City of Coquitlam

Contract Documents
89120

Falcon and Pinetree Way PRV Rehabilitation

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Contract No. 89120

Falcon and Pinetree Way PRV Rehabilitation

Project Construction Documents

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The complete **Project Construction Documents** consist of the following parts:

1. Standard Documents – supplied **Page**

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2. Standard Documents – not supplied

i) (available in the "MMCD – General Conditions, Specifications and Standard Detail Drawings")

- Instructions to Tenderers
- General Conditions
  - Schedule 17.5.3 – Letter Agreement with Referee
  - Flow Chart – Changes and Extra Work
  - Flow Chart – Dispute Resolution
- Specifications
- Standard Detail Drawings

ii) City of Coquitlam Supplementary Specifications for Contract Documents

Invitation to Tender

INVITATION TO TENDER

DATE OF ISSUE: **June 3, 2026**

We acknowledge with gratitude and respect that the name Coquitlam was derived from the hən̓q̓əmiń əm̓ word kʷikʷəƛ̓əm (kwee-kwuh-tlum) meaning "Red Fish Up the River". The City is honoured to be located on the kʷikʷəƛ̓əm (Kwikwetlem) traditional and ancestral lands, including those parts that were historically shared with the sq̓əc̓iy̓aʔɬ təməxʷ (Katzie), and other Coast Salish Peoples.

Tender No. 89120

Falcon and Pinetree Way PRV Rehabilitation

The City of Coquitlam invites tenders for **Contract 89120 - Falcon and Pinetree Way PRV Rehabilitation**, generally consisting of the following, but not limited to:

- Replacement of the internal components of Falcon Drive and Pinetree Way PRV stations including PRV, strainers, corroded pipes, air valves and corroded bolts;
- Other miscellaneous and incidental work as contained in the Contract Documents.

Tender Documents and Drawings are available for downloading from the City of Coquitlam website: www.coquitlam.ca/BidOpportunities

Printing of Tender documents and drawings is the sole responsibility of the Tenderers.

Tenders submitted must be accompanied by a copy of the original specified 10% Bid Bond and will be received:

On or Before 2:00 pm local time
July 3, 2026
("Closing Date and Time")

Addenda

Tenderers are required to check the City's website for any updated information, issued before the Closing Date at: www.coquitlam.ca/BidOpportunities. **Where in its sole discretion it considers it to be necessary or desirable, the City may issue Addenda to amend any portion of the Contract Documents.**

Any changes to the Tender documentation will be issued by means of written Addenda and posted on the City's website and will form part of the Tender. No amendment of any kind to the Tender is effective unless it is posted in a formal written Addendum on the City website. Upon submitting a Tender, Tenderers will be deemed to have received notice of all Addenda that are posted on the City's website and deemed to have considered the information for inclusion in the Tender submitted.

The City does not retain a bidder's list or bidder's registry. Tenderers are encouraged to register as plan takers and may view the Tender Documents and Drawings by contacting the Vancouver Regional Construction Association (VRCA), website: www.my.vrca.ca, ph: 604-294-3766, or email at vrca@vrca.ca, quoting the Coquitlam Tender Reference Number.

Should there be any discrepancy in the documentation provided, the City's original file copy shall prevail.

Tenders shall remain open for acceptance for 60 days following the submission Closing Date.

The City reserves the right to accept or reject any or all Tenders and the lowest or any Tender may not necessarily be accepted. The City also reserves the right to cancel any request for Tender at any time without recourse by the Tenderer.

The City, prior to award of any Tender, may negotiate with the Tenderer presenting the lowest price compliant Tender, for changes in the Work, materials, specifications or conditions without having any duty or obligation to advise any other Tenderers or to allow them to modify their Tenders, and the City will have no liability to any Tenderer as a result of such negotiations or modifications.

The City will not be responsible for any costs incurred by the Tenderer in preparing the Tender.

Procurement of goods and services is conducted in accordance with Chapter 5 of the Canadian Free Trade Agreement (CFTA) and the New West Partnership Trade Agreement (NWPTA).

M. Pain
Manager Procurement

Instructions to Tenderers

Tender 89120

Falcon and Pinetree Way PRV Rehabilitation

INSTRUCTIONS TO TENDERERS

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INSTRUCTIONS TO TENDERERS

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

The City of Coquitlam

Contract: **Falcon and Pinetree Way PRV Rehabilitation**

Reference No. **89120**

1.0 Introduction

1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:

- Replacement of the internal components of Falcon Drive and Pinetree Way PRV stations including PRV, strainers, corroded pipes, air valves and corroded bolts;
- Other miscellaneous and incidental work as contained in the Contract Documents.

1.2 All inquiries regarding this Tender are to be submitted in writing referencing the **Tender Name and Number** sent to:

E-mail **bid@coquitlam.ca**

The deadline for inquiries is **12:00 PM** local time, **Monday, June 29, 2026**

INQUIRIES RECEIVED AFTER THIS DATE AND TIME MAY NOT RECEIVE A RESPONSE.

2.0 Tender Documents

2.1 The Tender Documents which a Tenderer should review to prepare a Tender consist of all of the *Contract Documents* listed in Schedule 1 entitled "Schedule of Contract Documents". Schedule 1 is attached to the Agreement which is included as part of the Tender Package. The *Contract Documents* include the drawings listed in Schedule 2 to the Agreement, entitled "**List of *Contract Drawings***".

2.2 A portion of the Contract Documents are included by reference. Copies of these documents have not been included with the tender package. These documents are the General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings". Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *Tender Closing Date.* All sections of this publication are by reference included in the *Contract Documents*.

2.3 Any additional information made available to Tenderers prior to the Tender Closing Time by the Owner or representative of the Owner, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the Contract Documents. Such additional information is made available only for the assistance of Tenderers who must make their own judgments about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the Owner nor any representative of the Owner gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

3.0 Submission of Tenders

3.1 Tenders must be submitted on the Tender Form provided, accompanied by a copy of the original 10% Bid Bond quoting the Tender Name and Number, and be uploaded to the City's file transfer website.

Tenders must be received on or before:

Tender Closing Time: **2:00 p.m. local time**
Tender Closing Date: **July 3, 2026**

For the purpose of the Tender submission, digital copies of original documents and signatures sent electronically are accepted. Original documents are required upon request by the City.

Instructions for Tender Submission

3.2 **Tender submissions are to be** consolidated into one (1) .pdf file and **uploaded electronically through QFile, the City's file transfer service accessed at website:** https://qfile.coquitlam.ca/filedrop/purchasing

1. **In the "From" field enter:** Tenderers email address
2. **In the "Subject" field enter:** Tender Name
3. **In the "BID Number" field enter:** Tender Number
4. **In the "Type" field enter: New** if this is a new submission or **Update** if this is an updated submission
5. **Add consolidated Tender files in Adobe PDF format, and Appendix 1 in Microsoft Excel XLS format, and Send** (ensure your web browser remains open until you receive a files sent message. You will also receive an email from QFile confirming the submission)

Tenderers are responsible to allow ample time to complete the Tender submission process. If assistance is required, phone 604-927-3037.

3.3 Tenders submitted shall be deemed to be received when displayed as a new email in the in-box of the above email address. The City will not be responsible for any delay or for any Tenders not received for any reason, including technological delays or issues by

either party's network or email program, and the City will not be liable for any damages associated with Tenders not received.

3.4 The City reserves the right to accept late Tenders to allow for technological delays. The City also reserves the right to accept Tenders by email: bid@coquitlam.ca.

BIDS RECEIVED IN-PERSON, BY COURIER, OR BY FAX WILL NOT BE ACCEPTED.

3.5 Tenders will not be opened in public. The unevaluated results will be forwarded to participants by email.

3.6 Tender submissions are subject to the Freedom of Information and Protection of Privacy Act and contents may be disclosed if required to do so, pursuant to the Act.

4.0 Additional Instructions to Tenderers

Additional Instructions to Tenderers

Obtaining Documents

4.1 The following documents which are referred to and form part of the Contract Document package may be obtained as follows:

- Copies of the Master Municipal Construction Documents Volume II (2009), General Conditions, Specifications and Standard Detail Drawings are available separately from:

  Support Services Unlimited
  Suite 102
  211 Columbia Street
  Vancouver, B.C. V6A 2R5
  Tel: 604-681-0295
  Fax: 604-305-0424

- Copies of the City of Coquitlam Supplementary Specifications and Detailed Drawings to the MMCD 2009 Edition are available for viewing and downloading off the City of Coquitlam website: Supplementary Specifications and Detailed Drawings to MMCD

Test Excavations

4.2 Prior to the excavation of test holes on road allowances or privately owned property the Tenderer shall obtain permission from the Municipality or Owner of the property and comply with their requirements for restoration of disturbed surfaces and utilities. Failure to comply with Municipal by-laws restricting this practice may result in prosecution of the offending party.

Business License

4.3 The successful Tenderer shall provide evidence of a City of Coquitlam Business License or Tri-Cities Inter-Municipal Business License prior to commencement of work or supply of materials. For

		more information, contact Business License Division Ph: 604-927-3085 or apply online at website: City of Coquitlam Business License
No Claim	4.4	Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, as a result of participating in this Tender, including accepting a non-compliant bid and by submitting a Tender, each Tenderer shall be deemed to have agreed that it has no claim.
No Cost	4.5	The City will not under any circumstances be responsible for any costs incurred by the Tenderer in preparing the Tender.
Right to Accept or Reject any Tender	4.6	The City reserves the right to accept or reject any or all Tenders and the lowest or any Tender may not necessarily be accepted. In its sole discretion, the City may reject or retain for its consideration, tenders which are nonconforming because they do not contain the content or form required by the instructions to tenderers or for failure to comply with the process for submission set out in these instructions to tenderers. The City specifically reserves the right to reject all Tenders if none is considered to be satisfactory and, in that event, at its option, to call for additional Tenders.
Negotiation	4.7	The City, prior to award of any Tender, may negotiate with the Tenderer presenting the lowest price compliant Tender, for changes in the Work, materials, specifications or conditions without having any duty or obligation to advise any other Tenderers or to allow them to modify their Tenders, and the City will have no liability to any Tenderer as a result of such negotiations or modifications.
Cancellation of Tender	4.8	The City reserves the right to cancel any request for Tender at any time without recourse by the Tenderer. The City has the right to not award this work for any reason including choosing to complete the work with the City's own forces.
Conflict of Interest	4.9	Tenderers shall disclose any actual or potential conflicts of interest and existing business relationships it may have with the City, their elected or appointed officials or employees.
Collusion	4.10	Tenderers will not discuss or communicate with one another in regards to the preparation of their Tenders. Each Tenderer will ensure that its participation in the Tender process and that of its team members is conducted without collusion or fraud. Failure to comply with this requirement may lead to disqualification without further notice or warning.
Instruction to Tenderers – Part II		Delete Instructions to Tenderers – Part II Contained in the Edition of the Publication "Master Municipal Construction Documents 2009" and replace with the following:

5.0 Tender Requirements

5.1 A tender should be on the Form of Tender as provided and be signed by the authorized signatory(s) as follows:

5.1.1 if the tenderer is a partnership or joint venture then the name of the partnership or joint venturer should be included, and each partner or joint venturer should sign personally; if a partner of joint venture is a corporation then such corporation should sign as indicated in paragraph 5.1.3 below; and

5.1.2 if the tenderer is a corporation then the full name of the corporation should be included, together with the names and signatures of authorized signatories.

5.1.3 For the purpose of the Tender submission, digital copies of original documents and electronic signatures are accepted. Original documents are required upon request by the City.

5.2 A tender must be accompanied by tender security ("*Bid Security")* in the form of:

5.2.1 a copy (digital or Electronic copy is acceptable) of the original bid bond in an amount equal to 10% of the Tender Price, issued by a surety licensed to carry on the business of suretyship in British Columbia in a form reasonably satisfactory to the *Owner*;

5.3 Tenderer should be competent and capable of performing the various items of work. Tenderer shall complete the following statement sheets appended to the Form of Tender:

5.3.1 Appendix 1 – the Schedule of Quantities and Prices;

5.3.2 Appendix 2 – a "*Preliminary Construction Schedule*", generally in the form attached as Appendix 2 to the Form of Tender, and showing *Substantial Performance* by the date or within the duration, shown in paragraph 2.2 of the Form of Tender.

5.3.3 Appendix 3 – name and brief description of the previous experience of the *Superintendent* the tenderer will use for the *Work*;

5.3.4 Appendix 4 – a list of previous comparable work, including a brief description of that work, approximate contract value, and references (with phone numbers);

5.3.5 Appendix 5 – a complete list of all subcontractors, if any, that the tenderer will use for the *Work* including full names; and

5.3.6 Appendix 7 – is provided for information only, to indicate the Contract Insurance is to be submitted by the successful Tenderer upon Notice of Award.

5.4 The successful tenderer will, within 15 *Days* of receipt of the written *Notice of Award*, be required to deliver to the *Owner* the items listed in FT 5.1.1, including a Performance Bond and a Labour and Material Payment Bond as described in FT 5.1.1(a), failing which the provisions of FT 6.1 will apply.

6.0 Qualifications, Modifications, Alternative Tenders

6.1 Tenders which contain qualifications, or omissions, so as to make comparison which other tenders difficult, may be rejected by the *Owner*.

6.2 A tenderer may, at the tenderer's election, submit an alternative tender ("*Alternative Tender*") which varies the materials, products, designs or equipment by the *Owner as Approved Equals* as the case may be, but an *Alternative Tender* must be in addition to, and not in substitution for a tender which conforms to the requirements of the *Contract Documents*.

6.3 The only *Alternative Tender* that the *Owner* may acc*ept* is an *Alternative Tender* submitted by that tenderer whose conforming tender, submitted as required by paragraph 6.2 of these Instructions to Tenderers, would have been accepted by the *Owners* in the preference to other conforming tenders, if no *Alternative Tenders* had been invited.

7.0 Approved Equals

7.1 Prior to the *Tender Closing Time and Date,* a tenderer may request the *Owner* to approve materials, products, or equipment ("*Approved Equal*") to be included in a tender in substitution for items indicated in the Contract Documents.

7.2 Applications for an *Approved Equal* must be in writing, and supported by appropriate supporting information, data, specifications, and documentation.

7.3 If the *Owner* decides in its discretion to accept an *Approved Equal*, then the *Owner* will issue an addendum to all tenderers.

7.4 The *Owner* is not obligated to review or accept an application for an *Approved Equal*.

8.0 Inspection of the *Place of the Work*

8.1 All tenderers, either personally or through a representative, are responsible to examine the *Place of the Work* before submitting a tender. A tenderer has full responsibility to be familiar with and make allowance in the tender for all conditions at the *Place of the Work* that might affect the tender, including any information regarding subsurface soil conditions made available by the *Owner*,

the location of the *Work*, local conditions, topographical soil conditions, weather and access. Unless otherwise specified in the *Contract Documents*, a tenderer is not required to do subsurface investigations. By submitting a tender, a tenderer represents that the tenderer has examined the *Place of the Work*, or specifically elected not to. No additional payments or time extensions shall be claimable or due because of difficulties relating to conditions at the *Place of the Work* which were reasonably foreseeable by a contractor qualified to undertake the *Work*.

8.2 Tenderers are referred to GC 11.2.1 regarding **Concealed or Unknown Conditions.**

9.0 Interpretation of *Contract Documents*

9.1 If a tenderer is in doubt as to the correct meaning of any provision of the *Contract Documents*, the tenderer may request clarification as instructed in paragraph 1.2 of the Instructions to Tenderers.

9.2 If a tenderer discovers any contradictions or inconsistencies in the *Contract Documents* or its provisions, or any discrepancies between a provision of the *Contract Documents* and conditions at the *Place of the Work as* observed in an examination under paragraph 8 of the person named in paragraph 1.2 of the Instructions to Tenderers.

9.3 If the *Owner* considers it necessary, the *Owner* may issue written addenda to provide clarification (s) of the *Contract Documents.*

9.4 No oral interpretation or representations from the *Owner* or any representative of the *Owner* will affect, alter, or amend any provision of the *Contract Documents*.

10.0 Prices

10.1 The Tendered Price will represent the entire cost excluding *GST* to the *Owner* of the complete *Work* based on the estimated quantities in the *Schedule of Quantities and Prices* of the Form of Tender. Notwithstanding the generalities of the above, tenderers shall include in the tendered prices (including unit prices, lump sum prices, or other forms of pricing) sufficient amounts to cover:

10.1.1 the costs of all labour, equipment and material included in or required for the *Work*, including all items which, whole not specifically listed in the *Schedule of Quantities and Prices*, are included in the *Work* specifically or by necessary inference from the *Contract Documents;*

10.1.2 all assessments payable with respect to labour as required by any statutory scheme such as unemployment insurance, holiday pay, insurance, CPP and all employee benefits and the Workers Compensation Act;

10.1.3 all overhead costs, including head office and on-site overhead costs, and all amounts for the *Contractor's* profit.

10.2 The tendered prices and all subcontracts must allow for compliance with all applicable laws regarding trade or other qualifications of employees performing the *Work*, and payment of appropriate wages for labour included in or required for the *Work*.

11.0 Taxes

11.1 The tendered prices shall cover all taxes and assessments of any kind payable with respect to the *Work*, but shall not include *GST*. *GST* shall be listed as a separate line item as required by GC 19.3.

12.0 Amendment of Tenders

12.1 A tenderer may amend or revoke a tender by giving written notice, delivered by Email, to the office referred to in paragraph 3.4 of the Instructions to Tenderers at any time up until the *Tender Closing Date and Time*. An amendment or revocation that is received after the *Tender Closing Date and Time* shall not be considered and shall not affect a tender as submitted.

12.2 An amendment or revocation must be signed by an authorized signatory of the tenderer in the same manner as provided by paragraph 5.1 of these Instructions to Tenderers.

12.3 Any amendment that expressly or by inference discloses the tenderer's *Tender Price* or other material element of the tender such that, in the opinion of the *Owner*, the confidentiality of the tender is breached, will invalidate the entire tender.

12.4 An acceptable form of a tender amendment which tenderers may, but are not required to, use is as follows:

"Contract: _____
(TITLE OF CONTRACT)

Reference No. _____
(OWNER'S CONTRACT REFERENCE NO.)

TO: _____
(NAME OF OWNER)

We the undersigned wish to amend our tender which we submitted for the above *Contract* by deleting the following tendered prices or items from our tender:

_____
_____
_____
(TEDNERED PRICES AND/OR TENDER ITEMS IN THE TENDER THAT ARE TO BE AMENDED)

and substituting the following revised tendered prices or items:

_____
_____
_____
(REVISED TENDERED PRICES OR TENDER ITEMS)

The extensions in our tender should be adjusted accordingly, and our ***Tender Price*** as set out in Appendix 1 of our submitted **Form of Tender**, and on the ***Schedule of Quantities and Prices***, increased / decreased by $_____, excluding GST. We have not included our revised ***Tender Price*** in order to preserve the confidentiality of our tender.

Signed and delivered the ___ day of _____, 20___."

13.0 Duration of Tenders

13.1 After the *Tender Closing Time*, a tender shall remain valid and irrevocable as set out in paragraph 5.1 of the Form of Tender.

14.0 Qualifications of Tenderers

14.1 By submitting a tender, a tenderer is representing that it has the competence, qualifications and relevant experience required to do the *Work.*

15.0 Award

15.1 In exercising its discretion, the *Owner* will have regard to the information provided in the Appendices to the Form of Tender as described under IT 5.3 including the proven experience of the tenderer, and any listed subcontractors, to do the *Work*.

Tenders received will be evaluated to provide the City with greatest value based on quality, service, price and experience. Evaluation Criteria will include but is not limited to:

1. Ability to meet specifications and required completion date
2. Contractor's past experience, references, reputation and compliance to specifications
3. Demonstrated successful experience on similar projects and specific equipment installation
4. Price: purchase price, maintenance costs, availability of parts and service, warranty and compatibility with existing equipment and/or conditions
5. Any other criteria, the City deems, at its sole discretion, necessary to evaluate Tenders;
6. Lowest price will not necessarily be accepted.

The City may, in its absolute discretion, not award to a Tenderer if the Tenderer, or any officer or director of a corporate Tenderer, is or has been engaged, either directly or indirectly through another

corporation or legal entity, in a legal action against the City and its elected and appointed officers and employees or any of them in relation to:

a) any other contract or services; or

b) any matter arising from the City's exercise of its powers, duties or functions under the *Local Government Act,* the *Community Charter* or any other enactments; within five years of this Tender Offer.

For purposes of this section, the words "legal action" includes, without limitation, mediation, arbitration, hearing before an administrative tribunal or lawsuit filed in any court.

Without limiting the City's sole discretion, in determining whether or not to award to a Tenderer pursuant to this clause, the City will consider such factors as whether the legal action is likely to affect the Tenderer's ability to work with the City and its employees, agents, consultants and representatives or any of them and whether the City's past experience with the Tenderer in the matter that resulted in the legal action indicates that the City is likely to incur increased staff and legal costs or either of them in the administration of this contract if it is awarded to the Tenderer.

In the event that the lowest total Tender Price by two or more Tenderers is the same amount, the City will select a Tenderer with an overall satisfactory performance record in having completed work on previous relevant projects that are provided as references, and on City projects. Information obtained from references will not be disclosed or discussed with any Tenderer. If all references are equal, selection will be determined by a coin toss in a manner to be directed by the City.

Where only one Tender is received the City may reject such and re-tender on a selected basis.

15.2 The *Owner* will notify the successful tenderer in writing.

15.3 If there are any discrepancies in the *Schedule of Quantities and Prices* between the unit prices and the extended totals then the unit prices shall be deemed correct, and corresponding corrections shall be made to the extended totals. If a unit price or extended total has been omitted, the following shall apply:

a) If a unit price is given but the corresponding extended total has been omitted, then the extended total shall be calculated from unit price and the estimated quantity, and inserted as the extended total;

b) If an extended total is given but the corresponding unit price has been omitted, then the unit price shall be

calculated from the extended total and estimated quantity, and inserted as the unit price;

c) If both the unit price and the corresponding extended total for a tender item have been omitted, then the following test shall be applied to determine whether the tender shall be rejected as incomplete:

(i) the highest of the unit prices tendered by other tenderers for that tender item shall be used as the test unit price, and the corresponding test extended total shall be calculated from the test unit price and the estimated quantity;

(ii) if the test extended total for the tender item exceeds 1% of the revised total *Tender Price*, including the test extended total, or if the revised total *Tender Price*, including the test extended total, alters the ranking of the tenderers according to the lowest *Tender Price*, then the omitted unit price for that tender item is deemed to materially affect the *Tender Price* relative to other tenders and the tender shall be rejected;

(iii) if the tender is not rejected under subparagraph (ii) of this IT 15.3 (c), then the unit price and the extended total for that tender item shall both be deemed to be, and the costs for that tender item shall be zero deemed to be included in other tender items prices;

d) In no event shall page totals in the *Schedule of Quantities and Prices* or the total *Tender Price* be used to calculate missing extended totals or unit prices.

16.0 Subcontractors

16.1 The *Owner* reserves the right to object to any of the subcontractors listed in a tender. If the *Owner* objects to any of the subcontractor(s) then the *Owner* will permit a tenderer to, within 5 days, propose a substitute subcontractor(s) acceptable to the *Owner* provided that there is not resulting adjustment in the *Tender Price* or the completion date set out in paragraph 2.2 of the Form of Tender. A tenderer will not be required to make such substitution and, if the *Owner* objects to a listed *Subcontractor(s)*, the tenderer may, rather than propose a substitute subcontractor(s), consider its tender rejected by the *Owner* and by written notice withdraw it tender. The *Owner* shall, in the event, return the tenderer's bid security.

17.0 Optional Work

17.1 If the *Schedule of Quantities and Prices* includes any tender prices for *Optional or Provisional Work*, as defined in GC 7.4.1, the tenderers must complete all the unit prices for such *Optional or Provisional Work*. Such tender prices shall not include any general overhead costs, or other costs, or profit, not directly related to the *Optional or Provisional Work*.

17.2 Notwithstanding that the *Owner* may elect not to proceed with the *Optional or Provisional Work*, the tender prices for any *Optional or Provisional Work*, including the extended totals for *Optional or Provisional Work* unit prices, shall be included in the *Tender Price* for the purpose of any price comparisons between tenders.

Form of Tender

Form of Tender

Tender No. 89120

Falcon and Pinetree Way PRV Rehabilitation

Summary

Name of ***Contractor***: _____

Tender Price *(*exclude GST): $ _____
(FROM APPENDIX 1 OF FORM OF TENDER)

Tender submitted must be accompanied by a copy of the original 10% Bid Bond and will be received

On or before 2:00 pm (local time)
Friday, July 3, 2026

Instructions for Tender Submission

Tender submissions are to be consolidated into one (1) .pdf file and **uploaded electronically through QFile, the City's file transfer service accessed at website:**
https://qfile.coquitlam.ca/filedrop/purchasing

1. **In the "From" field enter:** Tenderers email address
2. **In the "Subject" field enter:** Tender Name
3. **In the "BID Number" field enter:** Tender Number
4. **In the "Type" field enter: New** if this is a new submission or **Update** if this is an updated submission
5. **Add consolidated Tender files in Adobe PDF format, and Appendix 1 in Microsoft Excel XLS format, and Send** (ensure your web browser remains open until you receive a files sent message. You will also receive an email from QFile confirming the submission)

Tenderers are responsible to allow ample time to complete the Tender submission process. If assistance is required, phone 604-927-3037.

The City of Coquitlam
3000 Guildford Way
Coquitlam, B.C. V3B 7N2

June 2026

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

Contract Name: **Falcon and Pinetree Way PRV Rehabilitation**
Reference No.: **89120**

TO OWNER:

1 WE, THE UNDERSIGNED:

1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the City of Coquitlam Supplementary General Conditions, the City of Coquitlam Supplementary Contract Specifications, the specified edition of the "Master Municipal Construction Documents – General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

_____
_____
_____;
(ADDENDA, IF ANY)

1.2 shall fully disclose any actual or potential conflicts of interest and existing business relationships we may have with the City, their elected or appointed officials or employees:

_____

1.3 have full knowledge of the *Place of the Work*, and the *Work* required; and

1.4 have complied with the Instructions to Tenderers; and

2 ACCORDINGLY WE HEREBY OFFER:

2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material all as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and

2.2 to achieve *Substantial Performance* of the *Work* on or before **October 15, 2026**; and

2.3 to do the *Work* for the price, which is the sum of the products of the actual quantities incorporated into the *Work* and the appropriate unit prices set out in Appendix 1, the "*Schedule of Quantities and Prices*", plus any lump sums or specific prices and adjustment amounts as provided by the *Contract Documents*. For the purposes of tender comparison, our offer is to complete the *Work* for the "*Tender Price*" as set out on Appendix 1 of this Form of Tender. Our *Tender Price* is based on the estimated quantities listed in the *Schedule of Quantities and Prices*, and excludes *GST.*

3 WE CONFIRM:

3.1 that we understand and agree that the quantities as listed in the *Schedule of Quantities and Prices* are estimated, and that the actual quantities will vary.

3.2 that we understand and agree that the owner is in no way obliged to accept this Tender.

4 WE CONFIRM:

4.1 that the following Appendices are attached to and form a part of this tender:

4.1.1 the Appendices as required by paragraph 5.3 of the Instructions to Tenderers - Part II; and

4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers - Part II.

4.1.3 the Certificate of Compliance on the form provided in Appendix 7 of this Form of Tender.

5 WE AGREE:

5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of **60** calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another Tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice ("*Notice of Award*") by which the *Owner* accepts our tender we will:

5.1.1 within **15** *Days* of receipt of the written *Notice of Award* deliver to the *Owner*:

a) a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the *Contract Price*, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the *Owner*;

b) a "clearance letter" indicating that the Tenderer is in WCB compliance; and

c) a copy of the insurance policies as specified in SGC Section 24 indicating that all such insurance coverage is in place and;

d) a letter confirming the *Contractor* as “Prime Contractor” for the Contract as specified in SGC Section 21.2.1.

5.1.2 within **2** *Days* of receipt of written "*Notice to Proceed*", or such longer time as may be otherwise specified in the *Notice to Proceed*, commence the *Work*; and

5.1.3 sign the Contract Documents as required by GC 2.1.

6 WE AGREE:

6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:

6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

6.1.2 fail or refuse to commence the *Work* as required by the *Notice to Proceed*,

then such failure or refusal will be deemed to be a refusal by us to enter into the *Contract* and the *Owner* may, on written notice to us, award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:

6.1.3 the face value of the *Bid Security*; and

6.1.4 the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

7 OUR ADDRESS is as follows:

_____

_____

_____

Phone: _____ - _____ - _____

Email: _____

Attention: _____

This Tender is executed this_____day of_____, 20_____.

Contractor:

_____
(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY)

8 WE CONFIRM:

8.1 our Goods and Services Tax (GST) registration status is as follows:

8.1.1 for information purposes, our GST Registration Number is:

_____
(GST REGISTRATION NUMBER)

or;

8.1.2 by signature hereunder, we certify we are **not required** to provide a registration number:

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY)

Appendix 1
FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

SCHEDULE OF QUANTITIES AND PRICES

(see paragraph 5.3.1 of the Instruction to Tenderers)
(All prices and quotations including the Contract Prices shall Exclude GST)
(Should there be any discrepancy in the information provided, the City's original file copy shall prevail)

ITEM NO.	MMCD Ref./ (Supp. Spec) <Project Supp. Specs>	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENDED AMOUNT
1.00	**01 58 01S**	**PROJECT IDENTIFICATION**				
1.01	(1.3.1)	Construction Information Signs	ea.	4		
2.00	**01 20 00S**	**FALCON PRV REHABILITATION**				
2.01	(1.2.1)	Mobilization and Demobilization	LS	1		
2.02	(1.2.2)	Operations and Maintenance Manuals	LS	1		
2.03	(1.2.3)	Removal of Existing Station Components	LS	1		
2.04	(1.2.4)	Internal Mechanical Piping and Components	LS	1		
3.00	**01 20 00S**	**PINETREE WAY PRV REHABILITATION**				
3.01	(1.2.1)	Mobilization and Demobilization	LS	1		
3.02	(1.2.2)	Operations and Maintenance Manuals	LS	1		
3.03	(1.2.3)	Removal of Existing Station Components	LS	1		
3.04	(1.2.4)	Internal Mechanical Piping and Components	LS	1		

Total Tendered Price (exclude GST): _____
(Transfer the amount to Form of Tender Summary Page 1)

Name of Contractor: _____

APPENDIX 2

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

PRELIMINARY CONSTRUCTION SCHEDULE
(See paragraph 5.3.2 of the Instructions to Tenderers)

INDICATE SCHEDULE WITH BAR CHART WITH CONSTRUCTION DURATIONS

CONSTRUCTION ACTIVITY	JULY		AUGUST				SEPTEMBER				OCTOBER	
	3	4	1	2	3	4	1	2	3	4	1	2

Substantial Completion Date: **October 15, 2026**

Proposed Disposal Site: _____

APPENDIX 3

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

EXPERIENCE OF SUPERINTENDENT
(See paragraph 5.3.3 of the Instructions to Tenderers)

Proposed Project Superintendent _____

List of Project Experience

PROJECT:		**Dates:**	
Work Description:			
Responsibility:			
Owner/Reference:		**Phone No.:**	

PROJECT:		**Dates:**	
Work Description:			
Responsibility:			
Owner/Reference:		**Phone No.:**	

PROJECT:		**Dates:**	
Work Description:			
Responsibility:			
Owner/Reference:		**Phone No.:**	

APPENDIX 4

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

CONTRACTOR'S COMPARABLE WORK EXPERIENCE
(See paragraph 5.3.4 of the Instructions to Tenderers)

PROJECT:		**VALUE ($):**	
OWNER:		**Phone No.:**	
Work Description:			

PROJECT:		**VALUE ($):**	
OWNER:		**Phone No.:**	
Work Description:			

PROJECT:		**VALUE ($):**	
OWNER:		**Phone No.:**	
Work Description:			

PROJECT:		**VALUE ($):**	
OWNER:		**Phone No.:**	
Work Description:			

APPENDIX 5

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

SUBCONTRACTORS
(See paragraph 5.3.5 of the Instructions to Tenderers)

Trade:		**Tender Item:**	
Work Description:			
Subcontractor:		**Phone No.:**	

Trade:		**Tender Item:**	
Work Description:			
Subcontractor:		**Phone No.:**	

Trade:		**Tender Item:**	
Work Description:			
Subcontractor:		**Phone No.:**	

Trade:		**Tender Item:**	
Work Description:			
Subcontractor:		**Phone No.:**	

Trade:		**Tender Item:**	
Work Description:			
Subcontractor:		**Phone No:**	

APPENDIX 6

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

Bid Bond

NO. _____ $ _____

KNOW ALL MEN BY THESE PRESENTS THAT

_____
As Principal, hereinafter called the Principal, and

_____
As Surety, hereinafter called the Surety, are held and firmly bound unto

_____
As Obligee, hereinafter called the Obligee, in the amount of

_____ Dollars ($_____) lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written Tender to the Obligee, dated the _____day of _____, 2026, for Contract _____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the aforesaid Principal shall have the Tender accepted within sixty (60) days from the Closing Date of Tender and the said Principal will, within the time required, enter into a formal contract and give good and sufficient bonds to secure the performance of the terms and conditions of the Contract, then this obligation shall be null and void; otherwise the Principal and Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of six (6) months from the date of this Bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-In-Fact, this _____ day of _____, 2026.

SIGNED, SEALED AND DELIVERED
In the presence of:

)
)
)
)
_____)

_____
PRINCIPAL

_____
SURETY

APPENDIX 7

FORM OF TENDER

Contract 89120
Falcon and Pinetree Way PRV Rehabilitation

CERTIFICATE OF COMPLIANCE for CONTRACT INSURANCE

This is provided for information to certify that the Tenderer does hereby undertake and agree to supply to the City of Coquitlam, upon award, contract insurance listed below for the project requirements indicated:

Contract Number: **89120**

Contract Name: **Falcon and Pinetree Way PRV Rehabilitation**

Description of Work:

- Replacement of the internal components of Falcon Drive and Pinetree Way PRV stations including PRV, strainers, corroded pipes, air valves and corroded bolts;
- Other miscellaneous and incidental work as contained in the Contract Documents

Commercial General Liability: **$5,000,000 limit**

Special Coverage Required:

YES	NO	Special Coverage Description
( )	(X)	Shoring and Underpinning Hazard
( )	(X)	Pile Driving and Vibrations
( )	(X)	Excavation Hazard
( )	(X)	Demolition
( )	(X)	Blasting

We also certify that the insurance coverage will meet the requirements of the Supplementary General Conditions Section 24 – Insurance, included as part of the Contract Documents, and that the proof of insurance will be provided on the City of Coquitlam Certificate of Insurance form, without amendments, except for the exclusions noted above.

_____ _____

Name of Tenderer (printed) *Authorized Signature*

_____

Date

Agreement

AGREEMENT

Between Owner and Contractor

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

THIS AGREEMENT made in duplicate this ____ day of _____ 2026.

Contract: **Falcon and Pinetree Way PRV Rehabilitation**

***Reference No*. 89120**

BETWEEN:

The City of Coquitlam
3000 Guildford Way
Coquitlam, B.C. V3B 7N2

(the "*Owner*")

AND:

(the "*Contractor*")

The *Owner* and the *Contractor* agree as follows:

1 THE WORK - START/COMPLETION DATES

1.1 The *Contractor* will perform all *Work* and provide all labour, equipment and material and do all things strictly as required by the *Contract Documents*.

1.2 The *Contractor* will commence the *Work* in accordance with the *Notice to Proceed*. The *Contractor* will proceed with the *Work* diligently, will perform the *Work* generally in accordance with the construction schedules as required by the *Contract Documents* and will achieve *Substantial Performance* of the *Work* on or before **October 15, 2026,** subject to the provisions of the *Contract Documents* for adjustments to the *Contract Time*.

1.3 Time shall be the essence of the Contract.

2 CONTRACT DOCUMENTS

2.1 The "*Contract Documents*" consist of the documents listed or referred to in Schedule 1, entitled "Schedule of Contract Documents", which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.

2.2 The *Contract* supersedes all prior negotiations, representations or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents.*

3 CONTRACT PRICE

3.1 The price for the *Work* ("*Contract Price*") shall be the sum in Canadian dollars of the following:

a) the product of the actual quantities of the items of *Work* listed in the *Schedule of Quantities and Prices* which are incorporated into or made necessary by the *Work* and the unit prices listed in the *Schedule of Quantities and Prices*; plus

b) all lump sums, if any, as listed in the *Schedule of Quantities and Prices*, for items relating to or incorporated into the *Work*; plus

c) any adjustments, including any payments owing on account of *Changes* and agreed to *Extra Work*, approved in accordance with the provisions of the *Contract Documents*.

3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

4 PAYMENT

4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.

4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

5 RIGHTS AND REMEDIES

5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

6 NOTICES

6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by email, or by hand, or by pre-paid registered mail to the addresses as set out below:

The *Owner:*

The City of Coquitlam
3000 Guildford Way
Coquitlam, B.C. V3B 7N2

Tel: 604-927-3500

The *Contractor:*

Tel:
Email:
Attention:

The *Contract Administrator*:

The City of Coquitlam
3000 Guildford Way
Coquitlam, B.C. V3B 7N2

Tel:
Email:
Attention:

6.2 A communication or notice that is addressed as above shall be considered to have been received:

a) immediately upon delivery, if delivered by hand; or
b) immediately upon transmission if sent or received by email; or
c) after 5 days from date of posting if sent by registered mail.

6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.

7 GENERAL

7.1 This *Contract* shall be construed according to the laws of British Columbia.

7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.

7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.

7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.

7.5 This agreement shall enure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor:

_____
(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY AND POSITION - PRINT)

Owner:

The City of Coquitlam

_____
Edwin Dela Rosa, AScT
(MANAGER, CAPITAL PROJECTS AND INSPECTIONS)
Representative as Per G.C. 17

_____
Chad Braley, AScT
(SENIOR MANAGER, DESIGN AND CONSTRUCTION)

Falcon and Pinetree Way PRV Rehabilitation

Reference No: 89120

Schedule 1

Schedule of Contract Documents

(INCLUDE IN LIST ALL DOCUMENTS INCLUDING, IF ANY, SUPPLEMENTARY GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS, SUPPLEMENTARY STANDARD DETAIL DRAWINGS)

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with "*" are contained in the "Master Municipal Construction Documents – General Conditions, Specifications and Standard Detail Drawings", edition dated 2009. All sections of this publication are included in the *Contract Documents*.

1. Agreement, including all Schedules;
2. The following Addenda:
    - As issued
3. Supplementary General Conditions, if any;
4. General Conditions*;
5. Supplementary Specifications, if any;
6. Detail Specifications, if any;
7. Specifications*;
8. Supplementary Detail Drawings, if any;
9. Standard Detail Drawings*;
10. Executed Form of Tender, including all Appendices;
11. Drawings listed in Schedule 2 to the Agreement –"List of Drawings", if any;
12. Instructions to Tenderers;
13. COQUITLAM "Supplementary Specifications Master Municipal Construction Documents" March 2022

Falcon and Pinetree Way PRV Rehabilitation

Reference No: 89120

Schedule 2

LIST OF DRAWINGS

(Complete Listing of All Drawings, Plans and Sketches That Are Part of the Contract Documents)

Bound in this Document:

Appendix A: Traffic Management Detail Specifications

Appendix B: Archaeological Chance Find Procedures

Appendix C: As-built Drawings

Bound Separately: Contract Drawings

TITLE	SHEET NO.	REVISION NO.	DATE
2026 PRV Rehabilitation – Cover Page			
PRV – Plan and Section – Falcon Dr at Guildford Way	1 of 4	2	2026-05-07
PRV – Details – Falcon Dr at Guildford Way	2 of 4	2	2026-05-07
PRV – Plan and Section – Pinetree Way	3 of 4	2	2026-05-07
PRV – Details – Pinetree Way	4 of 4	3	2026-05-07

Supplementary General Conditions

SUPPLEMENTARY GENERAL CONDITIONS

TABLE OF CONTENTS

1.0 DEFINITIONS

1.1 Abnormal Weather 1.1.1 **(Replace clause 1.1.1 as follows):**
Abnormal Weather" means temperature, precipitation, wind or other weather conditions in which the monthly average, differs from the statistical average for that condition in that period by more than one standard deviation, calculated based on data available from Environment Canada. Coquitlam's Burke Mountain Rain Gauge will be used to compare the rainfall summary versus the available data from Environment Canada.
City of Coquitlam Rainfall

2.0 DOCUMENTS

2.2 Interpretation 2.2.4 (1) **(Replace clause 2.2.4 (1) as follows):**
The Contract Documents shall govern and take precedence in the following order as listed in Schedule 1 of the Agreement, taking precedence over all Contract Documents.

4.0 CONTRACTOR

4.1 Control of the Work 4.1.1 ***(Add to clause 4.1.1 as follows):***
The *Contractor* is responsible for all survey layout for the construction of the Work to the design specifications and/or elevations as shown on the contract drawings or as amended on site by the Contract Administrator, unless otherwise described in the Contract Document.

4.1.2 ***(Add to clause 4.1.2 as follows):***
The Contractor shall not deposit any material upon any street, sidewalk, boulevard or other property, without the Contract Administrator's or the Owner's permission, nor shall they allow the same to remain longer than necessary. All surplus spoil and rubbish and other waste material shall be removed from the site so that the area of work is cleaned up and restored to as clean a condition as it was before the Contract started, within four days of the Contract Administrator's written request to do so, failing which the Owner may carry out the work or have the work carried out by others and recover the costs from the Contractor or may deduct the cost from any monies due or that may become due to the Contractor.

4.1.3 ***(Add new clause 4.1.3 as follows):***
Work can be performed during the normal weekday working hours of 0700h to 1900h, unless specified otherwise in Supplementary Specifications - Appendix A:

Traffic Management Detail Specifications. Written permission from the Contract Administrator will be required for any works to be performed outside of the normal working days of Monday to Friday.

No Sunday work will be permitted, except in case of emergency and then only with the written permission of the Contract Administrator and to such extent as he deems necessary.

In case the Contractor decides to work on a day which is a Statutory Holiday, they shall provide the Contract Administrator in writing at least (4) days in advance of such holiday, stating those places where said work is to be conducted. In case the Contractor fails to give such notice in advance of any Statutory Holiday, no work within the terms of the contract shall be done on such holiday.

The cost of inspections on a Sunday or on a Statutory Holiday by City staff/s will be at Contractor's expense.

4.2 Safety

4.2.2 ***(Add new clause 4.2.2 as follows):***
In an emergency, gas pipeline rupture or leak, Contact FortisBC's 24 Hour Emergency Line (1-800-663-9911) and Coquitlam Fire (911) immediately and then City of Coquitlam's Utility Control Centre (604-927-6287).

4.3 Protection of Work, Property and the Public

4.3.1 ***(Replace clause 4.3.1 as follows):***
In performing the Work, the Contractor shall protect the Work and the Owner's property and other person's property from damage. The Contractor shall at the Contractor's own expense make good any such damage which arises as the result of the Contractor's operations. If the Contractor causes damage to private property, the Contractor must obtain a written release from the owner of the damaged property.

4.3.5.1 ***(Add clause 4.3.5.1 as follows):***
The Contractor shall notify the Contract Administrator immediately if damage occurs to any City or third party utility or structure.

4.3.7 ***(Add new clause 4.3.7 as follows):***
Any lands other than those upon which the work is to be performed, which may be required for temporary facilities, storage purposes or access to the work site, other than those provided by the *Owner*, shall be provided by the *Contractor* at their own cost, with no liability to the *Owner*.

4.6 Construction Schedule

4.6.1 ***(Replace clause 4.6.1 as follows):***

The Contractor shall within the time set out in the Form of Tender prepare and submit to the Contract Administrator for their approval a construction schedule (the Baseline Construction Schedule) indicating the planned start and completion dates of major activities of the Work. The Baseline Construction Schedule shall be in more detail than the Preliminary Construction Schedule and shall indicate completion of the Work in compliance with any specified Milestone Dates, including Substantial Performance.

4.6.6 ***(Replace clause 4.6.6 as follows):***

The time for the performance of the Work shall commence on the date specified in the Notice to Proceed, or if not so specified, on the date the Notice to Proceed is issued. The Notice to Proceed will not be issued until the documentation required under paragraph 5.1.1 of the Form of Tender has been submitted and the construction schedule has been approved.

4.6.8 ***(Add new clause 4.6.8 as follows):***

Any requests to lengthen the work schedule shall be made in writing by the Contractor within five working days of knowledge of the reason for the extension. The Contract Administrator will adjust the schedule at their discretion upon receipt of a written request.

4.7 Superintendent

4.7.4 ***(Add new clause 4.7.4 as follows):***

The key personnel named in the Contractor's Tender response, shall remain in these key positions throughout the project. In the event that key personnel leave the Contractor's firm, or for any unknown reason are unable to continue fulfilling their role, the Contractor must propose a suitable replacement, and obtain written consent from the Owner. Acceptance of the proposed replacement is at the sole discretion of the Contract Administrator and the Owner.

4.8 Workers

4.8.2 ***(Add new clause 4.8.2 as follows):***

The Contractor shall, upon the request of the Contract Administrator, remove any person employed by them for the purposes of the Contract who, in the opinion of the Contract Administrator, is incompetent or has conducted themselves improperly, and the Contractor shall not permit a person who has been removed to return to the Place of Work.

4.9 Materials

4.9.3 ***(Add new clause 4.9.3 as follows):***

The Contractor shall, at their cost,

a) Be responsible for storing all of the materials supplied for the Work either by themselves or the Owner, until it has been incorporated into the completed Work;
b) Store all materials in a manner which will prevent damage from the weather, dirt, foreign matter, vandalism and theft;
c) Arrange for and/or verify the time of delivery of all materials to be supplied by themselves or the Owner to ensure that delivery will coincide with their work schedules.
d) Examine with the Contract Administrator the quantities and details of all materials supplied by the Owner at the time and place of delivery or those materials already at the Place of Work, and prepare and sign a Statement of Materials Acceptance, specifically noting and rejecting any defective material;
e) Replace all materials supplied by themselves or the Owner which are found to be stolen, missing or damaged while under their care;
f) Replace all materials found to be defective in manufacture which have been supplied by themselves.

4.11 Subcontractors

4.11.3 ***(Replace clause 4.11.3 as follows):***

The Contractor shall, upon notice of the Contract Administrator, remove any Subcontractor employed by them for the purposes of the Contract who, in the opinion of the Contract Administrator, is incompetent or has conducted themselves improperly, and the Contractor shall not permit the Subcontractor who has been removed to return to the Place of Work. The removal of a Subcontractor under this clause shall not be considered a Change and the Contract Price and the Contract Time shall not be adjusted.

4.12 Test and Inspections

4.12.1 ***(Replace clause 4.12.1 as follows):***

The Contractor shall perform or cause to be performed all tests, inspections and approvals of the Work as described in the Contract Documents or a required by the Contract Administrator as part of Quality Control. The Contractor shall complete all the necessary testing at the frequencies described in the Contract Document unless otherwise approved by the Contract Administrator.

Acceptable test and inspection results will not relieve the Contractor of its obligations under the Contract to correct defects or deficiencies in the Work.

4.12.11 ***(Add clause 4.12.11 as follows):***

Failure to follow DFO/FLNRO BMPs and the approved permit for Instream Works or as instructed by Contract Administrator will result in shut-down of the work. The Contractor must take all steps to mitigate impacts to aquatic resources, environment and habitats before work can re-start on site. No claim will be accepted by the Owner for costs associated with this work shut-down.

4.14 Final Clean-up 4.14.1 ***(Replace clause 4.14.1 as follows):***

Prior to applying for Substantial Performance, the Contractor shall remove all surplus products, tools, construction machinery and equipment relating to the Work that is not required for the performance of the remaining Work. The Contractor shall also remove waste, debris and waste products other than caused by the Owner or Other Contractors, and leave the Place of Work clean and suitable for occupancy by the Owner unless otherwise specified in the Contract Documents or directed by the Contract Administrator.

4.16 Notice of Disruption 4.16.2 ***(Add new clause 4.16.2 as follows):***

Written notice must be provided to all properties which may be physically affected by the construction not less than one week and not more than two weeks prior to construction.

Notify occupants directly affected by the work 48 hours in advance of commencement of construction. Cost of notifying area occupants of ensuing construction and delivery of the notices is incidental to the Contract.

7.0 CHANGES

7.1 Changes 7.1.3 ***(Replace clause 7.1.3 as follows):***

Additional work that the Owner may wished performed that does not satisfy the requirements of subparagraphs (a) and (b) of GC 7.1.1 is extra work (Extra Work) and is not a Change. Pursuant to GC 8, Extra Work may be declined by the Contractor or may, upon agreement between the parties, be undertaken as Extra Work.

7.4 Optional Work 7.4.2 ***(Add new clause 7.4.2 as follows):***

If there are Optional items or Provisional items included in the *Schedule of Quantities and Prices*, those items shall be used only as directed and at the sole discretion of the Contract Administrator through the issue of a Change Order. These items will be paid at the contract unit price as part of regular progress payments. Only quantities used will be eligible for payment. No claim will be accepted for

unused Optional or Provisional quantities. Clause 9.4 Quantity Variations will not be applicable for these items.

9.0 VALUATION OF CHANGES AND EXTRA WORK

9.2 Valuation Method

9.2.4 ***(Replace clause 9.2.4 as follows):***
Once a quotation is accepted by the Contract Administrator, or other agreement reached between the Contract Administrator and the Contractor regarding adjustments to the Contract Price or Contract Time on account of a Change or Extra Work, the Contractor shall not be entitled to claim or receive additional payment, or adjustment to the Contract Time on account of a Change or Extra Work.

9.4 Quantity Variations

9.4.1 ***(Replace clause 9.4.1 as follows):***
If for any reason, including an addition or deletion under GC 7.1.1(1) or 7.1.1(2) respectively, the actual quantity of a unit price item varies by more than plus or minus the Variance Threshold Percentage from the estimated quantity for that unit price item listed in the Schedule of Quantities and Prices (the "Tender Quantity") or as otherwise agreed to pursuant to these Contract Documents, then either the Owner or the Contractor may by written notice request the other party to agree to a revised unit price, considering the change in quantities. A party shall make a request for a revised unit price as soon as reasonably possible after the party concerned becomes aware of the quantity variation.

9.4.2 ***(Delete clause 9.4.2 (2)***

10.0 FORCE ACCOUNTS

10.1 Force Account Costs

10.1.1(1) ***(Add to clause 10.1.1(1) as follows):***
Costs for the Contractor's Superintendent, Project Managers, Health and Safety Personnel, and Office/Administration Staff are not eligible for labour costs as those costs are considered incidental to the mark up owing for overhead and labour.

10.1.1(4) ***(Replace clause 10.1.1(4) as follows):***
Force Account Work performed by a subcontractor shall be paid for in the lesser of: (i) the amount provided by subparagraphs (1), (2) and (3) of this GC, plus a mark-up of 5%, or (ii) the actual amount the Contractor pays the subcontractor including a mark-up of 10% on such actual costs to cover all overhead and profit.

12.0 HAZARDOUS MATERIALS

12.2 Discovery of Hazardous Materials 12.2.2

(Replace clause 12.2.2 as follows):
If the Contract Administrator observes any materials at the Place of Work that the Contract Administrator knows or suspects may be Hazardous Materials, then the Contract Administrator shall immediately give written notice to the Contractor and the Contractor shall immediately stop the Work or portion of the Work as required by GC 12.2.1(1).

13.0 DELAYS

13.1 Delay by Owner or Contract Administrator 13.1.2

(Add new clause 13.1.2 as follows):
The Owner may at any time suspend the work or any portion thereof provided they give the Contractor five (5) days' written notice of delay. The Contractor shall resume work upon written notice from the Owner. The Contractor shall be entitled to:

a) An extension of the Contract time equivalent to the length of suspension of work.
b) Reimbursement by the Owner for directly related out-of-pocket additional costs, reasonably and necessarily incurred by the Contractor as a result of such suspension. No additional payment will be made to the Contractor for any loss of profits or overhead.

13.3 Unavoidable Delay 13.3.1

(Add to clause 13.3.1 as follows):
Beyond the reasonable control of the Contractor also includes pandemic or community outbreak

13.8 Direction to Stop or Delay 13.8.3

(Add new clause 13.8.3 as follows):
The Contract Administrator may order the Contractor to stop work if at any time the Contract Administrator is of the opinion that there exists a danger to life or property.

13.9 Liquidated Damages for Late Completion 13.9.1

(Replace clause 13.9.1 as follows):
If the Contractor fails to meet the Milestone Date for Substantial Performance as set out in the Form of Tender, paragraph 2.2 as may be adjusted pursuant to the provisions of the Contract Documents, then the Owner may deduct from any monies owing to the Contractor for the Work:

(1) An amount of $1,000.00 for each calendar day the actual *Substantial Performance* is achieved after the Substantial Performance Milestone Date; plus

(2) All direct out of pocket costs, such as costs for safety, security or equipment rental, reasonably incurred by the Owner as a direct result of such delay.

If the monies owing to the Contractor are less than the total amount owing by the Contractor to the Owner under (1) and (2) then any shortfall shall immediately, upon written notice from the Owner, and upon Substantial Performance, be due and owing by the Contractor to the Owner.

18.0 PAYMENT

18.1 Preparation of Payment Certificate

18.1.1 ***(Replace clause 18.1.1 as follows):***
The Contract Administrator shall prepare and issue a certificate for the period ending the last calendar day of the month.

18.4 Holdbacks

18.4.2 ***(Add to clause 18.4.2 as follows):***
At the sole discretion of the Contract Administrator, an amount equivalent to 10% of the contract award value or 200% of a reasonable estimate, whichever is higher, may be held without interest until all deficiencies have been remedied and accepted by the Contract Administrator.

18.6 Substantial Performance

18.6.5 ***(Replace clause 18.6.5 as follows):***
The Owner may release any builders lien holdback on the 56th day following the date of Substantial Performance, or other date as required by law, but the Owner may hold back the amounts for any deficiencies or filed builders liens as provided in GC 18.4.2, 18.4.3 and 18.4.4.

18.6.6 ***(Replace clause 18.6.6 as follows):***
The *Contract Administrator*, as defined herein, shall be the *Payment Certifier* responsible under Section 7 of the *Builders Lien Act* for certifying *Substantial Performance* of the *Work* of the *Contractor*, but not the *Work* of *Subcontractors*. The *Contractor* shall cooperate with and assist the *Contract Administrator* by providing information and assistance in a timely manner as the *Contract Administrator* considers necessary to carry out the duties of the *Payment Certifier* for the *Contract*.

The *Contractor* shall be the *Payment Certifier* responsible under Section 7 of the *Builders Lien Act* for certifying *Substantial Performance* of the *Work* of each *Subcontractor*. Prior to certifying completion for a *Subcontractor*, the *Contractor* shall consult the *Contract Administrator* and obtain the *Contract Administrator's* comments on the status of completion by the *Subcontractor*, including any

deficiencies or defects in the *Subcontractor's Work* noted by the *Contract Administrator*. The *Contractor* will indemnify and save the *Owner* harmless from any and all liability the *Owner* may have to anyone arising out of the certification by the *Contractor* of *Substantial Performance* for that *Subcontractor*.

Notwithstanding any other provision of the *Contract*, no payments will be due or owing to the *Contractor* so long as a Lien filed by anyone claiming under or through the *Contractor* remains registered against the Project of any lands, or interest therein, on which *Work* for the project was performed. Failure of the *Contractor* to remove all Liens promptly will entitle the *Owner* to damages.

19.0 TAXES, DUTIES AND GST

19.4 Tariffs or Duties

19.4.1 Tariffs or Duties refer to taxes, levies, or charges imposed by any level of government (including foreign governments) on imported or domestic goods, materials, or equipment used in the performance of the Work. The Contract Price is based on the tariffs and duties in effect as of the date of the Tender Closing. If, after the Tender Closing Date, any new Tariffs or Duties are imposed, or existing rates are materially increased, and such changes directly and demonstrably affect the cost of materials or equipment required for the performance of the Work, the Contractor shall notify the Contract Administrator in writing within ten (10) Working Days of becoming aware of such change, providing supporting documentation, including but not limited to:

(1) Affected materials
(2) Quantity and cost impact
(3) Evidence of original and new tariff rates
(4) Reasonable efforts made to mitigate the cost impact (e.g., sourcing alternatives)

19.4.2 If the Contract Administrator is satisfied that the Contractor has incurred additional direct costs solely due to the change in Tariffs or Duties, the Owner will issue a Change Order to adjust the Contract Price accordingly. No adjustment shall be made for Tariffs or Duties that were publicly announced or reasonably foreseeable before the Tender Closing Date.

19.4.3 This clause does not apply to costs incurred due to delays caused by the Contractor's procurement or supply chain management. It also does not apply if the Contractor fails

to take reasonable steps to mitigate the impact of the change.

19.4.4 If the imposition of new Tariffs or Duties causes unavoidable delays in material delivery, the Contractor may request an extension of the Contract Time under GC 13.3, subject to approval by the Contract Administrator.

21.0 WORKERS COMPENSATION REGULATIONS

21.2 Contractor is "Prime Contractor"

21.2.1 ***(Add to clause 21.2.1 as follows):***
Prior to the issuance of the "Notice to Proceed" the Contractor must provide a signed "Prime Contractor Designation" form as provided in Appendix IV of these Supplementary General Conditions.

24.0 INSURANCE ***(Replace section 24.0 as follows):***

24.1 General

24.1.1 **Importance of Prompt Attention to Insurance Requirements:**
The Contractor shall provide the Owner with satisfactory evidence that the insurance required to be provided under this GC is in full force and effect.

24.1.2 **Acceptable Insurance Carriers:**
The insurer issuing any policy, or other document which is evidence of insurance to the Contractor, shall be an insurer licensed by the Superintendent of Insurance in the Province of British Columbia and registered with the Department of Insurance for Canada in Ottawa, except the Insurance Corporation of British Columbia, which is not subject to this condition.

24.1.3 **Owner's Right to Change Terms:**
Notwithstanding anything contained in the Contract Documents, the Owner will have the right to request a change to the specified terms and conditions respecting insurance at the sole option of the Owner. The Contractor will be notified in writing of any changes required by the Owner and will provide a quotation for such work.

24.1.4 **Delivery of Insurance Documents:**
All insurance policies or other acceptable specified documents shall be delivered to, and accepted by, the Owner before the Contract Documents are signed. No work shall be commenced by the Contractor or by anyone acting

on the instructions of the Contractor, until the required Insurance Documents have been accepted by the Owner and the Contract Documents have been duly signed by the Owner and the Contractor.

24.1.5 **Owner's Right to Insure:**
Should the Contractor for any reason not comply with the specified requirements with respect to the insurance, the Owner will, at the Owner's option, have the right to purchase all or any part of such insurance which, in the opinion of the Owner, may be required to provide the specified insurance, and, in the event of so doing, the Owner will have the right to pay the premiums for such insurance and to withhold the amount of premiums so paid from any amount due and payable to the Contractor under the Contract.

24.2 Required Insurance

24.2.1 **General**
Damage to work (excluding Building Contracts where Section 24.3, Paragraph 24.3.1, Further Responsibilities of Contractor, applies).

The Contractor shall be responsible for any and all loss, or damage, whatsoever which may occur on or to the works, completed or otherwise, until such time as the entire works have been completed and the Notice of Acceptance has been issued by the Owner, except that loss or damage caused solely by an act of the Owner. In the event of any loss or damage occurring, the Contractor shall, on notice from the Contract Administrator, immediately put the works into the condition it was immediately prior to such loss or damage, all at the

Contractor's expense, except where such loss or damage was caused solely by an act of the Owner.

The Contractor shall be responsible for any and all loss or damage whatsoever which may occur on or to the works, completed or otherwise, arising out of the negligence of the Contractor, any subcontractors, and the employees or agents of any of them.

24.2.2 **Public Liability Insurance:**
(Other than Automobile Third Party Liability Insurance):

Evidence of Insurance:
The Contractor shall deposit with the Owner, before the work commences, a Certificate of Insurance, signed by an

authorized representative of the insurer, such certificate to be as shown in Appendix III.

Effective Dates and Terms:
The effective date of the Certificate of Insurance shall be the date of the execution of the Contract Agreement and the term of this policy shall be from such effective date until a date not less than twelve (12) months after the date of Substantial Performance completion of all work under the Contract.

Limits of Liability:
For bodily injury and for property damage shall be inclusive limits not less than $5,000,000.

24.2.3 **Public Liability Insurance (Automobile):**
The Contractor shall deposit with the Owner before the work commences a Certificate of Insurance with respect to owned automobiles on ICBC Form No. APV 47 entitled "Confirmation of Insurance Coverage" and with respect to Non-Owned Automobiles including hired automobiles and Contractual Liability on ICBC non-owned automobile policy Form APV 29 (if non-owned automobile coverage is not included under the comprehensive general liability coverage) each signed by an authorized representative of the Insurance Corporation of British Columbia.

24.3 Physical Loss or Damage With Respect to New Buildings under Construction and/or Major Additions to Existing Structures

24.3.1 **Responsibility for Placing Insurance:**
The types of insurance required under this section will be provided and maintained at the expense of the City of Coquitlam during the term of the Contract and will be as follows unless otherwise changed by specific endorsement to these Insurance Specifications.

24.3.2 **Insurance Coverage Required:**
Builders Risk Completed Value "All Risks" Course of Construction Insurance. This policy will be written in the names of the City of Coquitlam and the Contractor with loss payable as their respective interests may appear.

24.3.3 **Responsibility of Contractor – Limitations of cover and deductibles:**
The insurance provided by the City of Coquitlam as described herein will not provide the Contractor with full protection against any and all kinds of loss or damage which may arise out of the Contract. It is, therefore, the responsibility of the Contractor to fully understand the scope of the cover provided with particular attention to the

exclusions, limitations of cover and deductible provisions contained in the Insuring Agreements of the policies and it is further the responsibility of the Contractor to take out at the Contractor's expense, whatever other additional insurance the Contractor may consider necessary or desirable for his protection subject as hereinafter provided. The Contractor shall act in the same manner on insurance made available through the City of Coquitlam as he would if he had arranged such insurance himself.

24.3.4 **Responsibility of Contractor – Direct Damage Insurance:**

If the Contractor fails to do all or anything that is required of them concerning insurance, the City of Coquitlam may do what is required and any monies expended by the City of Coquitlam for that purpose shall be repayable and recoverable from the Contractor. Should any action, failure or negligence of the Contractor result in higher insurance costs being incurred by the City of Coquitlam, such additional costs shall be payable or recoverable from the Contractor.

24.3.5 **Responsibility of Contractor – Machinery and Equipment Belonging to Others:**

Unless otherwise directed by the City of Coquitlam in writing, the Contractor shall carry insurance covering loss or damage to construction machinery, tools and equipment owned by and/or on bare rental from a third party or parties and used by the Contractor in performing the work, which insurance shall be in a form satisfactory to the City of Coquitlam and having coverage in accordance with the actual cash value of such construction machinery, tools and equipment. Such policies shall also provide for subrogation to be waived against the City of Coquitlam. A certified copy of the policy shall be delivered to the City of Coquitlam not later than thirty days after the commencement of work under the Contract.

24.3.6 **Contractor's Waiver of Liability to Coquitlam:**

The Contractor hereby releases the City of Coquitlam from any and all liability for damages to the extent that such damages are covered by the course of construction insurance referred to in Section 24.3 of these specifications.

24.3.7 **Liability of Contractor:**

Neither the providing of insurance by the Contractor or the City of Coquitlam in accordance with the requirements hereof, nor the insolvency, bankruptcy, nor failure of any insurance company to pay any claim accruing shall be held

to waive any of the provisions of this Contract with respect to the liability of the Contractor or otherwise.

24.3.8 **Responsibility of Contractor for protection of work, persons and property:**

The Contractor and all persons employed by the Contractor or under their control, and all employees and subcontractors, shall use due care that no person or property is injured, and that no rights are infringed in the prosecution of the work. Contractors shall take particular care to protect the work against loss or damage caused by riot, vandalism or malicious mischief and shall be at the expense of the Contractor provide all necessary safeguards in the form of watchmen and/or watch dog protection to prevent loss or damage of this type. The payment of deductibles is the responsibility of the Contractor and if not paid by the Contractor such amounts shall be deducted by the City of Coquitlam from payment due to the Contractor. These deductibles will normally be $250.00 each claim.

24.3.9 **Action to be taken in the event of loss or damage to the work covered by the Contract:**

When any loss or damage occurs to the work or to any materials and supplies on the site of the work, the Contractor shall remove any and all damaged or destroyed property and shall rebuild or replace the damaged or destroyed work, materials, or supplies and complete the work to the satisfaction of the Owner. For such removal, rebuilding, or replacing, the Contractor shall be entitled to receive from the Owner the amount of insurance monies received by the Owner pursuant to the said adjustment which amount shall be paid to the Contractor as the work of rebuilding or replacing proceeds, and in accordance with the Agreement. Damage or destruction of the whole or any part of the work shall not affect the rights and obligations of either party under the Agreement, except that in such event the Contractor shall be entitled to such reasonable extension of time to complete the work as the Architect and/or Contract Administrator may decide.

24.3.10 **Further responsibility of Contractor:**

Other than with respect to loss or damage arising out of insured risks and herein before specified, the Contractor shall be responsible for all loss or damage whatsoever which may occur on or to the works completed or otherwise, until such time as the entire works have been completed and the Notice of Acceptance has been issued by the Owner, except that loss or damage caused solely by an act of the Owner.

In the event of any loss or damage occurring, the Contractor shall on notice from the Owner immediately put the works into the condition it was immediately prior to such loss or damage, all at the Contractor's expense except as previously stated.

24.3.11 **Owner Not Responsible for Loss or Damage or Loss of Use of Property of Contractors and their Employees:**
The Owner will not be responsible for securing or paying for insurance of any kind other than as specified in Section 24.3 of these specifications nor will the Owner have any responsibility whatsoever for loss or damage from whatever cause occurring to property owned, leased, or otherwise in the possession of the Contractor, subcontractors or their employees including, without restricting the generality of the foregoing, machinery, equipment, tools, supplies, and clothing at the construction site or elsewhere including loss of use of same.

24.4 Additional Insured

24.4.1 **The Contractor shall ensure the following are named as "additional insured" on the liability policy for this contract:**

- The City of Coquitlam

The City may identify private properties that are directly affected by construction. If so, the Contractor shall include the legal owners of these properties named as "additional insured" on the liability policy for this contract.

25.0 MAINTENANCE PERIOD

25.1 Correction of Defects

25.1.4 ***(Add new clause 25.1.4 as follows):***
The Owner is authorized to make repairs to defects or deficiencies if, ten days after giving written notice, the Contractor has failed to make or undertake with due diligence the required repairs. However, in the case of emergency where, in the opinion of the Owner, delay is not reasonable, repairs may be made without notice being sent to the Contractor. All expenses incurred by the Owner in connection with repairs made pursuant to GC 25 shall be paid by the Contractor or may be deducted from the Maintenance Security, or other holdbacks. The Contractor shall promptly pay any shortfall.

27.0 CONTRACTOR PERFORMANCE EVALUATION

27.1 ***(Add new clause 27.1 as follows):***

After the completion of the Contract, the Contractor will be evaluated on their performance of the Work. The evaluation will provide percentage scores on the following categories:

1. *Contract Administration*
2. *Construction Management*
3. *Schedule Management*
4. *Communications*
5. *Resource Management and Contractor Performance*
6. *Quality Management*

An evaluation summary report may be issued to the Contractor with scores for each of these categories. Upon request, the Contractor may attend a meeting with the City to discuss the evaluation.

This internal evaluation may be reviewed for reference on subsequent tenders with the City. Evaluation scores can form part of the tender analysis and influence contract award decisions.

Evaluation Scores in categories that are below 50% may result in a suspension of tendering privileges with the City.

APPENDIX I

PERFORMANCE BOND

NO._____ $_____

KNOW ALL MEN BY THESE PRESENTS THAT

_____
As Principal, hereinafter called the Principal, and

_____
As Surety, hereinafter called the Surety, are held and firmly bound unto

_____
As Obligee, hereinafter called the Obligee, in the amount of

_____Dollars
($)

lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with the Obligee, dated the_____

day of_____20_____, for

_____

_____

in accordance with the drawings and specifications submitted, therefore, which contract, drawings and specifications and addenda thereto, to the extent provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall promptly and faithfully perform said Contract (including any addenda thereto, provided such addenda do not collectively increase the amount to be paid to the Principal by more than twenty per cent (20%) of the amount of the Contract except with the written consent of the Surety) then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

Whenever the Principal shall be, and declared by Obligee to be, in default under the Contract, the Obligee having performed Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Obligee and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term 'balance of the contract price', as used in this paragraph, shall mean the total amount payable by Obligee to Principal under the Contract less the amount properly paid by Obligee to Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from date on which the Notice of Acceptance under the Contract is issued.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators, or successors of Obligee.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact, this_____day of_____20_____.

SIGNED, SEALED and DELIVERED
In the presence of

)
)
)
)
)

_____

_____
PRINCIPAL

_____
SURETY

APPENDIX II

LABOUR AND MATERIAL PAYMENT BOND

(Private Contracts – Trustee Form)

NO._____ $_____

Note: This Bond is issued simultaneously with another Bond in favour of the Obligee conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS THAT

_____

As Principal, hereinafter called the Principal, and

_____

As Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto

_____

As Trustee, hereinafter called the Obligee, for the use and benefit of the Claimants, their and each of their heirs, executors, administrators, successors and assigns in the amount of

_____Dollars

($) lawful money of Canada, for the payment of which sum well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

SIGNED AND SEALED this_____day of _____, 20____.

WHEREAS, the Principal has entered into a written contract with the Obligee dated the_____ day of_____, 20____, for

_____

_____

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall make payment to all Claimants for all labour and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A Claimant for the purpose of this Bond, is defined as one having a direct contract with the Principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include the part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment directly applicable to the Contract provided that a person, firm or corporation who rents equipment to the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the purchase price thereof shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial rental value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Association entitled "Rental Rates on Contractors' Equipment" published prior to the period during which the equipment was used in the performance of the Contract.
2. The Principal and the Surety hereby jointly and severally agree with the Obligee as Trustee that every Claimant who has not been paid as provided for under the terms of his contract with the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suite to final judgment for such sum or sums as may be justly due to such Claimant under the terms of his said contract with the Principal and have execution thereon. Provided that the Obligee is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants or any of them to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Obligee or by joining the Obligee as a party to such proceedings then such act, action or proceeding shall be taken on the understanding and basis that the Claimants or any of them who take such act, action or proceeding shall indemnify and save harmless the Obligee against all costs, charges and expense or liabilities incurred thereon and any loss or damage resulting to the Obligee by reasons thereof. Provided still further that subject to the foregoing terms and conditions, the Claimants or any of them may use the name of the Obligee to sue on and enforce the provisions of this Bond.
3. No suit or action shall be commenced hereunder by any Claimant:
    a) unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, Surety and Obligee, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, Surety and Obligee at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the contract is located. Such notice shall be given (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal under either the terms of the Claimant's contract with the Principal or under the Mechanic's Liens Legislation applicable to the Claimant's contract with the Principal whichever is the greater within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal; (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such claimant did

or performed the last of the work or labour or furnished the last of the materials for which such claim is made under the Claimant's contract with the Principal.

b) after the expiration of one (1) year following the date on which Principal ceased work on the Contract including work performed under guarantees provided in the Contract.

c) Other than in a court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract or any part thereof is situated and none elsewhere, and the parties hereto agree to submit to the jurisdiction of such court.

4. The amount of this Bond shall be reduced by and to the extent of any payments made in good further and in accordance with the provisions which may be filed of record against the subject matter of the Contract, whether or not claim for the amount of such lien be presented under and against this Bond.
5. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact the day and year first above written.

SIGNED, SEALED and DELIVERED
In the presence of

)
)
)
)
)

_____

_____
PRINCIPAL

_____
SURETY

APPENDIX III

CERTIFICATE OF INSURANCE

This Certificate issued to the City of Coquitlam is to certify that policies of insurance, as described below, have been issued to the Insured named below and are in force at this time. It is understood and agreed that thirty (30) days' prior written notice by registered mail of any material alterations, transfer, assignment or cancellation of any of the policies listed below, either in part or in whole, will be given to the holder of this Certificate.

A. This Certificate is issued to:

City of Coquitlam
3000 Guildford Way
Coquitlam, BC V3B 7N2

Named Insured and Mailing Address:

B. CONTRACT NUMBER AND/OR NAME

Description of the Work:

C. INSURANCE POLICY

Name of Insurer:
Policy Number:
Effective Date:

Liability Limit:
Expiry Date:

D. INSURANCE COVERAGE

COMMERCIAL GENERAL LIABILITY coverage is required to insure against liability from the activities arising out of operations or work in connection with the above-described project, including liability arising out of the use of City property.

D.1 The minimum limit shall be $5,000,000.00 inclusive per occurrence against bodily injury, personal injury and property damage.

D.2 The City of Coquitlam, its employees, officers, agents and volunteers are added as Additional Insureds, but only with respect to operations conducted by or on behalf of the Named Insured in connection with the above-described project, operations or work.

D.3 This insurance shall be primary as regards the City of Coquitlam, its employees, officers, agents and volunteers as Additional Insureds.

D.4 Any deductible or reimbursement clause contained in the policy shall not apply to the City of Coquitlam and shall be the sole responsibility of the Named Insured.

D.5 The insurance shall include the following coverages:

- D.5.1 Cross Liability Clause
- D.5.2 Non-Owned Automobile Liability
- D.5.3 Unlicensed Automobile Liability
- D.5.4 Blanket Contractual Liability
- D.5.5 Broad Form Property Damage Liability
- D.5.6 Owner's & Contractor's Protective Liability
- D.5.7 Products & Completed Operations Liability

D.6 Indicate provision of special coverage for this project as required by the City:

YES	NO	Special Coverage Description
( )	(**X**)	Shoring and Underpinning Hazard
( )	(**X**)	Pile Driving and Vibrations
( )	(**X**)	Excavation Hazard
( )	(**X**)	Demolition
( )	(**X**)	Blasting

Authorized Signature and Stamp

Date

Name and Title

City' broker to return to City Representative

Department

APPENDIX IV

PRIME CONTRACTOR DESIGNATION

Owner: **City of Coquitlam**
Contractor: _____
Contract / Permit #: **89120**
Project / Workplace: **Falcon and Pinetree Way PRV Rehabilitation** (the "Project")

By signing this Prime Contractor Designation form, the Contractor hereby:

1. agrees to be, and accepts designation as, the "prime contractor" for the purposes of the Workers Compensation Act, R.S.B.C. 2019, c. 1 (the "Act") and the Occupational Health and Safety Regulation, B.C. Reg. 223/2022 (the "Regulation") in respect of the Project and Workplace noted above;
2. represents and warrants that the Contractor is qualified and capable to perform the duties of prime contractor and that the undersigned signatory has the authority to accept designation as prime contractor and to bind the Contractor;
3. accepts the duty and responsibility for ensuring the activities of employers, workers and other persons at the Workplace relating to occupational health and safety are coordinated and agrees to do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with the Act and the Regulation in respect of the Workplace;
4. covenants and agrees to comply with the occupational health and safety provisions of the Act, the Regulation, any other applicable regulations under the Act, and any applicable orders;
5. acknowledges and agrees that the Owner has provided the Contractor the information known to the Owner that is necessary to identify and eliminate or control hazards to the health or safety of persons at the Workplace; and
6. agrees that the designation as prime contractor hereunder may not be assigned or revoked without the prior written consent of the Owner.

Prime Contractor Name: _____

Prime Contractor Address: _____

_____ _____

Prime Contractor Signature **Date**

_____

Print Name

Please return a signed copy of this designation to the City of Coquitlam, 3000 Guildford Way, Coquitlam, BC, V3B 7N2. If you have any questions, please contact the City of Coquitlam Health & Safety Manager at 604-927-3070.

Supplementary Contract Specifications

Supplementary Contract Specifications

to the
MASTER MUNICIPAL SPECIFICATIONS
Volume II – Platinum Book

Falcon and Pinetree Way PRV Rehabilitation

CONTRACT 89120

TABLE OF CONTENTS

The following Supplementary Specifications are to be considered part of the Specifications. These Supplementary Specifications take precedence over the Master Municipal Specifications.

1.00 CONTRACT SPECIFIC INSTRUCTIONS

1.01 Schedule of Work

All work under this Contract is to be completed by the designated Substantial Performance Date as described in the Contract Documents. The Contractor must provide sufficient resources in a continuous effort and site presence to complete all the work within the allotted time. As set out in the MMCD, the Contractor must provide updates to the construction schedule biweekly.

1.02 Coordination of Work

The Contractor shall be responsible to consult with all affected businesses, residents, transportation companies regarding delays, detours, and any other works affecting any transit service in the area, and will be responsible to coordinate the works with City crews and other contractors working in the area. If working area is to become a multiple-employer workplace as defined by WorkSafe BC, the Contractor shall remain the Prime Contractor.

1.03 Outside Agency Approval

In accordance with the Contract Documents, the Contractor is responsible to consult with and obtain any approval required to meet and comply with all the conditions required from outside agency such as, but not limited to, BC One Call, Metro Vancouver, BC Hydro, Telus, Kinder Morgan, Fortis BC and Translink in the area of the place of Work. City has approached Fortis, BC Hydro and Translink and have obtained necessary permits. Please refer to Appendix B for the permits obtained and detailed instructions from Fortis BC, BC Hydro and Translink for other approvals Contractor has to obtain.

1.04 Waste Collection Coordination

Contractor is responsible to accommodate all waste collection vehicles and cart pick up schedules throughout construction. .

Questions: wastereduction@coquitlam.ca

1.05 Cooperation with Emergency and Maintenance Activities

The Contractor will be responsible to cooperate with regular maintenance or emergency vehicles and staff for access to the site when required including:

- Fire, Police, and Ambulance
- Collections (garbage/recycling pick-up)
- City Utilities Maintenance (or representatives)
- Other Contractors

1.06 Site Safety

The Contractor is responsible to ensure the construction site is safe at all times for workers, pedestrians, and vehicle traffic. During non-working hours, the Contractor must ensure that the site has all potentially hazardous areas appropriately identified and protected, and also must provide appropriate signage, lighting, and markings for the direction of vehicle and pedestrian traffic, all to ensure the safety of the public. Supply and use of this equipment is considered incidental to the contract.

Manhole lids, valve boxes and other appurtenances within the roadway that may present a traffic hazard during construction must be clearly marked for traffic.

Manhole lids left raised in preparation for paving must have a rubberized protector ring painted with bright colour for traffic safety. Supply and use of this equipment is considered incidental to the contract.

1.07 Lane Closure Restrictions

The contractor shall refer to Contract Supplementary Specifications Section 01 55 00S and to Appendix A: Traffic Management Detail Specifications.

The Contractor must take the above information into account in the preparation and submission of the Tender.

1.08 Survey Layout

Construction layout will be the responsibility of the Contractor.

1.09 Location of Existing Utilities

The contractor is responsible to verify the depth and location of all utilities (watermains, storm mains, sanitary mains & etc.), including outside agency utilities (i.e. MV, Fortis BC Gas Mains & etc.) and service connections (water, storm & sanitary services at the mains & property lines) by hand digging or by Hydro-Vac in the presence of the Inspector.

Pre-locates must be completed as soon as possible after award of the contract so changes can be completed by the Engineer prior to site construction. Contact Metro Vancouver for location of their utilities and BC One for location of other outside agency utilities. The contactor will not receive any compensation or allowance for delays if work is halted due to utilities & services connections not located prior to commencing construction.

City of Coquitlam does not guarantee water, storm or sanitary services connections are perpendicular to the mains or property lines, the contractor will not receive any compensation for the time to locate these connections or for exposing hidden services at the property lines.

Payment for this work will be treated as incidental to payment for work described in other Sections.

1.10 Manholes & Valves

Access to manholes and valves must be maintained at all time for city utilities crews and external utility companies. In case of an emergency the cost for exposing any buried manhole or valve covers during construction will be paid by the contractor.

1.11 Verification of Dimensions and Quantities

Before proceeding with work, the Contractor shall visit the site, and check and verify dimensions and quantities. Report variations between drawings and site conditions to the Contract Administrator before proceeding with work. Payment for this work will be treated as incidental to payment for work described in other Sections.

1.12 Precautions

Protect areas under construction from damage caused by excessive erosion, flooding, heavy rains, etc. Repair or replace unprotected damaged areas as directed by the Contract Administrator at no cost to the Owner.

1.13 Work by Others

The Contractor is required to accommodate the City crews, Contractors, Developers and Utility companies in their scheduling and sequencing of work at no cost to the Owner.

1.14 FORTIS BC Emergency Protocol

In an emergency, gas pipeline rupture or leak, Contact Fortis BC 24 Hour Emergency Line (1-800-663-9911) & Fire Department (911) immediately and then City Coquitlam Utility Control Centre (604-927-6287).

1.15	**Temporary Asphalt Pavement Restoration**	The Contractor will be required to backfill all trenches (in paved areas) and place a temporary patch (50mm of hot mix asphalt), as per Coquitlam Standard Drawing COQ-G4, the same day excavation is made, unless otherwise approved by the Contract Administrator.
1.16	**Order of Construction**	The Contractor will be required to conduct the work as approved by the Contract Administrator in a manner causing minimum disturbance to general public, traffic and nearby residents and businesses.
1.17	**Approved Materials**	Refer to the City of Coquitlam website at https://coquitlam.ca/263/Subdivisions for the List of Approved Materials and Products which are to be incorporated
1.18	**As Built Record Drawings**	As built record drawings for City of Coquitlam are available in QtheMap, the City of Coquitlam's online interactive map (http://coquitlam.ca/QtheMap).

2.00 CONSTRUCTION ACTIVITY

2.01	**Construction Materials in Sewer Manholes and Pipe**	The Contractor is responsible to ensure that construction activities do not deposit construction materials (e.g. gravels) into the storm sewer or sanitary sewer manholes or pipe. The City has a video record of the pipe before construction. Prior to Substantial Performance, the City may again video inspect the lines to ensure no problems exist due to construction activities under this contract. If problems are encountered, the Contractor will be responsible for the cost of the video and all costs associated with the cleaning of the pipe.
2.02	**Site Clean-up During Construction and End of Construction**	The Contractor will be responsible for the complete clean up of the work site during construction & at the end of construction and prior to the Substantial Performance review. This work is considered incidental to the Contract. The work will include cleaning of all catch basins periodically or as directed by the Contract Administrator within the Work area, or nearby location as affected by the Work, to the same or better condition of the catch basins prior to starting the Work. All cleaning is to be performed by vacuum truck to the satisfaction of the Contract Administrator and will include off-site disposal of waste material. Payment for this work will be treated as incidental to payment for work described in other Sections.
2.03	**Asphalt Milling Operations**	Asphalt milling activities shall be done in such manner so as to cause the least disruption and inconvenience to traffic and area residents. The Contractor will be required to provide a plan and schedule for milling sections and the subsequent paving activities and have that approved by the Contract Administrator. This schedule is to be updated as required and take into consideration weather conditions and weather forecasts to ensure work subsequent to milling can be completed in appropriate weather.

MILLING OF EXTENSIVE AREAS THAT CANNOT BE PAVED WITHIN 48 HOURS PERIOD (2 DAYS) WILL NOT BE PERMITTED.

3.00 MANDATORY MEETINGS AND CONTRACTOR REPRESENTATIVES AND SUBCONTRACTORS

3.01 Pre-Construction Meeting Requirements

After the Award of the Contract, the Contractor (Project Manager & Superintendent) will be required to attend a Pre-Construction Meeting with the Contract Administrator and provide all necessary information required by the Contract Administrator prior to provision of a Notice to Proceed. Items required to be provided at the meeting include:

1. A Detailed Construction Schedule showing the start date & completion date and the durations of major work components showing how all work will be completed within the Contract Duration.
2. Proof of insurance
3. Performance Bond and Labour and Materials Payment Bond
4. WCB Clearance Letter and copy of Notice of Project
5. City of Coquitlam Business License
6. A copy of portions of your Health and Safety Plan including the Title Page, Table of Contents, and portion showing latest revision date.

3.02 Contract Schedule, Contract Duration, and Charges

A detailed, realistic construction schedule for this project must be presented at the pre-construction meeting. The schedule must show major components and durations.

All work under this project is to be completed within the designated Contract Duration as contained in the signed Contract Agreement, or as formally amended.

3.03 Contract Superintendent and Subcontractors

In compliance with the MMCD General Conditions, Section 4.7, Superintendent, the Contractor shall have a competent senior representative, (the "Superintendent") in FULL TIME attendance at the Place of Work while work is being performed for the duration of the contract.

This (FULL TIME) attendance is also required when Subcontractors are performing work.

Work done by Subcontractors is to be directed by the Superintendent and monitored on site ensuring conformance to the Contract Documents and other particular direction to the Superintendent by the Contract Administrator.

The Owner and Contract Administrator are not responsible for the direction of Subcontractors.

3.04 Pre-Paving Site Meeting

The Contractor will be required to have a pre-paving meeting with their paving staff, on-site, just prior to paving to provide instruction regarding the existing grading and requirements for the paving process and the product.

The Contractor must provide information to the Contract Administrator, for review, regarding proposed paving elevation control method, mat thickness control method, and rolling patterns.

The Contractor Administrator must be in attendance at this meeting. It will be the responsibility of the Contractor's Contract Superintendent to ensure continuity between the base preparation and the paving process.

3.05 Changes of Contractor Representatives & Subcontractors

The Superintendent and Subcontractors indicated in the Form of Tender shall not be changed unless:

1. The Owner requests a replacement.
2. The Contractor submits an application for a change, in writing, to the Contract Administrator with the change being approved in writing.

3.06 Mobilization and Demobilization

Payment for mobilization and demobilization of all equipment, labour and materials (both from the Contractor and from all sub-contractors) shall be incidental.

END OF SECTION

1.0 GENERAL

1.1 Background

.1 Two existing underground PRV chambers in Coquitlam contain components that have reached end of life and shall be replaced.

- .1 Falcon PRV on Falcon Drive near Guildford Way.
- .2 Pinetree PRV on Pinetree Way, North of Cardinal Court

.2 Additional improvements are required to improve the operability of the station.

.3 This section covers a summary of the general scope of the Work to provide an overview of the project requirements

1.2 Summary of Work

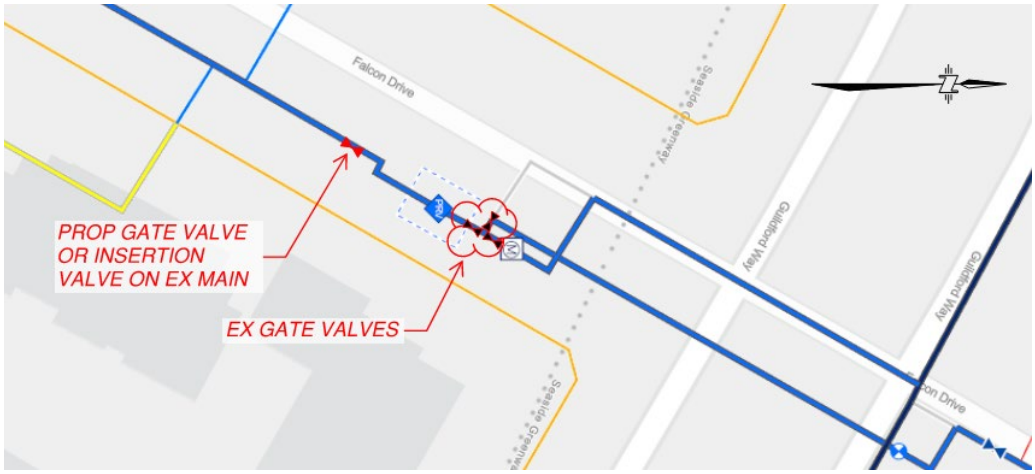
.1 Work under this Contract includes, but is not limited to, design, supply and installation of materials and equipment as shown on the Contract Drawings and as described in the Contract Supplementary Specifications, including all labour, supervision, construction, permits and related items required for the construction work to upgrade the PRV chambers. In addition to general Owner requirements, the work shall include but is not limited to:

- .1 Mobilization and demobilization for the work at the sites.
- .2 Preparation of a workplan for review by the Contract Administrator.
- .3 Preparation and implementation of a workplan to isolate the PRV from the distribution network, drain, fill, disinfect, chlorinate and reactivate the adjacent pressurized water system to facilitate construction of the works.
- .4 Supply and installation of all plumbing and process mechanical components such as piping, valves, fittings and appurtenances as shown on the drawings.
- .5 Removal, protection, storage and reinstallation of existing equipment that has not been included in the replacements detailed in these Contract Supplementary Specifications.
- .6 Start up, testing and commissioning of all new installed and retained equipment and systems as specified in the contract documents including the provision of suppliers representatives for certification and calibration of supplied equipment and systems.
- .7 Provision of operation and maintenance manuals as indicated in the Contract Documents.
- .8 Site restoration, site cleanup and landscaping including retaining walls, curbs, sidewalks, landscaping features including plantings, topsoil, sod and other items to restore the site to its original condition.
- .9 All other items required to complete the Work and provide complete working upgraded PRV stations as indicated in the contract documents.

1.3 Supplied by Owner

.1 **External Isolation Valves**
The Owner will install a gate valve downstream of the Falcon PRV PRV chamber prior to the rehabilitation works.

The anticipated location of this isolation is shown in the figure. Refer to City GIS information for additional details on valve locations and for as-built information.



Falcon PRV External Isolation Valves

2.0 PRODUCTS

2.1 General .1 Not used.

3.0 EXECUTION

3.1 General .1 Not used.

END OF SECTION

1.0 GENERAL

1.1 General

.1 The PRV station specific measurement and payment paragraphs are provided in this section.

.2 Work completed under this Contract will be paid for at the prices tendered in the Schedule of Quantities and Prices.

.3 Prices include all costs associated with finding, supplying and installing all equipment and materials, and performing all work specified herein. Include Contractor's overhead and profit.

.4 Materials and Work performance costs not explicitly listed in the Schedule but included in the drawings and/or Contract Supplementary Specifications by either direct mention or implication must be included in the items to which they pertain most closely.

.5 Prorate costs of a general nature that do not pertain to any one item among all items.

1.2 Description of Payment Items

.1 Mobilization and Demobilization

This item includes all costs associated with mobilization and demobilization of the Contractors equipment, safety equipment, site facilities and services necessary to carry out and complete the work.

The total amount of this item shall not exceed five (5) percent of the total bid price. 50% payment will be made under the first progress claim certificate after mobilization and 50% payment will be made after demobilization from the site.

.2 Operations and Maintenance Manuals

This item shall include all labour required to prepare and submit approved operations and maintenance manuals for the completed works.

Payment for this item will be made at the lump sum price tendered after acceptance of the operations and maintenance manuals.

.3 Removal of Existing Station Components

This item includes all work for salvaging, decommission, removal and demolishing the civil and mechanical existing equipment as indicated in the wet well.

Equipment requested by the Owner shall be salvaged and delivered to the Owner’s works yard. All other items shall be disposed of offsite.

Payment will be made at the lump sum price for this item in the Schedule of Quantities and Prices.

.4 Internal Mechanical Piping and Components

This item includes all costs associated with supply and replacement of the internal piping and mechanical equipment. This will include but not be limited to:

.1 Fabrication, coating and installation of new pipe spools
.2 Supply and installation of all process mechanical valves, fittings, supports, and appurtenances.
.3 Supply and installation of all plumbing valves, fittings, and appurtenances.
.4 On-site pressure-testing, flushing, disinfection and bacteriological testing, and commissioning of the station.

Payment includes all labour, material and equipment to complete the work as described in the contract drawings and as indicated in all sections of the Supplementary Contract Specifications unless already included in other pay item.

Payment will be made at the lump sum price for this item in the Schedule of Quantities and Prices. 10% of the lump sum will be paid following approval of the review of shop drawings, 50% of the lump sum following replacement of the process mechanical and building mechanical valves, fittings and appurtenances inside the PRV chamber, and 40% of lump sum amount following commissioning of station.

2.0 PRODUCTS

2.1 General .1 Not used.

3.0 EXECUTION

3.1 General .1 Not used.

END OF SECTION

1.0 GENERAL

1.1 General

.1 The Contract Price is based upon those materials and equipment models identified and named in the detailed specifications. Substitutions or variations to those specified will not be allowed without formal submittal, review and acceptance in accordance with this section.

.2 The specification sections contain pertinent performance criteria, quality, function and requirements for materials and methods to achieve work described.

.3 Coordinate pertinent related work and modify surrounding work as required to complete project under each substitute designated.

.4 Normally substitutions will not be permitted unless:

- .1 The specified product is not available
- .2 The specified product does not meet critical delivery
- .3 The substitute has a greater or equal value to the Owner for a lower cost; and
- .4 All substitutions must be approved by the Contract Administrator in writing.

1.2 Requests for Substitution

.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier or manufacturer the naming of the item is regarded as the standard to establish the type, function and quality required.

.2 Material or equipment of equal or better performance and quality may be offered in substitution for those specified. Requests for review of substitute items of material and equipment will not be accepted by the Contract Administrator from anyone other than the Contractor.

.3 Requests for substitution include any request for changes from the Contractor which require significant design changes, redesign or significant design reviews.

.4 Request for substitution to be made by written application to Contract Administrator and to include sufficient data to enable the Contract Administrator to assess the acceptability of requirements, including the following:

- .1 All submittal information required for the specified equipment, including all deviations from the specified requirements and/or necessitated by the requested substitution
- .2 Materials of construction, including material specifications and references

.3 Dimensional drawings, showing required access and clearances, including any changes to the Work required to accommodate the proposed substitution

.4 Drawings and details showing changes if the offered substitution necessitates changes to or coordination with other portions of the Work. Perform these changes as part of the substitution of material or equipment at no additional cost

.5 Certification that the proposed substitute will adequately perform the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified

.6 Information and performance characteristics for all system components and ancillary devices to be furnished as part of the proposed substitution

.7 Reproducible Contract Drawings, marked up to illustrate all alterations to all structural, architectural, mechanical, electrical and HVAC systems required to accommodate the proposed substitution

.8 Certification that acceptance of the proposed substitute will not prejudice achievement of Substantial Performance

.9 Itemization of all costs including any licenses fee or royalty that will result directly or indirectly from the acceptance of the proposed substitution. Include redesign and cost of claims of any other contract affected by the resulting change

.10 Guaranteed credit or cost reduction offered if the proposed substitution is accepted; and

.11 Recommended maintenance requirements and availability of spare parts and service

1.3 Contract Administrator's Review

.1 The Contract Administrator will evaluate each proposed substitution. The Contract Administrator will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Contract Administrator's prior written acceptance by either a Change Order or a reviewed Shop Drawing.

.2 Pay the Contract Administrator's cost, above and beyond the time required to review Shop Drawings for specified product, for evaluating the requested substitution even though the request may be denied. Costs will be charged on a time-and-expense basis and will be deducted from progress payments due the Contractor. Procedures for processing substitutions to be as specified in Section 01 33 00 – Submittal Procedures.

2.0 PRODUCTS

2.1 General .1 Not used.

3.0 EXECUTION

3.1 General .1 Not used.

END OF SECTION

1.0 GENERAL

1.1 Categories of Submittals

.1 General requirements and detailed Specifications require various submissions to demonstrate that materials, equipment, methods, and work comply with the provisions and intent of the Contract Documents. Submittals fall into two general categories:

.1 Submittals for Review.
.2 Submittals for Information Only.

.2 Provide submittals in accordance with this section and as specified in the various technical sections contained throughout the Contract Supplementary Specifications.

.3 The Contract Administrator may require additional submittals from the Contractor when, in the opinion of the Contract Administrator, such additional submittals are warranted.

1.2 Administrative

.1 Submittals covered by these requirements include manufacturers' information and data sheets, descriptive data, certificates, product data, Shop Drawings, test procedures, test results, samples, requests for substitutions, all mechanical, electrical and electronic equipment and systems, fabricated items, piping and miscellaneous work-related submittals.

.2 Adjustments made on Shop Drawings or other submittals by the Contract Administrator are not intended to change the Contract Price. If adjustments affect the value of work, state such in writing to the Engineer prior to proceeding with the work.

.3 Provide the submittals specified to Contract Administrator for review. Submit all information promptly and in an orderly sequence so as to not cause delay in the Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.

.4 Do not proceed with work affected by any submittal until review is complete. Normally, submittals for review and comment will be returned to the Contractor within ten (10) days, thirty (30) days for substitution, exclusive of any time awaiting clarification or further information; however, the time for returns will necessarily vary and may exceed ten (10) days depending upon the complexity of the submittal, the number of submittals, and the express needs of the Contractor.

.5 The Contractor to review all submittals prior to submission to the Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and the Contract Documents. Submittals

not stamped, signed, dated and identified by the Contractor will be returned without being examined and will be considered rejected.

.6 Clearly edit submittal documents to indicate only those items, models, or series of equipment, which are being submitted for review. Cross out or otherwise obliterate all extraneous materials.

.7 Ensure that there is no conflict with other submittals.

.8 Coordinate submittals among subcontractors and suppliers.

.9 Coordinate submittals with the Work so that work will not be delayed and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another.

.10 The Contractor is responsible for the accuracy and completeness of information submitted. Notify the Contract Administrator in writing of materials, equipment or methods of work which deviate from the Contract Documents. Notification in writing, to accompany submittal transmittal and noted under deviations.

.11 The Contractor's responsibility for errors, omissions and deviations in submission is not relieved by the Contract Administrator 's review of submittals.

.12 Keep one reviewed copy of each submission on site.

.13 Detail all Shop Drawings and data sheets using the metric system. Prepare to a drafting standard equivalent to the Contract Drawings.

.14 Shop drawings and data sheets indicating modified design requirements or design requirements not included in the Contract Documents require the seal of a qualified professional engineer, registered in the Province of British Columbia.

1.3 Transmittal Procedure

.1 Submit digital copies of submittals, by email, to the Contract Administrator.

.2 Note a unique number, sequentially assigned, in the title of the email for each item submitted. Submittals will be classified according to categories agreed to by the Contractor and the Contract Administrator. Use the following format by category for submittal numbers: "XXX", where "XXX" is the sequential number assigned by the Contractor. Resubmittals will have the following format: "XXX-Y", where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively.

Submittal 25-B, for example, is the second resubmittal of submittal 25.

.3 All submittals (Contractor and Subcontractor) to be stamped as reviewed by General Contractor. Submittals not stamped as reviewed will be returned to the General Contractor.

1.4 Submittals for Review

.1 All submittals, except where specified to be submitted for information only, to be submitted by the Contractor to the Contract Administrator for review. Provide submittals for review for all equipment and material substitutions, alternatives or deviations from that specified.

.2 Submittals which do not have all the information required to be submitted, including notation of all deviations from the Contract requirements, are not acceptable and will be returned without review.

.3 Review by the Contract Administrator is for the sole purpose of ascertaining conformance with the general design concept in accordance with the Specifications. This review does not mean that the Contract Administrator approves the detail design inherent in the submittals, Shop Drawings and data sheets, responsibility for which remains with the Contractor, and such review does not relieve the Contractor of responsibility for errors or omissions in the shop drawings and data sheets or of responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the Site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all Subconsultants.

.4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of the section under which the adjacent items will be supplied and installed. Indicate cross references to the Contract Drawings and Contract Supplementary Specifications.

.5 Submit digital copies of submittals, by email, including Shop Drawings for each requirement requested in MMCD and Supplementary Specification sections and as the Contract Administrator may reasonably request. PDF copies of Shop Drawings are recommended for most submissions provided all stamps are included. Where submittal contains detailed factory information, original copies must be submitted.

.6 Submittals for review will be returned to the Contractor with one of the four following notations:

.1 If the review indicates that the material or equipment complies with the Contract Documents, submittal copies

will be marked "Reviewed". In this event, the Contractor may begin to implement the Work method or incorporate the material or equipment covered by the submittal.

.2 If the review indicates limited modifications are required, copies will be marked "Reviewed as Modified". The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in operation and maintenance data, provide a corrected copy.

.3 If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "Revise and Resubmit". Do not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "Reviewed" or "Reviewed as Modified".

.4 If the review indicates that the material, equipment, or Work method does not comply with the Contract Documents, copies of the submittal will be marked "Rejected - See Remarks". Submittals with deviations which have not been identified clearly may be rejected. Do not undertake the work covered by such submittals until a new submittal is made and returned marked either "Reviewed" or "Reviewed as Modified".

.7 After submittals are stamped "Reviewed" or "Reviewed as Modified", no further revisions are permitted unless re-submitted to the Contract Administrator for further review.

.8 If upon review by the Contract Administrator, no errors or omissions are discovered or if only minor corrections are made, one (1) copy will be returned and fabrication and installation of work may proceed. If Shop Drawings and data sheets are rejected, noted copy and two (2) unmarked copies will be returned and resubmission of corrected Shop Drawings and data sheets, through the same procedure indicated above, to be performed before fabrication and installation of Work may proceed. Where four (4) copies have been submitted, one (1) copy will be returned.

.9 **The Owner may deduct, from payments due to the Contractor, costs of additional Contract Administrator reviews incurred if Shop Drawings and data sheets are not corrected after one (1) review by Contract Administrator.**

1.5 Request for Substitution

.1 Make requests for substitution by written application accompanied with sufficient information as specified under Section 01 25 00 – Substitution Procedures to permit the Contract Administrator to identify the nature and scope of the request.

.2 Follow submittal procedures and submit digital copies of all information for each substitution request.

.3 Upon receipt of written application for substitution from the Contractor, including the specific information specified, the Contract Administrator will estimate the cost and time requirement of evaluating the request and present the estimates to the Contractor. The Contractor is advised that the estimates are based upon the best information available to the Engineer at the time; however, the actual cost, based on time and expense, will be documented and applied in the final analysis of the substitution request.

.4 If the Contractor wishes the Contract Administrator to continue the review of the request, advise the Contract Administrator in writing and submit sufficient additional information as may be requested by the Contract Administrator. No evaluation will take place until such time as the Contractor has agreed to the estimate in writing and has authorized the Contract Administrator to deduct the cost of the evaluation from monthly progress payments due the Contractor.

2.0 PRODUCTS

2.1 General .1 Not used.

3.0 EXECUTION

3.1 General .1 Not used.

END OF SECTION

1.0 GENERAL

1.3 Submission

Delete 1.3.2 and replace with the following

Submit one copy of an accurate project record document in final form prior to applying for Substantial Performance including any video report, test reports and Operation & Maintenance manual. Record documents to include changes in the Issued for Construction Drawings, new elevation, offsets & location of all utilities, manhole rim, catchbasin rim, vaults, valve boxes, inverts walkways/sidewalks, and any unknown/new utilities found on site. Legal holdbacks will not be released until complete record documents, including record drawings and O&M manuals, have been submitted and accepted by the Contract Administrator.

Contractor to get sign off letter duly signed by the property owners when private side is affected by the work. Properties to get the sign off letters will be at the sole discretion of the Contract Administrator.

Payment for all work performed under this section will be incidental to work in other Sections, unless otherwise described in Schedule of Quantities and Prices.

END OF SECTION

1.0 GENERAL

1.1 General Requirements

.1 This section specifies general requirements and procedures for the Contractor's submissions of Shop Drawings and product data to the Contract Administrator for review. Additional specific requirements for submissions are specified in individual specifications.

.2 Until submission is reviewed, work involving relevant product may not proceed.

.3 Present Shop Drawings in metric units unless specified otherwise.

.4 The Contractor's responsibility for errors and omissions in submission is not relieved by the Contract Administrator's review of submissions.

.5 Notify the Contract Administrator, in writing at time of submission, identifying deviations from requirements of the Contract Documents stating reasons for deviations.

.6 The Contractor's responsibility for deviations in submission from requirements of the Contract Documents is not relieved by the Contract Administrator's review of submission, unless the Contract Administrator gives written acceptance of specific deviations.

.7 Make any changes in submissions which the Contract Administrator may require consistent with the Contract Documents and resubmit as directed by the Contract Administrator.

.8 Notify the Contract Administrator, in writing, when resubmitting, of any revisions other than those requested by the Contract Administrator.

1.2 Submission Requirements

.1 Coordinate each submission with requirements of Work and Contract Documents. Individual submissions will not be reviewed until all related information is available.

.2 Allow seven (7) days for the Contract Administrator's review of each submission.

.3 Accompany submissions with transmittal letter, in duplicate, containing:

- .1 Date;
- .2 Project title and number;
- .3 Contractor's name and address;
- .4 Identification and quantity of each shop drawing;
- .5 Name and address of:

3.5.1. Subcontractor;
3.5.2. Supplier;
3.5.3. Manufacturer.

.6 Other pertinent data.

.4 After the Contract Administrator's review, distribute copies.

1.3 Shop Drawings

.1 Shop Drawings: original Drawings, or modified standard Drawings provided by Contractor, to illustrate details of portions of Work, which are specific to project requirements.

.2 Maximum sheet size 1000 x 707 mm.

.3 Submit digital copies in PDF format.

1.4 Product Data

.1 Product data: manufacturer's catalogue sheets, brochures, literature, performance charts and manufactured products.

.2 Submit two (2) copies of product data if in hardcopy format. PDF is preferred where possible.

2.0 PRODUCTS

2.1 General

.1 Not used.

3.0 EXECUTION

3.1 General

.1 Not used.

END OF SECTION

1.0 QUALITY

.1 The Contractor shall provide a final product conforming to the Contract Documents and the intent of the work.

The work is to be accurate to the dimensional and tolerance requirements of the contract.

Payment will be subject to adjustments based on quality assurance tests performed by the Contract Administrator.

.2 The Contractor is totally responsible for the quality of material and product which he provides and for the Work.

.3 The Contractor is responsible for Quality Control and shall perform such inspections and tests as are necessary to ensure and demonstrate that the Work conforms to the requirements of the Contract Documents.

.4 During the progress of the Work, a sufficient number of tests shall be performed by the Contractor to determine and demonstrate that material, product and installation meet the specified requirements.

.5 Minimum requirements regarding Quality Control are specified in various sections of the specifications, however, the Contractor shall perform as many inspections and tests as are necessary to ensure and demonstrate that the Work conforms to the requirements of the Contract Documents.

.6 Testing shall be in accordance with pertinent codes and regulations and with selected standards of the American Society for Testing and Materials (ASTM) and Canadian Standards Association (CSA).

.7 Product testing, mill tests and laboratory reports shall demonstrate that products and materials supplied by the Contractor meet the specifications under various sections of the Contract Documents.

1.1 Quality Control (QC) by Contractor

.1 **The MMCD (2009) definition of "Quality Control" is the process by which the *Contractor* checks specific materials, products, and workmanship to ensure strict conformance with the Contract Documents.**

The Contractor is fully responsible for quality control of the materials, production, and construction processes.

Quality control tests shall be performed by the Contractor, at their own expense, to ensure that products meet the contract specifications.

Failure by the Contractor to conduct adequate quality control testing during production and construction will negate the Contractor's ability to appeal the quality assurance tests used for acceptance/rejection of the work.

Under no circumstances will QC test results produced after completion of the Quality Assurance (QA) results be considered for appeal purposes.

Any changes in the Work with respect to the location, grade, or line shall be approved in advance by the Contract Administrator. Failure to notify the Contract Administrator of changes in writing may result in rejection of Work.

.2 The Contractor shall retain the services of an independent testing agency under supervision of the Contract Administrator, and pay the cost of testing services for Quality Control including, but not limited to, the following:

1.1 Sieve analysis of sands and aggregates to be supplied for the Work.
1.2 Aggregates and mix design for Portland cement concrete.
1.3 Standard Proctor Density curves for backfill and embankment materials and roadway and walkway granular base and sub base materials.
1.4 Compaction control tests for backfill and embankment material and roadway and walkway granular base and sub base materials.
1.5 Any product testing that is required and is specified under various sections of the specifications.

.3 Quality Control and Testing shall comply to the Owner and MMCD specifications.

.4 The Contractor shall promptly process and distribute all required copies of test reports and test information and related instructions to all of his Subcontractors and suppliers to ensure and demonstrate that all necessary retesting and replacement of construction can proceed without delay.

.5 The Contractor shall promptly provide the Contract Administration with copies of all test results.

1.2 Inspection of Work, Quality Assurance, and Material Testing, by the Owner

.1 **The MMCD (2009) definition of "Quality Assurance" means the process by which the *Owner* evaluates if the work is being constructed in accordance with the Contract Documents. This definition will be used for this contract**

The *Contract Administrator* may provide construction review through spot inspections and spot materials testing for Quality Assurance.

Any materials testing results indicating a non-conformance to the Contract Documents will require construction corrective action by the *Contractor*.

All subsequent testing to corrective action to verify conformance to the Contract Documents will be the full responsibility of the *Contractor*.

Inspection review by the Owner will not relieve the Contractor from providing a product that meets or exceeds the requirements of the Contract Documents.

.2 The Owner may retain and pay for the services of an independent testing agency for testing for Quality Assurance, for the Owner's purposes.

.3 The Owner's testing agency and the Contract Administrator may inspect and test material, product and the Work for conformance with the requirements of the Contract Documents; however, they do not undertake to check the quality of the work on behalf of the Contractor nor to provide Quality Control.

.4 Inspections and tests by the Owner's testing agency and by the Contract Administrator do not relieve the Contractor of his responsibility to supply material and product and to perform the Work in accordance with the requirements of the Contract Documents.

.5 The Contract Administrator, at his discretion, may order or perform any additional inspections and tests for purposes of his own or for purposes of the Owner.

.6 The Contractor shall coordinate with the Contract Administrator the scheduling of testing and inspection by the Owner's testing agencies or by the Contract Administrator, to enable testing to be done as necessary, without delay, and the Contractor shall notify the Contract Administrator forty eight (48) hours in advance of operations to allow for such inspection and tests by the Contract Administrator or the Owner's testing agency.

1.3 Inspection

Materials testing shall be as described in MMCD General Conditions, Section 4.12 with the following change:

Delete Section 4.12.2(a) and insert the following:

Where the MMCD specification clauses for Inspection and Testing indicate the Contract Administrator will arrange for all testing for work described in this section will be amended to read The Contractor will arrange for and pay for all testing for work described in this section. The testing shall take place at the following prescribed rates and as directed by the Contract Administrator. The Contract Administrator has the authority to call for testing, up to the rates and frequencies specified, at the Contractors cost.

All testing covered under this item shall be performed by a CCIL certified laboratory and technicians with copies of all test results to be sent directly to the Contract Administrator. Re-testing resulting from failed first tests shall be at the Contractors expense.

1.4 Survey Layout

The Contractor shall be responsible for all survey layouts unless otherwise described in the document. All Survey Layout to be completed in accordance with the Contract Drawings and Coordinate System set out within them. The Contractor will be provided digital

AutoCAD files but shall be responsible to confirm elevations and tie in locations and report any discrepancies prior to construction.

The Contractor shall be responsible for the preservation of all layout stakes and marks. If at any time during the progress of the work any error shall appear or arise in the position, levels, dimensions or alignment of any part of the work, the Contractor shall stop work on his portion of the project and shall notify the Contract Administrator. The Contractor shall make all the necessary corrections required.

1.5 Testing

Contractor shall carry out inspection and testing (QC) to ensure compliance with Contract Documents. Contractor shall submit test results within one week of testing to the Contract Administrator. The Contractor shall provide test results prior to the preparation of the payment certificate.

1.6 Contractors Responsibilities

Furnish labour and facilities to:

1. Provide access to work to be inspected
2. Facilitate inspections and tests
3. Make good work disturbed by inspection and tests

1.7 Access to Work

Allow inspection testing agencies access to Work.

1.8 Tests

Test rates and frequencies (excluding failed tests), when not defined in the MMCD or Detail Specifications Sections shall be at the following frequencies:

1. Trench Backfilling and Compaction
1.1 Compaction: 1 test / 10 lm / 300mm lift
1.2 Sieve: 1 test / placed material / 50 m^3

2. Granular Base
2.1 Compaction: 1 test/500m^2 / 100mm depth of granular base, min. 1 test if < 500m^2
2.2 Sieve: 1 test / placed material / 250 TONNES

3. Granular Subbase
3.1 Compaction: 1 test/500m^2/150mm depth of granular subbase, min. 1 test if <500m^2
3.2 Sieve: 1 test / placed material / 250 TONNES

4. Embankment (Subgrade)
4.1 Compaction: 1 test/ 50m^2 / 0.15m depth of fill, min. 1 test if < 50m^2
4.2 Sieve: 1 test / placed material / 100 TONNES

5. Asphalt
5.1 Marshall test: 1 test per 250 TONNES placed, per mix specified, min. 1 / day

ASTM D1559, D3203, C117, C136
5.2 Superpave: 1 test per 250 TONNES placed, per mix specified, min. 1 / day
CAI-SP2, ASTM D3203, C117, C136
5.3 Cores: 1 per 500 m^2/lift
5.4 Continuous asphalt density testing during paving.

6. Subgrade Preparation
6.1 Compaction & Moisture: 1 test / 500 m^2, min. 1 test if < 500m^2

7.Concrete Tests
7.1 Air, Slump & 1 Set Cylinders: 1 test / 10 m^3, min. 1 set / day

Mix design, sieve analysis and all required reports to be submitted must be recent and dated within six months prior to construction.

1.9 Measurement for Payment

Payment for all work performed under this section will be incidental to payment for work described in other Sections.

1.10 Retesting

.1 Work under this Contract

.2 When tests on product, material or completed portions of the Work carried out by the Contractor or the Contractor's testing agency or by the Owner's testing agency yield results not meeting the requirements of the Contract Documents, the Contractor, in addition to carrying out remedial work or replacement of the product or material shall provide for retesting of the remedied work and the replacement product and material. Retesting, including retesting by the Owner's testing agency, shall be at the Contractor's expense.

.3 In every case where the Contractor has submitted test results, which fail to meet the requirements of the Contract Documents, the Contractor shall submit within a practical and reasonable time results of a retest showing that the results are in accordance with the requirements of the Contract Documents.

.4 If the Contractor fails or refuses to do remedial work or replace unacceptable material or product, the Contract Administrator may refuse to certify payment and the Owner may refuse to make payment, in addition to any other remedies the Owner may have.

END OF SECTION

1.0	**GENERAL**	Add 1.0.6	The *Contractor* is responsible for all temporary traffic control on the streets required for completion of the work. The *Contractor* will be responsible to provide a Traffic Management Plan (TMP) for approval (10) ten working days prior to any lane closures taking place. TMP is to be prepared by a qualified professional to the satisfaction of the Contract Administrator. The TMP shall outline the approach to traffic management, show recognition and minimization of risks indicates signing locations, identify Traffic Control Persons (TCP) stations, show lane shifting and proposed closures. The Contractor is responsible to ensure and maintain all business/residential vehicles, cyclists and pedestrian accesses open at all times. The contractor may provide temporary accesses if the affected owner agrees. All costs associated with temporary accesses will be at the contractor's expense.
		Add 1.0.7	A Road and Sidewalk Closure Permit is required from Coquitlam for all work affecting pedestrian and traffic flow related to construction. A permit is required for each specific construction interference with pedestrian and traffic flow. The road and sidewalk closure permit form can be obtained for use from the City's website at http://www.coquitlam.ca. The Contractor must follow the approved TMP. Any changes to this TMP must be submitted to Traffic and Street Use Management for approval.
		Add 1.0.8	Refer to Appendix A – Traffic Management Detail Specifications.
		Add 1.0.9	The Contractor is responsible to maintain all business/residential vehicles and pedestrian accesses open at all times, the contractor may provide temporary accesses if the affected owner agrees. All costs associated with temporary accesses will be at the contractor's expense.
1.4	**Traffic Control**	Delete 1.4.1 and replace with the following	The Contractor shall conduct his operations to cause the minimum obstruction and inconvenience to traffic and to places of business and residences adjacent to the Place of Work. No greater quantity of work shall be undertaken at any one time than can be properly conducted with due regard to the rights and interests of the public as may be determined by the Contract Administrator.

The Contractor is to provide at all times safe and convenient means of approach and entrance to adjoining lanes, driveways, buildings and property both for vehicles and pedestrians to the satisfaction of the Contract Administrator. For this purpose, he shall construct and maintain suitable and safe platforms, approaches, structures, bridges, diversions or other works.

Where traffic must cross open trenches, the Contractor shall provide suitable bridges. Where trenches have been backfilled or where road improvements are incomplete, the Contractor shall take any steps necessary to prevent potholes or other traffic hazards. Where the Contract Administrator so instructs or where Contract Specifications so require, the Contractor shall provide temporary asphalt patching of such hazards.

Add 1.4.9.3.1

The *Contractor,* as required by the *Contract Administrator* and the City, is to supply Construction Zone information signs (stationary) or Changeable Message Signs refer to MMCD 01 58 01 for the required identification signage.

The *Contractor* is responsible for the removal of the signs at the completion of the work.

Delete 1.4.10.1.3 and replace with the following

When workmen or equipment are employed over travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.

END OF SECTION

1.0 GENERAL

1.0.3	**Erosion and Sediment Control Supervisor**	Add 1.03	The Erosion and Sediment Control (ESC) Supervisor is the Qualified Professional, who is experienced in implementing ESC Plans and who is responsible for the inspection and monitoring of ESC Facilities to ensure these are installed and maintained and if necessary, are modified during construction to ensure compliance with the Stream and Drainage System Protection Bylaw No. 4403, 2013.
1.2	**Temporary Erosion and Sediment Controls**	Delete 1.2.1 and replace with the following	Properly drain all portions of the site. Protect the site and the watercourses to which it drains, directly or indirectly, against erosion and siltation in accordance with a Sediment Control Plan under the City of Coquitlam Stream and Drainage System Protection Bylaw No. 4403, 2013 during construction and until the maintenance period is completed. Ensure no silt, gravel, debris or other deleterious substance resulting from construction activity discharges into existing drainage systems or watercourses or onto highways or adjacent property. The *Contractor* is responsible for all damage that may be caused by water backing up or flowing over, through, from or along any part of the work or otherwise resulting from his operations. Keep existing culverts, drains, ditches and watercourses affected by the work clear of excavated material at all times. When it is necessary to remove or alter any existing drainage structure, provide suitable alternative measures for handling the drainage. Adequately support culverts and drainpipes across trenches to prevent displacement and interference with the proper flow of water due to trench settlement. Sweep streets, and clean catch basins, manhole sumps, detention tanks, and maintain siltation controls as often as the *Contract Administrator* and the City deems necessary.
		Delete 1.2.2.2 and replace with the following	Do not operate construction equipment in watercourses.
		Add 1.2.2.9	All work must be carried out during favorable and low water conditions.
		Add 1.2.2.10	Any fill used on this project shall be certified inert and from a source which is confirmed to be free of contaminants.
		Add 1.2.2.11	All work within a watercourse must be undertaken and completed in isolation of all flowing water to maintain downstream water quality and unrestricted flows.
1.4	**Environmental Protection**	Add 1.4.3.5	Immediately contain and clean up any leaks and spills of prohibited materials at the *Place of Work*.

		Add 1.4.3.6	Ensure that a well-stocked spill kit is on-site at all times and that the *Contractor*'s employees are familiar with appropriate spill response techniques.
		Add 1.4.3.7	Immediately notify the *Contract Administrator* and the City of any leaks or spills of prohibited materials that occur at the *Place of Work*.
		Add 1.4.3.8	Ensure that any fuel stored on-site is located at least 15 meters from the nearest stream, and is placed within a bermed and lined area, in order to prevent leaks or spills into the environment.
		Add 1.4.3.9	All equipment and machinery must be in good working condition (power washed), free of leaks or excess oil and grease. No equipment refueling or servicing shall be undertaken within a minimum of 15 meters of any watercourse or surface water drainage.
		Add 1.4.3.10	During all phases of the operation, the Contractor shall take precautions to abate nuisance caused by mud or dust by clean up, sweeping, sprinkling with water or dust control, or other means as necessary to accomplish results satisfactory to the Contract Administrator.
1.6	**Measurement and Payment**	Delete 1.6.1 and replace with the following	Payment for all work, unless included in the Schedule of Quantities and Prices, performed under this section will be incidental to payment for work described in other Sections.
		Add 1.6.2	Payment for the poly cover or temporary tarps over stockpile materials or exposed road subgrades shall be treated as incidental work.
1.9	**Archaeological / Historical Resources**	Add 1.9 .1	If any archaeological or historical resources are encountered during construction, work must cease immediately. The Contractor shall promptly notify the Contract Administrator and the City. All such resources shall be left in place and must not be disturbed under any circumstances. The Contractor shall comply with the procedures outlined in Appendix B: Archaeological Chance Find Procedures.

END OF SECTION

1.3	**Measurement and Payment**	Delete 1.3.1 and replace with the following	Payment for the installation of 1.2m x 1.2m static construction Information signs as shown in Appendix A – Traffic Management Detail Specifications includes supply, placement & removal and will be incidental to payment for work described in other Sections, unless shown otherwise in the Schedule of Quantities and Prices.
		Add 1.3.2	Payment for changeable message signs (CMS) includes supply, placement, and removal.

END OF SECTION

1.0 GENERAL

1.1 Manual

.1 Provide an organized compilation and description of operational and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems.

.2 Manuals shall contain the following sections entitled:

- .1 Section 1: Civil Components
- .2 Section 2: Mechanical Components

.3 For specified equipment and items, the operating and maintenance manuals shall include:

- .1 Specification data;
- .2 Vendor drawings;
- .3 Manufacturers recommended operating, maintenance and service data including:
  - 3.3.1. Nameplate information including make, size, capacity, model number and serial number;
  - 3.3.2. Spare parts lists as recommended by manufacturer;
  - 3.3.3. Operating instructions;
  - 3.3.4. Maintenance instructions and maintenance intervals;
  - 3.3.5. Maintenance and service materials or special tools;
  - 3.3.6. Trouble shooting procedures;
- .4 Name, address and telephone number of local or closest supplier c/w contact person;
- .5 Warranty and guarantee information;
- .6 Test data obtained during commissioning;
- .7 Results of testing and commissioning.

1.2 General

.1 Owner supplied equipment data will be provided to the Contractor for inclusion into the binders.

.2 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual and organize data into required sections.

.3 Label each section with tabs protected with celluloid covers fastened to hard paper dividing sheets.

.4 Type descriptions, lists and notes.

.5 Drawings, diagrams and manufacturers literature must be legible. When more than one model is listed, cross out extraneous model information and indicate, with arrows, specific model information.

.6 Product sheets to be in colour.

.7 Provide one (1) digital combined copy in PDF format for review. PDF to be complete with bookmarks between sections. Combined PDF can be per section as noted in 1.1.32 above.

.8 Once PDF version is accepted, provide one (1) set of completed operating and maintenance manuals to the Contract Administrator for review four (4) weeks prior to commissioning equipment and systems. Revise manuals as directed by the Contract Administrator.

.9 When manuals are approved provide four identical sets of approved operating and maintenance manual binders to the Owner.

.10 Commissioning may not proceed until manuals are approved by the Contract Administrator.

1.3 Binders

.1 Binders: Black vinyl 3-ring hard cover with clear vinyl overlay on front, open at top to accept full page identification insert. Suitable for 8-1/2 inch wide by 11 inch high documents. Spine shall be labelled with project name as displayed on RFP.

1.4 Contents

.1 Binders:

.1 Cover sheet containing:
10.1.1. Date submitted.
10.1.2. Project title, location and project number.
10.1.3. Names and addresses of Contractor, and all Subcontractors.
10.1.4. Table of Contents.
.2 Technical sections as specified. Provide only the relevant pages from the catalogue for the specific product and where a page has more than one product shown clearly and neatly indicate on that page the specific product used.
.3 Separate cover sheet for each supplier noting supplier name and contact information prior to the detailed information on each component from that supplier
.4 Product information to be in colour.
.5 Identify each major section with individual title page (i.e. CIVIL, MECHANICAL).

.2 Digital Copy (PDF):

.2 Ensure digital copy includes all information contained in hardcopies
.1 Use bookmarks when assembling PDF's to separate individual sections of the manual

.3 Equipment:

.1 Unless specified otherwise all equipment and components supplied and installed under this Contract shall be included

in the manuals. The following non-exhaustive list includes items that are to be included in the manuals:

.2 Civil Items

3.2.1. Grout, concrete and mortar mix;
3.2.2. Granular Bedding and Backfill materials;
3.2.3. Restoration materials.

.3 Mechanical Items

3.3.1. Piping;
3.3.2. Pipe coatings;
3.3.3. Couplings and flange adapters;
3.3.4. Valves and fittings;
3.3.5. Appurtenances.

2.0 PRODUCTS

2.1 General .1 Not used.

3.0 EXECUTION

3.1 General .1 Not used.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section includes metal ladders for the project.

1.2 Submittals

.1 Provide submittals in accordance with 01 33 00S and 01 33 23S.

.2 Product Data: Submit manufacturer's printed product literature, specifications and data sheets.

.3 Shop Drawings

- .1 Include plans, elevations, sections, details, and attachments.
- .2 Indicate construction details, sizes of steel/aluminum sections, and thickness of steel/aluminum members.
- .3 Indicate welds by standard CWB symbols. Distinguish between shop and field welds, show size, length, and type of each weld. Identify grinding, finish, and profile of welds.
- .4 Indicate position, orientation, material, head type, diameter and length of rivets.
- .5 Submit shop drawing bearing the stamp of a qualified professional engineer registered in British Columbia.

.4 Informational Submittals

- .1 Welding certificates.
- .2 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- .3 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .4 Qualification data.

1.3 Quality Assurance

.1 Installer Qualifications: Fabricator of products.

.5 Welding Qualifications: Qualify procedures and personnel according to the following:

- .1 AWS D1.2 – Structural Welding Code: Aluminum
- .2 ISO 10042 – Arc-Welded Joints in Aluminum and Its Alloys

2.0 PRODUCTS

2.1 Aluminum Ladders

.1 All aluminum heavy duty fixed vertical ladder, of rivetted construction, with non-slip rungs.

.2 Load rating 135 kg (300 lbs).

.3 Fix to structure with mounting brackets designed to suit chamber dimensions.

.4 Silo ladder and mounting brackets from Falcon Ladder, Kelowna (250-861-9556) approved.

2.2 Ladder Safety Posts

.1 Provide ladder safety posts on all ladders.

.2 Tubular telescoping construction complete with stainless-steel spring balancing mechanism.

.3 Provide fasteners for securing to ladder rungs. Clamp brackets shall be reinforced w/ 6 mm (¼ inch) thick stainless steel plate. Use extended 75 mm (3 inch) mounting bolts.

.4 Hot dip galvanized construction

.5 Install as per the manufacturer's instructions.

.6 Provide Bilco ladder up safety posts or Approved Equal.

3.0 EXECUTION

3.1 Installation

.1 Install plumb and true in exact locations.

.2 316 stainless steel anchors, bolts, and washers shall be used to attach ladders to the structures. Isolation washers or bushings shall be installed between the stainless steel and aluminum components.

.3 Do welding work in accordance with CSA W59.2 unless specified otherwise.

3.2 Cleaning

.1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.

.2 Upon completion of installation, remove surplus materials, rubbish, tools, and equipment barriers.

END OF SECTION

1.0 GENERAL

1.1 Work Included

.1 This specification details anchor bolt requirements for all equipment, machinery, and structural supports.

1.2 Reference Standards

.1 CAN3 A23.3, Design of Concrete Structures for Buildings.

.2 CSA/CAN3-S16.1, Steel Structures for Buildings (Limit States Design).

1.3 Submittals for Review

.1 Submit the following product information, in accordance with Section 01 33 00S and 01 33 23S, for all bolt systems not cast-in-place:

- .1 Data, indicating load capacities and embedment requirements.
- .2 Chemical resistance.
- .3 Temperature limitations.
- .4 Installation instructions.
- .5 Submit samples to Engineer of proposed adhesive and expansion type anchors.

1.4 Submittals For Information Only

.1 Submit shop drawings in accordance with Section 01 33 00S and 01 33 23S, clearly indicating; anchor bolt type, diameter, minimum embedment length, location, materials, projection, plates, washers, nuts, sleeves and torque requirements of anchor bolts to be used. Shop drawings to bear the seal of a Professional Engineer registered in the Province of British Columbia.

1.5 Quality Control

.1 Arrange a field demonstration of correct installation procedures with bolt manufacturer, for all adhesive and expansion anchors. Notify the Engineer a minimum of 48 hours in advance of the demonstration. Pull out tests will be carried out by a Testing Laboratory designated by the Engineer. Pull out tests must be performed prior to the use of the anchors on site.

2.0 PRODUCTS

2.1 Typical Products

.1 Adhesive anchor bolts: Hilti, HVA adhesive anchors.

.2 Expansion anchor bolts will not be permitted unless approved by the Engineer.

2.2 Design Criteria

.1 Design bolt sizing and spacing to CSA/CAN3-S16.1; CAN3-A23.3.

.2 Design anchor bolts with due regard for edge distances, bolt spacing and available embedment depth.

2.3 Materials

.1 Select anchor bolt material according to exposure conditions:

- .1 External applications or areas exposed to outside air: Stainless steel to AISI Type 316.
- .2 Internal applications: Stainless steel to AISI Type 304.
- .3 Permanently or intermittently submerged equipment: Stainless steel to AISI Type 316.
- .4 Anchor bolts securing proprietary equipment:
  - .1 For rotating equipment over 50 hp, provide anchor bolts with sleeves and washers to permit adjustment during installation of the equipment.
  - .2 Do not use drilled expansion or adhesive anchors for anchor bolts unless submitted and reviewed by the Engineer.
- .5 Nuts and washers to be of the same material and of equal or greater strength than bolts. Tapered washers to be provided where mating surface not square with nut.

3.0 EXECUTION

3.1 General

.1 Anchor bolt holes in support frames not to exceed bolt diameter by more than 25 percent, up to a limiting maximum oversizing of 12 mm.

.3 Minimum anchor bolt diameter 12 mm.

.4 Do not use adhesive anchors in overhead applications.

.5 Adhesive and expansion anchor bolt locations to reviewed by the Engineer prior to use or installation.

.6 Field work, including cutting and threading, will not be permitted on galvanized items. Protect dissimilar metals from galvanic corrosion by means of pressure tapes, coatings or isolators. Grout anchor bolts with non-shrink grout, where specified, in accordance with manufacturer's recommendations.

3.2 Installation

.1 Adhesive and Expansion Anchor Bolts

- .1 Limit use to locations where exposure to the following on an intermittent or continuous basis is extremely unlikely:
  - .1 Acid concentrations greater than 10 percent.
  - .2 Chlorine gas.
  - .3 Machine or diesel oils.
  - .4 Fire.
  - .5 Concrete or rod temperatures above 48 °C.
- .2 Adhesive anchor to be threaded or deformed for full length of embedment. Holes to be free of rust, scale, grease and oils. Embedment length as specified or to manufacturer's recommendations.

.3 Install anchor bolts in strict accordance with manufacturer's specifications and recommendations, including maximum hole diameter.

.4 Holes to have rough surfaces, such as can be achieved using a rotary percussion drill. Locate reinforcement using non-destructive method prior to drilling.

.5 Blow clean holes with compressed air to remove dust and standing water prior to installation.

.6 Leave adhesive anchors undisturbed and unloaded for the entire curing period. Replace anchors which have been disturbed or loaded during the adhesive curing period at the Contractor's expense. Concrete temperature (not air temperature) to be compatible with manufacturer's curing requirements.

.7 Anchor sizing requirements a minimum factor of safety of 4 to 1 (allowable load vs actual load).

.1 Expansion anchor bolts to be free of rust, scale, grease and oils.

END OF SECTION

1.0 GENERAL

1.1	**Description**	.1	This section includes building plumbing systems, including water, sewage, and drainage systems, plumbing fixtures, and their associated piping and appurtenances.
1.2	**Reference Sections**	.1	Section 40 05 01 – Piping Systems
		.2	Section 40 05 50 – Isolating Valves
		.3	Section 40 05 65 – Control and Check Valves
		.4	Section 40 73 13 – Pressure and Differential Pressure Gauges
1.3	**Reference Standards**	.1	Conform to the following standards: .1 British Columbia Plumbing Code 2024 .2 CAN/CSA B45 Series – Plumbing Fixtures .3 ANSI Z358.1 – Emergency Eyewash and Shower Equipment .4 ASSE 1071 – Temperature Actuated Mixing Valves
1.4	**Submittals for Review**	.1	Shop drawings per Section 01 33 00S and 01 33 23S.

2.0 PRODUCTS

2.1	**Double Check Backflow Preventer**	.1	Double check backflow preventers complete with Lead Free bronze body construction, ball type isolating valves, and test cocks shall be provided.
		.2	Watts LF007M2QT, or approved equal.
2.2	**Hose Bibb**	.1	Hose bibbs shall be 19 mm (3/4 inch), c/w hose connection vacuum breaker furnished with break-away set screw.
		.2	To be used for interior installations.
		.3	Watts 8B, Conbraco 38-304-AS, or approved equal.
2.3	**Pressure Reducing Valve – Direct Acting**	.1	Pressure reducing valves shall be direct acting, spring-loaded, diaphragm-type valve capable of accurate pressure control.
		.2	Valve shall be complete with integral strainer and sensing.
		.3	Pressure reducing valve shall have an adjustable pressure range of 172-517 kPa (25-75 psig) and be preset to 345 kPa (50 psig).

.4 Valve body and cover shall be lead-free brass with stainless steel trim, 40 mm NPT union inlet and FNPT outlet connection.

.5 Provide 1100 kPa (160 psig) pressure gauge mounted on valve body tapping.

.6 Watts LFU5B-Z3-GG.

3.0 EXECUTION

3.1 General

.1 After completion of installation, all plumbing fixtures and equipment shall be cleaned.

3.2 Backflow Preventer

.1 Backflow preventer shall be installed as per CSA/CAN – B64.10-01.

3.3 Testing

.1 After completion of installation, provide testing to demonstrate compliance with the requirements of these specifications.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section describes the pipe materials, fittings, appurtenances, and of the process mechanical and plumbing.

.2 Piping supports and seismic bracing are generally not shown on the mechanical layout drawings. Piping supports and seismic bracing, if shown on drawings, are for reference only.

.3 Design, select, locate and provide piping supports, pipe guides, seismic bracing, expansion joints and anchors required for final piping layout. Typical details and acceptable attachments shown on the drawings are provided only for general guidance.

.4 The Contractor must provide the necessary submittals and ensure the piping systems and system components as fabricated in accordance to ANSI B31.3, Normal Fluid Service.

.5 For Testing, Flushing and Disinfection procedures refer to Section 33 11 01 Waterworks

1.2 Reference Sections

.1 American Society of Mechanical Engineers (ASME)

.2 ASTM International (ASTM)

.3 American Water Works Association (AWWA)

.4 ASME B31.3 Process Piping

1.3 Definitions

.1 Pipe and appurtenance location terms used in this and other related sections are defined as:

.1 Pump Houses, Valve Chambers and Buildings: Within an environmentally controlled enclosure where temperature is maintained above 5°C.

.2 Exposed, Aboveground: Outside or within an enclosure which is not environmentally controlled so that the temperature is maintained above 5°C. For the purpose of defining exterior protection systems, this definition is extended to vertical piping to a point of 0.5 metres below finished ground level.

.3 Underground (or buried): Placed in soil and not tied to structures.

.4 Below Structures: Below concrete slabs such as tanks, channels, buildings, pipe chases, foundation slabs, etc; but not including roadways or walkway structures.

.5 Submerged: Regularly or occasionally immersed in liquid; inside tanks and/or channels, and within 3.0 metres above maximum water level of open tankage. Includes pipe and appurtenances within manholes, vaults and chambers.

1.4 System Description

.1 Piping supports and seismic bracing are generally not shown on the mechanical layout drawings.

.2 Design, select, locate and provide piping supports, pipe guides, seismic bracing, expansion joints and anchors required for final piping layout. Typical details and acceptable attachments shown on the drawings are provided only for general guidance.

1.5 Submittals For Review

.1 Submit in accordance with Section 01 33 00S and 01 33 23S.

.2 Product Data: For each piping system, submit document listing pipe, fittings, flexible connectors, linings, coatings, and valving to be used for each pipe size and category.

.3 Radiographic Weld Testing: Submit the name and qualifications of an independent firm for the radiographic weld testing to be undertaken by the Contractor. The selected firm will be subject to the review and acceptance of the Contract Administrator.

.4 For all pipe greater than or equal to 50mm diameter, submit isometric drawings, to indicate the assembly details, the welds, flanges, valve placement, cathodic protection, seismic restraint system, expansion joints, guides, anchors, hangers, supports, and the provisions for thrust restraint, as well as any other pertinent details.

.5 Submit piping layout and section drawings by plant area which indicate location and placement of valves, fittings and other appurtenances for all piping, greater or equal to 50 mm diameter, in that area. Indicate overall and centre-centre dimensions and location and clearances from structures and other utilities (ductwork, conduit, electrical tray, etc.)

.6 Where specified or directed by the Contract Administrator, provide mill test results or product samples.

.7 Detail all the pipe supports required on this project and provide shop drawings with the location of supports and details of all the hangers, expansion joints, guides and support systems. Drawings shall be signed and stamped by a Professional Engineer registered in British Columbia.

.8 Submit copies of all original submittals and all related correspondence made as part of the regulatory submission required by the British Columbia Power Engineers and Boiler Power Engineers Safety Branch and any submissions required by other regulatory authorities.

.9 The Contractor shall submit the following documentation for review a minimum of two (2) weeks prior to commencing any welding work

.1 The Contractor's Quality Control Manual
.2 Welding Procedure Specification (WPS), signed by a registered Professional Welding Engineer, as well as sealed by the BC Safety Authority. Include a statement that the procedures have been reviewed and accepted as appropriate for the commodity and exposure in which the piping will be placed.
.3 Procedure Qualification Records (PQR) for all welders engaged on this project.
.4 Welder Performance Qualifications (WPQ).
.5 Mill certificates for all required materials.
.6 Shop and fabrication drawings with dimensional details of each pipe spool, identifying materials and weld map.

1.6 Quality Assurance

.1 Welding Certification

.1 All welders to be certified under the Government of British Columbia Boiler and Pressure Vessels Act. As a minimum, welders will hold a Level B Journeyman Welders Certificate.
.2 All welders who work on this project must provide the correct documentation

.2 Weld Tests

.1 Provide for 2 radiographic inspections. All sizes and types of pipe welds to be tested at locations identified by the Contract Administrator.
.2 Have a radiographic weld test results submitted directly to the Contract Administrator

.3 Regulatory Submissions

.1 Complete all regulatory submissions as required by the BC Power Engineers and Boiler Pressure Vessel Safety Act and Regulations.
.2 Complete all other submissions as required by other regulatory authorities.

.4 Conflicts

.1 Review the drawings prior to installation of piping, conduit services, and fixtures by this or any other division. Identify any conflicts and cooperate with the Contract Administrator to determine the adjustments necessary to resolve these conflicts.
.2 Confirm the routing of each section of pipework with other services prior to commencement of installation.
.3 Advise the Contract Administrator of any conflicts with existing services or services yet to be installed.
.4 Where necessary, amend the routing of pipework to avoid conflict and confirm with the Contract Administrator.

1.7 Shipment, Protection and Storage

.1 Deliver pipe, fittings, and specials to site using loading methods which do not damage pipe or coatings.

.2 Piping materials delivered to site will be clearly marked to indicate size, type, class/schedule and coatings.

.3 Until ready for incorporation in the work, store on site as recommended by the piping materials manufacturer to prevent damage, undue stresses, or weathering.

.4 Store materials at least 200 mm above ground with sufficient supports to prevent undue bending.

.5 Protect non-UV light inhibited plastic from sunlight.

2.0 PRODUCTS

2.1 General

.1 Provide the pipe materials, fittings, and appurtenances as described below, for the piping systems shown.

.2 All pipe materials to be new, free from defects.

.3 Where any standard referenced has been superseded prior to bidding, the Contractor shall comply with the new standard.

2.2 Carbon Steel Piping to 600 mm Nominal Diameter

.1 All steel pipe shall be ASTM A53, ERW, Grade B or steel pipe with equivalent or better mechanical, chemical properties with the following wall thickness:

.1 100 mm to 250 mm diameter inclusive: schedule 40.
.2 300 mm diameter: standard weight, 0.375 inch wall thickness.
.3 350 – 600 mm diameter: 0.375 inch wall thickness.

.2 Steel Plate: to CAN3-G40.21-92, Grade 300W.

2.3 Non-Threaded Stainless Steel Piping

.1 All non-threaded piping to be used in the project shall be fabricated from Schedule 40S, 304L stainless steel pipe.

.2 All grooved fittings, when available, shall be of 304L series stainless steel and as shown on drawings. Victaulic approved.

2.4 Threaded Stainless Steel Piping

.1 All threaded piping, unless otherwise specified, shall be fabricated from Schedule 40S, 304L stainless steel pipe.

2.5 Joints - General

.1 Connect piping using joints not readily disassembled only where shown and where not otherwise specified. Provide joints which may be readily disassembled at the minimum within 1.0 m of any

connection to equipment, on both sides of structural penetrations, within 0.6 m of all threaded end valves, and at the spacing specified in detailed piping specification sheets.

.2 For steel or stainless steel piping equal to or greater than 75 mm in diameter, use grooved couplings or buttwelds as shown on the drawings; predominately grooved couplings are to be used for above ground steel piping, buttwelded, steel pipe for underground services. Flanges are to be used around equipment and valves conforming to ANSI B16.5, Class 150. Unless otherwise indicated (on the drawings) where disassembly is required, flanges shall be used.

.3 For thin wall or schedule rated steel pipe equal to or greater than 75 mm in diameter, butt-weld pipe or use Victaulic grooved couplings as shown.

.4 For schedule rated steel pipe smaller than 75 mm in diameter use threaded unions.

.5 For stainless steel tubing use stainless steel compression fittings.

2.6 Fittings

.1 For steel pipelines 75 mm in diameter or greater, fittings to conform to ANSI B16.9, ANSI B16.11 or ANSI B16.5. Provide fittings with a wall thickness equal to or greater than the pipe. In steel pipelines less than 75 mm in diameter provide threaded malleable iron fittings, conforming to ANSI B16.3.

.2 Provide long radius steel grooved-joint fittings conforming to ANSI B16.9 in steel grooved-joint pipeline systems. Grooved joint adapters may be welded to fitting ends; dimension and cut the groove of the adapter in accordance with the coupling manufacturer's recommendations; materials and inside diameter to be the same as the pipe; grind the interior weld smooth and meet the lining manufacturer's recommendations.

.3 Provide butt welding fittings in steel pipelines less than 75 mm of the same class as the pipe, conforming to ASTM A403 and ANSI B16.11. Provide socket welding fittings in steel pipelines less than 75 mm to Cl. 3000, same material as the pipe, and ANSI B16.11. Fabricate fittings in steel pipelines equal to or greater than 75 mm in diameter using similar materials and classes as the pipe and conform to ASTM A774.

.4 Provide eccentric reducers in horizontal lines with the flat side on top, unless shown otherwise on the drawings.

.5 Provide concentric reducers in vertical lines unless indicated

otherwise.

.6 Provide long radius elbows unless otherwise shown on the drawings. Provide smooth flow carbon or stainless steel elbows 350 mm and less, to ANSI B16.9. Provide mitred elbows greater than 350 mm, to AWWA C208 unless otherwise shown or specified. Use 3-piece construction unless otherwise shown or specified.

2.7 Grooved Joint Couplings

.1 Couplings:

.1 Couplings used on above ground standard wall steel pipe, thin walled steel pipe, standard wall stainless steel pipe and PVC pipe shall be Victaulic couplings.
.2 Use Victaulic coupling for maximum working pressures in accordance with manufacturer's recommendations
.3 For rigid connections in water or wastewater piping use:
.1 Victaulic Style 07 and Style W07, ductile iron coupling with a fusion bonded epoxy coating (safety blue) direct from manufacturer.
.2 Victaulic Style 89 and Style W89, ductile iron coupling with a fusion bonded epoxy coating (safety blue) direct from manufacturer.
.3 Victaulic Style 489, 316 stainless steel couplings for submerged or for corrosive conditions.
.4 For flexible couplings allowing for expansion, contraction and deflection use:
.1 Victaulic Style 77 and Style W77, ductile iron coupling with a fusion bonded epoxy coating (safety blue) direct from manufacturer.
.2 Victaulic Style 77S, 316L stainless steel coupling for submerged or for corrosive conditions
.3 Victaulic Style 475, 316L stainless steel coupling for submerged or for corrosive conditions.
.5 Coupling gaskets:
.1 Grade E "EDPM" Standard type for water from -34°C to +110°C
.2 Grade E "EDPM" FlushSeal type, suitable for vacuum service
.3 Bolts and nuts – Stainless steel
.6 Coupling Materials:
.1 Ductile iron to ASTM A536 for normal conditions
.2 316 stainless steel as specified for submerged or corrosive conditions.

.2 Victaulic Fittings

.1 Steel to ASTM A106 Grade B – segmentally welded
.2 Ductile Iron to ASTM A536
.3 ASTM A403 Type 304 or 316 stainless steel

.3 Victaulic Flanges

.1 Victaulic Style 741 and Style W741, ductile iron flange adapter, for steel piping systems

.7 Victaulic flange adapters shall not be used on stainless steel piping systems.

.4 Victaulic Grooves

.1 Steel Pipe, shall be roll grooved using standard grooving rolls to Victaulic specifications, or cut grooved where piping thicknesses allow to Victaulic specifications.
.2 Light Wall Stainless Steel Pipe, schedule 5S and 10S, shall be roll grooved to Victaulic specifications using "RX" roles.
.3 Standard Wall Stainless Steel Pipe, greater than schedule 10S, shall be roll grooved using standard grooving rolls to Victaulic specifications, or cut grooved where piping thicknesses allow to Victaulic specifications. Standard grooving rolls or cut grooving tools shall be dedicated for the use on stainless steel pipe or be thoroughly cleaned to prevent groove contamination and corrosion.

.5 Where any standard referenced has been superseded prior to bidding, the Contractor shall comply with the new standard.

2.8 Flanges

.1 Welded flanges shall be Class 150 weld-neck or slip-on type with continuous weld as shown on drawings.

.1 Steel pipe flanges for steel fittings shall be forged carbon steel to ASTM A181, Grade II, Class 150.
.2 Stainless steel flanges shall be to ASTM A182 and 316L material and welded to pipe inside and outside.

.2 General requirements for flanges are as follows:

.1 Compatible flanges for mating to equipment or valves.
.2 Provide flat-faced flanges on each side of butterfly valves.
.3 Provide weld neck flanges on both sides of wafer or lug body valves.

2.9 Threaded Couplings

.1 Make screwed joints using American Standard threads to ANSI B1.20.1.

.2 Use Teflon tape as thread lubricant for threaded joints.

.3 Conform to ASTM A182 or ASTM A276, Class 150, for threaded connections to stainless steel pipe, threadolets to be shop welded to the pipe at the locations specified.

.4 Provide threaded-end to flanged-end adaptors where required to connect to flanges.

2.10 Bolts and Nuts

.1 General

.1 Provide hex head bolts and nuts. Threads to be ANSI B1.20.1, standard coarse thread series.

.2 Provide hex nuts equal to or less than 25 mm. Greater than 25 mm, provide heavy hex.
.3 Provide a washer for each nut and bolt head. Washer shall be of the same material as the nut.
.4 Cut and finish flange bolts to project a maximum of 8 mm beyond outside face of nut after assembly.
.5 Stainless steel bolts and nuts to be installed with anti-seize lubricant.

.2 Bolts and nuts for flanges shall be Type 316 stainless steel in accordance with ASTM A 193, Grade B8M for bolts and in accordance with ASTM A 194, Grade 8M for nuts.

2.11 Conventional Flange Gaskets

.1 Conventional flange gaskets shall be die-cut and material shall consist of aramid fibers in a nitrile elastomeric binder with a minimum continuous temperature rating of 200°C.

.2 Thickness shall be 1.6 mm (1/16") for flanges up to 600 mm, 3.2 mm (1/8") for larger flanges.

.3 Shall be Garlock Multi-Swell 3760 as available from Custom Gaskets (604-263-1426).

2.12 Pipe Supports

.1 Contractor is to design, supply and install all pipe supports and anchors. Piping drawings to be signed and sealed by a Professional Engineer registered in British Columbia to meet all applicable building and seismic codes.

Miscellaneous pipe support steel shall be galvanized unless otherwise shown on the drawings.

2.13 Dissimilar Metal Connections

.1 Provide pipe flanges with electrical insulating materials (insulating flange kits) at locations indicated on Drawings and where dissimilar metals are to be connected to provide electrical isolation of valves and specified sections of pipeline from other sections.

.2 Install insulating flange kit materials in strict accordance with manufacturer's instructions and recommendations;
.1 Align pipe flanges for installation of bolts, flange gasket, insulating sleeves and washers, and metallic washers and nuts.
.2 Use lubricant or anti-seizing compound, as recommended by insulating flange kit manufacturer, on bolt and nut threads to provide proper engagement and facing of parts.
.3 Install bolts and associated parts finger-tight in sequence as outlined in manufacturer's installation instructions.
.4 After installation is completed, torque nuts in proper sequence as directed by manufacturer's installation instructions.

.3 Following completed installation of each insulating flange kit, conduct electrical resistance testing to ensure that all flange

insulation components have been properly installed and proper electrical insulation has been achieved.

.1 Measure electrical resistance across each individual bolt in flange, in accordance with NACE Standard RP0286.
  .1 Accomplish testing in presence of Contract Administrator.
  .2 Accomplish testing with a Model 601 insulation tester acceptable to the Contract Administrator.
.2 Remove and replace any defective insulating parts with new parts:
  .1 Following removal and replacement of defective parts, repeat resistance tests on all flange bolts
.3 The section shall not be backfilled until all flange kits pass testing.

2.14 Mechanical Type Wall and Floor Seals

.1 Where indicated on drawings, piping passing through floors and walls to the building exterior or water holding structures shall have a metal sleeve shall first be cast into the floor during construction. This shall have an integral formed waterstop that is a minimum of 50 mm larger than the outer diameter of the sleeve itself. Sleeve shall be Link-Seal Model WS.

.2 After insertion and final assembly of piping, the opening between the sleeve and the pipe itself shall be sealed by utilizing insertable elastomeric links, bolt compressed to expand. Links shall be of EPDM with reinforced nylon compression plates and stainless steel fasteners. Link assemblies shall be Link-Seal Model LS-XXX-S-316.

2.15 Structural Element Penetrations

.1 Structural element penetrations are shown and referenced to a detail or Process/Mechanical Standard Details. Where a structural element penetration is not referenced, conform to the Standard Detail relevant to the type of structure, exposure and type of pipe.

.2 Provide pipe sleeves capable of supporting the loads applied during placement of concrete or during blockwork erection.

.3 Supply and discharge wall penetrations to be pipe spools with welded thrust rings that are to be cast into the building structure. Thrust rings are to be sized by AWWA M11.

.4 Wall or floor penetrations into submerged areas, under slab areas, and where shown with a 6 mm thick water stop flange at least 50 mm larger than the pipe or pipe sleeve outside diameter (o.d.). Continuously weld the water stop flange, both sides, onto the pipe or pipe sleeve. Fill annular space between the sleeve and pipe, where a sleeve is used, with non-shrink grout in accordance with Section 03600. Form reglets between the grout and the concrete and between the grout and the pipe, on "wet" sides of the wall penetration. Fill reglet with sealant.

3.0 EXECUTION

3.1 Preparation

.1 Prior to installation, inspect and field measure to ensure that previous work is not prejudicial to the proper installation of piping.

.2 Make all minor modifications to suit installed equipment and structural element locations and elevations.

.3 Piping arrangements indicated on the drawings have been established on the basis of the "Design Standard" listed in the specific process equipment sections. If the equipment to be provided is not the Design Standard, at no additional expense to the District, modify the piping arrangement as necessary.

.4 Advise the Contract Administrator of all modifications. Do not commence work on the related piping until all modifications have been reviewed by the Contract Administrator.

.5 Include any piping modifications in the shop drawings submitted prior to fabrication or installation.

3.2 Pipe Handling

.1 Inspect each pipe and fitting prior to installation. Do not install damaged pipe or pipe with damaged protective coatings.

.2 Remove all foreign matter from inside of pipe prior to installation.

.3 Repair pipe with damaged protective coatings with material similar to the original in accordance with the

.4 Damaged glass lining cannot be repaired. Damaged pipe must be replaced.

.5 Use proper implements, tools, and facilities for the proper protection of the pipe. Exercise care in the installation so as to avoid damage to pipe or coatings.

3.3 Piping Installation - General

.1 The types and sizes of pipes to be used shall be as specified and shown. Where sizes of small pipe are omitted from the drawings and not mentioned in the specifications, the sizes to be used shall be determined by the Contract Administrator.

.2 All pipe shall be carefully placed and supported at the proper lines and grades, and where possible shall be sloped to permit complete drainage. Piping runs shown on the drawings shall be followed as closely as possible, except for minor adjustments to avoid architectural and structural features. If major relocations are requested, they shall be submitted to the Contract Administrator

for approval.

.3 In erecting the pipe a sufficient number of screwed unions, flanged or grooved end type joints shall be used to allow any section or run of pipe to be disconnected without interfering with, or removal or adjacent pipe runs. Flanged, grooved end type, and mechanical pipe coupling joints shall be employed on pipelines 75 mm in diameter and larger.

.4 Provide the required number of take-down fittings, along straight runs of pipe.

.5 Provide take-down fittings, after every second bend or fitting.

.6 Provide take-down fittings to allow for the removal of valves, strainers, equipment, in-line instrumentation, and all other appurtenances along the piping rows.

.7 Provide take-down fittings where-ever a pipe passes through a concrete or masonry wall.

3.4 Installation of Pipe Underground/Buried And Below Structures

.1 Refer to the drawings and Part 1.

.2 Trenching and backfill for buried pipe: conform to Section 31 23 01.

.3 Unless otherwise shown, protect pipe laid below structures with a concrete surround having a minimum coverage of 100 mm all around the pipe and extend concrete surround to undisturbed ground.

.1 Install pipe in straight alignment. Do not exceed 10 mm variance from the true alignment in any direction.

.2 Ensure the pipe alignment stays true during and after placement of concrete surround.

.3 Ensure that the method used to prevent pipe uplift during placement of concrete surround results in a level invert and crown.

.4 Maintain pipe circular cross section.

.4 Provide lean concrete to within 150 mm of the underside of the slab or footing for backfill over pipe laid below structures, except as detailed otherwise.

.5 Place concrete in accordance with Section 03 30 53.

.6 Apply petrolatum-based tapewrap system on all fittings and flanged, grooved, plain end and welded joints underground and

below structures.

.7 Use anti-seize compound with all stainless-steel nuts and bolts.

3.5 Interior Installation

.1 Make adequate provision in piping and pipe support systems for expansion, contraction, slope, and anchorage.

.2 Install a pipe support system to adequately secure the pipe and to prevent undue vibration, sag or stress.

.3 Install expansion joints where shown and at other locations as necessary to allow for piping expansion and contraction.

.4 Provide temporary supports as necessary during construction to prevent overstressing of equipment, valves or pipe.

.5 Accurately cut all piping for fabrication to field measurements.

.6 Install pipes in straight alignment. Do not exceed 10 mm in 10-meter variance from the true alignment, in any direction. Fabricate and assemble pipe runs so that the pipework is not stressed to achieve the desired alignment and that no stresses are transferred to equipment or equipment flanges. The "springing" of pipework to ensure alignment is not permitted. Undo and subsequently remake all pipework connections where so instructed by the Contract Administrator to ensure that springing does not occur. Take care not to damage equipment, valves or flanges.

.7 Slope instrument air piping condensate traps. Provide condensate traps as recommended by the manufacturer of the instrument air compressor.

.8 Do not cut or weaken the building structure to facilitate installation.

.9 In parallel pipe runs, offset flanges and/or grooved joint fittings by a minimum of 200 mm.

.10 In vertical pipe runs of diameter greater than 250 mm, provide 200 mm long spool piece on lower side of each valve.

Manual air vents shall be installed at the high points of all pipelines carrying water of any service class which cannot be vented through vent cocks provided with equipment. Manual air vents for liquid pipelines 65 mm and larger shall consist of a 12 mm valve and for smaller piping shall be 6 mm size consisting of an acceptable

bronze cock and short copper tubing return.

All exposed liquid lines 100 mm and larger shall be provided with a half coupling, nipple and valve drain on the bottom of the pipe. This drain connection shall be provided at all low points and where shown on the drawings.

3.6 Threaded Joints

.1 Conform to the requirement of ANSI B31.1.

.2 Ream the end of all pipes to remove all burrs and cuttings when fabricating threaded joints.

.3 Clean out pipe and repair linings and coatings prior to joining.

.4 Apply Teflon tape to male threads and then apply Loctite Food Grade Anti-Seize Lubricant prior to joining pipe.

.5 Use both Teflon tape and Loctite Food Grade Anti-Seize Lubricant on stainless steel pipe threads. Do not use extra tape to make up for slack in the joint.

3.7 Flanged Joints

.1 Clean flanges and gaskets prior to connection.

.2 Lubricate gaskets with soapy water and apply anti-seize compound to the bolts.

.3 Bring flanges into close parallel and lateral alignment.

.4 Tighten bolts according to ASME PCC-1.

.5 Bolt length shall be such that after the joints are made up the bolts shall protrude at least two threads past the nut, but not more than 12 mm.

.6 Washers are to be used on each side of bolted flange connections.

.7 Washers may not be used to take up excess bolt length.

.8 When joining steel to cast iron flanges, take care to avoid damage to the cast iron flange. Ensure both flanges are flat-faced and use full face gaskets.

.9 Align flanges which connect piping to mechanical equipment to close parallel and lateral alignment prior to tightening bolts. Do not place undue strain on the equipment.

.10 Allow a minimum of 150 mm to face or 200 mm to edge of flange from wall, floor or ceiling unless otherwise shown.

3.8 Grooved End Gaskets

.1 All grooved end gaskets shall be fully lubricated both inside and out with a manufacturer approved lubricant.

.2 Evidence of improper lubrication at any connection shall be grounds for requiring all joints to be disassembled and relubricated. Alternatively, approved dry lubricated gaskets may be utilized. VicPlus gasket system approved.

3.9 Rigid Grooved End Couplings

.1 The nuts of rigid type couplings shall be tightened to within manufacturer's specified torque range utilizing a torque wrench.

.2 Evidence of improper torque on any rigid coupling shall be grounds for requiring all rigid couplings to be disassembled and retorqued.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section Isolating valves shall be installed were indicated on drawings.

2.0 PRODUCTS

2.1 NRS Flanged Gate Valves

.1 Shall be NRS (Non-Rising Stem) resilient wedge gate type, meeting the requirements of AWWA C-509 or C-515.

.2 Bodies shall be of A536 ductile iron having a fusion bonded epoxy coating, conforming to AWWA C550, with Class 125 flanged ends and a minimum 1725 kPa (250 psig) working pressure rating.

.3 The wedge gate shall be cast or ductile iron with full resilient encapsulation. Screw shall be 300 series stainless steel and a stuffing box with dual o-rings shall be utilized.

.4 Handwheel shall be cast or ductile iron.

.5 NSF-61 approval for potable water is required.

.6 Mueller A-2362, Clow 2639, AVK 45/5X, AFC Series 2500, Terminal City 3500 approved.

2.2 Isolating Ball Valves

.1 Isolating ball valves shall be full port with 2-piece body, NBR o-rings, Teflon seats with FNPT ends, quarter turn lever handle and a minimum 2068 kPa (600 psig) working pressure rating.

.2 M.A. Stewart & Sons Ltd., NVC approved.

3.0 EXECUTION

.1 Not used

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section includes pilot-operated automatic valves, including pressure reducing valves, altitude valves, and their associated accessories.

1.2 Application

.1 Valve shall be installed as shown on drawings to maintain downstream pressure, in a pre-determined range.

.2 Pilot settings to be confirmed shall be confirmed by the Contract Administrator and set by the supplier prior to delivery of the valves.

2.0 PRODUCTS

2.1 Construction

.1 Pilot-operated automatic pressure reducing valve shall be provided with a cast ductile iron globe pattern body, Class 150 flanged ends, ductile iron cover, fusion bonded epoxy coating conforming to AWWA C550, 300 stainless steel stem, spring, seat, and retainer, plus a full-port seat nominally the same size as the valve end openings.

.2 Valves to have a pressure rating of 1724 kPa (250 psi).

.3 Valves shall be provided with an oxy-nitride coating (or Dura-Kleen) main valve stem to assure valve opening when required.

.4 Valve piloting shall include lever-operated isolating stainless steel ball valves at each body and cover tapping utilized, adjustable closing speed type pilot restrictor and an Arion J1521G type pilot supply strainer with transparent debris collection bowl, minimum 1200 kPa working pressure rating, 40 mesh, 300 series stainless steel element and fitted blow-off cock and 180° return tube.

.5 Pilot shall be of 300 series stainless steel with 300 stainless steel seamless tube and Parker (CPI 316) fittings.

.6 Valves shall include a check feature to prevent reverse flow.

.7 Each valve shall include a visual stem position indicator. Assembly shall be as furnished by the valve manufacturer.

.8 Where specified on the drawings, valve piloting shall additionally include an XP2F-X35 flow metering package complete with X56 mounting assembly, X117H magnetic position transmitter, X141 pressure transmitters and X35 flow calculation module, installed on standard side with reducing pilot system. The system is to be battery operated.

.9 Valve shall have certification for NSF/ANSI Standard 61 Drinking Water System Components.

.10 Cla-Val 94-01BCSVKX Pressure Reducing Valve available from Summit Valve and Controls Inc (778-285-7590), approved.

3.0 EXECUTION

3.1 Installation

.1 The Contractor shall confirm “right-hand” or “left-hand” piloting from Drawings. Piloting shall be away from walls.

.2 The City have a bespoke pilot schematic as shown in the drawings. The standard pilot schematic is not acceptable.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section applies to the supply and installation of water air valves and its associated appurtenances.

1.2 Reference Standards

.1 Conform to the following reference standards:

.1 NSF/ANSI 61 – Drinking Water System Components

2.0 PRODUCTS

2.1 Combination Air Valves - 50mm

.1 Combination automatic air valves shall be provided to relieve vacuum or air when line is filling or draining, and to relieve accumulated air when under pressure.

.2 Valves shall have ductile iron body and meet the requirements of AWWA C-512.

.3 Valves shall be suitable for potable water service and fitted with an inlet isolating ball valve and outlet 180 degree (°) return.

.4 Isolating valve and installation fittings shall be stainless steel.

.5 Inlet shall be 50 mm NPT, and minimum working pressure shall be 2070 kPa (300 psig).

.6 Valves shall be certified for NSF/ANSI 61 – Drinking Water System Components.

.7 Crispin UL series and Val-Matic 202C/DI approved.

3.0 EXECUTION

3.1 Testing

.1 After completion of installation, provide testing to demonstrate compliance with the requirements of these specifications.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section applies to the supply and installation of water treatment and distribution system valve accessories.

1.2 Reference Standards

.1 Conform to the following reference standards:
.1 NSF/ANSI 61 – Drinking Water System Components

2.0 PRODUCTS

2.1 Basket Strainer

.1 The basket strainer shall have a ductile iron body, a cover with Class 150 flanged ends, a minimum working pressure rating of 1725 kPa (250 psig), and fusion bonded epoxy coating. Cover fasteners shall be stainless steel.

.2 The internal strainer epoxy coating shall be certified for NSF/ANSI 61 – Drinking Water System Components.

.3 Strainers shall be 316 stainless steel with a 2000-micron mesh.

.4 A drain or blow-off connection shall be provided, c/w a stainless steel ball valve of equal size to strainer port.

.5 Cla-Val X43H as available from Summit Valve and Controls Inc. (604-422-6900), or Singer ZS as available from CB Process Instrumentation & Controls (604-690-6395), approved.

3.0 EXECUTION

3.1 Testing

.1 After completion of installation, provide testing to demonstrate compliance with the requirements of these specifications.

END OF SECTION

1.0 GENERAL

1.1 Preparation and Coating of the Internal and External of Pipe

.1 Potable Immersed Applications or Internal of Potable Water Pipe

.1 Outside of submersible pumps .....
.2 Outside of pump bowl assembly
.3 Outside of all cast valve bodies
.4 Inside of pump head (if steel)
.5 Inside and outside of piping and fittings
.6 Inside and outside of pump inlet barrels
.7 Wall penetrations
.8 Inside of piping and fittings

.2 External of Non Buried/Exposed Sewage or Potable Water Pipe

.1 Outside of submersible pumps .....
.2 Outside of pump bowl assembly
.3 Outside of all cast valve bodies
.4 Inside of pump head (if steel)
.5 Inside and outside of piping and fittings
.6 Inside and outside of pump inlet barrels
.7 Wall penetrations
.8 Inside of piping and fittings

.3 External of Buried Sewage or Potable Water Pipe

.1 Outside of submersible pumps .....
.2 Outside of pump bowl assembly
.3 Outside of all cast valve bodies
.4 Inside of pump head (if steel)
.5 Inside and outside of piping and fittings
.6 Inside and outside of pump inlet barrels
.7 Wall penetrations
.8 Inside of piping and fittings

.4 All pipe internals and externals are to be prepared, coated and inspected/tested in accordance with the latest version of AWWA C210.

.5 Prior to abrasive blast cleaning, surfaces shall be inspected and if required cleaned according to SSPC-SP1 to remove oil, grease, or other foreign matter.

.6 Pipe surfaces shall be abrasive blast cleaned in accordance with:

.1 SSPC-SP10 for the internal and external of potable immersed, sewage immersed or buried pipe.
.9 SSPC-SP6 for the external of non-buried or exposed sewage or potable water pipe.

.7 The blast anchor pattern or profile depth shall be 2.0 mils to 4.0 mils.

.8 Coatings and Linings for the internal and external of potable immersed, sewage immersed or buried pipe to consist of the following:

.1 Two or more coats of the same two-part, chemically cured epoxy coating or a single coat of a chemically cured epoxy coating.
.2 Minimum thickness. Unless otherwise specified below or by the purchaser, the minimum DFT provided shall be at least 16 mils.

.9 Coatings and Linings for the external of non-buried or exposed sewage or potable water pipe shall be high durability (15+ year) rated and suitable for a classification C4 high corrosivity according to ISO Standard 12944. It is to consist of the following:

.1 Two or more coats of the same two-part, chemically cured epoxy coating or a single coat of a chemically cured epoxy coating.
.2 One final coat of acrylic polyurethane to provide gloss and colour retention.
.3 Minimum thickness. Unless otherwise specified below or by the purchaser, the minimum DFT provided shall be at least 16 mils.

.10 Any addition requirements or changes to the requirements of AWWA C210 shall be referenced below where required for the specific application. Only products referenced below shall be used.

2.0 PRODUCTS

2.1 Potable Immersed Applications or Internal of Potable Water Pipe

.1 In addition to the requirements AWWA C210, all products shall be applied to meet the latest ANSI/NSF 61 listing.

.2 Immediately following surface preparation spray apply one of the following:

.1 Two coats of Epoxy:
i. Bar Rust 233H or Interseal 670HS, as available from International Paint; or
ii. NSP-120, as available from Cloverdale Paint.

.3 Coatings are to be “white” colour.

.4 The Total DFT of the applied coatings system shall be a minimum 16 mils.

2.2 External of Non Buried/Exposed Sewage or Potable Water Pipe

.1 Immediately following surface preparation spray apply one of the following one or two layer coating products:

.1 Two coats of Epoxy:

i. Bar Rust 233H or Bar Rust 236 or Interseal 670HS, as available from International Paint; or
ii. Clova Mastic 83110 or Jotamastic 87 or Tankguard 550, as available from Cloverdale Paint.
iii. Prime coat to be White or Grey and Finish Coat to be "safety blue" colour.

.2 One coat of Epoxy:
i. Interzone 954, as available from International Paint; or
ii. NSP120 as available from Cloverdale Paint
iii. Coating to be "safety blue" colour.

.2 Immediately following epoxy application, spray apply one of the following to provide gloss and colour retention:

.3 One coat of Acrylic Polyurethane:
i. Devthane 379UVA / Interthane 990 (990HS used for field touch up), as available from International Paint; or
ii. Armour Shield 837 or 839 or Hardtop Flexi for UV protection as available from Cloverdale Paint.

2.4 External of Buried Sewage or Potable Water Pipe

.1 Immediately following surface preparation spray apply one of the following:

.1 Two coats of Epoxy:
i. Bar Rust 233H or Bar Rust 236 or Interseal 670HS as available from International Paint; or
ii. Clova Mastic 83110 or Jotamastic 87 or Tankguard 550 as available from Cloverdale Paint.
iii. Prime coating is to be "tan" colour and final coating to be "safety blue" colour.

.2 One coat of Epoxy
i. Bar Rust 234P or Interzone 954 as available from International Paint; or
ii. Cloverdale/NSP120 as available from Cloverdale Paint.
iii. Coating to be "safety blue" colour.

3.0 EXECUTION

3.1 Application Quality

.1 The Contractor shall be responsible for self-inspection of the coating systems as outlined, but subject to independent inspection at all times.

.2 The Contractor shall employ a NACE certified coating inspector, acceptable to the Engineer, to inspect the work and provide written progress reports and digital photographs.

.3 Inspection shall be conducted immediately after surface preparation as well as each coating step.

.4 Only an approved applicator shall be utilized for surface preparation

and coating systems. Approved applicators are:

.1	Dynacor Coatings 2004 Ltd.	(604) 946-0136
.2	Seaside Painters & Sandblasters Inc.	(604) 583-6758
.3	Mainland Painting	(604) 589-7949
.4	CorrCoat Services	(604) 881-1268
.5	Certified Coating Services (CCS)	(604) 255-1001
.6	Clara Industrial Services	(604) 882-8608
.7	Midvalley Sandblasting	(250) 766-1323

3.2 Caution Areas

.1 Grooved end piping and fittings for use with Victaulic couplings and flange adapters shall be coated for immersed service internally as well as on the gasket seating surface and in each groove at the end of the pipe or fitting. Coating applied to the gasket seating surface and within the groove on pipe and fitting exteriors shall not exceed 0.25 mm (0.010 inches), or as recommended by the manufacturer

.2 Flexible rubber jacketed cables, liquid tight flexible conduit, nameplates, aluminum and stainless steel components and valve internals shall not be painted.

3.3 Field Touch Up Procedures

.1 Damage to shop applied coatings occurring in storage, erection or installation shall be repaired to standards equal to the project specifications.

.2 Immediately prior to repairing damaged or unpainted surfaces, and before the specified surface preparation is carried out, all grease, oil, dirt, and foreign matter shall be removed as per SSPC SP1.

.3 Edges of sound remaining coating on the surface shall be feathered by sanding/grinding prior to painting.

.4 Gloss paint surfaces shall be sanded or abraded to provide a bond for successive coats.

.5 The minimum coating requirements for spot coating repairs shall be as follows:

.1 No corrosion, primer exposed:
   i. Apply one or more finish coats to restore specified film thickness.

.2 No corrosion, primer damaged:
   i. Clean area to substrate and reapply the specified system

.3 Rusted areas:
   i. After cleaning to the original standard of surface cleanliness, reapply specified system

.4 All areas to be repaired shall be inspected by the coating inspector before, during and after such repairs to confirm compliance with the foregoing and /or the project specifications.

END OF SECTION

1.0 GENERAL

1.1 Description

.1 This section includes the supply and installation of pressure gauges and associated accessories for monitoring system pressures

1.2 Reference Standards

.1 Conform to the following standards:

.1 NSF/ANSI 61 – Drinking Water System Components – Health Effects

.2 NSF/ANSI 372 – Drinking Water System Components – Lead Content

2.0 PRODUCTS

2.1 Pressure Gauges

.1 Each gauge connection shall be provided with a 15 mm isolating ball valve.

.2 A piston and rod-type snubber, Ray Model 060B approved, shall be mounted on the gauge connection. The small rod shall be inserted into the snubber.

.3 Gauges shall have a minimum 100 mm dial, stainless steel case, brass internals, liquid filled, 6 mm MNPT bottom connection of stainless steel or brass, and dual-scale readings in kPa and psi.

.4 Gauge range shall be selected such that the system normal operating pressure is approximately 50 percent of the full-scale reading. Gauge range shall be selected to ensure the maximum operating system pressure does not exceed the full-scale reading. Gauge spans shall be confirmed with the Contract Administrator prior to ordering.

. .5 Isolating valve and installation fittings shall be stainless steel. Hex nipples, not close type, shall be utilized.

.6 USG 656-6C, ENFM 7211, WIKA 213.53, Winters LF, NuovaFima 18/3-A4, approved.

3.0 EXECUTION

3.1 Testing

.1 After completion of installation, provide testing to demonstrate compliance with the requirements of these specifications.

3.2 Certifications

.1 Provide calibration certificates for all pressure gauges.

END OF SECTION

Appendix A -

Traffic Management Detail Specifications

1.0 GENERAL

.1 This Traffic Management detail specification refers to the Contractor's specific plans to identify project traffic risks affecting the *Work*, provide Traffic Control Plans, and to implement the traffic control for the safe passage of vehicles and pedestrian through the work zone.

1.1 Related Works

.1 Traffic Regulation MMCD Section 01 55 00S.

1.2 References

.1 WorkSafe BC, Occupational Health and Safety (OHS) Regulation, Section 18 – Traffic Control.

.2 B.C. Ministry of Transportation (MOT) Traffic Control Manual for Work on Roadways.

1.3 Project Requirements

.1 A Road and Sidewalk Closure Permit is required by Coquitlam for all work affecting traffic flow related to construction. A permit is required for each specific construction interference with traffic flow. A digital copy of the Road and Sidewalk Closure Permit form can be obtained for use during the contract from the City's website at www.coquitlam.ca/closure.

.2 A Road and Sidewalk Closure Permit form application must be submitted to the City's Traffic Operation Division 10 working days prior to start of work.

1.4 Measurement and Payment

.1 For this Contract, payment for all work performed under this section, unless included in the Schedule of Quantities and Prices shall be treated as incidental work, including a Traffic Management Plan (TMP), Traffic Control Persons (TMP), traffic markings & all temporary traffic signs, devices as required for traffic & pedestrian safety; and all other items described in the Section 01 55 00S.

2.0 PRODUCTS

2.1 Traffic Management Plan

.1 The Contractor is required to assign a Traffic Manager for the Contract with the responsibility of preparing the Traffic Management Plan and the Traffic Control Plans, as well as the responsibility for continuing implementation of traffic control for the Work.

.2 The Traffic Management Plan (TMP) will consist of the following components:

.1 Category identification through risks and project category assessment as per MOTI Traffic Management Manual for Work on Roadways;

.2 Traffic Control Plans for individual stages of the construction;

.3 Incident Management Plan for the response to an unplanned event and recording of incident information;

.4 Category 3 TMP must be signed and sealed by a qualified Professional Engineer.

.3 Submission of the TMP is to be made to the *Contract Administrator* within five (5) days of the *Notice of Award* of the *Contract*, and must be approved by the *Contract Administrator* prior to start of the *Work*.

.4 Review of the TMP will be performed by the Contract Administrator. Comments for revisions to the TMP will be returned to the *Traffic Manager* for implementations.

.5 The Contractor shall comply with all the requirements of applicable laws, rules, regulations, codes and orders of the municipal and other appropriate authorities concerned with work on streets or highways and shall post proper notices and/or signals, and provide necessary barriers, guards, lights, flagmen or watchmen as may be necessary for proper maintenance of traffic and protection of persons and property from injury or damage. All costs involved in respect to the above requirements will be deemed to be included in the Contract Price.

.6 The Contractor shall give due notice to local police and fire departments prior to beginning construction and shall comply in all respects with their requirements.

.7 The Contractor, during the progress of the work, shall make adequate provision to accommodate the normal traffic along streets and highways immediately adjacent to or crossing the work so as to cause the minimum of inconvenience to the general public.

.8 The Contractor is required to maintain local traffic and driveway access during all stages of construction. This includes maintaining a 1.5m width walkway or pathway through the construction site for pedestrians.

.9 Where existing streets or roads are not available as detours, all traffic shall be permitted to pass through the work with as little inconvenience and delay as possible unless otherwise provided or authorized by the Contract Administrator. If half the street

only is under improvement, the other half shall be conditioned and maintained as detour.

2.2 Incident Management and Reporting

.1 The Contractor shall facilitate incident response vehicles and staff and move traffic safely and expeditiously through or around an incident on site and provide assistance to emergency response personnel as required. An incident includes, but is not limited to, motor vehicle accidents, emergency road repairs, disabled vehicles, and debris on the road. The immediate response to an emergency shall by necessity make use of available devices and equipment.

.2 If an incident occurs on site, the Contractor will be required to submit a report to the Contract Administrator documenting details of the incident including event, location, date, time, action taken, duration and restoration of site.

2.3 Traffic Control Plans

.1 The Contractor shall designate a qualified Traffic Control Supervisor for the works, per the requirements of WCB regulations Section 18.

The designated Traffic Control Supervisor may be the same individual that is designated as the Traffic Manager, or may be a separate individual qualified for the responsibilities of this function.

.2 The Contractor shall prepare weekly the anticipated traffic control activities, locations, and durations for the upcoming week.

.3 Permissible delays shall only be considered outside Peak Hours. Permissible delays are categorized as follows:

a) Minor Delays - Less than two (2) minutes in duration; for occasional interruption due to construction activities. These delays shall be coordinated with available breaks in the traffic flow.

b) Major Delays - Maximum five (5) minutes in duration; for occasional interruption of traffic for construction activities if traffic volumes permit. These delays shall be coordinated with available breaks in the traffic flow.

.4 The Contractor is responsible for ensuring that the flow of traffic is unimpeded by construction-related activities.

3.0 EXECUTION

3.1	Traffic Control Plan	.1 A copy of the approved <u>current</u> Traffic Plan must be held on site by both the Site Superintendent as well as the person/company responsible for the traffic control implementation.
		.2 Failure to produce a valid approved Traffic Plan on site, or having work not follow the Traffic Control Plan will result in immediate shut-down of the work. The Contractor will be required to safely restore facility conditions to allow traffic flow at their expense. The Contractor must take all steps to acquire an approved Traffic Control Plan before work can re-start on site. No claim will be accepted by the Owner for costs associated with this work shut-down.
3.2	Road and Sidewalk Closure Permits	.1 The Contractor must have, on-site, a copy of an approved Road and Sidewalk Closure Permit valid for the work being done. Failure to produce a valid Road and Sidewalk Closure Permit on-site will result in shut-down of the work. Failure to comply on what is stated on the approved permit will result in shut-down of the work. The Contractor will be required to safely restore facility conditions to allow traffic flow at their expense. The Contractor must take all steps to acquire a Road and Sidewalk Closure Permit before work can re-start on site. No claim will be accepted by the Owner for costs associated with this work shut-down.
3.3	Traffic Control Personnel & Equipment	.1 The Contractor shall supply all necessary traffic control devices required to perform traffic control services for the project. Signs and traffic control devices not applying to existing conditions shall be removed. Where operations are carried out in stages, only those traffic control devices that apply to the current stage are to be left in place.
		.2 There must be sufficient Traffic Control Persons (TCPs) on site to appropriately and safely direct traffic in all sections of the Work.
3.4	Signage	.1 Supply, installation, maintenance and removal of all works-related signs shall be the responsibility of the Contractor. The location and type of each sign shall be indicated on the approved Traffic Control Plan, for each stage of the works.

Traffic control signs and devices must be positioned and used as specified in the Traffic Control Plan and signs and devices must be located so as to allow traffic to move by or through the work area in a controlled manner and, if necessary, to come to a controlled stop with due regard for the prevailing weather and road conditions.

Signs shall be checked daily for legibility, damage, suitability and location. Signs and delineators shall be cleaned as frequently as necessary to ensure full legibility and reflectance.

3.5	Detours	.1	Any proposed detours must be approved by the Contract Administrator and conducted in accordance with the approved Traffic Plan and the Traffic Control Manual for Work on Roadways.
3.6	Abrupt Changes in Surface Elevations	.1	The Contractor shall minimize any abrupt changes in roadway elevation left exposed to traffic during both working and non-working hours. A wedge of asphalt must be used as a transition to vertical differences in travelled areas and have a slope of 4:1 or less.
3.7	Cyclist and Pedestrian Access	.1	The Contractor shall make provision for pedestrians, wheel chairs and bicycles to have safe access across the work zone at all times. If this cannot be readily accommodated, then acceptable detours and appropriate signs shall be provided.
3.8	Temporary Pavement Markings	.1	The Contractor shall be responsible for the application and removal of all temporary pavement markings and reflective devices. All temporary markings must be removed after installation of permanent markings.

4.0 TRAFFIC RESTRICTIONS

4.1	Road and Sidewalk Closure Permits	.1	Minimum of Single Lane Traffic in each direction and all local traffic must be accommodated at all times. Detours and full road closure (with Local Traffic Only) will only be allowed during placement of asphalt paving.
		.2	A City of Coquitlam Road and Sidewalk Closure Permit is required for each instance of closure and will be valid for a maximum period of one (1) week and, if still necessary, re-submittal of a Road and Sidewalk Closure Request is required.

A copy of the approved Road and Sidewalk Closure and Lane Closure Permit must be held on site by both the Site Superintendent and the person/company responsible for the traffic control implementation.

.3 **Total Road Closure is Not Permitted**

.4 Detours will only be permitted as approved by the Contract Administrator and must have a complete Traffic Control Plan indicating detour route, signing, and duration. Detours will not be allowed without sufficient lead time for commercial and retail operation to react appropriately to detour information provided to them.

4.2 Lane Closure Restrictions

.1 **For each of the road sections affected:**

- Road and Sidewalk Closures will be reviewed for appropriateness during the allowable hours of work.
- Access to properties to be maintained
- Sufficient Traffic Control Persons are required for each Road and Sidewalk Closure (or any work activities), including side street intersections, to safely guide traffic through the work site.

5.0 HOURS OF WORK

.1 **The hours of work shall be from 0700h to 1900h inclusive Monday to Friday. Written permission from the Contract Administrator must be obtained 48 hours prior to any Saturday work. No Saturday work is to occur without the Contract Administrator's permission.**

.2 Some allowances may be made for paving operations, depending on a proposal acceptable to the Contract Administrator.

.3 Line Marking work may be performed at night, (21:00 to 05:00).

No work is allowed on Sundays without specific written permission from Contract Administrator.

6.0 CONSTRUCTION OPERATIONS

6.1 Truck Routes

.1 The Contractor is restricted to the City's designated Truck Routes. The current Truck Route Map is available on the City's website at www.coquitlam.ca and can be found under Residents, Transit & Transportation, Trucking Routes.

6.2 Road Specific Considerations

.1 Ensure that Traffic Management Plan accommodates businesses and residences during construction activities.

.2 Contractor shall not schedule paving during garbage pick up day.

.3 Special care is required due to increased traffic and pedestrian activity, as Eagle Ridge Elementary School is located on Falcon Drive nearby—particularly during school pick-up and drop-off times..

6.3 Work Stoppage Due to Traffic

.1 The City will not control or direct traffic control activities of the Contractor, but may require an immediate stop to any work where, in the sole opinion of the Contract Administrator, the provided traffic management plan is ineffective or creating unreasonable delays.

6.4 Construction Activity and Signage

.1 The Contractor will be responsible to place other construction information signs as required to inform the public of construction activities, and ensure safe travel through the work site.

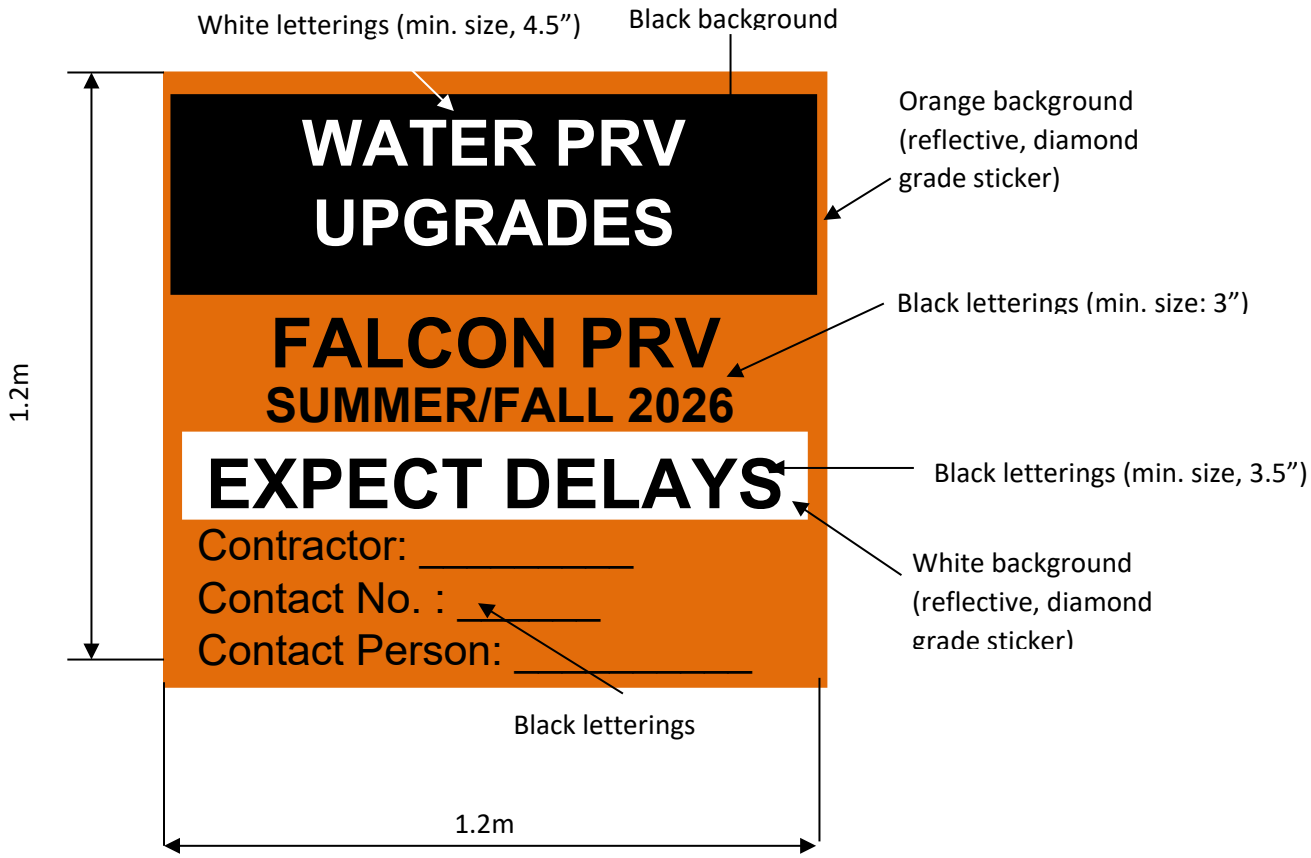
6.5 Construction Zone Information Signs

.1 The Contractor is required to provide, one week prior to start of work, stationary signs at intersections, one in each direction, to inform traffic of existing and anticipated conditions at entry points of the lane to be worked on, locations for these signs will be provided by the Contract Administrator. Signs to be re-used and transferred to the next location once lane is completed.

Ensure that signs and locations are addressed in the Traffic Management Plan. All signs are to be removed at the end of the construction period.

Exact locations to be determined on site by Contract Administrator.

Construction Zone Information Signs to follow specifications below:


White letterings (min. size, 4.5")
Black background
WATER PRV UPGRADES
Orange background (reflective, diamond grade sticker)
Black letterings (min. size: 3")
FALCON PRV
SUMMER/FALL 2026
EXPECT DELAYS
Black letterings (min. size, 3.5")
Contractor: _____
Contact No. : _____
Contact Person: _____
White background (reflective, diamond grade sticker)
Black letterings
1.2m
1.2m

APPENDIX 1

Coquitlam

City of Coquitlam
Road and Sidewalk Closure Permit Request

Traffic and Street Use Management Section
3000 Guildford Way, Coquitlam BC V3B 7N2
Phone: 604-927-6250 Email: StreetPermits@coquitlam.ca

~~**Initial Permit: $150** ☐ **Renewal Permit: $75** ☐~~

Application Date: _____ **City Project or Film Permit Number** (if applicable): **89120**

- An Initial Permit is required for all new applications and when the location, type of work, or the type of traffic controls change from what was approved for the Initial Permit. The application needs to be received a minimum of 10 business days prior to the intended closure date.
- A Renewal Permit extends the rights and privileges of the approved Initial Permit and is required when the timeline needs to be extended. The application must be received a minimum of 5 business days prior to the intended extension date.

Development Site Address (if applicable): _____

Work location (street name, block number, to/from, at, etc.) _____

Contact Information

Applicant Company Name: _____

Applicant (person completing application form)

Name: _____ **Title:** _____

Phone: _____ **Email:** _____

Applicant's Signature: _____

Company Name (Prime Contractor): _____

Site Superintendent

Name: _____ **Title:** _____

Phone: _____ **Mobile:** _____ **Email:** _____

Permit Information

Start Date: _____ **End Date:** _____

Day(s) and Time(s): ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday From: 00:00 To: 00:00
☐ Saturday From: 00:00 To: 00:00 ☐ Sunday From: 00:00 To: 00:00

Specific Lanes: ☐ Curb ☐ Inside/Centre Lane ☐ Left Turn Lane ☐ Right Turn Lane ☐ Parking Lane
☐ All Lanes ☐ Sidewalk/MUP ☐ Bicycle Lane

Direction: ☐ Northbound ☐ Southbound ☐ Westbound ☐ Eastbound

Purpose of Work: ☐ Concrete Pour ☐ Utility Installation ☐ Curb Installation ☐ Other _____

This permit is related to: ☐ City Design and Construction ☐ City Parks ☐ External Environmental
☐ Development ☐ External/Utilities

City Contact (if applicable): _____

Office Use Only

Permit Conditions/Comments:

_____

_____ _____

Approved by *Date*

Application Checklist

⚠ **The following information must be provided. Incomplete applications will not be reviewed.**

1. ☐ Traffic Management Plan (TMP); **OR**
   ☐ Traffic Management Manual for Work on Roadways Figure Number: _____
2. ☐ **Project Category Determination** (per 2020 Traffic Manual for Work or Roadways).
   ☐ Initial Project Category Assessment
   ☐ Project Risk Analysis
   ☐ Category 1 ☐ Category 2 ☐ Category 3
3. ☐ **Prime Contractor Designation Letter**
4. ☐ **City of Coquitlam Certificate of Insurance**
5. ☐ **Notification Letter and Map** (required for all full road closures). A Notification Letter must be provided to all affected residents and businesses.
   ☐ Yes ☐ No ☐ Not Applicable
6. ☐ **Traffic Control Persons** (flag persons) **required?** All operations within the road right-of-way must comply with WorkSafe BC regulations and BC Ministry of Transportation standards for work on roadways.
   ☐ Yes ☐ No If yes, how many? _____
7. ☐ **Bus routes/stops impacted?** Applicant is to contact Coast Mountain Bus Company (with a minimum of 3 days' notice) Temporary Transit Changes Request Form. General information can be found by visiting Temporary Transit Changes.
8. ☐ **City of Coquitlam Solid Waste has been contacted?** Coquitlam Environmental Services contacted regarding impact to garbage/recycling routes and pick up Phone: 604-927-4300 Email: wastereduction@coquitlam.ca
   ☐ Yes ☐ No
   Are operations impacted? ☐ Yes ☐ No
   If Yes:
   - a plan to ensure continuous collection has been provided: ☐ Yes ☐ No
   - Day(s) of the week impacted: _____
   - Time(s) of the day impacted: ☐ a.m. ☐ p.m.
9. ☐ **Pedestrian / Bike Lanes impacted?** Please describe sidewalks and/or bicycle facilities that will be impacted by the proposed work.

   _____

   _____
10. ☐ **Is the work on, or will it impact a road along our Major Road Network?**
    ☐ Yes ☐ No

Additional information

- Only vehicles actively engaged in the performance of cleaning, clearing, maintenance, repair, construction or other work are permitted within work zones. Vehicles being used by Superintendents, Traffic Control Persons, and other construction personnel that are not actively engaged in work described above are not permitted within the work zone and are not permitted parking /stopping prohibitions.
- Closures of sidewalks, cycling facilities, lanes, and full road closures are only permitted during the time periods indicated on the approved permit. Traffic controls are not permitted outside of these approved permit hours.

Appendix B -

Archaeological Chance Find Procedures

Archaeological Chance Find Procedures
City of Coquitlam

DRAFT 2

November 2021 (version 2)

BROWN & OAKES
ARCHAEOLOGY

Table of Contents

Introduction

This document is presented as an accompaniment to Kwikwetlem Cultural Heritage and Archaeology Chance Find Procedures training provided by Brown & Oakes Archaeology to City of Coquitlam (or the “City”) staff and contractors.

The Chance Find Procedure (CFP) is intended to provide City planners and onsite project personnel guidelines for the appropriate response to an unanticipated discovery of known or suspected archaeological or cultural heritage materials during City operations. A CFP is NOT a substitute for professional archaeological assessment of project areas considered to hold archaeological potential. Thorough archaeological assessment will always reduce project risk of harms to protected archaeological sites and minimize the potential for encountering unanticipated material. This CFP training is intended to promote the preservation and proper management of heritage resources that are unexpectedly encountered during City activities.

The document presents a summary of archaeology site protection legislation, steps to follow in the case of suspected or observed archaeological materials, a list of appropriate authorities to contact in the case of archaeological site encounters, and a guide to archaeological site and materials recognition. Information on Kwikwetlem culture history and connections to traditional lands is not presented in this document and this information is best shared via virtual or in-person presentations.

Purpose

The purpose of CFP documentation is to aid in the protection and proper management of archaeological materials encountered during City of Coquitlam activities. Many land-altering activities have the potential to expose and/or negatively impact undocumented archaeological materials.

The purpose of this document is to:

- Ensure project personnel are aware that undocumented archaeological sites are likely to be present in the City of Coquitlam.
- Promote awareness of activities that may lead to the exposure of archaeological materials, including excavations, vegetation clearing, field survey and inspections, and more.
- Provide personnel the appropriate steps to follow if suspected or observed archaeological resources are encountered during work or personal activities.
- Provide education and resources to assist recognition of archaeological site types and materials in the lower Fraser River region.

Archaeological Sites in British Columbia

Archaeological sites are places that exhibit physical evidence of past human activity. Archaeological sites in British Columbia are automatically protected under the *Heritage Conservation Act* (HCA) when located on provincial, crown, municipal, or private land[1]. The vast majority of archaeological sites in BC include places and belongings of Indigenous peoples. Some post-1846 sites related to newcomer history may also be registered and protected under the HCA if of significance to a place, industry, or region, for example. HCA protection is extended to ship and plane wrecks more than 2 years old.

Many First Nations consider the widely accepted definition of an archaeological site as a place featuring only the material remains of human activity too restrictive and instead advocate for the recognition and protection of a wider range of "cultural heritage" site types, including places of spiritual significance, named locales, known travel routes, and other places of cultural value.

The majority of the City of Coquitlam has not been surveyed for archaeological sites and it is reasonable to expect that many archaeological sites are buried and/or undetected. These sites are collectively referred to as undocumented archaeological sites.

HCA Legislation and Policies

Archaeological sites are automatically protected under the terms of the *Heritage Conservation Act* whether known or undocumented. Sites are protected whether previously disturbed by historic activities or intact. The HCA prohibits the alteration or disturbance of archaeological sites in whole or in part, on provincial public and private lands, whether impacts are intentional or inadvertent, and irrespective of previous land disturbance.

The HCA provides substantial penalties for the destruction or unauthorized disturbance of archaeological sites including imprisonment for up to two years and fines of up to $1,000,000.

Alterations to archaeological sites may proceed under appropriate HCA permits held by professional archaeologists following provincial assessment guidelines[2]. Work plans and methodologies related to archaeological site investigations must meet provincial regulatory standards and are expected to conform to participating First Nation cultural heritage policies and best-practice standards.

Archaeological materials on federally managed lands may be protected by other legislation and policies. Many federal agencies will adhere to the requirements outlined in the *HCA* when managing archaeological sites.

[1] http://www.for.gov.bc.ca/archaeology/index.htm.

[2] The HCA is administered by the Archaeology Branch, Ministry of Forests, Lands, Natural Resources and Rural Development.

First Nation Cultural Heritage Management

Many BC First Nations maintain cultural heritage policies and/or heritage permitting systems to assert oversight over Indigenous cultural heritage management and to ensure a high standard of archaeological practice. Contact should be made with locally affected Nations prior to any heritage study or project work with the potential to encounter cultural heritage materials to ensure adherence to Nation-preferred heritage protections, permits, and policy.

Potential to Encounter Archaeological Sites

Any project involving ground alterations has the potential to expose undocumented archaeological sites. Common forms of ground disturbances that have led to site discoveries include land grading, vegetation clearing/grubbing, excavation, asphalt/concrete removal, geotechnical drilling, access road or trail building, foundation demolition, heavy equipment movement, habitat planting, stream and pond channeling or dredging.

Other kinds of work activities where teams may encounter undocumented archaeological sites include field teams working in proximity to natural, undeveloped or minimally disturbed terrain. Teams involved in field surveys, field inspections, or inventories of natural ground and waterways, riparian areas, municipal parks and trails, forested areas, cut bank or erosion area, and so on may encounter exposed archaeological materials.

City workers or contractors engaged in any activity that may result in archaeological materials identification should be made aware of HCA site protection legislation and field supervisors properly versed CFP procedures.

Types of Archaeological Sites

The following site types are well-known across the lower Fraser River region and may be encountered in the City of Coquitlam. The following site types may contain a range of artifact types and sediment signatures.

- **Stone tool sites** containing isolated artifacts or accumulations of stone tool working debris.
- **Habitation sites** show accumulations of food remains, tools, and evidence such as hearths indicating short term and seasonal camps and settlements used for travel and resource procurement as well as large and permanent villages.
- **Surface features** such as cultural depressions created by former habitations, earthen fortifications, burial mounds, and rock cairns.
- **Wet sites** contain preserved organic materials like woven basketry or wood tools in addition to other cultural material; these sites form under special preservation conditions typically anaerobic water saturated sediments along waterways and floodplains.
- **Culturally Modified Trees (CMTs)** include bark stripped trees, planks, and territory markers.
- **Rock art** including pictographs (painted rock images) and petroglyphs (images carved or pecked into rockfaces or boulders).

Archaeological Chance Find Procedure

In the event of found or suspected archaeological material, follow the procedures outlined below.

STEP 1: WATCH for potential archaeological materials

- ⇨ Know that undocumented archaeological sites are expected throughout Coquitlam.
- ⇨ Know that archaeological materials are protected by law and must be reported.
- ⇨ If you believe you may have encountered archaeological materials (either intact or disturbed) follow the steps outlined below.

STEP 2: STOP work in proximity to the material

- ⇨ If known or suspected archaeological materials are encountered, STOP work in the immediate vicinity.
- ⇨ Do not disturb, move, relocate, or collect the material.

STEP 3: REPORT observed materials

- ⇨ Alert the site supervisor that suspected archaeological materials have been observed.
- ⇨ The site supervisor will ensure appropriate contact is made with City managers who will in turn reach out to archaeological professionals.

STEP 4: CONTACT archaeological professionals

- ⇨ Seek immediate advice from an archaeological professional.
- ⇨ Teams may be advised to protect the area with flagging or cones until the area can be assessed by the appropriate representative.
- ⇨ Teams may be requested to provide locational details or photographs of the material.

STEP 5: AWAIT advisement

- ⇨ Wait for instructions from the appropriate representative; do not begin ground disturbing work until cleared to do so.
- ⇨ Prepare and submit an incident report to ensure compliance with appropriate regulators and interest groups.

Archaeological Chance Find Procedure - Suspected Ancestral (Human) Remains

In the event of found or suspected human remains, follow the procedures outlined below*.

STEP 1: STOP all activity at the job site immediately, including the removal of backfill. Do not rebury the remains.

STEP 2: REPORT to the City Project Manager. The Project Manager will contact an archaeological professional and determine the appropriate course of action. In most cases, the archaeology professional will visit the site to determine if the materials are reasonably expected to be human and archaeological. If warranted, the consultant will notify the Archaeology Branch and the RCMP, the Office of the Coroner, and affected First Nations. The Coroner will affirm whether the remains are archaeological and not of forensic concern. The archaeologist will inform the Archaeology Branch and First Nations will be consulted to determine culturally appropriate handling protocols and subsequent project management options.

STEP 3: PROTECT the affected location with flagging or cones to prevent additional disturbance and for privacy. Do not photograph the material.

STEP 4: TREAT the remains with dignity and respect. Do not allow bystanders to take photographs or video.

STEP 5: AWAIT advisement.

* If it is reasonable to think the human remains are not archaeological but forensic in nature, an immediate call to the RCMP is required.

Management Options

If determined that an archaeological or cultural heritage site (intact or disturbed) is present, an archaeologist will coordinate communications with the City, local affected First Nations, and the Archaeology Branch to evaluate management options. Archaeology Branch and First Nations approval and additional permitting may be required prior to the implementation of management options.

Examples of potential management options are provided below. Options will vary based on site characteristics, proponent needs, and Archaeology Branch and First Nation requirements.

Option A: Site avoidance through project redesign or relocation. Site avoidance is always preferred. Avoidance minimizes impacts to irreplaceable archaeological sites and reduces cost and schedule impacts.

Option B: Systematic data recovery through controlled archaeological excavation or other method. Data recovery is destructive to archaeological sites and will entail consideration of costs and schedule coordination.

Option C: Monitoring of construction activities by a professional archaeological team. Monitoring is appropriate where project impacts cannot be evaluated before construction (due to impenetrable surfaces or underground facilities, for example) or where potential to encounter archaeological materials is present following impact assessment or systematic data recovery.

Best Practices for CFP Implementation

- A Chance Find Procedure is best applied as an outcome stemming from archaeological assessment – as a last step verification that archaeological materials have not been overlooked in project area assessments, or where there is a professional assessment that documents a low expectation for encountering archaeological materials in a work area.
- A Chance Find Procedure is not an acceptable replacement for a professional archaeological overview (AOA) or archaeological impact assessment (AIA) or a well-designed and implemented archaeological construction monitoring plan for many areas. Engagement with professional archaeological teams, affected First Nations, or the Archaeology Branch will assist in appropriate heritage study approaches.
- Chance Find Procedure training must be delivered by professional archaeologists and local area First Nations who wish to contribute to CFP presentations.
- Chance Find Procedures should be summarized regularly as part of job or project requirements, and CFP training repeated by the archaeological and First Nation team for new employees, project teams, and subcontractors.
- Chance Find Procedures do not supersede any requirements or policies pertaining to cultural heritage management by First Nations with interests in the area. Proponents are encouraged to seek input from interested First Nations on area-specific CFPs as part of any project engagement process.

Contact List

Archaeology Branch

Paula Thorogood	Planning and Assessment Manager	250-953-3300	Paula.Thorogood@gov.bc.ca
Nathan Friesen	Planning and Assessment Supervisor	250-953-3306	Nathan.P.Friesen@gov.bc.ca

City of Coquitlam

Main Reception		604-927-3000

Police and Coroner

RCMP (Non-emergency)	Coquitlam	604-945-1550
BC Coroners Service	Lower Mainland Region	604-660-7708

Area First Nations

Kwikwetlem First Nation	604-540-0680
Katzie First Nation	604-465-8961
Kwantlen Nation	604-888-2488
Musqueam Indian Band	604-263-3261
Stó:lō Nation	604-824-2420
Tsleil Waututh Nation	604-929-3454

Archaeological Site and Materials Identification

The following archaeological sites and artifacts are common to the lower Fraser River region. This guide is to assist in the recognition and protection of archaeological materials found by chance. If you identify any archaeological material, stop work immediately and contact a professional archaeologist.

Artifacts

Artifacts are objects made or modified by humans and may be formed of stone, bone, antler or wood. Bone, antler and wood tools were produced in abundance, but stone artifacts are the most common artifacts found in the lower Fraser region because of the preservation durability of stone. Bone and antler were fashioned into a variety of items, including needles, knives, points, jewelry, awls and scrapers. Wood was used to make implements like spoons and bowls, handles, ceremonial objects, canoes, houses, and much more.

Photo Credit: RBCM, Archaeology Collection. Antler and wood tools (https://learning.royalbcmuseam.bc.ca)

Stone tools common to this region include projectile points, knives, adzes (axes), scrapers, mauls (hammers), net weights, beads, and more. Archaeologists distinguish chipped stone from ground stone artifacts, each distinguished by the mode of manufacture, either flaking scars or grinding and polishing marks. Stone flakes or ‘debitage’ is produced during the process of making stone tools. These flakes were sometimes used as tools themselves or were left behind at the stone tool working site. Culturally produced debitage shows features distinctive from naturally broken rock, gravel or crush, but these signatures can be difficult to identify to an untrained eye. Stone artifacts were produced from dacite, quartzite, slate and nephrite as well as obsidian, chert, and other materials. Stone was acquired locally or transported or traded over long distances; high-quality materials like obsidian has been traced to locations from Prince Rupert to Oregon and beyond.

Artifacts may be found as isolated finds or in association with other cultural materials.

Photo Credit: B&OA, Chipped stone artifacts from Coquitlam Lake.

Photo Credit (left): B&OA, Nephrite ground stone adze from Port Coquitlam. Photo Credit (right): RBCM, Archaeology Collection. Ground stone hand mauls (https://learning.royalbcmuseam.bc.ca)

Photo Credit: B&OA, Stone tool debitage from BC Interior.

Beads

Beads were made from a variety of materials including stone, shell, bone and glass (in more recent times). Shell and stone disc beads were used in jewelry, regalia and in mortuary practices across the Northwest Coast. On the Lower Fraser it is most common to find stone beads at archaeological sites fashioned from mud or silt stone, slate, or other softer stone. At some burial sites, individuals of rank were laid to rest with thousands of stone and shell beads.

Photo Credit: B&OA, Ground stone beads from near Agassiz.

Indigenous Historical Artifacts

Indigenous use of European materials in the years following contact are often found in early historic sites. Ceramics, glass, and metal were valued for their strength, durability, ease of access, or aesthetic properties. Glass was worked using traditional stone tool techniques in the same way as obsidian (a natural volcanic glass). Clay pipes were adopted by Indigenous peoples who several centuries earlier had introduced the practice of tobacco smoking to European traders. Glass beads were used by European fur traders to trade with Indigenous peoples; trade beads were initially valued for their vibrant colour and the expectation of beads as a wealth item.

Photo Credit (left): B&OA, Worked glass and clay stone pipe, Coquitlam.

Photo Credit (middle): https://www.canadashistory.ca/explore/fur-trade/tobacco-pipes. Photo Credit: Oregon Museum of Natural and Cultural History, Glass trade beads (https://mnch.uoregon.edu/index.php/collections-galleries).

Hearths

Hearths are the remnants of fires identifiable by dense black charcoal, ash and heat oxidized sediments. While natural forest fires may also leave traces of burning, hearths tend to be more defined and frequently show concave bases, evidence of repeated use, and contain or are in proximity to burned bone, fire-altered rock, and artifacts.

Fire-Altered Rock

Fire-altered rock (FAR) is rock modified by repeated heating and cooling. Heating small, rounded river cobbles and immersing the hot stones in water filled baskets or boxes was a frequently used cooking technique called ‘stone boiling’. Heated stones were also used to warm clothing and bedding. The repeated heating and cooling of FAR created distinctive fracture and colour patterns that are easily distinguished from naturally broken rock. FAR shows irregular breakage patterns, is frequently deeply pitted, is often deep rust or black in colour, and may be found mixed in charcoal and ash laden sediments. As FAR is often found in abundance around settlement areas or near cooking features and hearths, it is a frequent first indicator of the presence of archaeological sites. Often mixed in FAR deposits are boiling stones—small, rounded pebbles that have not yet been fractured by thermal processes

Photo Credit: B&OA, Fire altered rock, Coquitlam.

Shell and Non-Shell Midden

Midden deposits are generally indicative of camp or village sites. Middens accumulate through the repeated, ongoing use of an area where food remnants or the debris of daily living build up in layers at a site over time. In coastal areas, shellfish provided an abundant food source and, middens contain abundant fragmented or whole shell typically embedded in dark, greasy, sediments rich in charcoal, ash, fire cracked rock, burnt materials, and artifacts. Because shell neutralizes the acidity in soil, shell middens enhance preservation of organic food remains and tools, and fish and mammal bone, wood, antler, and botanical remains are often well-preserved in shell midden sites.

Non-shell middens are accumulations of living materials formed at camps and settlements away from marine waterways. Non-shell midden shows layered deposits of dark sediments, ash, and sometimes sand and clay in sediments with little to no shell. These deposits rarely contain bone, antler, or wood remains due to poorer preservation environments.

In Coquitlam, non-shell middens are the more common site type but there are a few examples of inland shell midden sites associated with camps or settlements where shellfish was transported to locations by travel or trade.

Photo Credit (left): B&OA, Non-shell stratified midden Port Coquitlam. Photo Credit (right): Shell midden, Vancouver Island (*https://learning.royalbcmuseum.bc.ca/pathways/can-)*

Surface Features

Surface features are non-portable cultural formations visible on the landscape. Features may include pits or depressions, earthen mounds or rock cairns, petroforms (rock arrangements) or trails. Cultural depressions may indicate the location of semi-subterranean winter dwellings, plank houses where midden accumulated around the outside of structures, cache pits used for tool or food storage, or pits and trenches used for food cooking or processing. Cultural depressions are identifiable by their uniform shape (usually round or rectangular), a berm may be present around the edge of features, the presence of associated artifacts, or concentrations of charcoal, ash, and fire altered rock.

Cultural mounds or rock cairns are other familiar surface features. Earthen burial mounds and rock cairns are part of a mortuary tradition found throughout the lower Fraser region over the past 1,500 years. Cultural mounds and cairns range in size from around a meter in diameter to more than 12 meters across. Individual occurrences or clusters of well-formed oval or circular mounds of earth and rock should trigger archaeological assessment.

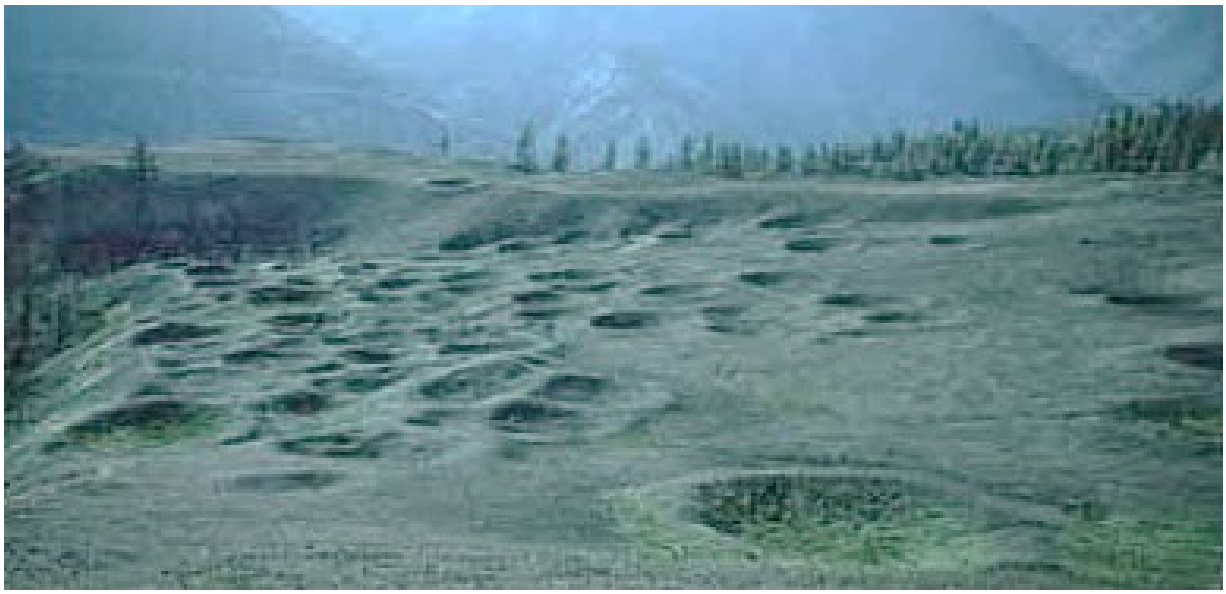


Photo Credit: SFU Museum, Winter pit house village, Lilloeet.

Rock Shelters and Caves

Rock shelters were used, among other purposes, as camps, spiritual or burial locations, and storage caches. Shelters can be found associated with overhangs of large boulders, indentations in rock bluffs or in caves. Shelters often associate with artifacts, rock art, and hearth features.

Ancestral (Human) Remains

Human remains are especially sensitive and significant finds. Any potential human bone requires immediate implementation of the CFP. Ancestral remains are frequently present at archaeological locations and may be found articulated in a burial context or as scattered fragments.

Petroglyphs and Pictographs (Rock Art)

Northwest Coast rock art includes images depicted on boulders, rock overhangs, rock faces, or other exposed rock surfaces. Pictographs are drawings or designs painted on rock using pigments like ochre or charcoal mixed with grease. Petroglyphs are images incised or pecked into stone. Designs vary widely and often depict animals, humans, or an extensive variety of geometric shapes.

Photo Credit: B&OA, Portion of petroglyph panel at Petroglyph Provincial Park, Nanaimo.

Photo Credit: B&OA, Portion of pictograph panel at Pitt Lake.

Fish Weirs and Traps

Fish weirs are structures constructed to funnel and trap fish for harvesting. Traps were built in intertidal areas along marine and river shorelines and near stream mouths. Weirs vary in form and structure depending on water and shoreline conditions, fish species targeted for harvest, intended volume of harvest, and community preferences. Fish weir sites are identifiable by linear or patterned arrangements of wooden stakes protruding from beach or bank edges or boulder alignments along waterways.

Photo Credit: Washington State Archives, Yelm Jim Fish Trap 1885 (http://www.digitalarchives.wa.gov/Record/View/DAA73FC7A57E989D65B6DBEA419FC89E)

Wet Sites

Wet sites are special preservation environments that form in low oxygen water saturated environments along waterways, in bogs and on floodplains. These locations permit enhanced preservation of organic artifacts like wood, bark, and botanicals. Artifacts found in wet sites have included basketry, twine and rope, wooden tools and weapons, architectural structures, and ceremonial implements made of wood and bone.

Photo Credit (left): Mike Blake. Ground slate knife with wooden handle, Agassiz. Photo Credit (right): Katherine Bernick, Waterlogged and preserved basket, Coquitlam.

Culturally Modified Trees (CMTs)

Culturally Modified Trees are trees that have been utilized by Indigenous Peoples for a broad range of cultural uses. Wood was used to build houses, canoes, tools, and weapons. Branches, boughs, and leaves were used to fashion tools, for medicine and in cultural ceremony. Harvesting cedar bark and roots was undertaken regularly to make clothing, cordage, basketry, and sleeping mats, ceremonial regalia, and much more.

Triangular bark stripped cedars are the most common form of CMT; a long, linear triangular bark scar will show where bark was removed from the trunk of a living tree. The exposed scar will heal over time creating a seam on the outer tree bark. This form of sustainable harvesting allowed the same tree to be used multiple times for bark harvesting. CMTs can also show evidence of wood removal where wedges were used to pry rectangular planks of wood from standing, living trees.

Logging and clearing throughout much of Coquitlam municipality reduces the chance that archaeological CMTs remain in most forested areas today, but more recent CMTs where bark or wood was harvested from second-growth forest by Kwikwetlem for cultural uses may be present.

Photo Credit: B&OA, Bark stripped cedars, Coquitlam.

Additional Resources

Learning Portal, Royal BC Museum - https://learning.royalbcmuseum.bc.ca

SFU Museum of Archaeology & Ethnology - https://www.sfu.ca/archaeology/museum.html

References Cited

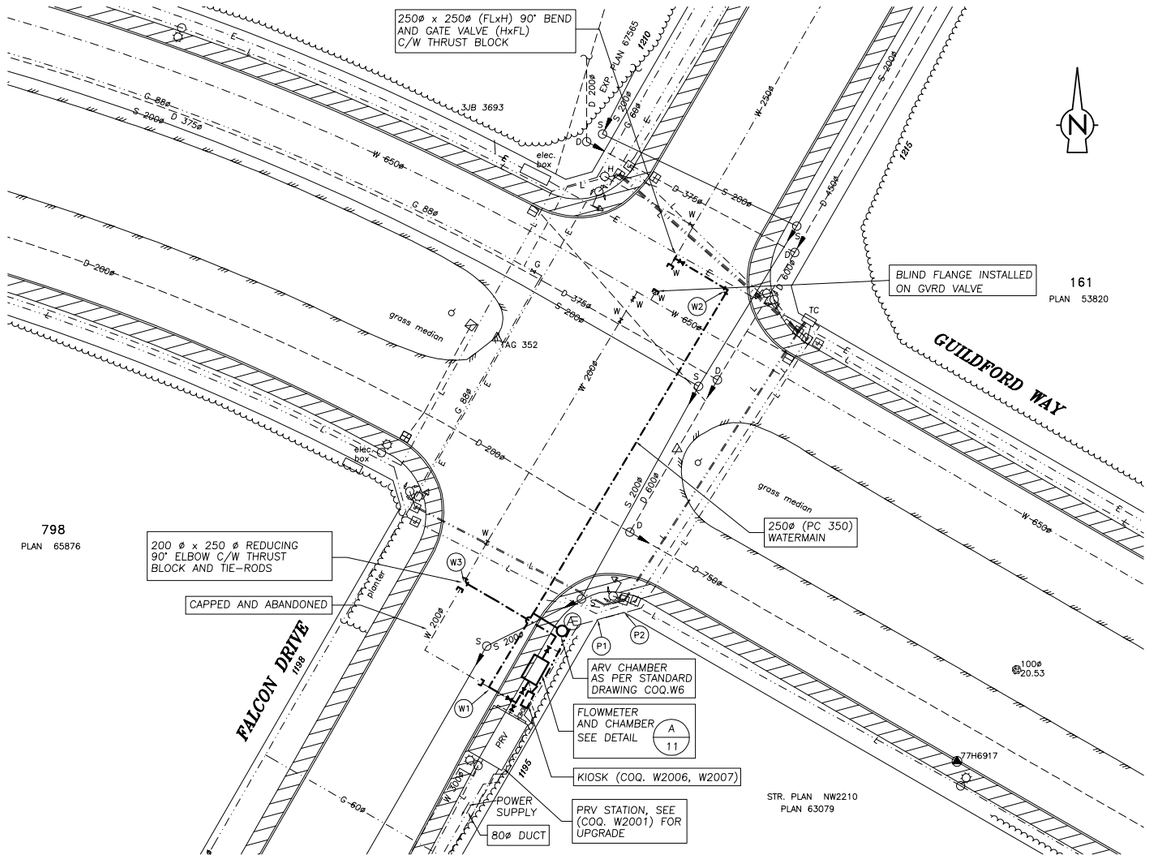
Archaeology Branch (1999). Found Human Remains. On file with the Archaeology Branch, Victoria, BC. From http://www.tca.gov.bc.ca/archaeology/policies/found_human_remains.htm

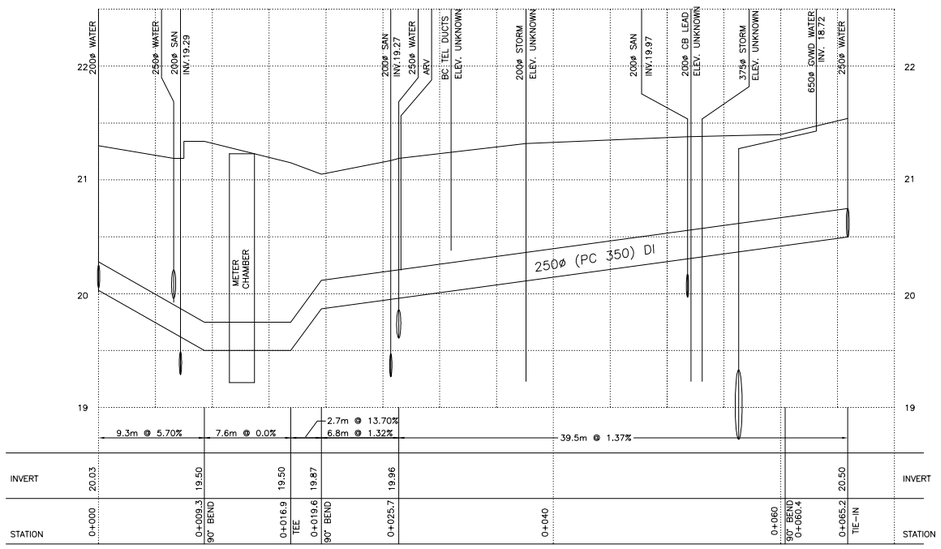
Archaeology Branch (2010). Heritage Conservation Act (RSBC 1996). On file with the Ministry of Tourism, Culture, and the Arts, Victoria, BC. From

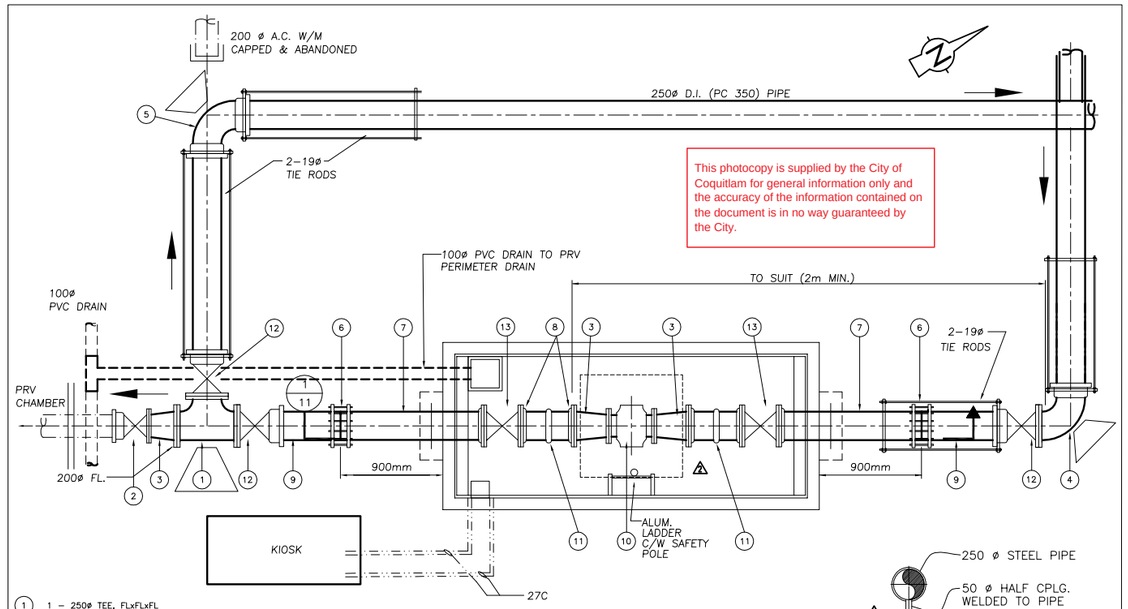
Appendix C –

As-built Drawings

Falcon PRV

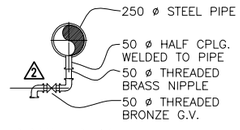




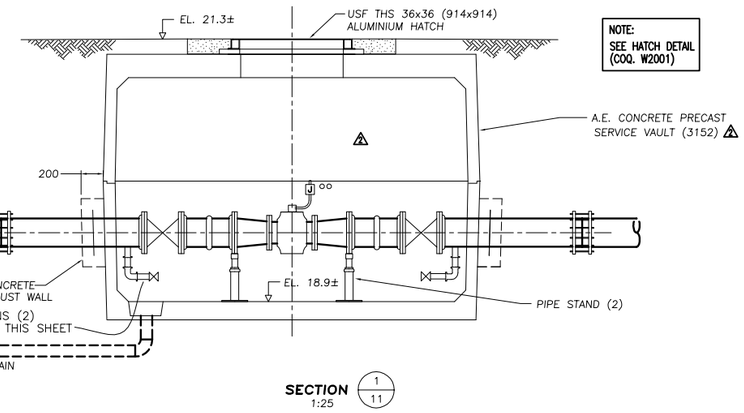


1 – 250ø TEE, FLxFLxFL
2 – 200ø G.V. FLxH
3 – 3 – 200ø FL x 250ø FL DI REDUCER (TAPER < 8°) A2
4 – 1 – 250ø HxFL 90° ELBOW
5 – 1 – 250ø HxH 90° ELBOW
6 – 2 – 250ø ROBAR 1408 DI TO STEEL TRANSITION COUPLINGS
7 – 2 – 250ø SCH40 STEEL PIPE, PExVICT, EPOXY LINED AND COATED C/W THRUST RINGS IN WALLS
9 – 2 – 250ø PC 350 DI MAKE-UP PIPES
10 – 1 – 200ø DANFOSS 3100N MAGNETIC FLOWMETER c/w TERMINAL BOX
11 – 2 – 250ø VICT. #07 COUPLING
12 – 3 – 250ø G.V. FLxH
13 – 2 – 200ø MUELLER A2360 RN NRS G.V. FLxFL A2

PLAN
1:25



DRAIN DETAIL
NTS



SECTION 1/11
1:25

FLOW METER CHAMBER DETAIL

DETAIL A/11
1:25

WATER UTILITY FEATURES

	NORTHING	EASTING	ELEVATION	TYPE
W1	5461128.66	513499.76	–	90° ELBOW ON PROP. TIE-IN 200ø
W2	5461163.87	513520.08	–	90° ELBOW ON PROP. TIE-IN 200ø
W3	5461138.50	513497.54	–	90° ELBOW ON PROP. TIE-IN 200ø

NOTES:

1. UTM COORDINATES AND ELEVATIONS DERIVED FROM INTEGRATED SURVEY MONUMENTS 93H1002 AND 93H1003

93H1002	93H1003
5458913.570	5457813.798 N
514251.979	511176.869 E
ELEV. 20.075	ELEV. 110.152

2. SURVEY MONUMENT 93H1002 LOCATED N.W. CORNER OF INTERSECTION OF GLEN DR AND McCOMB DR.
2. SURVEY MONUMENT 93H1003 LOCATED S.E. CORNER OF INTERSECTION OF GLEN DR AND JOHNSON ST.
3. SURVEY IS BASED UPON NAD83 UTM GRID COORDINATES.
4. UTM COMBINED SCALE FACTOR IS 0.9996020
5. ELEVATIONS TO GEODETIC DATUM IN METRES.

PROPERTY CORNERS

	NORTHING	EASTING
P1	5461134.766	513509.055
P2	5461135.388	513511.373
P3	5461103.242	513490.863

5 0 5 10 15 20
GRAPHIC SCALE
SCALE 1:250

See W1990 for Index and Key Plan

See W2001 for details of the Falcon

A2 DENOTES LOCATION OF ANTENNA POLE

MATERIAL LIST
GATE VALVES – CLOW
FITTINGS – A.C.S.
HYDRANTS – T.C. COMPRESSION
WATERMAIN – D.I. PC 350

FOR WATERWORKS NOTES, (COQ. W1991)

"These Record Drawings have been prepared based on information provided by the Contractor and others. Dayton & Knight Ltd. has not verified the accuracy or completeness of the information provided to them and does not warrant the accuracy or completeness of these Record Drawings. Users of these Record Drawings assume all risk of loss resulting from their use."

DAYTON & KNIGHT LTD.
Consulting Engineers
612 Clyde Ave., West Vancouver, BC
Tel: (604) 922-3255
Fax: (604) 922-3253

COQ. AsBUILT No.
W 2000

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
Edge of pavement			Drainage sewer and MH			Sanitary sewer and MH			U/G signal/light duct		
Asphalt curb			Drainage sewer capped end			Sanitary sewer, capped end			Streetlight, davit		
Concrete sidewalk			Catch basin, top inlet			Sanitary sewer, forcemain			Streetlight, post top		
Concrete curb			Catch basin, side inlet			U/G electrical duct and MH			Traffic signal pole		
Watermain and valve			Catch basin, round			Utility pole			Traffic signal post		
Watermain, capped end			Swale			Utility pole with light			Traffic controller		
Hydrant			Ditch			Junction box			Service box		
Water blowoff			Culvert			U/G telephone and MH			Signal fixture		
Water temporary blowoff			Inlet Structure			U/G gas main and valve			Traffic street sign		

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.

REV'D	DATE	DR'N	CH'D	
3	06/09/03	J.NG	JL	AS CONSTRUCTED
2	11/06/01	KS	JT	METER CHAMBER REVISION
1	06/11/01	KS	JT	ISSUED FOR TENDER

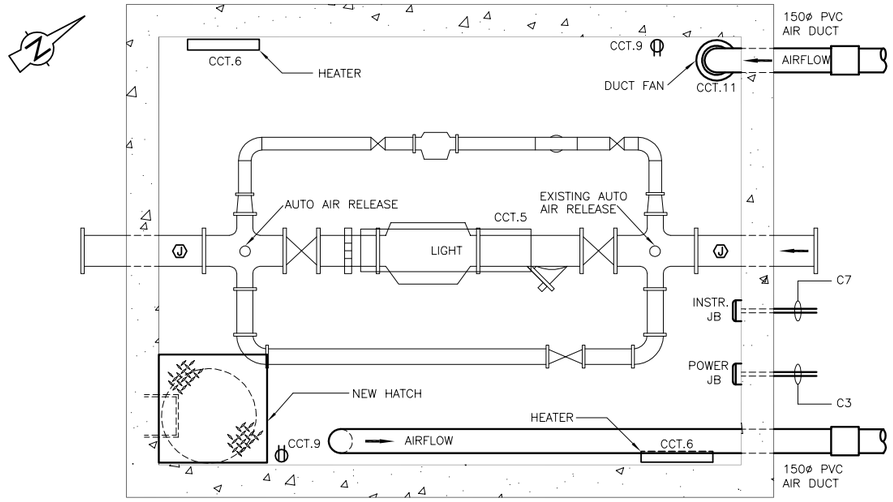
Destroy All Prints Bearing Previous Rev. No.

CITY OF COQUITLAM — **Operations**

DESIGNED – J.T./G.S.
DRAWN – K.R.C.
METRIC SCALE – Horiz. 1:250 Vert. NONE
APPROVED –
DATE – MAR 12 01

NEW FALCON METER CHAMBER

FILE – 138.40.1
CONSULTANTS DWG No– 138-40-1_11
COQ. PROJECT No– C 91856-1
SHEET 11 OF 21
PLOT DATE/TIME: Sep 04, 2003–4:46pm

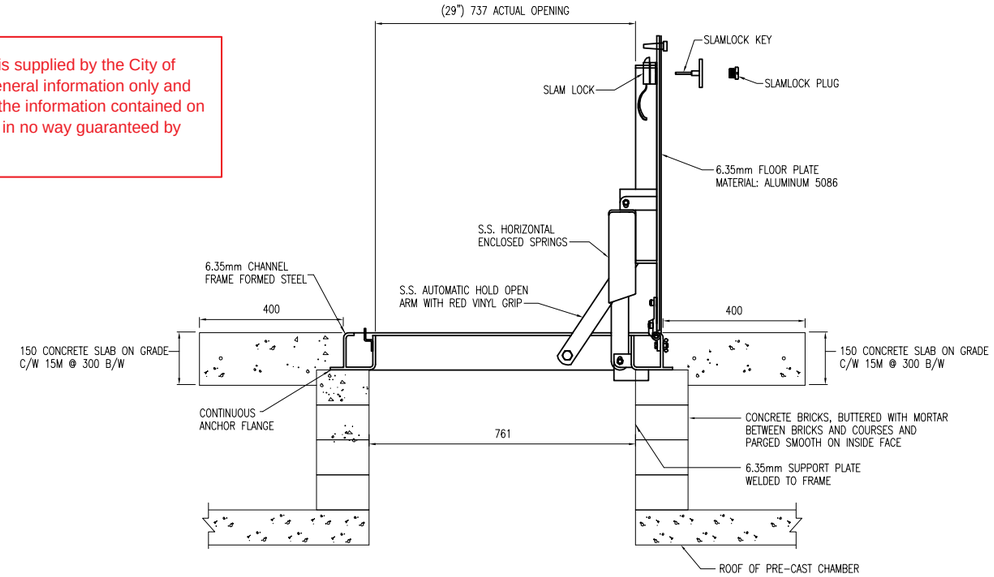


PRV PLAN

(N.T.S.)

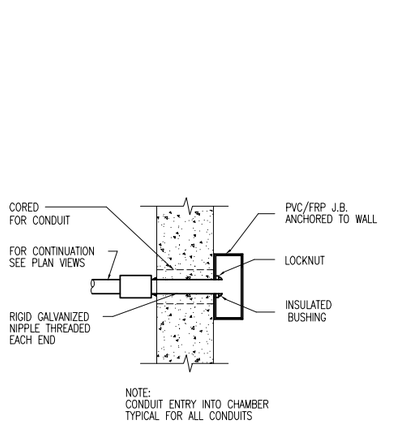
See W1990 for Index and Key

See W2000 for the Site Plan of Falcon PRV at Falcon Dr. & Guildford Way



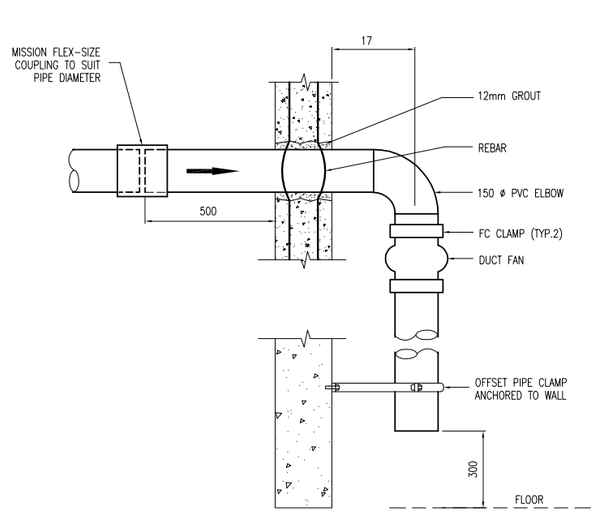
USF TPS36x36 (914x914) ALUMINIUM HATCH DETAIL

(N.T.S.)



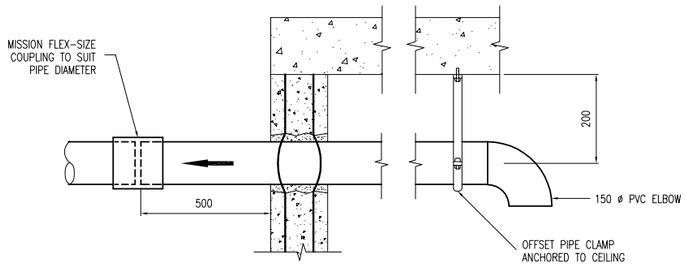
SECTION THROUGH CHAMBER
SHOWING CONDUIT ENTRY DETAIL

(N.T.S.)



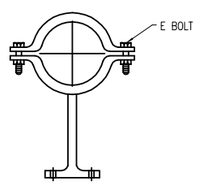
VENT DUCT FROM KIOSK ENTRY DETAIL – INTAKE

(N.T.S.)



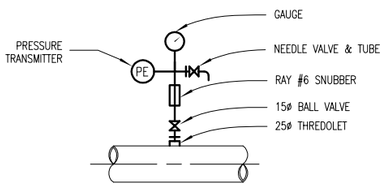
VENT DUCT FROM KIOSK ENTRY DETAIL – EXHAUST

(N.T.S.)



OFFSET PIPE CLAMP DETAIL

(N.T.S.)



DETAIL J

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.

"These Record Drawings have been prepared based on information provided by the Contractor and others. Dayton & Knight Ltd. has not verified the accuracy or completeness of the information provided to them and does not warrant the accuracy or completeness of these Record Drawings. Users of these Record Drawings assume all risk of loss resulting from their use."

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
Edge of pavement			Drainage sewer and MH	D	D	Sanitary sewer and MH	S	S	U/G signal/light duct	L	L
Asphalt curb			Drainage sewer capped end	D	D	Sanitary sewer, capped end	S	S	Streetlight, davit		
Concrete sidewalk			Catch basin, top inlet			Sanitary sewer, forcemain	FS	FS	Streetlight, post top		
Concrete curb			Catch basin, side inlet			U/G electrical duct and MH	E	E	Traffic signal pole		
Watermain and valve	W	W	Catch basin, round			Utility pole			Traffic signal post		
Watermain, capped end	W	W	Swale			Utility pole with light			Traffic controller	TC	TC
Hydrant			Ditch			Junction box	J	J	Service box	SB	SB
Water blowoff			Culvert			U/G telephone and MH	T	T	Signal fixture		
Water temporary blowoff	)	)	Inlet Structure	(	(	U/G gas main and valve	G	G	Traffic street sign		

DAYTON & KNIGHT LTD.
Consulting Engineers
612 Clyde Ave., West Vancouver, BC
Tel: (604) 922-3255
Fax: (604) 922-3253

COQ. AsBUILT No.
W 2001

REV'D	DATE	DR'N	CH'D	
2	06/02/03	PTL	JL	AS CONSTRUCTED
1	06/11/01	KS	D.R.	ISSUED FOR TENDER

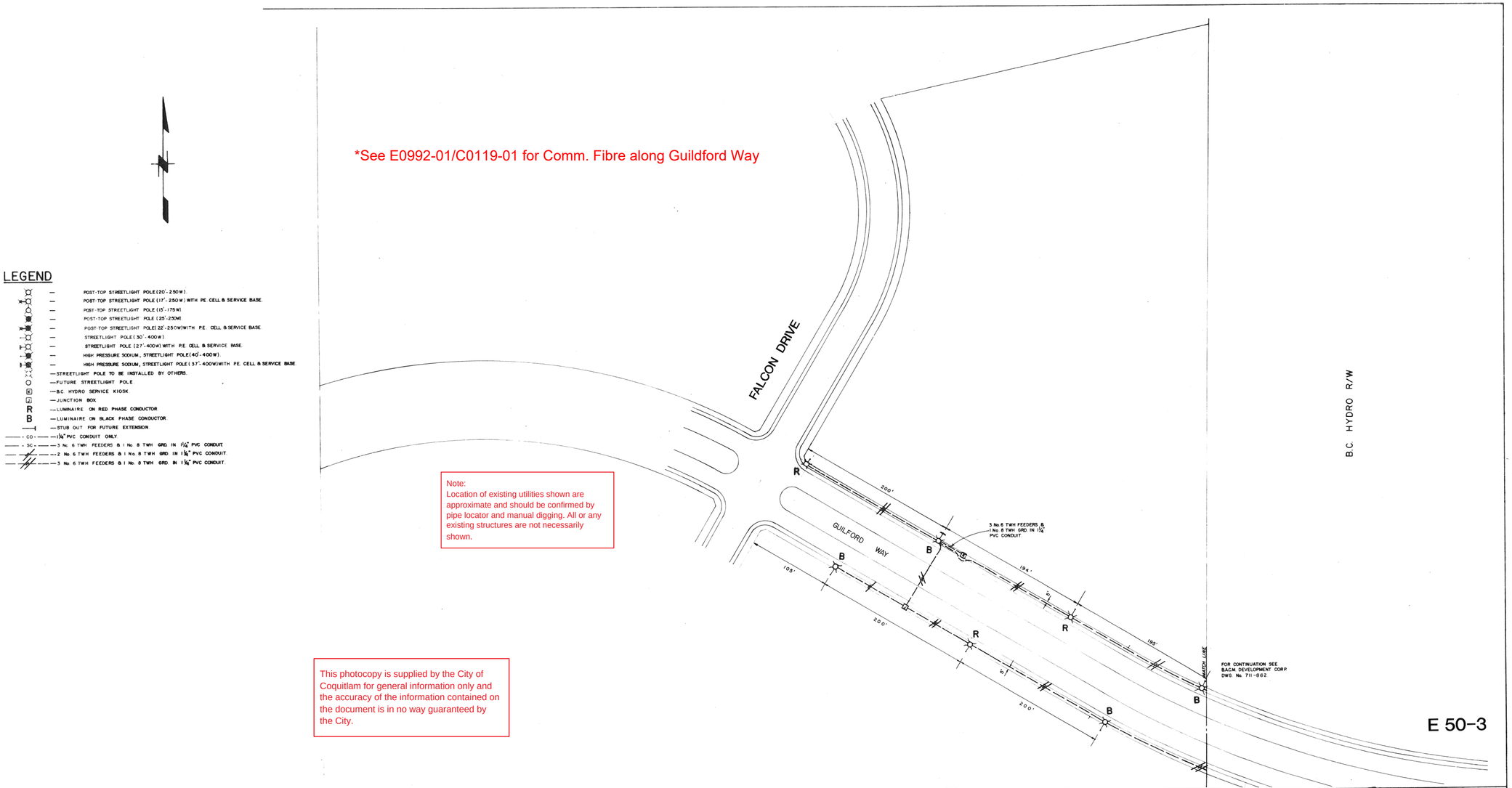
Destroy All Prints Bearing Previous Rev. No.

CITY OF COQUITLAM — Operations

DESIGNED – D.R.
DRAWN – B.J.
METRIC SCALE – Horiz. N.T.S. Vert. N.T.S.
APPROVED –
DATE – MAR 29 01

EXISTING FALCON
PRV CHAMBER
UPGRADE

FILE – 138.40.1
CONSULTANTS DWG No– 138-40-1_12
COQ. PROJECT No– C 91856-1
SHEET 12 OF 21
PLOT DATE/TIME: Sep 04, 2003-4:47pm



LEGEND

- POST-TOP STREETLIGHT POLE (20'-250W).
- POST-TOP STREETLIGHT POLE (17'-250W) WITH P.E. CELL & SERVICE BASE.
- POST-TOP STREETLIGHT POLE (15'-175W).
- POST-TOP STREETLIGHT POLE (25'-250W).
- POST-TOP STREETLIGHT POLE (22'-250W) WITH P.E. CELL & SERVICE BASE.
- STREETLIGHT POLE (30'-400W).
- STREETLIGHT POLE (27'-400W) WITH P.E. CELL & SERVICE BASE.
- HIGH PRESSURE SODIUM, STREETLIGHT POLE (40'-400W).
- HIGH PRESSURE SODIUM, STREETLIGHT POLE (37'-400W) WITH P.E. CELL & SERVICE BASE.
- STREETLIGHT POLE TO BE INSTALLED BY OTHERS.
- FUTURE STREETLIGHT POLE.
- B.C. HYDRO SERVICE KIOSK.
- JUNCTION BOX.
- R — LUMINAIRE ON RED PHASE CONDUCTOR.
- B — LUMINAIRE ON BLACK PHASE CONDUCTOR.
- STUB OUT FOR FUTURE EXTENSION.
- CO — 1¼" PVC CONDUIT ONLY.
- SC — 3 No. 6 TWH FEEDERS & 1 No. 8 TWH GRD. IN 1¼" PVC CONDUIT.
- 2 No. 6 TWH FEEDERS & 1 No. 8 TWH GRD. IN 1¼" PVC CONDUIT.
- 3 No. 6 TWH FEEDERS & 1 No. 8 TWH GRD. IN 1¼" PVC CONDUIT.

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.

REVISION	DATE	BY	NO	REVISION	DATE	BY

B.A.C.M. DEVELOPMENT CORPORATION LIMITED

R. P. SHAFLIK ENGINEERING LTD.
ELECTRICAL CONSULTANTS
BURNABY, B.C.

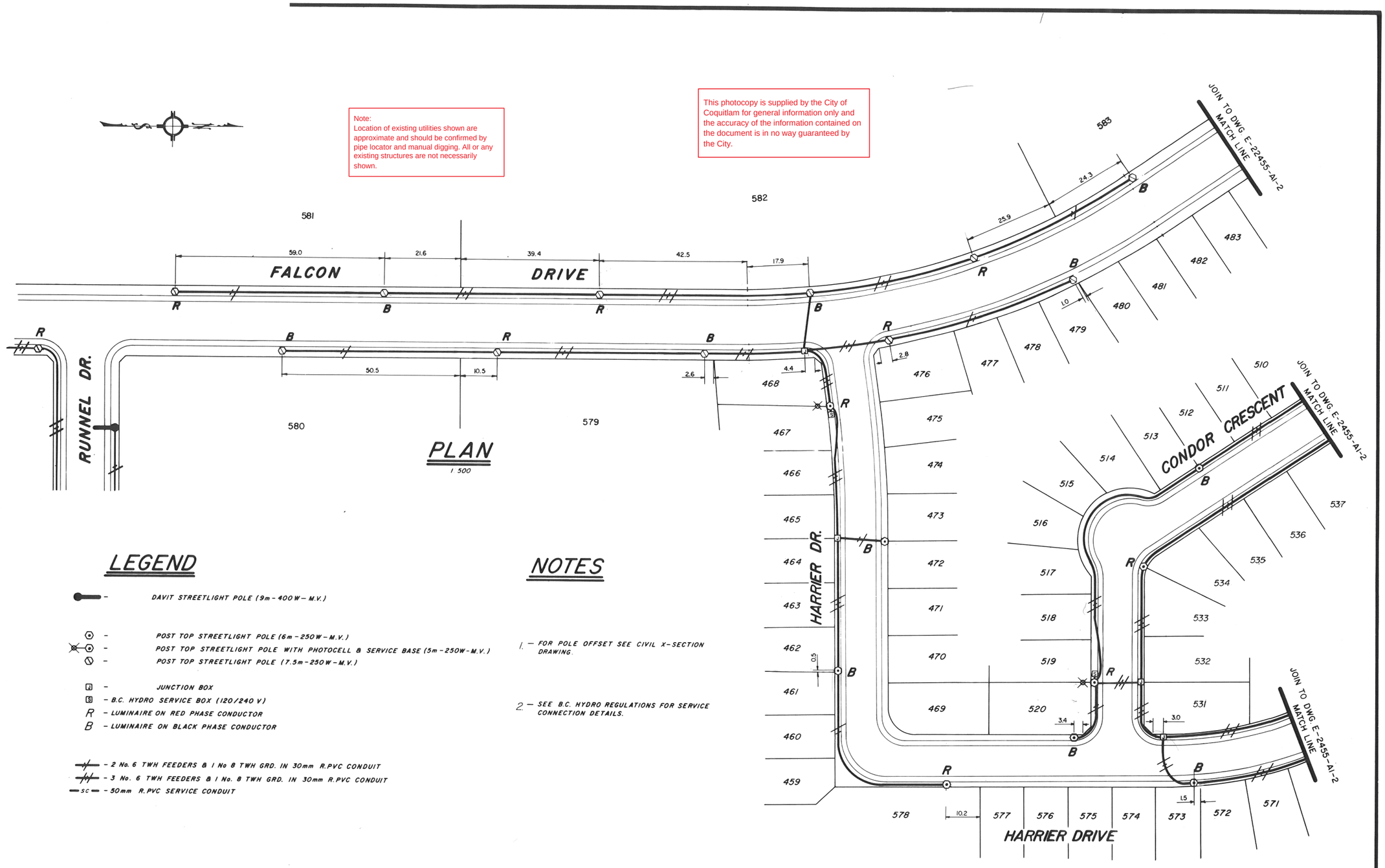
EAGLE RIDGE STAGE I
STREETLIGHTING ELECTRICAL AS CONSTRUCTED

DESIGN -
DRAWN - L.B.
CHECKED - R.P.K.Y.
DATE JUNE 1977
SCALE 1" = 50'

FILE NO. 711 - 863
DRAWING NO. E-50-3
REV.

E-139 1/2

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.



LEGEND

- DAVIT STREETLIGHT POLE (9m - 400W - M.V.)
- POST TOP STREETLIGHT POLE (6m - 250W - M.V.)
- POST TOP STREETLIGHT POLE WITH PHOTOCELL & SERVICE BASE (5m - 250W - M.V.)
- POST TOP STREETLIGHT POLE (7.5m - 250W - M.V.)
- J - JUNCTION BOX
- S - B.C. HYDRO SERVICE BOX (120/240 V)
- R - LUMINAIRE ON RED PHASE CONDUCTOR
- B - LUMINAIRE ON BLACK PHASE CONDUCTOR
- 2 No. 6 TWH FEEDERS & 1 No. 8 TWH GRD. IN 30mm R.PVC CONDUIT
- 3 No. 6 TWH FEEDERS & 1 No. 8 TWH GRD. IN 30mm R.PVC CONDUIT
- SC - 50mm R.PVC SERVICE CONDUIT

NOTES

1. FOR POLE OFFSET SEE CIVIL X-SECTION DRAWING.
2. SEE B.C. HYDRO REGULATIONS FOR SERVICE CONNECTION DETAILS.

NO	REVISION	DATE	BY
2	AS CONSTRUCTED	14.01.82	P.R.
1	STREET LIGHT RELOCATED ON FALCON DR	24/07	BUL. H.

DESIGN C.F.S.
DRAWN G.M.G
CHECKED
DATE 81-04-06

R. P. SHAFLIK ENGINEERING LTD.
ELECTRICAL CONSULTANTS 7544 EDMUND ST. BURNABY, B.C. V5A 3E2

DWG. No. E-2455-A1-1

STREET LIGHTING
EAGLE RIDGE DEVELOPMENT
RUNNEL DR. TO GUILDFORD WAY, COQ. - (STAGE IV)

AS CONSTRUCTED

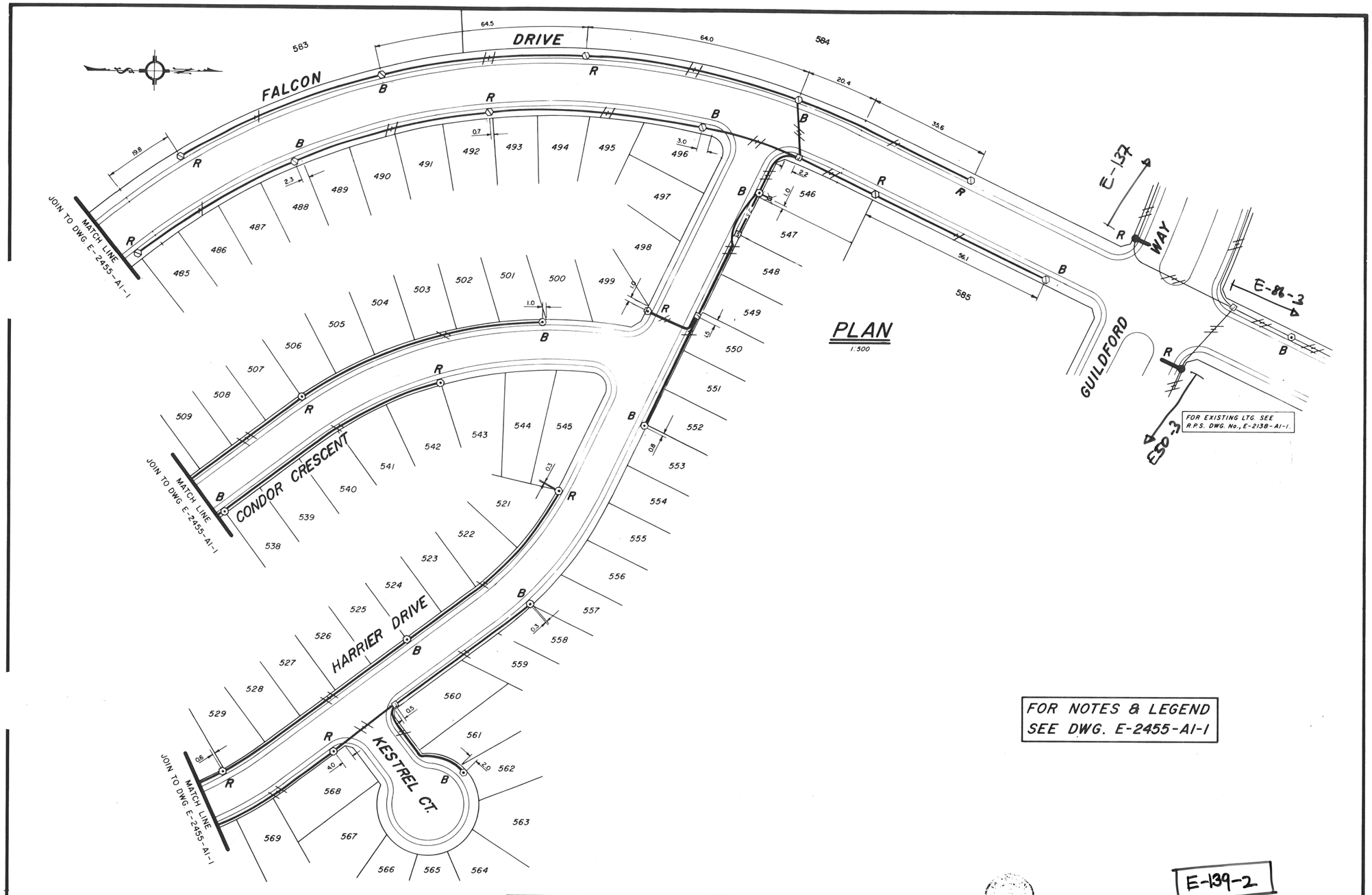
GENSTAR DEVELOPMENT COMPANY
A MEMBER OF THE GENSTAR GROUP OF COMPANIES

SCALE 1:500
DRAWING NO 714-701
SHEET __ OF __ REVISION 2

E-139-1

E-139-1 2

E-139 2/2



E-139-2

NO	REVISION	DATE	BY
3	AS CONSTRUCTED	M.01.82	PR.
2	STREET LIGHT RELOCATED IN CUL DE SAC	11-8-81	W.R.S.
1	STREET LIGHTS REVISED ROAD 'A'	17-7-81	J.L.H.

DESIGN C.F.S.
DRAWN G.M.G.
CHECKED KS
DATE 81-04-06

R. P. SHAFLIK ENGINEERING LTD.
ELECTRICAL CONSULTANTS 1122 HOWE ST. VANCOUVER, B.C.

DWG. No. E-2455-A1-2

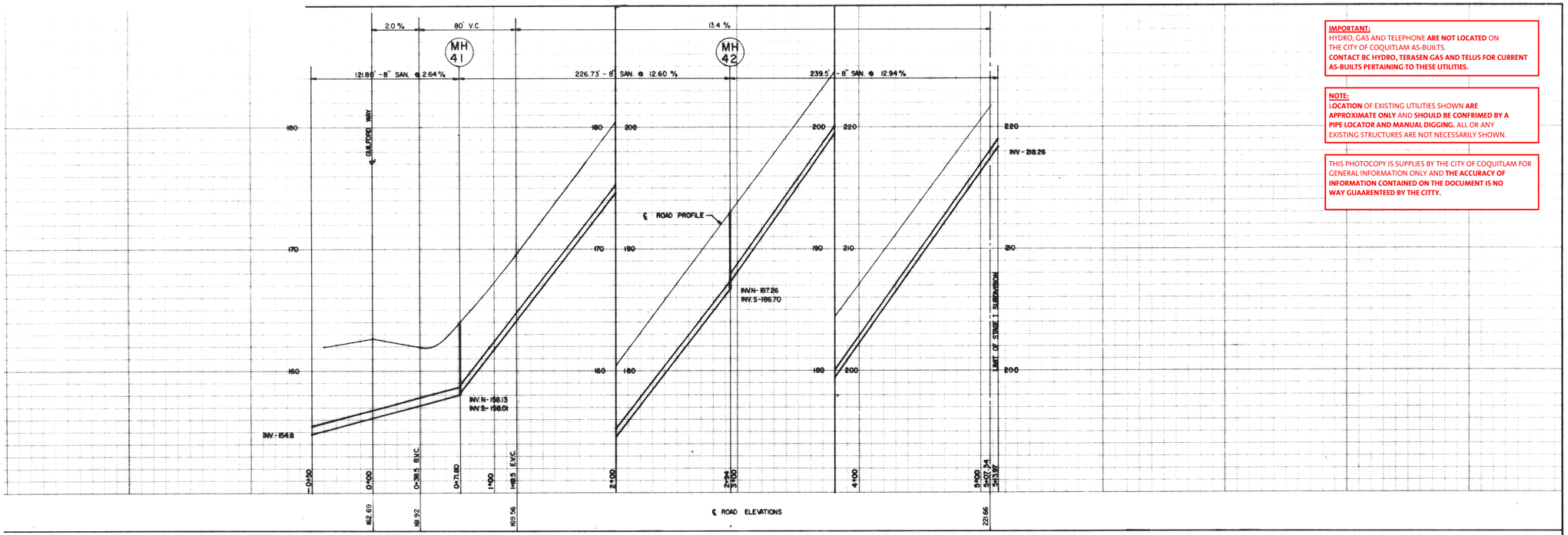
STREET LIGHTING
EAGLE RIDGE DEVELOPMENT
RUNNEL DR. TO GUILDFORD WAY, COQ. - (STAGE IV)

AS CONSTRUCTED

GENSTAR DEVELOPMENT COMPANY
A MEMBER OF THE GENSTAR GROUP OF COMPANIES

SCALE 1:500
DRAWING NO 714-702
SHEET OF REVISION 3

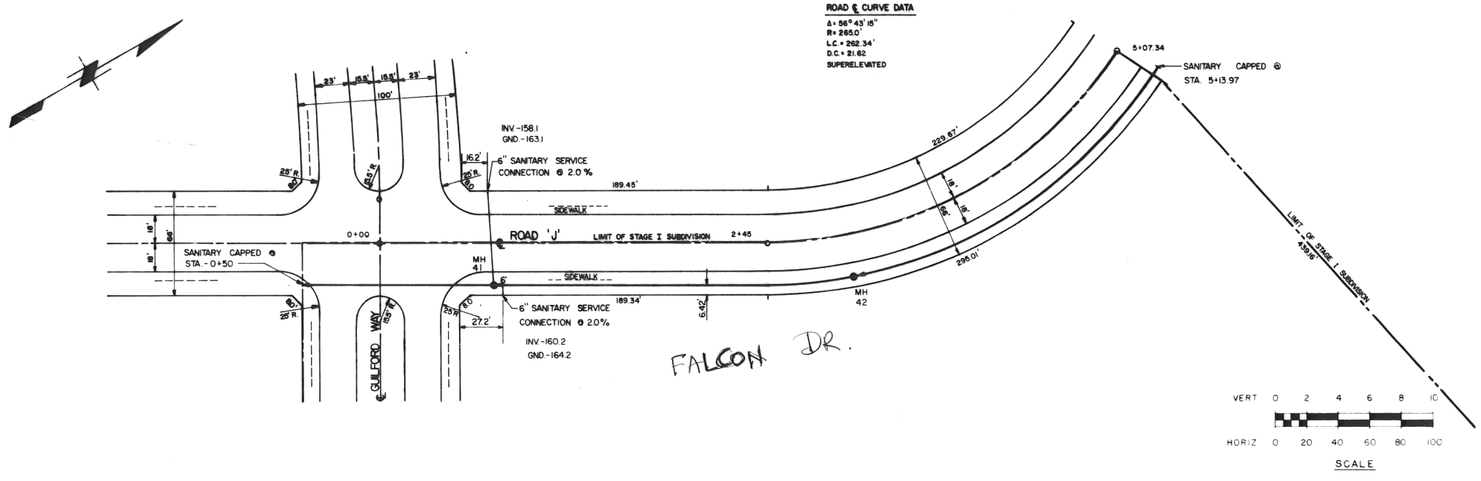
E-139-2 #2



IMPORTANT:
HYDRO, GAS AND TELEPHONE **ARE NOT LOCATED** ON THE CITY OF COQUITLAM AS-BUILTS.
CONTACT BC HYDRO, TERASEN GAS AND TELUS FOR CURRENT AS-BUILTS PERTAINING TO THESE UTILITIES.

NOTE:
LOCATION OF EXISTING UTILITIES SHOWN **ARE APPROXIMATE ONLY** AND **SHOULD BE CONFRIMED BY A PIPE LOCATOR AND MANUAL DIGGING.** ALL OR ANY EXISTING STRUCTURES ARE NOT NECESSARILY SHOWN.

THIS PHOTOCOPY IS SUPPLIES BY THE CITY OF COQUITLAM FOR GENERAL INFORMATION ONLY AND **THE ACCURACY OF INFORMATION CONTAINED ON THE DOCUMENT IS NO WAY GUAARENTEED BY THE CITTY.**



S-492

ON	DATE	BY

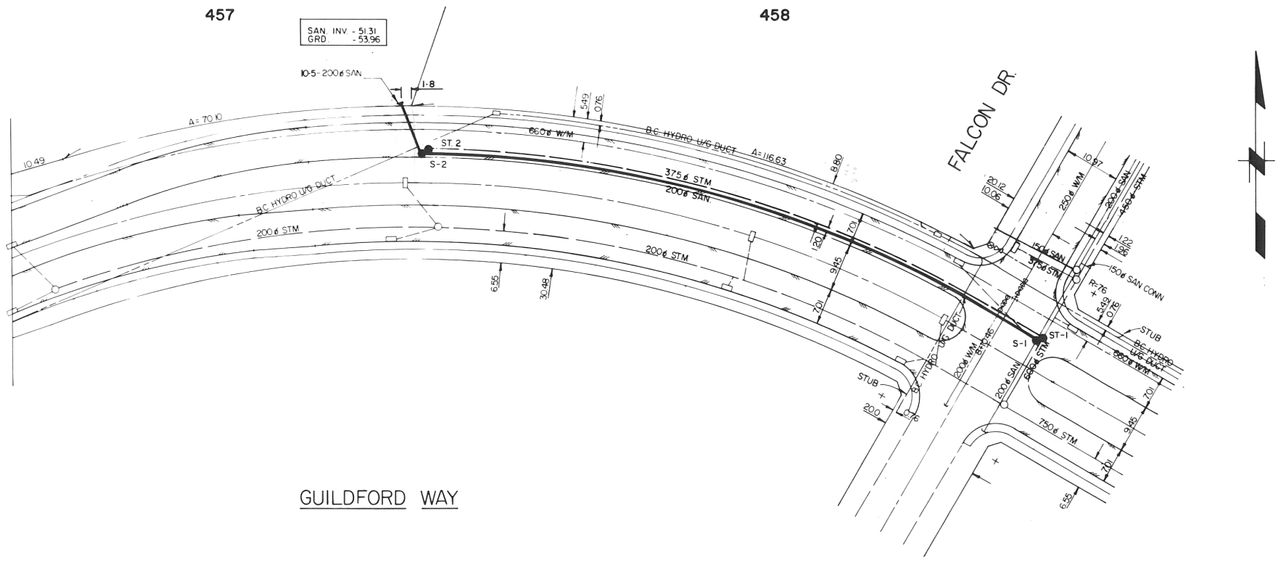
B.A.C.M. DEVELOPMENT CORPORATION LIMITED

EAGLE RIDGE SUBDIVISION STAGE I
SANITARY SEWER AS CONSTRUCTED
ROAD ~~'J'~~ FALCON DR.

DESIGN - CLM		FILE NO.
DRAWN - TSC		DRAWING NO. 711-844
CHECKED - FCF		REV.
DATE	SCALE AS SHOWN	

S-492

Invert elevation noted on the asbuilt are based on the the GVSDD datum. Subtract 27.850m for Geodetic invert



REVISION	DATE	BY
2 AS CONSTRUCTED	3-4-81	J.L.H.
1 GENERAL REVISION, EX VALVES REVISED	30-10-80	C.L.W.

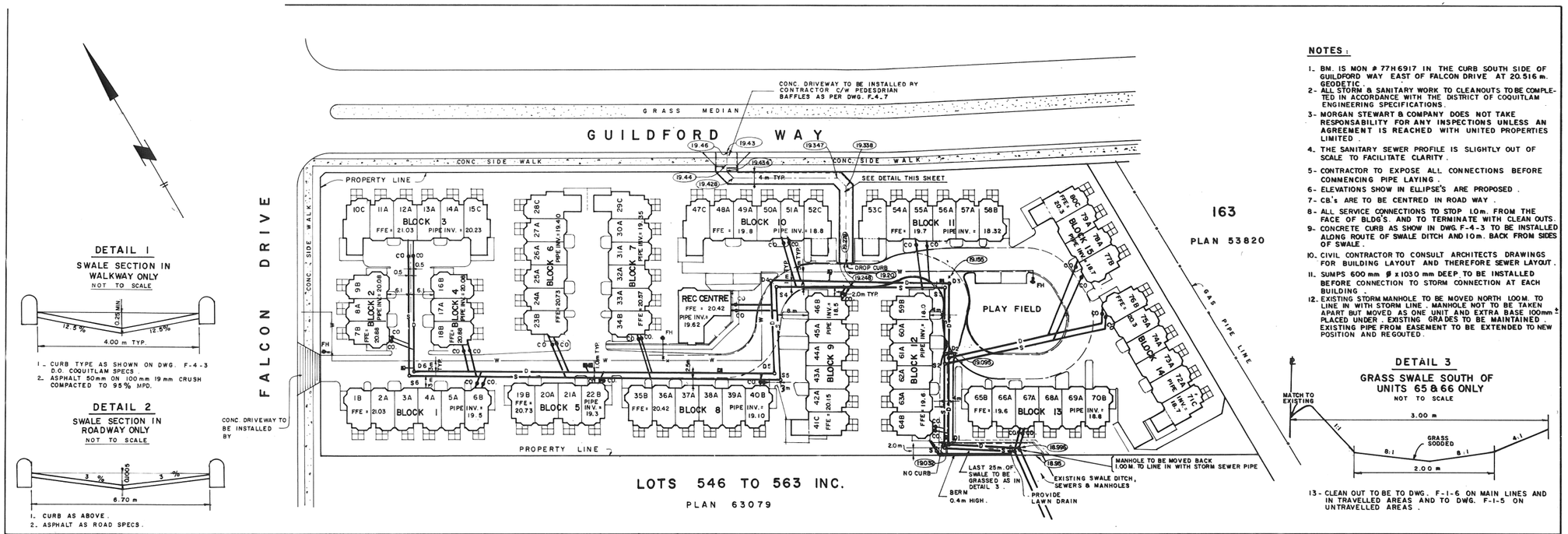
DESIGN C.L.W.
DRAWN J.B.
CHECKED F.C.F.
DATE JULY 31, 1980

EAGLE RIDGE STAGE 5A
SANITARY SEWER DESIGN
GUILDFORD WAY
AS CONSTRUCTED

GENSTAR DEVELOPMENT COMPANY
A MEMBER OF THE GENSTAR GROUP OF COMPANIES

SCALE HORIZ. 1:500 VERT. 1:50
DRAWING NO 715-641A
SHEET __ OF ____ REVISION 2

S - 572



DETAIL 1
SWALE SECTION IN WALKWAY ONLY
NOT TO SCALE

1. CURB TYPE AS SHOWN ON DWG. F-4-3 D.O COQUITLAM SPECS.
2. ASPHALT 50mm ON 100mm 19mm CRUSH COMPACTED TO 95% MPD.

DETAIL 2
SWALE SECTION IN ROADWAY ONLY
NOT TO SCALE

1. CURB AS ABOVE.
2. ASPHALT AS ROAD SPECS.

NOTES:

1. BM. IS MON # 77H6917 IN THE CURB SOUTH SIDE OF GUILDFORD WAY EAST OF FALCON DRIVE AT 20.516 m. GEODETIC.
2. ALL STORM & SANITARY WORK TO CLEANOUTS TO BE COMPLETED IN ACCORDANCE WITH THE DISTRICT OF COQUITLAM ENGINEERING SPECIFICATIONS.
3. MORGAN STEWART & COMPANY DOES NOT TAKE RESPONSABILITY FOR ANY INSPECTIONS UNLESS AN AGREEMENT IS REACHED WITH UNITED PROPERTIES LIMITED.
4. THE SANITARY SEWER PROFILE IS SLIGHTLY OUT OF SCALE TO FACILITATE CLARITY.
5. CONTRACTOR TO EXPOSE ALL CONNECTIONS BEFORE COMMENCING PIPE LAYING.
6. ELEVATIONS SHOW IN ELLIPSE'S ARE PROPOSED.
7. CB.'s ARE TO BE CENTRED IN ROAD WAY.
8. ALL SERVICE CONNECTIONS TO STOP 1.0m. FROM THE FACE OF BLDG'S. AND TO TERMINATE WITH CLEAN OUTS.
9. CONCRETE CURB AS SHOW IN DWG. F-4-3 TO BE INSTALLED ALONG ROUTE OF SWALE DITCH AND 10m. BACK FROM SIDES OF SWALE.
10. CIVIL CONTRACTOR TO CONSULT ARCHITECTS DRAWINGS FOR BUILDING LAYOUT AND THEREFORE SEWER LAYOUT.
11. SUMPS 600 mm ø x 1030 mm DEEP TO BE INSTALLED BEFORE CONNECTION TO STORM CONNECTION AT EACH BUILDING.
12. EXISTING STORM MANHOLE TO BE MOVED NORTH 1.00M. TO LINE IN WITH STORM LINE. MANHOLE NOT TO BE TAKEN APART BUT MOVED AS ONE UNIT AND EXTRA BASE 100mm ± PLACED UNDER. EXISTING GRADES TO BE MAINTAINED. EXISTING PIPE FROM EASEMENT TO BE EXTENDED TO NEW POSITION AND REGOUTED.

DETAIL 3
GRASS SWALE SOUTH OF UNITS 65 & 66 ONLY
NOT TO SCALE

13. CLEAN OUT TO BE TO DWG. F-1-6 ON MAIN LINES AND IN TRAVELLED AREAS AND TO DWG. F-1-5 ON UNTRAVELLED AREAS.

SERIE No	DESCRIPTION	BY	DATE
E	NOTES AS PER COQUITLAMS		
A	ISSUED FOR CLIENT APPROVAL	D.O.S.	APR. 1984
B	FINISHED FLOOR ELEVATIONS & PIPE INVERTS REVISED	D.O.S.	APR. 1984
C	SUMP DEPTH CHANGED & M.H. INVERTS	D.O.S.	MAY 1984
D	GRADES & PIPE SIZES CHANGED AS PER COQUITLAM	D.O.S.	JUNE 1984
F	REVISIONS AS PER "AS BUILT" INFO		

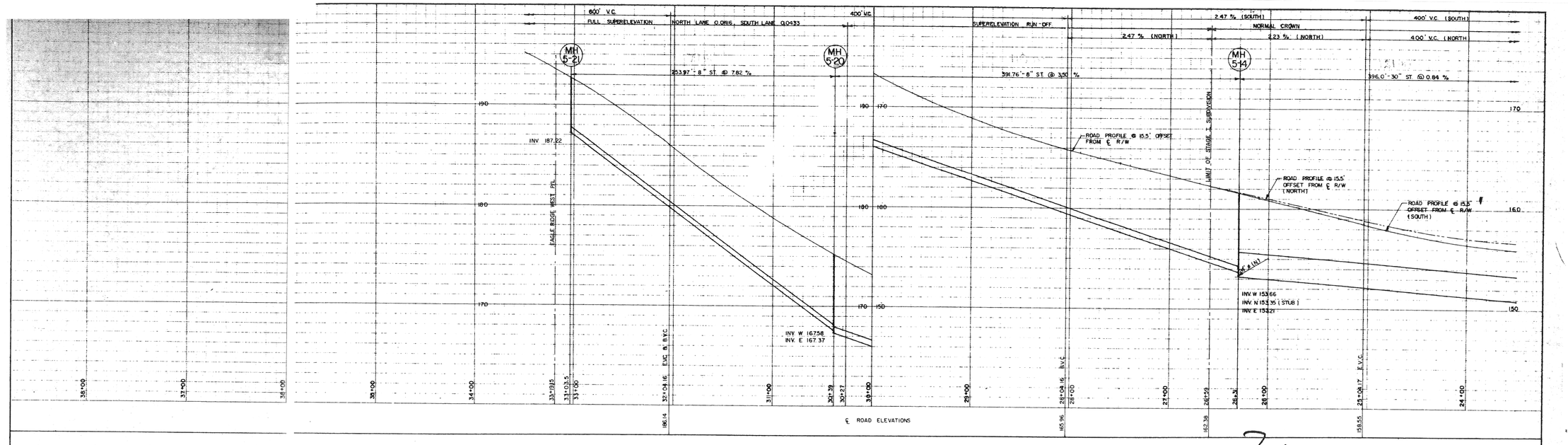
DESIGNED D.O.S
DRAWN T.V.
CHECKED I.S.
APPROVED
SCALES 1:500 1:25

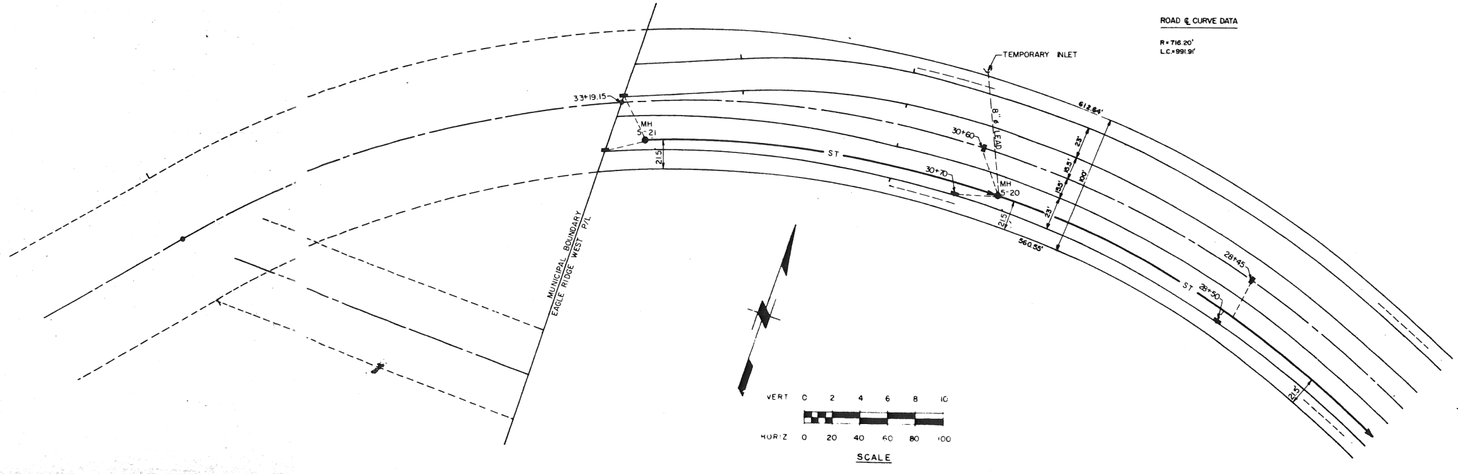
MORGAN STEWART AND COMPANY LIMITED
Engineers & Surveyors
760 Denman Street, VANCOUVER, B.C. V6G 2L5

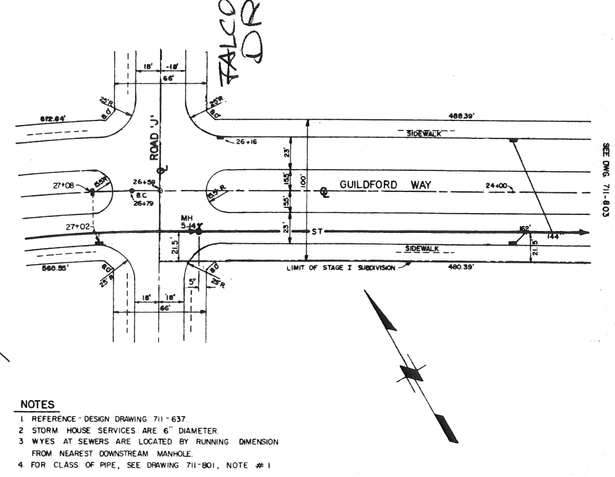
CLIENT: UNITED PROPERTIES LTD.
PROJECT: THE COURT YARDS STORM & SANITARY SEWERS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA L. STREIT

JOB No 3573
DATE
SHEET 2 OF 4
DRAWING No 3573 - 2
ISSUE No F







NOTES
1. REFERENCE - DESIGN DRAWING 711-637.
2. STORM HOUSE SERVICES ARE 6" DIAMETER.
3. WYES AT SEWERS ARE LOCATED BY RUNNING DIMENSION FROM NEAREST DOWNSTREAM MANHOLE.
4. FOR CLASS OF PIPE, SEE DRAWING 711-801, NOTE # 1

NO	REVISION	DATE	BY

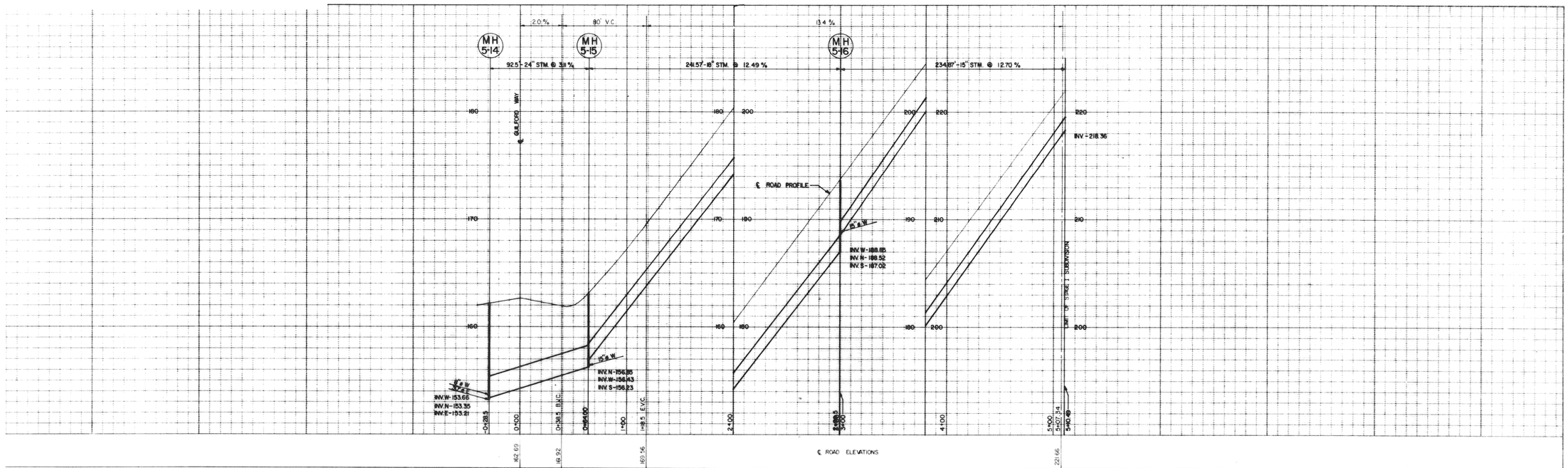
DATE	BY

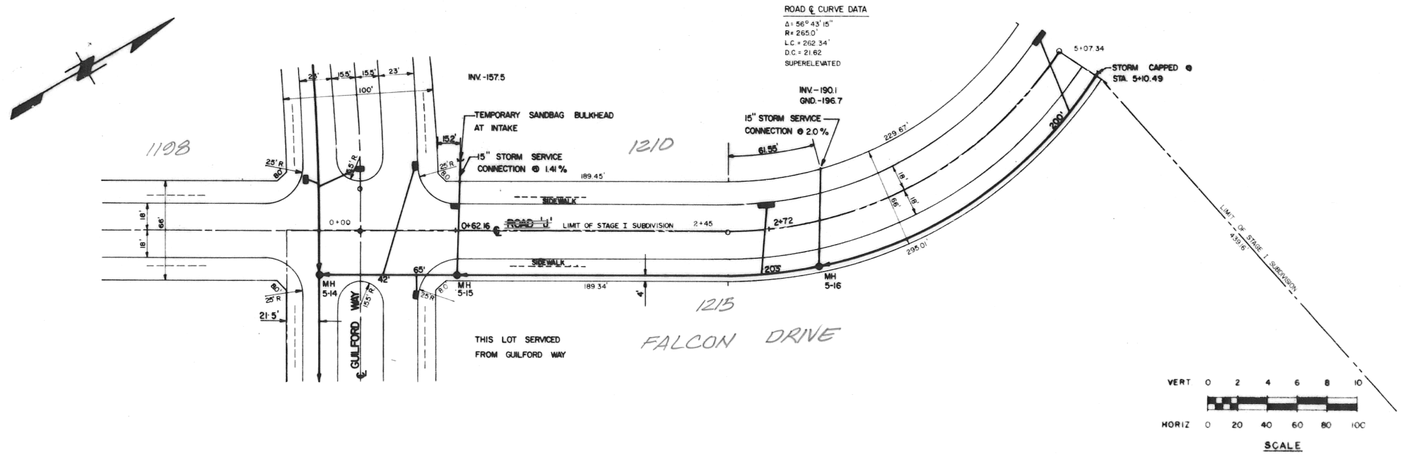
B.A.C.M. DEVELOPMENT CORPORATION LIMITED

EAGLE RIDGE SUBDIVISION STAGE I
STORM SEWER AS CONSTRUCTED
GUILDFORD WAY STA. 23+50 TO 33+19.15

DESIGN - C.L.M.	FILE NO.
DRAWN - F.K.Y.	DRAWING NO. REV.
CHECKED - C.F.F.	711-804
DATE JAN. 26 1978	SCALE AS SHOWN

D-399-4





DATE	BY	NO	REVISION	DATE	BY

B.A.C.M. DEVELOPMENT CORPORATION LIMITED

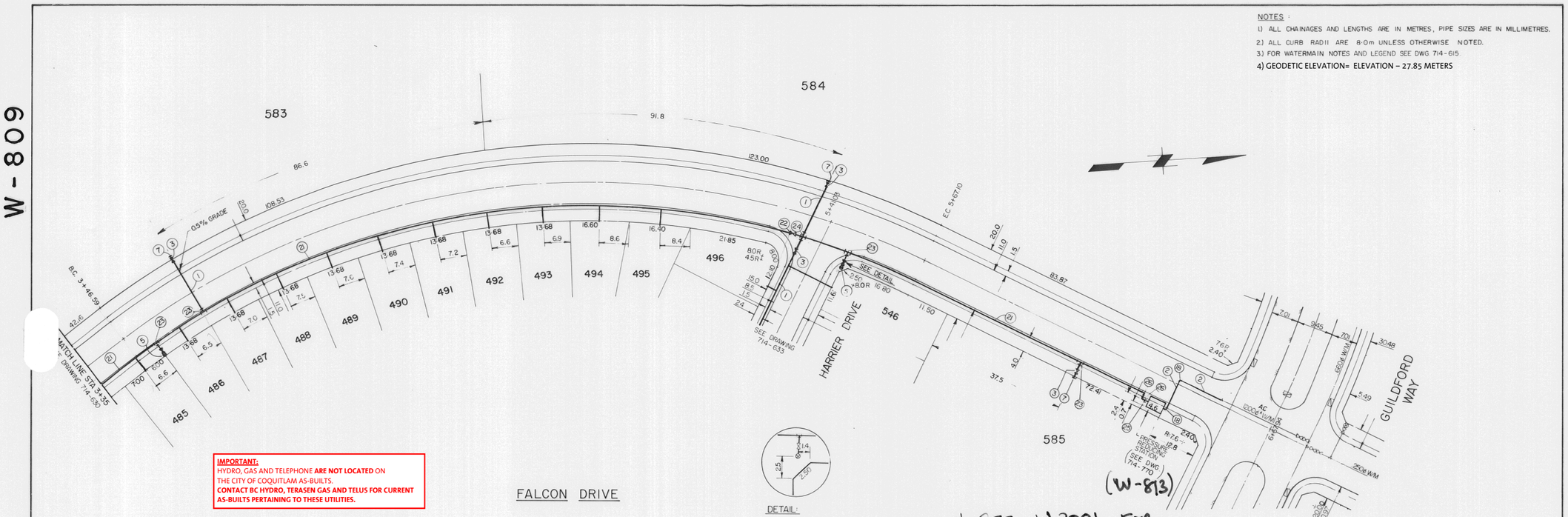
EAGLE RIDGE SUBDIVISION STAGE I
STORM SEWER AS CONSTRUCTED
~~ROAD "J"~~ FALCON DR.

DESIGN - C.L.M.	FILE NO.
DRAWN - T.S.C.	
CHECKED - F.C.F.	DRAWING NO. REV.
DATE	711-819
SCALE AS SHOWN	

D-441

W-809

NOTES :
1) ALL CHAINAGES AND LENGTHS ARE IN METRES, PIPE SIZES ARE IN MILLIMETRES.
2) ALL CURB RADII ARE 8.0m UNLESS OTHERWISE NOTED.
3) FOR WATERMAIN NOTES AND LEGEND SEE DWG 714-615.
4) GEODETIC ELEVATION= ELEVATION – 27.85 METERS



IMPORTANT:
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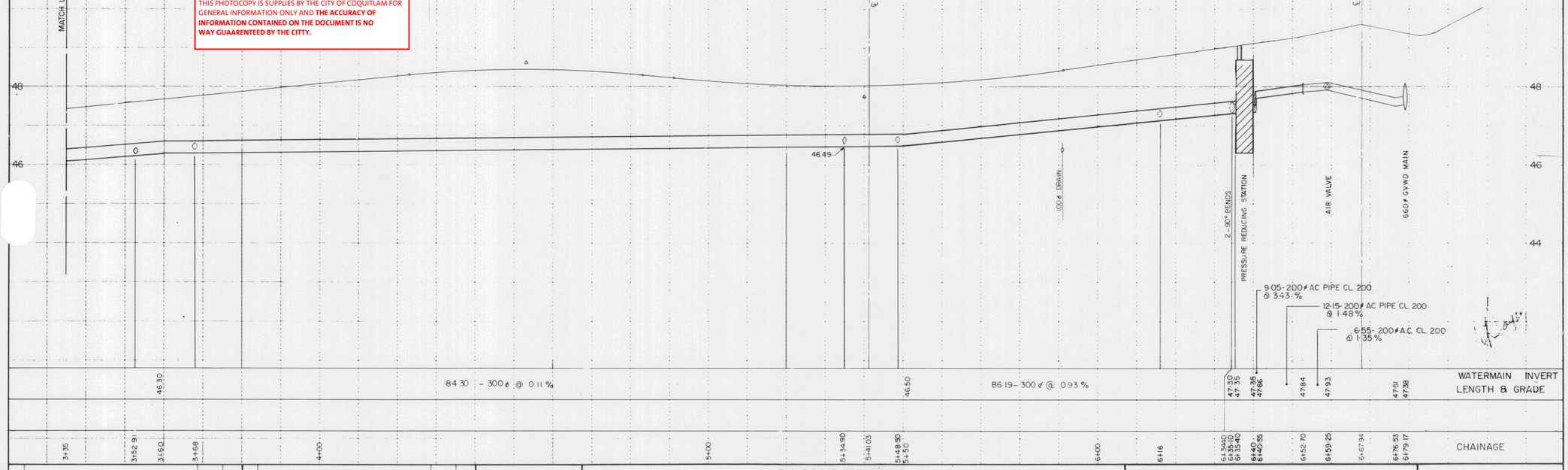
* SEE W 2001 FOR FALCON PRV CHAMBER UPGRADE



NO	REVISION	DATE	BY
2	AS CONSTRUCTED	2/12/81	P.R.
1	WATERMAIN RELOCATED	16/07/81	J.L.H.

DESIGN W.L. , C.L.W.
DRAWN J.B. , K.o.j.
CHECKED L.L. , W.R.S.
DATE APRIL , 1981

EAGLE RIDGE DEVELOPMENT
STAGE IV
FALCON DR. (3+35 - GUILDFORD WAY)
WATERMAIN

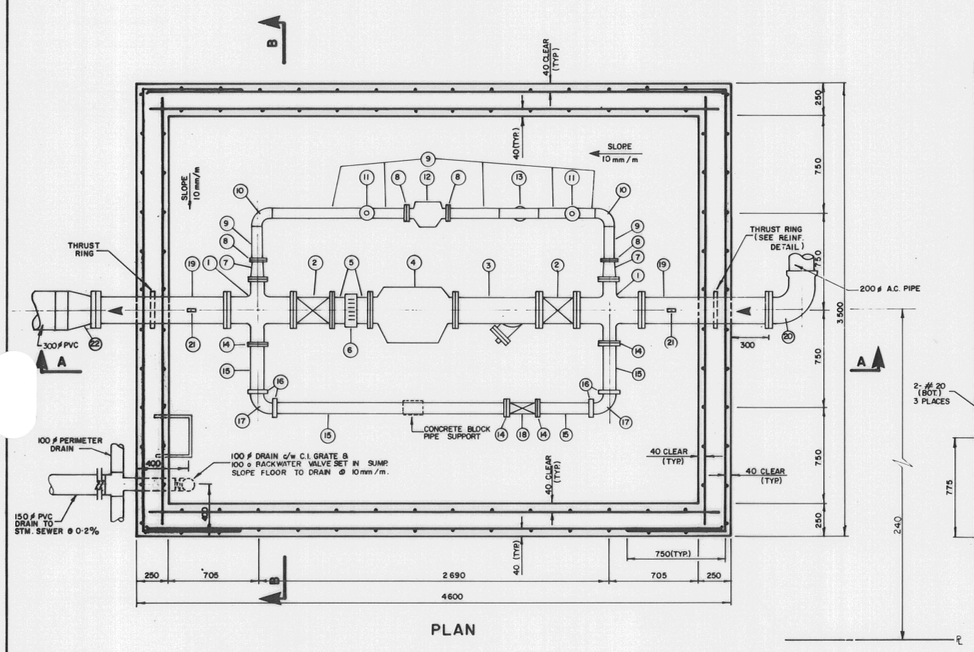
AS CONSTRUCTED

GENSTAR DEVELOPMENT COMPANY
A MEMBER OF THE GENSTAR GROUP OF COMPANIES

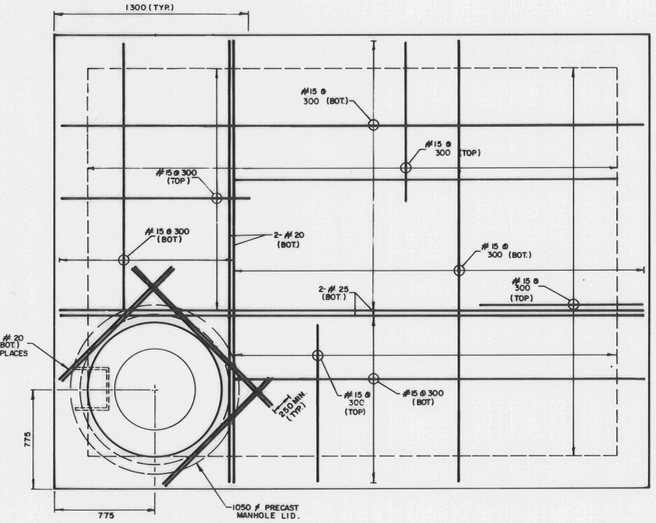
SCALE HORIZ 1:500 VERT 1:50
DRAWING NO 714-631
SHEET ___ OF ___ REVISION 2

W - 809

W-813



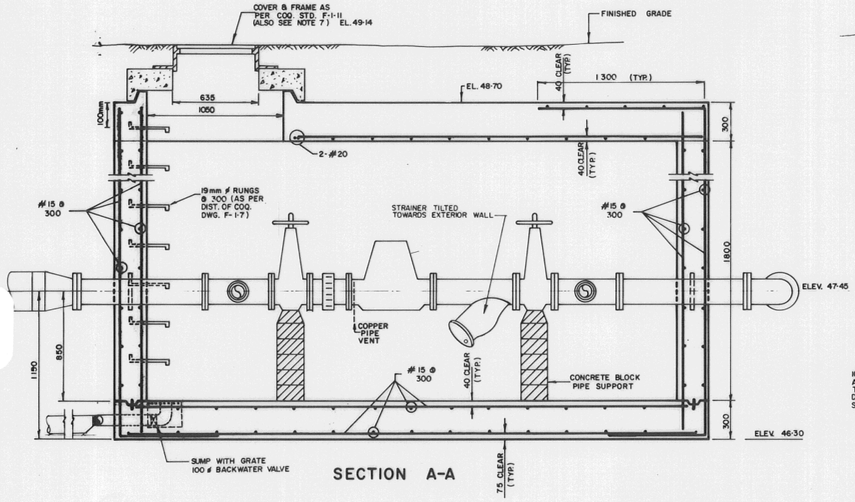
PLAN



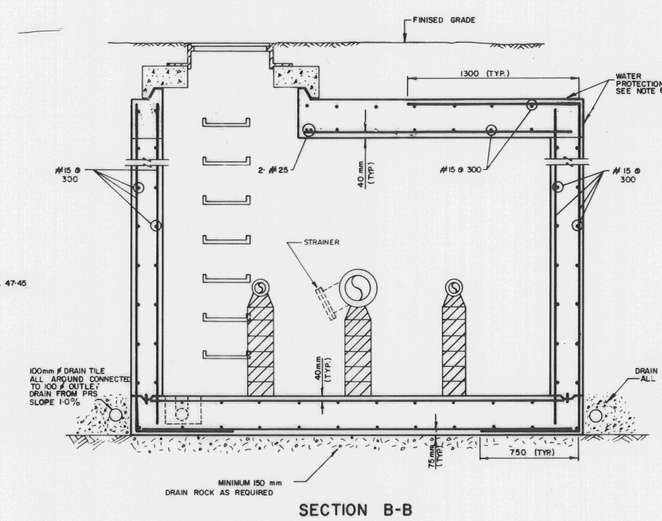
TOP SLAB

BILL OF MATERIALS

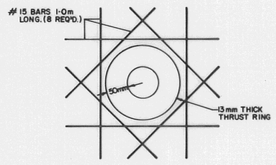
MARK	SIZE	NO. REQUIRED	DESCRIPTION
1	--	2	200 X 200 X 100 X 100 C.I. Cross Flanged
2	200 mm	2	Gate valve (flanged)
3	200 mm	1	Wye Strainer (flanged) c/w blowoff valve
4	200 mm	1	Pressure reducing valve, flange ends, 690 to 1379 KPa reduced pressure range, D/S pressure set at 807 KPa
5	200 mm	2	Steel pipe, flange X victaulic, int. & ext. coated A.W.W.A. C203
6	200 mm	1	Victaulic Coupling
7	--	2	100 X 75 mm concentric reducer flange ends
8	75 mm	4	Adapter threaded X flanged
9	75 mm	7	75 mm schedule 40 steel pipe threaded ends, galvanized
10	75 mm	2	90° elbow (threaded)
11	75 mm	2	Gate valve threaded ends
12	75 mm	1	Pressure reducing valve, flange ends, 690 to 1379 KPa reduced pressure range, D/S pressure set at 841 KPa
13	75 mm	1	Wye strainer threaded ends c/w blowoff valve.
14	100 mm	4	Adapter threaded X flange
15	100 mm	4	Steel pipe galvanized, threaded & victaulic
16	100 mm	4	Victaulic coupling
17	100 mm	2	90° elbow (victaulic)
18	100 mm	1	Gate valve flanged ends
19	200 mm	2	Steel pipe flanged ends, int. & ext. coated A.W.W.A. C203 C/W 300 ø thrust ring.
20	200 mm	1	90° elbow flange X hub
21	--	2	Pressure gauge (0-1379 KPa range)
22	--	1	300 mm Terc-o-plas X 200 mm flange concentric reducer



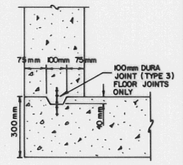
SECTION A-A



SECTION B-B



PIPE OPENING DETAIL (REINFORCING)
NTS



CONSTRUCTION JOINT DETAIL
NTS

NOTES

1. All construction to conform to District of Coquitlam Standards.
2. Concrete shall have a compressive strength of 28 MPa @ 28 days.
3. All galvanizing to be hot dip galvanizing in accordance with CSA G614.
4. All parts and materials supplied to conform to the latest pertinent A.W.W.A. specifications.
5. All reinforcing steel shall have a yield strength of 400 MPa.
6. Water proofing shall consist of two coats of static asphalt protective coating type #1, as made by Flintkote of Canada, or approved equivalent, and shall be applied to all exterior faces of concrete walls from foundation to grade and all below grade roofs.
7. Cover elev. to be level with finished grade.

* SEE W2001 FOR FALCON PRV CHAMBER UPGRADE.

METRIC

NO	REVISION	DATE	BY
2	AS CONSTRUCTED	29.12.81	P.R.
1	WYE STRAINER ORIENTATION REVISED	17.7.81	J.L.H.

DESIGN W.L.
DRAWN W.L., k.o.j.
CHECKED CL.W., W.R.S.
DATE APRIL 1981

EAGLE RIDGE DEVELOPMENT
STAGE 4
· PRESSURE REDUCING STATION DETAILS

AS CONSTRUCTED

GENSTAR DEVELOPMENT COMPANY
A MEMBER OF THE GENSTAR GROUP OF COMPANIES

SCALE 1:20
DRAWING NO 714-770
SHEET __ OF __ REVISION 2

W-813

PORT MOODY

CITY OF COQUITLAM

GUILDFORD WAY

EAGLERIDGE DR.

TYPE 5686 PULL BOX (INSTALLED DIRECTLY AT BACK OF SIDEWALK)

4 x 78mm R.PVC CONDUIT (EMPTY)

TYPE 5686 PULL BOX

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE WORKS ARE COMPLETE AND WERE CONSTRUCTED AS ON THIS 'RECORD DRAWING'.

LCP SIGNAL MANAGEMENT INC.

SIGNED : Larry C. Parks

DATE :

*See E0137, E0050–02 &–03, E0086–03 for earlier street lighting

See CEDMS E0993–01TS/C0120–01 for Traffic Signal

See E0758–01 & –02 for Traffic Signal

1 x 53mm R.PVC CONDUIT

1 x 78mm R.PVC CONDUIT (EMPTY)

4 x 78mm R.PVC CONDUIT (EMPTY) (3m OFF EDGE OF PAVEMENT)

TYPE 5686 PULL BOX (BETWEEN PULL BOX AND CONTROLLER CABINET)

SEE THIS SHT–ABOVE

SEE THIS SHT–BELOW

SEE SHT F.2

NOTE: THIS LINE IS THE FUTURE CURB LINE FOR THIS SECTION

NOTE: THIS LINE IS THE EX. EDGE OF PAVEMENT FOR THIS SECTION

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.

COQUITLAM RECORD DRAWING NO
E0992–01
•C0119–01

No	Date	Revision	Dr.	Ch.
2	SEP25/02	RECORD DRAWINGS	LRM	LCP
1	APR16/02	ISSUED FOR TENDER	LRM	LCP
--	APR11/02	PRELIMINARY REVIEW SET	LRM	LCP

LCP Signal Management Inc.
1447 Gabriola Drive
Coquitlam, B.C.
V3E 2C6
Ph: (604)–942–3631
Fax: (604)–945–9809

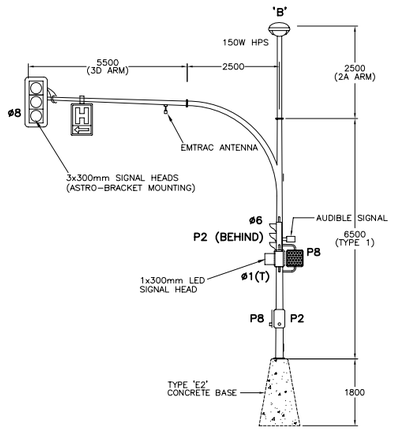
CITY OF COQUITLAM

COMMUNICATIONS INTERCONNECT DESIGN
GUILDFORD WAY CORRIDOR
GUILDFORD WAY FROM PORT MOODY TO PINETREE WAY

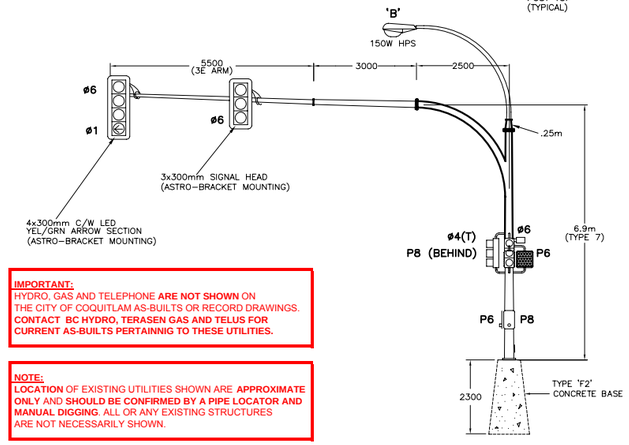
COMMUNICATIONS CONDUIT INSTALL 2002

Scale 1:500	Mun. Proj. No. ??–??	Drwg. No. 1	
Drawn LCP	Mun. Drwg. No.		
Designed LCP			
P.W. P.U.	Job No. 2002–09	Of 4	
Approved	Date MAR 2002	Revision 2	

ACAD GUILDFORD COMM INTERCONNECT.DWG SEP 25, 2002 16:25



①



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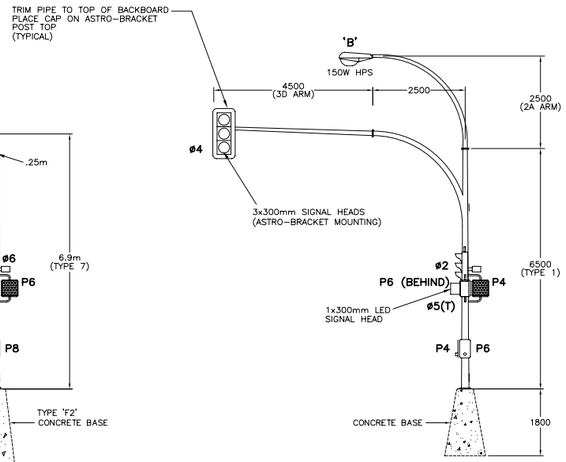

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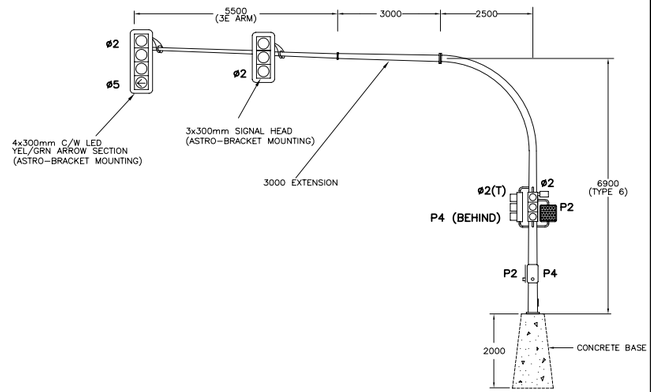

④

ELEVATIONS
1:75

IMPORTANT:
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NOTE:
LOCATION OF EXISTING UTILITIES SHOWN ARE **APPROXIMATE ONLY** AND **SHOULD BE CONFIRMED BY A PIPE LOCATOR AND MANUAL DIGGING**. ALL OR ANY EXISTING STRUCTURES ARE NOT NECESSARILY SHOWN.

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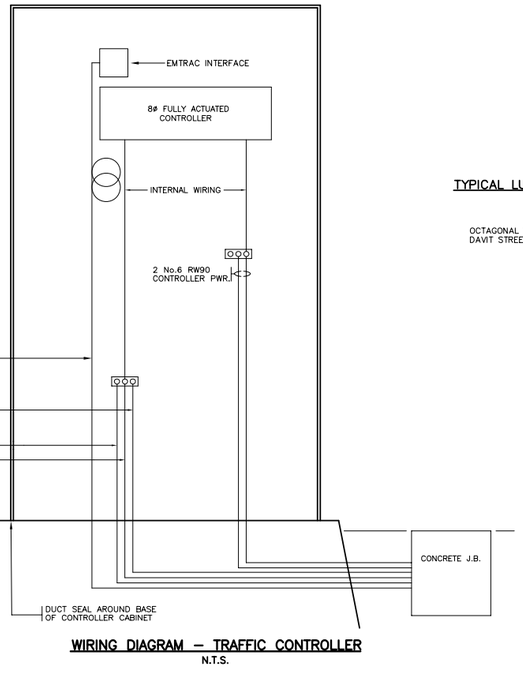
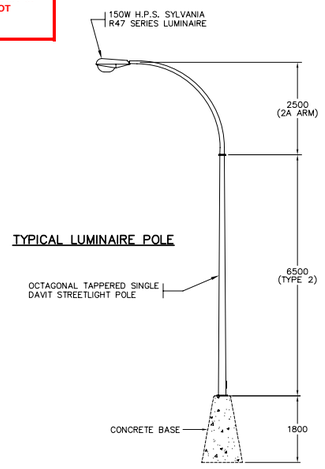
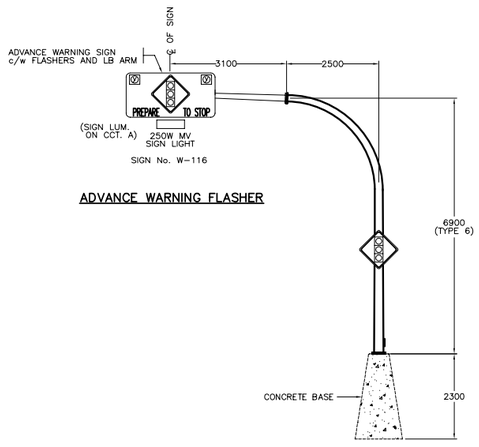


WIRING DIAGRAM – TRAFFIC CONTROLLER
N.T.S.



TYPICAL LUMINAIRE POLE



ADVANCE WARNING FLASHER

⑦

CHECK BEFORE YOU DIG

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

CHECK OVERHEAD WIRING

THE CONTRACTOR SHALL ENSURE THAT ALL POLES AND APPURTENANCES WILL BE A MINIMUM OF 3.0m CLEAR OF OVERHEAD PRIMARY WIRING AND 0.3m CLEAR OF OVERHEAD SECONDARY WIRING PRIOR TO INSTALLING POLE BASES.

INTERSECTION DETECTOR LOOPS

LOOP CONNECTIONS

LOOP No.	DET. CHAN.	ø ASSIGN.	MOVEMENT	CAB. TERM	DELAY	EXTEND
L1	1	2	W.B. CURB	L1A,L1B	–	–
L2	2	2	W.B. CENT.	L2A,L2B	–	–
L3	3	5	W.B. LT LANE	L3A,L3B	–	–
L4	4	5	W.B. LT LANE	L4A,L4B	–	–
L5	5	5	W.B. LT LANE	L5A,L5B	–	–
L6	6	8	N.B. CURB	L6A,L6B	–	–
L7	7	8	N.B. CURB	L7A,L7B	–	–
L8	8	6	E.B. CURB	L8A,L8B	–	–
L9	9	6	E.B. CURB	L9A,L9B	–	–
L10	10	1	E.B. LT LANE	L10A,L10B	–	–
L11	11	1	E.B. LT LANE	L11A,L11B	–	–
L12	12	1	E.B. LT LANE	L12A,L12B	–	–
L13	13	4	S.B. CURB	L13A,L13B	–	–
L14	14	4	S.B. CURB	L14A,L14B	–	–

COQUITLAM RECORD DRAWING NO
•E0993-02TS
C0120-02

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE WORKS ARE COMPLETE AND WERE CONSTRUCTED AS ON THIS 'RECORD DRAWING'.

LCP SIGNAL MANAGEMENT INC.

SIGNED : _____
Larry C. Parks

DATE : _____

LCP Signal Management Inc.
1447 Gabriola Drive
Coquitlam, B.C.
V3E 2C6
Ph: (604)-942-3631
Fax: (604)-945-9809

REV. No.	DATE	REVISION
6		
5		
4		
3	JAN25/04	RECORD DRAWING
2	SEP20/01	ISSUED FOR TENDER
1	AUG28/01	SIGNAL MODS PRELIM DESIGN REVIEW
–	JAN 2001	UPDATE DRAWING TO NEW FORMAT

Destroy All Prints Bearing Rev. No. less than one indicated above

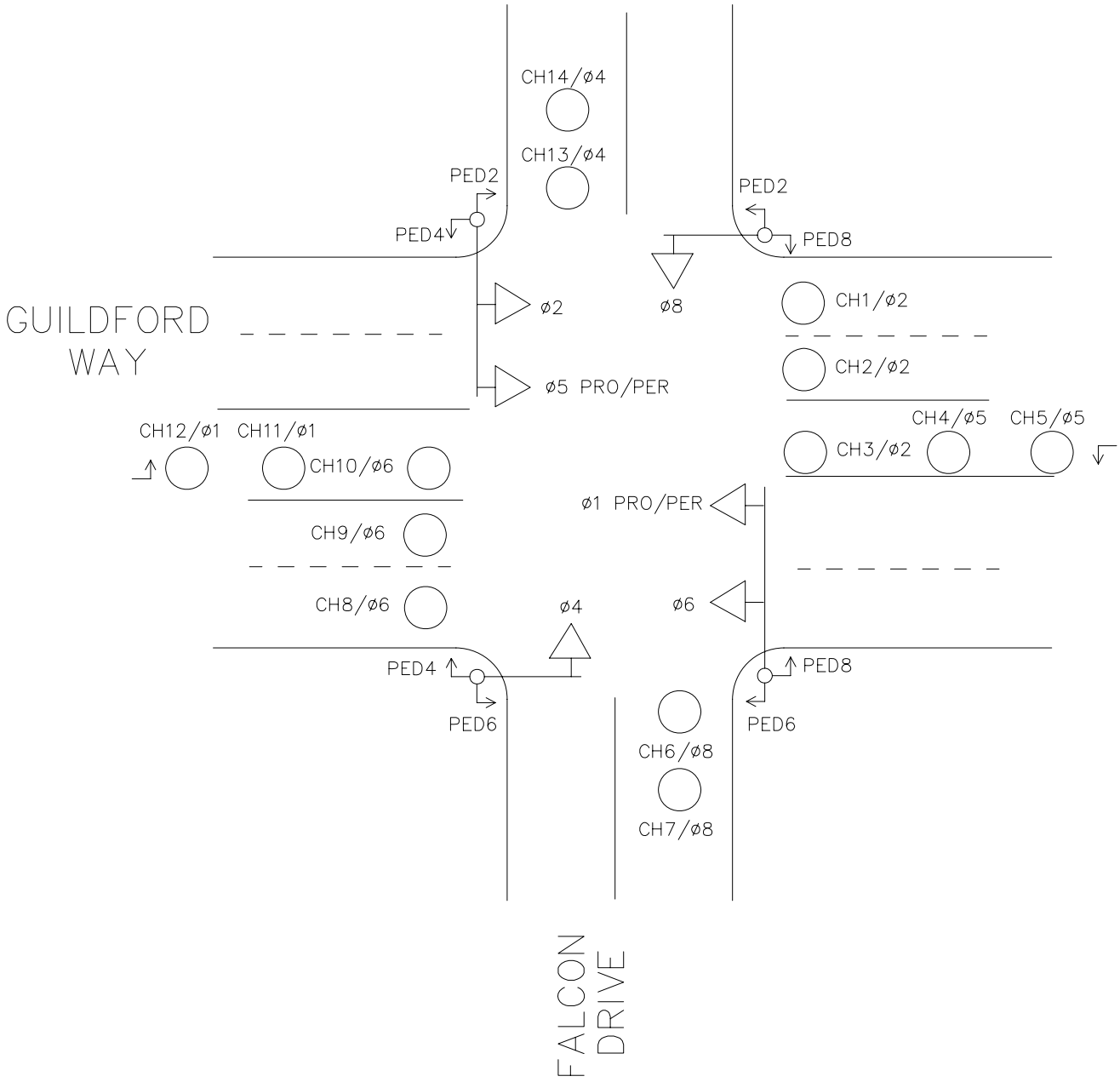
CITY OF COQUITLAM — **Operations**

DESIGNED – L.C.P.
DRAWN – L.C.P.
METRIC SCALE – 1:250
CHECKED – L.R.M.
DATE – JAN 08/01

TRAFFIC SIGNAL UPGRADE GUILDFORD WAY @ FALCON DRIVE DETAILS

DWG FILE: PJ2000-43
SHEET 2 OF 2
REVISION NO. 3

ACAD Falc-Guild Signal Sht 2 REC.dwg JAN 25, 2004 15:30 LCP



TSS 7000

LCP Signal Management Inc.
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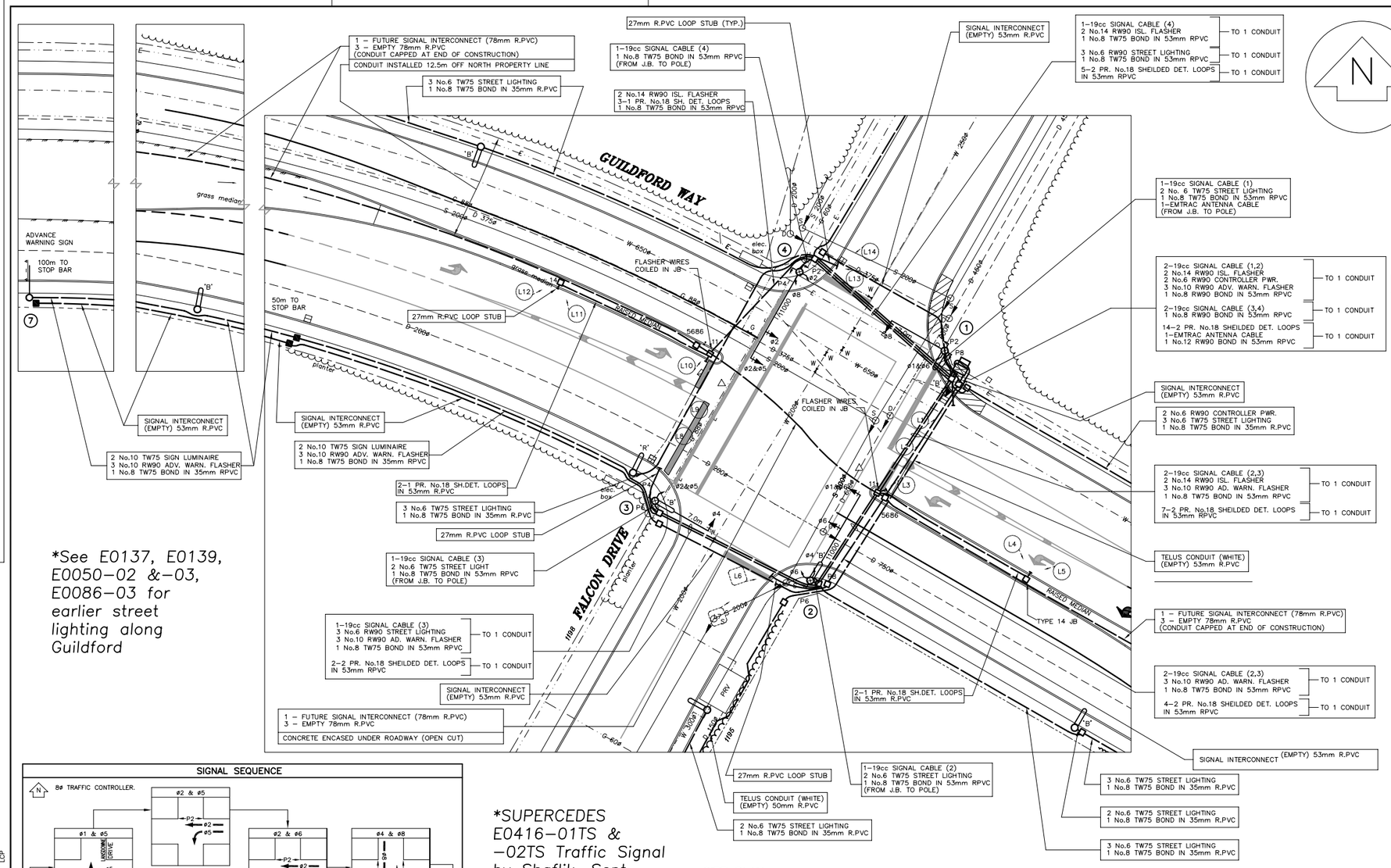
CITY OF COQUITLAM
Intersection Graphics – Basic Design Layout
GUILDFORD WAY @ FALCON DRIVE

Guildford @Falcon-Basic TSS7000.dwg LCP Apr 08, 2006 10:45



*See E0137, E0139, E0050–02 &–03, E0086–03 for earlier street lighting along Guildford

*SUPERCEDES E0416–01TS & –02TS Traffic Signal by Shaflik, Sept 17/91

SITE PLAN
1:250

Note:
Location of existing utilities shown are approximate and should be confirmed by pipe locator and manual digging. All or any existing structures are not necessarily shown.

*See CEDMS E0992–01/C0119–01 for Comm. Duct Interconnect Installation

LEGEND

- COMBINATION TRAFFIC SIGNAL POLE
- PEDESTAL TRAFFIC SIGNAL POLE
- EXISTING STREET LIGHT
- ADVANCE WARNING SIGN/POLE
- 11 PROPOSED PLASTIC ROUND JUNCTION BOX (C/W BONDED STEEL LID) No. DENOTES TYPE
- EXISTING JUNCTION BOX
- A&C LUMINAIRE ON BLACK PHASE CONDUCTOR
- B&D LUMINAIRE ON RED PHASE CONDUCTOR
- 2 VEHICLE PHASE
- P2 PEDESTRIAN PHASE
- B.C. HYDRO POLE
- TRAFFIC CONTROLLER
- SERVICE PANEL
- PROPOSED CONDUIT
- EXISTING CONDUIT
- L9 2m ROUND VEHICLE DETECTOR LOOP

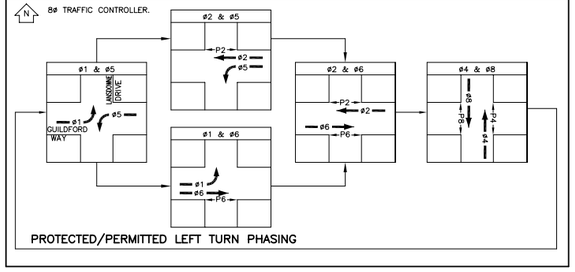
COLOUR CODING (MULTICONDUCTOR SIGNAL CABLE)

19 CONDUCTOR No.14, CSA SPEC. No.C22.2 – No. 239–97 CABLE IN CONDUIT
SOLID CONDUCTORS –– (COLOUR CODING CHART)

CABLE NUMBER REPRESENTS DESTINATION POLE

CONDUCTOR No.	SIGNAL ASSIGNMENT	LETTERING	CONDUCTOR COLOUR
1	NEUTRAL	WHITE ONE	WHITE
2	PB RETURN	WHITE TWO	WHITE
3	PRIMARY PB	––	BLACK
4	SECONDARY PB	––	ORANGE
5	PRIMARY RED	RED ONE	RED
6	SECONDARY RED	RED TWO	RED
7	SPARE	RED THREE	RED
8	PRIMARY PED DW	RED FOUR	RED
9	SECONDARY PED DW	RED FIVE	RED
10	PRIMARY AMBER	AMBER ONE	YELLOW
11	SECONDARY AMBER	AMBER TWO	YELLOW
12	PRIMARY LT AMBER	AMBER THREE	YELLOW
13	SECONDARY LT AMBER	AMBER FOUR	YELLOW
14	SECONDARY WALK	AMBER FIVE	YELLOW
15	PRIMARY GREEN	GREEN ONE	BLUE
16	SECONDARY GREEN	GREEN TWO	BLUE
17	PRIMARY LT GR ARROW	GREEN THREE	BLUE
18	SECONDARY LT GREEN	GREEN FOUR	BLUE
19	PRIMARY WALK	GREEN FIVE	BLUE

SIGNAL SEQUENCE



LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
Edge of pavement			Drainage sewer and MH	D	D	Sanitary sewer and MH	S	S	U/G signal/light duct	L	L
Asphalt curb			Drainage sewer capped end		D	Sanitary sewer, capped end	S	S	Streetlight, davit		
Concrete sidewalk			Catch basin, top inlet			Sanitary sewer, forcemain	FS	FS	Streetlight, post top		
Concrete curb			Catch basin, side inlet			U/G electrical duct and MH	E	E	Traffic signal pole		
Watermain and valve	W	W	Catch basin, round			Utility pole			Traffic signal post		
Watermain, capped end	W	W	Swale			Utility pole with light			Traffic controller		
Hydrant			Ditch			Junction box			Service box		
Water blowoff			Culvert			U/G telephone and MH	T	T	Signal fixture		
Water temporary blowoff			Inlet Structure			U/G gas main and valve	G	G	Traffic street sign		

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COQUITLAM RECORD DRAWING NO
E0993–01TS
•C0120–01

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE WORKS ARE COMPLETE AND WERE CONSTRUCTED AS ON THIS 'RECORD DRAWING'.

LCP SIGNAL MANAGEMENT INC.

SIGNED : Larry C. Parks

DATE :

LCP Signal Management Inc.
1447 Gabriola Drive
Coquitlam, B.C.
V3E 2C6
Ph: (604)–942–3631
Fax: (604)–945–9809

REV. No.	DATE	REVISION
6		
5		
4		
3	JAN25/04	RECORD DRAWING
2	SEP20/01	ISSUED FOR TENDER
1	AUG28/01	SIGNAL MODS PRELIM DESIGN REVIEW
–	JAN 2001	UPDATE DRAWING TO NEW FORMAT

Destroy All Prints Bearing Rev. No. less than one indicated above

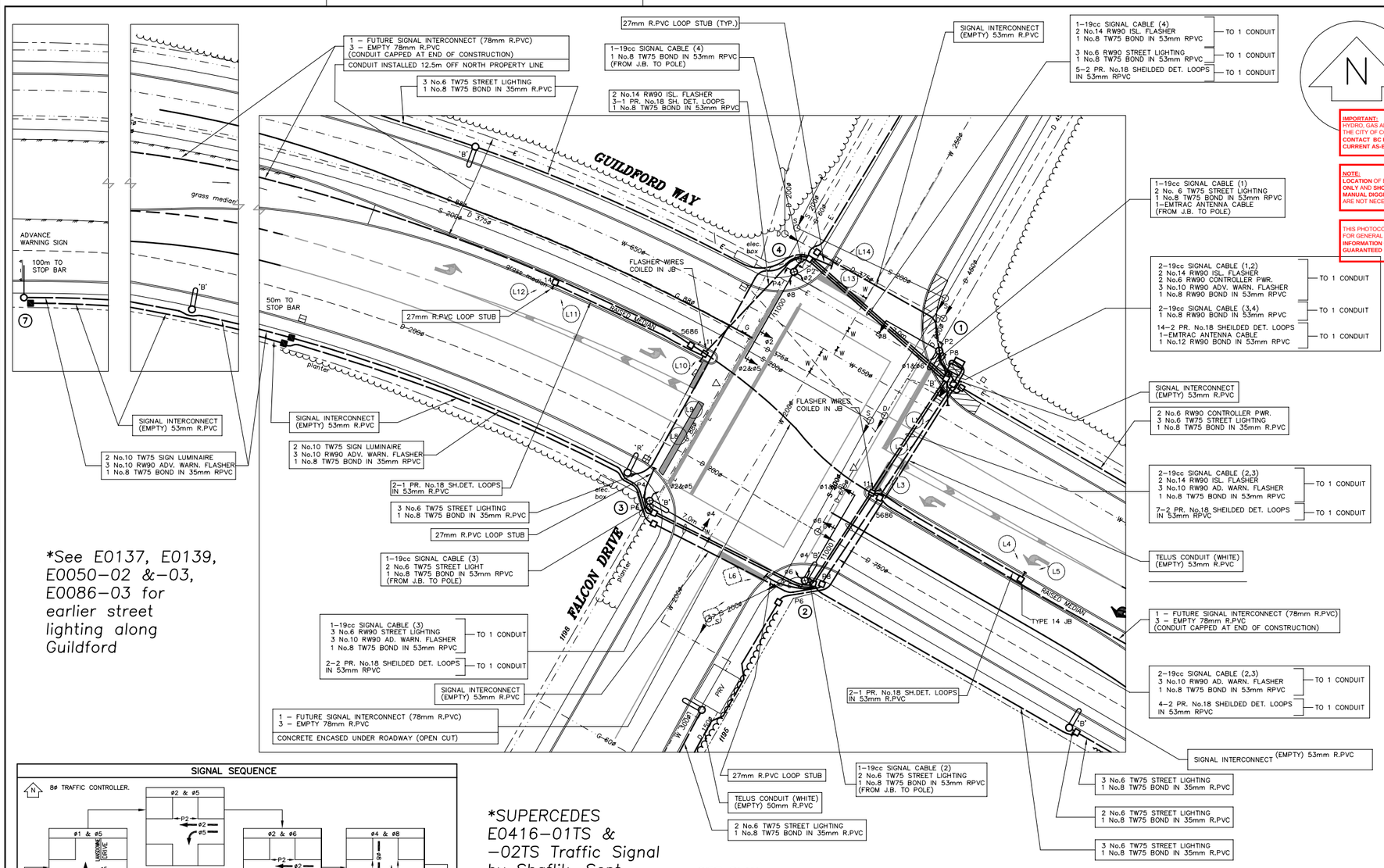
CITY OF COQUITLAM — **Operations**

DESIGNED – L.C.P.
DRAWN – L.C.P.
METRIC SCALE – 1:250
CHECKED – L.R.M.
DATE – JAN 08/01

TRAFFIC SIGNAL UPGRADE GUILDFORD WAY @ FALCON DRIVE PLAN VIEW

DWG FILE: PJ2000–43
SHEET 1 OF 2
REVISION NO. 3

ACAD Falc–Guild Signal Sht 1 REC.dwg JAN 25, 2004 15:30 LCP



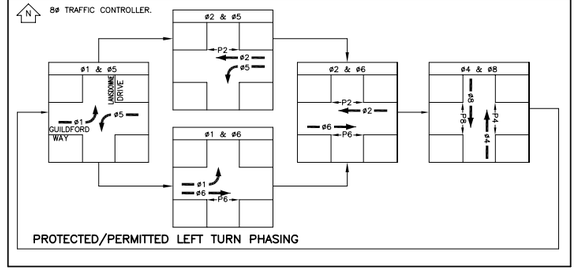
*See E0137, E0139, E0050–02 &–03, E0086–03 for earlier street lighting along Guildford

*SUPERCEDES E0416–01TS & –02TS Traffic Signal by Shaflik, Sept 17/91

SITE PLAN
1:250

*See CEDMS E0992–01/C0119–01 for Comm. Duct Interconnect Installation

SIGNAL SEQUENCE



LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
Edge of pavement			Drainage sewer and MH			Sanitary sewer and MH			U/G signal/light duct		
Asphalt curb			Drainage sewer capped end			Sanitary sewer, capped end			Streetlight, davit		
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Watermain, capped end			Swale			Utility pole with light			Traffic controller		
Hydrant			Ditch			Junction box			Service box		
Water blowoff			Culvert			U/G telephone and MH			Signal fixture		
Water temporary blowoff			Inlet Structure			U/G gas main and valve			Traffic street sign		

LEGEND

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- PEDESTAL TRAFFIC SIGNAL POLE
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- B&D LUMINAIRE ON RED PHASE CONDUCTOR
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- P2 PEDESTRIAN PHASE
- B.C. HYDRO POLE
- TRAFFIC CONTROLLER
- SERVICE PANEL
- PROPOSED CONDUIT
- EXISTING CONDUIT
- L9 2m ROUND VEHICLE DETECTOR LOOP

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6	SECONDARY RED	RED TWO	RED
7	SPARE	RED THREE	RED
8	PRIMARY PED DW	RED FOUR	RED
9	SECONDARY PED DW	RED FIVE	RED
10	PRIMARY AMBER	AMBER ONE	YELLOW
11	SECONDARY AMBER	AMBER TWO	YELLOW
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17	PRIMARY LT GR ARROW	GREEN THREE	BLUE
18	SECONDARY LT GREEN	GREEN FOUR	BLUE
19	PRIMARY WALK	GREEN FIVE	BLUE

COQUITLAM RECORD DRAWING NO
•E0993–01TS
C0120–01

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1	AUG28/01	SIGNAL MODS PRELIM DESIGN REVIEW
–	JAN 2001	UPDATE DRAWING TO NEW FORMAT

Destroy All Prints Bearing Rev. No. less than one indicated above

CITY OF COQUITLAM — **Operations**

TRAFFIC SIGNAL UPGRADE GUILDFORD WAY @ FALCON DRIVE PLAN VIEW

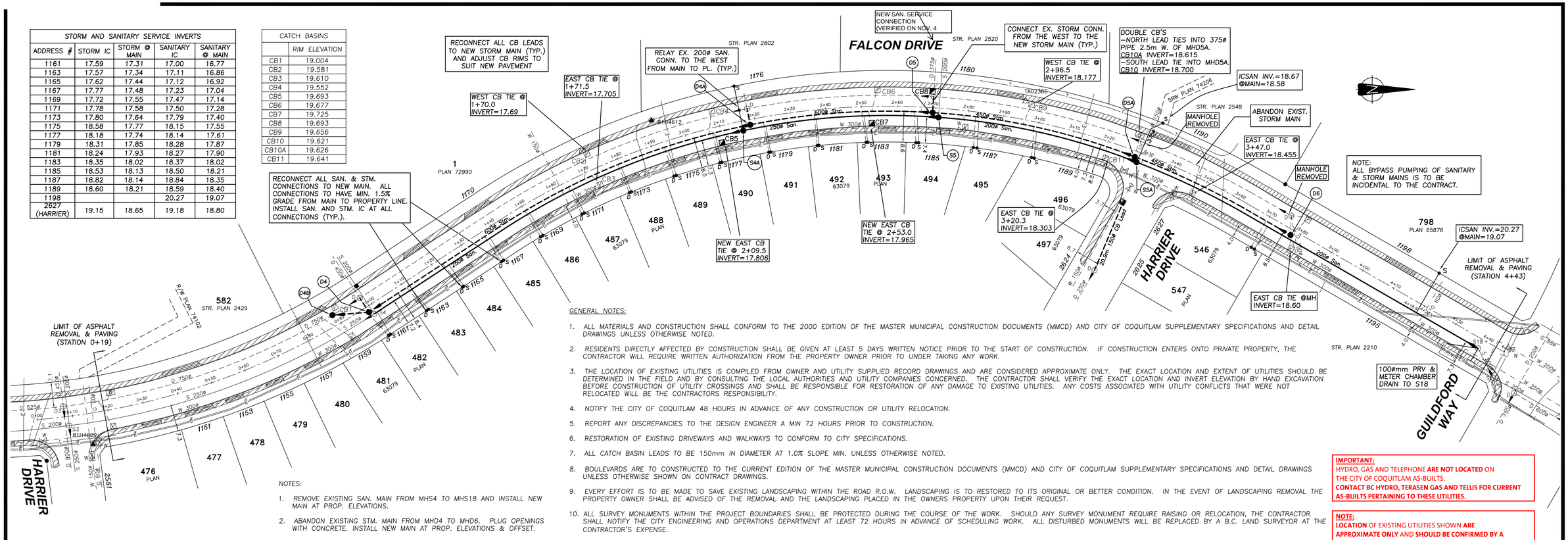
DESIGNED – L.C.P.
DRAWN – L.C.P.
METRIC SCALE – 1:250
CHECKED – L.R.M.
DATE – JAN 08/01

DWG FILE: PJ2000–43
SHEET 1 OF 2
REVISION NO. 3

ACAD Falc–Guild Signal Sht 1 REC.dwg JAN 25, 2004 15:30 LCP

STORM AND SANITARY SERVICE INVERTS				
ADDRESS #	STORM IC	STORM @ MAIN	SANITARY IC	SANITARY @ MAIN
1161	17.59	17.31	17.00	16.77
1163	17.57	17.34	17.11	16.86
1165	17.62	17.44	17.12	16.92
1167	17.77	17.48	17.23	17.04
1169	17.72	17.55	17.47	17.14
1171	17.78	17.58	17.50	17.28
1173	17.80	17.64	17.79	17.40
1175	18.58	17.77	18.15	17.55
1177	18.18	17.74	18.14	17.61
1179	18.31	17.85	18.28	17.87
1181	18.24	17.93	18.27	17.90
1183	18.35	18.02	18.37	18.02
1185	18.53	18.13	18.50	18.21
1187	18.82	18.14	18.84	18.35
1189	18.60	18.21	18.59	18.40
1198			20.27	19.07
2627 (HARRIER)	19.15	18.65	19.18	18.80

CATCH BASINS	
	RIM ELEVATION
CB1	19.004
CB2	19.581
CB3	19.610
CB4	19.552
CB5	19.693
CB6	19.677
CB7	19.725
CB8	19.693
CB9	19.656
CB10	19.621
CB10A	19.626
CB11	19.641



NOTES:

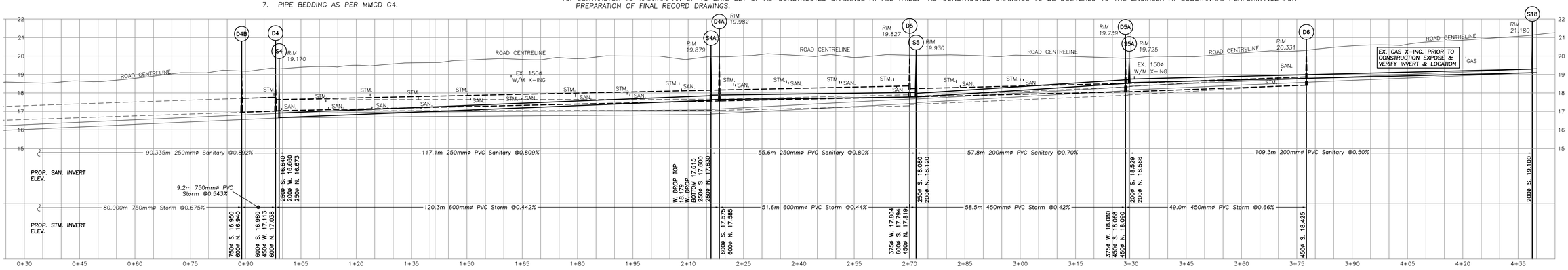
1. REMOVE EXISTING SAN. MAIN FROM MHS4 TO MHS18 AND INSTALL NEW MAIN AT PROP. ELEVATIONS.
2. ABANDON EXISTING STM. MAIN FROM MHD4 TO MHD6. PLUG OPENINGS WITH CONCRETE. INSTALL NEW MAIN AT PROP. ELEVATIONS & OFFSET.
3. REMOVE EXISTING SAN. AND STM. MANHOLES AND REPLACE MANHOLES TO SUIT NEW GRADES & ELEVATIONS EXCEPT MANHOLE S4 & S18.
4. REMOVE THE REMAINING ASPHALT & RE-GRADE BASE FROM CURB TO CURB AND INSTALL TWO LIFTS OF ASPHALT, 60mm OF LOWER COURSE #1 MMCD, & 50mm OF SUPERPAVE UPPER COURSE FROM HARRIER DR. TO GUILDFORD WAY.
5. REINSTATE TRAFFIC LOOPS ON FALCON & GUILDFORD WAY. INFORM TRAFFIC DEPT. 72 HOURS PRIOR TO REMOVING LOOPS.
6. LIGHTWEIGHT BACKFILL OF THE NEW SANITARY & STORM MAINS TO BE INSTALLED.
7. PIPE BEDDING AS PER MMCD G4.

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE 2000 EDITION OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND CITY OF COQUITLAM SUPPLEMENTARY SPECIFICATIONS AND DETAIL DRAWINGS UNLESS OTHERWISE NOTED.
2. RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION SHALL BE GIVEN AT LEAST 5 DAYS WRITTEN NOTICE PRIOR TO THE START OF CONSTRUCTION. IF CONSTRUCTION ENTERS ONTO PRIVATE PROPERTY, THE CONTRACTOR WILL REQUIRE WRITTEN AUTHORIZATION FROM THE PROPERTY OWNER PRIOR TO UNDER TAKING ANY WORK.
3. THE LOCATION OF EXISTING UTILITIES IS COMPILED FROM OWNER AND UTILITY SUPPLIED RECORD DRAWINGS AND ARE CONSIDERED APPROXIMATE ONLY. THE EXACT LOCATION AND EXTENT OF UTILITIES SHOULD BE DETERMINED IN THE FIELD AND BY CONSULTING THE LOCAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND INVERT ELEVATION BY HAND EXCAVATION BEFORE CONSTRUCTION OF UTILITY CROSSINGS AND SHALL BE RESPONSIBLE FOR RESTORATION OF ANY DAMAGE TO EXISTING UTILITIES. ANY COSTS ASSOCIATED WITH UTILITY CONFLICTS THAT WERE NOT RELOCATED WILL BE THE CONTRACTORS RESPONSIBILITY.
4. NOTIFY THE CITY OF COQUITLAM 48 HOURS IN ADVANCE OF ANY CONSTRUCTION OR UTILITY RELOCATION.
5. REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER A MIN 72 HOURS PRIOR TO CONSTRUCTION.
6. RESTORATION OF EXISTING DRIVEWAYS AND WALKWAYS TO CONFORM TO CITY SPECIFICATIONS.
7. ALL CATCH BASIN LEADS TO BE 150mm IN DIAMETER AT 1.0% SLOPE MIN. UNLESS OTHERWISE NOTED.
8. BOULEVARDS ARE TO CONSTRUCTED TO THE CURRENT EDITION OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND CITY OF COQUITLAM SUPPLEMENTARY SPECIFICATIONS AND DETAIL DRAWINGS UNLESS OTHERWISE SHOWN ON CONTRACT DRAWINGS.
9. EVERY EFFORT IS TO BE MADE TO SAVE EXISTING LANDSCAPING WITHIN THE ROAD R.O.W. LANDSCAPING IS TO RESTORED TO ITS ORIGINAL OR BETTER CONDITION. IN THE EVENT OF LANDSCAPING REMOVAL THE PROPERTY OWNER SHALL BE ADVISED OF THE REMOVAL AND THE LANDSCAPING PLACED IN THE OWNERS PROPERTY UPON THEIR REQUEST.
10. ALL SURVEY MONUMENTS WITHIN THE PROJECT BOUNDARIES SHALL BE PROTECTED DURING THE COURSE OF THE WORK. SHOULD ANY SURVEY MONUMENT REQUIRE RAISING OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEERING AND OPERATIONS DEPARTMENT AT LEAST 72 HOURS IN ADVANCE OF SCHEDULING WORK. ALL DISTURBED MONUMENTS WILL BE REPLACED BY A B.C. LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
11. SURVEY PINS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL REPLACED BY A B.C. LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SIGNAGE, BARRIERS, FLASHING INDICATORS, ETC. AT ALL TIMES TO ENSURE THE SAFETY OF THE PUBLIC. TRAFFIC CONTROL WILL BE REQUIRED FOR ALL CONSTRUCTION WORKS WITHIN THE TRAVELED PORTION OF THE ROAD. NO ROAD SHALL BE CLOSED WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR OF ENGINEERING AND OPERATIONS.
13. ALL PUBLIC ROADWAYS AFFECTED BY THE WORKS SHALL BE KEPT IN A CLEAN STATE AT ALL TIMES. DUST CONTROL MEASURES SHALL BE EMPLOYED DURING THE COURSE OF THE WORK.
14. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING THE VARIOUS PARTS OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THERE IS NO DISRUPTION TO SERVICE, AND IF DISRUPTION IS ANTICIPATED, TO NOTIFY THE DESIGN ENGINEER A MINIMUM OF 72 HOURS PRIOR, AND OBTAIN APPROVAL FOR THE DISRUPTION.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCAVATED MATERIAL UNSUITABLE FOR REUSE AT A SUITABLE OFF-SITE DISPOSAL AREA, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
16. CONTRACTOR TO MAINTAIN AN UP TO DATE SET OF AS-CONSTRUCTED DRAWINGS AT ALL TIMES. AS-CONSTRUCTED DRAWINGS TO BE DELIVERED TO THE ENGINEER AT SUBSTANTIAL PERFORMANCE FOR PREPARATION OF FINAL RECORD DRAWINGS.

SUPPLEMENTARY LEGEND

- Iron pin found
- Lead Plug found
- Control point placed
- Control monument found



	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
Edge of pavement			Drainage sewer, MH			Sanitary sewer, MH			U/G signal/light duct		
Asphalt curb			Drainage service, Cleanout			Sanitary service, Cleanout			Streetlight, davit		
Concrete sidewalk			Catch basin, top inlet			Sanitary sewer, forcemain			Streetlight, post top		
Concrete curb			Catch basin, side inlet			U/G electrical duct, MH			Traffic signal pole		
Watermain and valve			Catch basin, round			Utility pole			Traffic signal post		
Water service box/curb stop			Swale			Utility pole with light			Traffic street sign		
Hydrant			Ditch			Junction box			Flasher		
Water blowoff			Culvert			U/G telecommunication, MH			Signal fixture		
Water air valve			Inlet/Outlet Structure			U/G gas main and valve			Combination traffic signal pole		

IMPORTANT:
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NOTE:
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COQ. ASBUILT No.
D2544
S1900

PROJECT# 85181

Destroy All Prints Bearing Rev. No. less than one indicated below

REV.	DATE	REVISION
1	SEP 12 11	CB ELEVATIONS ADDED

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

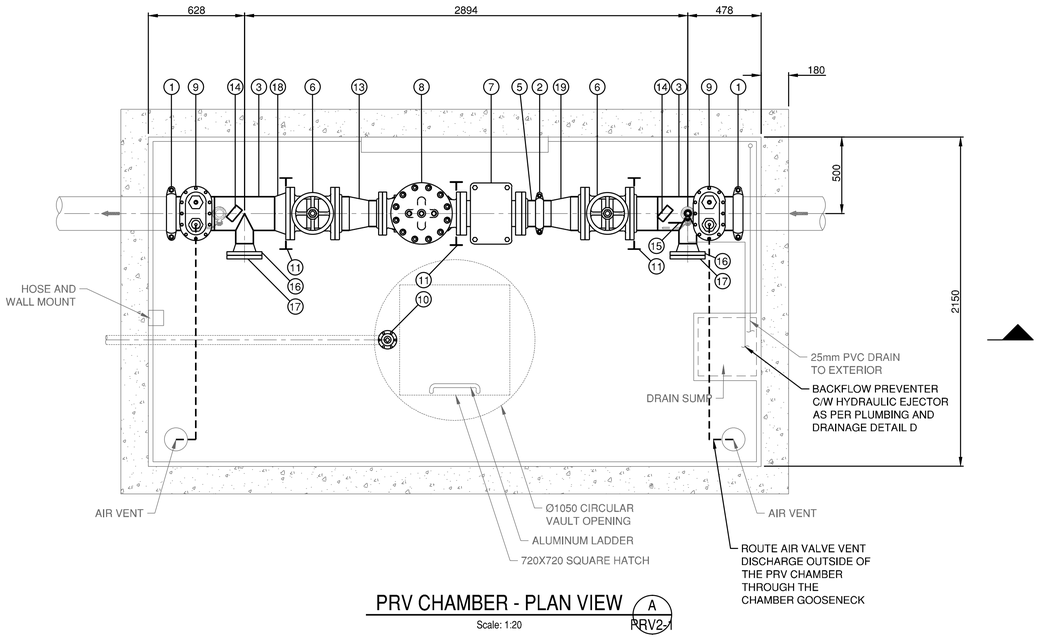
Project: FALCON DRIVE
Harrier Dr. to Guildford Dr.
Sewer Rehab. & Paving

DESIGNED	SCALE Horiz. 1:500 Vert. 1:100	DATE JAN 4 09
DRAWN A.S.K.	DWG FILE: 11Falcon01071611A0	
CHECKED	SHEET 1 OF 1	REV. 1
APPROVED		

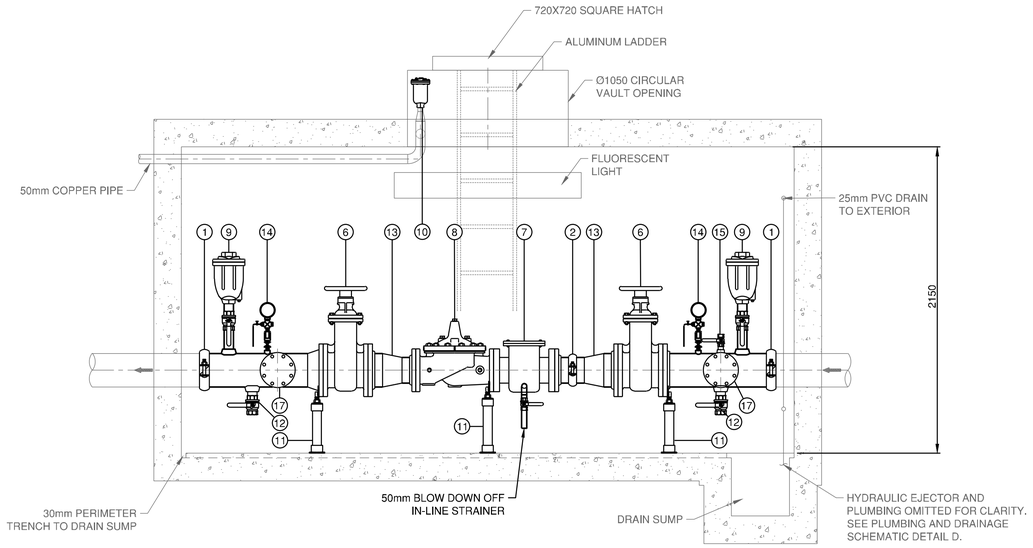
PLOT DATE/TIME: Tuesday, September 13, 2011 9:26:31 AM

Pinetree PRV

Falcon & Pinetree PRVs_90%_2026-04-01



PRV CHAMBER - PLAN VIEW (A PRV2-1)
Scale: 1:20



PRV CHAMBER - LONGITUDINAL SECTION (B PRV2-1)
Scale: 1:20

NOTES:

1. ALL DIMENSIONS SHOWN HERE ARE TAKEN FROM OLD AS CONSTRUCTED DRAWINGS. THE CONTRACTOR IS TO PERFORM SITE MEASUREMENTS TO SATISFY THEMSELVES OF THE ACTUAL SITE CONDITIONS AND EXISTING EQUIPMENT
2. EXISTING PIPE AND EQUIPMENT SHOWN GREY (TO BE RETAINED). NEW PIPE AND EQUIPMENT SHOWN BLACK
3. PIPE ROUTING, FITTINGS, AND CONNECTIONS ARE SHOWN HERE AS A GENERAL GUIDE. CONTRACTOR IS TO SIZE AND FIT PIPE AS NEEDED TO FIT THE EXISTING CONDITIONS AND AVAILABLE CONNECTIONS

BILL OF MAJOR MATERIALS	
ITEM	DESCRIPTION
1	200 DIA VIC. NO. 77 FLEXIBLE GROOVED COUPLING
2	150 DIA VIC. NO. 07 RIGID GROOVED COUPLING
3	200X200X100 DIA CS PIPE SPOOL, GE X FL X FL, OAL AS REQ'D, THREAD-O-LETS AND WELD-O-LETS AS REQ'D
4	INTENTIONALLY LEFT BLANK
5	150 DIA CS PIPE SPOOL, FL X GE, OAL AS REQ'D, THREAD-O-LETS AS REQ'D
6	200 DIA GATE VALVE, FL X FL
7	150 DIA DUCTILE IRON BODY IN-LINE STRAINER, FL X FL, C/W 50 DIA BLOW DOWN
8	150 DIA DUCTILE IRON BODY, PILOT OPERATED PRESSURE REDUCING VALVE, FL X FL
9	50 DIA DUCTILE IRON BODY, COMBINATION AIR VALVE, NPT
10	25 DIA DUCTILE IRON BODY, AIR RELEASE VALVE, FL, C/W DRAIN PORT
11	PIPE SUPPORT, FLANGE STYLE, [SEE DETAIL A, SHEET 4]
12	50 DIA SS BODY, DRAIN LINE VALVE ASSEMBLY, NPT X NPT, [SEE DETAIL B, SHEET 4]
13	200X150 DIA CS PIPE SPOOL, FL X FL, OAL AS REQ'D
14	PRESSURE GAUGE ASSEMBLY (TYP. 2) [SEE DETAIL C, SHEET 4]
15	19 DIA HOSE BIB C/W VACUUM BREAKER AND HYDRAULIC EJECTOR [SEE DETAIL D, SHEET 4]
16	100 DIA WELD NECK FLANGE
17	100 DIA BLIND FLANGE
18	200 DIA WELD NECK FLANGE
19	200X150 DIA CS PIPE SPOOL, GE X FL, OAL AS REQ'D

FOR REFERENCE ONLY

AS SHOWN

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

Edge of pavement		Hydrant		Sanitary service		Hydro Guy Wire			
Watermain and valve	W	Water air valve		Sanitary cleanout		Hydro Kiosk	H		
Drainage sewer, MH	D	Water blowoff		Utility pole(joint pole)		Vegetation Conifer			
Drainage ditch		Water service		Utility pole with light		Vegetation Deciduous			
Sanitary sewer, MH	S	Catch basin, top inlet		Streetlight, davit		Vegetation Shrub			
Sanitary forcemain	SFM	Catch basin, side inlet		Streetlight, post top		Survey Traverse Hub			
Gasmain and valve	G	Catch basin, round		Comb signal pole		Survey Iron Pin	DIP		
Hydro duct, MH	H	Drainage service		Traffic signal pole		Survey Lead Plug			
Telephone duct, MH	T	Drainage cleanout		Junction box		Survey Monument			

No.	Date	By	Revisions
1	2026-04-01	AY	ISSUED FOR 90% DESIGN
0	2026-01-13	LV	PRELIMINARY DESIGN

Design by ES	Date 2026-03-13
Drawn by LV	Date 2026-03-13
Checked by ER	Date 2026-03-13
Approved by TB	Date 2026-03-12

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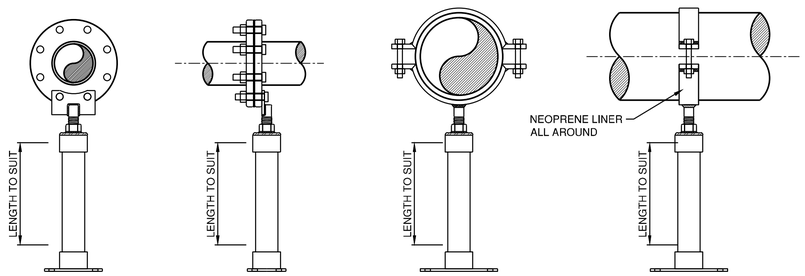
Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

Scale horiz. AS SHOWN Scale vert. AS SHOWN
Sheet 03 of 04
Eng. Project No. 25-0749

Project PINETREE WAY
1619 PINETREE WAY
Description PRV - PLAN AND SECTION
File: 25-0749-PRV2-1 REV. 1

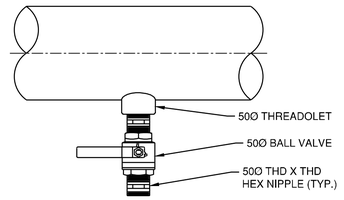
Plot Date: April 1, 2026

Falcon & Pinetree PRVs_90%_2026-04-01



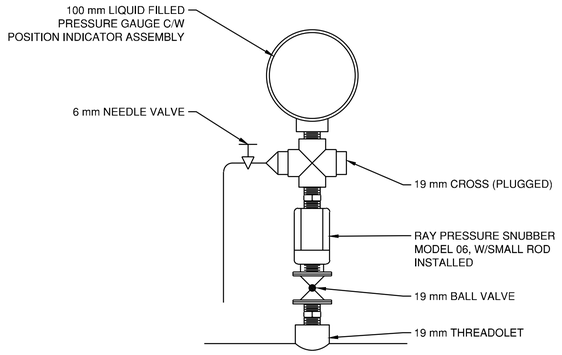
TYPICAL ADJUSTABLE PIPE STANDS (A 03)

Scale: NTS



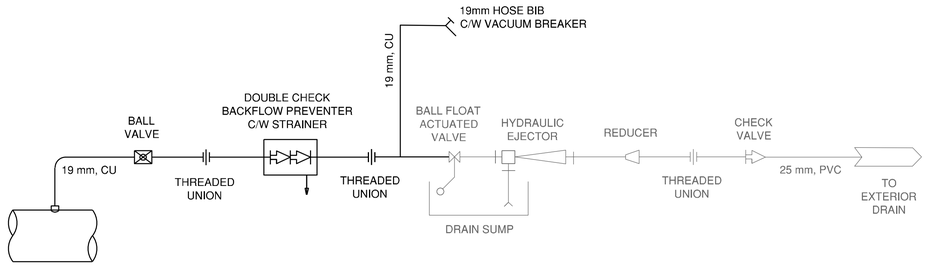
DRAIN LINE ASSEMBLY DETAIL (B 03)

Scale: NTS



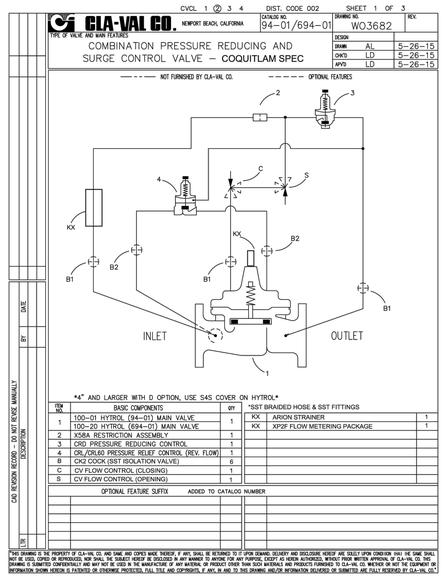
PRESSURE GAUGE ASSEMBLY DETAIL (C 03)

Scale: NTS



PLUMBING AND DRAINAGE SCHEMATIC (D 03)

Scale: NTS



PRESSURE REDUCING VALVE PILOTING SCHEMATIC (E 03)

Scale: NTS

FOR REFERENCE ONLY

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

AS SHOWN

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This drawing is not to be used for construction unless it is stamped "ISSUED FOR CONSTRUCTION" and signed by R.F. Binnie & Associates Ltd. It is the contractor's responsibility to ensure that he is in possession of the latest revision of this drawing.

Edge of pavement		Hydrant		Sanitary service		Hydro Guy Wire	
Watermain and valve	W	Water air valve		Sanitary cleanout		Hydro Kiosk	H
Drainage sewer, MH	D	Water blowoff		Utility pole(joint pole)		Vegetation Conifer	
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Sanitary forcemain	SFM	Catch basin, side inlet		Streetlight, post top		Survey Traverse Hub	
Gasmain and valve	G	Catch basin, round		Comb signal pole		Survey Iron Pin	
Hydro duct, MH	H	Drainage service		Traffic signal pole		Survey Lead Plug	
Telephone duct, MH	T	Drainage cleanout		Junction box		Survey Monument	

No.	Date	By	Revisions
1	2026-04-01	AY	ISSUED FOR 90% DESIGN
0	2026-01-13	LV	PRELIMINARY DESIGN

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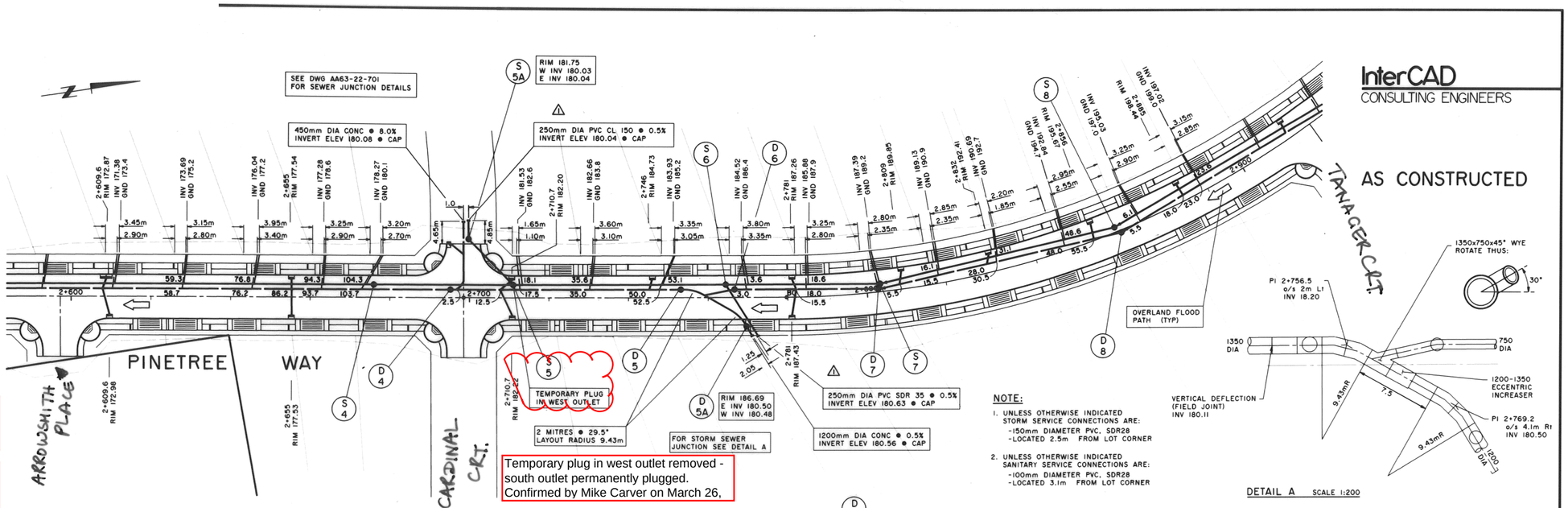
Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

Scale horiz. AS SHOWN Scale vert. AS SHOWN
Sheet 04 of 04
Eng. Project No. 25-0749

Project PINETREE WAY
1619 PINETREE WAY
Description PRV - DETAILS
File: 25-0749-PRV2-2 REV. 1

Plot Date: April 1, 2026

S 1215-2



NOTE:

1. UNLESS OTHERWISE INDICATED STORM SERVICE CONNECTIONS ARE:
   -150mm DIAMETER PVC, SDR28
   -LOCATED 2.5m FROM LOT CORNER
2. UNLESS OTHERWISE INDICATED SANITARY SERVICE CONNECTIONS ARE:
   -100mm DIAMETER PVC, SDR28
   -LOCATED 3.1m FROM LOT CORNER

DETAIL A SCALE 1:200

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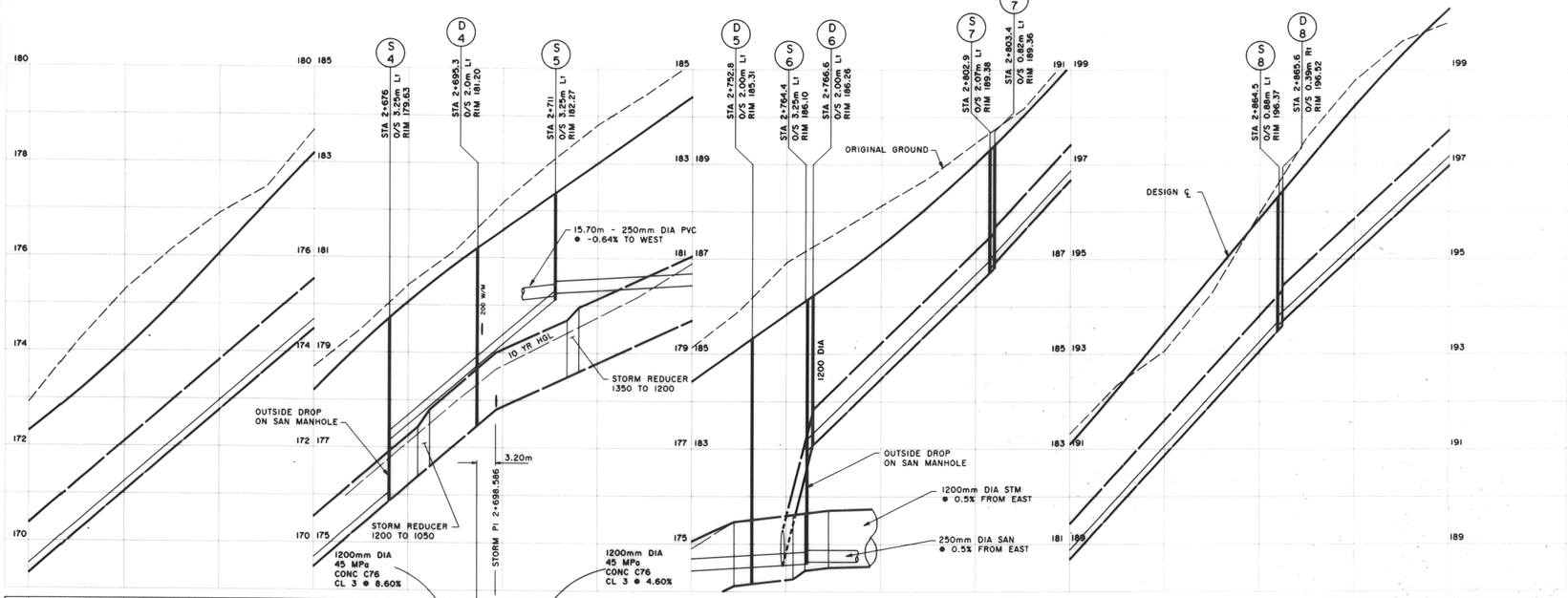


℄ STATION	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900
STORM SEWER	126.05m - 1050mm DIA 45 MPa CONC C76 CL 3 @ 8.60% S177.47 N177.55						1350mm DIA 45 MPa CONC C76 CL 3 @ 4.60% 1350mm DIA 45 MPa CONC C76 CL 3 @ 1.20% S180.15 N180.18			36.6m - 750mm DIA 45 MPa CONC C76 CL 3 @ 8.4% S182.88 N183.05 S186.13 N186.16		61.8m - 750mm DIA 45 MPa CONC C76 CL 3 @ 11.8%			S193.43 N193.56	69.5m - 750mm DIA 45 MPa CONC C76 CL 3 @ 9.2%
SANITARY SEWER	104.1m - 200mm DIA PVC SDR 35 @ 8.4% S175.59 N177.12				34.45m - 200mm DIA PVC SDR 35 @ 8.5% (TEMPORARY) S180.03 W180.14 N180.22		54.0m - 250mm DIA PVC SDR 35 @ 0.5%		S180.51 N182.86 E180.52	39.2m - 250mm DIA PVC SDR 35 @ 8.5%		S186.18 N186.19	59.8m - 200mm DIA PVC SDR 35 @ 11.8%		S193.21 N193.24	69.4m - 200mm DIA PVC SDR 35 @ 9.6%

SEE DETAIL A

NO.	REVISION	DATE	BY
2	AS CONSTRUCTED	93-01-06	K.N.
1	REVISED AS PER COQUITLAM REVIEW	92-05-27	RC

DESIGNED
DRAWN D.Y.
SCALE 1:500 H / 1:50 V
DATE NOV 1991

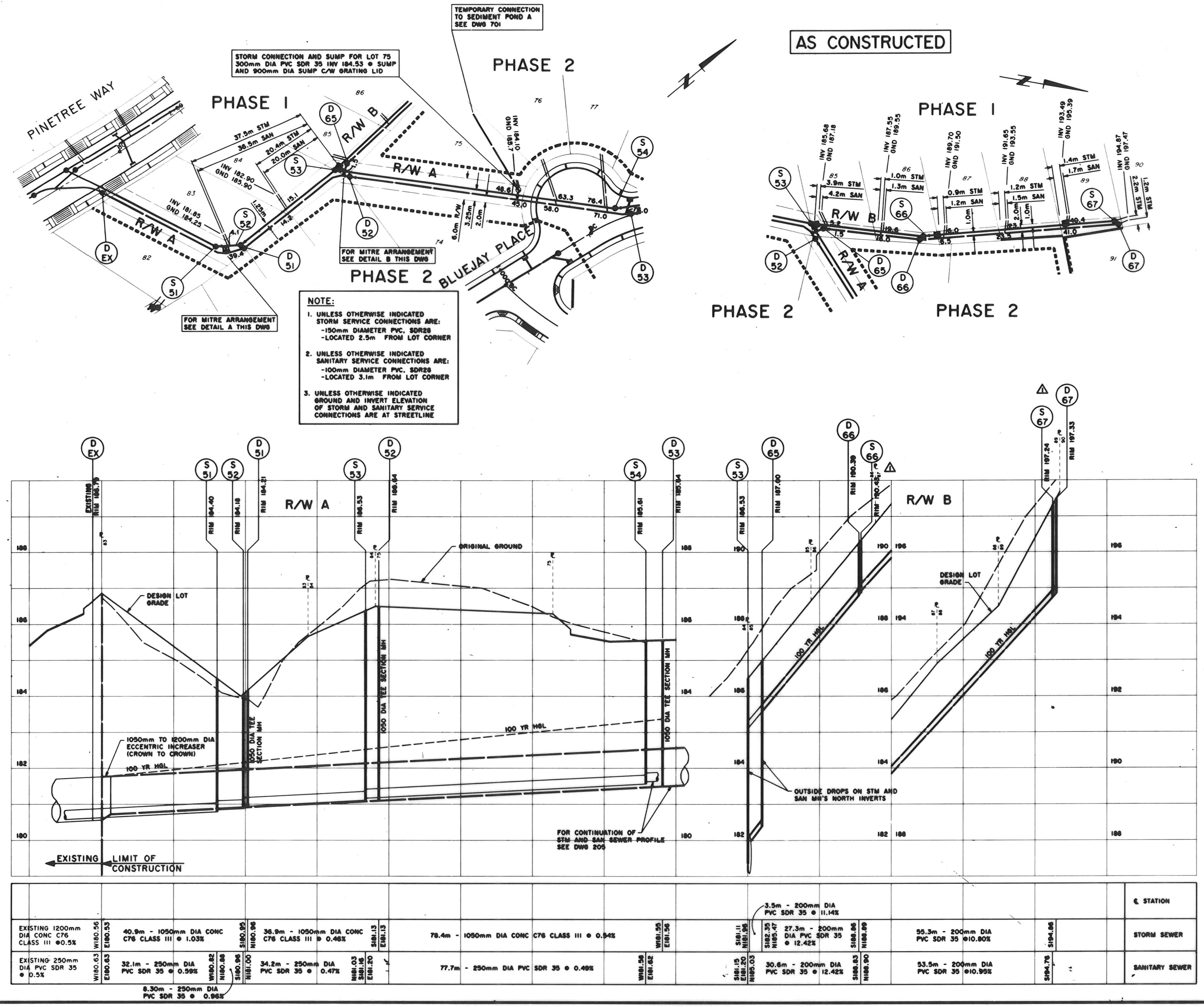
WESBILD ENTERPRISES LTD

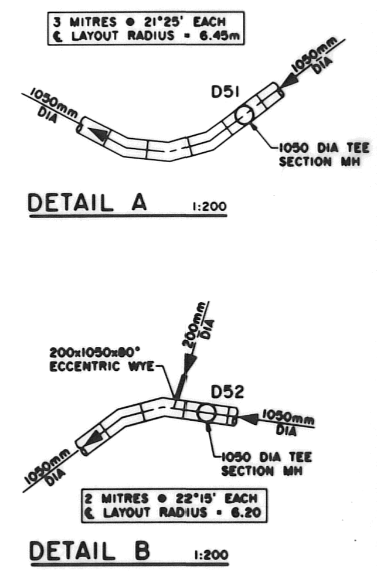
WESTWOOD PLATEAU DEVELOPMENT

MAJOR SERVICES
~~D1501-2~~
S1215-2 D1501-2

STORM AND SANITARY SEWERS
PINETREE WAY
STA 2+600 TO 2+900

DRAWING NO. AA63-22-202
REV. 2





InterCAD
CONSULTING ENGINEERS

NO.	REVISION	DATE	BY
3	AS CONSTRUCTED	95-01-31	H.F.
2	R/W B INVERTS	94-08-16	I.G.
1	AS PER COQUITLAM REVIEW	94-05-05	I.G.

DESIGNED B.D. DRAWN I.G.
SCALE 1:500H / 1:50V DATE FEB 1994

D1721
✓S1423

WESBILD PROPERTIES

WESTWOOD PLATEAU DEVELOPMENT

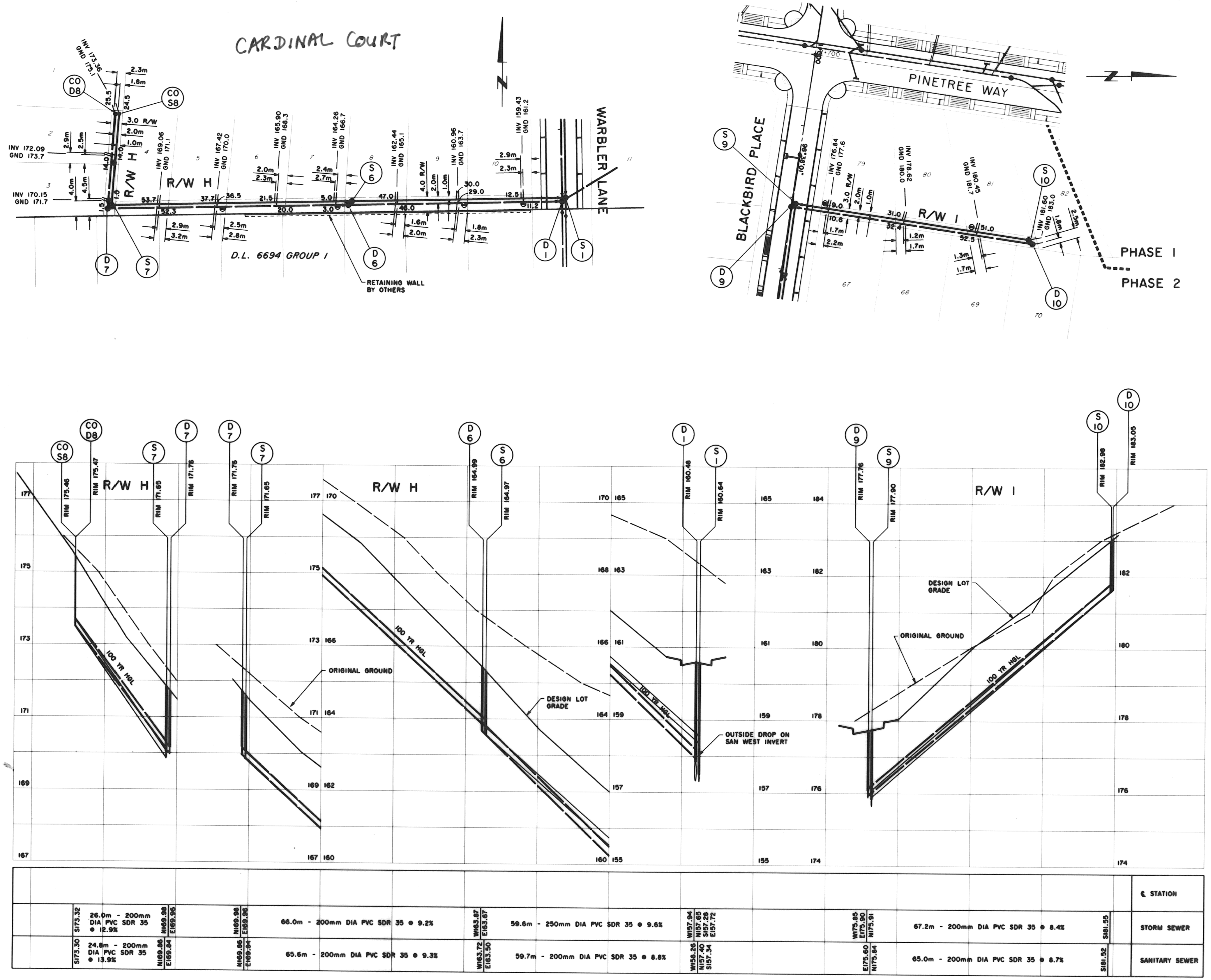
PARCEL 50
SITE SERVICES - PHASE I

STORM AND SANITARY SEWERS

R/W A AND R/W B

DRAWING NO. AA63-50-206 REV. 3

S1423



InterCAD
CONSULTING ENGINEERS

AS CONSTRUCTED

NOTE:

1. UNLESS OTHERWISE INDICATED STORM SERVICE CONNECTIONS ARE:
   - -150mm DIAMETER PVC, SDR28
   - -LOCATED 2.5m FROM LOT CORNER
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   - -100mm DIAMETER PVC, SDR28
   - -LOCATED 3.1m FROM LOT CORNER
3. UNLESS OTHERWISE INDICATED GROUND AND INVERT ELEVATION OF STORM AND SANITARY SERVICE CONNECTIONS ARE AT STREETLINE

NO.	REVISION	DATE	BY
3	AS CONSTRUCTED	95-08-29	G.W.
2	ADDED NOTE FOR TEMPORARY INVERT	94-10-31	G.R.
1	AS PER COQUITLAM REVIEW	94-09-26	I.G.

DESIGNED I.G. DRAWN I.G.
SCALE 1:500H / 1:50V DATE JULY 1994

D 1816
✓S 1486

WESBILD PROPERTIES

WESTWOOD PLATEAU DEVELOPMENT

PARCEL 50
SITE SERVICES - PHASE 2

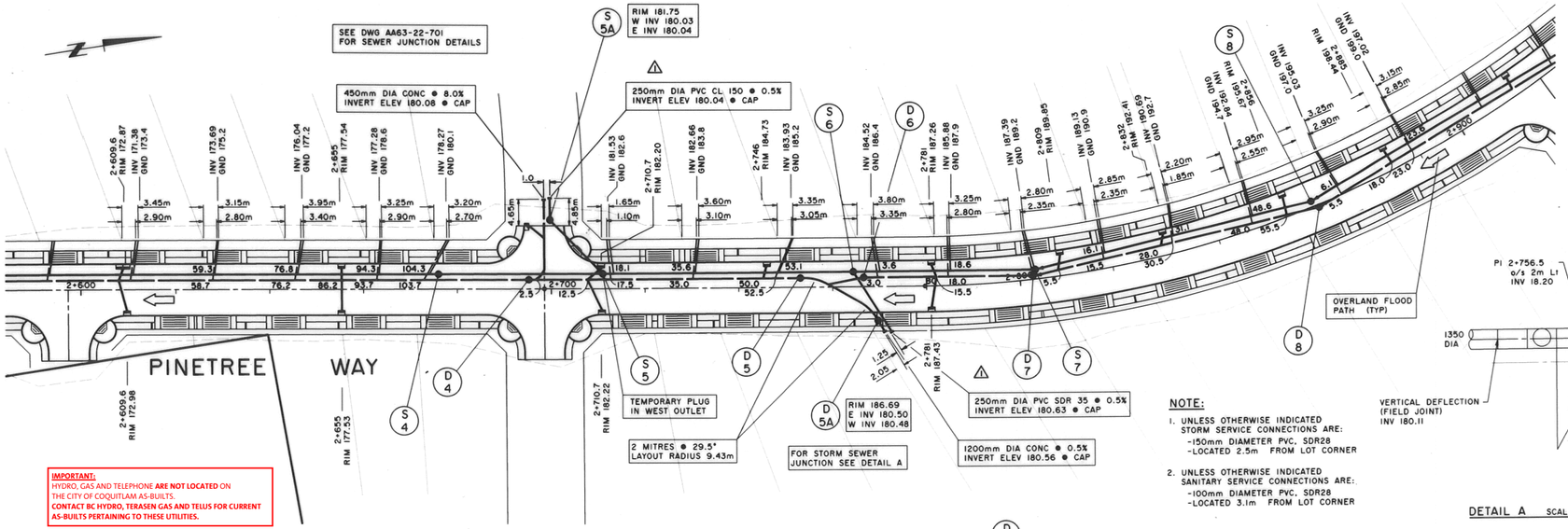
STORM AND SANITARY SEWERS

R/W H AND R/W I

S1486

DRAWING NO. AA63-50-215 REV. 3

D 1501-2



DETAIL A SCALE 1:200

NOTE:

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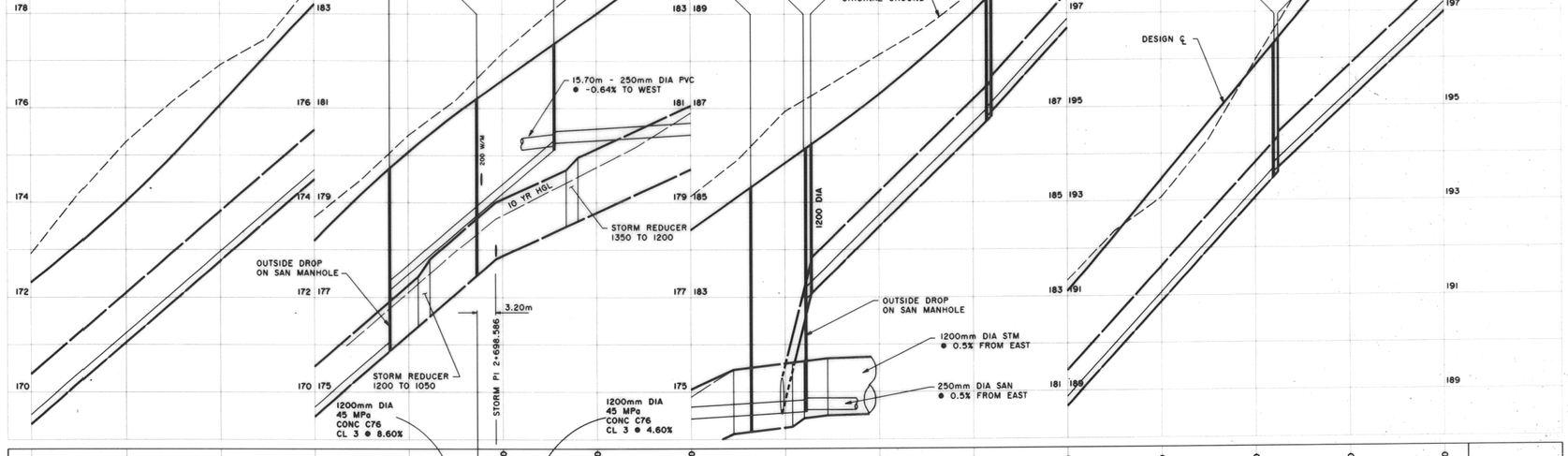

℄ STATION	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900
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SEE DETAIL A

InterCAD
CONSULTING ENGINEERS

AS CONSTRUCTED

NO.	REVISION	DATE	BY
2	AS CONSTRUCTED	93-01-06	K.N.
1	REVISED AS PER COQUITLAM REVIEW	92-05-27	RC

DESIGNED
DRAWN D.Y.
SCALE 1:500 H / 1:50 V
DATE NOV 1991

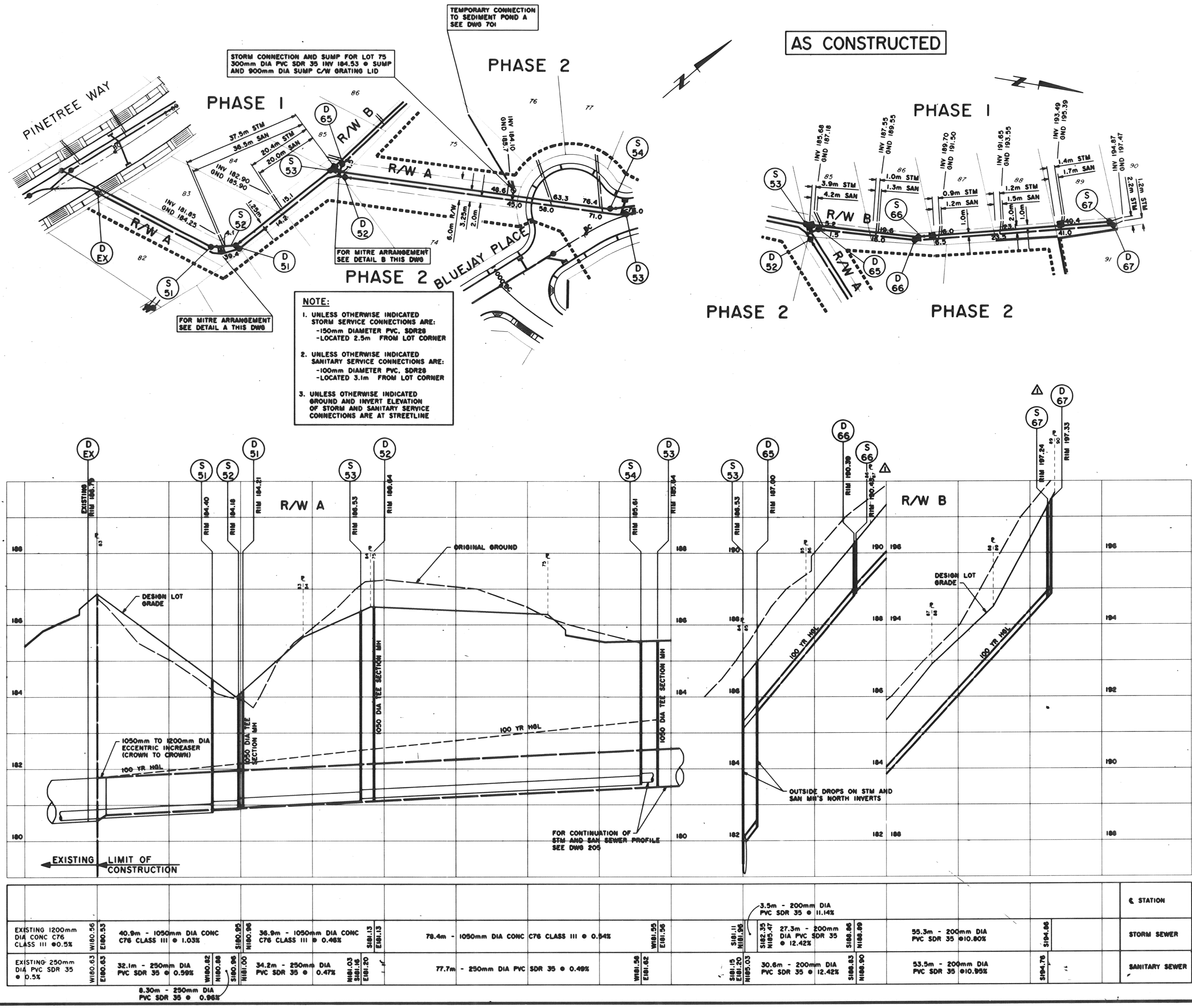
WESBILD ENTERPRISES LTD

WESTWOOD PLATEAU DEVELOPMENT

MAJOR SERVICES
D1501-2
~~S12.5-2~~

STORM AND SANITARY SEWERS
PINETREE WAY
STA 2+600 TO 2+900

DRAWING NO. AA63-22-202
REV. 2



InterCAD
CONSULTING ENGINEERS

NO.	REVISION	DATE	BY
3	AS CONSTRUCTED	95-01-31	H.F.
2	R/W B INVERTS	94-08-16	I.G.
1	AS PER COQUITLAM REVIEW	94-05-05	I.G.

DESIGNED B.D. DRAWN I.G.
SCALE 1:500H / 1:50V DATE FEB 1994

D1721
S1423

WESBILD PROPERTIES

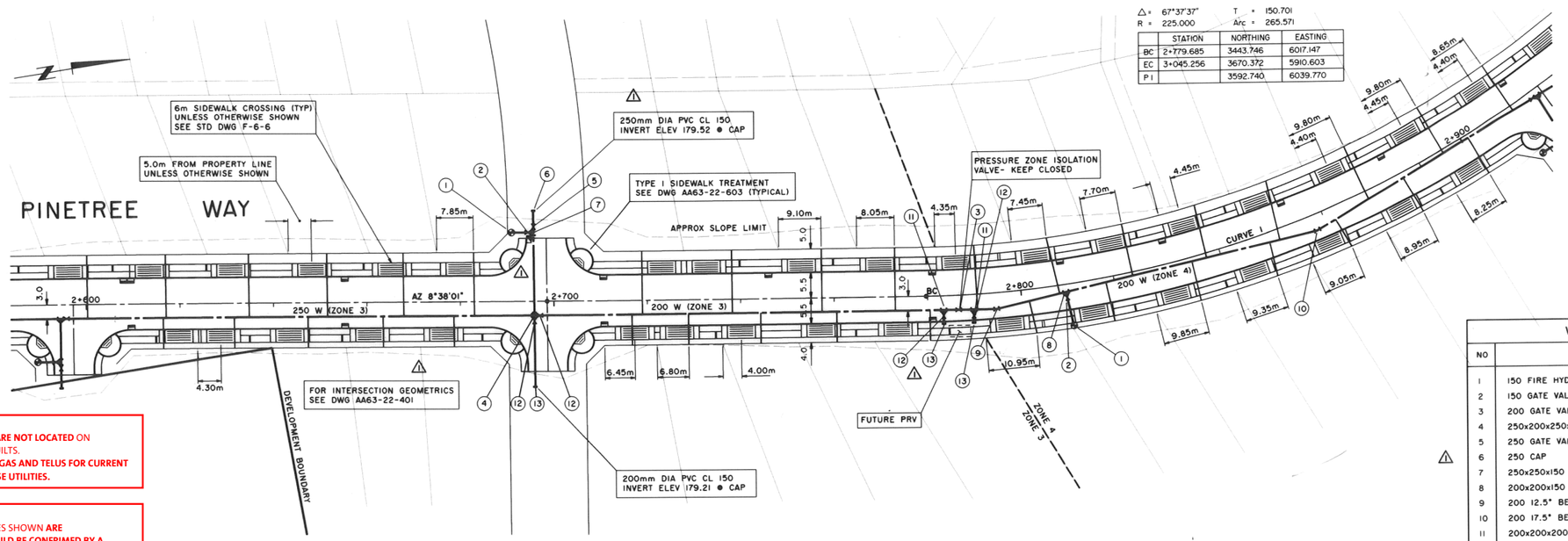
WESTWOOD PLATEAU DEVELOPMENT

PARCEL 50
SITE SERVICES - PHASE I

STORM AND SANITARY SEWERS

R/W A AND R/W B

DRAWING NO. AA63-50-206 REV. 3



CURVE 1

△ = 67°37'37" T = 150.701
R = 225.000 Arc = 265.571

	STATION	NORTHING	EASTING
BC	2+779.685	3443.746	6017.147
EC	3+045.256	3670.372	5910.603
PI		3592.740	6039.770

InterCAD
CONSULTING ENGINEERS

AS CONSTRUCTED

NOTE:

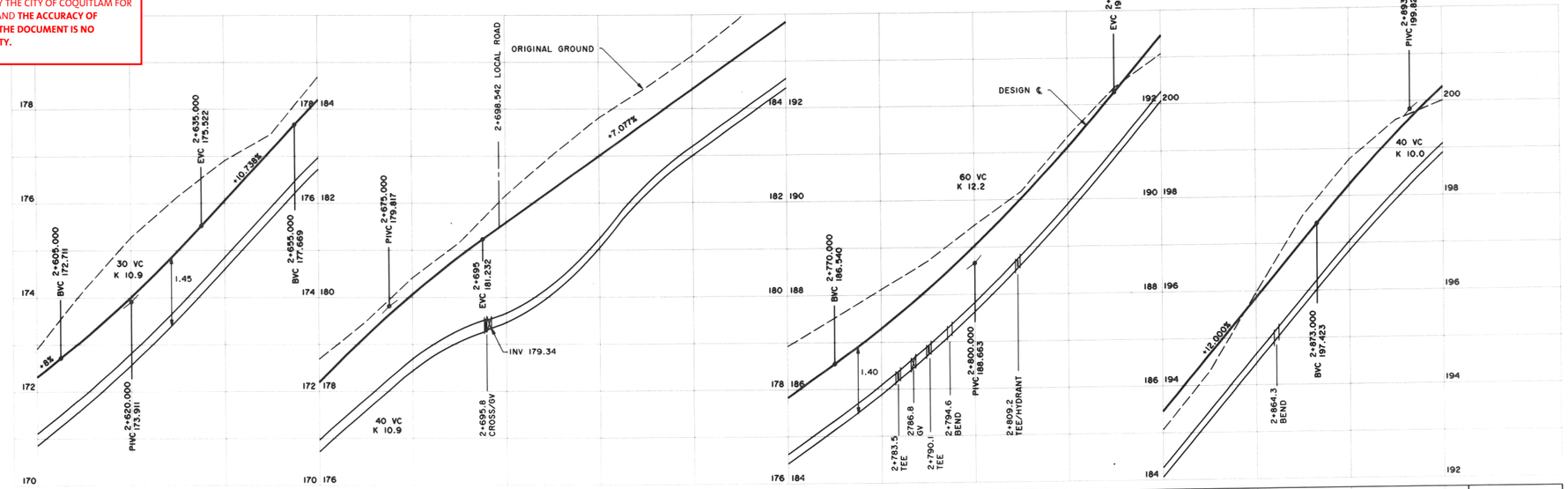
UNLESS OTHERWISE INDICATED WATER SERVICE CONNECTIONS ARE:
- 19mm DIAMETER COPPER
- LOCATED AT CENTER OF LOT
- LOCATED AT A DEPTH OF 1.2m

WATERMAIN FITTINGS

NO	DESCRIPTION	THRUST BLOCK END AREA (m²)
1	150 FIRE HYDRANT	
2	150 GATE VALVE FH	
3	200 GATE VALVE HH	
4	250x200x250x200 HFFH	
5	250 GATE VALVE FH	
6	250 CAP	2.0
7	250x250x150 TEE HFF	1.5
8	200x200x150 TEE HHF	1.5
9	200 12.5° BEND HH	0.5
10	200 17.5° BEND HH	1.0
11	200x200x200 HHF TEE	
12	200 GATE VALVE FH	
13	200 CAP	1.5

IMPORTANT:
HYDRO, GAS AND TELEPHONE **ARE NOT LOCATED** ON THE CITY OF COQUITLAM AS-BUILTS.
CONTACT BC HYDRO, TERASEN GAS AND TELUS FOR CURRENT AS-BUILTS PERTAINING TO THESE UTILITIES.

NOTE:
LOCATION OF EXISTING UTILITIES SHOWN **ARE APPROXIMATE ONLY** AND **SHOULD BE CONFRIMED BY A PIPE LOCATOR AND MANUAL DIGGING.** ALL OR ANY EXISTING STRUCTURES ARE NOT NECESSARILY SHOWN.



℄ STATION	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900
Lt. GUTTER EL.	172.201	173.904	175.949	178.084	179.958	181.476	182.891	184.307	185.722	187.179	188.922	190.994	193.353	195.753	198.129	200.189
CENTERLINE EL.	172.30	174.00	176.03	178.14	180.01	181.54	182.96	184.38	185.80	187.28	189.03	191.12	193.48	195.86	198.24	200.29
Rt. GUTTER EL.	172.201	173.904	175.949	178.084	179.958	181.476	182.891	184.307	185.800	187.355	189.142	191.214	193.573	195.973	198.349	200.409
PAVEMENT CROSSFALL	-2.0% -2.0%							-2.0% -2.0% 2+744		-2.0% 2.0% 2+789						-2.0% 2.0%
WATERMAIN	250mm DIA PVC CL 150 INVERT 1.45m BELOW ROAD ℄ (ZONE 3)							DEFLECT PIPE JOINTS TO PROVIDE VERTICAL TRANSITION	200mm DIA PVC CL 150 INVERT 1.40m BELOW ROAD ℄ (ZONE 3)		200mm DIA PVC CL 150 INVERT 1.40m BELOW ROAD ℄ (ZONE 4)					

NO.	REVISION	DATE	BY
2	AS CONSTRUCTED	92-12-31	K.N.
1	REVISED AS PER COQUITLAM REVIEW	92-05-25	RC

DESIGNED
DRAWN D.Y.
SCALE 1:500 H / 1:50 V
DATE NOV 1991

WESBILD ENTERPRISES LTD

WESTWOOD PLATEAU DEVELOPMENT

MAJOR SERVICES

W1463-2

ROADWORKS AND WATERMAIN
PINETREE WAY
STA 2+600 TO 2+900

DRAWING NO. AA63-22-102
REV. 2

E 576-2

IMPORTANT:
HYDRO, GAS AND TELEPHONE **ARE NOT LOCATED** ON THE CITY OF COQUITLAM AS-BUILTS.
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NOTE:
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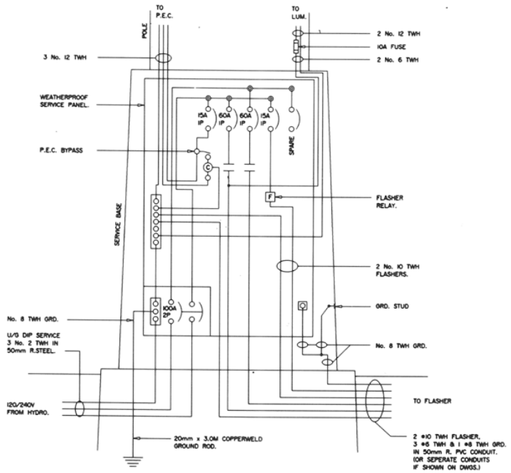


100A STREET LIGHTING SERVICE PANEL
C/W FLASHER RELAY

N.T.S.

DESIGN DATA	
STREET NAME	PINETREE WAY
LAND USE	RESIDENTIAL
ROAD CLASSIFICATION	COLLECTOR
ILLUMINATION TYPE	150W H.P.S. POST TOP
ILLUMINATION LEVEL	6.0 LUX AVE MIN.
UNIFORMITY RATIO MAX.	3:1
SPACING MAX.	39M

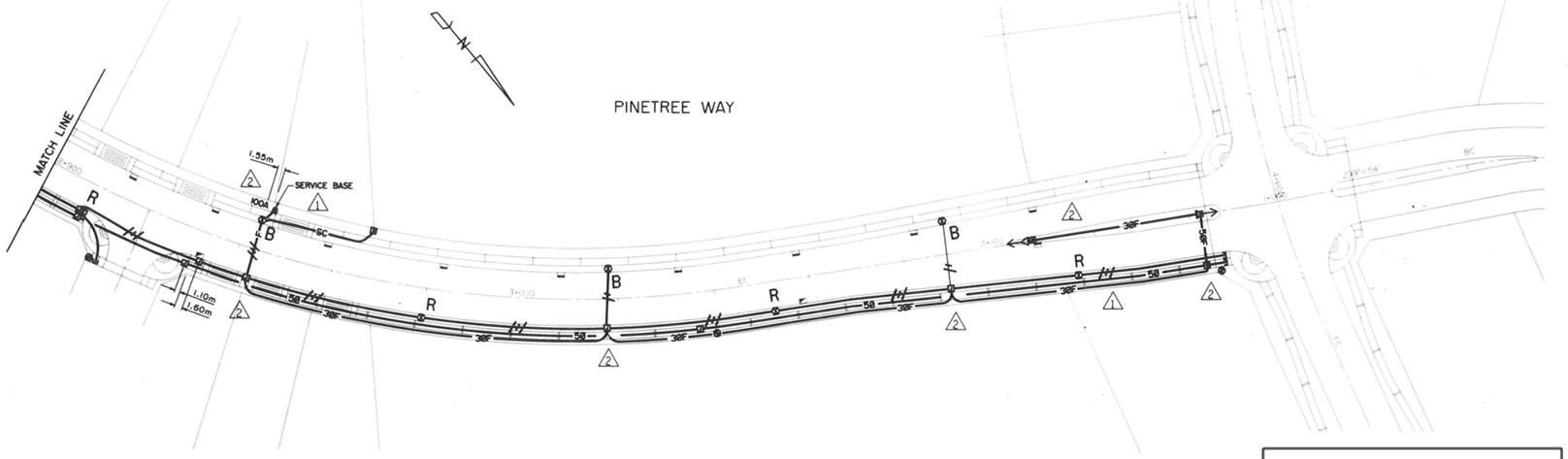
NOTE:
ALL HYDRO SERVICE LOCATIONS ARE PRELIMINARY ONLY. CONTRACTOR MUST CONFIRM LOCATIONS WITH HYDRO PRIOR TO CONSTRUCTION.

NOTES:

1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING STANDARDS AND SPECIFICATIONS OF THE CORPORATION OF THE DISTRICT OF COQUITLAM AND BE CARRIED OUT UNDER THE INSPECTION OF THE DISTRICT ENGINEER.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND LICENCES PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL USE EXTREME CARE WHEN WORKING NEAR EXISTING SERVICES AND ANY SERVICES DISTURBED ARE TO BE REPLACED AT HIS COST TO THE SATISFACTION OF THE DISTRICT.
4. CONTRACTOR SHALL USE CAUTION WHEN WORKING CLOSE TO EXISTING TREES OR LANDSCAPED AREAS WHICH ARE NOT TO BE DISTURBED.
5. LOCATIONS OF EXISTING UNDERGROUND SERVICES TO BE DETERMINED FROM THE DISTRICT OF COQUITLAM AS CONSTRUCTED DRAWINGS. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO CONSTRUCTION AND TO NOTIFY ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS.
6. OPEN TRENCH OPERATIONS IN EXISTING PAVEMENT SHALL CONFORM TO THE CORPORATION OF THE DISTRICT OF COQUITLAM STANDARD DRAWINGS. ALL PAVEMENTS, BOULEVARDS, ETC ARE TO BE RESTORED TO ORIGINAL CONDITION WHERE NO IMPROVEMENT IS PROPOSED UNDER THIS CONTRACT.
7. ANY MATERIAL SUBSTITUTION MUST BE APPROVED BY THE DISTRICT ENGINEER.
8. ALL SURVEY MONUMENTS, POST OR IRON PINS MUST BE PROTECTED AND ANY DAMAGE TO BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
9. ENSURE NO CONFLICT WITH HYDRO AND TELEPHONE LINES BEFORE CONSTRUCTION.
10. VERIFY SERVICE POINT WITH B.C. HYDRO BEFORE CONSTRUCTION.
11. FOR POLE OFFSET CLASSIFICATION SEE TYPICAL SECTION DRAWINGS.

LEGEND

- STREET LIGHT POLE (250W H.P.S. 10.5M HIGH.) BASE AS PER COQUITLAM STANDARD. F-8-1 FUTURE COMBINATION SIGNAL STREET LIGHT POLE.
- DAVIT STREETLIGHT POLE (9.5M - 250W H.P.S.) C/W 1.0M HIGH 60A SERVICE BASE & PHOTOCELL.
- DAVIT STREETLIGHT POLE (10.5M - 250W H.P.S.)
- EXISTING DAVIT STREETLIGHT POLE.
- POLE BASE AS PER COQUITLAM STANDARD F-8-1.
- POST TOP STREETLIGHT POLE (5.09M - 150W H.P.S.) WITH PHOTOCELL & SERVICE BASE (60A).
- 100A — 100A INDICATES SPECIAL 100A SERVICE BOX, C/W FLASHER RELAY.
- POST TOP STREETLIGHT POLE (6M - 150W H.P.S.) SEE COQUITLAM STANDARD F-8-10.
- EXISTING STREET LIGHT.
- POST MOUNTED FLASHER, OFFSET 1.5M FROM FRONT EDGE OF ISLAND. (TYPICAL) (SEE COQUITLAM STANDARD DWG. F-8-3.)
- JUNCTION BOX (No. DENOTES TYPE).
- JUNCTION BOX
- EXISTING JUNCTION BOX.
- PROPOSED LOCATION OF B.C. HYDRO SERVICE BOX. (CONFIRM EXACT LOCATION WITH B.C. HYDRO)
- R / B — LUMINAIRE ON RED PHASE CONDUCTOR / LUMINAIRE ON BLACK PHASE CONDUCTOR.
- 3 No. 6 TWH STREET LIGHTING & 1 No. 8 TWH GRD. IN 30mm R. PVC.
- 50 — 3 No. 6 TWH STREET LIGHTING & 1 No. 8 TWH GRD. IN 50mm R. PVC.
- 2 No. 6 TWH STREET LIGHTING & 1 No. 8 TWH GRD. IN 30mm R. PVC.
- 50 F — 3 #6 TWH STREET LIGHTING & 2 #10 TWH FLASHER & 1 #8 GRD. IN 50mm R. P.V.C.
- 50 F — 2 #10 TWH FLASHER & 1 #10 TWH GRD. 50mm DESIGNATES SIZE OF R. P.V.C.
- 50 — 50mm R. PVC. CONDUIT ONLY.
- 30 — 30mm R. PVC. CONDUIT ONLY.
- SC — 50mm R.PVC SERVICE CONDUIT, C/W CONDUCTORS.
- EXISTING CONDUIT & CONDUCTORS.
- CONDUIT STUB OUT FOR FUTURE EXTENSION.



NO.	REVISION	DATE	BY
4	AS CONSTRUCTED	93/01/12	K.N.
3	RE-ISSUED FOR DISTRICT OF COQUITLAM APPROVAL	92/06/02	H.E.
2	ADDITION OF FLASHER.	92/05/04	H.E.
1	B.C. HYDRO SERVICE REVISION	92/04/27	E.M.
	ISSUED FOR DISTRICT OF COQUITLAM APPROVAL	92/03/17	M.Z.

DESIGNED D.A. — DRAWN M.Z.
SCALE 1:500 H / 1:100 V — DATE 92/04/27
PROJECT NO. 2840-NW

NEMETZ FLAGEL LTD.
ELECTRICAL ENGINEERING CONSULTANTS
* 405-968 QUAYSIDE DR.
FIRST CAPITAL PLACE.
NEW WESTMINSTER B.C.
V3M-6G2
TEL* 525-4681 FAX* 525-6349

WESBILD ENTERPRISES LTD.

WESTWOOD PLATEAU DEVELOPMENT

PHASE I MAJOR SERVICES

E576-2

STREET LIGHTING
PINETREE WAY
STA 2+900 TO 3+158.630

DRAWING No. E-17-03 — REV. 4

COQUITLAM RECORD DRAWING NO.
C0055-0

AS CONSTRUCTED

E 576-1

IMPORTANT:
HYDRO, GAS AND TELEPHONE **ARE NOT LOCATED** ON THE CITY OF COQUITLAM AS-BUILTS.
CONTACT BC HYDRO, TERASEN GAS AND TELUS FOR CURRENT AS-BUILTS PERTAINING TO THESE UTILITIES.

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DESIGN DATA	
STREET NAME	PINETREE WAY
LAND USE	RESIDENTIAL
ROAD CLASSIFICATION	COLLECTOR
ILLUMINATION TYPE	150W H.P.S. POST TOP
ILLUMINATION LEVEL	6.0 LUX AVE MIN.
UNIFORMITY RATIO MAX.	3:1
SPACING MAX.	39M

LEGEND

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- EXISTING STREET LIGHT.
- POST MOUNTED FLASHER, OFFSET 1.5M FROM FRONT EDGE OF ISLAND. (TYPICAL) (SEE COQUITLAM STANDARD DWG. F-8-3.)
- B — JUNCTION BOX (No. DENOTES TYPE).
- J — JUNCTION BOX
- EXISTING JUNCTION BOX.
- B — PROPOSED LOCATION OF B.C. HYDRO SERVICE BOX. (CONFIRM EXACT LOCATION WITH B.C. HYDRO)
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- 50 — 3 No. 6 TWH STREET LIGHTING & 1 No. 8 TWH GRD. IN 50mm R. PVC.
- 2 No. 6 TWH STREET LIGHTING & 1 No. 8 TWH GRD. IN 30mm R. PVC.
- 3 #6 TWH STREET LIGHTING & 2 #10 TWH FLASHER & 1 #8 GRD. IN 50mm R. P.V.C.
- 50 F — 2 #10 TWH FLASHER & 1 #10 TWH GRD. 50mm DESIGNATES SIZE OF R. P.V.C.
- 50 — 50mm R. PVC. CONDUIT ONLY.
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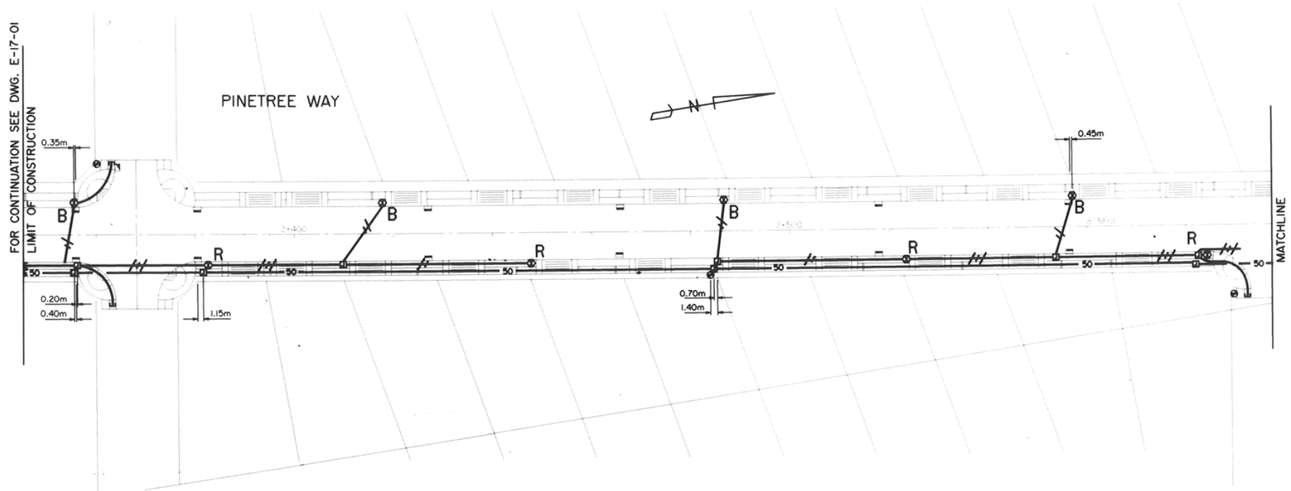

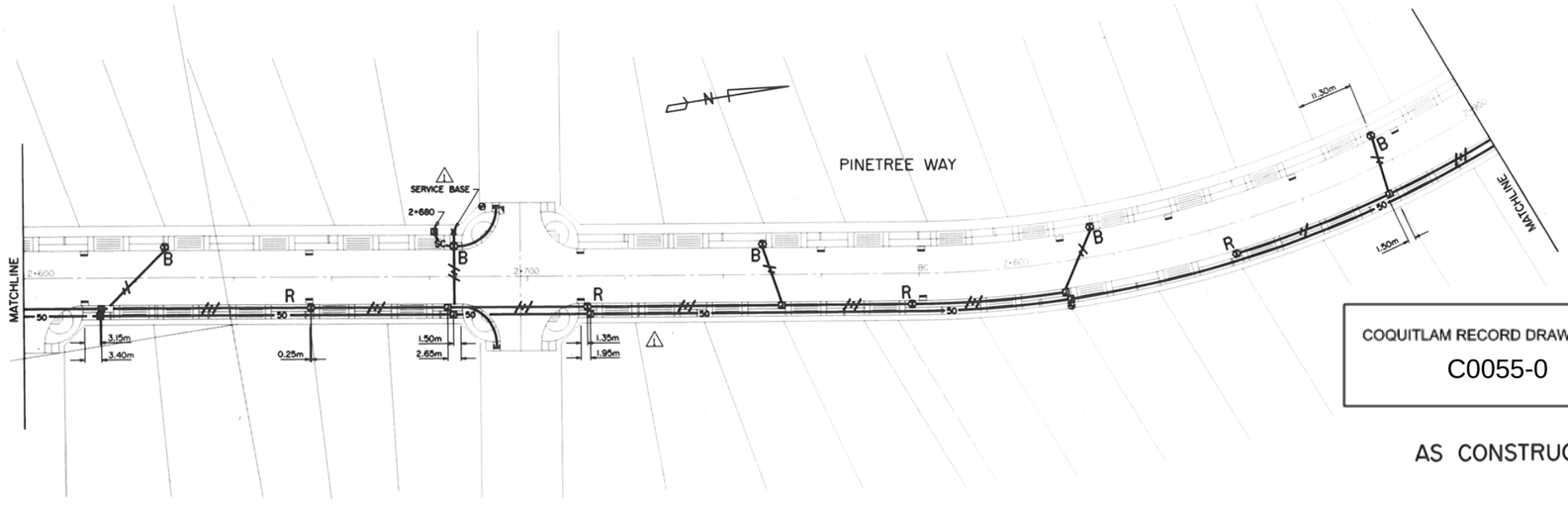

NO.	REVISION	DATE	BY
3	AS CONSTRUCTED	93/01/11	K.N.
2	RE-ISSUED FOR DISTRICT OF COQUITLAM APPROVAL	92/04/28	E.M.
1	B.C. HYDRO SERVICE REVISION	92/04/27	E.M.
	ISSUED FOR DISTRICT OF COQUITLAM APPROVAL	92/03/17	M.Z.

DESIGNED D.A | DRAWN M.Z.
SCALE 1:500 H / 1:100 V | DATE 92/04/27
PROJECT NO. 2840-NW

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WESTWOOD PLATEAU DEVELOPMENT

PHASE 1 MAJOR SERVICES

E576-1

STREET LIGHTING
PINETREE WAY
STA 2+300 TO 2+900

COQUITLAM RECORD DRAWING NO.
C0055-0

AS CONSTRUCTED

DRAWING No. E-17-02 | REV. 3

CADD FILE: 2840EDWG.DWG