

COQUITLAM / PORT COQUITLAM
INFRASTRUCTURE MAINTENANCE AND COST
SHARING AGREEMENT

THIS AGREEMENT made as of the ____ day of _____, ____.

BETWEEN:

CITY OF COQUITLAM, a Municipal Corporation
3000 Guildford Way
Coquitlam, B.C. V3B 7N2
("Coquitlam")

OF THE FIRST
PART

AND:

CITY OF PORT COQUITLAM, a Municipal Corporation
2580 Shaughnessy Street
Port Coquitlam, B.C. V3C 2A8
("Port Coquitlam")

OF THE SECOND

PART

WHEREAS:

- A. Municipal infrastructure straddles and/or traverses the jurisdictional boundary between Coquitlam and Port Coquitlam;
- B. The jurisdictional boundary between Coquitlam and Port Coquitlam is variable and encompasses a number of roads and municipal infrastructure;
- C. Coquitlam and Port Coquitlam (together the "Municipalities" and individually a "Municipality") wish to share responsibility for the maintenance of municipal infrastructure that straddle and/or traverse the Municipalities and are entering into this Agreement to better define each party's responsibilities regarding the Maintenance of the infrastructure;

NOW THEREFORE in consideration of the premises and the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Municipalities agree as follows:

DEFINITIONS

1. In this Agreement, the following words have the following meaning:

“Agreed Boundaries” means the road segments described in Schedule “A” that form the boundaries between the Municipalities;

“Assets” means the municipal infrastructure assets described in Schedule “A”;

“Maintenance” means all surface repairs, utility repairs, inspections, repaving, sanding, salting, snow removal, street cleaning, landscaping, line painting, grass cutting, litter clean-up, signal relamping and testing, and similar type of maintenance work must be completed as described in Schedule “C”;

“Street Lighting” means street lighting poles, luminaires, conduits, service panels and all associated wiring;

“Traffic Signals” means all existing traffic and pedestrian signals identified in Schedule “B”, including the signal controller and cabinet, all signal poles and heads, wiring and power supply (including UPS if so equipped), detection equipment (vehicle, pedestrian and pre-emption), communication systems (radios and fibre optics and switches), illuminated signs and all equipment required to operate the signal at that location;

“Utilities” means all existing water mains and services, sanitary mains and services, storm mains and services including inspection chambers and ditches, outfalls, manholes, headwalls, catch basins, catch basin leads.

TERM

2. This Agreement will commence on _____, 2020 and will continue in full force and effect for five (5) years until _____, 2025, subject to earlier termination pursuant to the terms of this Agreement.

MAINTENANCE RESPONSIBILITIES & AUTHORIZATION

3. During the term of this Agreement, the Municipalities agree that:
 - (a) Maintenance of the Street Lighting on either side of the Agreed Boundaries and the costs associated with the operation of Street Lighting will be the responsibility of the Municipality in which the Street Lighting is located;

- (b) Maintenance of the existing Signals identified in Schedule “B”, will be the responsibility of Coquitlam, and Coquitlam may invoice Port Coquitlam for the actual cost of Maintenance in accordance with section 7 with the exception of the traffic signal at Westwood/Kingsway;
- (c) Maintenance of the Assets will be the responsibility of the Municipality (or both Municipalities) as identified in Schedule “A”, except that any Assets that straddle the Agreed Boundaries may, where it is considered expedient, be undertaken by either party provided that authorization and agreement to pay the costs associated with such Maintenance is obtained in writing, in advance, from the party that owns the Asset in question. If authorization is not obtained, the party that owns the Asset is under no obligation to pay any costs associated with such Maintenance and the party that does not own the Asset is under no obligation to undertake the Maintenance.
4. Coquitlam and Port Coquitlam hereby reciprocally grant, each to the other, their respective contractors, sub-contractors, employees, agent and officials the right to enter, labour, pass, repass, work and be in, on, under and over the other’s property with or without vehicles, tools, supplies, materials and equipment for the purposes of carrying out their respective Maintenance responsibilities as outlined in section 3(a) though (c) of this Agreement.
5. Coquitlam and Port Coquitlam agree to perform their respective Maintenance obligations:
- a. in accordance with all applicable statutes, regulations and bylaws;
 - b. in accordance with sound engineering and construction practices, in a good and workmanlike manner;
 - c. to a standard equivalent to that which each of the Municipalities maintains for a similar class of road;
 - d. in a manner that will not interfere with, injure, or impair the operating efficiency of the Asset;
 - e. in a manner that will not require the excavation or drilling of the Asset owned by the other party without first obtaining the written consent of the owning party, which consent will not be unreasonably withheld; and

- f. with respect to Utilities, and Assets by adhering to the Levels of Service Specification attached as Schedule "C".

TRAFFIC SIGNAL TIMING

6. Notwithstanding anything to the contrary in this Agreement, Coquitlam, as part of its responsibility for Maintenance of Traffic Signals as described in section 3(b), may make minor adjustments to the operation and timing of the Traffic Signals where necessary to facilitate the flow of traffic, but signal timing plans for all Traffic Signals will be subject to mutual approval by the Municipalities.

COST ALLOCATION & INVOICE ITEMIZATION

7. The cost of Maintenance associated with any Traffic Signals will be invoiced 50/50 for a four-legged intersection and 66/33 for a "tee" intersection depending on the intersection configuration. The invoice will be itemized separating electrical charges from Maintenance in accordance with section 11.
8. The costs associated with Maintenance responsibilities as described in section 3(c) will be borne solely by the Municipality responsible for such Maintenance and there will be no reconciliation of costs unless the Municipalities mutually agree otherwise.
9. The Municipalities agree that, notwithstanding the location of the dividing line, the cost of Maintenance associated with the Assets should be borne by the Municipality responsible for such Maintenance and there will be no reconciliation of costs unless the Municipalities mutually agree otherwise.
10. The Municipalities agree that any costs payable in connection with this Agreement will be invoiced on a quarterly basis and be payable within sixty (60) days of receipt.
11. Any invoice delivered by one Municipality to the other will be itemized and include the following:
 - (a) labour based on wage rates plus benefits and other compensation;
 - (b) material and equipment;
 - (c) payments to contractors;

- (d) electricity costs for the Traffic Signals;
- (e) normal overhead charges calculated at the prevailing rate of the invoicing Municipality, to a maximum of 20%;
- (f) all applicable taxes including any Goods and Services Tax payable.

APPROVALS AND DOCUMENTATION

- 12. Each party agrees to obtain any permits, approvals or other authorizations required for the completion of their respective Maintenance obligations in advance of undertaking the Maintenance, and to provide evidence of such permits, approvals or authorizations at the request of the other party and within 7 days.

DEFAULT AND INDEMNITY

- 13. If either party is in default of any of its obligations under this Agreement, then the non-defaulting party must give written notice of such default to the defaulting party and the latter will have 10 business days in which to rectify the default, except in the case of an emergency the defaulting party will promptly rectify the default. If the default is not rectified within the 10 day period or promptly in the case of an emergency, then, and without limiting any other remedy which it may have, the non-defaulting party will have the right, but is not obligated, to remedy any such default. This may include taking any action necessary to cure the default and such things as may be incidental thereto. The defaulting party will reimburse the non-defaulting party for any expenses incurred by the non-defaulting party required to remedy the default. The non-defaulting party will not incur any liability to the defaulting party for any action or omission in the course of its remedying or attempting to remedy any such default unless such act amounts to intentional misconduct or gross negligence on the part of the non-defaulting party.
- 14. Except as provided in section 13 of this Agreement, Coquitlam will indemnify and hold harmless Port Coquitlam and its employees and agents from and against all losses, damages, debts, costs, expenses, action, causes of action, claims, demands and judgments (collectively referred to in this section as "Losses") suffered or incurred by Port Coquitlam, or made or instituted by any person against Port Coquitlam, in any way connected with this Agreement as a result of Coquitlam's failure to carry out the Maintenance obligations set out herein, or any Losses

caused by the negligent performance by Coquitlam of its Maintenance obligations pursuant to this Agreement. This indemnity will survive the expiry or termination of this Agreement.

15. Except as provided in section 13 of this Agreement, Port Coquitlam will indemnify and hold harmless Coquitlam and its employees and agents from and against all losses, damages, debts, costs, expenses, action, causes of action, claims, demands and judgments (collectively referred to in this section as “Losses”) suffered or incurred by Coquitlam, or made or instituted by any person against Coquitlam, in any way connected with this Agreement as a result of Port Coquitlam’s failure to carry out the Maintenance obligation set out herein, or any Losses caused by the negligent performance by Port Coquitlam of its Maintenance obligations pursuant to this Agreement. This indemnity will survive the expiry or termination of this Agreement.

DISPUTE RESOLUTION

16. If any dispute as to the intent of this Agreement should arise between the Municipalities, such dispute will be formalized by written notice delivered by one party to the other, and upon receipt of such notice, the General Manager or Director Engineering for each Municipality will meet within ten (10) business days to attempt to resolve the dispute.

TERMINATION & NOTICE

17. Either party may terminate this Agreement at any time upon giving the other party six (6) months written notice of such termination and no compensation shall be payable by either party on account of such termination. Notwithstanding the above, any costs payable by either party to the other as a result of or incidental to any Maintenance work completed prior to the effective date of the termination shall continue to be due and owing and shall survive the termination of this Agreement.
18. Any notice, approval or request given under this Agreement may be delivered by mailed by prepared registered mail from any post office in British Columbia and in the case of Coquitlam addressed to it at:

City of Coquitlam
 3000 Guildford Way
 Coquitlam, B.C. V3B 7N2
 Fax: (604) 927-3505

Attn: City Clerk, with a copy to the General Manager, Engineering and Public Works

and in the case of Port Coquitlam addressed to it at:

City of Port Coquitlam
 2580 Shaughnessy Street
 Port Coquitlam, B.C. V3C 2A8
 Fax: 604 xxx-yyyy

Attn: City Clerk, with a copy to the Director Engineering

or at such other address as the Municipalities may from time to time advise by notice in writing. The date of receipt of any such notice, approval or request shall be deemed to be the date of delivery of such notice, approval or request if served personally or by facsimile, or on the third business day next following the date of such mailing if mailed, provided that if mailed should there be, between mailing and the actual receipt of such notice, approval or request, a mail strike, slowdown or other labour dispute which might affect the delivery of such notice, approval or request, such notice, approval or request shall only be affected if actually delivered.

MISCELLANEOUS

19. If any portion of any section of this Agreement or if any section of this Agreement is declared by a court of competent jurisdiction to be void or unenforceable then that portion of that section or that section shall be severed from the balance of this Agreement and the balance of this Agreement shall survive and be enforceable.
20. Neither party may assign this Agreement or any of its rights hereunder without the prior written consent of the other, which consent will not be unreasonably withheld.
21. This Agreement shall be binding upon the parties and their respective successors, administrators and permitted assigns.
22. This Agreement may be modified if mutually agreed upon in writing by both Municipalities.

23. This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the Municipalities agree to attorn to the courts of British Columbia.
24. This Agreement may be executed in counterpart and delivered personally, by mail, or by electronic means.
25. The parties to this Agreement will do and cause to be done all things and execute and cause to be executed all documents which may be necessary to give proper effect to the intention of this Agreement.
26. The Municipalities acknowledge and agree that no failure on the part of either party hereto to exercise and no delay in exercising any right under this Agreement will operate as a waiver thereof nor will any single or partial exercise by either party of any right under this Agreement preclude any other or future exercise thereof or the exercise of any other right. The remedies in this Agreement provided will be cumulative and not exclusive of any other remedies provided by law and all remedies stipulated for either party in this Agreement will be deemed to be in addition to and not, except as expressly stated in this Agreement, restrictive of the remedies of either party hereto at law or in equity
27. Nothing contained or implied in this Agreement shall fetter in any way the discretion of the Municipalities or the Councils of the Municipalities. Further, nothing contained or implied in this Agreement shall derogate from the obligations of each Municipality under any other agreement with the other Municipality or, if a Municipality so elects, prejudice or affect that Municipality's rights, powers, duties or obligation in the exercise of its functions pursuant to the *Community Charter* or the *Local Government Act*, as amended or replaced from time to time, or act to fetter or otherwise affect that Municipality's discretion, and the rights, powers, duties and obligations of that Municipality under all public and private statutes, by-laws, orders and regulations, which may be, if that Municipality so elects, as fully and effectively exercised as if this Agreement had not been executed and delivered by the Municipalities.

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

CITY OF PORT COQUITLAM

Per: _____

Name:
Title:

CITY OF COQUITLAM

Per: _____

Name:
Title:

SCHEDULE "A"

Port Coquitlam / Coquitlam Municipal Infrastructure Asset Inventory

<u>Road Segment No.</u>	<u>Road Name</u>	<u>From</u>	<u>To</u>	<u>Details</u>	<u>Area of Pavement (Sq m)</u>	<u>Length of Sidewalk (LnM)</u>	<u>Notes</u>	<u>Utility Notes</u>		
1	Pitt River Road	Municipal Boundary, middle of Coquitlam River	Lougheed Highway	Both directions including pavement, signage, boulevards and sidewalks.	4,610	671	Located in Coquitlam, but currently Maintained by Port Coquitlam, no change proposed	None.		
2a	Westwood Street	Kingsway Intersection	Municipal Boundary just south of Lincoln Avenue	N/B Direction	12,614	1,114	Located in Port Coquitlam, currently maintained by Port Coquitlam, proposed both municipalities maintain.	Asset	Maintain By	Map ID
								Storm main in Port Coquitlam from Lougheed Hwy to Anson Ave	Port Coquitlam	Segment 2 Map 1
								Storm main and outfall crossing Westwood St @ Davies / CP Rail	Coquitlam	Segment 2 Map 2
								Ditch on Davies is a shared asset and is in Port Coquitlam.	Port Coquitlam	Segment 2 Map 2
								Storm main and outfall at Westwood / Kingsway	Port Coquitlam	Segment 2 Map 3
								All CB's and Leads maintained by respective municipality based on location of CB.	Both	
								All sanitary infrastructure maintained by the municipality it is located in.	Both	
								All water infrastructure maintained by the municipality it is located in with the exception of Port Coquitlam's connections to Metro Vancouver, Westwood @ Kingsway	Port Coquitlam	Segment 2 Map 4
								Centre island medians located on Westwood south of Lougheed Hwy to Kingsway Avenue	Port Coquitlam	
								Centre island medians located on Westwood north of Lougheed Hwy to Lincoln Avenue	Coquitlam	
2b	Westwood Street	Municipal Boundary just south of Lincoln Avenue	Kingsway Intersection	S/B Direction	12,007	1,302	Located in Coquitlam, currently Maintained by Port Coquitlam, proposed to be maintained by Coquitlam	See Utility Notes For Segment 2a		
3	Lincoln Avenue	Shaughnessy Street	Oxford Street	Both directions	3,738	0	Located in Coquitlam, currently Maintained by Port Coquitlam, no change proposed	Asset	Maintain By	Map ID
								Port Coquitlam storm main and ditch it discharges to in Coquitlam east of Shaughnessy	Port Coquitlam	Segment 3 Map 1
								Port Coquitlam sanitary main in Coquitlam at Lincoln Ave, West off Oxford St	Port Coquitlam	Segment 3 Map 2

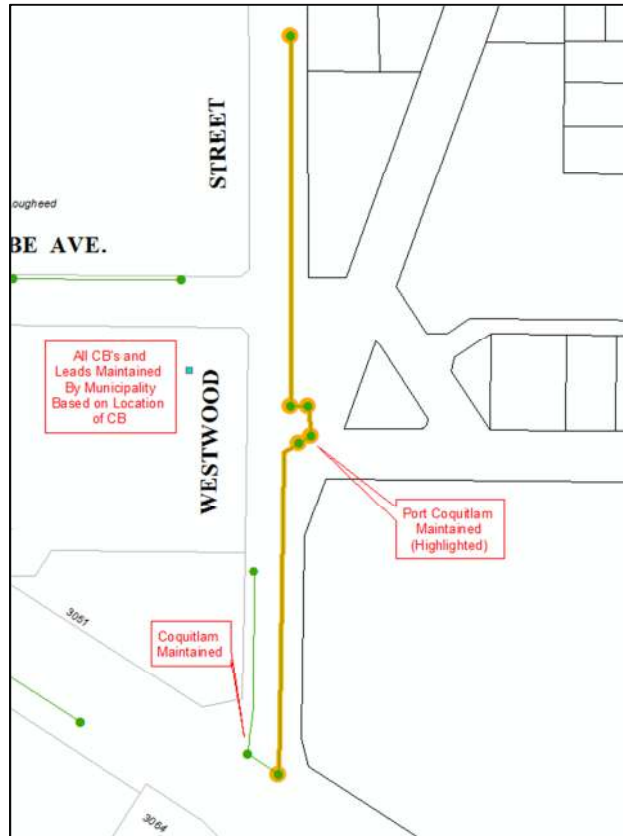
<u>Road Segment No.</u>	<u>Road Name</u>	<u>From</u>	<u>To</u>	<u>Details</u>	<u>Area of Pavement (Sq m)</u>	<u>Length of Sidewalk (LnM)</u>	<u>Notes</u>	<u>Utility Notes</u>		
								Coquitlam sanitary in main in Coquitlam to Metro Vancouver trunk in Port Coquitlam.	Coquitlam	
								All water infrastructure maintained by the municipality it is located in.	Both	
4	Oxford Street	Lincoln Avenue	First bend at north edge of Cemetery	Both directions	7,379	80	Located in Port Coquitlam, currently maintained by Port Coquitlam, ditch to be maintained by Coquitlam.	Asset	Maintain By	Map ID
								CB's and leads from Port Coquitlam to ditch in Coquitlam	Port Coquitlam	
								Storm outfall in Coquitlam west of Clematis Cres. from Port Coquitlam system	Port Coquitlam	Segment 4 Map 1
								Storm outfall in Coquitlam at Galer Way from Port Coquitlam system	Port Coquitlam	Segment 4 Map 2
								CB's and leads in Lincoln Ave. and Oxford St. intersection.	Port Coquitlam	Segment 4 Map 3
								Shared ditch on the west side of Oxford located in Coquitlam.	Coquitlam	Segment 4 Map 4
								All water infrastructure maintained by the municipality it is located in.		
5	Oxford Street	First bend at north edge of Cemetery	Mason Avenue	Both directions	2,902	7	Located in Port Coquitlam, currently maintained by Coquitlam, to be maintained by Port Coquitlam	Asset	Maintain By	Map ID
								Storm main and outfall in Port Coquitlam from Coquitlam system.	Coquitlam	Segment 5 Map 1
								Coquitlam water flow station and associated mains in Port Coquitlam west of Oxford	Coquitlam	Segment 5 Map 2
								All other water, sanitary, and storm infrastructure to be maintained by Municipality it is in.	Both	
6	Mason Avenue	Oxford Street	Wellington Street	Both Directions	846	118	Located in both Coquitlam and Port Coquitlam, currently maintained by Coquitlam, no change proposed	Asset	Maintain By	Map ID
								Each Municipality maintains utilities that they reside in.	Both	
7	Wellington Street	Mason Avenue	Municipal Boundary	Both Directions	2632	228	Located in both Coquitlam and Port Coquitlam, currently maintained by Coquitlam. To be maintained by Coquitlam.	Asset	Maintain By	Map ID
								Coquitlam maintains storm up to first manhole south of the municipal boundary including the manhole (STMH 17578)	Coquitlam	Segment 7 Map 1
								Sanitary to last manhole north of the municipal boundary including the manhole (SNMH14697 to be maintained by Coquitlam)	Coquitlam	Segment 7, Map 2
								All water infrastructure maintained by the municipality it is located in.	Both	
8a	Victoria Drive	Coast Meridian Road	Cedar Drive	E/B Direction	7035	1146	Located in Port Coquitlam, currently maintained by	Asset	Maintain By	Map ID
								Storm main from Coast Meridian to Watkins Creek and Watkins Creek culvert to be	Coquitlam	Segment 8 Map 1

<u>Road Segment No.</u>	<u>Road Name</u>	<u>From</u>	<u>To</u>	<u>Details</u>	<u>Area of Pavement (Sq m)</u>	<u>Length of Sidewalk (LnM)</u>	<u>Notes</u>	<u>Utility Notes</u>		
							Coquitlam To be maintained by Port Coquitlam	maintained by Coquitlam up to the culvert outlet headwall		
								Storm at Victoria and Apel/Soball. Port Coquitlam to maintain from the first manhole south of the municipal boundary.	Port Coquitlam	Segment 8 Map 2
								Port Coquitlam storm main in Coquitlam at Wedgewood St to be maintained by Port Coquitlam south of the manhole on Coast Meridian	Port Coquitlam	Segment 8 Map 3
								Smiling Creek and West Smiling Creek culverts to be maintained by Coquitlam up to the culvert outlet headwalls.	Coquitlam	Segment 8 Map 4
								Burke Mountain Creek (Tributary 11) storm main to be maintained by Coquitlam up to the first manhole in Port Coquitlam	Coquitlam	Segment 8 Map 5
								All CB's and leads to be maintained by the City in which they reside based on the CB location.	Both	
								All other utilities to be maintained by the City in which they reside.	Both	
8b	Victoria Drive	Cedar Drive	Coast Meridian Road	W/B Direction	7873	428	Located in Coquitlam. To be maintained by Coquitlam.	See utility comments for segment 8a.		
9	Lincoln Avenue	Fremont Street	East End of Road	Both Directions	9086	0	Located in Coquitlam. To be maintained by Coquitlam.	Asset	Maintain By	Map ID
								Culvert leading ditch flows into Port Coquitlam private ditch on south side of Lincoln Ave to be maintained by Coquitlam	Coquitlam	Segment 9 Map 1
10	Lincoln Avenue	Pipeline Road	Kensal Place	Both Directions	4475	805	Currently maintained by Coquitlam. Coquitlam to maintain with the exception of the sidewalk on south side of Lincoln running east to west along north side of Port Coquitlam properties from Woodland Drive to East end of Sidewalk. The north side of Lincoln sidewalks and south side sidewalk adjacent to Lincoln Avenue to be	Asset	Maintain By	Map ID
								All utilities to be maintained by the municipality in which they reside including CB and leads based on the location of the CB	Both	

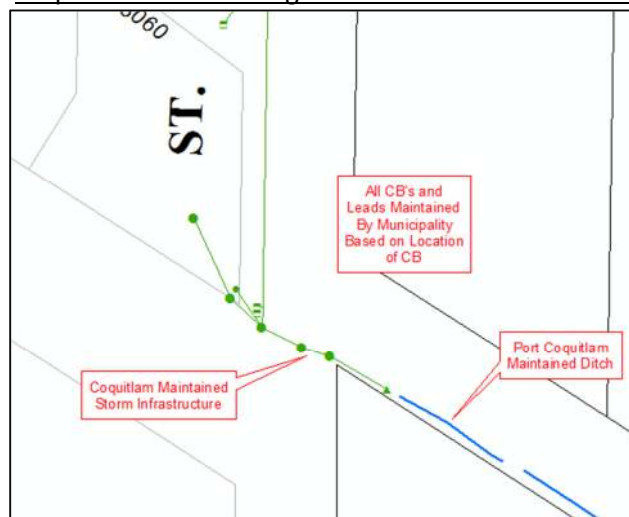
<u>Road Segment No.</u>	<u>Road Name</u>	<u>From</u>	<u>To</u>	<u>Details</u>	<u>Area of Pavement (Sq m)</u>	<u>Length of Sidewalk (LnM)</u>	<u>Notes</u>	<u>Utility Notes</u>		
11	Shaughnessy Street	Frontage of Ecole Coquitlam River Elementary School		Both Directions	1866	301	maintained by Coquitlam. See Segment 10, Map 1 Maintained by Coquitlam.			
								Asset	Maintain By	Map ID
								CB's located in Port Coquitlam inclusive of their leads.	Coquitlam	Segment 11 Map 1
								All other utilities including water and sanitary.	Coquitlam	
12	Liverpool Street	Municipal Boundary	North End	Both Directions	389	96	Maintained by Coquitlam north of the municipal boundary.			
								Asset	Maintain By	Map ID
								Sanitary main maintained by Coquitlam up to the first manhole south of the municipal boundary.	Coquitlam	Segment 12 Map 1
<u>Trail Segment No.</u>	<u>Trail Name</u>	<u>From</u>	<u>To</u>	<u>Details</u>	<u>Length of Dike Trail (LnM)</u>	<u>Number of parking Stalls</u>	<u>Notes</u>	<u>Utility Notes</u>		
P1	Traboulay Trail	Cedar Drive	Lincoln Avenue	South Dike and Parking Lot	2001	6	Located in Coquitlam, currently maintained by Port Coquitlam, not covered under the 1976 Agreement			
								Asset	Maintain By	Map ID
								Culverts at Cedar Drive across municipal boundary up to and including the outlet headwalls.	Port Coquitlam	Segment P1 Map 1

Utilities Maps and Detail – Segment 2		
Road Name	From	To
Westwood Street	Kingsway Intersection	Municipal Boundary just south of Lincoln Avenue

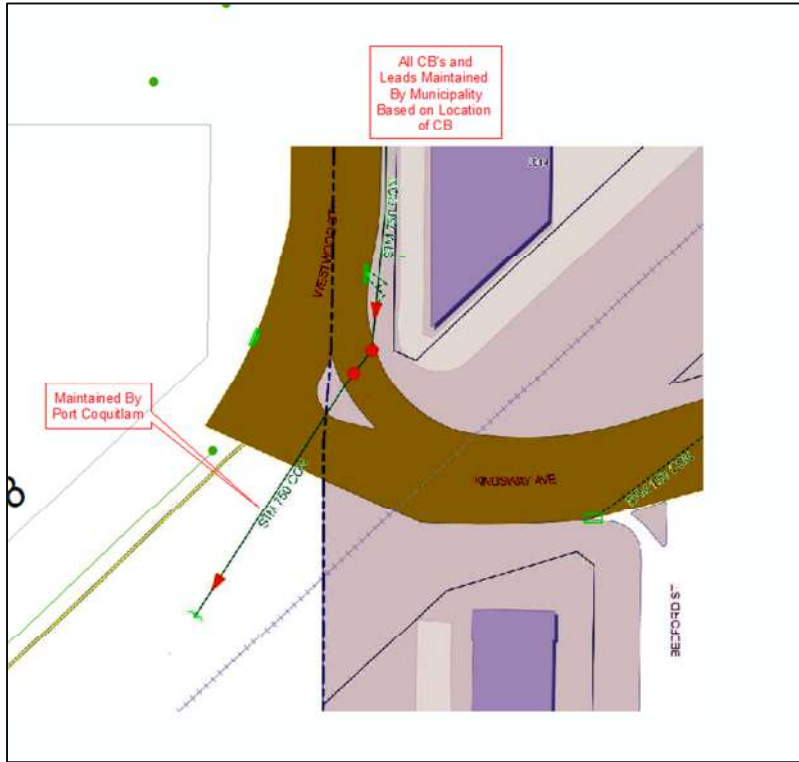
Map 1 – Storm Mains Lougheed Hwy To Anson



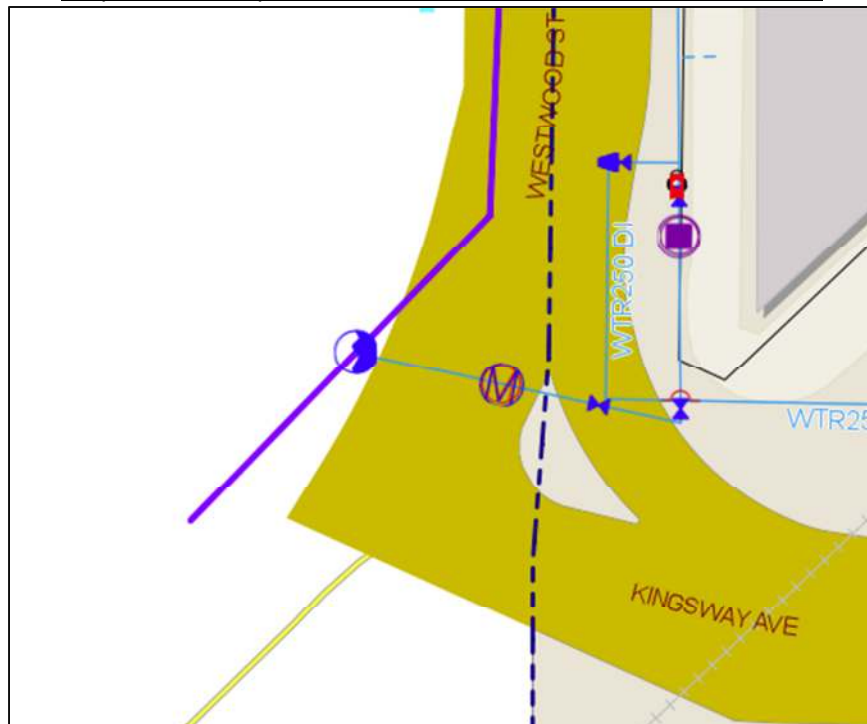
Map 2 – Storm Crossing Westwood St. at Davies Ave



Map 3 – Storm Main and Outfall at Westwood St. and Kingsway Ave

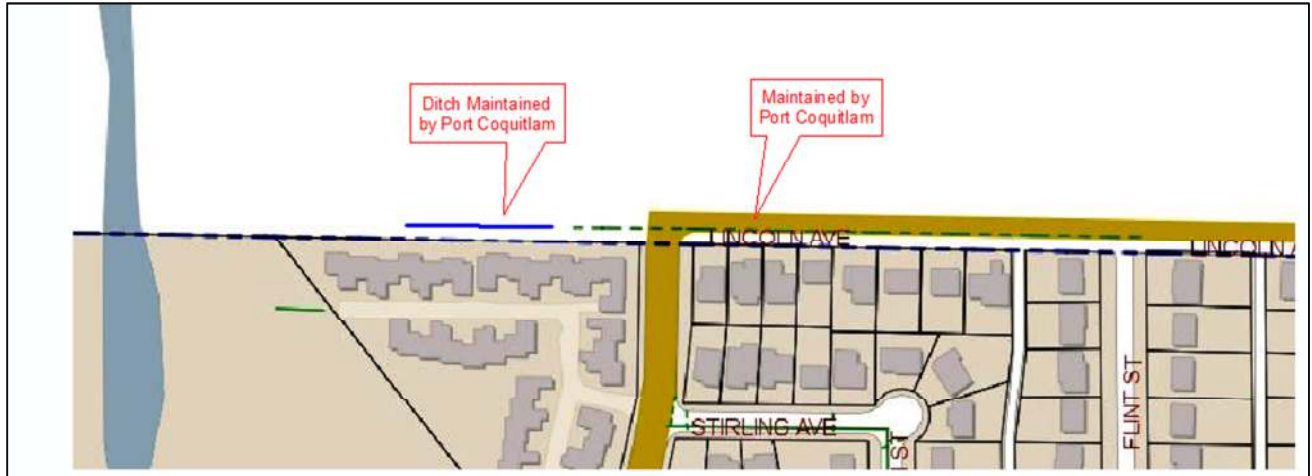


Map 4 - Port Coquitlam Water Connections to Metro Vancouver

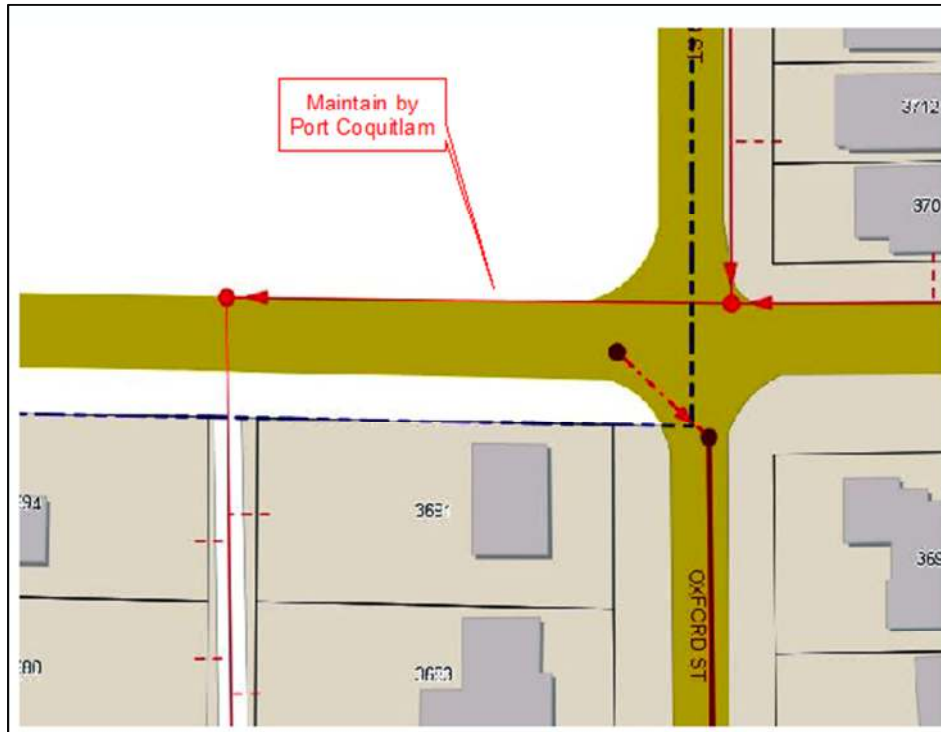


Utilities Maps and Detail – Segment 3		
Road Name	From	To
Lincoln Avenue	Shaughnessy Street	Oxford Street

Map 1 – Storm Main and Ditch in Coquitlam, East of Shaughnessy St.

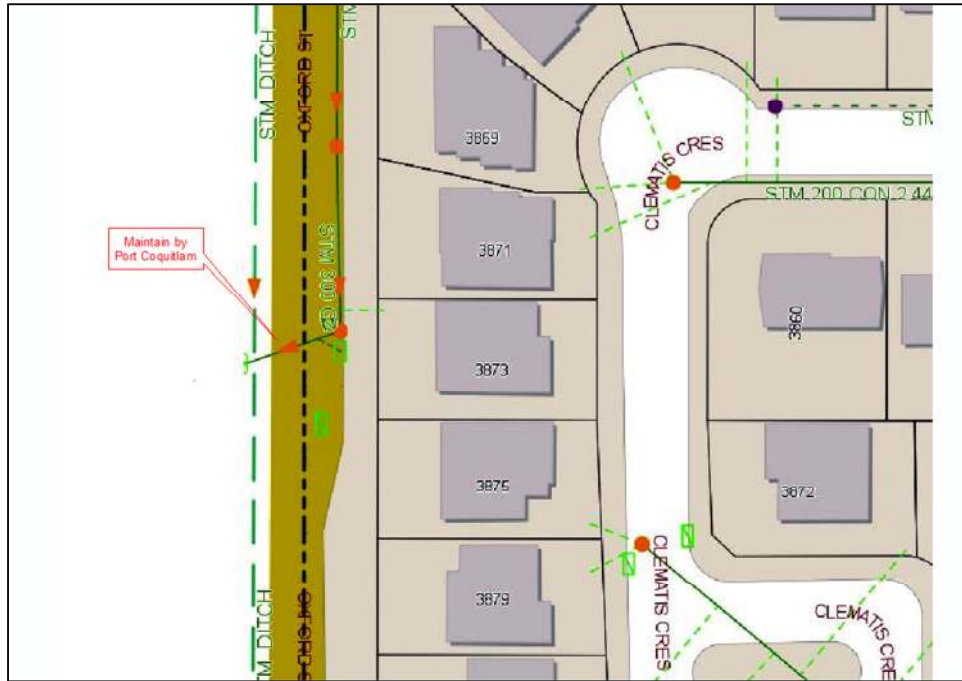


Map 2 – Sanitary Main in Coquitlam, West of Oxford St.

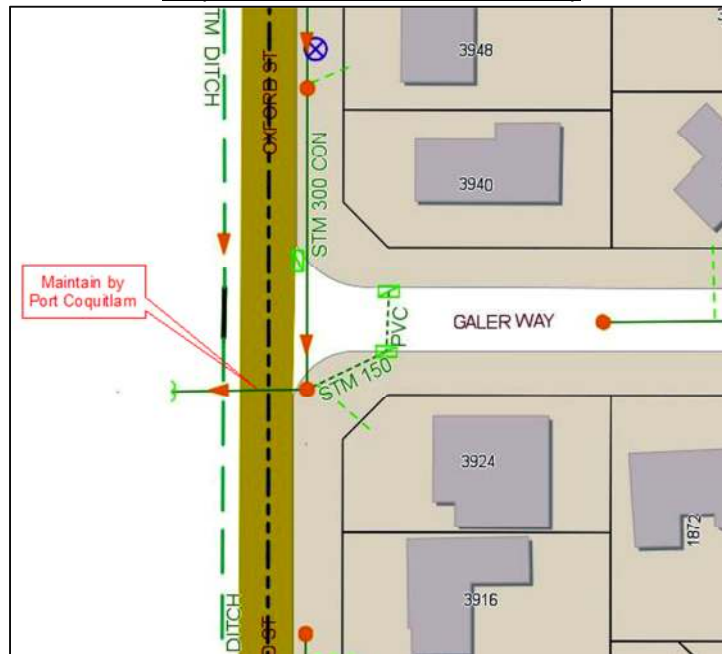


Utilities Maps and Detail – Segment 4		
Road Name	From	To
Oxford St.	Lincoln Ave	First Bend at North Edge of Cemetery

Map 1 – Storm Outfall West of Clematis Cres



Map 2 – Storm Outfall at Galer Way



Map 3 – CB's and Leads in Lincoln Ave. and Oxford St. Intersection

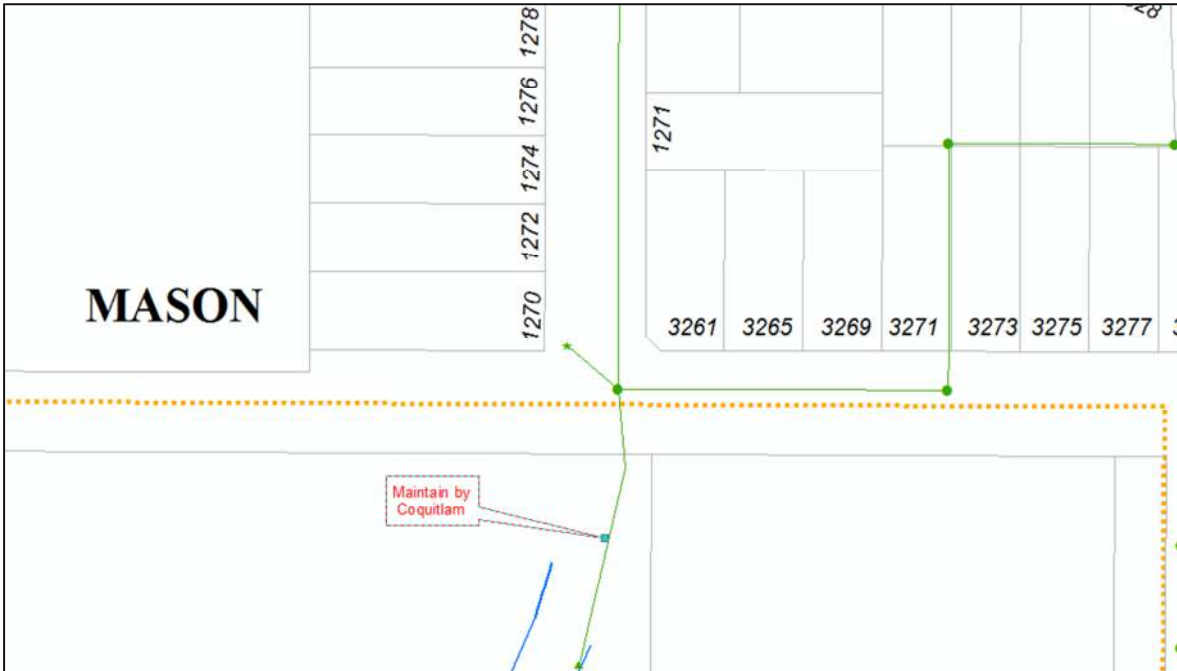


Map 4 – Ditch on the West Side of Oxford St.

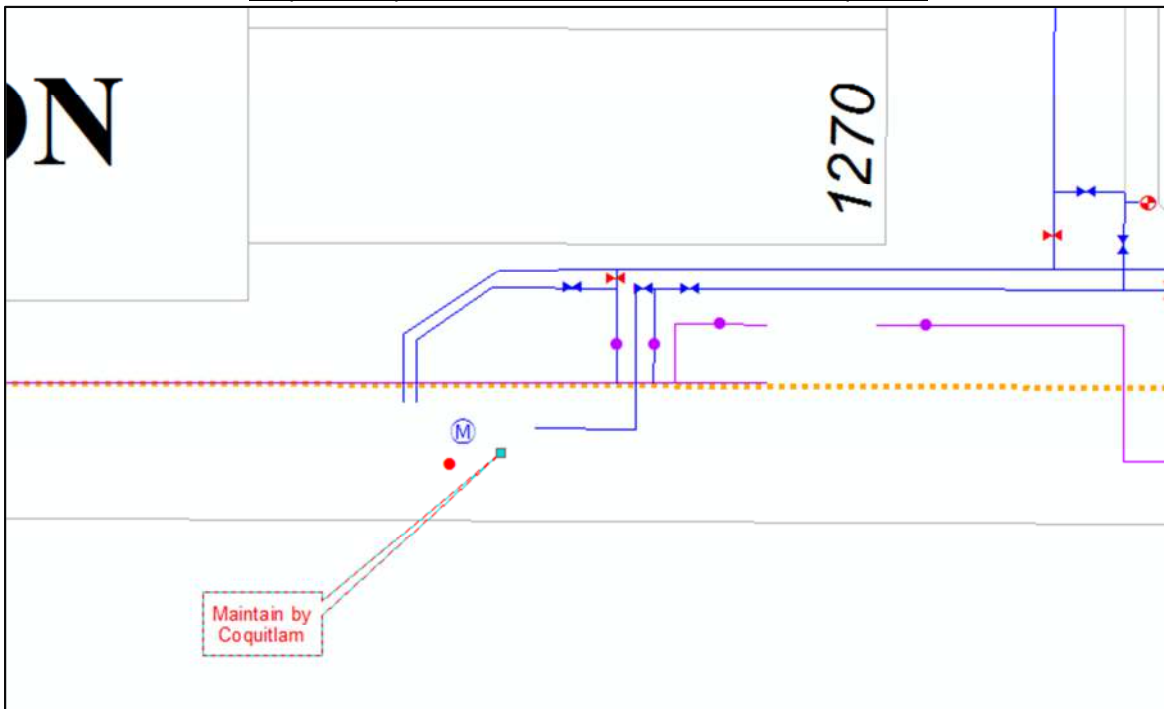


Utilities Maps and Detail – Segment 5		
Road Name	From	To
Oxford St.	First Bend at North Edge of Cemetery	Mason Ave

Map 1 – Storm Main and Outfall In Port Coquitlam

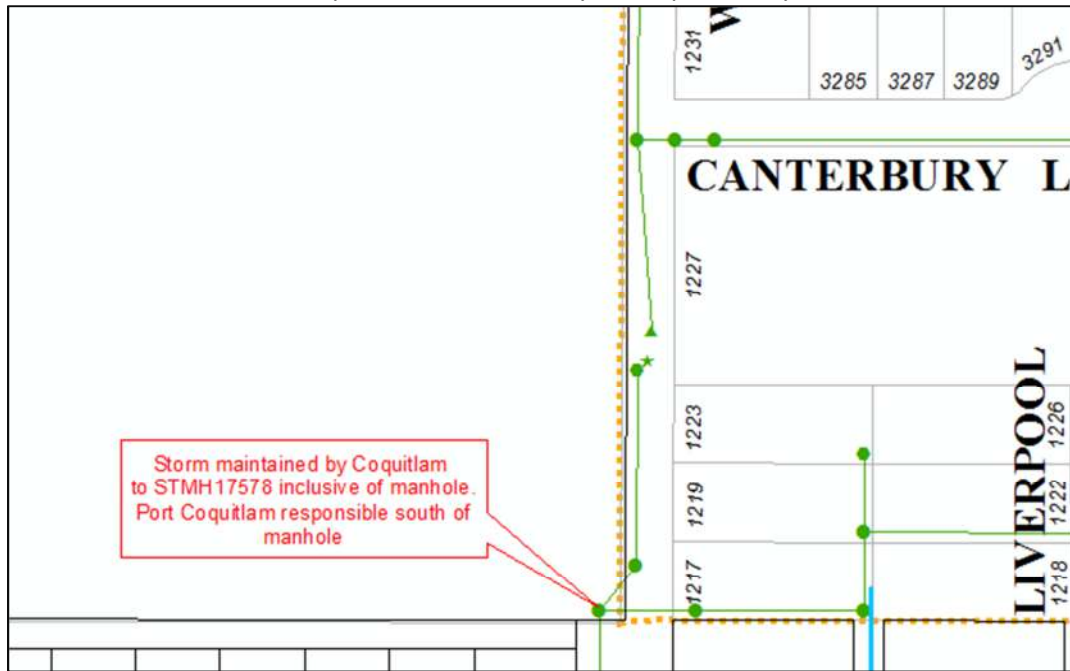


Map 2 – Coquitlam Water Flow Station in Port Coquitlam

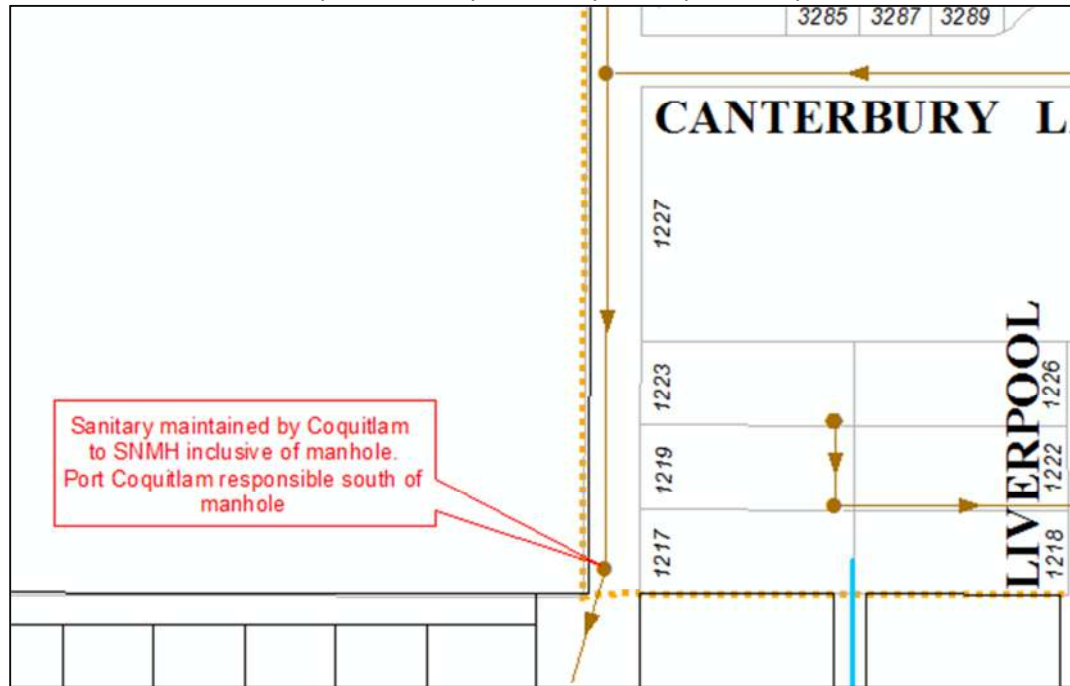


Utilities Maps and Detail – Segment 7		
Road Name	From	To
Wellington Street	Municipal Boundary	Mason Ave

Map 1 – Storm Boundary of Responsibility

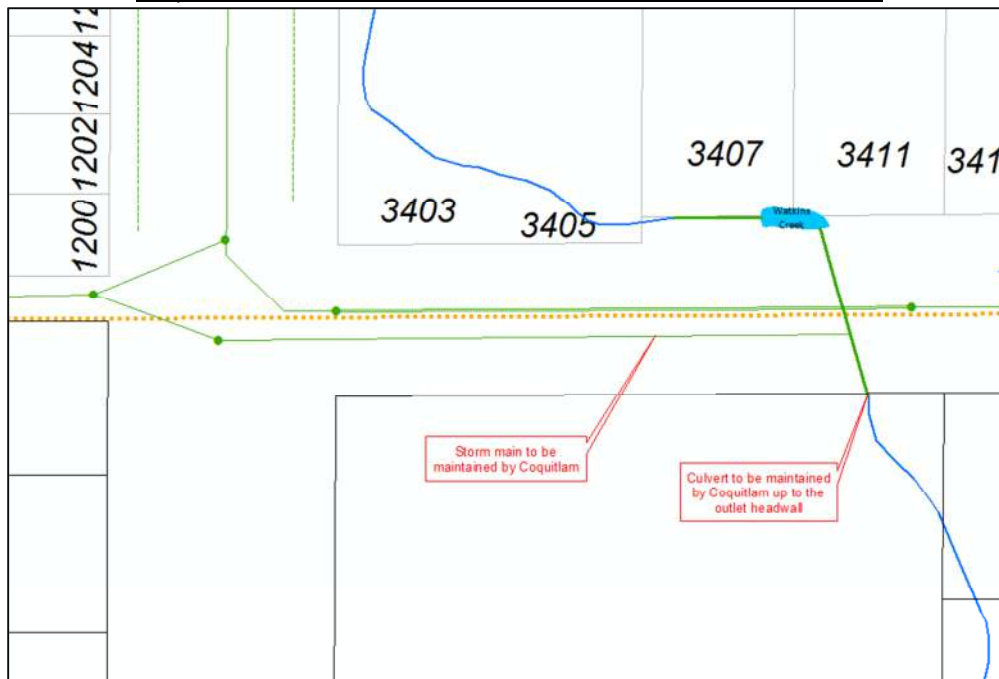


Map 2 – Sanitary Boundary of Responsibility

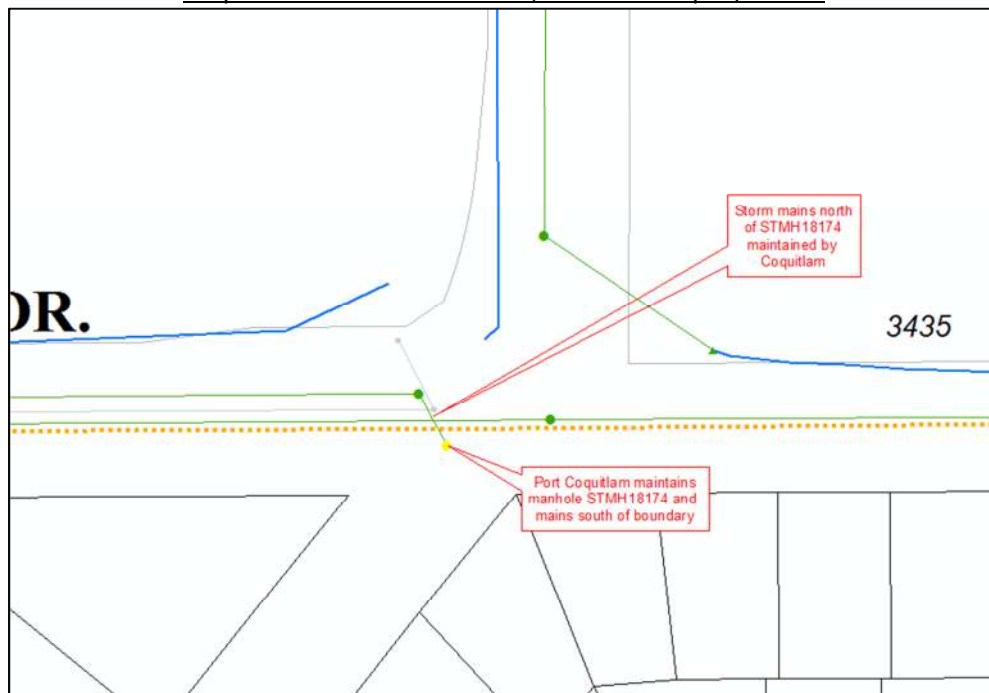


Utilities Maps and Detail – Segment 8		
Road Name	From	To
Victoria Drive	Coast Meridian Road	Cedar Drive

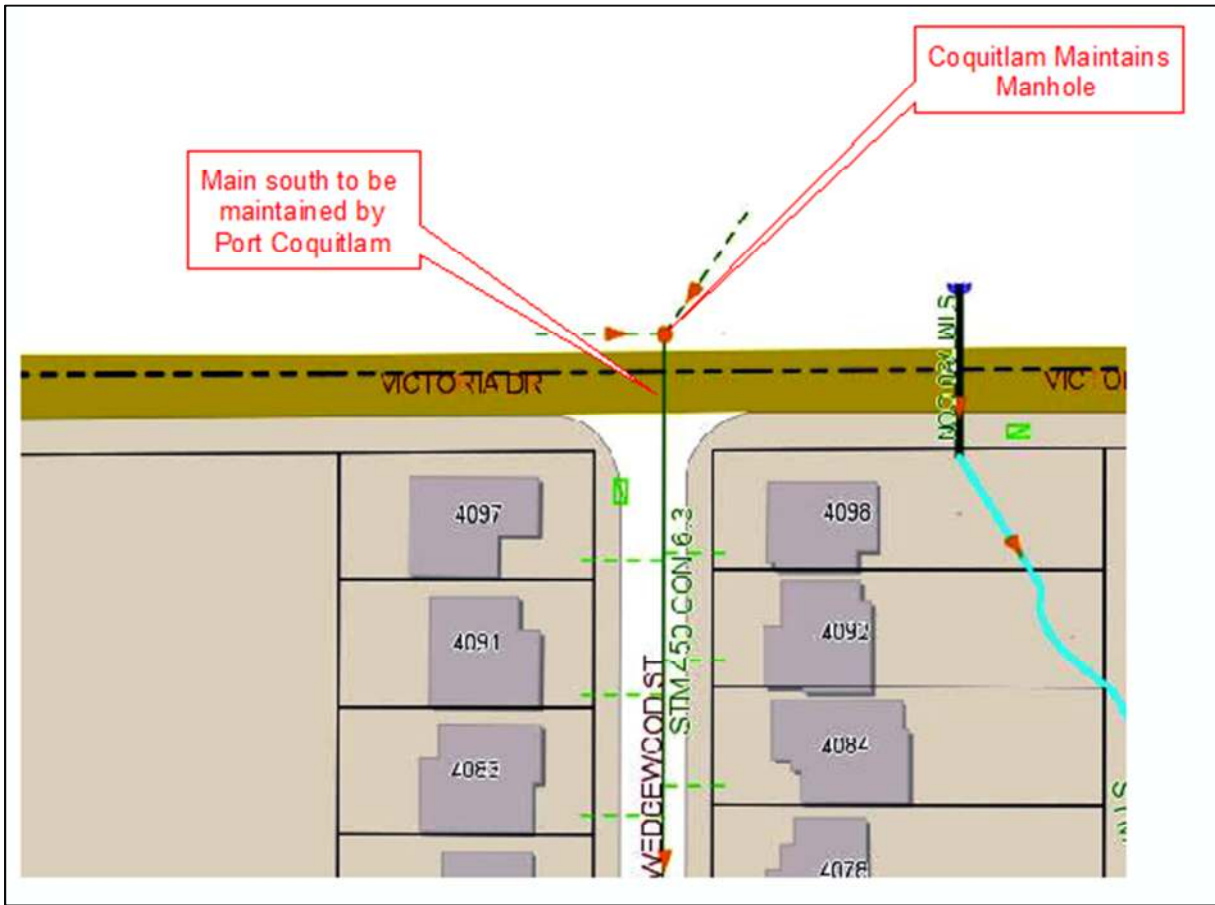
Map 1 – Storm Infrastructure Coast Meridian to Watkins Creek



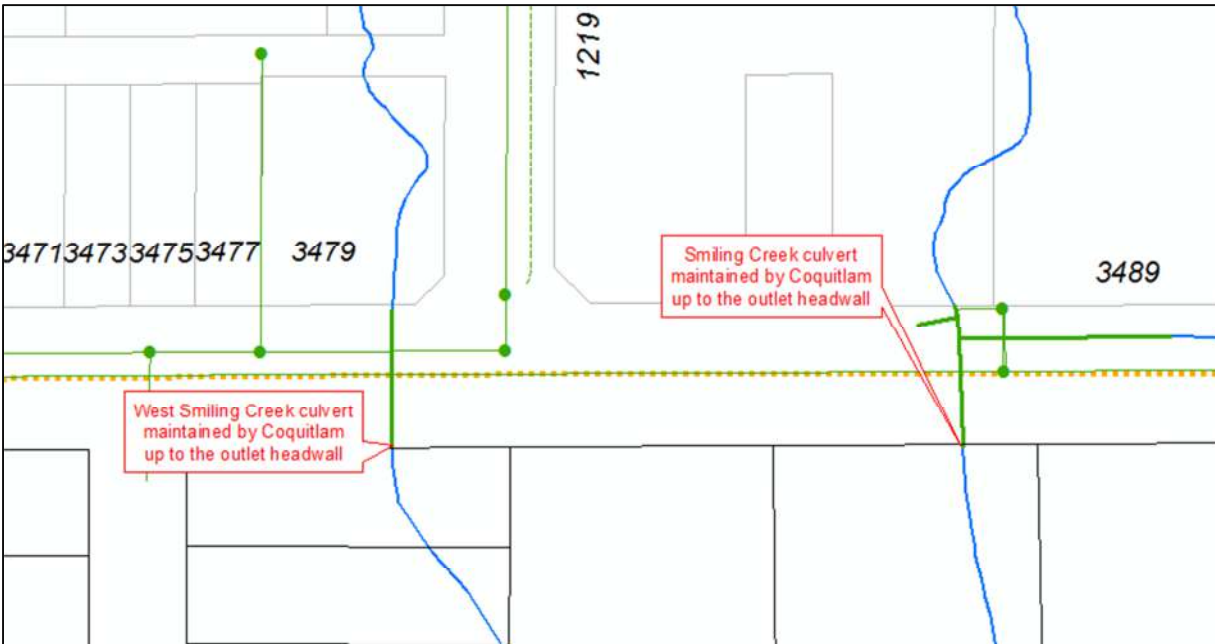
Map 2 – Storm Infrastructure, Victoria at Apel / Soball



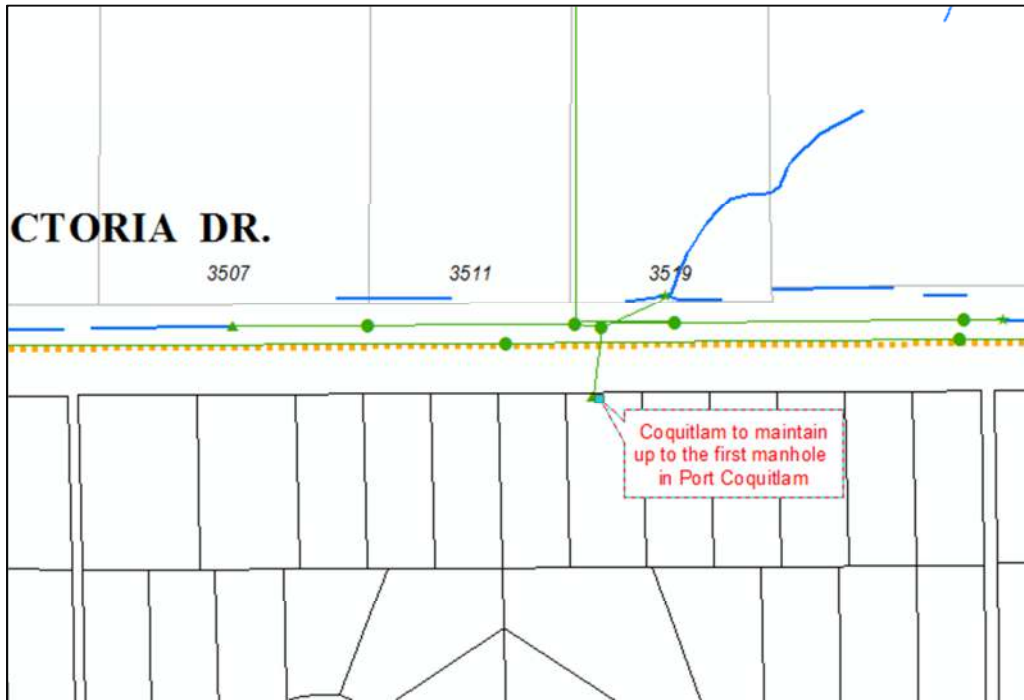
Map 3 – Storm Main at Victoria Dr and Wedgewood St



Map 4 – Smiling Creek and West Smiling Creek Culverts

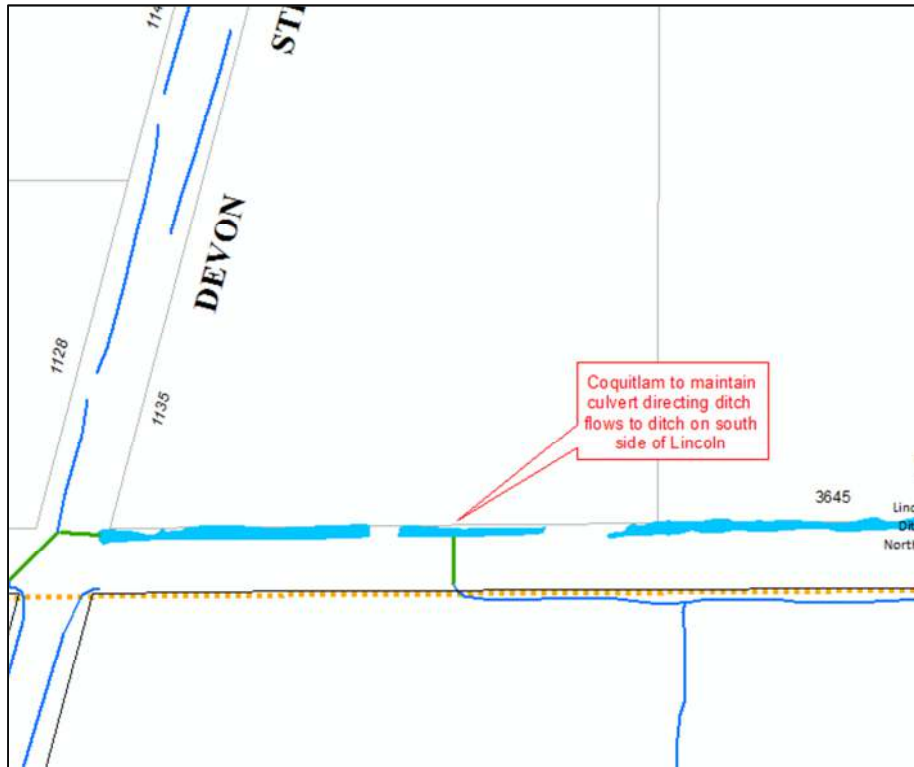


Map 5 – Burke Mountain Creek Tributary, Storm Main to Outfall in Port Coquitlam



Utilities Maps and Detail – Segment 9		
<u>Road Name</u>	<u>From</u>	<u>To</u>
Lincoln Ave	Fremont Street	East End of Road

Map 1 – Culvert East of Devon for Ditch Flows



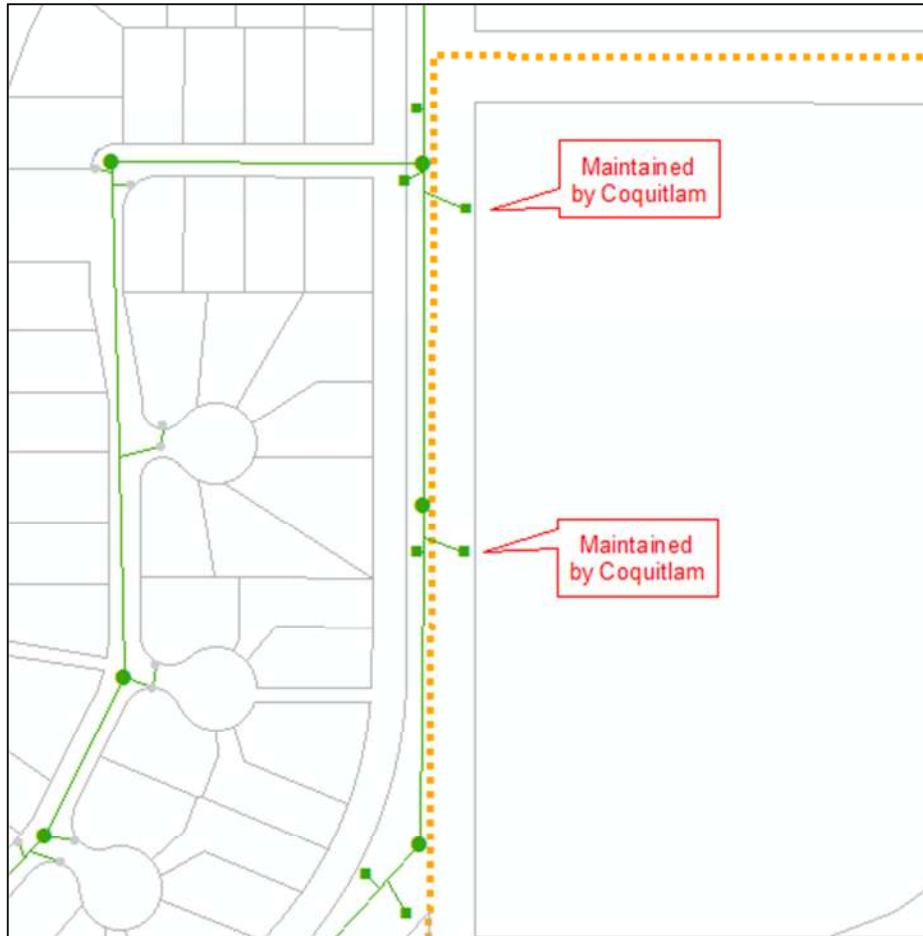
Utilities Maps and Detail – Segment 10		
<u>Road Name</u>	<u>From</u>	<u>To</u>
Lincoln Ave	Pipeline Road	East End of Road

Map 1 – Lincoln Ave Sidewalk Responsibilities



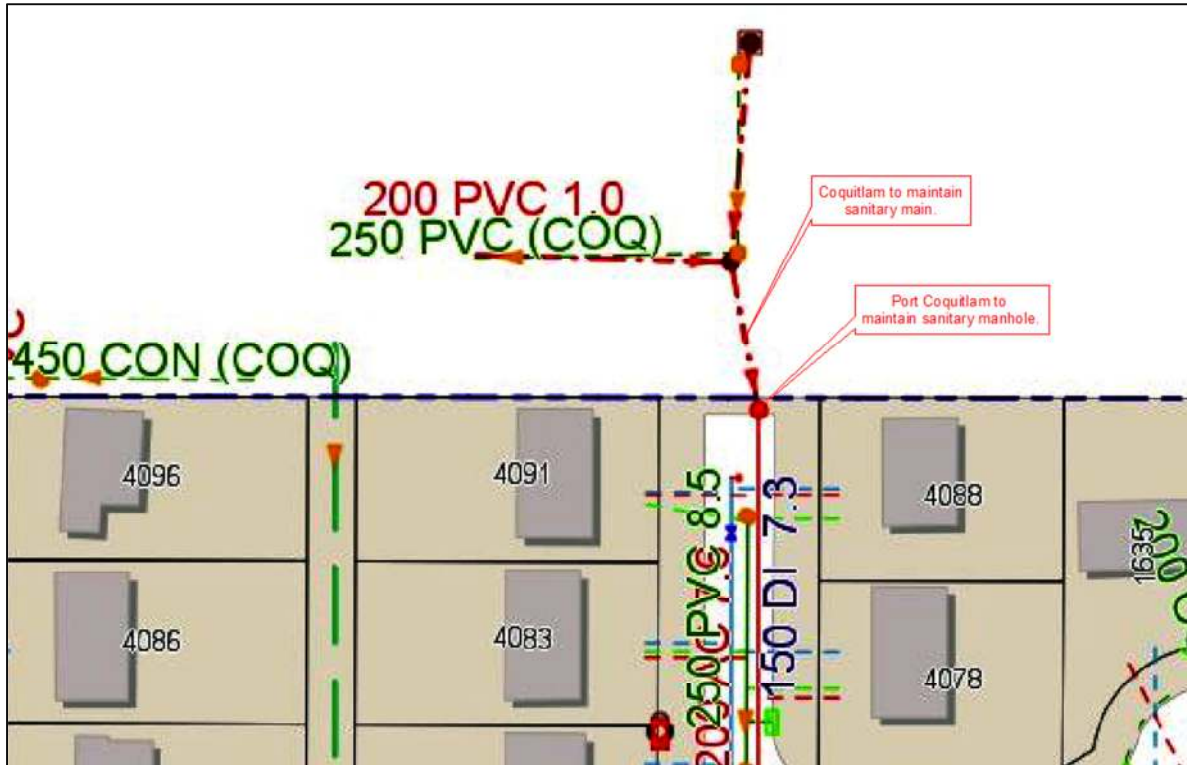
Utilities Maps and Detail – Segment 11		
<u>Road Name</u>	<u>From</u>	<u>To</u>
Shaughnessy Street	Fronting Ecole Coquitlam River Elementary	

Map 1 – Catch Basins and Leads



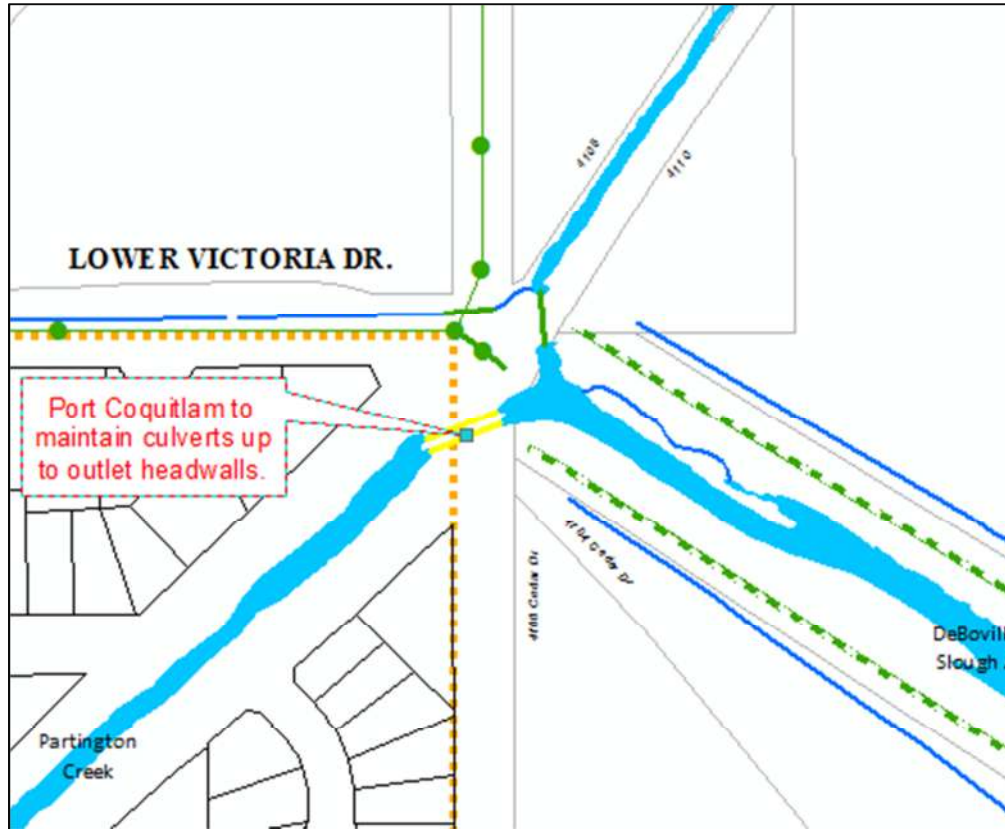
Utilities Maps and Detail – Segment 12		
Road Name	From	To
Liverpool Street	Municipal Boundary	North End

Map 1 – Liverpool Sanitary Responsibility



Utilities Maps and Detail – Segment P1		
Road Name	From	To
Traboulay Trail	Cedar Drive	Lincoln Ave

Map 1 – Culverts at Cedar Drive



SCHEDULE "B"**TRAFFIC SIGNALS**

Intersection (Future)	Responsibility	Cost Sharing (CoC/PoCo)
Victoria/Mitchell	Coquitlam	66/33
Lower Victoria/Rocklin	Coquitlam	66/33
Lower Victoria-Mars/Upper Victoria	Coquitlam	50/50
Lincoln/Kensal	Coquitlam	66/33
Lincoln/Ozada	Coquitlam	66/33
Intersection (Current)		
Westwood/Anson	Coquitlam	66/33
Westwood/Crabbe/Kitchener	Coquitlam	50/50
Westwood/Lougheed	Coquitlam	50/50
Westwood/Christmas	Coquitlam	50/50
Westwood/Dewdney Trunk	Coquitlam	66/33
Westwood/Kingsway	Coquitlam/Poco	50/50
Victoria/Coast Meridian	Coquitlam	50/50
Victoria/Soball/Apel	Coquitlam	50/50

Schedule C

Levels of Service

CEDMS	Department	Chapter	Policy
2233737	Roads	R-02	Other Pedestrian Facilities
2233719	Roads	R-03	Road Surface Maintenance
2233712	Roads	R-04	Pavement Markings
2233738	Roads	R-05	Sidewalks
2233717	Roads	R-06	Sign Maintenance
2171818	Roads	R-07	Street Cleaning
2233710	Roads	R-08	Vegetation Control
1686707	Roads	R-10	Ice Patrol
1568589	Sewer	S-01	Drainage Mains
1935169	Sewer	S-02	Sanitary Mains
1560163	Sewer	S-03	Drainage and Sanitary Manholes
2237134	Sewer	S-04	Drainage Service Connections
2237129	Sewer	S-05	Sanitary Service Connections
1564955	Sewer	S-08	Drainage Catch Basins
1568302	Sewer	S-10	Drainage Intakes and Outfalls
1939461	Sewer	S-12	Surface Drainage
1571207	Sewer	S-13	Watercourses
1935143	Water	W-01	Water Hydrants
1541965	Water	W-02	Water Mains
2237121	Water	W-06	Water Service Connections

Engineering and Public Works Level of Service Policy

Chapter: R-02 Other Pedestrian Facilities

Council Adoption Date:

Revision Date:

Policy Asset

Pedestrian Facilities

Asset Description

City-owned asphalt and gravel Walkways, fences and stairs, walkway litter bins (not including City Multi-Use-Pathways)

Reason for Policy

To provide a safe walking surface for pedestrians free of hazards.

Asset Maintenance Activity

Walkways are inspected for trip hazards and other defects and are cleaned throughout the year. Weed scraping is performed, and walkway litter bins are emptied and maintained on a regular schedule. Work Orders for additional inspection and maintenance may be created from the Inspection Report or through public requests.

Level of Service

Object	Task	Frequency
Walkways	Inspection and Cleaning	Once every six weeks, provided that resources are available.
Walkways	Scheduled Weed Scraping	Once every calendar year.
Fences and Stairs	Inspection and Cleaning	Once every six weeks in conjunction with adjacent Walkways, provided that resources are available.
Walkway Litter Bins	Scheduled Maintenance	Once every three weeks provided that resources are available.
Walkways, Fences and Stairs, Litter Bins	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
Walkways, Fences and Stairs, Litter Bins	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: R-02 Other Pedestrian Facilities

Engineering and Public Works
Walkway Inventory

Engineering and Public Works Level of Service Policy

Chapter: R-03 Road Surface Maintenance

Council Adoption Date:

Revision Date:

Policy Asset

Road Surface Maintenance

Asset Description

Asphalt and concrete Roads, Lanes, Drainage Curbs, Gravel Roads, Gravel Shoulders

Reason for Policy

Road Surface deficiencies may create hazards for traffic. Preventative Maintenance prolongs the lifecycle of all Road Surfaces.

Asset Maintenance Activity

Remove defects that could cause accidents and claims. Perform repairs on asphalt, curb repairs and curb installation. Carry out Utility Trench repairs for Water and Sewer-Drainage. Crack sealing is completed by contractors in the autumn. Larger pavement repairs are completed by contract.

Level of Service

Object	Task	Frequency
Asphalt and Concrete Roads	Unscheduled Inspection	Within 24 hours upon receipt of a complaint from the public or City staff.
Asphalt and Concrete Roads	Unscheduled Maintenance	Within 15 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.
Asphalt and Concrete Roads	Contract Paving	Once every calendar year, scheduled at the Road Superintendent's discretion provided that resources are available.
Asphalt and Concrete Roads	Contract Crack Sealing	Once every calendar scheduled at the Road Superintendent's discretion provided that resources are available.
Lanes	Scheduled Inspection	Once every calendar year.
Paved Lanes and Gravel Shoulders	Scheduled Maintenance	Determined by Inspection and scheduled at the Road Superintendent's discretion provided that resources are available.
Paved Lanes and Gravel Shoulders	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.

Paved Lanes and Gravel Shoulders	Unscheduled Maintenance	Within 15 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.
Gravel Roads	Scheduled Grading	Each is graded eight times per calendar year.
Gravel Lanes	Scheduled Grading	Each is graded once every calendar year.
Gravel Roads	Unscheduled Grading	Within 5 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.
Gravel Lanes and Gravel Roads	Scheduled Dust Control	Scheduled during periods of hot weather according to defined parameters, and additionally at the Road Superintendent's discretion provided that resources are available.
Gravel Lanes and Gravel Roads	Unscheduled Dust Control	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
 Procedure Manual
 Chapter: R-03 Road Surface Maintenance

Engineering and Public Works
 Road Inventory

Engineering and Public Works
 Lane Inventory

Engineering and Public Works Level of Service Policy

Chapter: R-04 Pavement Markings

Council Adoption Date:

Revision Date:

Policy Asset

Pavement Markings

Asset Description

Painted and thermoplastic centrelines and markings on Roads and Parking Lots, raised pavement markers

Reason for Policy

To provide safe routes for vehicular traffic through the regular maintenance of roadway centrelines and markings such that Pavement Markings are sufficiently visible to convey information and guidance to drivers.

Asset Maintenance Activity

The City is responsible for marking out and painting centrelines, lane lines, symbols, stop lines, arrows, hazard lines, crosswalks and parking stalls. Painted Pavement Markings have a lifespan of approximately six-months to a year depending on traffic volumes. Thermoplastic Pavement Markings are renewed every three-to-five years. Centreline painting and thermoplastic applications are done by the City and by contract. The City does not install or maintain centrelines on Local Class streets. Raised pavement markers are installed on some Arterial Routes, Collector Routes, and Highways. They are inspected in the spring and replaced as required. Pavement Markings are not inspected under a Preventative Maintenance Program, and are inspected on a complaints basis only.

Level of Service

Object	Task	Frequency
Painted Centrelines and Markings	Scheduled Painting	Once every calendar year.
Thermoplastic Centrelines and Markings	Scheduled Thermoplastic Application	Once every five calendar years.
Raised Pavement Markers	Inspection and Replacement Program	Once every calendar year.
All Pavement Markings	Unscheduled Inspection	Within 10 days upon receipt of a complaint from the public or City staff.
All Pavement Markings	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: R-04 Pavement Markings

Engineering and Public Works
Road Inventory

**Engineering and Public Works
Level of Service Policy**

Chapter: R-05 Sidewalks
Council Adoption Date:
Revision Date:

Policy Asset

Sidewalks

Asset Description

Asphalt, Concrete and Paving-Stone Sidewalks

The ‘Sidewalk’ area is defined as the area between the lateral lines which form the improved pedestrian corridors intended for clear pedestrian movement generally parallel and adjacent to the roadway. The areas inspected under this policy do not include adjacent areas commonly referred to as the ‘Utility Strip’, ‘Street Furnishing Zone’, ‘Boulevard’, ‘Building Frontage Zones’, and similar areas. The areas included in this Inspection Policy do not include the areas pedestrians use to cross a roadway (whether within a marked crosswalk or not), nor facilities specifically designed and used for cycling, including multi-use pathways. The areas do include any wheelchair ramps which are used to connect sidewalks to roadway crossings.

Reason for Policy

To provide a safe walking surface for pedestrians free of hazards.

Asset Maintenance Activity

The following items shall be considered when undertaking a Sidewalk Inspection:

Defects or hazards identified are classified on a three level rating scale, as follows:

Minor defect	Level 1	No effect on service; no action required
Moderate defect	Level 2	Annual Monitoring
Major defect	Level 3	Requiring some form of action (i.e. marking or repair)

The inspection shall include checking for specific defects as set out below:

Hazard Types	Definitions	Hazard Ratings
Cracks or Separations	(a) Cracks and defects that do not result in displacement.	Generally cracks that do not result in displacement are cosmetic and are considered a level 1 defect with no action required.
	(b) Separations are cracks that have resulted in displacement either vertical or horizontal.	<p>Level 1: less than 20mm height/width</p> <p>Level 2: 20-35mm height/width</p> <p>Level 3: more than 35mm height/width</p>
Heave or Settlement	<p>Heaving or settling occurs on an asphalt or flexible pavement surface and does not have separation; i.e. the surface is still continuous.</p> <p>Heave and settlements are rated by irregular (undulating) changes in the grade of asphalt sidewalk over a 1 m length.</p>	<p>Level 1: grade changes that result in less than 25mm gap or protrusion</p> <p>Level 2: grade changes that result in between 25-50mm gap or protrusion</p> <p>Level 3: grade changes that result in more than 50mm gap or protrusion</p>
Scaling	<p>Scaling is spalling or flaking of the surface of concrete, brick or paved sidewalks or walkways. Scaling is rated according to depth.</p> <p>Note: The Engineer has discretion over the rating scales to reflect the size of the area that the scaling is occurring over. If the area is large, the cosmetic impact may be higher for a given depth. However, the rating is intended to be a reflection of the hazard, so if the area is smaller for the same depth, it could be a greater 'trip hazard' and warrant a higher level rating.</p>	<p>Level 1: less than 10mm in depth</p> <p>Level 2: 10-25mm in depth</p> <p>Level 3: more than 25mm in depth</p>

Hazard Types	Definitions	Hazard Rating
Obstacles	<p>Obstacles are items set into the sidewalk which include water meter boxes, curb stops, tree grates, junction boxes, manhole lids, sign posts sleeves, street light poles and similar items, which affect the serviceability of the walkway or sidewalk. Ideally obstacles that encroach in the sidewalk area are flush with the sidewalk surface and are not considered a hazard. For obstacles that are surface mounted but not flush and vertical, difference in elevation would be assessed using the same criteria as cracks/separations above. For obstacles which protrude into the sidewalk area and extend above the surface (i.e. sign posts, street lights, etc.), the rating is based on the amount of sidewalk width which is left unobstructed.</p> <p>Note: In cases involving equipment owned by a third party, the City may refer the matter to that third party to resolve or the City may co-ordinate with that third party on a joint solution.</p>	<p>Level 1: 1.2m or more of unobstructed sidewalk width</p> <p>Level 2: 1.2-0.9m of unobstructed sidewalk width</p> <p>Level 3: less than 0.9m of unobstructed sidewalk width</p>

Sidewalk Repair Schedule

All defects classified as Level 3 are scheduled for repair as soon as staff and equipment are readily available and, if possible, they will be marked for public notice.

All defects and hazards classified as Level 2 are placed on a list for annual monitoring.

No action will be taken with defects and hazards classified as Level 1.

Notwithstanding the above, the City shall not be restricted to following a scheduled order of repair. The intent is not to suggest that Level 3 defects shall be repaired by the City before addressing Level 2 defects, or that Level 1 defects will be addressed only after Level 2 defects are repaired. For example, the City shall have the option to repair a Level 1 sidewalk defect before attending to a Level 3 defect.

Level of Service

For the purpose of inspections, Sidewalks within the City are designated as one of four zones as per the City’s approved Strategic Transportation Plan (see Map #2 “Pedestrian Areas” within the STP). These four zones are based on the number and type of pedestrian traffic using the particular sidewalk, as per the following definitions:

- “Pedestrian Precinct” with high pedestrian volume;
- “School Pedestrian Area” with moderate pedestrian volume;
- “Community and Recreation Pedestrian Area” with low pedestrian volume; and
- “Other Streets” with low pedestrian volume.

Object	Task	Frequency
Pedestrian Precinct Zone Sidewalks	Scheduled Inspection	Once per year
School Pedestrian Area Zone Sidewalks	Scheduled Inspection	Once every three years
Community and Recreation Pedestrian Area Zones and Other Street Zones	Scheduled Inspection	Once every seven years
All Sidewalks	Scheduled Maintenance	Determined by Inspection and scheduled at the Engineer's discretion provided that staff and equipment are readily available and budget resources allow
All Sidewalks	Unscheduled Inspection	Within 3 days upon receipt of a complaint from the public or City staff

All Sidewalks	Unscheduled Maintenance to make safe	Determined by Inspection and scheduled at the Engineer's discretion provided that staff and equipment are readily available
---------------	--------------------------------------	---

The Engineer shall prepare and maintain annual written documentation noting areas inspected, any observed defect or hazard in the sidewalks, the date of the observation and the repair work performed.

Procedure Manual Reference

Engineering and Public Works
 Level of Service Procedure Manual
 Chapter: R-05 Sidewalks

Strategic Transportation Plan Map 2 Pedestrian Areas

Engineering and Public Works
 Sidewalk Inventory

Engineering and Public Works Level of Service Policy

Chapter: R-06 Sign Maintenance

Council Adoption Date:

Revision Date:

Policy Asset

Sign Maintenance

Asset Description

Regulatory, Warning, and Information Signs installed and maintained by Traffic and Public Works

Reason for Policy

To improve safety through the maintenance of legible Traffic Control and Regulatory Signs. Signs warn motorists and pedestrians of regulations, hazards and route information.

Asset Maintenance Activity

New installations, inspection, cleaning, replacement, new development signage, and temporary signage for activities such as construction. Respond to emergency calls for Traffic Control as well as Event Traffic Control for Parades, Runs, etc. The City Clerk will request the installation of Rezoning Signs.

Level of Service

Object	Task	Frequency
Large "Welcome to Coquitlam" signs	Scheduled Inspection	Once every month.
Large "Welcome to Coquitlam" signs	Scheduled Maintenance	Once every month.
Regulatory Signs	Unscheduled Inspection	Within 24 hours upon receipt of a complaint from the public or City staff.

Regulatory Signs	Unscheduled Maintenance	Within 24 hours upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.
All Non-Regulatory Signs	Unscheduled Inspection	Within 10 days upon receipt of a complaint from the public or City staff
All Non-Regulatory Signs	Unscheduled Maintenance	Within 10 days upon receipt of a complaint from the public or City staff provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.
All Signs	Scheduled Inspection and Maintenance	Once every calendar year. Signs are replaced or repaired according to their priority based on Road Classification. Stop Signs are given priority on any road.

Procedure Manual Reference

Engineering and Public Works
 Procedure Manual
 Chapter: R-06 Sign Maintenance

Engineering and Public Works Level of Service Policy

Chapter: R-07 Street Cleaning

Council Adoption Date:

Revision Date:

Policy Asset

Street Cleaning

Asset Description

Paved Roads, Lanes and Boulevards

Reason for Policy

Street sweeping helps prevent clogged drains and catch basins. It reduces the abrasion on pavement markings and reduces dust, which can affect visibility. Litter pickup enhances the appearance of the City as well as removes attractants for vectors and other wildlife.

Asset Maintenance Activity

Street cleaning activities include:

- Operation of vacuum sweepers
- Manual litter pick up
- Emptying litter bins

Level of Service

Object	Task	Frequency
Commercial Areas	Street Sweeping	Once every month.
Arterial and Collector Routes	Street Sweeping	November-January: weather dependent. February-March: two times per month. April-August: once per month. September-October: two times per month.
Local Roads	Street Sweeping	Two times per calendar year.
Priority Streets	Street Sweeping	As required dependent on seasonal leaf accumulation.
Commercially Zoned Areas	Litter pick up	Four times per month.
Arterial and Collector Routes	Litter pick up	Two times per week.
Convenience Stores on Arterial and Collector Routes	Litter pick up	Once per week.
Bus Stops	Litter	Twice per month.
Litter Bins	Empty	Minimum once per week.
All Areas	Unscheduled street sweeping and litter pick up	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available. City streets are not inspected for the purposes of Street Cleaning as part of a Preventative Maintenance Program. Inspections are done on a complaints basis only.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: R-07 Street Cleaning

Engineering and Public Works
Road & Lane Inventory

Engineering and Public Works
Priority Sweeping Routes Inventory

Engineering and Public Works Level of Service Policy

Chapter: R-08 Vegetation Control

Council Adoption Date:

Revision Date:

Policy Asset

Vegetation Control

Asset Description

Mowing of boulevards and medians, over-height vegetation, hazardous tree removal, sidewalk vegetation removal, cleaning medians

Reason for Policy

Mowing is performed along ditches, lanes, counter-flow sightlines, and some boulevards and medians to prevent vegetation from encroaching onto roadways, laneways, and sidewalks. Vegetation may also be removed to improve visibility for safety reasons. Hazardous trees in road rights of way are inspected by the City Arborist and removed as required. Sidewalk Vegetation is removed to prevent trip hazards and for aesthetic reasons.

Asset Maintenance Activity

This work involves monitoring vegetation and tree growth on the Road Rights of Way, Road Medians and Boulevards. Weed spraying (hot water, steam) is used by a contractor on Arterial Routes, and on some Collector Routes. Requests are dealt with using labour to remove.

Level of Service

Object	Task	Frequency
Boulevards, Ditches	Scheduled Mowing	Four times per calendar year.
Lanes	Contract Mowing	Once every calendar year contracted by Sewer-Drainage.
Medians	Scheduled Mowing and Maintenance	Two times per calendar year.
Arterial and Collector Routes	Contract Weed Spraying	Annually scheduled at the Road Superintendent's discretion provided that resources are available.
Hazard Trees	Unscheduled Inspection	Referred to City Arborist.
Hazard Trees	Unscheduled Maintenance	Determined by the City Arborist's inspection and scheduled at the Road Superintendent's discretion provided that resources are available.
Downed Trees	Trees are removed from roadways, sidewalks and walkways to allow for the safe flow of traffic. Work is then referred to the Arborist for clean-up.	As required.
Vegetation Originating from Private Property	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
Vegetation Originating from Private Property	Boulevard Maintenance Letter	Within 10 days after confirmation from the Road Superintendent that the concern falls under the Boulevard Maintenance Bylaw.
All Other Vegetation	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
All Other Vegetation	Unscheduled Maintenance	Within 10 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Road Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: R-08 Vegetation Control

City of Coquitlam
Bylaw Number 3214, 1998

Engineering and Public Works Level of Service Policy

Chapter: R-10 Ice Patrol

Council Adoption Date:

Revision Date:

Policy Asset

Ice Patrol

Asset Description

Asphalt and concrete roadways

Reason for Policy

Reducing or removing ice and snow and monitoring Winter hazards on major road networks to improve travel safety.

Asset Maintenance Activity

During the winter months, major road networks are patrolled by over-night staff. Staff may use pick-up trucks to drive major routes as they assess whether brine is required. Alternatively, staff may use brine trucks in colder weather to reduce ice build-up on major road networks. The use of brine and snow-removal equipment falls under Coquitlam's Snow/Ice Response Plan.

Level of Service

Object	Task	Frequency
Roadways	Scheduled Ice Patrol	Between the months of November to March, scheduled at the Road Superintendent's discretion based on local weather reports, and provided that resources are available.
Roadways	Unscheduled Ice Patrol Inspection	Within 4 hours upon receipt of a complaint from the public or City staff at the Road Superintendent's discretion based on conditions.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: R-10 Ice Patrol

City of Coquitlam
Snow/Ice Response Plan

Engineering and Public Works Level of Service Policy

Chapter: S-01 Drainage Mains

Council Adoption Date:

Revision Date:

Policy Asset

Drainage Mains

Asset Description

There are two types of drainage mains: gravity and siphon. All mains are designed to collect storm water and convey it to watercourses, lakes or wetlands.

Reason for Policy

Maintenance is required to keep drainage mains in good operating condition and to provide storm water collection in an efficient manner to:

- help prevent flooding of private and public properties
- help protect public investment in the drainage system
- effectively convey storm water

Asset Maintenance Activity

Main Video Inspection

Repeat Main Flushing

Flow Monitoring

Siphon Maintenance

Level of Service

Object	Task	Frequency
Drainage Gravity Mains	Flush, Video, Inspection	Approximately 5% of the total drainage main system every calendar year.
Drainage Gravity Mains	Repeat Main Flushing	Mains identified as having concerns with roots or low-grade once every calendar year.
Flow Monitors	Scheduled Maintenance	As resources are available.
Drainage Siphon Mains	Scheduled Chamber Inspection	Once every month.
Drainage Siphon Mains	Scheduled Chamber Maintenance and Over-Flow Manhole Inspection	Once every 3 months.
Drainage Siphon Mains	Scheduled ARV Maintenance	Once every 6 months.
Drainage Siphon Mains	Scheduled Major Maintenance	Once every calendar.
Drainage Gravity and Siphon Mains	Unscheduled Maintenance	Within 14 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-01 Drainage Mains

Engineering and Public Works
Inventory of Identified Drainage Mains

Engineering and Public Works
Drainage Main Inventory

Engineering and Public Works Level of Service Policy

Chapter: S-02 Sanitary Mains

Council Adoption Date:

Revision Date:

Policy Asset

Sanitary Mains

Asset Description

There are three types of sanitary mains: gravity, force main and siphon. All mains are designed to collect and transport sanitary sewage to the Greater Vancouver Sewerage & Drainage District sewerage system. The sewage is then transported to a Metro Vancouver sanitary sewer treatment plant.

Reason for Policy

Maintenance is required to keep sanitary mains in good operating condition and to provide sewer collection and transmission in an efficient manner.

Regular and scheduled maintenance of sewer mains is necessary to:

- protect the environment and public health
- protect public investment in the sewer main
- effectively convey sewage to the Greater Vancouver system

Asset Maintenance Activity

Main Video Inspection
Repeat Main Flushing
Flow Monitor Maintenance
Siphon Maintenance

Level of Service

Object	Task	Frequency
Sanitary Gravity Mains	Flush, Video, Inspection	Approximately 5% of the total Sanitary Gravity Main system every calendar year.
Sanitary Gravity Mains	Repeat Main Flushing	Mains identified as having concerns with roots or low-grade a minimum of once every calendar year. Frequency may increase depending upon various contributing factors.
Sanitary Siphon Mains	Scheduled Chamber Inspection	Once every month.
Sanitary Siphon Mains	Scheduled Chamber Maintenance and Over-Flow Manhole Inspection	Once every 3 months.
Sanitary Siphon Mains	Scheduled ARV Maintenance	Once every 6 months.
Sanitary Siphon Mains	Scheduled Major Maintenance	Once every calendar year.
Sanitary Gravity, Force, and Siphon Mains	Unscheduled Inspection	Within 48 hours upon receipt of a complaint from the public or City staff.
Sanitary Gravity, Force, and Siphon Mains	Unscheduled Maintenance	Within 14 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-02 Sanitary Mains

Engineering and Public Works
Inventory of Identified Sanitary Mains

Engineering and Public Works
Sanitary Main Inventory

Engineering and Public Works Level of Service Policy

Chapter: S-03 Drainage and Sanitary Manholes

Council Adoption Date:

Revision Date:

Policy Asset

Drainage and Sanitary Manholes

Asset Description

A manhole is a vertical access shaft from the ground surface to a sanitary or storm main. It is usually located at a change in main elevation or horizontal direction. Manholes allow access for cleaning, inspection, connections and repairs.

Reason for Policy

To maintain the integrity of the Manhole structure allowing access to the mains, thereby reducing ground settlement.

Asset Maintenance Activity

Manhole Location and Inspection in City Right of Ways

Level of Service

Object	Task	Frequency
Sanitary Manholes	Locate and Inspect in identified City ROWs	Once every calendar year.
Drainage Manholes	Locate and Inspect in identified City ROWs	As resources allow.
All Manholes	Unscheduled Locate and Inspect	Within 5 days upon receipt of a complaint from the public or City staff
All Manholes	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-03 Drainage and Sanitary Manholes

Engineering and Public Works
Inventory of Identified ROWs

Engineering and Public Works
Manhole Inventory

Engineering and Public Works Level of Service Policy

Chapter: S-04 Drainage Service Connections

Council Adoption Date:

Revision Date:

Policy Asset

Drainage Service Connections

Asset Description

Drainage service connections are pipes that convey storm water from the private drainage service to City drainage mains, culverts, or ditches.

Reason for Policy

Drainage service connections in good operating condition provide storm water collection and transmission in the most effective and efficient manner.

Asset Maintenance Activity

Repair or renew drainage service connections

Level of Service

Object	Task	Frequency
Drainage Service Connections	Planned Renewal and Replacement	If needed, at the same time as large projects such as road rehabilitation, property development, or drainage main replacement. This work is scheduled at the Sewer Superintendent's discretion provided that resources are available.
Drainage Service Connections	Unscheduled Inspection (suspected blockage or damage)	The drainage main to which the service connects will be inspected within 24 hours upon receipt of a complaint from the public or City staff. The service will be inspected in accordance with Coquitlam City Bylaws.
Drainage Service Connections	Unscheduled Inspection (other issues)	Within 5 days upon receipt of a complaint from the public or City staff, and in accordance with Coquitlam City Bylaws.
Drainage Service Connections	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, and in accordance with Coquitlam City Bylaws.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-04 Drainage Service Connections

City of Coquitlam
Bylaw Number 4429, 2015

Engineering and Public Works Level of Service Policy

Chapter: S-05 Sanitary Service Connections

Council Adoption Date:

Revision Date:

Policy Asset

Sanitary Service Connections

Asset Description

Sanitary service connections are pipes that convey sewage from the private sanitary service to City sanitary mains.

Reason for Policy

Sanitary service connections in good operating condition provide sewer collection and transmission in the most effective and efficient manner.

Asset Maintenance Activity

Repair or renew sanitary service connections.

Level of Service

Object	Task	Frequency
Sanitary Service Connections	Planned Renewal and Replacement	If needed at the same time as large projects such as road rehabilitation, property development, or sanitary main replacement. This work is scheduled at the Sewer Superintendent's discretion provided that resources are available.
Sanitary Service Connections	Unscheduled Inspection (suspected blockage or damage)	The Sanitary Main to which the Service connects will be inspected within 24 hours upon receipt of a complaint from the public or City staff. The Service will be inspected in accordance with Coquitlam City Bylaws.
Sanitary Service Connections	Unscheduled Inspection (other issues)	Within 5 days upon receipt of a complaint from the public or City staff, and in accordance with Coquitlam City Bylaws.
Sanitary Service Connections	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, and in accordance with Coquitlam City Bylaws.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-05 Sanitary Service Connections

City of Coquitlam
Bylaw Number 4429, 2015

Engineering and Public Works Level of Service Policy

Chapter: S-08 Drainage Catch Basins

Council Adoption Date:

Revision Date:

Policy Asset

Drainage Catch Basins

Asset Description

Catch basins are openings for storm drain systems which capture surface water. They may also capture debris and sediments through a grate, curb inlet or sump. The purpose of a catch basin is to prevent items such as trash and other floatable materials from entering the drainage system and the waterways into which it empties.

Catch basins are typically covered with a slotted cast iron grate which prevents large items from being carried into the drainage system.

Critical catch basins are typically positioned to catch and direct excess run-off during heavy rainfall. They are defined as critical, because, should they become plugged, the direct result may be damage to private or public property.

Reason for Policy

Catch basin cleaning and maintenance is performed to reduce the risk of flooding of private and public property, and it is performed to remove the debris and sediment trapped in the sumps.

Asset Maintenance Activity

Catch Basin Cleaning

Catch Basin Maintenance

Critical Catch Basin Inspection and Cleaning

Level of Service

Object	Task	Frequency
All Catch Basins	Scheduled Cleaning	Once every three calendar years.
All Catch Basins	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
All Catch Basins	Unscheduled Maintenance	Within 5 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Non-Critical Catch Basins	Unscheduled Maintenance	Within 5 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Critical Catch Basins	Inspection	Scheduled at the Sewer Superintendent's discretion prior to and during heavy rainfall events as predicted by Environment Canada.
Critical Catch Basins	Maintenance	Scheduled at the Sewer Superintendent's discretion prior to and during heavy rainfall events as predicted by Environment Canada, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
 Procedure Manual
 Chapter: S-08 Drainage Catch Basins

Engineering and Public Works
 Critical Catch Basin Inventory

Engineering and Public Works
 Catch Basin Inventory

Engineering and Public Works Level of Service Policy

Chapter: S-10 Drainage Intakes and Outfalls

Council Adoption Date:

Revision Date:

Policy Asset

Drainage Intakes and Outfalls

Asset Description

The drainage system consists of a series of pipes, open channels and associated ancillary structures which convey surface run-off into streams and rivers.

Intakes are located at the starting point of a closed pipe section of the system and are typically a prefabricated concrete structure designed to collect surface runoff while limiting the entry of debris and mitigating erosion.

Outfalls are located at the discharge point of the closed pipe system where it enters an open channel. The outfall may be fabricated from concrete, large rock, or other appropriate materials. The purpose of the structure is to direct and/or diffuse flows, support adjacent infrastructure, and mitigate erosion.

Critical intakes and outfalls are typically positioned to catch and direct excess run-off during heavy rainfall. They are defined as critical, because, should they become plugged, the direct result may be damage to private or public property. This is based on the size of the watercourse catchment area, whether it is historically prone to flooding, and the type of ground cover.

Reason for Policy

To mitigate flooding occurrences, to protect private and public property, to protect the environment, and to maintain continuous operation of the storm water system.

Asset Maintenance Activity

Intake and Outfall Inspection

Critical Intake and Outfall Inspection

Level of Service

Object	Task	Frequency
All Intakes and Outfalls	Scheduled Inspection	Once every calendar year.
All Intakes and Outfalls	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
All Intakes and Outfalls	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Critical Intakes and Outfalls	Inspection	Scheduled at the Sewer Superintendent's discretion prior to and during heavy rainfall events as predicted by Environment Canada.
Critical Intakes and Outfalls	Unscheduled Maintenance	Scheduled at the Sewer Superintendent's discretion prior to and during heavy rainfall events as predicted by Environment Canada, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-10 Drainage Intakes and Outfalls

Engineering and Public Works
Inventory of Critical Intakes and Outfalls

Engineering and Public Works
Inventory of Intakes and Outfalls

Engineering and Public Works Level of Service Policy

Chapter: S-12 Surface Drainage

Council Adoption Date:

Revision Date:

Policy Asset

Surface Drainage: culverts, ditches, storm water quality ponds

Asset Description

Ditches collect and convey storm water from the source to either the enclosed storm water system or directly to receiving waters.

Culverts act as a conduit for storm water contained in ditches under driveways and roadways. Culverts are designed and constructed to engineering standards. Critical Culverts are typically positioned to direct excess run-off during heavy rainfall. They are defined as critical, because, should they become plugged, the direct result may be damage to private or public property. This is based on the size of the watercourse catchment area, and whether it is historically prone to flooding.

As part of the storm water management plans for the development of the Northeast sector of Coquitlam, storm water quality ponds were installed. These ponds collect, treat and discharge storm water from development sites to reduce the impact of development on the receiving water courses.

Reason for Policy

A properly maintained drainage system will mitigate flooding of private and public property and excessive erosion while protecting the environment.

Culverts, ditches and storm water quality ponds in good operating condition provide storm water collection and transmission in the most effective and efficient manner.

Asset Maintenance Activity

Culvert Inspections
Culvert Maintenance
Critical Culvert Inspections
Ditch Inspections
Ditch Stripping Maintenance
Ditch Flail Mowing Maintenance
Storm Water Quality Pond Inspections
Storm Water Quality Pond Maintenance

Level of Service

Object	Task	Frequency
Culverts on Watercourses	Inspection and Maintenance	Once every calendar year as part of watershed management planning exercises.
Critical Culverts	Inspection	Scheduled at the Sewer Superintendent's discretion prior to and during heavy rainfall events as predicted by Environment Canada, and provided that resources are available.
Critical Culverts	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Ditches	Scheduled Inspection	Once every calendar year.
Ditches in residential areas (Zones 1 and 2)	Scheduled Stripping and Maintenance	Once every three calendar years.
Ditches (other)	Unscheduled Stripping and Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Ditches in residential areas (Zones 1 and 2)	Scheduled Flail Mowing and Maintenance	Once every calendar year.

Ditches (other)	Unscheduled Flail Mowing and Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Storm Water Quality Pond	Scheduled Visual Inspections	Two times per calendar year.
Storm Water Quality Pond	Scheduled Maintenance	Determined by Inspection and scheduled at the Sewer Superintendent's discretion provided that resources are available.
Storm Water Quality Pond	Sediment Removal	Once every calendar year.
Stormceptor & Vortechincs	Scheduled Inspections and Maintenance	Once every calendar year.
Stormceptor & Vortechincs	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff
Stormceptor & Vortechincs	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.
Culverts, Ditches, and Storm Water Quality Ponds	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
Culverts, Ditches, and Storm Water Quality Ponds	Other Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Level of Service Policy
Chapter: S-12 Surface Drainage

Engineering and Public Works
Inventory of Culverts, Ditches and Storm Water Quality Ponds

Engineering and Public Works
Critical Culvert Inventory

Engineering and Public Works Level of Service Policy

Chapter: S-13 Watercourses

Council Adoption Date:

Revision Date:

Policy Asset

Watercourses

Asset Description

After being conveyed through the open channel and closed pipe system, all drainage water eventually enters into one or more of the many creeks that traverse throughout public and private lands within the City.

Reason for Policy

To mitigate flooding occurrences, protect public and private property, to protect the environment and to maintain the continuous operation of the storm-water system.

Asset Maintenance Activity

Annual Watercourse Maintenance Program (Fisheries Work) at sites identified in annual Instream Maintenance & Enhancement Review Reports by Coquitlam's Sewer and Drainage Department may include but is not limited to:

- Cleaning Watercourses to restore capacity (vegetation & sediment)
- Fish Collection
- Cleaning Under Bridges
- Cleaning Box Culverts
- Clean Inlets
- Repair Headwalls
- Sandbar Removal
- Pond Cleaning

Level of Service

Object	Task	Frequency
Identified Watercourses	Scheduled Inspection	Once every calendar year in accordance with the Annual Watercourse Maintenance program.
Identified Watercourses	Scheduled Maintenance	Once every calendar year in accordance with the Annual Watercourse Maintenance program.
All Watercourses	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.
All Watercourses	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff provided that the complaint is determined to be valid by the Sewer Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: S-13 Watercourses

City of Coquitlam
Instream Maintenance & Enhancement Review

City of Coquitlam
Annual Watercourse Maintenance Program

Engineering and Public Works
Maintained Watercourse Inventory

Engineering and Public Works
Watercourse Inventory

Engineering and Public Works Level of Service Policy

Chapter: W-01 Water Hydrants

Council Adoption Date:

Revision Date:

Policy Asset

Water Hydrants

Asset Description

A hydrant is a control valve in the water distribution system that allows water to be available in large quantities above ground level, primarily for public fire protection.

A hydrant may also be a source of water for activities conducted by City crews, and construction projects; however, hydrant use for any other purpose other than fire fighting is limited. Such uses are controlled by permits, in the interest of keeping the hydrant in good working order for fire fighting.

Hydrants in road allowances, City rights-of-way and City property are the responsibility of the City of Coquitlam. Hydrants on private property or outside of right-of-ways are the responsibility of the property owner.

Reason for Policy

To keep hydrants in good operating condition and visible for fire fighting purposes.

Asset Maintenance Activity

Hydrant re-painting
Scheduled "A" Service
Scheduled "B" Service

Level of Service

Object	Task	Frequency
Hydrant	Scheduled Painting Program	Once every three calendar years.
Hydrant	Scheduled Level 'A' Service	One-half of all hydrants every calendar year.
Hydrant	Scheduled Level 'B' Service	All get a minimum of once every calendar year. Hydrants that do not get a Level 'A' Service will get an additional 'B' Service instead.
Hydrant	Unscheduled Level 'A' Service	Within 30 days upon receipt of notification that a hydrant has been used.
Hydrant	Unscheduled Inspection	Within 48 hours upon receipt of a complaint from the public or City staff.
Hydrant	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Water Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: W-01 Water Hydrants

Engineering and Public Works
Water Hydrant Inventory

Engineering and Public Works Level of Service Policy

Chapter: W-02 Water Mains

Council Adoption Date:

Revision Date:

Policy Asset

Water Mains

Asset Description

Water mains are large diameter (100mm and above) pipes located in the ground that convey potable water from Metro Vancouver connections to customers throughout the City. These mains supply water for both domestic purposes and fire protection purposes.

Reason for Policy

To provide adequate water supply to meet the demands for domestic, commercial, and fire-protection purposes.

Asset Maintenance Activity

Dead End Flushing Program
Unidirectional Flushing Program
Cathodic Protection Program
Rectifier Program

Level of Service

Object	Task	Frequency
Water Mains	Dead-End Flushing Program	Once every calendar year.
Water Mains	Unidirectional Flushing Program	Once every three calendar years.
Water Mains	Cathodic Protection Program	Once every three months.
Water Mains	Rectifier Program	Once every month.
Water Mains	Unscheduled Inspection	Within 48 hours upon receipt of a complaint from the public or City staff.
Water Mains	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, provided that the complaint is determined to be valid by the Water Superintendent, and provided that resources are available.

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: W-02 Water Mains

Engineering and Public Works
Water Main Inventory

Engineering and Public Works Level of Service Policy

Chapter: W-06 Water Service Connections

Council Adoption Date:

Revision Date:

Policy Asset

Water Service Connections

Asset Description

Water services are pipes of various diameters (19mm-200mm) that convey potable water from City water mains to private water service connections. These services supply water for both domestic and fire protection purposes.

Reason for Policy

The planned inspection, repair and renewal of water service connections helps maintain water quality in compliance with regulatory requirements and minimizes water loss through leakage.

Asset Maintenance Activity

Repair or renew water service connections

Level of Service

Object	Task	Frequency
Water Service Connections	Scheduled Renewal and Replacement	If needed, at the same time as large projects such as road rehabilitation, property development, or water main replacement. This work is scheduled at the Water Superintendent's discretion provided that resources are available.
Water Service Connections	Unscheduled Inspection	Within 5 days upon receipt of a complaint from the public or City staff.

Water Service Connections	Unscheduled Maintenance	Within 30 days upon receipt of a complaint from the public or City staff, and in accordance with Coquitlam City Bylaws.
---------------------------	-------------------------	---

Procedure Manual Reference

Engineering and Public Works
Procedure Manual
Chapter: W-06 Water Service Connections

City of Coquitlam
Bylaw Number 4428, 2015