Systems

System sound levels at maximum flow should be carefully evaluated to ensure acoustic levels requirement are met. Duct noise control should be achieved by controlling air velocity, by the use of sound attenuators, and by not over sizing terminal units. Terminal units should be selected so that design air volume is approximately three-quarters of the terminal box's maximum capacity. Volume dampers in terminal units should be located at least 1.8 m from the closest diffuser and the use of grille mounted balance dampers should be restricted except for those applications with accessibility problems.

6.3.3.12 Energy Monitoring and Control System (EMCS)

General Requirements

The building has an existing EMCS based on Delta Controls and installed by Control and Equipment in 2008. This system features native BACnet firmware. Unless new work involves expanding the existing system by more than 25%, any new controls work should be kept exclusive to Delta Controls.

In the event that another control system is considered, it should also have native BACnet capabilities and be totally and seamlessly integrates with the existing Delta System.

6.3.3.13 Start-up, Testing, and Balancing Equipment and Systems

Start-up

The specifications should indicate that factory representatives will be present for start-up of all major equipment, such as boilers, chillers and automatic control systems.

Testing and Balancing

Testing, adjusting and balancing of air distribution and hydronic systems performed by the Contractor must be verified and documented. (see RS12) The results of not less than 20% of all reported measurements should be verified and documented. Provide documented design intent and balancing drawing for achieving the intended system flow rates, pressures, and temperature and humidity levels. A report is to be provided at the time of systems commissioning based on design criteria, controls sequence and actual HVAC systems response.

Performance Testing

Specifications should include performance testing of all equipment and systems including air handling and other systems for part load and full load during summer, winter, spring and fall season as per the schedules specified by the designer as per part of the commissioning process.

Pressure and Leak Testing

For low-pressure ducting, leakage testing is not required.

6.3.3.14 Fire Protection

The existing fire protection system is to be modified as required to provide the required coverage in the new penthouse and changes required as a result of work carried out on the floors.

Fire Alarm Systems

Fire alarm systems shall not be integrated with other building systems such as building automation, energy management, security, etc. Fire alarm systems shall be self-contained, stand alone systems able to function independently of other building systems.

6.3.4 Electrical Objectives

6.3.4.1 General description

This work includes a moderate upgrade of power, lighting and communications systems to improve operations.

The interior lighting will be a complete replacement and will require the replacement of the metric ceiling grids to a more standard 2 foot by 4 foot grid. The existing lighting control system shall be replaced or modified to allow for automatic control of lighting loads in the building while allowing for a high level of user control and security.

Due to problems in the electrical systems, a complete replacement of the power distribution is required including new panelboards in new electrical rooms, new feeders, distribution and devices. Early in the process, sizes for electrical rooms and communications rooms will need to be updated to ensure that the new electrical rooms have adequate room for all proposed equipment and wire plus room for a future 25 % increase in the future. New electrical rooms are anticipated through out the building. In addition, replacement of the bus duct should be considered.

A complete rebuild of the communications system is also required including new communications rooms, pathways and spaces, wiring, racks and terminations.

The replacement of the existing UPS is not part of the scope; however the change in service equipment (panels, feeder, breakers) must be sized to allow for an upgrade to this UPS in the future.

The upgrading of the fire alarm system is not required beyond code requirements and changes required due to wall and ceiling moves for instance.

The high voltage entrance has been replaced in 2010. All switchboards and panel boards beyond the main breaker shall be replaced. Two digital meters and connections to the PWGSC network are required.

All electrical wiring, motor starters and connections for the mechanical systems proposed are required.

Provide a full fault co-ordinating study of existing components which are to remain and second version including new components that are proposed for replacement. This study is to include the high voltage implications and shall proceed to the first protection unit on the Utilities power grid. An arc flash study (max. 2 seconds) is required

6.3.4.2 Design Basis

.1 Base the electrical design on providing the following features at the most economical cost, considering both investment and operating expenditures:

.1 Safety to personnel during operation and maintenance.
.2 Ease of maintenance of equipment.
.3 Flexibility of electrical services.
.4 Proper co-ordination of all elements of the system as to:
  .1 insulation levels,
  .2 interrupting capacities,
  .3 protective devices,
  .4 mechanical strength, and
  .5 hazardous location classification.
.5 Energy Conservation.
  .1 Meet or exceed Model National Energy Code of Canada for Buildings 1997 for energy efficiency.
  .2 Meet the Enercan proposed amendment to the energy efficiency regulations.
  .3 Submit calculations for review.
.6 Sub-metering capability
  .1 Provide the ability to easily monitor the electrical consumption of various building systems.

6.3.4.3 Codes and Standards

1. Electrical work to conform with the Canadian Electrical Code and application local regulations.

2. Require CSA approval on equipment as applicable. Other approval agencies as applicable.

3. Specify applicable standards for equipment; i.e., EEMAC, CSA, ULC, ASTM, NFPA, ANSI, etc.

4. The electrical design and installation shall meet the specific requirements of the Handbook of Occupational Safety and Health; specifically, the Canada Labour Code and Treasury Board of Canada Standards.

6.3.4.4 Materials and Equipment

.1 Provide generic descriptions and special features required. Avoid specifying trade names. Where trade names must be used due to nature of product provide a minimum of three names where at all possible. Avoid specifying products limited to one manufacturer.

6.3.4.5 Incoming Electrical Services

1. The incoming high voltage electrical service was replaced in 2010. This service originally consisted of two high voltage lines with a high voltage transfer switch and two high voltage transformers located in the basement of the RCMP J division building. The new service entrance replaced the high voltage portion placing it outdoors and reconnecting the existing switchboards / breakers.

2. Replace remaining electrical switchboards / breakers located in the electrical room.

3. Verify existing and provide a complete single line drawings for the facility including emergency circuitry identified in red for ease of reading. Verify format and layout with PWGSC for approval prior to completion. This single line drawings shall be provided to in PWGSC - CAD format with a paper copy posted in the electrical room.

6.3.4.6 Electrical Room

1. Review and expand all electrical rooms for immediate and future growth requirement. Size shall allow for a 25 per cent increase in the future. Upgrade all electrical panelboards, breakers and wiring.

2. Upgrade independent ventilation system (gravity where possible) with intake and exhaust direct to the outside.

3. Ensure electrical room(s) with transformers are not located adjacent to any office areas or areas which may be occupied by individuals for extended periods. This is to limit exposure to EMF. Retain transformers in the main electrical room where possible.

6.3.4.7 Office Space Distribution

.1 System to be capable of supplying power to office areas and to be flexible with respect to future changes in office layout. Ensure compatibility / inter operability with other anticipated systems (e.g. furniture, screen systems.) Circuit density

shall be 4 (four) 2 wire circuits for approximately every 40 square meters. Do not share neutrals or grounds.

.2 Replace office grid system with a new grid capable of supplying power to office areas and flexible with respect to future changes in office layout. Ensure compatibility / inter operability with other anticipated systems (e.g. furniture, screen systems).

.3 Systems are to incorporate current harmonic reducing devices (i.e. transformers) and techniques (i.e. no shared neutrals).

.4 As required, provide additional electrical rooms to reduce the wire size and control voltage drop problems. Voltage drop shall be calculated based on each circuit being loaded to 80 % of the breaker rating.

6.3.4.8 Fire Alarm System

.1 General: Upgrade components as required in accordance with:

.1 CAN/ULC-S-524-M91, Installation of Fire Alarm Systems.
.2 ULC-S525-1978, Audible Signal Appliances for Fire Alarm.
.3 CAN/ULC-S526-M87, Visual Signal Appliances, Fire Alarm.
.4 CAN/ULC-S527-M87, Control Units, Fire Alarm.
.5 CAN/ULC-S528-M91, Manual Pull Stations.
.6 CAN/ULC-S529-M87, Smoke Detectors, Fire Alarm.
.7 CAN/ULC-S530-M91, Heat Actuated Fire Detectors, Fire Alarm.
.8 CAN/ULC-S531-M87, Smoke Alarms.
.9 CAN/ULC-S536-M86, Inspection and Testing of Fire Alarm Systems.
.10 CAN/ULC-S537-M86, Verification of Fire Alarm Systems.
.11 CAN/ULC-S541-M87, Speakers for Fire Alarm Systems.
.12 TB OSH Chapter 3-3, 01-02-92, Treasury Board of Canada, Occupational Safety and Health, Chapter 3-3, Fire Protection Standard for Electronic Data Processing Equipment.
.13 TB OSH Chapter 3-4, 01-02-92, Treasury Board of Canada, Occupational Safety and Health, Chapter 3-4, Standard for Fire Alarm Systems.
.14 NBC-1995, National Building Code of Canada.
.15 CSA B222.0.
.16 Treasury Board Personnel Management Manual - Chapter 7-5.

.2 Verify doors that are required to be closed for fire protection and provide magnetic hold-open devices on these doors such that the magnetic holds automatically release the doors on a fire alarm condition.

.3 Verify that all ventilation and components related to ventilation (such as heat coils) will shut off safely on fire alarm condition. This control shall be provided by the fire alarm system directly. (For instance, a controlled shut down initiated by the fire alarm system through the DDC system would not be acceptable)

.4 Provide to PWGSC a single line drawing of all fire alarm components including riser details and interconnections . This drawings shall be in PWGSC - CAD format and a paper copy of this single line drawing shall be posted in the electrical room.

6.3.4.9 Lighting General

1. The existing lighting is to be upgraded / replaced with energy efficient T8 or T5 fluorescent lighting. The metric fixtures (troffers) shall be replaced with imperial sized units. The existing ceiling grid is metric and must be replaced with a new ceiling grid. Preferred voltage is 120 volt.

2. For each room or area, determine the task performed and provide maintained lighting levels as shown in PWGSC Standard RPSB/DGSI 1-4:95-1 Office Lighting April 1995, Canada Labour Code - Part II, and IESNA Lighting Handbook.

3. Video display terminal task lighting to PWGSC Standard RPSB/DGSI 1-4:95-1 Office Lighting, and IES recommended practice for lighting offices containing computer visual display terminals (ANSI/IES RP-1).

4. Incorporate energy control of lighting levels, including remote control of dimming.

5. Upgrade or replace existing lighting control system with the following options:
   - .1 High resolution colour monitor.
   - .2 Desk top 132 column printer.
   - .3 Manual switch / motion detection and digital telephone override.
   - .4 Submit a life cycle cost analysis with the design synopsis.
   - .5 Motion control sensors
   - .6 Light shedding at window locations

6. .Submit a computer analysis of the lighting for typical spaces. Output to show in tabular format:
   - .1 Explicit light loss factors.
   - .2 Horizontal illuminance.
   - .3 Vertical illuminance where relevant.
   - .4 VCP
   - .5 RVP
   - .6 CRF

7. Approaches to providing natural daylight must be considered holistically, as a part of the overall lighting strategy, and requires integrated systems and decision-making. Issues regarding 'intelligence' of systems (e.g.: sensors), types of controls, degree of individual control, quality of light, and reduction of glare must all be thoughtfully addressed.

8. Co-ordinate the design with the space/unit requirements outlined elsewhere in the Brief (phase 2).

6.3.4.10 Emergency Lighting

.1 Review and provide sufficient additional emergency lighting to permit a safe evacuation. Emergency lighting systems must be installed in accordance with Federal Fire Prevention Committee Standard No. 501, issued by the Office of the Fire Commissioner of Canada, and the National Building Code.

.2 Emergency lighting units must be performance certified by CSA as meeting CSA Standard C22.2, No. 141.

6.3.4.11 Exit Signs

1. Upgrade Exits lighting to meet the National Building Code and the Office of the Fire Commissioner of Canada. The new "Green Running Man" shall meet the bilingual requirement.

6.3.4.12 Security Systems

.1 Upgrade components where moved or affected by construction.

6.3.4.13 Card Access and Security Systems

.1 Upgrade components where moved or affected by construction.

6.3.4.14 Mechanical connections

.1 Review and understand the scope of the mechanical upgrades and provide the electrical design and protection design for all electrical connection to all mechanical components.

.2 Design and provide all electrical conduits required for control systems required in the mechanical design.

.3 Co-ordinate heating / ventilation with mechanical and architectural design. If electrical heating is used, ensure that the heating units specified provide the required wattage, but do not exceed specified values. Integrate the heating controls with the total environmental aspect of the building. Verify the SCR design does not contribute to voltage fluctuations or harmonics within the electrical grid. Use low watt density heaters where feasible.

.4 Upgrade / replace MCCs to meet the requirements of the mechanical requirements identified in this request.

6.3.4.15 Standby Power

1. No major upgrades to the emergency power systems is requested. Verify the generator room and surrounding space and ensure room is set up to meet CSA space requirements and CSA 282 lighting / heat requirements. Design upgrades as required by code or CSA 282.

6.3.4.16 U.P.S. and Power Conditioner

1. No upgrades to the UPS is required under this proposal. The power feed may be affected in panel board replacement as listed above. Provide an isolation transformer on the utility side of the UPS to reduce to harmonic distortion to less than 10%. Allow for a future sizing of two time the existing unit.

6.3.5 Communications

6.3.5.1 Design Basis

1. Base the communications design on providing an economic, flexible system that allows ease of communications among co-workers and the larger virtual

communities. Portability of services within the building are a priority. All communications rooms and distribution method is to be reviewed and updated to current T530 standards. This design assumes a compete replacement including backbone and vertical runs, trays and pathway.

6.3.5.2 Codes and Standards

.1 Design a telecommunications system in accordance with the following guidelines and standards. Provide justification and recommendations whenever following guidelines is not recommended.
.2 CAN/CSA-T527 - Grounding and Bonding for telecommunications in Commercial Buildings
.3 CAN/CSA-T528 - Design guidelines for Administration of telecommunications Infrastructure in Commercial Buildings
.4 CAN/CSA-T529 - Design Guidelines for Telecommunications Wiring Systems in Commercial Buildings
.5 CAN/CSA-T530 - Building Facilities, Design Guidelines for Telecommunications
.6 TBITS 6.9 COSAC - Canadian Open Systems Application Criteria (COSAC), Telecommunications wiring system in Government-Owned and leased buildings - Technical Specifications
.7 CEC - 22.1 - 98 - Canadian Electrical Code

6.3.5.3 Spaces

1. Base the communications design on providing an economic, flexible system that allows ease of communications among co-workers and the larger virtual communities. Portability of services within the building are a priority. All communications rooms and distribution method is to be reviewed and updated to current T530 standards .

2. Provide recommendation for location, design and layout for new communications spaces to meet CAN/CSA T530 recommended standards. Ensure communications closets and rooms are well planned at the early stages to allow flexibility for recommended designs and future layouts. Provide input to mechanical consultant for ventilation requirements.

6.3.5.4 Pathways

1. Update communications pathway for this building. Provide a horizontal and vertical pathway system compatible with usable floor space. This may include

tray above the ceiling, tray below the floor, zoned conduit systems, etc. Consider flexibility that will allow economic churn of workstations without recabling of the space.

2. Verify early in the process the pathway requirements for the RCMP. There will be areas that will be unacceptable to use for pathways due to adjacent spaces or the floor above.

6.3.5.5 Wiring

1. Provide recommendations with respect to the wiring system using flexibility, reduced future churn costs and sustainability as part of the design criteria. Consider category 6 and 6E, fibre to the desk with fibre or copper backbone. Provide comparison of wired structure to latest wireless systems providing risks, economics and recommendations. Bandwidth considerations may include VoIP, video conferencing web cams etc. Provide design based on accepted recommendation.

2. Upgrade the risers with both voice and data cables. Data cables shall be both copper and fibre optic and shall terminate in both the entrance rooms and each communications room.

3. During the Pre-Design stage of the project, RCMP needs analysis will be required to determine the extent of wired structure to be utilized within each area. Wireless communications may not be used unless written permission is provided per system by the RCMP. RCMP security directorate will provide final direction on wiring and pathways.

4. Consider the interconnection of the communications and data systems to the risers looking at jumpers, patch cords and electronic jumpering. Consider all costs including training and trained on site personnel requirements. RCMP will have final say on any design proposal.

6.3.5.6 Voice Communications System and backbone cabling

1. Consideration is to be given into the risks, reliability and economics of various voice communications systems existing or proposed for this building. Systems may include the standard PBX, key or centrex as a base line and comparison of all related cost to a personal communications systems (PCS) or customer owned cell within the building, voice over IP, regular cell phone, or other recommended voice communications system. Consider requirements such as voice mail, FAX rerouting, caller ID, call forward, conference, etc.

and any currently available feature that may be required. The intent of this consideration is to justify the wiring for voice.

6.3.6 Vertical Transportation

1. Update elevators to the requirements of the National Building Code, National Fire Code, and CAN/CSA-B44, Safety Code for Elevators. (Most Recent Versions) and Public Works and Government Services Canada Design Standard AES/SAG 101:92-2 entitled "Elevators, Dumbwaiters, Escalators and Moving Walks," March, 2010.

2. Designs shall be non-proprietary in nature. Direction shall come form PWGSC Electrical Department.

6.3.6.1 Passenger Elevators

1. Perform detailed traffic analysis for pedestrian planning and design. Submit at Concept and update at Design Development.
   - Include ease of handicapped access,
   - Handling capacity for peak, and off peak periods, population flow.
   - Minimum waiting times
2. Equipment to be totally universally maintainable, non-proprietary.
3. Motor Controls and Motor Drive System to be VVVF type.
4. Supervisory System to be Intelligent Motion Control type.
5. Operating and Dispatching to be microprocessor type system, capable of dispatching multi-car groups.
6. System to be equipped with Central/Remote Monitoring feature.
   - Real time system monitoring,
   - Immediate fault notification,
   - Comprehensive system performance reporting,
   - Multiple connectivity options.
   - Be capable of interfacing with all makes and types or elevators/escalator control systems.
7. System to be 100% supported by Emergency Back-Up Power
8. Electric elevators required.

6.3.6.2 Freight Elevators

1. Perform detailed traffic analysis for freight planning and design. Submit at Concept Stage and update at Design Development.

- Handling capacity for peak, and off peak periods, freight flow.
- Minimum waiting times

2. Equipment to be totally universally maintainable, non-proprietary.
3. Motor Controls and Motor Drive System to be VVVF type.
4. Supervisory System to be Intelligent Motion Control type.
5. Operating and Dispatching to be microprocessor type system, capable of dispatching multi-car groups.
6. System to be equipped with Central/Remote Monitoring feature.
   - Real time system monitoring,
   - Immediate fault notification,
   - Comprehensive system performance reporting,
   - Multiple connectivity options.
   - Be capable of interfacing with all makes and types or elevators/escalator control systems.
7. Car to service all floors, including machine room penthouse floor.
8. System to be 100% supported by Emergency Back-Up Power
9. Electric elevators required.

6.4 Security requirements for building design

The RCMP have design guidelines relating to security within the building which will impact all disciplines. Although the requirements within these guidelines focus primarily on controlling physical access to given areas, for certain situations they also include items such as ensuring that mechanical or electrical services are not routed through spaces they do not directly serve, providing acoustic privacy, providing visual privacy or providing electronic privacy.

The consultant will be responsible to review the security guidelines and incorporate all applicable requirements into the design.

The security guidelines will be provided to the successful consultant.

6.5 Construction Phasing

The building will remain occupied during construction.

A portion of the building population will be moved to swing space outside the building for the duration of the construction. The work required to design and fit up the swing space located outside the building will <u>not</u> form part of the work under this contract.

The remainder of the population will stay in the building.

Approximately 80% of the building population will be relocated in the final layout. Along with the implementation of the upgrades to the mechanical and electrical systems, this will result in the need for phasing of the construction. The consultant will be responsible for the development of the construction phasing plan.

The phasing will need to take into account the present location of the functional groups and their final location. Phasing will most likely result in the need for temporary layouts during certain phases.

The phasing plan will need to balance the requirements of the functional groups with the technical requirements of the mechanical and electrical systems and their options for phasing.

Phasing will result in phased commissioning.

6.5.1 Suggested Mechanical Construction Sequence

The following sequence is provided to the consultant as a possible starting point for the phasing of the mechanical work. The consultant is expected to review and modify / change the sequence to simplify construction while maintaining comfort and operational capacity of the building during the phasing of construction.

1. Pressure test existing SA duct shafts to 1000 kPa.
2. Pressure test existing RA and EA duct shafts to negative 500 kPa.
3. Clean existing duct shafts.
4. Install a new FA intake hood on the roof of the existing penthouse.
5. Reduct existing FA fan 16-5 to the new intake hood (6750 l/s).
6. Carry out necessary structural work on the 4th floor to strengthen the roof for the new penthouse extension.
7. Construct the new penthouse addition.
8. Install the 2 new AHUs in the penthouse. Fans to have VFDs. Install crossover ductwork and damper to allow one AHU to supply the entire building.
9. Install the 2 new RA fans in the penthouse. Install crossover ductwork and dampers to allow one RA fan to serve entire building. Fans to have VFDs.
10. Install the 2 new ERVs in the penthouse. New ERVs to have separate supply air fans and exhaust air fans. ERVs to operate as exhaust only when AHUs are in the free cooling mode and as ERVs when minimum FA is required ERVs to hot water heating coils to temper the FA. Fans to have VFDs.
11. New AHUs and RA fans and ERVs to be ducted to OA and EA louvers, all piping completed, all electrical requirements completed, and all controls completed.
12. Disconnect East FA shaft from SF 16-5 and make connection to new AHU 1.
13. Disconnect East RA shaft from EFs 16-3A and 16-3B and connect to new RF1.
14. Disconnect West FA shaft from SF 16-5 and make connection to new AHU 2.

15. Disconnect West RA shaft from EFs 16-4A and 16-4B and connect to new RF2.
16. Remove existing exhaust fans EF 16-1 and EF 16-2. Connect existing exhaust duct shafts to the new ERVs.
17. Compartmental units can be removed to satisfy the phasing plan. Upon removal, the floor distribution ductwork will be connected directly to the SA duct shafts.

PD 7 CONSULTANT SERVICES

It is recognized that the Consultant may not possess in-house expertise for all of the requisite or proposed disciplines and specialities. The Request for Proposal permits the Consultant to contract required Sub-consultants and Specialists to its team.

PWGSC will have no direct contractual relationship with Sub-consultants engaged through third party contracts. The Consultant will be solely responsible to PWGSC under the terms of the Agreement.

The combined list of firms and key personnel included as Consultants, Sub-consultants and Specialists comprise the Integrated Consultant Design Team (Consultant Team). The Consultant Team will be required to maintain its expertise for the duration of the project.

The Consultant will be responsible for co-ordination and direction of all Consultant Team activities.

The Consultant Team must be comprised of qualified professional and technical expertise with extensive relevant experience capable of providing, at minimum, the services identified below. All members of the Consultant Team must be eligible to work in New Brunswick. Members of the Consultant Team may have the necessary qualifications and expertise to provide services in more than one discipline or speciality.

The consultant team members must work and communicate closely with their corresponding members in the PWGSC AES Resource team. PWGSC resource team is responsible to ensure the consultant applies the proper design process as part of their quality assurance mandate. The consultant is fully responsible and liable for all their work and services including their own quality control.

The consultant must provide all substantiation document for their services to PWGSC team when requested at each submission such as life cycle cost analysis, feasibility reports etc. for options, recommendations, and considered features.

The following list identifies the various types of expertise that will likely be required for this project:

- Architecture
- Commissioning
- Communications design
- Construction safety
- Cost control
- Electrical engineering
- Resident site personnel
- Registered interior design
- lighting design
- mechanical engineering
- security

- structural engineering
- Elevator engineer
- Construction contract administration

The Consultant shall:

1. Throughout all phases of the project, assume responsibility for co-ordinating the work of any Sub-consultants and specialists retained by the Consultant.

2. Ensure clear, accurate and ongoing communication of concept, budget, and scheduling issues (including changes) as they relate to the responsibilities of all Sub-consultants and specialists from pre-design analysis to post construction reports. Co-ordinate input for the Project Manager's Risk Management Plan. Co-ordinate the Quality Control process ensuring all submissions are complete and signed-off by the designated Senior Reviewer as detailed in RS 11.

PWGSC shall perform the following functions:

- material testing
- acoustic testing
- thermographic testing
- project management
- claims analysis
- media relations
- contract administration
- contracting
- Architectural and Engineering Services quality oversight.
- Risk management
- Communication with the tenant

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DESCRIPTION OF SERVICES

RS 7 Construction and Contract Administration

RS 8 Project Time Planning, Scheduling and Control

RS 9 Estimating and Cost Planning

RS 10 Post Occupancy Services

RS 11 Integrated Consultant Team Quality Assurance

RS 12 Commissioning the Facilities

RS 13 Bilingual Construction Documents

ADDITIONAL SERVICES

AS 1 Resident Construction Services

PA 1 PROJECT ADMINISTRATION

INTENT

The following administrative requirements apply during all phases of project delivery.

1.1 PWGSC PROJECT MANAGEMENT

The Project Manager assigned to the project is the PWGSC Departmental Representative as defined in General Conditions of the Contract.

The Project Manager is the Departmental officer directly concerned with the project and responsible for its progress. The Project Manager is the liaison between the Consultant, Public Works and Government Services Canada, the RCMP, the Commissioning Manager, Building Management and the Contractor.

Public Works and Government Services Canada administers the project and exercises continuing control over the Consultant's work during all phases of development. Unless directed otherwise by the Project Manager, the Consultant obtains all Federal requirements and approvals necessary for the work. The consultant shall:

1. Carry out services in accordance with approved documents and directions given by the Departmental Representative.
2. Ensure all communications carry the PWGSC's Project Title, Project Number and File Number.
3. Advise the Departmental Representative of any changes, that may affect schedule or budget or are inconsistent with instructions or written approvals previously given. The consultant shall detail the extent and reasons for the changes and obtain written approval before proceeding.

1.2 GENERAL PROJECT DELIVERABLES

Where deliverables and submissions include summaries, reports, drawings, plans or schedules, six (6) hard copies shall be provided plus one (1) copy shall be provided in electronic format unless otherwise specified.

1.3 LINES OF COMMUNICATION

Unless otherwise arranged with Project Manager, the Consultant shall communicate with the Project Manager only. The Project Manager will arrange for direct communication with the various stakeholders at the appropriate stages of the project. Should these discussions result in potential impact on consultant fees, scope of work or

project scope, the consultant is to advise the Project Manager and await authorization before proceeding with work in question.

During construction tender call, Public Works and Government Services Canada conducts all correspondence with bidders and makes the contract award.

1.4 MEDIA

The consultant shall not respond to requests for project related information or questions from the media. Such inquires are to be directed to the Project Manager.

1.5 MEETINGS

The Project Manager shall arrange meetings monthly throughout the entire project development period, for all members of project team, including representatives from:

- Client Department
- Consultants
- Public Works and Government Services Canada

The Consultant shall attend the meetings, record the issues and decisions and prepare and distribute minutes within 72 hours of the meeting.

1.6 PROJECT RESPONSE TIME

It is necessary that key personnel, or their designated substitutes, of the successful proponent, sub consultants or specialist firms be available to attend meetings or teleconferences and respond to inquiries within a reasonable length of time. For example, during construction, the qualifiers listed below will require the associated response time:

Urgent - warrants a response within two (2) hours because to leave it outstanding any longer would, for example, adversely affect the continuance of work on site if not resolved immediately
High Priority - requires a response within one (1) day to avoid delays
All other items - to be addressed within three (3) days

Where firms are not in close proximity to "the Project", they shall ensure that they have local representation (identified in submission) with the capabilities to meet the required project response times.

1.7 ISO 9001 CERTIFICATION

Certain sections of PWGSC Atlantic Region (including Project Management), are ISO 9001 certified at the time of publication of this document. Compliance with the most current PWGSC work procedures and documentation practices will be required throughout all phases of this project. The Project Manager will advise in advance of any requirements that exceed those detailed herein. Contact the Project Manager whenever clarification is required regarding compliance with PWGSC quality assurance and quality control practices.

1.8 QUALITY ASSURANCE/QUALITY CONTROL MEASUREMENTS FOR CADD DATA

The Consultant, in provision of CADD data files, shall adhere to the most current version of “Doing Business with A&ES, Atlantic Region” as attached as Appendix "D" and with the Atlantic Region document "PWGSC, Atlantic Region, CADD Data Specification" . The latest version of this document is available at

http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/atlantique-atlantic/atl-cdao-cadd-intro-eng.html

PWGSC, RPS shall ensure Quality Assurance (QA) of the delivered CADD data files and printed drawing plans by conducting a CADD drafting review using a checklist form entitled "PWGSC, Real Property Services Quality Assurance (QA) Checklist for CAD Drafting" that is included in the Appendices of the "PWGSC, RPS CADD Data Specification". The QA Checklist has approximately 20 QA items that are assessed; passmark is 80%. Additionally, there are several QA items that a zero tolerance for non-conformance has been established. **The Consultant is required to use the QA Checklist form to perform a Quality Assurance self-assessment of the CADD data files to be delivered.**

In circumstances where, PWGSC receive CADD data files from the Consultant that do not meet the 80 percentile passmark established in the "PWGSC, Real Property Services Quality Assurance Checklist for CAD Drafting", PWGSC will deem the work unacceptable and thereby require the Consultant to correct the problem(s) at the Consultant's cost. Furthermore, PWGSC reserves the right to make use of the printed drawing plans resulting from the CADD data files with no obligation to the Consultant for payment of the work until the CADD data files are corrected. In addition the full cost(s) of subsequent reviews will be borne by, and back charged to, the Consultant.

CADD data files will be reviewed for adherence to the "PWGSC, RPS CADD Data Specification" at **each scheduled drawing submission**. PWGSC reserves the right to request CADD data files at any point of the scheduled work to conduct a CADD drafting review.

1.9 HEALTH AND SAFETY PLAN

.1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.

.2 Health and Safety Plan shall include the following components:

.1 List of health risks and safety hazards identified by hazard assessment.

.2 Control measures used to mitigate risks and hazards identified.

.3 On-site Contingency and Emergency Response Plan as specified below.

.4 On-site Communication Plan as specified below.

.3 On-site Contingency and Emergency Response Plan shall include:

.1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.

.2 Evacuation Plan: prior to entering the Work Site confirm escape routes, marshalling areas, and location of fire fighting equipment.

.3 Emergency Contacts: name and telephone number of officials from:

.1 Departmental Representative.

.2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.

.3 Local emergency resource organizations.

.4 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.

.4 On-site Communication Plan:

.1 Procedures for sharing of work related safety information to subconsultants, including emergency and evacuation measures.

.2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.

.5 Address all activities of the Work including those of subconsultants.

.6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever a new subconsultant arrives at Work Site.

.7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.

1.10 SECURITY CLEARANCES

The following Security Instruction applies to Consultants working on RCMP projects. This Instruction is intended to explain the process to be followed by the Prime Consultant who needs to have personnel security cleared to work on RCMP sites.

1.10.1 Definitions

RCMP Sites - All locations currently occupied by RCMP staff or equipment, including private leased space, PWGSC or other Federal Government space, and RCMP owned space.

PWGSC Project Manager - PWGSC staff acting as the contracting authority, responsible for carrying out project work at RCMP sites.

Authorized Departmental Official - The PWGSC Project Manager is considered to be the Authorized Departmental Official.

Reliability Status Clearance - RCMP Facility Site Access that allows an individual to enter an RCMP site or have access to information about the RCMP site (i.e. Project drawings).

Site Access Clearance - RCMP Clearance level that allows an individual access to an RCMP site when escorted by an RCMP Member, PWGSC Project Manager with appropriate clearance level, RCMP Property Management Representative or authorized Member of the Canadian Corps of Commissionaires. It should only be requested as an exception when the individual needs immediate access to the site.

Controlled Documents - Documents, either in hard copy or electronic medium, containing any information that is identified as TOP SECRET, SECRET, CONFIDENTIAL, or PROTECTED by Canada, confidential or proprietary to third parties, and all information conceived, developed or produced by the Consultant or Contractor as part of the Work where copyright or any other intellectual property rights in such information (except a license) vests in Canada under the Contract.

1.10.2 Security Clearance Requirements

The following staff must have security clearance levels as specified:

1. All Consultant staff working on the project must have RCMP Facility Site Access as a minimum level of security clearance. This will only include staff having

access to drawings or other RCMP project related documents, but will not those involved in other functions such as administration.

2. All Sub-Consultant staff working on the project must have RCMP Facility Site Access as a minimum level of security clearance. This will only include staff having access to drawings or other RCMP project related documents, but not those involved in other functions such as administration.

3. All specialists employed by the Consultant or Sub-Consultant who are required to work with the project drawings/documents or visit the site are required to have RCMP Facility Site Access as a minimum level of security clearance.

4. All inspectors who require access to the site or review of the project drawings/documents must have RCMP Facility Site Access as a minimum level of security clearance.

All individuals requiring access to an RCMP site for a project must complete the application for Reliability Status Clearance, even if they already possess a PWGSC / RCMP clearance. If an individual has already applied for and received Reliability Status for another project, they may resubmit their original form (or prepare a new form with updated information) and note that all the information still applies. This will allow for a cross-reference to their data base, updating the detail as necessary, and allowing the application to be processed..

1.10.3 Security Clearance RCMP Reliability Status

To obtain RCMP Reliability Status Clearance, the following information is required as an individual's application for clearance; as a minimum:

- Completed Form TBS/SCT 330-23E (Rev.2002/02)
- Completed PWGSC Security Form "A"
- Proof of Identity (picture ID)
- Minimum of two sets of finger prints (some applicants may be asked to provide additional sets of finger prints if requested by RCMP.)
- Proof of Canadian Citizenship (if a Canadian Citizenship Certificate is provided, copy both sides of the certificate.

1.10.4 Application Procedure and Responsibilities

The Prime Consultant is responsible for ensuring the PWGSC/RCMP security requirements are met by all personnel working on the project. This includes all individuals listed in Section 1.10.2 above. The Prime Consultant is responsible to:

- Distribute the form TBS/SCT 330-23E (Rev.2002/02) to all individuals requiring clearances with appropriate instruction and sample forms.

- Distribute copies of PWGSC Security Form "A" to all companies involved and instruct their management to complete one form for each employee requiring security clearance.

- Collect and assemble the completed forms by company with Form "A" attached to the TBS/SCT 330-23E for each applicant.

- Verify that all forms have been completed correctly with all signatures, initials and information supplied as specified.

- Ensure all applications include copies of a picture ID, two sets of finger prints and Proof of Canadian Citizenship.

- Ensure that all security documents when completed are treated as private and confidential. Completed documents must be kept in a locked cabinet.

- Establish a record of the status of all security clearance requests, listing by company, the individual's name, when the forms were requested, when the completed forms and documentation was received from the individual, when the application was sent to RCMP, when notification was received that the individual had received security clearance.

- Maintain a current, up-to-date record of all individuals with security clearances in the Resident Construction Services Representative's office on the construction site.
- Make security list available to the Project Manager at any point on demand.

- After the appropriate information has been collected for each individual, forward the applications to the RCMP in envelopes clearly marked as "Private & Confidential". Ideally, all applicants from a particular company should be sent to RCMP at one time, however, the clearance process for a company should not be delayed due to individual's missing data.

It may take several weeks for the Enhanced Reliability Status to be processed and returned to the applicant. If more immediate access is required to the RCMP site, *RCMP Site Access* should be requested as noted on the Sample Screening form attached. This process can normally be completed within a week and will permit the individual to have access to the RCMP site under escort. In some cases, the applicant may be asked for additional information (fingerprints, etc.) if the clearance process encounters duplicates or irregularities in the application. This request will delay the approval process and must be completed prior to the individual being granted access to the location. There will be no charge for fingerprinting if taken at an RCMP Detachment provided it is identified for this project.

1.10.5 Application - Security Rejections

If a member of the Consultant's or Sub-Consultant's staff does not pass the security check by the RCMP, the individual involved will not be permitted to work on or be involved with the project team. Rejection of an individual is not intended to reflect on the individual's character or reliability but rather a statement that the RCMP have not been able to establish a clear record that permits that individual to have access to confidential RCMP documentation.

If a member of the Contractor's or Sub-Contractor's staff or any other individuals requiring security clearance does not pass the security check by the RCMP, the individual involved will not be permitted to work on or be involved with the project team.
Any individuals who have been rejected shall be replaced by another team member of equal or better qualifications by the Consultant or Contractor at no additional cost to the RCMP/PWGSC. PWGSC reserves the right to ask for verification of security clearance for any Consultant/Sub-Consultant staff member found working on the project.

1.11 SECURITY REQUIREMENTS - ELECTRONIC AND PHYSICAL DOCUMENTATION

Due to the secure nature of this project, all documents, including drawings, correspondence and photographs, must be considered to be "controlled documents." As such, surplus copies of all drawings and documentation must be shredded when no longer required. Project documentation must not be left exposed in unsecured areas in design offices or on the construction sites. PWGSC/RCMP reserve the right to carry out spot checks at any point during the design or construction phases of the project to verify that project documents are being handled appropriately.

RCMP have specific requirements as to labelling/identification of rooms in construction contract documents. These requirements will be provided to the successful consultant.

1.12 THE PROJECT TEAM

1.12.1 PROJECT TEAM ORGANIZATION AND REPORTING RELATIONSHIPS

This project is jointly funded and delivered in a partnership between the two government departments of Public Works and Government Services Canada and the RCMP. The Project Delivery Team is comprised of all main proponents involved in co-ordinating and delivering this project. While respecting the reporting relationship and

lines of communication identified in section PA 1.3, it is expected that the Consultant will work closely with all PWGSC and its client team members, with the goal of achieving a thoroughly complete design. The following identifies the organizational and reporting relationships of the PWGSC/RCMP in-house Project Team and its supporting committees.

PROJECT DELIVERY TEAM

Mandate:

- Define the project, its operating principles and goals, method of project delivery and quality assurance from a crown perspective
- Implement the project

Core Team

- Project Leader (PWGSC)
- Project Leader (RCMP)
- Project Manager
- Resource Team Leader
- Assets and Facilities Management Advisor
- Real Property Contracting

Additional Team Members/Resources

- In-house A&E Resources (e.g.: architectural, structural, mechanical, electrical, elevator, interior design, geotechnical, civil, etc.)
- Senior Project Manager
- In-house OA/RE Resources
- Telecommunications Informatics Service Representative
- Communications Representative
- Environmental Services Representative
- Outside Parties/Stakeholders
- PWGSC/Owner Investor

PA 2 SUBMISSIONS, REVIEWS & APPROVALS

2.1 AUTHORITIES HAVING JURISDICTION

Codes, regulations, by laws and decisions of "authorities having jurisdiction" will be observed. In cases of overlap, the most stringent will apply. The Consultant shall identify other jurisdictions appropriate to the project.

Work in progress is to be reviewed by the Project Manager as well as the various authorities.

Formal presentations are required for design and project approvals in accordance with the various project stages (See Required Services). Ad hoc presentations will be required to various committees and senior officials. Below is a list of federal committees that will require presentations and submissions for approval.

The frequency of meetings indicated are estimates. It will be affected by the project stage, issues and requirements for decisions and approvals. The Consultant will be required to attend all other meetings as needed and to make presentations to satisfy authorities having jurisdiction as previously identified.

PWGSC In-House Professional Services (Architectural, Engineering, Cost Planning, Interior Design)

- Submission Format: reports, estimates, drawings and specifications
  - Submission Schedule: Submissions are reviewed when completed work has been forwarded to the Project Manager
  - Expected Turnaround Time: 2 weeks
  - Number of Submissions: At end of Design Development - RS-4, 66% (RS-5), 99% (RS-5) ,100% (RS-5) (any of these may be repeated until approval has been received)

PWGSC Design Review Committee

- Submission Format: reports, estimates, schedules, drawings and specifications
- Oral presentations at PWGSC's Bedford Row office, Halifax NS
- Submission Schedule: Submissions are reviewed when completed work has been forwarded to the Project Manager based on project schedule
- Expected Turnaround Time: 1 week
- Number of Oral Presentations & Submissions: Design Development (RS-4), & 99%(RS-5) Submission until approval has been received

HRSDC Labour Canada - Fire Protection

- Submission Format: report, drawings and specifications

- Submission Schedule: Submissions are reviewed when completed work has been forwarded to the Project Manager
- Expected Turnaround Time: 2 weeks
- Number of Submissions: As noted below, until approval has been received

Provincial, Municipal Authorities & Utility Companies

- Submission Format and Schedule, Expected Turnaround Time, and Number of Submissions: Consultant to advise on these requirements.

Chart of Reviews and Approvals

The Chart of Reviews and Approvals that appear on the following pages are intended to highlight the deliverables expected from the Consultant Team at the various stages of the project. This list does not attempt to describe the day-to-day activities that the Consultant must carry out during the progress of the work or any reports or functions that are required as a result of specific conditions that have occurred in the field that require reporting on.

In the Chart

"R" indicates that a Review is required
"A" indicates that Approval is required

Chart of Reviews and Approvals	PWGSC		HRSDC		Client	
	R	A	R	A	R	A
RS 1 Analysis of Project Requirements						
Comprehensive Summary of Project Requirements, cost estimates, (RS 9) schedule (RS 8.6)	X					X
Report on Codes, Regulations, etc., and Authorities	X					
Report on Environmental Impacts etc.	X					
Risk Management Assessment & Alternative Strategies	X					
Project Work Breakdown Structure (PWBS), showing One (1) Implementation Strategy, Cash Flow Projection - (RS 8.5)		X				
Cost Specialist's Report (RS 9)	X					
RS 2 Pre-Design Services						
Final Functional Program		X				
Implementation Strategy and Schedule - reference RS 8:	X					
Project Master Plans, schedule, cash flow, bar chart, network diagram, etc. (RS 8.5, 8.6, RS 9)	X					
Bi-weekly Progress Reports	X					

Telecommunications and Connectivity Requirements		X			X	
Security Requirements Report		X			x	
Operations and Maintenance Report (OS2)	X					
Cost Specialist's Milestone Report (RS 9)	X					
RS 3 Concept Design						
Outputs as per Section 3.2, 3.3, and 3.4:						
2 - 3 Conceptual Designs: Drawings, Sketches, & Analysis: (Architectural, Structural, Mechanical, & Electrical)		X		X		
Description of Options and Recommendations		X		X		
Project Specification Outlines and "Green" Options	X					
Class "C" Cost Estimates and Life Cycle Costs etc. (RS 9)	X					X
Concept Design Project Objectives (PD-6) Reports	X					
Hazardous Waste Disposal Strategy (s)	X					
Detailed Project Schedules (RS 8.6)	X				X	
Commissioning Report and schedules (OS 2)	X					
Cost Specialist's Milestone Reports (RS 9)	X					
Cost Specialist's Exception Reports (RS 9)	X					
RS 4 Design Development						
Design Development Documents as per RS 4.2 and RS 4.3		X		X		
Bilingual Plans and Drawings i.e. all disciplines		X		X	X	
Building Sections (minimum 3)	X		X			
Engineering Designs, Systems, and Information, (Arch., Mech., Elec. etc.)		X		X	X	
Furniture and Equipment Plans and Lists	X					
Updated Elevations and Sections		X				
Colour Graphic Renderings with digital photos	X					
Colour Schematics of interior	X		X			
Lists and outline (draft) Specifications	X		X			
Systems Operations Manuals (SOM) format and organization (RS 12)	X					
Class "B" Cost estimates (RS 9)	X					X
Time plan (Schedule) updates (RS 8)	X					
Preliminary Construction Schedules	X					
Design Synopsis (see sample format)		X		X		
Completed Design Development Reports PD-6	X					X
Operation and Maintenance Reports (OS 2.2)	X					
Cost Specialist's Milestone Reports (RS 9)	X					X
Cost Specialist's Exception Reports (RS 9)	X					X
RS 5 Construction Documents						
Deliverables as per RS 5.1, 5.2, 5.3, and 5.4:	X					

- 66 % SUBMISSION: as per RS 5.4.1. 5.4.2 and 5.4.4:					X	
Written response to questions/requests and to all technical review comments/narrative, etc.	X		X			
Updated Class "B" Cost Estimates & Analysis (RS 9)	X					X
Updated Project Schedules and Monthly Narrative Reports (RS 8.6)	X					
Updated Design Development Report (PD-6)	X					
Technical and Production Meeting Minutes	X		X			
Lists of Working Drawings	X		X			
Updated bilingual Specification Index, General Requirement Sections and Updated Draft Sections	X		X		X	
66% Bilingual Construction (Working) Drawings i.e. Architectural, Structural, Mechanical, & Electrical: plans, elevations, cross sections, layouts, wall sections, typical details, schedules, dimensions, notes, instructions, size, diagrams, calculations, & data	X		X		X	
Furniture Report	X				X	
Systems Operations Manuals (SOM) (OS 2.2)	X					
Updated Commissioning Plans (OS 2.2)	X					
Updated Commissioning Specifications (OS 2.2)	X					
Cost Specialist's Milestone Report (RS 9)	X					
Cost Specialist's Exception Report (RS 9)	X					
- 99 % SUBMISSION: as per RS 5.4.1. 5.4.2 and 5.4.5:						X
Written response to questions/requests and to all technical review comments/narrative, etc.	X		X			
Class "A" Cost Estimates	X					X
Updated Project Schedules and Monthly Narrative Reports (RS 8.6)	X					
Final Design Development Reports (PD-6)	X					
Technical and Production Meeting Minutes	X		X			
Lists of Working Drawings	X		X			
Completed Bilingual Specification Sections and Index with standard details etc.	X		X			X
99% Bilingual Construction (Working) Drawings i.e. Architectural, Structural, Mechanical, & Electrical: plans, elevations, cross sections, layouts, wall sections, typical details, schedules, dimensions, notes, instructions, size, diagrams, calculations, & data	X		X			X
Support data, studies, calculations etc.	X		X			
Final Project Descriptions		X				

Colour Schedule/Schemes (4 copies/project)	X					
Final Environmental Plans	X					
Updated Commissioning Plans (OS 2.2)	X					
Updated Commissioning Specifications (OS 2.2)	X					
Updated Systems Operations Manuals (AS-2.2)	X					
Updated Security Drawings	X					X
Cost Specialist's Milestone Reports (RS 9)	X					
Cost Specialist's Exception Reports (RS 9)	X					
- FINAL SUBMISSION: as per RS 5.4.1. 5.4.2 and 5.4.6:						
Written response to questions/requests and to all technical review comments/narrative, etc.	X		X			
Final, Class "A" Cost Estimates, Elemental Analysis, trade breakdown (RS 9)		X				X
Updated Project Schedules and Monthly Narrative Report (RS 8.6)	X					
Final Design Development Reports (PD-6)		X				
Technical and Production Meeting Minutes	X		X			
Originals of the final bilingual Specification Sections and Index and electronic (CD) copies, with standard details etc.; 2 sets per project, one retained by Consultant		X		X		X
Originals of the completed bilingual Construction (Working) Drawings & CADD files on CD i.e. Architectural, Structural, Mechanical, & Electrical: plans, elevations, cross sections, layouts, wall sections, typical details, schedules, dimensions, notes, instructions, size, diagrams, calculations, & data; 2 sets /project, 1 retained by Consultant		X		X		X
Colour Schedule/Schemes (4 copies/ project)	X					
Designated Substance Survey Reports	X					
Inspection Authorities Submissions	X					
Federal Fire Commissioner's Reports	X					
Inspection Authorities Approvals	X					
Updated Commissioning Plans (OS 2)	X					
Updated Commissioning Specifications (OS 2)	X					
Updated Systems Operations Manuals (RS 12)	X					
Cost Specialist's Milestone Reports (RS 9)	X					
RS 6 Tender Call, Bid Evaluation and Construction Contract Award						
Log and notes of clarifications of contractors inquires	X					
Addenda and associated drawings and specifications & costs (RS 8.6, RS 9)		X			X	
Changes to documents i.e. for retendering		X				

Updated Schedules (RS 8)	X				X	
Listings of shop drawings, Material Samples, Mock-ups, etc.		X				
Listing of Extended Warranties, Maintenance Materials, Spare Parts		X				
Listings of Site work Testing and Material Testing and Detailed Testing Budget	X					
Bid Evaluation Reports and Recommendations	X					
RS 7 Construction and Contract Administration						
Minutes of Start-up Meetings	X					
Minutes of bi-weekly Job (Construction) Meetings & Bi-weekly Progress Reports	X					
Project Schedules (incl. Commissioning) Reviews (RS 8.7)	X					
Detailed Report on Delays (RS 8.7)	X					
Review of Contractors Cost Breakdowns and schedules (RS 8.6, 8.7, RS 9)	X					
Review of the Contractor's Safety Plan	X					
Site Visit Reports i.e. progress, defects/deficiencies, and as-built changes (bi-weekly)	X					
Shop Drawing Logs & reviewed Shop Drawings	X					
Report on failed tests	X					
Lists of Training	X					
Colour Boards based on Contractor’s submittals		X				
Lists of Changes	X					
Contemplated Change Notices (CCN's) with estimates (RS 9)_		X	X			
Change Orders (CO's) (RS 9)		X			X	
Cost advice and Monthly Reports on Project Cost (RS 9)	X					
Review of Contractor's monthly Progress Claims (RS 8.7, RS 9)	X					
Lists of Interim Inspection unacceptable and incomplete work and related cost estimates (RS 9)	X		X			
Verified Interim Inspection Certificates		X	X			
Operation and Maintenance Data Manuals (4 sets per project)		X				
Training Sessions (OS 2.2)		X				
Systems Operating Instructions		X				
Revised Systems Operating Manuals		X				
Verified Final Inspection Certificates		X	X			
Post Contract Drawings		X	X			
As-built Drawings		X	X			
Record Drawings and Specifications		X	X			

RS 8 Project Time Planning, Scheduling and Control						
Variance Analysis Report (RS 8.7.1)	X					
RS 9 Estimating and Cost Planning						
Listed under RS 1-7						
Project Cost Performance Reports (RS 9)	X					
RS 10 Post Occupancy Services						
Debrief of Commissioning Activities Reports		X				
Reports on non-contractor related issues	X					
Reports on System adjustments	X					
Ten (10) Month Warranty Reports		X				
Final Warranty Reviews		X				
Consultants Feedback Report	X					
Post Occupancy Evaluation	X					
RS 11 Integrated Consultant Team Quality Assurance						
All Deliverables to be reviewed as per RS 11	x					
AS 1 Resident Construction Services						
Records of Construction Work	X					
Daily Records	X					
Time Sheets		X				
Daily Log of Inspections	X					
Weekly Reports	X					
Other Reports as per Project Manager request	X					
Site Records	X					
Updated Progress Schedules	X					
Marked up sets of Original Contract Drawings	X					
Memorandum on Deficiencies / Deviations	X					
Deficiency reports: Interim, Final etc.		X	X			
Daily Logs of Tests and Test Results	X					
Notices to contractor of Safety issues	X		X			
RS 12 Commissioning the Facilities						
Commissioning Report	X					
Performance Verification (PV) Reports	X					
List of technical staff for testing	X					
Report on adjustments to system operation and revisions to documentation	X					

2.2 OTHER SUBMISSIONS, REVIEWS AND APPROVALS

Although the Federal Government does not formally recognize jurisdiction at other levels of government, voluntary compliance with the requirement of these other Authorities is required unless otherwise directed by the Project Manager. In areas of conflict concerning Provincial requirements, the more stringent will apply.

The Consultant will identify any other Authorities Having Jurisdiction and endeavour to ensure that all design work meets or exceeds all codes, regulations and standards of these other authorities having jurisdiction.

All drawing and specification submissions shall include the following checklist. The consultant is responsible to follow and to update the check list to the most current version of the code, regulation or standard listed.

CHECKLIST FOR THE SUBMISSION OF CONSTRUCTION DOCUMENTS

Title Block

Project Title:	**Date:**
Project Location:	**Project Number:**
Consultant's Name:	**Contract Number:**

PWGSC PM:	**Review Stage:**
	66% **99%** **100%**

Standards & Guidelines

Item	**Checked by:**	**Comments:**
General The design meets the requirements of;		
National Building Code - 2010		
National Fire Code - 2005		
National Plumbing Code - 2005		
Canada Labour Code		
NFPA 10 - Standard for Portable Fire Extinguishers - 2002		

NFPA 13 - Standard for the Installation of Sprinkler Systems - 2007		
NFPA 14 – Standard for the Installation of Standpipe and Hose Systems - 2003		
Treasury Board The design meets the requirements of;		
Chapter 3-6: Fire Protection Standard for Correctional Institutions. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13580		
Chapter 3-2: Fire Protection Standard for Design & Construction. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13581		
Fire Protection Standard for Electronic Data Processing Equipment. http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13582		
HRSDC Fire Protection Engineer Standards The design meets the requirements of;		
Federal Fire Protection Standards. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/index.shtml		
FC-403 Standard for Sprinkler Systems. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/403/page00.shtml		
FC-311-M Standard for Record Storage. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/311/page00.shtml		
Labour Canada Standards The design meets the requirements of;		
Canada Labour Code. http://laws.justice.gc.ca/en/L-2/		
Canada Occupational Health and Safety Regulations. http://laws.justice.gc.ca/eng/SOR-86-304/index.html		
Movable Storage Units Standard. http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/mobile.shtml		
ASHRAE Standards The design meets the requirements of;		
ANSI/ASHRAE 55 – 2004 Thermal Environmental Conditions for Human Occupancy		
ASHRAE 62.1 – 2007 – Ventilation for Acceptable Indoor Air Quality		
ASHRAE Applications Handbook		
ASHRAE Fundamentals Handbook		
MD 15116 – Computer Room Air Conditioning Systems - 2006		
MD 15161 – Guidelines for the control of Legionalla in mechanical systems		
MD 250005 – Energy Monitoring and Control Systems Design Guidelines - 2009		

Specifications – All Disciplines

Item	Checked by:	Comments:
General The Specifications meet the requirements of;		
The NMS Users Guide. .		
Masterformat 2004		
The current edition of the NMS database		
Deletion of "Related Sections" and "Section Includes" throughout.		
PWGSC GCs for projects tendered through PWGSC		
Consistent use of CCDC or other for privately tendered projects.		
Non-proprietary Specifications.		
Being completely edited with removal of all square choice brackets and Spec Notes.		
Including all relevant Sections as evident by the by the scope of work indicated by the drawings.		
Not referring to the Tender Submission (Contract B)		
Use of command imperative style of language.		
Formatting in either the NMS 1/3 - 2/3 page format or the Construction Specifications Canada full page format.		
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.		
Specification headers not including date or consultant's name.		
Departmental Representative being used throughout instead of Engineer, PWGSC, Owner, Consultant or Architect. (That is; the contractual entity)		
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".		
Dimensions being provided in metric only.		
Indicating the latest edition of all references noted in Part 1 of each Section and that un-used reference Standards are deleted.		
No bolding of text.		
Use of Western Regions standard payments procedures clause.		

Drawings General – All Disciplines

Item	Checked by:	Comments:
General The Drawings meet the requirements of;		
PWGSC Western Region AutoCAD drafting standards.		

Using the “toolkit” and the “drawing checker”.		
All dimensions in SI. No dual dimensioning has been used.		
Providing a north arrow.		
Providing a legend on all relevant sheets.		
Indicating grid lines on all sheets.		
Using standard scales. (1:50, 1:100 etc.)		
Cross referencing and detailing is consistent.		
No Specifications on drawings.		
All notes being written in the command imperative style of speech.		
Not naming the “Contractor” or “sub trades” in the notes.		
Numbering all rooms on all floor plans.		
Using appropriate line weights to differentiate new versus existing versus demolition.		
Using font sizes and types following PWGSC drafting standards.		
Providing separate drawings for demolition and new work.		
Drawing acceptance by the FPE of HRSDC.		

Drawings - Discipline Specific (Top 10 for each)

Item	**Checked by:**	**Comments:**
Architectural The Drawings meet the requirements of;		
Providing a Building Code Analysis.		
Indicating fire separations and firewalls and rating.		
Providing a complete site plan with all related details.		
Providing a fully detailed reflected ceiling plan showing lighting, diffusers, sprinkler heads, etc.		
Wall sections being coordinated with the structural and other disciplines drawings.		
Building elevations showing all mechanical and electrical ancillaries.		
Sub surface drainage being shown on the foundation plans and coordinated with all other disciplines.		
Accessibility conforming to CAN/CSA 651-04.		
Coordination of door, finish, hardware schedules in conjunction with fire separations and other disciplines.		
All conflict points identified by BIM have been resolved.		
Structural The Drawings meet the requirements of;		
Ensuring that General Notes provide additional information that is NOT covered in Specifications.		
Remove all information that is or should be covered by		

the Specifications.		
Note loads used for design.		
PWGSC policy of using general product descriptions, not proprietary product names followed.		
Table of Abbreviations used provided.		
Section bubbles properly cross referenced.		
Coordination with all other disciplines.		
Mechanical The Drawings meet the requirements of;		
Separate drawings for Plumbing, HVAC, Fire Suppression, etc.		
Provision for humidification with a clean source of water and no standing water		
Provision of separate HVAC zoning for each unique thermal zone.		
Providing Ventilation to ASHRAE 62.1.		
The building and systems and equipment meeting all requirements of Section 5 of ASHRAE 62.1.		
Conformance to ASHRAE 55 for; Operative temperature Air motion Radiant Temperature Asymmetry Draft Vertical Temperature Difference Floor Surface Temperature Temperature Variations with Time Cyclic Variations Drifts and Ramps		
Providing building cross-sections at all key locations showing clearances for the mechanical installation and access for maintenance.		
Providing sufficient access to mechanical equipment for maintenance.		
Providing mechanical schematics showing design pressure and temperatures as well as all instrumentation and control points labels.		
Coordination with all other disciplines.		
Electrical The Drawings meet the requirements of;		
Separate drawings for Lighting, Power, Fire Alarm System, Communication and Data, Security & CCTV etc.		
Verification and acceptance of the Grounding condition for this project.		
The Overcurrent and Short Circuit Study and confirming all components are fully coordinated.		
The Arch-Flash Study and confirming all components are fully coordinated.		

Providing Arch protection warning signs and labeling.		
Providing lighting Levels in accordance with the National Building Code and IESNA recommendations.		
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.		
Providing identification for each circuit including: Name Voltage, Phase, Amps, Circuit-s Fed from Panel, Destination.		
The Voltage Drop Calculation for each circuit and conformance to CEC requirements.		
Providing phase load and total load for each panel and ensuring proper balance of the Electrical System.		
Coordination with all other disciplines.		
Civil The Drawings meet the requirements of;		
The design criteria. (e.g. deign 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)		
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.)		
Indicating existing sub-grade soil properties and strength that has been used for the design is indicated on drawings or in a report.		
Indicating Bench Marks used for the Topographic Survey are shown with Northing, Easting and elevation data.		
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		
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.		
Providing design grades and slopes.		
Providing details for all infrastructures and facilities indicating all works and type of materials and all geometrics and dimensions..		
Coordination with all other disciplines.		

Consultant’s Declaration

I confirm that the plans and specifications have been thoroughly reviewed and that the items listed above have been addressed or incorporated. I acknowledge and accept that by signing certifying that all items noted above have been addressed, should it be found during the tendering of these documents or implementation of the project, that the items above were not properly addressed, my firm will be responsible to resolve all related issues at my firm’s expense and may receive an unsatisfactory consultant performance evaluation which could have an impact on my firm's ability to obtain work from PWGSC in the future.	
Consultant’s Representative:	
Firm name:	
Signature:	
Date:	

REQUIRED SERVICES

This Description of Services covers the requirements for the; 1.) Definition, 2.) Implementation, 3.) Commissioning, and 4.) Evaluation, of a renovated Royal Canadian Mounted Police "J" Division Headquarters Facility. These four stages represent the primary delivery stages of the PWGSC "Project Delivery System," and shall be implemented, in part, by the Consultant in a systematic and chronological order through the execution of RS 1 through to RS13. Specific deliverables will be required at the completion of each stage.

By responding to this RFP, the Consultant agrees to provide all services requested within these documents.

RS 1 ANALYSIS OF PROJECT REQUIREMENTS

1.1 INTENT

The purpose of this stage is to ensure that the Consultant has reviewed and understood all the project requirements including:

- identifying and evaluating conflicts or challenges
- performing a risk management assessment of the entire project
- presenting and receiving acceptance on the project scope, project delivery process, project schedule and the project budget

These requirements are necessary to deliver a cohesive quality project. This document and any additional deliverables/services identified in the Consultant's proposal submitted in response to the RFP call, will become the Project Scope of Services and will be utilized throughout the project to guide the delivery.

1.2 SCOPE AND ACTIVITIES

- Visit the site
- Study and document any aspects of existing furniture and/or equipment which will require housing in the facility that could potentially affect building design. (While touring existing site, the Consultant will be accompanied by RCMP and PWGSC personnel, who will identify any such key components.)
- Verify the availability and capacity of services needed for the project
- Attend project start up meeting
- Analyze the preliminary project requirements, including existing and new technologies, and project program

- Review all available existing materials related to the project
- Identify any missing components or areas of concern and work with PWGSC Project Manager to complete or resolve.
- Review the proposed project schedule for verification that all milestone dates are achievable
- Review the cost plan/budget for verification that the costs are realistic and achievable
- Review critique and/or expand on Technical Requirements as identified.
- Identify and verify all authorities having jurisdiction for the project
- Identify the codes, regulations and standards that apply and investigate key implications
- Establish an environmental plan which, at this stage will include a policy for this project to minimize environmental impacts consistent with the project objectives and economic constraints, and the application of the *Canadian Environmental Assessment Act* (CEAA).
- Prepare consolidated work plan / recommendations regarding next steps, key drivers and overall approach to the project
- Commissioning input to interface whit existing occupancy

1.3 PROJECT START-UP

A start-up meeting will be held at a time and place to be determined by the Project Manager. The Project Manager will convene the Project Start-up meeting. The meeting will provide a venue for the introduction of all parties involved in the project and will provide a forum to initiate group discussion of the Project Requirements that will ensure all requirements related to the delivery of the project are fully understood. The meeting will also be used to assist in defining procedures and requirements. The Consultant shall provide a list of clarifications and any required additional information in advance of the meeting.

In preparation for the Project Start-up meeting, the participants are expected to prepare for the meeting as follows:

- To review and be familiar with the Project Requirements.
- To review the proposed Project Schedule to verify that all milestones are achievable and that the deliverables under RS 8 can be submitted as specified.
- To review the available list of reports, studies, standards and other documentation and determine which copies are required.

Minutes for this meeting will be recorded and distributed by the PWGSC Project Manager.

1.4 DELIVERABLES

Provide a comprehensive summary of the project requirements demonstrating understanding of the scope of work. This summary shall include, but not be limited to the following:

Provide reports on the following:

- All applicable codes, regulation, standards and authorities having jurisdiction;
- Work plan / outline of next steps
- Report re: any potential impacts of existing furniture and/or equipment which will influence building or interior design, should it be replaced;
- Environmental impact, sustainability, preliminary environmental assessment and CEAA screening;

Technical Requirements:

- The Consultant is required to review and report on the Technical Requirements outlined in PD6. Revise as required and resubmit for final acceptance. In part, the Consultant shall report on the requirements as they relate to various facility occupancies, design challenge, risks and project objectives.

Not withstanding these requirements, the Consultant shall recognize that this is not an all-inclusive list. The Consultant shall expand these requirements to include those additional requirements relevant to this project.

Risk Management Assessment:

- Provide a written identification of the challenges, conflicts or other perceived information/clarifying assumptions for the acknowledgement of the Project Manager.

Project Work Breakdown Structure:

- The Consultant will prepare a Project Work Breakdown Structure (PWBS) as per RS 8

Project Master Plan/Cash Flow Projection

- Prepare a Project Master Plan and dependent Cash Flow Projection that accounts for all major project activities and costs as per RS 9

Project Schedule as per RS 8

Cost Specialist Report as per RS 9

Commissioning as per RS 12

RS 2 PRE-DESIGN SERVICES

2.1 GENERAL

The purpose of this stage is to develop:

1. The final functional program with adjustments as required;
2. Functional Adjacencies relative to program requirements.
3. Implementation strategy and schedule;
4. Telecommunications and Connectivity requirements report (Develop in conjunction with RCMP);
5. Security requirements report (Develop in conjunction with RCMP).
6. In-House (PWGSC) Interior Designer will provide direction and guidance to finalize goals.
7. Commissioning interface between renovations wand new whit phasing.

2.2 FUNCTIONAL PROGRAM

2.2.1 Intent

The preliminary functional program has been developed by PWGSC and RCMP. It is the intent to use the existing program as developed and build upon the information and direction provided. The Consultant will refine and complete the building program including functional adjacencies. This final program will form the basis of the concept design to follow. The consultant is reminded that this project will be a modification within the existing building floor plate and that the building will be mostly occupied during construction.

Functional Program
A preliminary document which describes various criteria and data for the building project will be provided by PWGSC in the form of Space Requirements (Group and Unit Spaces) to the successful proponent.

The programming process used by PWGSC has attempted to answer the following questions:

- What is the nature and scope of the design problem?
- What information is required to develop a proper holistic design solution to the problem?
- How much and what type of space is needed?

The Consultant will work to determine the proximity relationships required between the spaces.

2.2.2 Scope and Activities

In refining the preliminary functional programs, the Consultant's main task is to examine RCMP's world in detail to confirm their needs and objectives. These requirements will establish criteria for evaluating potential design solutions and other strategic alternatives. This will require consultation with the RCMP representative. These Final program requirements will become the basis for the conceptual designs.

The Consultant must understand:

- The impacts of RCMP and their processes on the built environment;
- TO review the final functional program, the consultant shall confirm:
  - The proposed occupant groups of the building and their work activities.
  - Building infrastructure requirements such as mechanical, electrical and telecommunication rooms and the spatial requirements of the associated distribution systems.
  - The type and volume of activity planned for specific facility components, such as the proposed common-use, office-related spaces.
  - Flow patterns/proximity requirements.
  - Confirmation of the proposed space to be incorporated into the building conceptual plan.

The Consultant shall also advise PWGSC on alternatives, such as the schedule and financial implications of various renovation options. The functional programs developed are future oriented - based on medium growth projections. The Consultant shall assist PWGSC in assessing; the advantages / benefits; or the disadvantages / costs of each alternative.

2.2.3 Deliverables

The final Functional Program is a report which will include (but not limited to):

- The client's philosophy, values, goals, and desired "image";
- Explicit space requirements for the renovated building, including:
  - Definition of the activities which will take place in each space;
  - The functional relationships of the spaces;
  - "Bubble" diagrams and flow diagrams;
  - Preliminary lift/elevator traffic analysis using calculation and simulation software to find an initial solution that suits the magnitude and nature of the revised and updated people and goods traffic requirements in the building.

- Other requirements including:
  - Regulatory issues such as building code requirements;
  - Other requirements from Authorities having Jurisdiction;
  - Ecological and environmental concerns;

2.3 IMPLEMENTATION STRATEGY AND SCHEDULE

2.3.1 Intent

The purpose of this stage is to detail an implementation strategy to meet the project goals and objectives.

2.3.2 Scope and Activities

As outlined in section 8.6 Scheduling, the Consultant will prepare a Project Master Plan and dependent Cash Flow Projection that accounts for all major project activities and costs. Significant phases of project development include; Programming, Concept Design, Design Development, Working Drawings and Specifications, Tender, Contract Award and Phasing of Construction.

The original Master Plan will be "frozen" to provide an original Target or Baseline Schedule. This Target Plan may be revised on instruction from the Project Manager as conditions dictate. All revised Target Plans and Cash Flow Projections will be reconciled with previous targets to provide a continuous audit trail.

2.3.3 Deliverables

- The Consultant will provide the initial and subsequent Project Master Plan in the following form:
  1. CD containing all schedule and cash flow information,
  2. bar chart identifying activity durations, early/late dates, total float, percent complete and budget amounts,
  3. network diagram showing all activity sequencing, and
  4. annual and monthly actual/projected monthly cash flow in both graphical and numerical form.
  5. Biweekly progress reports
  6.

RS 3 CONCEPT DESIGN

3.1 INTENT

- To prepare the schematic design using the program objectives previously identified and refined in the Pre-Design Phase.
- To develop the pre-design submission into completed Concept.

3.2 SCOPE AND ACTIVITIES

- Ensure full co-ordination of all disciplines' work in developing the concepts through an integrated design approach.
- Provide a minimum of two (2) alternative design options for the project exploring possible technical and environmental strategies which are viable and have potential for development keeping in mind phasing and constructability;
- Analyze each solution with regard to the project goals including cost and schedule;
- Write a preliminary project description report outlining the various components and system options while constantly checking decisions and choices against how they contribute to the overall project objectives as noted in PD-6. Produce an environmental assessment ,
- Recommend one option for further development with all supporting background and technical justifications;
- Produce a class 'C' cost estimate for each of the various options;
- Ensure that all disciplines have contributed effectively to the integrated design approach and that the energy analysis provided reflects the effects of their contributions.
- Prepare a Detail Project Schedule as per RS 8.6.1 for the project.

3.3 DETAILS

3.3.1 Architectural

- Design analysis, showing all key site-related information and drivers which influence design approach and proposed solution.
- Bubble diagrams or sketches that heavily influenced the design.
- Conceptual building plans showing relative disposition of main accommodation areas, circulation patterns, floor layouts, etc.
- Summary of main accommodation areas relative to known program requirements
- Description of sustainable design aspects incorporated into the design.

3.3.2 Structural

Provide the following:

- A recommended structural system in areas of change, including the structural frame materials, the structural grid layout and the foundation.
- A summary of alternative systems that were considered.
- The design loads applicable to the building.

3.3.3 Mechanical

- Several Investment Analysis have been carried out. The conclusion of each IAR is that the existing 17 air handling units be replaced by two (2) AHUs locates in a new penthouse. The concept submission shall be based on this approach.
- The concept submission shall include the removal of 55 existing exhaust fans to be replaced by no more than two HRV's.
- The concept submission shall include a description of specific mechanical requirements and function for each area or room in the building. Incorporate in the submission a schedule of requirements listing all rooms and identify the mechanical building services to be provided.
- Explain in the submission the manner in which the proposed mechanical systems correlate with RCMP requirements.
- Identify the volume of outdoor air to be supplied per person.
- Identify the delivery rate of supply air to occupied spaces.
- The building mechanical system is to be designed such that full-time specialist operators are **not** required to control the building functions. Mechanical systems are to be designed for maximum efficiency and flexibility for environmental control while at the same time being managed by staff with minimal building experience. Remote monitoring of the primary mechanical functions should also be available.
- Identify location of entry point into the building of all mechanical services into the building.
- Identify in square metres the area to be provided for mechanical rooms, and in conjunction with Architectural staff, identify what percentage of total building area this represents. Identify location of mechanical spaces in the building.

3.3.4 Electrical

- Proposed basic electrical systems of significance to the early design.
- Distribution diagram showing single line diagrams to distribution centers.
- Floor plan(s) complete with locations of major electrical equipment and distribution centers.
- Lighting layout(s) for typical spaces.
- Distribution systems for lighting, power and telecommunications.
- List of standard PWGSC details to be utilized.
- Telephone rooms, conduits and telecommunication cable systems requirements and layout.

- Provide an electrical design synopsis, describing the electrical and communications work in sufficient detail for assessment and approval by PWGSC. Include feasibility and economic studies of proposed systems complete with cost figures and loads.

3.3.5 Elevators

Provide the following:

- Results of lift/elevator traffic analysis: Elevator Traffic Study, based on building layout as proposed, anticipated building population, traffic patterns and use. Recommendations re.: elevator, type, number, size, capacity.
- Concept drawings showing architectural, structural details associated with proposed new type of green energy elevating devices.
- Building system interconnecting requirement details.
- Floor plans showing location of elevators and control rooms.
- Elevator pit drainage system.

3.3.6 Hazardous Waste Disposal

Identify hazardous waste disposal issues and recommend strategies for mitigation.

- Develop a hazardous waste reduction and management plan. Make recommendations, verify with PWGSC. Revise as required. Obtain approval.
- Waste plan should address hazardous waste from the construction process as well as the plan for the ultimate disposal of materials used in the construction.

3.3.7 Commissioning (see RS 12)

- Define Commissioning Requirements.
- Define the operational and performance requirements of the project
- Identify responsibilities for meeting the performance requirements
- Identify life cycle operating and maintenance costs
- Identify in square meters the area to be provided to maintenance personnel, including storage for mechanical, electrical and housekeeping.
-

3.3.8 Specifications

Preliminary outline specification in PWGSC NMS format indicating main building components and options for use of "Green" components and systems.

3.3.9 Cost Estimate

- Prepare "Class C" cost estimates based on phasing;
- Quantify design and construction costs, contingencies and risks;
- Prepare and investigate costing alternatives to assist in the identification of the most cost-effective design and/or construction approach;

- Investigate and report on life-cycle costs;
- Document all unit pricing, analysis, and valuation.
  - Advise on alternative procurement and construction strategies to create efficiencies wherever possible; and/or
  - Identify, forecast and analyze project-related issues including possible market shortages and potential price fluctuations.

3.3.10 Detail Project Schedule

- Prepare as per RS 8.6.1;
- Identify potential risks to schedule;
- Advise on alternative procurement and construction strategies to create efficiencies wherever possible.

3.5 DELIVERABLES

Provide the following for the project:

- All outputs described in sections 3.2 Scope and Activities, 3.3 Details
- Conceptual Design Drawings, including additional drawings as may be required to explain alternative options;
- Description of the options with recommendation of preferred solution;
- Project specification outline;
- Environmental Assessment Report and recommendations;
- Class ‘C’ Cost Estimate, including methodology of the estimate, assumptions made, costing alternatives and life cycle costs. Confirmation that Class “C” estimate is within project budget comes with discipline sign-off;
- Report on deviation from schedule and recommend corrective measures or updated time line.
- Submit the Hazardous Waste Disposal Strategy for review, in a report
- Detail Project Schedule as per 8.6.1.
- Presentation to the PWGSC Design Review Committee for approval of the Concept Design, and any subsequent revisions and/or responses necessary to satisfy the concerns of the Committee.
- Description of sustainable design aspects of the design
- Commissioning (RS12).
-

RS 4 DESIGN DEVELOPMENT

4.1 INTENT

To further develop the approved Concept to the level of a preliminary design package. The Design Development documents consist of drawings and other documents to describe the size and character the Project as to architectural, structural, mechanical and electrical systems, materials and such other elements as may be appropriate.

4.2 SCOPE AND ACTIVITIES

- Obtain written approval from Project Manager for development of the agreed upon concept to the preliminary level
- If any alterations are demanded, document all required changes, analyze the impact on all project components, and resubmit for approval if and as required/requested
- Expand and clarify the Concept Design intent for each design discipline
- Present the design materials to the PWGSC Project Team, RCMP representatives, the Design Review Committee and any other committees, as indicated by the Project Manager
- Identify jurisdictional authorities and planned schedule of submissions prior to start of RS 4. Present design to the jurisdictions having authority where required and as per PA 2.
- Ensure full integration and co-ordination of all disciplines' design development;
- Analyze the constructability of the project and advise on the projected construction process and duration
- Continue to review all applicable statutes, regulations, codes and by-laws in relation to the design of the project
- Visit the existing site and confirm/update the inventory of all existing furniture and prepare an inventory of all existing equipment that will be reused.
- Establish draft furniture/equipment requirement lists showing all furniture, new and existing, that will be required.
- Provide a list and draft specification sections of all NMS sections to be used. Submit outline specifications for all systems and principle components and equipment. Provide in the outline specifications manufacturers literature about principle equipment and system components proposed for use in this project.
- Develop phasing of the project .
-

4.3 DETAILS

4.3.1 Architectural - (for areas of change)

- Floor Plans of each floor showing all accommodation required, including all necessary circulation areas, stairs, elevators, etc., and ancillary spaces anticipated for service use. Indicate building grids, modules, etc., and key dimensions.
- Detail Sections of walls or special design features requiring illustration and explanation of this stage, including fireproofing methods.
- Full cross section views of elevator hoist ways, and pits for confirmation against the elevator modifications.

4.3.2 Schematic Drawings

- The Consultant will provide colour schematics showing the interior layout with the following features:
  - Floor plans showing the space layout for all levels
  - Floor layout showing functional areas by colour coding
  - Four (4) coloured copies of the schematics to be supplied
  - Phasing drawings clearly showing impact of phasing

4.3.3 Structural - (for areas of change)

- Preliminary drawings that indicate the structural framing system, the grid layout, the structural frame materials, the foundation and any other significant or unusual details.
- The design loads applicable to the building.
- Impact on existing occupancy to be identified

4.3.4 Mechanical

- Drawings showing preliminary sizing of ventilation systems showing locations, and all major equipment layouts in mechanical rooms.
- A drawing showing preliminary extent of existing equipment removals
- Drawings showing preliminary phasing.
- Drawings of plumbing system, showing routing and sizing of major lines and location of pumping and other equipment where required
- Drawings of the fire protection systems showing major components .
- Update the schedule of requirements.

- Provide information of all internal and external energy loads in sufficient detail to determine the compatibility of the proposal with existing services, approved concept.
- Analysis of selected equipment with schematics and calculations sufficient to justify the economy of the selected systems.
- Describe the mechanical systems to be provided and the components of each system. Describe the perceived operation of the mechanical systems.
- Explain the level of involvement that will be required by outside contractor or AFD staff to operate the building systems and the expected functions of the operation staff.
- Describe the building systems control architecture. Provide preliminary EMCS, mechanical control schematics, and sequence of operation.
- Explain the acoustical and sound control measures that are to be included in the design. Refer to the sound rating requirements specified in the space data sheets.

4.3.5 Electrical Drawings

- Provide drawings showing advanced development of the following:
  - Site plan showing service entrances.
  - Single line diagram of the power circuits with their metering and protection, including:
    1. Complete rating of equipment in preparation for fault co-ordinating study.
    2. Description of relays when used.
    3. Maximum short circuit levels on which design is based.
    4. Identification and size of services.
    5. Connected load and estimated maximum demand on each load centre.
  - Electrical plans with:
    1. Floor elevations and room identification.
    2. Legend of all symbols used.
    3. Circuit numbers at outlets and control switching identified.
    4. All conduit and wire sizes except for minimum sizes which should be given in the specification.
    5. Typical access floor box layout and locations.
    6. A panel schedule with loading for each panel.
    7. Communication system distribution including proposed telecommunications rooms locations and pathway recommendations.
    - Floor layout for lighting, power, telecommunication systems, fire alarm, security and other systems.
    - Elementary control diagrams for each system.
    - Schedule for motor and controls.
    - Complete lighting layout and fixture schedule clearly indicating methods of circuiting, switching and fixture mounting.
    - Electric heating layout and schedule (if applicable).
    - Owners metering and control connections
    - Elevator equipment and control (if applicable)

- Provide the following data:
  - Total connected load.
  - Maximum demand and diversity factors.
  - Sizing of standby load.
  - Short-circuit and Protective Device Co-ordination requirements and calculations showing the ratings of equipment used.

4.3.7 Elevators

- Drawings showing preliminary locations of elevator equipment in the hoistway enclosure, machinery location, rail locations, car cab size.
- Drawings of the integrated electrical, mechanical, systems,
- Update the schedule of requirements.
- Provide information of energy loads in sufficient detail to determine the compatibility of the proposal with existing services and approved concept.
- Explain the level of involvement that will be required by maintenance service provider and PWGSC staff to operate the elevator systems and interconnected systems and the expected functions of the operation staff.
- Describe the building remote monitoring systems. System to be used must be non-proprietary.

4.3.8 Commissioning (see RS 12)

- Refine operational and performance requirements as required from the design development.
- Define commissioning requirements.
- Prepare a Commissioning Brief describing major commissioning activities for architectural, mechanical, electrical, security and integrated system testing.
- Define and establish project specific archives
- Refer to Commissioning Manual for additional details of required activities and deliverables.

4.3.9 Specifications

- Provide a list and draft specification sections of all NMS sections to be used. Separate lists are to be provided for each project;
- Submit outline specifications for all systems and principle components and equipment;
- Provide in the outline specifications manufacturers literature about principle equipment and system components proposed for use in this project;
- Highlight proposed “Green” materials, components and systems.
- Specifications are to be customized for these projects. Any information or directions not related or applicable to these projects shall be edited.

4.3.10 Cost Estimate

- Provide class “B” cost estimate, c/w sign off from all disciplines involved.
- Highlight changes from class “C” cost estimate.

4.3.11 Time Plan (Schedule)

- Update time plan (Schedule);
- Highlight changes to the time plan.
- Refer to section RS 8 for additional requirements/deliverables

4.4 DELIVERABLES

- All outputs described in sections 4.2 Scope and Activities and 4.3 Details.
- Floor plans including all disciplines showing all floor elements and services to detail necessary to make all design decisions and to substantially estimate the cost of the project
- Building sections, as required to demonstrate design
- Architectural and Interior Design, Structural, Mechanical and Electrical Engineering designs, millwork and finishing details to show choice of materials and finishes
- Furniture and equipment plans and detail lists
- Reflected ceiling plans fully coordinated between, mechanical, electrical and other services as necessary.
- Finish and colour schemes
- Colour schematics as described in section 4.3.2.
- Outline specifications for all systems and principle components or equipment
- Format and organization of the Systems Operations Manuals
- Class ‘B’ cost estimates c/w discipline sign off.
- Preliminary construction schedules including long term delivery items
- Design Synopsis detailing the basic assumptions and the justifications for all major decisions including an explanation of how the recommended choices respond to the project’s key initiatives
- Commissioning Plans (RS 12)
- Presentation to the PWGSC Design Review Committee for approval of the Preliminary Design, and any subsequent revisions and/or responses necessary to satisfy the concerns of the Committee.
- Presentation of the colour schematics to the PWGSC Design Review Committee, the Client Representatives and other stakeholders as necessary.
- Description of sustainable design aspects of the design.

RS 5 CONSTRUCTION DOCUMENTS

5.1 INTENT

To prepare working drawings and specifications setting forth in detail the requirements for the construction and final cost estimate for each of the projects.

- 66% indicates substantial technical development of the project - well advanced architectural and engineering plans, details, schedules and specifications
- 99% is the submission of complete Construction Documents ready for tender call and submission to local authorities for pre-permit purposes
- Final Submission incorporates all revisions required in the 99% version and is intended to provide PWGSC with complete construction documents for tender call.

5.2 SCOPE AND ACTIVITIES

Note: The Scope of Work and Activities required are similar for each of the three stages of Document production. The Consultant's presentation will be reviewed and confirmed for completeness for the level submitted <u>initially by the Consultant's in-house quality review process</u> as per RS 11 and subsequently by the PWGSC review team. Any submission not meeting the requirements of the intended level will be returned for completion before the review process is started.

- Obtain Project Manager's approval for Construction Document submissions (66%, 99% and final) as detailed in sections 5.4.3, 5.4.4, 5.4.5 & 5.4.6.
- Confirm format of drawings and specifications
- Clarify special procedures (i.e. phased construction)
- Submit drawings and specifications at the required stages. (66%, 99% & Final Submission)
- Drawings and specifications are to be in bilingual format (see RS 13)
- Provide written response to all technical review comments indicating acceptance or outlining justification for the work shown. and incorporate the required revisions into Construction Documents.
- Submit updated Class 'B' cost estimate .
- Update the project schedule.
- Prepare a final Class 'A' estimate c/w discipline sign off.

5.3 DETAILS

5.3.1 Technical and Production Meetings

- Progress of construction documents will be reviewed during the meetings arranged by Project Manager and Consultant.
- Representatives from PWGSC and possibly RCMP will be present as arranged by the Project Manager.
- Consultant shall ensure that his staff and the sub-consultant representatives attend the technical and production meetings as required.
- Consultant shall ensure that all documents are coordinated with all sub-consultants and disciplines and represent a thoroughly integrated design solution.
- Consultant shall arrange for all necessary data, progress prints, etc.
- Consultant shall prepare minutes of the meetings and distribute copies to all participants.
- These meetings will be held at the Consultant's offices.

5.3.2 Progress Review

General

- **Prior to each submission, the consultant will submit the full set of Construction Documents to their own in-house quality review team. The quality review team members must not be part of the design team and shall be responsible for reviewing the documents to ensure that they meet the standards of the appropriate submission level as detailed further in RS 11.** One set of the documents must be initialed by the reviewer prior to submission to PWGSC. This review time is to be indicated and allowed for within the Detail Project Schedule identified in RS 8.6.1.
- Formal Technical Reviews will be conducted by PWGSC at each of the 66% and 99% submissions, and outstanding issues/concerns will be highlighted in written form for the Consultant to address.
- The Consultant is required to respond in writing to any questions, comment or requests regarding the construction documents, within one week of receiving the request.
- Working Documents (calculations) submitted shall not necessarily be reviewed. They are required for record purposes and in certain instances, to assist in the understanding and interpretation of designs. Calculations shall be submitted in a format that is legible, logical in format, neat, easily understandable and complete.
- Specifications and an index of specifications. The specifications shall consist of typed and edited PWGSC amended NMS sections, PWGSC in-house master specs sections and NMS sections.

5.4 DELIVERABLES

Deliverables shall be submitted as described in sections 5.4.1, 5.4.3, 5.4.4, 5.4.5 & 5.4.6.

5.4.1 Submissions

.1 Submit Working Documents for review and record purposes.
.2 Submit working drawings and specification material when the working documents and current CADD files are as follows:

Status	Designation	Paper Copies	CADD Files
2/3 Complete	66% Submission	Ten (10)	One (1)
Complete	99% Submission	Ten (10)	One (1)
Subject to Final Review, Complete with all revisions ready for tender call	Tender Final Submission	1 signed set of original drawings. 1 signed set of original specifications	One (1)

Typical requirements for these submissions and their reviews are outlined in the following clauses.

5.4.2 Reviews

.1 PWGSC reviews all submissions and returns either a marked-up set of documents to the Consultant, retaining a copy for record purposes, or a narrative. For specific changes, the Consultant may be asked to revise and resubmit documents to obtain Departmental approval of each submission stage. Changes requested must be corrected in the subsequent document submission.
.2 Reviews are not intended to indicate complete and detailed checks of the documents, and in no way relieve the Consultant of his professional responsibility for checking his own work and for co-ordinating that of his sub-consultants.
.3 PWGSC must not be considered as the Consultant's quality review team. If a review of the submission by the PWGSC Project Manager determines that the requirements of the submissions as outlined below are not met, the documents will be returned to the Consultant. The Consultant will resubmit the documents when the appropriate level of completion is reached. Any delay in the document production and/or costs incurred by PWGSC for additional review for this reason will be attributed to and shall be borne by, the Consultant.
.4 During each review period, maintain full production on the project, and revise documents as necessary when review comments are received. The extent of revision necessary will depend largely on the quality and accuracy of work submitted, and on the effectiveness of regular Production Meetings.
.5 CADD submission will be reviewed for compliance with PWGSC Standards as described in the PWGSC Atlantic Region CADD Data Specification, latest version.

5.4.4 66% Submission

This submission indicates substantial technical development of the project - well advanced architectural and engineering plans, details, schedules and specification data. The submission includes but is not limited to the following:

1. General

.1 Updated list of working drawings and specification sections from the previous stage.
.2 Updated intermediate cost estimate and analysis c/w discipline sign off.

2. Architectural Drawings

1. Plan of each floor showing room names and numbers, all door swings, fire hose cabinets, drinking fountains, etc.
2. Detailed wall, partition, floor and roof sections.
3. Construction details Millwork and finishing carpentry details.
4. Door, window and finish schedules, and details.
5. Hardware Schedules
6. Reflected ceiling plans for all ceilings, showing lights, sprinklers, diffusers and any other ceiling mounted fixtures.
7. All grid lines, dimensions, scales and detail symbols.
8. Furniture and equipment plans showing new and existing furniture as identified during the Design Development. Plans shall include, but not necessarily limited to:
   - Final layouts pertaining to open and enclosed workstations / work settings, support space and special purpose space;
   - Identification of end-user/staff names (or position function) at each location;
   - Review of supplier/manufacturer component counts and accessories;
   - Confirmation of electrical, telephone, data, radio and voice/video requirements;

4. **Structural Drawings** - (for areas of change)

.1 Framing plans that show the grid layout. The size of all structural elements and the structural framing materials.
.2 The foundation details including footings, floor slabs and walls with bearing values and loading.
.3 Design details for all structural floors and ceilings showing loading assumptions.
.4 Design loads and calculations.

5. **Mechanical Drawings**

.1 Floor plans showing all mechanical components accurately located and specified.
.2 Sections updated from design development stage.
.3 Detailed plumbing layouts and pipe sizes.
.4 Detailed ductwork layouts and duct sizes.
.5 Detailed sprinkler layout with source equipment located and specified.
.6 Detailed schematics of control system and wiring diagrams of all mechanical units.
.7 Drawings for mechanical specialities should show sizes and locations of all components. Schematic drawings, diagrams and schedules should be well advanced from the design development stage and most details should be nearing completion.
.8 Any outstanding details to be completed must be described.

6. **Electrical Drawings** -

Provide continually advancing drawings and specifications showing development of the concept including the following:

.1 Single line diagram of the power circuits with their metering and protection, including:
- Complete rating of equipment.
- Description of relays when used.
- Maximum short circuit levels on which design is based.
- Identification and size of services.
- connected load and estimated maximum demand on each load centre.

.2 Electrical plans with:
- Floor elevations and room identification.
- Legend of all symbols used.
- Circuit numbers at outlets and control switching identified.
- All conduit and wire sizes except for minimum sizes which should be given in the specification.
- A panel schedule with loading for each panel.
- Telephone conduits system layout for ceiling/floor distribution.
- Riser diagrams for lighting, power, telephone and telecommunication cable systems, fire alarm and other systems.
- Detailed control diagrams for each system.
- Schedule for motor including detailed control for MCCs.
- Complete lighting layout and fixture schedule clearly indicating methods of circuiting, switching and fixture mounting. Include lighting level analysis.

.3 Elevator drawings with:
- Hoistway equipment locations.
- Pit equipment and associated systems.

- Control room power requirements.
- Fire alarm, communications, security, emergency power interconnections
- Remote monitoring schematic diagram
- Floor plans showing location of elevator cars and control room.
- Car dimensions.
- Mechanical requirements: Heating and cooling.

.4 Provide the following data:

- Total connected load.
- Maximum demand and diversity factors.
- Sizing of standby load.
- Short-circuit requirements and calculations showing the ratings of equipment used.

7. **Specifications**

.1 Specification Index.
.2 Draft Section General Requirements.
.3 Draft Section for Elevators
.4 Draft Section Mechanical General Requirements.
.5 Draft Section Electrical General Requirements.
.6 Other draft sections available (at least 33% of the full specification should be available for review at this stage).

8. **66% Review**

The 66% submission is reviewed by the Project Manager and support staff in PWGSC for general content and adherence to the project brief / RFP. This review verifies that all changes required by the previous review have been made.

The Consultant shall forward the submission to the Fire Commissioner of Canada and other jurisdictions having authority for comments and approval.

5.4.5 99% Submission

1. **General**

This submission indicates the Consultant's conception of complete working drawings ready for tender call. The specification will be a fully printed and bound document. Documents must include all revisions required by previous reviews.

2. **Colour Schemes**

Submit colour schemes to indicate overall theme and intent of proposed colour ranges only, i.e. earth tones or grey/blue range, etc. Colour schemes should

include all usual surfaces and materials to be coloured on site, plus any items provided with a colour finish or texture during prefabrication. Indicate any untreated or natural-finish surfaces contributing to the overall aesthetic appearance of the project. Provide colour chips, material samples, etc. to fully illustrate the scheme. Revise the scheme if necessary to obtain final approval. Two copies of the approved scheme will be retained by PWGSC for verification of final results on site. One of these copies will be provided to the General Contractor constructing the building as a reference for colour selections.

3. Submissions

The submission includes but is not limited to the following:

.1 Completed working drawings and specification.
.2 Final cost estimate, c/w discipline sign off.
.3 Updated production schedule with explanation of changes in target dates, etc.
.4 All necessary standard details and master specification clauses from PWGSC incorporated into the working drawings and/or specification.
.5 Support data, studies, calculations, etc., required by PWGSC engineering disciplines for final checking and record purposes.
.6 Final Project Description. This consists of a report that details the entire design, systems, materials, equipment, etc. and their relationship to the project design objectives and methodology.
.7 Four copies of the preliminary colour schedules, including textures, colour chips and material samples
.8 Final Environmental Plan
.9 Updates to the Commissioning Plan, Commissioning Specification and Systems Operations Manual for the 99% submission.

4 . 99% Review

The 99% submission is reviewed by the Project Manager and support staff in PWGSC to ensure that the documents are acceptable to the Department as final working documents. This review verifies that all changes required by previous reviews have been made.

The Consultant shall forward the documents to PWGSC, the Federal Fire Commissioner and to all jurisdictions having authority for final comments and approval.

The specification is reviewed since many sections may be new from the time of the previous submission, and subject to revisions. At this time the specification should have been completely customized and tailored to the needs of this project. All references to materials, information or directions not specifically applicable to this project are to be deleted from the specification.

All project drawings will be returned to the Consultant electronically at this stage with a PWGSC Technical Information & Drawing Inventory System (TIDIS) reference number on each drawing. These numbers must appear on all drawings submitted as part of the Final Submission.

5.4.6 Final Submission

This submission incorporates all revisions required by the 99% review and is intended to provide the PWGSC with satisfactory Working Documents for tender call. Provide the following:

.1 One complete set of signed and sealed bilingual originals of the working drawings with CADD files on CD.
.2 One typed original of final bilingual specifications with electronic (CD) copies.
.3 One complete set of bilingual drawings and bilingual specifications on CD in pdf format in accordance with the requirements in Appendices I and J.
.4 Written confirmation of the Final Cost Estimate (Class “A”) and Elemental Analysis. Estimate must be broken out in the same format as the tender form in the documents with support information as required for the estimate. All disciplines to sign off.
.5 Commissioning Plan to level specified in RS 12.
.6 Systems Operations Manual to level specified in RS 12.
.7 Four complete sets of original Colour Schedules.
.8 One set of designated substance survey report.
.9 As a safeguard against loss or damage to the originals, retain a complete set of drawings in reproducible form and one copy of specification (i.e. submit only one set to PWGSC relative to items .1 and .2 above).
.10 Inspection Authorities Submission
.11 Federal Fire Commissioner’s report on the project documents
.12 Submit and obtain approval on plans and specifications required by Inspection Authorities before tender call.
Phasing plan for the project.

.1

RS 6 TENDER CALL, BID EVALUATION & CONSTRUCTION CONTRACT AWARD

6.1 INTENT

To obtain and evaluate bids from qualified contractors to construct the projects as per the Tender Documents. To award the construction contracts according to government regulations, including Federal Rules for Bid Depositories.

6.2 SCOPE AND ACTIVITIES

- Direct all inquiries during the tender period to the PWGSC Contracting Officer.
- Prepare addenda based on questions arising during the tender period and as required from inquires and requests for alternatives, etc. All addenda to be issued by the Project Manager
- Maintain a log of all questions asked during the tender period indicating the question asked, the inquirer and company, the date asked, the response and the responder's name.
- Provide the Project Manager with all information required by tenderers to fully interpret the Construction Documents and any addenda.
- Keep full notes of all inquiries during the bidding period and submit same to Project Manager at the end, for PWGSC records.
- Assist in tender evaluation by providing advice on the following:
  - The completeness of tender documents in all respects.
  - The total number of questions addressed during the tender period.
  - The technical aspects of the tenders.
  - The effect of alternatives and qualifications submitted in the tender.
- If PWGSC is required to re-tender the project due to cost overruns, provide advice and assistance to the Project Manager
- Revise and amend, at your cost, and as approved by the Project manager, the construction documents to bring the cost of the work within the limits stipulated and as per section SR 9 of the Terms and Conditions.
- Examine and report on any cost and schedule impact created by the issue of tender / contract addenda. This is to be submitted to the PWGSC Project Manager concurrently with the issue of any addenda.

6.3 DELIVERABLES

- Clairification of all questions raised by contractors or PWGSC during the tendering phase and notes of all inquiries.

- Addenda as required with associated drawings and specifications.
- Changes to the documents, if re-tendering is necessary
- Updated cost estimate and/or schedule, as required due to changes.
- List of all required shop drawings, material samples, mock-ups, etc..
- Listing of all required extended warranties, maintenance materials and spare parts to be provided as part of the contract.
- Listing of all required site work/materials testing required comes with detailed budget.
-

RS 7 CONSTRUCTION AND CONTRACT ADMINISTRATION

7.1 INTENT

To implement the project in compliance with the Contract Documents and to direct and monitor all necessary or requested changes to the scope of work during construction.

7.2 SCOPE AND ACTIVITIES

- During the implementation of the project, act on PWGSC's behalf to the extent provided in this document
- Carry out the review of the work at intervals appropriate to determine if the work is in conformity with the Contract Documents. As a minimum, the Architect shall be expected to review the work status at the project site every two weeks in conjunction with regularly scheduled biweekly job meetings. For other consultants, this number is to be doubled and shall be split among the major disciplines (Civil, Structural, Mechanical and Electrical). Determining which discipline will be required on site and the total number of visits by discipline, shall be the responsibility of the Consultant. The Consultant shall obtain the Project Manager's concurrence prior to each discipline's site visit. The Consultant is responsible for documenting the number of trips per discipline and reporting this information to the Project Manager at time of Final Inspection and Acceptance.
- Maintain a Resident Construction Services Representative on site as described in AS 1.
- Keep PWGSC informed of the progress and quality of the work and report any defects or deficiencies in the work observed during the course of the site review
- Ensure compliance with Commissioning Plan, update plan as necessary
- Determine the amounts owing to the Contractor based on the progress of the work and certify payments to the contractor
- Act as interpreter of the requirements of the Contract Documents
- Provide cost advice during construction
- Advise the Project Manager of all potential changes to scope for the duration of the implementation
- Review the Contractor's submittals with recommendations of acceptance or suggested changes to the submitted documents within 14 calendar days.
- Prepare and justify contemplated change notices c/w estimates and subsequent change orders for issue by the Project Manager.
- Maintain a list of all changes introduced during the construction that will require changes to the final as-built record drawings.
- Indicate any changes or material/equipment substitutions on Record Documents
- Gather from the contractor, all as-built record information and compare with consultants listing of as-built changes.
- Update all project documents with as-built information and issue final copy of all project drawings clearly labelled as As-Built condition.

- Prepare and post Systems Operating Instructions
- Finalize Systems Operations Manual

7.3 DETAILS

7.3.1 Construction Meetings

- Immediately after contract award assist the Project Manager with a Construction Start-up meeting with the Contractor. Attend and prepare minutes of the meeting.
- The Consultant is responsible for the preparation of all construction meeting minutes in electronic typed format. Copies shall be distributed to all participants and to other persons agreed upon with the Project Manager. Minutes shall be sent electronically in Word Perfect format (or faxed format to those who cannot receive documents by e-mail) .
- Subsequent to the construction start-up meeting, the Consultant shall attend all biweekly job meetings as required by the job conditions or as specified in these documents. The meetings should include the General Contractor's job superintendent, the Resident Construction Services Representative, all sub-subcontractors involved for that stage of construction, all affected sub-consultants and as per the allowance for the number of trips detailed in section 7.2, any appropriate testing agencies, the PWGSC Project Manager plus additional representatives from PWGSC as appropriate. Prepare minutes of the meeting and distribute copies to all participants. The Project Manager may invite representatives from RCMP to attend any of these meetings.

7.3.2 Project Schedule

- Review Project Schedule with detailed commissioning component shown separately, as soon as possible after contract award and ensure proper distribution.

- Monitor the approved construction schedule, assist the Project Manager with necessary steps to ensure that the schedule is maintained and submit a detailed report to the Department concerning any delays.
- Keep accurate records of causes of delays and total time affected.
- Make every effort to assist the Contractor to avoid delays.

7.3.3 Time Extensions for Construction Contract

- Only PWGSC may approve any request for Time Extensions. Any approval will be issued in writing by the Project Manager.

7.3.4 Cost Breakdown

- Within ten (10) days of the contract award, obtain from the Contractor the detailed cost breakdown on the standard PWGSC form. The Consultant shall review and comment on the appropriateness of the breakdown and submit to PWGSC.

7.3.5 Sub-Contractor Changes

- The Contractor is required to use the sub-contractors listed on the tender form unless a change is authorized by the PWGSC Project Manager. Changes are only considered when they involve no increase in cost. Review all requests for changes of sub-contractors, and submit recommendations to the Project Manager.
- When sub-contractors have not been listed on the Tender Form, obtain the list from the General Contractor not later than 10 working days after date of award.

7.3.6 Labour Requirements

- The Contractor is bound by the Contract to maintain competent and suitable workers on the project and to comply with the Canada Department of Labour - Labour Conditions. Inform the PWGSC of any labour situations that appear to require corrective action by the Department.
- The Consultant shall ensure that a copy of the Labour Conditions for the Contract is posted in a conspicuous place on site.

7.3.7 Bylaw Compliance

- Ensure that construction complies with applicable bylaws and regulations.
- Matters pertaining to the Department of Labour shall be referred to the Project Manager.

7.3.8 Construction Safety

- Project safety shall be an important feature in the design and construction of these projects. The Consultant will ensure that the requirements of the New Brunswick Occupational Health and Safety Regulations and the Canada Labour Code Part II are followed throughout the design and construction phases of this project.
- The Consultant will ensure that an appropriate safety plan is requested from the General Contractor identifying all safety hazards for the project and how these hazards are to be dealt with. The Consultant will review the Safety Plan provided by the General Contractor and provide written comments on the plan to PWGSC.
- Fire safety provisions during construction must comply with FCC Standards 301 and 302, administered by the Federal Fire Commissioner.
- In addition to the above, the Contractor must comply with the provincial and municipal safety laws and regulations, and with any instructions issued by the officers of these authorities having jurisdiction relating to construction safety.

- Ensure the Contractor is mandated to provide all required co-ordination, isolation, protection and reinstatement of the fire protection and suppression systems throughout construction.

7.3.9 Clarifications

- Provide clarifications on Plans and Specifications or site conditions, as required in order that project not be delayed.

7.3.10 Progress Reports

- Report to the Department regularly on the progress of the work. Submit biweekly reports.

7.3.11 Detail Drawings

- Provide for the Project Manager's information any additional detail drawings as and when required to properly clarify or interpret the contract documents.

7.3.12 Shop Drawings

- Create a log of all shop drawings required for the project indicating, description, supplier, discipline, date of delivery, date of return and status.
- Ensure that all shop drawings include the project number.
- In addition to the number of shop drawings to be returned to the Contractor for their use, ensure that all approved shop drawings are delivered to the groups as noted herein:
  - 1 copy - Prime Consultant
  - 1 copy - Applicable sub-consultant
  - 4 copies - PWGSC Project Manager for distribution to PWGSC Resources
- All shop drawings shall be stamped: "Checked and Certified Correct for Construction" by the Contractor
- The Consultant (or appropriate Sub-consultant) shall stamp each shop drawing: "reviewed" with date and initial of individual responsible before returning to the Contractor.
- The Consultant will be expected to expedite the processing of Shop Drawing approval with approved drawings returned to the Contractor within 14 calendar days of Contractor's submission.

7.3.13 Materials Testing and Inspection

- Prior to tender, provide PWGSC with recommended list of site work related tests to be undertaken

- When contract is awarded, brief materials testing firm on required services, distribution of reports, communication lines, etc.
- Co-ordinate all testing times with the appropriate testing firm and the Contractor
- Manage all testing charges to stay within the approved budget.
- PWGSC will be responsible for contracting and paying directly, the costs of all testing carried out on their behalf for this project.
- Review all test reports and take necessary action with Contractor when work fails to comply with contract.
- Immediately notify Project Manager when tests fail to meet project requirements. Provide a detailed report of the failure when necessary corrective work will affect schedule.
- Assist the Project Manager in evaluating testing firm's invoices for services performed.

7.3.14 Training

- Within twelve (12) weeks of award, provide the PWGSC Project Manager with recommended list of any training that is to be undertaken by PWGSC or their representatives to ensure proper control of the building operations.
- Ensure all training is detailed within the commissioning plan as described in OS 2.

7.3.15 Construction Changes

- The Consultant does not have authority to change the work or the price of the Contract. However, the Consultant will prepare Contemplated Change Notices (CCN’s) complete with detailed estimates as well as subsequent Change Orders (CO’s).
- All Contemplated Changes must be approved by the PWGSC Project Manager.
- Upon PWGSC approval obtain quotations from the Contractor in detail. Review prices and forward promptly within one (1) day, recommendations to the PWGSC Project Manager.
- The PWGSC Project Manager will issue Consultant-prepared CCN’s and CO’s to the Contractor, with one copy to Consultant.
- All changes, including those not affecting the cost of the project, will be covered by Change Orders. Note: To be a valid change order, there must be a transfer of funds of at least $1.00.
- The practice of "trade offs" is not allowed.

7.3.16 Contractor's Progress Claims

- Each month the Contractor submits a progress claim for work and materials as required in the Construction Contract.
- The claims are made by completing the following forms as provided by PWGSC where applicable:
  - Request for Construction Payment

  - Cost Breakdown for Fixed Price Contract
  - Statutory Declaration Progress Claim
- Review and sign designated forms and promptly forward claims to the Department for processing. Any discrepancies in the claim must be resolved before it is forwarded to PWGSC for payment.
- The Contractor shall submit with each progress claim:
  - Updated schedule of the progress of the work.
  - Photographs of the progress of the work.

7.3.17 Materials On Site

- The Contractor may claim for payment of material on site but not incorporated in work.
- Material must be stored in a secure place designated by the Department. Detailed list of materials with supplier's invoice showing price of each item must accompany claim; Consultant shall check and verify the list.
- Items shall be listed separately on the Detail Sheet after the break-down list and total.
- As material is incorporated in the work the cost must be added to the appropriate Detail item and removed from the material list.

7.3.18 Acceptance Board

- Inform the PWGSC Project Manager when satisfied that the project is substantially completed as defined by the PWGSC Major Construction Contract General Conditions.
- In addition to the PWGSC Project Manager, other representatives from PWGSC may be asked to sit on the Acceptance Board along with RCMP Representatives.
- The Consultant shall ensure that his representative, his sub- consultants, the Resident Construction Services Representative, Contractor and major sub-trades representatives shall form part of the Project Acceptance Board and attend all meetings as organized by the Department. These meetings/site visits are in addition to those specified in Section 7.2.

7.3.19 Interim Inspection

- The Acceptance Board shall inspect the work and list all unacceptable and incomplete work on a designated form. The Board shall accept the project from the Contractor subject to the deficiencies and uncompleted work listed.
- The Consultant will provide an estimate of completion costs for all deficiencies and incomplete or outstanding work identified in the Interim Certificate.

7.3.20 Interim Certificates

- Payment requires completion and signing, by the parties concerned, of the following documents:
  1. Interim Certificate of Completion
  2. Cost Breakdown for Fixed Price Contract
  3. Inspection and Acceptance
  4. Statutory Declaration Interim Certificate of Completion
  5. Worker's Compensation Board Certificate.
- The Consultant shall verify that all items are correctly stated and ensure that completed documents and any supporting documents are furnished to PWGSC for processing.

7.3.21 Building Occupation

- The official take-over of the project, or parts of the project, from the Contractor is established by the PWGSC Project Team and the Consultant. The date of Interim Certificate of Completion signifies commencement of the 12 month warranty period for work completed on the date of each certificate in accordance with the General Conditions.
- Provide the PWGSC Project Manager with an original copy of Contractor's warranties for all materials and work covered by an extended warranty or guarantee, according to the conditions of the specifications. Verify their completeness and extent of coverage.
- RCMP may occupy the Facility (phase) after the date of acceptance of the work by the Acceptance Board. Each phase may be accepted independently. When all phases are accepted, the final acceptance date is normally that of the Interim Certificate issued to the Contractor. As of the acceptance date, the Contractor may cancel the Contract Insurance, and PWGSC assumes responsibility for:
  - Security of the work(s).
  - Fuel and utility charges.
  - Proper operation and use of equipment installed in the project.
  - General maintenance and cleaning of the work(s).
  - Maintenance of the site. (Except for any maintenance specifically covered by the contract)

7.3.22 Operation and Maintenance Data Manual

- Operation and Maintenance Data Manual: 4 sets of each volume produced by the Consultant in accordance with RS 12. Manuals to be verified for completeness, relevance and format by the Review Team and submitted to PWGSC Project Manager prior to Interim Acceptance or actual start of operation and instruction period, whichever occurs sooner. The Contractor shall be given one copy of each volume for his record and use during the instruction and warranty period. Operation and maintenance data manuals are to be bilingual.

7.3.23 Instruction of Operating Personnel

- Make arrangements and ensure that AFD personnel are properly instructed on the operation of all services and systems using the final manuals as reference.
- Consultant to provide training sessions, as required, on the subject of design intent and systems operations. Utilize the Systems Operations Manual for training sessions.

7.3.24 Keys

- The Contractor will be required to turn over all temporary keys to the Project Manager at the time of Final Inspection.

7.3.25 Final Inspection

- Inform the Department when satisfied that all work under the contract has been completed, including the deficiency items and outstanding works identified during the Interim Inspection. The Department reconvenes the Acceptance Board which makes a final inspection of the project. If everything is satisfactory the Board acknowledges final acceptance of the project from the Contractor.

7.3.26 Final Certificate

- The final payment requires completion and signing, by the parties concerned, of the following documents:
  1. Final Certificate of Completion
  2. Cost Breakdown for Fixed Price Contract
  3. Inspection and Acceptance
  4. Statutory Declaration Final Certificate of Completion
  5. Worker's Compensation Clearance Certificate
- The Consultant shall verify that all items are correctly stated and ensure that completed documents and any supporting documents are furnished to the Department for processing.

7.3.27 As-Built Drawings, Record Drawings and Specifications

- Throughout the project the Contractor shall maintain an accurate record of all as-built changes introduced to the project. The status of these changes shall be reported in the biweekly progress reports.
- Following the Interim Inspection and Acceptance, obtain as-built marked-up hard copy from the Contractor:
- Show all deviations in construction from the original Contract drawings, including changes shown on Addenda, Post-Contract Drawings, changes resulting from Change Orders and/or from On Site Instructions.
- Check and verify all as-built records for completeness and accuracy and submit to PWGSC.

- Consultant to produce electronic bilingual Record Drawings by incorporating As-Built information into project drawings and specifications.
- Submit Record Drawings and Specifications (four paper copies plus one electronic copy) within four 4 weeks of final acceptance.

7.4 DELIVERABLES

- Written reports from site visits including persons involved
- Written reports on the progress of the work and the cost of the project at the end of each month
- Additional detail drawings when required to clarify, interpret or supplement the Construction Documents
- Post contract drawings and specifications
- Interim or Final certificates
- Debrief of Commissioning Activities
- As built records

RS 8 PROJECT TIME PLANNING, SCHEDULING AND CONTROL

8.1 PLANNING/SCHEDULING REQUIREMENTS & APPLICATION

Planning and Scheduling are high priorities with all Federal Government projects. The concept of planning and scheduling is to facilitate the accomplishment of objectives and should be thought of as a continuous interactive process involving planning, action, measurement, evaluations and revision through to project completion.

8.2 CONSULTANT SYSTEM FOR PROJECT CONTROL

The Consultant shall provide a project control system based on network techniques such as Critical Path Method (CPM) for Planning, Scheduling, Progress Monitoring and Reporting of project progress. The Project Control System shall be fully computerized using ***MS Project*** unless otherwise approved.

8.3 PERSONNEL

It is required that fully qualified, experienced **Planning and Scheduling** personnel play a major role in the **development and monitoring** of the project schedule. This person must have experience in phasing of construction where a large percentage of the building must remain fully operation. The Planning & Scheduling specialist shall provide Consultant scheduling services from commencement of the project design stage through to construction completion. The Consultant shall provide Time Planning/Scheduling services in accordance with the following general scope and detail specific services.

8.4 SCOPE OF PROPOSAL

The general scope of work for the Design, Drawings, and Award Phases of Planning and Scheduling services include the following activities:

- Develop a Work Breakdown Structure
- Assist in developing the Project Objectives.
- Develop a Project Master Network.
- Develop, monitor & maintain Schedules, Bar Charts, and Milestone Listings.
- Identify Project Activities including all major elements/phases of work.
- Attend tender briefing, start up, production, construction and all other meetings as required.
- Identify construction Tendering and Sequencing requirements.
- Identify design team co-ordination requirements.
- Prepare monthly Progress Reports.
- Prepare Pre-construction Schedule.
- Prepare Pre-commissioning Schedule.

8.5 PLANNING

8.5.1 Project Work Breakdown Structure

Within five (5) working days after finalizing the consultant agreement, prepare a Project Work Breakdown Structure (PWBS). A PWBS is a project oriented family tree subdivision of services and other work tasks which organizes, defines and graphically displays a project. This PWBS should be developed through at least five levels: project, stage, element, sub-element and work package.

8.5.2 Project Master Plan/Cash Flow Projection

Within ten (10) working days after finalizing the consultant agreement, prepare a Project Master Plan and dependent Cash Flow Projection that accounts for all major project activities and costs. This will involve confirming the validity or alternates to the identified milestones in the Proposed Major Milestone Schedule. Significant phases of project development include Programming, Concept Design, Design Development, Working Drawings and Specifications, Tender, Contract Award and Construction.

Unless specified otherwise in this Section, quantified days duration refers to working days, which is based on a 5 day work week and discounts all statutory holidays (approximately 250 days/year).

The original Master Plan will be "frozen" to provide an original Target or Baseline Schedule. This Target Plan may be revised on instruction from the Project Manager as conditions dictate. All revised Target Plans and Cash Flow Projections will be reconciled with previous targets to provide a continuous audit trail.

The Consultant will provide the initial and subsequent Master Plans in the following form:

1. diskette/CD containing all schedule and cash flow information,
2. bar chart identifying activity durations, early/late dates, total float, percent complete and budget amounts,
3. network diagram showing all activity sequencing, and
4. annual and monthly actual/projected monthly cash flow in both graphical and numerical form.

8.5.3 After five (5) working days of PWGSC review the Planning and Scheduling Consultant shall meet with the Project Team to finalize a mutually acceptable Project Master Plan and Cash Flow Projection.

8.6 SCHEDULING

8.6.1 Detail Project Schedules - Design, Drawings, Tender and Award

Preparation of the Detail Schedule

The Consultant shall within twenty (20) working days from finalizing the consultant agreement provide a Detail Project Schedule. Activities must be shown for all phases of Concept & Preliminary Design. All necessary review and approvals must be included. Activities must also be shown for Working Drawings and Specifications leading through the key milestones of 66%, 99% Approvals. This will be followed by the co-ordination and review activities leading to 100% Tender Documents, and then by the Tender Process leading to Award.

Prior to the completion of the Tender Documents, the initial Construction and Commissioning activities shown on the approved Detail Project Schedule will be further broken down in order to confirm the validity of our approaches to construction and commissioning. The level of detail for project activities will be such that the sequence and interdependency of all contract tasks will be demonstrated and will make possible the co-ordination and control of all project activities.

In order to provide a reasonable basis for progress monitoring and control, the schedule shall be in sufficient detail to ensure adequate planning and control. It is also recommended that activity durations should not exceed fifteen days. The Detail Activities must relate at all times to the Milestones developed and approved in the Detail Project Schedule.

The activities with no float (start and finish on their early calculated dates) which form the "Critical Path" must be calculated and clearly indicated on the logical network as being wherever possible a continuous series of activities through the project. No more than 25 percent of the activities shall be critical, or near critical. Near critical is defined as float in the range of 1 to 5 working days.

Review and Approval of the Detail Schedule

The Consultant shall allow one week (calendar) period for the review by the PWGSC Project Manager of the proposed Detail Project Schedule.

Following the review, any necessary revision to the schedule must be submitted to the Project Manager within one week (calendar) after his request.

The Consultant shall, at the Project Manager’s request and without additional charges, provide all additional information required by the Project Manager to validate the practicality of the Consultant's work schedule.

Compliance with the Detail Project Schedule

The Consultant must comply with the approved Detail Project Schedule, direct and assist his sub-consultants in the planning and co-ordinating of their work with respect to this schedule.

8.6.2 Progress Monitoring and Reporting

On a Monthly basis with status dated on the last working day of the month, the Consultant working with all responsible parties shall perform a Detail Schedule update. The Detail Project Schedule shall reflect the following:

1. progress of each activity to the date of the report;
2. any logic changes, both historic and planned;
3. projections of progress and completion;
4. the actual start and finish dates of all activities being monitored in the network shall be recorded and submitted; and
5. any potential delays, outstanding issues and concerns from the design teams point of view, and options for dealing with any serious planning and scheduling issues.

Within five (5) days of the date of the Schedule Update, the Consultant will provide the initial and subsequent Detail Project Schedule in the following form:

1. Diskette containing all detail schedule and cash flow information.
2. Detail Schedule Bar Chart identifying status to date.
3. Detail Network Diagram identifying status to date.
4. A listing of all project activities including milestones and dummies (if applicable), in all networks (and sub-networks) from basic project start to project end. Sort activities by activity identification number with accompanying descriptions. List early and late start and finish dates together with durations, codes and float.
5. A Criticality Report listing all activities and milestones with negative, zero and up to five days Total Float used as a first sort for ready identification of the critical, or near critical paths through the entire project. List early and late start and finish dates, together with durations, codes and float for the critical activities printed.
6. A Progress Report in early start sequence, listing for each trade, all activities due to start, to be underway, or finish within one month from the monthly update date. List the activity identification number, description, and duration. Provide columns for entry of the actual start and finish dates, duration remaining, and remarks concerning action to be taken.

The Consultant must also submit a written monthly Narrative Report based on the Detail Project Schedule, detailing the work performed to date, comparing work progress to planned, and presenting current forecasts. This report should summarize the progress to date, explaining current and possible deviations and delays with respect to the Detail Schedule, and Critical Paths.

8.6.3 Tender & Construction Schedule Requirements

Construction and Commissioning Periods

As design progresses and the scope of construction work becomes more clearly defined, the Consultant will develop more detailed schedules and cash flows to illustrate the sequencing of work as it relates to activities and/or constraints in other contracts. This must be done in order to:

1. confirm or raise question of previously established construction durations and phasing;
2. develop more accurate cash flow projections for construction;
3. identify any interfaces and/or sources of potential conflicts; and
4. review and evaluate successful Contractor's cash loaded CPM schedule.

Before the project is tendered (at approximately the 90% drawing stage), the Consultant shall develop and present the specification section of the Contract Documents dealing with Construction Planning and Scheduling for review and discussion with the Project Manager in order to develop a comprehensive section that is consistent with other relevant areas of Contract Administration.

8.7 PROJECT CONTROL DURING CONSTRUCTION

8.7.1 Consultant's Responsibility

- Ensure provision of proper Planning and Scheduling as per spec.
- Incorporate Contractors information on Detail Project Schedule.
- Monitor Contractors submissions; review for completeness, accuracy and progress.
- Assist in the development of the Commissioning Schedule.
- Advise and prepare variance analysis reports as required.

The Contractor will be developing the required Construction Planning and Scheduling documentation in accordance with the specification section of the Contract Documents dealing with Construction Planning and Scheduling.

Within five (5) working days of Contract Award, the Consultant, Project Manager and RCMP shall meet with the Contractor to review the scope of work and the Contractor’s approach to construction operations. This meeting will provide an opportunity to emphasize the importance of compliance with the Planning and Scheduling requirements as set out in the Contract Documents.

Within five (5) working days of receipt of the Proposed Construction Schedule and Cash Flow from the Contractor, the Consultant shall review the information for adequacy and accuracy by comparing it to the Detail Project Schedule developed by the Consultant prior to Contract Award. The Consultant will formally report his findings and recommendations to the Project Manager for further discussion with the Contractor.

Once accepted by the Project Manager, this Proposed Construction Schedule will be saved and used as the Construction Baseline Schedule.

Within ten (10) working days of receiving the Contractor's Proposed Construction Schedule and Cash Flow, the Consultant will investigate whether the timing and costs of the activities shown are consistent with the accepted Detail Project Schedule. The Consultant shall review and formally report to the Project Manager on his findings and recommendations.

Upon receipt of the Contractor's progress claim and diskette/CD of complete project schedule, the Consultant will review the information by:

1. evaluating, on a general basis, actual progress achieved to date; and
2. comparing current status of Detail Project Schedule and Cash Flow status with previously submitted Detailed Schedules and Cash flows.
3.

RS 9 ESTIMATING AND COST PLANNING

9.1 COST SPECIALIST

Delivering this project on budget is the highest priority. A fully qualified cost planning, cost estimating and cost control resource (or team of resources including mechanical and electrical cost specialists), referred to herein as the Cost Specialist, with a demonstrated record of successful cost management on construction projects is required. The Cost Specialist(s) will be conversant with all aspects of construction cost estimating during the design stages including the use of Elemental Cost Analysis, Risk Analysis, Life Cycle Costing and Value Engineering/Management techniques. The Cost Specialist(s) shall be a Professional Quantity Surveyor or Construction Estimator, Certified as designated certified by the Canadian Institute of Quantity Surveyors or a Gold Seal Estimator as designated certified by the Canadian Construction Association.

The Cost Specialist(s) must be proficient in all disciplines/sub disciplines/trades offer the project and therefore, may be an individual or group. These specialists shall be expected to work in a **team environment** along with the Consultant, Project Manager, PWGSC Senior Cost Planner and contractor and sub contractors, where **co-ordination and understanding** of all cost information is considered paramount.

The purpose of cost planning and cost control is to assist in the accomplishment of project objectives. It is a continuous and interactive process involving team work, co-ordination, planning, action, measurement, evaluation and revision and the Cost Specialist(s) will be expected to possess a comprehensive understanding of the full spectrum of project objectives.

9.2 SCOPE OF SERVICES

The Cost Specialist(s) shall provide an interactive and continuous cost consulting service from the commencement of project design through to construction completion and subsequent evaluation, including the preparation of complete estimates for all risks, construction trades, escalation, inflation and contingency costs. Major cost issues are to identified in conjunction with Consultant's Risk Analysis.

The Cost Specialist(s) shall provide to PWGSC and the Consultant, a cost advising, and cost monitoring/reporting service.

The Cost Specialist(s) shall attend all project and production meetings throughout the design phases and be prepared to present and defend the estimates directly to the Project Manager.

9.3 SERVICES - BASIC ACTIVITIES

The Cost Specialist(s) **shall work concurrently with** and be an integral part of the Consultant Team. She/he shall advise the Consultant team and PWGSC of the costs of individual building components and costs of various design systems. Estimates should be prepared in detail and summarized using an Elemental Analysis format.

9.3.1 Reporting

Milestone Reporting At each of the Milestones (for and within each RS Section) specified in this document, provide a complete submission including the required Elemental Summaries, supported by all backup work sheets clearly detailing the process used in preparing the estimate. The detailed work sheets will be the prime basis on which estimates will be reviewed by PWGSC. Cost comparisons and cost reports identifying and explaining the differences between each succeeding cost estimate and their cost effect are also required.

In addition, the Cost Specialist(s) shall fully coordinate all estimates with schedules provided by others.

- A typical Milestone Report will contain:
  1. Project Estimate Summary;
  2. Elemental Estimate Summary;
  3. Estimate Back-up Detail:
  4. Basis for escalation, inflation and contingency calculations;
  5. Detailed measurement and pricing;
  6. Narrative:
     - Outline description of estimate basis;
     - Description of information obtained and used in the estimate including the date received;
  7. Listing of notable inclusions;
  8. Listing of notable exclusions; listing of items/issues carrying significant risk;
  9. Notes on past and forecast Cost Specialist(s) activity;
  10. Estimate Reconciliation:
     - With last submission;
     - With Construction Cost Plan;
     - Any other relevant information.

Exception Report The Cost Specialist(s) is to provide continuous cost monitoring, timely identification and early warning of all changes that affect or potentially affect the estimated construction costs of the project.

If the estimate falls short of or exceeds the Construction Cost Limit due to such changes, the Cost Specialist(s) with the Consultant team shall fully advise the Project Manager. The Cost Specialist(s) with the Consultant team shall submit to PWGSC proposed alternative design solutions.

An Exception Report will include sufficient description and cost detail to clearly identify:

1. Scope Change: Identifying the nature, reason and total cost impact of all identified and potential project scope changes affecting Construction Cost Estimate.
2. Cost Overruns and Under runs: Identifying the nature, the reason and the total cost impact of all identified and potential cost variations.
3. Options Enabling a return to the Construction Cost Estimate: Identifying the nature and potential cost effects of all identified options proposed, in order to return the project within the Construction Cost Estimate.

9.3.2 Submission Standards

The Class "C" and Class "B" cost estimates shall be submitted in elemental cost analysis format. The standard of acceptance for this format is the current issue of the elemental cost analysis format issued by the Canadian Institute of Quantity Surveyors.

The Class “A” cost estimate shall be submitted in elemental cost analysis format as well as a trade cost breakdown format. Cost estimates shall have a summary plus full back-up showing items of work, quantities, unit prices and amounts. **All estimates shall coincide with submissions as indicated and described in this RS.**

Summary Format

1. Elemental Analysis: All estimates shall be summarized in an agreed and consistent Elemental format. the current Elemental Analysis Format as issued by the Canadian Institute of Quantity Surveyors. Several variations in format may be acceptable to PWGSC (by discussion) but those following the ASTM (USA), CIQS (CDN), CSI Uniformat II (USA) or BCIS (UK) formats are preferred.
2. Trade Summary: Where a trade summary is required, those following the Master format are preferred, except where local practice provides a more suitable alternative.
3. Project Cost Subdivision: The estimate shall isolate and show separately the cost of individual building blocks and/or the accommodation sections listed here:

   - **Base Building**
   - **Fit-Up**

A PWGSC Best Practice Guide exists to provide direction for the consistent application of definitions of Base Building versus Fit-Up for PWGSC Crown Owned, General Purpose Office Facilities. The following definitions are intended to clarify how those definitions may be applied to the Project, and to highlight aspects of this project which may be viewed as deviations from our traditional application of these principles. The purpose is **NOT** to identify separate design packages, but to identify base building and fit-up components required for quantifying tenant and landlord areas of "ownership"/financial responsibility.

Definitions
(From Regional Best Practice: Accommodation Branch: Base Building versus Fit-Up General Purpose Office Facilities)

Base Building is the standard to which a general purpose building is constructed or renovated while making no provision for the specific needs of a tenant or tenants.

“Base Building” means finished floors and bearing, demising and enclosing walls and ceilings and building systems consistent with the designed function and planned general use of the building including window coverings and primary identification signage.

Fit-Up is the alterations and improvements that must be made to the Base Building and to the Building systems so as to meet the specific occupancy needs of a tenant. The appropriate charges are funded from the Real Property Program appropriation and do not include “tenant enhancements.” However, it is worthy to note that the fit-up guidelines related to costs force the tenant to make choices between items that are vital to their operation versus those items that are additional amenities. Fit-up items include the provision of equipment, systems, fit-up partition materials and finishes; the removal, relocation, and provision of power and communication outlets, doors, windows, and partitions, screens, and plants; and related changes to building systems in order to accommodate the tenant in the space.

These Fundamental definitions will continue to apply in general to this project, and the consultant’s scope will include quantifying these two elements through the concept, design and working drawing process.

In order to appropriately designate all items as either Base Building or Fit-Up, a separation of the space has been made including:

1. Building Service Areas and Accessory Areas
2. Usable Space - Office Space and Support Spaces

Building Services Area and Accessory Areas	Base Building	Fit-Up
Floor Finishes	x	
Column and Wall Finishes	x	
Ceiling Finishes or Treatment	x	
Window Coverings (including tinting)	x	
Finished Elevator/Stairwell Cores	x	
Complete Lighting Installation	x	
Fire Protection Systems (smoke/heat detectors, alarms, sprinklers)	x	

Complete Mechanical Systems	X	
All Other Services Required for Normal Building including Operations:	X	
Elevators	X	
Finished Lobbies	X	
Washrooms	X	
Electrical and Communication Distribution Systems to All Floors	X	
Cleaning Closets	X	
Slab-to-Slab, Finished Demising Walls (including associated doors and hardware)	X	
Accessibility	X	
Primary Identification Signage	X	
Service Entrance - Loading Dock	X	

Usable Areas - Office and Support Space	Base Building	Fit-Up
Finished Subfloor	x	
All Area Floor Finishes[1]	x	
Gypsum Wall Board Columns/Walls or other Wall Surfaces	x	
All Column and Demising Wall Finishes	x	
Ceiling Finish or Treatment	x	
All Smoke/Heat Detectors, Sprinklers, Ductwork, Diffusers, Lighting Fixtures	x	
All Changes to Detectors, Sprinklers, etc. Above		x
Walls Demising Usable Areas from Accessory Exterior Areas, Including Appropriate Entrance and Exit Doors	x	
Changes Required to Entrance and Exit Door Locations		x
Finished Interior Leasehold Partitions (customized for tenant)		x
Changes to Electrical Distribution to Suit Tenant's Needs[2]		x
Acoustical Screens		x
Signage - Primary Identification Signage	x	
Specific Tenant Signage		x
Power Distribution Grid (ceiling, floor or wall)	x	
Communication System (i.e. conduit) and Communication Service Rooms	x	
Accessibility	x	
Washrooms for Specific Tenant Requirements		x

[1] This will include pedestal flooring if a pedestal flooring system is utilized for the cable management and/or air distribution system.

[2] In the context of this project, the approach taken to Electrical Distribution should provide sufficient flexibility to largely eliminate this need.

Time Lag

Recognizing that estimates must follow the design decisions they represent, it is the Consultant's responsibility to ensure there is no lag. (I.e. Estimates are due with the balance of the submission they represent on the specified date.) This is to be built into the Time Planning/Schedule Section (RS-9).

The only exception is that the trade breakdown of the Class "A" estimate may follow the elemental submission by one week.

Use of all available information

The Cost Specialist is responsible for providing a complete cost estimate even though the information provided during the concept, design development and early working drawing stages is incomplete. Where requirements are not firmly defined, the Cost Specialist shall make assumptions, confirm them with the various disciplines and either list them as assumptions, or have them incorporated in an outline specification modified by the Consultant.

9.3.3 Techniques

The Cost Specialist is required to be familiar with and make use of a broad range of cost techniques, especially the following:

1. **Risk Analysis** All construction estimates (except the final pretender estimate) shall include and identify design, estimating, inflation escalation and currency exchange allowances as are deemed necessary in light of the current information available. The Cost Specialist shall provide a satisfactory explanation of the level and/or amount of all such sums included within any estimate.

2. **Scheduling** The Cost Specialist shall assist the Planning and Scheduling Specialist by providing building quantities, building systems information, and other quantifiable parameters deemed appropriate to the calculation of a reasoned project time schedule. The Planning and Scheduling Specialist shall assist the Cost Specialist by maintaining an up-to-date schedule of all design activities along with an agreed bidding and Construction Schedule that will be incorporated by the Cost Specialist within the estimates on a timely basis.

3. **Life Cycle Costing** In advising the Consultant of the cost information for alternative materials, methods and systems, it is necessary that the Cost Specialist uses all available information to ensure that a complete cost picture is made available, upon which design and construction decisions will be made.

4. **Continuing Estimate Process** A process of continual adjustment of previous estimates may be used in place of total re-measurement at each milestone reporting point. This is acceptable, provided that at each reporting point a full and up-to-date Elemental Cost Summary is provided and that at each milestone reporting point this Elemental Cost Summary is supported by complete, detailed, stand alone back-up/support documentation, as previously described.

5. **Project Research** The Cost Specialist shall visit the proposed construction site to become familiar with site conditions, site access, etc.., analyze local labour and material supply conditions, local bidding practices and competition to establish pricing levels. In addition, the Cost Specialist will take an active role in researching

High Performance Supportive Work Environment and Sustainable Development related construction materials, processes, etc.

9.4 SERVICES - SPECIFIC ACTIVITIES

Project Analysis Stage

Review, report on, and propose revisions to the existing class "D" estimate. Do not proceed until the Cost Specialist, the Consultant and PWGSC have accepted the revised class "D" estimate.

The revised Class "D" estimate shall not exceed the Construction Cost Limit specified in PD 2 including a minimum 5% contingency for the construction period.

Concept Design

A Class "C" estimate will be prepared at the highest level of detail commensurate with the available information using elemental and additional detailed costs. **All design disciplines (i.e. Prime and Sub-Consultants) shall sign off on this and all subsequent estimates.**

Design Development

Upon completion of design development prepare a Class "B" estimate representing the increased level of design detail available. The report shall be prepared using detailed (elemental) costs i.e. measured quantities with a minimum number of allowances or lump sums.

The Class "B" estimate shall not exceed the construction Cost Limit specified in PD 2 including a minimum 5% contingency for Construction and Post Occupancy periods.

Contract Documents

During the production of the contract documents a process of continuing cost control progressively more detailed is required. At each review of contract documents, an up-to-date estimate shall demonstrate compliance with the Construction Cost Limit. Non-compliance with the Construction Cost Limit will require revisions to the contract documents at the Consultant’s expense.

Pre-Tender

Upon completion of the contract documents a pretender Class "A" cost estimate will be prepared using 100% measured quantities.

This estimate shall be summarized in elemental format.

A trade breakdown of the pre-tender estimate, as well as in elemental format, shall also be provided for use in reviewing the submitted bids and the successful Contractor's bid breakdown.

Tender Stage

1. **Tender Award** During the tender period, examine and report on any cost impact created by the issue of tender/contract addenda. Incorporate the results of such addenda review into the Class 'A' estimate (both elemental and trade versions) prior to receipt of bids.

2. **Bid Review and Analysis** Assist the Project Manager, as required, by analyzing and reconciling any differences between the pretender estimate and the submitted bids.

3. **Negotiation** Should it be necessary to negotiate with any bidder prior to awarding the Contract, the Cost Specialist shall provide cost information as needed and enter into the negotiations if requested.

4. **Reconciliation** Upon the signing of a contract with the successful Contractor, the Cost Specialist(s) will reconcile both the elemental and trade estimates, in detail, with the agreed contract sum. These reconciled estimates will be used by the Project Manager during the construction phase of the project.

Cost Specialist Services through Construction

During construction, the Cost Specialist shall assist the Project Manager with cost advice in:

- Evaluation of change orders;
- Evaluation of claims;
- Evaluation of work completed;
- Evaluation of cash flows.

Post Contract

The Cost Specialist is required to assist with the provision of details needed for an evaluation of the project, regarding the Project's cost performance.

9.5 RESPONSIBILITIES OF PWGSC

- PWGSC will review all respects of the Cost Specialist's work on a continuing basis to determine the validity and completeness of the information provided. In the event PWGSC may identify areas of concern including errors and omissions as well as areas of inadequate detail or areas that require further explanation, the Cost Specialist shall re-examine the estimates provided and make such revisions as are

subsequently agreed to be necessary and/or provide ample acceptable evidence that such corrections or amendments are unnecessary.

No Action Abrogates Consultant's Responsibilities

- No acceptance or approval by PWGSC, whether expressed or implied, shall be deemed to relieve the Cost Specialist, or the Consultant, of professional or technical responsibility for the estimates and cost reports.
- Neither does acceptance of an estimate by PWGSC in any way abrogate the Consultant's responsibility to maintain the specified Construction Cost Limit throughout the life of the project, or the requirement to redesign should the lowest acceptable bid differ significantly from the agreed Construction Cost Plan, unless and until the Project Manager indicates otherwise in writing.

RS 10 POST OCCUPANCY SERVICES

10.1 EVALUATION AND CONFIRMATION OF ENERGY CONSUMPTION

Once the Facility is reoccupied, the Consultant shall monitor the building systems under operation. A report is to be compiled and submitted to PWGSC, at the end of the warranty period, regarding the actual building performance and the effectiveness of the various design decisions made, including:

- the actual energy consumption as compared with the projections of the energy analysis conducted earlier;
- the actual water consumption compared with that anticipated;
- ensure that the metering equipment required to conduct this evaluation is included in the tender documents. Refer to energy analysis report description and ensure the various elements are satisfied.

10.2 POST CONSTRUCTION COMMISSIONING

- During the twelve (12) month warranty period investigate all defects and alleged defects identified by RCMP or PWGSC staff.
- As appropriate, issue written instructions to the Contractor to rectify problems identified in the buildings
- When contractor involvement is not required, provide written explanation of the condition and any instruction necessary to ensure problem does not recur.
  - The Commissioning Manager will be required to carry out two seasonal system adjustments (at start of Summer and Winter) to ensure all systems are functioning properly in both summer and winter modes.
  - Once the adjustments are completed, the Commissioning Manager will further carry out mid season checks of all systems to verify that they are operating at peak performance.
  - Provide any necessary system calibration or adjustments necessary to ensure peak performance of all building systems.
  - Provide a report explaining any adjustments carried out and the effects on system operation for the changes made.

10.3 WARRANTY INSPECTIONS

- The Consultant and the design team, including the Commissioning Manager, Architectural, Structural, Civil, Mechanical and Electrical Consultants shall conduct a site inspection 10 months after the date of the Interim Inspection.

- At the time of the **10 Month Warranty Inspection**, survey PWGSC and or RCMP building staff for their concerns/observations about the building operation. Submit a report on the status of any outstanding deficiencies, incomplete work and any issues or concerns encountered.
- The Consultant must also allow for a total of five (5) additional site visits during the warranty phase to resolve unforeseen problems or issues that require consultant intervention. These site visits may apply to any of the Consultant's team members with the assignment responsibility delegated to the Consultant.
- The Consultant shall conduct a **Final Warranty Review** one year from start of warranty period and confirm that all outstanding items have been corrected. The Final Warranty Review shall be carried out with the following team members present as a minimum: Commissioning Manager, Architectural, Mechanical and Electrical Consultants. Provide a detailed report identifying any deficiencies or problems related to the design or construction that remain outstanding together with recommendations for correcting the work

10.4 POST OCCUPANCY EVALUATION

The purpose of this evaluation is to obtain information on the quality of the Renovated Facility and to systematically assess if the Sustainable Development work incorporated in the project has achieved PWGSC and RCMP goals.

10.4.1 Benefits

- Opportunity to identify aspects of the Facility which do not achieve stated objectives
- Provides feedback on building system performance
- Improves the attitude of users as a result of being actively involved in the evaluation process
- Identifies program requirements which may have changed since move-in, acknowledging the dynamic nature of evolution
- Provides a learning tool that can be used as a database/body of knowledge to improve delivery and solutions on future projects
- Provides a process for continuous improvement via a feedback loop to Property Management.

10.4.2 Scope and Activities

- Conduct surveys/questionnaires with Staff. Questionnaires to be prepared and delivered by the Consultant and should be organized to permit easy tabulation. The questionnaires must be formulated with a preface explaining the purpose of the questionnaire and providing detailed instructions or back-up information where required. Questionnaires may be delivered by mail, e-mail, courier, etc.. PWGSC

and RCMP will assist in preparation of the questions to be used in the questionnaire.

- Carry out interviews with select internal stakeholders, namely RCMP Staff (15-20% sampling), PWGSC Project Manager, Project Leader, Security and other Branches involved in the Project Delivery.
- Interviews with select external stakeholders, including contractors (General plus key subcontractors), Commissioning Manager, Federal Fire Commissioner, service contractors / O&M staff and representatives from the Municipality
- Information and Recommendations resulting from the surveys and interviews to be compiled in a complete narrative, Lesson's Learned Report
- At the completion of the Consultant's Contract, (i.e. end of the warranty period), the Consultant will provide feedback to PWGSC in regard to the effectiveness of the Contract Administration process followed by PWGSC. The Consultant will be asked to comment on the effectiveness of the Request for Proposal process, the Consultant Contract, the Design Development Process, the timeliness of the design reviews as well as the overall project management by PWGSC. In order for this process to be effective, the Consultant must provide comments on the things that work well as well as the issues that created problems during the process.

10.5 DELIVERABLES

Mid-season commissioning report on any system adjustments, outstanding deficiencies, incomplete work or other identified issues
10 Month Warranty Inspection report on the status of deficiencies, incomplete work and issues identified.
Twelve month Warranty Inspection Report including questionnaire results.
Consultant feedback and lesson's learned report

RS 11 INTEGRATED CONSULTANT TEAM QUALITY ASSURANCE

Prior to submitting any deliverable to the PWGSC Project Manager for review, the Consultant and all Sub-consultants shall utilize an Internal Senior Review and Approval Process. To document this step, the deliverable(s) must be clearly signed and dated “Reviewed and Accepted” by the appropriate Senior Reviewer(s). Senior Reviewers will not be regular members/participants of the Design Team.

Deliverables not clearly signed and dated by the Senior Reviewer(s) will not be accepted by the PWGSC Project Manager.

Senior Reviewers will be responsible to ensure:

- Completeness of document/deliverable relative to RFP/ Brief requirements.
- Complete co-ordination between disciplines.
- Level of quality commensurate with professional standards.
- Accuracy of all designs/solutions/calculations.
- Compliance with all codes, standards and/or authorities having jurisdiction.
- All deliverables required by the RFP/ Brief or required in the performance of the services are delivered on time without prompting by PWGSC.

The PWGSC Project Manager will have access to any correspondence, marked up drawings, etc. between Senior Reviewers and the Design Team.

Disciplines Requiring Senior Reviewer(s)

- Architectural
- Structural
- Civil
- Mechanical
- Electrical
- Commissioning
- Estimating/Cost Control
- Specification Writing (Architectural, Structural, Civil, Mechanical & Electrical)
- Time Control/Scheduling
- Interior Design
-

RS 12 COMMISSIONING THE FACILITIES

1.1 Commissioning Objectives

The objectives of commissioning are:

1.1.1 To document the design intent of the overall project and the proposed building systems and components and to verify and demonstrate that all functional and operational requirements have been correctly interpreted in the Design solution.

1.1.2 To document the operational, maintenance and building management requirements.

1.1.3 To minimize O&M costs through the careful selection of design solutions (for economy, reliability, durability, accessibility, maintainability), construction materials, installation practices, performance verification procedures.

1.1.4 To verify that selected design solutions and the resultant built works protect the safety, health, welfare and comfort of occupants and O&M personnel.

1.1.5 To define responsibility areas for meeting these operational requirements in the contract documents and include a process to demonstrate compliance.

1.1.6 To demonstrate that the Client's and the Department's requirements are meet during the project implementation and commissioning phases of the project and to support quality management of construction and installation through verification of building components, systems and environments.

1.1.7 To ensure that the commissioning process is implemented and documented according to the approved Commissioning Plan and in accordance with the Commissioning Schedule.

1.1.8 To verify and demonstrate that all systems operate consistently at peak efficiencies, under all normal load conditions, and within the specified energy budget.

1.1.9 To provide comprehensive documentation of the operational, maintenance and building management

1.1.10 To implement a comprehensive training program.

1.1.11 To transfer the completed works to qualified facility operators verifying that the building systems operate consistently at peak efficiencies, under all normal load conditions, and within the specified energy budget.

1.2 General description of commissioning

1.2.1 Commissioning shall be in accordance with the "PWGSC Commissioning Manual (CP.1)", current edition, and all associated

PWGSC Commissioning Guidelines but suited to the specific requirements of the project. These documents consist of:

PWGSC Commissioning Manual (CP.1)
CP.2: Commissioning Glossary (forms Appendix B of CP.1)
CP.3: Guide to development of the Commissioning Plan
CP.4: Guide to the development of Building Management Manuals
CP.5: Guide to preparation of Training Plans
CP.7: Commissioning for Facilities Management and Operation
CP.8: Guide to the preparation of Commissioning Reports
CP.9: Guide to the development and use of Installation/Start-up Check Lists
CP.10: Guide to the development and use of Report Forms and Schematics
CP.12: Guide to the development and use of Commissioning Specifications
CP.13: Facility Maintenance Policy, Guidelines and Requirements

1.2.2 The PWGSC Commissioning Manual (CP.1) and all associated PWGSC Commissioning Guidelines are included as appendices to this document.

1.2.3 Commissioning includes architectural, structural, vertical transportation systems, interior and landscape systems, as well as the usual mechanical, electrical and life safety systems.

1.2.4 The Designer must deliver concise and comprehensive information and reports on commissioning to PWGSC.

1.2.5 A enhanced commissioning program is required and will apply to all construction phases , base building and fit up work.

1.3 Roles and Responsibilities:

1.3.1 **PWGSC Project Manager**: Has overall responsibility for managing the project and delivering the project to the Project Leader on time and on budget. Upon completion, the Project Manager hands the facility over to the Project Leader.

1.3.2 **PWGSC Commissioning Manager**: As a member of the PWGSC Technical Advisory Team, the Commissioning Manager:

.1 represents the Project Manager, manages and implements the commissioning process,

.2 reviews the commissioning plan,

.3 maintains overall responsibility for representing the Client's interests in the implementation of commissioning, including:

.1 assuring that all program issues have been addressed,

.2 reviewing all documentation at all stages of project development and delivery,

.3 monitoring of all commissioning activities,

.4 verification of the accuracy of all reported results,

.4 ensures that all O&M aspects are addressed to the satisfaction of the Department,

.5 reviews Designer's submissions

.6 monitors the Designer's commissioning services during the commissioning process,

.7 witnesses and certifies with the developer's designer all integrated systems test results,

.8 in consultation with the Designer, review staffing, service contracts and requirements for supply and storage of spare parts, special tools and maintenance materials,

.9 witnesses the construction stage installations,

.10 reviews shop drawings for O & M,

.11 manages and co-ordinates the PI and PV forms and other documentation,

.12 reviews the Training Plan and ensures delivery of training,

.13 co-ordinates and reviews with the Designer and Contractor the completion and delivery of the Building Management Manual,

.14 reviews and comments on the Contractor's Commissioning Schedule for the sequencing of commissioning performance testing of equipment, systems and integrated systems,

.15 reviews the commissioning and performance verification (PV) activities, processes and their output, including development of project-specific:

.1 installation / start-up Check Lists

.2 Product Information (PI) Report Forms

.3 Performance Verification (PV) Report Forms

.16 ensures that PWGSC's MMS identification codes for all components, equipment and systems is applied to working documents;

.17 recommends "Interim Acceptance" of the installed works to the Project Manager,

.18 ensures the completion of all commissioning activities not completed before Interim Acceptance,

.19 provides support and direction in addressing operational deficiencies before Final Acceptance,

1.3.3 **Designer (Consultant):** The Consultant shall:

.1 establish Design Criteria, functional and operational requirements, if not already established in the RFP or Project Brief,

.2 establish a Design Energy Budget and, if necessary, revise and update with each submission,

.3 prepare a preliminary O&M budget and revise and update with each submission, containing detailed breakdowns of various items such as estimated electrical, mechanical, or speciality equipment annual energy consumption and systems maintenance, operation and/or service contract costs.

.4 prepare a preliminary Commissioning Budget and revise and update with each submission.

.5 prepare a preliminary Commissioning Plan

.6 prepare commissioning specifications for components, equipment, systems and integrated systems and incorporate same into the construction specifications,

.7 prepare a complete maintenance management documentation ,to be sufficiently complete for use during training, and to include:

.1 explanation of the purpose of the facilities,

.2 outline of the design intent of all systems

.3 provide a narrative description of the project's conceptual framework,

.4 document all design decisions made throughout the project,

.5 description of each building system; including architectural, structural, mechanical, electrical, civil, fire protection, acoustic and other building as well as site systems.

.6 Include all relevant documentation

.8 plan the commissioning and performance verification (PV) activities, processes and their output, including development of project-specific:

.1 installation / Start-up Check Lists

.2 Product Information (PI) Report Forms and PerformanceVerification (PV) Report Forms,

.3 Add all design data to PI and PV report forms

.9 prepare a detailed Training plan

.10 incorporate PWGSC MMS identification codes to all components, equipment and systems into all working documents;

.11 review the CONTRACTOR'S detailed commissioning schedule for components, equipment, systems, and integrated systems. (PV tests will be performed by the Contractor.

.12 identify Contractor and subcontractor commissioning, PV and testing responsibilities,

.13 review shop drawings and product data and accompanying Product Information (PI) as completed by the Contractor,

.14 monitor commissioning activities, provide quality control reports to the PWGSC commissioning Manager throughout the construction,

commissioning and operational phases of the work, including but not necessarily limited to:

.1 Inspection and verification of as installed components, sub system and systems on a regular basis during construction

.2 witnessing tests, as required by PWGSC.,

.3 reviewing and verifying testing, adjusting and balancing (TAB) reports,

.4 reviewing and verifying Performance Verification (PV) Reports

.5 witnessing and certifying systems and integrated systems tests.

.6 Any test which cannot be commissioned due to design errors or omission has to be redesigned and recommissioned.

.15 participate in the Training Plan by providing training on design philosophy, design intent and systems designs,

.16 witness and certify deferred tests, commissioning activities, PV, review and accept reports,

.17 identify and verify the rectification of all outstanding deficiencies,

.18 assist in the resolution of all issues relating to commissioning,

.19 prepare "as-built" documentation (plans and specifications) as described elsewhere in the RFP or Project Brief,

.20 assist in fine-tuning of systems and equipment as required during the warranty period,

.21 coordinate with the PWGSC Commissioning Manager to ensure that O&M requirements are addressed,

.22 assist in systems checks and environmental checks during the warranty period,

.23 participation in warranty inspections and production of warranty inspection reports and address all warranty issues that may arise,

.24 ensure that the final product meets the Design Criteria, functional and operational requirements, the project objectives and all requirements of the RFP and Project Brief,

.25 recommend acceptance of the completed project,

.26 assist the PWGSC project manager in the preparation of a debriefing (Evaluation) report. To include, but not necessarily be limited to:

.1 a building evaluation summary with recommendations,

.2 lessons learned from the project.

1.3.4 **Designer's commissioning coordinator:**

To assist in fulfilling a fully integrated and comprehensive commissioning program, the Designer shall appoint a full-time commissioning coordinator with

proven expertise in implementing commissioning programs, and who shall be responsible for detailed coordination of commissioning and provide direction for all matter relating to commissioning as described herein. The name of this coordinator shall be provided to the PWGSC Project Manager and PWGSC Commissioning Manager.

1.3.5 **Contractor:** In accordance with the commissioning requirements specified in the Construction Documents, the Contractor:

.1 develops a critical path commissioning activities schedule for review and approval of the Designer, PWGSC Commissioning Manager and Project Manager,

.2 executes all commissioning activities in accordance with the Contract Documents, such as:

.1 input data from drawings on to Product Information (PI) Report Forms,

.2 assemble maintenance sections of the Building Management Manual

.3 assist in assembly of section of the Building Management Manual relating to operation of components, equipment, sub-systems, systems and integrated systems

.4 utilize Installation/Start-up Check Lists when conducting pre-start-up inspections,

.5 coordinate all commissioning activities,

.6 perform testing, adjusting and balancing (TAB), prepare TAB reports,

.7 conduct performance verification (PV) tests of components, equipment, sub-systems, systems and integrated systems, complete PV Report Forms, prepare PV Reports,

.8 coordinate and implement training

.9 address all issues relating to commissioning,

.10 assist the Designer in the preparation of commissioning documentation,

.11 assist the Designer in the preparation of accurate "as-built" documentation,

.12 fine-tune components, equipment, sub-systems, systems and integrated systems during the warranty period,

.13 perform systems and environmental checks during warranty period and prepare reports,

.14 address all warranty issues,

.15 provide input to the Designer in the preparation of a debriefing (Evaluation) report.

1.3.6 **Contractor's commissioning coordinator**, assigned by the Contractor, qualified and experienced in the implementation of all commissioning, to coordinate, direct and verify all commissioning activities and procedures.

1.4 Occupancy requirements

Identify facility management requirements, including move-in procedures; security systems; staffing; signage; and safety and accessibility for persons with disabilities.

User occupancy requirements include consideration of the need for and implications of:

.1 early, late and/or phased completion, take-over, acceptance and occupancy, including the effects upon the User's present accommodation (such as early de-commissioning, need for extension etc),

.2 requirements for initial, interim and substantial occupancy including, for reasons of health and safety, full commissioning of all life safety systems. It may also include some form of "interim commissioning" of all non-life safety systems,

.3 overlapping of construction, commissioning and initial occupancy. This requires consideration of the effects of partial commissioning, delay of commissioning activities, the effects on insurance, warranties, certification, repetition of commissioning activities after full occupancy, and/or completion of fit-up contracts,

.4 post-occupancy commissioning activities during Operation which will often be necessary for certain systems and equipment under these circumstances.

1.5 Operational criteria

1.5.1 This building will be mostly occupied during the demolition, construction and fit-up process. Phasing of work to be defined by Designer. The Contractor will bear responsibility for the continuous operation of all safety and other building systems as deemed necessary or for functional requirements of the Tenant.

1.5.2 The contractor may use certain base building systems (to be defined) and utilities during the renovation stages. The cost for energy used will be borne by PWGSC, however, designer is to verify that building operational needs and construction needs can be supported. Connections to existing systems and all temporary systems to be borne by the Contractor.

1.5.3 Start-up, PV and acceptance will include phased activities. Testing, PV, commissioning and training must be developed bearing these variables in mind. Hours of commissioning activities to be scheduled to meet tenant requirements,

noise and system requirements and must be coordinated so as to not interfere with the continued operation of the building. This could result in off hours and weekends. Once the renovated building has been occupied, further testing activities will be subject to User's approval and may be refused during normal working hours.

1.6 Life cycle costing criteria

If not prescribed within the RFP or Project Brief, when developing life cycle cost analyses for each option, use the following criteria:

.1 25 years to next re-fit,

.2 25 year investment horizon,

.3 costs of utilities.

.4 reliability, durability, operability, maintainability, accessibility and serviceability,

.5 systems selection and staffing in response to annual operating cost criteria

1.7 Cooperation and coordination

Throughout the Commissioning Process, the Project Design Team, the Project Construction Team, the Project Commissioning Team, and the Property Management Team, all as defined in The PWGSC Commissioning Manual (CP.1), will work closely with PWGSC to implement all commissioning activities. The PWGSC Commissioning Manager has the prime role to ensure the success of the commissioning process and the related activities and deliverables with the Project Team.

1.8 Training

1.8.1 In consultation with the PWGSC Commissioning Manager, prepare a comprehensive training plan for the training of the Facility Management personnel, User (where deemed necessary) and operations and maintenance staff.

1.8.2 If required by the RFP or the Project Brief, training shall be in English and French.

1.8.3 The training plan which will enable O&M personnel to identify repair and maintenance needs that might otherwise go undetected for long periods with possibly serious consequences.

1.8.4 Training shall enhance monitoring and diagnostic capabilities and result in more efficient, cost- effective operation of the facility.

1.8.5 The training plan shall be in accordance with the requirements of CP.5 Guide to preparation of TRAINING PLANS. Training plans shall be reviewed, revised, updated and resubmitted as required.

1.8.6 The names of all trainees (obtained from the Project Manager) and all training personnel shall be submitted to the Project Manager for review, comment and approval at least two (2) weeks prior to the proposed training dates.

1.8.7 Training must clearly relay:

.1 A clear understanding of the intent of the design,

.2 All limitations of the systems,

.3 Reasons for the choice of systems.

1.8.8 Coordinate the dates of all training sessions with the Project Manager. Update the training plan as required to reflect the project schedule. The Project Manager will organize the location.

1.8.9 The training plan shall recognize both short-term and long-term requirements.

1.8.10 Upon completion, prepare a summary of the training sessions, indicating dates, subject matter, all training personnel and all trainees present and submit to the Project Manager.

1.9 Correction of deficiencies

The Designer, in consultation with the PWGSC Commissioning Manager, shall:

.1 instruct the contractor to correct all the deficiencies identified and recorded during the performance verification,

.2 provide solutions during the PV process with respect to the variances from the design parameters,

.3 adjust or alter the systems to achieve the design parameters. This shall include re-testing,

.4 immediately notify the Project Manager when tests fail to meet project requirements and when corrective work and re-tests affect construction and completion schedule,

.5 report in writing to the Project Manager and Commissioning Manager indicating compliance or anomalies regarding witnessed events. The consultant is to investigate and recommend in writing any corrective actions to be taken to facilitate compliance with design intent and design criteria.

1.10 Facility maintenance policy, guidelines and requirements

For full details, the Designer shall refer to CP.13: Facility Maintenance Policy, Guidelines and Requirements.

1.11 Acceptance of the project

The project will be accepted and the Interim Certificate of Completion will be issued only after:

.1 successful completion of all integrated systems tests, life safety support systems tests and after all other requirements of the authority having jurisdiction are satisfied,

.2 all test certificates, commissioning reports and commissioning documentation have been approved and accepted by the Project Manager.

1.12 **Commissioning documentation**

Commissioning documentation is a complete set of data and information fully describing the completed project as a built, finished, functional and operational facility and presented in a form that can be maintained, updated and used over the life of the building.

In preparing project-specific commissioning documentation, use all existing generic commissioning documentation to the maximum extent possible. However, the Designer retains over-riding responsibility for the content of all project-specific commissioning documentation and for editing, amending and supplementing as required and as is appropriate for the project.

Produce in accordance with the requirements of the PWGSC Commissioning Manual (CP.1) in consultation with PWGSC centre of expertise and the PWGSC Commissioning Manager as appropriate.

Comply with all requirements contained in the RFP relating to electronic production of commissioning documentation.

Commissioning documentation shall include:

.1 **The Commissioning Plan**, the master planning document for all commissioning activities and deliverables, revised, refined, updated and reviewed at each stage of design development and re-submitted for review by the Commissioning Manager. Use the PWGSC Model Commissioning Plan (see CP.3) as a reference model.

.2 **The Building Management Manual**, containing all documentation for the project and providing a complete "paper trail" relating to project delivery. Responsibilities for development and timing of delivery are described in CP.4: Guide to the development of Building Management Manuals.

.3 **Commissioning specifications**. For details of requirements, refer to CP.12 - Guide to the development and Use of Commissioning Specifications

.4 **Commissioning Schedule**, the Commissioning Schedule is developed by the Contractor, outlining the performance testing program in an orderly sequence acceptable to the Commissioning Manager and the Designer, the planned dates for submission of commissioning documentation. The Commissioning Schedule is a sub element to the construction schedule and is to be updated as required.

.5 **Training Plans**. Refer to CP.5 Guide to the preparation of Training Plans. For more details refer to relevant paragraph below.

.6 **Installation Check Lists** for use during pre-start-up and pre-commissioning inspections. Refer to CP.9 Guide to the development of Installation/Start-up Check Lists.

.7 **Product Information (PI) report forms** to document all details of equipment, components and systems, Refer to CP.10 Guide to the development of Report Forms and Schematics,.

.8 **Performance Verification (PV) report forms** and include thereon all design criteria, design intents and other relevant design information. Refer to CP.10 Guide to the development of Report Forms and Schematics.

.9 **MMS requirements**, Apply to all drawings before Tender call . Refer to CP.13 Facility Maintenance Policy, Guidelines and Requirements.

.10 **"As-built" drawings and specifications**: to be completed prior to, and available for, pre-start-up inspections and to include:

.1 amendments to show all measured and approved results of PV procedures, settings of all controls, systems and equipment as finally set upon completion of commissioning,

.2 project specifications amended by insertion of addenda, change notices, etc.

.3 Flow diagrams and piping schematics as installed at each major item of equipment complete with valves controllers, etc., identified with numbered tags.

"As-built" drawings and specifications to be completed prior to, and available for, pre-start-up inspections

.11 **Occupants' comments/complaints audit system:** use during the Warranty Period.

.12 **TAB and commissioning reports** in accordance with CP.8: Guide to the preparation of COMMISSIONING REPORTS

.13 **Final evaluation report,.** in accordance with CP.8: Guide to the preparation of COMMISSIONING REPORTS.

.14 **Any other documents and reports**

1.13 **Commissioning deliverables:**

1.13.1 **Conceptual Design Report:** From the commissioning perspective, the Conceptual Design Report shall include:

.1 **Description of the design** describing the Design Criteria, Design Intent, the design philosophy, the rationale for system selection based on life cycle cost analysis, the functional and operational requirements and the conceptual framework for the operation and use of the proposed building, its components and systems, how the proposed design meets the Client's requirements, corporate and project objectives. To be updated at each stage of project development.

.2 **Design criteria, Design intents,**

.3 **O&M Report.** To include:

.1 O&M budget including projected utility consumption

.2 spatial requirements for O&M staff (office, lockers, kitchen, showers, washrooms, flow of people and supplies, storage for special tools, spare parts, and maintenance materials),

.3 cleaning requirements (janitor closets, receptacle for vacuum, equipment supply and storage),

.4 Other O&M requirements including These shall include all requirements associated with O&M aspects including, but not necessarily limited to:

.1 Operating standards and operator requirements,

.2 Equipment and system reliability requirements,

.3 Delivery, content and form of O&M documentation,

.4 Tools, equipment, spare parts and maintenance materials,

.5 Emergency procedures,

.6 Identification and other similar needs,

.7 Waste management requirements,

.8 Preventive maintenance tasks.

Further information may be obtained from CP.7: "Commissioning for Facility Management and Operation".

.4 **Comprehensive documentation, design information/data** and comments so as to allow the Commissioning Manager to:

.1 prepare service and staffing contracts,

.2 prepare a list of spare parts, special tools, maintenance materials and other special equipment to be provided by the Contractor,

.5 capacity of the facility to change in response to program changes over its life expectancy,

.6 requirements for operation and maintenance of the project over its life expectancy,

.7 occupancy during construction,
.8 "phased" construction program,
.9 assessment of staffing and skill requirements to operate and maintain the project,
.10 Preliminary commissioning plan
.11 Sample of PI/PV report forms and tracking software,
.12 Preliminary building management manual,
.13 Define project archives and how these archives will be managed, updated, and submitted at the end of the project.

1.13.2 **33% submission:**

.1 Extent of commissioning determined,
.2 Factory and on-site tests of components, sub-systems, systems and integrated systems during construction, installation and commissioning determined,
.3 Outline commissioning specifications using PWGSC generic commissioning specifications PLUS outline project-specific commissioning specifications,
.4 Updated Commissioning Plan,
.5 Updated Building management manual,
.6 Updated Design Intent Document,
.7 Updated O&M Budget,
.8 Outline PI and PV forms. Provide for all components, equipment and systems to be tested,
.9 Maintenance management system (MMS) codes identified for all equipment shown on the construction documents,
.10 Preliminary Training Plan

1.13.3 **66% submission:**

.1 Factory and on-site tests of components, sub-systems, systems and integrated systems during construction, installation and commissioning defined and detailed in commissioning specs,
.2 Commissioning activities to be deferred to Operational Phase and Warranty Period identified,
.3 Detailed commissioning specifications,
.4 Updated Commissioning Plan, etc.,
.5 Detailed Building management manual,
.6 Updated Design Intent Document,
.7 Updated O&M Budget,
.8 Updated Training Plan,
.9 Maintenance management system (MMS) codes identified for all equipment shown on the construction documents, schematics and line diagrams,

.10 Complete PI and PV forms. Provide for all components, equipment and systems to be tested.

1.13.4 **99% submission:**

.1 Commissioning specifications integrated into project specifications,

.2 90% Commissioning plan,

.3 90% complete Building management manual,

.4 90% Design Intent Document detailing each building system, including all engineering calculations,

.5 Final O&M Budget,

.6 Maintenance management System (MMS) codes identifiers shown on the construction documents and indicated on each PI and PV form,

.7 100% Training Plan, indicating scope and duration of training,

.8 Design information added to PI forms

1.13.5 **100% submission:**

.1 This submission incorporates all revisions required by the review of the 99% submission,

.2 Updated Commissioning Plan, making it approx. 95% complete.

.3 Update the Design Intent Document to reflect any changes from the 99% submission.

1.14 **Construction and commissioning:**

1.14.1 **General:**

.1 Upon Contract award, review and Update the PI and PV Forms, installation/start-up Check Lists, Commissioning Plan, Training Plan, commissioning specifications, and Commissioning Schedule to ensure relevance to construction changes to the work. Refer to CP.9 - Guide to the development of Installation/Star-up Check Lists, and CP.10 - Guide to the development of Report Forms and Schematics,

.2 In consultation with the Contractor, review/select the test instruments to be used and instrument calibration,

.3 Incorporate relevant data from approved shop drawings and installed component data immediately upon approval,

.4 Review contractors compliance with the contract documents,

.5 Witness and certify tests, including those tests conducted before concealment and start up,

.6 Verify that each system is completed, safe to operate and ready for start-up,

.7 Review all test reports and take necessary action with Contractor when work fails to comply with contract,

.8 Immediately notify Project Manager when tests fail to meet project requirements and when corrective work will affect schedule,

.9 Ensure that all deficiencies are rectified and acknowledge that the installation of components and systems is ready for the commissioning phase,

.10 Assist Departmental Representative in evaluating testing firm's invoices for services performed,

.11 Review all maintenance management nomenclature, devices and submissions prepared by the contractor. Ensure on site implementation and tagging of maintenance management.

1.14.2 **Manuals and reports -** Refer to CP.4 - Guide to the preparation of Building Management Manuals:

.1 4 weeks before training is due to commence, assemble, review and approve:

.1 All commissioning documentation, including PV documentation, procedures and expected output. In consultation with the Contractor, review/select the test instruments to be used and instrument calibration.

.2 Revise the Building management manual Document as construction progresses, ensuring that it reflects the installed systems (refer to CP.4 Guide to development of Building management manuals).

.3 Finalize the Operating and Maintenance (O&M) Manual: Verify, and certify, completeness, relevance and accuracy. Produce [4] sets and submit to the Project Manager prior to implementation of Training Plan. The Contractor shall retain one copy of each volume for his record and for use during the implementation of the Training Plan (refer to CP.4 - Guide to the preparation of Building Management Manuals). Submit [4] sets to the Project Manager in accordance with Section [01730] [01732] [01007] of project specification prior to interim acceptance or implementation of Training Plan. Ensure Contractor assembles all certified tests results and incorporates into the Maintenance manuals.

1.14.3 **Training:** Implement the Training Plan.

.1 Submit the Training Plan to the Project Manager for review and comment at least two weeks prior to the proposed training dates. Update and resubmit as required. Include an agenda and a course outline summarizing the content and duration of training. The training provided must clearly relay:

.1 An understanding of the intent of the design.

.2 Limitations of the systems.

.3 Reasons for the choice of systems.

.2 Coordinate the date(s) of the training session(s) with the Project Manager. Project Manager to organize the location and provide the lists of participants.

.3 Prepare a summary of the training sessions. Indicate dates, subject matter, and all personnel present for training. After training, submit the training summary to the Project Manager.

.4 Make necessary arrangement for site O&M staff familiarization during construction/ installation.

.5 Consultant to provide training sessions on design intent and operational philosophy of each building system, including architectural systems, and the integrated building systems (all together). Utilize Operating Manuals, Maintenance Manuals and Design Intent Document for training sessions.

.6 Contractor to provide training sessions on the operations and maintenance of components, equipment, sub-systems, systems and integrated systems.

.7 Record the time, date and subject matter of training sessions as they occur. Indicate all those who are present at each training session.

1.14.4 **Spare parts:**

.1 Finalize the delivery, inventory and storage of all specified spare parts, special tools, maintenance materials.

1.14.5 **Component, sub-systems, systems, and integrated system performance verification (PV)**

.1 Test all the components, subsystems, systems and integrated systems in accordance with the provisions of the contract documents, Ensure the work meets the design intent and requirements of ULC and TB Guidelines on Life Safety and Health. The Consultant shall witness, certify and approve all tests.

.2 Certify and date all PV procedures and test results.

.3 Report in writing to the Project Manager and Commissioning Manager indicating compliance or anomalies regarding witnessed events. The consultant is to investigate and recommend in writing any corrective actions to be taken to facilitate compliance with design intent and design criteria.

.4 Provide solutions during the PV process with respect to the variances from the design parameters.

.5 In consultation with the Commissioning Manager, instruct the contractor to rectify all deficiencies identified and recorded during the performance verification and adjust or alter the systems to achieve the design parameters. Re-test to verify compliance.

.6 In consultation with the Commissioning Manager, and Project Manager, recommend take over of the facility subject to performance of PV and commissioning which were previously agreed to be deferred until the operational phase.

.7 Prior to Interim Inspection, debrief the Project Manager and Commissioning Manager on the commissioning process including training; problems; required changes to systems (with costs) which are outside the contractor's responsibility, but which are deemed necessary to meet project requirements; commissioning procedures and other information, experiences and suggestions for future projects. Submit a report to the Commissioning Manager. Repeat this process when 80% occupancy is achieved.

1.14.6 **Design Intent document and building management manual:**

.1 Update the Design Intent Document and Building management manual. Immediately prior to the issuance of the Interim Certificate of Acceptance develop this document so as to become the complete "Building Management Manual. to reflect the final as-built works. Reflect all changes, modifications, revisions and adjustments. This may include the incorporation of reports such as the Area Measurement and Space Usage Report, Fire protection Manual, etc.

RS 13 BILINGUAL CONSTRUCTION DOCUMENTS

The Consultant shall prepare all construction contract documents in Canada's two official languages.

The languages are considered equal in status; neither is considered to be a translation of the other.

The Consultant shall be responsible for the accuracy and completeness of translations and the consistency of documents.

It is standard practice to produce a single set of drawings on which written text information is shown in both languages and separate specification documents for each language.

AS 1 RESIDENT CONSTRUCTION SERVICES

1.1 INTENT

The intent of the provision of Resident Construction Service is to implement the project in compliance with the Contract Documents and to ensure contractor compliance with the contract documents. The Consultant shall provide a Resident Construction Services representative for specific periods of the construction contract stage of the Project and a Resident Construction Services representative for specific periods of the construction contract stage of the Project.

1.2 DURATION OF SERVICES

The period of services of the Resident Construction Services representative for the construction contract stage of the Project shall be equal to an amount of time equal to the estimated construction contract period identified in PD 2.3. For the purposes of this contract the time period of those services for the Project shall therefore be **4000 Working hours** and shall be so identified by the consultant in appendix C .

For the purposes of this contract the Resident Construction Services representative's service shall commence no earlier than the date the contractor physically mobilizes on site and finish no later than the date of interim inspection and acceptance. The Consultant shall bare all costs associated with the briefing, instructing, acquisition, termination, etc. of the Resident Construction Services representative prior to and after these dates.

The consultant shall be responsible to distribute and assign the time of the construction services representative in such a manner that the **intent** of these services, as stated in 8.1 above is assured. **The consultant shall ensure, via his planned allotment of the construction services representative's time, that quality assurance is maintained and that all critical aspects of the work by the construction contractor's forces occur in the presence of the Resident Construction Services representative**.

The consultant shall, prior to the PWGSC construction contract tender provide Detail Project Schedules as detailed in RS 8, identifying the key stages of construction and the planned allotment of applicable hours for when the Resident Construction Services Representative shall be on site.

The PWGSC representatives may, at their discretion, request additional amounts and/or less amounts of services of the Resident Construction Services representative. Those additional and/or less services shall be calculated utilizing the hourly rate identified by the Consultant in Appendix "C."

1.3 ALL-INCLUSIVE HOURLY RATE

The hourly rate, for the services of the Resident Construction Services representative, required to be identified in appendix C shall include an allowance for all travel to and from site, overtime premium, disbursements, required Personal Protective Equipment, overhead, applicable federal and provincial government deductions, administration costs, etc. and shall be an “all-inclusive” hourly rate.

1.4 RESIDENT CONSTRUCTION SERVICES DURING CONSTRUCTION

1.4.1 Educational Requirements

- The Resident Construction Services representative shall:
  - be a Professional Engineer/Architect registered in the province of New Brunswick (NB), or eligible for registration in the province of NB, or other provincial equivalent with a minimum three years experience or;
  - a Certified Engineering/Architectural Technologist registered in the province of NB, or eligible for registration in the province of NB, or other provincial equivalent with a minimum five years experience or;
  - a Certified Engineering/Architectural Technician registered in the province of NB, or eligible for registration in the province of NB, or other provincial equivalent with a minimum seven years experience.

1.4.2 Description of Services

The purpose of Resident Construction Services representative is to ensure the presence of the Consultant on site for the project. The representative is to inspect, coordinate and monitor all aspects of the work during key periods of the construction of the Project, and liaise with the contractor, Public Works And Government Services Canada and other agencies as appropriate to the work.

The Resident Construction Services representative is responsible for providing resident inspection (including overtime) during the construction work and maintaining records of all construction work placed. The Consultant shall ensure that the Resident Construction Services representative ensures that a sufficient level of communication is maintained with the PWGSC Project Manager, Consultant, Contractor and any other organization applicable to the construction and construction contract administration of the construction contract.

The Resident Construction Services representative shall:

- be directly responsible to the Consultant.

- become thoroughly familiar with the Contract documents, the National Building code and all Fire Commissioner of Canada Standards for Construction operations. He/she shall be aware of all Federal, Provincial and Municipal standards for the health and safety of construction workers.
- become thoroughly familiar with the requirements of the Consultant Project Brief and project responsibilities of others which relate to these services.

1.4.3 Specific Duties and Responsibilities

Provide Resident Construction Services including inspection, co-ordination and monitoring during the construction work and be responsible to the Consultant. In addition, the PWGSC Project Manager may delegate additional responsibilities subject to the Consultant's Agreement.

In case of emergencies, the Consultant's Resident Construction Services representative is empowered to stop the work, or give orders to protect the safety of the workers or Crown property.

Maintain daily records of all construction work placed and ensure constant communication amongst PWGSC Project Manager, the Consultant and Contractor.

The Consultant shall ensure that the Resident Construction Services representative maintains, records and submits time sheets. The Consultant shall forward time sheets of the Resident Construction Services representative's to PWGSC after verifying accuracy and approving. The Consultant shall submit reviewed and approved time sheets to the Project Manager, within two weeks after completion of 40 hours of service by the Resident Construction Services representative, for PWGSC review.

1.4. 4 Inspection and Reporting

The Resident Construction Services representative shall inspect all phases of the work in progress, for the purpose of bringing to the attention of the Contractor, after checking with the Consultant and PWGSC Project Manager, any discrepancies between the work, the contract documents and accepted construction procedures. Keep a daily log of such inspections and issue a weekly written report to the Consultant in the form directed. The Consultant shall review and approve weekly reports prior to distribution to the Departmental Representative (Project Manager). Reports shall be distributed within five (5) working days of the report's week ending date. The Resident Construction Services representative shall make any other reports or surveys as may be requested by the Project Manager through the Consultant.

1.4.5 Interpretation of the Contract Documents

Interpretation of the contract documents shall be the responsibility of the Consultant. The Consultant may, however, have the Resident Construction Services representative

provide him with information regarding job conditions and may require him to relay day-to-day instructions to the Contractor.

It shall be the duty of the Resident Construction Services representative to assist the Consultant and further inform the Consultant of any anticipated problems which may delay the progress of the work. The method of relaying such information shall be determined by the Consultant.

1.4.6 Changes in the Work

The Resident Construction Services representative shall not authorize or order any change in the work which will constitute a change in design or in the value of the contract except as delegated by the PWGSC Project Manager.

The Consultant may call upon the Resident Construction Services representative to assist in the evaluation of changes in the work, where a knowledge of job conditions is required.

1.4.7 Communication & Liaison

The Resident Construction Services representative shall:

1. Convey the Consultant's instructions regarding the required standards of workmanship to the Contractor;
2. Check specifications, confer and obtain guidance on these findings with the Consultant. The matter is then to be brought to the attention of the Contractor's Superintendent. Although informal discussions with Sub-trade Superintendents are usually permissible, (but only with the agreement of the Contractor), the Resident Construction Services representative should not deal directly with foreman or tradesmen, or interfere with the progress of the work.
3. Communicate formally with the contractor via memorandum form only. When this form is issued the Resident Construction Services representative must immediately file copies with PWGSC and the Consultant.
4. Contact the Consultant immediately when it is apparent that information or action is required of the Consultant, e.g. general instructions, clarifications, sample of shop drawing approvals, requisitions, contemplated change notices, site instructions, details, drawings, etc.
5. Accompany PWGSC representatives on inspections and report to the Consultant requirements, comments or instructions of PWGSC's forces. Note that the Resident Construction Services representative should encourage such requirements, comments or instructions to be provided to him in writing.
6. Consider and evaluate any suggestions or modifications to the documents advanced by the Contractor and immediately report these to the Consultant with comments.
7. Ensure that PWGSC and the Consultant are notified promptly when key pieces and/or components of materials and equipment are delivered, so that these parties

can arrange for the appropriate personnel to have an opportunity to inspect same prior to installation.

1.4.8 Daily Log

The Resident Construction Services representative shall keep a daily log while on site recording:

1. weather conditions, particularly unusual weather relative to construction activities in progress;
2. major material and equipment deliveries;
3. daily activities and major work done;
4. start, stop or completion of activities;
5. presence of inspection and testing firms, tests taken, results, etc.;
6. unusual site conditions experienced;
7. significant developments, remarks, etc.;
8. special visitors on site;
9. authorities given contractor to undertake certain or hazardous works
10. environmental incidents
11. reports, instructions from Appropriate Authorities Response Actions.

Note: The log is the personal property of the Resident Construction Services representative. Copies of the log book, certified as copies, are to be provided to PWGSC and consultant at the end of the project.

1.4.9 Weekly Records

The Resident Construction Services Representative shall prepare weekly reports for the Consultant in the form directed:

1. progress relative to schedule;
2. major activities commencing or completed during the week; main activities now in progress;
3. major deliveries of materials and/or equipment;
4. difficulties which may cause delays in completion;
5. materials and labour needed immediately;
6. cost estimates of work completed and materials delivered (cost plus contracts);
7. outstanding information or action required by Consultant or PWGSC;
8. work force;
9. weather;
10. remarks;
11. accidents on site;
12. life safety or building hazards caused by the work, the contractor or his agents.

1.4.10 Site Records

The Resident Construction Services representative shall maintain orderly and updated files at the site for the use of the PWGSC, Consultant and himself as follows:

1. Contract and Tender Documents.
2. Approved Shop Drawings.
3. Approved Samples.
4. Samples.
5. Site Instructions.
6. Contemplated Change Notices.
7. Change Orders.
8. Memoranda.
9. Test and Deficiency Reports.
10. Correspondence and Minutes of Meeting.
11. Names, addresses, telephone numbers of Client representatives, Consultant and all Contractors, sub-trades key personnel associated with the contract; including home telephone numbers in case of emergencies.

In addition, the Resident Construction Services representative shall maintain an updated progress schedule.

A reproduction of the original contract drawings shall be carefully preserved and shall be kept marked up to date with all addenda, change orders, site instructions, details, as-built conditions, etc., issued subsequent to the award of the contract.

1.4.11 Inspection of the Work

The Resident Construction Services representative shall make on site observations and spot checks of the work to determine whether the work, materials and equipment conform with the contract documents and supplementary conditions. The Resident Construction Services representative shall advise the Contractor of any deficiencies or unapproved deviations via memorandum and report immediately to the Consultant and PWGSC Project Manager any of these on which the Contractor is tardy or refuses to correct.

The Resident Construction Services representative shall arrange for the Consultant's architectural, structural, mechanical, electrical and other consultants to make the periodic inspections required by the Consultant's contract, and for these inspections to be made timely with respect to the progress of the work.

The Resident Construction Services representative shall also report if materials and equipment are being incorporated into the project prior to approval of relative shop drawings or samples.

The Resident Construction Services representative shall assist in the preparation of all deficiency reports, interim, preliminary, and final, in collaboration with the PWGSC and Consultant's representatives.

The Resident Construction Services representative shall be responsible for the measurement of all work to be done by the Contractor on a unit-cost basis.

1.4.12 Site Meetings

The Resident Construction Services representative shall attend and participate in all job-site meetings held during the period of construction.

1.4.13 Inspection and Testing

The Resident Construction Services representative must see that the tests and inspections required by the contract documents are conducted, and should observe these tests and report the results in the daily log.

The Consultant should be notified if the test results do not meet the specified requirements, or if the Contractor does not have tests undertaken as required.

1.4.14 Emergencies

In the case of emergency where safety of persons or property is concerned, or work is endangered to safeguard the interests of PWGSC, the Resident Construction Services representative shall give immediate written notice to the Contractor of the possible hazard. She/he shall further, if necessary, stop the work or give orders for remedial work, and contact the Consultant immediately for further instruction.

1.4.15 Limitations

The Resident Construction Services representative shall not:

1. Authorize deviations from the contract documents.
2. Conduct tests.
3. Approve shop drawings or samples.
4. Advise the contractor in any matter without obtaining guidance from the PWGSC Project Manager.
5. Accept any work or portions of the building.
6. Enter into the area of responsibility of the Contractor's Field Superintendent.
7. Stop the work unless concerned that an emergency exists as noted above.

1.4.16 Hazardous Construction Operations

The Resident Construction Services Representative is to communicate regularly with the Construction Safety Professional regarding any issues of site safety. All safety related issues must be forwarded immediately to the Safety Professional, as well as the PWGSC Project Manager.

1.4.17 Equipment Required and Provided by Consultant

Costs of all equipment required shall be covered in the quoted fixed fee. Equipment required shall include but, not necessarily be limited to:

- Digital Camera
- Personal Protective Equipment
- Office Supplies required to perform services
- Cell Phone
- Laptop
- Fax machine
- Office furniture

PWGSC will provide a site office and cover costs associated with same.

1.4.18 Building Security

Special precautions must be taken at all times to prevent unauthorized entry into the Facility. The Resident Construction Services representative is to ensure that all contractor-made openings and means of access, are firmly secured when the contractor leaves the site.

The Resident Construction Services representative will liaise closely with the Consultant and PWGSC Project Manager on all security and/or safety problems that may arise due to the contractor's operations.

1.4.19 Security Monitoring

The Resident Construction Services representative will be responsible for verifying that all construction workers have had the appropriate clearances carried out. This does not imply that the Resident Construction Services representative is responsible for site security, however, when on the site, will be expected to challenge new work construction workers appearing on the site confirming their clearance designation. Workmen without proper clearances will be refused access to the site.

ANNEXE A - FORMULAIRE D'IDENTIFICATION DES MEMBRES DE L'ÉQUIPE

Pour obtenir des détails sur le présent formulaire, se référer à l'EPEP dans la Demande de propositions.

L'expert-conseil principal et les autres membres de l'équipe de l'expert-conseil doivent être agréés, ou admissibles à l'agrément, certifiés et/ou autorisés à dispenser les services professionnels requis, dans toute la mesure prescrite par les lois provinciales ou territoriales.

I. Expert-conseil principal (proposant - Architecte):

Nom de la firme ou de la coentreprise: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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

II. Principaux sous-experts-conseils / spécialistes:

Décoration intérieure
Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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

Mécanique

Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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

Électricité

Nom de la firme: .....
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Personnes clés et attestation professionnelle provinciale:

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.....

Structural

Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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.....
.....

Élévateur

Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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.....

Spécialiste des coûts

Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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.....

Ressource de mise en service

Nom de la firme: .....
.....
.....

Personnes clés et attestation professionnelle provinciale:

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

ANNEXE B - FORMULAIRE DE DÉCLARATION/D'ATTESTATIONS

Titre du projet :

Nom du proposant :

Adresse:

Adresse de correspondance
(si elle diffère de l'adresse)

Ville :

Ville :

Prov./Terr./État :

Prov./Terr./État :

Code postal/ZIP :

Code postal/ZIP :

Numéro de téléphone :( )

Numéro de télécopieur : ( )

Courriel:

Numéro d'entreprise d'approvisionnement:

Type d'entreprise:	**Taille de l'entreprise:**
_____ Propriétaire unique _____ Associés _____ Société _____ Coentreprise	Nombre d'employés _____ Architectes/Ingénieurs diplômés _____ Autres professionnels _____ Soutien technique _____ Autres _____

ANNEXE B - FORMULAIRE DE DÉCLARATION/D'ATTESTATIONS (SUITE)

Programme de contrats fédéraux (PCF) - Attestation

Conformément à l'article IG 12, le soumissionnaire doit remplir la présente attestation.

1. Le soumissionnaire, ou, si le soumissionnaire est une coentreprise le membre de la coentreprise, atteste comme suit sa situation relativement au PCF :

Le soumissionnaire ou le membre de la coentreprise :

a) ( ) n'est pas assujetti au PCF, puisqu'il compte un effectif de moins de 100 employés permanents à temps plein ou à temps partiel, et/ou des employés temporaires ayant travaillé 12 semaines ou plus au Canada;

b) ( ) n'est pas assujetti au PCF, puisqu'il est un employeur réglementé en vertu de la Loi sur l'quit en matire d'emploi, L.C. 1995, ch. 44;

c) ( ) est assujetti aux exigences du PCF, puisqu'il compte un effectif de plus de 100 employés permanents à temps plein ou à temps partiel, ou des employés temporaires ayant travaillé 12 semaines ou plus au Canada, mais n'a pas obtenu de numéro d'attestation de RHDCC puisqu'il n'a jamais soumissionné pour des contrats de 200 000 $ ou plus. Dans ce cas, une attestation d'engagement dûment signée est jointe;

d) ( ) est assujetti au PCF et possède un numéro d'attestation valide, à savoir le numéro : _____ (c.-à-d. qu'il n'a pas été déclaré entrepreneur non admissible par RHDCC).

Le cas échéant, veuillez cocher la case appropriée ci-haut. Des renseignements supplémentaires sur le PCF sont offerts sur le site Web de RHDCC.

2. Si le soumissionnaire n'est pas visé par les exceptions énumérées aux paragraphes 1.a) ou b) ci-dessus, ou qu'il n'a pas de numéro d'attestation valide confirmant son adhésion au PCF, il doit télécopier (819-953-8768) un exemplaire signé du formulaire LAB 1168, Attestation d'engagement pour la mise en oeuvre de l'équité en matière d'emploi, à la Direction générale du travail de RHDCC.

Référence à la clause du CCUA A3031T - Si le marché est évalué à moins de 200 000 $, supprimer le paragraphe 2. ci-dessus ainsi que “Dans ce cas, une attestation d’engagement dûment signée est jointe.” du paragraphe 1.c).

ANNEXE B - FORMULAIRE DE DÉCLARATION/D'ATTESTATIONS (SUITE)

Attestation pour ancien fonctionnaire

Les contrats attribués à des anciens fonctionnaires qui touchent une pension ou qui ont reçu un paiement forfaitaire doivent résister à l'examen scrupuleux du public et constituer une dépense équitable des fonds publics. Afin de respecter les politiques et les directives du Conseil du Trésor sur les contrats avec des anciens fonctionnaires, les soumissionnaires doivent fournir l'information exigée ci-dessous.

Définitions

Aux fins de cette clause,

« ancien fonctionnaire » signifie tout ancien employé d'un ministère au sens de la *Loi sur la gestion des finances publiques*, L.R., 1985, ch. F-11, un ancien membre des Forces armées canadiennes ou de la Gendarmerie royale du Canada. Un ancien fonctionnaire peut être :

a) un individu;
b) un individu qui s'est incorporé;
c) une société de personnes constituée d'anciens fonctionnaires; ou
d) une entreprise à propriétaire unique ou une entité dans laquelle la personne visée détient un intérêt important ou majoritaire.

« période du paiement forfaitaire » signifie la période mesurée en semaines de salaire à l'égard de laquelle un paiement a été fait pour faciliter la transition vers la retraite ou vers un autre emploi par suite de la mise en place des divers programmes visant à réduire la taille de la fonction publique. La période du paiement forfaitaire ne comprend pas la période visée par l'allocation de fin de services, qui se mesure de façon similaire.

« pension » signifie, dans le contexte de la formule de réduction des honoraires, une pension ou une allocation annuelle versée en vertu de la *Loi sur la pension dans la fonction publique* (LPFP), L.R., 1985, ch. P-36, et toute augmentation versée en vertu de la *Loi sur les prestations de retraite supplémentaires*, L.R., 1985, ch. S-24, dans la mesure où elle touche la LPFP. La pension ne comprend pas les pensions payables conformément à la *Loi sur la pension de retraite des Forces canadiennes*, L.R., 1985, ch. C-17, à la *Loi sur la continuation de la pension des services de défense*, 1970, ch. D-3, à la *Loi sur la continuation des pensions de la Gendarmerie royale du Canada*, 1970, ch. R-10, et à la *Loi sur la pension de retraite de la Gendarmerie royale du Canada*, L.R., 1985, ch. R-11, à la *Loi sur les allocations de retraite des*

parlementaires, L.R., 1985, ch. M-5, et à la partie de la pension versée conformément à la *Loi sur le Régime de pensions du Canada*, L.R., 1985, ch. C-8.

ANNEXE B - FORMULAIRE DE DÉCLARATION/D'ATTESTATIONS (SUITE)

Ancien fonctionnaire touchant une pension

Est-ce que le soumissionnaire est un ancien fonctionnaire touchant une pension tel qu'il est défini ci-dessus? OUI ( ) NON ( )

Si oui, le soumissionnaire doit fournir l'information suivante :
a) le nom de l'ancien fonctionnaire;
b) la date de cessation d'emploi dans la fonction publique ou de la retraite.

Programme de réduction des effectifs

Est-ce que le soumissionnaire est un ancien fonctionnaire qui a reçu un paiement forfaitaire en vertu des dispositions d'un programme de réduction des effectifs? OUI ( ) NON ( )

Si oui, le soumissionnaire doit fournir l'information suivante :

a) le nom de l'ancien fonctionnaire;
b) les conditions de l'incitatif versé sous forme de paiement forfaitaire;
c) la date de la cessation d'emploi;
d) le montant du paiement forfaitaire;
e) le taux de rémunération qui a servi au calcul du paiement forfaitaire;
f) la période correspondant au paiement forfaitaire, incluant la date du début, d'achèvement et le nombre de semaines;
g) nombre et montant (honoraires professionnels) des autres contrats assujettis aux conditions d'un programme de réduction des effectifs.

Pour tous les contrats attribués pendant la période du paiement forfaitaire, le montant total des honoraires qui peut être payé à un ancien fonctionnaire qui a reçu un paiement forfaitaire est limité à 5 000 $, incluant la taxe sur les produits et services ou la taxe de vente harmonisée.

Attestation

En déposant une proposition, le soumissionnaire atteste que l'information fournie par le soumissionnaire pour répondre aux exigences ci-dessus est exacte et complète.

ANNEXE B - FORMULAIRE DE DÉCLARATION/D'ATTESTATIONS (SUITE)

Nom du proposant :

DÉCLARATION :
Je, soussigné, à titre de dirigeant du proposant, atteste par la présente que les renseignements fournis dans le présent formulaire et dans la proposition ci-jointe sont exacts au meilleur de ma connaissance. Si la proposition est présentée par des associés ou une coentreprise, chacun des associés ou chacune des entités membres de cette coentreprise doit fournir ce qui suit.

☐

....
nom signature

.....
titre
J'ai l'autorité d'engager la société / les associés / le propriétaire unique / la coentreprise

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nom signature

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titre
J'ai l'autorité d'engager la société / les associés / le propriétaire unique / la coentreprise

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nom signature

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titre
J'ai l'autorité d'engager la société / les associés / le propriétaire unique / la coentreprise

La personne suivante servira d'intermédiaire avec TPSGC durant la période d'évaluation de la proposition: _____.

Téléphone :( ) _____ Télécopieur : ( ) _____

Courriel: _____

Cette Annexe B devrait être remplie et fournie avec la proposition dans le cadre de la phase 1 mais elle peut être fournie plus tard comme suit: si l'Annexe B n'est pas remplie et fournie avec la proposition, l'autorité contractante en informera le soumissionnaire et lui donnera un délai afin de se conformer aux exigences. Le défaut de répondre à la demande de l'autorité contractante et de se conformer aux exigences dans les délais prévus aura pour conséquence que la proposition sera déclarée non recevable.

ANNEXE C - FORMULAIRE DE PROPOSITION DE PRIX

DIRECTIVES : Veuillez remplir ce Formulaire de proposition de prix et le présenter dans une **enveloppe distincte scellée** sur laquelle vous aurez dactylographié le nom du proposant, le nom du projet, le numéro de l'invitation de TPSGC et la mention « FORMULAIRE DE PROPOSITION DE PRIX ». Les propositions de prix ne doivent pas comprendre la TPS/TVH.

LES PROPOSANTS NE DOIVENT PAS MODIFIER LE PRÉSENT FORMULAIRE

Nom de projet :

Nom du proposant :

Les éléments suivants feront partie intégrante du processus d'évaluation :

SERVICES REQUIS

Honoraires fixes (R1230D (2011-05-16), CG 5 - Modalité de paiement)

Service Requis	**Honoraires fixes**
RS 1 Analyse des exigences du projet	$.....
RS 2 Services de conception préliminaire	$.....
RS 3 Conception	$.....
RS 4 Élaboration de la conception	$.....
RS 5 Documents de construction	$.....
RS 6 Appel d'offres, évaluation des soumissions et adjudication du contrat de construction	$.....
RS 7 Construction et administration du contrat	$.....
RS 8 Planification, calendrier et contrôle de l'échéancier du projet	$.....
RS 9 Estimation et planification des coûts	$.....
RS 10 Services postérieurs à l'occupation	$.....
RS 11 Assurance de la qualité de l'équipe intégrée de l'expert-conseil	$.....

RS 12 Mise en service de l'installation $.....

RS 13 Documents de constructions bilingues $.....

Frais totaux pour services requis $.....

SERVICES ADDITIONNELS

Honoraires fixes (R1230D (2011-05-16), CG 5 - Modalité de paiement

SA1 Services de résidence sur le site durant la construction

NOMBRE D'NITÉS	SERVICES	COÛT/UNITÉ		HONORAIRES FIXES
4000 hrs.	Services de résidence sur le site durant la construction	@$.....	=	
MAXIMUM DES HONORAIRES FIXES - PRIX UNITAIRES				_____
TOTAL DES HONORAIRES POUR SERVICES SUPPLÉMENTAIRES				

*Le paiement des honoraires sera fondé sur les heures réelles de travail. Les dépenses de voyage et/ou temps de déplacement ne seront pas remboursés séparément.
** Taux horaire tout compris et englobe les heures normales de travail et toutes les autres heures de travail par quarts requises.

DÉBOURS

Montant maximum pour les débours (TVH non comprise) 50 000,00 $

COÛT TOTAL DES SERVICES POUR FINS D'ÉVALUATION DES PROPOSITIONS

Total des honoraires pour services requis .....$

Total des honoraires pour services additionnels + ...$

Montant maximum pour les débours + 50 000,00 $

Total des honoraires évalués .....$

FIN DU FORMULAIRE DE PROPOSITION DE PRIX

Annexe “D”
Faire Affaire

Faire affaire

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

Canada

Dernière mise à jour : janvier 2009

TABLE DES MATIÈRES

SECTION 1 INTRODUCTION

Le présent document doit être utilisé de pair avec le cadre de référence, les deux documents étant complémentaires. Le cadre de référence présente les exigences propres à un projet tandis que ce sont plutôt des renseignements communs à l'ensemble des projets qui figurent au présent document. En cas de contradiction entre les deux documents, les exigences du cadre de référence l'emportent sur celles du présent document.

SECTION 2 NORME NATIONALE CDAO DE TPSGC

Les dessins doivent être conformes à la Norme nationale CDAO de Travaux publics et Services gouvernementaux Canada (TPSGC) et à la norme CSA B78.3 de l'Association canadienne de normalisation.

Veuillez consulter le site suivant :
http://www.tpsgc-pwgsc.gc.ca/cadd-standards/text/index-f.html

Le lien ci-dessus est donné sous réserve de modifications. L'expert-conseil doit vérifier auprès du gestionnaire de projet pour s'assurer que le lien ainsi que les renseignements auxquels il mène sont à jour et pertinents en ce qui concerne la Norme nationale CDAO de TPSGC.

SECTION 3 GUIDE DE RÉDACTION DES DOCUMENTS DE CONSTRUCTION DE TPSGC

1 Objectif

Le présent document a pour objectif d'énoncer les principes directeurs régissant la rédaction de documents de construction (soit les devis, les dessins et les addenda) pour Travaux publics et Services gouvernementaux Canada (TPSGC).

Les dessins, les devis et les addenda doivent être complets et précis afin que l'entrepreneur puisse préparer une soumission sans se fier aux conjectures. La pratique courante pour la rédaction des documents de construction nécessite ce qui suit :

- les dessins représentent le moyen graphique d'illustrer le travail à effectuer, dans la mesure où ils indiquent la forme, la dimension, l'emplacement, la quantité de matériaux et la relation entre les composants de l'édifice;
- les devis comprennent les descriptions écrites des matériaux et des procédés de construction quant à la qualité, à la couleur, au motif, au rendement et aux caractéristiques des exigences relatives aux matériaux, à l'installation et à la qualité du travail;
- les addenda sont des modifications apportées aux documents de construction ou aux procédures de soumission, lesquels addenda sont publiés durant le processus de soumission.

2 Principes relatifs aux documents contractuels de TPSGC

Les documents contractuels de TPSGC sont fondés sur les principes usuels des marchés publics. TPSGC n'utilise pas les documents du Comité canadien des documents de construction (CCDC).

Le cadre de référence est établi et communiqué par TPSGC, de même que les autres documents contractuels et soumissions connexes. Vous pouvez consulter les clauses à titre informatif à l'adresse suivante : **http://sacc.tpsgc.gc.ca/sacc/query-f.jsp**. Les questions devraient être adressées au gestionnaire de projet.

3 Assurance de la qualité

Les experts-conseils doivent exécuter leurs propres processus de contrôle de la qualité et doivent réviser, corriger et coordonner (entre les spécialités) leurs documents avant de les envoyer à TPSGC.

DEVIS

1 Devis directeur national

Le Devis directeur national (DDN) est un devis directeur de la construction disponible dans les deux langues officielles divisé en 48 parties et utilisé dans le cadre d'une vaste gamme de projets de construction et de rénovation. Pour préparer le devis de projet, l'expert-conseil doit se fonder sur l'édition actuelle du DDN, en conformité avec le Guide d'utilisation du DDN.

L'expert-conseil doit assumer la responsabilité première en ce qui a trait au contenu et doit modifier, corriger et compléter le DDN au besoin afin de produire un devis de projet approprié et exempt de contradiction et d'ambiguïté.

2 Organisation du devis

Les sections à portée restreinte décrivant des unités de travail uniques sont préférables dans le contexte de travaux plus complexes, tandis que les sections à portée étendue conviennent mieux aux travaux moins complexes. Utiliser soit le format de page du DDN 1/3 – 2/3, soit le format pleine page de Devis de construction Canada.

Commencer chaque section sur une nouvelle page et indiquer le numéro de projet, le titre de la section et le numéro de la page sur chaque page. La date du devis, le titre du projet et le nom de l'expert-conseil ne doivent cependant pas y figurer.

3 Terminologie

Utiliser l'expression « représentant du Ministère » plutôt que ingénieur, TPSGC, propriétaire, expert-conseil ou architecte. « Représentant du Ministère » s'entend de la personne désignée dans le contrat ou au moyen d'un avis écrit donné à l'entrepreneur pour agir en tant que représentant du Ministère dans le cadre du contrat. Il peut s'agir d'une personne désignée et autorisée par écrit par le représentant du Ministère à l'entrepreneur.

Les notes comme « vérification sur place », « selon les instructions », « pour correspondre à ce qui existe », « exemple », « égal à », « équivalent à » et « à déterminer sur place par le représentant du Ministère » ne devraient pas faire partie du devis parce qu'elles ont tendance à rendre les soumissions imprécises et volumineuses. Le devis doit en effet permettre aux soumissionnaires de calculer toutes les quantités et de présenter une proposition précise. S'il est impossible de déterminer les quantités (p. ex. les fissures à réparer), présenter une estimation aux fins de la soumission (prix unitaires). S'assurer que la terminologie utilisée dans l'ensemble du devis est cohérente et qu'elle est conforme à celle des documents normalisés applicables relatifs aux marchés de construction.

4 Dimensions

Les dimensions doivent être exprimées uniquement au moyen des valeurs du système métrique (pas de cotation double).

5 Normes

Comme les références figurant au DDN ne sont pas nécessairement à jour, il incombe à l'expert-conseil de veiller à ce que le devis de projet soit fondé sur la dernière édition applicable de toutes les références citées. Voici une liste de quelques sites Web qui contiennent les publications les plus à jour de normes relatives aux références dans le contexte de devis de construction.

- Normes de l'Association canadienne de normalisation (CSA) : http://www.csa.ca
- Normes de l'Office des normes générales du Canada (ONGC) : http://www.tpsgc-pwgsc.gc.ca/cgsb/
- Normes de l'American National Standards Institute (ANSI) : http://www.ansi.org (en anglais seulement)
- Normes de ASTM International : http://www.astm.org (en anglais seulement)
- Normes des Laboratoires des assureurs du Canada (ULC) : http://www.ulc.ca (en anglais seulement)
- Référence générale à des normes : http://www.cssinfo.com

Le site Web du DDN (www.tpsgc.gc.ca/ddn) contient également des liens vers d'autres documents de référence dans le DDN, à partir de la rubrique Liens.

6 Désignation des matériaux

La pratique qui consiste à préciser les noms commerciaux, les numéros de modèles, etc., va à l'encontre de la politique du Ministère, sauf dans des circonstances particulières. La méthode de désignation des matériaux utilisés doit être appliquée en fonction de normes reconnues, comme celles établies par l'Association canadienne du gaz (ACG), l'Office des normes générales du Canada (ONGC), l'Association canadienne de normalisation (CSA) et les Laboratoires des assureurs du Canada (ULC) ou par des associations commerciales comme l'Association canadienne des entrepreneurs en couverture (ACEC) et l'Association canadienne de terrazzo, tuile et marbre (ACTTM). Il faut se conformer aux normes canadiennes dans la mesure du possible.

Si la méthode susmentionnée ne peut être utilisée et en l'absence de normes, désigner les matériaux au moyen d'appellations non restrictives et non commerciales en matière de « prescription » et de « rendement ».

En cas de circonstances exceptionnelles ou justifiées, ou encore en l'absence de normes et lorsqu'il est impossible de désigner les matériaux au moyen d'une appellation non restrictive et non commerciale en matière de « prescription » et de « rendement », indiquer le nom commercial. Inclure tous les matériaux connus acceptables pour les travaux prévus et, en ce qui a trait à l'équipement, indiquer les renseignements par type et par numéro de modèle.

Produits acceptables – Utiliser le format de paragraphe ci-dessous.

Produits acceptables :

1. Modèle [_____] de l'entreprise ABC.
2. Modèle [_____] de l'entreprise DEF.
3. Modèle [_____] de l'entreprise GHI.

Il est possible de recourir à des matériaux différents de ceux précisés durant la période de soumission. Cependant, il incombera à l'expert-conseil d'examiner et d'évaluer toutes les demandes d'approbation visant des matériaux de remplacement.

Le terme « fabricants acceptables » ne doit pas être utilisé dans la mesure où la concurrence s'en trouve restreinte et parce qu'un tel terme ne permet pas de garantir que les matériaux ou les produits en question seront acceptables. La liste des mots et expressions à éviter figure dans le guide d'utilisation du DDN.

Fournisseur unique : Il est possible de recourir à des fournisseurs uniques pour les matériaux et les travaux ayant trait aux systèmes exclusifs (p.ex. systèmes d'alarme incendie, systèmes de contrôle de gestion de l'énergie). Une justification devra être fournie dans ce contexte.

La formulation relative aux fournisseurs uniques devrait se lire comme suit dans la Partie 1 :

« Entrepreneur désigné

1 Retenir les services de [_____] pour réaliser les travaux prévus dans la présente section. »

La formulation relative aux fournisseurs uniques pour les SCCE devrait se lire comme suit dans la Partie 1 :

« Entrepreneur désigné

Retenir les services de [_____] ou de son représentant autorisé pour réaliser les travaux relatifs à toutes les sections des SCCE. »

et dans la Partie 2 en tant que Matériaux

1 Un système [_____] est actuellement installé dans l'immeuble. Tous les matériaux doivent être choisis de façon à en garantir la compatibilité avec le système [_____] existant.

La formulation relative aux fournisseurs uniques de matériaux (p. ex. systèmes d'alarme incendie) devrait se lire comme suit dans la Partie 2 :

Produits acceptables

1 Les seuls produits acceptables sont [_____]. »

Avant d'inscrire le fournisseur unique pour les matériaux ou les travaux, l'expert-conseil doit en obtenir l'approbation du gestionnaire de projet.

7 Prix unitaires

Les prix unitaires sont utilisés lorsque la quantité peut seulement être évaluée (p. ex. travaux de terrassement), et ils exigent l'approbation préalable du gestionnaire de projet.

Formulation à utiliser :

[Les travaux relatifs à la présente section] ou [définir les travaux particuliers au besoin, comme le dérochement] seront rémunérés selon les quantités réelles calculées sur place et les prix unitaires indiqués dans le formulaire d'acceptation et de soumission.

Dans chaque section applicable du DDN, remplacer le paragraphe intitulé « Calcul du paiement » par « Prix unitaires ».

Exemple de tableau de prix unitaire :

Le tableau de prix unitaire sert à désigner les travaux auxquels s'applique une entente à prix unitaire.

(a) Le prix par unité et le prix total estimé doivent être inscrits pour chaque article faisant partie de la liste.

(b) Le travail compris dans chaque article est tel qu'il est décrit dans la section de référence du devis.

Sujet	Référence au devis	Catégorie de travail, d'usine ou de matériaux	Unité de mesure	Quantité estimée	Prix par unité TPS/TVH en sus	Prix total estimé (TPS/TVH en sus)
MONTANT TOTAL ESTIMÉ Inscrire le montant au sous-paragraphe 1)(b) du BA03						

8 Allocations en espèces

Les documents de construction devraient être complets et faire état de l'ensemble des exigences visant les travaux précisés au contrat. Les allocations en espèces ne doivent être utilisées que dans des circonstances particulières (p. ex. entreprises de services publics, municipalités) lorsqu'aucune autre méthode de désignation n'est appropriée. Obtenir l'approbation préalable du gestionnaire de projet avant d'intégrer les allocations en espèces, et utiliser ensuite la « section 01 21 00 – allocations » du DDN afin de préciser ce critère.

9 Garanties

La pratique de TPSGC consiste à obtenir une garantie de 12 mois et à éviter les garanties prolongées de plus de 24 mois. Lorsqu'il est nécessaire de prolonger la période de garantie au-delà des 12 mois prévus dans les conditions générales du contrat, utiliser la formulation dans la Partie 1 des sections techniques applicables, sous le titre « Garantie prolongée » :

- « En ce qui a trait aux travaux de la présente section [_____], la période de garantie de 12 mois est prolongée à 24 mois. »

- Si la garantie prolongée doit s'appliquer à une partie du devis en particulier, modifier l'énoncé précédent comme suit : « En ce qui a trait à la section [_____], la période de garantie de 12 mois est prolongée à [_____] mois. »

Supprimer toutes les références aux garanties des fabricants.

10 Étendue des travaux
Aucun paragraphe intitulé « Étendue des travaux » ne doit être inclus.

11. Paragraphes « Résumé » et « Contenu de la section » dans la Partie 1 – Généralités
Ne pas utiliser les expressions « Résumé » et « Contenu de la section ».

12 Sections connexes
Dans chaque section du devis au point 1.1, Sections connexes, coordonner la liste des annexes et sections connexes. S'assurer de coordonner les renvois aux diverses sections du devis et qu'il n'y a pas de références à des sections ou à des annexes qui n'existent pas.

13 Table des matières
Dresser la liste des plans et des sections du devis en indiquant correctement le nombre de pages, le nom des sections et le titre des dessins selon le format illustré à l'Annexe A.

14 Guide régional
L'expert-conseil devrait communiquer avec le gestionnaire de projet pour connaître les exigences régionales concernant la Division 01 ou d'autres formes abrégées de devis pouvant être nécessaires. Par exemple, dans la région de la capitale nationale, on doit nécessairement utiliser la Section 01 00 10 – Instructions générales pour tous les projets.

15 Santé et sécurité
Tous les devis de projet doivent comprendre la Section 01 35 29.06 – Santé et sécurité. Vérifier auprès du gestionnaire de projet s'il y a des directives afin de répondre aux exigences régionales.

16 Rapport sur les substances désignées
Ajouter la Section 01 14 25 – Rapport sur les substances désignées.

17 Rapports d'étude sur le sous-sol
Les rapports d'étude sur le sous-sol doivent être intégrés après la Section 31 et le paragraphe suivant doit y être ajouté :

Rapports d'étude sur le sous-sol

1. Les rapports d'étude sur le sous-sol sont compris dans le devis à la suite de la présente section.

Le gestionnaire de projet donnera d'autres directives s'il juge qu'il n'est pas pratique d'inclure les rapports d'étude sur le sous-sol.

Lorsque des documents de soumission doivent être produits dans les deux langues officielles, les rapports d'étude sur le sous-sol doivent être bilingues.

En plus des rapports d'étude sur le sous-sol qu'il faut fournir, les renseignements sur les fondations doivent être inclus dans les dessins des fondations tel qu'il est prévu au Code national du bâtiment du Canada de 2005 (Division C, Partie 2, 2.2.4.6).

18 Expérience et qualifications

Supprimer les exigences relatives à l'expérience et aux qualifications dans les sections du devis.

19 Préqualification et soumissions préalables à l'adjudication

Le devis ne doit pas imposer à l'entrepreneur ni au sous-traitant des exigences obligatoires en matière de préqualification ou de soumissions préalables à l'adjudication qui pourraient devenir une condition d'adjudication du contrat. S'il y a lieu d'exiger un processus de préqualification ou des soumissions préalables à l'adjudication, il faut communiquer avec le gestionnaire de projet.

Il ne doit pas y avoir de référence aux certificats, aux transcriptions ou aux numéros de permis d'un entrepreneur ou d'un sous-traitant visé par la soumission.

20 Questions de passation de marché

Le devis permet de décrire la qualité d'exécution et la qualité des travaux. Les questions de passation de marché ne doivent pas faire partie du devis. La Division 00 du DDN n'est pas utilisée dans le cadre des projets de TPSGC.

Supprimer toutes les références faites dans le devis aux éléments suivants :

- Instructions générales à l'intention des soumissionnaires
- Conditions générales
- Documents du CCDC
- Ordre de priorité des documents
- Clauses de sécurité
- Modalités de paiement ou retenue
- Processus d'appel d'offres
- Exigences de garantie
- Exigences relatives aux assurances
- Établissement des prix de rechange et individuel
- Visite des lieux (obligatoire ou facultative)
- Mainlevée du droit de rétention et retenues pour vices cachés

DESSINS

1 Cartouches d'inscription

Utiliser le cartouche d'inscription de TPSGC pour réaliser les dessins et les esquisses (y compris les addenda).

2 Dimensions
Les dimensions doivent être exprimées seulement au moyen des valeurs du système métrique (pas de cotation double).

3 Appellations commerciales
Les appellations commerciales ne doivent pas figurer sur les dessins. Voir la Section 3, Devis, 6. Désignation des matériaux pour connaître la façon de désigner les matériaux selon leur appellation commerciale.

4 Notes du devis
Les notes du devis ne doivent pas figurer sur les dessins.

5 Terminologie
Utiliser l'expression « représentant du Ministère » plutôt que ingénieur, TPSGC, propriétaire, expert-conseil ou architecte. « Représentant du Ministère » s'entend de la personne désignée dans le contrat ou au moyen d'un avis écrit donné à l'entrepreneur pour agir en tant que représentant du Ministère dans le cadre du contrat. Il peut s'agir d'une personne désignée et autorisée par écrit par le représentant du Ministère pour l'entrepreneur.

Les notes comme « vérification sur place », « selon les instructions », « pour correspondre à ce qui existe », « exemple », « égal à », « équivalent à » et « à déterminer sur place par le représentant du Ministère » ne devraient pas faire partie du devis dans la mesure où les soumissions deviennent ainsi imprécises et volumineuses. Le devis doit en effet permettre aux soumissionnaires de calculer toutes les quantités et de présenter une proposition précise. S'il est impossible de déterminer les quantités (p. ex. les fissures à réparer), présenter une estimation aux fins de la soumission (prix unitaires). S'assurer que la terminologie utilisée dans l'ensemble du devis est cohérente et qu'elle est conforme à celle des documents normalisés applicables relatifs aux marchés de construction.

6 Renseignements à inclure
Les dessins devraient indiquer les quantités et la configuration relatives au projet ainsi que les dimensions et le détail de la façon dont le projet est structuré. Il ne devrait pas y avoir de références à des travaux ultérieurs et aucun renseignement ne pourra être modifié au moyen d'un futur addenda. L'étendue des travaux devrait être clairement précisée et les éléments qui ne sont pas visés par le contrat devraient être éliminés ou fort peu nombreux.

7 Numérotation des dessins : Il faut attribuer aux différentes séries de dessins des numéros en fonction du type de dessin et de la discipline visée selon le tableau suivant (les exigences établies à la Section 2 de la Norme nationale CDAO de TPSGC remplaceront les exigences ci-dessous, s'il y a lieu).

À l'étape de conception du projet, chaque soumission et chaque examen doivent être indiqués dans la zone de notes du titre du dessin. Toutefois, au moment de la rédaction des documents de construction, toutes les notes de révision devraient être supprimées.

Discipline	Dessin
Démolition	D1, D2, etc.
Architecture	A1, A2, etc.
Génie civil	GC1, GC2, etc.
Aménagement paysager	AP1, AP2, etc.
Mécanique	M1, M2, etc.
Électrique	E1, E2, etc.
Structure	S1, S2, etc.
Aménagement intérieur	AI1, AI2, etc.

8 **Exigences de présentation :** Les dessins doivent être présentés en séries comportant les dessins pertinents de démolition, d'architecture, de structure, de mécanique et d'électricité, dans cet ordre. Tous les dessins devraient être réalisés selon les mêmes dimensions normalisées.

9 **Impression :** Impression à l'encre noire sur papier blanc. Il est acceptable de présenter des bleus pour la présentation de documents complets à 33 %, à 66 % et à 99 %. Communiquer avec le gestionnaire de projet pour connaître la dimension des imprimés à présenter aux fins d'examen.

10 **Reliure :** Agrafer ou relier autrement les imprimés de façon qu'ils forment des séries. Lorsque les présentations comptent plus de vingt feuilles, les dessins pour chacune des spécialités peuvent être reliés séparément pour en faciliter la manipulation et la consultation.

11 **Légendes :** Fournir une légende des symboles, des abréviations, des références, etc., sur la première page de chaque série de dessins ou, lorsqu'il s'agit d'importantes séries de dessins, immédiatement après la page de titre et les pages d'index.

12 **Nomenclatures :** Lorsque les nomenclatures couvrent des feuilles entières, il faut les placer à côté des plans ou à la fin de chaque série de dessins pour en faciliter la consultation. *Voir la norme ONGC 33-GP-7, Présentation de dessins d'architecture, où sont précisées les règles à cet égard.*

13 **Nord :** Sur tous les plans, il faut indiquer où se trouve le nord. Il faut orienter tous les plans de la même façon pour faciliter le recoupement. Dans la mesure du possible, les plans devraient être dessinés de façon que le nord corresponde au haut de la feuille.

14 **Symboles utilisés dans les dessins :** Il faut observer les conventions généralement acceptées et comprises par les membres des différents corps de métier et se conformer à celles utilisées dans les publications de TPSGC.

ADDENDA

1 Présentation

Le format des addenda doit correspondre à celui présenté à l'Annexe B. Il ne doit pas comporter de renseignements personnalisés.

Chaque page de l'addenda (y compris les pièces jointes) doit être numérotée de manière séquentielle. Toutes les pages doivent comporter le numéro de projet de TPSGC et le bon numéro d'addenda. Les esquisses doivent être présentées selon le format de TPSGC et doivent être estampillées et signées.

Les renseignements sur l'expert-conseil (nom, adresse, n° de téléphone, n° de projet) ne devraient pas apparaître dans l'addenda ni dans les pièces jointes (à l'exception des esquisses).

2 Contenu

Chaque élément devrait faire référence à un paragraphe réel du devis ou à une note ou un détail figurant sur les dessins. Le style explicatif n'est pas acceptable.

DOCUMENTATION

Traduction

Au besoin, toute la documentation comprise dans les documents relatifs aux marchés de construction devra être présentée dans les deux langues officielles.

S'assurer que les documents en français et en anglais sont équivalents à tous les égards. Il ne peut y avoir aucun énoncé disant qu'une version l'emporte sur l'autre.

L'expert-conseil doit fournir ce qui suit :

- Pour chaque présentation de documents de construction, une liste de vérification pour la soumission de documents de construction remplie et signée. Consulter l'Annexe A à ce sujet.
- Les devis originaux imprimés au recto sur du papier bond blanc de 216 mm x 280 mm.
- Une table des matières conforme au modèle présenté à l'Annexe C.
- Un addenda (si nécessaire) conforme au modèle présenté à l'Annexe B (publié par TPSGC).
- Les dessins originaux reproductibles, scellés et signés par le responsable de la conception.
- Les renseignements relatifs à la soumission, c'est-à-dire :
  - La description de toutes les unités et des quantités estimées à intégrer dans le tableau des prix unitaires.

- La liste des domaines de spécialité importants, y compris les coûts. TPSGC déterminera ensuite le cas échéant, les domaines de spécialité qui feront l'objet d'une soumission par l'intermédiaire du bureau de dépôt des soumissions.
- Système électronique d'appels d'offres du gouvernement (SEAOG) : Les experts-conseils doivent fournir une copie électronique conforme de la version finale des documents (dessins et devis) sur un ou plusieurs CD-ROM en fichiers de format de document portable (PDF), sans protection par mot de passe ni restrictions en matière d'impression. Comme la copie électronique conforme des dessins et du devis ne sert qu'à des fins de soumission, elle n'a pas besoin d'être signée ni scellée. Voir les Annexes D et E à ce sujet.

TPSGC doit fournir ce qui suit :

- Instructions générales et particulières à l'intention des soumissionnaires
- Formulaire de soumission et d'acceptation
- Documents normalisés relatifs au contrat de construction

SECTION 4 CATÉGORIES D'ESTIMATION DE COÛTS DE CONSTRUCTION UTILISÉES PAR TPSGC

DESCRIPTION DES CATÉGORIES D'ESTIMATION DE COÛTS UTILISÉES PAR TPSGC POUR ÉVALUER LES COÛTS DE CONSTRUCTION DES PROJETS IMMOBILIERS

Estimation de catégorie D (estimation indicative) :

Fondée sur un énoncé complet des exigences et sur une description sommaire des solutions potentielles, cette estimation donne une idée du coût final du projet et permet de classer les différentes options envisagées.

Soumettre les estimations de coûts de catégorie D dans un format conforme à la dernière version de l'analyse des coûts par élément publiée par l'Institut canadien des économistes en construction. Indiquer le coût au m^2 en fonction des données statistiques de l'industrie actuellement disponibles pour le type de bâtiment et l'emplacement pertinents. Joindre également un résumé et fournir le détail complet des éléments de travail, des quantités, des prix unitaires, des allocations et des hypothèses.

Le niveau de précision d'une estimation de catégorie D doit être tel que la réserve pour éventualités ne dépasse pas les 20 %.

Estimation de catégorie C :

Cette estimation est fondée sur une liste complète des exigences et des hypothèses, dont une description détaillée de l'option de conception privilégiée, des conditions du marché et de l'expérience en matière de construction et de conception. Elle doit suffire à prendre de bonnes décisions d'investissement.

Soumettre les estimations de coûts de catégorie C dans un format conforme à la dernière version de l'analyse des coûts par élément publiée par l'Institut canadien des économistes en construction. Indiquer le coût au m^2 en fonction des données statistiques de l'industrie actuellement disponibles pour le type de bâtiment et l'emplacement pertinents. Joindre également un résumé et fournir le détail complet des éléments de travail, des quantités, des prix unitaires, des allocations et des hypothèses.

Le niveau de précision d'une estimation de catégorie C doit être tel que la réserve pour éventualités ne dépasse pas les 15 %.

Estimation de catégorie B (estimation fondée) :

Cette estimation est fondée sur les dessins de l'avant-projet et sur le devis préliminaire, ce qui comprend la conception de tous les principaux systèmes et sous-systèmes ainsi que les résultats des études du terrain et des installations. Elle doit permettre d'établir des objectifs réalistes en matière de coûts et doit suffire à obtenir l'approbation finale du projet.

Soumettre les estimations de coûts de catégorie B dans un format conforme à la dernière version de l'analyse des coûts par élément publiée par l'Institut canadien des économistes en construction. Joindre également un résumé et fournir le détail complet des éléments de travail, des quantités, des prix unitaires, des allocations et des hypothèses.

Le niveau de précision d'une estimation de catégorie B doit être tel que la réserve pour éventualités ne dépasse pas les 10 %.

Estimation de catégorie A (estimation préalable à l'appel d'offres) :

Cette estimation est fondée sur les dessins et le devis de construction définitifs, élaborés avant l'appel d'offres concurrentiel. Elle doit permettre de comparer et de négocier les moindres détails des offres présentées par les entrepreneurs.

Soumettre les estimations de coûts de catégorie A en respectant la dernière version du format d'analyse des coûts par élément et du format commercial, publiés par l'Institut canadien des économistes en construction. Joindre également un résumé et fournir le détail complet des éléments de travail, des quantités, des prix unitaires, des allocations et des hypothèses.

Le niveau de précision d'une estimation de catégorie A doit être tel que la réserve pour éventualités ne dépasse pas les 5 %.

SECTION 5 GESTION DU CALENDRIER

1 Gestion, planification et contrôle du calendrier

L'expert en gestion, planification et contrôle du calendrier (expert conseil en ordonnancement) créera un système de planification et de contrôle (système de contrôle) permettant de planifier, d'ordonnancer et de suivre le projet, puis de rendre compte de son avancement. Il rédigera également un rapport sur la gestion, la planification et le contrôle du calendrier (rapport d'étape). L'élaboration et le suivi du calendrier de projet requièrent la participation conséquente d'un agent d'ordonnancement possédant les compétences et l'expérience nécessaires.

L'expert conseil en ordonnancement respectera les pratiques exemplaires de l'industrie en matière d'élaboration et de mise à jour des calendriers, conformément à ce que préconise le Project Management Institute (PMI).

Les systèmes de contrôle de TPSGC fonctionnent actuellement au moyen des logiciels Primavera Suite et MicroSoft Project. Tout logiciel utilisé par l'expert-conseil doit être entièrement intégré à ces programmes à l'aide d'une des nombreuses suites logicielles disponibles sur le marché.

1.1 Conception de calendriers

Les calendriers de projet servent de guide à la réalisation du projet et indiquent également à l'équipe de projet le moment où les activités doivent avoir lieu. Ils sont fondés sur des techniques de réseau et utilisent la méthode du chemin critique.

Voici ce dont il faut tenir compte dans la conception d'un système de contrôle :

1. le degré de précision nécessaire au contrôle et à l'établissement de rapports;
2. le cycle d'établissement des rapports (les rapports sont produits mensuellement et en fonction de ce qui est précisé dans le cadre de référence; cet aspect concerne également les rapports sur les exceptions);
3. la durée du projet, indiquée en nombre de jours;
4. les éléments nécessaires à l'établissement de rapports dans le cadre du Plan de communication des équipes de projets;
5. la nomenclature et la structure de codification à respecter pour l'appellation et le compte rendu des activités, des calendriers et des rapports.

1.2 Élaboration de calendriers

Afin de suivre et de signaler l'avancement du projet et aussi de faciliter l'examen du calendrier, il est important d'établir une norme visant l'ensemble des calendriers et des rapports produits. Il faut ainsi uniformiser la structure de répartition du travail, la détermination des jalons, l'appellation des activités, les extrants inscrits au calendrier de même que le format et l'orientation du papier.

Structure de répartition du travail

Dans l'élaboration du calendrier, l'expert-conseil doit appliquer les normes et les pratiques de TPSGC. Les deux exigences de base concernent le Système national de gestion de projet (SNGP) et la structure de répartition du travail (SRT), laquelle vient appuyer les niveaux 1 à 4 du SNGP.

La SRT comprend plusieurs niveaux :

- Niveau 1 Titre du projet (SNGP)
- Niveau 2 Étape du projet (SNGP)
- Niveau 3 Phase du projet (SNGP)
- Niveau 4 Processus nécessaires au respect des jalons établis relativement aux produits livrables et aux points de vérification (SNGP)
- Niveau 5 Sous-processus et produits livrables à l'appui du niveau 4
- Niveau 6 Activités particulières (liste de tâches)

Si les projets ne comporteront pas nécessairement tous la totalité des étapes, des phases et des processus indiqués dans le SNGP, leur structure demeure néanmoins identique.

Jalons principaux et secondaires

Les produits livrables et les points de vérification du SNGP constituent les principaux jalons, lesquels sont nécessaires à l'élaboration de tout calendrier. Ces jalons sont utilisés pour les rapports de gestion au sein de TPSGC et permettent de suivre l'avancement du projet à l'aide de l'analyse des écarts. Les résultats des processus (niveau 4) et les résultats des sous-processus (niveau 5) constituent les jalons secondaires et servent également dans le cadre de l'analyse des écarts.

Par ailleurs, un code est attribué à chaque jalon puis utilisé dans le cadre des rapports de situation et des rapports de gestion.

Les jalons doivent avoir une durée zéro, et ils servent à évaluer l'avancement du projet.

Les jalons peuvent également représenter des contraintes externes, comme la réalisation d'une activité qui ne s'inscrit pas dans le cadre du projet tout en ayant une incidence sur celui-ci.

Activités

La conception de toutes les activités doit se faire en fonction des objectifs du projet, de son étendue ainsi que des jalons principaux et secondaires. Elle doit en outre tenir compte des réunions avec l'équipe de projet et nécessite que l'agent d'ordonnancement ait une parfaite compréhension du projet et de ses processus.

Fractionner les éléments du projet en composants plus petits et plus faciles à gérer, ce qui permettra d'organiser et de définir l'étendue globale des travaux relativement aux niveaux 5 et 6. Ces composants doivent pouvoir être planifiés, exprimés en coûts, suivis et contrôlés. En procédant ainsi, il sera possible de dresser la liste des activités du projet.

Chaque activité constitue un élément de travail distinct dont la responsabilité revient à une seule personne.

Le travail à accomplir pour chacune d'entre elles sera décrit à l'aide de propositions verbales (p. ex. Examiner le rapport d'avant-projet).

La durée des activités ne doit pas être supérieure à 2 cycles de mise à jour, sauf si elles n'ont pas encore été intégrées à une « séquence d'activités ».

Chaque activité sera inscrite au niveau 6 de la SRT et se verra attribuer un code pour les rapports de situation et les rapports de gestion.

Enfin, les activités ainsi créées seront liées les unes aux autres dans les calendriers de projet.

Logique de projet

Une fois la SRT, les jalons et la liste des activités élaborés, il est alors possible de lier ces éléments de façon logique en commençant par le jalon que constitue le lancement du projet. Le lien entre chaque activité et chaque jalon doit être logique et fondé sur un rapport de type « fin à début » (FD), « fin à fin » (FF), « début à début » (DD) ou « début à fin » (DF). Il ne doit pas y avoir d'activité ou de jalon à durée indéterminée.

Privilégier le rapport de type « fin à début ».

Dans l'élaboration des rapports, éviter d'utiliser les décalages temporels et les contraintes au lieu des activités et de la logique.

Durée des activités

La durée d'une activité (en nombre de jours) correspond au délai jugé nécessaire à la réalisation d'une tâche.

Il faut tenir compte du nombre de ressources nécessaires et disponibles pour accomplir une activité (p. ex. la disponibilité des monteurs de charpentes durant un « boom de la construction »). S'assurer en outre de tenir compte d'autres facteurs tels que le type ou le niveau de compétence des ressources disponibles, le nombre d'heures de travail possible, les conditions météorologiques, etc.

Ce processus permettra de créer plusieurs listes et calendriers différents qui seront intégrés au rapport d'étape.

Liste des activités

La liste des activités définit l'ensemble des activités et jalons nécessaires à la réalisation du projet intégral.

Liste des jalons

La liste des jalons définit tous les jalons principaux et secondaires dans le cadre d'un projet.

Calendrier principal

Le calendrier principal oriente l'établissement de rapports à l'intention de la direction relativement aux niveaux 4 et 5 de la SRT. Il indique en outre les principales activités et les jalons clés tirés du calendrier détaillé. Il est également possible d'intégrer les prévisions des flux de trésorerie au niveau 5 de la SRT afin de suivre le plan des dépenses.

Calendrier détaillé du projet

Le calendrier détaillé doit comporter assez de renseignements (jusqu'aux niveaux 6 et 7 de la SRT) pour permettre de suivre et de contrôler l'avancement du projet. Il est en outre suffisamment précis pour garantir une planification et un contrôle adéquats.

1.3 Examen et approbation du calendrier

Une fois que l'agent d'ordonnancement a défini et codé correctement l'ensemble des activités, il faut les classer dans un ordre logique, puis fixer leur durée. L'agent d'ordonnancement pourra ensuite analyser le calendrier pour vérifier si les dates des jalons correspondent bien aux exigences contractuelles, pour ensuite le modifier au besoin en jouant sur les durées, le niveau des ressources ou la logique.

Une fois le calendrier détaillé correctement préparé, l'agent d'ordonnancement le présentera à l'équipe de projet afin qu'elle l'approuve et s'en serve comme base de référence. Il se peut que de nombreuses modifications soient apportées avant que le calendrier n'obtienne l'approbation de l'équipe et qu'il réponde enfin aux exigences contractuelles.

La version définitive doit être copiée et sauvegardée à titre de base de référence pour qu'il soit possible de surveiller les écarts, lesquels seront ensuite mentionnés dans les rapports.

1.4 Suivi et contrôle du calendrier

Une fois que le calendrier est établi comme base de référence, il peut être mieux suivi et contrôlé, et il est alors possible de produire des rapports.

Le suivi s'effectue en comparant le degré d'achèvement des activités de référence (exprimé en pourcentage) et les dates des jalons avec les dates réelles et prévues. On peut ainsi repérer les écarts, noter les retards possibles, les questions non résolues ou les préoccupations, puis proposer des solutions (sous forme de rapports) qui permettront de traiter les problèmes graves liés à la planification et à l'ordonnancement.

Pendant toute la durée du projet et dès les premières étapes, analyser toutes les activités qui sont sur le point de commencer, en cours ou achevées, puis établir des rapports en la matière.

Les nombreux rapports qui découleront de l'analyse du calendrier de référence seront intégrés au rapport de gestion du calendrier dans la section Services requis (SR).

Rapport d'étape

Le rapport d'étape indique l'état d'avancement de chaque activité à la date de sa publication. Il signale toute modification passée ou future de la logique, fait état des prévisions relatives à l'avancement et à l'achèvement, et indique en outre les dates de début et de fin réelles de toutes les activités ayant fait l'objet d'un suivi.

Le rapport d'étape comprend les éléments suivants :

Un compte rendu qui détaille le travail accompli jusque là, compare l'avancement des activités avec le calendrier planifié et présente les prévisions actuelles. Ce compte rendu devrait en outre résumer les progrès accomplis jusque là en justifiant les écarts et les retards réels ou probables. Il doit également décrire les mesures à prendre pour combler les retards et résoudre les problèmes afin de respecter le calendrier détaillé et les chemins critiques.

Le compte rendu commence par un énoncé de l'état général du projet, puis il passe en revue les retards et les problèmes potentiels, évalue le bon déroulement du projet, signale les retards éventuels, les questions et les préoccupations non réglées, et indique les solutions permettant de remédier aux graves problèmes de planification et d'ordonnancement.

Un rapport sur les écarts qui comprend les documents d'ordonnancement connexes, donne le détail des tâches accomplies jusque là et compare l'avancement du travail avec le calendrier prévu. Ce rapport devrait en outre résumer les progrès accomplis jusque là en justifiant les écarts et les retards réels ou probables. Il doit également décrire les mesures à prendre pour combler les retards et résoudre les problèmes afin de respecter le calendrier détaillé et les chemins critiques.

Un rapport d'évaluation du déroulement du projet qui indique toutes les activités et les jalons dont la marge totale est négative, nulle ou de cinq jours maximum afin de pouvoir repérer facilement les chemins critiques ou quasi critiques dans l'ensemble du projet.

Les pièces jointes suivantes doivent également figurer au rapport d'étape : le diagramme de la SRT, les listes des activités, les listes des jalons, les calendriers principaux et le calendrier détaillé du projet.

Rapport sur les exceptions

L'agent d'ordonnancement doit assurer un suivi et un contrôle permanents; il doit repérer rapidement les problèmes imprévus ou critiques susceptibles d'avoir une incidence sur le projet, puis en informer les personnes concernées.

En cas de problèmes imprévus ou critiques, l'agent d'ordonnancement informera le gestionnaire de projet et proposera des solutions de rechange en présentant un rapport sur les exceptions.

Ce rapport sera suffisamment détaillé pour permettre de définir clairement les éléments suivants :

1. Modification de l'étendue du projet : établir la nature, la raison et l'incidence globale de toutes les modifications qui ont été ou qui seront probablement apportées à l'étendue et qui ont une incidence sur le projet.
2. Retard ou avancement des échéances : déterminer la nature, la raison et l'incidence globale de toutes les variations de durée qui ont été repérées ou qui sont susceptibles de se produire.
3. Solutions de retour vers la base de référence du projet : déterminer la nature et l'incidence probable de toutes les solutions proposées pour ramener le projet à sa durée de référence.

1.5 Soumissions courantes

Pour chaque étape de soumission ou pour chaque produit livrable, fournir un rapport d'étape complet et à jour. Le contenu de ce rapport variera en fonction des exigences et de la phase de projet concernée. Habituellement, un rapport d'étape comporte les éléments suivants :

1. un résumé;
2. un compte rendu;
3. un rapport sur les écarts;
4. un rapport d'évaluation du déroulement du projet;
5. un rapport sur les exceptions (selon le cas);
6. un diagramme de la structure de répartition du travail;
7. une liste des activités;
8. une liste des jalons;
9. le calendrier principal et les prévisions relatives aux flux de trésorerie;
10. le calendrier de projet détaillé (diagramme à flèches ou diagrammes à barres).

1.6 Extrants inscrits au calendrier et formats des rapports

Le format et l'orientation du papier sont de simples suggestions et ne jouent pas de rôle particulier. Le format peut varier en fonction des renseignements et du nombre de colonnes nécessaires.

Rapport d'étape

Format du papier :	lettre
Orientation du papier :	portrait
Format du titre :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision
Corps du texte :	le texte du rapport doit respecter le format des autres rapports rédigés au sein du ministère des Approvisionnements et Services (MAS).
Colonnes des rapports sur les écarts :	Code de l'activité, Nom de l'activité, Date de fin prévue, Date de révision prévue, Écart, Variance, Degré d'achèvement (en %)
Colonnes des rapports d'évaluation du déroulement du projet :	Code de l'activité, Nom de l'activité, Durée, Date de début, Date de fin, Degré d'achèvement (en %), Marge totale

Rapport sur les exceptions

Format du papier :	lettre
Orientation du papier :	portrait
Format du titre :	titre du projet, type de rapport, date d'impression, date des données, révision
Corps du texte :	le texte doit respecter le format des autres rapports rédigés au sein du MAS

Format du papier :	lettre
Orientation du papier :	paysage
Format du titre :	titre du projet, type de rapport, date d'impression, date des données, révision
Colonnes :	Code de l'activité, Nom de l'activité, Durée, Temps restant, Date de début, Date de fin, Marge totale

<u>Structure de répartition du travail (arborescence)</u> :

Format du papier :	lettre
Orientation du papier :	portrait
Colonnes :	Code de la SRT, Nom de la SRT, Durée, Estimation des coûts, Dates de début et de fin

Format du bas de page :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision

Liste des activités

Format du papier :	lettre
Orientation du papier :	portrait
Colonnes :	Code de l'activité, Nom de l'activité, Date de début, Date de fin, Activité précédente, Activité suivante
Format du bas de page :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision

Trier par Début anticipé, par Fin anticipée, puis par Code d'activité et terminer avec la SRT.

Liste des jalons

Format du papier :	lettre
Orientation du papier :	portrait
Format du bas de page :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision
Colonnes :	Code de l'activité, Nom de l'activité, Date de début, Date de fin

Trier par Début anticipé, par Fin anticipée, puis par Code d'activité et ne pas inclure la SRT.

Calendrier principal (diagramme à barres)

Format du papier :	format tabloïde (11 po sur 17 po)
Orientation du papier :	paysage
Format du bas de page :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision
Colonnes :	Code de l'activité, Nom de l'activité, Durée, Degré d'achèvement (en %), Date de début, Date de fin, Marge totale

Trier par Début anticipé, par Fin anticipée, puis par Code d'activité et terminer avec la SRT.

Calendriers détaillés de projet (diagramme à barres)

Format du papier :	format tabloïde (11 po sur 17 po)
Orientation du papier :	paysage
Format du bas de page :	titre du projet, type de rapport, date d'impression, date des données, bloc de révision
Colonnes :	Code de l'activité, Nom de l'activité, Durée, Degré d'achèvement (en %), Date de début, Date de fin, Marge totale

Trier par Début anticipé, par Fin anticipée, puis par Code d’activité et terminer avec la SRT.

ANNEXE A – Liste de vérification pour la soumission des documents de construction à de TPSGC

Dernière mise à jour : 22 avril 2008

Date :	
Titre du projet :	**Lieu du projet :**
Numéro du projet :	**Numéro du contrat :**
Nom de l'expert-conseil :	**Gestionnaire de projet de TPSGC :**
Stade de la soumission : **66% 99% 100%**	

Sujet	Vérifié par	Commentaires	Suivi
Devis			
1 Devis directeur national			
1a La plus récente édition du DDN a été utilisée.			
2 Organisation du devis			
2a Le format de page 1/3 – 2/3 du DDN ou le format pleine page du Devis de construction Canada a été utilisé.			
2b Chaque section commence sur une nouvelle page et le numéro du projet, le titre de la section, le numéro de la section ainsi que le numéro de la page figurent sur chaque page.			
2c La date du devis et le nom de l'expert-conseil ne sont pas indiqués.			
3 Terminologie			
3a Le terme « représentant du Ministère » est utilisé au lieu des termes « ingénieur », « TPSGC », « propriétaire », « expert-conseil » ou « architecte ».			
3b Les notes « vérification sur place », « selon les instructions », « pour correspondre à ce qui existe », « exemple », « égal à », « équivalent à » et « à déterminer sur place par » ne sont pas utilisées.			
4 Dimensions			
4a Les dimensions ne sont exprimées			

qu'avec les valeurs du système métrique.			
5 Normes			
5a L'édition la plus récente de toutes les références citées a été utilisée.			
6 Désignation des matériaux			
6a La méthode de désignation des matériaux repose sur des normes reconnues. Les appellations commerciales et les numéros de modèle exacts ne sont pas précisés.			
6b Indiquez si des appellations non restrictives et non commerciales sont utilisées pour les « devis descriptifs » et pour les « devis de performance ».			
6c Indiquez si une liste des produits jugés acceptables a été utilisée.			
6d Le terme « fabricants acceptables » n'est pas utilisé.			
6e Indiquez si l'on a eu recours à un fournisseur unique.			
7 Prix unitaires			
7a Les prix unitaires ne sont utilisés que pour les travaux dont l'appréciation est difficile.			
8 Allocations en espèces			
8a Indiquez si des allocations en espèces ont été utilisées.			
9 Garanties			
9a Indiquez si la durée des garanties dépasse 12 ou 24 mois.			
9b Les garanties des fabricants ne sont pas indiquées.			
10 Étendue des travaux			
10 Il n'y a aucun paragraphe intitulé Étendue des travaux dans le document.			
11 Paragraphes « Résumé » et « Contenu de la section »			
11a Dans la Partie 1 de la section, les paragraphes « Résumé » et « Contenu de la section » ne sont pas utilisés.			
12 Sections connexes			
12a La liste des renvois à des annexes et à des sections connexes est juste.			

13 Table des matières			
13a La table des matières présente la liste complète des plans et des sections du devis avec le bon nombre de pages ainsi que les bons titres de dessins et noms de sections.			
14 Spécifications du guide régional			
14a Les instructions générales figurent dans le guide (Section 01 00 10 dans le SCN).			
15 Santé et sécurité			
15a La Section 01 35 29.06 – Santé et sécurité est comprise.			
16 Rapport sur les substances désignées			
16 a La Section 01 14 25 – Rapport sur les substances désignées est comprise.			
***17* Rapports d'étude sur le sous-sol**			
17a Les rapports d'étude sur le sous-sol sont compris dans la Division 31.			
18 Expérience et qualifications			
18a Les exigences en matière d'expérience et de qualifications ne figurent pas dans les sections du devis.			
19 Préqualification			
19a La soumission ne comprend pas d'exigences obligatoires en matière de préqualification de l'entrepreneur ou du sous-traitant, ni de références à des certificats, à des transcriptions ou à des numéros de permis d'un entrepreneur ou d'un sous-traitant.			
20 Questions de passation de marché			
20a Les questions de passation de marché ne figurent pas dans le devis.			
20b La Division 00 du DDN n'est pas utilisée.			
21 Questions de qualité			
21a Il n'y a aucune clause du devis entre crochets « [ ] » ou lignes « ____ » indiquant que le devis est incomplet ou qu'il manque des renseignements.			

Sujet	Vérifié par	Commentaires	Suivi
Dessins			
1 Cartouches d'inscription			
1a Le cartouche d'inscription de TPSGC est utilisée.			
2 Dimensions			
2a Les dimensions sont exprimées uniquement avec les valeurs du système métrique.			
3 Appellations commerciales			
3a Les appellations commerciales ne sont pas utilisées.			
4 Notes du devis			
4a Il n'y a aucune note relative au devis.			
5 Terminologie			
5a Le terme « représentant du Ministère » est utilisé au lieu des termes « ingénieur », « TPSGC », « propriétaire », « expert-conseil » ou « architecte ».			
5b Les notes « vérification sur place », « selon les instructions », « pour correspondre à ce qui existe », « exemple », « égal à », « équivalent à » et « à déterminer sur place par » ne sont pas utilisées.			
6 Renseignements à inclure			
6a Les détails du projet liés à la quantité de matériaux, à la configuration, aux dimensions et à la construction sont compris.			
6b Les références faites à des travaux et éléments futurs qui ne sont pas dans le contrat n'apparaissent pas dans le document ou sont mentionnées au minimum et clairement identifiées comme telles.			

Je confirme que les plans et le devis ont été rigoureusement examinés et que les points de la liste ci-dessus ont été réglés ou intégrés. Je reconnais et j'accepte que le fait de signer et de certifier que tous les éléments cités ci-dessus ont été réglés engage la responsabilité de mon entreprise. Si, durant la soumission de ces documents ou de la mise en œuvre du projet, il est jugé que les éléments n'ont pas été correctement réglés, mon entreprise aura la responsabilité de résoudre tous les problèmes qui en découlent, à ses frais, et peut obtenir, en tant qu'expert-conseil, une évaluation de rendement non satisfaisante qui pourrait avoir un effet sur la capacité de mon entreprise de passer, dans l'avenir, des marchés avec TPSGC.

Représentant de l'expert-conseil : _____

Nom de l'entreprise : _____

Signature :_____ Date : _____

ANNEXE B – Exemple d'addenda
Dernière mise à jour : 22 avril 2008

ADDENDA N° _____

Numéro du projet : _____

Les modifications suivantes aux documents de soumission entrent en vigueur immédiatement. Le présent addenda fera partie des documents contractuels.

DESSINS

NOTE AU RÉDACTEUR : Indiquer le numéro et le titre du dessin, dresser ensuite la liste des modifications ou indiquer le numéro et la date de révision, puis réimprimer le dessin avec l'addenda.

1 A1 Architecture

.1

DEVIS

NOTE AU RÉDACTEUR : Indiquer le numéro et le titre de la section.

1 Section 01 00 10 – Instructions générales

NOTE AU RÉDACTEUR : Dresser la liste des modifications (p. ex. suppression, ajout ou modification) par article ou par paragraphe.

.1 Supprimer l'article (xx) en entier.
.2 Se référer au paragraphe (xx.x) et modifier...

2 Section 23 05 00 – Exigences générales concernant les résultats des travaux – Mécanique

.1 Ajouter le nouvel article (x) suivant :

ANNEXE C – Exemple de table des matières
Dernière mise à jour : 22 avril 2008

N° du projet : _____

Table des matières
Page 1 de ___

DESSINS ET DEVIS

DESSINS :

NOTE AU RÉDACTEUR : Dresser la liste des dessins par numéro et par titre.

C-1	Génie civil
L-1	Aménagement paysager
A-1	Architecture
S-1	Structure
M-1	Mécanique
E-1	Électrique

DEVIS :

NOTE AU RÉDACTEUR : Dresser la liste des divisions, sections (par numéro et par titre) et indiquer le nombre de pages.

DIVISION	SECTION	NOMBRE DE PAGES
DIVISION 01	01 00 10 – Instructions générales.....	xx
	01 14 25 – Rapport sur les substances désignées.....	xx
	01 35 30 – Santé et sécurité.....	xx
DIVISION 23	23 xx xx	
DIVISION 26	26 xx xx	

ANNEXE D

MANUEL DE L'UTILISATEUR SUR LA STRUCTURE DU RÉPERTOIRE ET LES CONVENTIONS D'APPELLATION NORMALISÉES DES DOCUMENTS D'APPEL D'OFFRES POUR LA CONSTRUCTION EN FORMAT CD-ROM

Publié par

la Direction de l'attribution des marchés immobiliers

TPSGC

Mai 2005

Dernière mise à jour : le 3 juin 2008

Version 1.0

PRÉFACE

Le gouvernement du Canada (GC) s'est engagé à créer un environnement électronique pour la plupart de ses services. Cet engagement concerne la publication et la diffusion des possibilités de contrats et comprend les demandes de soumissions de construction. Par conséquent, il est nécessaire d'obtenir un exemplaire des dessins et des devis de construction (en format PDF ***sans*** protection par mot de passe) sur un ou plusieurs CD-ROM afin de faciliter le transfert électronique de ces documents vers le Service électronique d'appels d'offres du gouvernement (SEAOG).

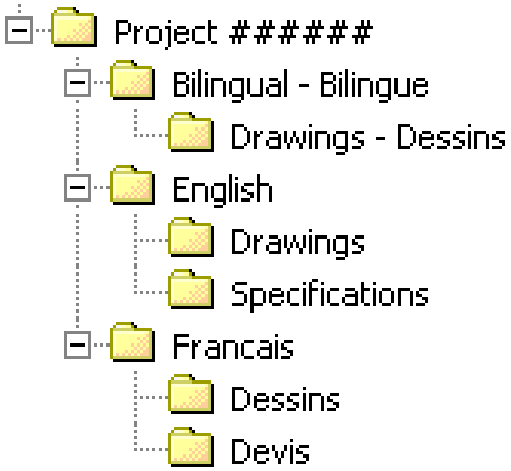
Il s'avère donc nécessaire d'utiliser une structure de répertoire et une convention d'appellation des fichiers communes afin de veiller à ce que les renseignements fournis aux entrepreneurs par voie électronique ou sur copie papier sont conformes aux normes adoptées par les industries de l'immobilier, tant en matière de conception que de construction. Le présent manuel définit la norme que doivent respecter les experts-conseils et les imprimeurs au moment du formatage et de l'organisation de l'information, et ce, que les dessins et devis soient créés par le balayage de documents papier ou enregistrés en format PDF à partir du logiciel d'origine (AutoCAD, NMS Edit, MS-Word, etc.).

Il est important de noter que la procédure décrite dans le présent manuel ne dispense pas les experts-conseils de suivre les normes établies pour la création de dessins et de devis. Le présent guide vise uniquement à fournir une norme pour organiser et nommer les fichiers électroniques qui seront enregistrés sur CD-ROM.

1. STRUCTURE DE RÉPERTOIRE

1.1 Sous-dossiers de 1er, 2e et 3e niveaux

Chaque CD-ROM, que ce soit pour la première demande de soumissions (appel d'offres) ou pour une modification (addenda), doit comprendre les éléments suivants de la structure de répertoire :



Il est important de tenir compte des remarques suivantes au sujet de cette structure de répertoire :

- Le dossier « *Projet ######* » constitue le 1er niveau de la structure de répertoire et « ###### » représente chaque chiffre du numéro de projet. Le numéro de projet doit toujours être utilisé pour nommer le dossier de 1er niveau et il doit toujours être indiqué. Il est possible d'ajouter du texte libre à la suite du numéro de projet, comme par exemple une brève description ou le titre du projet.

- Les dossiers « *Bilingual – Bilingue* », « *English* » et « *Français* » constituent le 2e niveau de la structure de répertoire. Les dossiers de 2e niveau **ne peuvent pas** être renommés car le SEAOG utilise ces noms à des fins de validation. La structure doit toujours comporter au moins un des dossiers « *Bilingual – Bilingue* », « *English* » ou « *Français* », et ceux-ci doivent toujours contenir un sous-dossier de 3e niveau.

- Les dossiers « *Drawings – Dessins* », « *Drawings* », « *Specifications* », « *Dessins* » et « *Devis* » constituent le 3e niveau de la structure de répertoire. Les dossiers de 3e niveau **ne peuvent pas** être renommés car le SEAOG utilise ces noms à des fins de validation. Chaque document doit comporter au moins un dossier de 3e niveau.

IMPORTANT :	Les éléments applicables de la structure de répertoire (dossiers des 1er, 2e et 3e niveaux) sont obligatoires et ne peuvent pas être modifiés.

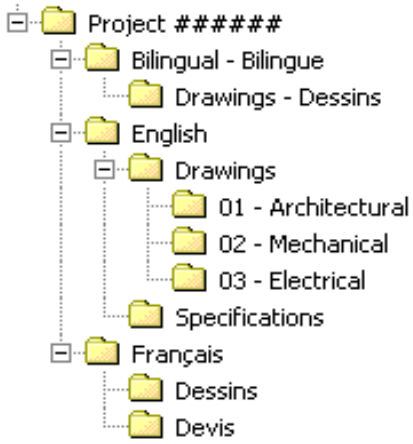
1.2 Sous-dossiers de 4e niveau pour les dessins

Les dossiers « *Drawings – Dessins* », « *Drawings* » et « *Dessins* » doivent comporter des sous-dossiers de 4e niveau qui ont été créés pour refléter les différentes spécialités du jeu de dessins.

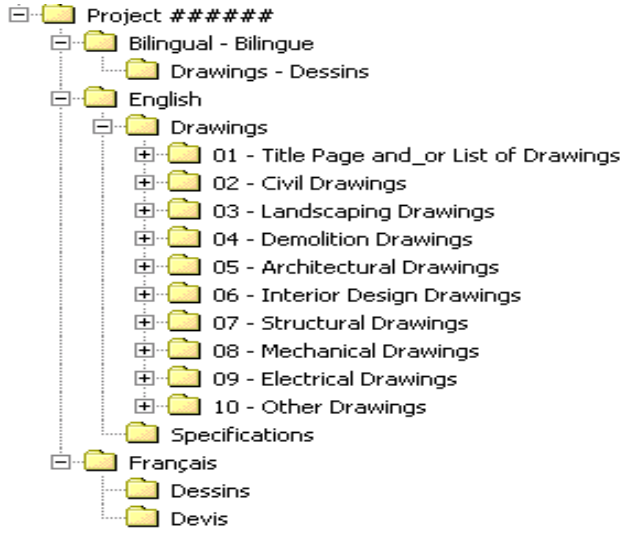
Étant donné que l'ordre d'apparition à l'écran des sous-dossiers détermine également leur ordre d'impression, le nom des sous-dossiers inclus dans les dossiers « *Drawings – Dessins* », « *Drawings* » et « *Dessins* » doit obligatoirement être précédé d'un chiffre.

Remarque : Le premier sous-dossier doit toujours être réservé à la page de titre ou à la liste des dessins, à moins que le premier dessin du jeu ne soit réellement un dessin numéroté relevant d'une discipline particulière.

Exemples de sous-dossiers de 4e niveau pour les dessins :



ou



1.2.1 Convention d'appellation

Les sous-dossiers de 4e niveau pour les dessins doivent respecter la convention d'appellation suivante.

Pour les dossiers « *Drawings* » et « *Dessins* » :

- Y

où :

= un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)
Y = le nom du dossier

Exemple : 03 – Mécanique

Pour le dossier « *Drawings – Dessins* » :

- Y - Z

où :

= un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)
Y = le nom anglais du dossier
Z = le nom français du dossier

Exemple : 04 – Electrical – Électricité

Il convient de remarquer que la numérotation des sous-dossiers de 4e niveau sert uniquement à des fins de classement et ne correspond pas à une discipline particulière. Par exemple, le sous-dossier « *Architectural – Architecture* » pourrait recevoir le numéro 05 lorsqu'un projet comprend déjà quatre autres spécialités ou il pourrait recevoir le numéro 01 dans un autre projet où l'architecture apparaît en premier dans le jeu de dessins.

Il est primordial que l'ordre d'apparition des dessins sur le CD-ROM soit exactement identique à celui du document imprimé. Le SEAOG se conformera aux règles suivantes pour classer les dessins en vue de les afficher à l'écran ou de les imprimer :

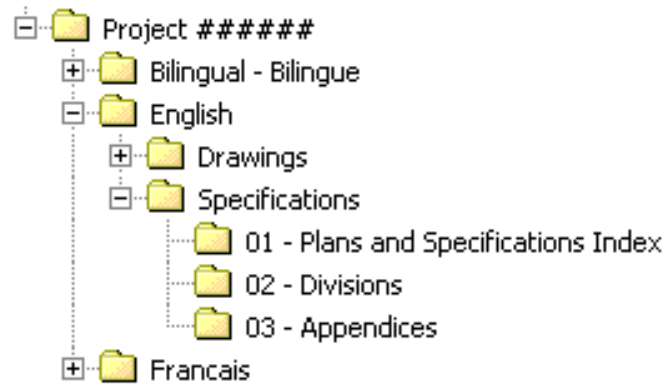
- Le classement alphanumérique s'effectue par ordre croissant.
- L'ordre alphanumérique des sous-dossiers détermine leur ordre d'apparition à l'écran de même que leur ordre d'impression (p. ex. tous les fichiers de dessin en format PDF qui se trouvent dans le sous-dossier 01 seront imprimés par ordre alphanumérique avant les dessins du sous-dossier 02 et ainsi de suite).
- Chaque fichier de dessin en format PDF contenu dans chaque sous-dossier sera également classé par ordre alphanumérique. Cela déterminera son ordre d'apparition à l'écran et son ordre d'impression (p. ex. le Dessin A001 sera imprimé avant le Dessin A002, le Dessin M02 avant le Dessin M03, et ainsi de suite).

1.3 Sous-dossiers de 4e niveau pour les devis

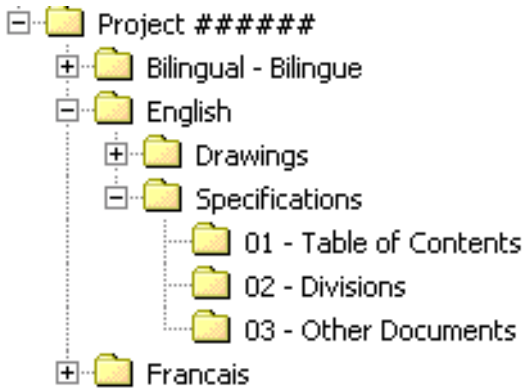
Les dossiers « *Specifications* » et « *Devis* » doivent comprendre des sous-dossiers de 4e niveau, correspondant aux différents éléments du devis.

Étant donné que l'ordre d'apparition à l'écran des sous-dossiers détermine également leur ordre d'impression, le nom des sous-dossiers figurant dans les dossiers « *Specifications* » et « *Devis* » doit obligatoirement débuter par un chiffre.

Exemples de sous-dossiers de 4e niveau pour les devis :



ou



1.3.1 Convention d'appellation

Les sous-dossiers de 4e niveau pour les devis doivent respecter la convention d'appellation décrite ci-dessous.

Pour les dossiers « *Specifications* » et « *Devis* » :

- Y

où :

## =	un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)
Y =	le nom du dossier
Exemple :	**02 – Divisions**

Il convient de remarquer que la numérotation des sous-dossiers de 4e niveau sert uniquement au classement et ne correspond pas à une discipline particulière.

Il est primordial que l'ordre d'apparition des éléments du devis sur le CD-ROM soit exactement identique à celui du document imprimé. Le SEAOG se conformera aux règles suivantes pour classer chaque élément du devis en vue de les afficher à l'écran ou de les imprimer :

- Le classement alphanumérique s'effectue par ordre croissant.
- L'ordre alphanumérique des sous-dossiers détermine leur ordre d'apparition à l'écran de même que leur ordre d'impression (p. ex. tous les fichiers de devis en format PDF qui se trouvent dans le sous-dossier 01 seront imprimés par ordre alphanumérique avant les fichiers PDF du sous-dossier 02 et ainsi de suite).
- Tous les fichiers de devis en format PDF contenus dans chaque sous-dossier seront également classés par ordre alphanumérique. Cela déterminera leur ordre d'apparition à l'écran et leur ordre d'impression (p. ex. le fichier Division 01 sera imprimé avant le fichier Division 02, le fichier 01 – Annexe A avant le fichier 02 – Annexe B et ainsi de suite).

2. CONVENTION D'APPELLATION POUR LES FICHIERS PDF

Les dessins, les éléments du devis et tous les autres documents faisant partie du document d'appel d'offres doivent être convertis en PDF (sans protection par mot de passe) en respectant la convention d'appellation décrite ci-dessous. En outre, chaque fichier PDF doit être enregistré dans le bon sous-dossier de la structure de répertoire.

2.1 Dessins

Chaque dessin doit être présenté sur **une seule page** dans un fichier PDF **distinct**. Voici la convention d'appellation des dessins :

X### - Y

où :

X =	la ou les lettre(s) figurant dans le cartouche du dessin (p. ex. « *A* » pour Architecture ou « *AI* » pour Aménagement intérieur) et indiquant la discipline concernée
### =	le numéro figurant dans le cartouche du dessin (composé d'un à trois chiffres)

Y = **le titre apparaissant dans le cartouche du dessin (dans le cas des dessins bilingues, le titre anglais et le titre français doivent tous deux apparaître)**

Exemple : A001 – Détails du rez-de-chaussée

Tous les dessins se rapportant à une même discipline et enregistrés dans un même sous-dossier de 4e niveau doivent comporter la même lettre (p. ex. « *A* » pour les dessins architecturaux) et être numérotés. Le numéro figurant dans le nom du fichier PDF doit, dans la mesure du possible, correspondre au numéro du dessin (sauf dans les cas où un zéro de tête est nécessaire).
Il est important de tenir compte des remarques suivantes en ce qui concerne les dessins :

- Les fichiers de dessin en format PDF qui se trouvent dans chaque sous-dossier sont classés par ordre alphanumérique à des fins d'affichage et d'impression. Si une discipline particulière comporte plus de 9 dessins, les numéros doivent alors être composés d'au moins deux chiffres. On doit par exemple nommer le premier dessin A01, et non pas A1, afin que le dessin A10 n'apparaisse pas entre les dessins A1 et A2. La même règle s'applique lorsqu'une discipline comporte plus de 99 dessins. Les numéros doivent dans ce cas être composés de trois chiffres (p. ex. M003 au lieu de M03).

- Les fichiers de dessin en format PDF qui se trouvent dans le dossier « *Bilingual – Bilingue* » ne doivent pas figurer à la fois dans les dossiers « *English* » et « *Français* ».

- Les dessins qui n'appartiennent pas à une discipline particulière (p. ex. la page de titre ou la liste des dessins) et qui ne sont pas numérotés seront classés par ordre alphabétique. Bien que cela ne pose aucun problème lorsqu'il n'existe qu'un seul dessin de ce type dans un sous-dossier, cela pourrait altérer le classement si le sous-dossier en comporte plusieurs. Par conséquent, si l'ordre alphabétique des dessins ne correspond pas à l'ordre des copies papier, les dessins doivent être nommés conformément à la convention d'appellation décrite ci-dessous lors de leur conversion en format PDF, afin d'être affichés et imprimés dans le bon ordre.

  ## - Y

  où :

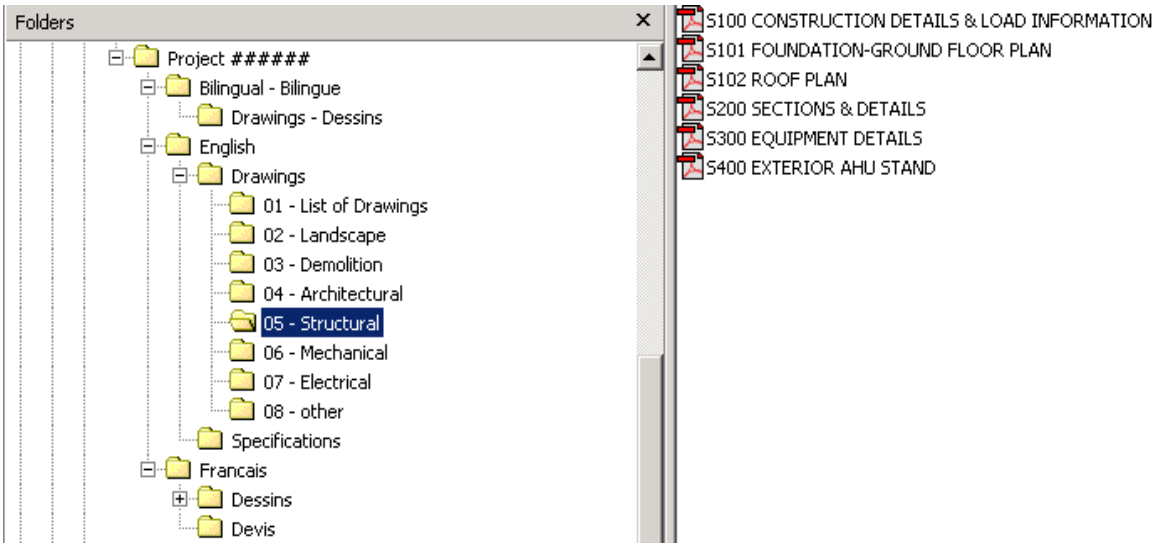
  ## = un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)

  Y = le titre du dessin

  Exemple : 01 – Page de titre
  02 – Liste des dessins

  Si les fichiers PDF ne sont pas numérotés, le fichier « *Liste des dessins* » apparaîtra avant le fichier « *Page de titre* » en raison du classement alphabétique.

Exemple d'un sous-dossier de 4e niveau contenant des dessins :



2.2. Devis

Chaque division du devis doit figurer dans un fichier PDF distinct et toutes les pages de ce fichier doivent avoir le même format (longueur et largeur). L'index des plans et des devis doit lui aussi figurer dans un fichier PDF distinct. Tout autre document inclus dans le devis, par exemple une annexe, doit également figurer dans un fichier PDF distinct.

2.2.1 Documents autres que les divisions du devis

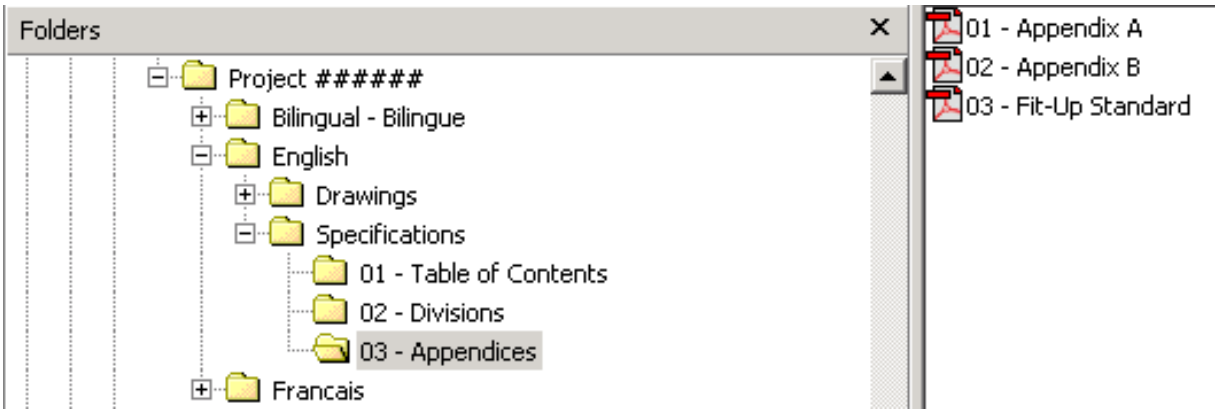
Étant donné que les fichiers PDF enregistrés dans les sous-dossiers du devis sont classés par ordre alphanumérique (et en ordre croissant) à des fins d'affichage et d'impression, tous les fichiers figurant dans les dossiers autres que le sous-dossier « *Divisions* » doivent être numérotés de la façon suivante :

- Y

où :

## =	un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)
Y =	le titre du document
Exemple :	01 – Liste des plans et des sections du devis

Exemple de contenu d'un sous-dossier (autre que le sous-dossier « *Divisions* ») :



2.2.2 Divisions du devis

Les divisions du devis doivent être nommées de la façon suivante :

Division ## - Y

où :

Division ## = le mot « *Division* » suivi d'une espace, puis d'un numéro à deux chiffres allant de 01 à 99 (le zéro de tête doit être inclus)

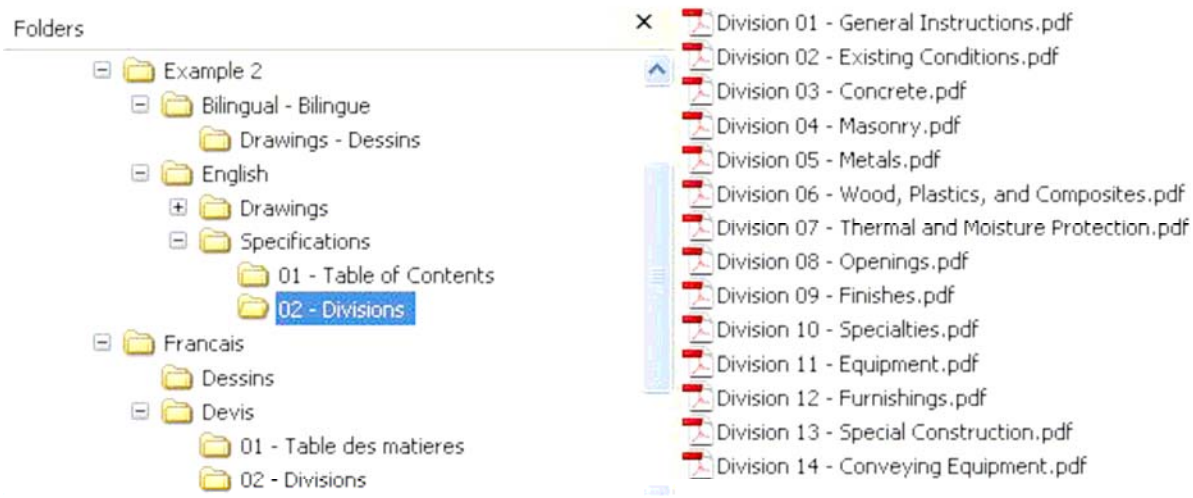
Y = le nom de la division du devis conformément au **Répertoire normatif DCC et DSI**™

Exemple : Division 05 – Métaux

Il est important de tenir compte des remarques suivantes en ce qui concerne le devis :

- Il **faut respecter** la numérotation des divisions établie par le **Répertoire normatif DCC et DSI**™ , même si certaines divisions ne sont pas utilisées dans un projet particulier. Ainsi, la Division 05 sera toujours la Division 05, même si la Division 04 ne figure pas dans le projet.

Exemple du contenu du sous-dossier « *Divisions* » :



3. ÉTIQUETTE DU CD-ROM

Les renseignements suivants doivent figurer sur chaque CD-ROM :

Numéro du projet / Project *Number*
Titre du projet / Project *Title*/
Documents d'appel d'offres / Documents for Tender
CD *X* de/of *X*

Exemple :

Projet 123456 / Project 123456
Réparation du pont Alexandra / Repair Alexandra Bridge
Documents d'appel d'offres / Documents for Tender
CD 1 de/of 1

ANNEXE E

GUIDE DE RÉFÉRENCE DE BASE SUR LA CONVERSION DES DESSINS DE CONSTRUCTION EN FORMAT DE DOCUMENT PORTABLE (PDF)

Publié par

la Direction de l'attribution des marchés immobiliers

TPSGC

Mai 2005

Dernière mise à jour : 3 mai 2005

Version 1.0

PRÉFACE

Le format de document portable (PDF) est le format standard pour les documents qui sont publiés dans le SEAOG. Il faut donc obtenir des experts-conseils en architecture et en génie une version électronique des dessins et des devis en format PDF pour les appels d'offres relatives à des projets de construction du GC.

Pour obtenir la meilleure qualité en termes de résolution et d'impression, les experts-conseils doivent, dans la mesure du possible, faire en sorte que les fichiers de dessin et de devis en format PDF soient dérivés du logiciel d'origine qui a servi à les créer. On ne peut numériser les dessins que dans des circonstances particulières, par exemple quand le document d'appel d'offres de construction ne comprend aucune version électronique d'un dessin.

Le présent document contient des renseignements de base concernant la conversion de dessins de conception et dessin assistés par ordinateur (CDAO) en format PDF. La création d'un fichier PDF à partir d'un dessin de CDAO est un processus relativement simple une fois que toutes les configurations et tous paramètres sont définis. En fait, la conversion ne devrait pas prendre plus de temps qu'il n'en faut pour créer un fichier de tracé ou pour envoyer un dessin à une imprimante. Le présent guide ne vise pas à traiter de tous les aspects techniques de la conversion, qui peut être effectuée de différentes façons, mais à souligner les points importants du processus et des paramètres des fichiers. En outre, le présent guide ne traite pas de la conversion de devis étant donné que cette conversion n'exige pas de configuration ou de paramètres particuliers.

Les renseignements contenus dans le présent guide de référence ne signifient pas que les experts-conseils n'ont pas à suivre les normes établies en matière de production de dessins et de devis. Le présent guide ne sert qu'à donner des renseignements de base concernant le processus de conversion de dessins et de devis en format PDF en tenant compte du fait qu'il

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

est possible d'obtenir des renseignements techniques détaillés supplémentaires des différents fabricants de logiciels.

1. PILOTES D'IMPRESSION

Adobe Acrobat est fourni avec deux pilotes d'impression différents qui peuvent convertir les dessins de CDAO en fichiers PDF : Acrobat PDF Writer et Acrobat Distiller. Avant de créer un fichier PDF à partir d'un dessin de CDAO, il faut choisir le pilote qui doit être utilisé.

Acrobat PDF Writer est un pilote d'impression non PostScript qui fonctionne mieux avec des documents qui ne contiennent pas de graphiques complexes.

Acrobat Distiller est un pilote d'impression PostScript qui fonctionne mieux avec des documents contenant des remplissages PostScript, des graphiques en format Encapsulated PostScript ou d'autres éléments complexes.

Il est recommandé d'utiliser Acrobat Distiller pour créer des fichiers PDF à partir de dessins d'architecture et de génie en raison de leur taille et de leur nature graphique complexe.

2. CONFIGURATION D'IMPRESSION

Avant de convertir un dessin de CDAO en fichier PDF, il est nécessaire de créer un fichier de configuration d'impression Acrobat pour indiquer le format de papier du fichier PDF. On peut exécuter cette fonction dans le logiciel de CDAO plutôt que d'utiliser un format de papier personnalisé défini pour la fonction Acrobat Distiller. La méthode recommandée est d'ajouter un traceur Adobe PostScript dans le logiciel de CDAO et de définir les paramètres voulus en ce qui a trait à la source de support, au format, à l'échelle et à l'orientation. La configuration peut ensuite être réutilisée pour simplifier le processus de conversion pour des fichiers créés ultérieurement qui utilisent le même format de page.

Bien que cela ne soit pas recommandé, il est également possible de définir un format personnalisé dans Acrobat Distiller, dans le menu *Propriétés*.

3. CRÉATION DE FICHIERS PDF

Une fois la configuration d'impression terminée dans le logiciel de CDAO, lancez Acrobat Distiller et définissez les paramètres voulus dans les sous-menus *Préférences* et *Options de tâche*. Assurez-vous que les dimensions de la page correspond au format de papier sélectionné dans le logiciel de CDAO pour créer le fichier. Des paramètres particuliers peuvent être enregistrés sous différents noms pour usage ultérieur.

Lorsque l'application Acrobat Distiller est ouverte, assurez-vous que le format de papier voulu s'affiche dans la fenêtre *Options de tâche*. Ensuite, il suffit d'amener le fichier de CDAO dans la boîte de création d'Acrobat Distiller.

Une barre de progression s'affiche pendant la conversion et le nouveau fichier PDF devrait s'ouvrir et s'afficher pour que vous puissiez le vérifier.

4. PARAMÈTRES DES FICHIERS PDF

4.1 Sécurité

Adobe Acrobat comporte des fonctions de sécurité qui permettent de protéger les fichiers en limitant les changements qui peuvent être apportés à ces derniers. Cependant, étant donné que les fichiers seront diffusés dans le SEAOG et qu'ils sont destinés à être imprimés, les fichiers **ne doivent pas** être protégés par un mot de passe et ils **doivent** pouvoir être imprimés.

4.2 Orientation des dessins

Les fichiers de dessin PDF finaux doivent être affichés à l'écran selon l'orientation souhaitée pour la visualisation par les utilisateurs. Pour ce faire, on peut ajuster la configuration du traceur. Si le dessin n'est pas orienté correctement après la conversion, on peut le faire pivoter manuellement dans Adobe Acrobat.

4.3 Type de police

Pour éviter des problèmes au moment de la conversion et pour minimiser le risque d'erreurs d'affichage des caractères, les polices utilisées pour la production de dessins d'exécution doivent être des *polices PostScript ou True Type*.

4.4 Résolution

Étant donné que les fichiers PDF sont destinés à être imprimés, il est important de sélectionner une résolution convenable. Il est recommandé de sélectionner une résolution de 600 points par pouce.

4.5 Échelle

Lorsque vous choisissez l'échelle de traçage dans Adobe, il est important de choisir l'échelle 1:1 pour garantir l'intégrité de l'échelle avec laquelle les dessins ont été créés dans le logiciel de CDAO.

5. NUMÉRISATION

La numérisation n'est pas recommandée et ne devrait être utilisée que si le dessin n'est pas disponible sous forme électronique. Lorsque vous numérisez un dessin, il est important de le faire à la taille réelle du dessin (échelle 1:1) pour veiller à ce que l'échelle reste intacte lors des impressions subséquentes. On recommande d'ouvrir et de vérifier chaque dessin numérisé pour s'assurer que la résolution, l'échelle et les bordures sont de qualité acceptable.

6. LISTE DE VÉRIFICATION FINALE

Une fois que le dessin a été converti en fichier PDF, on vous recommande de l'ouvrir et de vérifier les éléments suivants :

- Le format de papier correspond au format que l'on voulait obtenir lors de la création du document (le format s'affiche dans le coin inférieur gauche du dessin).
- L'orientation de la feuille est bonne.
- Le type et l'épaisseur des lignes, de même que les polices, correspondent à ceux du

dessin de CDAO.
- Le fichier PDF est en noir et blanc.
- Chaque dessin est un fichier PDF unique.
- Le fichier PDF n'est pas protégé par un mot de passe et il peut être imprimé.

Si tous les éléments de la liste sont vérifiés, le fichier PDF est utilisable.

7. RENSEIGNEMENTS SUPPLÉMENTAIRES

Pour obtenir de plus amples renseignements sur la création de fichiers PostScript et EPS, veuillez consulter le guide de l'utilisateur du logiciel de CDAO utilisé pour produire les dessins. Pour obtenir de plus amples renseignements sur la création de fichiers PDF, veuillez consulter le guide de l'utilisateur d'Acrobat Distiller ou visitez le site Web d'Adobe à l'adresse suivante : www.adobe.com.