



City of Coquitlam

Contract Documents 77052

2024 Sidewalk Program



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Invitation to Tender



INVITATION TO TENDER

DATE OF ISSUE: **March 27, 2024**

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

Tender No. 77052

2024 Sidewalk Program

The City of Coquitlam invites tenders for **Contract 77052 – 2024 Sidewalk Program**, generally consisting of the following, but not limited to:

- Sidewalk / Driveway construction – Approx. 2500 square meters;
- Concrete curb and gutter construction – Approx. 460m;
- Minor storm works;
- Removal of trees, bushes and other obstructions on City boulevards;
- 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

Friday, April 19, 2024

("Closing Date and Time")

Addenda

Tenderers are required to check the City's website for any updated information 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 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
Purchasing Manager

Instructions to Tenderers

Tender 77052

2024 Sidewalk Program

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: **2024 Sidewalk Program**

Reference No. **77052**

- | | | |
|------------|-------------------------|---|
| 1.0 | Introduction | <p>1.1 These Instructions apply to and govern the preparation of tenders for this <i>Contract</i>. The <i>Contract</i> is generally for the following work:</p> <ul style="list-style-type: none">• Sidewalk / Driveway construction – Approx. 2500 square meters;• Concrete curb and gutter construction – Approx. 460m;• Minor storm works;• Removal of trees, bushes and other obstructions on City boulevards;• Other miscellaneous and incidental work as contained in the Contract Documents. <p>1.2 All inquiries regarding this Tender are to be submitted in writing referencing the Tender Name and Number sent to:</p> <p>E-mail bid@coquitlam.ca</p> <p>The deadline for inquiries is 2:00 PM local time, Tuesday, April 16, 2024.</p> <p>INQUIRIES RECEIVED AFTER THIS DATE AND TIME MAY NOT RECEIVE A RESPONSE.</p> |
| 2.0 | Tender Documents | <p>2.1 The Tender Documents which a Tenderer should review to prepare a Tender consist of all of the <i>Contract Documents</i> 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 <i>Contract Documents</i> include the drawings listed in Schedule 2 to the Agreement, entitled “List of Contract Drawings”.</p> <p>2.2 <u>A portion of the Contract Documents are included by reference. Copies of these documents have not been included with the tender package.</u> 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 <i>Tender Closing Date</i>. <u>All sections of this publication are by reference included in the Contract Documents.</u></p> |

- 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:* April 19, 2024**
- 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:**
<http://qfile.coquitlam.ca/bid>
- 1. In the "Subject Field" enter: Tender Number and Name**
- 2. Add consolidated Tender file in PDF format and Appendix 1 in XLS format, and Send** (ensure your web browser remains open until you receive 2 emails from Qfile to confirm upload is complete and was sent to email: bid@coquitlam.ca)
- Tenderers are responsible to allow for ample time to complete the submission process. For assistance, 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 received by email: bid@coquitlam.ca.

BIDS RECEIVED IN-PERSON OR BY COURIER 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	<p>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.</p> <p>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.</p>
	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 Qualification,
Modification,
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 accept 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**.

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|-------------|---|--|
| 9.0 | Interpretation
of Contract
Documents | <p>9.1 If a tenderer is in doubt as to the correct meaning of any provision of the <i>Contract Documents</i>, the tenderer may request clarification as instructed in paragraph 1.2 of the Instructions to Tenderers.</p> <p>9.2 If a tenderer discovers any contradictions or inconsistencies in the <i>Contract Documents</i> or its provisions, or any discrepancies between a provision of the <i>Contract Documents</i> and conditions at the <u>Place of the Work as</u> observed in an examination under paragraph 8 of the person named in paragraph 1.2 of the Instructions to Tenderers.</p> <p>9.3 If the <i>Owner</i> considers it necessary, the <i>Owner</i> may issue written addenda to provide clarification (s) of the <i>Contract Documents</i>.</p> <p>9.4 <u>No oral interpretation or representations from the <i>Owner</i> or any representative of the <i>Owner</i> will affect, alter, or amend any provision of the <i>Contract Documents</i>.</u></p> |
| 10.0 | Prices | <p>10.1 The Tendered Price will represent the entire cost excluding <i>GST</i> to the <i>Owner</i> of the complete <i>Work</i> based on the estimated quantities in the <i>Schedule of Quantities and Prices</i> 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:</p> <ul style="list-style-type: none">10.1.1 the costs of all labour, equipment and material included in or required for the <i>Work</i>, including all items which, whole not specifically listed in the <i>Schedule of Quantities and Prices</i>, are included in the <i>Work</i> specifically or by necessary inference from the <i>Contract Documents</i>;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 <i>Contractor's</i> profit. <p>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 <i>Work</i>, and payment of appropriate wages for labour included in or required for the <i>Work</i>.</p> |
| 11.0 | Taxes | <p>11.1 The tendered prices shall cover all taxes and assessments of any kind payable with respect to the <i>Work</i>, but shall not include <i>GST</i>. <i>GST</i> shall be listed as a separate line item as required by GC 19.3.</p> |

**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:

(TENDERED 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 <i>Work</i> . |
| 15.0 | Award | 15.1 | In exercising its discretion, the <i>Owner</i> will have regard to the information provided in the Appendices to the Form of Tender as described under IT5.3 including the proven experience of the tenderer, and any listed subcontractors, to do the <i>Work</i> . |

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 <i>Owner</i> reserves the right to object to any of the subcontractors listed in a tender. If the <i>Owner</i> objects to any of the subcontractor(s) then the <i>Owner</i> will permit a tenderer to, within 5 days, propose a substitute subcontractor(s) acceptable to the <i>Owner</i> provided that there is not resulting adjustment in the <i>Tender Price</i> 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 <i>Owner</i> objects to a listed <i>Subcontractor(s)</i> , the tenderer may, rather than propose a substitute subcontractor(s), consider its tender rejected by the <i>Owner</i> and by written notice withdraw it tender. The <i>Owner</i> shall, in the event, return the tenderer's bid security. |
| 17.0 | Optional Work | 17.1 | If the <i>Schedule of Quantities and Prices</i> includes any tender prices for <i>Optional or Provisional Work</i> , as defined in GC 7.4.1, the tenderers must complete all the unit prices for such <i>Optional or Provisional Work</i> . Such tender prices shall not include any general overhead costs, or other costs, or profit, not directly related to the <i>Optional or Provisional Work</i> . |
| | | 17.2 | Notwithstanding that the <i>Owner</i> may elect not to proceed with the <i>Optional or Provisional Work</i> , the tender prices for any <i>Optional or Provisional Work</i> , including the extended totals for <i>Optional or Provisional Work</i> unit prices, shall be included in the <i>Tender Price</i> for the purpose of any price comparisons between tenders. |

Form of Tender



Form of Tender

Tender No. 77052

2024 Sidewalk Program

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, April 19, 2024**

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: qfile.coquitlam.ca/bid

- 1. In the "Subject Field" enter:** Tender Number and Name
- 2. Add consolidated Tender file in PDF format, and Appendix 1 in XLS format, and Send**
(ensure your web browser remains open until you receive 2 emails from Qfile to confirm upload is complete and was sent to the correct email address: bid@coquitlam.ca)

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

April 2024

THE CITY OF COQUITLAM
3000 Guildford Way
Coquitlam, B.C. V3B 7N2

(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: 2024 Sidewalk Program

Reference No.: 77052

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 **July 31, 2024**; 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: _____ - _____ - _____

Fax: _____ - _____ - _____

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 TENDERContract 77502
2024 Sidewalk Program

SCHEDULE OF QUANTITIES AND PRICES

(see paragraph 5.3.1 of the Instruction to Tenderers)

(All Tender and Contract Prices shall NOT include GST. GST will apply upon payment)
(Should there be any discrepancy in the information provided, the City's original file copy shall prevail)

ITEM NO.	MMCD Ref. / (Supplementary Contract Specifications)	DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED AMOUNT
Schoolhouse Street						
1	01 55 00	TRAFFIC CONTROL, VEHICLE ACCESS AND PARKING				
1.01	1.5.1	Traffic Control and Management	Incidental to Contract			
2	01 57 01\$	ENVIRONMENTAL PROTECTION				
2.01	(1.6.1)	ESC supply & Installation, Maintenance and Removal	Incidental to Contract			
3	01 58 01\$	PROJECT IDENTIFICATION				
3.01	(1.3.1)	1.2m x 1.2m Static Construction Zone Information Sign	each	2		
4	03 30 20\$	CONCRETE WALKS, CURBS AND GUTTERS				
4.01	(1.4.3)	Concrete Curb and Gutter - MMCD C5 - c/w 100mm granular base	lin.m	280		
4.02	(1.4.5)	Concrete Sidewalk, Walkway Connectors, Driveways, and Wheelchair Letdowns - 100mm thick - Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	1,220		
4.03	(1.4.5)	Concrete Driveway letdown and Sidewalk - 190mm thick - Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	400		
4.04	(1.4.5)	Concrete Exposed Aggregate Driveways - complete with 100mm granular base	sq.m	12		
4.05	(1.4.10)	Tactile Strip - 24in x 60in - Access Tile, Yellow Colour, Removable Type	each	24		
5	31 11 01	CLEARING AND GRUBBING				
5.01	1.4.1	Tree/Hedge Trimming and Removal (Disposal Included)	L.S.	1		
6	31 11 41\$	SHRUB AND TREE PRESERVATION				
6.01	(1.3.1)	Tree Protection (Including Tree Protection Fencing COQ-R26)	lin.m	300		
7	31 23 01\$	EXCAVATING, TRENCHING, AND BACKFILLING				
7.01	(1.10.9)	Imported Backfill - Provisional	tonnes	30		
8	31 24 13\$	ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION				
8.01	(1.8.4)	Removal of Existing Concrete Curb and Gutter (includes saw-cutting, removal and offsite disposal)	lin.m	200		
8.02	(1.8.4)	Removal of Existing Concrete and Asphalt Flat Works (includes saw-cutting, removal and offsite disposal)	sq.m	525		
8.03	(1.8.4)	Removal of Existing Catch Basin	each	2		
8.04	(1.8.4)	Removal of Existing Planter	L.S.	1		
8.05	(1.8.5)	Common Excavation (includes offsite disposal)	cu.m	480		
8.06	1.8.7	Embankment Fill - 75mm Minus Granular Base	tonnes	180		
9	32 12 16\$	HOT-MIX ASPHALT CONCRETE PAVING				
9.01	(1.5.3)	Asphaltic Concrete Paving - Driveways- Upper Course #2 (60mm, 1 lift), c/w 100mm Granular base	sq.m	150		
10	32 17 23\$	PAINTED PAVEMENT MARKINGS				
10.01	(1.5.3)	Permanent Thermoplastic Pavement Markings	L.S.	1		
10.02	(1.5.4.3)	Relocate Existing Pole and Signs	each	7		
11	32 31 13\$	CHAIN LINK FENCES AND GATES				
11.01	(1.5.5)	Removal of Existing Fences - Provisional	l.m	20		
12	32 91 21\$	TOPSOIL AND FINISH GRADING				
12.01	(1.4.1)	Imported Topsoil - 150mm thick	cu.m	175		
13	32 92 23\$	SODDING				
13.01	(1.8.1)	Supply and Installation of Sod	sq.m	875		
14	33 40 01\$	STORM SEWERS				
14.01	(1.6.5)	Catch Basin/Lawn Basin Lead - 150mm SDR28 PVC	l.m	15		
14.02	(1.6.5)	Catch Basin/Lawn Basin Lead - 200mm SDR35 PVC	l.m	10		
15	33 44 01\$	MANHOLES AND CATCHBASINS				
15.01	1.5.2	Top Inlet Catch Basin - (MMCD S11)	each	1		
15.02	1.5.2	Lawn Basin Type 1 (MMCD S12)	each	2		
15.03	(1.5.2)	Side Inlet Catch Basin - (COQ-S11A)	each	3		
15.04	(1.5.3.1)	Manhole Adjustment - Provisional	each	10		
15.05	(1.5.3.3)	Water Valve Lid & Frame Replacement - Provisional	each	3		
15.06	(1.5.3.4)	Water Valve Adjustment - Provisional	each	7		

ITEM NO.	MMCD Ref. / (Supplementary Contract Specifications)	DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED AMOUNT
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Ivy Avenue

16	01 58 015	PROJECT IDENTIFICATION				
16.01	(1.3.1)	1.2m x 1.2m Static Construction Zone Information Sign	each	2		
17	03 30 205	CONCRETE WALKS, CURBS AND GUTTERS				
17.01	(1.4.5)	Concrete Sidewalk, Walkway Connectors, Driveways, and Wheelchair Letdowns - 100mm thick – Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	140		
17.02	(1.4.5)	Concrete Driveway letdown and Sidewalk - 190mm thick - Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	225		
18	31 11 01	CLEARING AND GRUBBING				
18.01	1.4.1	Tree/Hedge Trimming and Removal (Disposal Included)	L.S.	1		
19	31 11 415	SHRUB AND TREE PRESERVATION				
19.01	(1.3.1)	Tree Protection (Including Tree Protection Fencing COQ-R26)	lin.m	15		
20	31 24 135	ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION				
20.01	(1.8.4)	Removal of Existing Concrete and Asphalt Flat Works (includes saw-cutting, removal and offsite disposal)	sq.m	170		
20.02	(1.8.4)	Trim/Remove Concrete Retaining Wall (includes saw-cutting, removal, and offsite disposal)	L.S.	1		
20.03	(1.8.5)	Common Excavation (includes offsite disposal)	cu.m	50		
20.04	1.8.7	Embankment Fill - 75mm Minus Granular Base	tonnes	130		
21	32 12 165	HOT-MIX ASPHALT CONCRETE PAVING				
21.01	(1.5.3)	Asphaltic Concrete Paving - Driveways- Upper Course #2 (60mm, 1 lift), c/w 100mm Granular base	sq.m	40		
22	32 14 015	UNIT PAVING				
22.01	(1.6.1)	Remove, Level, and Re-Lay Existing Pavers (Driveway and Walkway Tie-Ins)	sq.m	30		
23	32 91 215	TOPSOIL AND FINISH GRADING				
23.01	(1.4.1)	Imported Topsoil - 150mm thick	cu.m	50		
24	32 92 235	SODDING				
24.01	(1.8.1)	Supply and Installation of Sod	sq.m	250		
25	33 44 015	MANHOLES AND CATCHBASINS				
25.01	(1.5.3.3)	Water Valve Lid & Frame Replacement - Provisional	each	1		
25.02	(1.5.3.4)	Water Valve Adjustment - Provisional	each	1		

Grover Avenue

26	01 58 015	PROJECT IDENTIFICATION				
26.01	(1.3.1)	1.2m x 1.2m Static Construction Zone Information Sign	each	1		
27	03 30 205	CONCRETE WALKS, CURBS AND GUTTERS				
27.01	(1.4.3)	Concrete Curb and Gutter - MMCD C5 - c/w 100mm granular base	lin.m	180		
27.02	(1.4.5)	Concrete Sidewalk, Walkway Connectors, Driveways, and Wheelchair Letdowns - 100mm thick – Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	250		
27.03	(1.4.5)	Concrete Driveway letdown and Sidewalk - 190mm thick - Broom Finished c/w 100mm granular base; and as shown and described in the Contract Documents	sq.m	60		
27.04	(1.4.10)	Tactile Strip - 24in x 60in - Access Tile, Yellow Colour, Removable Type	each	5		
28	03 30 53	CAST-IN-PLACE CONCRETE				
28.01	1.5.3	Remove and Replace Exposed Aggregate Stairs at 1522 Grover Ave	L.S.	1		
29	03 40 015	PRECAST CONCRETE				
29.01	(1.4.2)	Remove and Replace Existing Stairs at 1518 Grover Ave	L.S.	1		
30	31 11 01	CLEARING AND GRUBBING				
30.01	1.4.1	Tree/Hedge Trimming and Removal (Disposal Included)	L.S.	1		
31	31 11 415	SHRUB AND TREE PRESERVATION				
31.01	(1.3.1)	Tree Protection (Including Tree Protection Fencing COQ-R26)	lin.m	50		
32	31 22 165	RESHAPING GRANULAR ROADBEDS				
32.01	(1.4.1)	Reshaping	sq.m	100		
33	31 23 015	EXCAVATING, TRENCHING, AND BACKFILLING				
33.01	(1.10.9)	Imported Backfill - Provisional	tonnes	10		
34	31 24 135	ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION				
34.01	(1.8.4)	Removal of Existing Concrete and Asphalt Flat Works (includes asphalt curb, saw-cutting, removal and offsite disposal)	sq.m	290		
34.02	(1.8.4)	Removal of Existing Catch Basin	each	1		
34.03	(1.8.4)	Trim/Remove Concrete Retaining Walls (includes saw-cutting, removal, and offsite disposal)	L.S.	1		
34.04	(1.8.5)	Common Excavation (includes offsite disposal)	cu.m	170		
34.05	1.8.7	Embankment Fill, 75mm Minus Granular Base	tonnes	65		
35	32 01 16.75	COLD MILLING				
35.01	(1.5.4)	Full Depth Milling (all depths), (minimum 125mm)	sq.m	100		
36	32 11 16.15	GRANULAR SUBBASE				
36.01	(1.4.3)	75mm Minus Granular Subbase (Grover Ave, under new asphalt)	tonnes	70		
37	32 11 235	GRANULAR BASE				
37.01	(1.4.3)	Granular Base (Grover Ave, under new asphalt)	tonnes	30		
38	32 12 165	HOT-MIX ASPHALT CONCRETE PAVING				

ITEM NO.	MMCD Ref. / (Supplementary Contract Specifications)	DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED AMOUNT
38.01	(1.5.1)	Asphalt Concrete Paving - 75mm (one lift) - MMCD Upper Course #1	tonnes	45		
38.02	(1.5.3)	Asphaltic Concrete Paving - Driveways- Upper Course #2 (60mm, 1 lift), c/w 100mm Granular base	sq.m	50		
39	32 14 01S	UNIT PAVING				
39.01	(1.6.1)	Remove, Level, and Re-Lay Existing Pavers (Driveway and Walkway Tie-Ins)	sq.m	10		
40	32 17 23S	PAINTED PAVEMENT MARKINGS				
40.01	(1.5.3)	Permanent Thermoplastic Pavement Markings	L.S.	1		
40.02	(1.5.4.3)	Relocate Existing Pole and Signs	each	5		
41	32 91 21S	TOPSOIL AND FINISH GRADING				
41.01	(1.4.1)	Imported Topsoil - 150mm thick	cu.m	45		
42	32 92 23S	SODDING				
42.01	(1.8.1)	Supply and Installation of Sod	sq.m	220		
43	33 40 01S	STORM SEWERS				
43.01	(1.6.5)	Catch Basin/Lawn Basin Lead - 150mm SDR28 PVC	l.m	5		
44	33 44 01S	MANHOLES AND CATCHBASINS				
44.01	1.5.2	Top Inlet Catch Basin - (MMCD S11)	each	1		
44.02	(1.5.3.1)	Manhole Adjustment - Provisional	each	2		
44.03	(1.5.3.3)	Water Valve Lid & Frame Replacement - Provisional	each	1		
44.04	(1.5.3.4)	Water Valve Adjustment - Provisional	each	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 77052
2024 Sidewalk Program**

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

INDICATE SCHEDULE WITH BAR CHART WITH CONSTRUCTION DURATIONS

Construction Activity	May					June				July			
	1	2	3	4	5	1	2	3	4	1	2	3	4

Substantial Completion Date: **July 31, 2024**

Proposed Disposal Site: _____

APPENDIX 3

FORM OF TENDER

**Contract 77052
2024 Sidewalk Program**

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 77052
2024 Sidewalk Program**

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

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

APPENDIX 5

FORM OF TENDER

**Contract 77052
2024 Sidewalk Program**

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 77052
2024 Sidewalk Program**

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 Oblige, hereinafter called the Oblige, 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 Oblige, dated the _____ day of
_____, 2024, 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 Oblige the difference in money between the amount of the bid of the said
Principal and the amount for which the Oblige 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 _____, 2024.

SIGNED, SEALED AND DELIVERED

In the presence of:

)

)

)

)

)

PRINCIPAL

SURETY

APPENDIX 7

FORM OF TENDER

**Contract 77052
2024 Sidewalk Program**

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: 77052

Contract Name: 2024 Sidewalk Program

Description of Work:

- Sidewalk / Driveway construction – Approx. 2500 square meters;
- Concrete curb and gutter construction – Approx. 460m;
- Minor storm works;
- Removal of trees, bushes and other obstructions on City boulevards;
- Other miscellaneous and incidental work as contained in the Contract Documents.

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

Special Coverage Required:	<u>YES</u>	<u>NO</u>	<u>Special Coverage Description</u>
	()	(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 _____ 2024.

Contract: **2024 Sidewalk Program**

Reference No. 77052

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 **July 31, 2024**, 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, 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

(MANAGER, CAPITAL PROJECTS AND INSPECTIONS)

Representative as Per G.C. 17

(MANAGER, DESIGN AND CONSTRUCTION)

2024 Sidewalk Program

Reference No: 77052

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 Drawing, 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

2024 Sidewalk Program

Reference No: 77052

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: As-built Package
Appendix C: Additional Documents
Appendix D: Arborist Report

Bound Separately:

Full Size Contract Drawings

TITLE	SHEET NO.	REVISION NO.	DATE
COVER	00	C	2024-03-21
SITE PLAN	01/17	C	2024-03-21
ROADWORKS – IVY AVENUE – STA. 2+990 TO STA. 3+130	02/17	C	2024-03-21
ROADWORKS – GROVER AVENUE INTERSECTION	03/17	C	2024-03-21
ROADWORKS – GROVER AVENUE – STA. 4+060 TO STA. 4+120	04/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+015 TO STA. 1+110	05/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+110 TO STA. 1+230	06/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+230 TO STA. 1+350	07/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+350 TO STA. 1+470	08/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+470 TO STA. 1+590	09/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+590 TO STA. 1+710	10/17	C	2024-03-21
ROADWORKS – SCHOOLHOUSE STREET – STA. 1+710 TO STA. 1+811	11/17	C	2024-03-21
ROADWORKS – DRIVEWAY CROSSING DETAILS	12/17	C	2024-03-21
CROSS SECTIONS – IVY AVENUE STA. 3+00 TO STA. 3+105	13/17	C	2024-03-21
CROSS SECTIONS – GROVER AVENUE – STA. 4+020 TO STA. 4+100	14/17	C	2024-03-21
CROSS SECTIONS – SCHOOLHOUSE STREET – STA. 1+041 TO STA. 1+340	15/17	C	2024-03-21
CROSS SECTIONS – SCHOOLHOUSE STREET – STA. 1+360 TO STA. 1+570	16/17	C	2024-03-21
CROSS SECTIONS – SCHOOLHOUSE STREET – STA. 1+580 TO STA. 1+800	17/17	C	2024-03-21

Supplementary General Conditions

SUPPLEMENTARY GENERAL CONDITIONS

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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.

- 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 the 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 as 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 wish 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	<p><i>(Add new clause 7.4.2 as follows):</i></p> <p>If there are Optional items or Provisional items included in the <i>Schedule of Quantities and Prices</i>, 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.</p>
9.0	VALUATION OF CHANGES AND EXTRA WORK		
9.2	Valuation Method	9.2.4	<p><i>(Replace clause 9.2.4 as follows):</i></p> <p>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.</p>
9.4	Quantity Variation	9.4.1	<p><i>(Replace clause 9.4.1 as follows):</i></p> <p>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 <i>Schedule of Quantities and Prices</i> (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.</p>
		9.4.2	<p><i>(Delete clause 9.4.2 (2))</i></p>
10.0	FORCE ACCOUNTS		
10.1	Force Account Costs	10.1.1(1)	<p><i>(Add to clause 10.1.1(1) as follows):</i></p> <p>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.</p>
		10.1.1(4)	<p><i>(Replace clause 10.1.1(4) as follows):</i></p> <p>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.</p>

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.

**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

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

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

)
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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

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

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 Oblige 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 Oblige 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 Oblige or by joining the Oblige 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 Oblige against all costs, charges and expense or liabilities incurred thereon and any loss or damage resulting to the Oblige 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 Oblige 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 Oblige, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, Surety and Oblige 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

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PRINCIPAL

SURETY

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

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

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in
the Master Municipal Construction Documents, Volume II, Printed 2009

APPENDIX IV

PRIME CONTRACTOR DESIGNATION

Subject: **Prime Contractor Designation**
Contract #: **77052**
Contract Name: **2024 Sidewalk Program** (the "Project")

_____ (the "Contractor") represents, acknowledges and agrees that:

1. in accordance with section 24 of the *Workers Compensation Act*, R.S.B.C. 2019, c. 1 (the "*Workers Compensation Act*"), the Contractor shall be the "Prime Contractor" and is qualified to act as the "Prime Contractor" in respect of the Project;
2. the Contractor accepts the duties and responsibilities for coordination of health and safety in accordance with the *Workers Compensation Act* and further agrees that it will do everything necessary to establish and maintain a system or process that will insure compliance with the *Workers Compensation Act* and the Regulations thereto;
3. the Contractor shall fulfill all the obligations of an "Owner" under section 25 of the *Workers Compensation Act* in respect of the Project site; and
4. that the City of Coquitlam has fulfilled its obligations as an "Owner" under section 25 of the *Workers Compensation Act*, in respect of the Project site.

Prime Contractor Name & Address:

Prime Contractor Signature

Date

Print Name

Please return a signed copy of this memo to the City of Coquitlam. If you have any questions, please contact the City's Health and Safety Advisor at 604-927-3068.

Supplementary Contract Specifications

These Supplementary Contract Specifications must be read in conjunction with the Specifications contained in the Master Municipal Construction Documents, Volume II, Printed 2009 and the City of Coquitlam Supplementary Specifications and Detailed Drawings

File #: 11-5330-20/77052/1 Doc #: 4889755.v1

Supplementary Contract Specifications

to the

MASTER MUNICIPAL SPECIFICATIONS

Volume II – Platinum Book

2024 Sidewalk Program

CONTRACT 77052

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CONTRACT SPECIFIC NOTATIONS

1.00 CONTRACT SPECIFIC INSTRUCTIONS

1.01 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.

1.02 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, and Fortis BC in the area of the place of Work.

1.03 Waste Collection Coordination

1. Contractor is responsible to accommodate all waste collection vehicles and cart pick up schedules throughout construction. Collection schedule can be found in <https://www.coquitlam.ca/157/Collection-Calendar-Guidelines>.
2. If waste collection will be impacted the contractor is responsible to:
 - a. Provide advanced notification to:
 - i. The City's Solid Waste staff at 604-927-3500 or wastereduction@coquitlam.ca; and
 - ii. The City's Contract Administrator.
 - b. Provide access for collection trucks to closed streets due to road work; or
 - c. Move waste carts for collection:
 - i. The Contractor is required to ensure each cart is labelled with the property address and returned to the correct address after collection (each cart has its own individual cart identification code and is specifically assigned to each property). **Contractors will be responsible for the costs to replace missing carts.**
3. Contractor's Request for Change in Collection Time (e.g. PM to AM):
 - i. The Contractor must provide residents with as much notice as possible – minimum 5 working days.
 - ii. The contractor must follow all conditions of Clause 1.04 and is responsible to deal with any missed collections. For example, taking garbage to the United Boulevard Recycling and Waste Centre or covering the cost associated for any missed collection to be rescheduled.

Questions: wastereduction@coquitlam.ca

1.04 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
- Waste Collections (garbage/recycling pick-up)
- City Maintenance (or representatives)
- Other City Contractors

1.05 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.

CONTRACT SPECIFIC NOTATIONS

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 color for traffic safety. Supply and use of this equipment is considered incidental to the contract.

1.06 Hours of Work

The Contractor shall refer to **Appendix A: Traffic Management Detail Specifications**.

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

1.07 Survey Layout

Construction layout will be staked out by the Contractor as outlined in Supplementary General Conditions.

1.08 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. 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 contractor 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.

1.09 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.

1.10 Accesses

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.

1.11 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.

CONTRACT SPECIFIC NOTATIONS

- | | | |
|-------------|---|---|
| 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. |
| 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 | <p>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.</p> <p>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. 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.</p> |
| 3.00 | MANDATORY MEETINGS AND CONTRACTOR REPRESENTATIVES AND SUBCONTRACTORS | |
| 3.01 | Pre-Construction Meeting Requirements | <p>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:</p> <ol style="list-style-type: none"> 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 will be required to be presented at the pre-construction meeting. The schedule must show major components and durations. |
| 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 |

3.04 Changes of Contractor
Representitives &
Subcontractors

duration of the contract. This (FULL TIME) attendance is also required when work is being performed by Subcontractors.

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.

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.

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. 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 record documents have been submitted and accepted by 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

QUALITY CONTROL

- 1.0 QUALITY**
- 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.
- 1.1 Quality Control (QC) by Contractor**
- 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.
- 1.2 Inspection of Work, Quality Assurance, and Material Testing, by the Owner**
- 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. The Contractor shall have no claim for delays, interruptions, double-handling of materials, rejection of materials, or any other cause brought about by such tests, including awaiting the outcome of such tests.
- 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.
- 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.

QUALITY CONTROL

- 1.4 Survey Layout** All Survey Layout will be completed by the Contractor 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.
- 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 m³
 2. Granular Base
 - 2.1 Compaction: 1 test/500m² / 100mm depth of granular base, min. 1 test if < 500m²
 - 2.2 Sieve: 1 test / placed material / 250 TONNES
 3. Granular Subbase
 - 3.1 Compaction: 1 test/500m²/150mm depth of granular subbase, min. 1 test if <500m²
 - 3.2 Sieve: 1 test / placed material / 250 TONNES
 4. Embankment (Subgrade)
 - 4.1 Compaction: 1 test/ 50m² / 0.15m depth of fill, min. 1 test if < 50m²
 - 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 m²/lift
 - 5.4 Continuous asphalt density testing during paving.
 6. Subgrade Preparation
 - 6.1 Compaction & Moisture: 1 test / 500 m², min. 1 test if < 500m²
 7. Concrete Tests
 - 7.1 Air, Slump & 1 Set Cylinders: 1 test / 10 m³, min. 1 set / day
- 1.9 Measurement for Payment** Payment for all work performed under this section will be incidental to payment for work described in other Sections.

END OF SECTION

1.0	GENERAL	Add 1.0.6	<p>The <i>Contractor</i> is responsible for all temporary traffic control on the streets required for completion of the work. The <i>Contractor</i> will be responsible to provide a Traffic Management Plan (TMP) for approval (5) five 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.</p> <p>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.</p> <p>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.</p>
		Add 1.0.7	<p>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 City's Traffic Operations for approval.</p>
		Add 1.0.8	<p>Refer to Appendix A – Traffic Management Detail Specifications.</p>
1.4	Traffic Control	Delete 1.4.1 and replace with the following	<p>The Contractor shall conduct his operations so as 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.</p> <p>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.</p> <p>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.</p> <p>Add 1.4.9.3.1</p> <p>The <i>Contractor</i>, as required by the <i>Contract Administrator</i> and the City, is to supply Construction Zone information signs (stationary), refer to MMCD 01 58 01 for the required identification signage.</p>
			<p>The <i>Contractor</i> is responsible for the removal of the signs at the completion of the work.</p>

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.

Delete 1.5.1 and
replace with the
following

Payment for all work, including the installation of temporary
construction hoarding, 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.

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 in accordance with the ESC Plan, 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 the City of Coquitlam Stream and Drainage System Protection Bylaw No. 4403, 2013 during construction. 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 water course 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 stock pile materials or exposed road subgrades shall be treated as incidental work.
1.8	Clean Up	Add 1.8.2	The work will include cleaning of all catch basins within the work area, or nearby location as affected by the Work, and all manholes and/or sewers affected by work done under this contract. 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.
1.9	Archaeological / Historical Resources	Add 1.9	Immediately cease work and inform the <i>Contract Administrator</i> and the City, if any archaeological or historical resources are encountered during construction. Leave these resources in place and do not disturb them in any way.

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 and removal and
will be incidental to payment for work described in other Sections,
unless shown otherwise in the Schedule of Quantities and Prices.

END OF SECTION

1.4	Measurement and Payment	Delete 1.4.3 and replace with the following	<p>Payment for machine placed or hand formed C5 wide base concrete curb includes supply and placing of the concrete curb and gutter, saw cutting, subgrade preparation, granular base, compaction, tie-ins, transitions, and will cover all straight and curve sections and will be made separately for each specified type.</p> <p>Payment for excavation and disposal of excavated material will be made under payment item, 31 24 13S – Roadway Excavation, Embankment & Compaction, in the Schedule of Quantities and Price.</p> <p>Slot paving will be incidental to payment for work described in other sections.</p>
		Delete 1.4.5 and replace with the following	<p>Payment for concrete sidewalks, walkway connectors, driveways, driveway letdowns, and wheelchair letdowns includes supply and installation, saw cutting, granular base, regrading of driveways and sidewalks for proper tie-in, field fit and adjustments and subgrade preparation, and will be made separately for each specified thickness and type of finish.</p> <p>Payment for excavation and disposal of excavated material will be made under payment item, 31 24 13S – Roadway Excavation, Embankment & Compaction, in the Schedule of Quantities and Price.</p>
		Add 1.4.10	<p>Payment for Detectable/Tactile Warning Surface Tile includes supply and placing of “Access Tile” or “Armor-Tile” (or approved equal) Truncated Dome Detectable Warning Tactile Surface, replaceable cast in place - Yellow Color, and installation as per the Manufacture’s Specifications.</p>
2.1	Materials	Delete 2.1.5.1 and replace with the following	<p>Hand-formed and hand-placed concrete:</p> <p>Slump: 80 mm</p> <p>Air entrainment: 5 to 8%.</p> <p>Maximum aggregate size: 20 mm.</p> <p>Minimum cement content: 335 kg/m³.</p> <p>Minimum 28 day compressive strength: 32 MPa.</p>
		Add 2.1.7	<p>Tactile warning surface tile shall be replaceable cast-in-place style. Truncated domes shall be in square grid pattern with a 5 mm nominal raised height, base diameter of 23 mm and top diameter of 11.5 mm. Dome spacing range shall be between 40 mm – 60 mm.</p> <p>Color of the panel shall be Federal Yellow (Y) per US Federal Standard 595B Table IV, Color No. 335.</p> <p>Minimum size of the panel shall be 600 mm by 1200 mm.</p>
3.0	EXECUTION		
3.5	Concrete Placement	Delete 3.5.9 and replace with the following	<p>The <i>Contractor</i> is responsible for adjusting all utility manhole frames and valve boxes, belonging to Coquitlam and/or other agencies that are affected by the road works. All adjustments to utilities must be completed to the satisfaction of the utility owner. Riser rings will not be accepted.</p> <p>The <i>Contractor</i> should note that certain utility owners may decide to complete their own adjustments. The <i>Contractor</i> will be required to</p>

cooperate with any utility company providing their own adjustments.

The *Contractor* shall be responsible to contact the appropriate utility company within a minimum of seventy-two (72) hours of the work. No adjustment shall be made without the written approval of the utility company. All manholes must be vertically adjusted a minimum of twenty-four (24) hours prior to concrete placement.

- 3.9

Expansion Joints

Delete 3.9.1 and replace with the following

Form transverse expansion joints at both ends of curb returns and at maximum spacing of 9.0 m for sidewalks, 30.0 m of curb and gutter, at each end of driveway crossing, at tangent point of circular work, and on either side of catch basins.

END OF SECTION

PRECAST CONCRETE

**1.4 Measurement and
 Payment**

Delete 1.4.2 and
replace with the
following

Payment for concrete block retaining walls and stairs includes all
work and incidentals, excavation, drain rock backfill and concrete
footing but excludes the sidewalk and its base.

END OF SECTION

SHRUB AND TREE PRESERVATION

1.3	Measurement and Payment	Delete 1.3.1 and replace with the following	Payment for all tree protection includes supply, installation, removal and disposal of all materials and labour required to complete the work as shown in the Standard Drawings.
2.0	PRODUCTS		
2.1	Materials	Add 2.1.10	Protective Fencing: Posts - Pressure treated wood 100 mm dia.; Post to be 1.8 m to 2.0m in height at 2.0 m O.C. Snow fence as per Coquitlam Approved Products List; Flagging Tape - 4" Orange glow - 'Tree Retention Area'.
2.0	EXECUTION		
3.1	Existing Trees	Add 3.1.7	The <i>Contractor</i> is responsible to minimize damage to all trees which are to remain.
		Add 3.1.8	The <i>Contractor</i> will be responsible for all claims and costs including the cost of examination by an Arborist, repair, removal and replacement of trees, as required by the Arborist, the <i>Contract Administrator</i> and the City for tree damage where proper notification was not received from the <i>Contractor</i> . Damage will be assessed based on the International Society of Arboriculture Guidelines. The term shall be for a period of one year following the date of Substantial Performance of the <i>Work</i> .
		Add 3.1.9	Place protective fencing/barricades as per Coquitlam Standard Detail Drawings COQ-R26, where identified on the Contract Drawings. <i>Contractor</i> shall maintain fence in good condition during construction.
		Add 3.1.10	When work is to be performed inside fenced areas, <i>Contractor</i> shall take care to avoid damage to existing vegetation. Work to be done inside areas of existing vegetation to be retained includes: <ul style="list-style-type: none"> .1 Removal of isolated trees as directed by the <i>Contract Administrator</i> and the City. .2 Selective pruning and tree removal at edges to create tidy and well-shaped forest edge. .3 Placing planting soil and planting of trees.
		Add 3.1.11	Do not park, service or fuel vehicles within the vegetation retention areas.
3.4	Pruning	Add 3.4.2	Do not cut roots or branches of retained trees without approval of the <i>Contract Administrator</i> and the City.

END OF SECTION

- | | | | |
|------------|------------------------------------|--------------------------------------|--|
| 1.4 | Measurement and
Payment | Delete 1.4 and replace
as follows | Payment for all work performed under this section will be
incidental to payment for work described in other Sections, unless
shown otherwise in the Schedule of Quantities and Prices. |
|------------|------------------------------------|--------------------------------------|--|

END OF SECTION

1.4	Measurement and Payment	Delete 1.4.1 and replace with the following	Payment for reshaping existing roadbed includes all spreading and grading of materials, adjustment of moisture content, compaction, boning and disposal of excess material offsite to establish the road existing cross-sections.
		Delete 1.4.2 and replace with the following	Payment for additional granular base material required for reshaping described above will be made under Section 32 11 23S Granular Base.
		Delete 1.4.3 and replace with the following	Payment for excavation of unsuitable materials including disposal off-site prior to reshaping granular roadbed will be made under Section 31 24 13S – 1.8.10 Roadway Excavation, Compaction and Backfill.

END OF SECTION

1.0 GENERAL

1.8 Limitations of Open Trench

1.8.1
Replace last sentence
with the following

If circumstances do not permit complete backfilling of all trenches, and where permitted by the *Contract Administrator* and the City, adequately protect all open trenches or excavations with approved fencing or barricades and, where required, with flashing lights.

1.10 Measurement and Payment

Add 1.10.9

Payment for supply, backfilling and compaction to 95% modified proctor density with 75mm minus granular subbase imported backfill. Payment to include removal and disposal of the unsuitable excavated native material. Measurement of volume placed is limited to the trench section only and the width of the measurement will not exceed the maximum trench width of 1.2 meters unless noted otherwise or as approved by Contract Administrator.

Payment for import trench backfill will be made by measurement of volume confirmed by the tonne delivered to the Place of Work based on truck weigh slips. Weigh slips must be submitted to the Contract Administrator on a daily basis. Weigh slips which are not submitted daily will not be accepted for payment.

2.0 PRODUCTS

2.2 Use of Specified Materials

Delete 2.2.1.2

Delete Pit Run Sand

Delete 2.2.3.3

Delete Pit Run Sand

3.0 EXECUTION

3.3 Excavation

Delete 3.3.1.2 and
replace with the
following

Connections to existing waterworks systems are to be made by the *Contractor* under the inspection / supervision of the *Contract Administrator* and the City.

3.6 Surface Restoration

Delete 3.6.2.4 and
replace with the
following

Restore lawns with approved topsoil and sod to match existing lawn.

Delete 3.6.3.1 and
replace with the
following

Restore surface with a minimum 100 mm of 19 mm granular road base material.

Delete 3.6.7.5 and
replace with the
following

Restore Pavement as detailed on Coquitlam Standard Detail Drawing COQ-G4. Temporary patch shall be a minimum thickness of 50 mm thickness. Permanent restoration to existing asphalt thickness (minimum of 75 mm) with a 35 mm key where existing thickness permits. A 50 mm key is required on Arterial and Collector Roadways. Dry if necessary and paint clean, dry edge with asphalt emulsion (tack coat).

END OF SECTION

1.8 Measurement and Payment

Delete 1.8.4 and replace with the following

Payment under this item will only apply to removal of the components included in this item under a separate operation as shown on the Contract Drawings or as directed by the Contractor Administrator. No payment will be made under this item for removal of these components as part of the operation for common excavation, and such removal will be treated as common excavation.

Payment will be made at the respective unit prices bid in the Schedule of Quantities and Prices and will include all labour, and equipment required to complete the work, including offsite disposal. It is the responsibility of the contractor to locate and verify all utilities.

Delete 1.8.5 and replace with the following

Payment for Common Excavation includes:

1. Unless noted in the Schedule of Quantities and Prices as removal in square meters, common excavation will be measured in cubic meters calculated from measurements taken by the Contract Administrator in the areas of excavation for road widening areas.
2. Cross-sections will be taken after clearing and grubbing and after stripping of existing topsoil immediately prior to excavation of material to be incorporated into work.
3. Where determined by the Contract Administrator that truck box volume will be used to determine excavation quantities the volume per load shall be determined using 75% of the truck load quantity. The following is to be used for payment:

Truck Type	Material Type	Volume (cu.m)
Tandem	ordinary material	7
Tandem	asphalt/concrete/pipe	4
Triaxle	ordinary material	8
Triaxle	asphalt/concrete/pipe	5
Tandem and Pony	ordinary material	11
Tandem and Pony	asphalt/concrete/pipe	7.5
Triaxle and Pony	ordinary material	13
Triaxle and Pony	asphalt/concrete/pipe	9
Tandem and Transfer	ordinary material	19
Tandem and Transfer	asphalt/concrete/pipe	13

4. Contractor to provide truck slips detailing location type of common excavation, time loaded and location of dump site. The slips are to be given to Contract Administrator by the end of shift or Contract Administrator can deny quantities subsequently submitted.
5. Payment for on site re-use includes excavation, transport, temporary stockpiling, placement, compaction, boning, adjustment of moisture content, spreading and grading of material anywhere on site or within the work zone, as needed, to establish the roadway & pathway cross-section.

Payment will be made at the respective unit prices bid in the Schedule of Quantities and Prices and will include all labour, and equipment required to complete the work, including offsite disposal. It is the responsibility of the contractor to locate and verify all utilities.

Delete 1.8.10 and
replace with the
following

Payment for replacement of areas of unsuitable sub-grade revealed during compaction or as directed by the Contract Administrator will include excavation with off-site disposal, supply & compaction of crushed granular base material and all remedial work required to achieve a suitable subgrade. Payment will be based on the cubic metre volume removed.

2.0 PRODUCTS

2.2 Specified Materials

Delete 2.2.1.3

Pit Run Sand

Delete 2.2.1.4

River Sand

Delete 2.2.2

END OF SECTION

COLD MILLING

1.5 **Measurement and
Payment** Add 1.5.4

Payment for this item will be made for the depth specified in the Schedule of Quantities in the Form of Tender. Payment will be made for the removal of existing asphalt, granular and native materials within the roadway to the depth specified, as detailed in the Contract Documents, regardless of removal method, as conditions of the existing asphalt pavement may or may not be suitable for removal by cold milling operations. If asphalt removal is done by excavation methods, there will be no common excavation quantity associated with the removal of granular to the removal depths indicated below design elevations.

Payment will be made for each square metre of asphalt removed and includes the off-site disposal of all milled material. Payment includes mobilization, demobilization, demonstration milling test section, the cost of transport and disposal off-site, saw cutting, street sweeping or cleaning to allow for the placement of required thickness of asphaltic concrete. Saw cutting and milled key at project limits will be incidental under payment item 32 12 16 – Hot Mix Asphaltic Concrete Paving.

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

No additional payment will be made for multiple passes or remobilization, as required, to mill to the depth(s) specified in the Schedule of Quantities in the Form of Tender.

END OF SECTION

GRANULAR SUBBASE

1.4	Measurement and Payment	Delete 1.4.1 and replace with the following	Measurement for granular subbase of variable thickness will be for actual quantity placed based on weigh tickets provided to Contract Administrator as loads are delivered.
		Delete 1.4.2 and replace with the following	Measurement for granular subbase for each specified thickness will be for the actual area placed.
		Delete 1.4.3 and replace with the following	Payment for Subsection 1.4.1 & 1.4.2 above includes supply, placement and compaction of granular subbase material, adjustment of moisture content, and boning to establish the road cross-section, shall be included in the unit price bid in the Schedule of Quantities and Prices. Payment includes submission of tickets as loads are delivered. Tickets not submitted within 72 hours of load delivery to site will not be paid.
		Delete 1.4.4 and replace with the following	Payment for removal of unsuitable subgrade including disposal off-site prior to direct placement of granular subbase will be made under Section 31 24 13S – Roadway Excavation, Embankment and Compaction.
2.0	PRODUCTS		
2.1	Specified Materials	Delete	2.1.1.1: Select Granular Subbase 2.1.1.2: 75 mm Pit Run Gravel 2.1.1.4: Pit Run Sand 2.1.1.5: Approved Native Material 2.1.1.7: River Sand

END OF SECTION

GRANULAR BASE

1.4	Measurement and Payment	Delete 1.4.1 and replace with the following	Measurement for granular base of variable thickness will be for actual quantity placed based on weigh tickets provided to Contract Administrator as loads are delivered.
		Delete 1.4.2 and replace with the following	Measurement for granular base for each specified thickness will be for the actual area placed.
		Delete 1.4.3 and replace with the following	Payment for Subsection 1.4.1 & 1.4.2 above includes supply, placement and compaction of granular base material, adjustment of moisture content, and boning to establish the road cross-section, factored into the unit price bid in the Schedule of Quantities and Prices. Payment includes submission of tickets as loads are delivered. Tickets not submitted within 72 hours of load delivery to site will not be paid.
		Delete 1.4.4 and replace with the following	Payment for removal of unsuitable subgrade including disposal off-site prior to direct placement of granular subbase will be made under Section 31 24 13S – Roadway Excavation, Embankment and Compaction.
2.0	PRODUCTS		
2.1	Granular Base	Add 2.1.1.3	25 mm minus crushed gravel conforming to the gradation specifications for Collector/Arterial Roads under Section 31 05 17S – 2.10.3.

END OF SECTION

1.0 GENERAL

1.5 Measurement and Payment

Delete 1.5.1 and replace with the following

Payment for asphaltic concrete paving includes all construction joint preparation, asphaltic surface milling to tie into existing asphalt, saw cutting, base preparation, granular base, supply and placing of the asphaltic concrete, tack coat, compaction and cleaning frames, covers and lids of castings affected and taped temporary pavement markings.

Measurement for asphaltic concrete paving for the specified design mixes will be made at the respective unit prices bid in the Schedule of Quantities and Prices and incorporated into Work will be asphalt concrete actually based on weigh tickets provided to the Contract Administrator as loads are delivered.

The contractor will not receive any additional compensation above the respective unit prices bid in the Schedule of Quantities and Prices for Hand Work, Special Equipment & Machinery to complete the Hot Mix Asphaltic Paving Work as shown on the Contract Drawings or as directed by the Contract Administrator.

Delete 1.5.3 and replace with the following

Payment for asphaltic concrete sidewalks, pathways and driveways includes all construction joint preparation, saw cutting, supply and placing of the asphaltic concrete, tack coat, compaction and cleaning frames, covers and lids of castings affected, and 100mm granular base.

Measurement for asphaltic concrete paving for the specified design mixes for will be made at the respective unit prices bid in the Schedule of Quantities and Prices and incorporated into Work will be asphalt concrete actually based on weigh tickets provided to the Contract Administrator as loads are delivered.

Payment for this item includes all applicable materials and work described in 1.5.1. Work includes all necessary adjustments on site during construction to achieve proper tie-in to existing driveways as directed by Contract Administrator. Adjustments performed under this section shall be incidental to payment for work described in other Sections.

1.6 Inspection and Testing

Add 1.6.3

Test cores will be taken by the *Contract Administrator* in the areas of new paving and will include cores along construction joints to ensure compliance with the required design and compaction.

2.0 PRODUCTS

2.1 Materials

Add 2.1.2.1

Usage of recycled asphalt shingles will not be permitted.

Add 2.1.2.2

Usage of softening agents, rejuvenators, or recycling agents will not be permitted.

2.2 Mix Design

Delete 2.2.2 and replace with the following

Mix may contain up to a maximum of 15 % by mass of RAP for Upper Course Asphalt and 20 % by mass of RAP for Lower Course Asphalt without a special mix design. The *Contract Administrator* and the City may approve higher proportion of RAP if *Contractor* demonstrates ability to produce mix meeting requirements of the specification.

		Delete 2.2.3.2 Marshall Stability and replace with the following	Marshall Stability at 60°C for both lower and upper courses to be 10 KN min.
3.0	EXECUTION		
3.3	Preparation	Delete 3.3.3 and replace with the following	<p>The <i>Contractor</i> is responsible for adjusting all utility manhole frames and valve boxes, belonging to Coquitlam and/or other agencies that are affected by the road works. All adjustments to utilities must be completed to the satisfaction of the utility owner. Utility adjustment within the paved surface will be considered incidental to the <i>Work</i> unless otherwise noted in the <i>Contract Documents</i>.</p> <p>The <i>Contractor</i> should note that certain utility owners may decide to complete their own adjustments. The <i>Contractor</i> will be required to cooperate with any utility company providing their own adjustments.</p> <p>The <i>Contractor</i> shall be responsible to contact the appropriate utility company with in minimum of seventy-two (72) hours of the work. No adjustment shall be made without the written approval of the utility company.</p> <p><u>All manholes must be vertically adjusted a minimum of twenty-four (24) hours prior to paving.</u> The use of riser rings for adjusting manhole frames and value boxes will not be permitted.</p>
3.7	Joints	Delete 3.7.5 and replace with the following	Construct butt joints at locations as shown on the <i>Contract Drawing</i> and as directed in the field by the <i>Contract Administrator</i> and the City.

END OF SECTION

UNIT PAVING

1.0 GENERAL

1.1 Related Work

Add 1.1.7

Geosynthetics Section 31 32 19

1.6 Measurement and Payment

Delete 1.6.1 and replace with the following:

Payment includes the removal of bricks and temporarily storing / stock pilings off-site, excavation, granular base course, grading, base compaction, bedding sand, returning stock-piled pavers to site, placement of pavers, locking sand, and tamping.

2.0 PRODUCTS

2.1 Materials

Delete 2.1.4 and replace with the following

Bedding sand shall conform to the following gradation limits:

Sieve Size (mm)	Percent Passing (%)
9.52	100
4.75	95 – 100
2.35	80 – 100
1.18	50 - 85
0.60	25 - 60
0.30	10 - 30
0.15	5 – 15
0.075	0 - 10

Add 2.1.7

Concrete pavers shall conform to ASTM C939 to C982, specifications for solid concrete interlocking paving units.

Add 2.1.8

Paver type, size and colour, shall be as indicated on the *Contract Drawing*. Paver thickness shall vary. All pavers used in driveways shall be a minimum 80 mm thick. All pavers used for boulevard or sidewalk areas shall be a minimum 60 mm thick.

Add 2.1.9

Pigmentation of concrete pavers shall be a solid colour throughout the unit.

Add 2.1.10

Normal weight aggregate shall be used for the concrete mix.

Add 2.1.11

Jointing sand shall consist of at least 30% of 1 mm sand particles and shall otherwise meet the requirements for bedding sand.

Add 2.1.12

All concrete pavers shall be sealed.

3.0 EXECUTION

3.2 Granular Subbase and Base

Add 3.2.5

Sand, when stock piled onsite, shall be protected against the rain.

3.5 Unit Paving

Delete 3.5 and replace with the following

- .1 Concrete pavers shall be delivered and stored on-site in metal strapping or shrink wrapped PVC.
- .2 Prior to installation of concrete pavers all street signs shall be installed.
- .3 Sand bedding shall have moisture content not less than 6% and not more than 8% prior to compaction.
- .4 All pavers shall be sealed with a clear protective sealant after installation.
- .5 Sand bedding shall be spread evenly over an area not greater than required to receive concrete pavers in one day and shall

UNIT PAVING

be protected against accidental pre-compaction and rain. This bedding shall have a minimum compacted thickness of 20 mm and a maximum compacted thickness of 40 mm, and shall be graded to meet crossfalls in boulevards, sidewalks and driveways.

.6 Concrete pavers shall be laid in a pattern as indicated on the *Contract Drawing*.

.1 Joints between units shall not exceed 3 mm.

.2 Full units shall be installed first and edge pieces fitted subsequently.

.7 Edge restraint shall be as indicated on the *Contract Drawing*.

.8 Gaps at junctions between concrete pavers and edge restraints shall be filled with purpose made or cut edge pieces. Paver shall be cut to fit other conditions. All pavers shall be cut with an approved paver guillotine or masonry cut-off saw to neatly, and accurately fit without damaged edges.

.9 Pavers shall be vibrated to their final level by having not less than 3 passes of a vibrating plate compactor.

.10 The compactor shall be a high frequency, low amplitude unit with plate size sufficient to cover a minimum 12 pavers.

.11 After placement, jointing sand shall be spread over the paver surface and vibrated to completely fill all joints. Jointing sand shall be reinstalled after the first heavy rainstorm.

3.6 Acceptance

Add 3.6.2

All pavers must drain freely with no ponding of water.

Add 3.6.3

Defective, chipped or poorly cut pavers shall be replaced.

Add 3.6.4

Surfaces shall abut flush with adjacent materials. Surface of finished pavement shall be free from depressions exceeding 3 mm as measured with 3m straight edge.

END OF SECTION

PAINTED PAVEMENT MARKINGS

1.0 GENERAL

1.2 Scope

Delete 1.2.1 and replace with the following

Pavement Markings: Miscellaneous taped temporary and permanent pavement paint markings including pedestrian crosswalk, merge and diverge markings, stop lines, solid and broken line road lane markings including edge lines of merge and diverge markings, bike symbols, etc. to be provided as shown on the *Contract Drawing*.

1.5 Measurement and Payment

Delete 1.5.2 and replace with the following

All permanent markings shall be marked with thermoplastic road markings as specified under Section 32 17 23S, 2.1 Materials, unless shown otherwise in the Schedule of Quantities and Prices.

Delete 1.5.3 and replace with the following

The lump sum payment for permanent thermoplastic pavement markings covers removal of existing markings, supplying all materials and completing all the permanent thermoplastic pavement markings necessary to provide markings as shown on the Contract Drawings.

NOTE: PAYMENT FOR PERMANENT THERMOPLASTIC PAVEMENT MARKINGS WILL NOT BE MADE UNTIL ALL TEMPORARY PAVEMENT MARKINGS AND REFLECTIVE DEVICES HAVE BEEN REMOVED.

Delete 1.5.4 and replace with the following

Payment for signage includes all sign poles, bases, sleeves and sign installations. The City will supply signs to supplement existing signs as required. Payment includes all labor, materials and incidentals to complete the work.

.1 Installation of each new sign pole, cap, sleeve and trapezoidal base includes all costs to supply all materials, labour and equipment and incidentals, as shown on Standard Detail Drawings SS-E11.1 & SS-E11.2, necessary to the install sign structure as shown on the Contract Drawings and as directed by the Contract Administrator.

.2 The unit price payment is for each city supplied aluminum sign installed on a sign pole includes sign mount clamps & all costs to supply all materials, labour and equipment and incidentals necessary to install each sign as directed by the Contract Administrator.

.3 The unit price payment for removal and relocation of existing poles and signs includes all material, labour and incidentals necessary to relocate the existing sign structure and/or sign as shown on the Contract Drawings and as directed by the Contract Administrator.

2.0 PRODUCTS

2.1 Materials

Delete 2.1.1 and replace with the following

All permanent paint markings shall be marked with thermoplastic manufactured by LAFRENTZ, HITEX, or ENNIS-FLINT Road Markings.

Delete 2.1.6 and replace with the following

Pavement Markings:

Delete 2.1.7 and replace with the following

Thermoplastic material

.1 Material composition shall be at the discretion of the manufacturer subject to the approval of the Contract

Administrator and the City. Each formulation shall be identified by a code number.

- .2 No retained water when tested by ASTM D-570.
- .3 Specific gravity of the supplied product shall be within 3 % of that specified for the selected formulation.
- .4 Material shall not deteriorate upon contact with deicing chemicals, gasoline, diesel fuel or grease dropped by traffic.
- .5 Material shall not break down, deteriorate, scorch or discolour, if held within the application temperature range specified by the manufacturer for a period of four hours and it must be able to be reheated from room temperature to the application temperature four (4) times without showing any of these detrimental effects.
- .6 When applied at the temperature recommended by the manufacturer and at a film thickness of 2 to 4 mm, the material shall set solid and show no tracking under traffic after elapsed times as follows:
 - .1 Two (2) minutes at an air temperature of 10° C, relative humidity less than 75 %, and road surface temperature from 10° C to 20° C.
 - .2 Five (5) minutes at an air temperature of 32° C, relative humidity less than 75 %, and road surface temperature from 35° C to 50° C.
 - .3 The drying time under conditions intermediate between the two air temperatures shall be interpolated using a straight line model.
- .7 The quantity, type, and gradation of the component reflecting glass spheres premixed in the thermoplastic material shall be at the discretion of the manufacturer, but shall provide retroreflection levels specified below.

3.0 EXECUTION

3.3 Application

Add to 3.3.1.3

Temporary raised pavement markings (TRPMs) are to be provided on all multi-lane roadways as directed by the *Contract Administrator* and the City.

Delete 3.3.3.3 and replace with the following

Thermoplastic material shall be heated in the melter to a temperature of 382 °F.

END OF SECTION

CHAIN LINK FENCES AND GATES

**1.5 Measurement and
 Payment** Add 1.5.5

Payment for removal of existing fences to include removal of existing fence post, panel, and base, and backfilling hole with imported backfill material to 95% modified proctor density. Removed fences or gates shall be placed neatly on the homeowner's property.

END OF SECTION

1.0 GENERAL

1.0 General Requirements

Delete 1.0.1 and replace with the following

.1 Section 32 91 21 refers to those portions of the *Works* that are unique to the supply, placement and finish grading of *Growing Medium*. This section must be referenced to and interpreted simultaneously with all other sections pertinent to the *Works* described herein.

For the purpose of this specification, the term "*Growing Medium*" shall mean a soil produced offsite by homogeneous blending of mineral particulates, micro-organisms and organic matter which provides suitable medium for supporting intended plant growth and the term "*Topsoil*" shall mean on-site native or surface soil material which may be used as *Growing Medium* provided it meets standards set for imported material *Growing Medium* and can be modified to meet the requirements set out for specified *Growing Medium*.

Add 1.0.3

.3 For the purpose of this specification, the term '*Soil-Testing Laboratory*' shall mean an independent laboratory, recognized by the landscape nursery industry, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

1.4 Measurement and Payment

Delete 1.4.1 and replace with the following

Payment includes supply and installation of growing medium, boulevard tree trench, burk mulch and imported top soil that is free from any noxious weeds, fungal growth, mushroom, and any contaminants, and as described in the Schedule of Quantities and Prices. Payment will be made separately and includes supply of material, on-site handling, preparing the landscape area subgrade, placing, grading, raking, compacting top soil and application of fertilizers. Payment for top soil will be for actual volume placed onsite at specified thickness.

1.5 Inspection and Testing

Delete 1.5 and replace with the following

- .1 The *Contractor* is responsible for testing imported *Growing Medium* and all related cost incurred. Testing shall be carried out by an approved *Soil Testing Laboratory*.
- .2 The sample analysis shall be of tests done on the proposed *Growing Medium* from samples taken at the supply source within a minimum of 14 days in advance of *Growing Medium* placement. Allow 7 days for soil testing by the laboratory for each sample. The sample shall be picked up by the *Soil Testing Laboratory* from the supply source. The *Growing Medium* sample shall be a composite of at least three (3) samplings for the proposed source and shall be at least one (1) litre in volume.
- .3 Forward a copy of all test results directly to the *Contract Administrator* and the City for review. The analysis shall outline the testing laboratory's required amendments such as sand, organic matter, fertilizers and lime to achieve adequate growing conditions.
- .4 The *Contractor* shall not deliver any *Growing Medium* to the site until the test results have been reviewed and approved by the *Contract Administrator* and the City.
- .5 All submitted soil analysis must be dated and include supplier name and phone number, project location and submitted to

			<p><i>Contract Administrator</i> and the City for approval prior to commencing work. Soil analysis shall include measurements of:</p> <ul style="list-style-type: none"> .1 Percent sand, fines, silt and clay .2 Organic matter to 100% .3 pH, acidifying additive required to achieve noted herein .4 Water soluble salts .5 Total carbon to nitrogen ration .6 Total nitrogen and available levels of phosphorus, potassium, calcium & magnesium <p>.6 At the discretion of the <i>Contract Administrator</i> and the City submit up to two (2) additional samples, at intervals outlined by the <i>Contract Administrator</i> and the City, of <i>Growing Medium</i> taken from material delivered to the site. Samples shall be taken from a minimum of three (3) random locations and mixed to create a single uniform sample of testing. Results of these tests shall be forwarded to the <i>Contract Administrator</i> and the City for review.</p> <p>.7 The <i>Contractor</i> is responsible for soil analysis and requirements for amendments to supply <i>Growing Medium</i> as specified. Failure to satisfy these contractual requirements could result in the <i>Contractor</i> being required to remove unacceptable <i>Growing Medium</i> at their expense.</p> <p>.8 Notify the Contract Administrator at least forty-eight (48) hours prior to <i>Growing Medium</i> placement for inspection.</p> <p>.9 Refer to General Conditions, Clause 4.12 Tests and Inspections.</p>
1.6	Product Handling	Add 1.6	<ul style="list-style-type: none"> .1 All materials to be handled and adequately protected to prevent damage. Do not handle <i>Growing Medium</i> in an excessively wet, extremely dry, frozen condition or in any manner in which structure may be adversely affected. <i>Growing Medium</i> whose structure has been damaged by handling under these conditions shall be rejected and shall be replaced by the <i>Contractor</i> at their expense. .2 Stockpile materials in bulk form in paved areas or in pre-approved areas of the site. Provide additional protection of storage under roof or tarpaulins. .3 Take all precautions to prevent contamination of <i>Growing Medium</i> and amendments from windblown soil particles, weed seeds and from insects. Contamination of the <i>Growing Medium</i> and amendments may result in their rejection for use. .4 Store fertilizer and chemical amendments in the manufacturer's original containers. .5 All <i>Growing Medium</i> shall be delivered to site <u>premixed</u> from a recognized <i>Growing Medium</i> source ensuring consistency throughout the mix.
2.0	PRODUCTS	Delete 2.0 and replace with the following	
2.1	Materials		<ul style="list-style-type: none"> .1 <i>Growing Medium</i> Preparation <ul style="list-style-type: none"> .1 Shall be prepared from Compost Material with Sand and other Soil Amendments as required to meet the specifications herein. .2 Ensure commercial processing and mixing of <i>Growing Medium</i> components are done thoroughly by a mechanized screening process. Do not mix the components by hand. Ensure the resulting product is a homogeneous mixture having the required properties

throughout free of stones 25 mm or larger in any dimension, woody plant parts, toxic materials, foreign object and other extraneous materials harmful to plant growth. Provide composted soil free from crabgrass, couch grass, equisetum, convolvulus, or other noxious weeds or seed or parts thereof.

.2 Inorganic Soil Amendments

- .1 Sand: Imported pit sand or river pump sand, free of impurities, chemicals, horsetails, and other noxious weeds. The saturation extract electrical conductivity of salinity shall not be greater than 3.0 millimhos/cm at 25 degrees C.

Sieve Size (mm)	Percent passing (%)
4.75	95-100
0.50	0-40
0.050	0-5

- .2 Fertilizers: Uniform in composition, free flowing and dry, granular, pill form, or pelleted commercial product with 50% of total nitrogen (if applicable) derived from natural organic material in a slowly available form delivered in unopened water proof containers with the manufacturer's guaranteed N-P-K analysis, type and trade name attached to each container. The planting soil test results will specify a formulation and application rate to achieve the levels of nitrogen, phosphorous and potassium required. Fertilizer to meet the requirements of the Canada Fertilizer Act.

- .1 Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:

- .1 Class: Class T, with a minimum 99 percent passing through No. 8 (2.36 mm) sieve and a minimum 75 percent passing through No. 60 (0.25 mm) sieve.
- .2 Provide lime in form of dolomitic limestone.

- .3 Perlite: Horticultural perlite, soil amendment grade.

.3 Organic Soil Amendments

- .1 Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 25 mm sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

- .1 Organic Matter Content: 50 to 60 percent of dry weight containing no cedar, redwood, wood or bark.
- .2 Colour: dark brown to black in colour.

.2 Peat:

- .1 Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

.3 Wood Residual

- .1 Content of wood residuals such as Fir or Hemlock sawdust present in the *Growing Medium* shall not

- cause the total carbon to total Nitrogen ration to exceed 40:1.
- .2 Cedar or redwood sawdust shall not be present in *Growing Medium*.
- .4 Manure
- .1 Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth and free from salt or other harmful chemicals, such as any used to artificially hasten decomposition.
- .2 All particles in manure to pass a 6.35 mmm sieve.
- .3 Salt content shall give a reading of less than 0.5 millimhos/cm at 25 degrees C.
- 2.2 Nutrient Requirements**
- .1 Nutrient requirements shall meet the BCSLA/BCNTA Landscape Standard *Growing Medium* requirements for nitrogen, phosphorus, potassium, calcium, magnesium, boron, sodium cation exchange capacity, carbon to nitrogen ratio.
- .1 Boron: not to exceed 1.0ppm
- .2 Sodium: Sodium absorption ratio(SAR) not to exceed 8.0
- .3 Total Nitrogen: to be 0.2-0.4% by weight
- .4 Available Phosphorous: to be 50-100 ppm
- .5 Available Potassium: to be 50-70 ppm
- .6 Cation Exchange Capacity: to be 30 to 50 meq.
- .7 Carbon to nitrogen ratio: Maximum 40:1.
- 2.3 Salinity**
- .1 The electrical conductivity of the liquid taken from the soil pH evaluation shall not exceed 3.0 millimhos/cm at 25 degrees C before additions of fertilizers and/or liming agents.
- 2.4 Drainage Rate**
- .1 Percolation shall be such that mixing, handling and placement to be done in such a manner that the minimum saturated hydraulic conductivity show on Table – '*Growing Medium Properties for Different Applications*' (found herein these specifications) is achieved and no standing water is visible 60 minutes after at least 10 minutes of moderate to heavy rain or irrigation.
- 2.5 Growing Medium Source**
- .1 Import planting medium or manufactured planting medium from off-site sources. Do not obtain from agricultural land, bogs or marshes.
- .2 Supplier of Growing Medium shall be as per the Coquitlam Approved Products List.
- 2.6 Bark Mulch**
- .1 Mulch backfilled surfaces of planting beds and other areas indicated on drawings.
- .1 Organic Mulch: Apply 50 mm average thickness of organic mulch, and finish level with adjacent *Finish Grades*. Do not place mulch against plant stems.
- .2 Supplier of Bark Mulch shall be as per the Coquitlam Approved Products List.
- .3 Dark brown in colour and free of all soil, stones, roots or other extraneous matter, and free of weeds, seeds and spores.

2.7 Growing Medium
Properties for
Different
Applications

Properties	Low Traffic Lawn Areas, Trees and Large Shrubs	High Traffic Lawn Areas	Planting Areas, Planters Shrubs & Groundcover
Texture: Particle size classes by Canadian System of Soil Classification	Percent of Dry Weight Mineral Fraction (%)		
Gravel (greater than 2 mm less than 75 mm)	0-10	0	0
Sand (greater than 0.05 mm and less than 2 mm)	50-70	80-90	50-70
Silt (larger than 0.002 mm and less than 0.5 mm)	10-30	5-20	10-30
Clay (less than 0.002 mm)	7-20	2-5	7-20
Organic Content Percent of Dry Weight	5-10	3-5	25-30
Drainage Minimum saturated hydraulic conductivity (cm/hr) in place	2.0	7.0	2.0
Acidity (pH)	6.0-6.5	6.0-6.5	5.0-6.0

2.8 Miscellaneous
Products

- .1 Root Barrier: 400x610 mm linear root barrier, copolymer polypropylene, 50% recycled plastic, black in colour. Supplier of Root Barrier shall be as per the Coquitlam Approved Products List.
- .2 Construction Adhesive shall be as per the Coquitlam Approved Products List.
- .3 Drain Mat: Light duty, uv stable, impermeable cuspated core bonded to a layer of non-woven filter fabric with the following minimum properties:
 - .1 Compressive Strength -718 kN/m2 as per ASTM D-1621
 - .2 Flow Rate – 188 l/min/Metre as per ASTM D-4716
 - .3 Approximate profile thickness of 10 mm.
 - .4 Supplier of Drain Mat shall be as per the Coquitlam Approved Products List.
- .4 Filter Fabric: Install root barriers in accordance with manufacturer's reviewed installation instructions where indicated on reviewed drawings with vertical root directing ribs facing inwards towards trees or plants; connect panels together as required.
 1. Supplier of Filter Fabric shall be as per the Coquitlam Approved Products List.
- .5 Drain Rock: Shall consist of clean round stone or crushed rock. Acceptable material includes 19 mm drain rock or torpedo gravel conforming to the following gradations.

Sieve Designation	Percent Passing	
	Coarse	Fine (Torpedo gravel)
25 mm	100	
19 mm	0-100	
9.5 mm	0-5	100
4.75 mm	0	50-100
2.36 mm		10-35
1.18 mm		5-15
0.60 mm		0-8
0.30 mm		0-5
0.15 mm		0-2

2.9 Structural Soil

- .1 Soil stabilizer shall be friable, containing a minimum of 4% and maximum of 6% organic matter by dry weight, free from stones and debris over 30 mm. Acidity (ph.) shall be in the range 5.5-7.5. Carbon to nitrogen ratio shall not exceed 40:1, and salinity shall not exceed 3.0 milliohms at 25 deg C. Gravel greater than 2 mm shall not exceed 10% of total weight.
- .2 Supplier of Structural Soil shall be as per the Coquitlam Approved Products List.
- .3 *Growing Medium* to be a gap-graded mixture.
- .4

Texture of Growing Media mixture	Percentage of mixture
Gravel: greater than 2 mm-less than 75 mm	0%
Sand: greater than 0.0 5mm-less than 2 mm	max 60%
Silt: greater than 0.002-less than 0.0 5mm	max 35%
Clay: less than 0.002mm	max 15%
Clay and silt combined	max 40%
Acidity (pH)	6.0-7.0
Drainage: minimum saturated hydraulic Conductivity (cm/hr) in place	3.0
Salinity: saturated extract conductivity shall not exceed at 25 degC	3.0 milliohms/cm
Organic content: percent of dry weight	8-12%
- 5 Stone ballast: Clean inert stone of high angularity is preferred over washed gravel. Stone dimension aspect ratio should be 1:1:1 with a maximum 2:1:1 length: width: depth. Single size stone, 60 mm-75 mm clear sieve designation: Blasted Quarry Rock. Aggregate to be used for structural soil shall be free of any foreign elements or material.
- .6 Structural Geotextile
 - Shall be installed as a structural filter layer directly above the compacted structural soil mixture. Do not install fabric until adequate compaction of the structural soil mixture has been confirmed. Filter fabric shall be selected and deigned to withstand wear and tear during construction without deterioration of its strength and filtering properties.
 - .1 Supplier of Geotextile shall be as per the Coquitlam Approved Products List.

			<p>.7 Ground dolomite limestone containing no less than 85% of its total weight as calcium carbonate and magnesium carbonate shall be used to control ph level. The degree of grind for the limestone shall allow 100% of the total weight to pass a #10 (2 mm) sieve, 90% to pass a #18 (1 mm) sieve and 20% to pass a #40 (0.105 mm) sieve. Spread-easy fertilizer shall be used as a slow release fertilizer source of calcium and magnesium.</p> <p>.8 Mixing of structural soil: Blend as per following ratios:</p> <p>.1 5 metric tonnes (MT) of aggregate</p> <p>.2 1 cubic meter of growing media</p> <p>.3 2 kg soil stabilizer</p> <p>.9 Moisten mixture with fine spray of clean potable water while mixing to activate soil stabilizer product. Do not over mix. Place mixture in 300 mm lifts through entire area of structural soil mixture. Compact each lift to 95% MPD prior to placement of next lift. Install filter fabric such to ensure a minimum of 60 cm overlap of all fabric seams and beyond edge of structural soil.</p>
3.0	EXECUTION		
3.2	Preparation of Subgrade	Delete 3.2.4 and replace with the following	Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials, soil contaminated with calcium chloride, toxic materials and petroleum products, and debris which protrudes more than 25 mm above the surface. Dispose of all removed material off site to approved offsite disposal area at no additional cost to the <i>Owner</i> .
		Delete 3.2.5 and replace with the following	Course cultivate entire area which is to receive <i>Growing Medium</i> to depth of 250mm. Cross cultivate those areas where equipment used for hauling and spreading has compacted soil.
		Add 3.2.6	Grade transitions shall be smooth and even and shall blend into surrounding areas as determined by the <i>Contract Administrator</i> and the City.
		Add 3.2.7	Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
3.3	Processing Growing Medium	Add 3.3.4	<p><i>Growing Medium</i> shall be imported and stockpiled on site in a location approved by the <i>Contract Administrator</i> and the City.</p> <p>.1 Carry out stock piling operation such that the <i>Growing Medium</i> structure is not compromised through compaction, vibration or other actions.</p> <p>.2 Stock piled <i>Growing Medium</i> shall be protected from rain, drying and contaminants.</p> <p>.3 <i>Growing Medium</i> shall be free of subsoil, pests, roots, wood, construction debris, undesirable grasses including crabgrass or couch grass, noxious or weeds and weed seeds or parts thereof foreign objects and toxic materials. Presence of these contaminants shall be grounds for rejection of <i>Growing Medium</i> and replacement at no cost to the <i>Owner</i>.</p>
3.4	Placing Growing Medium	Delete 3.4.2 and replace with the following	Place <i>Growing Medium</i> to the required finished grades with adequate moisture, in uniform lifts of 100 mm to 150 mm compacted to 80 MPD during dry weather, over dry, unfrozen <i>Sub Grade</i> where planting is indicated free of any standing water.

		Delete 3.4.5 and replace with the following	<p>Minimum depths after settlement and 80% compaction:</p> <ul style="list-style-type: none"> .1 Trees pits: 900 mm .2 Shrub beds: 450 mm .3 Ground cover areas: 300 mm .4 Lawn areas: 300 mm .5 Blvd. areas: 150 mm
		Add 3.4.6	<p>Increase sand content to 90% in the planting soil below lawns where heavy wear by pedestrians or maintenance equipment is anticipated. Increase sand content in a 1.5m wide strip at the bottom of swales, banks or other wet areas and as directed by the Landscape Architect. On steep south or west facing banks, reduce sand content in lawns and planting beds to 50 - 60% for better moisture retention.</p>
3.5	Applying Fertilizers	Delete 3.5 and replace with the following	<ul style="list-style-type: none"> .1 Addition of amendment components shall be at the rates indicated in the <i>Growing Medium</i> analysis recommendations via the following methods: <ul style="list-style-type: none"> .1 Lime: Applied with mechanical spreaders over entire planting areas and contained planters. <ul style="list-style-type: none"> .1 Do not apply by hand. .2 Mix thoroughly into the top 100 mm of <i>Growing Medium</i>. .3 Do not allow lime to come into direct contact with nitrogen - phosphate - potash fertilizers. .2 Fertilizer: Applied with mechanical spreaders over entire planting areas and contained planters. Do not apply by hand. Do not mix into <i>Growing Medium</i>.
3.6	Finish Grading	Delete 3.6.1 and replace with the following	<p>Manually fine grade <i>Growing Medium</i> installation to contours and elevations shown on drawings or as directed by <i>Contract Administrator</i> and the City. Eliminate rough spots and low areas to ensure positive drainage.</p>
		Add 3.6.3	<p><i>Finish Grade</i> of <i>Growing Medium</i> shall be 25 mm from finished elevation of adjacent curb or planter wall unless otherwise noted on drawings.</p>
3.9	Clean-up	Delete 3.9 and add the following	<ul style="list-style-type: none"> .1 Ensure all paved areas, tops of planters, adjacent surfaces have been thoroughly cleaned. Ensure all discoloration of adjacent surfaces as a result of <i>Growing Medium</i> installation have been removed. .2 Dispose of materials not required and repair any damage to adjacent surfaces (as determined by the <i>Contract Administrator</i> and the City) off site at no additional cost to the <i>Owner</i>.
3.10	Weed Control	Add 3.10	<ul style="list-style-type: none"> .1 Ensure all weeds and weed roots that have germinated during the course of work of this section have been eliminated from <i>Growing Medium</i>. .2 Provide the City Representative and Consultant with a written outline of weed removal methodology seven (7) days prior to starting weed removal operations.
3.11	Structural Soil	Add 3.11	<ul style="list-style-type: none"> .1 Refer to 2.9 in this specification and as shown on the Contract Drawings.

END OF SECTION

SODDING

1.0	GENERAL	Delete 1.0.2 and replace with the following	This section is based on the "British Columbia Landscape Standards and the B.C. Nursery Trades Association. This standard is intended to set a level of quality which is equalled or bettered in the construction documents.
1.4	Handling and Storage	Delete 1.4.3 and replace with the following	Schedule sod deliveries such that sod installation occurs within twenty-four (24) hours of being lifted from the source sod farm.
		Delete 1.4.4 and replace with the following	Sod shall be neatly stacked or rolled at the source sod farm, delivered and unloaded on sturdy pallets which are no more than 3 pallets high.
1.5	Drainage Control	Delete 1.5.1 and replace with the following	Provide for proper water management and drainage of site during work of this section. Water management shall include silt traps, erosion control measures, temporary water collection ditches, as well as their adequate maintenance to ensure that storm water which may become laden with soil, growing medium or hydraulic seed is detained and cleaned prior to discharge from <i>Place of Work</i> .
1.6	Samples	Add 1.6.2	Submit one (1) square meter of sod to the <i>Contract Administrator</i> and the City for review. Ensure sample is complete with name of sod farm, base soil type, seed mix percentage.
		Add 1.6.3	<i>Contract Administrator</i> and the City shall review sod sample for approval prior to installation. The sample accepted by the review will form the standard by which the project will be supplied.
		Add 1.6.4	Should the <i>Contractor</i> require the source of sod supply to change during the construction a written request must be provided to the <i>Contract Administrator</i> and the City 48 hours in advance. The request shall be followed up by submission of proposed sod substitution sample and include the name of sod farm, base soil type, seed mix percentage for <i>Contract Administrator</i> and the City review prior to the delivery.
1.8	Measurement and Payment	Delete 1.8.1 and replace with the following	Payment for nursery sod includes supply and placing of sod as shown on the Contract Drawings or as directed by the Contract Administrator and grass maintenance to meet Conditions of Total Performance. Payment includes protection from damage caused by any living creature.
2.0	PRODUCTS		
2.1	Sod	Delete 2.1.1 and replace with the following	Sod to be approved by the <i>Contract Administrator</i> and the City and to be nursery grown, true to type, conforming to standards of nursery Sod Growers' Association and their Nursery Sod Specifications. Sod to be quality, cultured turf grass grown from seed approved by Canada Department of Agriculture, free of disease, clovers, stones, pests and debris.
		Add 2.1.1.1	Nursery sod: .1 Shall be No. 1 Premium grade and contain only species of grass indicated on the supplier's certificate. .2 Sod shall be 'non-netted'
		Add 2.1.1.2	Table Guideline of Approved Sod Mix Ratios

Supreme Soil Base Sod	
(Elka II) Perennial Ryegrass	40%
(Shamrock) Kentucky Bluegrass	30%
(Cindy) Chewing Red Fescue	30%

SODDING

Seed Rate: 50g per square metre	
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		Add 2.1.8	All sod shall be completely free of invasive and/or noxious broadleaf weeds, grasses including but not limited to poa annua, disease, fungi, detrimental nematodes and detrimental insects.
2.2	Water	Delete 2.2.1 and replace with the following	Potable, free of impurities that would inhibit seed germination. <i>Contractor</i> to ensure adequate water is available to maintain seeded areas during germination and in a vigorously growing, healthy state until <i>Total Performance</i> of work of this section.
2.3	Fertilizer	Add 2.3.2	Fertilizer shall be complete synthetic slow release fertilizer. Type and application shall be as required by the growing medium analysis report.
2.4	Wooden Pegs	Add 2.4	.1 Wooden Pegs shall be 19 mm x 19 mm x 150 mm long No. 1 grade or better Hem/fir.
2.5	Binder Twine	Add 2.5	.1 Binder Twine shall be hemp based multiple strand string.
2.6	Flagging Tape	Add 2.6	.1 Flagging Tape shall be 30 mm wide, biodegradable ribbon tape made of non-woven cellulosic material, and red color, or an approved equivalent.
3.0	EXECUTION		
3.1	Finish Grade Preparation	Delete 3.1.2 and replace with the following	Prior to the placement of sod <i>Contract Administrator</i> and the City to review and direct minor adjustments and refinements of finish grades prior to the <i>Contractor</i> proceeding. Review includes grades, growing medium depth and condition of finished surface. Subsequent to the <i>Contract Administrator</i> and the City review the <i>Contractor</i> shall re-grade, add growing medium and make adjustments as directed by <i>Contract Administrator</i> and the City.
		Delete 3.1.5 and replace with the following	Fine grade growing medium to lines and levels shown on Contract Drawings. Ensure that all low spots, humps and irregularities are eliminated prior to review by <i>Contract Administrator</i> and the City.
3.2	Sodding	Delete 3.2 and replace with the following	.1 Sod shall not be placed during hot dry summer periods, at freezing temperatures, or over frozen growing medium. .2 Allow sod to dry sufficiently during wet weather to prevent tearing during lifting and handling. .3 Handle sod carefully to minimize tearing and dropping of soil. .4 Placement of Sod: .1 Lay sod in rows smooth and flush to adjoining grass areas and paving and top surfaces of curbs unless shown otherwise on <i>Contract Drawing</i> . Ensure there is a full roll width between the new sod and any adjoining surfaces. Small cut pieces from a full roll will not be accepted. .2 Stagger joints and ensure that sod sections are butted closely together without overlapping or leaving gaps between sections. .3 Cut out irregular or thin sections with a sharp knife. .4 Cut sod to fit tight around landscape elements. .5 Cut sod to create clean, smooth lines along all plant beds. .5 Placement of Sod on Slopes:

SODDING

- .1 Lay sod with the length of each sod section parallel to slope taking extra care to ensure that sod sections are butt tight and each sod section is set in a staggered formation.
- .2 On slopes exceeding 3:1 gradient ensure sod is secured with wooden pegs at intervals of not more than 450 mm along the center of each section. Ensure wooden pegs are driven flush with the sod.
- .3 Prior to acceptance of sod areas that have been secured with wooden pegs either remove the wooden pegs or drive each wooden peg at least 50 mm below finished grade.
- .4 Where required, place erosion control mesh or netting and secure with stakes or staples sunk firmly into ground to a minimum depth of 150 mm at maximum intervals of 4 meters along pitch of slope. Place stakes or staples horizontally across slope at intervals equal to width of mesh or netting minus 150 mm and drive flush with top of sod.
- .6 Use a light roller to ensure that there is full, close contact between sod and growing medium. Use of a heavy roller to correct irregularities in grade is not permitted.
- .7 Ensure all sodded areas are watered immediately after installation. Verify that water applied to has penetrated through sod into top 100 mm of growing medium. Continue watering operations as needed to ensure that adequate moisture content is maintained to encourage deep root growth and healthy, vigorous leaf growth.
- .8 Protect newly placed sod from heavy foot traffic during installation and until acceptance by the *Contract Administrator* and the City. Protection shall include but is not limited to placement of wood planks or plywood of sufficient thickness to bear the imposed weight and prevent damage to sod or displacement and/or compaction of sod/growing medium.
- .9 Sod that has been damaged by construction operation, construction / site personnel or construction traffic shall be replaced at no cost to the *Owner*. Replacement shall include removal of growing medium, regrading of sub grade, replacing growing medium and sod as required.
- .10 Water sod area immediately with sufficient amounts to saturate sod and upper 100 mm of growing medium. Do not allow the sod to dry out so that the joints become visible.

3.4 Grass Maintenance

Delete 3.4 and replace with the following

- .1 Maintenance of sodded areas shall begin immediately after sodded operation and shall continue until all deficiencies noted in the *Substantial Performance* review have been rectified to the satisfaction of the *Contract Administrator* and the City and conditions for *Total Performance* have been achieved. The *Contractor* is to notify the *Contract Administrator* and the City in writing forty eight hours (48) prior to stopping maintenance operations.
- .2 Sod Cutting: After the 'first' cut of sodded lawn areas cutting operations shall be carried out on a weekly (seven day) basis until *Total Performance* by *Contract Administrator* and the City:
 - .1 First cut of sodded lawn areas shall occur when a uniform grass height of 75 mm has been attained. First cut shall be to a height of 65 mm.

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- .2 Continue regular weekly cutting at a height of 65 mm until *Total Performance*.
- .3 Cutting operations shall be such that each cut is at right angles to the previous cut.
- .4 *Contractor* to remove grass clippings after each cut and dispose of offsite.
- .5 Roll when required to remove any minor depressions or irregularities.
- .6 Immediately repair seeded areas that show deterioration or bare spots. Top-dress all areas showing shrinkage due to lack of watering and seed with seed mix that matches the original seed mix.
- .3 Fertilizer analysis shall conform to recommendations provided with growing medium analysis. Application of fertilizer shall follow manufacturers' recommendations noting that after October 1 lawn areas shall not be fertilized until April 15th of the following spring.
- .4 Sodded lawn areas shall be kept free of invasive and/or noxious broadleaf weeds, grasses including but not limited to poa annua, disease, fungi, detrimental nematodes and detrimental insects.
- .5 All maintenance equipment and practices are to conform to the BC Landscape Standard Level 2 'Groomed'.
- .6 Protect all sodded areas against trespassing and from damage at all times clearly marked, staked, string and flagging tape.
- .1 Perimeter Protection: Where directed by the *Contract Administrator* and the City, sodded areas shall be surrounded by a 900 mm high barrier made up of the following components:
 - .1 Wood posts placed at 1.8 meters on centre.
 - .2 Wood Posts to be driven to a depth of 300mm.
 - .3 String two (2) strands of hemp based binder twine (or equal product) between posts. Insure one full wrap of twine around each post.
 - .4 Tie 300 mm strands of 'red' flagging tape at 450 mm intervals along the entire length of both strands of twine.
 - .5 Maintain perimeter protection until *Total Performance* issued. Upon acceptance by *Contract Administrator* and the City, remove perimeter fence and dispose of off site.

3.5 Condition for Total Performance

Delete 3.5.1 and replace with the following

Conditions for *Total Performance* of Sodded areas:

- .1 Sodded areas exhibit fully established root systems.
- .2 No seams are visible between sod sections.
- .3 Sod areas are smooth and evenly graded. No depressions, foot marks or vehicle tracks.
- .4 Sod is free of bare and dead spots and does not have any broadleaf weeds, noxious grasses including but not limited to poa annua.
- .5 No surface growing medium is visible when grass has been cut to height of 65 mm.
- .6 Sodded areas have been cut a minimum of two (2) times, at seven (7) day intervals.
- .7 Sodded areas are a uniform green colour with no discoloured sections or patches.

SODDING

			.8 Sodded areas exhibit a thick, dense, uniform and healthy appearance.
		Add 3.5.2	Lawns sodded after September 30 th will be not be reviewed for <i>Total Performance</i> until April 30 th the next year.
3.6	Guarantee / Maintenance	Delete 3.6.1 and replace with the following	The <i>Contractor</i> hereby guarantees that the sod will remain free of weeds and defects for a period of one (1) year from the date of <i>Substantial Performance</i> . The <i>Contractor</i> shall make all corrections, adjustments and replacements required as a result of failure of all products in this section. During the <i>Maintenance Period</i> , the <i>Contractor</i> will replace sodded areas, determined by <i>Contract Administrator</i> and the City, to be dead or failing at the end of the <i>Maintenance Period</i> . Replacements to be made at next appropriate season and, conditions of guarantee will apply to all replacement seeding for one full growing season.
		Delete 3.6.2 and replace with the following	The Owner reserves the right to extend the <i>Contractor's Maintenance Period</i> and responsibilities for one (1) additional year if, at end of the initial guarantee period, the development and growth of the sod is not sufficient to ensure future survival.

END OF SECTION

STORM SEWERS

1.6	Measurement and Payment	Delete 1.6.2 and replace with the following	Payment for storm sewers includes location and exposure of existing utilities, trench excavation, disposal of all surplus excavated material, support of adjacent piping, supply and installation of all pipe, fittings and related materials, tie-ins to existing storm pipe, import backfill, pavement restoration, concrete or landscaped median restoration, cleaning and flushing, testing (if applicable), videoing and all other work and materials necessary to complete installation as shown on Contract Drawings, COQ-G4 and specified under this Section.
		Delete 1.6.5 and replace with the following	Payment for catchbasin or lawn basin leads include all applicable materials, connection to existing main and work described in 1.6.2. Payment includes sawcutting and disposal of existing pavement, trench excavation, offsite disposal of native surplus/displaced material, dewatering, bedding, supply and installation of 150mm SDR28 and 200mm SDR35 PVC pipe, approved native excavated backfill, granular base, full depth temporary asphalt patch, 35mm mill and overlay keyed into the existing asphalt, video inspection after pipe is installed, and all other work and materials necessary to complete installation as shown on Contract Drawings and specified under this section.
			Measurement for catchbasin leads or lawn basin leads will be made horizontally from centerline of catchbasin or lawn basin to centerline of tie-in point for each pipe size installed with no regards to depth range.
2.0	PRODUCTS	Delete 2.2.1 pipe size ranges and replace with the following	200 mm dia. – 375 mm dia. to ASTM D3034 450 mm dia. – 1,200 mm dia. to ASTM F679
2.2	PVC Pipe, Mainline Smooth Wall	Delete 2.3	
2.3	PVC Pipe, Mainline Profile	Delete 2.6.1 and replace with the following	Storm service connections to be PVC DR 28 150 mm diameter minimum or as specified on <i>Contract Drawings</i> .
2.6	Service Connections	Delete 2.6.8.1	
		Delete 2.6.8.2 and replace with the following	Connections to PVC pipe to be made with a performed wye fitting where mainline pipe is 300 mm diameter or smaller. For connections to PVC mainline pipe larger than 300 mm diameter an insertable tee for PVC pipe is permitted.
		Add 2.6.8.3	Insertable tee fitting shall have a rubber collar which inserts into the mainline pipe to form a tight seal and shall have stainless steel band to secure the tee insert. The tee insert shall be a standard bell end with depth control lugs. The joint shall provide a minimum seal of 90 kPa on concrete and polyethylene pipe, and 190 kPa on PVC pipe.
		Delete 2.9.3	Pipe bedding shall be 19 mm clear crushed rock or as approved by the <i>Contract Administrator</i> and the City.
3.0	EXECUTION	Delete 3.8.3 and replace with the following	For new connections to existing, smooth wall or profile, mainline sewers 300 mm and smaller, shall be made by removal of the section of the main and replacement with a preformed PVC wye fitting complete with stubs and double hub PVC couplings for PVC mains and approved shear band couplings for other mainline materials.

For new connections to existing mainline greater than 300 mm, use of insertable tee will be permitted.

END OF SECTION

MANHOLES AND CATCHBASINS

1.0 GENERAL

- | | | | | |
|-----|--------------|-----------|-----------------------------------|------------------|
| 1.1 | Related Work | Add 1.1.6 | Hot Mix Asphalt Concrete Pavement | Section 32 12 16 |
| | | Add 1.1.7 | Portland Cement Concrete Paving | Section 32 13 13 |
- 1.5 Measurement and Payment
- Delete 1.5.2 and replace with the following
- Payment includes supply and installation of new side inlet catch basin as described in Schedule of Quantities and Prices and as shown in Standard Detail Drawing COQ-S11A. Prices include all labour, material and equipment required to complete the work from specified invert to finishing level. Payment includes excavation, disposal of surplus excavated material, base preparation, bedding, import backfill, catchbasin preparation to accommodate catchbasin connection, installation of all in-situ concrete work, all labour, material, equipment and necessary work for installing the catchbasin.
- Catchbasin/lawnbasin lead work will be made under Section 33 40 01S – Clause 1.6.5.
- Delete 1.5.3 and replace with the following
- Adjustment of tops of existing units will be measured in units adjusted as defined below and paid for under their respective Item in the Schedule of Quantities.
- No payment will be made for adjusting external utility valve boxes/ junctions and manholes, monument boxes, gas valve boxes, lawn drains, cleanouts, inspection chambers and water meters, these adjustments will be treated as incidental work unless otherwise specified.**
- .1 Unit price adjustments to existing manholes will include replacement, removal or addition of approved concrete riser rings, cement mortar and resetting of the existing frame and cover to finished grade.
- .2 Unit price for manhole lid and frame replacements includes jackhammering, cement mortar, removal and disposal of existing frame and lid and supply and installation of a new manhole frame and lid to finished grade. Work as directed by Contract Administrator.
- .3 Water Valve Box replacements will be defined as supplying and installing a new Nelson Type Terminal City Water Valve Box frame and lid. Replacements include the removal and disposal of the existing frame and lid and all other incidental work. Work as directed by Contract Administrator.
- .4 Unit price for water valve box adjustments will include resetting of stand pipe and adjustment of the existing valve box and frame and lid to finished grade and all other incidental work as required.
- 2.0 PRODUCTS
- 2.1 Materials
- Add 2.1.7.3
- Any frame and cover assembly creating a point load on the concrete riser rings will not be permitted.

MANHOLES AND CATCHBASINS

		Delete 2.1.12 and replace with the following	Catchbasin lids manufactured to ASTM C478M
		Delete 2.1.16.2	
		Delete 2.1.17	
3.0	EXECUTION		
3.1	Excavation and Backfill	Add 3.1.2	For manholes, when base gravels are complete, excavate for grade rings and manhole frame assembly. Do not disturb the compacted road base beyond the excavation requirement.
3.3	Manhole Installation	Delete 3.3.12.2 and replace with the following	Allowable products are precast concrete risers and cast-in-place form system. Individual riser heights shall be 50mm, 75mm, or 100mm.
		Delete 3.3.12.5 and replace with the following	Proper layer of grout between the spacers, covering the entire surface of the rings, should be utilized.
		Delete 3.3.15 and replace with the following	Install drop structures as shown on the contract drawings to Coquitlam Standard Detail Drawing COQ-S4 and Standard Detail Drawing S3. Maximum allowable inside ramp shall be 250 mm invert to invert.
		Delete 3.3.17 and replace with the following	Ensure frames conform to design contour of pavement or existing surface. Manhole lids left raised in preparation for overlay paving shall have a rubberized protector ring or asphalt ramp. The use of riser rings for adjusting manhole frames will not be permitted.
3.5	Catchbasin Installation	Delete 3.5.1 and replace with the following	Install catchbasins as shown on Coquitlam Standard Detail Drawings COQ-S11A, COQ-S11B and Standard Detail Drawing S11, to general standards and installation procedures described under 3.3 of this Section.

END OF SECTION

Appendix A - Traffic Management Detail Specifications

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| 1.0 GENERAL | |
| | .1 This Traffic Management detail specification refers to the Contractor's specific plans to identify project traffic risks affecting the <i>Work</i> , 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 Control, Vehicle Access and Parking 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. The Road and Sidewalk Closure Permit Request form is attached as Appendix 1 to this document. 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: Road and Sidewalk Closure Permit |
| | A Road and Sidewalk Closure Permit form application must be submitted to City's Traffic Operation Division 5 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 <i>Work</i> . |
| | .2 The Traffic Management Plan (TMP) will consist of the following components: |
| | .1 Identification of risks to traffic during the <i>Work</i> . |
| | .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. |
| | .3 Submission of the TMP is to be made to the <i>Contract Administrator</i> within five (5) working days after the <i>Notice of Award</i> of the <i>Contract</i> , and must be approved by the <i>Contract Administrator</i> prior to start of the <i>Work</i> . |

- .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. 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 ten (10) minutes in duration; for occasional interruption of traffic for construction activities if traffic volumes permit.
- .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 current 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
- 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	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	<p>The Contractor shall minimize any abrupt changes in roadway elevation left exposed to traffic during both working and non-working hours.</p> <p>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.</p>
3.7	Cyclist and Pedestrian Access	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	Good Neighbor Practice	The Contractor, crew and subcontractors, shall not park their private vehicles on the same street they will be working on. Contractor is responsible to find alternative parking accommodation to minimize any inconvenience to the residents.
3.9	Temporary Pavement Markings	<p>The Contractor shall be responsible for the application and removal of all temporary pavement markings and reflective devices.</p> <p>All temporary markings must be removed after installation of permanent markings.</p>
4.0	TRAFFIC RESTRICTIONS	
4.1	Road and Sidewalk Closure Permits	<p>.1 Minimum of Single Lane Alternating Traffic must be accommodated at all times. If necessary and only at the discretion of the Contract Administrator, Local Traffic Only may also be approved at one block at a time.</p> <p>.2 A 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.</p> <p>A copy of the approved Road and Sidewalk Closure Permit must be held on site by both the Site Superintendent and the person/company responsible for the traffic control implementation.</p> <p>.3 Total Road Closure Is Not Permitted.</p> <p>.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</p>

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

5.1 Allowable
Hours of Work

.1 **The hours of work shall be from 0700 h to 1900 h inclusive Monday to Friday and 0900 h to 1800 h inclusive Saturdays, unless noted otherwise.**

- .2 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 The Contractor shall ensure safe passage of all pedestrians and all types of vehicles. The Traffic Management Plan must accommodate businesses, school, residences and pedestrian during construction activities.

All City Traffic Counts are available on the City's web site at:
[Coquitlam Traffic Data](#)

6.3 Work Stoppage Due to
Traffic

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. Contractor is responsible for the costs associated with this work shut-down.

6.4 Construction Activity
and Signage

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

The Contractor is required to provide, one week prior to start of work and for the duration of the Contract, stationary signs to inform traffic of existing and anticipated conditions at the following locations:

Schoolhouse Street:

- Northbound, SE corner of Schoolhouse St and Foster Ave.
- Southbound, NW corner of Schoolhouse St and Como Lake Ave

Grover Avenue:

- Eastbound, SE corner of Schoolhouse St and Grover Ave

Ivy Avenue:

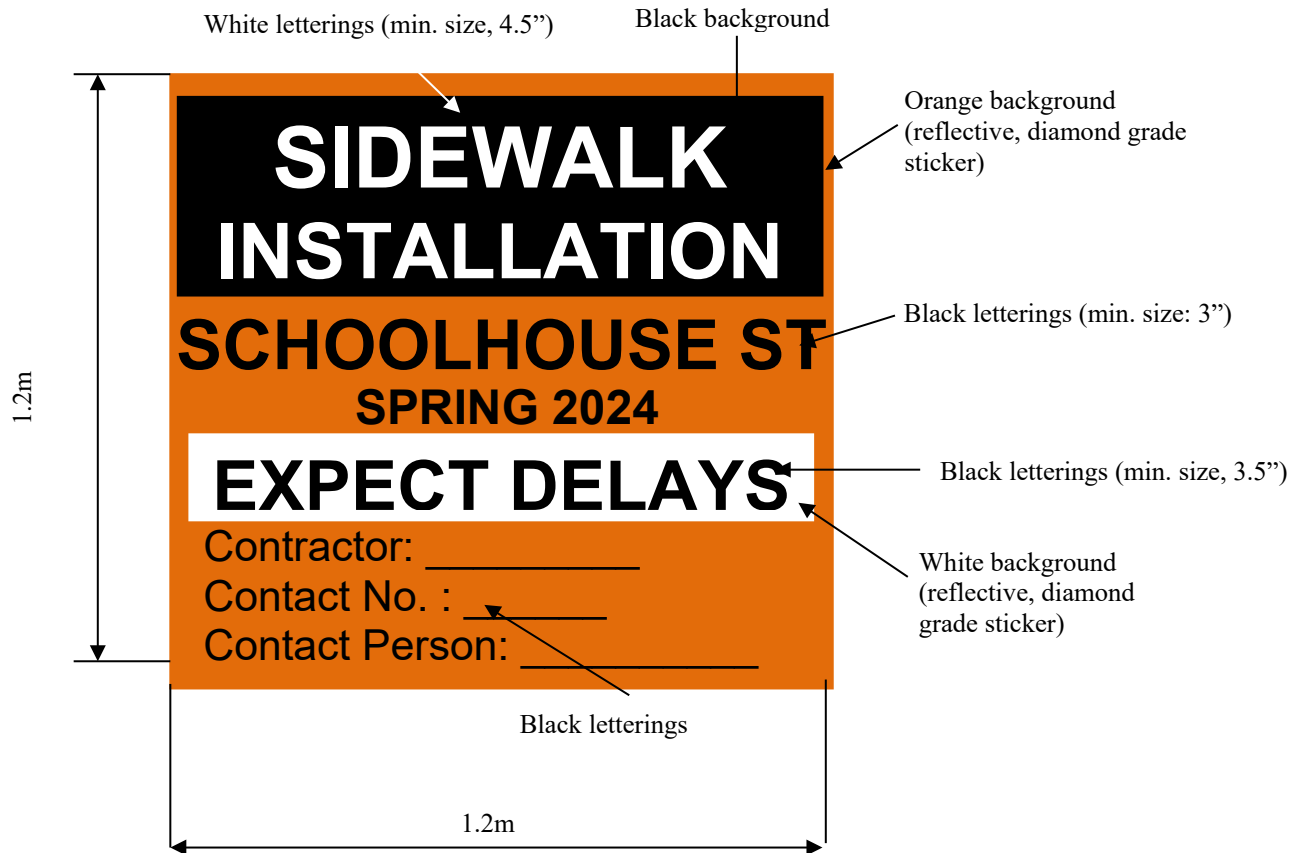
- Eastbound, SE corner of Fairview St and Ivy Ave
- Westbound, NW corner of Robinson St and Ivy Ave

(exact locations to be determined on site by Contract Administrator)

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.

Construction Zone Information Signs to follow specifications below (change name of street as required):





APPENDIX 1



City of Coquitlam
Road and Sidewalk Closure Permit Request

Traffic Operations Division
3000 Guildford Way, Coquitlam BC V3B 7N2
Phone: 604-927-6250 Fax: 604-927-6255
Email: trafficoperations@coquitlam.ca

Submit to the Traffic Operations Division a minimum of 5 business days prior to the intended closure date.

~~Permit Fee - \$75.00 (Effective February 1, 2019)~~

Payment Methods – After review, and if approved, payment options will be emailed to the applicant.

Application Date: _____

City Project Number (if applicable): 77052

Contact Information

Company Name: _____

Applicant Name: _____

Name of Contractor doing work for Company/Applicant: _____

Phone: _____ Fax: _____

24 Hour Emergency Phone: _____ Email: _____

Location, date and time, and traffic control plan information

I request approval to close (check all that apply): Direction: ☐ Northbound ☐ Southbound ☐ Eastbound ☐ Westbound

☐ Curb/Outside Lane ☐ Centre/Inside Lane ☐ Right Turn Lane ☐ Left Turn Lane ☐ Cycling Lane ☐ Sidewalk

☐ Single Lane Alternating Traffic ☐ Full Closure

Road/Street Name: _____

Location Description: _____

Date & Time Information: Dates: _____
Starting Ending

Hours: _____
Starting Ending

Purpose: _____

Will this closure disrupt: Bus Routes or Stops? ☐ Yes ☐ No If yes, the Applicant will need to contact Coast Mountain Bus Company regarding disruptions.

Will this closure disrupt: Garbage/Recycling Routes or Pick Up? ☐ Yes ☐ No If yes, the Applicant will need to assist the contractor and/or contact the City's Environmental Services Group. www.coquitlam.ca/trashtalk

Traffic Control Plan*:

- (a) Traffic Management Manual for Work on Roadways Figure Number _____, or
(b) A Traffic Control Plan (*attach separately*) indicating signage, taper lengths, direction of traffic, work area, and north arrow

Traffic control persons (flag persons) on duty? ☐ Yes ☐ No If yes, specify how many: _____

*** Important Notice:** All operations within the road right-of-way must comply with Worksafe BC regulations and BC Ministry of Transportation standards for work on roadways.

Application Checklist

- ☐ Permit Fee
- ☐ Prime Contractor Designation Letter
- ☐ City of Coquitlam Certificate of Insurance
- ☐ Traffic Control Plan or Traffic Management Manual for Work on Roadways Figure Number
- ☐ Coast Mountain Bus Company (Phone: 778-593-5774 | Email: special.events@coastmountainbus.com) contacted regarding impact to bus routes and bus stops
- ☐ City of Coquitlam Environmental Services Group (Phone: 604-927-3500 | Email: wastereduction@coquitlam.ca) contacted regarding impact to garbage/recycling routes and pick up

I HEREBY AGREE to the terms stipulated herein and further agree to indemnify and save harmless the City against any and all claims, actions, or expenses whatsoever or by whomsoever brought against the City by the reason of the City granting us this Road and Sidewalk Closure Permit. I further agree to accept responsibility to ensure proper situation control and street sweeping for the duration of the road or sidewalk obstruction.

Date

Applicant Signature

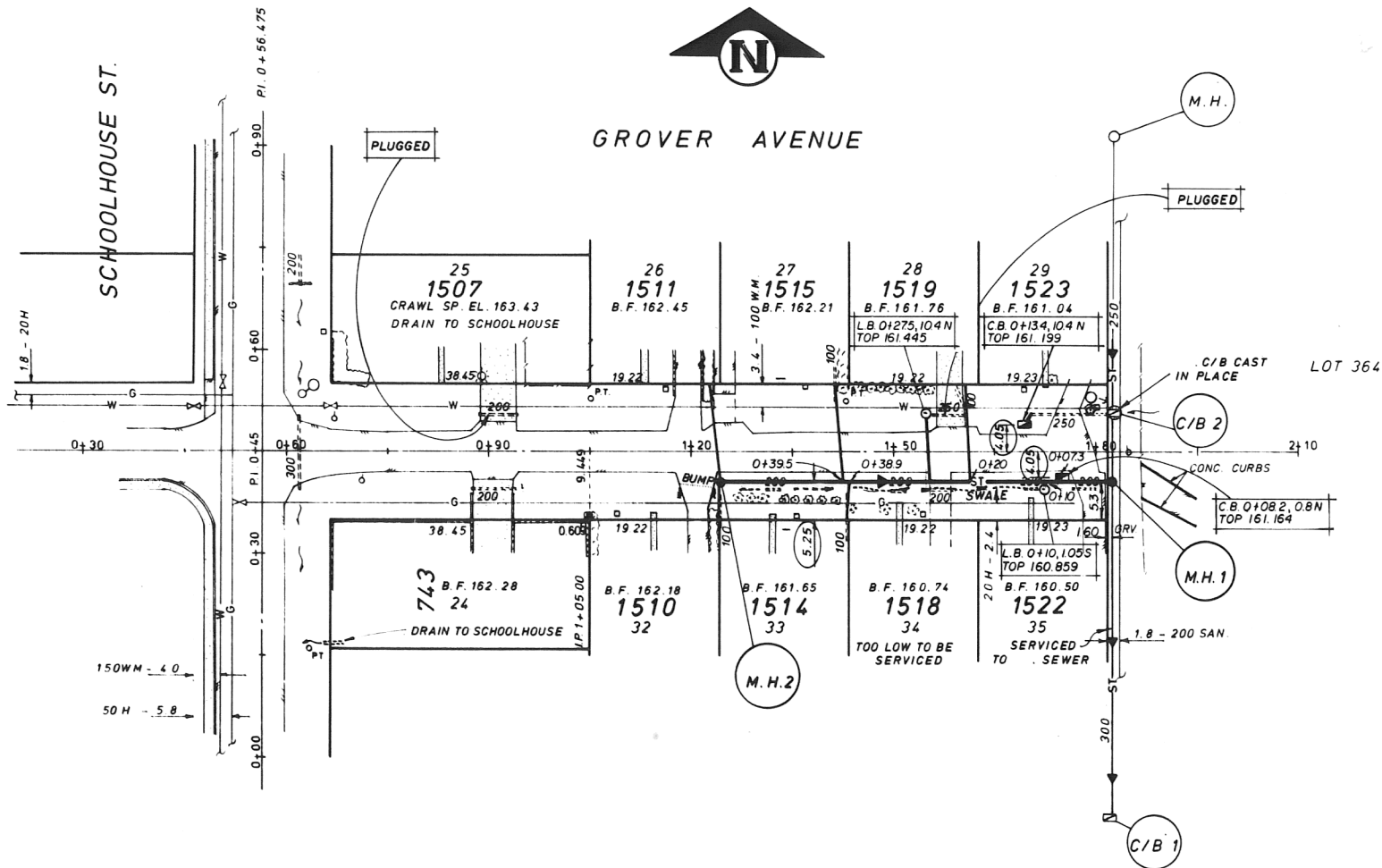
Office Use Only PERMIT STATUS

- ☐ Permit Fee
- ☐ Prime Contractor Letter
- ☐ Certificate of Insurance
- ☐ Traffic Control Plan
- ☐ Impact to bus service
- ☐ Impact garbage and recycling collection
- ☐ Request is denied for the following reason(s): _____
- ☐ Request is approved with the following change(s): _____
- ☐ Request is approved as submitted

Date

Traffic Technologist or Designate

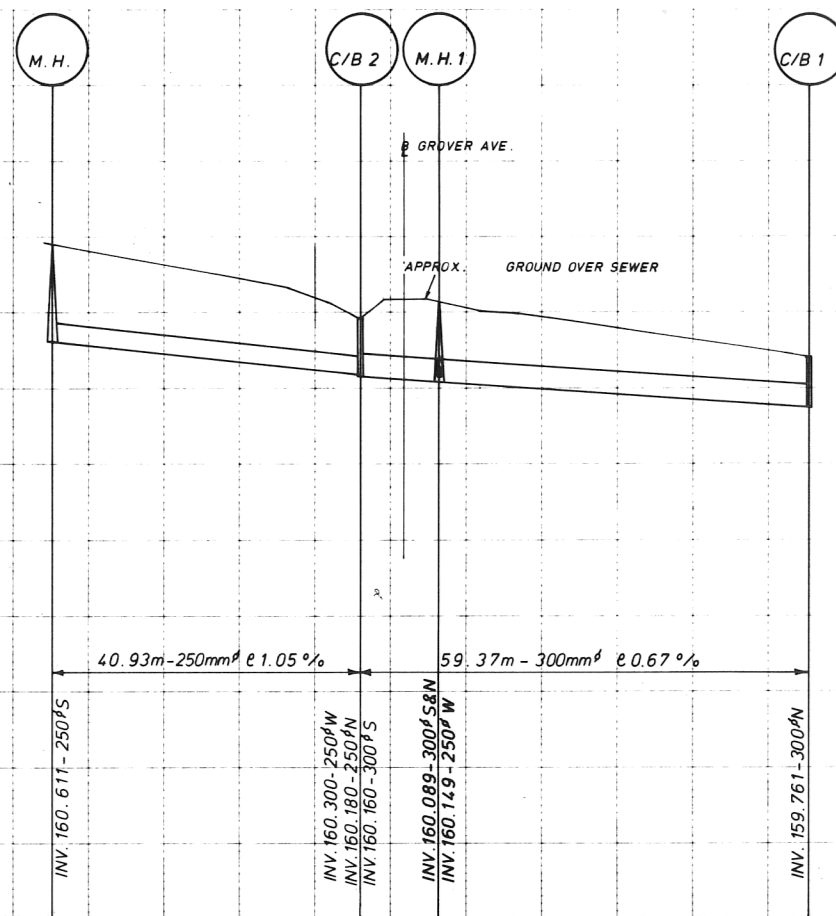
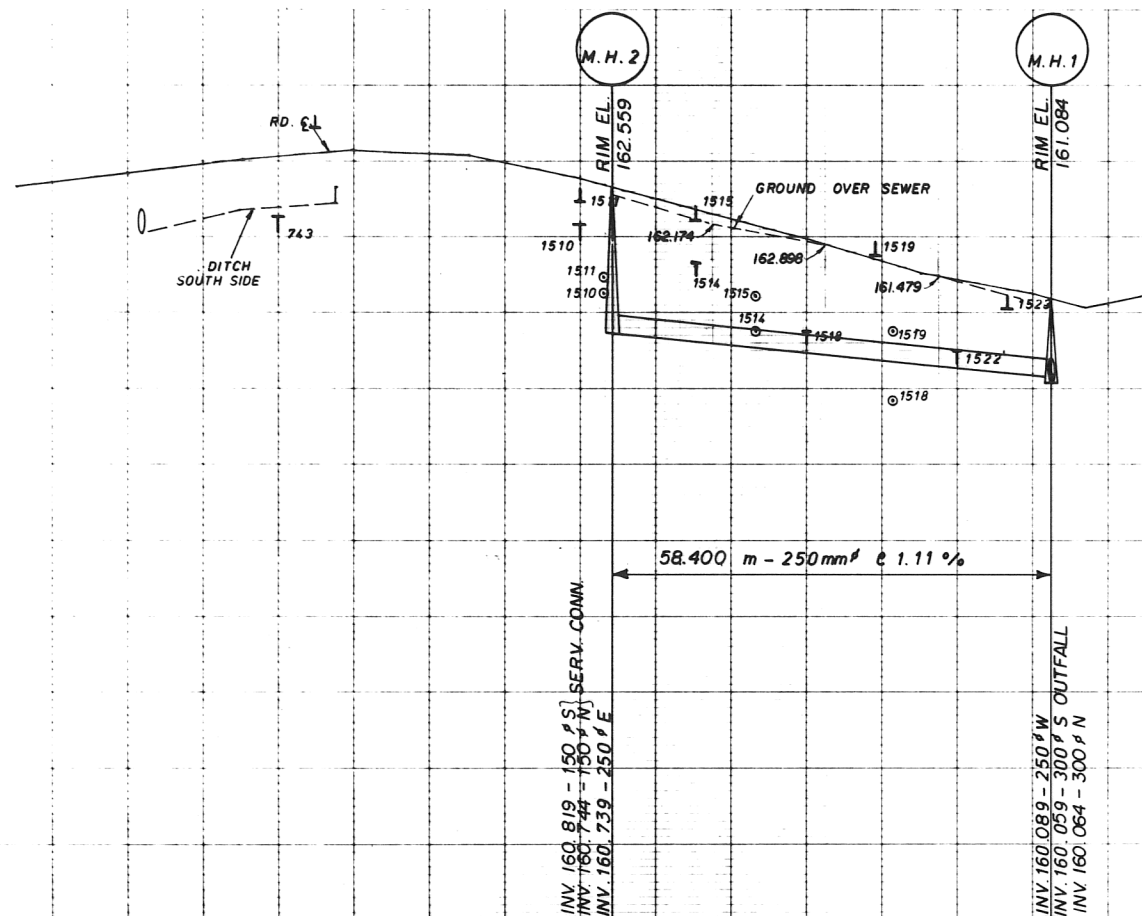
Appendix B - As-built Package



BENCHMARKS - MON. 80H1359 INT. SCHOOLHOUSE & COMO LAKE AVE. EL. 163.470
MON. 73H0385 INT. REGAN & SCHOOLHOUSE EL. 161.909

NOTES - 1 - WORKS IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS DESCRIBED IN DISTRICT OF COQUITLAM CONTRACT 86 - 06.

163
162
161
160
159



D-900

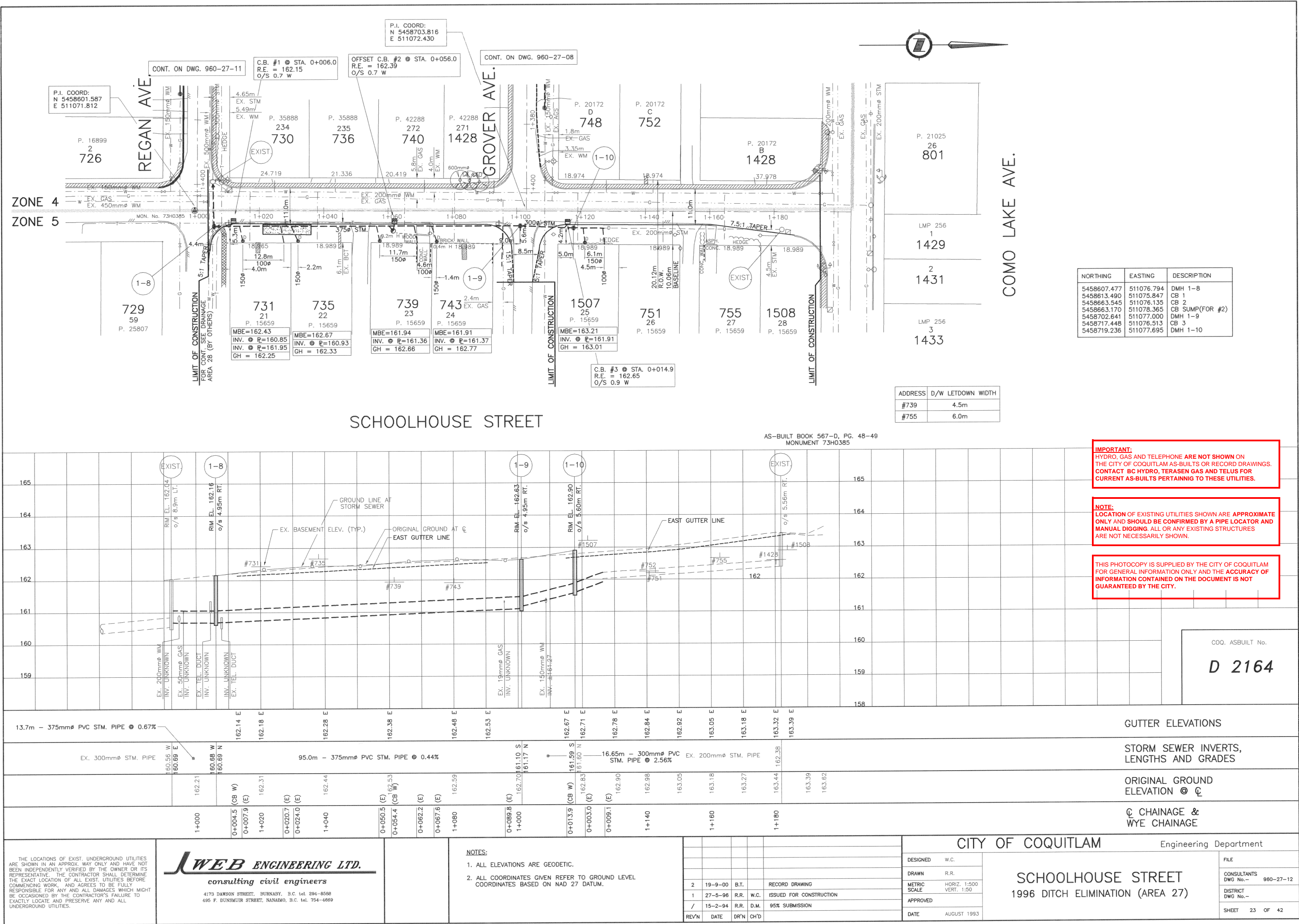
FIELD BOOK No.	Pg. No.	No.	DATE	REVISION	BY
1	06-08-20	0/S PR. ST. SEWER REVISED . NOTES ADDED . DWG. No. CHANGED.			JV
2	06-05-12	AS CONSTRUCTED			

R.F. BINNIE & ASSOCIATES LTD.
103 7382 WINSTON STREET
BURNABY, B.C. V5A 2G9
PHONE 420 - 1721
CONSULTING CIVIL ENGINEERS

CLIENT **DISTRICT OF COQUITLAM**
STORM SEWER
GROVER AVE.

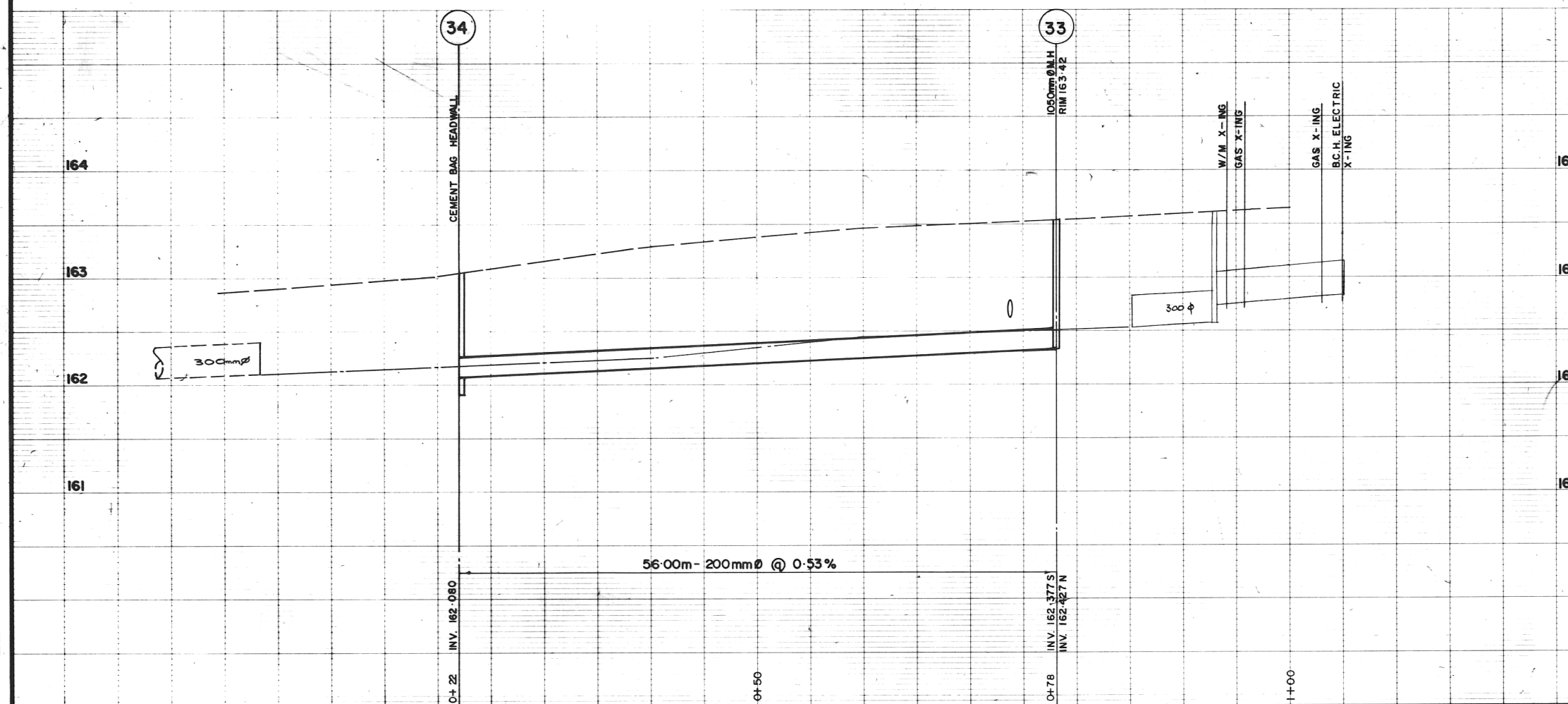
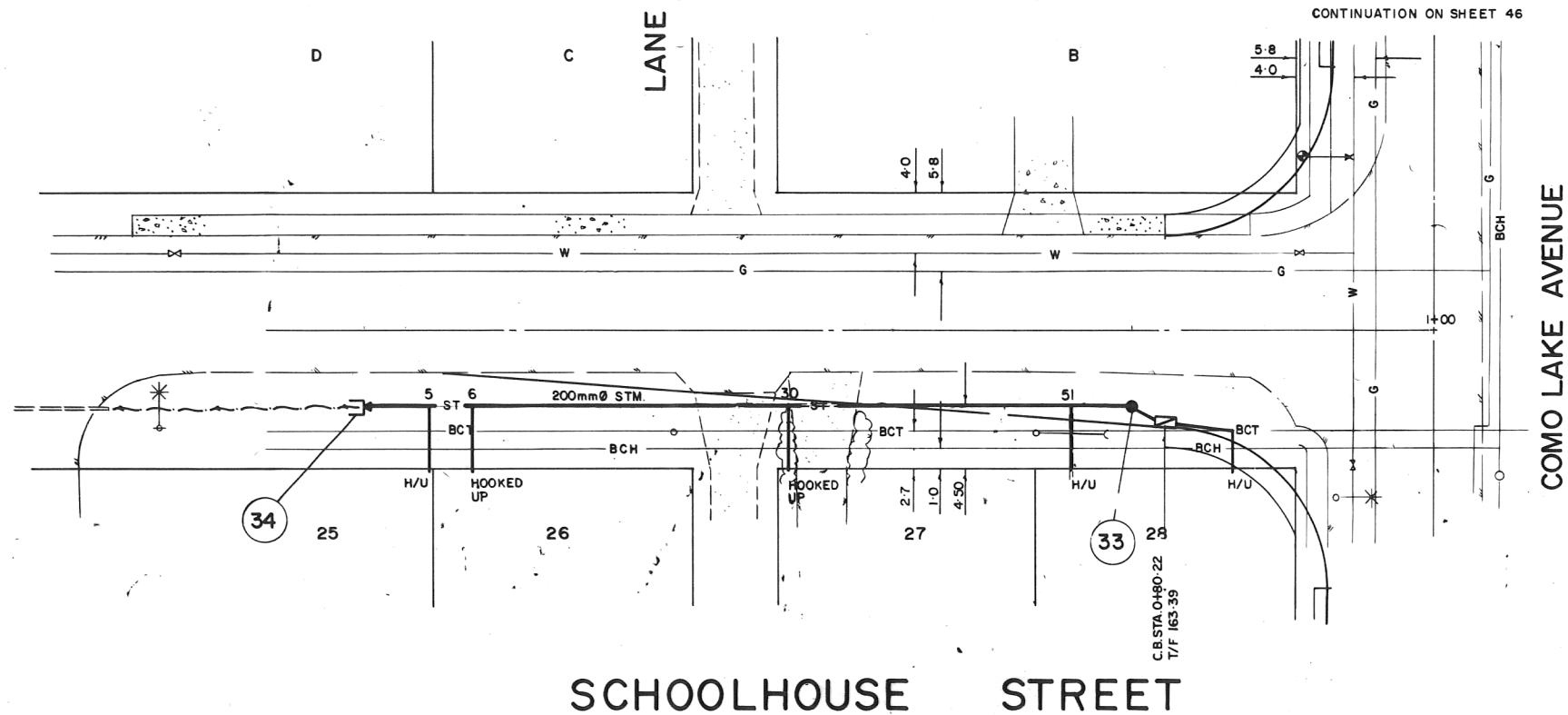
SURVEYED BY	DATE	JULY 1986
DRAWN BY S.G.	DRAWING No.	613-ST16-1
DESIGNED BY	SHEET	1 OF 1
SCALES	REV.	2
VERTICAL 1:50		
HORIZONTAL 1:500		

DESTROY ALL PRINTS BEARING PREVIOUS No. 1



D 777 17 OF 18

11. MON. No. 80H1359 AT THE INTERSECTION OF COMO LAKE AVENUE AND SCHOOLHOUSE STREET ELEV. 163.470.



IMPORTANT:
HYDRO GAS AND TELEPHONE ARE NOT LOCATED ON THE CITY OF COQUITLAM AS-BUILTS.
CONTACT BC HYDRO, BC GAS AND TELUS FOR CURRENT AS-BUILTS PERTAINING TO THESE UTILITIES.

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.

THIS PHOTOCOPY IS SUPPLIED BY THE CITY OF COQUITLAM FOR GENERAL INFORMATION ONLY AND THE ACCURACY OF THE INFORMATION CONTAINED ON THE DOCUMENT IS NO WAY GUARANTEED BY THE CITY.

D777-17

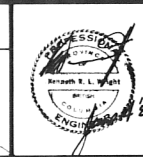
CAUTION !!
ANY CONSTRUCTION OVER THE EXISTING 308mm GAS MAIN REQUIRES THE SUPERVISION OF AN INSPECTOR FROM BC HYDRO & POWER AUTHORITY.
NOTIFY THE ABOVE COMPANY 48 HOURS PRIOR TO START OF CONSTRUCTION.
CONTACT THE CONTROL DEPARTMENT AT 298-1311 Loc. 25.

No.	Date	Revision	Dr.	Ch.
2	05-05-20	AS CONSTRUCTED SURVEY PLOT		
1	04-06-21	DITCH REGRADING SOUTH OF H/W 34 ADDED		

McElhanney Surveying & Engineering Ltd.
13160 - 88 Ave., Surrey, B.C., Canada V3W 3K3 Telephone (604) 596-0391

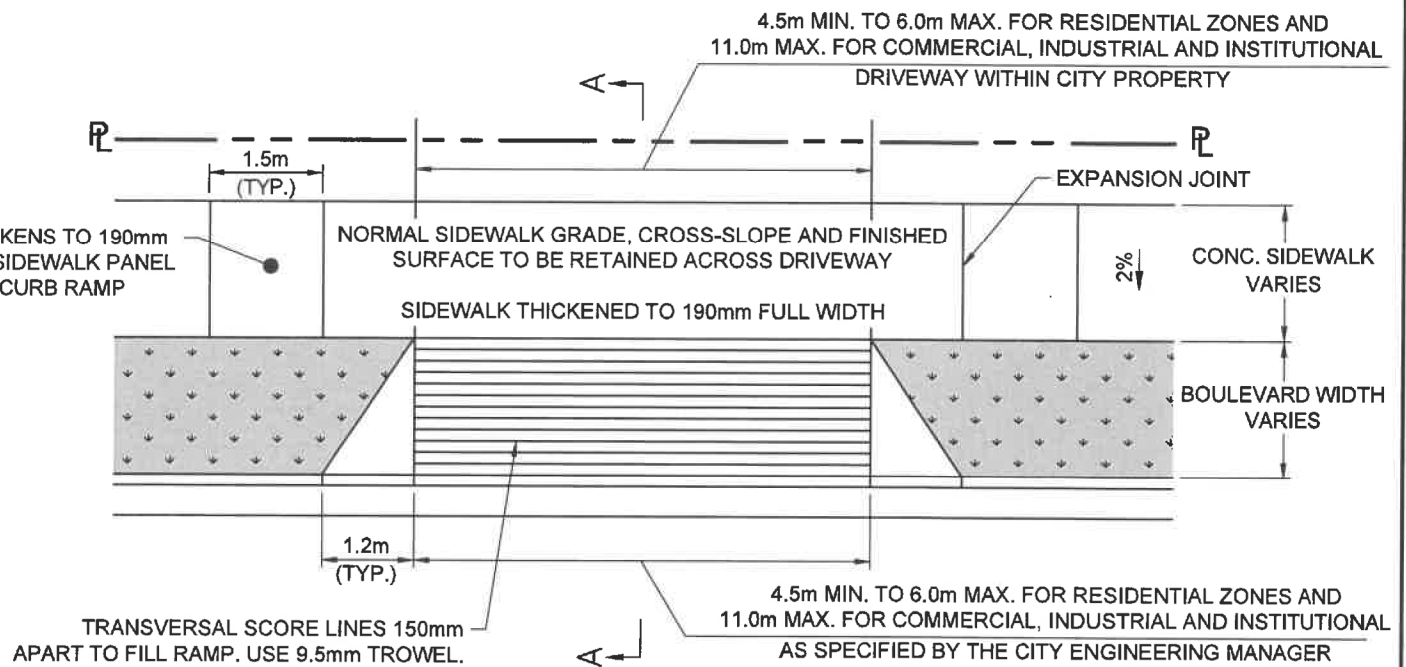


THE DISTRICT OF COQUITLAM
STORM SEWER
COMO LAKE AVENUE

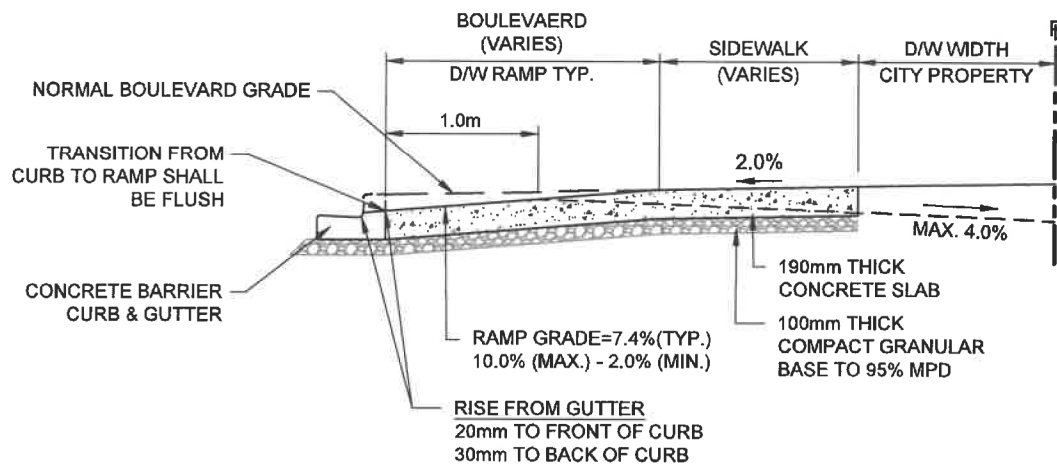


Designed A.K.	Job No. 34631-1	Drawing No. 55
Drawn [Signature]	Scale 1" = 250' H 1" = 25' V	
Checked [Signature]	Date	
Approved [Signature]	Revision 2	of

Appendix C - Additional Documents



PLAN VIEW



SECTION A-A CURB RAMP

NOTES:

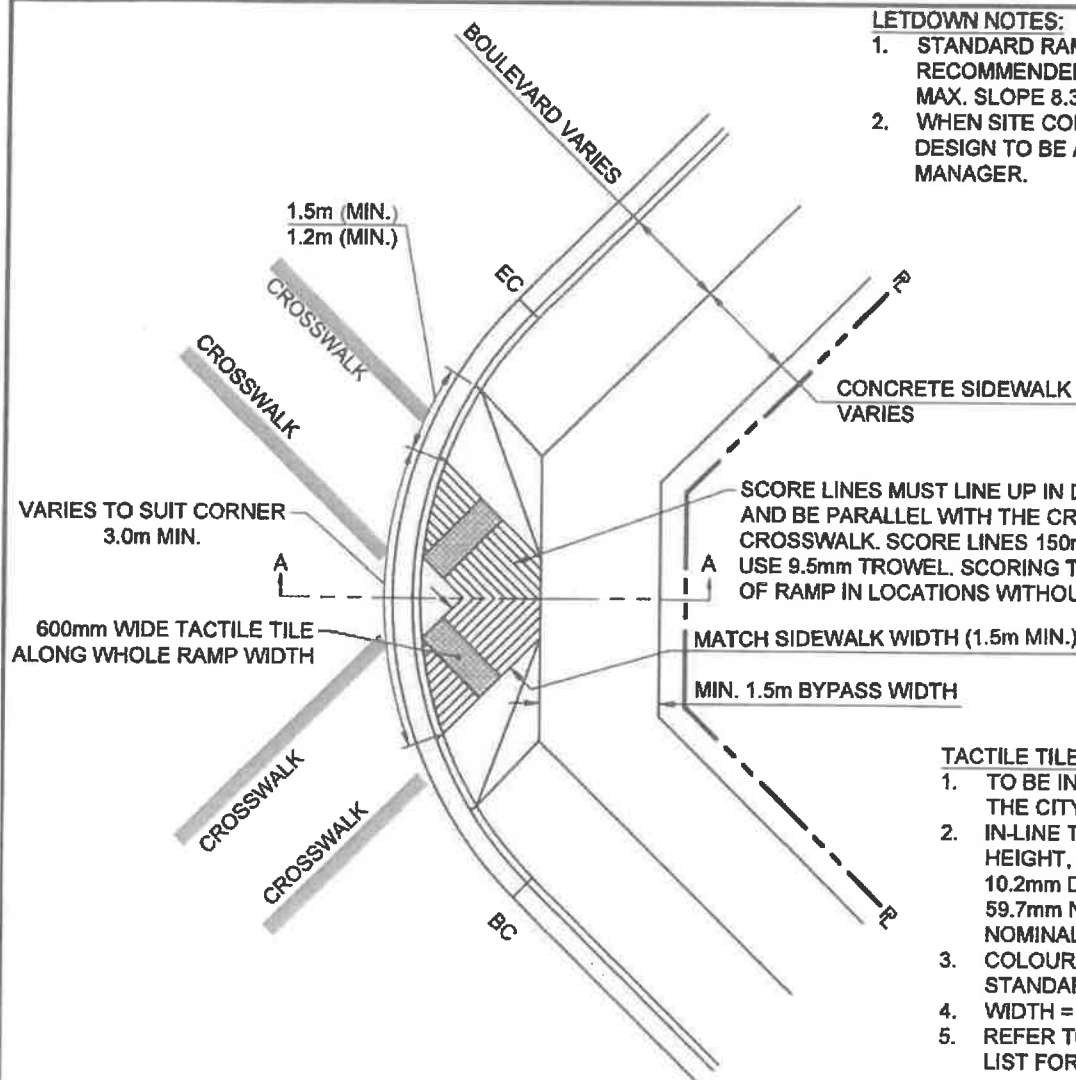
1. DRIVEWAY LETDOWN TO BE CENTERED ON GARAGE.
2. DRIVEWAY WIDTH ON CITY PROPERTY TO MATCH WIDTH OF LETDOWN EXCLUDING THE FLARES.
3. WHERE DRIVEWAY IS AT LOWER GRADE THAN SIDEWALK, CROSSING SLOPES, BREAKOUT POINT AND D/W GRADE AS INDICATED BY DASHED LINE IN SECTION IF APPROVED BY THE CITY ENGINEERING MANAGER.

PLOTTED: 19-NOV-20

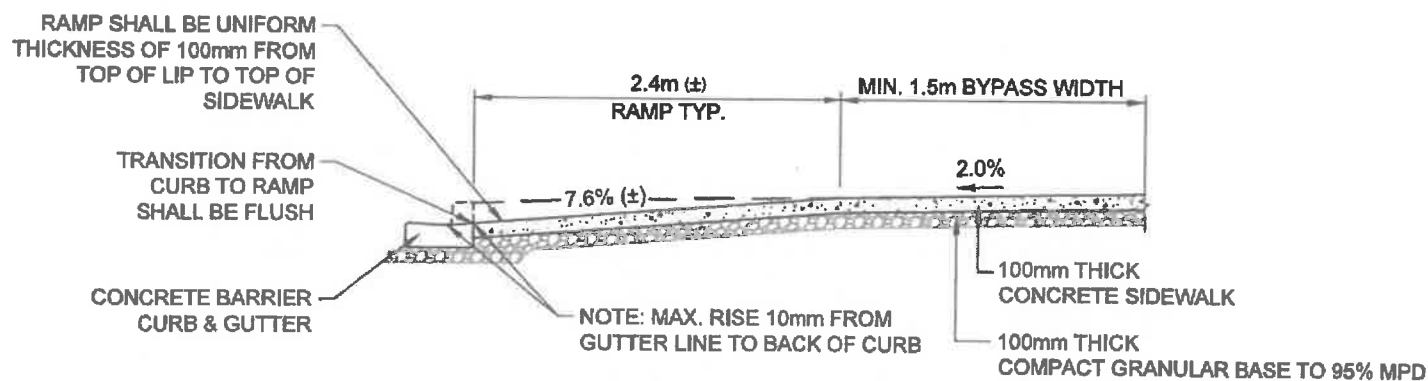
TYPICAL CURB/SIDEWALK DRIVEWAY
LETDOWN - SEPARATED SIDEWALK

DATE: NOV/2020
DRAWN: GA
SCALE: N.T.S.

DRAWING NUMBER:
COQ-C7B



SINGLE LETDOWN



SECTION A-A CURB RAMP

PLOTTED: 19-NOV-20

SINGLE LETDOWN AT INTERSECTION WITH BOULEVARD

DATE: NOV/2020

DRAWN: GA

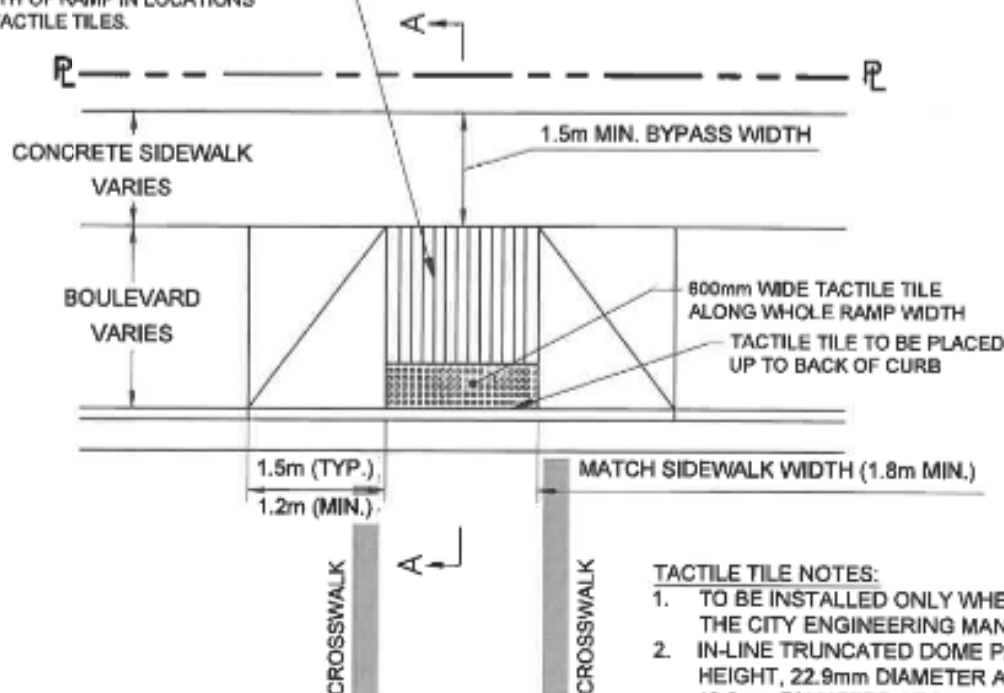
SCALE: N.T.S.

DRAWING NUMBER:

COQ-C9B

SCORE LINES MUST LINE UP IN DIRECTION OF TRAVEL AND BE PARALLEL WITH THE CROSSING OR MARKED CROSSWALK. SCORE LINES 150mm APART TO FILL RAMP. USE 9.6mm TROWEL. SCORING TO EXTEND FULL LENGTH OF RAMP IN LOCATIONS WITHOUT TACTILE TILES.

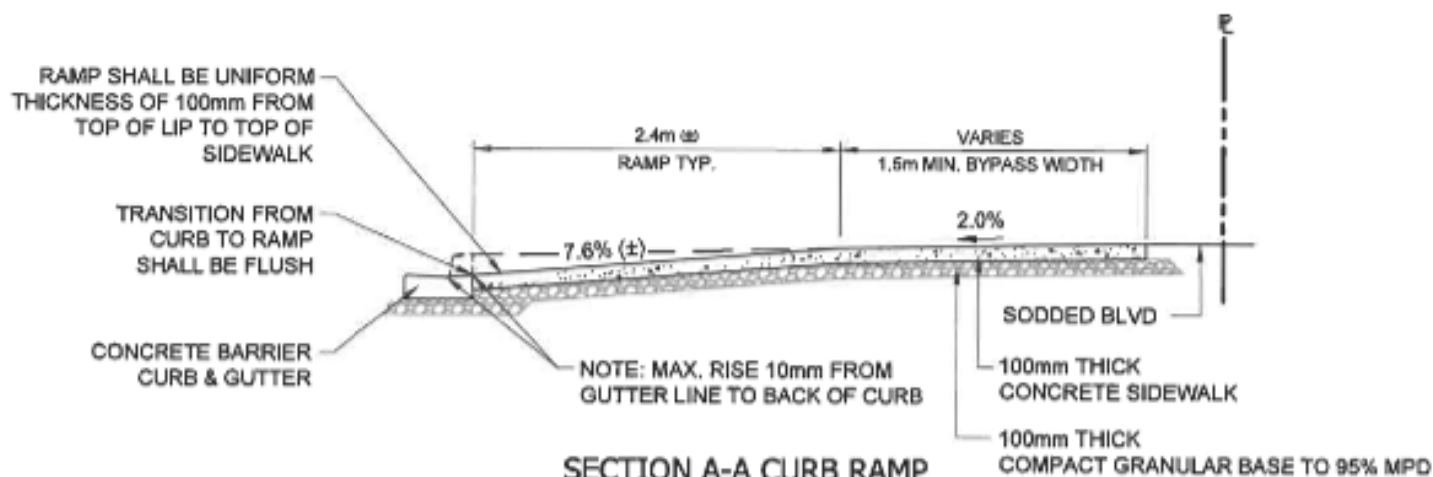
NOTE: STANDARD RAMP LENGTH: 2.4m AT CENTRE OF RAMP. RECOMMENDED RAMP SLOPE: 7.6% (±). MAX. SLOPE 8.3% (1:12) WHERE TOPOGRAPHY PERMITS. WHEN SITE CONDITIONS DO NOT PERMIT TYPICAL LAYOUT DESIGN TO BE APPROVED BY THE CITY ENGINEERING MANAGER.



SINGLE RAMP

TACTILE TILE NOTES:

1. TO BE INSTALLED ONLY WHEN PRESCRIBED BY THE CITY ENGINEERING MANAGER.
2. IN-LINE TRUNCATED DOME PATTERN 5.1mm IN HEIGHT, 22.9mm DIAMETER AT THE BASE AND 10.2mm DIAMETER AT THE TOP OF DOME SPACED 59.7mm NOMINAL DIAGONALLY AND 43.2mm NOMINAL SIDE BY SIDE EXCEPT FOR RADIUS TILE.
3. COLOUR: FEDERAL YELLOW PER U.S. FEDERAL STANDARD 595B, TABLE IV, COLOR NO.335.
4. WIDTH = 600mm, LENGTH = RAMP WIDTH
5. REFER TO COQUITLAM APPROVED PRODUCTS LIST FOR ACCEPTABLE SUPPLIERS.



SECTION A-A CURB RAMP

PLOTTED: 19-NOV-20

SINGLE CURB RAMP LETDOWN

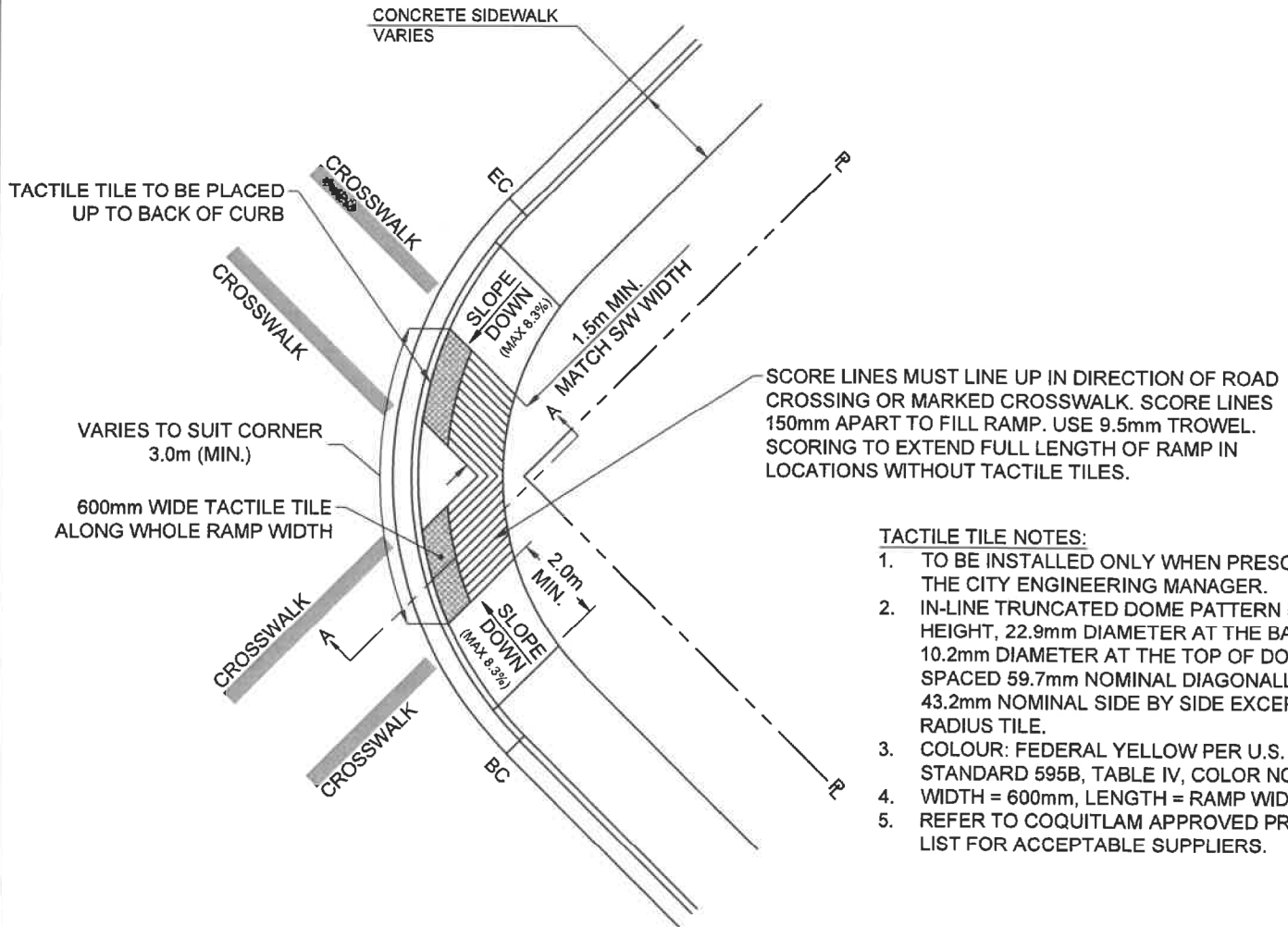
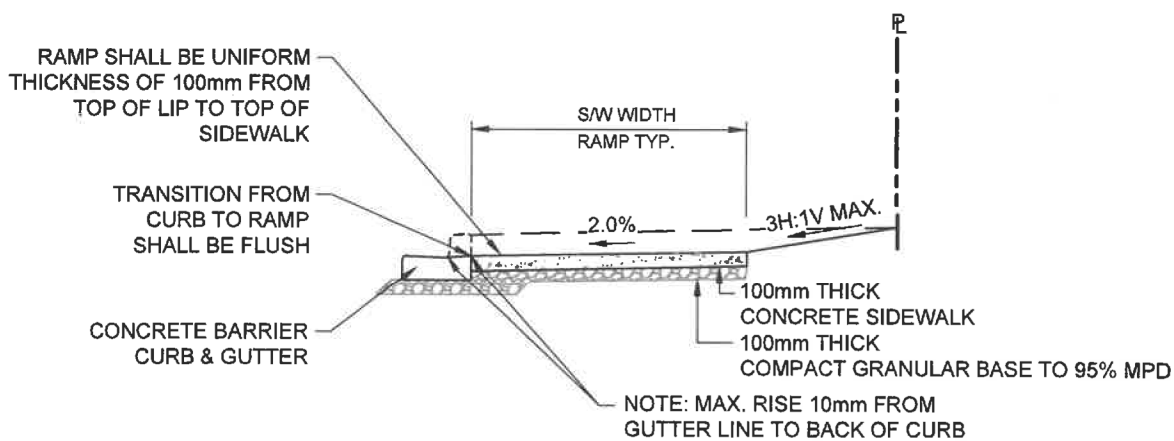
DATE: NOV/2020

DRAWN: GA

SCALE: N.T.S.

DRAWING NUMBER:

COQ-C9C

**COMBINED LETDOWN****SECTION A-A CURB RAMP**

PLOTTED: 19-NOV-20

**PARALLEL CURB RAMP - COMBINED
LETDOWN WITHOUT BOULEVARD**

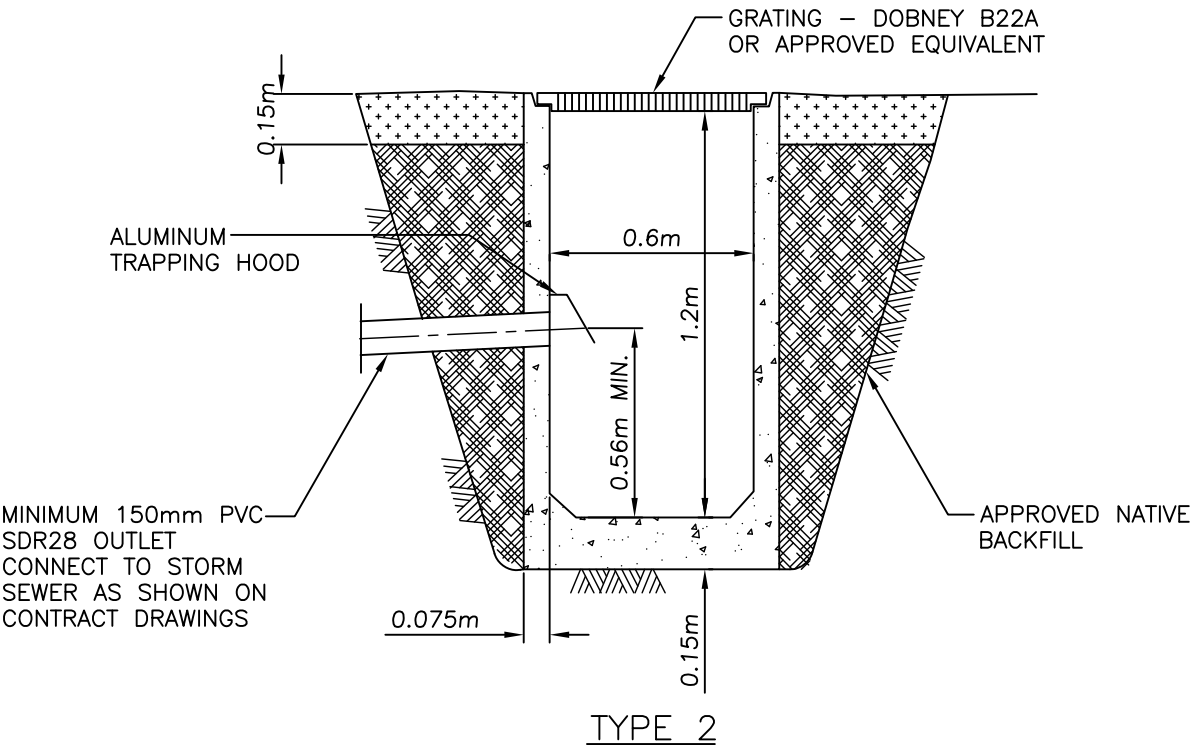
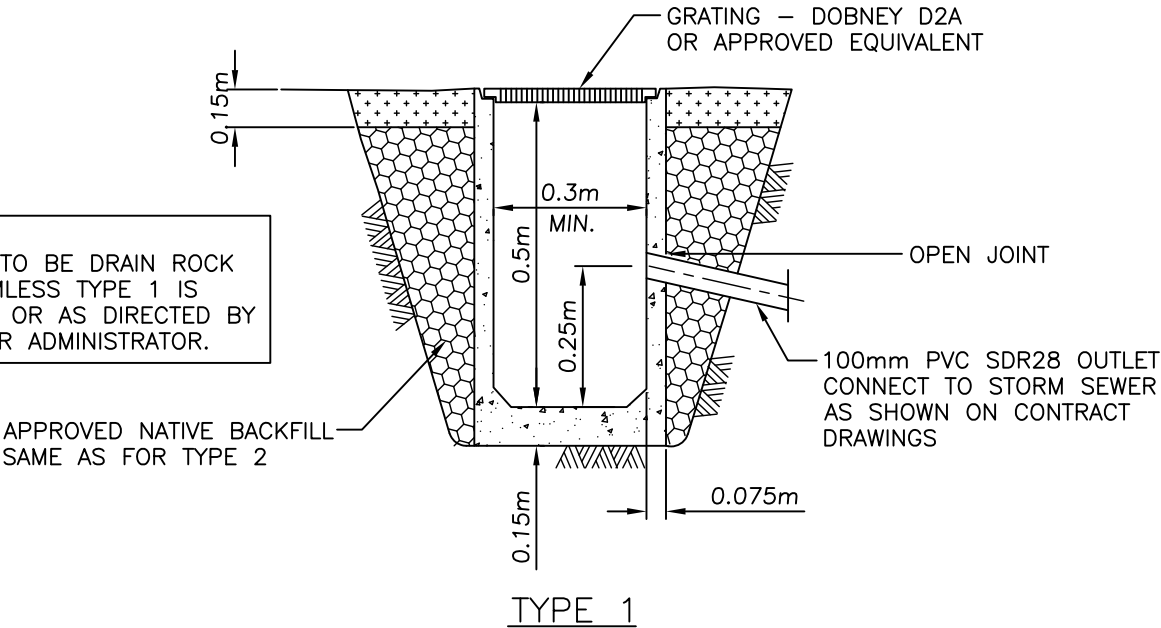
DATE: NOV/2020

DRAWN: GA

SCALE: N.T.S.

DRAWING NUMBER:
COQ-C9E

NOTE:
BACKFILL TO BE DRAIN ROCK
IF BOTTOMLESS TYPE 1 IS
SPECIFIED OR AS DIRECTED BY
CONTRACTR ADMINISTRATOR.



NOTE:
1. REFER TO CONTRACT DRAWINGS, SECTION 33 44 01 FOR DETAILED SPECIFICATIONS.

PLOTTED: 13-Jul-20

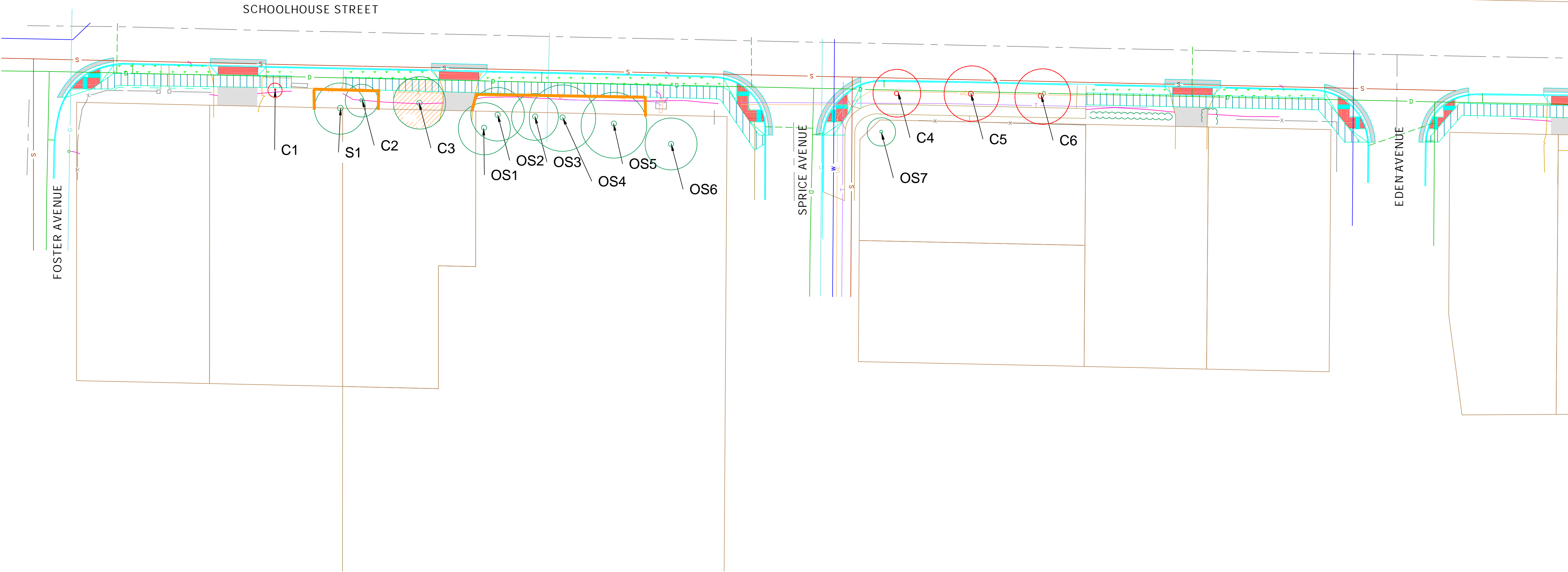
LAWN DRAINS

DATE:	JULY/2020
DRAWN:	REY
SCALE:	N.T.S.

DRAWING NUMBER:
COQ-S12A

Appendix D - Arborist Report

Tree Protection Fencing may be removed
for work within the area. All work must be
supervised by a certified arborist



LEGEND

- EXISTING TREE WITH ARBORIST MONITORING
- EXISTING TREE TO BE REMOVED
- TREE TAG/NO.
- PROPERTY/LOT LINE
- TREE PROTECTION FENCING

1.	26/06/23	SM, REVIEWED BY DW
	(DD/MM/YY)	NAME

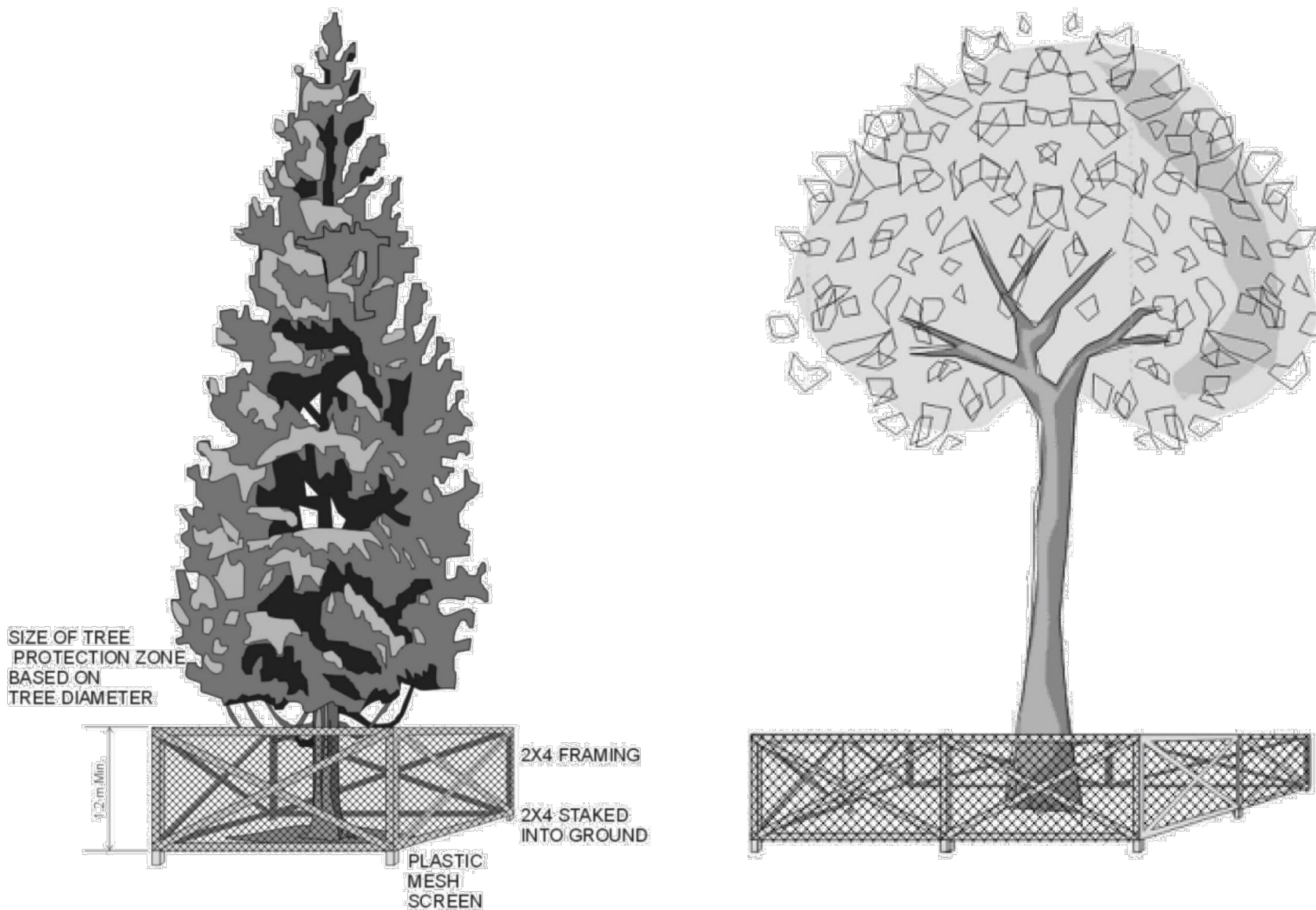
REVISIONS

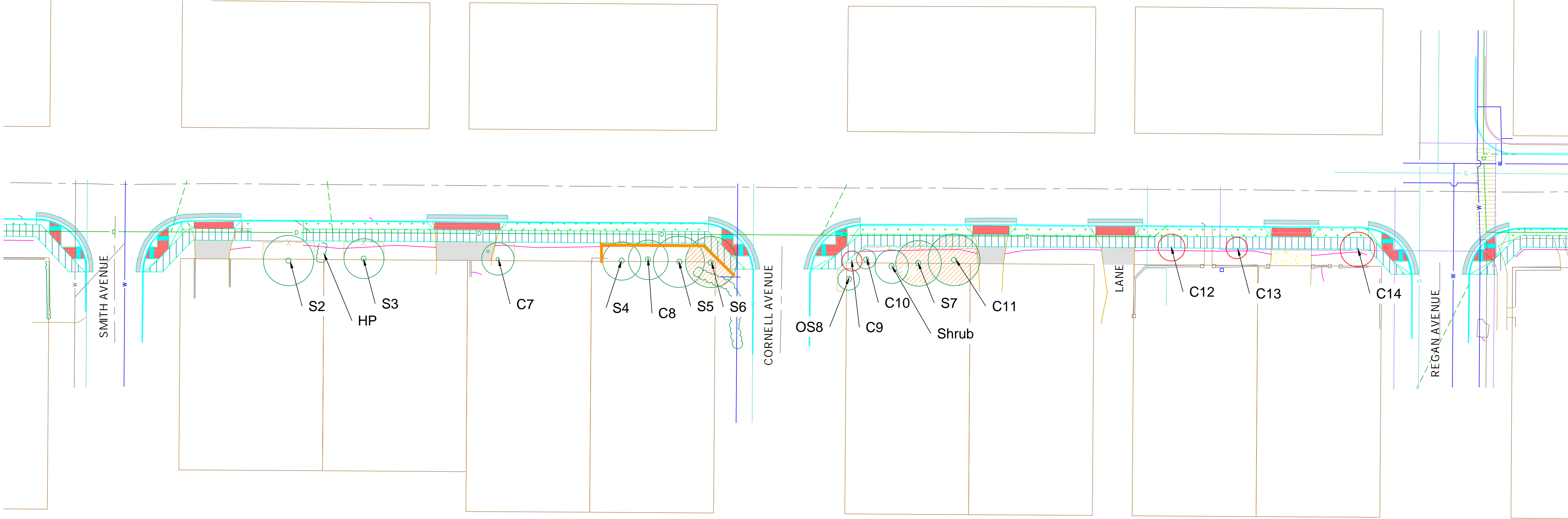
PROJECT TITLE
KUF-COCQ_Schoolhouse St

PROJECT ADDRESS
Schoolhouse St, from Foster Ave
to Como Lake Ave, Coquitlam

DRAWING TITLE
TREE MANAGEMENT PLAN

- NOTE:
- CONTACT ARBORIST (KELLY KOOME, 778.885.6777, kelly.koome@koomeurbanforestry.ca) FOR INSPECTION 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE TREE PROTECTION ZONE. IF DURING EXCAVATION IT IS FOUND THAT IT CANNOT BE COMPLETED WITHOUT SEVERING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY, IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREE.
 - READ THIS PLAN TOGETHER WITH THE ARBORIST REPORT PREPARED BY KOOME URBAN FORESTRY LTD (KUF).
 - AN ADDITIONAL 1M SETBACK IS SHOWN FOR ALL HAND-PLOTTED TREES TO BE RETAINED.
 - IF STUMP GRINDING IS TO OCCUR IN CLOSE PROXIMITY TO TREES WHICH ARE TO BE RETAINED THEN IT IS REQUESTED STUMPS TO BE REMOVED UNDER ARBORIST SUPERVISION.
 - IT IS THE RESPONSIBILITY OF THE CLIENT OR HIS/HER REPRESENTATIVE TO CONTACT THE PROJECT ARBORIST FOR THE PURPOSE OF:
 - *LOCATING TPZ FENCING
 - *LOCATING WORK ZONE AND MACHINE ACCESS CORRIDORS WHERE REQUIRED
 - *REVIEWING THE REPORT WITH THE PROJECT FOREMAN OR SITE SUPERVISOR





LEGEND

- EXISTING TREE WITH ARBORIST MONITORING
- EXISTING TREE TO BE REMOVED
- TREE TAG/NO.
- PROPERTY/LOT LINE
- TREE PROTECTION FENCING

1.	26/06/23	SM, REVIEWED BY DW
	(DD/MM/YY)	NAME

REVISIONS

PROJECT TITLE

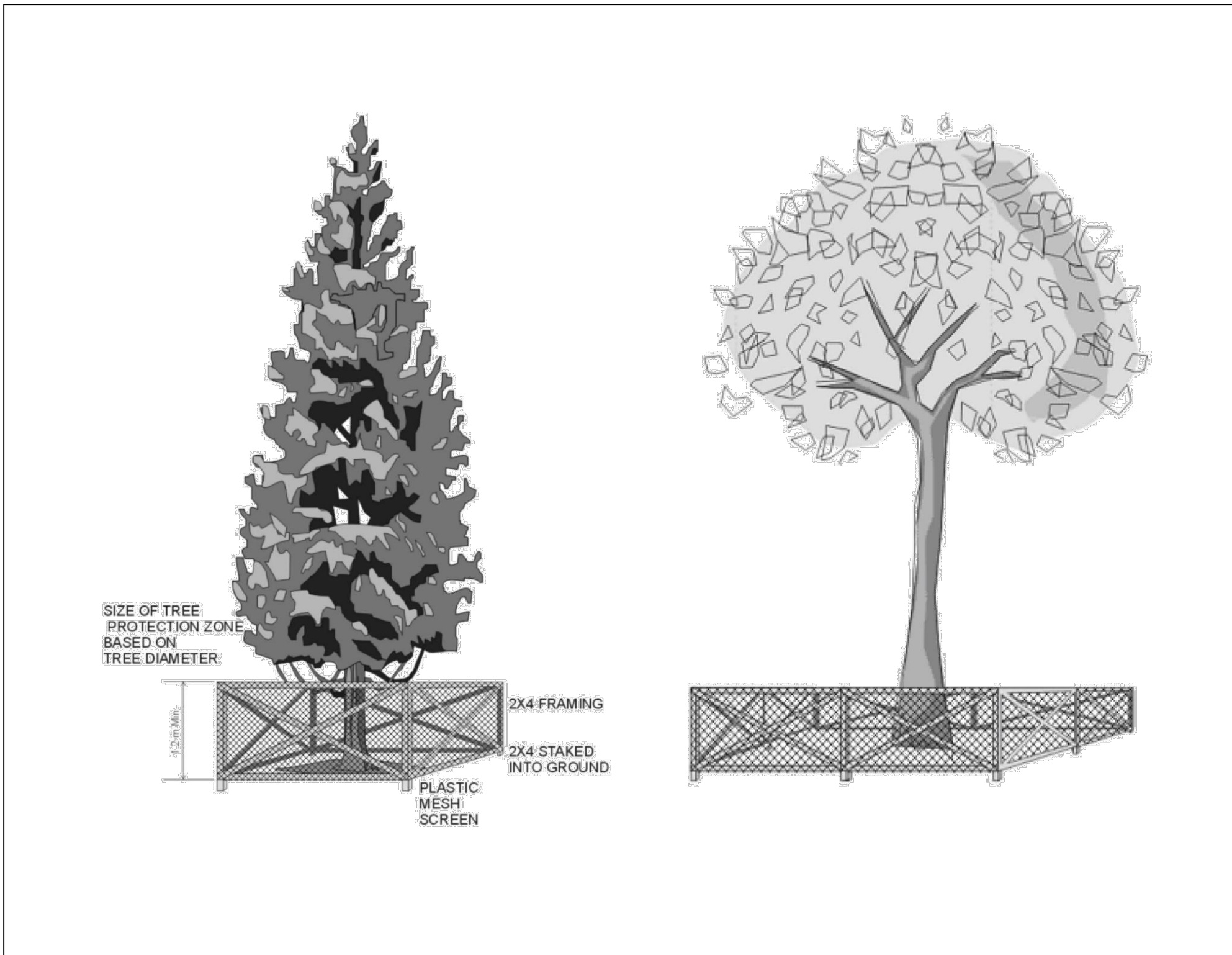
KUF-COCQ_Schoolhouse St

PROJECT ADDRESS

Schoolhouse St, from Foster Ave
to Como Lake Ave, Coquitlam

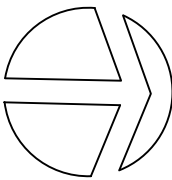
DRAWING TITLE

TREE MANAGEMENT PLAN



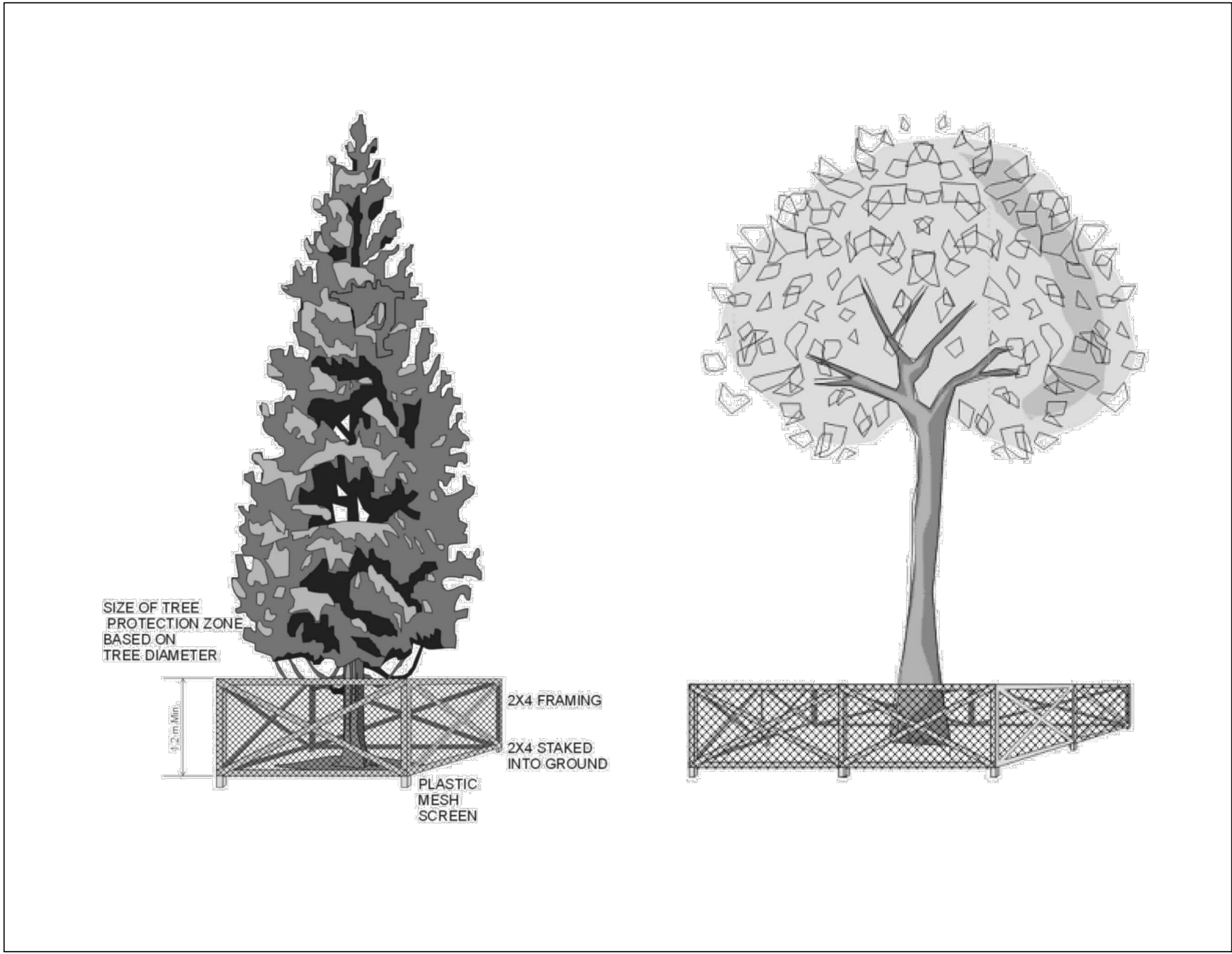
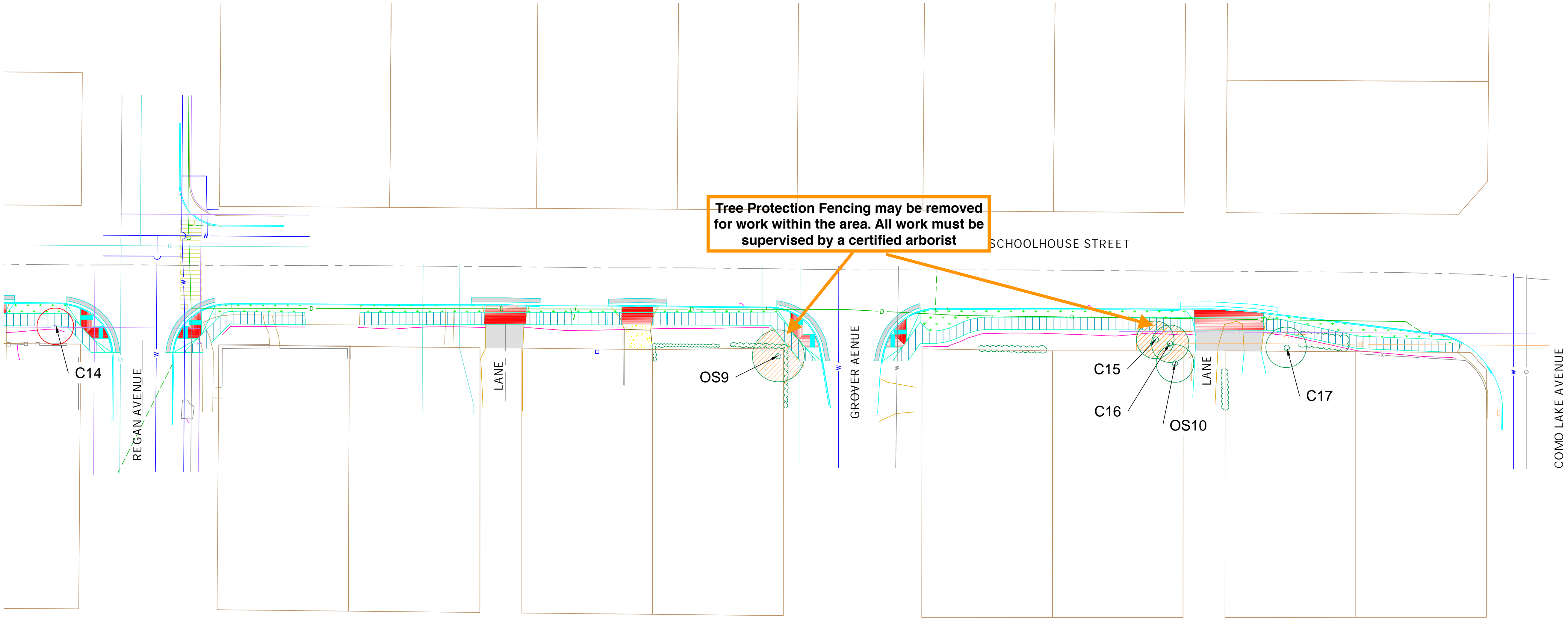
NOTE:

- CONTACT ARBORIST (KELLY KOOME, 778.885.6777, kelly.koome@koomeurbanforestry.ca) FOR INSPECTION 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE TREE PROTECTION ZONE. IF DURING EXCAVATION IT IS FOUND THAT IT CANNOT BE COMPLETED WITHOUT SEVERING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY, IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREE.
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 - *REVIEWING THE REPORT WITH THE PROJECT FOREMAN OR SITE SUPERVISOR

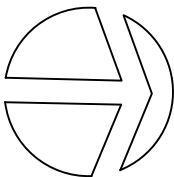


LEGEND

- EXISTING TREE WITH ARBORIST MONITORING
- EXISTING TREE TO BE REMOVED
- TREE TAG/NO. 19
- PROPERTY/LOT LINE
- TREE PROTECTION FENCING



- NOTE:
- CONTACT ARBORIST (KELLY KOOME, 778.885.6777, kelly.koome@koomeurbanforestry.ca) FOR INSPECTION 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE TREE PROTECTION ZONE. IF DURING EXCAVATION IT IS FOUND THAT IT CANNOT BE COMPLETED WITHOUT SEVERING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY, IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREE.
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*REVIEWING THE REPORT WITH THE PROJECT FOREMAN OR SITE SUPERVISOR



1.	26/06/23	SM, REVIEWED BY DW
	(DD/MM/YY)	NAME

REVISIONS

PROJECT TITLE
KUF-COCQ_Schoolhouse St

PROJECT ADDRESS
Schoolhouse St, from Foster Ave to Como Lake Ave, Coquitlam

DRAWING TITLE
TREE MANAGEMENT PLAN



Koome Urban Forestry Ltd. Arborist Report

Grover Ave, Ivy Ave, Cornell Ave, and Haversley Ave
Coquitlam, BC

Submitted to:

**City of Coquitlam –
Engineering Department**

Internal Project Code: KUF-COCQ_Schoolhouse St Phase 2

Original Report: December 28, 2023 – SM

Submitted by:

koome
urban forestry 

305 –1163 The High Street
Coquitlam, BC
V3B 7W2
604 900-8262

This report's content was performed and managed by:



Kelly Koome, Consulting Arborist
ISA Certified Arborist, PN-5962A
ISA Tree Risk Assessment Qualified



Sarah Morin
Project Arborist Technician and Horticulturist
Wildlife Danger Tree Assessor, #P3139

Any questions or concerns as to the contents of this report please direct them to the following:

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1.0 Introduction

1.1 Background

Koome Urban Forestry Ltd. (KUF) was contracted by the City of Coquitlam to prepare an ISA Certified Arborist Tree Report for the property at Grover Ave, Ivy Ave, Cornell Ave and Haversley Ave, Coquitlam, BC.

1.2 Assignment

KUF has been retained by the client to assess the health and condition of the tree(s) in accordance with The City of Coquitlam Tree Protection Bylaw No. 4091, 2010.

As part of this assessment, the KUF Ltd. has performed a site review entailing identification and visual assessment of the tree(s) on site. The report also includes off site trees which may be impacted by development based on the tree survey provided by the client or representative(s). The Project Arborist will provide recommendations for the retention or removal of tree(s) on this site based on the existing site conditions and the proposed use of the site.

The mitigation of development impact on the tree(s) has been considered as part of the tree assessment process.

1.3 Limits of the Assignment

KUF's observations were limited to one site visit on November 8, 2023. No tissue or soil samples were sent to a lab for identification or analysis. KUF located the trees using the survey provided by the client.

During winter deciduous trees are in winter dormancy and this is a limitation for assessing tree health at that time.

1.4 Testing & Analysis

KUF used visual tree assessment and mallet sounding to test the trees' health, condition and risk level.

The International Society of Arboriculture Best Management Practices (for Managing Trees During Construction, Second Edition) and ANSI A300 Standards (Part 5: Tree, Shrub and Other Woody Plant Maintenance—Standard Practices [Management of Trees and Shrubs During Site Planning, Site Development, and Construction]) were used to prepare this report.

1.5 Purpose & Use of Report

The purpose of this report is to assist the property owner in compliance with The City of Coquitlam Tree Protection Bylaw No. 4091, 2010.



2.0 Site Description

2.1 Site Review

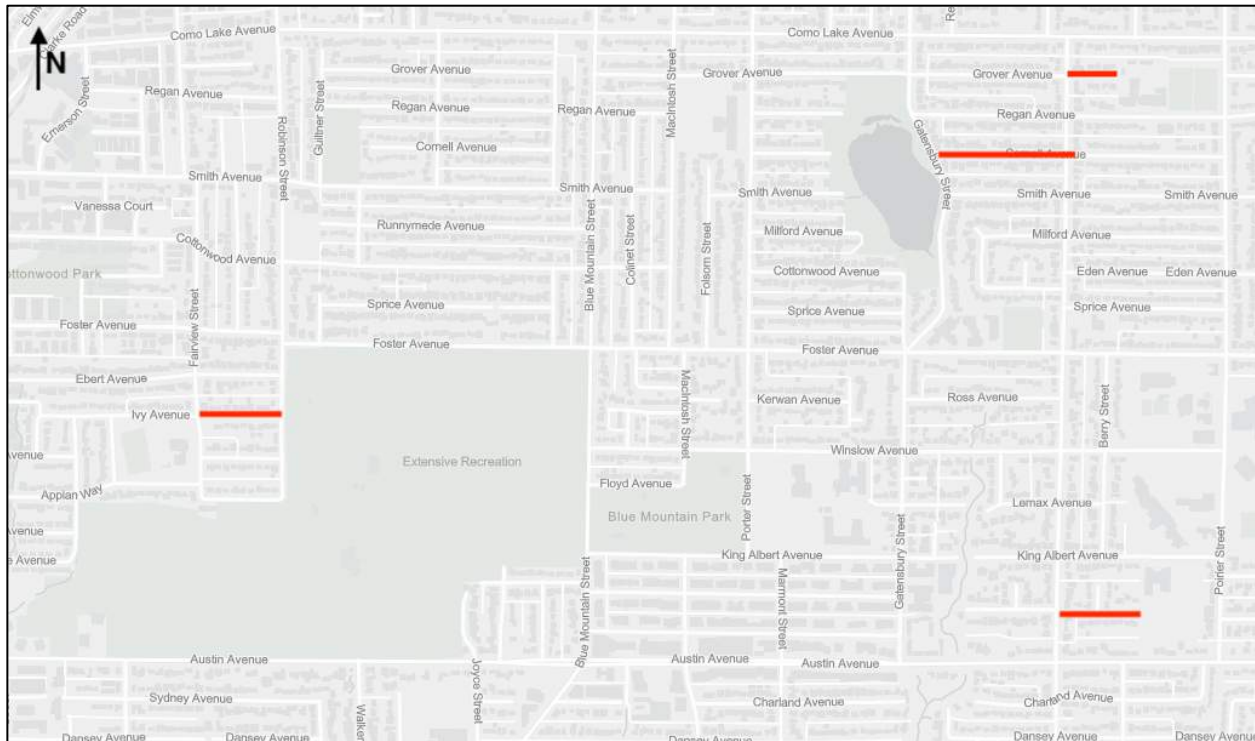


Fig. 1 – Aerial view of sites in red (QtheMap 2023).

2.2 Proposed Site Development

The installation of city sidewalks.

2.3 Environmental Description

The sites consists of residential streets.

There is no evidence of raptors nests, osprey nests or heron colonies on the site. Removal of trees however between March 15 – August 15 (date subject to change depending on seasonal nesting behavior and therefore must be confirmed with the City) will require a bird nesting survey. This is as prescribed by the federal Migratory Birds Convention Act (MBCA), 1994 and Section 34 of the BC Wildlife Act. It is the responsibility of the owner/developer to ensure they are in compliance with the city's regulations governing nesting birds on sites where development is occurring.

Off-site Trees – There are private off-site trees with this project.

Municipal Trees – There are City of Coquitlam trees associated with this project.

Trees Straddling the Property Line – There are trees straddling the property line



2.4 Tree Preservation Summary

All of the trees identified on the Tree Management Plan and within the Tree Assessment Data Table have been given their Retention/Removal recommendation on a preliminary basis. Final recommendations will be based upon design/construction and grading details.

Long-term tree preservation success is dependent on minimizing the impact caused during pre-construction clearing operations, construction and post construction activities. Best efforts must be made to ensure the Tree Protection Zone remains undisturbed.

Ongoing monitoring of retained trees through the development process and implementation of mitigating works (watering, mulching, etc.) is essential for success.

3.0 Findings

3.1 Summary of Findings

- The variety of trees includes Douglas fir, western red cedar, a variety of maples trees, and various other landscape trees in fair to good health.
- There are 6 trees that are on City property, within the construction footprint, and will need to be removed. There are 2 offsite hedges and a large juniper to be removed on Haversley Ave as they encroach on the proposed sidewalk.
- 6 replacement trees are required, or 5 if C6 is transplanted. Final number to be determined by the City Manager.
- Arborist monitoring is required if excavation, or any other construction activity, occurs within 1.5m of the proposed tree protection barriers in the Tree Management Plans (starts on the last page of this report).



3.2 Tree Inventory Assessment

 Table 1: Tree Inventory Assessment: **GROVER AVENUE**

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
CITY TREES								
C1	Apple <i>Malus spp.</i>	Yes	12	1.5	50	FAIR CONDITION CROWN-Poorly pruned TRUNK-Old wound on N side	RETAIN	
C2	Western red cedar <i>Thuja plicata</i>	Yes	59	4.5	65	GOOD CONDITION-FAIR STRUCTURE CROWN-Topped at 8m. Candelabra form with large leaders	RETAIN	
C3	Western red cedar <i>Thuja plicata</i>	Yes	35	3	65	GOOD CONDITION-FAIR STRUCTURE CROWN-Topped at 8m. Suppressed by nearby trees.	RETAIN	
C4	Western red cedar <i>Thuja plicata</i>	Yes	71	6	65	GOOD CONDITION-FAIR STRUCTURE CROWN-Topped at 8m. Candelabra form with large leaders	RETAIN	
C5	Pyramidalis cedar <i>Thuja occidentalis</i> 'pyramidalis'	Yes	6	0.25	60	GOOD CONDITION CROWN-Poorly pruned	RETAIN	
C6	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	88	6	80	GOOD CONDITION-FAIR STRUCTURE CROWN-Topped at 8m. Candelabra top with large leaders	RETAIN	
STRADDLING TREES								
S1	Pyramidalis cedar <i>Thuja occidentalis</i> 'pyramidalis'	Yes	10, 7	0.25	60	GOOD CONDITION CROWN-Poorly pruned	RETAIN	
OFFSITE TREES								
OS1	Western red cedar <i>Thuja plicata</i>	Yes	81	5	75	GOOD CONDITION CROWN-Topped at 8m	RETAIN	N/A
OS2	Lodgepole pine <i>Pinus contorta</i>	Yes	28	3.25	65	GOOD CONDITION CROWN-Suppressed on north side by Douglas fir	RETAIN	

Table 2: Tree Inventory Assessment: **IVY AVENUE**

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
CITY TREES								
C7	Weeping willow <i>Salix babylonica</i>	Yes	32, 13	6	70	GOOD CONDITION TRUNK-Subdominant stem at base	REMOVE In footprint of proposed sidewalk	-
C8	Norway maple <i>Acer platanoides</i>	Yes	13	3	70	GOOD CONDITION – Juvenile tree. Consider transplanting	REMOVE In footprint of proposed sidewalk	-
OFFSITE TREES								
OS3	Plum <i>Prunus domestica</i>	Yes	35, 65	6	40	POOR CONDITION CROWN-Poorly pruned. Dead wood in crown. Small leader is decaying. Decay in union of stems	RETAIN	

 Table 3: Tree Inventory Assessment: **CORNELL AVENUE**

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
CITY TREES								
C9	Japanese maple <i>Acer palmatum</i>	Yes	8, 8	1.75	60	FAIR CONDITION CROWN-Showing signs of drought stress TRUNK-Codominant at base	REMOVE In footprint of proposed sidewalk	-
C10	Japanese maple <i>Acer palmatum</i>	Yes	13, 15, 10	2.75	80	GOOD CONDITION	REMOVE In footprint of proposed sidewalk	-

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
C11	Monkey Puzzle Tree <i>Araucaria araucana</i>	Yes	35	3	60	FAIR CONDITION TRUNK-Landscape cloth buried around root flair. Small holes with sap all along lower trunk	REMOVE In footprint of proposed sidewalk	-
C12	Red maple <i>Acer rubrum</i>	Yes	8	1.5	70	GOOD CONDITION	REMOVE In footprint of proposed sidewalk	-
C13	Mulberry <i>Morus spp</i>	Yes	15	2	70	GOOD CONDITION CROWN-Pruned for flowering	RETAIN	
C14	Mulberry <i>Morus spp</i>	Yes	16	2	80	GOOD CONDITION CROWN-Pruned for flowering	RETAIN	
STRADDLING TREES								
S2	Western hemlock <i>Tsuga heterophylla</i>	Yes	28, 27	2	40	POOR CONDITION CROWN-Topped at 5m TRUNK-Codominant at base. Smaller stem is dead	RETAIN	
S3	Western hemlock <i>Tsuga heterophylla</i>	Yes	25, 14	2	40	FAIR CONDITION CROWN-Topped at 5m TRUNK-Subdominant leader at 0.75m	RETAIN	
S4	Western red cedar <i>Thuja plicata</i>	Yes	26	3	40	FAIR CONDITION CROWN-Topped at 5m	RETAIN	
S5	Japanese maple <i>Acer palmatum</i>	Yes	17, 20, 15, 13, 11, 11, 15	4.5	80	GOOD CONDITION TRUNK-Multi-stem at base	RETAIN	
S6	European Holly <i>Ilex aquifolium</i>	Yes	30	2	90	GOOD CONDITION	RETAIN	

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
OFFSITE TREES								
OS4	Plum <i>Prunus domestica</i>	Yes	35, 28	6	40	FAIR CONDITION CROWN-Poorly pruned, tipping cuts TRUNK-Codominant at 0.5m	RETAIN	

 Table 4: Tree Inventory Assessment: **HAVERSLEY AVENUE**

Tree #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
CITY TREES								
C15	Paperbark maple <i>Acer griseum</i>	Yes	4, 5, 5, 3	1.5	70	GOOD CONDITION TRUNK-Multi-stemmed at base	RETAIN	
C16	Japanese maple <i>Acer palmatum</i>	Yes	9, 5, 5, 5, 6, 4	1.75	70	FAIR CONDITION CROWN-Tip dieback	RETAIN	
C17	Norway spruce <i>Picea abies</i>	Yes	46	2	60	FAIR CONDITION CROWN-Utility pruned. Topped TRUNK-Growing at top of small berm	RETAIN	
C18a	Western red cedar <i>Thuja plicata</i>	Yes	12, 16	1	50	FAIR CONDITION CROWN-Topped at 2m TRUNK-Codominant at base	RETAIN	
C18b	Japanese maple <i>Acer palmatum</i>	Yes	14, 14, 15	3.5	60	FAIR CONDITION CROWN-Poorly pruned. Tip dieback TRUNK-Multi-stemmed at base	RETAIN	
Hedge 1	Pyramidalis Hedge	Yes	-	1.5	90	GOOD CONDITION	REMOVE In footprint of proposed sidewalk	-
Hedge 2	Pyramidalis Hedge and Juniper shrub	Yes	-	1-1.5	80	GOOD CONDITON	REMOVE In footprint of proposed sidewalk	-

3.3 Replacement Tree Requirements

There are 6 trees recommended for removal, all of which belong to the City of Coquitlam. The general manager will determine the replacement trees. Tree C6 is young and could be transplanted. This does not include the removal of the 2 hedges on Haversley Avenue.



Appendix A – Glossary of Key Terms

Adapted Trunk Diameter Method: This method uses the trees age and tolerance to construction damage to determine the factor that will be multiplied by the diameter to provide a sufficient tree protection zone given these factors.

Age: The relative age (young, intermediate, mature) within the particular stand of trees or forest.

ALR: The Agricultural Land Reserve in which agriculture is recognized as the priority.

Bole: The stem or trunk of a tree.

Branch collar: A visible swelling and/or tapering at the base on the branch. Trees can properly compartmentalize pruning cuts made above the branch collar.

Chlorotic: Yellowing of plant tissues caused by nutrient deficiency &/or pathogen.

Co-dominant Leaders: Forked dominant stems nearly the same size in diameter, arising from a common junction.

Co-dominant Within Stand: Individual tree whose height is generally equal to trees (regardless of species) within the same stand.

Compaction: Compression of the soil that breaks down soil aggregates and reduces soil volume and total pore space, especially macropore space.

Conk: A fungal fruiting structure typically found on trunks and indicating internal decay.

Dead Standing: A tree that has died but is still standing erect.

DBH: The Diameter of the tree at 1.40 meters above the ground.

Dominant Within Stand: Individual tree whose height is significantly greater than adjacent trees (regardless of species) within the same stand.

Dormant: Annual period (typically winter months) of suspended growth. Generally referring to deciduous trees.

C-rad: Crown radius often referred to as the tree's drip line, as measured from the edge of the trunk to the outermost branches of the crown.

CRZ: Critical Root Zone - The area of soil between the trunk to the end of the dripline where the minimum number of roots considered critical to the structural stability or health of the tree are located.

Epicormic growth: Shoots produced from dormant buds stimulated by damage or the loss of normal buds.

Fair: Healthy but has some defects such as co-dominant trunk, dead branches.

Feeder Roots: The smaller roots responsible for water and nutrient absorption and gas exchange. These roots can extend far beyond the Drip Line (or outer canopy) of the tree.

Flagging: The browning and wilting of branches, usually scattered around the tree's crown.

Frost Crack: A vertical crack, generally on the lower stem caused by the outer bark shrinking and cracking due to a rapid drop of temperature.

Fungus (singular) / Fungi (plural): Unicellular, multicellular, or syncytial spore-producing organisms that feed on organic matter (including molds, yeast, mushrooms and toadstools)

Girdling Root: Root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water.

Good: Good form and structure, healthy with no defects.

Hazardous: Significant hazard exists with a high risk of immediate failure, which could result in serious damage to property or person(s).



Incipient: Emerging new leaf growth in the Spring

Included bark: Bark tissues that develop where two or more stems grow closely in a 'V formation' causing weak stem attachments.

Inosculation: A natural phenomenon in which trunks, branches, or roots of two trees grow together.

LCR: Live Crown Ratio – The ratio of crown length to total tree length.

Level 1 Limited Visual Assessment: Limited visual assessment looking for obvious defects such as, but not limited to dead trees, large cavity openings, large dead or broken branches, fungal fruiting structures, large cracks, and severe leans.

Level 2 Basic Visual Assessment: Detailed visual inspection (aboveground roots, trunk, canopy) of tree(s) may include the use of simple tools to perform assessment (i.e., sounding mallet, trowel, measuring tape, binoculars). The assessment does not include advanced resistance drilling of trunk.

Level 3 Advanced Assessment: To provide detailed information about specific tree parts, defects, targets, or side conditions. May include aerial inspection, resistance drilling of tree parts, laboratory diagnosis of fungal or plant tissue.

Mildew: Is a minute powdery or web-like fungi (of different colours) that is found on diseased or decaying substances.

No Disturbance Zone: The area adjacent to the tree that is restricted from all construction activity.

Poor: multiple defects, disease, poor structure and or form, root and or canopy damage.

Phloem: Plant vascular tissue that transports sugar and growth regulators. Situated on the inside of the bark, just outside the cambium. Is bidirectional (transports up and down). Contrast with xylem.

Phototropic: Growth toward light source or stimulant.

RAR: Riparian Areas Regulation.

Resinosis: An excessive outflow of resin resulting from injury or disease.

Retain & Monitor: Monitor health and condition of tree every 12 months for signs of deterioration.

Root Crown/Collar: Also, called the root collar, it includes the flare at the base of the trunk and the initial roots that develop below the trunk. These roots generally taper and subdivide rapidly to form the root system of the tree.

SPEA: Streamside Protection and Enhancement Area as defined by Provincial Regulation.

Spiral Decline: The health and condition of the tree is deteriorating.

Sub-dominant Within Stand: Individual tree whose height is significantly less than adjacent trees (regardless of species) within the same stand.

Suppressed: Individual tree whose growth, health and condition are negatively impacted by adjacent tree(s).

Topping: Inappropriate pruning technique using a heading cut that reduces the stem or primary branches back to a stub, bud or lateral branch that is not large enough to assume the terminal role.

TPB: Tree Protection Barrier – The fencing installed around a tree defined by the City's bylaw definition of the Tree Protection Zone.

TPZ: Tree Protection Zone - The area between the trunk and the Tree Protection Barrier. Often referred to as the Critical Root Zone (CRZ), the Tree Protection Zone may include an additional buffer (typically 2.0 meters) that extends beyond the physical Tree Protection Fencing. This additional area is to be monitored by the Project Arborist during any grubbing, excavation activity

White rot: A range of wood decay in which lignin and cellulose are degraded.

Wildlife Tree: A tree or a group of trees that are identified to be retained to provide future wildlife habitat.

Wildlife habitat can exist in tree risks (cavities, dead snags, broken tops). Often times the tree risk to potential targets (people & property) is reduced by removing that part of the tree posing the risk of failure, but the tree (or portion of) is retained to provide future habitat.

Witches Broom: A dense mass of shoots growing from a single point, with the resulting structure resembling a broom or a bird's nest. It is often caused by pathogens (i.e., Dwarf mistletoe in Western Hemlocks).

Xylem: Thin overlapping cells that helps provide support and that conducts water and nutrients upward from the roots all the way to the leaves.



Appendix B – Photos



Fig. 2



Fig. 3

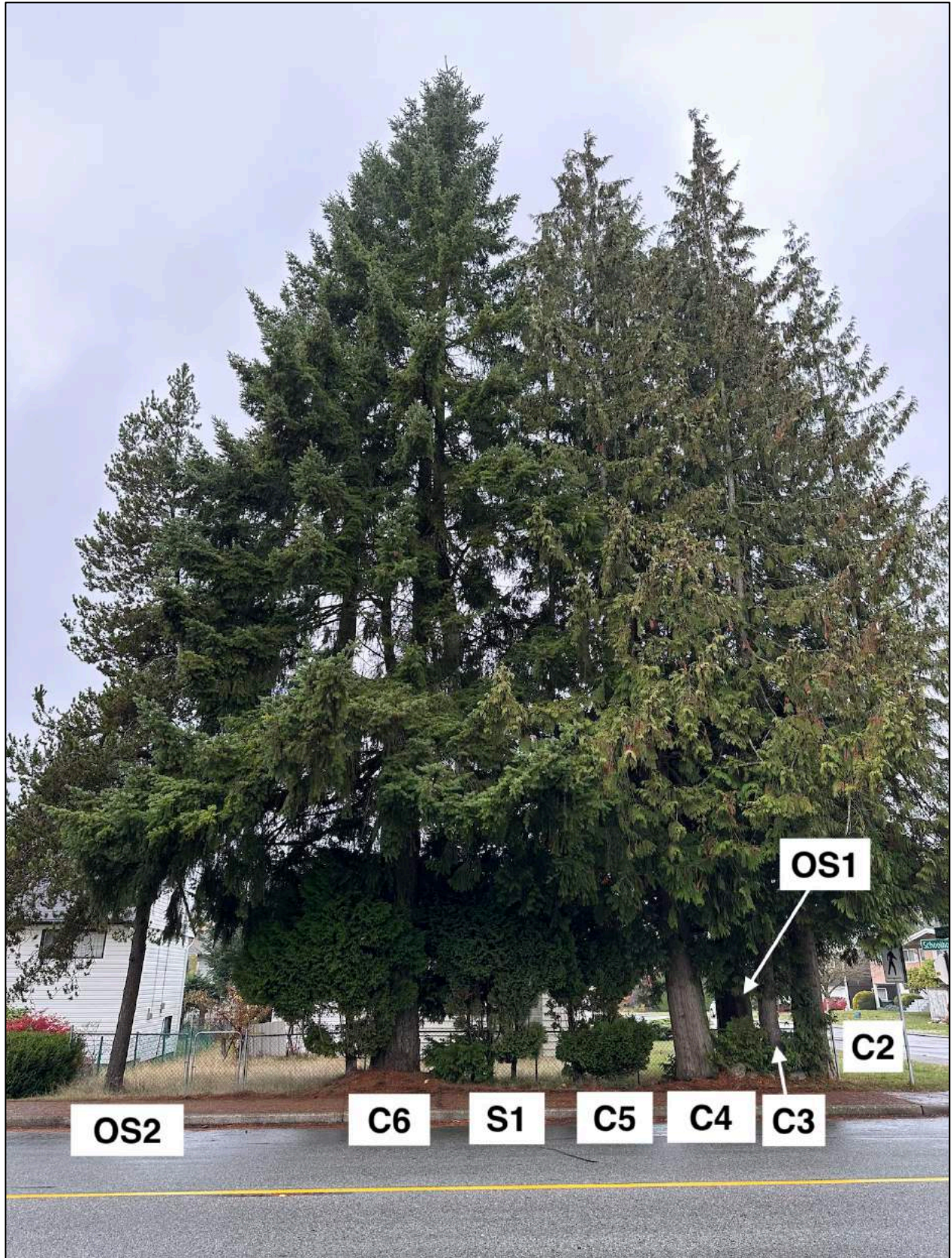


Fig. 4



Fig. 5



Fig. 6

**Fig. 7**

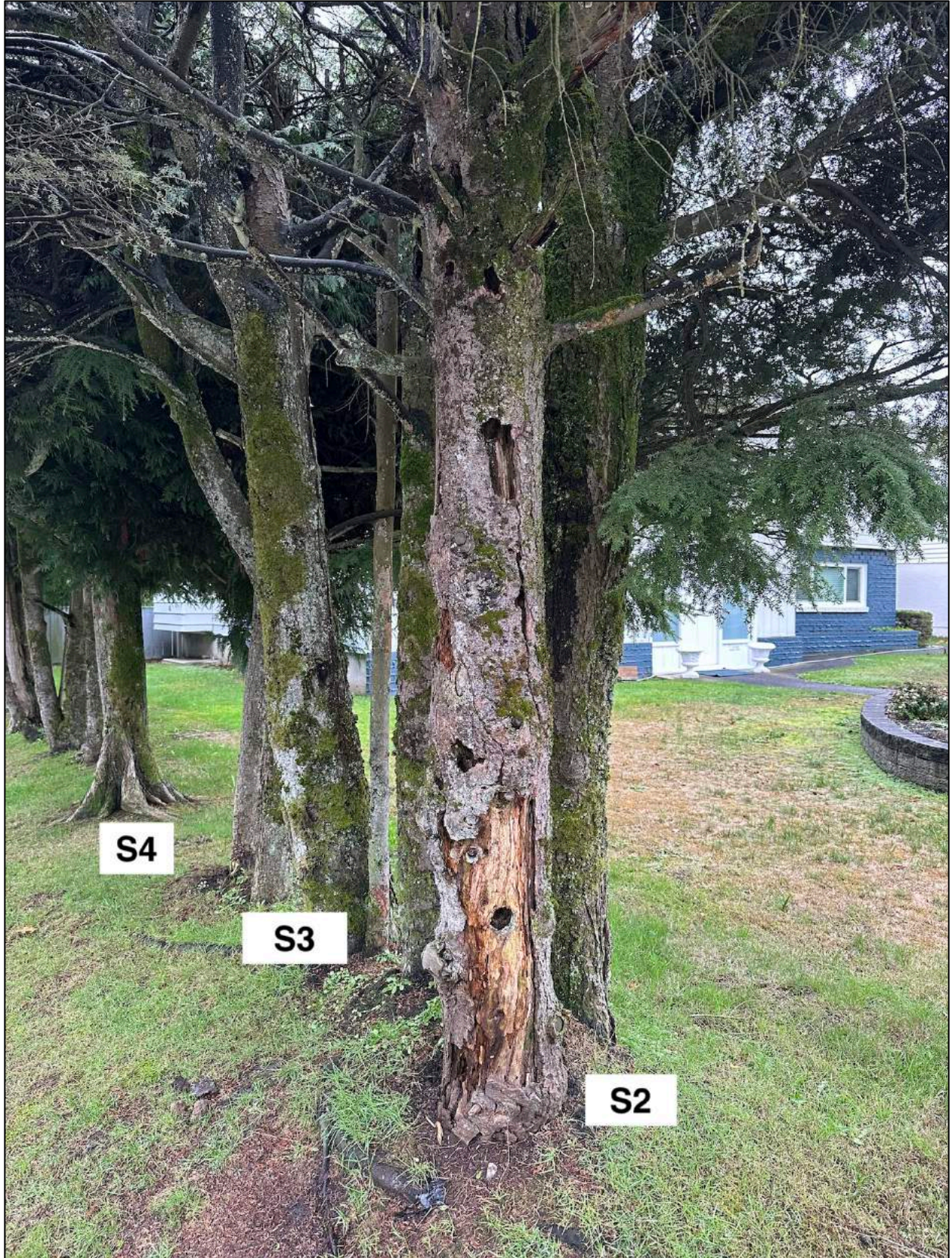
**Fig. 8**



Fig. 9



Fig. 10



Fig. 11

**Fig. 12**

**Fig. 13**

**Fig. 14**



Fig. 15



Fig. 16



Fig. 17



Fig. 18



Fig. 19



Fig. 20



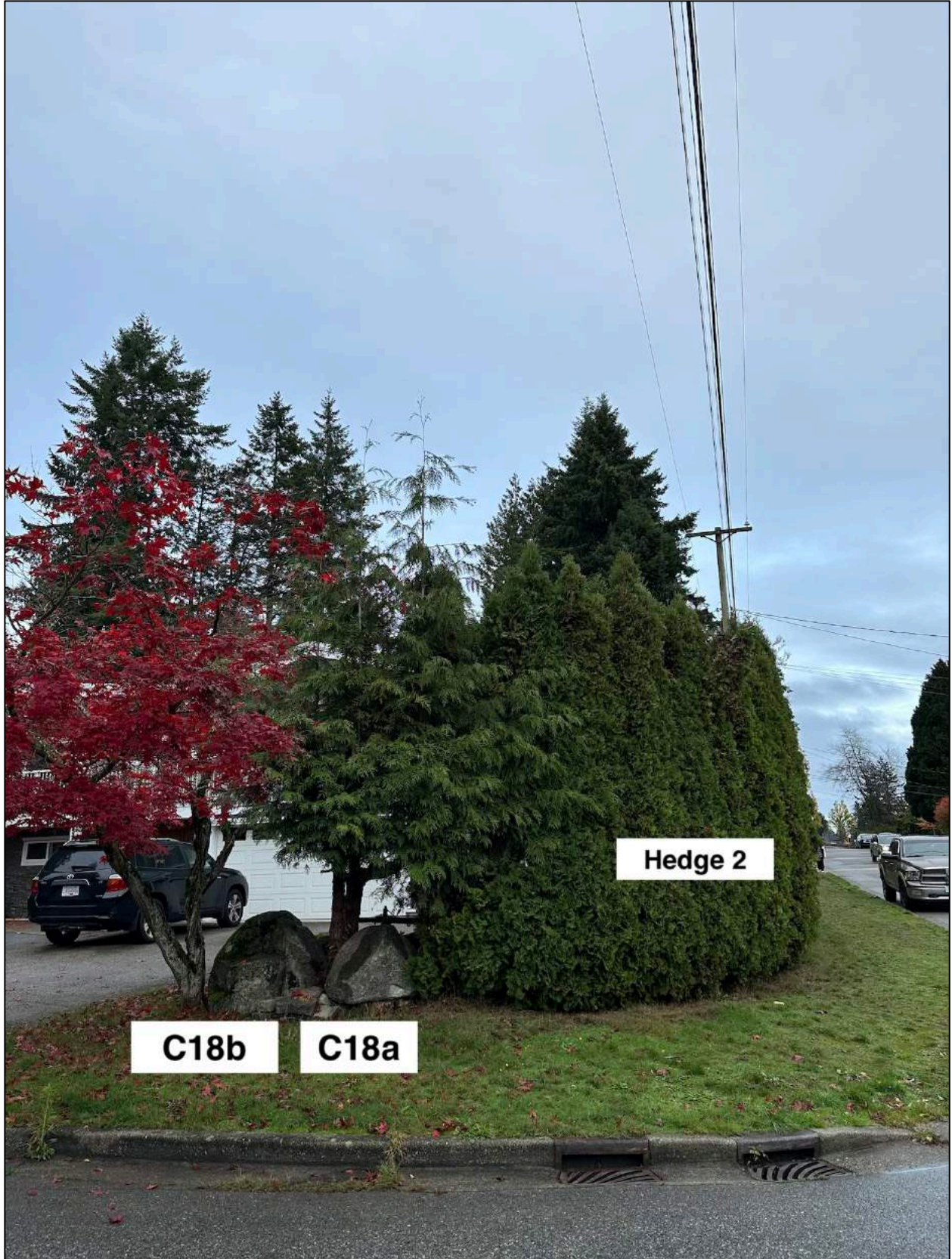


Fig. 21

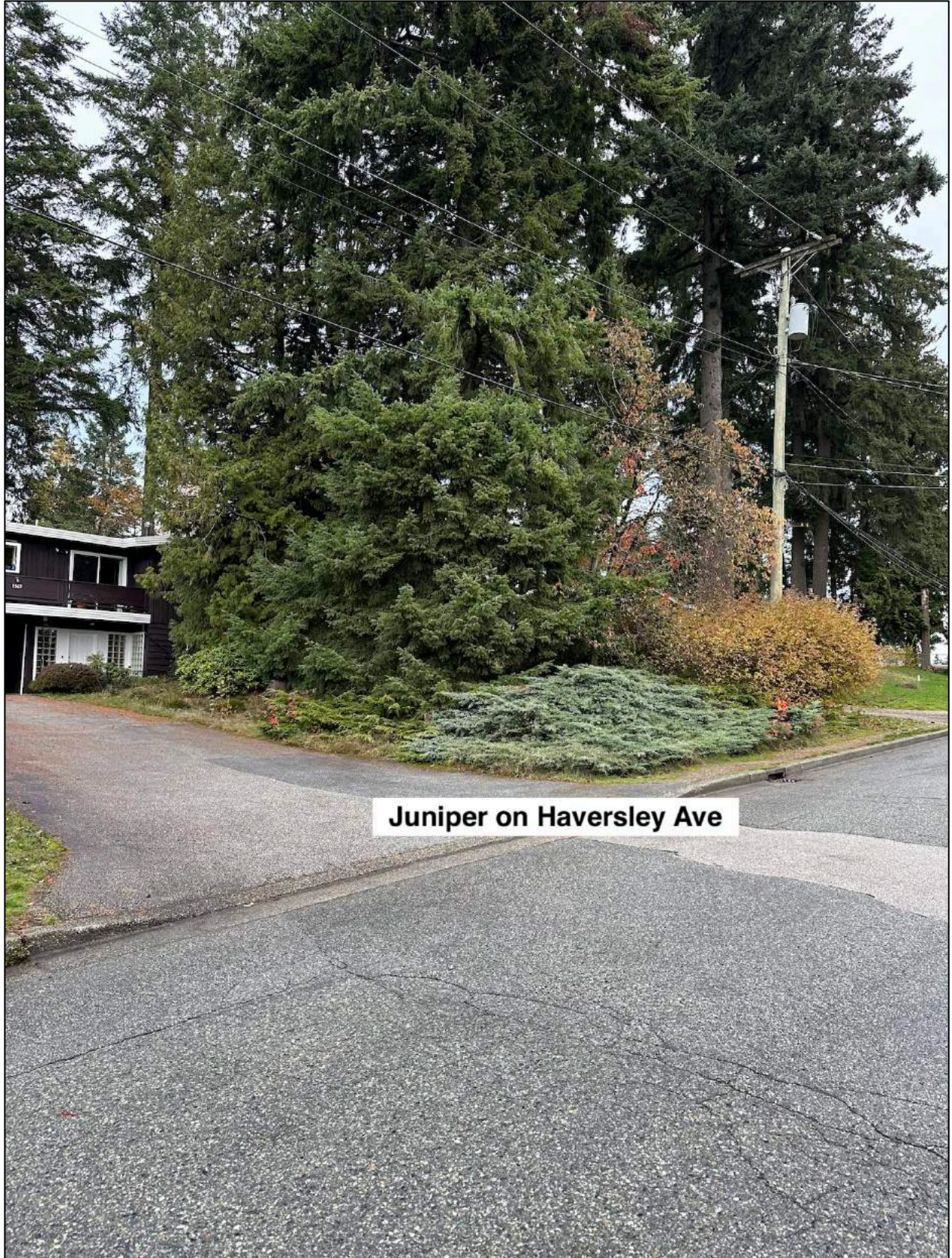
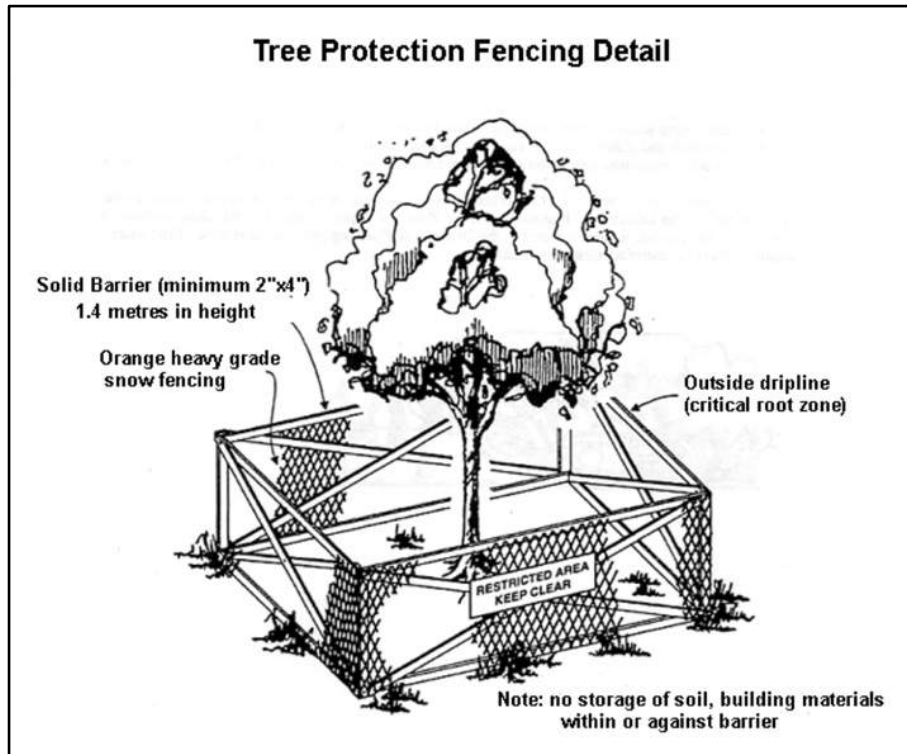


Fig. 22

Appendix C – Tree Protection Barrier Detail

TREES THAT REQUIRE TREE PROTECTION BARRIERS:

- All Bylaw Protected Trees that are being retained on and off your property.
- All trees located on the City Boulevard, Parkland, or City land within 4m of the property line



Example of snow fencing

Materials:

- 2x4's for framing (vertical posts, top and bottom rails, and cross-bracing)
- Plastic mesh screening (also known as snow fencing).

Dimensions:

- Panels must be 1.2m in height
- Maximum 3.7 m spacing between vertical posts (see Tree Management Plan for spacing recommended for each retained tree – based on the crown radius/dripline measurement).

Maintaining your tree protection barriers:

Tree protection barriers must be installed and maintained throughout the entire construction process. Barriers that are in disrepair must be fixed immediately to prevent possible fines, "Stop Work" orders, and/or permit delays.



General Requirements and Limitations for Operations within the Tree Protection Barrier:

- The Contractor shall not engage in any construction activity within the Tree Protection Barrier without the approval and presence of the Project Arborist. These activities include, but are not limited to, excavation, operating machinery, moving, or storing equipment, and/or storing supplies or materials. Permitted activity, if any, within the Tree Protection Barrier and/or dripline is indicated on the Tree Management Plan.
- If construction activity is unavoidable within the tree protection, notify the Project Arborist and submit a detailed written or oral plan of action for approval. The plan shall include the reason for the activity, why other areas are not suited, a description of the proposed activity, the timeline for the activity, and remedial actions that will reduce the impact from the activity.
- When encountered, exposed roots, 1 inch and larger in diameter shall be worked around in a manner that does not break the outer layer of the root surface (bark). Roots one inch and larger in diameter shall not be cut without the approval of the Project Arborist. The Project Arborist should cleanly prune structural roots, if necessary, and recommend the appropriate treatment for any structural roots encountered. Excavation shall be tunnelled under these roots, without cutting, if possible.
- Tree branches that interfere with the construction may be tied back or pruned to clear only to the point necessary to complete the work. Tying back or trimming of branches shall be in accordance with accepted arboriculture practices (ANSI A300, part 8) and be performed under supervision of the Project Arborist.
- Do not permit foot traffic, scaffolding or the storage of materials within the Tree Protection Barriers.
- Notify the Project Arborist of any spills, soil compaction or tree damage and take corrective action immediately using methods approved by the Project Arborist.



Appendix D – Assumptions and Limiting Conditions

It is the policy of Koome Urban Forestry Ltd. (KUF) to attach the following clauses regarding limitations. We do this to ensure that developers, owners, and approving officers are clearly aware of what is technically and professionally realistic in retaining trees.

This Assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property and the tree(s) situated thereon by Koome Urban Forestry Ltd. and upon information provided by the Client to KUF. The opinions in this Assessment are given based on observations made and using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Assessment are valid only as at the date any such testing, observations and analysis took place and no guarantee, warranty, representation or opinion is offered or made by KUF as to the length of the validity of the results, observations, recommendations and analysis contained within this Assessment.

As a result, the Client shall not rely upon this Assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this Assessment should be re-assessed periodically. Only the subject tree(s) was inspected and no others.

Restriction of Assessment

Notwithstanding the recommendations and conclusions made in this Assessment, it must be realized that trees are living organisms, and their health and vigour constantly changes over time. They are not immune to changes in site conditions, or seasonal variations in the weather. The tendency of trees or parts of trees to fall due to environmental conditions and internal problems are unpredictable. Defects are often hidden within the tree or underground.

The Assessment carried out was restricted to the Property. No Assessment of any other trees or plants has been undertaken by KUF. Koome Urban Forestry Ltd. is not legally liable for any other trees or plants on the Property except those expressly discussed herein. The conclusions of this Assessment do not apply to any areas, trees, plants or any other property not covered or referenced in this Report. The conclusions of this Assessment does not imply or in any way infer that other trees on this site or near this site are sound and healthy.

While reasonable efforts have been made to ensure that the tree(s) recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree -- or group of trees --, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the tree(s) should be re-assessed periodically. In accordance with standard practice, the Assessment presented in this Report is valid at the time it was undertaken. It is not a guarantee of safety. It is the owner's responsibility to maintain the tree(s) and inspect the tree(s) to reasonable standards and to carry out recommendations for mitigation suggested in this Report.

Professional Responsibility

In carrying out this Assessment, Koome Urban Forestry Ltd. and any Assessor appointed for and on behalf of KUF to perform and carry out the Assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this Assessment.



The Assessment of the tree(s) presented in this Report has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the Report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Without limiting the foregoing, no liability is assumed by Koome Urban Forestry Ltd. or its directors, officers, employers, contractors, agents or Assessors for:

- a) any legal description provided with respect to the Property;
- b) issues of title and or ownership respect to the Property;
- c) the accuracy of the Property line locations or boundaries with respect to the Property; and
- d) the accuracy of any other information provided to KUF by the Client or third parties;
- e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
- f) the unauthorized distribution of the Report.

The total monetary amount of all claims or causes of action the Client may have as against KUF, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited solely to the total amount of fees paid by the Client to KUF.

Further, under no circumstance may any claims be initiated or commenced by the Client against Koome Urban Forestry Ltd. or any of its directors, officers, employees, contractors, agents or Assessors, in contract or in tort, more than 12 months after the date of this Assessment.

Assumptions

The Client is hereby notified and does hereby acknowledge and agree that where any of the facts and information set out and referenced in this Assessment are based on assumptions, facts or information provided to KUF by the Client and/or third parties and unless otherwise set out within this Assessment, KUF will in no way be responsible for the veracity or accuracy of any such information.

Further, the Client acknowledges and agrees that KUF has, for the purposes of preparing their Report, assumed that the Property, which is the subject of this Assessment is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. KUF explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, bylaws, guidelines and laws as it may pertain to or affect the Property to which this Assessment applies.

Third Party Liability

This Report was prepared by Koome Urban Forestry Ltd. exclusively for the Client. The contents reflect KUF's best Assessment of the tree(s) and plant(s) situate on the Property in light of the information available to it at the time of preparation of this Assessment. Any use which a third party makes of this Assessment, or any reliance on or decisions made based upon this Assessment, are made at the sole risk of any such third parties. KUF accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use or reliance of this Assessment by any such party.

Further Services

Notwithstanding the recommendations made in this Assessment, Koome Urban Forestry Ltd. accept no responsibility for the implementation of all or any part of this plan, unless we have specifically been requested to examine said implementation activities. Approval and implementation of this plan in no way implies any inspection or supervisory role on the part of Koome Urban Forestry Ltd. In the event that inspection or supervision of all or part of the implementation of the plan is requested, said request shall

be in writing and the details agreed to in writing by both parties. Any onsite inspection or supervisory work undertaken by Koome Urban Forestry Ltd. shall be recorded in written form and submitted to the client as a matter of record.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to give testimony, or to act as an expert witness or to attend court by reason of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to provide any further consultation or services to the Client, save and except as already carried out in the preparation of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

General

Any plans and/or illustrations in this Assessment are included only to help the Client visualize the issues in this Assessment and shall not be relied upon for any other purpose.

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The Report shall be considered a whole, no sections are severable, and the Report shall be considered incomplete if any pages are missing.

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Appendix E – References

- Bond, Jerry & Buchanan, Beth (2006) Best Management Practices: Tree Inventories, International Society of Arboriculture, Champaign, IL.
- Dunster, Dr. Julian (2003) *Preliminary Species Profiles for Tree Failure Assessment*. ISA Pacific Northwest Chapter, Silverton, OR, USA
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- Sibley, David Allen (2009) *The Sibley Guide to Trees*. Alfred A. Knopf, New York, NY
- Smiley, E.T., Matheny, N., Lilly, S. (2011) Best Management Practises: Tree Risk Assessment. International Society of Arboriculture, Champaign, IL.



Appendix F – Certificate of Performance

I certify that:

1. I have personally inspected the trees and property referred to in this report and have stated my findings accurately.
2. I have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
3. The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
4. My analysis, opinions and conclusions were developed, and this report has been prepared according to commonly accepted arboriculture practices.
5. No one provided significant professional assistance to me, except as indicated within the report.
6. My compensation is not contingent upon the reporting of a predetermined conclusion that favours the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing with the International Society of Arboriculture, and the Pacific Northwest Chapter of the ISA.

Sincerely,



Kelly Koome, Project Arborist
 ISA Certified Arborist PN 5962A
 ISA Tree Risk Assessment Qualified



Sarah Morin
 Project Arborist Technician and Horticulturist
 Wildlife Danger Tree Assessor, P3139



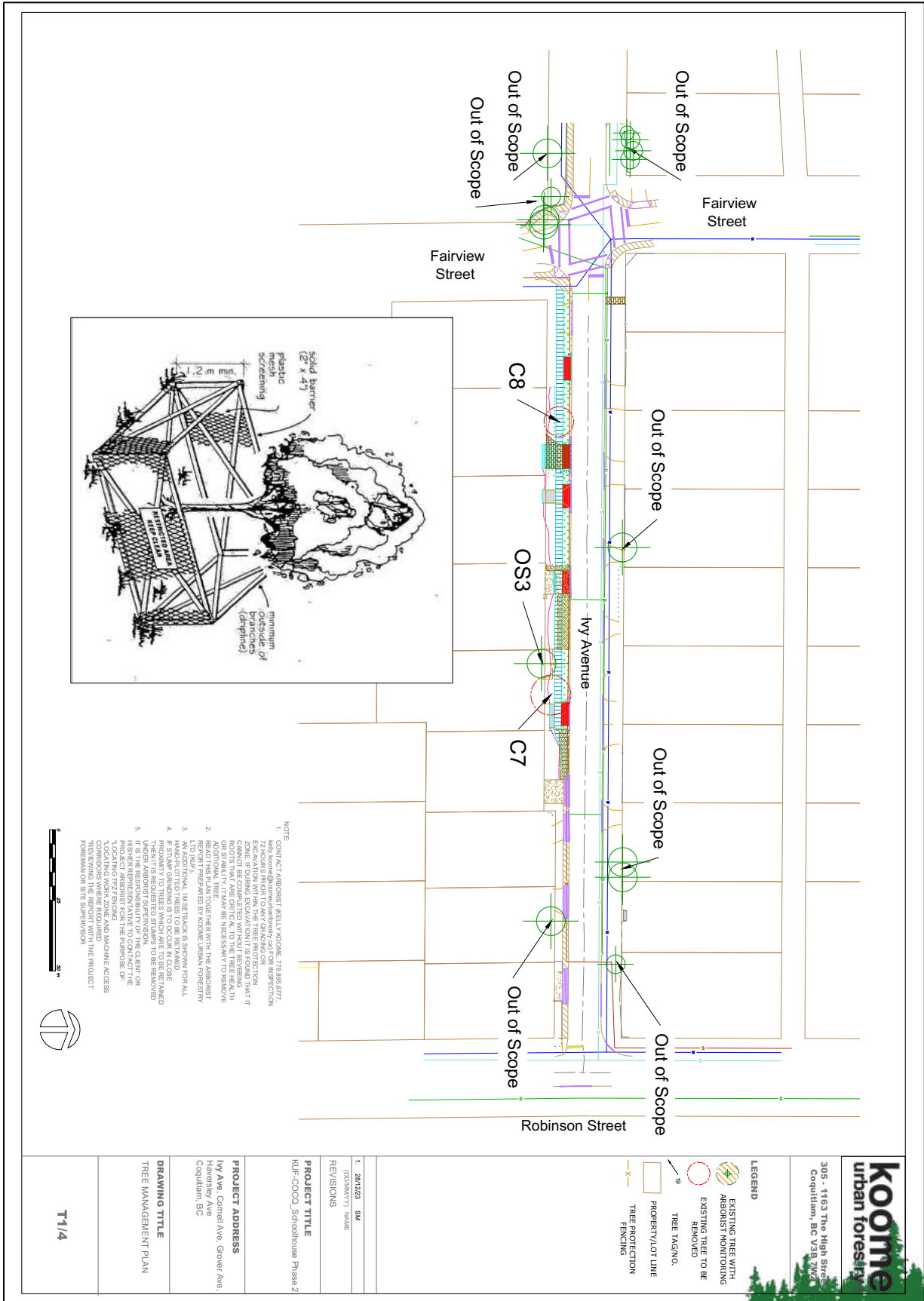
Appendix G – Tree Management Plan

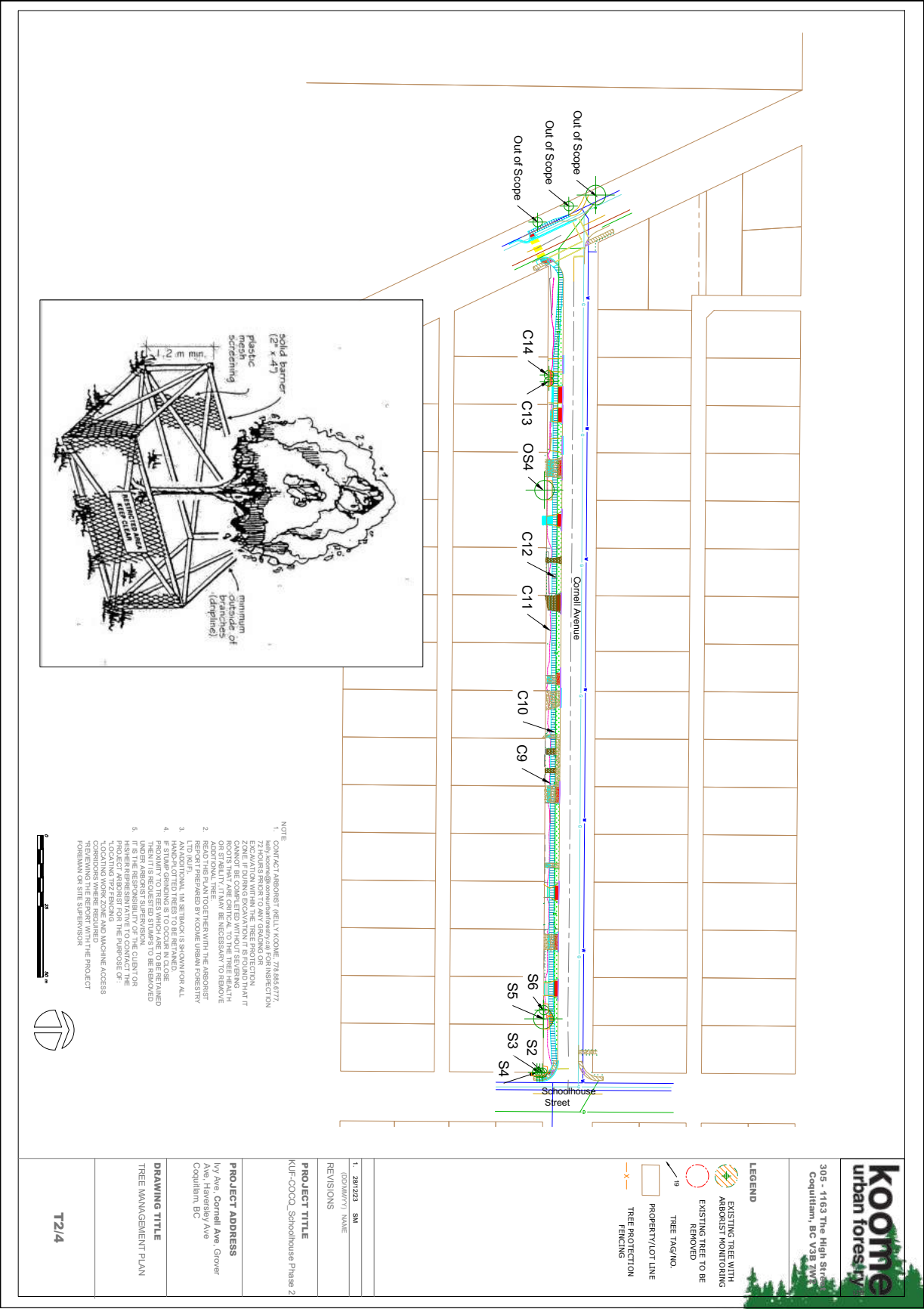
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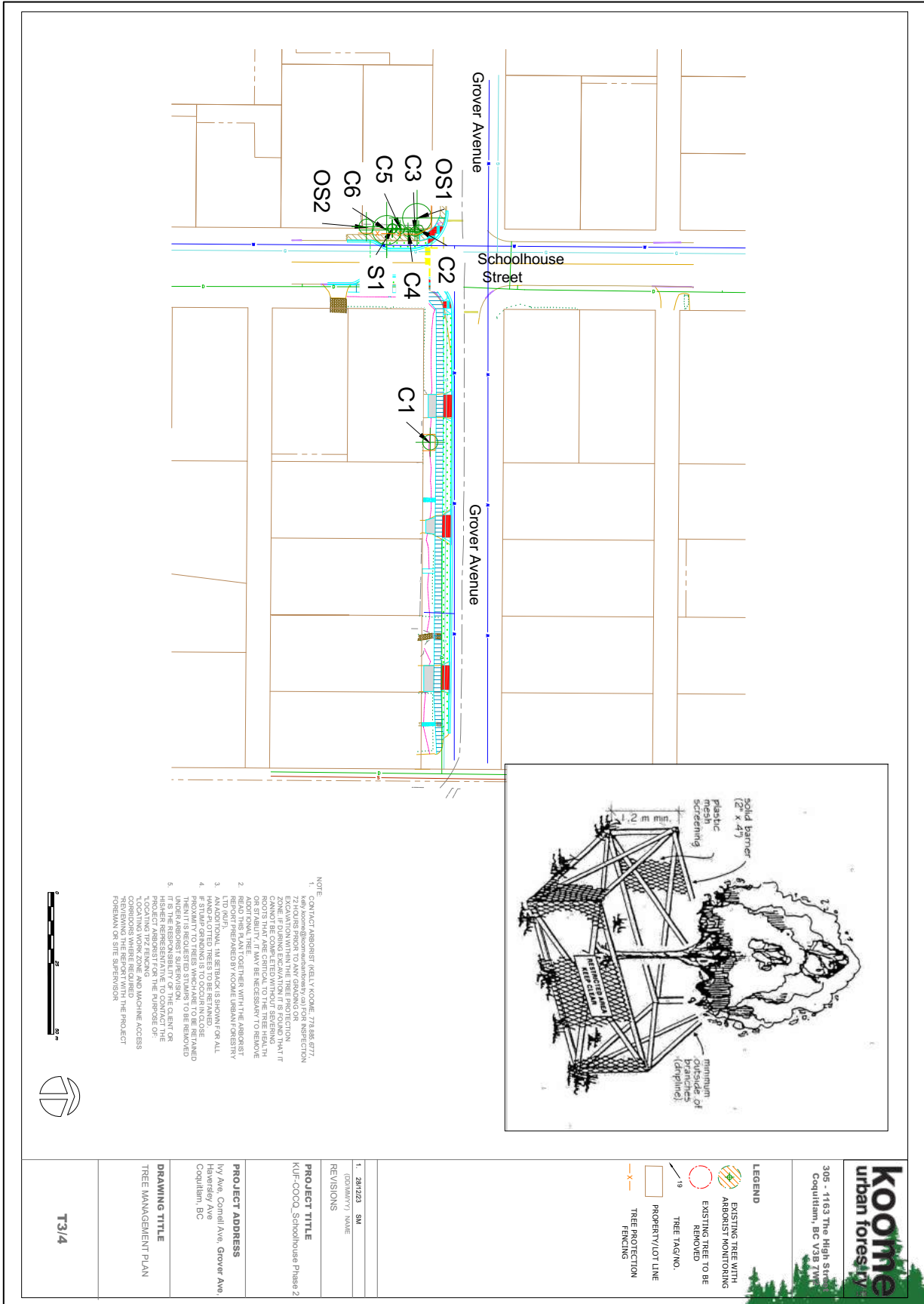
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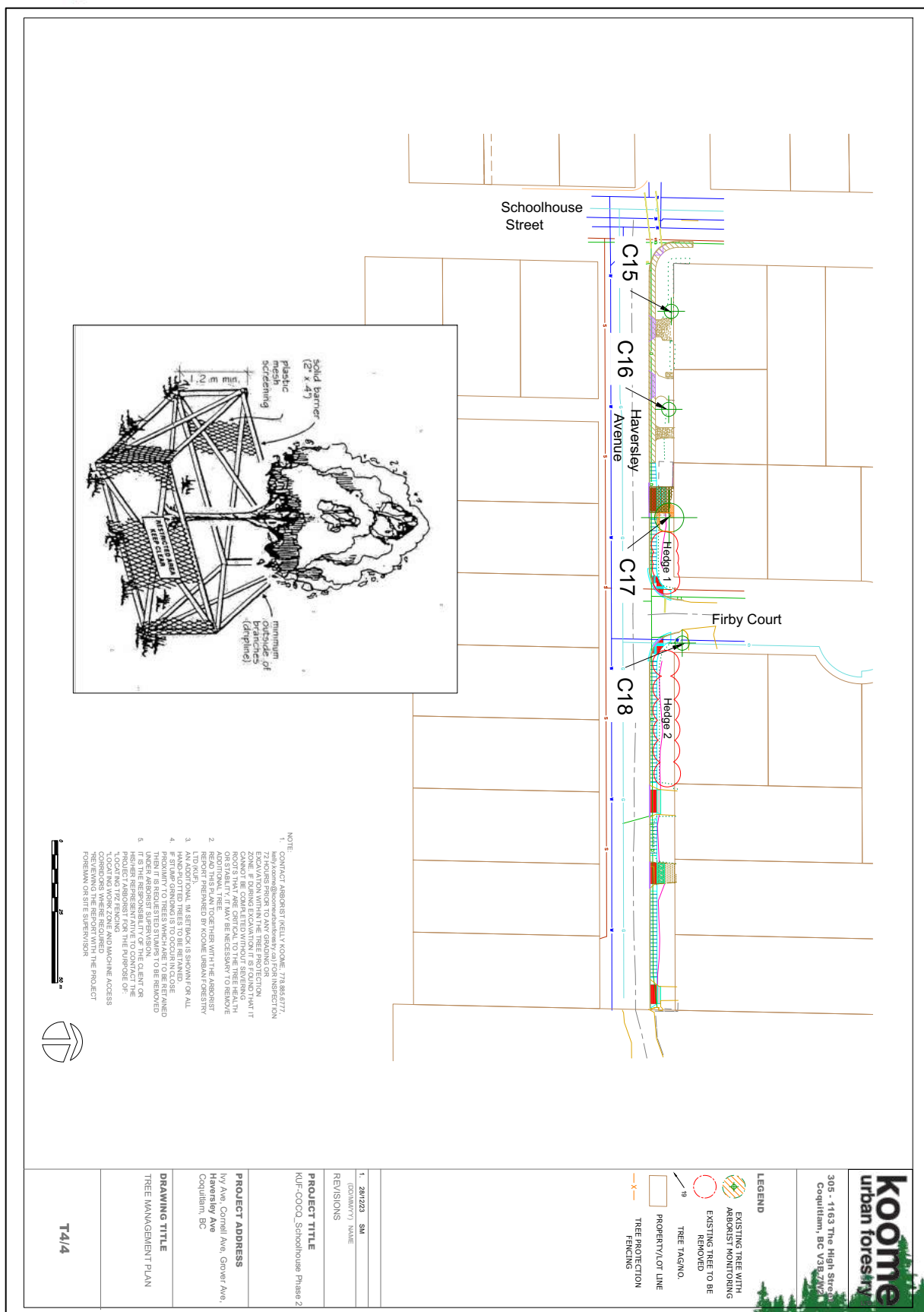
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LEGEND

- EXISTING TREE WITH ARBORIST MONITORING
- EXISTING TREE TO BE REMOVED
- TREE TAG/NO. 19
- PROPERTY/LOT LINE
- TREE PROTECTION FENCING

1.	28/12/23	SM
	(DD/MM/YY)	NAME

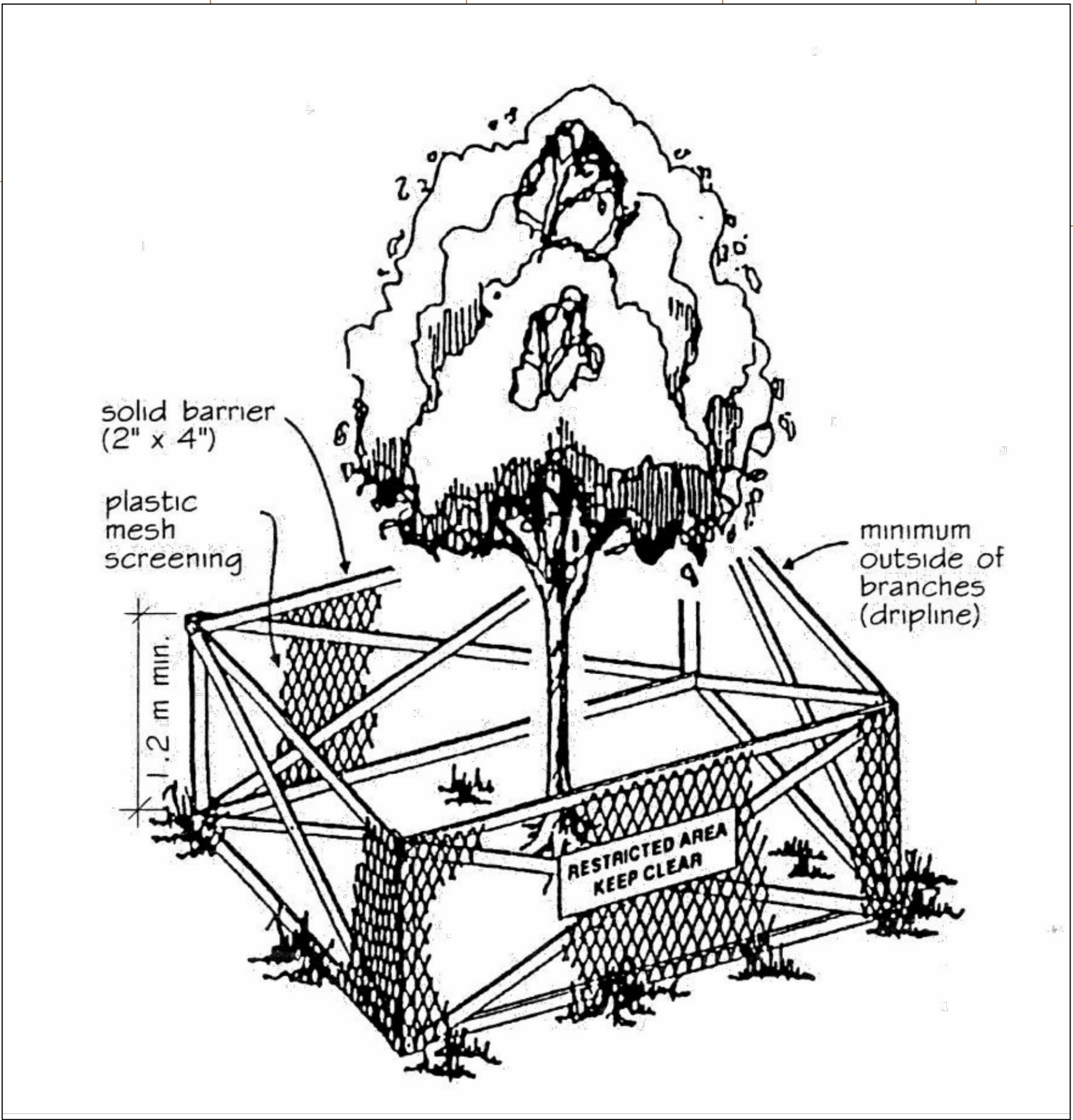
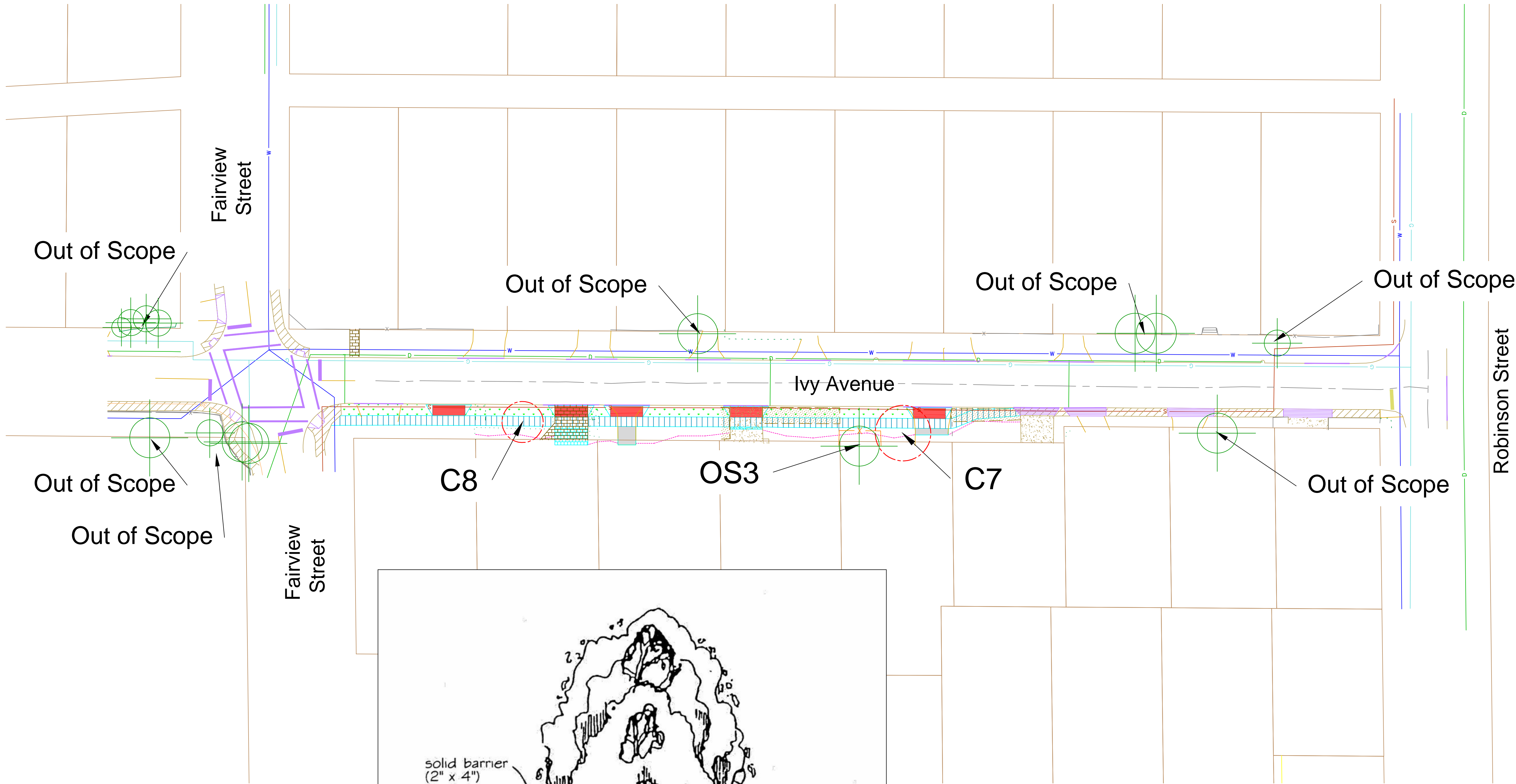
REVISIONS

PROJECT TITLE
KUF-COCQ_Schoolhouse Phase 2

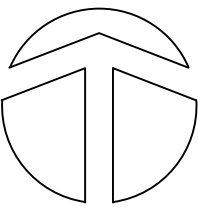
PROJECT ADDRESS
Ivy Ave, Cornell Ave, Grover Ave,
Haversley Ave
Coquitlam, BC

DRAWING TITLE
TREE MANAGEMENT PLAN



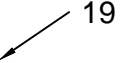


T1/4

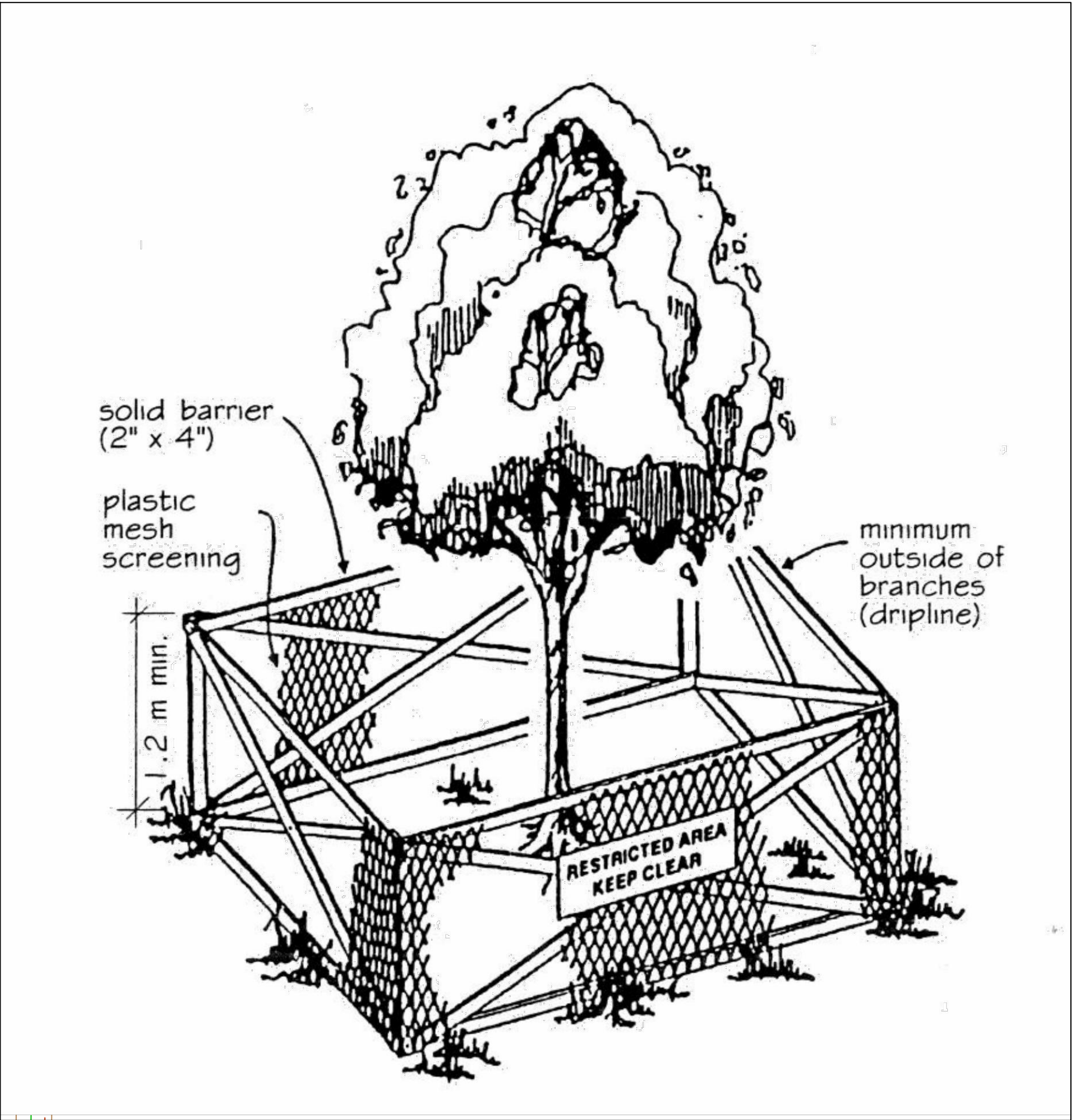
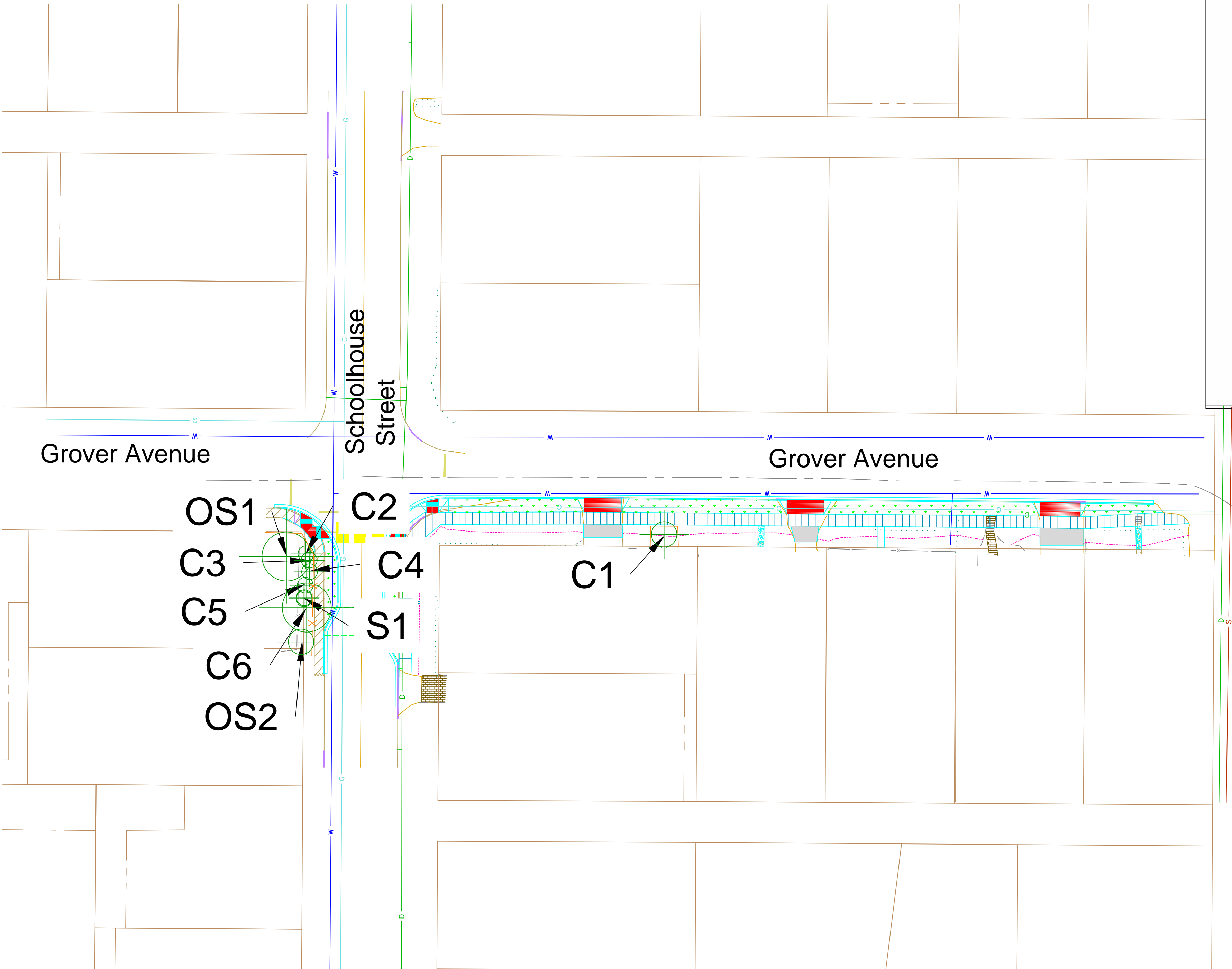


- NOTE:
- CONTACT ARBORIST (KELLY KOOME, 778.885.6777, kelly.koome@koomeurbanforestry.ca) FOR INSPECTION 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE TREE PROTECTION ZONE. IF DURING EXCAVATION IT IS FOUND THAT IT CANNOT BE COMPLETED WITHOUT SEVERING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY, IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREE.
 - READ THIS PLAN TOGETHER WITH THE ARBORIST REPORT PREPARED BY KOOME URBAN FORESTRY LTD (KUF).
 - AN ADDITIONAL 1M SETBACK IS SHOWN FOR ALL HAND-PLOTTED TREES TO BE RETAINED.
 - IF STUMP GRINDING IS TO OCCUR IN CLOSE PROXIMITY TO TREES WHICH ARE TO BE RETAINED THEN IT IS REQUESTED STUMPS TO BE REMOVED UNDER ARBORIST SUPERVISION.
 - IT IS THE RESPONSIBILITY OF THE CLIENT OR HIS/HER REPRESENTATIVE TO CONTACT THE PROJECT ARBORIST FOR THE PURPOSE OF:
*LOCATING TPZ FENCING
*LOCATING WORK ZONE AND MACHINE ACCESS CORRIDORS WHERE REQUIRED
*REVIEWING THE REPORT WITH THE PROJECT FOREMAN OR SITE SUPERVISOR



LEGEND

-  EXISTING TREE WITH ARBORIST MONITORING
-  EXISTING TREE TO BE REMOVED
-  TREE TAG/NO.
-  PROPERTY/LOT LINE
-  TREE PROTECTION FENCING



- NOTE:
- CONTACT ARBORIST (KELLY KOOME, 778.885.6777, kelly.koome@koomeurbanforestry.ca) FOR INSPECTION 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE TREE PROTECTION ZONE. IF DURING EXCAVATION IT IS FOUND THAT IT CANNOT BE COMPLETED WITHOUT SEVERING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY, IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREE.
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1. 28/12/23 SM
(DD/MM/YY) NAME

REVISIONS

PROJECT TITLE
KUF-COCQ_Schoolhouse Phase 2

PROJECT ADDRESS
Ivy Ave, Cornell Ave, **Grover Ave**,
Haversley Ave
Coquitlam, BC

DRAWING TITLE
TREE MANAGEMENT PLAN



Koome Urban Forestry Ltd. Arborist Report

Schoolhouse Street, Foster Ave to Como Lake Ave
Coquitlam, BC

Internal Project Code: KUF-COCQ_Schoolhouse St

Original Report: June 26, 2023 – SM

Submitted to:

**City of Coquitlam –
Engineering Department**

Submitted by:

koome
urban forestry

305 –1163 The High Street
Coquitlam, BC
V3B 7W2
604 900-8262

This report's content was performed and managed by:



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Wildlife Danger Tree Assessor, #P2546



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Project Arborist Technician and Horticulturist
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Any questions or concerns as to the contents of this report please direct them to the following:

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1.0 Introduction

1.1 Background

Koome Urban Forestry Ltd. (KUF) was contracted by The City of Coquitlam to prepare an ISA Certified Arborist Tree Report for the east side of Schoolhouse Street, from Foster Ave to Como Lake Ave, BC.

1.2 Assignment

KUF has been retained by the client to assess the health and condition of the tree(s) in accordance with The City of Coquitlam Bylaw No. 4091, 2010.

As part of this assessment, the KUF Ltd. has performed a site review entailing identification and visual assessment of the tree(s) on site. The report also includes off site trees which may be impacted by development based on the tree survey provided by the client or representative(s). The Project Arborist will provide recommendations for the retention or removal of tree(s) on this site based on the existing site conditions and the proposed use of the site.

The mitigation of development impact on the tree(s) has been considered as part of the tree assessment process.

1.3 Limits of the Assignment

KUF's observations were limited to one site visit on June 8, 2023. No tissue or soil samples were sent to a lab for identification or analysis. KUF located the trees using the survey provided by the client.

During winter deciduous trees are in winter dormancy and this is a limitation for assessing tree health at that time.

1.4 Testing & Analysis

KUF used visual tree assessment and mallet sounding to test the trees' health, condition and risk level.

The International Society of Arboriculture Best Management Practices (for Managing Trees During Construction, Second Edition) and ANSI A300 Standards (Part 5: Tree, Shrub and Other Woody Plant Maintenance—Standard Practices [Management of Trees and Shrubs During Site Planning, Site Development, and Construction]) were used to prepare this report.

1.5 Purpose & Use of Report

The purpose of this report is to assist the property owner in compliance with The City of Coquitlam Bylaw No. 4091, 2010.



2.0 Site Description

2.1 Site Review

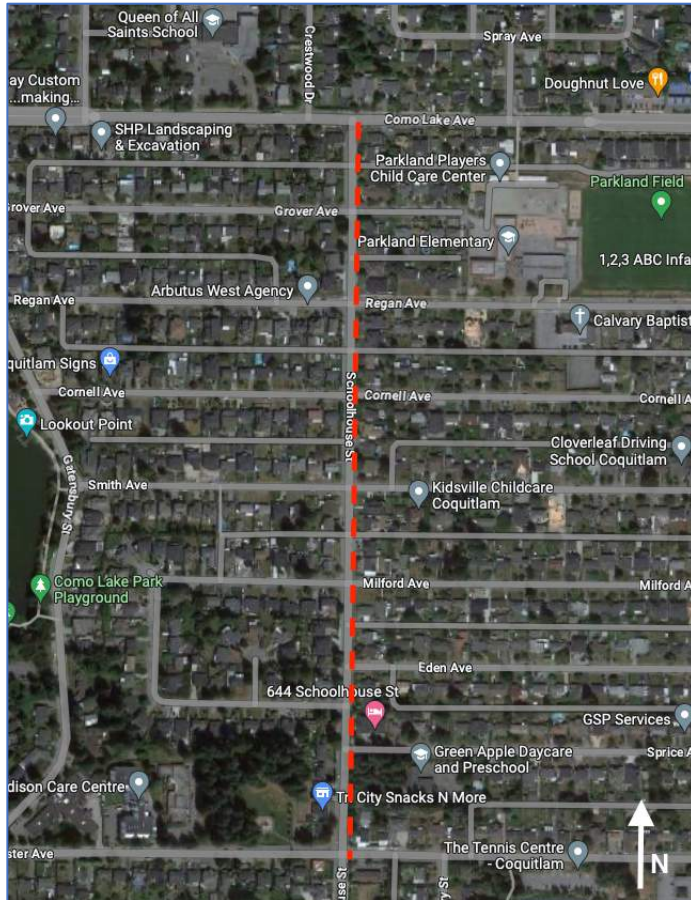


Fig. 1 – Aerial view of property (Google Maps 2023).

2.2 Proposed Site Development

The development of a new pedestrian sidewalk.

2.3 Environmental Description

The site consists of a residential neighbourhood. The site is on the east side of Schoolhouse St, starting at Foster Ave going to Como Lake Ave. The streets are lined with houses, and a church.

There is no evidence of raptors nests, osprey nests or heron colonies on the site. Removal of trees however between March 15 – August 15 (date subject to change depending on seasonal nesting behavior and therefore must be confirmed with the City) will require a bird nesting survey. This is as prescribed by the federal Migratory Birds Convention Act (MBCA), 1994 and Section 34 of the BC Wildlife Act. It is the responsibility of the owner/developer to ensure they are in compliance with the city's regulations governing nesting birds on sites where development is occurring.

Off-site Trees – There are private off-site trees with this project.

Municipal Trees – There are City of Coquitlam trees associated with this project.

Trees Straddling the Property Line – There are trees straddling the property line



2.4 Tree Preservation Summary

All of the trees identified on the Tree Management Plan and within the Tree Assessment Data Table have been given their Retention/Removal recommendation on a preliminary basis. Final recommendations will be based upon design/construction and grading details.

Long-term tree preservation success is dependent on minimizing the impact caused during pre-construction clearing operations, construction and post construction activities. Best efforts must be made to ensure the Tree Protection Zone remains undisturbed.

Ongoing monitoring of retained trees through the development process and implementation of mitigating works (watering, mulching, etc.) is essential for success.

3.0 Findings

3.1 Summary of Findings

- There is a combination of city trees, private/off-site trees and straddling trees. There are 13 different species of trees. Most of the trees are in good condition, with a few with fair structure.
- There are 8 trees recommended for removal. One of the trees is juvenile and could be relocated (C1). S3 and S7 will require clearance pruning for the side walk.
- There are 7 trees that require arborist supervision: C3, S6, S7, C11, OS9, C15, C16.
- Replacement trees will be determined by the city.
- Arborist monitoring is required when excavation, or any other construction activity, occurs within 1.5m of the proposed tree protection barriers in the Tree Management Plans (starts on the last page of this report).



3.2 Tree Inventory Assessment

Table 1: Tree Inventory Assessment

Tag #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
CITY TREES								
C1	Cornelian cheery <i>Cornus mas</i>	Yes	3, 3, 2, 2	1.5	90	GOOD CONDITION – Younger tree	Relocate if possible	
C2	Blue Spruce <i>Picea pungens</i>	Yes	28, 27	2.5	30	GOOD CONDITION CROWN-Topped at 10m, utility pruned TRUNK-Codominant at 0.5m. East side dead ROOTS-structural roots on north side	RETAIN	See TMP
C3	Norway spruce <i>Picea abies</i>	Yes	59	5	50	GOOD CONDITION CROWN-topped at 10m. Lots of interior dead wood. Utility pruned. TRUNK-Sapsucker activity	RETAIN	See TMP
C4	Amur maple <i>Acer ginnala</i>	Yes	16	5	70	GOOD CONDITION CROWN-Bird nest in upper crown TRUNK-leans Northeast 20 degrees, does not self-correct	REMOVE	
C5	Amur maple <i>Acer ginnala</i>	Yes	18	5	70	GOOD CONDITION TRUNK- Crack on west side of stem. Codominant at 2m	REMOVE	
C6	Amur maple <i>Acer ginnala</i>	Yes	15	5	70	GOOD CONDITION TRUNK-Codominant at 2m	REMOVE	
C7	Lawson cypress <i>Cupressus lawsoniana</i>	Yes	38	3.5	90	GOOD CONDITION TRUNK-Next to asphalt driveway ROOTS-In raised planter	RETAIN	See TMP

Tag #	Common Name Botanical Name	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
C8	Giant redwood <i>Sequoiadendron giganteum</i>	Yes	82	4.5	65	GOOD CONDITION CROWN-Topped at 10m, tops pruned again at 1m from first topping cut. Utility pruned	RETAIN	See TMP
C9	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	20	3	65	GOOD CONDITION CROWN-Topped at 5m	REMOVE	
C10	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	19	3	60	GOOD CONDITION CROWN-Topped at 5m	RETAIN	See TMP
C11	Deodar cedar <i>Cedrus deodara</i>	Yes	81	6.3	65	GOOD CONDITION/FAIR STRUCTURE CROWN-Topped at 8m Will need to be clearance pruned for sidewalk	RETAIN *ARBORIST SUPERVISION REQUIRED	See TMP
C12	Flowering cherry <i>Prunus spp.</i>	Yes	22	3	80	GOOD CONDITION TRUNK-Tri-stem at 1.75m	REMOVE	
C13	Flowering cherry <i>Prunus spp.</i>	Yes	25	3	80	GOOD CONDITION TRUNK-4 stems starting at 1.75m	REMOVE	
C14	Norway maple <i>Acer platanoides</i>	Yes	17	3.5	80	GOOD CONDITION	REMOVE	
C15	Beaked Hazelnut <i>Corylus cornuta</i>	Yes	2 - 11	4	80	GOOD CONDITION CROWN- Needs clearance pruning for sidewalk TRUNK-Multi-stem at base, 25+ stems	RETAIN *ARBORIST SUPERVISION REQUIRED	See TMP
C16	Western red cedar <i>Thuja plicata</i>	Yes	30, 12	3.5	30	FAIR CONDITION CROWN-topped TRUNK-Subdominant stem at 0.5m with narrow union	RETAIN *ARBORIST SUPERVISION REQUIRED	See TMP



Tag #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
C17	Sawara cyrpress <i>Chamaecyparis pisifera</i>	Yes	42, 42	4.5	60	GOOD CONDITION/FAIR STRUCTURE CROWN-Flagging, weighted west TRUNK-Multi-stem at 2m and 3m	RETAIN	See TMP
STRADDLING TREES								
S1	Vine maple <i>Acer circinatum</i>	Yes	32	5	60	GOOD CONDITION TRUNK- phototrophic lean west. Codominant at 1.7m	RETAIN	See TMP
S2	Norway maple <i>Acer platanoides</i>	Yes	67	6	70	GOOD CONDITION/FAIR STRUCTURE CROWN-previously pollarded and utility pruned TRUNK-Codominant at 2m	RETAIN	See TMP
S3	Lodgepole pine <i>Pinus contorta</i>	Yes	42	4.8	50	POOR CONDITION CROWN-large pruning cuts, utility pruned TRUNK-Codominant at 2m. Leans west. Mechanical damage on lower stem	REMOVE OR CLEARANCE PRUNING	
S4	Giant redwood <i>Sequoiadendron giganteum</i>	Yes	90	4.5	65	GOOD CONDITION CROWN-Topped at 10m, tops pruned again at 1m from first topping cut. Utility pruned	RETAIN	See TMP
S5	Giant redwood <i>Sequoiadendron giganteum</i>	Yes	77	4.5	65	GOOD CONDITION CROWN-Topped at 10m, tops pruned again at 1m from first topping cut. Utility pruned	RETAIN	See TMP



Tag #	Common Name Botanical Name	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
S6	Giant redwood <i>Sequoiadendron giganteum</i>	Yes	110	4.5	65	GOOD CONDITION/FAIR STRUCTURE CROWN-Topped at 10m, tops pruned again at 1m from first topping cut. Utility pruned. Flagging	RETAIN *ARBORIST SUPERVISION REQUIRED	See TMP
S7	Western red cedar <i>Thuja plicata</i>	Yes	74, 32	5	50	FAIR CONDITION CROWN-Utility pruned. Topped at 8m. Pruned on all sides TRUNK-Multi stem at 1m	RETAIN *ARBORIST SUPERVISION REQUIRED CLEARANCE PRUNING REQUIRED	See TMP
OFFSITE/PRIVATE TRESS								
OS1	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	68	5	60	GOOD CONDITION ROOTS-large structural root on south side	RETAIN	See TMP
OS2	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	66	5	50	GOOD CONDITION CROWN-utility pruned ROOTS-Large structural roots on west and east side	RETAIN	See TMP
OS3	Western red cedar <i>Thuja plicata</i>	Yes	55	4.5	40	GOOD CONDITION CROWN-utility pruned ROOTS-Large structural roots on east side	RETAIN	See TMP
OS4	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	53	5.5	50	GOOD CONDITION/FAIR STRUCTURE CROWN-Topped at 10m. Utility pruned TRUNK-decay and resin on lower stem on west side	RETAIN	See TMP



Tag #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
OS5	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	51, 86	7.5	65	GOOD CONDITION/FAIR STRUCTURE CROWN-topped at 8m with tight union TRUNK-Codominant at base. Resin on small stem	RETAIN	See TMP
OS6	Douglas fir <i>Pseudotsuga menziesii</i>	Yes	90	7.5	65	GOOD CONDITION	RETAIN	See TMP
OS7	Red maple <i>Acer rubrum</i>	Yes	15	4	75	GOOD CONDITION/FAIR STRUCTURE CROWN-Topped at 8m TRUNK-Codominant at 2.5m	RETAIN	See TMP
OS8	Rocky Mountain Maple <i>Acer glabrum</i>	Yes	23	4	65	GOOD CONDITION CROWN-Topped at 6m	RETAIN	See TMP
OS9	Western red cedar <i>Thuja plicata</i>	Yes	34	4	50	GOOD CONDITION	RETAIN *ARBORIST SUPERVISION REQUIRED	See TMP
OS10	Lawson cypress <i>Cupressus lawsoniana</i>	Yes	72, 47	5	85	GOOD CONDITION TRUNK- Codominant at 1.5m. Tri-stem and codominant at 3m	RETAIN	See TMP



3.3 Replacement Tree Requirements

The trees recommended for removal belong to the City of Coquitlam. The general manager will determine the replacement trees.



Appendix A – Glossary of Key Terms

Adapted Trunk Diameter Method: This method uses the trees age and tolerance to construction damage to determine the factor that will be multiplied by the diameter to provide a sufficient tree protection zone given these factors.

Age: The relative age (young, intermediate, mature) within the particular stand of trees or forest.

ALR: The Agricultural Land Reserve in which agriculture is recognized as the priority.

Bole: The stem or trunk of a tree.

Branch collar: A visible swelling and/or tapering at the base on the branch. Trees can properly compartmentalize pruning cuts made above the branch collar.

Chlorotic: Yellowing of plant tissues caused by nutrient deficiency &/or pathogen.

Co-dominant Leaders: Forked dominant stems nearly the same size in diameter, arising from a common junction.

Co-dominant Within Stand: Individual tree whose height is generally equal to trees (regardless of species) within the same stand.

Compaction: Compression of the soil that breaks down soil aggregates and reduces soil volume and total pore space, especially macropore space.

Conk: A fungal fruiting structure typically found on trunks and indicating internal decay.

Dead Standing: A tree that has died but is still standing erect.

DBH: The Diameter of the tree at 1.40 meters above the ground.

Dominant Within Stand: Individual tree whose height is significantly greater than adjacent trees (regardless of species) within the same stand.

Dormant: Annual period (typically winter months) of suspended growth. Generally referring to deciduous trees.

C-rad: Crown radius often referred to as the tree's drip line, as measured from the edge of the trunk to the outermost branches of the crown.

CRZ: Critical Root Zone - The area of soil between the trunk to the end of the dripline where the minimum number of roots considered critical to the structural stability or health of the tree are located.

Epicormic growth: Shoots produced from dormant buds stimulated by damage or the loss of normal buds.

Fair: Healthy but has some defects such as co-dominant trunk, dead branches.

Feeder Roots: The smaller roots responsible for water and nutrient absorption and gas exchange. These roots can extend far beyond the Drip Line (or outer canopy) of the tree.

Flagging: The browning and wilting of branches, usually scattered around the tree's crown.

Frost Crack: A vertical crack, generally on the lower stem caused by the outer bark shrinking and cracking due to a rapid drop of temperature.

Fungus (singular) / Fungi (plural): Unicellular, multicellular, or syncytial spore-producing organisms that feed on organic matter (including molds, yeast, mushrooms and toadstools)

Girdling Root: Root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water.

Good: Good form and structure, healthy with no defects.

Hazardous: Significant hazard exists with a high risk of immediate failure; which could result in serious



damage to property or person(s).

Incipient: Emerging new leaf growth in the Spring

Included bark: Bark tissues that develop where two or more stems grow closely in a 'V formation' causing weak stem attachments.

Inosculation: A natural phenomenon in which trunks, branches, or roots of two trees grow together.

LCR: Live Crown Ratio – The ratio of crown length to total tree length.

Level 1 Limited Visual Assessment: Limited visual assessment looking for obvious defects such as, but not limited to dead trees, large cavity openings, large dead or broken branches, fungal fruiting structures, large cracks, and severe leans.

Level 2 Basic Visual Assessment: Detailed visual inspection (aboveground roots, trunk, canopy) of tree(s) may include the use of simple tools to perform assessment (i.e. sounding mallet, trowel, measuring tape, binoculars). The assessment does not include advanced resistance drilling of trunk.

Level 3 Advanced Assessment: To provide detailed information about specific tree parts, defects, targets, or side conditions. May include aerial inspection, resistance drilling of tree parts, laboratory diagnosis of fungal or plant tissue.

Mildew: Is a minute powdery or web-like fungi (of different colours) that is found on diseased or decaying substances.

No Disturbance Zone: The area adjacent to the tree that is restricted from all construction activity.

Poor: multiple defects, disease, poor structure and or form, root and or canopy damage.

Phloem: Plant vascular tissue that transports sugar and growth regulators. Situated on the inside of the bark, just outside the cambium. Is bidirectional (transports up and down). Contrast with xylem.

Phototropic: Growth toward light source or stimulant.

RAR: Riparian Areas Regulation.

Resinosis: An excessive outflow of resin resulting from injury or disease.

Retain & Monitor: Monitor health and condition of tree every 12 months for signs of deterioration.

Root Crown/Collar: Also, called the root collar, it includes the flare at the base of the trunk and the initial roots that develop below the trunk. These roots generally taper and subdivide rapidly to form the root system of the tree.

SPEA: Streamside Protection and Enhancement Area as defined by Provincial Regulation.

Spiral Decline: The health and condition of the tree is deteriorating.

Sub-dominant Within Stand: Individual tree whose height is significantly less than adjacent trees (regardless of species) within the same stand.

Suppressed: Individual tree whose growth, health and condition are negatively impacted by adjacent tree(s).

Topping: Inappropriate pruning technique using a heading cut that reduces the stem or primary branches back to a stub, bud or lateral branch that is not large enough to assume the terminal role.

TPB: Tree Protection Barrier – The fencing installed around a tree defined by the City's bylaw definition of the Tree Protection Zone.

TPZ: Tree Protection Zone - The area between the trunk and the Tree Protection Barrier. Often referred to as the Critical Root Zone (CRZ), the Tree Protection Zone may include an additional buffer (typically 2.0 meters) that extends beyond the physical Tree Protection Fencing. This additional area is to be monitored by the Project Arborist during any grubbing, excavation activity

White rot: A range of wood decay in which lignin and cellulose are degraded.



Wildlife Tree: A tree or a group of trees that are identified to be retained to provide future wildlife habitat. Wildlife habitat can exist in tree risks (cavities, dead snags, broken tops). Often times the tree risk to potential targets (people & property) is reduced by removing that part of the tree posing the risk of failure, but the tree (or portion of) is retained to provide future habitat.

Witches Broom: A dense mass of shoots growing from a single point, with the resulting structure resembling a broom or a bird's nest. It is often caused by pathogens (i.e., Dwarf mistletoe in Western Hemlocks).

Xylem: Thin overlapping cells that helps provide support and that conducts water and nutrients upward from the roots all the way to the leaves.



Appendix B – Photos



Fig. 2

**Fig. 3**

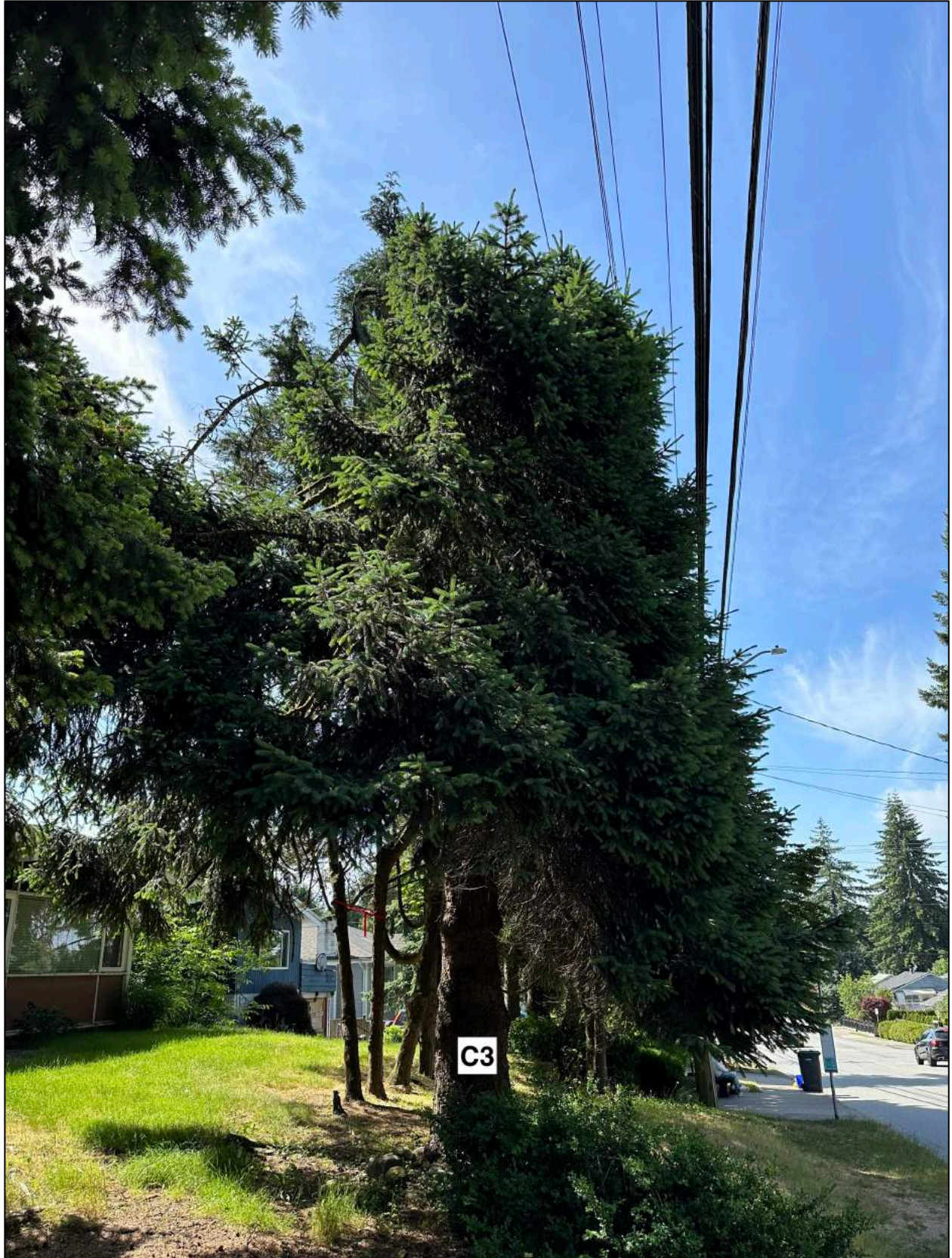


Fig. 4

**Fig. 5**

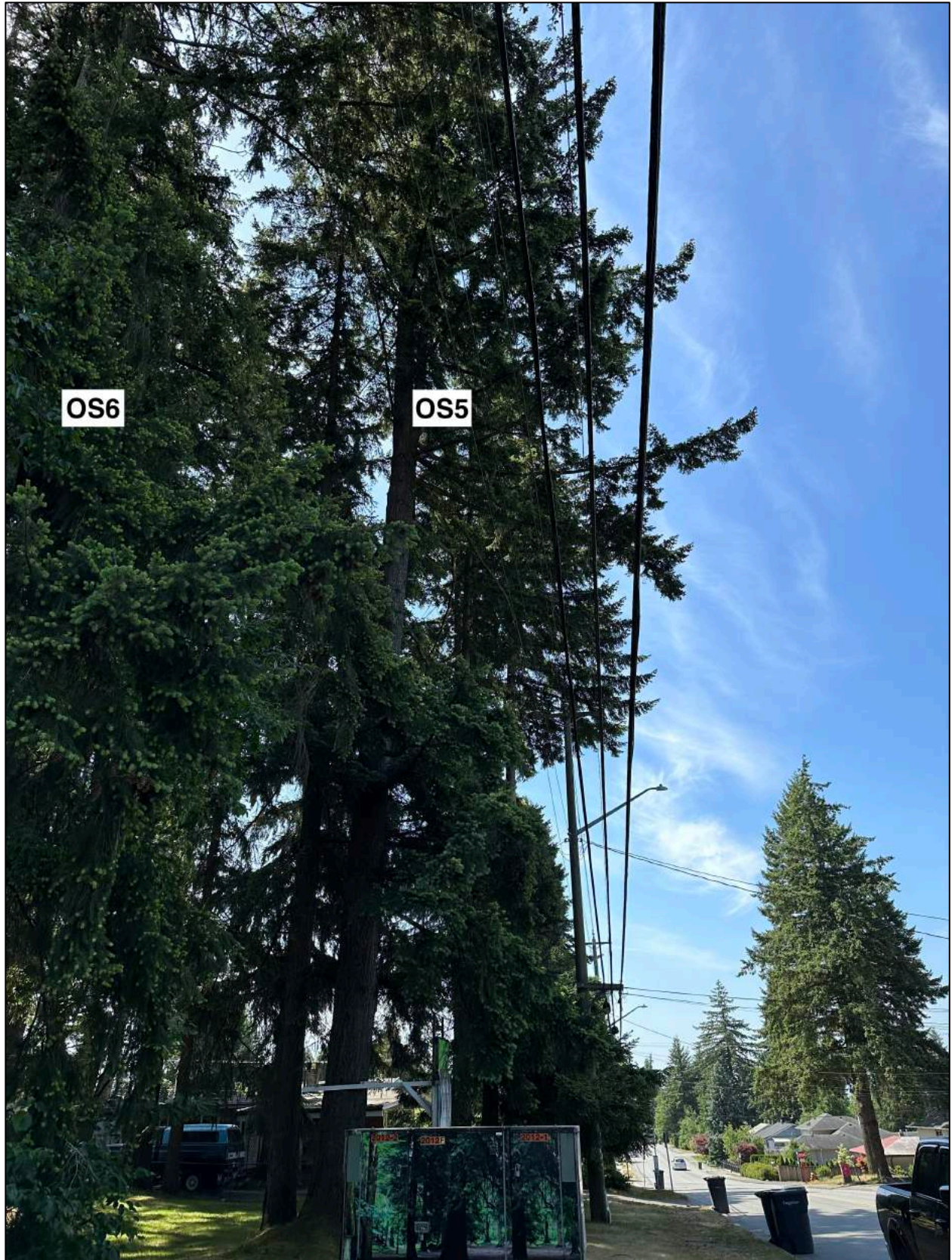
**Fig. 6**



Fig. 7



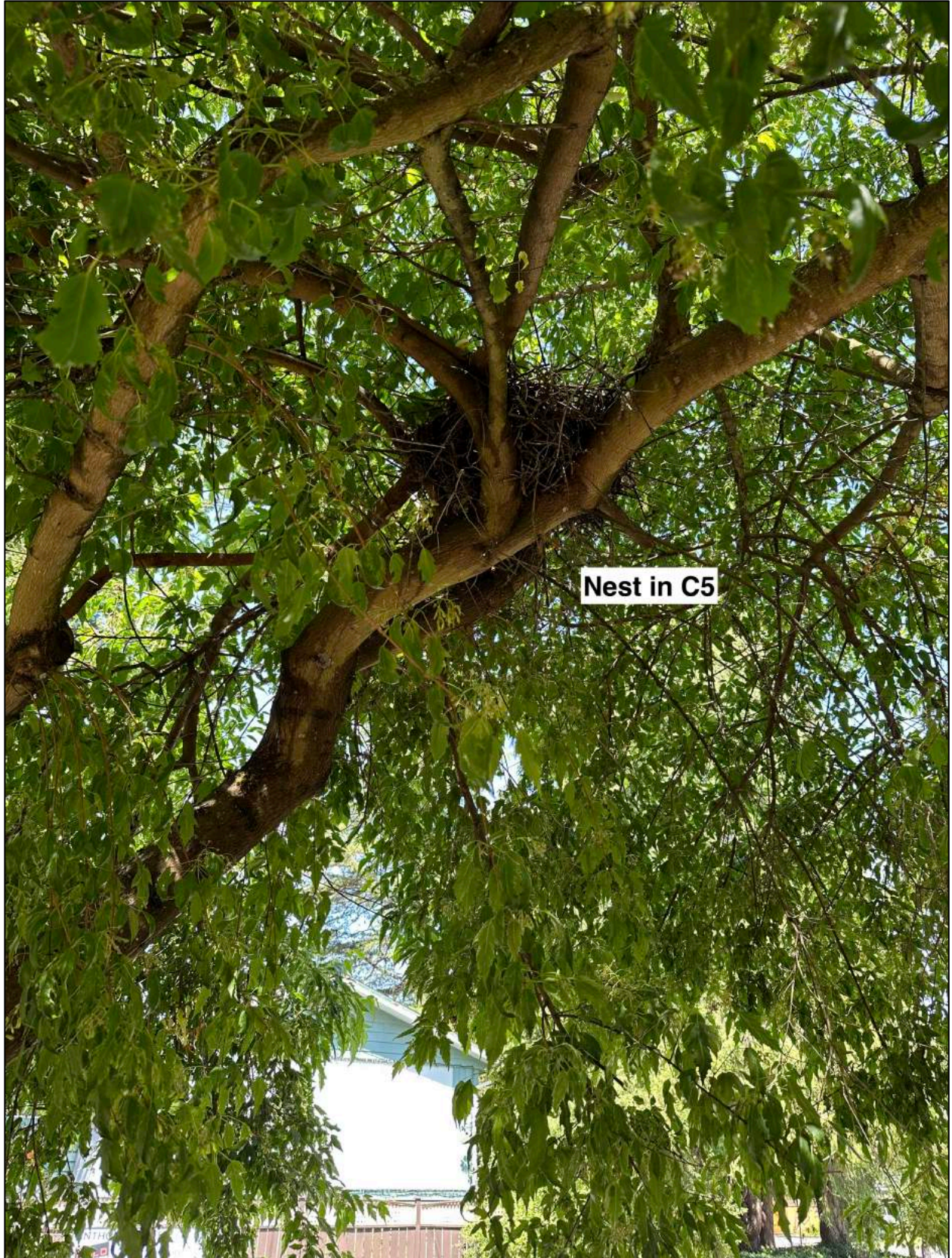
**Fig. 8**



Fig. 9

**Fig. 10**

**Fig. 11**



Fig. 12



Fig. 13





Fig. 14



Fig. 15



Fig. 16



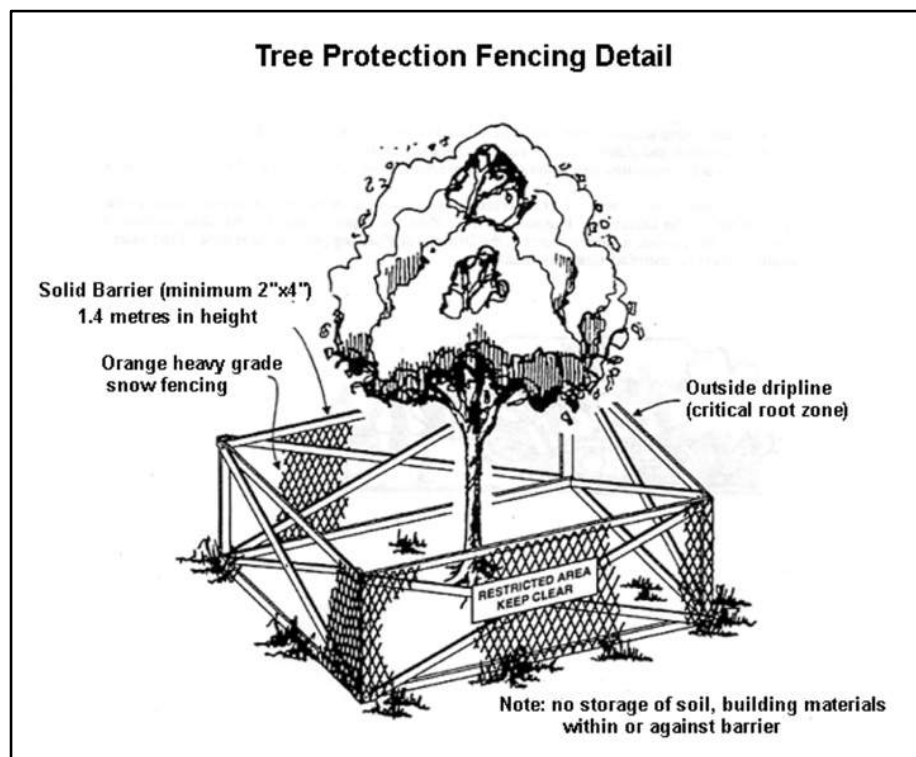
Fig. 17



Appendix C – Tree Protection Barrier Detail

TREES THAT REQUIRE TREE PROTECTION BARRIERS:

- All Bylaw Protected Trees that are being retained on and off your property.
- All trees located on the City Boulevard, Parkland, or City land within 4m of the property line



Example of snow fencing

Materials:

- 2x4's for framing (vertical posts, top and bottom rails, and cross-bracing)
- Plastic mesh screening (also known as snow fencing).

Dimensions:

- Panels must be 1.2m in height
- Maximum 3.7 m spacing between vertical posts (see Tree Management Plan for spacing recommended for each retained tree – based on the crown radius/dripline measurement).

Maintaining your tree protection barriers:

Tree protection barriers must be installed and maintained throughout the entire construction process. Barriers that are in disrepair must be fixed immediately to prevent possible fines, "Stop Work" orders, and/or permit delays.



General Requirements and Limitations for Operations within the Tree Protection Barrier:

- The Contractor shall not engage in any construction activity within the Tree Protection Barrier without the approval and presence of the Project Arborist. These activities include, but are not limited to, excavation, operating machinery, moving, or storing equipment, and/or storing supplies or materials. Permitted activity, if any, within the Tree Protection Barrier and/or dripline is indicated on the Tree Management Plan.
- If construction activity is unavoidable within the tree protection, notify the Project Arborist and submit a detailed written or oral plan of action for approval. The plan shall include the reason for the activity, why other areas are not suited, a description of the proposed activity, the timeline for the activity, and remedial actions that will reduce the impact from the activity.
- When encountered, exposed roots, 1 inch and larger in diameter shall be worked around in a manner that does not break the outer layer of the root surface (bark). Roots one inch and larger in diameter shall not be cut without the approval of the Project Arborist. The Project Arborist should cleanly prune structural roots, if necessary, and recommend the appropriate treatment for any structural roots encountered. Excavation shall be tunnelled under these roots, without cutting, if possible.
- Tree branches that interfere with the construction may be tied back or pruned to clear only to the point necessary to complete the work. Tying back or trimming of branches shall be in accordance with accepted arboriculture practices (ANSI A300, part 8) and be performed under supervision of the Project Arborist.
- Do not permit foot traffic, scaffolding or the storage of materials within the Tree Protection Barriers.
- Notify the Project Arborist of any spills, soil compaction or tree damage and take corrective action immediately using methods approved by the Project Arborist.



Appendix D – Assumptions and Limiting Conditions

It is the policy of Koome Urban Forestry Ltd. (KUF) to attach the following clauses regarding limitations. We do this to ensure that developers, owners, and approving officers are clearly aware of what is technically and professionally realistic in retaining trees.

This Assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property and the tree(s) situated thereon by Koome Urban Forestry Ltd. and upon information provided by the Client to KUF. The opinions in this Assessment are given based on observations made and using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Assessment are valid only as at the date any such testing, observations and analysis took place and no guarantee, warranty, representation or opinion is offered or made by KUF as to the length of the validity of the results, observations, recommendations and analysis contained within this Assessment.

As a result, the Client shall not rely upon this Assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this Assessment should be re-assessed periodically. Only the subject tree(s) was inspected and no others.

Restriction of Assessment

Notwithstanding the recommendations and conclusions made in this Assessment, it must be realized that trees are living organisms, and their health and vigour constantly changes over time. They are not immune to changes in site conditions, or seasonal variations in the weather. The tendency of trees or parts of trees to fall due to environmental conditions and internal problems are unpredictable. Defects are often hidden within the tree or underground.

The Assessment carried out was restricted to the Property. No Assessment of any other trees or plants has been undertaken by KUF. Koome Urban Forestry Ltd. is not legally liable for any other trees or plants on the Property except those expressly discussed herein. The conclusions of this Assessment do not apply to any areas, trees, plants or any other property not covered or referenced in this Report. The conclusions of this Assessment does not imply or in any way infer that other trees on this site or near this site are sound and healthy.

While reasonable efforts have been made to ensure that the tree(s) recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree -- or group of trees --, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the tree(s) should be re-assessed periodically. In accordance with standard practice, the Assessment presented in this Report is valid at the time it was undertaken. It is not a guarantee of safety. It is the owner's responsibility to maintain the tree(s) and inspect the tree(s) to reasonable standards and to carry out recommendations for mitigation suggested in this Report.

Professional Responsibility

In carrying out this Assessment, Koome Urban Forestry Ltd. and any Assessor appointed for and on behalf of KUF to perform and carry out the Assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this Assessment.



The Assessment of the tree(s) presented in this Report has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the Report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Without limiting the foregoing, no liability is assumed by Koome Urban Forestry Ltd. or its directors, officers, employers, contractors, agents or Assessors for:

- a) any legal description provided with respect to the Property;
- b) issues of title and or ownership respect to the Property;
- c) the accuracy of the Property line locations or boundaries with respect to the Property; and
- d) the accuracy of any other information provided to KUF by the Client or third parties;
- e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
- f) the unauthorized distribution of the Report.

The total monetary amount of all claims or causes of action the Client may have as against KUF, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited solely to the total amount of fees paid by the Client to KUF.

Further, under no circumstance may any claims be initiated or commenced by the Client against Koome Urban Forestry Ltd. or any of its directors, officers, employees, contractors, agents or Assessors, in contract or in tort, more than 12 months after the date of this Assessment.

Assumptions

The Client is hereby notified and does hereby acknowledge and agree that where any of the facts and information set out and referenced in this Assessment are based on assumptions, facts or information provided to KUF by the Client and/or third parties and unless otherwise set out within this Assessment, KUF will in no way be responsible for the veracity or accuracy of any such information.

Further, the Client acknowledges and agrees that KUF has, for the purposes of preparing their Report, assumed that the Property, which is the subject of this Assessment is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. KUF explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, bylaws, guidelines and laws as it may pertain to or affect the Property to which this Assessment applies.

Third Party Liability

This Report was prepared by Koome Urban Forestry Ltd. exclusively for the Client. The contents reflect KUF's best Assessment of the tree(s) and plant(s) situate on the Property in light of the information available to it at the time of preparation of this Assessment. Any use which a third party makes of this Assessment, or any reliance on or decisions made based upon this Assessment, are made at the sole risk of any such third parties. KUF accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use or reliance of this Assessment by any such party.

Further Services

Notwithstanding the recommendations made in this Assessment, Koome Urban Forestry Ltd. accept no responsibility for the implementation of all or any part of this plan, unless we have specifically been requested to examine said implementation activities. Approval and implementation of this plan in no way implies any inspection or supervisory role on the part of Koome Urban Forestry Ltd. In the event that inspection or supervision of all or part of the implementation of the plan is requested, said request shall

be in writing and the details agreed to in writing by both parties. Any on site inspection or supervisory work undertaken by Koome Urban Forestry Ltd. shall be recorded in written form and submitted to the client as a matter of record.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to give testimony, or to act as an expert witness or to attend court by reason of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to provide any further consultation or services to the Client, save and except as already carried out in the preparation of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

General

Any plans and/or illustrations in this Assessment are included only to help the Client visualize the issues in this Assessment and shall not be relied upon for any other purpose.

KUF shall not be held responsible for the manner of use of the interpretations that other parties may attach to the report. This report is not to be re-printed, copied, published or distributed without prior approval by Koome Urban Forestry Ltd.

The Report shall be considered a whole, no sections are severable, and the Report shall be considered incomplete if any pages are missing.

This Report is best viewed in colour. Any copies printed in black and white may make some details difficult to properly understand. Koome Urban Forestry Ltd. accepts no liability for misunderstandings due to a black and white copy of the Report.

Sketches, drawings and photographs in this Report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural Report of surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose of co-ordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by Koome Urban Forestry Ltd. as to the sufficiency or accuracy of said information.

Publication

The Client acknowledges and agrees that all intellectual property rights and title, including without limitation, all copyright in this Report shall remain solely with Koome Urban Forestry Ltd. Possession of this Report, or a copy thereof, does not entitle the Client or any third party to the right of publication or reproduction of the Report for any purpose save and except where KUF has given its prior written consent. This Report may not be used for any other project or any other purpose without the prior written consent of Koome Urban Forestry Ltd.

Unless required by law otherwise, possession of this Report or a copy thereof does not imply right of publication or use for any purpose by any other than the person, parties or agencies to whom it is addressed, without the prior expressed written consent of Koome Urban Forestry Ltd.

Neither all nor any part of the contents of this Report shall be disseminated to the public through advertising, public relations, news, sales, the Internet or other media (including, without limitation, television, radio, print or electronic media) without the prior written consent of Koome Urban Forestry Ltd.



Appendix E – References

- Bond, Jerry & Buchanan, Beth (2006) Best Management Practices: Tree Inventories, International Society of Arboriculture, Champaign, IL.
- Dunster, Dr. Julian (2003) *Preliminary Species Profiles for Tree Failure Assessment*. ISA Pacific Northwest Chapter, Silverton, OR, USA
- Dunster, Dr. Julian & Edmonds, Dr. R. (2014) Common Fungi Affecting Pacific Northwest Trees, ISA Pacific Northwest Chapter, Silverton, OR, USA
- Fite, Kelby & Smiley, E. Thomas (2016) Best Management Practices: Managing Trees During Construction, International Society of Arboriculture, Champaign, IL.
- Sibley, David Allen (2009) *The Sibley Guide to Trees*. Alfred A. Knopf, New York, NY
- Smiley, E.T., Matheny, N., Lilly, S. (2011) Best Management Practises: Tree Risk Assessment. International Society of Arboriculture, Champaign, IL.



Appendix F – Certificate of Performance

I certify that:

1. I have personally inspected the trees and property referred to in this report and have stated my findings accurately.
2. I have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
3. The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
4. My analysis, opinions and conclusions were developed, and this report has been prepared according to commonly accepted arboriculture practices.
5. No one provided significant professional assistance to me, except as indicated within the report.
6. My compensation is not contingent upon the reporting of a predetermined conclusion that favours the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing with the International Society of Arboriculture, and the Pacific Northwest Chapter of the ISA.

Sincerely,



Kelly Koome, Project Arborist
 ISA Certified Arborist PN 5962A
 ISA Tree Risk Assessment Qualified
 Certified Wildlife Dangerous Tree Assessor, P2546



Sarah Morin
 Project Arborist Technician and Horticulturist
 Wildlife Danger Tree Assessor, #P3139



Appendix G – Tree Management Plan

See attached

Original size: 24" x 36"

Print as 11" x 17" for foldout



