

**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
**Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions  
Travaux publics et Services gouvernementaux  
Canada**  
**Pacific Region**  
**800 Burrard Street, 2nd Floor**  
**800, rue Burrard, 2e étage**  
**Vancouver, B. C.**  
**V6Z 0B9**  
**Bid Fax: (604) 775-7526**

**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**

<b>Title - Sujet</b> CADD Software Support and Instaltn	
<b>Solicitation No. - N° de l'invitation</b> EZ899-132215/A	<b>Date</b> 2013-04-11
<b>Client Reference No. - N° de référence du client</b> EZ899-132215	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$XSB-005-6976	
<b>File No. - N° de dossier</b> XSB-2-35399 (005)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2013-05-22</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Daylight Saving Time PDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Armstrong, Wendy	<b>Buyer Id - Id de l'acheteur</b> xsb005
<b>Telephone No. - N° de téléphone</b> (604) 775-7691 ( )	<b>FAX No. - N° de FAX</b> (604) 775-7526
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF PUBLIC WORKS AND GOVERNMENT SERVICES CANADA 219 - 800 BURRARD ST VANCOUVER British Columbia V6Z0B9 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**Vendor/Firm Name and Address**

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

**Issuing Office - Bureau de distribution**

Public Works and Government Services Canada - Pacific  
Region  
800 Burrard Street, 12th Floor  
800, rue Burrard, 12e étage  
Vancouver, BC V6Z 2V8

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

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## **PART 1 - GENERAL INFORMATION**

### **1.1. Introduction**

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, and the Task Authorization Form 572

### **1.2. Summary**

Public Works & Government Services (PWGSC) Pacific Region Professional and Technical Services has an existing CADD software license subscription agreement with Autodesk Canada (contract number 342-4636871). PWGSC requires support for deployment, onsite maintenance and resolution of technical issues.

### **1.3. Debriefings**

After contract award, bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

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## PART 2 - BIDDER INSTRUCTIONS

### 2.1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual*

(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### 2.2. Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

### 2.3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

### 2.4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

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## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (\_5\_ hard copies)

Section II: Financial Bid (\_1\_ hard copy)

Section III: Certifications (\_1\_ hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

#### Section II: Financial Bid

- 1.1 Bidders must submit their financial bid in accordance with the Basis of Payment. Provide an hourly rate for services (not including HST/GST) based upon an approximate 225 hours of work over an 18 month term at 800 Burrard St.  
The total amount of Goods and Services Tax or Harmonized Sales Tax must be shown separately, if applicable.

#### Section III: Certifications

Bidders must submit the certifications required under Part 5.

## PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

### 4.1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical, management, financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### 4.1.1 Technical Evaluation

##### 4.1.1.1. Mandatory Technical Criteria

- a) The firm Contractor must demonstrate a minimum of five (5) years experience serving Architectural and Engineering organizations in this scope of work.
- b) All on site personnel must provide certification from AutoDESK for deployment of their products.

##### 4.1.1.2 Point Rated Technical Criteria

The following criteria will be used in evaluating the technical proposals.

Criteria	Maximum Points
a) Management of Services	14 points
b) Achievements of the Firm	50 points
c) Experience of Key Individuals	36 points
<b>Total</b>	<b>100 points</b>

#### Technical Proposal:

##### a) Management of Services: (suggest one page)

Describe roles and involvement of principals and personnel in completed work listed by the firm as it relates to this scope of work. Identify lead and back-up personnel.

Points will be assigned as follows:

Roles = up to 6 points  
 Lead = up to 4 points  
 Back-up = up to 4 points

#### Total 14 points

##### b) Achievements of the Firm: (suggest three pages)

Describe completed work for clients within the last 5 years. Submit client references from two architectural firms or construction related engineering firms.

Points will be assigned as follows:

Recent Projects: 5 points each, maximum 5 projects = up to 25 points  
 References: 5 points each, Architect or Engineer, maximum 5 projects = up to 25 points

#### Total 50 points

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**c) Experience of Key Individuals:**(suggest one page for each resume)

Submit resumes' for three on site personnel listing education, training, employers, time frames and relevant work assignments.

Points will be assigned as follows:

Resumes': 12 points each, maximum 3 employees up to 36 points

**Total 36 points**

**4.1.3 Point-Rated Criteria:**

Each responsive bid will be rated by assigning a score to the rated requirements, which are identified in the RFP by the word "rated" or by reference to a score. Bidders who fail to submit complete offers with all the information requested by this RFP will be rated accordingly.

**4.1.4 Financial Evaluation**

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded, FOB destination, Canadian customs duties and excise taxes included.

**4.2. Basis of Selection**

**4.2.1** The selection of the contractor will be based on best value as determined by a ratio of 70% vs. 30% of the technical score and price, respectively. The highest technical score will receive the maximum points of 70 and the others prorated accordingly. The lowest priced proposal (must be technically acceptable) will receive the maximum points of 30 and the other proposals prorated. The highest total score when adding the technical points and the price points will be considered as representing best value.

i.e.) Example of Best Value Determination

Assuming three valid bids are received (each meets the minimum required technical score - and mandatory requirements, where applicable), and maximum technical score is 100 points.

Using a ratio of 70% technical vs. 30% price:

Details:

	Bid #1	Bid #2	Bid #3
Technical:	88 points	82 points	76 points
Price	\$60K	\$55K	\$50K

Calculation:

Bidder	Technical Points	Price Points	Total Points
Bid #1	$\frac{88}{88} \times 70 = 70.00$	$\frac{50}{55} \times 30 = 27.27$	97.27 points
Bid #2	$\frac{82}{88} \times 70 = 65.23$	$\frac{50}{55} \times 30 = 27.27$	92.5 points
Bid #3	$\frac{76}{88} \times 70 = 60.45$	$\frac{50}{55} \times 30 = 27.27$	87.72 points

\* Highest technical score.

\*\* Lowest price proposal

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Award to Bid #1 (Highest total score taking into consideration technical and price)

## PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

### 5.1. Mandatory Certifications Required Precedent to Contract Award

#### 5.1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies as per section 01 of Standard Instructions 2003 for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation therein required will help Canada in confirming that the certifications are true.

### 5.2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

#### 5.2.1 Federal Contractors Program - Certification

##### 1.1 Federal Contractors Program for Employment Equity - over \$25,000 and below \$200,000

Suppliers who are subject to the Federal Contractors Program (FCP) and have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive federal government contracts over the threshold for solicitation of bids as set out in the Government Contract Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce. Any bids from ineligible contractors, including a bid from a joint venture will be declared non-responsive.

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

The Bidder or the member of the joint venture

- (a) ( ) is not subject to the FCP, having a workforce of less than 100 permanent full or part-time employees in Canada,
- (b) ( ) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c.44;
- (c) ( ) is subject to the requirements of the FCP, having a workforce of 100 or more permanent full or part-time employees in Canada, but has not previously obtained a certificate number from HRSDC, having not bid on requirements of \$200,000 or more;

- (d) ( ) has not been declared ineligible contractor by HRSDC, and has a valid certificate number as follows: \_\_\_\_\_

Further information on the FCP is available on the HRSDC Web site.

### 5.2.2 Former Public Servant Certification

Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny and reflect fairness in spending public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, offerors must provide the information required below.

#### 5.2.2.1 Definitions

For the purposes of this clause,

"former public servant" means a former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police and includes:

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

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the Public Service.

"pension" means a pension payable pursuant to the Public Service Superannuation Act, R.S., 1985, c. P-36 as indexed pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24.

#### 5.2.2.2 Former Public Servant in Receipt of a Pension

Is the Offeror a FPS in receipt of a pension as defined above? YES ( ) NO ( )

If so, the Offeror must provide the following information:

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

#### 5.2.2.3 Work Force Reduction Program

Is the Offeror a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? YES ( ) NO ( )

If so, the Offeror must provide the following information:

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

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

#### **5.2.2.4 Education and Experience**

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

#### **5.2.2.5 Certification**

By submitting an offer, the Offeror certifies that the information submitted by the Offeror in response to the above requirements is accurate and complete.

### **5.3 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.

## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1. Statement of Work

See attached Annex A

### 6.1.2 Task Authorization

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

#### 6.1.2.1 Task Authorization Process

1. The Project Authority will provide the Contractor with a description of the task using the " Task Authorization Form" for non-DND clients attached at Annex B.

2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis(bases) and methods of payment as specified in the Contract.

3. The Contractor must provide the Project Authority, within 3 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.

4. The Contractor must not commence work until a TA authorized by the Project Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

#### 6.1.2.2 Task Authorization Limit

The Project Authority may authorize individual task authorizations up to a limit of \$10,000.00, Goods and Services Tax or Harmonized Sales Tax included, inclusive of any revisions.

Any task authorization to be issued in excess of that limit must be authorized by the Contracting Authority before issuance.

#### 6.1.2.3 Minimum Work Guarantee - All the Work - Task Authorizations

1. In this clause,

"Maximum Contract Value" means the amount specified in the "Limitation of Expenditure" clause set out in the Contract; and

"Minimum Contract Value" means 5%.

2. Canada's obligation under the Contract is to request Work in the amount of the Minimum Contract Value or, at Canada's option, to pay the Contractor at the end of the Contract in accordance with paragraph 3. In consideration of such obligation, the Contractor agrees to stand in readiness throughout the Contract period to perform the Work described in the Contract. Canada's maximum liability for work performed under the Contract must not exceed the Maximum Contract Value, unless an increase is authorized in writing by the Contracting Authority.

3. In the event that Canada does not request work in the amount of the Minimum Contract Value during the period of the Contract, Canada must pay the Contractor the difference between the Minimum Contract Value and the total cost of the Work requested.

4. Canada will have no obligation to the Contractor under this clause if Canada terminates the Contract in whole or in part for default.

#### **6.1.2.4 Periodic Usage Reports - Contracts with Task Authorizations**

The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under the Contract.

The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "NIL" report.

The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

- 1st quarter: April 1 to June 30;
- 2nd quarter: July 1 to September 30;
- 3rd quarter: October 1 to December 31; and
- 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than 10 calendar days after the end of the reporting period.

#### **Reporting Requirement- Details**

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- (i) the authorized task number or task revision number(s);
- (ii) a title or a brief description of each authorized task;
- (iii) the total estimated cost specified in the authorized Task Authorization (TA) of each task, GST or HST extra;
- (iv) the total amount, GST or HST extra, expended to date against each authorized task;
- (v) the start and completion date for each authorized task; and
- (vi) the active status of each authorized task, as applicable.

For all authorized tasks:

- (i) the amount (GST or HST extra) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- (ii) the total amount, GST or HST extra, expended to date against all authorized Task.

#### **6.2. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisitions Clauses and Conditions (<http://ccua-sacc.tpsgc-pwgsc.gc.ca/pub/acho-eng.jsp>) Manual issued by Public Works and Government Services Canada.

##### **6.2.1 General Conditions**

2035 (2013-03-21), General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

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**6.3 Term of Contract**

**6.3.1 Period of the Contract**

The Contract will be in effect for 18 months starting from date of award, with the option to renew for an additional 18 month period.

**Option to Extend Contract**

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by a period of 18 months under the same terms and conditions. Canada may exercise this option at any time by sending a notice to the Contractor at least thirty calendar days prior to the Contract expiry date.

The Contractor agrees that, during the extended period of the Contract, the rates/prices will be in accordance with the provisions of the Contract.

**6.4 Authorities**

**6.4.1 Contracting Authority**

The Contracting Authority for the Contract is:

Wendy Armstrong , Supply Specialist  
Public Works and Government Services Canada  
#219 - 800 Burrard St.  
Vancouver, B.C. V6Z 2V8  
Tel: (604) 775-7691  
Fax: (604) 775-7526  
E-Mail: wendy.armstrong@pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

**6.4.2 Project Authority**

The Project Authority for the Contract is:

Name: (to be inserted at time of award)  
Tel: (604) \_\_\_\_\_  
E-Mail: \_\_\_\_\_

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the

**6.4.3 Contractor's Representative**

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail: \_\_\_\_\_

**6.5 Payment**

**6.5.1 Basis of Payment**

The Contractor will be paid in accordance with the Basis of Payment for Work performed pursuant to this Contract at the rate of:

\$ \_\_\_\_\_ / hour

## Disbursements

There will be no mark-up on disbursements.

The following costs are included in the hourly fees required to deliver the services and will not be reimbursed separately; standard office expenses such as any photocopying, computer costs, Internet, cellular phone costs, long distance telephone and fax costs, including that between the Contractor's main office and branch offices or between the Contractor's offices and other team members offices.

Costs for travel to 800 Burrard St. will not be reimbursed.

Travel time to other work locations will be reimbursed at the hourly rate for the lesser of travel time from the Contractor's office or from 800 Burrard St. to the other work sites.

All other costs associated with travel to locations other than 800 Burrard St. Vancouver will be compensated in accordance with the National Joint Council Travel Directive.

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

Non time based costs associated with training must be pre-approved and will be compensated as disbursements

### 6.5.2 Limitation of Expenditure - Cumulative Total of all Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all authorized Task Authorizations (Tas), inclusive of all revisions, must not exceed \$TBA,. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
  - (a) when it is 75 percent committed, or
  - (b) four (4) months before the contract expiry date, or
  - (c) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

whichever comes first.
3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

### 6.5.3 Monthly Payment

Canada will pay the Contractor on a monthly basis for work performed during the month covered by the invoice in accordance with the payment provisions of the Contract if:

- (a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

Invoices will be paid monthly on actual service provided and will list hours this month, hours to date, and hours remaining available. Itemize the current month's disbursements and total disbursement amount to date on each invoice.

Submit invoices to walter.casol@pwgsc.gc.ca, Phone 604 - 775 - 6687, Fax 604 -775 - 6697.

- (b) all such documents have been verified by Canada;
- (c) the Work performed has been accepted by Canada.

#### **6.5.4 Time Verification**

Time charged and the accuracy of the Contractor's time recording system are subject to verification by Canada, before or after payment is made to the Contractor. If verification is done after payment, the Contractor must repay any overpayment, at Canada's request.

#### **6.6. Invoicing Instructions**

The Contractor must submit Invoices in accordance with the information required in section 12, Invoice Submission, of the 2035 General Conditions - Higher Complexity - Services.

#### **6.7. Certifications**

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

#### **6.8 Replacement of Personnel**

.1 Should the Contractor, at any time, be unable to provide the named employees assigned to the Contract, the Contractor will provide replacements of equal ability and experience and be acceptable to the Project Authority.

.2 In such cases, notify in writing the Project Authority and provide:

1. the reason for the removal of the named employee(s) from the Work;
2. the name of the proposed replacement(s);
3. An outline of the qualifications and experience of the candidate(s) and
4. accepted security clearance certification(s), as applicable.

.3 Notwithstanding the foregoing, the Contractor is required to perform the Work and provide the services in accordance with the terms of this Contract.

#### **6.9 Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

#### **6.10 Priority of Documents**

Solicitation No. - N° de l'invitation

EZ899-132215/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

xsb005

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

EZ899-132215

File No. - N° du dossier

XSB-2-35399

CCC No./N° CCC - FMS No/ N° VME

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

- (a) the Articles of Agreement;
- (b) 2035 (2013-03-21), General Conditions - Higher Complexity - Services,
- (c) Annex A, Statement of Work
- (d) Annex B - Task Authorization Form PWGSC-TPSGC 572
- (e) Annex "C" National CADD standard
- (f) the Contractor's bid dated \_\_\_\_\_

## ANNEX A STATEMENT OF WORK

### 1. PURPOSE

Public Works & Government Services (PWGSC) Pacific Region Professional and Technical Services has an existing CADD software license subscription agreement with Autodesk Canada (contract number 342-4636871). PWGSC requires support for deployment, onsite maintenance and resolution of technical issues.

### 2. BACKGROUND

There are approximately 16 production or semi production users of the software and approximately 25 casual plotting minor editing users of the software.

The existing subscription contract consists of :

- 17-Autodesk Architecture networked licenses
- 4-Autodesk Civil 3D networked licenses
- 2-Autodesk Civil 3D networked licenses
- 1-Autodesk Raster Design networked license
- 4-Autodesk MEP networked licenses
- 1-Autodesk Building Design Suite Ultimate networked license
- 2-Autodesk REVIT Architecture networked licenses
  
- 1-Autodesk AutoCAD standalone license
- 2-Autodesk AutoCAD LT standalone licenses
- 1-Autodesk Building Design Suite Premium standalone license
- 1-Autodesk Map 3D standalone license

The bulk of the licenses are used at 800 Burrard Street, Vancouver, one license is at the Esquimalt Graving Dock, two of the Civil 3D licenses are in use in Fort Nelson, the other location using the bulk of the Civil 3D licenses is at Annacis Island.

One AutoCAD LT and one AutoCAD standalone license is in use in Abbotsford.

### 3. SCOPE

Respond within four hours to requests for call in telephone support and within the next business day to requests for on site support. Be available within normal office hours between 8:30-4:30 Monday to Friday (not including federal statutory holidays).

The PWGSC office at 800 Burrard St. Vancouver is the primary place of work for this Offer of Services. Support is also required at all sites noted in 2. Background.

Contractor's efforts will result in the latest software subscription licenses in being ready to be deployed from the prescribed server location with the CADD standards embedded in the software.

Liaise with the PWGSC Representative to organize and schedule time with PWGSC Information Technology Services Branch (ITSB).

Create executable deployment images for the installation of all the network CADD / BIM software licenses and register the software with AutoDESK.

Install executable images of the software on the existing network server through the remote access protocol established by the IT services group.

---

Verify that the installation images of the software work as required and test each individual piece.

Provide customization and trouble shooting for specific CADD / BIM software related issues.

Provide CADD / BIM software training for individuals on PWGSC premises.

Provide strategic advice regarding future computer software and hardware strategies including, attending meetings, preparing presentations and providing reports presenting the advice.

#### **4. CONSTRAINTS**

The license management server and servers storing the deployment images for installation of network licenses are stored on dedicated secure servers at 800 Burrard St.

The on site work at PWGSC premises, will be through the remote desktop access protocol.

PWGSC is governed by a national CADD standard and the installation must result in that standard being the default when using all automated drawing tools.

PWGSC will maintain the AutoDesk software license subscription and adequate space for the deployment images of the software on the server.

PWGSC will initiate the deployment of the software to the users with the exception of the test installs by the Contractor.

PWGSC will install stand alone licenses unless requested otherwise.



Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

Canada



Serving  
**GOVERNMENT,**  
Serving  
**CANADIANS.**

# PWGSC

## National CADD Standard

Computer-Aided Design and Drafting



November 2011



[www.pwgsc-tpsgc.gc.ca](http://www.pwgsc-tpsgc.gc.ca)



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## 1.0 Introduction

Computer-Aided Design and Drafting (CADD) is an integral component of information management for Public Works and Government Services Canada (PWGSC). The production of digital files by CADD is an important corporate asset. The greatest payback for CADD and related technology is in the reuse of the digital data for facilities management and as a foundation for future projects. If CADD files are to be an effective source of information, they must adhere to a standardized set of criteria that all CADD users will understand.

As an ongoing effort to keep up with changing technology, we are pleased to introduce the third edition of the PWGSC National CADD Standard. A concerted effort has been made not only to simplify the standard, but also to reinforce the requirements in areas we feel are critical to our goals.

PWGSC is aware of the emerging technology and processes related to building information modelling (BIM). As BIM represents a significant change, a new BIM standard, by necessity, will be created, facilitating the transition in the architecture, engineering, and construction (AEC) industry.

In addition, some of the regions have developed a regional CADD standard, which is to be used as a complement to this national standard.

For questions or further information regarding this document, please contact the National CADD Coordinator at the following e-mail address:

[CADD-CDAO@pwgsc-tpsgc.gc.ca](mailto:CADD-CDAO@pwgsc-tpsgc.gc.ca)

For a list of regional contacts, please visit the PWGSC National CADD Standard Web site and regional pages at:

<http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/index-eng.html>

### 1.1 Scope

This standard applies to all services that generate CADD data files for PWGSC, including both internal PWGSC CADD service(s), and external consultant(s).

All CADD data files submitted to PWGSC must meet this standard.

## 2.0 Project Delivery

### 2.1 Drawing File Format

PWGSC requires all files to be compatible with Microsoft® Operating Systems. The CADD drawing format required for drawings is the AutoCAD® native format DWG file, i.e., they may not be submitted in Adobe® PDF, Autodesk® DWF, or any other simplified format unless specified in the contract. PWGSC will not supply or accept formats that are no longer supported by Autodesk®.

### 2.2 Project Start-up

All project drawings must be created using the PWGSC National CADD Standard. To ensure this requirement is met, PWGSC will undertake drawing coordination and quality assurance.

Where CADD services will be provided externally, the PWGSC project manager or technical authority will convey its requirements to the consultant or CADD service. PWGSC will provide the pertinent CADD drawings for the related facility or property, the drawing templates, the regional supplement to this standard and the symbol library if applicable. . All new work must meet this standard irrespective of the condition of any existing files provided at the outset of work.

The PWGSC National CADD Standard is available on the PWGSC Web site at <http://www.tpsgc-pwgsc.gc.ca/biens-property/cdao-cadd/index-eng.html>.

#### 2.2.1 Regional supplement and symbol library

Some of the regions have developed regional supplement and/or a symbol library, which is to be used as a complement to this national standard. The regional supplements are available on the PWGSC Web site at: <http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/index-eng.html>

#### 2.2.2 CADD Base Plans

The CADD base plans maintained by PWGSC have been drawn from building and property surveys. The intent is to use the files for project drawings, and then the PWGSC regional CADD RA will be in charge of updating the base plans once the project is completed and measurements of the affected area(s) are verified.

Existing digital information, when available, is used to form the foundation for new project drawings. Any areas critical to the project should be verified by field checking.

New digital drawing files created must be modified to include the most up-to-date information contained in the National CADD Standard. Older legacy CADD data that is used in new drawing files must be updated to the current standard.

The project start-up meeting with the project manager or technical authority and CADD Coordinator should address the extent to which the existing digital files require verification and updating. All new work must meet this standard irrespective of the condition of any existing files provided at the outset of the work.

#### 2.2.3 Template Drawing

Drawing templates set the default metric units, text styles, and dimension styles. Recognizing the differences between engineering drawings and architectural drawings, the templates are provided with dimension styles and lettering for multiple disciplines. PWGSC templates must be used to start a new project. Please visit the PWGSC National CADD Standard Web site or contact the PWGSC project manager regarding the use of drawing templates.

## 2.3 Quality Assurance of CADD Data

PWGSC will carry out quality assurance of delivered CADD data files to ensure adherence with the PWGSC National CADD Standard and regional supplements.

### 2.3.1 Digital File Review

- **Colour Assignment**

PWGSC colour/line weight assignment must be used. ([See 3.2.5 Colour Assignment Standard](#))

- **Layer Management**

The PWGSC Layering Standard must be used. ([See 3.2 Layering Standard](#))

Standard layer names must be used.

Entities must be in the correct layers.

- **Text Style Management**

Only standard AutoCAD® SHX fonts or TTF fonts can be used. ([See 3.4 Text Style Standard](#))

- **Dimension Style Management**

The PWGSC naming convention must be used. ([See 3.5 Dimension Style Standard](#))

Associative dimensions must be used.

- **Linetype and Hatch Pattern Management**

Only standard AutoCAD® and/or PWGSC linetypes and hatch patterns can be used. ([See 3.6 Linetype and Hatch Standard](#))

Linetype display variables must be used correctly.

- **External Referencing**

The use of external references is authorized only if certain conditions are met. ([See 1.2.1 External References \(XREF\)](#))

- **PWGSC Title Blocks and Graphic Scales**

PWGSC title blocks must be used. Please visit the PWGSC National CADD Standard Web site or contact the PWGSC project manager.

Title blocks must contain the minimum information ([See 3.7 Title Blocks and Graphic Scales](#)).

Graphic scales or written scales must accompany all plans, sections, details, and elevations, etc.

- **1:1 Metric Model**

Drawings must be modelled at full size using the International System of Units (S.I.)

- **Real-World Coordinate System**

Maintain coordinate systems integrity for 2D drawings.

### 2.3.2 Drawing file approval

PWGSC has jurisdiction over all drafting-related aspects of the final drawing, including but not limited to drawing content, title block layout, symbols, and font usage continuity throughout a drawing set. All drawings must be completed to the satisfaction of PWGSC.

In the absence of a drawing submission schedule, PWGSC reserves the right to request CADD data files at the midpoint (50%) of the scheduled work to conduct a CADD drafting review.

Note that the content of the digital CADD data file is just as important as the printed content, and no drawing will be accepted as final until all issues are resolved.

Delivered work that fails to meet any requirement in any of these areas will result in the work being deemed unacceptable. The consultant/CADD service will be required to correct the problem(s) at their cost. Furthermore, PWGSC will exercise its option to withhold payment of the contracted work as set out in the contract terms until the work is made right.

Alternatively, PWGSC may, if the consultant/CADD service refuses to correct the problem, make the corrections to the CADD data files and printed drawing plans and deduct the cost thereof from the consultant's/CADD service's fee. The consultant/CADD service grants to PWGSC an irrevocable licence to make such corrections and use the corrected CADD data files and printed drawing plans as it sees fit. Furthermore, PWGSC reserves the right to use the printed drawing plans resulting from the CADD data files with no payment obligation until the CADD data files are corrected.

### 2.3.3 External References (XREF)

The use of external references will be conditionally authorized if the regional supplement of the CADD standard where the work is being performed permits the use of xrefs.

When this condition is met, xrefs may only be used in conjunction with the "Sheet Set Manager" to support the transmission of drawing files in a compressed format.

In all the other cases, external references must be converted into blocks. (Do not BIND XREFs, instead use BIND INSERT.) **Under no circumstances should a drawing contain referenced symbols; they must be inserted as blocks.**

### 2.3.4 Raster Images

When separate raster images are included in a drawing, all related files containing images and information on coordinates, rotation angles, scaling, etc. are to be provided. As these files are essential for their geo-referencing, they must be delivered intact. Raster images should be used as a reference only and cannot replace the vector data normally required in drawing files.

### 2.3.5 Digital Signature

Drawing files containing digital signatures are not accepted and can not legally replace printed copies signed and stamped as original.

## 2.4 Work Completed

When work is complete and the drawing files are delivered to PWGSC, they must be reviewed for compliance with the National CADD Standard. The CADD service shall maintain the drawings in a suitable manner until all drawings for the project are verified and accepted by PWGSC. Once completed, a PWGSC will archive the file(s) in an electronic document and record management system.

## 2.4.1 File Delivery

File transfer will be stipulated by PWGSC on a per project basis by one of the methods listed below:

- Submission and upload of drawing files to a project collaboration tool (PCT) designated by the contact person.
- Submission and upload of drawing files to an information management tool designated by the contact person.
- Submission and transfer of drawing files through e-mail.
- Should a file transfer exceed the e-mail file transfer limit, the file can be uploaded to an FTP site if permitted under regional rules.
- In the case of inability to access a FTP site, lack of Internet access, no permission, or security considerations of the drawing content (unencrypted Protected B, Protected C, Confidential, Secret, Top Secret), a portable electronic storage media (CD, DVD, USB key, etc.) will be delivered to the designated contact person.

 Note: The FTP sites are not secure. Therefore, files containing sensitive information (requiring security clearance greater than Protected A) cannot be uploaded to this site and must be transferred via a portable electronic storage media.

After uploading the file, e-mail the following information to the designated contact person:

- Project location
- Project name
- Project number
- Fully qualified URL path/file name(s) link

 Notes:

- Uploaded files must be named using only alphanumeric characters with no spaces.
- All files are deleted from the site every second day. Timely notification is required to ensure file retrieval.
- No files are to be presented as an executable (.exe extension).
- Files should not be password-protected
- Files should not contain any electronic signature.
- Drawings should not contain hyperlinks.

## 2.5 Production of Contract Drawings

The following formats should be applied.

### 2.5.1 Sheet Size for Page Setup

This table shows the sheet designations and sizes for the drawing page setup. Drawing sheet size will conform to the following specifications:

<u>Sheet Designation</u>	<u>Overall Size (mm)</u>
B1	707 x 1000
A0	841 x 1189
A1	594 x 841
A2	420 x 594
11 x 17 (Tabloid / Ledger)	279 x 432
14 x 8.5 (Legal Landscape)	356 x 216
8.5 x 14 (Legal Portrait)	216 x 356
11 x 8.5 (Letter Landscape)	279 x 216
8.5 x 11 (Letter Portrait)	216 x 279

 Note: The paper size naming may vary depending on the printer drivers.

 Note: When drawings larger than A0 are required, it is recommended that they use a width of 841 mm and a length in increments of 150 mm. Digital files of standard PWGSC or client title block formats will be provided in the required standard sizes and **must not be altered or modified without authorization.**

## 2.6 Disclaimers and Limitation of Liabilities

Maps, drawings, and data produced for PWGSC purposes should be considered for illustrative or reference purposes only by users outside of PWGSC.

PWGSC and its agents, consultants, contractors, or employees provide these materials and information “as is” without warranty of any kind, implied or express, as to the information being accurate or complete, and without any warranty of merchantability and fitness for a particular purpose.

PWGSC does not assume any legal liability or responsibility for the accuracy, completeness, or usefulness of the maps, drawings, data, or information incidental thereto. PWGSC recommends that users exercise their own skill and care with respect to their use or seek professional advice.

Under no circumstances will PWGSC be liable to any person or business entity for any direct, indirect, special, incidental, consequential, or other damages as a result of any use of the maps, drawings, data, or any information incidental thereto, including, without limitation, any lost profits or business interruption.

## 2.7 Copyright

The Copyright Act protects all works (including drawings, charts, photos, etc.) from being copied without permission. Copying a work is called ‘copyright infringement’. Copying including ‘cutting and pasting’, reproducing, publishing or transmitting any work without permission *by any means* is considered copyright infringement. All work is copyright protected even if it does not explicitly say so.

Without prejudice to any rights or privileges of the Crown, where any work is, or has been, prepared or published by or under the direction or control of Her Majesty or any government department, the copyright in the work shall, subject to any agreement with the author, belong to Her Majesty. The copyrights ownership can also be transferred to the client by written contract. **Use of any PWGSC content without permission, in whole or in part, is strictly forbidden.**

## 3.0 PWGSC Computer Aided Drafting Standard

This section describes the general PWGSC Computer Aided Drafting Standard. Specific instructions can be added in the context of a request for proposal.

### 3.1 File Presentation

Files presented must conform to the following rules:

- A drawing must be purged of all definitions that are not used, such as layer names, text styles, dimension styles, layer filters, and blocks.
- A drawing must not contain any object definitions without geometry, such as empty text or blocks without objects.
- No objects should reside on layer "0" or "DEFPOINTS" except for objects contained in a block definition and dimensions. Use the "Plot/Non plot" layer property instead of the Defpoints layer.
- A drawing must not contain errors that are detectable using the Audit command.
- Drawings are to be modelled at full scale (real-world units) in model space, with text, symbols, hatch patterns, and line widths adjusted by the required scale factor.

All presented files must also adhere to the following rules of best practice:

- When appropriate to the type of drawing, lines must be drawn in an orthogonal mode.
- All vector endpoint intersections must be drawn with closed corners.
- The drawing must be saved with properly formatted Page Setup (Paper Size, Plot Style, Plot Area, Plot Scale, etc.). The main layout must be active and all the viewports adjusted and locked to the correct scale.

### 3.2 Layering Standard

All digital CADD files must follow the PWGSC Layering Standard. The standard facilitates data management by using a layering structure and naming convention to organize the drawing data in the CADD files into related data groups.

[See Annex A – CADD Layers](#) for the complete Standard Layer List.

[See Annex B – Layer Field Descriptions](#) for the abbreviations and descriptions lists used to create layer names.

#### 3.2.1 Sorting Graphic Data into Related Data Groups

Layers are used to sort the graphical data types depicted by the line work into related data groups. (They are not intended for use in sorting line weights, line types, colours, or other schemes.)

Layering is the only way to identify what the entities on a graphical screen represent without resorting to annotations. For example, it answers questions such as whether a rectangle represents a building outline, a concrete pad, a storage tank, or whether it is an annotation box. All digital CADD files must follow the PWGSC Layering Standard to create the appropriate layers to accommodate the grouping of related data.

To simplify the layering, drawing data can be broken into two major groupings: principal data and supporting data. The level of complexity and number of layers required for the two groups are significantly different.

### 3.2.2 Principal Data

Principal data is contained mainly in the plan views of the facility, i.e., the base plan, floor plan, site plan, etc.

This type of data requires strict adherence to layer naming and proper grouping of data. The line work used to depict facility components must always be drawn using the most up-to-date and accurate information available. Line work depicting objects must be placed in the proper standard layer according to the data type being represented. For example, in a floor plan, the walls, doors, windows, and bathroom fixtures must be grouped under separate layers.

### 3.2.3 Supporting Data

Supporting data is made up of sections, details, elevations, schedules, legends, and title blocks, etc.

This type of data requires minimal layering breakdown. Line work in a detail representing different components does not need to be placed in separate layers. For example, a building construction detail can be drawn with foundation wall, frame wall, floor, and roof line work in a single layer, although the dimensions, annotation, and hatching should be separated.

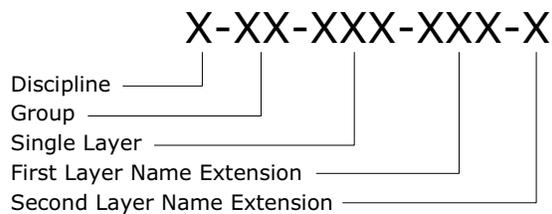
### 3.2.4 Layering Naming Convention

Layering of CADD information must adhere to the layering naming convention described in this section.

The layer is the basic tool for organizing and managing graphic information. Layers are used to sort graphic objects into groupings of related data. PWGSC has developed a modular, alphanumeric layer nomenclature format designed to sort graphic data in a specific manner.

The layer name format consists of five fields separated by hyphens.

- The first three fields—Discipline, Group, and Single Layer—are mandatory.
- The last two fields—First Layer Name Extension and Second Layer Name Extension—are optional fields that allow a more precise data identification where necessary.



[See Annex A – CADD Layers](#) for a list of the most frequently used layer names and their descriptions.

[See Annex B – Layer Field Descriptions](#) for a complete list of the field abbreviations and descriptions for the last four of the five fields of the layer name structure.

Two-field layer names (X-XX) can only be used under special conditions and must have PWGSC approval.

#### **Discipline Field**      **X-XX-XXX**

The Discipline field identifies the discipline responsible for the layer content. Where an object cannot be associated with a specific discipline, or is applicable to all disciplines, the special abbreviation of “G” may be used to indicate “General Information.”

## Discipline Field Abbreviations List:

A	Architecture
B	Bridges and Dams Engineering
C	Civil Engineering, Site Design, and Landscape Architecture
E	Electrical Systems
G	General Information
H	Mechanical
I	Interior Design
L	Legal Surveys
M	Marine
R	Real Property Space Management
S	Building Structure

**Group Field**      X-~~XX~~-XXX

The Group field identifies groupings of common types of drawing information relevant to each discipline. The Group abbreviations defined for each discipline are listed in the Standard Layer List in [Annex A – CADD Layers](#). In addition, there are some common Group abbreviations defined for use with all disciplines for supporting graphic data such as sections, details, and others. [Annex B – Layer Field Descriptions](#) contains a complete list of all Group abbreviations and their descriptions.

Examples of common Group field abbreviations:

DT	Details, Sections, Elevations
GL	Global
GR	Grid
LG	Legend
PL	Plan
SC	Schedules
TL	Title Block

**Single Layer Field**      X-XX-~~XXX~~

The Single Layer field subdivides the classifications to identify each layer more precisely. Single Layer abbreviations allow information pertaining to Physical Properties, Materials, Graphics, Text and discipline related data such as building systems to be included. The Single Layer abbreviations are listed in the Standard Layer List in [Annex A – CADD Layers](#) and [Annex B – Layer Field Descriptions](#).

**First Layer Name Extension (Optional)**      X-XX-XXX-~~XXX~~-X

The First Layer Name Extension, like the Single Layer field, allows information pertaining to Physical Properties, Materials, Graphics, Text and discipline related data to be included. The extensions use the same abbreviations as the Single Layer field. They may be used with any valid layer from the Standard Layer List. They may also be used as a Single Layer field value where appropriate.

Examples of common Single Layer and First Layer Name Extension abbreviations for all disciplines: ([See Annex B - Layer Field Descriptions](#) for a complete list.)

## Physical Properties:

ABV	Above ground, above grade
EME	Emergency
EQP	Equipment
EXT	Exterior
HOR	Horizontal
INT	Interior
NOD	Node, horizontal reference point
OPN	Openings
UND	Underground, below grade
VER	Vertical

## Materials:

ASP	Asphalt
BLK	Block
BRK	Brick
CON	Concrete
CRP	Carpet
FIN	Finishes
INS	Insulation
STL	Steel
STO	Stone
TIM	Timber

## Graphics:

3DM	3D model components of 2D symbols
CLR	Colours
DIG	Digitized or vectorized from scanned image
HAT	Hatching
LIN	Line work
OLN	Outlines
PRO	Profiles
SPC	Special
SYM	Symbols, bubbles, detail notation, bar scales
TAB	Tables
TMP	Temporary

## Texts:

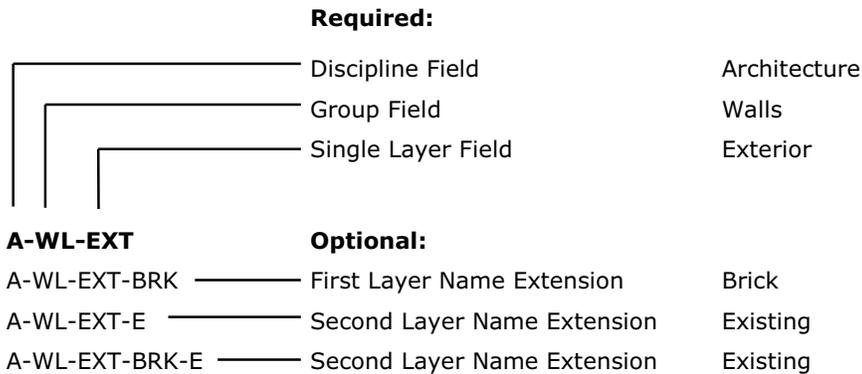
ATT	Attributes
DIM	Dimensions
IDN	Identification numbers or names
SPT	Spot elevations
TXT	Text, notations

**Second Layer Name Extension (Optional)** X-XX-XXX-XXX-**X**

The Second Layer Name Extension allows information pertaining to Geometry, Construction, Status, Second Language, and Numerical Options to be included. The extensions may be used with any valid layer from the Standard Layer List. [Annex B – Layer Field Descriptions](#) contains a complete list of all Second Layer Name Extension abbreviations and their descriptions.

Valid Layer Name Formats:

Four variants of the layer name format will be accepted, as indicated below:



Free Text Examples:

☞ Add an underscore character at the end of a valid layer name to append free text to the layer name.

**M-SN-SPT\_-1.0** Soundings at -1.0 m depth

**M-SN-HWL\_14 January 1990** High Water Line on a specific date

Existing Floor Plan Examples:

☞ Where plans are specifically titled "New" (or "Existing"), the "N" (or "E") Second Layer Name Extension modifier indicating the construction status may be omitted, but all disparate construction status extensions must be included.

**A-WL-INT-N** Architecture - Wall - Interior - New

**A-WL-INT-X** Architecture - Wall - Interior - Remove

**A-WL-OLN** Architecture - Wall Outline - Exterior ("Existing" implied)

**A-DR-INT** Architecture - Door - Interior ("Existing" implied)

**A-DR-INT-N** Architecture - Door - Interior - New

**A-WD-EXT** Architecture - Window - Exterior ("Existing" implied)

Symbols Examples:

☞ When a symbol is placed to represent an object, it must be placed in a symbols layer.

**E-SD-SYM** Electrical - Site Distribution - Symbols (Power poles, luminary, etc.)

**G-GL-SYM** General - Global - Symbols (Key plans, north arrow, bar scale, etc.)

Detail Examples:

Supporting data such as dimensions, annotation, and hatching should be separated as indicated in the examples below. Colour should be set “Bylayer” for the majority of the entities in a layer and specifically where necessary to obtain varying line weights in that layer.

<b>G-DT-LIN</b>	General - Detail - Line work (Wall, floor and roof line work)
<b>G-DT-TXT</b>	General - Detail - Text (Annotations, title, graphic scale, etc.)
<b>G-DT-DIM</b>	General - Detail - Dimensions
<b>G-DT-HAT</b>	General - Detail - Hatching (Insulation, wood grain, etc.)

Schedule Examples:

<b>A-SC-LIN</b>	Architecture - Schedule - Line work (Schedule grid or Line work)
<b>A-SC-TXT</b>	Architecture - Schedule - Text (Schedule data, annotation)

Plan Views Examples:

Supporting data can also appear on plan views.

<b>H-PL-TXT</b>	Mechanical - Plan - Text (Titles, graphic scale, annotation bubbles)
<b>S-PL-DIM</b>	Structural - Plan -Dimensions

### 3.2.5 Colour Assignment Standard: Layer Colours and Pen Weights

Colour is to be used as a method of defining line weight to the plotter. Layers must be assigned appropriate colours and entities should be created with colour “Bylayer” where possible, except as provided for in the creation of symbols. If a CTB is provided by PWGSC, it must be used.

Suggested Line Weight Settings:**Extra Thin - 0.10 mm**

Centre Lines / Axis, Grid Lines

**Thin - 0.15 to 0.25 mm**

Dimension Lines	Hatching Intermediate	Contour Lines
Leader and Extension	Lines Phantom Lines	Text - Normal

**Medium - 0.30 mm to 0.50 mm**

Hidden Lines	Index Contour Line
Text - Sub Headings	Visible Object Outlines

**Thick - 0.70 mm**

Cutting Lines	Match Lines	Reference Lines
Section Lines	Text - Titles/Major Headings	Viewing Planes

**Extra Thick - 1.00 mm**

Title Sheet Border

### 3.2.6 Provision for Creation of New Layers

Because the Standard Layer List ([Annex A – CADD Layers](#)) does not cover all possibilities, the layering standard provides for the ability to create new layer names for new objects as required.

As in the preceding example of E-SD-SYM, a quick look in the Standard Layer List under the Electrical Systems section would indicate that this layer name is invalid since it is not on the list. However, it is an acceptable layer name created by adding an existing *First Layer Name Extension* to an existing *Discipline-Group* abbreviation.

The rules for creating new layer names are as follows:

- a) A proper standard layer name for the object must not already exist.
- b) Must follow the standard layer name format.
- c) Must use an existing Discipline abbreviation. (**E-SD-SYM**)
- d) Must use an existing Group abbreviation. (**E-SD-SYM**)  
Must use an existing three-character Single Layer field abbreviation or First Layer Name Extension. (**E-SD-SYM**)

## 3.3 Block Standard

AutoCAD® blocks are used to group entities. Graphic blocks shall **not** be exploded. Blocks representing simple objects or simple symbols shall not contain nested blocks (blocks made of blocks). The use of groups is preferable when grouping blocks together, for example, a table with chairs around it. Most symbols should be created with linetype and colour "Byblock." This allows complete control over the appearance of the symbol. By default a symbol will take on the properties of the layer it is placed on, but it can be changed to suit requirements independent of the layer settings.

There are two different ways of creating and inserting AutoCAD® blocks, depending on their complexity. The basic rules are as follows:

#### 1. Simple blocks with one data type, e.g., toilet fixtures, furniture:

- a) Create the block on layer "0."
- b) The block must be inserted on the proper layer, e.g., office chair inserted on layer I-FU-SET.

#### 2. Complex graphics requiring the use of multiple data types:

- a) Create each data type on its proper layer.
- b) Colour and linetype must be "Bylayer" or "Byblock" so that these two attributes may be assigned to the symbol regardless of the layer properties the symbol is inserted on, e.g., title blocks created with objects on different layers.

Objects that could be represented by AutoCAD® blocks are categorized as being either symbols or graphics.

### 3.3.1 Graphics

Graphics are AutoCAD® blocks that are dimensionally accurate pictorial representations of real objects. A graphic may be a simplified representation of a building component or assembly such as a desk or chair, but it is accurate with respect to the component's principal dimensions.

Drawing scale does not affect the insertion of graphics. Graphics may be fixed or variable, and basic rules for their creation and insertion must be followed:

1. Fixed - Not scaled
  - a) Objects must be created full size.
  - b) Graphics must be inserted with 1-by-1 scale in model space.
2. Variable - Scaled to represent different size objects such as doors, round tables, etc.
  - a) Objects must be created inside a 1-by-1 square
  - b) Blocks must be inserted using the actual dimensions of the objects they represent in model space.

### 3.3.2 Symbol (Annotative)

Symbols are AutoCAD® blocks that are pictorial representations of objects not drawn to scale, such as an electrical outlet symbol. Drawing scale affects symbols in the same manner as annotation and therefore must be inserted into a working drawing at a scale factor corresponding to the drawing or plot scale as required.

 Note: It is now possible to create annotative blocks that can scale themselves automatically to any given scale. To avoid confusion, it is strongly recommended to use only one method throughout each project drawing set: the traditional method that lets the user choose the insertion scale, or the Annotative option that automatically manages the insertion scale.

Basic rules for the creation of symbols must be followed:

- a) Symbols should be drawn at actual plotted size and not smaller than 2.5 mm. The Annotative option can also be selected when creating the block.
- b) Symbols should be inserted using the plotted scale if they are inserted in model space, and 1 if they are inserted in paper space (layout), i.e., 50x on a 1:50 floor plan in model space, or 1x on a 1:1 drawing sheet in paper space. If the block was created with the annotative option selected, it will scale itself automatically during the insertion.

### 3.3.3 Block Library

Taking into account the specific needs of each project and the huge diversity, there is no national block library.

- a) If a block library is provided with a project, the consultant/CADD service must use it.
- b) All the blocks should be created respecting the rules described in this block standard.
- c) Use of blocks should be uniform throughout each project drawing set.
- d) If no blocks are provided, the consultant/CADD service must have their block library pre-approved by PWGSC.

### 3.3.4 Block Naming

A good structure for block naming is very important to allow for the creation and management of schedules, inventories, legends, etc. If the consultant/CADD service uses their own block library, they need to use a pertinent naming convention that must be pre-approved by the lead technologist.

## 3.4 Text Style Standard

Text styles for use in drawings must be created using Standard AutoCAD® SHX, the following TTF font files: Arial, Arial Narrow, and StylusBT and any font files specifically provided by PWGSC.

Annotative text styles are allowed.

Text style usage should be uniform throughout each project drawing set and limited to a maximum of four different font files per project that will be determined in collaboration with PWGSC.

The height of text styles must be set to 0 (not fixed) so that it can be changed to suit different scaling requirements.

All French characters should be accented whether upper or lower case.

Private company logos must not contain a special font file.

Paragraphs must be created with MTEXT objects.

 Note: It is now possible to create annotative text styles that can size themselves automatically to any given scale. To avoid confusion, it is strongly recommended to use only one method throughout each project drawing set: traditional text styles or annotative text styles.

### 3.4.1 Text Style Naming

Text style names should reflect the information below:

- Usage
- Font name
- Any other special effects (if required)

Examples:

<b>NOTES_SIMPLEX</b>	Text style with SIMPLEX used for notes
<b>TITLE_ARIAL_WF-1.2</b>	Text style with ARIAL and width factor 1.2 used for titles
<b>SPECIAL_SIMPLEX_OA-20</b>	Text style with SIMPLEX, oblique angle 20 used for special notes
<b>NOTES_ARIAL_ANN</b>	Text style with ARIAL and Annotative property enabled for notes

### 3.4.2 Text height

**Standard text height for:**

Notes, dimensions, annotations, etc.	2.5 mm
Major headings	4.5 mm, 5.0 mm
Subheadings	3.5 mm.

Text smaller than 2.5 mm can only be used under special conditions and must have PWGSC approval.

## 3.5 Dimension Style Standard

All dimensioning must be created on entities in model space with associative dimensions.

Annotative dimension styles are now allowed. However, as for blocks and text styles, it is strongly recommended to use only one method throughout each drawing set: traditional dimension styles set with different overall scales to suit different printing scales, or annotative dimension styles that are set up automatically based on the drawing scale.

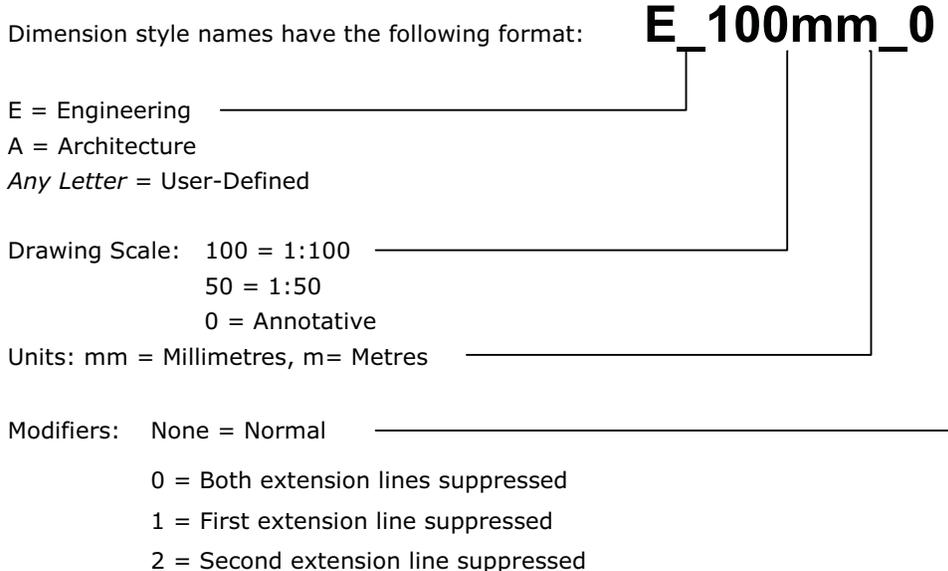
Two dimensioning formats are used to cover most applications for PWGSC projects:

- a) Engineering with arrowheads for dimension terminators
- b) Architectural with ticks for dimension terminators

### 3.5.1 Dimension Style Naming

Dimension style usage should be uniform throughout each project drawing set. Using dimension styles reduces the time necessary to create, edit, and maintain dimensions. Dimension styles are created by specifying values for a number of dimension variables and saving the style with a unique name. The dimension style controls the appearance of all the dimensions created while the dimension style is active. Changes to the dimension style will automatically be reflected in the associated dimensions.

Usage of override properties is not allowed and the dimensions must be associative. A new dimension style should be created to work with different properties.



#### Examples:

- A\_50mm** Normal Architectural dimension for floor plans
- A\_0mm\_Anno** Architectural dimension with Annotative property enabled
- A\_50mm\_0** Architectural dimension with no extension lines to dimension to grid lines
- E\_1000m** Normal Engineering dimension for site plans with metres as base unit

### 3.6 Linetype and Hatch Standard

The appearance of linetypes in a drawing is determined by the system variables LTSCALE, PSLTSCALE, MSLTSCALE, and MEASUREMENT.

- The MEASUREMENT variable determines which linetype description file to use for linetype loading:
  - **"1"** sets the default files to the **metric** unit files **acadiso.lin** and **acadiso.pat**. (See Note 1 below.)
  - **"0"** sets the default files to the **imperial** unit files **acad.lin** and **acad.pat**. These must not be used. (See Note 2 below.)
- The LTSCALE variable sets the global linetype scale factor.
- The PSLTSCALE controls linetype appearance in paper space.
- The MSLTSCALE controls the linetype appearance in model space in conjunction with the annotative scale (CANNOSCALE system variable in AutoCAD 2008+). When using MSLTSCALE, the variable LTSCALE should be set to between 0.5 and 1.

- Note 1: Drawings must not contain linetypes, complex linetypes or hatch patterns other than those respectively defined in the acadiso.lin and acadiso.pat files supplied with the AutoCAD® based Autodesk products or other linetypes supplied by PWGSC.
- Note 2: The linetypes and hatch patterns contained respectively in the acad.lin and acadiso.pat files should not be used because they are drawn to be used with imperial drawings. For consistent linetype appearance and plotting results, the required values for the variables are as follows:

**1. Final Drawings:** Title sheet must be in paper space with multiple, variously scaled VIEWPORTS.

- a) MEASUREMENT = 1
- b) LTSCALE between 0.5 and 1.0 (See Note 3 below.)
- c) PSLTSCALE = 1 (On)

- Note 3: The LTSCALE value should be set between 0.5 and 1.0 while printing in paper space depending on the size of the linetypes used in the drawing.

Do not set the linetype scale at the entity level. The Current Object Scale in the Linetype Properties dialog box (system variable CELTSCALE) must be set to 1.0 to ensure that the creation of new entities do not have entity-level linetype scaling.

For consistent hatch pattern plotting and scanning results, grey scale SOLID hatch patterns are not permitted on contract drawings.

## 3.7 Title Blocks and Graphic Scales

### 3.7.1 Title Block Set-up

Completed drawings must adhere to the following composition standard:

- a) Title block sheets must always be inserted in a layout (paper space) at 0,0,0 with scale factor of 1 and rotation angle of 0.
- b) Model space graphics must appear in the layout in correctly scaled VIEWPORTS.
- c) There must be only one (1) title block per layout.
- d) The title block is not to be exploded. Attributes must be used to enter title block information.
- e) No entities outside the title block perimeter.

### 3.7.2 Information in Title Blocks

All project drawings must be compiled on standard sheets and must be in accordance with the PWGSC corporate identity. The lead technologist for each project will coordinate the size of the sheet to be used and provide a standard title block and the content of the title block fields.

Each title block must contain the information below:

- a) Project name
- b) Address
- c) Drawing name, e.g. floor plan, building
- d) Measured or designed by and date
- e) Drawn by and date
- f) Approved by and date
- g) Project manager
- h) PWGSC project number
- i) Tender
- j) Drawing number

- k) Revision chart
- l) Consultant or CADD service identification
- m) North arrow
- n) Site plan (if pertinent)

### 3.7.3 Headings, Titles, and Graphic Scales

To facilitate scaling from reduced or enlarged reproductions, each plan, section, detail, elevation, profile, etc. on a completed drawing sheet shall be accompanied by a graphic scale. The graphic scale shall be located immediately below the pertinent heading on final plot.

## 3.8 Systems of Measurement and Preferred Scales

The International System of Units (S.I.) must be used to prepare all drawings.

The unit for linear dimensioning is the millimetre, except where the scope of the drawing requires the use of the metre, such as in site plans.

Integers shall indicate millimetres, e.g. 435, 4300. Decimal numbers with three decimal places shall indicate metres, e.g. 5.435, 4.300.

All other dimensions and notations should be followed by the unit symbol.

Preferred Viewport Scale:

1:1	1:25	1:500
1:2	1:50	1:1000
1:5	1:100	1:2000
1:10	1:200	1:5000
1:20	1:250	1:10000

## 4.0 Drawing File Naming Conventions

All CADD information submitted must be arranged in a logical format so that it can be easily accessed and modified by the user. This standard provides a framework for the information and will assist in data entry, manipulation, storage, and retrieval at different stages of the design and operation of the facility over its life cycle.

## Annex A – CADD Layers

The Standard Layer List below lists the most-used layer names defined under the PWGSC Layering Standard. New layer names can always be created using the field abbreviations and extensions listed in [Annex B – Layer Field Descriptions](#). The French abbreviations are listed just as a reference and should only be used with drawings annotated in French.

A layer name may include an additional subdivision for grouping subsets of layers that represent building systems or categories of related data. Each subdivision contains a primary layer (underlined) and supplementary layers (in grey) to subdivide the information with greater precision. The use of supplementary layers is optional and depends on a drawing's requirements.

<b>Architecture</b>		
<b>English Abv'n</b>	<b>Description</b>	<b>French Abv'n</b>
<b>A-CI</b>	<b>Circulation</b>	<b>A-CI</b>
A-CI-CVY	Horizontal conveyors, moving sidewalks	A-CI-HOR
<u>A-CI-ELE</u>	<u>Elevators</u>	<u>A-CI-ELE</u>
A-CI-ELE-BRF	Lift platforms for barrier-free access	A-CI-ELE-ACF
<u>A-CI-RMP</u>	<u>Ramps</u>	<u>A-CI-RAM</u>
A-CI-RMP-BRF	Barrier-free ramps	A-CI-RAM-ACF
<u>A-CI-STR</u>	<u>Stairs, stairwells, and ladders</u>	<u>A-CI-ESC</u>
A-CI-STR-ESC	Escalators	A-CI-ESC-ROU
<b>A-CL</b>	<b>Ceilings</b>	<b>A-PF</b>
A-CL-BKH	Bulkheads	A-PF-GYP
<u>A-CL-FIN</u>	<u>Ceiling finishes</u>	<u>A-PF-FIN</u>
A-CL-FIN-IDN	Ceiling finishes description	A-PF-FIN-NUI
<u>A-CL-GRD</u>	<u>Physical ceiling grid</u>	<u>A-PF-TRA</u>
A-CL-GRD-SCD	Planning grid lines	A-PF-TRA-SCD
A-CL-OPN	Openings, penetrations, skylights	A-PF-OUV
<b>A-DK</b>	<b>Deck</b>	<b>A-TR</b>
A-DK-BAR	Deck railings	A-TR-BAR
A-DK-OLN	Deck outline	A-TR-CON
<b>A-DR</b>	<b>Doors</b>	<b>A-PO</b>
<u>A-DR-EXT</u>	<u>Exterior doors, jambs, casework, swings</u>	<u>A-PO-EXT</u>
A-DR-EXT-IDN	Exterior doors identification numbers	A-PO-EXT-NUI
<u>A-DR-INT</u>	<u>Interior doors, jambs, casework, swings</u>	<u>A-PO-INT</u>
A-DR-INT-IDN	Interior doors identification numbers	A-PO-INT-NUI
A-DR-INT-PRT	Interior doors in a partition wall	A-PO-INT-CLS
<b>A-EM</b>	<b>Emergency</b>	<b>A-UR</b>
<u>A-EM-HAT</u>	<u>General hatching</u>	<u>A-UR-HAC</u>
A-EM-HAT-COR	Corridor hatching	A-UR-HAC-COR
A-EM-HAT-STR	Staircase hatching	A-UR-HAC-ESC
A-EM-HAT-WAL	Wall hatching	A-UR-HAC-MUR
<u>A-EM-OLN</u>	<u>General outline</u>	<u>A-UR-CON</u>
A-EM-OLN-COR	Corridor outline	A-UR-CON-COR
A-EM-OLN-STR	Staircase outline	A-UR-CON-ESC
A-EM-OLN-WAL	Wall outline	A-UR-CON-MUR

A-EM-SYM	Emergency symbols: exit signs, stairs, first aid kit location, etc.	A-UR-SYM
A-EM-TXT	Emergency text	A-UR-TEX
<b>A-FL</b>	<b>Floors</b>	<b>A-PC</b>
<u>A-FL-CTP</u>	<u>Countertops</u>	<u>A-PC-CMP</u>
A-FL-CTP-PRT	Countertops on partitions	A-PC-CMP-CLS
<u>A-FL-FIN</u>	<u>Floor finishes</u>	<u>A-PC-FIN</u>
A-FL-FIN-IDN	Floor finishes description	A-PC-FIN-NUI
A-FL-LEV	Floor level changes, ramps, truck wells	A-PC-NIV
A-FL-MIL	Architectural specialties, casework and millwork	A-PC-EBE
A-FL-OPN	Openings, floor hatching	A-PC-OUV
A-FL-OVH	Overhead items, skylights, overhangs, soffits	A-PC-SUS
A-FL-RAS	Raised floors	A-PC-SUR
<b>A-GL</b>	<b>General</b>	<b>A-GL</b>
A-GL-ATT	Attributes	A-GL-ATT
A-GL-DIM	General architectural dimensions	A-GL-DIM
A-GL-IDN	Identification, elevation points	A-GL-NUI
A-GL-RME	Read Me general drawing info.	A-GL-LIS
A-GL-TMP	Under construction lines, temporary aids	A-GL-TEM
A-GL-TXT	General text (street names)	A-GL-TEX
<b>A-PL</b>	<b>Plan Information</b>	<b>A-PN</b>
A-PL-OLN	Open-to-Below plan information outline	A-PN-CON
<b>A-RF</b>	<b>Roofs</b>	<b>A-TO</b>
A-RF-OLN	Roofs edge and features	A-TO-CON
A-RF-OPN	Roof openings for fans, stacks and ducts	A-TO-OUV
A-RF-OVH	Overhead items, roof above, canopies, soffits	A-TO-SUR
A-RF-WLK	Roof boardwalks, catwalks	A-TO-PAS
<b>A-WD</b>	<b>Windows</b>	<b>A-FN</b>
A-WD-EXT	Exterior window panes and frames	A-FN-EXT
<u>A-WD-INT</u>	<u>Interior window panes and frames, side windows</u>	<u>A-FN-INT</u>
A-WD-INT-PRT	Interior windows in a partition wall	A-FN-INT-CLS
A-WD-OVH	Overhead windows, skylights	A-FN-SUR
A-WD-SIL	Window sills	A-FN-ALL
<b>A-WL</b>	<b>Non-Structural Walls</b>	<b>A-MU</b>
<u>A-WL-ACC</u>	<u>Architectural or protection elements, guards</u>	<u>A-MU-ACC</u>
A-WL-ACC-BRF	Barrier-free accessories (grab bars, etc.)	A-MU-ACC-ACF
<u>A-WL-EXT</u>	<u>Exterior walls</u>	<u>A-MU-EXT</u>
A-WL-EXT-HAT	Exterior walls hatching	A-MU-EXT-HAC
<u>A-WL-FIN</u>	<u>Wall finishes</u>	<u>A-MU-FIN</u>
A-WL-FIN-IDN	Wall finishes description	A-MU-FIN-NUI
<u>A-WL-HED</u>	<u>Door and window headers</u>	<u>A-MU-LIN</u>
A-WL-HED-PRT	Door and window headers on partition	A-MU-LIN-CLS

<u>A-WL-INT</u>	<u>Interior walls</u>	<i>A-MU-INT</i>
A-WL-INT-LOW	Interior walls - low walls	<i>A-MU-INT-BAS</i>
A-WL-INT-LOW-PRT	Interior partitions - low walls	<i>A-MU-INT-BAS-CLS</i>
A-WL-INT-PRT	Interior partition walls	<i>A-MU-INT-CLS</i>
A-WL-OLN	Wall outlines, building footprints, sheds, etc.	<i>A-MU-CON</i>
A-WL-WSR-PRT	Washroom partitions	<i>A-MU-SAT-CLS</i>

## Bridges and Dams Engineering

English Abvn	Description	French Abvn
<b>B-AP</b>	<b>Approach Slabs</b>	<b>B-DA</b>
B-AP-PLN	Approach slabs in plan view	B-DA-PLN
<b>B-DK</b>	<b>Deck and Components</b>	<b>B-TA</b>
B-DK-BAR	Barriers, railings	B-TA-BAR
B-DK-CRB	Curbs, sidewalks	B-TA-BOR
B-DK-DRN	Deck drains	B-TA-DRA
B-DK-JNT	Expansion joints	B-TA-JOC
B-DK-PLN	Deck plan	B-TA-PLN
B-DK-REB	Deck reinforcing	B-TA-ACR
B-DK-STG	Steel grating	B-TA-GRI
<b>B-GL</b>	<b>General</b>	<b>B-GL</b>
B-GL-DIM	Dimensions	B-GL-DIM
B-GL-HAT	Hatching	B-GL-HAC
B-GL-LAY	Layout line work	B-GL-TRI
B-GL-TXT	Text	B-GL-TEX
<b>B-SB</b>	<b>Substructure</b>	<b>B-SO</b>
B-SB-ABU	Abutments	B-SO-CUL
B-SB-APR	Approach slabs	B-SO-APR
B-SB-BRG	Bearing	B-SO-POR
B-SB-FTG	Footing	B-SO-SEM
B-SB-LIN	Bearing plan line work	B-SO-TRI
B-SB-PIR	Piers	B-SO-PIL
B-SB-REB	Substructure reinforcing	B-SO-ACR
<b>B-SR</b>	<b>Scour Protection</b>	<b>B-PA</b>
B-SR-GAB	Gabions	B-PA-GAB
B-SR-RRP	Riprap	B-PA-PIR
<b>B-SS</b>	<b>Superstructure</b>	<b>B-SP</b>
B-SS-BEM	Beams	B-SP-POU
B-SS-BRC	Bracing	B-SP-ENT
B-SS-CTW	Catwalks	B-SP-PAS
B-SS-REB	Superstructure reinforcing	B-SP-ACR
B-SS-SNL	Stringers	B-SP-LON

<b>Civil Engineering, Site Design and Landscape Architecture</b>		
English Abvtn	Description	French Abvtn
<b>C-BH</b>	<b>Borehole Data (Geotechnical)</b>	<b>C-FO</b>
C-BH-IDN	Borehole identification numbers	C-FO-NUI
C-BH-LOG	Borehole logs and data	C-FO-SCH
C-BH-SMP	Soil sample locations	C-FO-SON
C-BH-SPR	Stratigraphic profiles	C-FO-STR
C-BH-SYM	Symbols	C-FO-SYM
C-BH-WEL	Geotechnical or environmental monitoring wells	C-FO-PUA
<b>C-DI</b>	<b>Diesel Fuel Distribution</b>	<b>C-DI</b>
C-DI-MAN	Diesel fuel manholes	C-DI-PUA
C-DI-MET	Diesel fuel meters	C-DI-CPT
C-DI-PIP	Diesel fuel pipelines	C-DI-PIP
C-DI-VAL	Diesel fuel valves	C-DI-VAN
<b>C-EN</b>	<b>Environment</b>	<b>C-EN</b>
C-EN-CTM	Contamination zone	C-EN-CTM
C-EN-TNK	Holding tank	C-EN-RSV
<b>C-GL</b>	<b>General</b>	<b>C-GL</b>
C-GL-PIC	Inserted pictures	C-GL-IMA
<b>C-HY</b>	<b>Hydrology</b>	<b>C-HY</b>
C-HY-CAT	Catchments area	C-HY-BAV
C-HY-FLO	Flow, discharge	C-HY-ECO
C-HY-ICE	Ice thickness	C-HY-GLA
<b>C-LD</b>	<b>Landscaping</b>	<b>C-AX</b>
C-LD-ANT	Antenna	C-AX-ANT
C-LD-ART	Artwork, special features	C-AX-OBA
C-LD-BRD	Foot bridges	C-AX-PAS
C-LD-CON	Concrete features, slabs	C-AX-GRA
C-LD-FEN	Fencing	C-AX-CLO
C-LD-FIL	Filling zone	C-AX-REM
C-LD-FLG	Flagpoles	C-AX-MAT
C-LD-FTN	Fountains, pools	C-AX-BSN
C-LD-FUR	Site furnishings, benches, garbage cans, etc.	C-AX-MOB
C-LD-GRA	Grading	C-AX-NVL
<b>C-LD-IRR</b>	<b>Irrigation system</b>	<b>C-AX-IRR</b>
C-LD-IRR-PIP	Irrigation system piping	C-AX-IRR-TUY
C-LD-IRR-SYM	Irrigation heads, controls, valves	C-AX-IRR-SYM
C-LD-RWL	Retaining walls	C-AX-SOU
C-LD-SPO	Equipment, sports facilities, goal nets, shooting targets, etc.	C-AX-EQU
C-LD-STR	Stairs (not attached to buildings)	C-AX-ESC
C-LD-SWK	Sidewalks	C-AX-TRO
C-LD-TER	Terraces, courtyards, patios (not attached to buildings)	C-AX-TER

C-LD-TOE	Toe of erosion control, armourstone, riprap, berms	C-AX-BRV
C-LD-TOP	Crest of erosion control, armourstone, riprap, berms	C-AX-HRV
C-LD-TRL	Trails, footpaths	C-AX-SEN
C-LD-TUN	Tunnels	C-AX-TUN
C-LD-TXT	Descriptive information text	C-AX-TEX
<b>C-NZ</b>	<b>Natural Gas Distribution</b>	<b>C-GN</b>
C-NZ-MAN	Natural gas manholes	C-GN-PUA
C-NZ-MET	Natural gas meters	C-GN-CPT
C-NZ-PIP	Natural gas pipelines	C-GN-PIP
C-NZ-VAL	Natural gas valves	C-GN-VAN
<b>C-OI</b>	<b>Oil Distribution</b>	<b>C-PE</b>
C-OI-MAN	Oil manholes	C-PE-PUA
C-OI-MET	Oil meters	C-PE-CPT
C-OI-PIP	Oil pipelines	C-PE-PIP
C-OI-VAL	Oil valves	C-PE-VAN
<b>C-PG</b>	<b>Propane Gas Distribution</b>	<b>C-GP</b>
C-PG-MAN	Propane gas manholes	C-GP-PUA
C-PG-MET	Propane gas meters	C-GP-CPT
C-PG-PIP	Propane gas pipelines	C-GP-PIP
C-PG-VAL	Propane gas valves	C-GP-VAN
<b>C-PR</b>	<b>Profile Data</b>	<b>C-PR</b>
C-PR-HOR	Horizontal profiles	C-PR-HOR
C-PR-VER	Vertical profiles	C-PR-VER
<b>C-RO</b>	<b>Roads</b>	<b>C-RO</b>
C-RO-ACR	Fire department access routes	C-RO-URG
C-RO-ALI	Alignment	C-RO-TRC
C-RO-ASP	Asphalt road	C-RO-ASP
C-RO-BAR	Barrier	C-RO-BAR
C-RO-BRD	Bridges, overpasses, etc.	C-RO-PON
C-RO-CLI	Road centreline	C-RO-MED
C-RO-CNT	Highway construction staging	C-RO-OCC
C-RO-CRB	Curbs	C-RO-BOR
C-RO-GRL	Guides, guard rails, median dividers, bollards	C-RO-PRT
C-RO-GRV	Gravel road	C-RO-GRV
C-RO-GUT	Gutter lines	C-RO-CAN
C-RO-HWY	Highway plan	C-RO-TRR
C-RO-JER	Jersey barrier	C-RO-JER
C-RO-MRK	Markings and road striping	C-RO-MAC
C-RO-MSH	Mass hauling diagrams	C-RO-SCH
C-RO-RMP	Ramps, on-ramps, loading docks, etc.	C-RO-RAM
<u>C-RO-ROD</u>	<u>Drivable road limits (asphalt) road, lots</u>	<u>C-RO-LIM</u>
C-RO-ROD-APX	Drivable road limits' approximate location	C-RO-LIM-APX
C-RO-SHO	Shoulders	C-RO-ACT
C-RO-STG	Staging layout plan	C-RO-PHA

C-RO-STR	Bridge abutments, piers, and supports	C-RO-PIL
C-RO-SWK	Sidewalks	C-RO-TRO
C-RO-TRL	Trails, footpaths	C-RO-SEN
C-RO-TUN	Road tunnels, underpasses, etc.	C-RO-TUN
C-RO-TXT	Road description, information text	C-RO-TEX
<b>C-RW</b>	<b>Railways</b>	<b>C-CF</b>
C-RW-ALI	Alignment	C-CF-TRC
C-RW-BRD	Bridges	C-CF-PON
C-RW-CLI	Rail centrelines	C-CF-MED
C-RW-RAI	Railway lines, switches	C-CF-DIA
C-RW-RMP	Ramps	C-CF-RAM
C-RW-STR	Bridge abutments, piers, trestles, and supports	C-CF-PIL
C-RW-TUN	Tunnels	C-CF-TUN
<b>C-SA</b>	<b>Sanitary Sewer</b>	<b>C-ES</b>
C-SA-CAT	Drainage catch areas	C-ES-BAV
C-SA-CLE	Cleanout	C-ES-RNT
C-SA-IND	Industrial sewer	C-ES-IND
C-SA-IOT	Sanitary inlet outlet structure	C-ES-SES
<u>C-SA-MAN</u>	<u>Sewer manholes, catch basins</u>	<u>C-ES-PUA</u>
C-SA-MAN-IDN	Text regarding t/g elevation, inverts elevation, etc.	C-ES-PUA-TEX
C-SA-PMP	Pumping stations	C-ES-PMP
<u>C-SA-SEP</u>	<u>Septic system</u>	<u>C-ES-SEP</u>
C-SA-SEP-FIL	Septic field filling zone	C-ES-SEP-REM
C-SA-SEP-PIP	Septic field piping	C-ES-SEP-TUY
C-SA-SEP-TNK	Septic tank	C-ES-SEP-RSV
<u>C-SA-SEW</u>	<u>Sewer lines system</u>	<u>C-ES-EGO</u>
C-SA-SEW-ABN	Abandoned sanitary sewer lines	C-ES-EGO-ABN
C-SA-SEW-CMB-MLI	Combined main sewer lines	C-ES-EGO-CMB-PRI
C-SA-SEW-CMB-SLI	Combined service sewer lines	C-ES-EGO-CMB-SEV
C-SA-SEW-MLI	Main sanitary sewer lines	C-ES-EGO-PRI
C-SA-SEW-SLI	Sanitary service sewer lines	C-ES-EGO-SEV
<u>C-SA-SYM</u>	<u>Junction symbols</u>	<u>C-ES-SYM</u>
C-SA-SYM-IDN	Text description - type of junction	C-ES-SYM-TEX
C-SA-TMT	Sewage treatment areas	C-ES-TEU
C-SA-TXT	General text: length of sewer, slope, material, etc.	C-ES-TEX
<b>C-SF</b>	<b>Natural Site Features</b>	<b>C-CS</b>
C-SF-DBR	Debris, rubble, loose rock and soil	C-CS-DEB
C-SF-MAR	Marshes, wetlands	C-CS-TEH
C-SF-PIT	Borrow pit	C-CS-BEM
<u>C-SF-RMN</u>	<u>Archaeological remnants</u>	<u>C-CS-VST</u>
C-SF-RMN-ABV	Archaeological remnants above ground	C-CS-VST-AUD
C-SF-RMN-UND	Archaeological remnants underground	C-CS-VST-SOU
C-SF-TRE	Trees, tree lines	C-CS-ARB
C-SF-TRE-TXT	Text describing trees	C-CS-ARB-TEX
C-SF-TXT	Site feature description text	C-CS-TEX
C-SF-WTR	Natural boundaries watercourses, shorelines	C-CS-LBM

<b>C-SI</b>	<b>Signs and Guideposts</b>	<b>C-SI</b>
C-SI-GDP	Guideposts	C-SI-POT
C-SI-SGL	Sign layouts and details	C-SI-DET
C-SI-SGN	Signs	C-SI-ECR
C-SI-TXT	Signage text	C-SI-TEX
<b>C-SV</b>	<b>Survey Control, Non-Legal</b>	<b>C-LV</b>
C-SV-BEN	Local bench marks	C-LV-RNL
C-SV-BND	Non-legal boundaries	C-LV-LIP
C-SV-CHN	Chainage	C-LV-CHI
C-SV-CLN	Radial ties, traverse lines, control lines	C-LV-LCH
<u>C-SV-CPT</u>	<u>Control points</u>	<u>C-LV-POA</u>
C-SV-CPT-HOR	Horizontal control points	C-LV-POA-HOR
C-SV-CPT-VER	Vertical control points	C-LV-POA-VER
C-SV-GRD	Survey grid	C-LV-QUA
C-SV-HOR	Horizontal alignment	C-LV-HOR
C-SV-LIM	Limits of contract, non-legal	C-LV-LIM
C-SV-LIN	Survey feature connectivity line work	C-LV-TRI
C-SV-MON	Found legal monuments	C-LV-RAR
<u>C-SV-PAR</u>	<u>Parcel line work</u>	<u>C-LV-PAC</u>
C-SV-PAR-TXT	Parcel text	C-LV-PAC-TEX
C-SV-PNT	Survey points	C-LV-POL
C-SV-SEL	Super elevation	C-LV-SUE
<u>C-SV-STA</u>	<u>Station equation labels</u>	<u>C-LV-STA</u>
C-SV-STA-IDN	Station labels	C-LV-STA-NUI
C-SV-STA-PTS	Station points	C-LV-STA-PTS
C-SV-STB	Setbacks	C-LV-MAR
C-SV-VER	Vertical alignment	C-LV-VER
<b>C-SW</b>	<b>Storm Water Drainage and Systems</b>	<b>C-EP</b>
C-SW-CAT	Drainage catchments areas	C-EP-BAV
C-SW-CUL	Culverts	C-EP-PON
C-SW-DCL	Ditch centre lines	C-EP-MED
C-SW-IOT	Storm inlet outlet structure	C-EP-SES
<u>C-SW-MAN</u>	<u>Catch basins, manholes</u>	<u>C-EP-PUA</u>
C-SW-MAN-IDN	Manhole description text: elevation, direction	C-EP-PUA-TEX
C-SW-MNG	Storm water management pond	C-EP-BSN
C-SW-PMP	Pumping stations	C-EP-PMP
<u>C-SW-SEW</u>	<u>Sewer lines system</u>	<u>C-EP-EGO</u>
C-SW-SEW-ABN	Abandoned storm sewer lines	C-EP-EGO-ABN
C-SW-SEW-MLI	Storm main sewer lines	C-EP-EGO-PRI
C-SW-SEW-SLI	Storm service sewer lines	C-EP-EGO-SEV
C-SW-SUB	Subdrains	C-EP-DRA
<u>C-SW-SYM</u>	<u>Junction symbols</u>	<u>C-EP-SYM</u>
C-SW-SYM-IDN	Junction description text	C-EP-SYM-TEX
C-SW-TXT	Text describing length of sewer, slopes, material	C-EP-TEX

<b>C-TP</b>	<b>Topographical Information</b>	<b>C-TG</b>
C-TP-MAJ	Major contours	C-TG-COP
C-TP-MIN	Minor contours	C-TG-COS
C-TP-SPT	Spot elevation	C-TG-POC
<b>C-TP-SRF</b>	<b><u>Surface model line work</u></b>	<b><u>C-TG-MNT</u></b>
C-TP-SRF-BRL	Surface model break lines	C-TG-MNT-LCO
C-TP-SRF-TXT	Surface calculation text	C-TG-MNT-TEX
C-TP-TOE	Bank (toe)	C-TG-BRV
C-TP-TOP	Top of bank	C-TG-HRV
<b>C-VG</b>	<b>Vegetation</b>	<b>C-VG</b>
<b>C-VG-FLW</b>	<b><u>Flowers</u></b>	<b><u>C-VG-FLR</u></b>
C-VG-FLW-ANN	Annual flowers	C-VG-FLR-ANN
C-VG-FLW-PER	Perennial flowers	C-VG-FLR-VIV
<b>C-VG-GCV</b>	<b><u>Ground cover</u></b>	<b><u>C-VG-CVS</u></b>
C-VG-GCV-DEC	Deciduous ground cover	C-VG-CVS-CDC
C-VG-GCV-EVR	Evergreen ground cover	C-VG-CVS-PST
C-VG-GCV-ORN	Ornamental ground cover	C-VG-CVS-ORN
<b>C-VG-GRS</b>	<b><u>Grass area</u></b>	<b><u>C-VG-PEL</u></b>
C-VG-GRS-SED	Seeded grass area	C-VG-PEL-ESM
C-VG-GRS-SOD	Sodded grass area	C-VG-PEL-EGZ
<b>C-VG-SRB</b>	<b><u>Shrubs</u></b>	<b><u>C-VG-ABT</u></b>
C-VG-SRB-DEC	Deciduous shrubs	C-VG-ABT-CDC
C-VG-SRB-EVR	Evergreen shrubs	C-VG-ABT-PST
C-VG-SRB-ORN	Ornamental shrubs	C-VG-ABT-ORN
<b>C-VG-TRE</b>	<b><u>Trees</u></b>	<b><u>C-VG-ARB</u></b>
C-VG-TRE-DEC	Deciduous trees	C-VG-ARB-CDC
C-VG-TRE-ORN	Flowering trees, fruit trees	C-VG-ARB-ORN
C-VG-VIN	Vines	C-VG-VIG
<b>C-WM</b>	<b>Water and Fire</b>	<b>C-CE</b>
C-WM-FHY	Fire hydrants	C-CE-BOI
C-WM-FRL	Fire lines	C-CE-CAX
<b>C-WM-MAN</b>	<b><u>Manholes, storage, valves</u></b>	<b><u>C-CE-PUA</u></b>
C-WM-MAN-IDN	Text describing; t/g elevation, t/pipe elevation	C-CE-PUA-TEX
C-WM-PMP	Pumping stations	C-CE-PMP
C-WM-RAW	Raw water lines	C-CE-CEN
<b>C-WM-SYM</b>	<b><u>Junction symbols</u></b>	<b><u>C-CE-SYM</u></b>
C-WM-SYM-IDN	Text describing type of junction	C-CE-SYM-TEX
C-WM-TXT	Water main descriptive text	C-CE-TEX
C-WM-WEL	Water wells	C-CE-PUE
<b>C-WM-WLI</b>	<b><u>Water line</u></b>	<b><u>C-CE-CED</u></b>
C-WM-WLI-MLI	Water main	C-CE-CED-PRI
C-WM-WLI-SLI	Water service line	C-CE-CED-SEV

**Electrical Systems**

English Abvn	Description	French Abvn
<b>E-CK</b>	<b>Clock Systems</b>	<b>E-HO</b>
E-CK-EQP	Clock equipment	E-HO-EQU
E-CK-REC	Clock locations	E-HO-PRS
E-CK-WRG	Wiring	E-HO-CAB
<b>E-DA</b>	<b>Data Systems</b>	<b>E-DN</b>
E-DA-EQP	Data equipment	E-DN-EQU
E-DA-OUT	Data outlets, jacks	E-DN-PRS
E-DA-WRG	Wiring	E-DN-CAB
<b>E-EG</b>	<b>Emergency Generation</b>	<b>E-AS</b>
E-EG-COD	Conduits	E-AS-COD
E-EG-EQP	Emergency power generation equipment	E-AS-EQU
E-EG-GEN	Generators, control switchboards	E-AS-GEN
<b>E-EL</b>	<b>Emergency Lighting</b>	<b>E-EU</b>
E-EL-CLG	Emergency luminaries ceiling-mounted	E-EU-PFD
E-EL-ESG	Exit signs	E-EU-SOS
E-EL-EXT	Emergency outside luminaries attached to buildings, poles	E-EU-EXT
E-EL-WAL	Emergency luminaries wall-mounted	E-EU-MUR
<b>E-EP</b>	<b>Emergency Power Equipment</b>	<b>E-RU</b>
E-EP-CTL	Motors and controls	E-RU-MOC
E-EP-DCB	DC battery systems	E-RU-ACU
E-EP-REC	Receptacles	E-RU-PRS
E-EP-TEN	Special tenant systems	E-RU-LOC
E-EP-UPS	UPS and conditioned power	E-RU-ASC
<b>E-EW</b>	<b>Emergency Power Wiring and Cabling</b>	<b>E-CU</b>
E-EW-CBT	Cable trays, ducts, and raceways	E-CU-CCC
E-EW-CLG	Ceiling-mounted wiring	E-CU-PFD
E-EW-CLT	Control wiring for emergency lighting	E-CU-CCE
E-EW-EXP	Exposed inside/outside wiring	E-CU-EXT
<u>E-EW-HVD</u>	<u>High voltage wiring</u>	<u>E-CU-HTE</u>
E-EW-HVD-CLG	High voltage in ceiling space	E-CU-HTE-PFD
<u>E-EW-LVD</u>	<u>Low voltage wiring</u>	<u>E-CU-BTE</u>
E-EW-LVD-CLG	Low voltage in ceiling space	E-CU-BTE-PFD
E-EW-LVD-FLR	Low voltage under floor	E-CU-BTE-PCH
E-EW-PAN	Electrical panel for emergency power	E-CU-PAN
E-EW-UPS	Uninterruptible power system (UPS)	E-CU-ASC
<b>E-FR</b>	<b>Electrical Fire Protection</b>	<b>E-AI</b>
E-FR-ELD	Electromagnetic locking devices	E-AI-DVE
E-FR-EQP	Equipment: master fire warning panel, alarm, annunciator panels	E-AI-EQU
E-FR-SIG	Signalling devices	E-AI-SIG
E-FR-SYM	Electrical FP symbols: pull stations, heat, smoke detectors	E-AI-DDA
<u>E-FR-VCE</u>	<u>Emergency voice communication</u>	<u>E-AI-CVU</u>
E-FR-VCE-WRG	Emergency voice communication wiring	E-AI-CVU-CAB

<b>E-FW</b>	<b>Flat Wiring</b>	<b>E-CP</b>
E-FW-CBL	Flat wiring cable location	E-CP-CAB
E-FW-CNB	Flat wiring connection boxes	E-CP-BOJ
<b>E-GD</b>	<b>Grounding</b>	<b>E-MT</b>
E-GD-WRG	Wiring, rods, bus plates	E-MT-EQU
<b>E-LP</b>	<b>Lightning Protection</b>	<b>E-PT</b>
E-LP-EQP	Equipment and devices	E-PT-EQU
E-LP-WRG	Wiring	E-PT-CAB
<b>E-NG</b>	<b>Normal Power Generation</b>	<b>E-AN</b>
E-NG-COD	Conduits	E-AN-COD
E-NG-EQP	Normal power generation equipment	E-AN-EQU
E-NG-GEN	Generators, control switchboard	E-AN-GEN
<b>E-NL</b>	<b>Normal Lighting</b>	<b>E-EN</b>
E-NL-CLG	Luminaries ceiling-mounted	E-EN-PFD
E-NL-CTL	Lighting controls	E-EN-COM
E-NL-EXT	Outside luminaries attached to buildings, poles	E-EN-EXT
E-NL-WAL	Luminaries in workspace and wall-mounted	E-EN-MUR
<b>E-NP</b>	<b>Normal Power Equipment</b>	<b>E-RN</b>
E-NP-CTL	Motors and controls	E-RN-MOC
E-NP-EQP	Normal power equipment: ceiling fans, etc.	E-RN-EQU
E-NP-HVD	High voltage distribution	E-RN-HTE
E-NP-LVD	Low voltage distribution	E-RN-BTE
E-NP-MEC	Electrical connections to mechanical equipment	E-RN-MEC
E-NP-OUT	Outlets, receptacles	E-RN-PRS
E-NP-PAN	Electrical panels	E-RN-PAN
E-NP-RAD	Radiant heating panels	E-RN-RAD
E-NP-TEN	Special tenant systems	E-RN-LOC
<b>E-NW</b>	<b>Normal Power Wiring and Cabling</b>	<b>E-CN</b>
E-NW-CBT	Cable trays, ducts, and raceways	E-CN-CCC
E-NW-CTL	Control wiring lighting	E-CN-CCE
E-NW-EXP	Exposed inside/outside wiring	E-CN-EXT
<b>E-NW-HVD</b>	<b>High voltage wiring</b>	<b>E-CN-HTE</b>
E-NW-HVD-CLG	High voltage wiring in ceiling space	E-CN-HTE-PFD
<b>E-NW-LVD</b>	<b>Low voltage wiring</b>	<b>E-CN-BTE</b>
E-NW-LVD-CLG	Low voltage wiring in ceiling space	E-CN-BTE-PFD
E-NW-LVD-FLR	Low voltage under floor	E-CN-BTE-PCH
E-NW-LVD-WOR	Low voltage in workspace	E-CN-BTE-PTV
E-NW-PST	Power poles with receptacles	E-CN-COL
E-NW-TEN	Tenant systems in workspace	E-CN-RPT
E-NW-UPS	Ups and conditioned power	E-CN-ASC
<b>E-PA</b>	<b>Sound and PA Systems</b>	<b>E-SV</b>
E-PA-EME	Emergency	E-SV-URG
E-PA-EQP	Sound equipment, speakers	E-SV-EQU
E-PA-OUT	Outlets	E-SV-PRS

E-PA-SYM	Symbols	<i>E-SV-SYM</i>
E-PA-WRG	Wiring	<i>E-SV-CAB</i>
<b>E-PH</b>	<b>Telephone Systems</b>	<b><i>E-TE</i></b>
E-PH-EQP	Equipment	<i>E-TE-EQU</i>
E-PH-OUT	Outlets	<i>E-TE-PRS</i>
E-PH-PAN	Telephone panel	<i>E-TE-PAN</i>
E-PH-WRG	Wiring	<i>E-TE-CAB</i>
<b>E-SD</b>	<b>Site Distribution and Electrical Equipment</b>	<b><i>E-DS</i></b>
E-SD-COD	Conduits	<i>E-DS-COD</i>
E-SD-DUC	Concrete ducts	<i>E-DS-CBE</i>
E-SD-EQP	Site distribution equipment: transformers, pedestals	<i>E-DS-EQU</i>
<b><u>E-SD-HVD</u></b>	<b><u>High voltage distribution</u></b>	<b><i>E-DS-HTE</i></b>
E-SD-HVD-ABV	High voltage distribution - above grade	<i>E-DS-HTE-AER</i>
E-SD-HVD-UND	High voltage distribution - below grade	<i>E-DS-HTE-SOU</i>
<b><u>E-SD-LTG</u></b>	<b><u>Lighting and wiring</u></b>	<b><i>E-DS-ECL</i></b>
E-SD-LTG-ABV	Lighting and wiring - above grade	<i>E-DS-ECL-AER</i>
E-SD-LTG-UND	Lighting and wiring - below grade	<i>E-DS-ECL-SOU</i>
<b><u>E-SD-LVD</u></b>	<b><u>Low voltage distribution</u></b>	<b><i>E-DS-BTE</i></b>
E-SD-LVD-ABV	Low voltage distribution - above grade	<i>E-DS-BTE-AER</i>
E-SD-LVD-UND	Low voltage distribution - below grade	<i>E-DS-BTE-SOU</i>
<b><u>E-SD-MAN</u></b>	<b><u>Manhole, handwells, junction box, pull pit ground inspection box</u></b>	<b><i>E-DS-PUA</i></b>
E-SD-MAN-IDN	Text describing; t/g elevation, line elevation	<i>E-DS-PUA-IDN</i>
E-SD-MUN	Municipal and utility services	<i>E-DS-MUN</i>
E-SD-POL	Poles and towers (electrical, communication)	<i>E-DS-POT</i>
E-SD-SUB	Substations	<i>E-DS-SST</i>
<b><u>E-SD-TEL</u></b>	<b><u>Telephone lines</u></b>	<b><i>E-DS-TEL</i></b>
E-SD-TEL-ABV	Telephone lines - above grade	<i>E-DS-TEL-AER</i>
E-SD-TEL-UND	Telephone lines - below grade	<i>E-DS-TEL-SOU</i>
E-SD-TXT	Text describing type of distribution system	<i>E-DS-TEX</i>
<b><u>E-SD-VID</u></b>	<b><u>Video lines</u></b>	<b><i>E-DS-VID</i></b>
E-SD-VID-ABV	Video lines – above grade	<i>E-DS-VID-AER</i>
E-SD-VID-UND	Video lines – below grade	<i>E-DS-VID-SOU</i>
<b>E-SE</b>	<b>Security Systems</b>	<b><i>E-SS</i></b>
E-SE-ALM	Intrusion alarms	<i>E-SS-SAA</i>
E-SE-CTL	Intrusion controls and controllers	<i>E-SS-COT</i>
E-SE-ELK	Electrical security locks	<i>E-SS-VEE</i>
E-SE-LAN	Intrusion system LAN	<i>E-SS-REL</i>
E-SE-SEN	Motion sensors	<i>E-SS-DEI</i>
E-SE-VCL	Video controllers (digital)	<i>E-SS-COM</i>
E-SE-VCM	Video cameras and monitors	<i>E-SS-EQU</i>
E-SE-WRG	Intrusion controller wiring	<i>E-SS-CAB</i>
<b>E-SG</b>	<b>Signal Systems</b>	<b><i>E-SI</i></b>
E-SG-EQP	Equipment	<i>E-SI-EQU</i>
E-SG-OUT	Outlets	<i>E-SI-SOR</i>
E-SG-WRG	Wiring	<i>E-SI-CAB</i>

<b>E-SM</b>	<b>Electrical Schematics</b>	<b>E-SM</b>
E-SM-CLK	Clock system schematics	<i>E-SM-HOL</i>
E-SM-DAS	Data systems schematics	<i>E-SM-DAT</i>
E-SM-EFP	Electrical fire protection schematics	<i>E-SM-ALI</i>
<b><u>E-SM-EPR</u></b>	<b><u>Emergency distribution schematics</u></b>	<b><u>E-SM-ALU</u></b>
E-SM-EPR-GEN	Emergency generation schematics, generators	<i>E-SM-ALU-GEN</i>
E-SM-EPR-LTG	Emergency lighting schematics	<i>E-SM-ALU-ECL</i>
E-SM-EPR-EQP	Emergency power equipment	<i>E-SM-ALU-EQU</i>
E-SM-EPR-TXT	Text for emergency distribution	<i>E-SM-ALU-TEX</i>
E-SM-EPR-WRG	Emergency wiring schematics	<i>E-SM-ALU-CAB</i>
E-SM-GND	Grounding schematics	<i>E-SM-MIT</i>
E-SM-HVD	High voltage (>750v) emergency distribution	<i>E-SM-HTE</i>
E-SM-KRK	Kirk key interlocks	<i>E-SM-KRK</i>
E-SM-LAN	Local area network schematics	<i>E-SM-REL</i>
E-SM-LTP	Lightning protection schematics	<i>E-SM-PRF</i>
E-SM-LVD	Low voltage emergency distribution	<i>E-SM-BTE</i>
<b><u>E-SM-MMS</u></b>	<b><u>Maintenance management system (MMS) tag numbers</u></b>	<b><u>E-SM-SGE</u></b>
E-SM-EPR-MMS	MMS tag numbers for emergency distribution	<i>E-SM-ALU-SGE</i>
E-SM-HVD-MMS	MMS tag numbers for high voltage distribution	<i>E-SM-HTE-SGE</i>
E-SM-NPR-MMS	MMS tag numbers for normal power distribution	<i>E-SM-ANV-SGE</i>
<b><u>E-SM-MTR</u></b>	<b><u>Metering</u></b>	<b><u>E-SM-CPT</u></b>
E-SM-MTR-EQP	Metering equipment, switch board	<i>E-SM-CPT-EQU</i>
E-SM-MTR-TXT	Metering text	<i>E-SM-CPT-TEX</i>
E-SM-MTR-WRG	Metering wiring	<i>E-SM-CPT-CAB</i>
<b><u>E-SM-NPR</u></b>	<b><u>Normal power distribution schematics</u></b>	<b><u>E-SM-ANV</u></b>
E-SM-NPR-EQP	Normal power distribution equipment	<i>E-SM-ANV-EQU</i>
E-SM-NPR-LTG	Normal lighting schematics	<i>E-SM-ANV-ECL</i>
E-SM-NPR-TXT	Text for normal power distribution	<i>E-SM-ANV-TEX</i>
E-SM-NPR-WRG	Normal power wiring	<i>E-SM-ANV-CAB</i>
E-SM-PAS	Public address system schematics	<i>E-SM-COV</i>
E-SM-SGN	Signal schematic	<i>E-SM-SGN</i>
E-SM-TEL	Telephone schematics	<i>E-SM-TEL</i>
E-SM-UPS	Uninterruptible power system (UPS)	<i>E-SM-ASC</i>
E-SM-VID	Video system schematics	<i>E-SM-VID</i>
<b>E-SY</b>	<b>Electricity on System Furniture</b>	<b>E-EA</b>
E-SY-LAN	LAN network jack	<i>E-EA-REL</i>
E-SY-LTG	Normal powered lighting	<i>E-EA-ECL</i>
E-SY-OUT	Electrical outlet	<i>E-EA-PRS</i>
E-SY-PST	Electrical posts on system furniture	<i>E-EA-COL</i>
E-SY-TEL	Telephone outlet	<i>E-EA-TEL</i>
<b>E-VD</b>	<b>Video Conferencing Systems</b>	<b>E-VD</b>
E-VD-EQP	Equipment	<i>E-VD-EQU</i>
E-VD-OUT	Outlets	<i>E-VD-PRS</i>
E-VD-WRG	Wiring	<i>E-VD-CAB</i>

<b>General Information</b>		
English Abvn	Description	French Abvn
<b>G-DT</b>	<b>Details</b>	<b>G-DT</b>
G-DT-DIM	Detail, section, elevation dimensions	<i>G-DT-DIM</i>
G-DT-HAT	Detail, section, elevation hatching	<i>G-DT-HAC</i>
G-DT-LIN	Detail, section, elevation linework	<i>G-DT-TRI</i>
G-DT-TXT	Detail, section, elevation annotation, text	<i>G-DT-TEX</i>
<b>G-GL</b>	<b>General</b>	<b>G-GL</b>
G-GL-CAL	Callout blocks	<i>G-GL-BUF</i>
G-GL-SYM	Symbols, key plan, north arrow, bar scale	<i>G-GL-SYM</i>
<u>G-GL-TXT</u>	<u>Text</u>	<u><i>G-GL-TEX</i></u>
G-GL-TXT-E	English text	<i>G-GL-TEX-A</i>
G-GL-TXT-F	French text	<i>G-GL-TEX-F</i>
G-GL-XRE	External reference	<i>G-GL-XRE</i>
<b>G-LG</b>	<b>Legend</b>	<b>G-LE</b>
G-LG-LIN	Symbol legend line work	<i>G-LE-TRI</i>
G-LG-TXT	Symbol legend text	<i>G-LE-TEX</i>
<b>G-TL</b>	<b>Title Block</b>	<b>G-CT</b>
G-TL-ATT	Attributes for title block	<i>G-CT-ATT</i>
G-TL-LGO	Logos	<i>G-CT-LOG</i>
G-TL-LIN	Line work for title block	<i>G-CT-TRI</i>
G-TL-RME	Title block read me layer	<i>G-CT-LIS</i>
G-TL-SYM	Title block insertion Layer	<i>G-CT-SYM</i>
G-TL-TXT	Text for title block	<i>G-CT-TEX</i>
G-TL-VPT	Viewport boundaries	<i>G-CT-MET</i>

<b>Mechanical</b>		
English Abvn	Description	French Abvn
<b>H-CS</b>	<b>Control Systems</b>	<b>H-SR</b>
H-CS-AIR	Control air piping	H-SR-AIR
H-CS-EQP	Control systems equipment	H-SR-EQU
H-CS-SYM	Control system symbols: thermostats, humidistat, sensors, etc.	H-SR-SYM
H-CS-TXT	Control system text	H-SR-TEX
H-CS-WRG	Control wiring	H-SR-CAB
<b>H-DW</b>	<b>Domestic Water</b>	<b>H-ED</b>
H-DW-CLD	Domestic cold water	H-ED-EFR
H-DW-EQP	Domestic water equipment: pumps, water softeners, filters, etc.	H-ED-EQU
<u>H-DW-FIX</u>	<u>Plumbing fixtures</u>	<u>H-ED-APP</u>
H-DW-FIX-PRT	Plumbing fixtures on partitions	H-ED-APP-CLS
<u>H-DW-HOT</u>	<u>Domestic hot water</u>	<u>H-ED-ECD</u>
H-DW-HOT-RCL	Domestic hot water recirculation	H-ED-ECD-REC
H-DW-HOT-TNK	Domestic hot water tanks	H-ED-ECD-RSV
H-DW-ROW	Reverse osmosis water (medical)	H-ED-EOI
<b>H-FP</b>	<b>Fire Protection</b>	<b>H-PI</b>
<u>H-FP-CEX</u>	<u>Chemical extinguishing system</u>	<u>H-PI-EXC</u>
H-FP-CEX-PIP	Chemical extinguishing piping	H-PI-EXC-TUY
H-FP-CEX-EQP	Chemical extinguishing equipment	H-PI-EXC-EQU
H-FP-EPE	Explosion-proof equipment	H-PI-EQA
H-FP-EQP	Fire protection equipment: fire hose cabinet, fire dampers, etc.	H-PI-EQU
<u>H-FP-FEX</u>	<u>Foamed extinguishing system</u>	<u>H-PI-EXM</u>
H-FP-FEX-PIP	Foamed extinguishing piping	H-PI-EXM-TUY
H-FP-FEX-EQP	Foamed extinguishing equipment	H-PI-EXM-EQU
<u>H-FP-SPK</u>	<u>Sprinkler system</u>	<u>H-PI-GIC</u>
H-FP-SPK-PIP	Sprinkler piping	H-PI-GIC-TUY
H-FP-SPK-EQP	Sprinkler equipment	H-PI-GIC-EQU
H-FP-SPK-SYM	Sprinkler system symbols: sprinkler heads, backflow preventer, etc.	H-PI-GIC-SYM
H-FP-SPK-TXT	Sprinkler system text	H-PI-GIC-TEX
H-FP-SPK-ZNS	Sprinkler system zones	H-PI-GIC-ZON
<u>H-FP-STP</u>	<u>Standpipe system</u>	<u>H-PI-CMG</u>
H-FP-STP-PIP	Standpipe piping	H-PI-CMG-TUY
H-FP-STP-EQP	Standpipe equipment	H-PI-CMG-EQU
H-FP-SYM	Fire protection symbols: fire extinguisher, hydrants	H-PI-SYM
H-FP-TXT	Fire protection text	H-PI-TEX
<b>H-HC</b>	<b>Heating and Cooling</b>	<b>H-CH</b>
<u>H-HC-CHL</u>	<u>Chilled water</u>	<u>H-CH-ERF</u>
H-HC-CHL-RET	Chilled water return	H-CH-ERF-RET
H-HC-CHL-SUP	Chilled water supply	H-CH-ERF-ALM
H-HC-CNV	Convectors	H-CH-CNV
<u>H-HC-COT</u>	<u>Cooling tower water</u>	<u>H-CH-TRF</u>
H-HC-COT-RET	Cooling tower water return	H-CH-TRF-RET
H-HC-COT-SUP	Cooling tower water supply	H-CH-TRF-ALM

<b>H-HC-GLY</b>	<b>Glycol</b>	<i>H-CH-GLY</i>
H-HC-GLY-RET	Glycol return	<i>H-CH-GLY-RET</i>
H-HC-GLY-SUP	Glycol supply	<i>H-CH-GLY-ALM</i>
<b>H-HC-HWA</b>	<b>Heating water</b>	<i>H-CH-ECF</i>
H-HC-HWA-RET	Heating water return	<i>H-CH-ECF-RET</i>
H-HC-HWA-SUP	Heating water supply	<i>H-CH-ECF-ALM</i>
H-HC-HYD	Hydronic equipment	<i>H-CH-HYD</i>
H-HC-RAD	Radiant heat tubing	<i>H-CH-TCR</i>
H-HC-REF-EQP	Refrigerant equipment	<i>H-CH-FRI-EQU</i>
H-HC-RFG	Refrigerant gas	<i>H-CH-GAF</i>
H-HC-RFL	Refrigerant liquid	<i>H-CH-FLF</i>
<b>H-HC-STM</b>	<b>Steam</b>	<i>H-CH-VAP</i>
H-HC-STM-RET	Steam condensate (return)	<i>H-CH-VAP-RET</i>
H-HC-STM-SUP	Steam supply	<i>H-CH-VAP-ALM</i>
H-HC-STM-EQP	Steam equipment	<i>H-CH-VAP-EQU</i>
<b>H-PB</b>	<b>Plumbing</b>	<b>H-PB</b>
<b>H-PB-CMA</b>	<b>Compressed air</b>	<i>H-PB-AIC</i>
H-PB-CMA-EQP	Compressed air equipment	<i>H-PB-AIC-EQU</i>
H-PB-CO2	Carbon dioxide gas	<i>H-PB-CO2</i>
<b>H-PB-DWV</b>	<b>Drainage waste and vent system</b>	<i>H-PB-REV</i>
H-PB-DWV-SYM	Symbols: roof drains, floor drains, etc.	<i>H-PB-REV-SYM</i>
H-PB-DWV-VEN	Ventilating circuit, vents	<i>H-PB-REV-EVE</i>
H-PB-DWV-WST	Drainage circuit	<i>H-PB-REV-EEU</i>
H-PB-EQP	Plumbing equipment: pumps, coils motors, grease interceptor, etc.	<i>H-PB-EQU</i>
<b>H-PB-FOI</b>	<b>Fuel oil</b>	<i>H-PB-MAZ</i>
H-PB-FOI-EQP	Fuel equipment	<i>H-PB-MAZ-EQU</i>
H-PB-FOI-RET	Fuel oil return	<i>H-PB-MAZ-RET</i>
H-PB-FOI-SUP	Fuel oil supply	<i>H-PB-MAZ-ALM</i>
H-PB-FOI-VEN	Fuel oil vent	<i>H-PB-MAZ-EVE</i>
H-PB-HEG	Helium gas	<i>H-PB-HEL</i>
H-PB-HYG	Hydrogen gas	<i>H-PB-HYG</i>
H-PB-MAN	Access holes	<i>H-PB-PUA</i>
H-PB-MEG	Methane gas	<i>H-PB-MTH</i>
H-PB-NGA	Natural gas	<i>H-PB-GAN</i>
H-PB-NIT	Nitrogen gas	<i>H-PB-AZO</i>
H-PB-OXY	Oxygen gas	<i>H-PB-OXY</i>
H-PB-PGA	Propane gas	<i>H-PB-GAP</i>
H-PB-SYM	Plumbing symbols: gauges, fittings, valves elbows, unions, reducer	<i>H-PB-SYM</i>
H-PB-VAC	Cleaning system, vacuum	<i>H-PB-NET</i>
<b>H-PP</b>	<b>Fuel and Process Piping</b>	<b>H-TC</b>
H-PP-MAN	Manholes fuelling stations	<i>H-TC-PUA</i>
H-PP-MET	Meters	<i>H-TC-CPT</i>
H-PP-PIP	Fuel and process piping	<i>H-TC-TUY</i>
H-PP-PMP	Pumping stations	<i>H-TC-PMP</i>

H-PP-TNK	Fuel tanks	<i>H-TC-RSV</i>
H-PP-VAL	Valves	<i>H-TC-VAN</i>
<b>H-SM</b>	<b>Mechanical Schematics and Riser Diagrams</b>	<b><i>H-SM</i></b>
H-SM-CSY	Control system schematics	<i>H-SM-COM</i>
H-SM-DRS	Duct riser diagrams	<i>H-SM-CMC</i>
H-SM-DUC	Duct schematic diagrams	<i>H-SM-COD</i>
H-SM-PIP	Piping schematic diagrams	<i>H-SM-TUY</i>
H-SM-PRS	Piping riser diagrams	<i>H-SM-CMT</i>
H-SM-SYM	Symbols	<i>H-SM-SYM</i>
H-SM-WST	Waste schematics	<i>H-SM-EEU</i>
<b>H-VA</b>	<b>Ventilation and Air Conditioning</b>	<b><i>H-VC</i></b>
H-VA-COA	Combustion air ductwork	<i>H-VC-ACO</i>
H-VA-EQP	Equipment: fans, dampers, coils, filters, etc.	<i>H-VC-EQU</i>
<b>H-VA-EXH</b>	<b><u>Exhaust air system</u></b>	<b><i>H-VC-AEV</i></b>
H-VA-EXH-DUC	Exhaust air ductwork	<i>H-VC-AEV-COD</i>
H-VA-EXH-GRI	Exhaust grilles	<i>H-VC-AEV-GRI</i>
H-VA-INS	Duct insulation, acoustical lining	<i>H-VC-ISO</i>
<b>H-VA-OTA</b>	<b><u>Outside air system</u></b>	<b><i>H-VC-AEX</i></b>
H-VA-OTA-DUC	Outside air ductwork	<i>H-VC-AEX-COD</i>
H-VA-OTA-GRI	Outside air grilles	<i>H-VC-AEX-GRI</i>
<b>H-VA-RET</b>	<b><u>Return system</u></b>	<b><i>H-VC-REP</i></b>
H-VA-RET-DUC	Return ductwork	<i>H-VC-REP-COD</i>
H-VA-RET-GRI	Return grills	<i>H-VC-REP-GRI</i>
<b>H-VA-SUP</b>	<b><u>Supply system</u></b>	<b><i>H-VC-AMA</i></b>
H-VA-SUP-DUC	Supply ductwork	<i>H-VC-AMA-COD</i>
H-VA-SUP-DIF	Supply diffusers	<i>H-VC-AMA-DIF</i>
H-VA-VAV	Variable air volume boxes	<i>H-VC-DAV</i>
H-VA-VEN	Flue, vent, breaching	<i>H-VC-EVE</i>

## Interior Design

English Abvn	Description	French Abvn
<b>I-BP</b>	<b>Blocking Plan</b>	<b>I-BE</b>
I-BP-DIM	Dimensions	I-BE-DIM
I-BP-OLN	Sector outlines	I-BE-CON
I-BP-TXT	Text, notes	I-BE-TEX
<b>I-EI</b>	<b>Employee Information</b>	<b>I-EM</b>
I-EI-IDN	Employee identification	I-EM-NUI
<b>I-EQ</b>	<b>Equipment</b>	<b>I-EQ</b>
I-EQ-CMP	Computers	I-EQ-ORD
I-EQ-OEQ	Office equipment	I-EQ-EXI
I-EQ-SPC	Special equipment	I-EQ-SPE
<b>I-FU</b>	<b>Furniture</b>	<b>I-MO</b>
I-FU-ACC	Accessories, coat trees, racks	I-MO-ACC
I-FU-ART	Artwork	I-MO-ART
I-FU-CAB	Storage cabinets, files	I-MO-RAG
I-FU-CLR	Furniture colour	I-MO-COU
I-FU-DSK	Desks, freestanding work surfaces	I-MO-SUT
I-FU-NOF	Non-office furniture, first aid room beds, etc.	I-MO-APE
I-FU-PLT	Plants	I-MO-PLT
I-FU-SET	Seating	I-MO-SIE
I-FU-SHL	Shelving	I-MO-ETA
I-FU-TAB	Tables	I-MO-TAB
I-FU-TXT	Annotations, text furniture	I-MO-TEX
I-FU-SIZ	Furniture size	I-MO-DIM
<b>I-SI</b>	<b>Signage</b>	<b>I-SI</b>
I-SI-EQP	Barrier-free signs	I-SI-ACF
I-SI-OFF	Office signage	I-SI-BUR
I-SI-SPC	Special signage	I-SI-SPE
<b>I-SY</b>	<b>System Furniture</b>	<b>I-EA</b>
I-SY-CLR	Panel colour	I-EA-COU
I-SY-OVH	Panel overhead storage, etc.	I-EA-SUR
I-SY-SCR	Panels, screens	I-EA-ECA
I-SY-SIZ	Panel sizes	I-EA-DIM
I-SY-SUR	Work surfaces for system furniture	I-EA-SUT

**Legal Surveys**

English Abvn	Description	French Abvn
<b>L-AZ</b>	<b>Airport Zoning</b>	<b>L-ZA</b>
L-AZ-ZNS	Zoning surfaces, runway strips, centrelines	L-ZA-ZON
<b>L-GL</b>	<b>General</b>	<b>L-GL</b>
L-GL-TXT	General text	L-GL-TEX
<b>L-CF</b>	<b>Cadastral Fabric</b>	<b>L-CD</b>
L-CF-BDY	Legal surveyed boundary	L-CD-LIF
L-CF-DIM	Parcel segment labelling, bearings, and distance	L-CD-DIM
L-CF-EAS	Limited interest estate, easement, right of way	L-CD-DRO
L-CF-OTH	Other parcels/boundaries	L-CD-AUT
L-CF-STB	Setbacks	L-CD-MAR
L-CF-SYM	Symbols: coordinate monument, control point	L-CD-SYM
L-CF-TXT	Parcel labelling, description, property ID, book number, etc.	L-CD-TEX
<b>L-SP</b>	<b>Legal Site Plan</b>	<b>L-PS</b>
L-SP-CAN	Canadian boundaries	L-PS-FCN
L-SP-CLS	CLSR boundaries, reserves, parks	L-PS-RTC
L-SP-PRO	Provincial boundaries	L-PS-PRV
L-SP-REG	Regional and municipality boundaries	L-PS-MUN
<b>L-SV</b>	<b>Legal Survey</b>	<b>L-LT</b>
L-SV-CLN	Radial ties, traverse lines, control lines	L-LT-LCH
L-SV-GRD	Survey grid	L-LT-QUA
<b>L-SV-PNT</b>	<b>Survey points</b>	<b>L-LT-POL</b>
L-SV-PNT-ELV	Survey point elevation	L-LT-POL-ELV
L-SV-PNT-IDN	Survey point number text	L-LT-POL-NUI
L-SV-PNT-TXT	Survey point description	L-LT-POL-TEX
L-SV-SYM	Symbols: survey pins, iron bars, etc.	L-LT-SYM
L-SV-TXT	Identification text	L-LT-TEX

<b>Marine</b>		
English Abvn	Description	French Abvn
<b>M-BW</b>	<b>Breakwater Features</b>	<b>M-BL</b>
M-BW-OLN	Breakwater outline	M-BL-CON
M-BW-TOE	Toe of breakwater	M-BL-BRV
M-BW-TOP	Crest of breakwater, berms	M-BL-HRV
<b>M-GL</b>	<b>General</b>	<b>M-GL</b>
M-GL-DIM	Dimensions	M-GL-DIM
M-GL-HAT	Hatching	M-GL-HAC
M-GL-LAY	Layout line work	M-GL-TRI
M-GL-TXT	Text	M-GL-TEX
<b>M-NV</b>	<b>Navigation</b>	<b>M-NA</b>
M-NV-BUO	Buoys	M-NA-BOU
M-NV-CAR	Cards	M-NA-SYM
M-NV-COR	Navigation corridors, channels	M-NA-TVN
M-NV-EQP	Floating aids, marker buoys, fog horns	M-NA-EQU
M-NV-SPA	Spars	M-NA-MAT
<b>M-SK</b>	<b>Skid-way, Haul-outs, Slipways</b>	<b>M-CA</b>
M-SK-BED	Vessel beds	M-CA-PLF
M-SK-BLK	Anchor blocks, haul out blocks	M-CA-BLA
M-SK-FTG	Footings	M-CA-SOA
M-SK-GUA	Guards	M-CA-GUA
M-SK-OLN	Skid-way outline	M-CA-CON
M-SK-RAI	Railway	M-CA-TRC
M-SK-SKD	Skid timbers, skid poles	M-CA-POU
M-SK-SLB	Concrete slabs, precast panels	M-CA-DPP
M-SK-SSP	Steel sheet piling	M-CA-PAL
<b>M-SN</b>	<b>Hydrographic Survey Information, Non Legal</b>	<b>M-RH</b>
M-SN-DAT	Chart datum contour, 0.00 m	M-RH-ZDC
M-SN-DRG	Dredged area or limits	M-RH-LID
M-SN-HNT	High normal tide	M-RH-MHN
M-SN-HWL	High water lines	M-RH-LHM
M-SN-LNT	Low normal tide	M-RH-MBN
M-SN-LWL	Low water lines	M-RH-LBM
M-SN-MAJ	Major sea bottom contours	M-RH-PFM
M-SN-MIN	Minor sea bottom contours	M-RH-SFM
M-SN-SPT	Soundings, spot elevations	M-RH-SON
M-SN-TID	Tide gauges, tidal equipment, tide datum	M-RH-EQU
<b>M-WF</b>	<b>Wharf Features</b>	<b>M-CQ</b>
M-WF-BEM	Pile caps, beams	M-CQ-POU
M-WF-BRC	Bracing, wales	M-CQ-ENT
M-WF-CAI	Caissons	M-CQ-FLO
M-WF-CRW	Crown slopes, crowns	M-CQ-SOM
M-WF-CTW	Catwalks	M-CQ-PAS
M-WF-CWK	Cribwork, ballast floor	M-CQ-CCV

M-WF-CWL	Cope walls, cope beams	<i>M-CQ-MPC</i>
M-WF-DRK	Derricks, cranes, gallows	<i>M-CQ-GRU</i>
M-WF-DRN	Drains, scuppers	<i>M-CQ-DRA</i>
M-WF-FND	Fenders	<i>M-CQ-DEF</i>
M-WF-FST	Floating wharves	<i>M-CQ-QUF</i>
M-WF-FTG	Footings, mattresses, deck substructures	<i>M-CQ-SEM</i>
M-WF-FWL	Firewalls	<i>M-CQ-MCF</i>
M-WF-GUA	Guards	<i>M-CQ-BAR</i>
M-WF-GWY	Gangways	<i>M-CQ-PAE</i>
M-WF-JNT	Construction, control joints	<i>M-CQ-JOC</i>
M-WF-LAD	Ladders	<i>M-CQ-ECH</i>
M-WF-MOR	Mooring cleats, mooring rings, bollards	<i>M-CQ-TAA</i>
M-WF-OLN	Wharf and dolphin outlines	<i>M-CQ-CON</i>
M-WF-PIL	Piles and bents	<i>M-CQ-PIL</i>
M-WF-SSP	Steel sheet piling	<i>M-CQ-PAL</i>
M-WF-TIE	Tie rods, anchor blocks, tie back walls	<i>M-CQ-TBA</i>

## Real Property Space Management

English Abvn	Description	French Abvn
<b>R-BC</b>	<b>Building Common Areas "Accessory B"</b>	<b>R-CB</b>
R-BC-COR	Shared public corridors	R-CB-COR
R-BC-OLN	General shared building outline	R-CB-CON
R-BC-RMS	Shared rooms	R-CB-SAL
<b>R-BS</b>	<b>Building Service Areas</b>	<b>R-SB</b>
R-BS-OLN	General building service outline	R-SB-CON
R-BS-RMS	Building service rooms	R-SB-SAL
R-BS-SFT	Vertical shafts, elevators, stairs (takes walls over RMS)	R-SB-PUV
<b>R-EX</b>	<b>Exterior Site Areas</b>	<b>R-EX</b>
R-EX-OLN	Exterior site areas	R-EX-CON
<b>R-FC</b>	<b>Floor Common Areas</b>	<b>R-AE</b>
R-FC-CNV	Convectors (baseboard, radiators)	R-AE-CNV
R-FC-COL	Building structure, columns (interior and perimeter)	R-AE-COL
R-FC-COR	Primary circulation	R-AE-COR
R-FC-ENC	Encroachments (unusable space)	R-AE-EMP
R-FC-FIR	Fire egress cross over areas, fire refuge areas	R-AE-SOS
R-FC-LOB	Floor elevator lobbies	R-AE-HAL
R-FC-OLN	General outline of floor common areas	R-AE-CON
R-FC-RMS	Electrical, telecom, janitor's closets	R-AE-SAL
<u>R-FC-WSR</u>	<u>Washrooms</u>	<u>R-AE-SAT</u>
R-FC-WSR-BRF	Accessible washrooms	R-AE-SAT-ACF
<b>R-GA</b>	<b>Gross Area</b>	<b>R-AB</b>
R-GA-EXT	Exterior gross area	R-AB-EXT
R-GA-INT	Interior gross area	R-AB-INT
<b>R-GL</b>	<b>General</b>	<b>R-GL</b>
R-GL-TXT	Street names for space audit	R-GL-TEX
<b>R-PK</b>	<b>Parking</b>	<b>R-ST</b>
R-PK-0000-BRF	Barrier-free parking	R-ST-0000-ACF
R-PK-0000-DEP	Parking number - department name (Special use only)	R-ST-0000-MIN
R-PK-DIV	Parking divisions	R-ST-DIV
R-PK-EXT	Exterior parking (Special use only)	R-ST-EXT
R-PK-IDN	Parking identification numbers	R-ST-NUI
R-PK-INT	Interior parking (Special use only)	R-ST-INT
R-PK-OLN	Outlines	R-ST-CON
R-PK-SPC	Special parking	R-ST-SPE
<b>R-SU</b>	<b>Surface Maintenance Building</b>	<b>R-SU</b>
R-SU-CLG	Ceiling finishes	R-SU-PFD
R-SU-COR	Primary corridors	R-SU-COR
R-SU-DEP	Space allocation by department	R-SU-MIN
R-SU-DIV	Division of area	R-SU-DIV
R-SU-EXT	Exterior finishes	R-SU-EXT

<b>R-SU-FLR</b>	<b>Floor finishes</b>	<i>R-SU-PCH</i>
R-SU-FLR-HIG	High-traffic area	<i>R-SU-PCH-ELV</i>
R-SU-FLR-LOW	Low-traffic area	<i>R-SU-PCH-BAS</i>
<b>R-SU-GRP</b>	<b>Space allocation by group / branch</b>	<i>R-SU-GRP</i>
<b>R-SU-IDN</b>	<b>Surface identification number</b>	<i>R-SU-NUI</i>
<b>R-SU-OLN</b>	<b>Outlines</b>	<i>R-SU-CON</i>
<b>R-SU-RMS</b>	<b>Rooms</b>	<i>R-SU-SAL</i>
<b>R-SU-SFT</b>	<b>Shafts</b>	<i>R-SU-PUV</i>
<b>R-SU-SPC</b>	<b>Special surfaces</b>	<i>R-SU-SPE</i>
<b>R-SU-WAL</b>	<b>Walls</b>	<i>R-SU-MUR</i>
<b>R-SU-WIN</b>	<b>Windows</b>	<i>R-SU-FEN</i>
<b>R-UC</b>	<b>User Common</b>	<b>R-AC</b>
R-UC-COR	Shared public corridors	<i>R-AC-COR</i>
R-UC-OLN	General shared user outline	<i>R-AC-CON</i>
R-UC-RMS	Shared rooms	<i>R-AC-SAL</i>
<b>R-US</b>	<b>Usable</b>	<b>R-AU</b>
R-US-001, 002...	Usable area polygons by location	<i>R-AU-001, 002</i>
R-US-COR	Primary circulation areas	(Special use only) <i>R-AU-COR</i>
R-US-DEP	Space allocation by department	(Special use only) <i>R-AU-MIN</i>
R-US-DIV	Division of areas	<i>R-AU-DIV</i>
R-US-GRP	Space allocation by group / branch	(Special use only) <i>R-AU-GRP</i>
R-US-IDN	Location identification numbers	<i>R-AU-NUI</i>
R-US-OLN	General usable outlines	(Special use only) <i>R-AU-CON</i>
R-US-RMS	Room identification numbers	(Special use only) <i>R-AU-SAL-NUI</i>
R-US-UNT	Space allocation by units	(Special use only) <i>R-AU-UNI</i>
<b>R-ZN</b>	<b>Zoning</b>	<b>R-ZO</b>
R-ZN-CLE	Cleaning zoning	<i>R-ZO-NET</i>
R-ZN-FIR	Fire egress zoning	<i>R-ZO-SOS</i>
R-ZN-SEC	Security zoning	<i>R-ZO-SEU</i>

<b>Structure</b>		
English Abvn	Description	French Abvn
<b>S-CL</b>	<b>Ceilings</b>	<b>S-PF</b>
S-CL-BEM	Ceiling beams	S-PF-POU
<b>S-FL</b>	<b>Floors</b>	<b>S-PC</b>
S-FL-BEM	Floor beams	S-PC-POU
S-FL-BRC	Bracing	S-PC-ENT
S-FL-DEK	Decking, waffle	S-PC-PLA
S-FL-FRM	Framing	S-PC-CHR
S-FL-JNT	Joints, expansion, construction	S-PC-JOC
S-FL-JST	Joists	S-PC-PLP
S-FL-OLN	Floor outlines	S-PC-CON
S-FL-OPN	Floor openings	S-PC-OUV
S-FL-SLB	Floor slabs	S-PC-DPP
S-FL-STR	Structural landings	S-PC-ESC
<b>S-FN</b>	<b>Foundations</b>	<b>S-FD</b>
S-FN-FIL	Backfill, soil line	S-FD-REM
S-FN-FTG	Footings	S-FD-SEM
S-FN-OLN	Foundation outlines	S-FD-CON
S-FN-PIL	Piles, caissons, piers	S-FD-PIE
<b>S-GR</b>	<b>Structural Grid</b>	<b>S-QU</b>
S-GR-EXT	Structural grid lines outside building	S-QU-EXT
S-GR-INT	Structural grid lines inside building	S-QU-INT
<b>S-RF</b>	<b>Roofs</b>	<b>S-TO</b>
S-RF-BEM	Beams	S-TO-POU
S-RF-BRC	Bracing	S-TO-ENT
S-RF-DEK	Decking, waffle	S-TO-PLA
S-RF-FRM	Framing, roof trusses	S-TO-CHR
S-RF-JNT	Joints, expansion, construction	S-TO-JOC
S-RF-JST	Joists	S-TO-PLP
S-RF-OLN	Roof outlines	S-TO-CON
S-RF-OPN	Roof openings	S-TO-OUV
S-RF-SLB	Roof slabs	S-TO-DPP
<b>S-WL</b>	<b>Walls, Columns</b>	<b>S-MU</b>
S-WL-BRC	Cross bracing	S-MU-ENT
S-WL-BRG	Bearing walls	S-MU-POR
S-WL-COL	Columns	S-MU-COL
S-WL-JNT	Joints, expansion, construction	S-MU-JOC
S-WL-OPN	Wall openings	S-MU-OUV
S-WL-RWL	Retaining walls	S-MU-STM

## Annex B – Layer Field Descriptions

Ext.	Description	Ext.	Description
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### Group Field

The following table lists the Group field abbreviations that can be used to create new layer names. This is the second part of the layer name following the Discipline field:

X-**XX**-XXX

AP	Approach Slabs	OI	Oil Distribution
AZ	Airport Zoning	PA	Sound and PA Systems
BC	Building Common Areas "Accessory B"	PB	Plumbing
BH	Borehole Data (Geotechnical)	PG	Propane Gas
BP	Blocking Plan	PH	Telephone Systems
BS	Building Service Areas	PK	Parking
BW	Breakwater Features	PL	Plan
CF	Cadastral Fabric	PP	Fuel and Process Piping
CI	Circulation	PR	Profile Data
CK	Clock Systems	RF	Roofs
CL	Ceilings	RO	Roads
CS	Control Systems	RW	Railways
DA	Data Systems	SA	Sanitary Sewer
DI	Diesel Fuel Distribution	SB	Substructure
DK	Deck	SC	Schedules
DM	Dams	SD	Site Distribution and Electrical Equipment
DR	Doors	SE	Security Systems
DT	Details	SF	Natural Site Features
DW	Domestic Water	SG	Signal Systems
EG	Emergency Generation	SI	Signage
EI	Employee Information	SK	Skid-way, Haul-outs, Slipways
EL	Emergency Lighting	SM	Schematics
EM	Emergency	SN	Hydrographic Survey Information, Non-Legal
EN	Environment	SP	Legal Site Plan
EP	Emergency Power Equipment	SR	Scour Protection
EQ	Equipment	SS	Superstructure
EW	Emergency Power Wiring and Cabling	SU	Surface Maintenance Building
EX	Exterior Site Areas	SV	Survey
FC	Floor Common Areas	SW	Storm Water and Drainage
FL	Floors	SY	System Furniture
FN	Foundations	TL	Title Block
FP	Fire Protection	TP	Topographical Information
FR	Electrical Fire Protection	UC	User Common
FU	Furniture	US	Usable
FW	Flat Wiring	VA	Ventilation and Air Conditioning
GA	Gross Area	VD	Video Conferencing Systems
GD	Grounding	VG	Vegetation
GL	Global	WD	Windows
GR	Grid	WF	Wharf Features
HC	Heating and Cooling	WL	Walls, Columns
HY	Hydrology	WM	Water and Fire
LD	Landscaping	ZN	Zoning
LG	Legend		
LP	Lightning Protection		
NG	Normal Power Generation		
NL	Normal Lighting		
NP	Normal Power Equipment		
NV	Navigation		
NW	Normal Power Wiring and Cabling		
NZ	Natural Gas		

## Single Layer Field and First Layer Name Extension

Ext.	Description	Ext.	Description
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The following table lists the Single Layer field and First Layer Name Extension abbreviations that can be used to create new layer names. This is the third or fourth part (if required) of the layer name following the Group field:

X-XX-**XXX** X-XX-XXX-**XXX**-X

3DM	3D model components of 2D symbols	CLK	Clock system
ABN	Abandoned	CLE	Cleaning, clean out
ABU	Abutments	CLN	Control lines
ABV	Above ground, above grade	CLR	Colours
ACC	Accessories	CLS	CLSR boundaries, reserves, parks
ACR	Fire department access routes	CLT	Control wiring for emergency lighting
AIR	Control air piping	CMA	Compressed air
ALI	Alignment	CMB	Combined sewers
ALM	Intrusion alarms	CMP	Computers
ANN	Annual flowers	CNB	Flat wiring connection boxes
ANT	Antenna	CNV	Convectors
APC	Approach surface (airport)	CO2	Carbon dioxide gas
APP	Approximate	COA	Combustion air ductwork
APR	Approach slabs	COD	Conduits
ART	Artwork	COL	Columns
ASP	Asphalt	CON	Concrete
ATT	Attributes	CNT	Construction
AWP	Acid waste piping (medical)	COR	Corridors
BAR	Barriers, railings	COT	Cooling tower
BDY	Legal limits, fee simple, admin., control	CRB	Curbs
BED	Vessel beds	CRP	Carpet
BEM	Beams	CRW	Crown slopes, crowns
BEN	Local benchmarks	CSY	Control system schematics
BIR	Bird hazard (airport)	CPT	Control points
BKH	Bulkheads	CTL	Controls
BLK	Block	CTM	Contamination (environment)
BND	Boundaries	CTP	Countertops
BRC	Bracing	CTW	Catwalks
BRF	Barrier-free	CUL	Culverts
BRG	Bearing	CVY	Horizontal conveyors, moving sidewalks
BRD	Bridges	CWL	Cope walls, cope beams
BRK	Brick	CWK	Cribwork, ballast floor
BRL	Break lines	DAS	Data systems schematics
BRM	Crest of breakwater, berms	DAT	Chart datum contour, 0.00 m
BUO	Buoys	DBR	Debris, rubble, loose rock and soil
BYP	By-pass box	DCB	DC battery systems
CAB	Cabinet	DCL	Ditch centre lines
CAI	Caissons	DEC	Deciduous
CAL	Callout blocks	DEK	Deck
CAN	Canadian boundaries	DEP	Space allocation by department
CAR	Cards	DIF	Diffusers
CAT	Catchments area	DIG	Digitized or vectorized from scanned Image
CBL	Flat wiring cable location	DIM	Dimensions
CBT	Cable trays, ducts, and raceways	DIV	Divisions
CEX	Chemical extinguisher	DRA	Drainage
CHL	Chilled water	DRG	Dredged area or limits
CHN	Chainage	DRK	Derricks, cranes, gallows
CLD	Cold water	DRN	Drains, scuppers
CLG	Ceiling-mounted equipment, wiring, or finishes	DRS	Duct riser diagrams
CLI	Centrelines	DSK	Desks, work surfaces, tables

Ext.	Description	Ext.	Description
DUC	Ducts	GRV	Gravel
DWV	Drainage waste and vent system	GUA	Guards
EAS	Easement	GUT	Gutter lines
EFP	Electrical fire protection schematics	GWY	Gangways
ELD	Electromagnetic locking devices	HAT	Hatching
ELE	Elevators	HED	Door and window headers
ELK	Electrical security locks	HEG	Helium gas
ELV	Elevation (survey points)	HIG	High
EME	Emergency	HNT	High normal tide
ENC	Encroachments (unusable space)	HOR	Horizontal
EPE	Explosion-proof equipment	HOT	Hot water
EPR	Emergency power wiring & equipment	HTE	Heating units
EQP	Equipment	HVD	High voltage distribution
ESC	Escalator	HWA	Heating water
ESG	Exit signs	HWL	High water lines
EVR	Evergreen	HWY	Highway plan
EXH	Exhaust	HYD	Hydronic equipment
EXJ	Expansion joints	HYG	Hydrogen gas
EXP	Exposed inside/outside wiring	ICE	Ice thickness
EXT	Exterior	IDN	Identification
FDR	Floor drains	IMP	Imports (Revit families)
FEN	Fencing	IND	Industrial
FEX	Foamed extinguisher	INS	Insulation
FHY	Fire hydrants	INT	Interior
FIL	Backfill, soil line	IOT	Inlet outlet
FIN	Finishes	IRR	Irrigation system
FIR	Fire egress	JER	Jersey wall
FIX	Plumbing fixtures	JNT	Joints
FLG	Flagpoles	JST	Joists
FLO	Flow, discharge	KRK	Kirk key interlocks
FLR	Floor-mounted equipment, wiring or finishes	LAD	Ladders
FLU	Flue, vent, breaching	LAN	Local area network
FLW	Flowers	LAY	Layout line work
FND	Fenders	LEV	Floor level changes, ramps, truck wells
FOI	Fuel oil	LGT	Lighting control schematics and diagrams
FRL	Fire lines	LIM	Limits
FRM	Framing	LIN	Line work
FST	Floating wharfs	LNT	Low normal tide
FTG	Footing	LOB	Floor elevator lobbies
FTN	Fountains, pools	LOG	Borehole logs and data
FUR	Site furnishings, benches, garbage cans, etc.	LGO	Logos
FWL	Fire walls	LOW	Low
GAB	Gabions	LTG	Normal powered lighting
GCV	Ground cover	LTP	Lightning protection schematics
GDP	Guideposts	LVD	Low voltage distribution
GEN	Generators	LWL	Low water lines
GLY	Glycol	MAJ	Major contours
GLZ	Glass, glazing	MAN	Manholes
GND	Grounding schematics	MAR	Marshes, wetlands
GPS	Global Positioning System	MEC	Electrical connections to mechanical equipment
GRA	Grading	MEG	Methane gas
GRD	Grid	MET	Meters
GRI	Grilles	MIL	Architectural specialties, casework and millwork
GRL	Guides, guardrails, median dividers, bollards	MIN	Minor contours
GRP	Space allocation by group / branch	MLI	Main lines
GRS	Grass, lawn area	MMS	Maintenance Management System
		MNG	Storm water management pond

Ext.	Description	Ext.	Description
MON	Monuments	RFL	Refrigerant liquid
MOR	Mooring cleats, bollards	RLN	Reference lines
MRK	Markings and road striping	RME	Read Me info
MSH	Mass hauling diagrams	RMN	Remnants (archaeology)
MTR	Metering wiring & equipment	RMP	Ramps
MUN	Municipal and utility services	RMS	Rooms
NGA	Natural gas	ROD	Drivable road limits (asphalt) road, lots
NIT	Nitrogen (medical)	ROW	RO water or distilled water (medical)
NOD	Node, horizontal reference point	RPL	Reference plan
NOF	Non-office furniture, first aid room beds, etc.	RPS	Real Property information
NPR	Normal power schematics, risers	RRP	Riprap
OEQ	Office equipment	RWL	Retaining walls
OFF	Office signage	SAF	Life safety
OLN	Outlines	SAN	Sanitary
OPN	Openings	SCD	Secondary
ORN	Ornamental	SCR	System furniture panels, screens
OUT	Outlets	SEC	Security zoning
OTA	Outside air	SED	Seeded area
OTH	Other	SEL	Super elevation
OVH	Overhead	SEN	Motion sensors
OXY	Oxygen (medical)	SET	Seating
PAN	Distribution panel (electrical, telephone)	SEP	Septic (field, tank, etc.)
PAR	Parcel line work	SEW	Sewer
PAS	Public address system schematics	SFT	Shafts
PER	Perennial	SGL	Sign layouts and details
PGA	Propane gas	SGN	Signs
PIC	Inserted pictures	SHL	Shelving
PIL	Piles	SHO	Shoulder
PIP	Pipes, piping	SIG	Signalling devices
PIR	Piers	SIL	Window sills
PIV	Post indicator valve	SIZ	Size
PIT	Borrow pit	SKD	Skid timbers, skid poles
PLM	Plume outline	SLB	Slabs
PLN	Approach slabs in plan view	SLI	Service lines
PLT	Plants	SMP	Soil sample locations
PMP	Pumping stations	SND	Sand
PNT	Survey points	SNL	Stringers
POL	Poles and towers (electrical, communication)	SOD	Sodded
PRI	Primary	SPA	Spars
PRF	Profiles	SPC	Special
PRO	Provincial boundaries	SPK	Sprinkler system
PRS	Piping riser diagrams	SPO	Sports facilities, goal nets, etc.
PRT	Partitions (walls)	SPR	Stratigraphic profiles
PST	Posts	SPT	Spot elevations
RAD	Radiant heat	SRB	Shrubs
RAI	Railway	SRF	Surface model line work
RAS	Raised floors	SSP	Steel sheet piling
RAW	Raw water lines	STA	Stations (survey)
RCK	Rock	STB	Setbacks
RCL	Recirculation	STG	Staging layout plan
RDR	Roof drains	STI	Strip (airport)
REB	Reinforcing	STL	Steel
REC	Receptacles	STM	Steam
REF	Refrigerant equipment	STO	Stone
REG	Regional and municipality boundaries	STP	Standpipe
RET	Return	STR	Stairs, stairwells, and ladders
RFG	Refrigerant gas	SUB	Sub
		SUP	Supply
		SUR	Work surfaces, D-tops, P-tops, etc.

Ext.	Description	Ext.	Description
SWK	Sidewalks	VAC	Vacuum piping
SYM	Symbols	VAL	Valves
TAB	Tables	VAV	Variable air volume boxes
TEL	Telephone	VCE	Emergency voice communication
TEN	Tenant	VCL	Video controllers (Digital)
TER	Terraces	VCM	Video cameras and monitors
TID	Tide gauges, tidal equipment, tide datum	VEN	Vents
TIE	Tie rods, anchor blocks, tie-back walls	VER	Vertical
TIM	Timber	VID	Video system schematics
TMP	Temporary	VIN	Vines
TMT	Sewage treatment areas	VPC	Valve pump chamber
TNK	Tanks	VPT	Viewports
TOE	Toe of bank, breakwater, berms	WAL	Wall-mounted equipment or wiring
TOP	Top of bank, crest of breakwater, berms	WEL	Well
TRE	Trees	WIN	Windows
TRL	Trails	WLI	Water lines
TRS	Transitional surface (airport)	WLK	Roof boardwalks, catwalks
TUN	Tunnels	WOR	Working area
TXT	Text	WRG	Wiring
UCD	Underlying cadastral fabric, deeds, lots, plans	WSR	Washrooms
UND	Underground, below grade	WST	Waste schematics
UNT	Space allocation by units	WTR	Watercourse
UPS	Ups and conditioned power	XRE	External reference
		ZNS	Zoning surfaces

## Second Layer Name Extension

Ext.	Description	Ext.	Description
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The following table lists the Second Layer Name Extension abbreviations that can be used to create new layer names. This is the fourth or fifth part of the layer name following the Single Layer field or First Layer Name Extension:

X-XX-XXX-**X**    X-XX-XXX-XXX-**X**

1 to 9	Options or Phases 1 to 9
A	English Text (Anglais)
B	As Built (As Constructed)
E	Existing
F	French Text
M	To be Moved or Relocated
N	New
P	Planned or Proposed
S	Base
X	To Be Removed

## Annex C – Glossary

“**As-built**” shall mean a set of construction drawings reflecting on-site changes required during the project as well as the original design intent.

“**AutoCAD®**” shall mean the CADD software developed by Autodesk® Inc.

“**Base plan**” shall mean a clean, two-dimensional floor plan of a building drawn from field surveys containing all pertinent graphic information. The intent is to use base plan files for project drawings, then update them once a project is complete and the area affected is re-measured.

“**CADD**” shall mean Computer-Aided Design and Drafting.

“**CAFM**” shall mean Computer-Aided Facilities Management.

“**CLSR**” shall mean Canadian Land Survey Records.

“**DM-5**” shall mean Enterprise Document and Record Management. This is a PWGSC internal electronic document filing system (formally known as EDRM or TIDIS).

“**DOS**” shall mean the Disk Operating System which manages the flow of information to and from various parts of the Personal Computer system.

“**GIS**” shall mean Geospatial Information System.

“**Layers**” shall mean the AutoCAD® system of dividing drawing elements.

“**Legacy drawings**” shall mean older hardcopy drawings, microfiche aperture cards not in digital format, or older CADD files not produced to the present standard.

“**PWGSC**” shall mean the Department of Public Works and Government Services Canada.

“**RPB**” shall mean Real Property Branch, a branch of PWGSC.

“**SDIM**” shall mean Spatial Data Information Management, a general term referring to managing CADD/CAFM/GIS drawings.