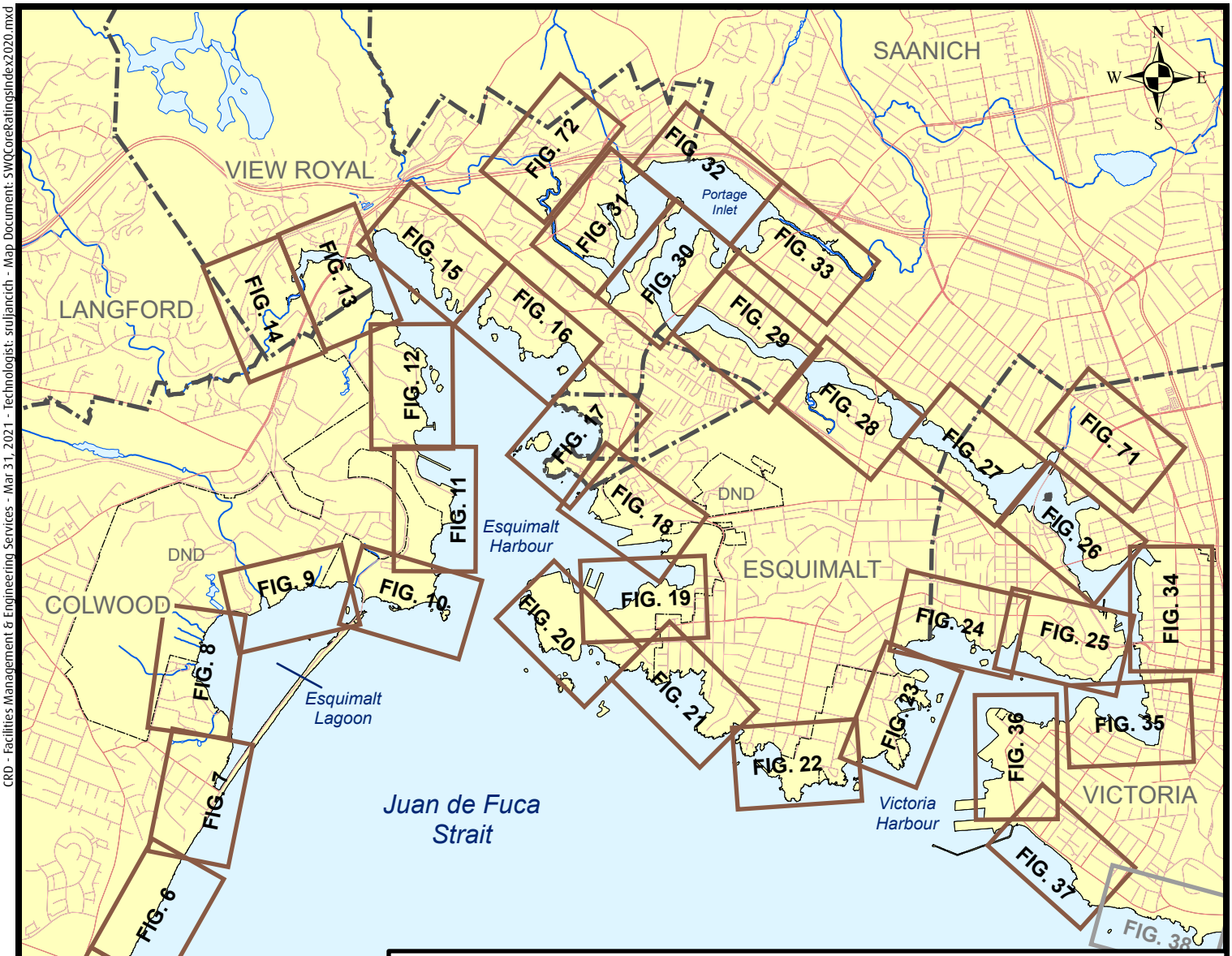
APPENDIX A

LOCATION OF STORMWATER DISCHARGES



LEVEL OF CONCERN

Sediment Chemical Contaminant Rating*

- HIGH - Mitigative Measures Required
- MODERATE - Surveillance Required
- LOW - No Action Required

0521 Site ID number
(2004) (Year Sampled)

Public Health Rating*

- HIGH - Mitigative Measures Required
- MODERATE - Surveillance Required
- LOW - No Action Required
- NR NOT RATED - Insufficient Data
- NV NOT VISITED

* Only the most recent ratings are displayed in the figures.
See Appendix G for CRD Rating System.

Public Use of Shoreline

- High
- Moderate
- Low

SEG 4 Shoreline Segment Number

- Stream/Ditch*
- Culvert*
- Strom Drain Pipe*
- Lake/Pond/Reservoir*
- Wetland*
- Stormwater Catchment*
- Core Stormwater Monitoring Area
- Unsewered Areas

* Based on best known data. May contain errors and omissions.

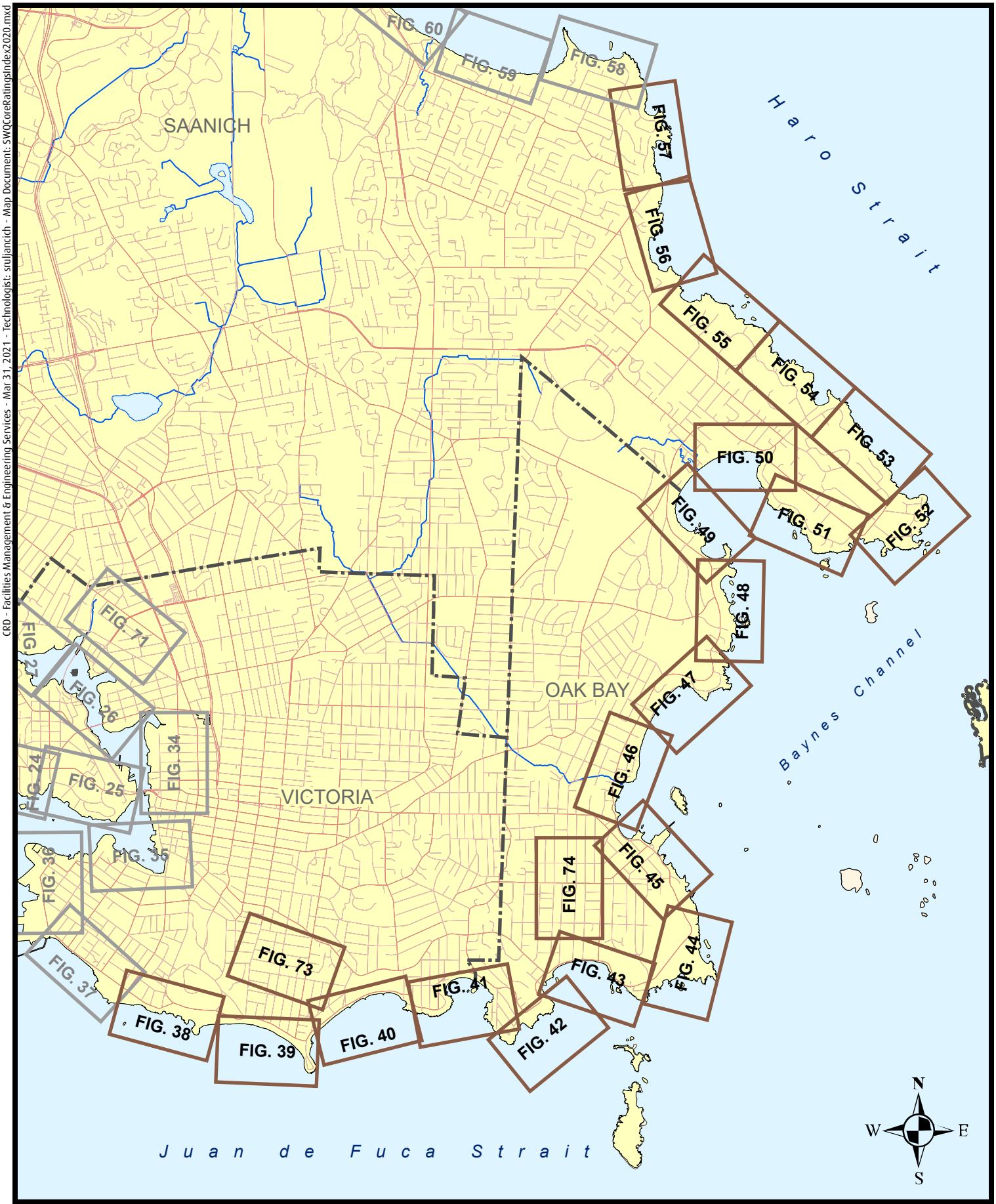
Colour orthophoto-2019.
Lots based on 2020 data.

CRD Making a difference...together

Kilometres
0 0.5 1
Projection: UTM ZONE 10N NAD 83

Figure 1 - Core Area 2020
Key Index for Figures 5 - 37, 71, 72 and Legend

- Municipal Boundaries
- DND Boundaries
- Major Roads
- Minor Roads
- FIG. 38 Map Tiles (see adjacent index page)
- FIG. 25 Map Tiles (this index page)
- Streams and Rivers
- Core Stormwater Monitoring Area



Making a difference...together

Kilometres

0 0.5 1

Projection: UTM ZONE 10N NAD 83

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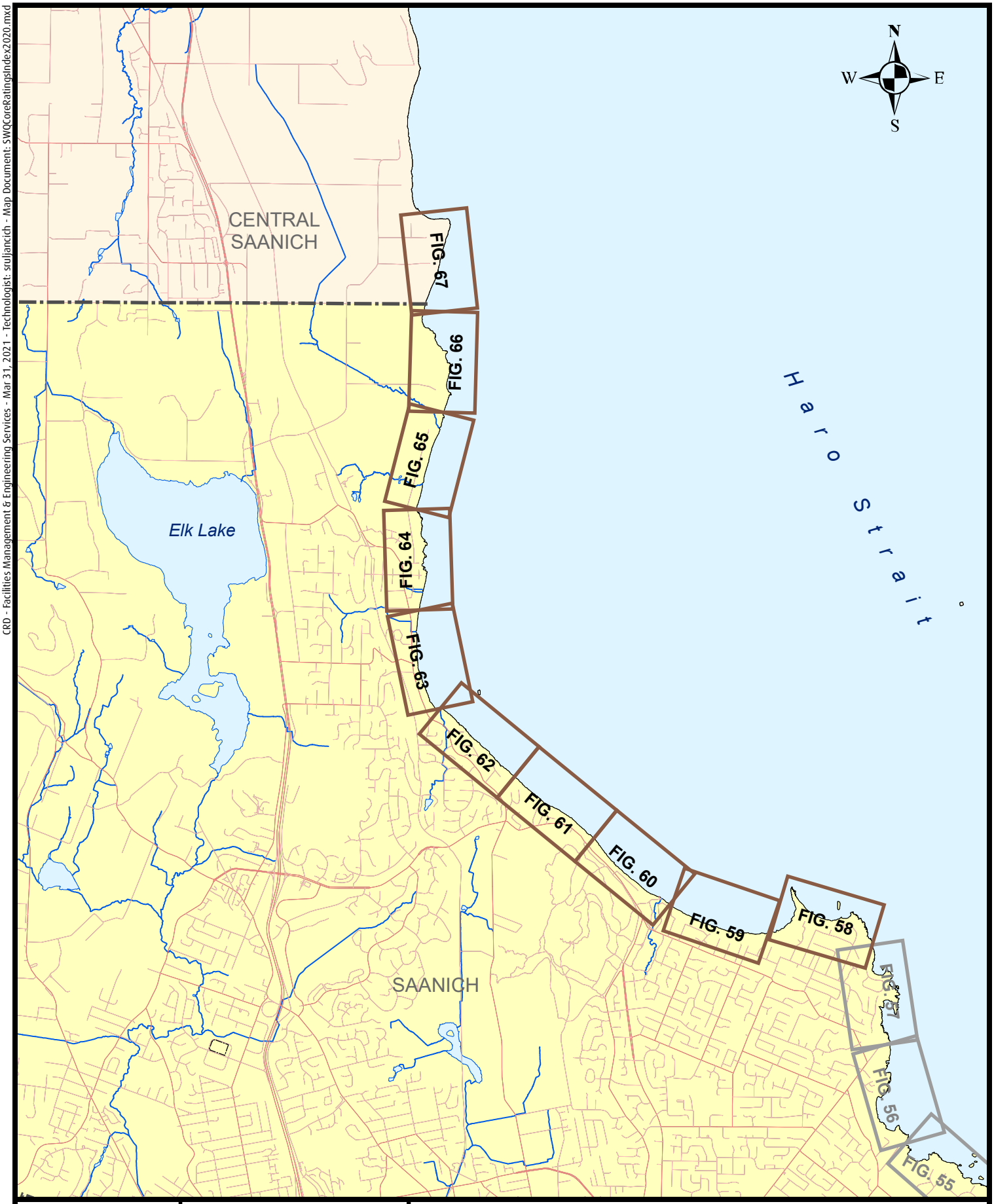
Figure 2 - Core Area 2020
Key Index for Figures 38 - 57, 73, 74

- Municipal Boundaries
- DND Boundaries
- Major Roads
- Minor Roads
- FIG. 25 Map Tiles (see adjacent index page)
- FIG. 45 Map Tiles (this index page)
- Streams and Rivers
- Core Stormwater Monitoring Area



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Kilometres

0 0.5 1

Projection: UTM ZONE 10N NAD 83

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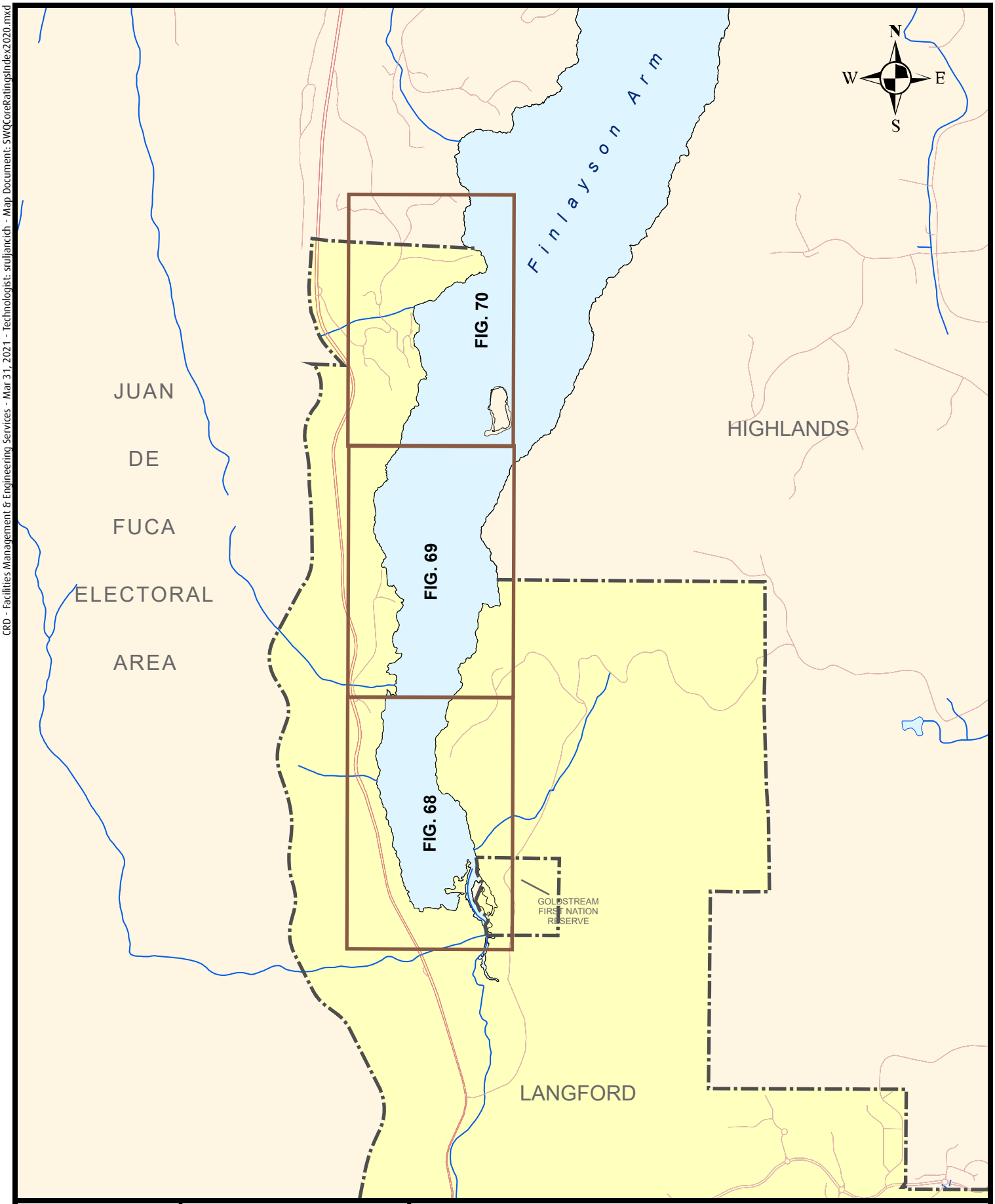
Figure 3 - Core Area 2020
Key Index for Figures 58 - 67

- Municipal Boundaries
- DND Boundaries
- Major Roads
- Minor Roads
- FIG. 56 Map Tiles (see adjacent index page)
- FIG. 60 Map Tiles (this index page)
- Streams and Rivers
- Core Stormwater Monitoring Area



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Kilometres

0 0.25 0.5

Projection: UTM ZONE 10N NAD 83

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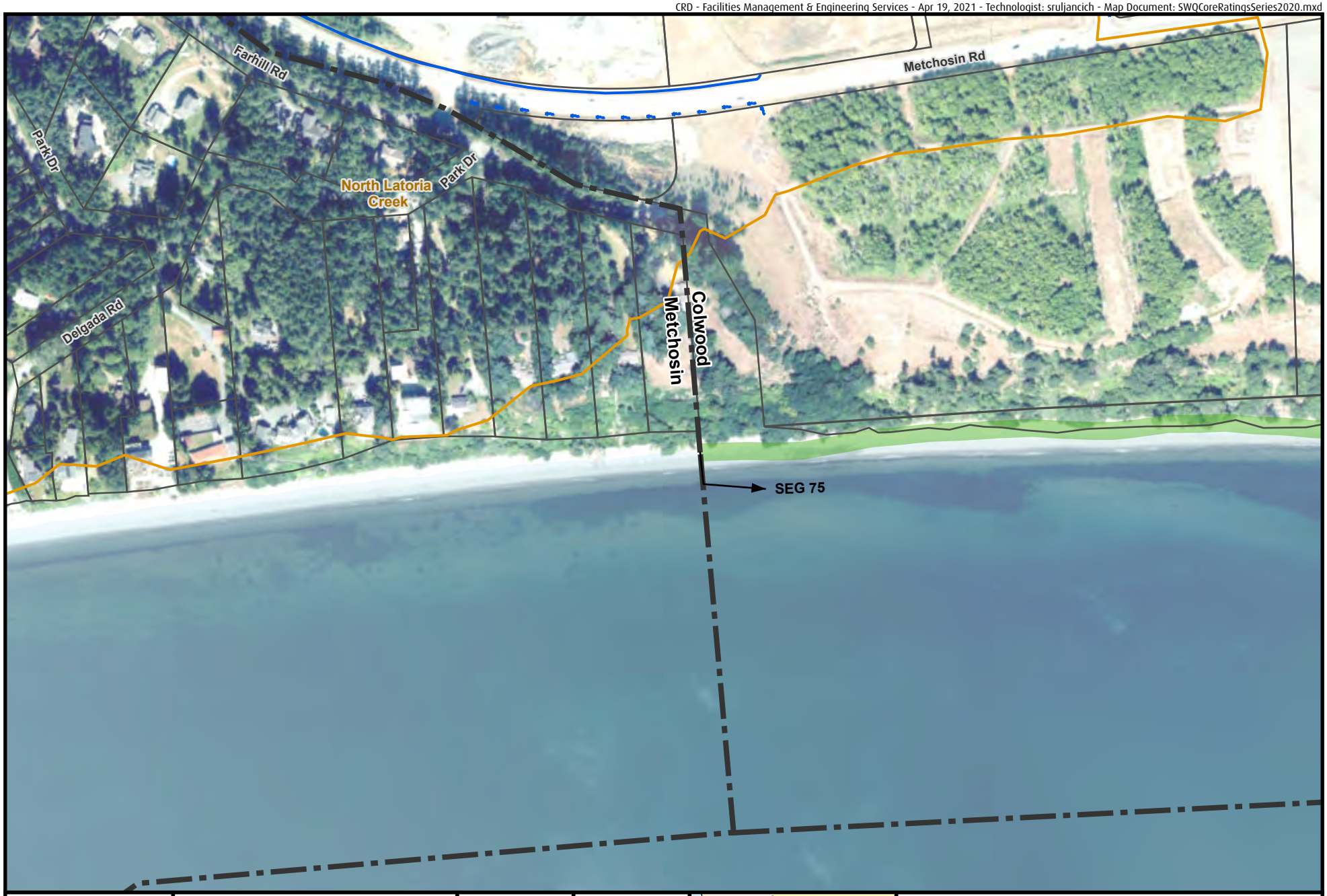
Figure 4 - Core Area 2020
Key Index for Figures 68 - 70

Municipal Boundaries
Major Roads
Minor Roads
FIG. 68 Map Tiles (this index page)
Streams and Rivers
Core Stormwater Monitoring Area



CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

N W E S

For Legend
See Figure 1

For Area Key Index
See
Figure 1

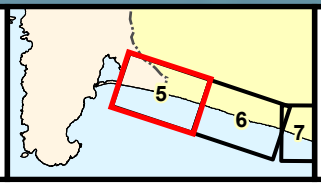
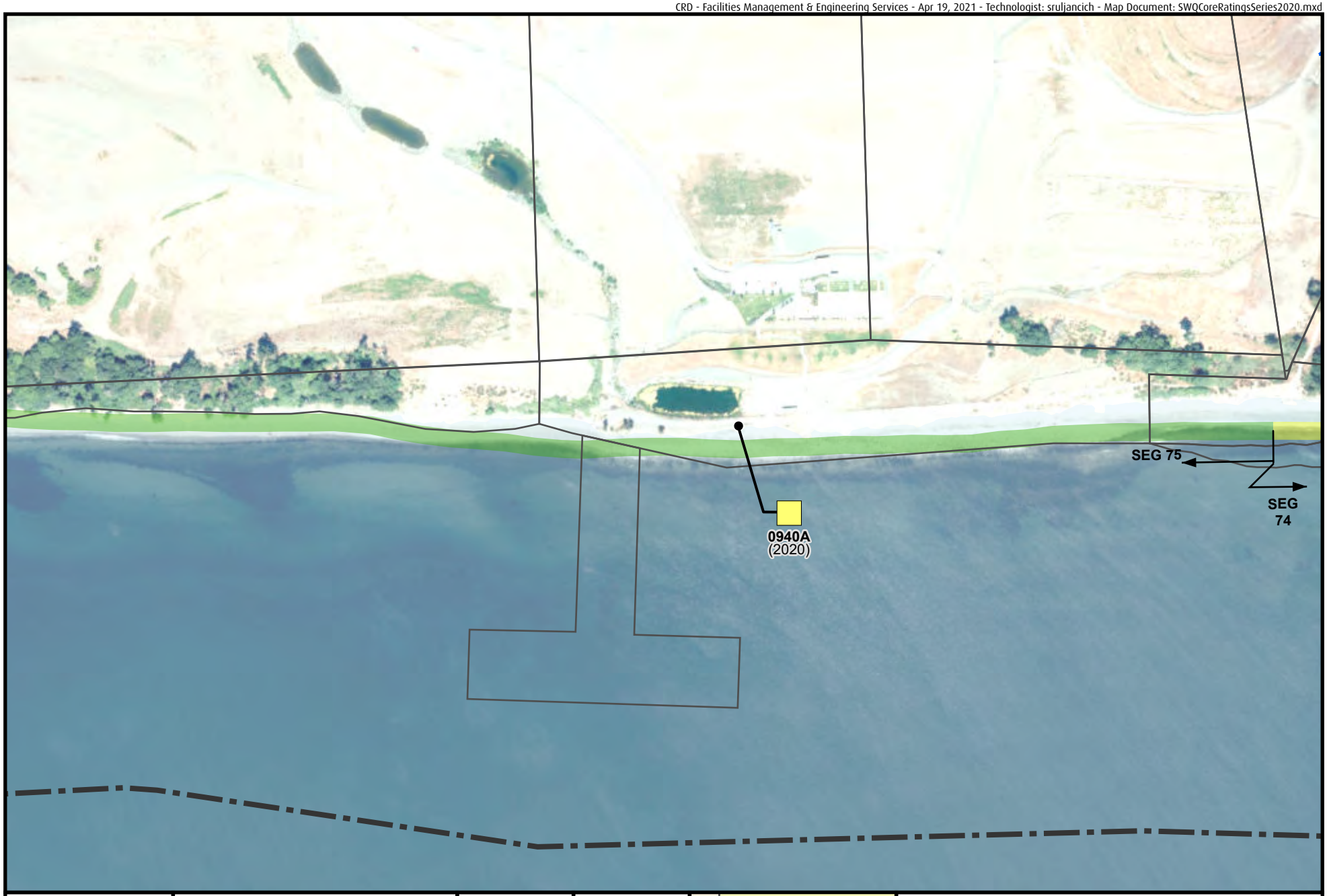


Figure 5
Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W N S E

For Legend
See Figure 1

For Area Key Index
See
Figure 1

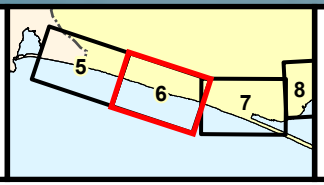
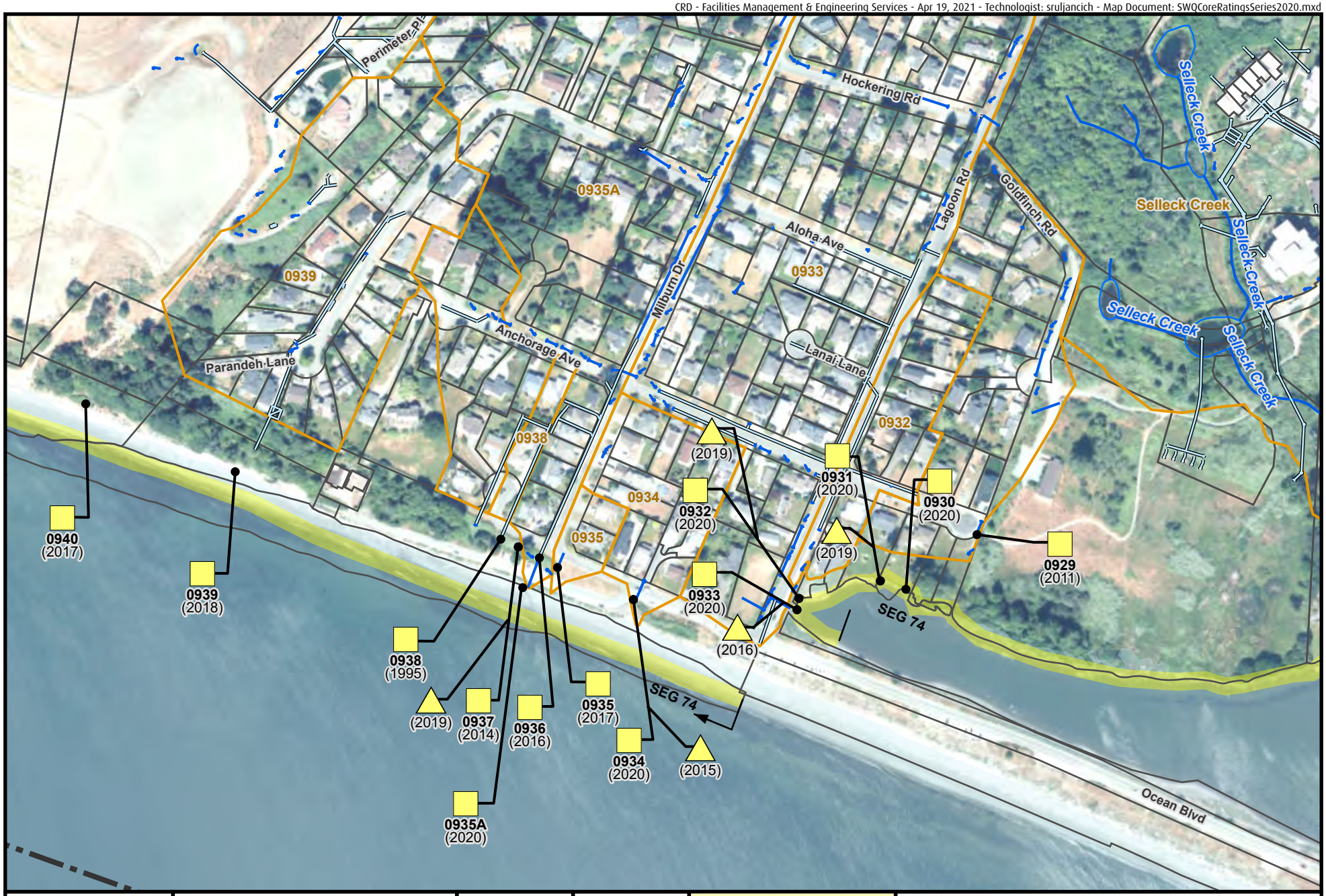


Figure 6

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

W N S E

For Legend See Figure 1

For Area Key Index See Figure 1

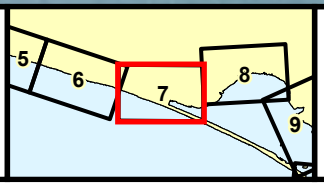


Figure 7
Stormwater Discharge Location and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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For Legend See Figure 1

For Area Key Index See Figure 1

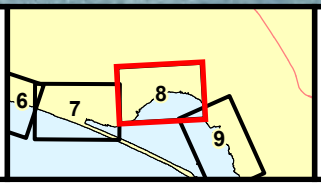

Figure 8

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend
See Figure 1

For Area Key Index
See
Figure 1

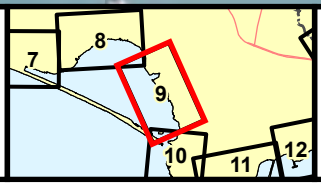

Figure 9

Stormwater Discharge Location
and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
See Figure 1

For Area Key Index
See
Figure 1

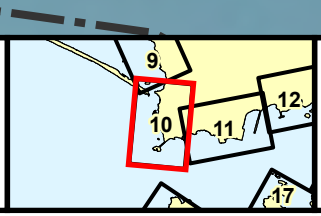

Figure 10

Stormwater Discharge Location
and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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W S E N

For Legend See Figure 1

For Area Key Index See Figure 1

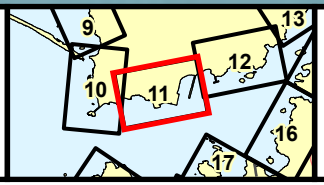
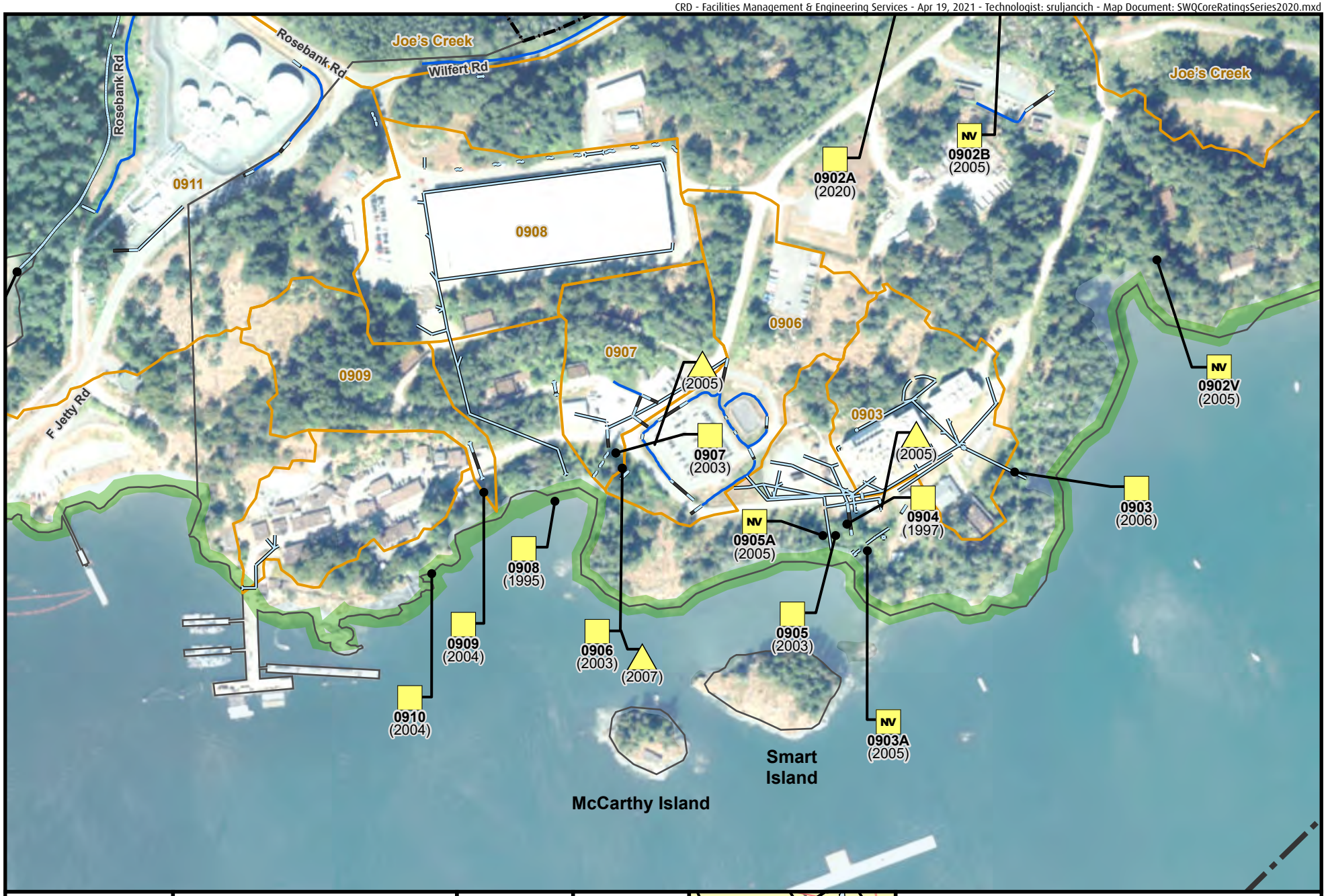


Figure 11

Stormwater Discharge Location and Level of Concern



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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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W S E N

For Legend See Figure 1

For Area Key Index See Figure 1

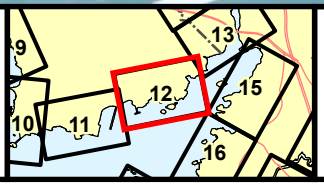
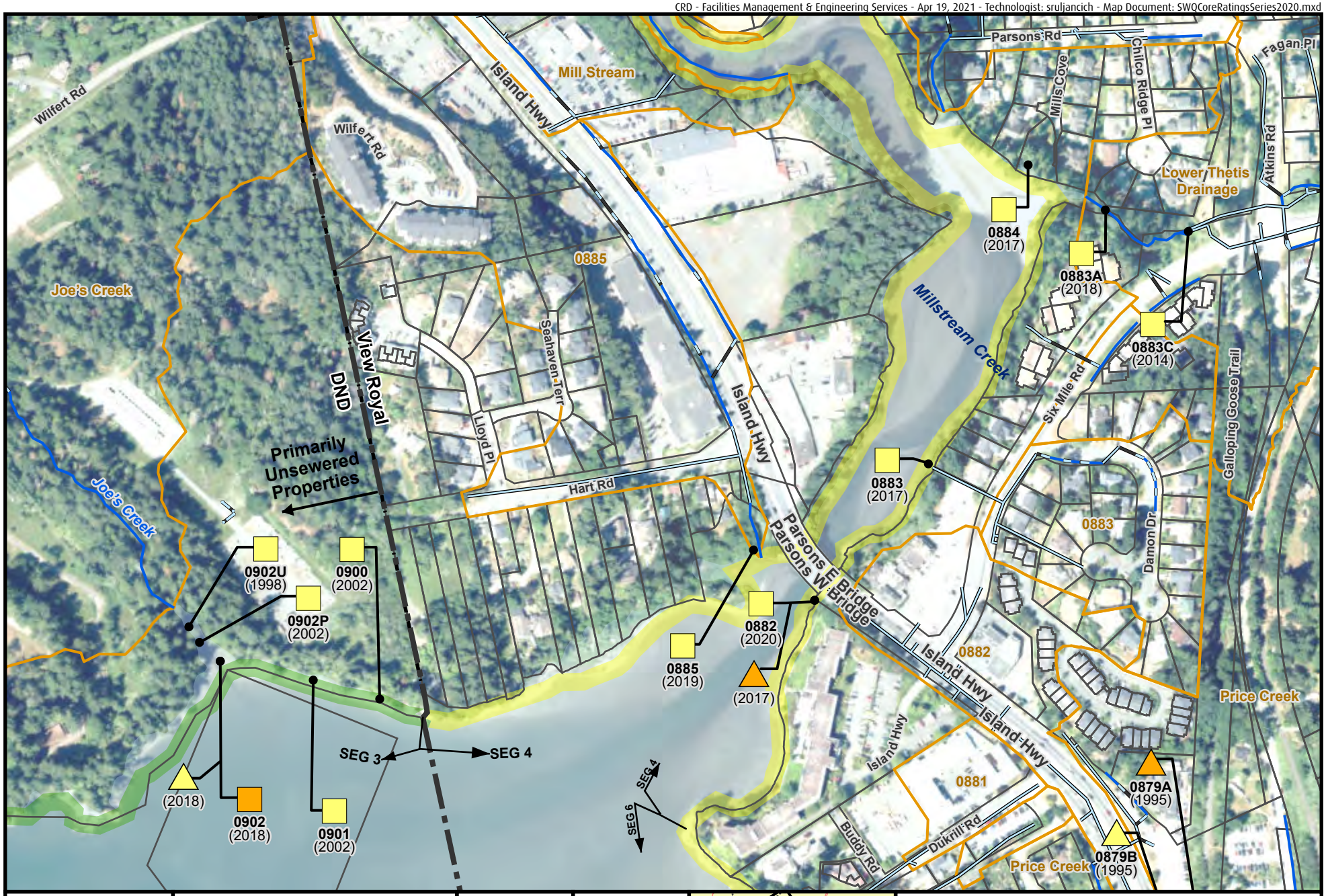


Figure 12

Stormwater Discharge Location and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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For Legend See Figure 1

For Area Key Index See Figure 1

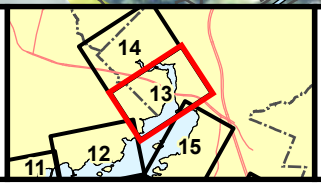

Figure 13

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

For Area Key Index See Figure 1

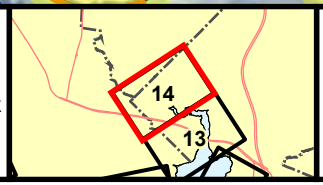

Figure 14

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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N E S W

For Legend See Figure 1

For Area Key Index See Figure 1

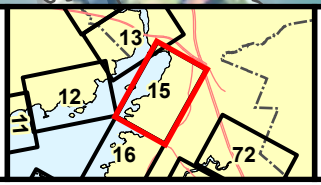


Figure 15

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

For Area Key Index See Figure 1

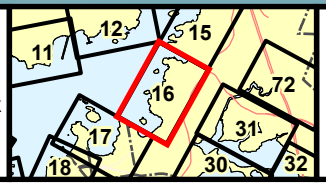
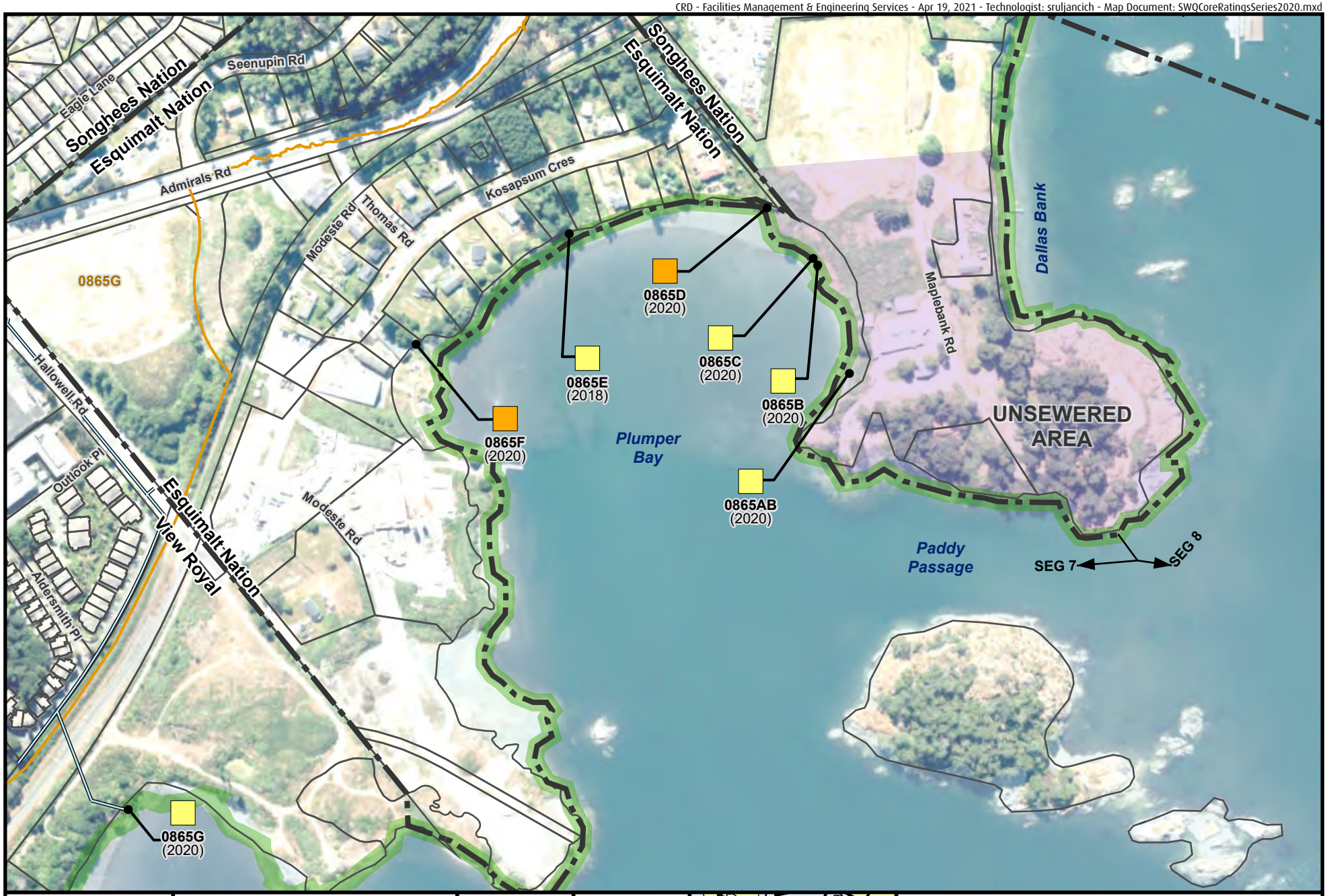


Figure 16

Stormwater Discharge Location and Level of Concern



Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

For Area Key Index See Figure 1

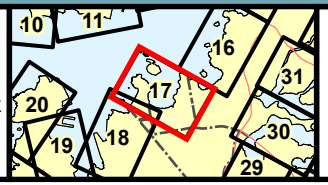
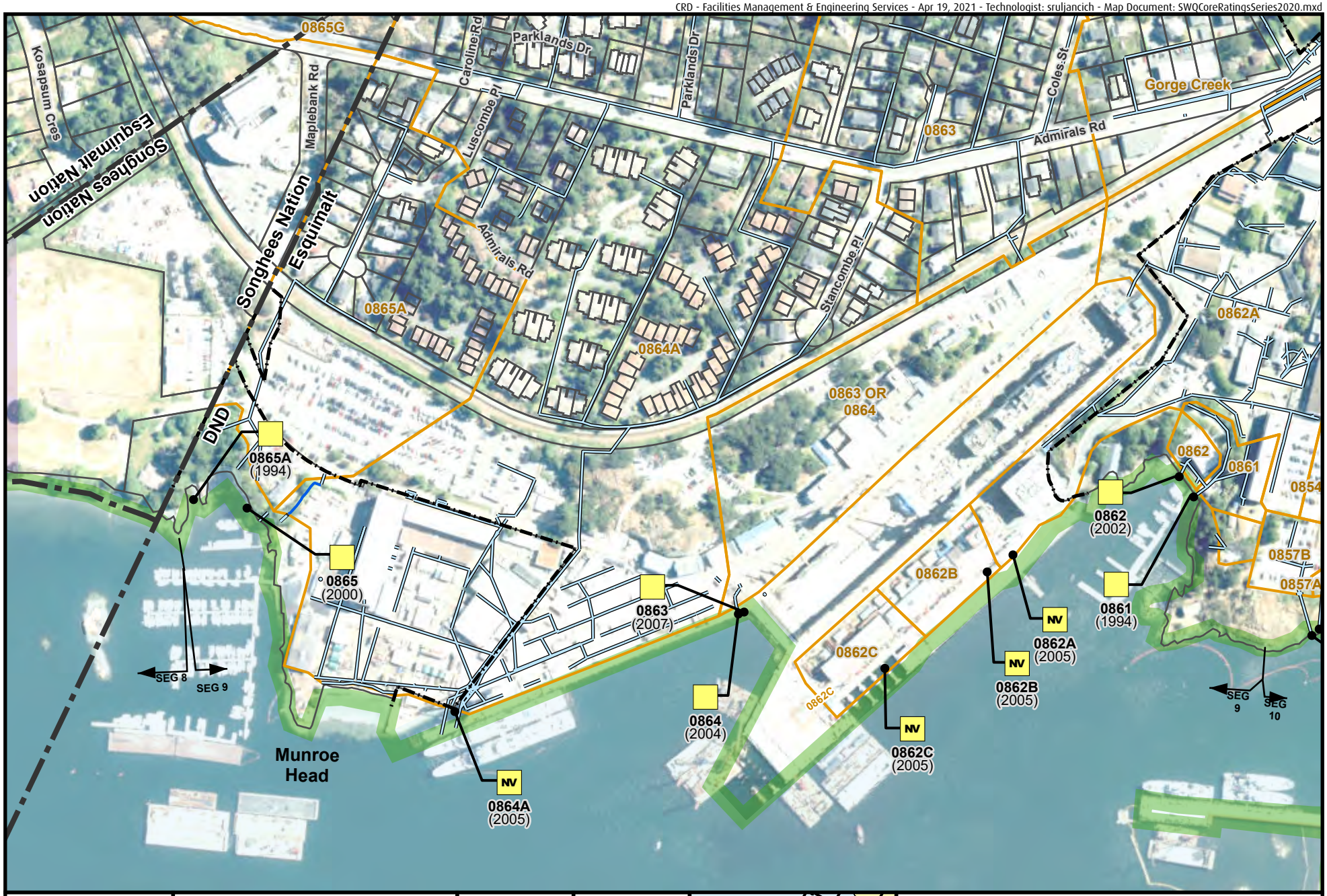


Figure 17

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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N E S W

For Legend
See Figure 1

For Area Key Index
See
Figure 1

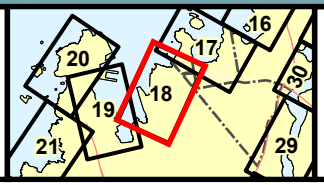
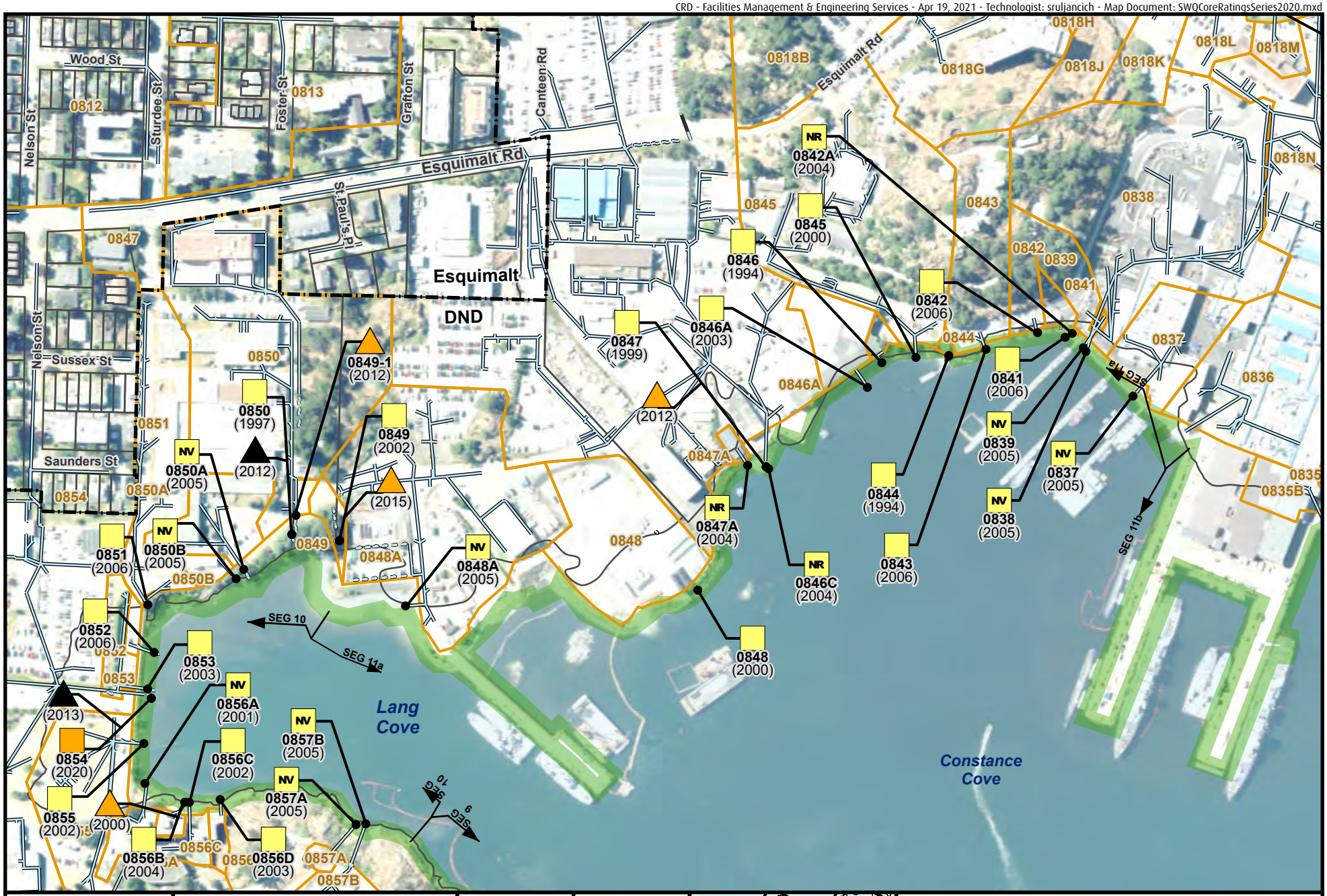


Figure 18

Stormwater Discharge Location
and Level of Concern



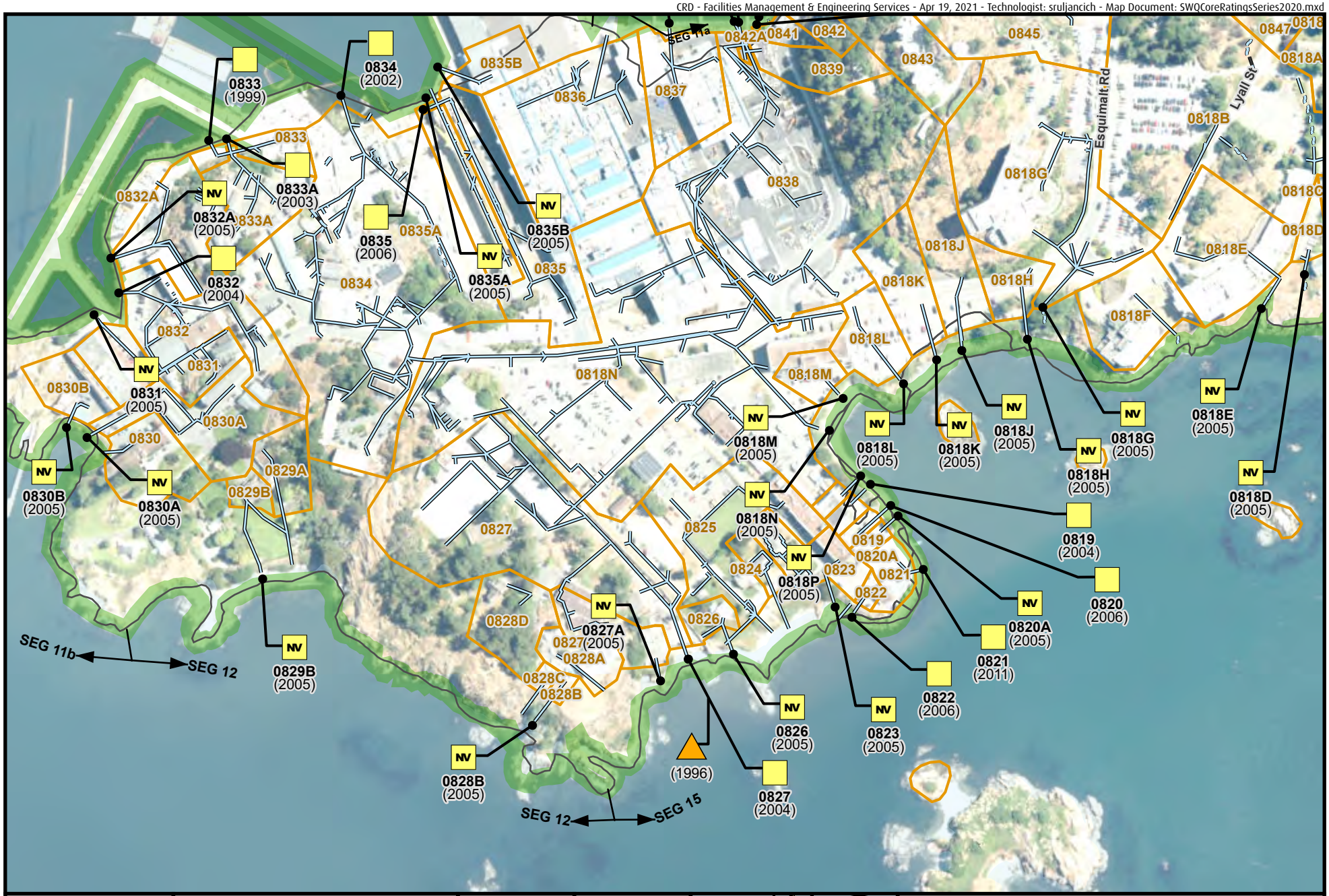
Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

For Area Key Index See Figure 1

Figure 19

Stormwater Discharge Location and Level of Concern



Metres

0 25 50 100 150

Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

For Area Key Index See Figure 1

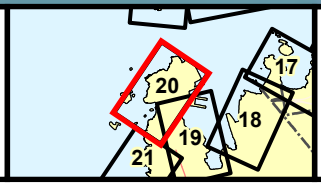
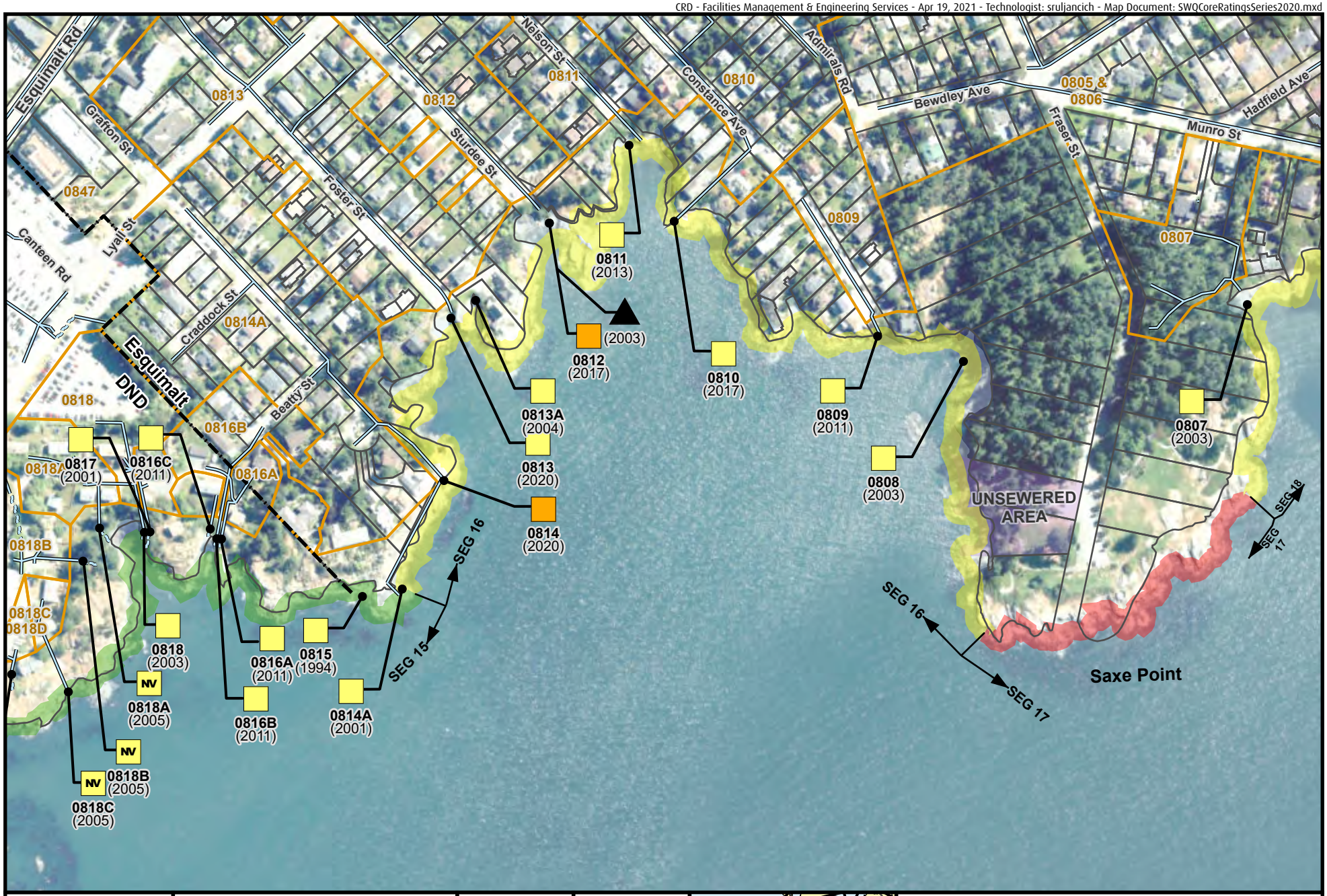


Figure 20

Stormwater Discharge Location and Level of Concern



Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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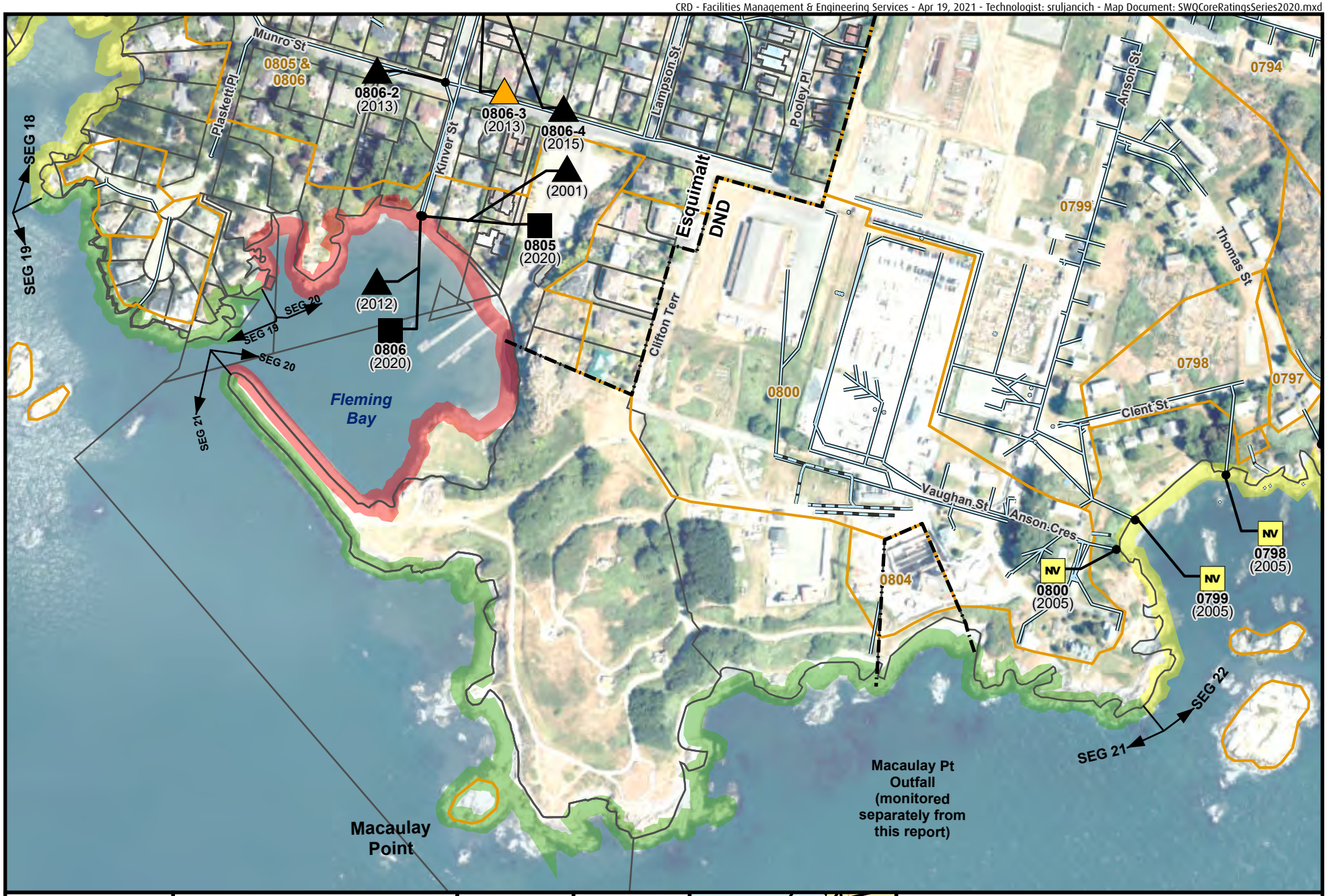
For Legend See Figure 1

For Area Key Index See Figure 1

Figure 21

Stormwater Discharge Location and Level of Concern



Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend
See Figure 1

For Area Key Index
See
Figure 1

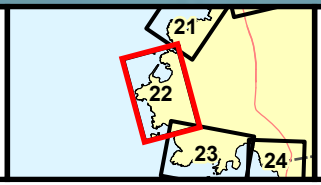
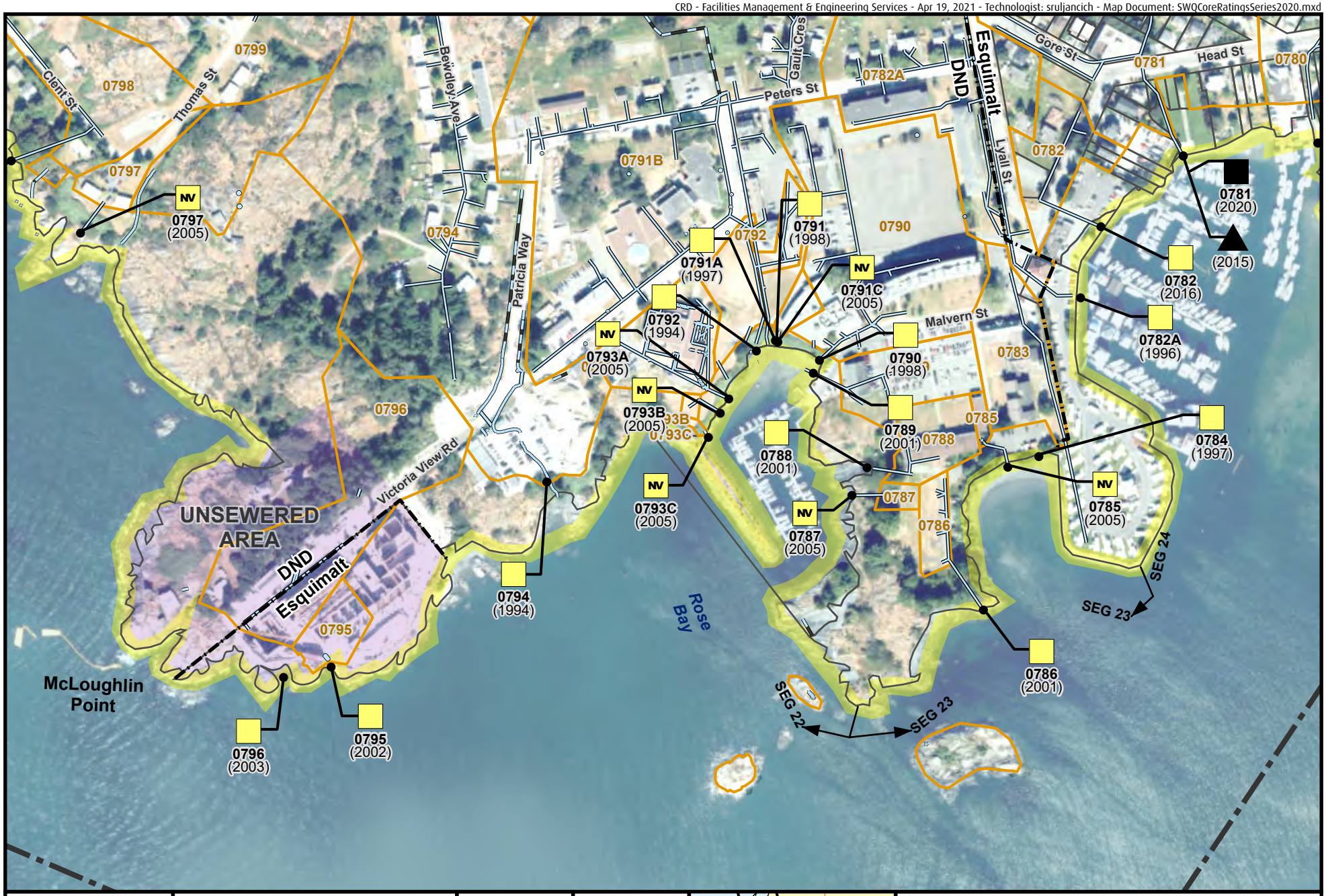


Figure 22

Stormwater Discharge Location
and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
See Figure 1

For Area Key Index
See
Figure 1

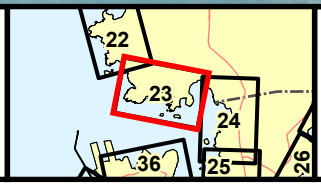
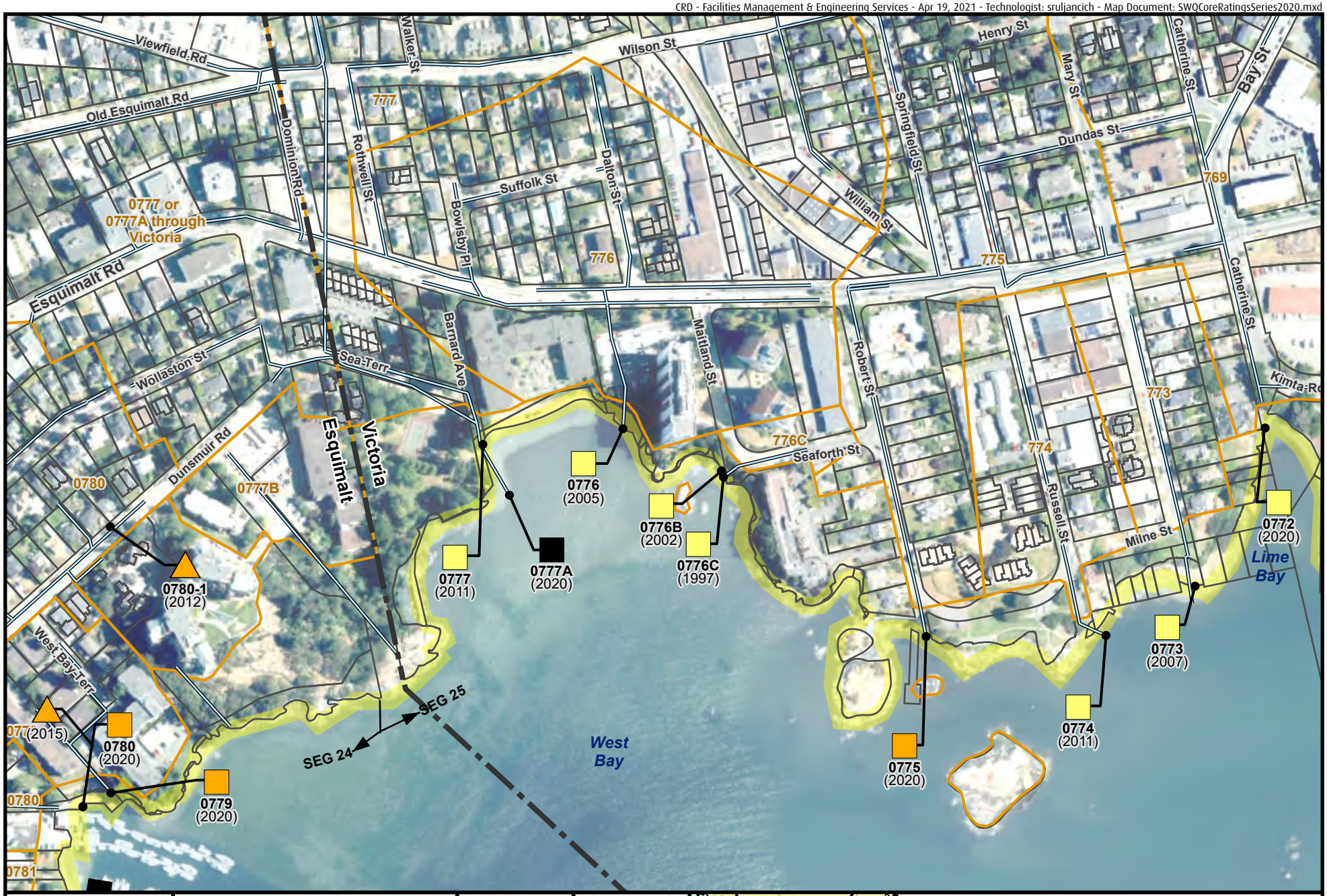


Figure 23

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

N W E S

For Legend See Figure 1

For Area Key Index See Figure 1

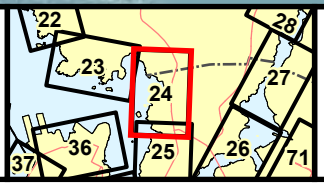


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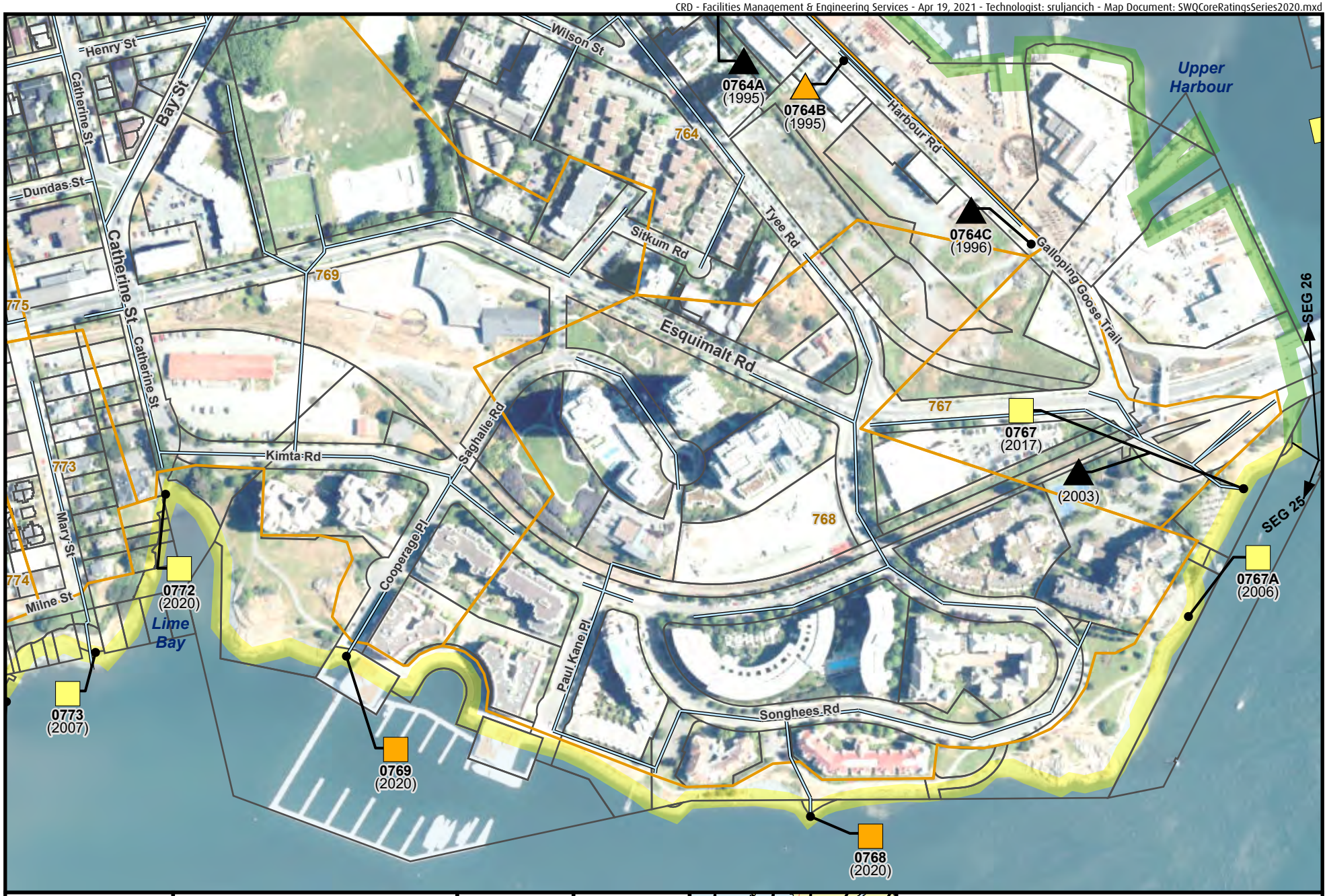
Figure 24

Stormwater Discharge Location and Level of Concern



Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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N W E S

For Legend See Figure 1

For Area Key Index See Figure 1

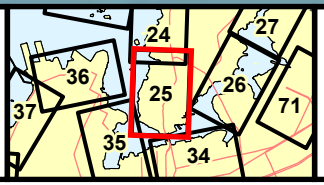
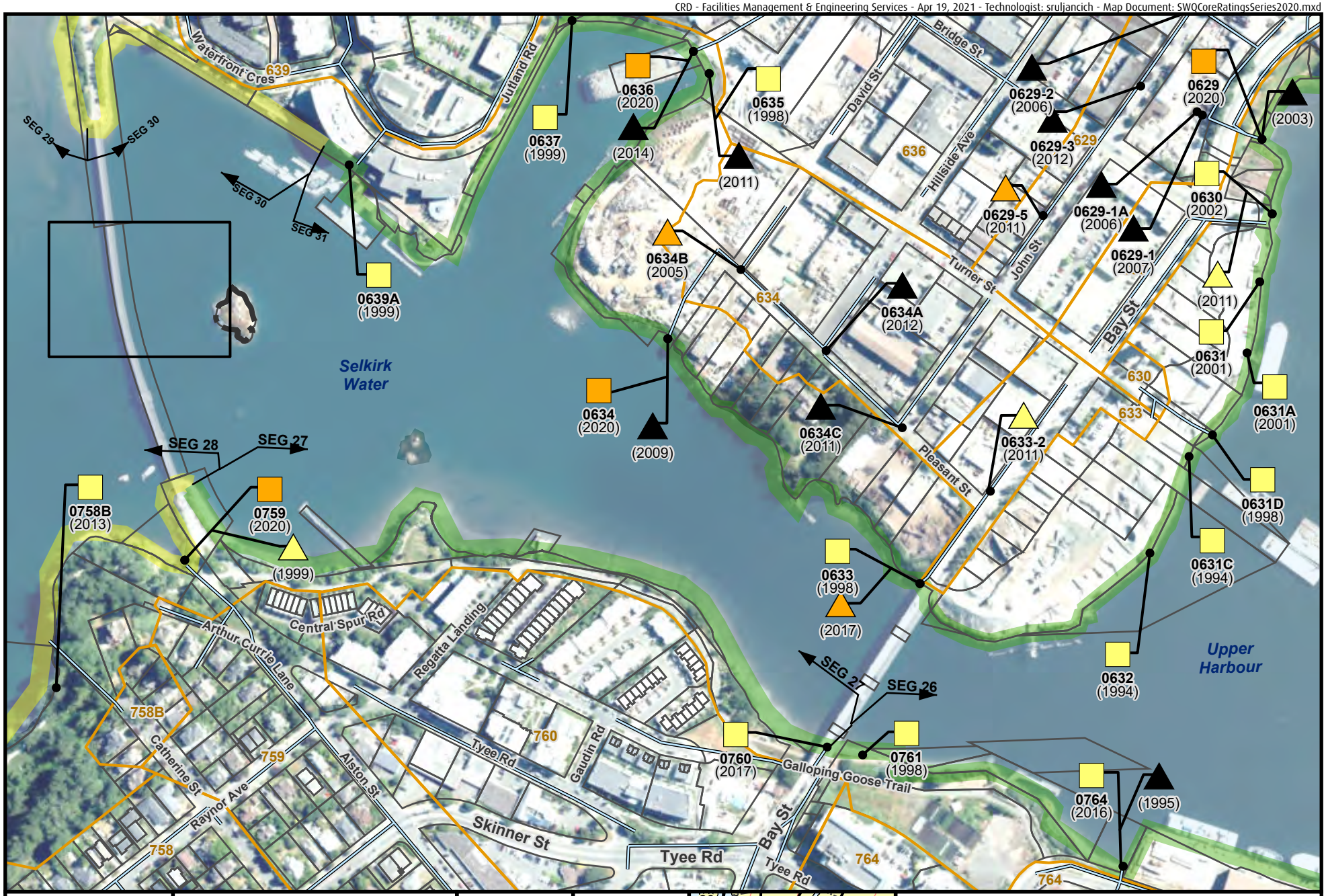


Figure 25

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
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See
Figure 1

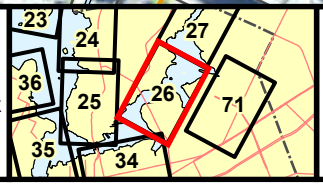
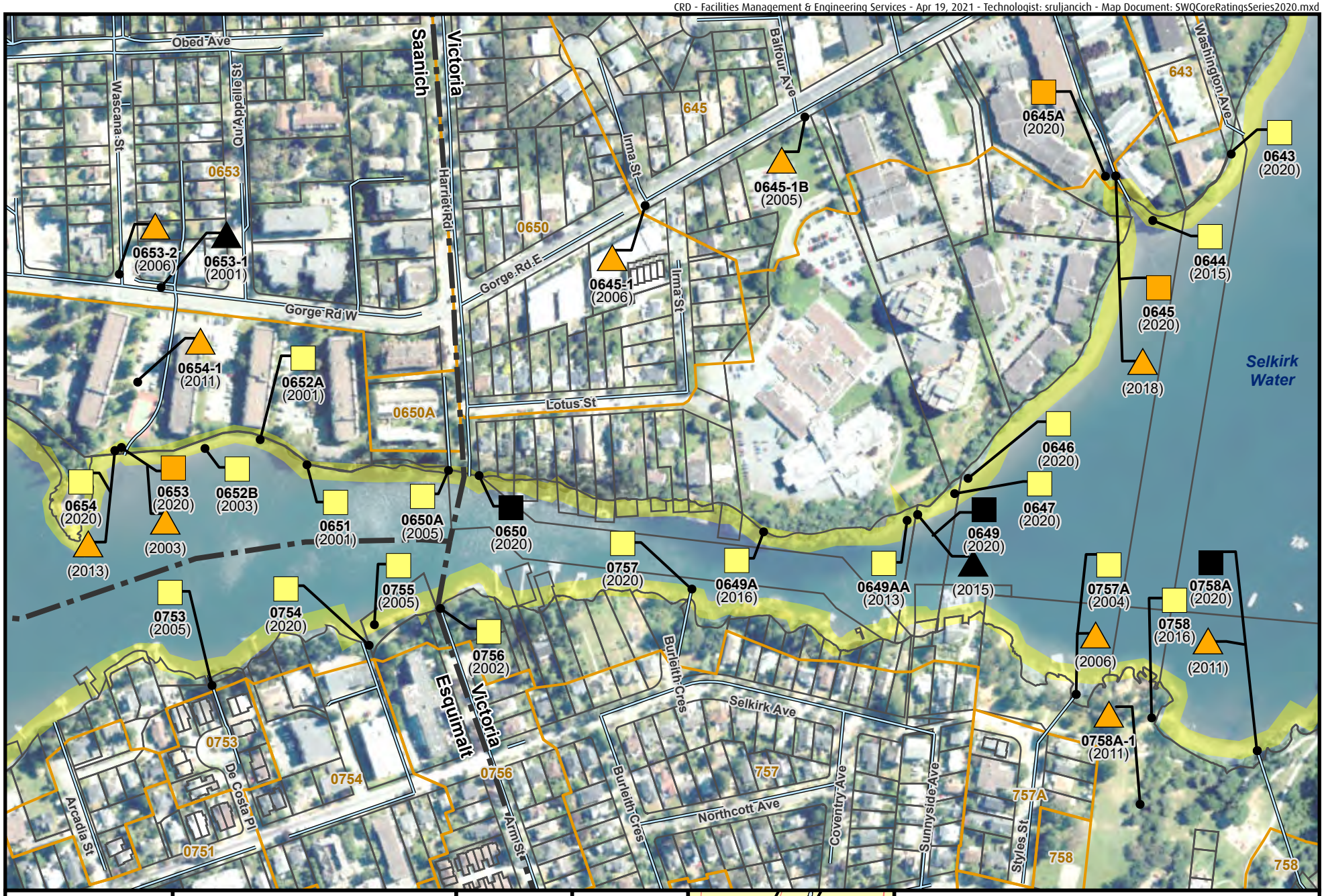


Figure 26

Stormwater Discharge Location and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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N E S W

For Legend See Figure 1

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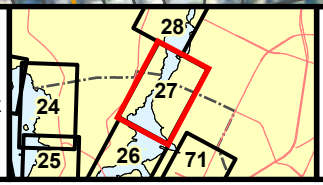
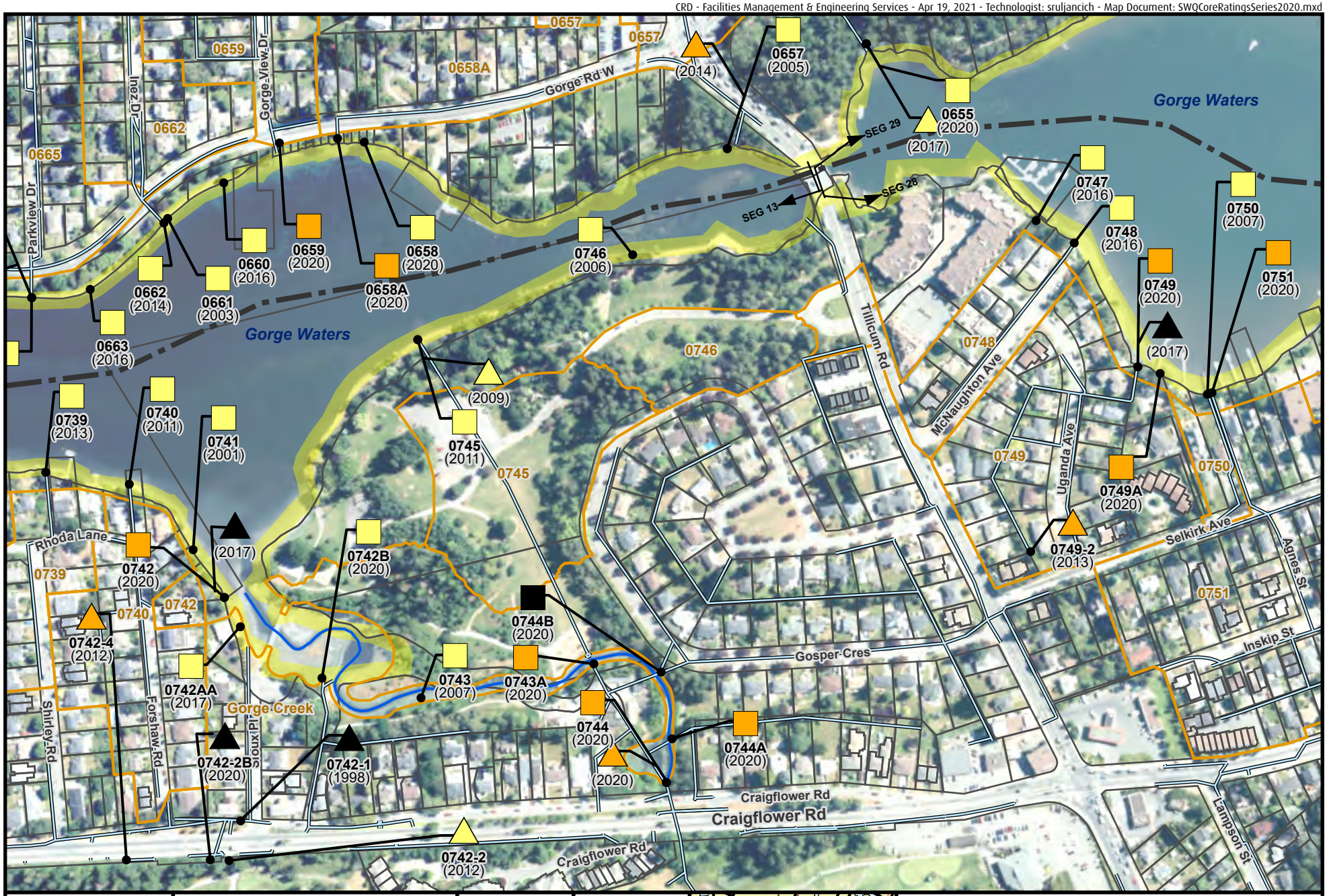


Figure 27

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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N E S W

For Legend See Figure 1

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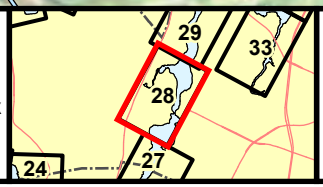
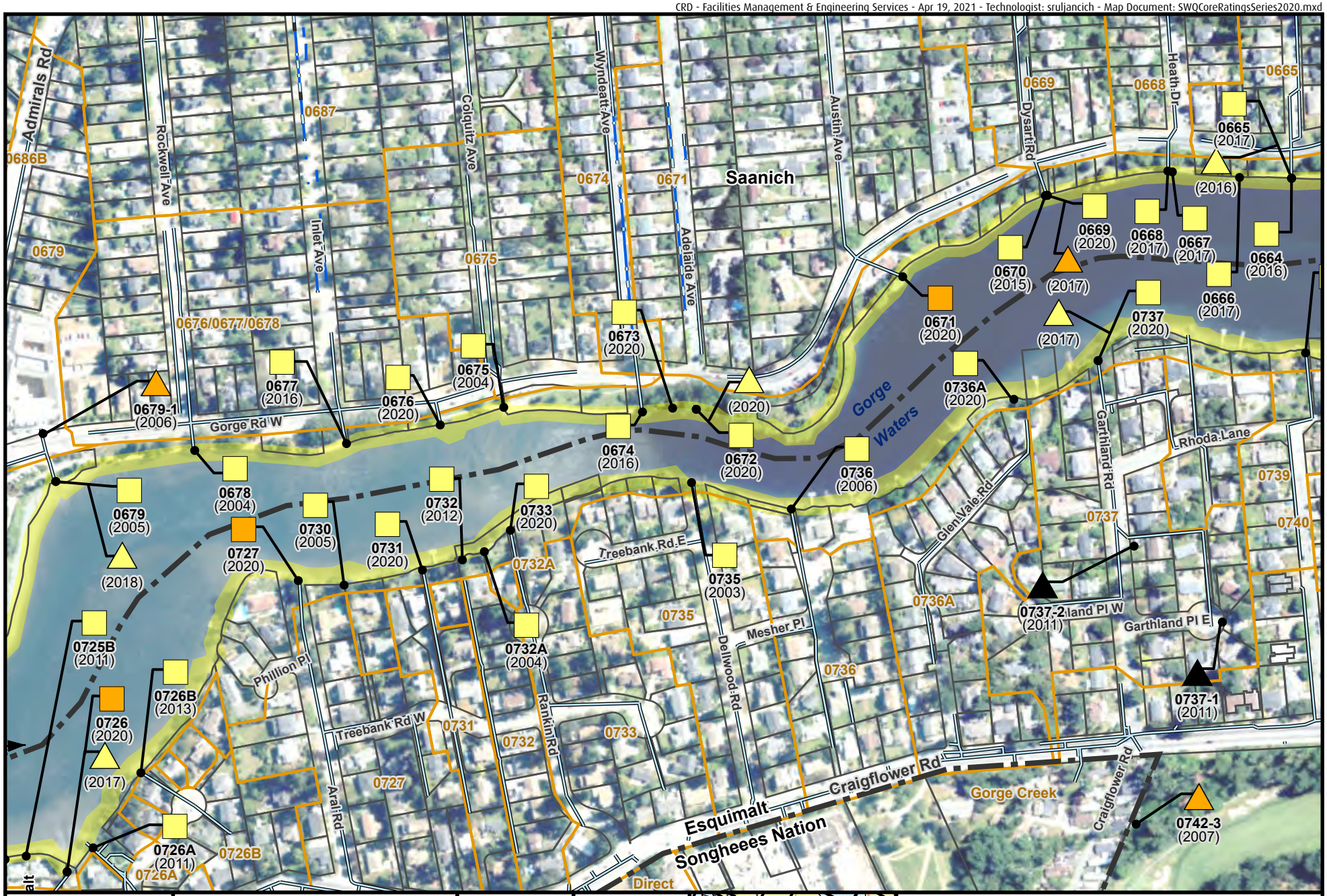


Figure 28

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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For Legend See Figure 1

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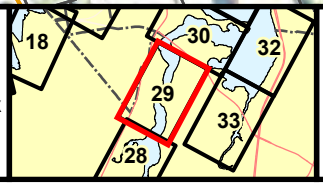
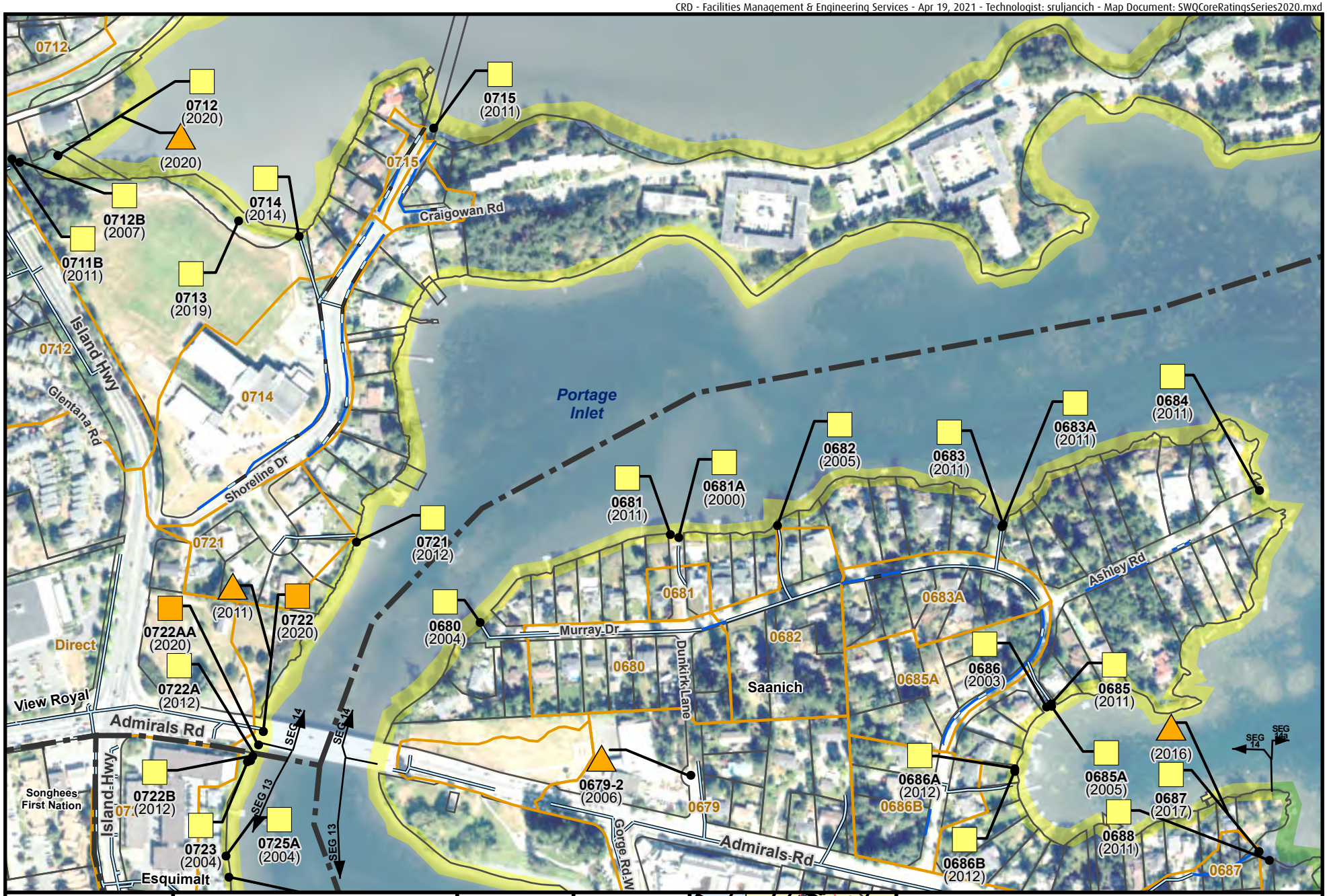


Figure 29

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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For Legend See Figure 1

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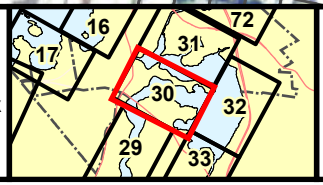
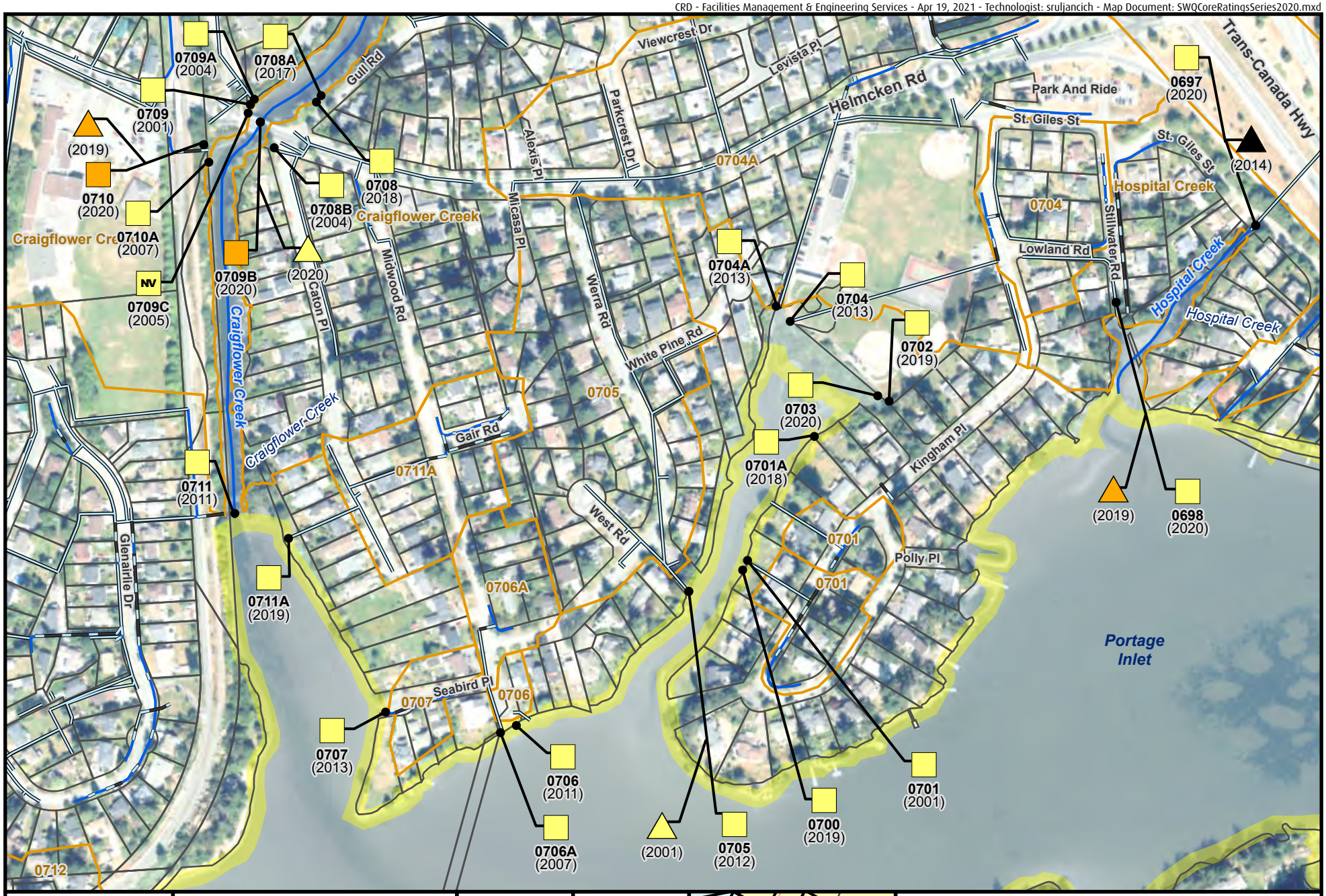


Figure 30

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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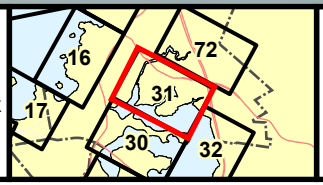

Figure 31

Stormwater Discharge Location and Level of Concern

CRD
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Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

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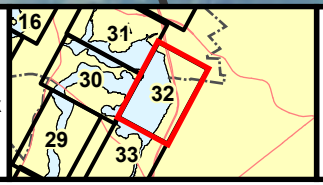
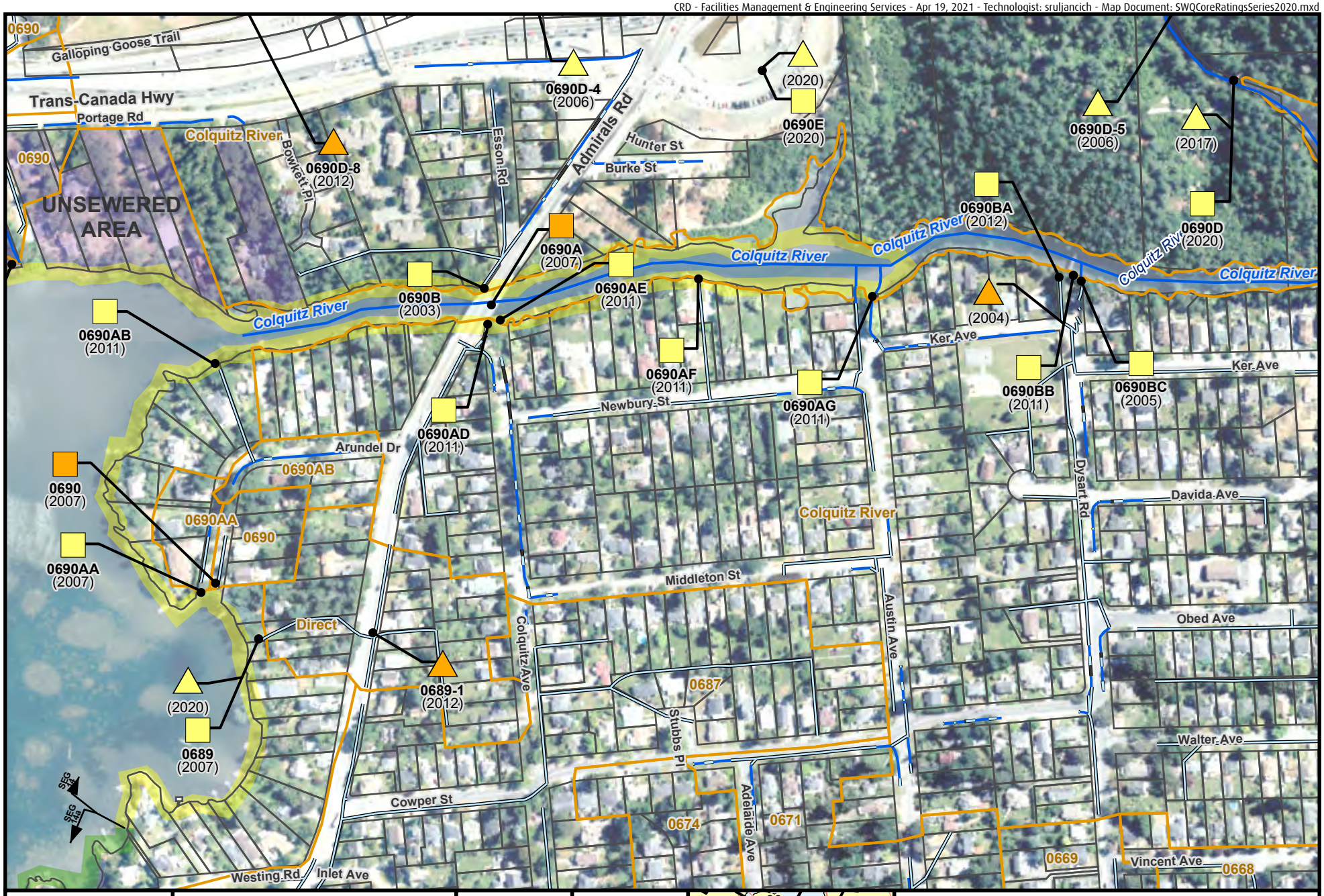


Figure 32

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

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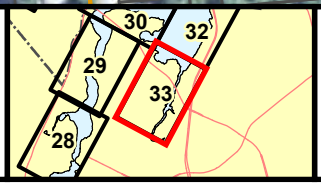
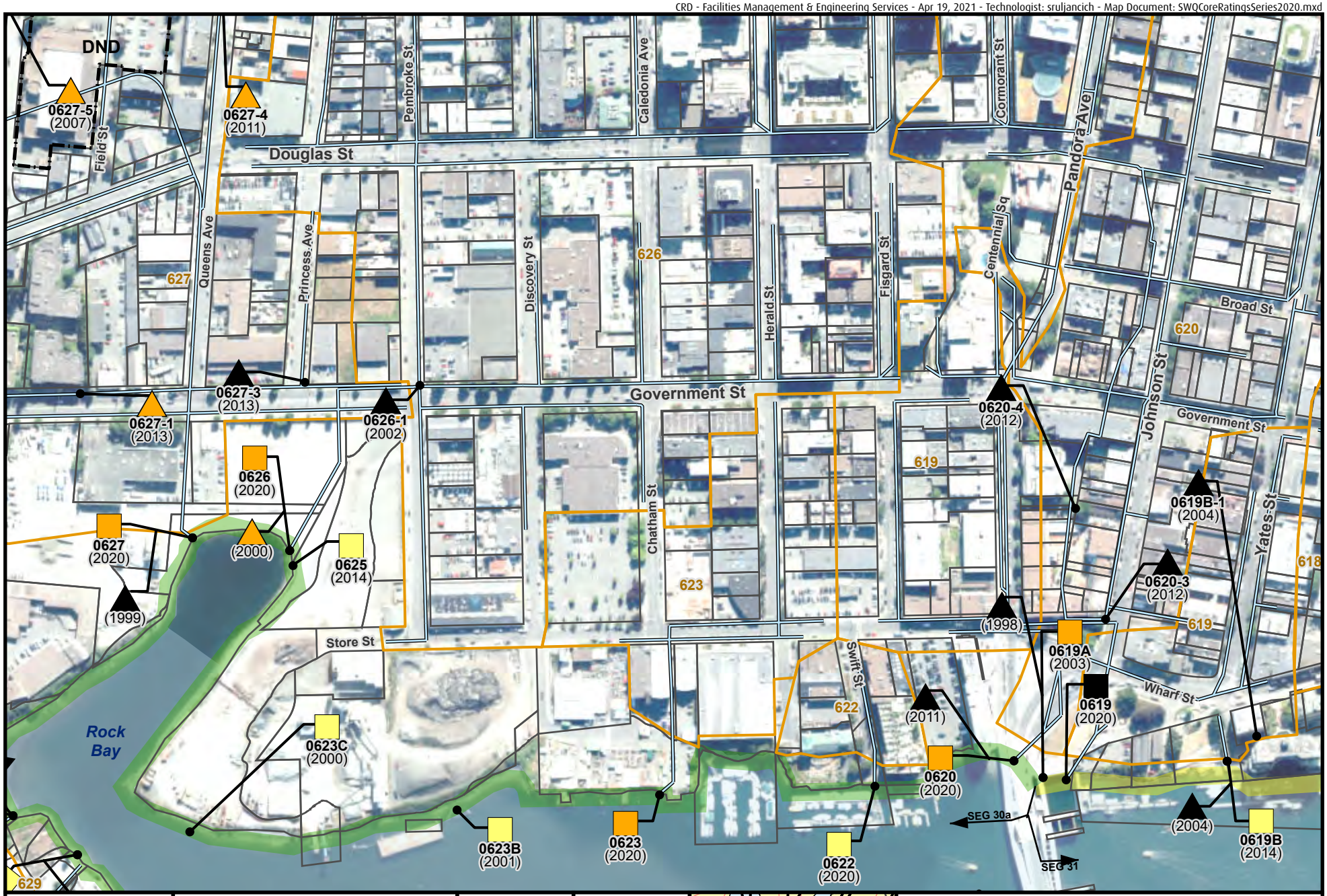


Figure 33

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
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Figure 1

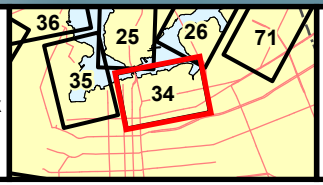
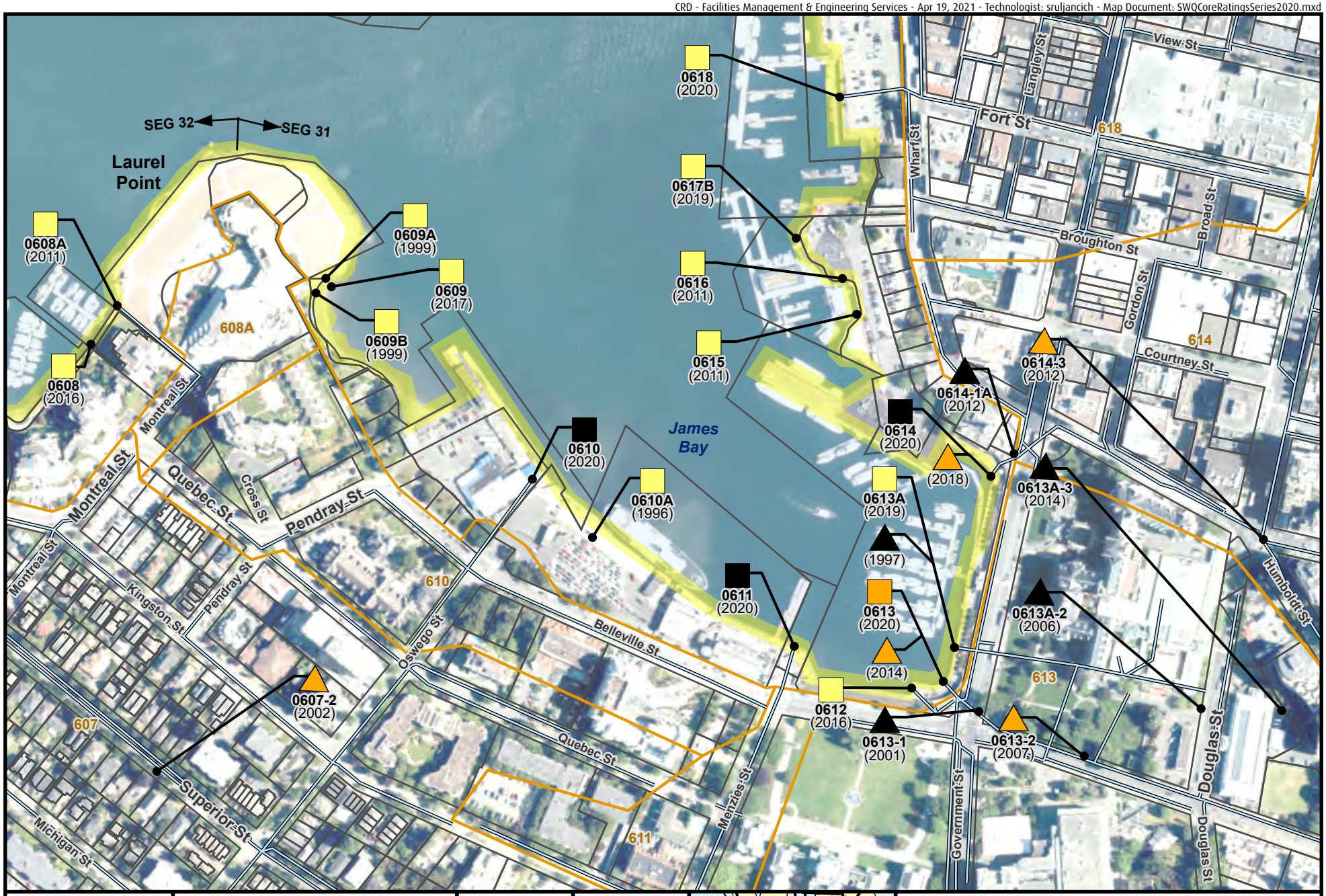


Figure 34

Stormwater Discharge Location
and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend See Figure 1

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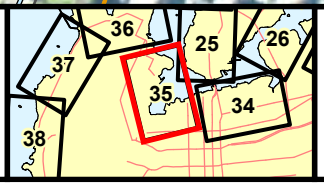
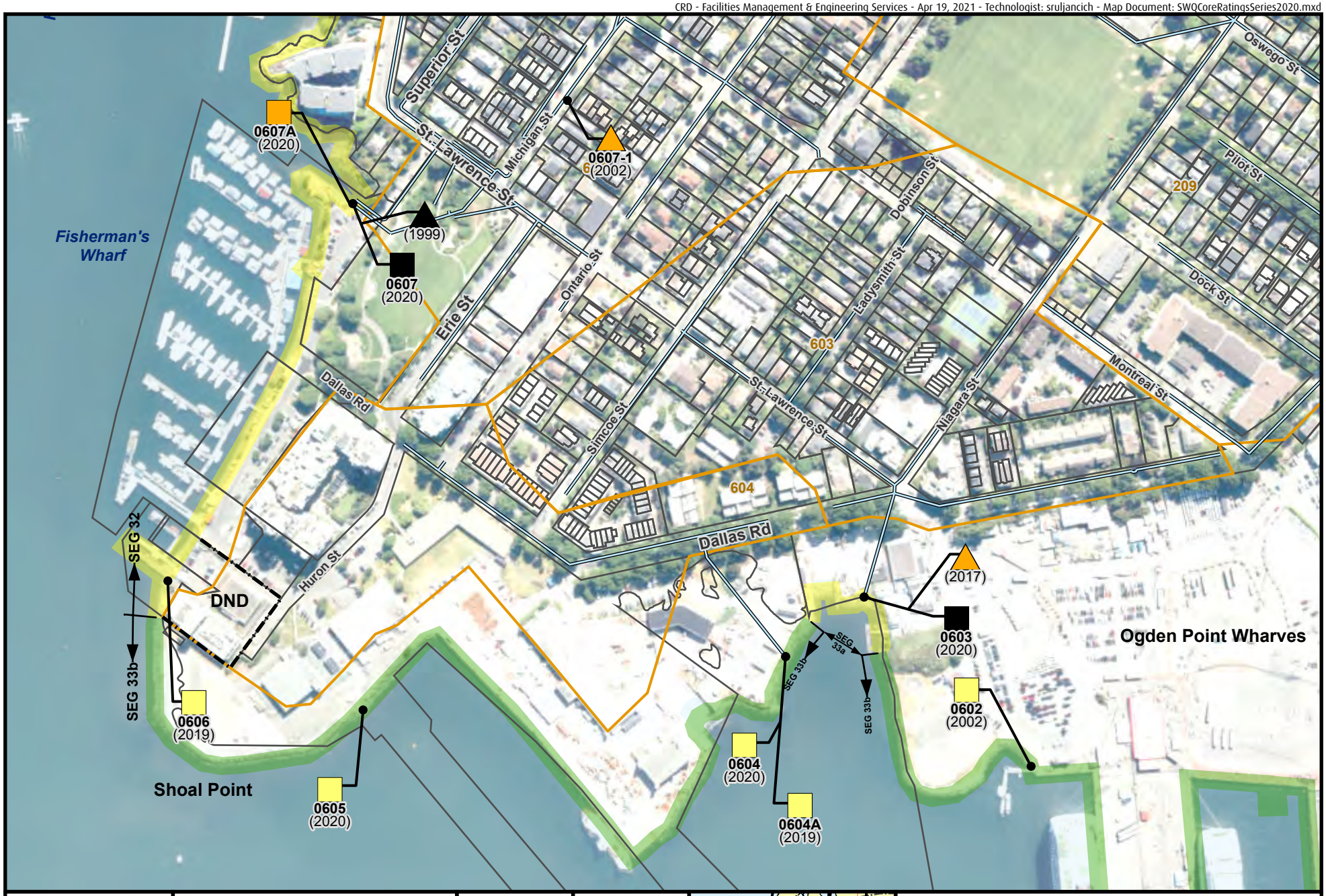


Figure 35

Stormwater Discharge Location and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

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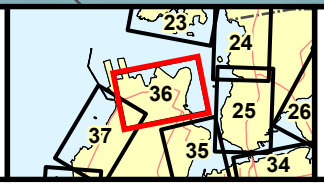

Figure 36

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
See Figure 1

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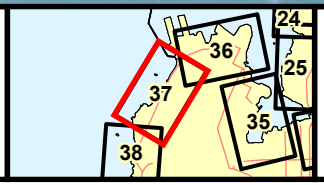

Figure 37

Stormwater Discharge Location and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

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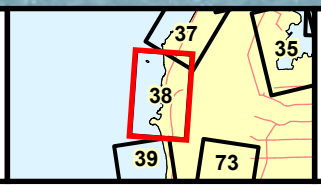
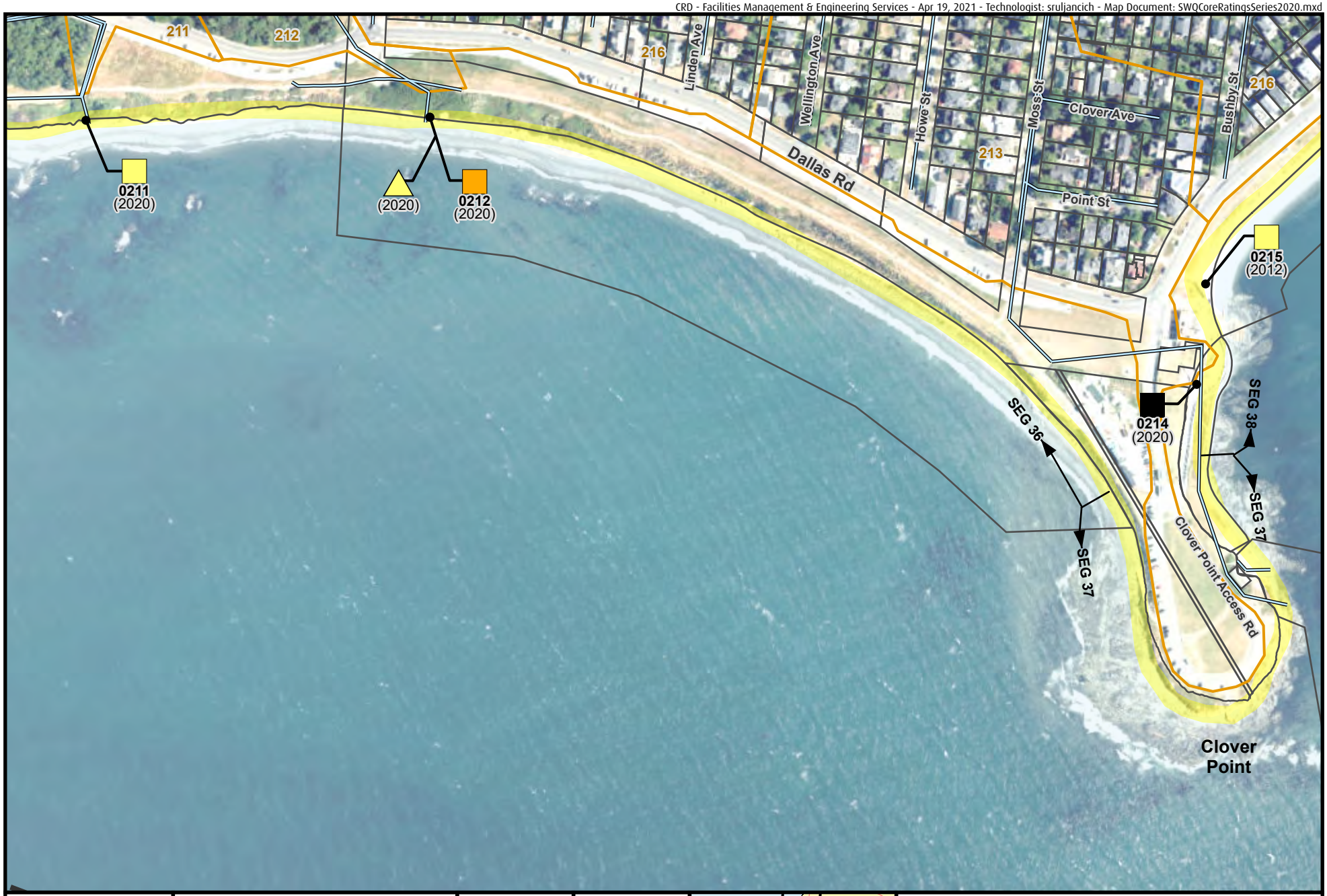


Figure 38

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend
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Figure 2

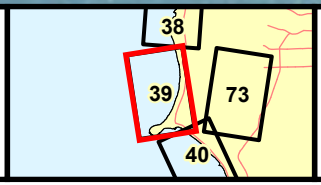

Figure 39

Stormwater Discharge Location
and Level of Concern

Metres

0 25 50 100 150

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend
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Figure 2

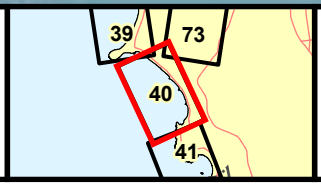
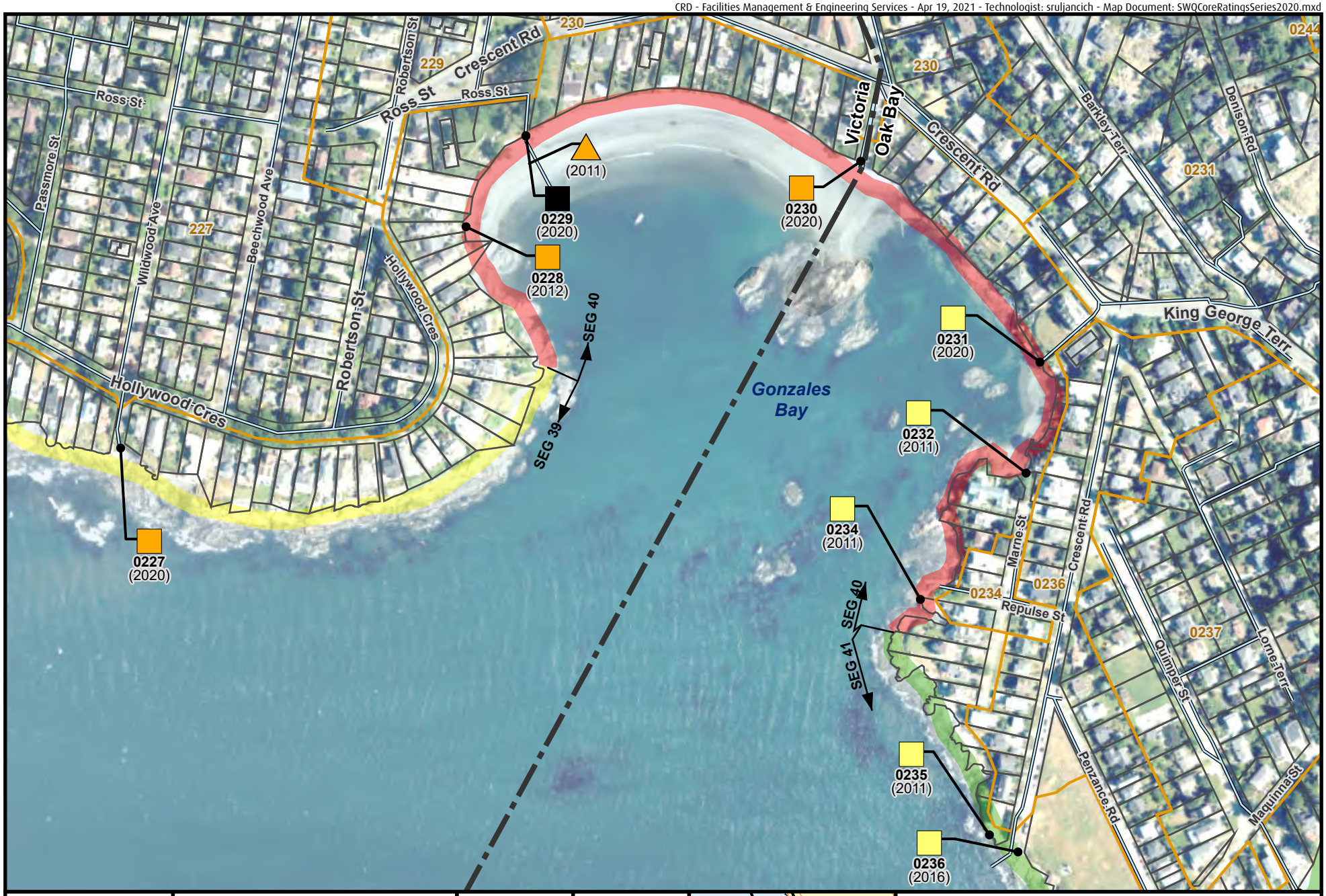


Figure 40

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend See Figure 1

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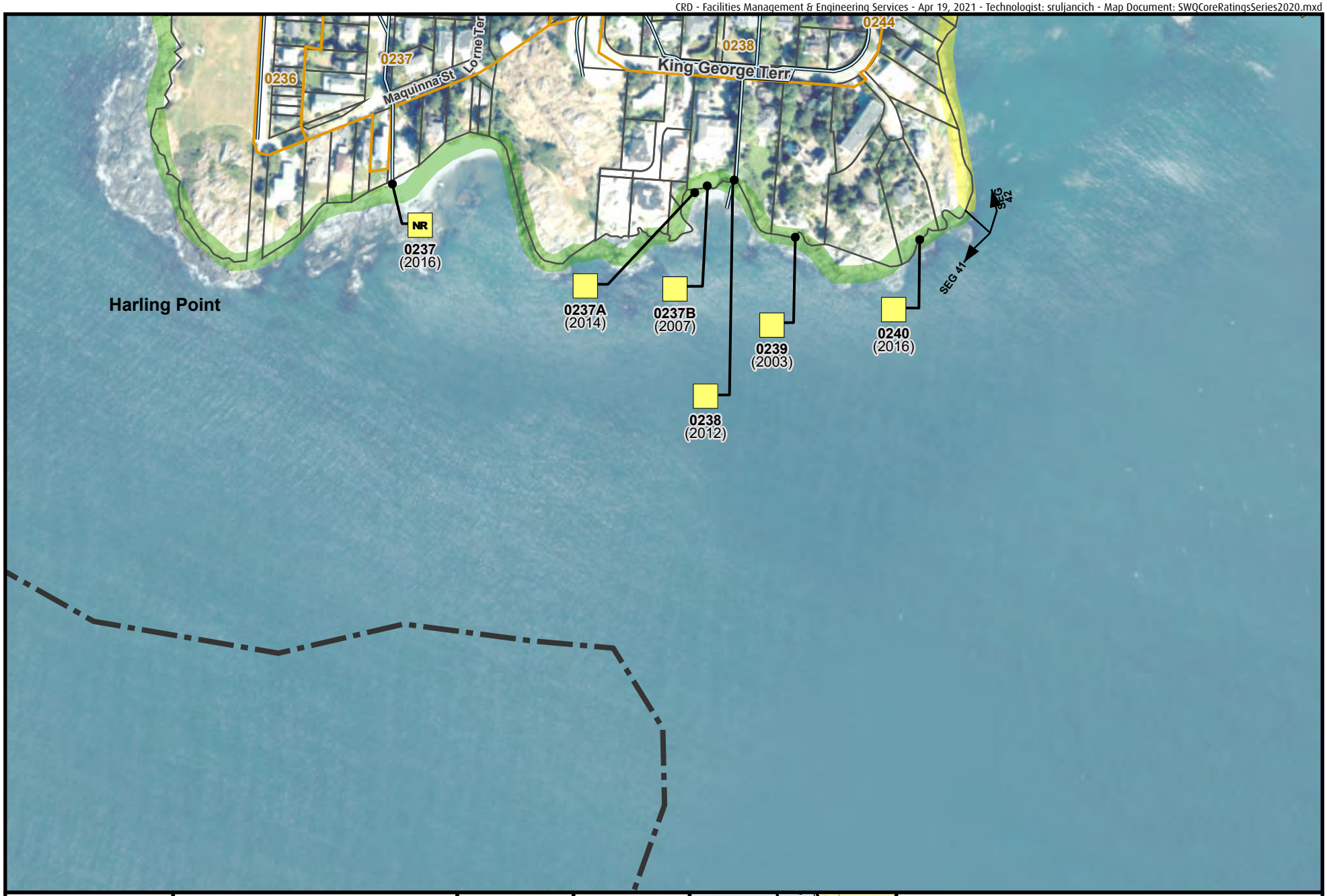
40 41 42 43 74

Figure 41

Stormwater Discharge Location and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

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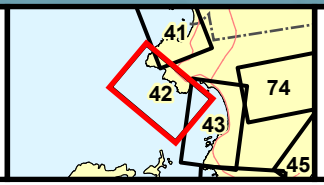
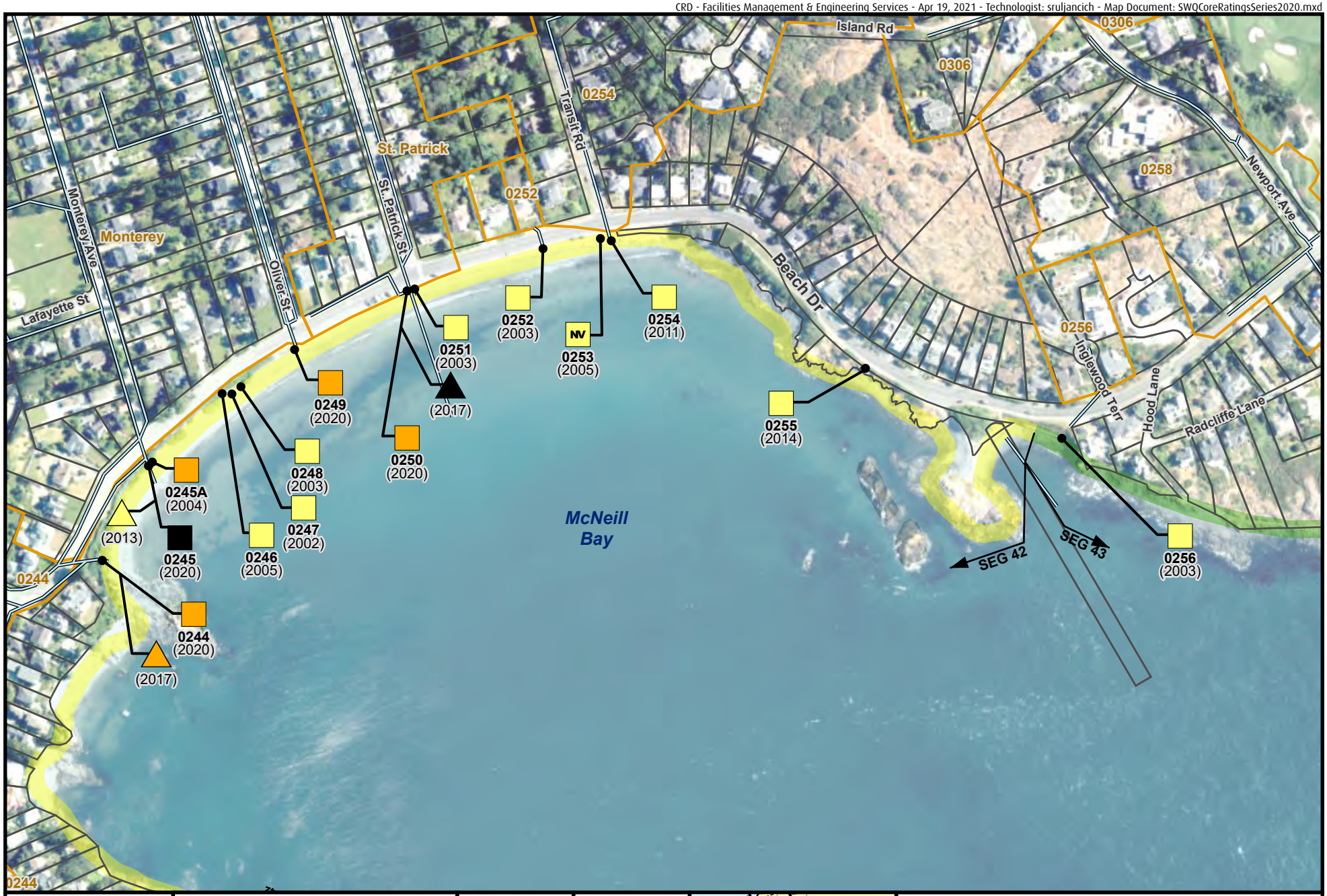


Figure 42

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
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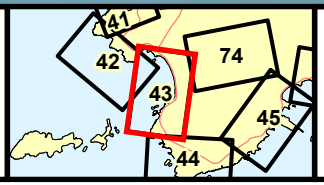

Figure 43

Stormwater Discharge Location
and Level of Concern

CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

W N S E

For Legend
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For Area Key Index
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Figure 2

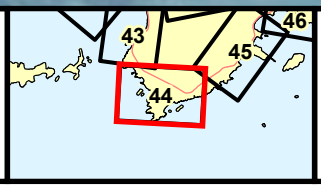

Figure 44
Stormwater Discharge Location
and Level of Concern

CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

For Legend
See Figure 1

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Figure 2

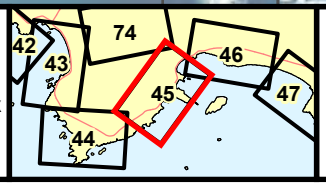
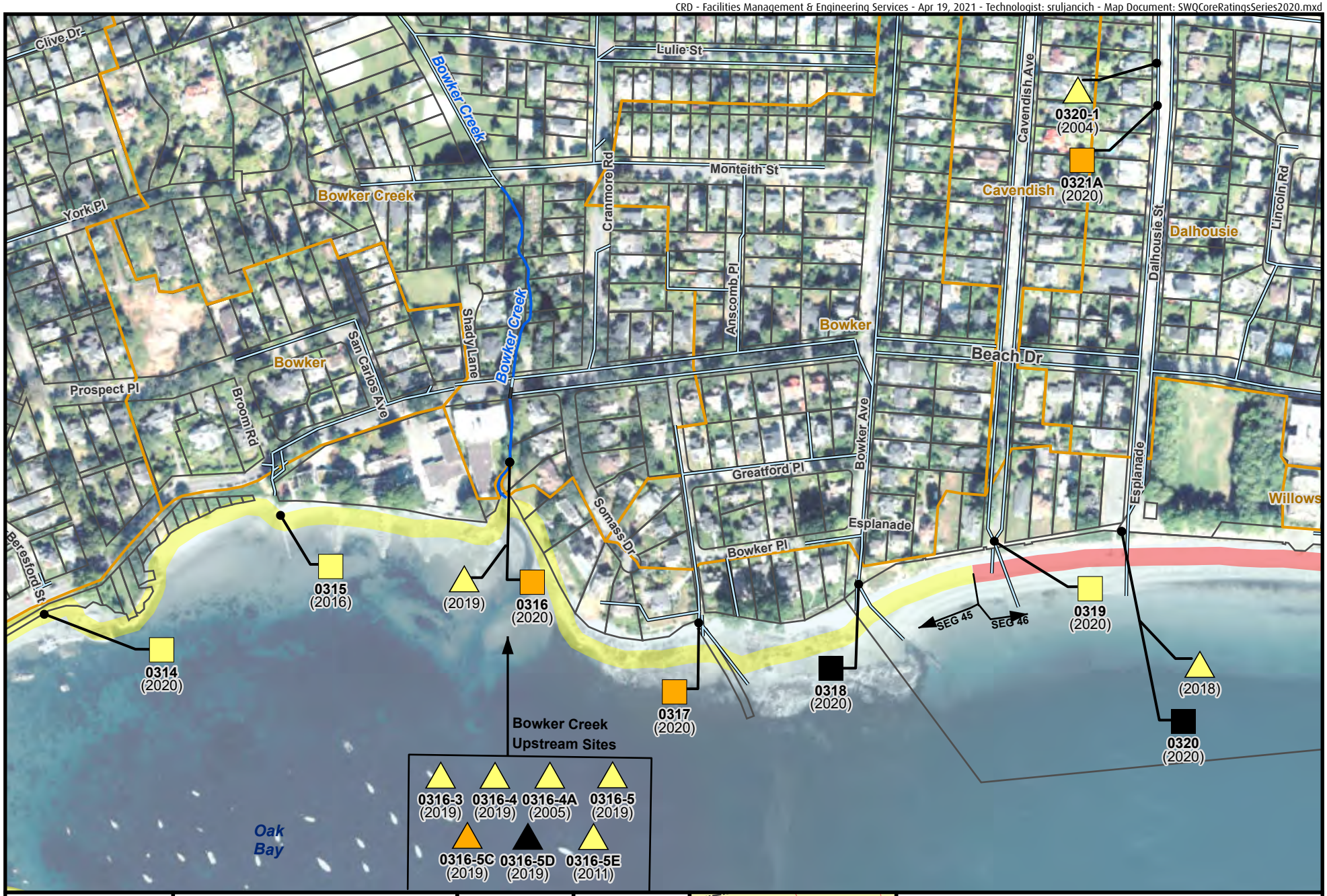


Figure 45

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
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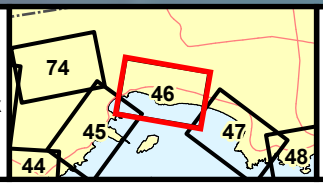
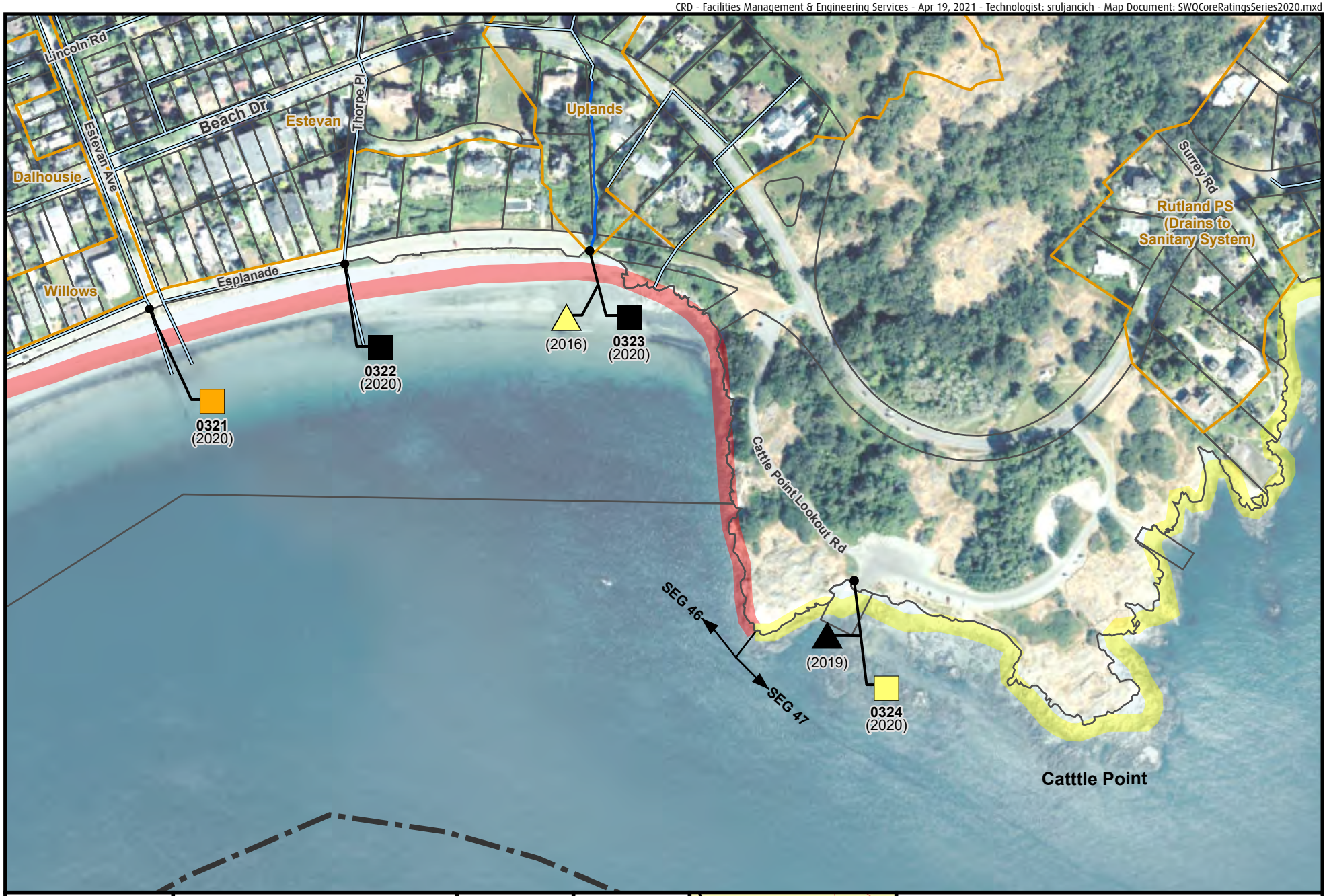


Figure 46

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W N S E

For Legend
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Figure 2

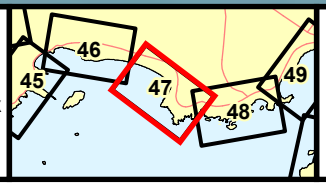

Figure 47

Stormwater Discharge Location
and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W S E N

For Legend
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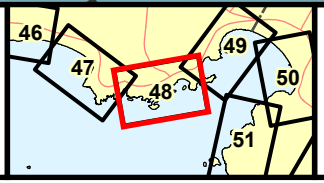
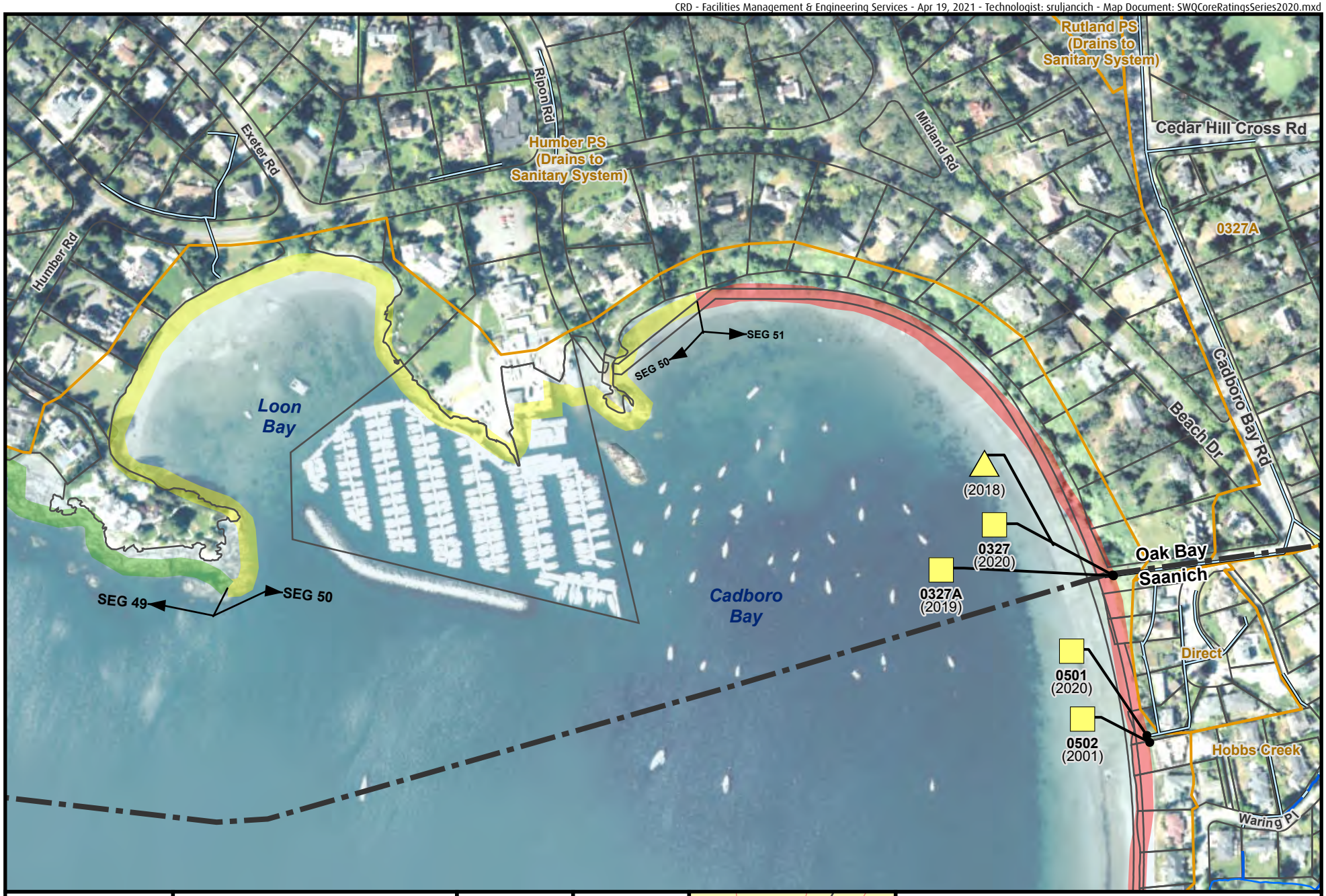


Figure 48

Stormwater Discharge Location
and Level of Concern



Metres

0 25 50 100 150

Projection: UTM ZONE 10N NAD 83

For Legend
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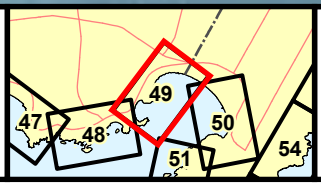
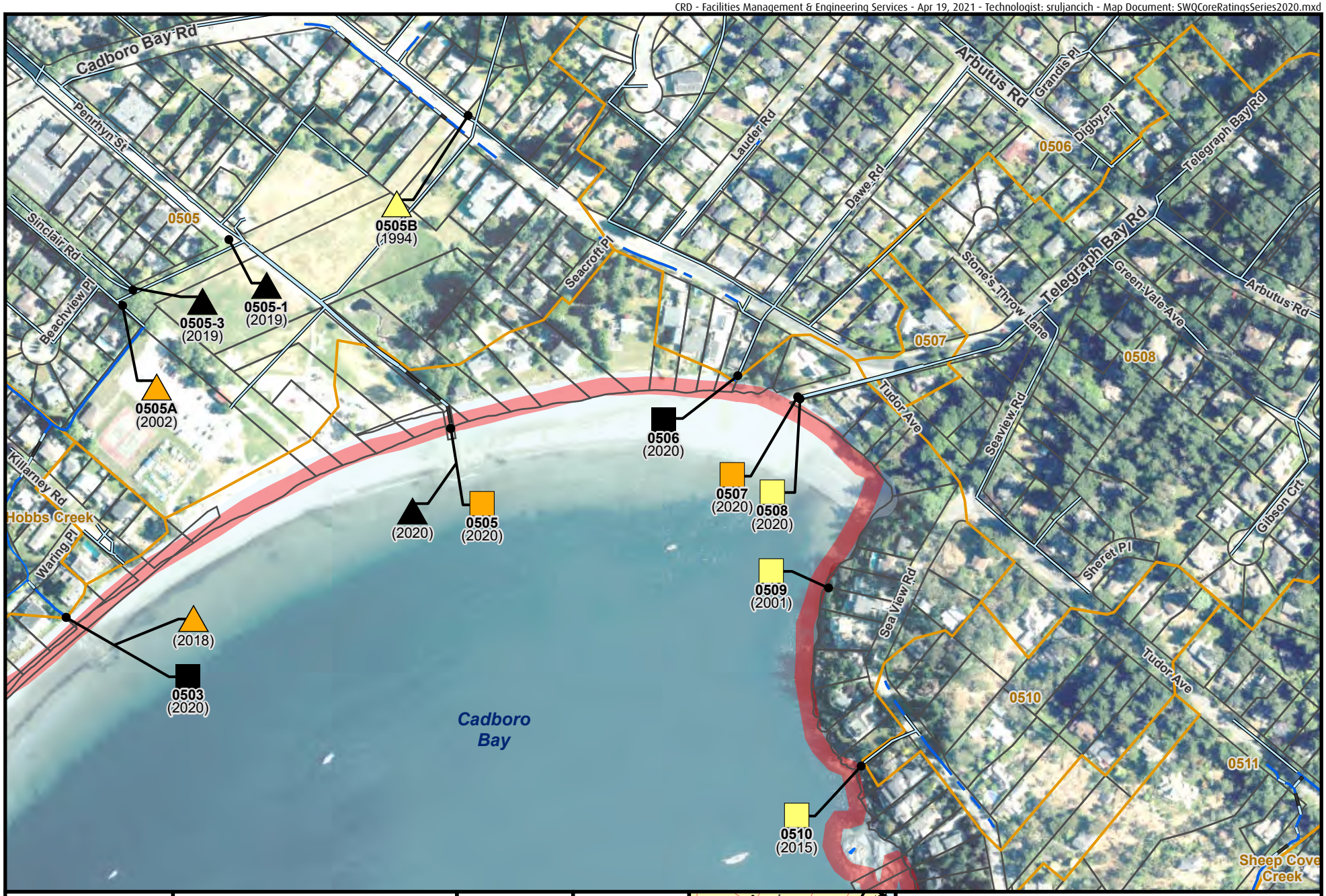


Figure 49

Stormwater Discharge Location
and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N W E S

For Legend See Figure 1

For Area Key Index See Figure 2

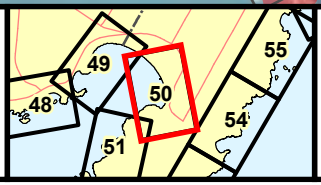


Figure 50

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend See Figure 1

For Area Key Index See Figure 2

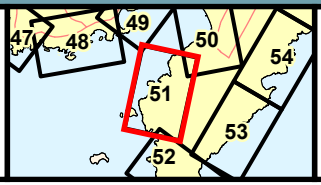


Figure 51

Stormwater Discharge Location and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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For Legend
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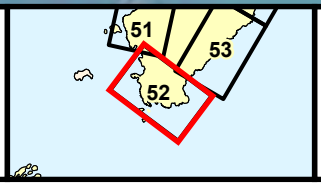

Figure 52

Stormwater Discharge Location
and Level of Concern

CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

For Legend
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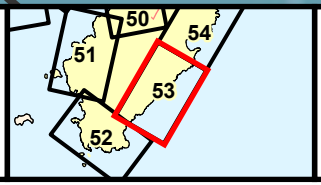
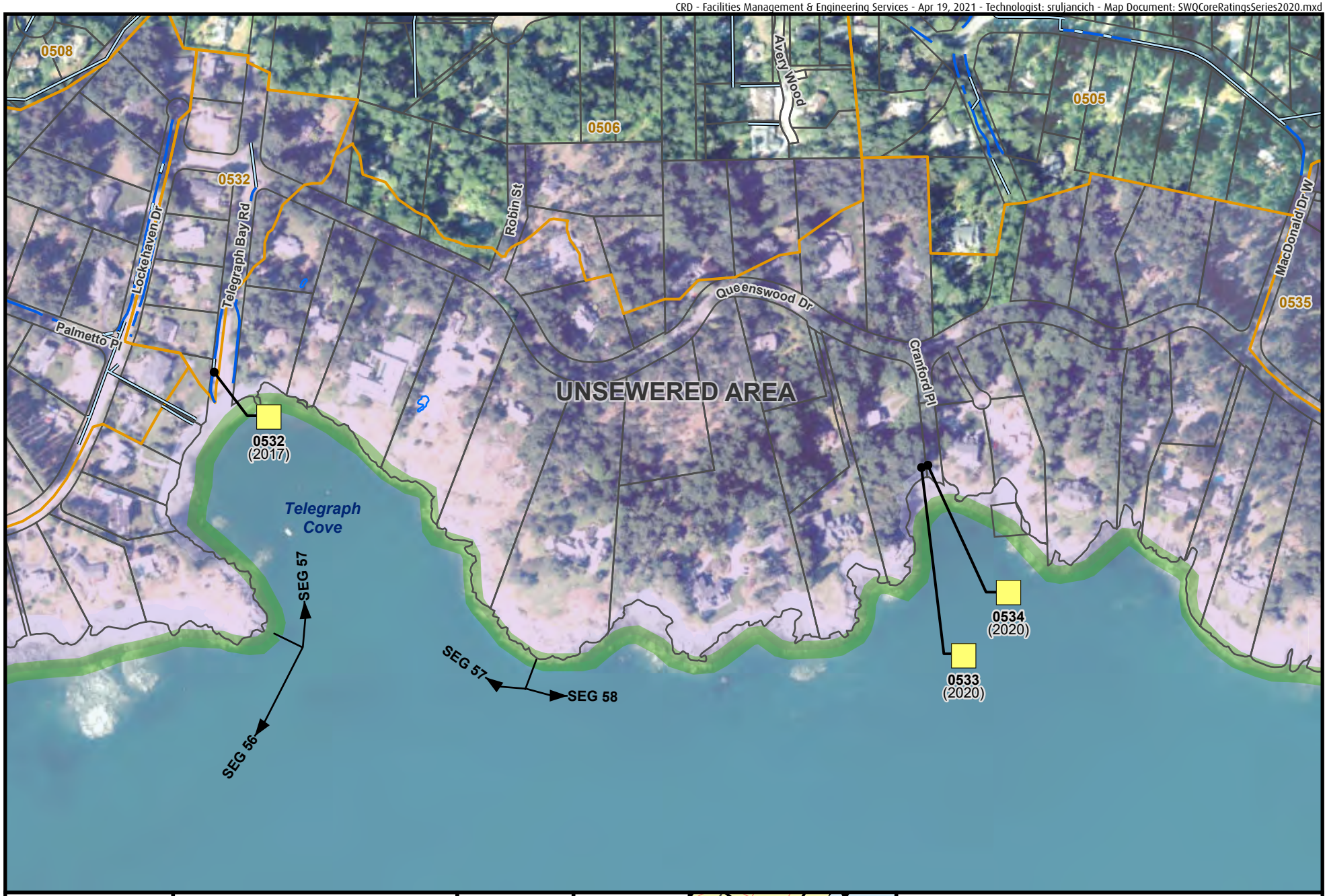


Figure 53
Stormwater Discharge Location
and Level of Concern



Metres

0 25 50 100 150

Projection: UTM ZONE 10N NAD 83

For Legend
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Figure 2

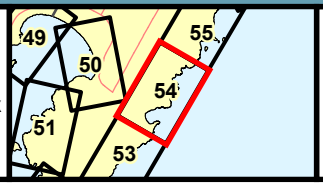
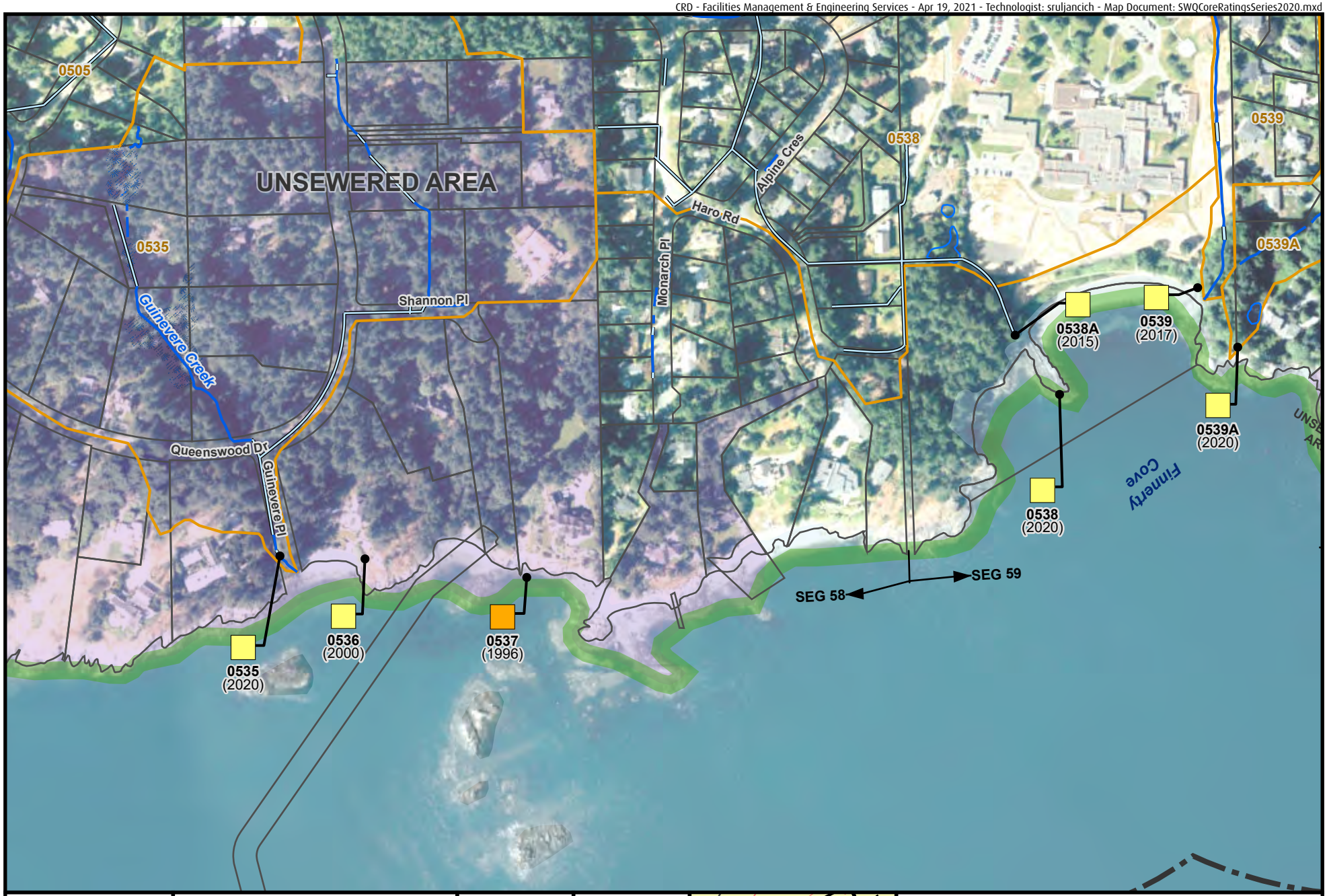


Figure 54

Stormwater Discharge Location
and Level of Concern



CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend See Figure 1

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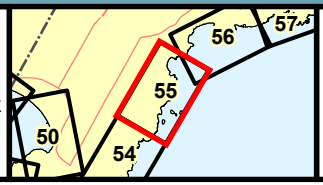
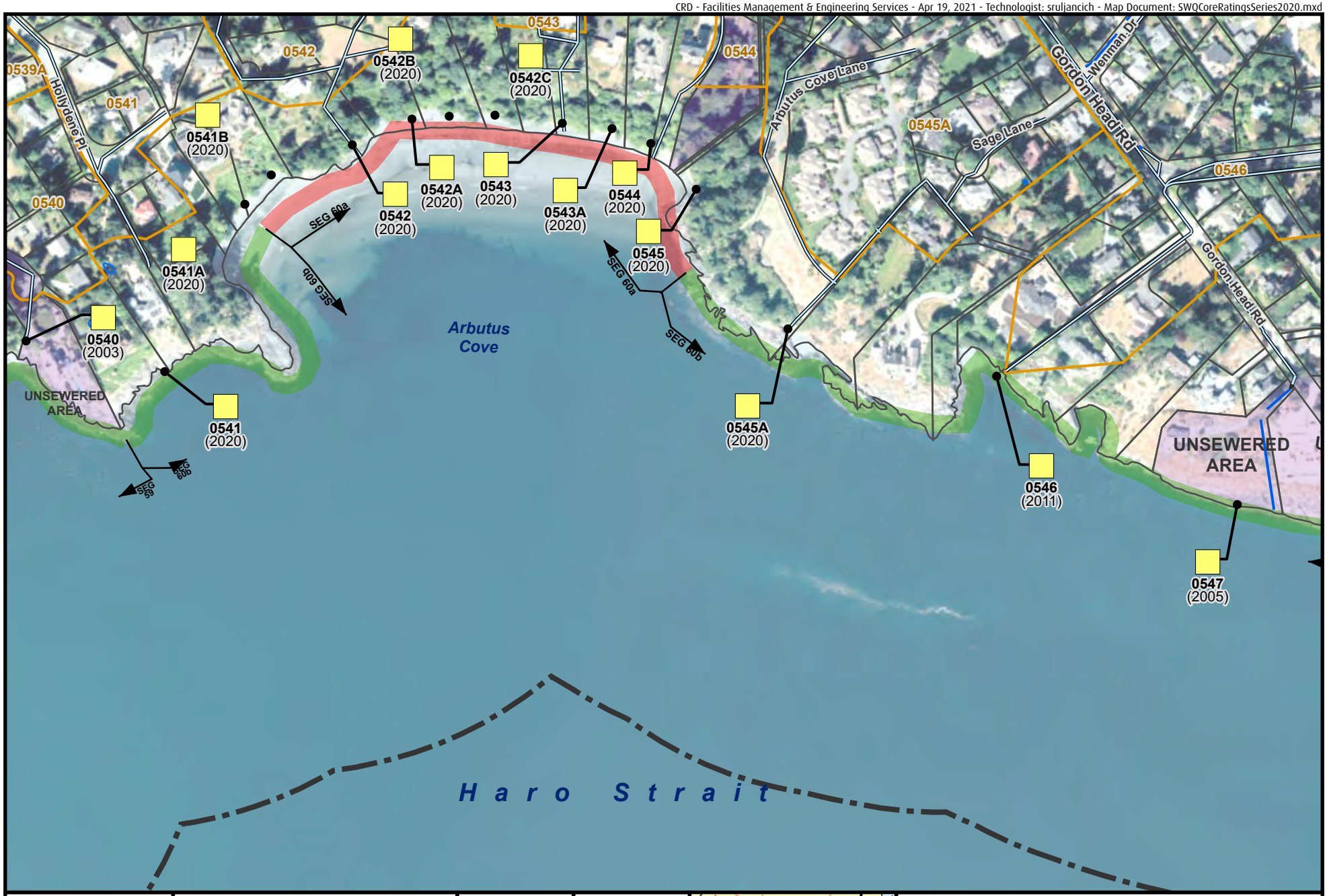


Figure 55

Stormwater Discharge Location and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
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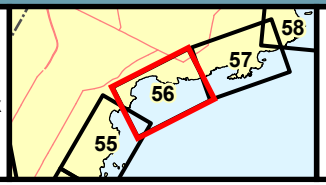

Figure 56

Stormwater Discharge Location and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W S N E

For Legend See Figure 1

For Area Key Index See Figure 2

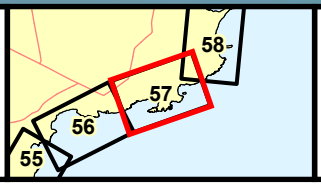

Figure 57

Stormwater Discharge Location and Level of Concern

CRD Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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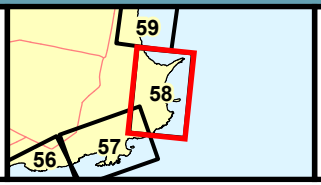

Figure 58

Stormwater Discharge Location and Level of Concern

CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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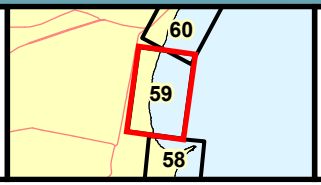
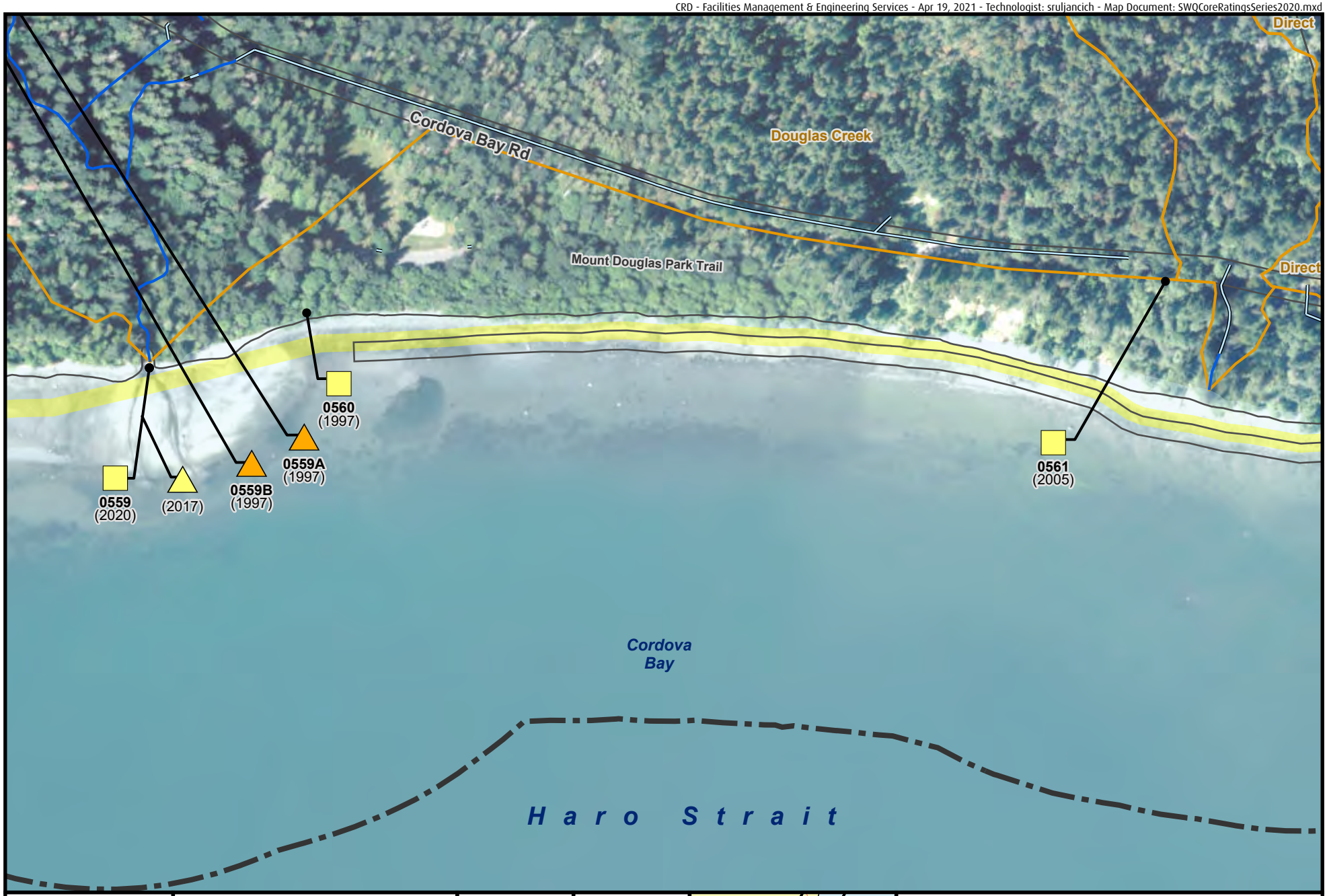


Figure 59

Stormwater Discharge Location
and Level of Concern



Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

S W E N

For Legend
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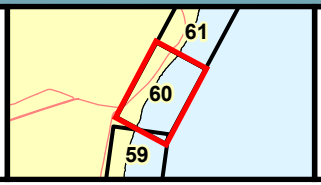
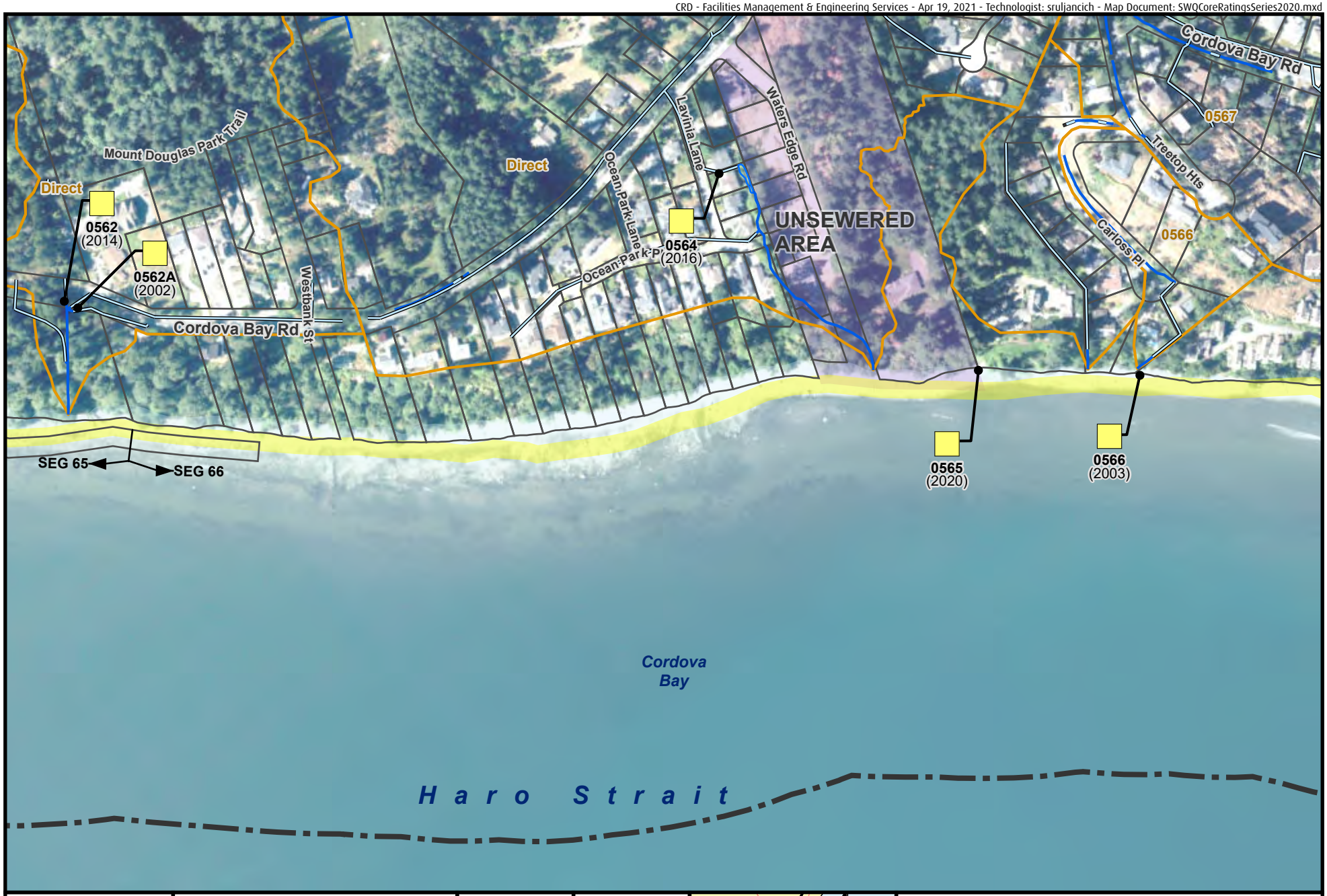


Figure 60

Stormwater Discharge Location
and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
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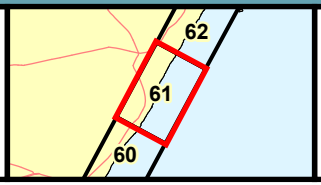

Figure 61

Stormwater Discharge Location
and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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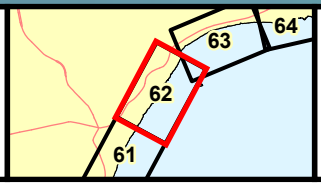

Figure 62

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

For Legend
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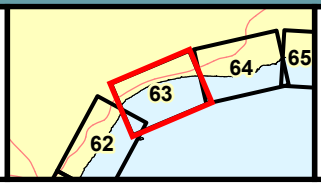
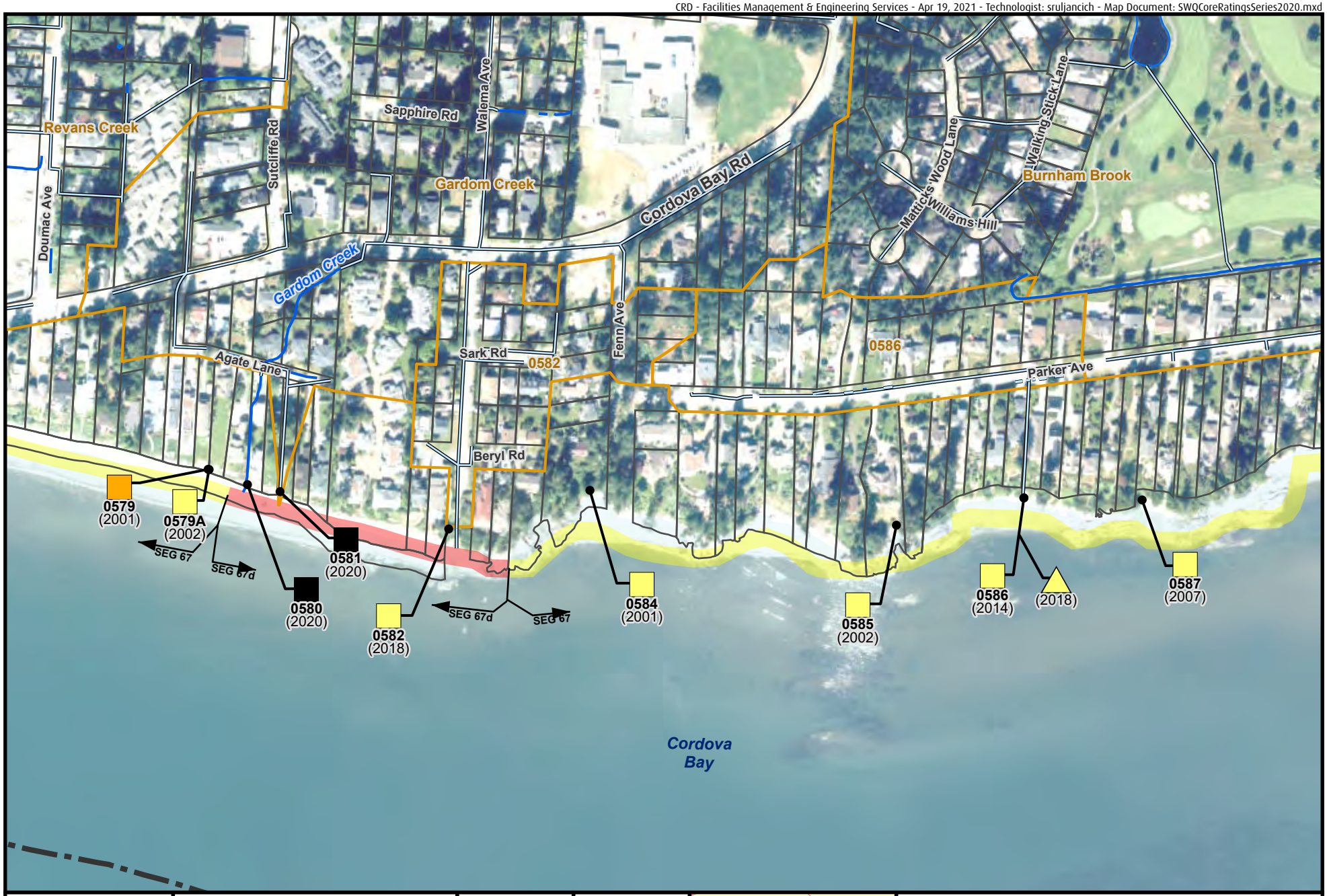


Figure 63

Stormwater Discharge Location
and Level of Concern



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0 25 50 100 150 Metres

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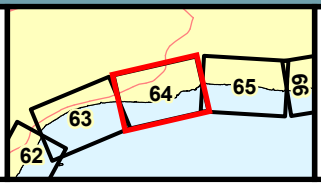

Figure 64

Stormwater Discharge Location and Level of Concern

CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

W N S E

For Legend
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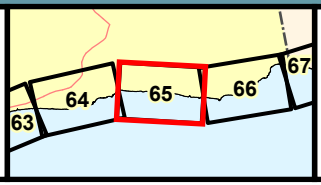

Figure 65
Stormwater Discharge Location
and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W S E N

For Legend
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Figure 3

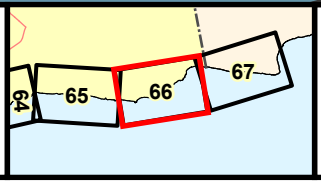

Figure 66

Stormwater Discharge Location
and Level of Concern

Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W S N E

For Legend See Figure 1

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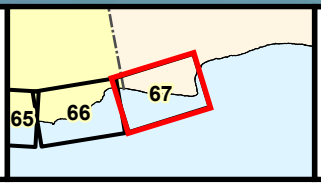
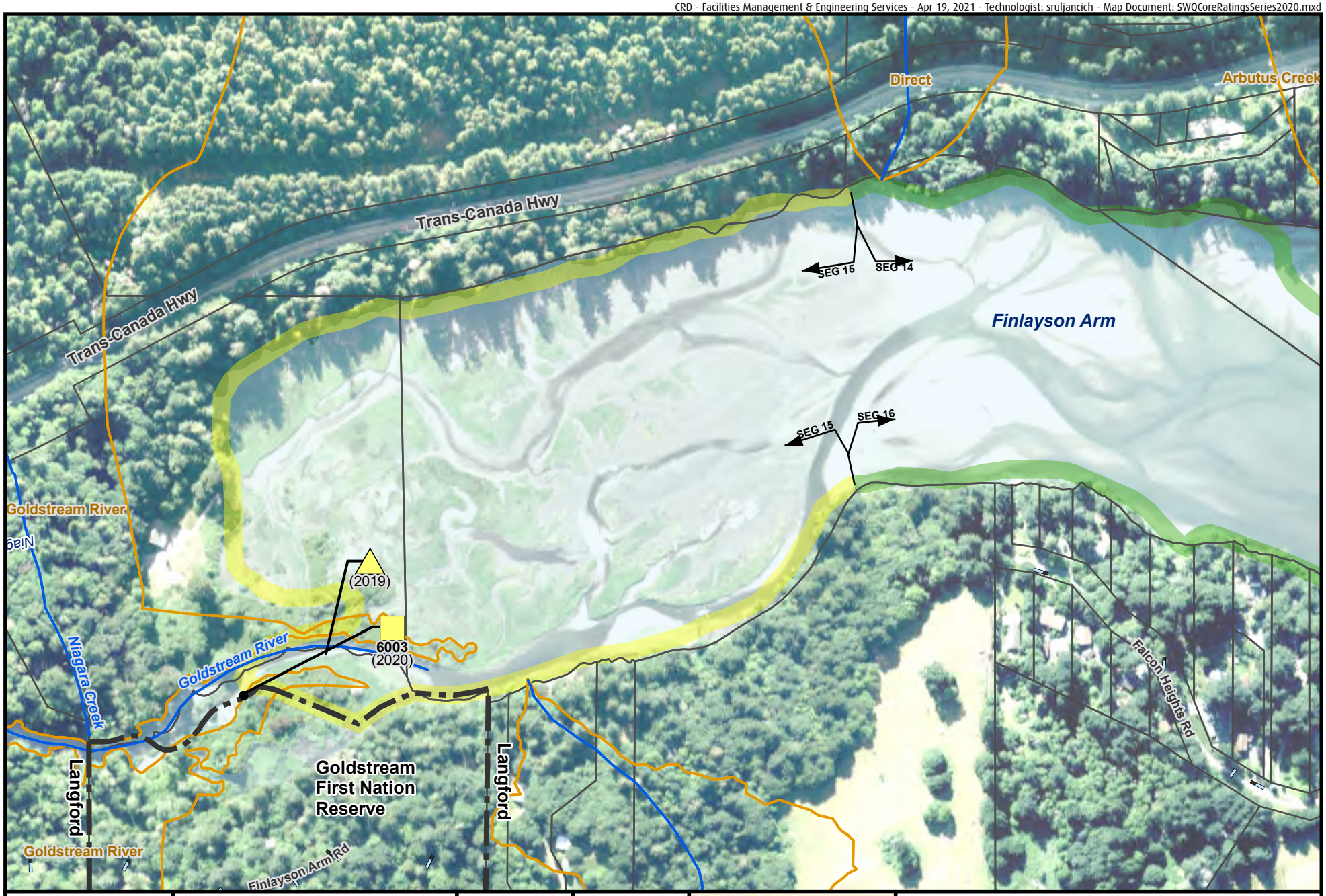


Figure 67

Stormwater Discharge Location and Level of Concern



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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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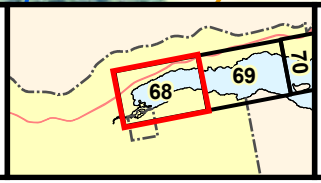
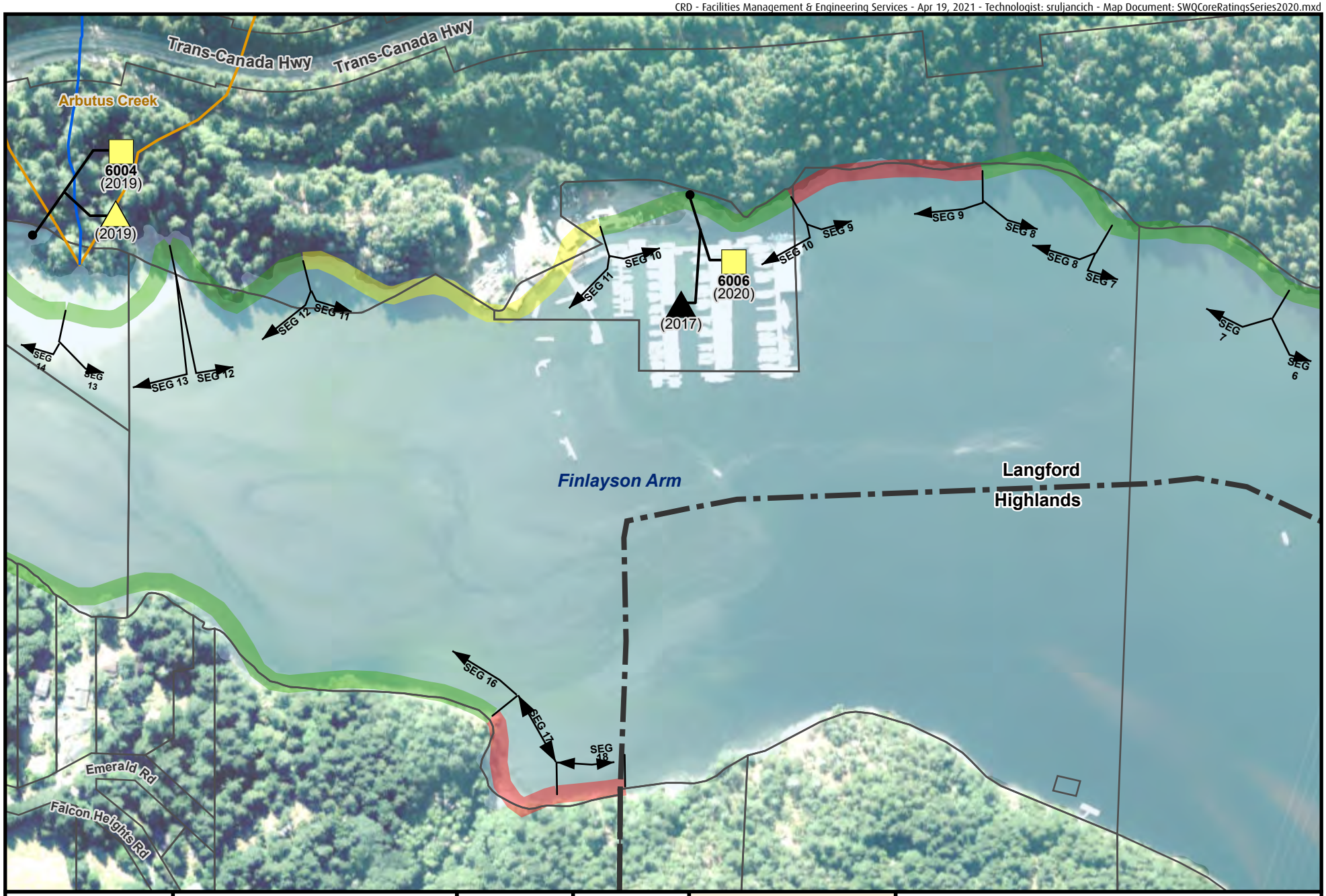


Figure 68

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

W S E N

For Legend
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Figure 4

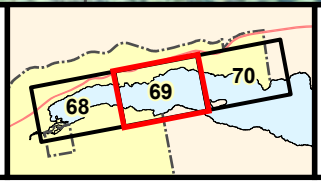
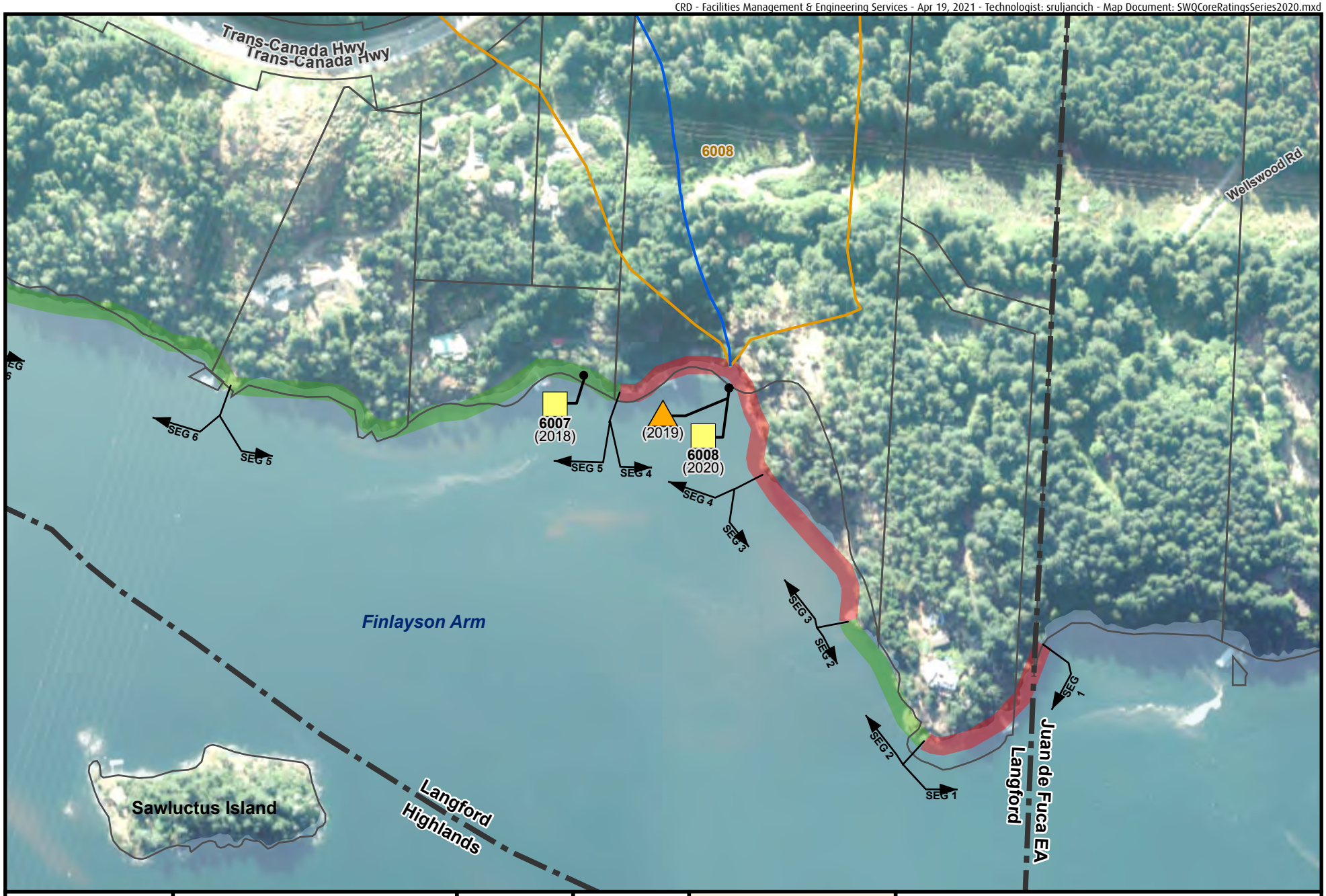


Figure 69

Stormwater Discharge Location
and Level of Concern



Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

W S E N

For Legend See Figure 1

For Area Key Index See Figure 4

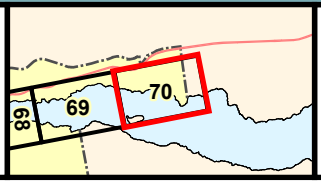
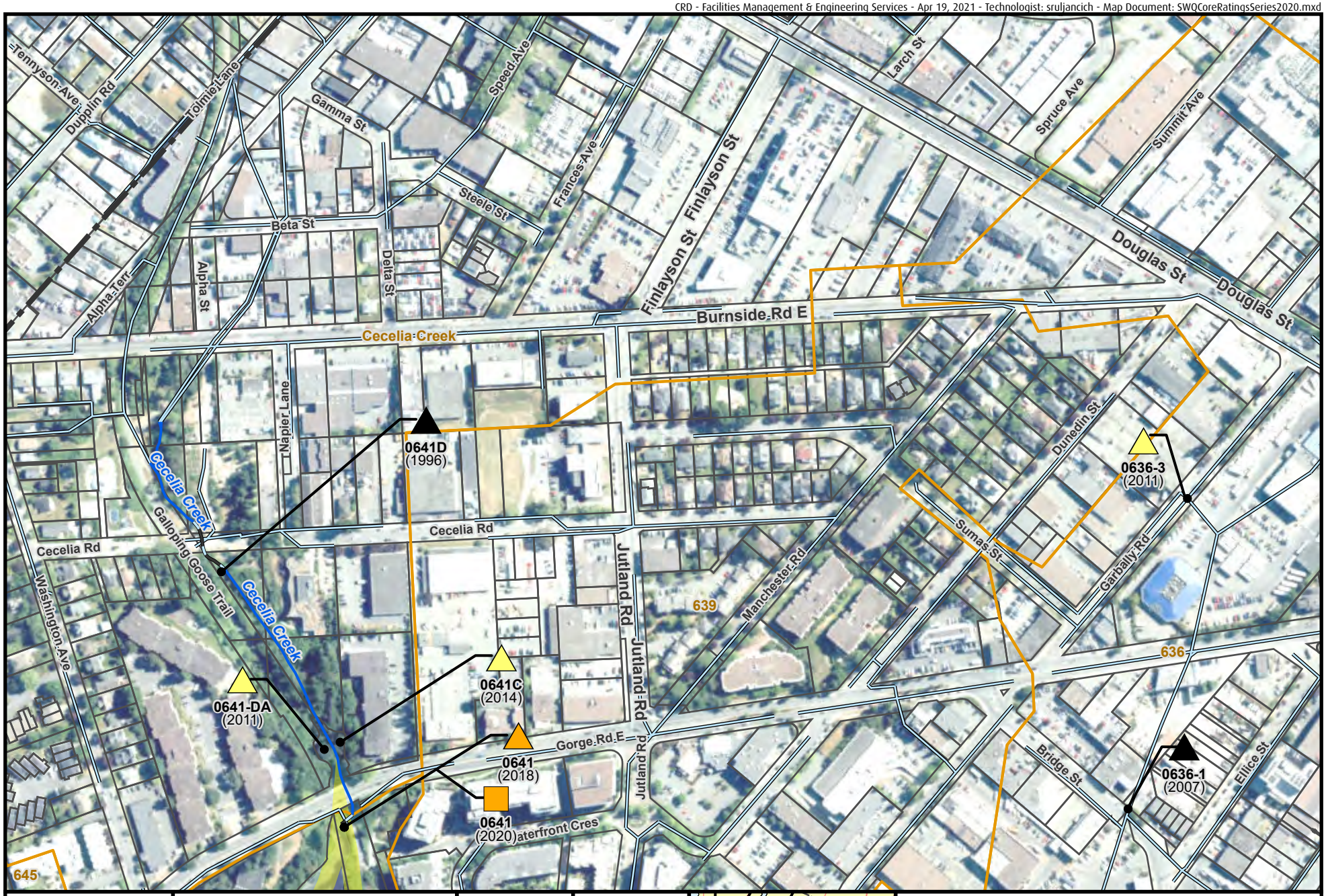


Figure 70

Stormwater Discharge Location and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
See Figure 1

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Figure 1

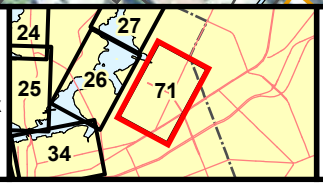
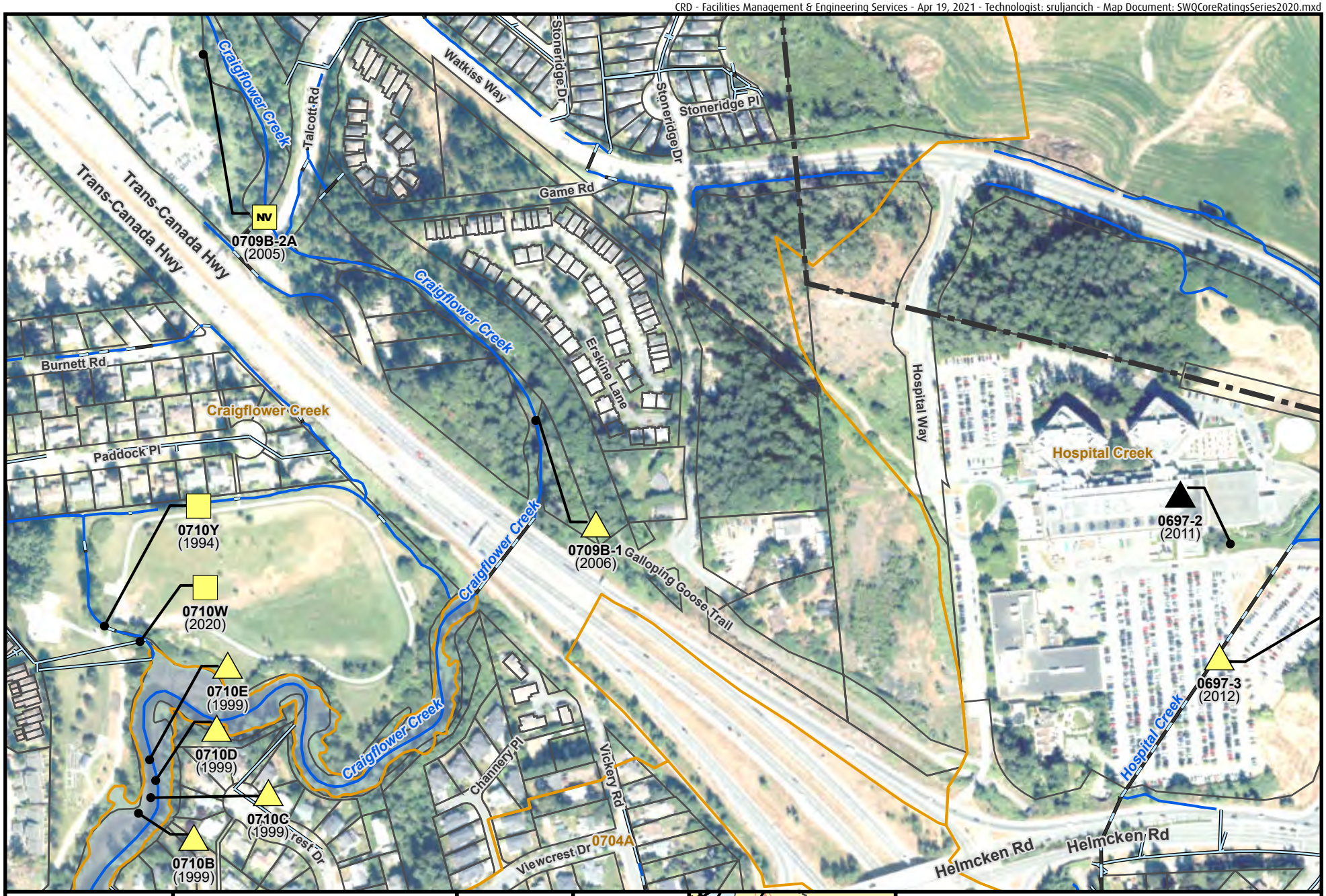


Figure 71

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

Metres
0 25 50 100 150
Projection: UTM ZONE 10N NAD 83

For Legend
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Figure 1

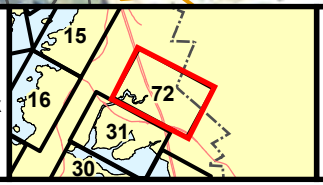
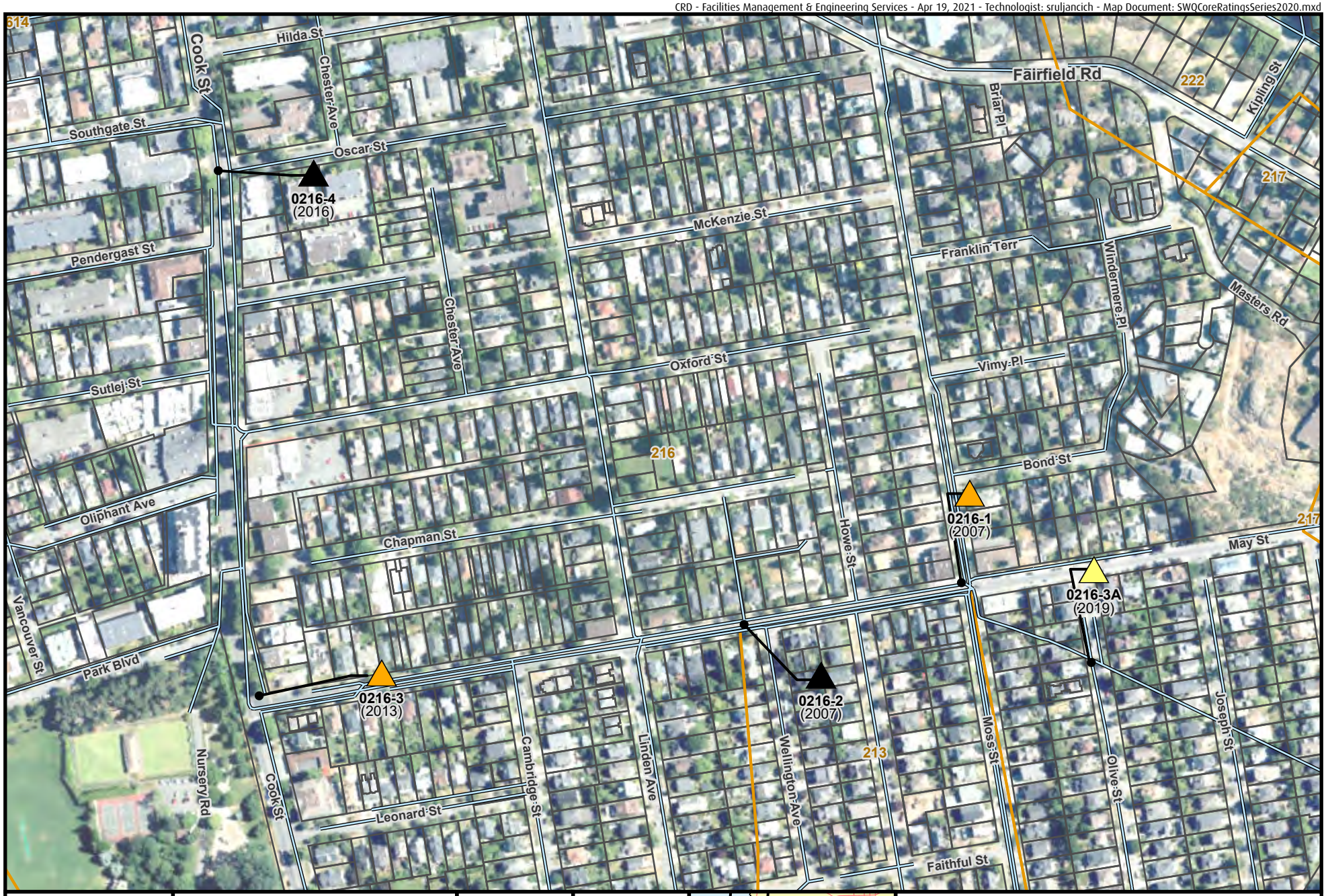


Figure 72

Stormwater Discharge Location
and Level of Concern



CRD
Making a difference...together

0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

N E S W

For Legend
See Figure 1

For Area Key Index
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Figure 2

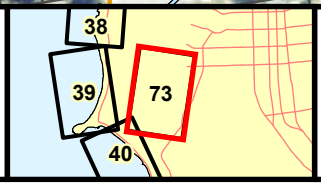
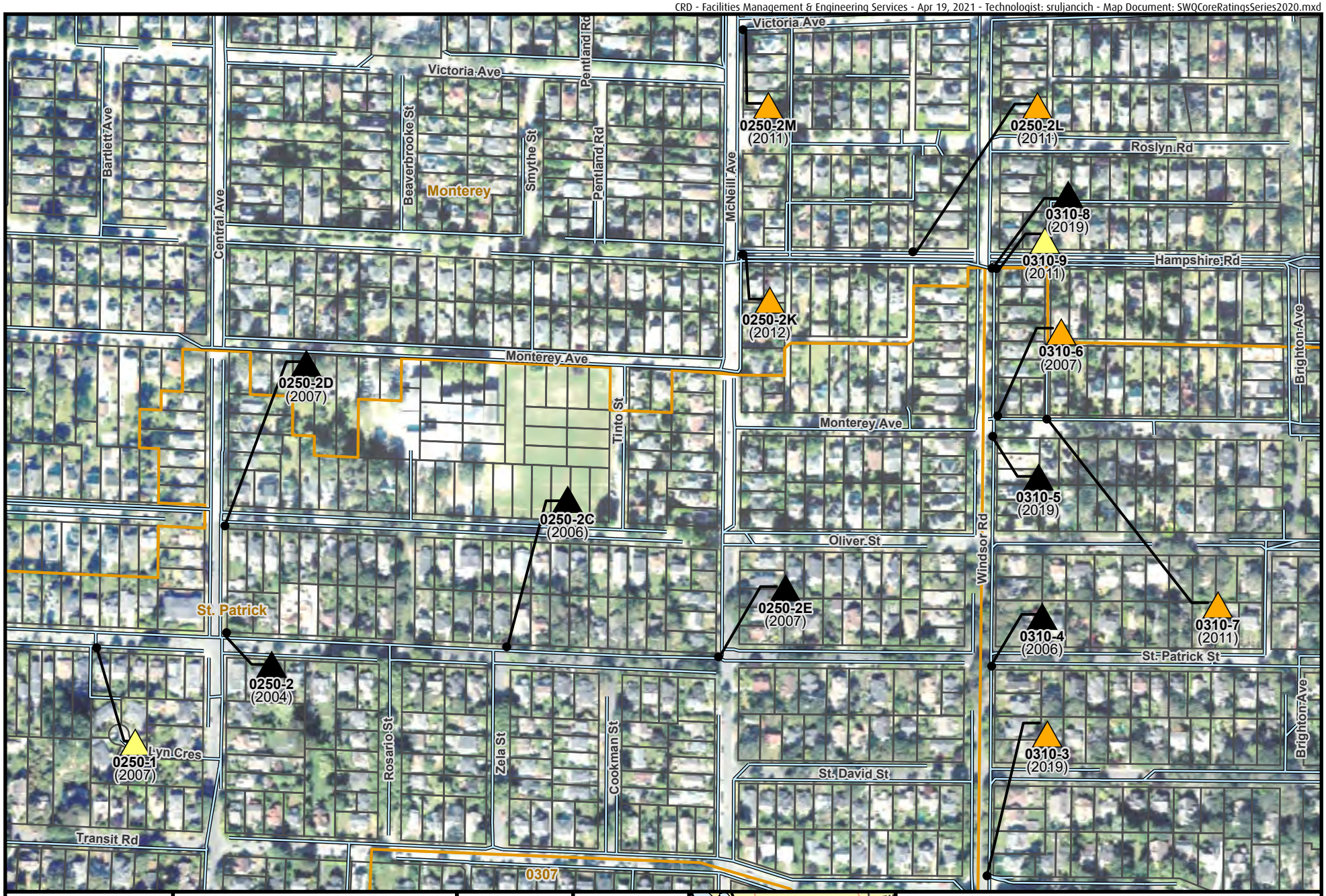


Figure 73

Stormwater Discharge Location
and Level of Concern



CRD
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0 25 50 100 150 Metres

Projection: UTM ZONE 10N NAD 83

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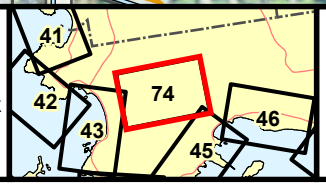

Figure 74

Stormwater Discharge Location and Level of Concern

APPENDIX B

CORE STORMWATER PUBLIC HEALTH RATINGS

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0926	Colwood	8	1	2	3	Low	Low	Low	Bee Creek; discharges into Esquimalt Lagoon	Continue monitoring
0928	Colwood	8	2	2	4	Low	Low	Low	Selleck Creek; discharges into Esquimalt Lagoon	Continue monitoring
0930	Colwood	7	1	2	3	Low	Low	Low	discharges into Esquimalt Lagoon	Continue monitoring
0931	Colwood	7	1	2	3	**High**	Moderate	Low	Lagoona Brook; discharges into Esquimalt Lagoon	Confirm rating
0932	Colwood	7	1	2	3	Low	Moderate	Low	Discharges into Esquimalt Lagoon	Confirm rating
0933	Colwood	7	1	2	3	Moderate	Moderate	Low	Discharges into Esquimalt Lagoon	Continue monitoring
0934	Colwood	7	1	2	3	NA	NA	Low		Confirm rating
0935A	Colwood	7	1	2	3	Low	Moderate	Low	Public beach	Confirm rating
0940A	Colwood	6	1	1	2	Low	Low	Low	New pipe; low flow in summer	Resample in 2025
0916	Colwood/DND	7	1	2	3	Moderate	Moderate	Low	Colwood Creek; birds present	Continue monitoring
0902A	DND	7	1	2	3	Low	Low	Low	Joe's Creek upstream	Resample in 2025
0727	Esquimalt	29	2	2	4	Moderate	Moderate	Moderate	One high result; repeat	Confirm rating
0731	Esquimalt	29	1	2	3	Low	Low	Low		Resample in 2025
0733	Esquimalt	29	1	2	3	Low	Low	Low		Resample in 2025
0737	Esquimalt	29	2	2	4	Low	Low	Low	Sewer odour	Continue monitoring
0742	Esquimalt	28	2	2	4	Moderate	Moderate	Moderate	Higher in summer	Continue monitoring
0744	Esquimalt	28	2	2	4	**High**	Moderate	Moderate	Gorge Creek	Continue monitoring
0749	Esquimalt	28	1	2	3	**High**	Moderate	Moderate		Continue monitoring;
0749A	Esquimalt private	28	1	2	3	**High**	Moderate	Moderate	Private pipe	Confirm rating
0751	Esquimalt	28	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0754	Esquimalt	27	1	2	3	Moderate	Moderate	Low		Continue monitoring
0779	Esquimalt	24	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0780	Esquimalt	24	2	2	4	**High**	**High**	Moderate	Sewer odour	Continue monitoring
0781	Esquimalt	23	3	2	5	**High**	**High**	**High**	Red foam; acrid odour	Continue monitoring
0805	Esquimalt	22	3	3	6	**High**	**High**	**High**	SPSO	Continue monitoring and source investigations
0806	Esquimalt	22	3	3	6	**High**	**High**	**High**		Continue monitoring and source investigations
0813	Esquimalt	21	1	2	3	Low	Moderate	Low		Confirm rating
0814	Esquimalt	21	3	2	5	Moderate	Low	Moderate	SPSO	Continue monitoring
0722AA	Esquimalt	30	1	2	3	Moderate	Moderate	Moderate		Continue monitoring
0742B	Esquimalt	28	1	2	3	Moderate	Moderate	Low		Continue monitoring

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0743A	Esquimalt	28	2	2	4	Low	Moderate	Moderate	May be influenced by creek flows	Continue monitoring
0744A	Esquimalt	28	2	2	4	Moderate	Moderate	Moderate	Low flow	Continue monitoring
0744B	Esquimalt	28	3	2	5	**High**	**High**	**High**	Cross-connection	Continue source investigations
0865D	Esquimalt F.N.	17	2	2	4	Low	Moderate	Moderate	Iron bacteria present; odour	Continue monitoring
0865F	Esquimalt F.N.	17	2	2	4	Moderate	Moderate	Moderate		Confirm rating
0736A	Esquimalt private	29	1	2	3	Moderate	Moderate	Low	Glen Vale strata; sewage odour	Continue monitoring
0854	Esquimalt/DND	19	3	1	4	Moderate	Moderate	Moderate	SPSO; laundry soap odour	Continue monitoring and investigate
0726	Esquimalt/ Songhees F.N.	29	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
6003	Langford	68	1	2	3	Low	Low	Low	Goldstream River; SPSO	Continue monitoring
6006	Langford	68	1	1	2	NR	Low	Low		Resample in 2025
6008	Langford	70	1	3	4	Low	Moderate	Low	Elevated count in August; lower when resampled	Confirm rating
0231	Oak Bay	41	1	2	3	Moderate	Moderate	Low		Continue monitoring
0244	Oak Bay	43	2	2	4	Moderate	Low	Moderate		Confirm rating
0245	Oak Bay	43	2	3	5	**High**	**High**	**High**		Continue monitoring and source investigations
0249	Oak Bay	43	2	2	4	Moderate	**High**	Moderate	EC elevated in summer, but low flow	Continue monitoring
0250	Oak Bay	43	2	2	4	Moderate	Moderate	Moderate	Outfall, sampled manhole, water pooled in winter	Continue monitoring
0306	Oak Bay	45	1	2	3	Low	**High**	Moderate	Flows in summer; dry in winter; elevated upstream	Confirm rating
0307	Oak Bay	45	2	2	4	**High**	Moderate	Moderate		Confirm rating
0308A	Oak Bay	45	1	2	3	Low	Low	Low	Lower counts in 2016; low flow in summer	Resample in 2025
0309	Oak Bay	45	1	2	3	Low	Low	Low		Resample in 2025
0310	Oak Bay	45	2	2	4	Moderate	**High**	Moderate		Continue monitoring
0310A	Oak Bay	45	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0312	Oak Bay	45	1	2	3	NR	NR	Low		Resample in 2025
0314	Oak Bay	46	1	2	3	NR	NR	Low		Resample in 2025
0316	Oak Bay	46	2	2	4	Moderate	Moderate	Moderate	Bowker Creek; high flows, SPSO	Continue monitoring creek
0317	Oak Bay	46	2	2	4	Low	Low	Moderate	SPSO; manhole; low flow	Continue monitoring
0318	Oak Bay	46	3	3	6	**High**	**High**	**High**	Counts lower	Continue monitoring
0319	Oak Bay	46	1	3	4	Low	Low	Low		Resample in 2025
0320	Oak Bay	46	2	3	5	**High**	**High**	**High**	Counts lower	Continue monitoring
0321	Oak Bay	47	2	3	5	Low	Moderate	Moderate	Outfall	Continue monitoring

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0321A	Oak Bay	47	2	3	5	Low	Moderate	Moderate		Continue monitoring
0322	Oak Bay	47	2	3	5	**High**	**High**	**High**	Outfall; counts lower	Continue monitoring
0323	Oak Bay	47	2	3	5	Moderate	Moderate	**High**	Stream	Continue monitoring
0324	Oak Bay	47	1	2	3	Low	Low	Low	Dry or low flows	Resample in 2025
0325	Oak Bay	48	1	1	2	NA	NA	Low	Dry or low flows	Confirm Rating
0327	Oak Bay	49	1	3	4	Low	Low	Low		Resample in 2025
0327A	Oak Bay	49	1	3	4	Low	Low	NR	Cadboro Bay; dry	Continue monitoring
0501	Saanich	49	2	3	4	Low	Low	Low	Cadboro Bay; Saanich fixed a cross-connection	Resample in 2025
0503	Saanich	50	2	3	5	**High**	**High**	**High**	Cadboro Bay; duck pond upstream; counts lower	Continue monitoring
0505	Saanich	50	2	3	5	Low	Moderate	Moderate	EC counts lower; one source found	Continue monitoring
0506	Saanich	50	2	3	5	Low	Moderate	**High**	High in summer	Confirm rating
0507	Saanich	50	2	3	5	Low	Low	Moderate	Low flow	Continue monitoring
0508	Saanich	50	1	3	4	Moderate	Low	Low	EC counts lower; a source repaired	Resample in 2022
0512	Saanich	51	1	1	2	NA	Low	Low	Dry or low flow in summer	Resample in 2025
0535	Saanich	55	1	1	2	NA	Low	Low	Guinevere Creek	Resample in 2025
0538	Saanich	55	1	1	2	NA	Low	Low		Resample in 2022
0539A	Saanich	55	1	1	2	NA	NA	Low		Resample in 2022
0541	Saanich	56	1	2	3	Low	Moderate	Low	Access difficult	Confirm rating
0541A	Saanich	56	1	3	4	NA	NA	Low	Arbutus Cove	Confirm rating
0541B	Saanich	56	1	3	4	NA	NA	Low	Arbutus Cove	Confirm rating
0542	Saanich	56	1	3	4	Low	Low	Low	Dry; Arbutus Cove	Resample in 2022
0542A	Saanich	56	1	3	4	NA	NA	Low	Arbutus Cove	Resample in 2022
0542B	Saanich	56	1	3	4	NA	NA	Low	Arbutus Cove	Resample in 2022
0542C	Saanich	56	1	3	4	NA	NA	Low	Arbutus Cove	Resample in 2022
0543	Saanich	56	1	3	4	Low	Low	Low	Arbutus Cove	Resample in 2022
0543A	Saanich	56	1	3	4	NA	Low	Low	Arbutus Cove	Resample in 2022
0544	Saanich	56	1	3	4	Low	Low	Low	Arbutus Cove	Resample in 2022
0545	Saanich	56	1	3	4	Low	Low	Low	Arbutus Cove	Resample in 2022
0545A	Saanich	56	1	1	2	NA	Low	Low	Arbutus Cove	Resample in 2022
0558	Saanich	59	1	2	3	Moderate	**High**	Low	Near Mt. Douglas Park access	Confirm rating
0559	Saanich	60	1	3	4	Moderate	Moderate	Low	Mt. Douglas Creek; high flows, SPSO	Confirm rating
0567	Saanich	62	2	2	4	Moderate	**High**	Moderate	Beach access, waterfall	Continue monitoring
0574	Saanich	62	1	2	3	Low	Low	Low	Galey Brook; laundry soap	Confirm no soap present
0578	Saanich	63	1	3	4	Moderate	Low	Low		Resample in 2022

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0580	Saanich	64	2	3	5	Moderate	Moderate	**High**	Gardom Creek	Confirm rating
0581	Saanich	64	2	3	5	Moderate	Moderate	**High**		Confirm rating
0589	Saanich	65	1	3	4	Low	Low	Low		Resample in 2022
0592	Saanich	65	2	1	3	Moderate	Moderate	Moderate	Noble Creek; high flow; sewage odour	Continue monitoring creek
0653	Saanich	27	2	2	4	Moderate	Moderate	Moderate	Counts lower	Confirm rating
0654	Saanich	27	1	2	3	Low	Low	Low	Pool water discharge appears to have stopped	Resample in 2025
0655	Saanich	28	1	2	3	Moderate	Low	Low		Resample in 2025
0658	Saanich	28	1	2	3	NA	NA	Low		Resample in 2025
0659	Saanich	28	3	2	5	Low	Low	Moderate		Confirm rating
0669	Saanich	29	1	2	3	NA	NA	Low		Resample in 2025
0671	Saanich	29	2	2	4	Moderate	Moderate	Moderate		Confirm rating
0672	Saanich	29	1	2	3	NA	NA	Low		Resample in 2025
0673	Saanich	29	1	2	3	Low	Low	Low	Dry	Sample in 2025
0676	Saanich	29	1	2	3	Low	Moderate	Low	SPSO	Confirm rating
0691A	Saanich	32	2	2	4	NA	NA	Moderate		Confirm rating
0692	Saanich	32	1	2	3	Moderate	Low	Low		Resample in 2025
0576A	Saanich	63	1	3	4	Moderate	Moderate	Low		Continue monitoring
0658A	Saanich	28	2	2	4	Moderate	Moderate	Moderate	High count in summer; flow too low to confirm	Confirm rating
0690D	Saanich	33	1	2	3	Moderate	Moderate	Low	Colquitz Creek; high flow	Continue monitoring
0690E	Saanich	33	1	2	3	NR	Moderate	Low		Confirm rating
0533	Saanich private	51	1	1	2	NA	NA	Low		Resample in 2025
0534	Saanich private	54	1	1	2	NA	Low	Low		Resample in 2025
0565	Saanich private	61	1	2	3	Low	Moderate	Low	Private pipe	Resample in 2025
0865AB	Songhees F.N	17	1	2	3	Moderate	Low	Low	New discharge; no flow	Continue monitoring
0865B	Songhees F.N	17	1	2	3	Low	Low	Low	No flow	Continue monitoring
0865C	Songhees F.N	17	1	2	3	Low	Low	Low	Low flow	Continue monitoring
0208/0209	Victoria	37	3	2	5	**High**	**High**	Moderate	208 is an overflow for 209 when 209 is blocked; infrastructure upgrades	Continue monitoring
0210	Victoria	37	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0211	Victoria	39	1	2	3	NA	NA	Low	Low flow	Confirm rating
0212	Victoria	39	2	3	5	Moderate	Moderate	Moderate		Confirm rating
0214	Victoria	39		2		**High**	**High**	**High**	SPSO; no access; 213 on Victoria maps	Continue monitoring
0216	Victoria	40	3	2	5	**High**	**High**	**High**	SPSO, high flow, sewage odour	Continue monitoring

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0217	Victoria	40	2	2	4	Moderate	Moderate	Moderate	Combined flow with 0218; outfall pipe underwater	Continue monitoring
0222	Victoria	40	3	2	5	**High**	**High**	**High**	Moderate flows	Continue monitoring and source investigations
0227	Victoria	41	2	1	3	Low	Moderate	Moderate	Low flow; SPSO; SS and SD relining completed	Continue monitoring
0229	Victoria	41	2	3	5	**High**	Moderate	**High**	Gonzales Bay; flows low in summer	Continue monitoring and source investigations
0230	Victoria	41	2	2	4	Moderate	Moderate	Moderate	Gonzales Bay; outfall in ocean; sampled manhole	Continue monitoring
0603	Victoria	36	2	2	4	**High**	**High**	**High**	Some relining and infrastructure upgrades	Continue monitoring
0604	Victoria	36	1	1	2	Moderate	Low	Low	Near boat launch	Resample in 2025
0605	Victoria	36	1	1	2	Low	Moderate	Low		Confirm rating
0607	Victoria	36	3	2	5	**High**	**High**	**High**	SPSO	Continue monitoring; start source investigations
0607A	Victoria	36	2	2	4	Low	Low	Moderate	Eastern pipe; in 607 catchment	Confirm rating
0610	Victoria	35	2	2	4	**High**	**High**	**High**	Cross-connection found; COV to camera	Continue monitoring
0611	Victoria	35	3	2	5	**High**	**High**	**High**	Waiting for legislature to respond	Continue monitoring
0613	Victoria	35	2	2	4	**High**	**High**	Moderate	Variable counts	Continue monitoring and source investigations
0614	Victoria	35	3	2	5	**High**	**High**	**High**		Continue monitoring
0618	Victoria	35	1	2	3	Moderate	Low	Low		Resample in 2025
0619	Victoria	34	3	2	5	**High**	**High**	**High**	Sewer odour	Sewer cross-connection
0620	Victoria	34	2	1	3	Moderate	Moderate	Moderate	Confirm lower counts	Continue monitoring
0622	Victoria	34	1	2	3	Moderate	Moderate	Low	Near kayak launch; elevated during rainfall	Confirm rating
0623	Victoria	34	3	1	4	Moderate	Moderate	Moderate	Low flow	Continue monitoring
0626	Victoria	34	3	1	4	Moderate	Moderate	Moderate	Need permission to access; high flow	Continue monitoring
0627	Victoria	34	3	1	4	Moderate	Moderate	Moderate	Need permission to access; high flow	Continue monitoring
0629	Victoria	26	3	1	4	Moderate	Moderate	Moderate	High counts; dark discharge; foul odours	Continue monitoring
0634	Victoria	26	3	1	4	Moderate	Moderate	Moderate	Low flow; hydrocarbon, compost odours	Source narrowed; continue monitoring
0636	Victoria	26	3	1	4	Moderate	Moderate	Moderate	High flow; high counts; foul odour, murky, grey	Continue monitoring
0641	Victoria	71	2	2	4	**High**	**High**	Moderate	Cecelia Creek; high flow; repaired main; SPSO	Continue monitoring and source investigations
0643	Victoria	27	1	2	3	Moderate	Moderate	Low	Low flow to dry	Confirm rating
0645	Victoria	27	2	2	4	Moderate	Moderate	Moderate	Dry in summer	Continue monitoring

Table 1 2020 Core Area Public Health Concern Ratings

Discharge	Jurisdiction at Discharge	Fig. No.	Bacterial Rating	Public Shoreline Use Rating	Sum of Ratings	2018	2019	2020	Comments	Recommendations
0645A	Victoria private	27	2	2	4	Moderate	Moderate	Moderate	Difficult access; private discharge	Continue monitoring
0646	Victoria	27	1	2	3	NR	Moderate	Low	Dry in summer	Confirm rating
0647	Victoria	27	1	2	3	Low	Moderate	Low	Dry or low flow	Resample in 2023
0649	Victoria private	27	3	2	5	**High**	**High**	**High**	Gorge Road Hospital; private discharge	Continue monitoring
0650	Victoria	27	3	2	5	**High**	**High**	**High**	Low flow in summer	Continue monitoring
0757	Victoria	27	1	2	3	Moderate	Low	Low	Low flow; dry in summer	Resample in 2025
0759	Victoria	26	2	2	4	Moderate	Moderate	Moderate		Confirm rating
0768	Victoria	25	2	2	4	Moderate	Moderate	Moderate	SPSO; sewer odour	Continue monitoring
0769	Victoria	25	2	2	4	**High**	Moderate	Moderate	Potential SPSO	Continue monitoring
0772	Victoria	25	1	2	3	NR	Low	Low	No infrastructure associated	Discontinue monitoring for now
0775	Victoria	24	2	2	4	Moderate	Moderate	Moderate	SPSO	Continue monitoring
0758A	Victoria	27	3	2	5	Moderate	Moderate	**High**	Low flow in summer	Confirm rating
0777A	Victoria	24	3	2	5	**High**	**High**	**High**		Continue monitoring
0697	View Royal	31	1	2	3	Moderate	Moderate	Low	Hospital Creek: SPSO	Continue monitoring
0698	View Royal	31	1	2	3	Low	Low	Low		Resample in 2025
0703	View Royal	31	1	2	3	Low	Moderate	Low		Confirm rating
0709B	View Royal	31	2	2	4	NA	NA	Moderate		
0710	View Royal	31	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0712	View Royal	30	1	2	3	Low	**High**	Low		Confirm rating
0722	View Royal	30	2	2	4	Moderate	Moderate	Moderate		Continue monitoring
0872	View Royal	16	1	2	3	Moderate	Moderate	Low	SPSO; low flows	Continue monitoring
0874	View Royal	15	1	2	3	Low	NA	Low		Resample in 2025
0882	View Royal	13	1	2	3	NA	NA	Low	Only sampled once due to potential spill	
0886	View Royal	14	1	2	3	Low	Low	Low	Millstream Creek; 5/30 sampling; SPSO	Continue monitoring creek
0709B	View Royal	31	2	2	4	Moderate	Moderate	Moderate	Craigflower Creek; SPSO	Continue monitoring creek
0710W	View Royal	31	1	2	3	NA	Moderate	Low		Confirm rating
0865G	View Royal	17	2	1	3	Moderate	Moderate	Low		Confirm rating
0695	View Royal/ MOT	32	1	2	3	Moderate	Low	Low		Resample in 2025

Notes:
Level of Concern determined by sum of the bacterial and shoreline ratings. Low = sums of 2 and 3, moderate= sum of 4 and high = sums of 5 and 6.
EC = Escherichia coli (E. coli) counts
NR = Not rated due to insufficient data or sample could not be obtained.
NA = Not assessed this year
SPSO = This discharge acts as a sewage pump station overflow
Private discharges are not part of the municipal system

APPENDIX C

CORE AREA STORMWATER DISCHARGE BACTERIAL DATA (2018-2020)

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0209	Foot of San Jose, west of Holland Point	2018-02-06	60	110000			no odour, clear
		2018-07-26	1	40000			no odour, slightly murky
		2019-03-12	28	520000			no odour, clear
		2019-07-04	2	29000			unpleasant odour, clear
		2020-01-22	80	1100			no odour, clear
		2020-07-06	5	920			no odour, clear
SW0210	Foot of Lewis, west of Holland Point	2018-02-06	24	570			no odour, clear
		2018-07-25	30	540			no odour, clear
		2019-03-12	44	130000			no odour, clear
		2019-06-17	150	400			no odour, turbid from construction
		2019-07-04	500	740			no odour, clear
		2020-01-22	> 250	910			no odour, clear
		2020-07-06	20	150			
SW0211	~270m east of Finlayson Point, just east of stairs	2020-04-06	12	< 1			no odour, clear
		2020-07-06	25	< 1			no odour, clear
SW0212	Foot of Cook Street, just west of spiral stairs (metal grate)	2018-02-06	86	70			no odour, clear
		2018-07-25	< 1	210			no odour, clear
		2019-01-07	40		4		no odour, clear
		2019-02-21	48	60			no odour, slightly turbid
		2019-06-17	300	5200			organic odour, algal green
		2019-11-21	24	37			no odour, clear
		2020-01-22	80	380			no odour, clear
		2020-02-05	100	320			slight sewer odour, slight amber
		2020-06-01	18	360			slight sewer odour, murky amber, overflow sampling
		2020-07-21	60	2000			no odour, clear
		2020-11-20	50	< 1			no odour, murky brown
SW0214	Clover Point	2018-02-06	110	29000			no odour, clear
		2018-07-26	80	990			no odour, clear
		2019-03-12					could not sample due to construction
SW0216	Foot of Eberts Street, sample from manhole on seawall sidewalk, Ross Bay	2018-02-06	< 250	20000			no odour, clear
		2018-07-25	> 100	7400			no odour, murky brown
		2019-02-21	60	5900			no odour, clear
		2019-06-14	88	40000			no odour, clear
		2019-11-22	> 80	80000			no odour, clear
		2020-03-10	250	12000			no odour, clear
		2020-06-01	> 60	92000			no odour, slight amber, sewer overflow sampling
		2020-07-21	150	100000			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0216-3A	Manhole at 186 Olive Street	2019-11-22	20	140000			no odour, clear, before surge flow
		2019-11-22	> 100	100000			no odour, clear, surge flow after initial sample
SW0216-3B	Manhole at 162 Joseph Street	2020-11-20	> 200	18000			no odour, murky brown
SW0218	Foot of Memorial Crescent, eastern pipe, Ross Bay	2018-02-06	46	30			no odour, clear
		2018-07-25	10	5100			no odour, clear
		2019-02-21	12	100			no odour, clear
		2019-06-14	28	510			no odour, clear
		2020-03-10	20	3100			no odour, clear
		2020-07-21	5	100			no odour, clear
SW0222	Middle of Ross Bay Cemetery, Ross Bay	2018-01-17	> 250	2600			chemical odour, slightly murky
		2018-07-25	140	51000			slight chemical odour, murky
		2019-02-07	> 200	39000			no odour, murky
		2019-06-14	> 250	220000			sewer odour, slightly murky
		2020-01-17	> 500	3700			slight creosote odour, clear
		2020-02-05	> 500	1300			sewer/creosote odour, amber
		2020-06-01	> 100	74000			stale/chemical odour, slightly murky, sewer overflow sampling
SW0227	Foot of Wildwood Crescent	2018-02-13	6	20			no odour, clear
		2018-07-25	1				flow too low to sample
		2019-01-07	12		17		no odour, clear
		2019-02-20	36	270			no odour, clear
		2019-06-17	1	320			no odour, clear
		2020-02-05	60	900			no odour, clear
		2020-06-01	1	270			no odour, clear, sewer overflow sampling
SW0229	Foot of Ross Street, Gonzales Bay	2018-02-13	10	4300			no odour, clear
		2018-07-25	2	8300			no odour, clear
		2019-02-20	6	60			no odour, clear
		2019-06-17	0				dry, not sampled
		2020-02-05	28	430			no odour, amber
		2020-07-21	NULL				flow too low to sample
		2020-12-08	NULL	570	1400		no odour, brown, potential marine influenced
SW0230	Foot of Foul Bay Road, Gonzales Bay	2018-02-13	12	670			no odour, clear
		2018-07-25	10	3500			strange odour, clear
		2019-02-20	33	2000			no odour, clear
		2019-06-17	0				dry, not sampled
		2020-02-05	60	330			no odour, amber
		2020-07-21	NULL				flow too low to sample

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0231	Foot of Marne Street, Gonzales Bay	2018-03-06	15	10			slight sewage odour, clear
		2018-07-25	15	3200			no odour, clear
		2019-03-11	3	10			no odour, clear
		2019-06-17	5	650			no odour, clear
		2020-03-10	12	1			no odour, clear
		2020-07-21	NULL				flow too low to sample
SW0244	Across from 242 Beach Drive, McNeill Bay	2018-02-14	8	320			no odour, clear
		2018-07-25	5	2800			no odour, clear
		2019-02-20	45	150			no odour, clear
		2019-07-04	8	90			no odour, clear
		2020-01-20	20	31			no odour, clear
		2020-07-21	2	930			no odour, clear
SW0245	Foot of Monterey Avenue, McNeill Bay	2018-02-05		3500	15		sampled in conjunction, sewer overflow
		2018-02-14	48	540			no odour, clear
		2018-07-25	240	140			no odour, clear
		2018-11-05		590	250		no odour, clear
		2019-02-20	80	240			no odour, clear
		2019-07-04	35	2000			no odour, clear
		2020-01-20	88	500			no odour, clear
		2020-02-05	80	480			musty odour, murky amber
		2020-07-21	15	1600			no odour, clear
		2021-01-06	55	230			no odour, slightly murky
SW0249	Foot of Oliver, McNeill Bay	2018-02-05		18	22		sampled in conjunction, sewer overflow
		2018-07-25	< 1				flow too low to sample
		2018-11-05		3000	310		no odour, clear
		2019-02-20	2	40			no odour, clear
		2019-07-04	2	6000			no odour, amber
		2020-01-20	2	110			no odour, clear
		2020-02-05	10	350			musty odour, murky amber
		2020-07-21	NULL				flow too low to sample
SW0250	Foot of St. Patrick, McNeill Bay	2018-02-14		1800			no odour, clear
		2018-07-25	0	23000			strong unpleasant odour, clear, standing water
		2019-02-20	2	2300			no odour, clear
		2019-07-04		2800			manhole; musty odour, clear, no flow estimated
		2019-07-04	10	2800			end of pipe; musty/sulphur odour, clear
		2020-03-10		430			no odour, clear, pooled water, unknown flow
		2020-07-21	NULL	900			no odour, clear, standing water

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0258	Western boundary of Royal Victoria Golf Course	2018-02-14	< 1	10			no odour, clear
SW0306	South side of Oak Bay Marina	2018-02-14	< 0.1				flow too low to sample
		2018-07-26	40	2000			no odour, clear
		2019-03-11	0				dry, not sampled
		2019-07-04	40	13000			no odour, clear
		2020-03-10	NULL				flow too low to sample
		2020-07-21	50	140			no odour, clear
SW0306-2	Manhole at Driveway to 2503 Orchard Avenue	2020-12-01	15	20000			no odour, clear
SW0306-2A	Manhole at East corner of Newport Avenue & Currie Road	2020-12-01	< 1	100			no odour, clear
SW0307	Oak Bay Marina	2018-02-14	2	6700			no odour, clear
		2018-07-25	4	110			no odour, clear
		2019-02-22	12	880			no odour, clear
		2019-07-04	2	4200			no odour, clear, water warm
		2019-11-21	2	150			no odour, clear
		2020-01-31	10	600			no odour, slight amber
		2020-07-21	4	240			sewer odour, sudsy
SW0308A	Foot of Windsor and Goodwin under ramp (end of pipe, may be tidally influenced).	2018-02-14	1	20			no odour, clear
		2018-07-25	< 1				flow too low to sample
		2019-03-11	< 1	250			no odour, clear
		2019-07-04	3	170			no odour, clear
		2020-01-31	10	110			no odour, slight amber
		2020-07-21	NULL				flow too low to sample
SW0309	Upper pipe at the end of Windsor Road	2018-07-25	1	10			no odour, clear
		2018-07-26	1	40			no odour, clear
		2019-07-04	6	200			no odour, clear
		2020-01-31	20	39			no odour, clear
		2020-07-21	< 1	90			no odour, clear
SW0310	Lower pipe at the end of Windsor Road	2018-02-14	10	5600			no odour, clear
		2018-07-25	25	190			no odour, clear
		2019-03-11	10	43000			no odour, clear
		2019-07-04	20	3700			no odour, clear
		2020-01-31	80	700			no odour, clear
		2020-07-21	25	18			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0310A	Foot of stairs in seawall; north of Windsor Road	2018-02-14	2	70			no odour, clear
		2018-07-25	2	20			no odour, clear
		2019-03-11	< 1	40			no odour, clear
		2019-07-04	2	7300			no odour, clear
		2020-01-31	7	200			no odour, amber
		2020-07-21	< 1	550			no odour, clear
SW0312	Across from 1440 beach Drive, end of pipe	2018-07-25	28	220			no odour, yellow
		2020-01-31	28	50			no odour, amber
		2020-07-21	< 1	< 1			no odour, clear
SW0314	End of Beresford Street, end of pipe	2020-03-10	6	19			no odour, clear
		2020-07-21	NULL				flow too low to sample
SW0315	Broom Road outfall, end of Broom Road. Sample from crack in pipe if tide is too high.	2020-09-28	6	6			slight sewer odour, amber, sewer overflow sampling
SW0316	South of Somass Drive above tidal influence	2018-02-15	> 500	490			no odour, murky
		2018-07-23	150	700			no odour, clear
		2019-03-11	> 500	460			no odour, clear
		2019-07-16	500	530			no odour, clear
		2019-08-15	975	790		840	no odour, clear, construction upstream
		2019-08-22	975	5000		8000	no odour, clear, construction upstream
		2019-08-29	975	1400		1800	no odour, clear, construction upstream
		2019-09-05	975	1200		1700	no odour, clear, construction upstream
		2019-09-12	975	1300		1300	no odour, clear, construction upstream
		2019-10-07		9800		11000	no odour, murky, flow not estimated
		2019-10-16	1500	5600		7700	sewer odour, clear
		2019-10-21	> 3000	1200		5400	no odour, clear
		2019-10-31	2000	250		650	no odour, clear
		2019-11-07	2000	1700		3800	no odour, clear
		2020-01-31	> 2000	600			slight sewer odour, amber/brown
		2020-07-21	500	560			no odour, clear
		2020-09-28	> 400	650			no odour, slight murky, sewer overflow in creek
		2020-11-20	> 2000				no odour, murky, aquatic metals and PAH only
SW0317	End of Bowker Lane (sample from manhole if tide too high)	2018-02-15	6	< 10			no odour, clear
		2018-07-23	0				dry, not sampled
		2019-02-22	8	< 10			slight sewer odour, clear
		2019-07-04	4	20			no odour, clear
		2020-01-20	9	2700			no odour, clear
		2020-07-20	1	15			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0318	End of Bowker Avenue (sample manhole if tide too high)	2018-02-15	60	2400			no odour, clear
		2018-07-23	100	32000			strong sewage odour, clear
		2019-02-22	> 200	5600			no odour, slightly murky
		2019-07-04	> 500	330			no odour, clear
		2020-01-20	80	1200			no odour, clear
		2020-07-20	80	13000			no odour, clear
SW0319	End of Cavendish Avenue (sample from manhole)	2018-02-15	3	20			no odour, clear
		2018-07-23	1				flow too low to sample
		2019-03-12	2	50			no odour, clear
		2019-07-04	NULL				flow too low to sample
		2020-01-20	16	5			no odour, clear
		2020-07-20	0				dry, not sampled
SW0320	End of Dalhousie Street	2018-01-17	12	590			no odour, clear
		2018-07-23	20	1600			no odour, clear
		2018-10-22	80		170		no odour, clear
		2019-02-22	40	2100			no odour, clear
		2019-06-06	4	3100			no odour, clear
		2019-06-11	200	2500			no odour, clear
		2019-07-05	45	660			no odour, clear
		2019-12-03	25	8			no odour, clear
		2020-01-20	70	170			no odour, clear
		2020-09-28	10	350			no odour, clear, sewer overflow sampling
		2020-11-27	100	700			no odour, clear
SW0321	End of Estevan Avenue	2018-02-15	8	20			no odour, clear
		2018-07-23	< 2				flow too low to sample
		2019-02-22	18	220			no odour, clear
		2019-07-05	20	510			no odour, clear
		2020-01-20	30	9			no odour, clear
		2020-07-20	40	300			no odour, clear
SW0321A	Northeast side of intersection; foot of Estevan, drain buried in sand	2018-02-15	12	90			no odour, clear
		2018-07-23	13	10			no odour, clear
		2019-02-22	20	600			no odour, clear
		2019-07-05	17	370			no odour, clear
		2020-01-20	40	900			no odour, clear
		2020-07-20	5	280			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0322	End of Thorpe Place beach access	2018-02-15	24	100			no odour, clear
		2018-07-23	50	260			no odour, clear
		2019-02-22	40	500			no odour, clear
		2019-07-05	80	1200			no odour, clear
		2020-01-20	18	700			no odour, clear
		2020-07-20	30	210			no odour, clear
SW0323	North end of Esplanade	2018-02-15	86	< 10			no odour, clear
		2018-07-23	50	480			no odour, clear
		2018-10-19	70		140		no odour, clear
		2019-02-22	200	300			musty odour, slightly yellow
		2019-06-06	8	560			no odour, clear
		2019-07-05	200	90			no odour, clear
		2019-12-03	> 400	120			no odour, clear
		2020-01-20	> 250	28			no odour, clear
		2020-07-20	100	1000			no odour, clear
		2020-08-06	40	890			no odour, slight amber colour
SW0323A	Blue PVC pipe, ~5m from top of stairs from Willows Beach parking	2020-01-20	8	100			slight perfume odour, amber
SW0324	Cattle Point	2018-01-15	10		2		sewer overflow sampling
		2018-02-05	12	10	10		sewer overflow sampling
		2019-03-11	6	30			no odour, slight amber
		2019-04-16	7	50			no odour, clear
		2019-05-27	< 1	290	240		no odour, clear
		2019-07-05	NULL				flow too low to sample
		2020-01-20	8	45			sewer odour, amber
		2020-07-20	0				dry, not sampled
SW0325	End of Rutland Road	2020-03-10	NULL	19			no odour, clear, pooled with unknown flow
		2020-07-20	0				no odour, clear
SW0327	Centre of Cadboro Bay	2018-01-18	8	< 10			no odour, clear
		2018-07-23	25	40			no odour, clear
		2019-03-06	3	< 10			no odour, clear
		2019-05-27	8	40	40		no odour, clear
		2019-05-29	8	50	85		no odour, clear
		2019-07-05	25	80			no odour, clear
		2020-07-20	50	200			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0327A	Foot of Hibbens Close	2018-01-18	5	230			no odour, clear
		2018-07-23	0				dry, not sampled
		2019-03-06	0				dry, not sampled
		2019-07-05	0				dry, not sampled
		2020-01-22	65	1200			laundry soap odour, brown
SW0501	2730 Hibbens Close, Cadboro Bay	2018-01-18	90	10			no odour, clear
		2018-02-05	100	120	120		sewer overflow sampling
		2018-07-23	250	34000			no odour, clear
		2018-07-27	120	870			no odour, clear
		2018-08-08	100	990			no odour, clear
		2019-03-06	80	10			no odour, clear
		2019-05-27	120	10	20		no odour, clear
		2019-05-29	68	< 10	14		no odour, clear
		2019-07-05	40	10			no odour, clear
		2020-01-22	90	47			no odour, slight amber
		2020-07-20	200	< 1			no odour, clear
SW0503	Hobbs Creek drains duck pond; Cadboro Bay	2018-01-15	100		40		sewer overflow sampling
		2018-01-18	> 120	290			no odour, clear
		2018-02-05	120	30	30		sewer overflow sampling
		2018-07-23	300	530			no odour, clear
		2018-07-27	140	600			no odour, clear
		2018-08-08	110	470			no odour, clear
		2019-02-07	100	430			no odour, clear
		2019-03-06	80	580			no odour, clear
		2019-05-27	100	1000	580		no odour, clear, Canada geese in water
		2019-05-29	80	2400	560		no odour, clear
		2019-07-05	80	1000			no odour, clear
		2019-10-28	130	2800			no odour, murky brown
		2020-01-17	100	1000			no odour, amber
		2020-01-22	> 100	230			sewer odour, amber, couldn't estimate flow, high tide
		2020-07-20	200	230			no odour, clear
		2020-08-07	200	610			no odour, clear
		2021-01-07	95	260			no odour, murky
SW0505	Large diffuser; east of Gyro Park parking lot, Cadboro Bay	2018-02-05	120	30	23		sampled in conjunction, sewer overflow
		2018-07-24	80	10			no odour, clear
		2018-07-27	100	70			no odour, clear
		2018-08-08	80	30			no odour, clear
		2019-03-06	80	10			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-05-27	88	40	10		no odour, clear
		2019-05-29	80	< 10	31		no odour, clear
		2019-07-05	300	300			no odour, clear
		2020-01-31	> 250	230			slight sewer odour, amber
		2020-08-07	500	140			no odour, clear
SW0506	30 m west of beach access at foot of Telegraph Bay Road, Cadboro Bay	2018-01-18	50	30			no odour, clear
		2018-07-24	20	40			no odour, clear
		2018-11-05		90	38		no odour, clear
		2019-03-06	60	< 10			no odour, clear
		2019-07-16	15	49000			no odour, clear
		2020-01-31	180	80			no odour, clear
		2020-08-07	60	1400			no odour, clear
SW0507	2 m south of discharge 508 at foot of Telegraph Bay Road, Cadboro Bay	2018-01-18	1	< 10			no odour, clear
		2018-07-24	0				dry, not sampled
		2019-03-06	2	190			no odour, turbid
		2019-07-16	NULL				flow too low to sample
		2020-01-31	5	1900			no odour, clear
		2020-08-07	0	17			dry, not sampled
SW0508	Diffuser at foot of Telegraph Bay Road, Cadboro Bay	2018-01-15	60		21		sampled in conjunction, sewer overflow
		2018-01-18	80	70			no odour, clear
		2018-02-05	80	24	9		sampled in conjunction, sewer overflow
		2018-07-24		120			no odour, clear, standing water inside diffuser
		2018-07-27	0				dry, not sampled
		2018-08-08	0	0			dry, not sampled
		2018-11-05		140	69		no odour, clear
		2019-03-06	40	440			no odour, clear
		2019-05-27	40	< 10	< 10		no odour, clear
		2019-05-29	30	< 10	1		no odour, clear
		2019-07-16	10	40			no odour, clear
		2020-01-31	90	100			no odour, slight amber
		2020-08-07	15	140			no odour, clear
SW0511	Cadboro View Road beach access	2018-01-18	6	10			no odour, clear
		2018-07-24	0				dry, not sampled
		2019-03-06	0				dry, not sampled
		2019-07-16	0				dry, not sampled

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0512	Amalgamated pipe; 2825 Sea View Road	2019-03-06	22	10			no odour, clear
		2019-07-16	5	740			no odour, clear
		2020-03-11	16	< 1			no odour, clear
		2020-08-19	< 1				no odour, clear
		2020-08-26	< 1	21			no odour, clear
SW0518	Beach access beside 3895 Tudor Ave., Ten Mile Point	2019-01-07	10		11		no odour, clear
		2021-01-07	35	3			no odour, clear
SW0533	In rock wall; west of Cranford Place beach access	2020-03-13	8	2			slight sewer odour, amber
		2020-08-19	0				dry, not sampled
		2021-01-07	12	8			no odour, clear
SW0534	East of Cranford Place beach access	2019-03-11	7	20			no odour, clear
		2019-07-16	0				dry, not sampled
		2020-03-11	18	< 1			no odour, slight amber
		2020-08-19	0				dry, not sampled
		2021-01-07	18	2			no odour, clear
SW0535	South edge of road; Guinevere Place beach access	2018-01-15	20		17		sampled in conjunction, sewer overflow
		2019-03-11	8	20			no odour, slight amber
		2019-07-16	0				dry, not sampled
		2020-03-11	14	12			no odour, slight amber colour
		2020-08-19	0				dry, not sampled
SW0538	1 m east of sidewalk in front of the Queen Alexandra Hospital, Finnerty Cove	2020-03-11	12	< 1			no odour, clear
		2020-08-19	3				no odour, clear
		2020-08-26	2	3			no odour, clear
SW0538A	7.5 m east of discharge 538 in front of hospital, Finnerty Cove (blue/wooden pipe)	2018-01-15	32		10		sampled in conjunction, sewer overflow
SW0539A	4025 Locarno Lane, Arbutus Cove	2020-03-13	6	< 2			no odour, clear
		2020-08-19	12				no odour, clear
		2020-08-26	12	4			no odour, clear
SW0541	1 m from chain link fence at 4031 Hollydene Place, Arbutus Cove	2018-03-06	20	210			slight sewage odour, clear
		2018-07-24	10	2100			no odour, clear
		2019-03-06	8	3900			no odour, clear
		2019-07-16	8	890			no odour, clear
		2020-03-11	16	180			no odour, clear
		2020-08-19	18				no odour, clear
		2020-08-26	16	40			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0541A	Black flexible pipe; base of hillside, from 4039 Hollydene Place	2020-03-30	0				dry, not sampled
		2020-08-19	0				dry, not sampled
SW0541B	Black flexible pipe; base of hillside, from 4041 Hollydene Place	2020-03-30	8	< 1			no odour, slightly murky
		2020-08-19	4				no odour, clear
		2020-08-26	4	1			no odour, clear
SW0542	2296 Arbutus Cove Lane, Arbutus Cove	2018-03-06	0				dry, not sample
		2018-07-24	NULL				flow too low to sample
		2019-03-06	0				dry, not sampled
		2019-07-16	NULL				flow too low to sample
		2020-03-11	< 1	< 1			no odour, clear
		2020-08-19	NULL				flow too low to sample
SW0542A	Northeastern corner of vacant lot, flow from hillside onto beach (near clump of trees)	2020-03-30	22	< 1			no odour, clear
		2020-08-19	8				no odour, clear
		2020-08-26	7	2			no odour, clear
SW0542B	Eastern property line, 2270 Arbutus Road, flow from hillside (near large stump)	2020-03-30	18	< 10			no odour, murky brown
		2020-08-19	8				no odour, clear
		2020-08-26	8	72			no odour, clear
SW0542C	Between 2254 and 2270 Arbutus Road	2019-03-06	40	60			no odour, clear, new location
		2019-07-16	35	500			no odour, clear
		2020-03-11	45	< 1			no odour, murky
		2020-08-19	10				no odour, clear
		2020-08-26	8	4			no odour, clear
SW0543	140 m south of stairs; Arbutus Cove Lane beach access, Arbutus Cove	2018-03-06	30	< 10			no odour, clear
		2018-07-24	25	< 10			no odour, clear
		2019-03-06	8	< 10			no odour, clear
		2019-07-16	35	40			no odour, clear
		2020-03-11	45	< 1			no odour, clear
		2020-08-19	10				no odour, clear
		2020-08-26	7	11			no odour, clear
SW0543A	Behind wood abutment, 2 m south of discharge 544, Arbutus Cove	2018-03-06	15	20			no odour, clear
		2018-07-24	10	< 100			no odour, clear, lab detection limit raised
		2019-03-06	0				no flow seen
		2019-03-11	8	40			no odour, slight amber

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-07-16	NULL				flow too low to sample
		2020-03-11	12	< 1			no odour, clear
		2020-08-19	5				no odour, clear
		2020-08-26	4	26			no odour, slight amber
SW0544	55 m south of Arbutus Cove Lane beach access stairs, Arbutus Cove	2018-03-06	10	< 10			no odour, clear
		2018-07-24	NULL				flow too low to sample
		2019-03-06	6	10			no odour, clear
		2019-07-16	NULL				flow too low to sample
		2020-03-11	8	< 1			no odour, slight amber
		2020-08-19	6				no odour, clear
		2020-08-26	4	7			no odour, slight amber
SW0545	Foot of southern stairs; end of Arbutus Cove Lane beach access, Arbutus Cove	2018-03-06	15	20			no odour, clear
		2018-07-24	100	< 10			no odour, clear
		2019-03-06	40	10			no odour, clear
		2019-07-16	75	10			no odour, clear
		2020-03-11	45	< 1			no odour, slight amber
		2020-08-19	10				no odour, clear
		2020-08-26	8	60			no odour, clear
SW0545A	Under oak tree; south side of chain link fence; end of Arbutus Cove Lane beach access	2019-03-06	6	< 10			no odour, clear
		2019-07-16	7	110			no odour, clear
		2020-03-11	9	< 1			no odour, clear
		2020-08-19	5				no odour, clear
		2020-08-26	4	2			no odour, clear
SW0558	180 m east of Mt. Douglas beach access stairs	2018-02-06	22	< 10			no odour, clear
		2018-07-24	5	420			no odour, clear
		2019-03-11	9	20			no odour, clear
		2019-07-16	10	2800			no odour, clear, surge flow
		2020-02-18	12	9			no odour, slight murky
		2020-06-17	3	64			no odour, clear
		2020-08-26	< 1	45			no odour, clear
SW0559	Mt. Doug Creek, Cordova Bay	2018-02-06	> 2000	380			no odour, clear
		2018-07-24	150	100			no odour, clear
		2019-03-11	> 400	90			no odour, clear
		2019-07-16	300	200			no odour, clear
		2020-02-18	> 500	35			no odour, clear
		2020-08-26	55	57			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0565	29 m southeast of 4755 Carloss Place beach access	2018-03-06	200	< 10			no odour, clear
		2018-07-24	60	110			no odour, clear
		2019-03-12	18	10			no odour, clear
		2019-07-18	30	440			no odour, clear
		2020-02-18	16	< 1			no odour, clear
		2020-08-27	28	40			no odour, clear
SW0567	South side of 4771 Timber Place	2018-03-06	120	2000			strong laundry soap odour, sudsy
		2018-07-24	30	5900			no odour, clear
		2019-03-12	24	650			no odour, clear
		2019-07-18	40	3300			no odour, clear
		2020-02-18	100	800			no odour, clear
		2020-06-17	30	790			no odour, clear
SW0570	Beach access at 4751 Deloume Lane	2018-03-06	NULL				flow too low to sample
SW0574	4915 Cordova Bay Road	2018-02-06	100	50			no odour, clear
		2018-07-26	200	110			no odour, clear
		2019-03-12	86	80			no odour, clear
		2019-07-18	na	180			laundry soap odour, clear, flow not estimated
		2020-02-18	90	27			slight sewer odour, slight murky
		2020-08-27	60	25			no odour, clear
SW0576A	South of beach access; 4989 Cordova Bay Road	2018-02-06	80	1000			no odour, clear
		2018-07-26	180	250			strong disinfectant odour, clear
		2019-03-12	60	< 10			no odour, clear
		2019-07-18	60	200			no odour, clear
		2020-02-18	28	18			no odour, clear
		2020-08-27	32	43			no odour, clear
SW0578	60 m south of beach access; 5091 Cordova Bay Road	2018-02-06	160	150			no odour, clear
		2018-07-26	800	60			no odour, clear
		2019-03-12	> 500	20			no odour, clear
		2019-07-18	> 600	40			no odour, clear
		2020-02-18	120	9			no odour, slight amber
		2020-08-27	120	29			no odour, clear
SW0580	20 m south of park on Agate Lane	2018-02-06	22	90			no odour, clear
		2018-07-26	100	510			no odour, clear
		2019-03-13	6	40			no odour, clear
		2019-07-18	250	1500			no odour, clear
		2020-02-18	24	1			no odour, clear
		2020-08-27	1	900			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0581	5179 Agate Lane	2018-02-06	60	40			no odour, clear
		2018-07-26	60	480			no odour, clear
		2019-03-13	22	20			no odour, clear
		2019-07-18	11	850			no odour, clear
		2020-02-18	65	3			no odour, clear
		2020-08-27	11	2000			no odour, clear
SW0582	Bottom of access stairs; foot of Walema Road	2018-02-06	18	< 10			no odour, clear
SW0589	South of Parker Park beach access, Burnham Brook	2018-02-13	> 350	30			no odour, clear
		2018-07-26	150	150			no odour, clear
		2019-03-13	> 250	10			no odour, clear
		2019-07-18	150	50			no odour, clear
		2020-02-18	100	4			no odour, slight amber
		2020-08-27	100	27			no odour, clear
SW0592	Noble Creek (Noble Watershed), north side of 5575 Parker Road (EMS#: E310111)	2018-02-06	> 1000	< 10			no odour, amber
		2019-03-13	> 500	380			no odour, murky
		2019-07-18	300	580			no odour, amber
		2020-02-18	> 500	< 10			no odour, amber
		2020-08-11	> 250	82			no odour, slight amber
		2020-08-18	> 250	90			no odour, amber
		2020-08-25	> 200	51			no odour, slight amber
		2020-09-01	200	110			no odour, slight amber
		2020-09-08	180	56			no odour, slight amber
		2020-09-24	> 500	6900			earthy odour, dirty/turbid brown
		2020-10-13	> 2000	5200			no odour, turbid brown
		2020-10-20	1000	75			no odour, slight brown
		2020-10-27	1000	60			no odour, slight amber
		2020-11-04	900	840			no odour, amber
		2020-11-12	> 1000	17			no odour, slight amber
SW0601	Montreal Street, behind breakwater	2020-11-19	NULL				tidal past first manhole, not sampled
SW0601A	Greater Victoria Harbour Authority, between jetties, downstream of oil/water separator	2020-11-19	NULL	27			sampled at first manhole u/s, no odour, clear, pooled fresh water, no flow
SW0602	Helijet parking lot	2020-11-19	12	35			pipe inundated, tidal water so sampled from first manhole upstream, no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0603	20 m south of James Bay Anglers	2018-03-07	10	32000			no odour, clear
		2018-08-09	20	940000			sewer odour, clear
		2019-04-23	6	2000000			no odour, clear
		2019-06-17	5	100000			no odour, clear, geese activity
		2020-04-06	10	930			no odour, clear
		2020-07-06	15	2100			foul odour, clear
SW0604	South corner of Canadian Coast Guard lot	2018-03-07	15	23000			no odour, clear
		2018-04-17	30	10000			sewer odour, clear
		2018-08-09	50	680			laundry odour, clear
		2019-04-23	8	10			no odour, clear
		2019-06-18	20	230			no odour, clear
		2020-04-06	12	< 1			no odour, clear
		2020-07-06	40	2			no odour, clear
SW0604A	Huron Street Coast Guard base, between boat docks and Fisherman's Wharf	2018-03-07	0				dry, not sampled
		2018-08-09	0				dry, not sampled
		2019-04-23	NULL				flow too low to sample
		2019-06-19	0				dry, not sampled
SW0605	5 m west of fire hydrant at Canadian Coast Guard property	2018-03-07	1	< 10			no odour, clear
		2018-08-09	0				dry, not sampled
		2019-04-23	NULL				flow too low to sample
		2019-06-18	5	730000			no odour, clear
		2019-07-04	3	290			no odour, clear
		2020-04-06	NULL				flow too low to sample
		2020-07-06	< 1	190			no odour, clear
SW0606	West of jetty at HMCS Malahat Naval Reserve Division	2018-03-08	0				dry, not sampled
		2019-06-19	0				dry, not sampled
SW0607	East of Fisherman's Wharf, north west pipe	2018-03-07	200	700			no odour, clear
		2018-08-09	300	17000			sewer odour, clear
		2019-04-23	10	80000			no odour, slight amber
		2019-06-17	100	71000			no odour, clear
		2020-04-24	60	41000			no odour, clear
		2020-06-19	32	75000			no odour, clear
		2020-06-22	200	140000			no odour, clear
SW0607-1A	St. Lawrence Street (manholeD3477), upstream of stormwater retention unit	2020-06-19		550000			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0607A	East of Fisherman's Wharf, south east pipe	2018-03-07	20	30			no odour, clear
		2018-08-09	200	< 10			no odour, clear
		2019-04-23	13	120			no odour, clear
		2019-06-17	80	340			no odour, clear
		2020-04-24	12	500			no odour, clear
		2020-06-19	10	9			no odour, clear
		2020-06-22	100	3			no odour, clear
SW0610	Foot of Oswego Street	2018-02-06	30	470			no odour, clear
		2018-08-08	45	160000			foul odour, slightly brown
		2019-02-26	12	2200			no odour, clear
		2019-06-18	50	7600			sewer odour, murky
		2020-04-06	7	9			no odour, clear
		2020-06-22	1	3100			strong sewer odour, clear, biofilm on pipe
SW0611	Foot of Menzies Street	2018-03-19	10	92000			no odour, clear
		2018-08-10	30	110000			strong barnyard odour, potential manure in
		2019-02-26	11	32000			no odour, clear, no horses upstream
		2019-06-17	10	2700000			sewer odour, amber
		2019-07-04	5	2100000			manure odour, murky, sampled at end of pipe
		2020-04-06	8	78000			no odour, clear
		2020-06-22	25	200000			no odour, clear
SW0613	Curved portion of causeway wall at Government Street & Belleville	2018-03-19	36	11000			no odour, murky
		2018-08-08	26	640			no odour, slightly murky
		2018-08-10	100	9400			no odour, clear
		2018-08-14	24	250			no odour, slightly murky
		2018-09-07	250	22000			no odour, murky
		2018-09-10	60	1800			no odour, clear
		2018-10-25	80	1000			slight chemical odour, black
		2018-10-30	> 80	620			chemical odour, turbid black
		2018-11-07	70	200			chemical/earth odour, turbid dark grey
		2018-11-13	160	320			no odour, clear
		2018-11-22	100	350			no odour, slight grey
		2019-04-23	24	760			no odour, clear
		2019-06-17	70	51000			no odour, clear
		2020-04-28	50	3500			no odour, slight murky
		2020-06-22	45	640			no odour, clear
SW0613-2	Manhole #D2719 on Bellville across from Museum	2020-12-01	NULL				marine influenced, could not sample

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0613A	Below ornamental tree #5 & 6 at Government and Bellville	2018-08-10	200	30			no odour, black silty
		2019-06-17	50	60			no odour, clear
SW0614	Humboldt/Wharf & Government	2018-03-19	60	83000			no odour, clear
		2018-08-08	80	10000			musty odour, murky
		2018-08-10	50	8700			no odour, clear
		2018-08-14	80	20000			musty odour, slightly murky
		2018-09-07	120	6000			sewer odour, murky
		2018-09-10	80	310000			no odour, clear
		2018-10-25	120	860			musty odour, clear
		2018-10-30	320	17000			musty odour, murky amber, surge flow
		2018-11-07	> 200	760			musty/sewer odour, clear
		2018-11-13	> 1000	2000			strong sewer odour, murky amber
		2018-11-22	400	590			slight sewer/musty odour, murky
		2019-04-23	60	77000			sewer odour, slightly murky
		2019-06-17	20	45000			musty odour, murky
		2020-05-01	40	3200			stale odour, clear
SW0614-2	Upstream of 614 discharge	2020-12-01					marine influenced, could not sample
SW0617B	North of passenger ramp at Air BC terminal	2018-04-12	0				dry, not sampled
		2018-08-08	0				dry, not sampled
		2019-04-24	0				dry, not sampled
		2019-06-19	0				dry, not sampled
SW0618	Foot of Fort Street	2018-04-17	10	8800			no odour, slight murky
		2018-08-09	30	370			strong odour, clear
		2019-04-24	7	270			no odour, clear
		2019-06-18	15	120			laundry soap odour, sudsy, surge flow
		2019-06-18	2	200			no odour, clear
		2020-04-28	4	1			no odour, clear, probable marine influence
		2020-06-22	20	1			no odour, clear
SW0619	South side of Johnson Street bridge	2018-03-19	14	7700			no odour, murky
		2018-08-10	100	> 2800000			sewage odour, potential toilet paper in
		2019-02-26	43	8400			no odour, clear
		2019-05-10	> 250	20000			no odour, murky
		2019-06-18	10	150000			no odour, clear
		2020-04-24	< 1	4000			slight sewer odour, slightly murky
		2020-06-22	30	5300000			strong sewer odour, murky

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0619A	North side of Johnson Street bridge 619A	2018-08-10	150	50			foul odour, clear
		2019-06-18	3	20			no odour, clear
		2020-06-22	5	< 1			no odour, clear
SW0620	north side of Johnson Street bridge	2018-03-07	250	4100			slight sewage odour, cloudy
		2018-08-10	300	49000			perfume odour, murky
		2019-04-23	35	55000			no odour, clear
		2019-05-06	> 500	330000	97000		runoff from firefighting, acrid/smoky odour, dark brown
		2019-05-10	> 120	65000			smoky odour, turbid, runoff from fire fighting
		2019-06-18	250	31000			no odour, clear
		2019-08-15	40	26000	5600		sewer/chemical odour, murky
		2020-04-24	40	290			sewer odour, murky brown
		2020-06-22	250	4600			no odour, clear
SW0622	End of Swift Street	2018-03-07	NULL				flow too low to sample
		2018-05-18	2	600			no odour, clear
		2018-06-15	1	790			no odour, clear
		2018-08-09	5	4700			no odour, grey
		2019-04-23	< 1	150			no odour, clear
		2019-06-18	15	90			no odour, amber
		2020-04-24	< 1	17			no odour, clear
		2020-06-08	1	10			no odour, slight amber
		2020-07-06	3	190			no odour, clear
SW0623	End of Chatham Street	2018-03-07	NULL				flow too low to sample
		2018-08-08	8	5900			no odour, clear
		2019-04-23	7	740000			no odour, clear
		2019-06-18	2	1500			no odour, clear
		2020-04-24	1	90000			no odour, clear
		2020-06-03	< 1	4400			slight foul odour, slight amber colour, low flow after a surge
		2020-06-03	8	750			slight foul odour, murky amber colour, surge flow
		2020-06-08	1	7400			no odour, slight amber
SW0626	Behind 2122 Government Street, Rock Bay	2018-04-18	200	1000			sewer odour, murky
		2018-08-09	200	2700			sewer odour, clear
		2018-10-25	250	2900			no odour, murky brown
		2018-10-30	> 500	3200			no odour, murky brown
		2018-11-07	360	580			no odour, clear
		2018-11-14	1000	1500			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2018-11-22	> 400	300			no odour, slight amber
		2019-04-23	48	600			no odour, clear
		2019-06-19	300	8600			foul odour, sudsy grey
		2020-04-24	60	10000			no odour, clear, potential marine influence
		2020-06-23	200	4500			no odour, clear
SW0627	South side of Ocean Cement, Rock Bay	2018-04-18	300	130000			sewer odour, cloudy
		2018-08-09	500	2200			sewer odour, white, plume into ocean
		2018-08-14	400	22000			foul odour, clear
		2018-08-23	250	200000			no odour, clear
		2018-09-07	400	14000			no odour, clear
		2018-09-10	800	36000			no odour, slightly dirty
		2018-10-25	> 500	5600			organic odour, murky brown
		2018-10-30	> 800	4200			sewer odour, murky brown (solids)
		2018-11-07	500	5800			no odour, clear
		2018-11-14	> 1200	9900			no odour, slight murky amber
		2018-11-22	> 450	7100			no odour, slight amber
		2019-04-23	72	100000			no odour, clear
		2019-06-19	500	33000			no odour, clear
		2020-04-24	> 80	20000			no odour, clear
		2020-06-23	500	13000			odour not noted, murky, flocculent
SW0629	East of foot of Bridge Street, Rock Bay	2018-04-18	100	21000			sewer odour, murky
		2018-08-09	40	34000			foul odour, black
		2018-08-14	60	16000			foul odour, grey
		2018-08-23	30	> 2800000			foul odour, strong brown
		2018-09-07	250	700000			foul odour, black/grey
		2018-09-10	50	130000			foul odour, black/grey
		2018-10-25	80	46000			strong creosote odour, murky brown
		2018-10-29	80	11000			chemical odour, murky brown
		2018-11-07	20	< 10			slight chemical odour, murky greenish
		2018-11-13	> 500	1500			no odour, murky amber, flow mainly from new source in manhole
		2018-11-22	40	330			no odour, murky light grey
		2019-04-23	12	880			no odour, clear
		2019-06-19	70	67000			foul odour, clear
		2020-04-24	14	1000			chemical odour, murky, suds
		2020-06-25	40			140000	odour not noted, dark turbid

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0634	End of David Street, below Budget Steel	2018-05-03	4	48000			sewer/chemical odour, murky brown
		2018-08-10	4	8500000			foul odour, murky, solids
		2018-10-25	10	190000			foul odour, cloudy (solids)
		2018-10-29	30	21000			organic garbage odour, amber murky
		2018-11-07	8	240000			chemical/garbage odour, brown colour, solids, oily sheen
		2018-11-13	24	47000			strong hydrocarbon odour, murky yellow/brown
		2018-11-22	14	37000			strong organic/compost odour, amber
		2019-04-23	4	20000			foul odour, murky, particulate
		2019-06-19	2	2300000			strong foul odour, murky grey, particulate
		2020-04-27	2	280000			garbage odour, murky grey
		2020-06-25	30			900000	foul odour, murky, biofilm on outlet pipe
SW0634-A	Manhole #D3006 at Hillside & Pleasant	2020-12-25	2	36000			foul odour, turbid brown
		2021-01-12	32				foul odour, murky brown
SW0636	South side of Victoria municipal yard, South Bay	2018-03-07	200	7500			slight sewage odour, clear
		2018-07-27	400	75000			acrid odour, clear
		2018-08-10		32000			foul odour, murky
		2018-08-14	800	94000			foul odour, slightly murky
		2018-08-23	300	850000			sewer odour, murky
		2018-09-07	400	70000			foul odour, murky, floating debris
		2018-09-10		180000			foul odour, grey murky
		2018-10-25	> 250	130000			muddy odour, murky brown
		2018-10-29	> 300	4400			earthy odour, murky amber/white
		2018-11-07	> 300	73000			no odour, murky grey, suds
		2018-11-13	> 1200	2800			earthy odour, murky amber/brown
		2018-11-22	350	9700			no odour, murky
		2019-04-23	88	5200			no odour, murky white
		2019-06-19	350	180000			foul odour, turbid
		2020-04-27	60	40000			organic odour, slightly murky
		2020-06-23	200	18000			odour not noted, grey, oil slick on surface
SW0641	Mouth of Cecelia Creek	2018-02-14	> 350	2200			no odour, murky
		2018-08-15	700	32000		23000	no odour, clear
		2018-08-22	700	6700		2100	no odour, clear
		2018-08-29	> 800	3800		3700	no odour, clear
		2018-09-05	850	9400		6400	no odour, clear
		2018-09-12	1500	11000		7400	no odour, slightly murky
		2018-10-09	> 1500	3600		3200	no odour, clear
		2018-10-17	> 1300	3100		2900	no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2018-10-24	> 1000	7700		8600	no odour, clear
		2018-10-29	> 2000	3300		4500	no odour, murky
		2018-11-07	> 1000	10		< 10	no odour, clear
		2019-04-24	> 350	550			no odour, clear
		2019-09-12	> 3000				sewer odour, black hydrocarbon slick, no bacteria sample collected
		2019-09-13	> 1000	1000			sewer odour, silty white plume
		2019-11-19	> 3000	310			no odour, clear
		2020-04-06	> 250	23			no odour, clear
SW0643	Foot of Washington Avenue	2018-03-07	< 1	< 10			no odour, clear
		2018-07-27		22000			no odour, discharge clear, flow not estimated
		2019-04-24	< 1	210			no odour, clear
		2019-06-18	< 1	200			no odour, clear
		2020-04-21	< 1	19			no odour, clear
		2020-07-17	5	25			no odour, clear
SW0645	Carrol Street easement	2018-03-15	5	70			no odour, clear
		2018-07-27	10	190000			strong compost odour, slight amber
		2019-02-26	8	930			no odour, clear
		2019-06-19	0				dry, not sampled
		2020-01-22	120	2000			earthy odour, brown
SW0645A	Prince Charles Apts/Gorge Road	2018-03-15	10	6200			no odour, clear
		2018-07-27	6	810			no odour, clear
		2019-02-26	1	720			no odour, clear
		2019-06-18	5	5200			strong unusual odour, clear
		2020-01-22	20	1400			garlic odour, murky
SW0645C	Chapman Point, west side of 105 & 135 Gorge Road property line	2018-04-04	160	70			no odour, clear
SW0646	20 m east of large concrete outfall	2018-04-04	50	560			no odour, clear
		2019-04-11	1	410			no odour, clear
		2019-06-19	NULL				flow too low to sample
		2020-04-27	1	9			no odour, clear
		2020-07-17	0				dry, not sampled
SW0647	Gorge Road Hospital, across from boat docks	2018-04-04	0				dry, not sampled
		2019-04-11	< 1	830			no odour, clear
		2019-06-19	0				dry, not sampled
		2020-04-27	NULL				flow too low to sample
		2020-05-25	NULL				flow too low to sample
		2020-07-17	NULL				flow too low to sample

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0649	At head of scoured channel, Gorge Road Hospital	2018-04-04	400	5000			no odour, dirty
		2018-07-27	1	51000			foul odour, clear
		2019-02-26	5	5800			no odour, clear
		2019-04-11	8	1900			no odour, murky
		2019-06-19	3	4400			foul odour, sudsy grey
		2020-04-27	7	4200			no odour, clear
		2020-05-25	38	7300			no odour, clear
		2020-07-17	2	200			no odour, clear
SW0650	East of "Outfall" and "Pipeline" signs at end of Harriet Road	2018-03-15	10	7700			no odour, clear
		2018-07-27	2	2100000			foul odour, clear
		2019-02-26	8	20000			no odour, clear
		2019-06-19	NULL				flow too low to sample
		2020-04-27	6	5600			no odour, clear
		2020-07-17	NULL				flow too low to sample
SW0652A	In concrete retaining wall, east side of building at 71 Gorge Road West	2018-04-18	3	< 10			no odour, clear
SW0652B	In concrete retaining wall, 100 m north of 652A at 71 Gorge Road West	2018-04-18	5	< 10			no odour, clear
		2018-07-27	2	< 10			no odour, clear
SW0653	Below tennis courts at Cedar Shore Apts	2018-04-04	150	2100			sewer and asphalt odour, clear
		2018-04-18	900	230			sewer odour, dirty
		2018-07-27	12	4400			sewer odour, clear
		2019-04-11	18	910			no odour, slightly murky
		2019-06-19	25	1400			foul odour, clear
		2020-04-01	120	100			no odour, amber
		2020-07-17	20	2000			no odour, clear, biological growth on pipe
SW0654	6 m north of corner of tennis courts at Cedar Shore Apts	2018-04-04	75	370			no odour, dirty
		2018-04-18	10	< 10			no odour, clear
		2018-04-18	200	10			chlorine odour, clear, surge flow
		2019-04-11	6	120			no odour, clear
		2019-06-19	3	180			no odour, clear
		2020-04-01	5	26			no odour, clear
		2020-07-17	1	< 1			no odour, clear
SW0655	In small cove in Gorge Park, east of Gorge bridge	2018-04-04	200	1100			sewage odour, dirty
		2019-04-12	8	110			no odour, clear
		2019-06-19	0				dry, not sampled
		2020-04-01	9	89			no odour, clear
		2020-07-07	NULL	40			no odour, clear, pooled flow

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0658	50 m upstream of canoe club, southeast of Gorge View Drive	2020-04-21	4	2			no odour, clear
		2020-07-17	3	< 1			no odour, clear
SW0658A	Directly below 384 Gorge Road	2018-04-04	80	370			asphalt odour, dirty
		2018-07-27	5	120			no odour, clear
		2019-04-11	5	980			no odour, slightly murky
		2019-07-03	6	37000			no odour, clear (evidence of otter activity nearby)
		2020-04-21	< 1	< 1			no odour, clear
		2020-07-17	10	1000			no odour, clear
SW0659	Foot of Gorge View Drive	2018-04-04	160	170			no odour, dirty/foamy
		2018-07-27	NULL				flow too low to sample
		2019-04-11	1	220			no odour, clear
		2019-07-03	3	340			no odour, clear
		2020-04-21	6	< 1			no odour, clear
		2020-07-17	< 1	5500			no odour, clear
SW0669	Foot of Dysart Road	2020-07-17	0				dry, not sampled
		2020-10-02	0				dry, not sampled
		2020-12-02	24	20			no odour, clear, combined flow
SW0671	Foot of Austin Avenue, 5m west of last white pole	2018-03-14	15	410			no odour, clear
		2018-07-27	15				no odour, clear
		2019-04-11	6	5200			no odour, clear
		2019-07-03	4	420			no odour, clear
		2020-04-16	2	360			no odour, clear
		2020-07-17	NULL				flow too low to sample
SW0672	Adelaide Avenue	2020-07-22	0				dry, not sampled
		2020-12-02	3	3			no odour, clear
SW0673	Between Wyndeatt & Adelaide	2018-03-14	NULL				flow too low to sample
		2018-07-27	NULL				flow too low to sample
		2019-04-11	NULL				flow too low to sample
		2019-07-03	0				dry, not sampled
		2020-04-16	0				dry, not sampled
		2020-07-22	0				dry, not sampled
SW0676	Across from 820 Gorge Road	2018-03-14	5	< 10			no odour, clear
		2018-07-27	NULL				flow too low to sample
		2019-04-11	8	60			no odour, clear
		2019-07-03	2	540			no odour, clear
		2020-04-16	2	6			no odour, slight amber
		2020-07-22	NULL				flow too low to sample

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0679	Gorge Road at Admirals Road	2020-10-02	9	53			no odour, clear
SW0690D	Under 3rd bridge to east, Colquitz River	2018-08-03		200			no odour, clear
		2018-08-14		50			no odour, clear
		2018-10-26		2000		1500	no odour, clear
		2018-10-28		600		870	no odour, clear
		2019-05-07	> 1000	140			no odour, slight amber
		2019-07-10	> 2000	680			no odour, clear
		2019-11-19	> 10000	390			no odour, clear
		2020-04-21	> 400	25			no odour, clear
		2020-08-12	1000	40			no odour, clear
SW0690E	Garry Rd at Cuthbert Holmes Park, southwest corner of parking lot	2018-03-14	100	< 10			no odour, clear
		2019-05-07	40	2000			no odour, clear
		2019-07-19	60	330			no odour, clear
		2019-12-04	24	< 1			no odour, clear
		2020-04-21	15	10			no odour, clear
		2020-11-24	65	12			no odour, murky brown
SW0691A	Wilkinson Road right-of-way, 1173A & B Portage Road	2019-05-07	5	< 10			no odour, slight amber
		2019-07-19	NULL				flow too low to sample
		2020-04-21	2	680			no odour, clear
		2020-05-25	36	510			no odour, clear
SW0692	End of Portage Road	2018-03-14	50	< 10			no odour, clear
		2018-08-13	6	590			no odour, clear
		2019-05-07	4	40			no odour, clear
		2019-07-19	8	60			no odour, clear
		2019-12-04	8	7			no odour, clear, evidence of otter den
		2020-04-21	7	8			no odour, clear
		2020-07-22	10	73			no odour, clear
SW0694	Old Trans-Canada rest stop between Portage & Giles, below manhole in walkway	2019-05-07	0				dry, not sampled
		2019-09-16	0				dry, not sampled
SW0695	End of St. Giles Street	2018-04-05	200	270			no odour, clear
		2018-08-01		70			strong sewer odour, silty
		2019-05-07	6	40			no odour, clear
		2019-08-16	5	54			no odour, clear
		2020-04-16	12	< 1			no odour, clear
		2020-07-17	45	< 1			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0697	Beside 152 St. Giles Street, Hospital Creek	2018-04-17	800	190			no odour, clear
		2018-08-03	50	490			no odour, clear
		2019-05-07	30	40			no odour, clear
		2019-08-16	20	500	140		no odour, clear, tidal influenced
		2020-04-28	> 150	40			no odour, clear
		2020-07-17	150	60			no odour, clear
SW0698	End of Stillwater Road	2018-03-14	4	60			no odour, clear
		2018-08-01	0				dry, not sampled
		2019-05-07	< 1	50			no odour, clear
		2019-09-12	50	240			no odour, clear
		2019-11-27	1	7			no odour, clear
		2020-04-16	1	< 1			no odour, clear, spill boom found at end of pipe, some oil in sediment
		2020-07-17	0				dry, not sampled
SW0700	Between 75 & 77 Kingham Place	2018-03-14	2	10			no odour, clear
		2018-08-01	0				dry, not sampled
		2019-05-07	0				dry, not sampled
		2019-09-12	20	340			no odour, dirty
SW0702	Southeast corner of Helmcken Park	2019-05-07	0				dry, not sampled
		2019-09-12	NULL				flow too low to sample
SW0703	Tidewater Road easement, southeast corner of Helmcken Park	2018-03-14	NULL				flow too low to sample
		2018-08-01	NULL				flow too low to sample
		2019-05-07	< 1	40			no odour, clear
		2019-09-12	60	22000			no odour, muddy
		2019-09-17	10	810			no odour, grey
		2020-04-28	< 1	35			no odour, clear
		2020-07-17	NULL				flow too low to sample
SW0709B	Craigflower Creek, under Helmcken Road bridge	2018-03-14	> 2000	10			no odour, clear
		2018-08-28	400	310			no odour, clear
		2019-05-07	400	80			no odour, clear
		2019-08-22	400	550		810	no odour, clear
		2020-05-01	> 800	23			no odour, clear
SW0710	15 m south of Helmcken Road bridge	2018-03-14	30	4400			no odour, sudsy
		2018-03-23	5	130			no odour, clear
		2019-03-13	12	10			no odour, clear
		2019-09-12	> 1000	700			no odour, dirty, suds, potential first flush

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-11-27	6	< 1			no odour, clear
		2020-03-27	9	1200			no odour, murky amber
		2020-05-25	48	260			no odour, dirty
		2020-07-22	3	1800			no odour, clear
SW0710W	5 m downstream of footbridge over Craigflower Creek	2019-03-13	10	30			no odour, clear
		2019-09-12	> 1300	600			no odour, dark brown, potential first flush
		2020-03-27	17	2			no odour, clear
		2020-07-22	25	56			no odour, clear
SW0711A	South side of 45 Caton Place	2018-03-14	10	< 10			no odour, clear
		2018-08-01	8	40			no odour, clear
		2019-03-13	3	10			no odour, clear
		2019-09-12	70	160			no odour, clear
SW0712	Immediately west of 712A to east of E&N railway and north of Old Island Hwy	2018-03-14	25	30			no odour, clear
		2018-08-02	35	100			no odour, clear
		2019-03-13	54	90			no odour, clear
		2019-09-12	1200	21000			no odour, black
		2019-09-17	300	1900			sewer odour, grey
		2019-11-27	35	30			no odour, clear
		2020-03-27	35	8			no odour, clear
		2020-07-10	60	40			no odour, clear
SW0713	Behind Shoreline School fence, between Shoreline Drive and E&N railway	2018-03-14	10	< 10			no odour, clear
		2018-08-02	5	120			no odour, clear
		2019-04-24	3	< 10			no odour, clear
		2019-09-12	3	50			no odour, clear
SW0722	Directly under center of Craigflower Bridge, aqua PVC pipe in cement wall (metal grate)	2018-02-16	18	60			no odour, clear
		2018-08-02	10	540			no odour, clear
		2019-03-13	18	360			no odour, clear
		2019-07-05	8	2200			no odour, clear
		2019-11-27	10	< 1000			no odour, turbid (construction upstream)
		2019-12-04	10	300			no odour, clear
		2020-03-27	30	230			no odour, clear
		2020-07-10	10	45			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0722AA	Southwest of corner of Craigflower Bridge; rip rap rain garden	2018-02-16	10	10			no odour, clear
		2018-08-02	10	230			slight sewer/musty odour, clear
		2019-03-13	13	100			no odour, clear
		2019-07-05	10	360			no odour, clear
		2020-03-27	22	150			no odour, clear
		2020-07-10	10	< 100			no odour, clear
SW0726	Southern corner of motel at Craigflower & Admirals	2018-03-20	30	50			no odour, clear
		2018-08-02	80	680			no odour, clear
		2019-03-13	24	60			no odour, clear
		2019-07-03	30	380			no odour, clear
		2020-03-27	32	280			no odour, clear
		2020-06-26			270		no odour, clear
		2020-07-10	20	170			no odour, clear
SW0727	2 m to west of path at foot of Aral Road	2018-04-04	10	140			no odour, clear
		2018-05-01	10	50			no odour, clear
		2018-06-05		740			no odour, clear
		2018-08-02	3	50			foul odour, clear
		2019-03-13	10	30			no odour, clear
		2019-07-03	10	4900			unusual odour, clear
		2020-03-27	6	1000			no odour, clear
		2020-06-26			580		no odour, clear
		2020-07-10	5	810			no odour, clear
SW0731	West side of 1376 Treebank Road	2018-04-04	60	30			no odour, clear
		2019-03-20	1	< 10			no odour, clear
		2019-07-03	NULL				flow too low to sample
		2020-03-27	2	< 1			no odour, clear
		2020-07-09	NULL				flow too low to sample
SW0733	East side of 948 Rankin Road	2018-04-04	130	100			no odour, clear
		2019-03-20	1	< 10			no odour, clear
		2019-07-03	NULL				flow too low to sample
		2020-03-27	1	1			no odour, clear
		2020-07-09	NULL				flow too low to sample
SW0736A	#14-915 Glenvale, man-made stream	2018-03-20	32	60			no odour, murky, surge flow
		2018-08-02	5	370			no odour, clear
		2019-02-26	16	10			no odour, clear
		2019-07-03	8	1300			no odour, clear
		2020-03-27	7	90			slight sewer odour, murky
		2020-07-09	NULL				flow too low to sample

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0737	Foot of Garthland Road	2018-03-20	2	40			no odour, clear
		2019-02-26	6	40			no odour, clear
		2019-07-03	NULL				flow too low to sample
		2020-03-27	4	65			no odour, clear
		2020-07-09	2	190			strong sewer odour, clear
SW0742	Foot of Sioux Place, upstream edge of pool dam	2018-03-20	9	160			no odour, clear
		2018-08-02	5	2900			no odour, clear
		2019-02-26	86	110			no odour, clear
		2019-06-20	30	2300			no odour, clear
		2019-10-30	30	140	52		no odour, clear
		2020-03-31	20	38			slight sewer odour, amber
		2020-07-09	15	5900			no odour, clear
SW0742B	Southwest of parking area at Esquimalt Gorge Park	2018-03-20	1	1400			no odour, clear
		2019-02-26	4	1600			no odour, clear
		2019-06-20	0				dry, not sampled
		2020-03-31	NULL	46			slight sewer odour, murky, pooled
		2020-07-07	NULL				flow too low to sample
SW0743A	Esquimalt Gorge Park, north of Esquimalt Parks' nursery, south bank	2018-03-20	1	120			no odour, clear
		2018-08-09	0				dry, not sampled
		2019-04-12	2	10000			no odour, clear
		2019-06-20	12	3800			foul odour, slightly murky
		2019-10-30	80	2	2		no odour, clear
		2020-03-31	1	810			no odour, clear
		2020-07-09	5	280			no odour, clear, oil boom inside pipe
SW0744	Esquimalt Gorge Park, Creek main flow, dual pipes under Craigflower Road	2018-02-15	100	2900			no odour, murky
		2018-08-02	200	8700			no odour, clear
		2019-03-20	180	780			no odour, clear
		2019-06-20	300	690			foul odour, slightly amber
		2019-10-30	200	270	420		
		2020-01-22	> 1000	500			strong hydrocarbon odour, murky, oily sheen
		2020-03-31	60	260			no odour, clear
		2020-07-09	100	1900			no odour, clear
SW0744A	Esquimalt Gorge Park, easts of Esquimalt Parks' nursery, across from upper settling pond	2018-02-15	14	52000			no odour, murky
		2018-08-02	0	230			no odour, clear
		2019-03-20	2	10			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-06-20	5	2300			no odour, clear
		2019-10-30	2	50	100		
		2020-03-31	60	800			no odour, clear
		2020-07-09	1	170			no odour, clear
SW0744B	Esquimalt Gorge Park, across from 1034 Gosper Crescent	2018-03-20	9	93000			no odour, clear
		2018-08-02	20	190000			foul odour, clear
		2019-02-26	6	2800000			no odour, clear
		2019-06-20	30	> 2800			strong sewer odour, grey
		2019-07-03	15	5400000			no odour, clear
		2019-10-30	10	140000	47000		sewer odour, murky
		2020-01-22	70	2700			sewer odour, murky
		2020-01-29	20				sewer odour, murky brown
		2020-03-03	8	110000			slight sewer odour, slight murky
		2020-03-31	8	160000			sewer odour, murky
		2020-07-09	20	760000			strong sewer odour, organic growth in flow
		2021-01-06	20	47000			sewer odour, murky
SW0747	East side of Gorge Point Estates, immediately north of McNaughton Avenue	2018-05-09	4	140			no odour, clear
SW0749	South side of 306 Uganda	2018-03-20	1	460			no odour, clear
		2018-08-07	5	22000			laundry/sewer odour, clear, surge flow
		2019-04-12	4	800			no odour, clear
		2019-06-19	2	2000			unpleasant odour, clear
		2020-03-31	6	72			no odour, clear
		2020-07-07	NULL				flow too low to sample
SW0749A	930 Selkirk Avenue, old wooden spillway	2018-03-20	0				dry, not sampled
		2018-08-07	1	32000			foul odour, murky
		2019-04-12	0				dry, not sampled
		2019-06-19	4	1100			foul odour, grey
		2020-03-31	NULL				flow too low to sample
		2020-07-07		< 10			no odour, clear
SW0751	Pipe and square concrete spill pad behind 928 Selkirk	2018-03-20	8	20			no odour, clear
		2018-08-07	2	860			no odour, clear
		2019-04-12	8	66000			no odour, clear
		2019-06-19	2	80			foul odour, clear, leak just west of end of pipe
		2019-06-19	10	200			no odour, clear, end of pipe (evidence of otter activity)
		2020-03-31	12	110			no odour, clear
		2020-07-07		2200			strong sewer odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0754	3 m upstream of rock wall at end of Arm Street	2018-03-20	40	310			slight perfume odour, clear, surge flow
		2018-05-01	> 40	3300			no odour, clear, sampled during surge flow
		2018-08-07	3	2500			no odour, grey
		2019-04-12	5	2600			no odour, clear
		2019-06-19	NULL				flow too low to sample
		2020-03-31	4	84			no odour, clear
		2020-07-07	0				dry, not sampled
SW0757	west side of small bay at foot of Burleith Crescent	2018-03-15	5	2200			no odour, clear
		2018-08-07	0				dry, not sampled
		2019-04-12	1	110			no odour, clear
		2019-06-20	0				dry, not sampled
		2020-03-31	5	52			no odour, clear
		2020-07-07	0				dry, not sampled
SW0758A	Below play area in Banfield Park	2018-03-07	20	7800			sewage odour, clear
		2018-08-07	1	250			foul odour, grey
		2019-04-16	2	40			no odour, clear
		2019-06-20	NULL				flow too low to sample
		2020-04-16	8	350			no odour, clear
		2020-05-25	80	8900			sewer odour, dirty
		2020-06-25	NULL				flow too low to sample
SW0759	West of Trestle Bridge at foot of Currie Lane	2018-03-07	15	520			no odour, clear
		2018-08-08	2	140			no odour, clear
		2019-04-16	NULL				flow too low to sample
		2019-06-20	3	3200			foul odour, clear, sampled from end of pipe
		2020-04-16	5	62			no odour, clear
		2020-06-25	< 1			290	no odour, clear
		2020-07-10	5	380			no odour, clear
SW0768	Below parking area east of 65 Songhees Road	2018-04-16	500	2800			sewer odour, clear
		2018-08-08	60	2300			unpleasant odour, clear
		2019-04-24	16	24000			no odour, clear
		2019-06-20	40	410			no odour, clear
		2020-04-16	8	2500			no odour, clear
		2020-07-07		720			no odour, clear
SW0769	Foot of Cooperidge Place	2018-02-16	60	210	140		no odour, clear
		2018-04-16	250	980			sewer odour, clear
		2018-05-18	30	50000			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2018-06-05	140	20			no odour, clear, likely a surge flow
		2018-06-15	60	3300	1500		no odour, clear
		2018-08-08	150	25000			no odour, clear
		2018-11-22	60	210	110		no odour, clear
		2019-04-24	60	380			no odour, clear
		2019-06-20	45	140			sewer odour, clear, evidence of otter activity
		2020-04-16	18	570			no odour, murky, surge event
		2020-07-07		940			no odour, clear
SW0772	Catherine Street behind Spinnakers, 10 ft down rock wall	2018-08-10	5	2500			no odour, clear
		2019-04-16	0				dry, not sampled
		2020-04-16	0				dry, not sampled
		2020-06-26	0				dry, not sampled
SW0775	Foot of Robert Street	2018-04-16	60	1600			sewer odour, clear
		2018-08-08	NULL				flow too low to sample
		2019-04-16	5	2700			no odour, clear
		2019-06-20	< 1	30			no odour, clear
		2020-04-16	< 1	4			no odour, clear
		2020-07-07		3400			
SW0777A	Extends from curve in rock wall at foot of Barnard Avenue	2018-01-19	40	6500			no odour, clear
		2018-02-15	36	21000			no odour, clear
		2018-08-08	60	1200000			foul odour, evidence of sewage
		2019-02-07	80	160000			no odour, murky
		2019-06-20	60	170000			strong sewer odour, grey
		2019-10-30	100	170000	85000		sewer odour, murky
		2020-01-17	80	17000			slight sewer odour, slight murky
		2020-03-03	60	20000			slight sewer odour, murky
		2020-06-25	60			120000	sewer odour, potential toilet paper in flow
		2021-01-06	70	4900			slight sewer odour, murky
SW0779	West side of 531 West Bay Terrace, under boardwalk, West Bay	2018-02-16	10	230			no odour, clear
		2018-08-08	1	870			no odour, clear
		2019-03-08	5	3600			no odour, clear
		2019-06-20	< 1	1200			no odour, clear
		2020-03-03	4	340			slight sewer odour, murky
		2020-06-26	NULL				flow too low to sample
SW0780	Under boardwalk sitting area, below 537 Head Street, West Bay	2018-02-16	12	48000			no odour, clear
		2018-08-08	15	91000			foul sewer odour, foamy brown

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-03-08	8	2200000			no odour, clear
		2019-06-20	NULL				flow too low to sample
		2020-03-03	24	1500			no odour, clear
		2020-06-26			2400		no odour, clear
		2020-07-07	0				dry, not sampled
		2020-11-20	22	1700			no odour, clear
SW0781	Below and south of heritage building at 503 Head Street, West Bay	2018-04-16	600	860			sewer odour, silty
		2018-08-08	80	13000			no odour, clear
		2019-03-08	120	36000			no odour, clear
		2019-06-20	100	310			unusual odour, clear
		2020-03-03	60	2000			no odour, clear
		2020-06-26			960		strong acrid odour, clear, beige foam downstream
		2020-07-09	100	47			foul, acrid odour, brown foamy
		2020-11-20	NULL	72000			no odour, clear, potential tide influence, unknown flow
SW0805	8 m west of beach access at foot of Kinver Street	2018-08-08	25	140000			foul odour, murky
		2019-03-08	12	6900			no odour, clear
		2019-06-20	10	9300			slight sewer odour, clear
		2020-03-03	40	110000			no odour, clear
		2020-06-23	20	8000			no odour, clear, overflow investigation
SW0806	10 m west of beach access at foot of Kinver Street	2018-02-05		14000	120		no odour, clear, overflow investigation
		2018-08-08	10	11000			sewer odour, clear
		2019-03-08	6	58000			no odour, clear
		2019-06-20	25	4300			slight sewer odour, amber
		2020-03-03	9	300			no odour, clear
		2020-06-23	8	50000			no odour, clear, overflow investigation
SW0813	Foot of Foster Street, east side of cove	2018-02-16	10	130			no odour, clear
		2018-08-08	NULL				flow too low to sample
		2019-01-07	20		22		no odour, clear
		2019-01-07	20				no odour, clear
		2019-03-08	3	2400			no odour, clear
		2019-06-20	NULL				flow too low to sample
		2020-03-03	12	47			no odour, clear
		2020-06-26	NULL				flow too low to sample
SW0814	Crack in rocks at foot of Grafton Street	2018-02-16	8	500			no odour, clear
		2018-08-08	3	2000			no odour, clear
		2019-03-08	1	10			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
		2019-06-20	8	290			no odour, clear
		2020-03-03	12	7000			no odour, clear
		2020-05-25	6	1200			no odour, clear
		2020-07-09	5	250			no odour, clear
SW0854	foot of Gate Rd off Admirals Rd	2018-04-18	80	800			strong sewer odour, clear
		2018-08-10	16	7800000			foul odour, murky
		2019-04-23	36	5400			no odour, clear
		2019-07-03	20	25000			sewage odour, clear
		2020-04-27	20	5600			laundry soap odour, murky grey
		2020-06-22	50	6800			sewer odour, murky
SW0855	10 m north of 854 below Naden Road	2018-04-18	2	20			no odour, clear
		2018-08-10	0				dry, not sampled
SW0865AB	North of 200 Maplebank Road	2018-04-16	6	3600			sewer odour, clear
		2018-08-09	0				dry, not sampled
		2019-05-10	NULL				flow too low to sample
		2019-07-03	NULL				flow too low to sample
		2020-10-02	0				dry, not sampled
SW0865B	Below baseball field and small wood-sided house	2018-04-16	0				dry, not sampled
		2018-08-09	0				dry, not sampled
		2019-05-10	0				dry, not sampled
		2019-07-03	0				no flow observed
		2020-10-02	0				dry, not sampled
SW0865C	South end of Plumber Bay; north of dead Gary Oak	2018-04-16	1	80			no odour, clear
		2018-08-09	0				dry, not sampled
		2019-05-10	0				dry, not sampled
		2019-07-03	0				no flow observed
		2020-10-02	0				dry, not sampled
SW0865D	South side of Plumper Bay; south side of red tile roof house	2018-04-16	60	200			foul odour, murky
		2018-06-22	< 1	370	140		no odour, clear
		2018-08-09	0				dry, not sampled
		2019-05-10	6	30			no odour, clear
		2019-07-03	4	1700			sewer odour, clear, iron oxide sheen
		2020-10-02	1	650			no odour, clear
SW0865E	Middle of Plumber Bay, south side of playground	2018-06-22	NULL				flow too low to sample
		2020-10-02	1	2900			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0865F	North side of BC Aboriginal Disability Society building on north side of Plumber Bay	2018-04-16	10	130			no odour, murky
		2018-06-22	1	670	300		no odour, iron bacteria on
		2018-08-09	30	3200			odd odour, dirty
		2019-05-10	4	4600			no odour, clear
		2019-07-03	5	310			no odour, clear
		2020-10-02	6	300			no odour, clear
SW0865G	Thetis Cove, end of Hallowell Road (access trail), in rip rap visible in mud flats	2018-04-16		45000			sewer odour, murky
		2018-08-10	25	540			foul odour, clear
		2019-05-10	8	9600			no odour, clear
		2019-07-03	20	5300			no odour, clear
		2020-04-01	NULL				flow too low to sample
		2020-07-24	40	890			no odour, clear
		2020-10-02	0				dry, not sampled
SW0866	Portage Park, west of rock outcropping	2018-03-14	20	40			no odour, clear
		2018-08-10	0				dry, not sampled
		2020-09-03	7	5			no odour, clear
		2020-11-20	40	11			no odour, clear
SW0870	Foot of Beaumont, pipe to east of white house, red roof	2018-03-14	0				dry, not sampled
		2018-08-09	0				dry, not sampled
SW0872	Below PS at foot of Stewart, 3 m west of walkway	2018-03-14	10	1200			no odour, clear
		2018-08-09	0				dry, not sampled
		2019-05-10	3	1100			no odour, clear
		2019-08-13	10	120			no odour, clear
		2020-04-01	7	4			no odour, clear
		2020-07-24	0				dry, not sampled
SW0874	Foot of Heddle Avenue, 4 m below park bench, Tovey Bay	2018-03-14	0				dry, not sampled
		2018-08-09	0				dry, not sampled
		2020-07-24	0				dry, not sampled
		2020-11-20	18	23			no odour, clear
SW0882	North bank on east side of Parsons Bridge	2020-07-24	15	6			no odour, clear
SW0883A	Six Mile Road, South of E&N overpass, southeast end of gulley, adjacent to 883B	2018-03-13	0				dry, not sampled
		2018-08-13	0				dry, not sampled

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0883B	Six Mile Road, South of E&N overpass, southeast end of gulley, adjacent to 883A	2018-03-13	5	330			no odour, black and foamy
		2018-08-13	0				dry, not sampled
SW0885	Southwest side of Parsons Bridge	2018-03-13	20	50			slight sewage odour, cloudy scum on surface
		2018-08-13	5	30			no odour, iron oxide bacteria
		2019-05-13	10	70			no odour, clear
		2019-08-13	15	20			no odour, clear
SW0886	Mill Stream below 1700 Wilfert Road, rapids, west side of property	2018-03-13	500	120			no odour, clear
		2018-08-15	1000	100		60	no odour, clear
		2018-08-22	1000	200		90	no odour, clear
		2018-08-29	1000	160		190	no odour, clear
		2018-09-05	1000	110		60	no odour, clear
		2018-09-12	1500	50		20	no odour, clear
		2018-10-09	> 2500	60		70	no odour, clear
		2018-10-17	> 800	20		20	no odour, clear
		2018-10-24	> 1000	20		40	no odour, clear
		2018-10-28	> 1500	340		410	no odour, clear
		2018-11-07	> 5000	50		30	no odour, clear
		2019-05-13	> 2000	70			no odour, clear
		2019-08-13	> 1000	40			no odour, clear
		2020-04-01	> 2000	11			no odour, clear
		2020-09-03	> 1000	160			no odour, clear
SW0902	DND; creek off of Wilfert Road	2018-04-13	60	70			no odour, clear
SW0902A	Approximately 45 m southeast of 101 Wilfert Road entrance	2019-05-13	40	90			no odour, clear
		2019-08-13	30	3400			no odour, clear
		2020-03-26	18	< 1			no odour, murky brown
		2020-07-24	40	140			no odour, clear
SW0912	2 m north of yellow buildings and chain link fence, east side of Fort Rodd Hill	2018-03-14	5	30			no odour, clear
		2018-08-13	0				dry, not sampled
		2019-05-13	0				dry, not sampled
		2019-08-15	0				dry, not sampled
SW0913	Northern shore, 120 m west of bridge at east end of Esquimalt Lagoon	2018-03-08	80	50			no odour, clear
		2019-05-13	4	20			no odour, clear
		2019-07-25	0				dry, not sampled
SW0914	Below curve in Ocean Blvd, 25 m west of 913	2018-03-08	15	20			no odour, clear
		2018-08-13	0				dry, not sampled

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0916	20 m east of Royal Roads boathouse, Colwood Creek	2018-03-13	1000	10			no odour, clear
		2018-08-13	100	370			no odour, clear
		2019-03-08	> 600	10			no odour, clear
		2019-07-17	200	580			no odour, clear
		2020-01-30	> 1000	50			no odour, clear
		2020-09-03	> 500	130			no odour, clear
SW0921	65 m west of 920, from well-defined channel	2019-11-27	24	3			no odour, clear
SW0922	100 m south of 921, Hatley Creek	2019-11-27	20	2			no odour, clear
SW0926	10 m south of chain link fence on north side of Ocean Grove	2018-03-13	500	30			no odour, clear
		2018-08-13	500	40			no odour, clear
		2019-03-08	250	< 10			no odour, clear
		2019-08-15	1400	210		230	no odour, clear, construction upstream
		2019-08-22	1400	60		150	no odour, clear, construction upstream
		2019-08-29	1400	140		220	no odour, clear, construction upstream
		2019-09-05	1400	50		70	no odour, clear, construction upstream
		2019-09-12	1400	70		80	no odour, clear, construction upstream
		2019-10-07	> 2000	3400		3800	no odour, murky, construction upstream
		2019-10-17	1800	60		150	no odour, clear, construction upstream
		2019-10-21	> 3000	50		170	no odour, clear, construction upstream
		2019-10-31	2000	80		88	no odour, clear, construction upstream
		2019-11-07	1800	37		41	no odour, clear, construction upstream
		2020-01-30	180	12			no odour, clear
		2020-09-03	350	130			no odour, clear
SW0928	Foot of Portsmouth Drive, Selleck Creek	2018-03-13	400	< 10			no odour, clear
		2018-08-13	400	150			no odour, clear
		2019-03-08	60	10			no odour, clear
		2019-08-15	700	330		310	no odour, clear
		2019-08-22	700	40		260	no odour, clear
		2019-08-29	700	17		73	no odour, clear
		2019-09-05	700	40		74	no odour, clear
		2019-09-12	700	36		120	no odour, clear
		2019-10-07	> 1500	1000		1400	no odour, murky, construction upstream
		2019-10-17	> 1000	150		370	no odour, clear, construction upstream
		2019-10-21	> 2000	460		650	no odour, clear
		2019-10-31	1000	10		20	no odour, clear
		2019-11-07	1000	11		59	no odour, clear
		2020-01-30	80	7			no odour, clear
		2020-09-03	200	320			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0930	Below 3279 Anchorage Drive, 4 m north of concrete stairs	2018-03-08	30	< 10			no odour, clear
		2018-08-10	30	30			no odour, clear
		2018-10-30	50	51	57		no odour, clear
		2019-03-08	7	< 10			no odour, clear
		2019-07-25	90	30			no odour, clear
		2020-01-30	8	< 1			no odour, clear
		2020-09-03	8	9			no odour, clear
SW0931	Southwest side of 3279 Anchorage Avenue, Lagoona Brook	2018-03-08	15	< 10			no odour, clear
		2018-08-10	25	170000			no odour, clear
		2019-03-08	8	2000			no odour, turbid brown
		2019-07-25	30	70			no odour, clear
		2019-10-21	8	98			no odour, clear
		2020-01-30	18	< 1			no odour, clear
		2020-09-03	10	13			no odour, clear
SW0932	Ditch discharging into south end of Esquimalt Lagoon	2018-03-08	180	< 10			no odour, clear
		2018-08-10	300	30			no odour, clear
		2019-03-08	24	< 10			no odour, clear
		2019-07-17	200	40			no odour, clear, waterfowl in area
		2019-10-21	32	3400			no odour, clear
		2020-01-30	18	< 1			no odour, clear
		2020-09-03	24	< 1			no odour, clear
SW0933	Pipe at south end of Esquimalt Lagoon	2018-03-08	150	< 10			no odour, clear
		2018-05-15	70	250			no odour, clear
		2018-08-10	200	160			no odour, clear
		2019-03-08	32	40			no odour, clear
		2019-07-17	250	520			no odour, clear, waterfowl in area
		2020-01-30	24	4			no odour, clear
		2020-09-03	60	63			no odour, clear
SW0934	Across the street from 3330 Ocean Blvd	2020-01-30	1	2			no odour, clear, slight flow on surface
		2020-09-03	NULL	26			no odour, amber, unknown flow
SW0935A	Foot of Milburn below discharge 936	2018-03-08	250	10			no odour, clear
		2018-08-13	100	10			no odour, clear
		2019-03-08	16	10			no odour, clear
		2019-07-17	180	250			no odour, clear
		2020-01-30	20	3			no odour, clear
		2020-09-03	18	3			no odour, clear

Table 1. Core Area Stormwater Discharge Bacterial Data (2018-2020)

Station ID	Station Name	Sample Date	Flow Rate L/min	E. Coli CFU/100 mL	Enterococci CFU/100 mL	Fecal Coliforms CFU/100 mL	Sample Comments
SW0937	Below north side of Ocean Blvd cul-de-sac	2019-10-21	10	120			no odour, clear
SW0939	15 m south of Ocean Blvd beach access	2018-03-08	20	< 10			no odour, clear
		2018-08-13	0				dry, not sampled
SW0940A	North end of stormwater detention pond, rip rap buried pipe (at dip in beach path)	2018-03-08	500	< 10			no odour, clear
		2018-08-13	0				dry, not sampled
		2019-03-13	12	20			no odour, clear
		2019-07-17	0				dry, not sampled
		2020-03-26	12	7			no odour, clear
		2020-09-03	0				dry, not sampled
SW6003	Goldstream River above tidal influence	2018-04-10		< 10			no odour, clear, flow too high to estimate
		2018-08-29	> 3000	50			no odour, clear
		2019-03-26	> 5000	< 10			no odour, clear
		2019-08-13		80			no odour, clear, flow not estimated
		2019-10-25	> 5000	23			no odour, discharge clear, spawning salmon
		2020-03-26	> 2000	4			no odour, clear
		2020-09-10	> 2000	28			no odour, clear
SW6004	West side of Saanich Inlet, 200 m north of BC Tel cable lines	2019-10-25	> 1000	10			no odour, clear
SW6006	West side of Saanich Inlet, north side of Hall's Boat House driveway	2019-03-26	2	< 10			no odour, clear, creosote logs in channel
		2019-08-13	0				dry, not sampled
		2020-03-26	2	1			no odour, clear
		2020-09-10	0				dry, not sampled
		2020-11-24	10	92			no odour, clear
SW6008	North side of barn-style building at 3680 Trans-Canada Hwy	2018-04-10	60	< 10			no odour, clear
		2019-03-26	16	< 10			no odour, clear
		2019-08-13	15	8500			no odour, clear
		2019-10-25	10	9			no odour, clear
		2020-03-26	12	< 1			no odour, clear
		2020-09-10	0				dry, not sampled
		2020-11-24	70	26			no odour, murky brown

Notes:
Flow is visually estimated; CFU is colony forming units; "-" means measurement was not conducted; "null" means measurement was attempted, but could not be carried out (e.g., if there was no flow); red text highlights samples collected in 2020.

APPENDIX D

ESCHERICHIA COLI SAMPLING
QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM FOR 2020

APPENDIX D

***ESCHERICHIA COLI* SAMPLING**
QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM FOR 2020
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APPENDIX D

ESCHERICHIA COLI SAMPLING
QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM FOR 2020

1.0 INTRODUCTION

Quality assurance and quality control (QA/QC) programs are a set of protocols adopted to ensure that the results of a study are valid, internally consistent and comparable with similar projects. These protocols are set out in writing and based on current and relevant research. This appendix discusses:

- field sampling methods
- sample handling procedures
- analytical procedures
- field and laboratory replication (quality control)
- data assessment

The data collected for the QA program are used to ensure consistency in field handling and analytical methods. If the data exceed a specified precision criterion then the lab is notified of a potential problem in the procedure and steps are taken to resolve the issue.

2.0 METHODS FOR *ESCHERICHIA COLI* SAMPLING

CRD staff collected water samples in 500-mL wide-mouth sterile disposable bottles containing 1.5 mL of sodium thiosulphate (a sample preservative). Bottles were supplied by Bureau Veritas (formerly Maxxam Analytics) in Victoria, BC. Labelled samples were stored in an insulated cooler with ice packs and delivered the same day to the laboratory. Maxxam analyzed samples for *Escherichia coli* (*E. Coli*) bacteria following the procedures in Standard Methods (APHA, 1998) and reported as colony forming units/100 mL (CFU/100 mL).

CRD staff collected samples for QC on days that the weather was representative of the sampling season (wet or dry). Conditions such as "first flush", major storms or any other effect that might tend to prejudice the results were avoided.

2.1 Stormwater Discharge Sampling

Field samplers collected stormwater discharge samples from the point of discharge. Care was taken to avoid contamination of the sample with substances that did not originate in the stormwater (e.g., salt water, other discharges) that may confuse the results.

2.2 Quality Assurance

2.2.1 Stormwater Sample Replicates (Field Splits)

Ten percent of the samples collected were replicated and the field replicate samples identified as "field splits". CRD staff collected a single sample in a 500-mL sample bottle and inverted 30 times to ensure that the sample was well-mixed. The sample was then split evenly into two separate bottles. Staff labelled the bottles submitted them to Maxxam for analysis. These samples were submitted as blind samples (not identified as field splits).

2.2.2 Quality Control Precision Assessment

In 2020, field staff collected 18 field splits at six stormwater discharges in the core area of the CRD. Samples were analyzed for *E. Coli* levels. Field splits were used to establish the precision criterion for the CRD Core Area, District of Sooke and Southern Gulf Island Electoral Area sampling programs. The discharges were chosen based on previous high, moderate, or low levels of *E. Coli* concentrations (two discharges for each category) to represent the varying *E. Coli* counts that would be analyzed. Staff collected three individual 500-mL grab samples at each of the six stations and split each into two replicate bottles. Staff also submitted three blank samples of potable water in 500-mL sample bottles as part of the assessment. Each sample had a unique identification number and was submitted blindly to the lab (i.e., the lab had no information about the sample).

2.2.3 Calculation of Laboratory Precision

Laboratory precision for *E. Coli* analysis (e.g., a measure of consistency by the lab) is determined by analyzing 18 pairs of field samples (field splits). The following, taken from Standard Methods, 18th Edition (APHA, 1998), explains the procedure for calculating the precision criterion and determining whether the log ranges for the field splits are “acceptable” or “unacceptable”:

- The data are arranged in pairs (D_1 and D_2). The log of each field measurement is determined (L_1, L_2) and the difference (range) in the log value between each pair of field splits is calculated: $R = (L_2 - L_1)$. An average range (Mean-R) is then determined for all of the pairs.

- The precision criterion is calculated by multiplying the Mean-R by 3.27 and is rounded to one decimal place.

- The log range (R) is calculated for each of the field splits and compared to the precision criterion, to determine whether the sample is acceptable or not, according to the following criterion:

  Acceptable (A) — If the calculation is less than the precision criterion, then the field data are within normal variability.

  Unacceptable (U) — If the calculation is greater than the precision criterion, then the field data are outside of the normal variability. All data collected <u>after</u> the last "acceptable" set of data should be discarded and no further analysis should be done until the source of the problem is identified by the lab.

It is important not to put too severe an interpretation on the results from the QA calculation, especially when they are close to the "unacceptable" guideline. Each result represents a value within a 95% confidence interval, which gets proportionately larger as the actual result gets smaller. Therefore, one can expect 5% of the samples to be outside of the precision criterion, through randomness. Also, any *E. Coli* count under 200 FC/100 mL is considered too small an amount to accurately calculate or compare to a precision criterion (APHA, 1998). It is also important to note that discharges with *E. Coli* counts lower than 200 FC/100 mL receive a low public health concern rating.

The results are rounded to one decimal place and compared to the precision criterion (e.g., 0.5). If the calculated value from the duplicate results still exceeds the criterion (e.g., 0.55 or greater) then an informal investigation of the laboratory should be initiated. If only a few duplicates are unacceptable (e.g., one out of every 20 pairs of duplicates) the lab is probably meeting the guideline.

The overall process is intended to act as an "alarm", alerting the study group to potential problems with the sampling and analytical procedures. As part of the review, the following elements are considered:

- the number of pairs exceeding the criterion
- the actual *E. Coli* value of the pairs of data
- field notes on the "field split" procedure
- comments from the laboratory

3.0 RESULTS

3.1 Quality Assurance Results

Field staff collected 18 pairs of stormwater samples from six discharges having historically high, moderate or low levels of *E. Coli* bacteria. Staff blindly submitted samples to the lab for analysis of the *E. Coli* concentration and used the data to calculate the precision criterion.

3.1.1 Blanks

Field staff submitted three blank samples (CRD tap water) to the lab for analysis for *E. Coli* bacteria. Blanks were reported as having <10 CFU/100 mL. Therefore, the results meet the QA requirements.

3.1.2 Precision Criterion

Table 1 shows the lab results of the 18 pairs of samples used to determine the precision criterion for the 2020 stormwater monitoring program. The calculated criterion for this laboratory, using these 18 sets of duplicates, was 0.4.

3.1.3 Field Splits

Wet Weather Sampling

Table 2 presents the results for the field splits collected in the core area during the wet period of the 2020 stormwater sampling program. Data were compared to the precision criterion (0.4), as described in Section 3.1.2. Two of the field splits exceeded the precision criterion; however, they had counts below 200 CFU/100 mL, which is acceptable. Therefore the results are acceptable.

Dry Weather Sampling

Table 3 presents the results for the field splits collected in the core area during the dry period of the 2020 stormwater sampling program. Three of the field splits exceeded the precision criterion; however, all three had counts below 20 CFU/100 mL. Counts below 200 CFU/100 mL are not expected to meet the precision criteria. Therefore, the results are acceptable.

4.0 CONCLUSIONS

Requirements for the Environmental Monitoring Program QA/QC program were carried out in 2020. The QA/QC results were acceptable for rating stormwater discharges for public health concerns.

5.0 REFERENCES

APHA, 1998. American Public Health Association, American Water Works Association, Water Pollution Control Federation, 20th Edition. Standard Methods for the Examination of Water and Wastewater.

Drinnan, R.W. 1995. Memo to R. Miller, CRD Engineering, February 7; 4pp.

Hutcheson, D. 1995. Memo to R. Miller, CRD Engineering, February 7; 2pp.

Table 1 Laboratory Quality Assurance Exercise Results for 2020

CRD Data, Batch Samples: 18 pairs, January 2020						
Discharge No.	Pair No.	1st Duplicate D1	2nd Duplicate D2	Log D1 L1	Log D2 L2	Range of Logs (Rlog) (Log L1 - Log L2)
932	1	<1	<1	0	0	0.0000
	2	<1	<1	0	0	0.0000
	3	<1	<1	0	0	0.0000
323	1	28	10	1.4472	1.0000	0.4472
	2	25	28	1.3979	1.4472	0.0492
	3	36	29	1.5563	1.4623	0.0939
503	1	1000	1300	3.0000	3.1139	0.1139
	2	900	1100	2.9542	3.0414	0.0872
	3	1400	1300	3.1461	3.1139	0.0322
222	1	3700	4300	3.5682	3.6335	0.0653
	2	3600	2700	3.5563	3.4314	0.1249
	3	3400	3900	3.5314	3.591	0.0596
744B	1	110000	58000	5.0414	4.7634	0.2780
	2	48000	66000	4.6812	4.8195	0.1383
	3	59000	100000	4.7708	5	0.2291
777A	1	20000	27000	4.3010	4.4314	0.1303
	2	22000	19000	4.3424	4.2788	0.0637
	3	13000	21000	4.1139	4.3222	0.2083
Mean - R_{log} (Sum R_{log}/18)						0.1178
Precision Criterion (3.27 x Mean-R_{log})						0.3853

Table 2 Laboratory Quality Assurance Results – Wet Period 2020

Date	Discharge Number	E. Coli Counts CFU/100 mL	Log	Log Range	Acceptable (A) or Unacceptable (U)
17-Jan	777A	17000	4.2304	0.0000	A
		17000	4.2304		
20-Jan	320	170	2.2304	0.0263	A
		160	2.2041		
22-Jan	212	380	2.5798	0.0235	A
		360	2.5563		
22-Jan	744B	2700	3.4314	0.2553	A
		1500	3.1761		
31-Jan	505	230	2.3617	0.3372	A
		500	2.6990		
19-Feb	574	27	1.4314	0.2218	A
		45	1.6532		
3-Mar	780	1500	3.1761	0.0621	A
		1300	3.1139		
11-Mar	541	180	2.2553	0.0235	A
		190	2.2788		
26-Mar	902A	1	0.0000	0.0000	A
		1	0.0000		
27-Mar	736A	90	1.9542	0.0512	A
		80	1.9031		
31-Mar	754	84	1.9243	0.0378	A
		77	1.8865		
6-Apr	604	1	0.0000	1.0000	U*
		10	1.0000		
16-Apr	769	570	2.7559	0.0702	A
		670	2.8261		
24-Apr	620	290	2.4624	0.0152	A
		280	2.4472		
27-Apr	854	6000	3.7782	0.0300	A
		5600	3.7482		
1-May	614	3200	3.5051	0.1072	A
		2500	3.3979		
1-May	709B	23	1.3617	0.4075	U*
		9	0.9542		
25-May	814	1200	3.0792	0.0000	A
		1200	3.0792		

Notes:
*Counts below 200 CFU/100 mL are not expected to meet the criterion.
5% of samples will have results outside of the precision criterion, through randomness.

Table 3 Laboratory Quality Assurance Results – Dry Period 2020

Date	Discharge Number	E. Coli Counts CFU/100 mL	Log	Log Range	Acceptable (A) or Unacceptable (U)
22-Jun	607	140000	5.1461	0.0669	A
		120000	5.0792		
6-Jul	604	2	0.3010	0.3010	A
		4	0.6021		
10-Jul	726	170	2.2304	0.0483	A
		190	2.2788		
20-Jul	327	160	2.2041	0.0969	A
		200	2.3010		
21-Jul	245	1600	3.2041	0.0512	A
		1800	3.2553		
21-Jul	316	560	2.7482	0.0714	A
		660	2.8195		
24-Jul	882	5	0.6990	0.0792	A
		6	0.7782		
7-Aug	505	140	2.1461	0.2430	A
		80	1.9031		
11-Aug	592	75	1.8751	0.0388	A
		82	1.9138		
19-Aug	709B-4	51	1.7076	0.0084	A
		52	1.7160		
26-Aug	541	40	1.6021	0.1761	A
		60	1.7782		
26-Aug	545A	2	0.3010	0.7404	U*
		11	1.0414		
27-Aug	574	25	1.3979	0.0645	A
		29	1.4624		
3-Sep	935A	3	0.4771	0.4771	U*
		9	0.9542		
9-Sep	709B-2A	58	1.7634	0.0359	A
		63	1.7993		
28-Sep	315	6	0.7782	0.3979	U*
		15	1.1761		

Notes:
*Discharges with counts below 200 CFU/100 mL are not expected to meet the criterion.
5% of samples will have results outside of the precision criterion, through randomness.

APPENDIX E

2020 CORE STORMWATER CONTAMINANT DATA

Table 1. Stormwater Sediment Analytical Data (2020)

			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	TOC
Marine Sediment Quality Guidelines		CRD MSQG	57	5.1	260	390	450	0.41	6.1	410	12	5.2	-
		CCME ISQG	7.24	0.7	52.3	18.7	30	0.13	1	124	-	-	-
		CCME PEL	42	4.2	160	108	112	0.7	2.2	271	-	-	-
Vancouver Island Background			4	0.95	65	100	40	0.15	1	150	-	-	-
SW0212	Victoria	2019-11-21	2.54	0.065	21.3	*25.4*	*31.1*	< 0.05	< 0.05	58.1	0.042	0.009	0.76
SW0212	Victoria	2020-11-20	2.26	0.053	20.6	*32.6*	7.24	< 0.05	< 0.05	37.1	0.0095	0.0035	< 0.05
SW0216-3A	Victoria	2019-11-22	8.64	0.071	58.6	*45.2*	7.73	0.069	0.078	91.6	0.04	0.02	0.52
SW0306-2A	Oak Bay	2019-11-21	3.07	0.398	30.9	*64*	166	0.157	0.164	201	14	2.5	4.8
SW0306-2A	Oak Bay	2020-12-01	2.69	0.301	30.6	*50.3*	162	0.12	0.138	181	14	1.9	4.3
SW0307-2	Oak Bay	2019-11-21	3.72	0.327	49.5	*69*	107	0.082	0.097	184	290	210	4.9
SW0307-2A	Oak Bay	2019-11-21	4.85	0.348	47.3	*78.6*	81.1	0.083	0.107	233	6.4	1.3	16
SW0310-3	Oak Bay	2019-11-22	3.18	0.104	30.3	*61.5*	*23.1*	< 0.05	< 0.05	161	2.7	0.73	0.5
SW0310-5	Oak Bay	2019-11-22	2.3	0.191	23.7	*31.5*	155	< 0.05	< 0.05	158	17	2.3	8.5
SW0310-8	Oak Bay	2019-11-22	7.61	0.175	31.8	116	43.9	< 0.05	0.239	170	10	1.5	0.52
SW0316	Oak Bay	2019-10-16	3.68	0.102	20.6	*26.8*	13.2	< 0.05	< 0.05	122	0.27	0.051	0.26
SW0316	Oak Bay	2019-10-31	2.37	0.092	16.1	18.8	14.3	< 0.05	< 0.05	94.2	3.1	0.24	0.71
SW0316-1A	Oak Bay	2019-09-05	4.17	0.089	23.9	*33*	29.4	< 0.05	< 0.05	*141*	0.99	0.12	< 0.05
SW0316-3B	Victoria	2019-10-16	3.95	0.087	31.6	*43.4*	12.8	< 0.05	< 0.05	114	0.93	0.27	0.34
SW0316-3B	Victoria	2019-10-31	2.45	0.1	20.7	*30.5*	16.7	< 0.05	< 0.05	99.3	0.39	0.067	0.34
SW0316-4B	Saanich	2019-10-16	2.53	0.137	36.7	*32.2*	23.6	< 0.05	0.18	115	1.5	0.32	0.63
SW0316-4B	Saanich	2019-10-31	3.14	0.132	25.3	*38.9*	*35*	< 0.05	< 0.05	*145*	0.96	0.35	3.2
SW0316-5	Saanich	2019-10-16	5.72	0.094	24	*23.9*	10.2	< 0.05	< 0.05	90.7	0.18	0.043	1.1
SW0316-5	Saanich	2019-10-31	7.28	0.108	27.4	*26.2*	13.6	< 0.05	< 0.05	104	0.18	0.031	0.32
SW0316-5C	Saanich	2019-11-29	3.03	0.539	40.6	*73.1*	66.6	0.102	0.252	247	1.1	0.22	15
SW0316-5D	Saanich	2019-11-29	12.9	1.34	42.9	*232*	106	0.179	0.46	508	1.3	0.33	34
SW0324	Oak Bay	2019-11-25	2.82	0.318	37.4	*59.1*	57.3	< 0.05	0.057	200	21	1.3	28
SW0325	Oak Bay	2020-07-20	3.46	0.217	24.8	*55.3*	*30.2*	0.15	0.172	151	0.98	0.18	7
SW0505-1	Saanich	2019-11-25	1.84	0.128	28.5	*52.5*	68.1	0.691	0.096	96.2	2.1	0.51	0.57
SW0505-1	Saanich	2020-08-06	1.91	0.156	24.7	*42.4*	51.9	0.095	0.167	91.5	0.82	0.14	0.28

Table 1, continued

			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	TOC
Marine Sediment Quality Guidelines		CRD MSQG	57	5.1	260	390	450	0.41	6.1	410	12	5.2	-
		CCME ISQG	7.24	0.7	52.3	18.7	30	0.13	1	124	-	-	-
		CCME PEL	42	4.2	160	108	112	0.7	2.2	271	-	-	-
Vancouver Island Background			4	0.95	65	100	40	0.15	1	150	-	-	-
SW0505-2	Saanich	2020-08-06	2.39	0.11	36.8	*60.9*	51.4	< 0.05	< 0.05	98.4	0.38	0.077	0.81
SW0505-3	Saanich	2019-11-25	2.44	0.16	22.4	*25.9*	410	0.499	22.1	110	7.7	1.6	4.8
SW0505-3	Saanich	2020-08-06	4.07	0.401	26.5	*51.9*	74.3	0.215	0.292	179	13	3.9	4.6
SW0505-4	Saanich	2020-08-06	2.33	0.172	63.2	*35.9*	180	21.6	5.18	118	2.6	0.44	0.56
SW0505-5	Saanich	2020-08-06	4.85	0.064	22.5	14.3	18.4	0.075	0.203	59.9	37	8.9	0.55
SW0505-6	Saanich	2020-12-11	2.29	0.217	36.1	*56*	96.1	< 0.05	< 0.05	202	5.6	0.58	1.6
SW0672	Saanich	2019-11-29	11.9	0.659	30.6	*76.5*	93.4	0.103	0.143	267	1.2	0.22	4
SW0689	Saanich	2019-12-03	1.86	0.084	28.1	*59.7*	4.87	< 0.05	< 0.05	68.1	0.14	0.03	0.42
SW0690E	Saanich	2019-12-04	4.2	0.079	48.1	*46.5*	8.03	< 0.05	0.169	72.2	0.048	0.0086	1.4
SW0690E	Saanich	2020-11-24	4.68	0.116	53.9	*46.3*	8.38	< 0.05	0.204	76.2	0.028	0.0047	1.6
SW0692	Saanich	2019-12-04	2.31	0.123	23.2	*59.2*	19.8	< 0.05	< 0.05	333	0.026	0.0031	1.1
SW0692	Saanich	2020-07-22	27.7	0.304	34.6	*56.1*	41.3	< 0.05	< 0.05	422	0.71	0.079	1
SW0695-1A	View Royal	2019-11-27	5.27	0.236	34.5	*53.7*	14.9	0.062	0.106	258	0.13	0.019	3.2
SW0695-1A	View Royal	2020-12-03	3.85	0.148	34.9	*42.5*	10.7	< 0.05	0.119	*135*	0.11	< 0.1	1.7
SW0698	View Royal	2019-11-27	4.3	0.274	29.5	*48.7*	*31.6*	< 0.05	0.081	*145*	2.4	1	3
SW0709B-2A	View Royal	2020-09-02	0.86	< 0.05	10.6	6.56	4.18	< 0.05	< 0.05	33.6	0.048	0.0093	1.4
SW0709B-4	View Royal	2020-09-02	2.96	< 0.05	43.3	*35.9*	5.86	< 0.05	0.063	57	< 0.001	< 0.001	1.8
SW0710	View Royal	2019-11-27	3.35	0.11	36.4	*58.7*	6.82	< 0.05	< 0.05	202	0.89	0.098	0.69
SW0712	View Royal	2019-11-27	2.75	0.119	44.4	*47.1*	*25.7*	< 0.05	< 0.05	100	58	12	1.3
SW0712	View Royal	2020-07-10	1.71	0.2	36.4	*44.8*	63.7	0.054	0.089	114	5.6	0.83	11
SW0742-2A	Esquimalt	2020-12-01	2.36	0.271	34.3	*55.3*	8.39	0.07	0.06	*143*	0.18	0.033	2.5
SW0742-2B	Esquimalt	2020-12-01	5.18	0.094	27	*25.9*	8.71	29.8	< 0.05	69.6	0.1	0.015	1.9
SW0744	Esquimalt	2020-07-09	4.84	0.574	48.7	*78.7*	51.8	0.115	0.881	375	4.5	0.94	1.7
SW0866	View Royal	2020-11-20	3.39	0.155	27.2	*28.6*	16.6	< 0.05	< 0.05	205	0.046	0.0095	1.6
SW0921	Colwood	2019-11-27	1.75	< 0.05	9.74	2.26	2.75	< 0.05	< 0.05	16.8	0.022	0.013	0.64
SW0922	Colwood	2019-11-27	1.79	< 0.05	10.1	3.38	2.06	< 0.05	< 0.05	15.2	0.053	0.014	0.47
SW0926	Colwood	2019-09-05	1.61	< 0.05	17.5	9.44	4.85	< 0.05	< 0.05	33	0.76	0.25	0.55

Table 1, continued

			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	TOC
Marine Sediment Quality Guidelines		CRD MSQG	57	5.1	260	390	450	0.41	6.1	410	12	5.2	-
		CCME ISQG	7.24	0.7	52.3	18.7	30	0.13	1	124	-	-	-
		CCME PEL	42	4.2	160	108	112	0.7	2.2	271	-	-	-
Vancouver Island Background			4	0.95	65	100	40	0.15	1	150	-	-	-
SW0926	Colwood	2019-10-17	1.13	0.11	15.1	7	3.85	< 0.05	< 0.05	24	0.96	0.33	0.85
SW0926	Colwood	2020-09-03	1.9	0.078	16.6	8.71	3.76	< 0.05	< 0.05	30.7	0.32	0.12	0.88
SW0926-2	Colwood	2019-10-31	42.2	0.319	20.6	*29*	13.5	< 0.05	0.188	71.4	0.42	0.37	0.43
SW0928	Colwood	2019-10-17	2.69	0.096	22	*23.5*	6.09	< 0.05	< 0.05	58.5	0.41	0.07	2.6
SW0928	Colwood	2019-10-31	4.91	0.207	25.4	*39.2*	15.6	0.053	0.062	94.7	3.4	0.46	9.6
SW0931	Colwood	2019-10-21	2.28	0.082	23.6	*20.1*	8.21	< 0.05	< 0.05	61.9	0.0063	< 0.001	0.4
SW0932	Colwood	2019-10-21	1.72	0.056	32.3	*77*	6.33	< 0.05	< 0.05	61	0.12	0.035	0.48
SW0937	Colwood	2019-10-21	2.43	0.064	22.1	*24.8*	4.97	< 0.05	< 0.05	52.2	0.2	0.025	1.1

Notes:

Concentrations are in mg/kg dry weight
CRD MSQG =Marine sediment quality guidelines adopted from Washington State's Department of Ecology for protection of aquatic life
LPAH and HPAH are low and high molecular weight polycyclic aromatic hydrocarbons, respectively
CCME = Canadian Council of Ministers of the Environment
ISQG = interim sediment quality guideline; concentrations above this level but below the PEL will occasionally result in adverse effects on aquatic life
PEL = probable effects level; concentrations above this level will frequently result in adverse effects to aquatic life
Vancouver Island Background Concentrations are regional estimates (95th percentiles) from BC ENV; https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/protocols/protocol_4.pdf
Italicized values are those that exceed a guideline, but are below the Vancouver Island background concentration
value is greater than or equal to the CCME ISQG
value is greater than or equal to the CCME PEL
value it greater than or equal to CRD MSQG
Some samples are not collected at the discharge to marine and, therefore, marine guidelines are not applicable, but are used for screening purposes

Table 2. Calculation of Sediment Contaminant Ratings (2019-2020)

Station		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	Sum of Ratios	Contaminant Rating
	CRD MSQG	57	5.1	260	390	450	0.41	6.1	410	12	5.2		
	Sample Date	Ratio of Concentration to Guideline											
SW0212	2019-11-21	0.04	0.01	0.08	0.07	0.07	0.12	0.01	0.14	0.00	0.00	0.55	Low
SW0212	2020-11-20	0.04	0.01	0.08	0.08	0.02	0.12	0.01	0.09	0.00	0.00	0.45	Low
SW0216-3A	2019-11-22	0.15	0.01	0.23	0.12	0.02	0.17	0.01	0.22	0.00	0.00	0.94	Low
SW0306-2A	2019-11-21	0.05	0.08	0.12	0.16	0.37	0.38	0.03	0.49	1.17	0.48	3.33	**High**
SW0306-2A	2020-12-01	0.05	0.06	0.12	0.13	0.36	0.29	0.02	0.44	1.17	0.37	3.00	**High**
SW0307-2	2019-11-21	0.07	0.06	0.19	0.18	0.24	0.20	0.02	0.45	24.17	40.38	65.95	**High**
SW0307-2A	2019-11-21	0.09	0.07	0.18	0.20	0.18	0.20	0.02	0.57	0.53	0.25	2.29	Moderate
SW0310-3	2019-11-22	0.06	0.02	0.12	0.16	0.05	0.12	0.01	0.39	0.23	0.14	1.29	Moderate
SW0310-5	2019-11-22	0.04	0.04	0.09	0.08	0.34	0.12	0.01	0.39	1.42	0.44	2.97	**High**
SW0310-8	2019-11-22	0.13	0.03	0.12	0.30	0.10	0.12	0.04	0.41	0.83	0.29	2.38	**High**
SW0316	2019-10-16	0.06	0.02	0.08	0.07	0.03	0.12	0.01	0.30	0.02	0.01	0.72	Low
SW0316	2019-10-31	0.04	0.02	0.06	0.05	0.03	0.12	0.01	0.23	0.26	0.05	0.87	Low
SW0316-1A	2019-09-05	0.07	0.02	0.09	0.08	0.07	0.12	0.01	0.34	0.08	0.02	0.91	Low
SW0316-3B	2019-10-16	0.07	0.02	0.12	0.11	0.03	0.12	0.01	0.28	0.08	0.05	0.89	Low
SW0316-3B	2019-10-31	0.04	0.02	0.08	0.08	0.04	0.12	0.01	0.24	0.03	0.01	0.68	Low
SW0316-4B	2019-10-16	0.04	0.03	0.14	0.08	0.05	0.12	0.03	0.28	0.13	0.06	0.97	Low
SW0316-4B	2019-10-31	0.06	0.03	0.10	0.10	0.08	0.12	0.01	0.35	0.08	0.07	0.99	Low
SW0316-5	2019-10-16	0.10	0.02	0.09	0.06	0.02	0.12	0.01	0.22	0.02	0.01	0.67	Low
SW0316-5	2019-10-31	0.13	0.02	0.11	0.07	0.03	0.12	0.01	0.25	0.02	0.01	0.76	Low
SW0316-5C	2019-11-29	0.05	0.11	0.16	0.19	0.15	0.25	0.04	0.60	0.09	0.04	1.68	Moderate
SW0316-5D	2019-11-29	0.23	0.26	0.17	0.59	0.24	0.44	0.08	1.24	0.11	0.06	3.41	**High**
SW0324	2019-11-25	0.05	0.06	0.14	0.15	0.13	0.12	0.01	0.49	1.75	0.25	3.15	**High**
SW0325	2020-07-20	0.06	0.04	0.10	0.14	0.07	0.37	0.03	0.37	0.08	0.03	1.29	Moderate
SW0505-1	2019-11-25	0.03	0.03	0.11	0.13	0.15	1.69	0.02	0.23	0.18	0.10	2.66	**High**
SW0505-1	2020-08-06	0.03	0.03	0.10	0.11	0.12	0.23	0.03	0.22	0.07	0.03	0.96	Low
SW0505-2	2020-08-06	0.04	0.02	0.14	0.16	0.11	0.12	0.01	0.24	0.03	0.01	0.89	Low
SW0505-3	2019-11-25	0.04	0.03	0.09	0.07	0.91	1.22	3.62	0.27	0.64	0.31	7.20	**High**
SW0505-3	2020-08-06	0.07	0.08	0.10	0.13	0.17	0.52	0.05	0.44	1.08	0.75	3.39	**High**
SW0505-4	2020-08-06	0.04	0.03	0.24	0.09	0.40	52.68	0.85	0.29	0.22	0.08	54.93	**High**
SW0505-5	2020-08-06	0.09	0.01	0.09	0.04	0.04	0.18	0.03	0.15	3.08	1.71	5.42	**High**
SW0505-6	2020-12-11	0.04	0.04	0.14	0.14	0.21	0.12	0.01	0.49	0.47	0.11	1.78	Moderate
SW0672	2019-11-29	0.21	0.13	0.12	0.20	0.21	0.25	0.02	0.65	0.10	0.04	1.93	Low
SW0689	2019-12-03	0.03	0.02	0.11	0.15	0.01	0.12	0.01	0.17	0.01	0.01	0.63	Low
SW0690E	2019-12-04	0.07	0.02	0.19	0.12	0.02	0.12	0.03	0.18	0.00	0.00	0.74	Low
SW0690E	2020-11-24	0.08	0.02	0.21	0.12	0.02	0.12	0.03	0.19	0.00	0.00	0.79	Low
SW0692	2019-12-04	0.04	0.02	0.09	0.15	0.04	0.12	0.01	0.81	0.00	0.00	1.29	Moderate

Table 2, continued

Station		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	Sum of Ratios	Contaminant Rating
	CRD MSQG	57	5.1	260	390	450	0.41	6.1	410	12	5.2		
	Sample Date	Ratio of Concentration to Guideline											
SW0692	2020-07-22	0.49	0.06	0.13	0.14	0.09	0.12	0.01	1.03	0.06	0.02	2.15	**High**
SW0695-1A	2019-11-27	0.09	0.05	0.13	0.14	0.03	0.15	0.02	0.63	0.01	0.00	1.25	Moderate
SW0695-1A	2020-12-03	0.07	0.03	0.13	0.11	0.02	0.12	0.02	0.33	0.01	0.02	0.86	Low
SW0698	2019-11-27	0.08	0.05	0.11	0.12	0.07	0.12	0.01	0.35	0.20	0.19	1.32	Moderate
SW0709B-2A	2020-09-02	0.02	0.01	0.04	0.02	0.01	0.12	0.01	0.08	0.00	0.00	0.31	Low
SW0709B-4	2020-09-02	0.05	0.01	0.17	0.09	0.01	0.12	0.01	0.14	0.00	0.00	0.60	Low
SW0710	2019-11-27	0.06	0.02	0.14	0.15	0.02	0.12	0.01	0.49	0.07	0.02	1.10	Moderate
SW0712	2019-11-27	0.05	0.02	0.17	0.12	0.06	0.12	0.01	0.24	4.83	2.31	7.94	**High**
SW0712	2020-07-10	0.03	0.04	0.14	0.11	0.14	0.13	0.01	0.28	0.47	0.16	1.52	Moderate
SW0742-2A	2020-12-01	0.04	0.05	0.13	0.14	0.02	0.17	0.01	0.35	0.02	0.01	0.94	Low
SW0742-2B	2020-12-01	0.09	0.02	0.10	0.07	0.02	72.68	0.01	0.17	0.01	0.00	73.17	**High**
SW0744	2020-07-09	0.08	0.11	0.19	0.20	0.12	0.28	0.14	0.91	0.38	0.18	2.60	**High**
SW0866	2020-11-20	0.06	0.03	0.10	0.07	0.04	0.12	0.01	0.50	0.00	0.00	0.94	Low
SW0921	2019-11-27	0.03	0.01	0.04	0.01	0.01	0.12	0.01	0.04	0.00	0.00	0.27	Low
SW0922	2019-11-27	0.03	0.01	0.04	0.01	0.00	0.12	0.01	0.04	0.00	0.00	0.27	Low
SW0926	2019-09-05	0.03	0.01	0.07	0.02	0.01	0.12	0.01	0.08	0.06	0.05	0.46	Low
SW0926	2019-10-17	0.02	0.02	0.06	0.02	0.01	0.12	0.01	0.06	0.08	0.06	0.46	Low
SW0926	2020-09-03	0.03	0.02	0.06	0.02	0.01	0.12	0.01	0.07	0.03	0.02	0.40	Low
SW0926-2	2019-10-31	0.74	0.06	0.08	0.07	0.03	0.12	0.03	0.17	0.04	0.07	1.42	Moderate
SW0928	2019-10-17	0.05	0.02	0.08	0.06	0.01	0.12	0.01	0.14	0.03	0.01	0.54	Low
SW0928	2019-10-31	0.09	0.04	0.10	0.10	0.03	0.13	0.01	0.23	0.28	0.09	1.10	Moderate
SW0931	2019-10-21	0.04	0.02	0.09	0.05	0.02	0.12	0.01	0.15	0.00	0.00	0.50	Low
SW0932	2019-10-21	0.03	0.01	0.12	0.20	0.01	0.12	0.01	0.15	0.01	0.01	0.67	Low
SW0937	2019-10-21	0.04	0.01	0.09	0.06	0.01	0.12	0.01	0.13	0.02	0.00	0.49	Low

Notes:

CRD MSQG =Marine sediment quality guidelines adopted from Washington State's Department of Ecology for protection of aquatic life.
These are ratios of the measured value over the MSQG
LPAH and HPAH are low and high molecular weight polycyclic aromatic hydrocarbons, respectively
values are approaching (i.e., >0.75 the value of) the guideline
values exceed the MSQG
Some samples are not collected at the discharge to marine and therefore marine guidelines are not applicable but are used for screening purposes

Table 3. Summary of Recent Chemical Contaminant Ratings and Recommendations

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
210 West of Holland Pt	37	Victoria	–	–	–	–	–	–	Low	No sediment at discharge in 2017 and 2018. In 2020, summer aqueous metals was low. Small residential catchment, historically low. Confirm with water sampling.
212 East of Finlayson Pt	39	Victoria	–	–	–	–	Moderate	Low	Low	Elevated lead in 2018, low in 2019. Metals elevated in water in wet season. Low in dry season. Confirm rating in 2021.
216 Ross Bay	40	Victoria	High	–	High upstream	–	–	Low	–	Elevated mercury upstream and discharge; 216 is tidal, sampled at 216-3A. **Action Required.** CRD narrowed down a source of mercury. No sediment upstream in 2018 to confirm. Low at discharge in 2019. Resample in 2021.
218 Ross Bay	40	Victoria	Moderate	–	–	–	–	–	NR	No sediment in 2019 or 2020. Summer water sample clean. Get sediment or winter aqueous metals.
229 Gonzales Bay	41	Victoria	–	–	–	–	–	–	–	Small residential catchment, tidal, no sediment available, cease sampling for now.
244 McNeill Bay	43	Oak Bay	–	–	–	Moderate	–	–	–	Lead slightly elevated in 2012, low in 2017. Resample in 2022.
245 McNeill Bay	43	Oak Bay	–	–	–	–	–	–	–	Low in 2001, 2004, 2013. No sediment available in 2018. Water collected in summer 2020 had low contaminants. Collect winter water sample.
250 McNeill Bay	43	Oak Bay	High upstream	Moderate	–	High / Moderate	–	–	–	Elevated PAHs. 250-2A is POD, but does not drain whole catchment. **Action Required.** High in 250-1A & moderate at 250-2A. Continue to delineate the contamination.
306 Orchard & Newport Avenue	45	Oak Bay	–	–	–	High	High	High u/s	**High u/s**	Elevated HPAH and lead. **Action Required.** No sediment at 306-1 and 306-2 in 2019. Elevated HPAH and lead in sediment at 306-2a (Newport Avenue and Currie Road) in 2019 and 2020. Low PAH and lead in summer water sample. Sample in 2021.
307 Oak Bay Marina	45	Oak Bay	High	High	Moderate	–	High	High	-	Sampled at 307 and 307-2. Elevated PAH, mercury, lead and zinc. **Action Required.** Oak Bay cleaned out manholes at Currie & Newport in 2017. Trap placed downstream in 2018. May have narrowed down contamination to intersection of Newport and Currie; confirm.

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
310 Windsor Road	45	Oak Bay	High	–	Low upstream	High upstream	–	High u/s	-	Copper, lead, zinc and PAH elevated (310-1). Other contaminants upstream. Low at 310-5 in 2016 elevated PAH in 2019. Upstream contamination at Windsor & Monterey. **Action Required.** Oak Bay to clean out manholes.
311 1420 Beach Drive	45	Oak Bay	–	–	–	–	–	–	–	Short line, packed with beach sand in 2017. Intertidal. Cease sampling.
316 Bowker Creek	46	Oak Bay	–	–	–	–	–	Low	–	Discharge rated low. Upstream, 316-5D rated high due to copper and zinc. Sample in 2024.
320 Dalhousie St	46	Oak Bay	–	–	–	–	Low	–	–	Resample in 2023.
323 north Esplanade	46	Oak Bay	–	–	Low	–	–	–	–	Resample in 2021.
324 Cattle Point	46	Oak Bay	–	–	–	–	–	High	–	Sampled for first time in 2019. Elevated HPAH. Confirm rating.
325 Rutland Rd	48	Oak Bay	Moderate	–	–	–	–	–	–	Sample discharge in 2021.
327 Cadboro Bay	49	Oak Bay	–	–	–	–	Low	–	–	Resample in 2023.
503 Cadboro Bay	50	Saanich	–	–	High	Low	Moderate	–	–	Elevated PAHs in 2016. Resample in 2023.
505 Cadboro Bay	50	Saanich	–	–	–	High	High	High	**High**	Overflow for CRD's Penrhyn Station. Elevated Pb, Hg and PAH in 505-3. Sample 505-1 or -3 to avoid tidal influence. **Action Required.** Saanich cleaned line out 2019. Sediment elevated in Hg upstream to Cadboro Bay Road. Continue source investigations.
558 Mt. Douglas beach	59	Saanich	–	–	–	Low	–	–	–	Sample in 2022.
559 Douglas Creek	60	Saanich	–	–	Low	Low	–	–	–	Sample above weir (559-2) after spill June 17 had elevated zinc and PAHs. Resample in 2021.
574 Cordova Bay Road	63	Saanich	–	–	Low	–	–	–	–	Resample 2021.
578 Cordova Bay Road	63	Saanich	–	Low	–	–	–	–	–	Resample 2021.
586 Parker Avenue	64	Saanich	–	–	–	–	Low	–	–	Sample in 2023.
589 Burnham Brook	65	Saanich	–	Low	–	–	–	–	–	Drains golf course. Sample in 2021.
592 Noble Creek	65	Saanich	Low	–	–	Low	–	–	–	Sample in 2021 (Noble Creek).

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
603 James Bay Anglers	36	Victoria	–	–	–	Moderate	NA	–	–	Elevated zinc and PAH in 2017. No sediment in 2018 or 2020. Contaminants in water low in summer. **Action Required.** Sediment not available. Confirm lower rating.
613 Government Street & Belleville	35	Victoria	Moderate	–	–	–	–	–	–	Sampled at 613-2 (MH D2719). Water samples have elevated copper and zinc in summer. Sample sediment in 2021.
613A Government Street & Belleville	35	Victoria	High upstream	–	–	–	–	–	–	Rated high in 2014, due to mercury and zinc behind Crystal Gardens. Cease sampling, line is intertidal.
614 Wharf & Government	35	Victoria	Moderate	–	–	**High** u/s	Moderate	–	–	Elevated lead, mercury and zinc. Tidal. 614-1a is a short tributary, from a shallow line that drops into the discharge, confirmed by dye. Samples trapped at 614-2 in 2009 and 2014. Sampled 614-1A in 2017. **Action Required.** CRD narrowed down a source. City of Victoria pumped out manhole at tourist sign and catch basin in front of Empress Hotel.
620 North of Johnson Street bridge	34	Victoria	–	–	–	–	–	–	–	**Action Required.** Consistently rated high for zinc, but copper and lead elevated in past. Could not access site in 2018. Fire upstream in 2019, elevated metals in water. Resample in 2021.
627 Rock Bay	34	Victoria	–	–	–	–	–	–	–	Tidally influenced at discharge (627) & 627-3. **Action Required.** Access difficult
629 Rock Bay	26	Victoria	–	–	–	–	–	–	–	Water samples show elevated arsenic, cadmium, chromium, iron, lead and zinc **Action Required.** Access difficult.
630 Rock Bay	26	Victoria	–	–	–	–	–	–	–	Access difficult. Sample in 2021.
633 Bay Street Bridge	26	Victoria	–	–	–	Moderate	–	–	–	Sampled at 633-2. Resample in 2021.
634 David Street	26	Victoria	–	–	–	–	–	–	–	**Action Required.** Rated high for zinc in 2009. Water samples have high iron, cadmium, chromium, copper, iron, lead and zinc.
635 Ralmax	26	Victoria	–	–	–	–	–	–	–	This discharge is tidal and cannot be sampled upstream; sampling ceased.
636 South of Victoria Public works yard	26	Victoria	High	–	–	–	Metals elevated in water	–	–	Elevated zinc and other metals in sediment. **Action Required.** Elevated iron, cadmium, chromium, copper, iron, lead and zinc in water.
641 Cecelia Creek	26	Victoria	Low	Moderate	–	–	Moderate	–	–	Zinc and PAH above freshwater sediment guidelines. Resample in 2018.

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
645 Carrol Street	27	Victoria	–	–	–	–	Moderate	–	–	Resample in 2021
649 Gorge Road hospital	27	Victoria private	High	High	–	–	–	–	–	Copper, mercury and zinc elevated. Copper elevated in water sample; may be sampling historical sediment. **Action Required.** Hospital investigating sources.
653 Cedar Shore Apts	27	Saanich	–	–	–	–	–	–	–	Could not access site. Sample in 2021.
654 Cedar Shore Apts	27	Saanich private	–	–	–	–	–	–	–	Rated high in past, but potential tidal influence. No seds in 2016 or 2018. Attempt resample in 2021.
655 East of Gorge Bridge	28	Saanich	High	–	Low	Low	–	–	–	Resample in 2022.
657 West of Gorge Bridge	28	Saanich	Moderate	–	–	–	–	–	–	Tidal, sample at 657-1. Resample in 2021.
669 Dysart Road	29	Saanich	–	–	–	Moderate	–	–	–	Report of oil coming out of pipe in June 2018. No sediment in pipe in 2018 or 2019. Could not access in 2020. Resample in 2021.
672 Adelaide Avenue	29	Saanich	Low	–	–	–	–	Moderate	Low	Resample in 2025.
679 Gorge & Admirals	29	Saanich	–	–	–	–	Low	–	–	Resample in 2023.
687 Westing Road	30	Saanich	–	–	Moderate	–	–	–	–	Resample in 2022.
689 Below Admirals Road	33	Saanich	–	–	–	–	–	Low	Low	Resample in 2024.
690BB Foot of Dysart	33	Saanich	–	–	–	–	–	–	–	Tidal at discharge and no upstream sampling location.
690D Colquitz River	33	Saanich	–	–	Low	Low	–	–	–	Resample in 2022
690E Colquitz River	33	Saanich			Moderate	–	–	Low	Low	Resample in 2025.
692 Portage Road	32	Saanich	Moderate	–	–	–	–	Moderate	High	Zinc elevated in sediment, but low in water. Confirm rating.
695 Camden Avenue	32	View Royal	–	–	–	Moderate	–	Moderate	Low	Sampled at 695-1A. Resample in 2025.
697 Hospital Creek	31	View Royal	High	–	–	–	–	–	–	Zinc in ditch near hospital parking lot. Source narrowed down. Cannot be sampled at discharge (sampling ceased).
698 Stillwater Road	31	View Royal	Moderate	–	–	–	–	Moderate	–	Resample in 2022.

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
709B Craigflower Creek	31	View Royal	–	Low	–	–	–	–	Low	Continue monitoring.
710 Helmcken Road bridge	31	View Royal	–	–	–	–	Moderate	Moderate	–	Resample in 2024.
712 Old Island Hwy	30	View Royal	–	–	–	Moderate	Low	High	Moderate	Elevated PAHs in 2019; low in 2020 (sediment and water). Confirm rating.
722 Craigflower Bridge	30	View Royal	–	–	–	–	–	–	–	No seds in 2016, 2019 or 2020. Conduct water sampling in 2021.
726 Craigflower & Admirals	29	Esquimalt	–	–	–	Low	Low	–	–	Moderate rating confirmed. Resample in 2022
737 Garthland Road	29	Esquimalt	High	–	High	Low but High upstream	–	–	–	Elevated zinc & PAHs upstream. **Action Required**. Source appears to be catch basin in Garthland Place (737-1). Esquimalt asked to clean out manhole. Resample when action taken.
742 Sioux Place	28	Esquimalt	High	–	–	High	–	Low u/s	High u/s	Sampled at 742-2 as 742 is tidal. Source narrowed. **Mercury 5X > guideline.** **Action Required.** Esquimalt has been notified. Low mercury on the golf course.
744 Esquimalt Gorge Park	28	Esquimalt	Moderate	Moderate	–	–	–	–	Moderate	Resample in 2021.
749 Uganda Avenue	28	Esquimalt	High	Moderate	–	High	–	–	–	Samples marine-influenced before 2008. Zinc and mercury elevated in 2017. Appears to be food waste present upstream. Oil spill in past. **Action Required.** Source narrowed down. Esquimalt contacted. Resample after action taken.
758A Bamfield Park	27	Victoria	–	–	–	–	–	–	–	Discharge is intertidal. Rating based on 758A-1. No sediment in 2020. Resample in 2021.
767 Ocean Pt. Resort	25	Victoria	–	–	–	–	–	–	–	Short line, all intertidal. Not accessible. Zinc elevated in 2005. **Action Required.** Sediment has not been available since 2005. Collect water samples in 2021.
780 Head Street	24	Esquimalt	Moderate	Moderate	–	–	–	–	–	No sediment available in 2020. Resample in 2021.
781 Head Street	23	Esquimalt	–	High	–	–	–	–	–	Elevated lead in 2015. Not enough sediment in 2016. No seds in 2017 or 2018.
806 Kinver Street	22	Esquimalt	High upstream	High upstream	–	–	–	–	–	Copper and zinc in discharge. Zinc and PAH upstream of Hatfield and Kinver, but not farther upstream.

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
										Action Required. CRD narrowed down to within 2 blocks. Resample discharge in 2021.
847 Concrete building	19	DND	_	_	_	_	_	_	_	Action no longer required. Rating confirmed. Could not access site in 2018. Resample in 2021.
849 Fleet building	19	DND	Moderate	Moderate	_	_	_	_	_	Findings shared with DND.
866 Portage Park	16	View Royal	High	_	_	_	High u/s	_	Low	**Action Required.** Rated high for zinc. Zinc low in upstream location. Narrowed down; potentially historic source. Elevated copper and zinc in stream. View Royal to clean out manhole and catch basins upstream.
873 Helmcken Road	16	View Royal	Moderate	Moderate	_	_	_	_	_	Resample in 2022.
873A Helmcken Road	16	View Royal	_	_	_	_	_	_	_	Sampled at 873 to represent discharge of 873, 873A and 873C. Zinc elevated in ditch upstream likely due to corroded pipe. Zinc low at discharge.
873C Helmcken Road	16	View Royal	Moderate	Moderate	_	_	_	_	_	Sampled at 873 to represent discharge of 873, 873A and 873C. Corroded pipe upstream, but zinc low at discharge.
874 Tovey Bay	15	View Royal	_	_	_	_	_	_	_	Action removed until sampled. Zinc and PAH elevated in past. Zinc source may be corroded pipe. Metals low in water. Resample in 2021.
875 View Royal Ave	15	View Royal	_	Low	_	_	_	_	_	Resample in 2022.
879 Price Road	15	View Royal	_	Moderate	_	_	_	_	_	Resample in 2022.
882 Parsons Bridge	13	View Royal	_	_	_	Moderate	_	_	_	No sediment available. Conduct water sampling.
886 Millstream Creek	14	View Royal	Low	_	_	_	Low	_	_	Resample in 2023 (Mill Stream Creek).
887 Wilfert Road	14	View Royal	_	_	_	_	_	_	_	Low in past. No sediment in 2018 or 2019.
902 Joe's Creek	13	DND	_	_	_	_	Low	_	_	Resample in 2023 (Joe’s Creek).
916 Colwood Creek	9	Royal Roads	_	_	_	Low	_	_	_	Resample in 2022.
921 Esquimalt Lagoon	8	Royal Roads	_	_	_	_	_	Low	_	Resample in 2024.
922 Hatley Creek	8	Royal Roads	_	_	_	_	_	Low	_	Resample in 2024.
926 Bee Creek	8	Colwood	_	_	Low	_	_	Low	Low	Elevated arsenic measured upstream. Resample in 2025.

Table 3, continued

Discharge[1]	Figure	Jurisdiction	Contaminant Ratings Over Time							Notes & Recommendations
			2014	2015	2016	2017	2018	2019	2020	
927 Miller Brook	8	Colwood	_	_	_	_	Low	_	_	Resample in 2023.
928 Selleck Creek	8	Colwood	_	_	_	Low	_	Moderate	_	Sampled with 5-in-30s. Resample in 2024.
931 Lagoona Brook	7	Colwood	Low	_	_	_	_	Low	_	Resample in 2024.
932 South end Esquimalt Lagoon	7	Colwood	Low	_	_	_	_	Low	_	Resample in 2024.
933 South end Esquimalt Lagoon	7	Colwood	_	_	Low	_	_	_	_	Resample in 2022.
934 Ocean Blvd	7	Colwood	_	Low	_	_	_	_	_	Resample in 2021.
937 Ocean Blvd	7	Colwood	Low	_	_	_	_	Low	_	Resample in 2024.
6003 Goldstream River	67	Langford	_	_	Low	_	_	Low	_	Resample in 2021 as part of 5-in-30s
6004 Saanich Inlet	67	Langford	Low	_	_	_	_	Low	_	Resample in 2024.
6006 Saanich Inlet	68	Langford	_	_	_	High	_	_	_	**Action Required.** Resample after action is taken. Creosote log pile is likely source.
6008 Trans Canada	68	Langford	_	_	_	_	Moderate	Moderate	_	Slightly elevated zinc. Sample water in 2021.

Notes:
[1] Contaminant rating for a discharge is based on point of discharge.
Ratings from 2014 to 2020 are displayed; refer to previous reports for ratings prior to 2010
Metals: arsenic As, cadmium Cd, chromium Cr, copper Cu, lead Pb, mercury Hg, silver Ag and zinc Zn,
Organic substances: high and low molecular weight polycyclic aromatic hydrocarbons HPAH and LPAH
u/s is upstream

Table 4. **Freshwater** Stream Sediment Analytical Data (2020)

			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	HPAH	LPAH	TOC
		CCME (ISQG)	5.9	0.6	37.3	35.7	35	0.17	0.5	123	0.1	0.1	
		CCME (PEL)	17	3.5	90	197	91	0.486	-	315			
Vancouver Island Background		Date	4	0.95	65	100	40	0.15	1	150	-	-	
SW0316	Bowker Creek, south of Somass Drive	2019-10-16	3.68	0.102	20.6	26.8	13.2	< 0.05	< 0.05	122	0.27	0.051	0.26
SW0316		2019-10-31	2.37	0.092	16.1	18.8	14.3	< 0.05	< 0.05	94.2	3.1	0.24	0.71
SW0316-1A	Bowker Creek, Beach Drive	2019-09-05	4.17	0.089	23.9	33	29.4	< 0.05	< 0.05	*141*	0.99	0.12	< 0.05
SW0316-3B	Bowker Creek; Pearl Street	2019-10-16	3.95	0.087	31.6	*43.4*	12.8	< 0.05	< 0.05	114	0.93	0.27	0.34
SW0316-3B		2019-10-31	2.45	0.1	20.7	30.5	16.7	< 0.05	< 0.05	99.3	0.39	0.067	0.34
SW0316-4B	Bowker Creek; Browning Park	2019-10-16	2.53	0.137	36.7	32.2	23.6	< 0.05	0.18	115	1.5	0.32	0.63
SW0316-4B		2019-10-31	3.14	0.132	25.3	*38.9*	*35*	< 0.05	< 0.05	*145*	0.96	0.35	3.2
SW0316-5	Bowker Creek; Gordon Head Road	2019-10-16	5.72	0.094	24	23.9	10.2	< 0.05	< 0.05	90.7	0.18	0.043	1.1
SW0316-5		2019-10-31	7.28	0.108	27.4	26.2	13.6	< 0.05	< 0.05	104	0.18	0.031	0.32
SW0316-5C	Bowker Creek, UVIC Parking Lot 10	2019-11-29	3.03	0.539	40.6	*73.1*	66.6	0.102	0.252	247	1.1	0.22	15
SW0316-5D	Bowker Creek, UVIC	2019-11-29	12.9	1.34	42.9	232	106	0.179	0.46		1.3	0.33	34
SW0709B-2A	Craigflower Creek; Talcot Road	2020-09-02	0.86	< 0.05	10.6	6.56	4.18	< 0.05	< 0.05	33.6	0.048	0.0093	1.4
SW0709B-4	Craigflower Creek; Riverside Drive	2020-09-02	2.96	< 0.05	43.3	*35.9*	5.86	< 0.05	0.063	57	0.001	< 0.001	1.8
SW0744	Gorge Creek	2020-07-09	4.84	0.574	48.7	*78.7*	51.8	0.115	0.881	375	4.5	0.94	1.7
SW0866	Portage Park	2020-11-20	3.39	0.155	27.2	28.6	16.6	< 0.05	< 0.05	205	0.046	0.0095	1.6
SW0926	Bee Creek	2019-09-05	1.61	< 0.05	17.5	9.44	4.85	< 0.05	< 0.05	33	0.76	0.25	0.55
SW0926		2019-10-17	1.13	0.11	15.1	7	3.85	< 0.05	< 0.05	24	0.96	0.33	0.85
SW0926		2020-09-03	1.9	0.078	16.6	8.71	3.76	< 0.05	< 0.05	30.7	0.32	0.12	0.88
SW0926-2	Bee Creek upstream	2019-10-31	42.2	0.319	20.6	29	13.5	< 0.05	0.188	71.4	0.42	0.37	0.43
SW0928	Selleck Creek	2019-10-17	2.69	0.096	22	23.5	6.09	< 0.05	< 0.05	58.5	0.41	0.07	2.6
SW0928		2019-10-31	4.91	0.207	25.4	*39.2*	15.6	0.053	0.062	94.7	3.4	0.46	9.6

Notes:

Concentrations are in mg/kg dry weight
LPAH and HPAH are low and high molecular weight polycyclic aromatic hydrocarbons, respectively
CCME = Canadian Council of Ministers of the Environment
ISQG = interim sediment quality guideline; concentrations above this level but below the PEL will occasionally result in adverse effects on aquatic life
PEL = probable effects level; concentrations above this level will frequently result in adverse effects to aquatic life
Vancouver Island Background Concentrations are regional estimates (95th percentiles) from BC ENV; https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/protocols/protocol_4.pdf
italicized values are those that exceed a guideline but are below the Vancouver Island background concentration
value is greater than or equal to the CCME ISQG
value is greater than or equal to the CCME PEL
Some samples are not collected at the discharge to marine and therefore marine guidelines are not applicable but are used for screening purposes

Table 5. 2020 Aqueous Metals in Stormwater Discharges Data

			Aluminum		Arsenic		Cadmium		Chromium		Copper		Iron		Lead		Mercury		Silver		Zinc		Sample Comments
			DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	
	Marine Aquatic Life Guidelines	max	-	-	-	12.5	-	0.12	-	-	-	3	-	-	-	140	-	-	-	3	-	55	
		average	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	0.002-0.01 3	-	1.5	-	10	
	Freshwater Aquatic Life Guidelines	max	100	-	-	5	0.59	-	-	1/9 [1]	-	11.4	350	1000	-	81.6	-	-	-	0.1	-	40.5	
		average	50	-	-	-	0.21	-	-	-	-	4	-	-	-	6.5	-	0.002-0.01 3	-	0.05	-	15	
	Background			159		0.29		0.01		0.31		1.21		429		0.14		<0.002		0.01		2.1	
SW0210	Foot of Lewis, west of Holland Pt.	2020-07-06		525		2.32		0.0344		*1.02*		8.34		427		1.65				<0.01		8.1	sewer odour, clear
SW0212	Foot of Cook Street, beach access via circular stairs, sample site just west of stairs (metal grate).	2020-07-21		73.5		0.576		0.0058		0.39		5.97		169		0.609				<0.01		2.3	no odour, clear
	Foot of Cook Street, beach access via circular stairs, sample site just west of stairs (metal grate).	2020-11-20		9200		6.99		*0.164*		*21.2*		54.7		7970		9.05				0.21		263	no odour, clear
SW0216	Foot of Eberts Street, sample from manhole on seawall sidewalk, Ross Bay	2020-07-21		96.8		1.43		0.0091		0.57		6.54		228		0.304		<0.0019		<0.01		5.92	no odour, clear
SW0216-3B	Manhole at 162 Joseph Street	2020-11-20		251		1.3		0.0217		*1.5*		11.7		356		1.45				0.01		15.7	sulphur odour, slight murky flow
SW0218	Foot of Memorial Crescent, eastern pipe, Ross Bay	2020-07-21		46		0.89		*0.12*		*<2*		4.4		189		0.29				<0.1		11.1	vinegar/diesel odour, white murky with oily sheen
SW0245	Foot of Monterey Avenue, McNeill Bay	2020-07-21		145		0.953		0.0093		0.5		6.36		507		0.375				<0.01		4.81	chemical/creosote odour, with turbid brown
SW0250	Foot of St. Patrick, McNeill Bay	2020-07-21		154		1.47		<0.1		*<2*		5.2		270		0.53				*<0.2*		*<20*	no odour, clear
SW0306	South side of Oak Bay Marina	2020-07-21		188		1.16		*1.12*		<0.5		5.72		127		0.351				<0.03		7.83	no odour, clear
SW0306-2	Manhole at Driveway to 2503 Orchard Ave.	2020-12-01		592		1.25		0.0191		*1.73*		8.01		548		1.03				<0.01		14.2	no odour, clear
SW0306-2A	Manhole at East corner of Newport Ave & Currie Road	2020-12-01		1070		0.895		0.0605		*2.67*		13.3		1470		19.2				0.02		30.8	no odour, clear
SW0316	Bowker Creek, south of Somass Drive	2019-10-16	21	272	0.709	0.774	<0.005	0.0071	0.49	0.94	6.39	8.17	104	465	0.342	1.26					5.68	12.2	no odour, clear
		2019-10-21	19	237	0.967	0.961	0.007	0.0136	0.58	*1.02*	5.75	8.42	118	435	0.402	1.16					12.9	21	no odour, clear
		2019-10-31	5.91	21.4	0.681	0.708	<0.005	0.0056	0.34	0.36	2.71	2.86	42.4	113	0.05	0.13					3.72	4.42	no odour, clear
		2019-11-07	5.87	21.6	0.597	0.663	<0.005	<0.005	0.18	0.2	2.54	2.78	73.4	178	0.062	0.187					3.72	4.37	no odour, clear
		2020-11-20		216		0.808		0.0104		0.67		5.63		331		0.48				<0.01		9.7	no odour, clear
SW0505-1	Manhole south of Penrhyn Pump Station	2020-08-06		12.6		0.506		0.01		0.36		3.98		137		0.301		<0.0019		0.01		2.15	no odour, clear
SW0505-2	Manhole southwest of 2604 Sinclair Road	2020-08-06		36.5		0.659		0.01		0.53		2.73		141		0.282		<0.0019		<0.01		2.55	no odour, clear, evidence of otter den
SW0505-3	Manhole at Penrhyn Pump Station	2019-11-25		689		1.01		0.0493		*2.29*		8.65		1940		6.34						18.7	no odour, clear
	Manhole at entrance to Penrhyn Pump Station (2620 Penrhyn Street)	2020-08-06		58.2		0.836		0.0161		0.82		3.89		514		0.397		*0.0026*		<0.01		4.4	no odour, clear
SW0505-4	Manhole near southwest corner of property line between 2608/2604 Penrhyn Street.	2020-08-06		447		1.99		0.0357		*1.11*		5.2		1010		3		*0.004*		0.01		13	no odour, clear
SW0505-5	Manhole at the edge of grassy park, south of pathway between properties 3863 Cadboro Bay Road and 2604 Penrhyn Street	2020-08-06		1990		6.64		0.105		*6.81*		22.4		16100		15.8		*0.0031*		1.95		31.9	no odour, clear
SW0505-6	Manhole eastern corner of Cadboro Bay/Penrhyn Road intersection (in pedestrian walkway)	2020-12-11		2150		1.12		0.0786		*5.93*		38.3		3460		10.6		*0.0023*		0.02		97.3	no odour, very turbid (construction upstream)
SW0601A	Greater Victoria Harbour Authority (187 Dallas Road), discharge pipe in the centre of the middle cruise ship dock, downstream of oil/water separator	2020-11-19	18.5	116		0.126		0.0059		*1.1*		3.41		395		0.348				<0.01		21.9	no odour, clear
SW0602	Helijet parking lot	2020-11-19		44.3		1.53		*0.123*		0.26		7.17		69		1.23				<0.01		18.4	no odour, clear
SW0603	20 m south of James Bay Anglers	2020-07-06		414		4.55		0.0428		*1.02*		14.8		693		1.41				<0.01		9.2	no odour, discharge clear, spawning salmon
SW0607	East of Fisherman's Wharf, north west pipe.	2020-06-19		153		1.36		0.013		0.56		10.5		487		0.51				0.02		11.2	no odour, clear
SW0607-1A	St. Lawrence Street (manhole D3477), upstream of SWRU	2020-06-19		104		1.27		0.0154		0.48		17.6		225		0.564				0.02		14.2	no odour, clear
SW0613	Curved portion of causeway wall at Government Street and Belleville	2020-04-28		74.8		1.26		0.0079		*1.14*		9.39		678		0.328				<0.01		11	-
		2020-06-23		99.3		1.22		0.0298		0.92		12.5		714		1.58				<0.01		24.4	no odour, clear

Table 5, continued

			Aluminum		Arsenic		Cadmium		Chromium		Copper		Iron		Lead		Mercury		Silver		Zinc		Sample Comments
			DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	
	Marine Aquatic Life Guidelines	max	-	-	-	12.5	-	0.12	-	-	-	3	-	-	-	140	-	-	-	3	-	55	
		average	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	0.002-0.01 3	-	1.5	-	10	
	Freshwater Aquatic Life Guidelines	max	100	-	-	5	0.59	-	-	1/9 [1]	-	11.4	350	1000	-	81.6	-	-	-	0.1	-	40.5	
		average	50	-	-	-	0.21	-	-	-	-	4	-	-	-	6.5	-	0.002-0.01 3	-	0.05	-	15	
	Background			159		0.29		0.01		0.31		1.21		429		0.14		<0.002		0.01		2.1	
SW0614	Humboldt/Wharf and Government	2020-05-01		3050		3.5		0.453		18.1		116		7300		49.9				0.26		377	no odour, murky brown
SW0614-1A	Manhole 2450 @ corner of Wharf Street & Government Street	2020-06-23		2860		5.18		7.17		35.3		229		51100		310				0.18		1830	no odour, clear
SW0620	North side of Johnson Street bridge	2020-04-24		68		1.78		0.02		0.98		14.3		237		0.421				<0.01		28.1	no odour, murky brown
		2020-06-23		106		2.05		0.0363		0.8		12.2		339		0.529				0.01		24.3	no odour, clear; likely marine influence
SW0626	Behind 2122 Government St, Rock Bay	2020-06-23		205		1.95		0.0189		1.23		9.32		1110		0.779				<0.01		147	no odour, clear
SW0627	South side of Ocean Cement, Rock Bay	2020-04-24		115		0.94		0.029		0.69		7.93		244		1.02				0.03		45.5	no odour, clear, standing water; likely marine influence
		2020-06-23		161		1		0.0202		0.62		27.2		377		0.918				<0.01		97.7	no odour, clear
SW0627-1	Manhole D3063 on Government St, between Queen and Bay Street	2020-12-02		6450		3.85		0.328		15.7		69.3		7800		39.7				1.25		156	no odour, clear
SW0627-3	Manhole D3065 at southeast corner of Princess Ave. & Government Street	2020-12-02		209		0.84		0.0591		0.99		8.51		572		2.99				0.02		14.2	no odour, clear
SW0627-3A	Manhole D3068 at 616 Queens Ave. near Government Street	2020-12-03		81.1		0.857		0.0256		0.45		6.66		207		0.292				<0.01		39.4	no odour, murky, aquatic metals and PAH only
SW0629	East of foot of Bridge Street, Rock Bay	2020-04-24		234		1.06		0.283		1.13		252		1010		19				0.43		345	no odour, clear
		2020-06-25		4850		7.67		0.976		13.2		521		6850		87.8				0.16		1790	no odour, clear, pooled water, unknown flow
SW0629-2	Manhole D3017 at 540 John Street; Boyd Auto Glass	2020-11-25		2130		1.11		0.153		8.28		232		4040		8.32				0.08		514	no odour, clear
SW0629-7	Manhole D3031 in southeast corner of John Street/Rock Bay Ave intersection	2020-11-25		7680		10.3		66.7		195		63900		136000		41100				19.7		59400	no odour, clear, not marine water (sp. conductance was 522.4 uS/cm), pooled water
SW0634	End of David Street, below Budget Steel	2020-06-25		1000		1.78		1.34		6.26		32.1		11800		54.2				0.09		432	no odour, clear, not marine water (sp. conductance was 237.0 uS/cm), pooled water
SW0634-A	Manhole D3006 at Hillside and Pleasant	2020-04-27		410		1.6		0.258		2.75		21		3110		3.27				0.22		378	no odour, clear
		2020-11-25		397		1.25		0.0935		1.79		14.7		3040		2.93				0.02		232	no odour, clear, pooled water with unknown flow
SW0636	South side of City of Victoria municipal yard, South Bay	2020-04-27		1570		1.93		0.174		2.13		48.1		2120		4.87				0.08		100	no odour, slight rusty colour, iron oxide bacteria present
		2020-06-23		1140		1.91		0.0836		3.11		26.5		2450		3.53				0.05		42.1	no odour, slightly brown, pooled without flow
SW0636-1	Manhole D4787 on Bridge Street	2020-12-02		490		1.66		0.129		1.55		12.5		1480		1.79				0.02		31.6	no odour, slight amber
SW0636-1A	Manhole D3043, Bridge Street and David Street	2019-12-04		1100		1.09		0.718		3.11		149		2470		16.1						175	no odour, amber
		2020-12-02		431		0.677		0.125		1.45		118		1310		4.3				0.32		112	no odour, slight amber
SW0636-3A	Manhole D4784 in BC Transit Yard; Garbally Road	2019-12-04		444		2.44		0.243		1.39		23.5		976		2.75						86.1	no odour, slight amber
SW0649	At head of scoured channel, Gorge Road Hospital	2020-04-27		304		0.936		0.0395		0.74		49.4		398		0.917				0.01		14.3	no odour, slight amber
		2020-05-25		249		0.597		0.0216		0.73		112		295		1.13		0.0066		0.01		18.3	no odour, turbid brown
		2020-07-17		216		1.35		0.149		0.61		58.2		626		1.12		0.01		0.01		41.6	no odour, slight brown
		2021-01-22		210		0.867		0.0242		0.55		28.2		310		0.667		0.0094		<0.01		8.9	no odour, slight amber
SW0653	Below tennis courts at Cedar Shore Apts	2020-07-17		75.5		1.24		0.012		0.71		7.3		687		0.276		0.0027		<0.02		5.2	no odour, amber
SW0669	Foot of Dysart Road	2020-12-02		479		0.832		0.0255		2.01		7.57		1040		1.06				0.01		12.9	no odour, slight amber
SW0672	Adelaide Ave.	2020-12-02		186		0.709		0.0177		0.43		2.74		182		0.362				<0.01		9.41	sampled at first manhole above pipe, no odour, clear, verified fresh water, pooled with no flow
SW0690D	Under 3rd bridge to east, Colquitz River	2020-04-21		141		0.775		0.0195		0.39		2.37		384		0.232				<0.01		3.3	pipe inundated with tidal water, sampled from first manhole upstream, no odour, clear
	Under 3rd bridge to east, Colquitz River	2020-08-12		221		1.12		0.0236		0.4		1.88		382		0.35				<0.01		4.6	foul odour, clear
SW0690D-11	Mohan Br. (Colquitz River watershed)	2019-12-06		43.2		0.788		0.0156		0.32		6.24		279		0.12						39.9	no odour, clear
SW0690D-12	Haliburton Br. at bridge	2019-11-28	4.32		0.544		0.005		0.19		2.51		61.9		0.025						1.96		no odour, clear

Table 5, continued

			Aluminum		Arsenic		Cadmium		Chromium		Copper		Iron		Lead		Mercury		Silver		Zinc		Sample Comments
			DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	
	Marine Aquatic Life Guidelines	max	-	-	-	12.5	-	0.12	-	-	-	3	-	-	-	140	-	-	-	3	-	55	
		average	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	0.002-0.01 3	-	1.5	-	10	
	Freshwater Aquatic Life Guidelines	max	100	-	-	5	0.59	-	-	1/9 [1]	-	11.4	350	1000	-	81.6	-	-	-	0.1	-	40.5	
		average	50	-	-	-	0.21	-	-	-	-	4	-	-	-	6.5	-	0.002-0.01 3	-	0.05	-	15	
	Background			159		0.29		0.01		0.31		1.21		429		0.14		<0.002		0.01		2.1	
		2019-12-11	5.39		0.459		<0.005		0.14		1.51		22.1		0.01						0.39		no odour, slight murky
SW0690D-15	Hamsterly Creek/Whiskey Creek, east side of beach	2019-11-28	28.9		0.327		0.006		0.31		1.82		438		0.183						7.67		no odour, clear
	Hamsterly Creek/Whiskey Creek, east side of beach	2019-12-11	30.2		0.344		0.006		0.32		1.94		487		0.178						6.97		stale odour, clear
SW0690D-17	O'Donnell Creek, at bridge	2019-11-28	24.3		0.419		<0.005		0.22		1.41		137		0.028						2.67		no odour, clear
	O'Donnell Creek, at bridge	2019-12-11	29.8		0.512		0.006		0.2		1.44		200		0.038						2.97		sewer odour, murky brown
SW0690D-23	Linnet Creek, access off of Linnet Lane	2019-11-28	17.5		0.16		<0.005		0.12		0.753		33		0.006						0.24		no odour, clear
	Linnet Creek, access off of Linnet Lane	2019-12-11	15.4		0.146		<0.005		0.11		0.705		33.5		0.007						0.14		no odour, clear
SW0690D-8	Colquitz River, downstream of Beaver Lake	2019-11-28	1.66		0.852		<0.005		<0.1		0.213		11.5		0.007						0.38		no odour, clear
	Colquitz River, downstream of Beaver Lake	2019-12-11	1.1		0.802		<0.005		<0.1		0.216		11.4		0.007						0.78		odour not noted, murky with flocculent
SW0690D-8B	Beaverdale Creek, 4697 West Saanich Road	2019-12-11	30.8		0.29		<0.005		0.16		0.27		840		0.076						0.94		no odour, clear, pooled water with flow
SW0690E	Pipe, Garry Rd at Cuthbert Holmes Park	2019-12-04		121		0.624		0.0097		0.61		3.04		150		0.057						1.3	no odour, clear, pooled water with slight flow (high tide)
		2020-11-24		190		0.944		0.0131		0.63		5.62		212		0.093				<0.01		1.77	no odour, slightly murky
SW0692	Pipe, end of Portage Road	2019-12-04		17.7		0.272		0.0091		0.17		2.02		111		0.035						4.9	chemical odour, murky with suds
		2020-04-21		13.9		0.284		0.0057		0.17		1.22		69.3		0.032				<0.01		5.37	odour not noted, dark turbid
SW0695-1A	Ditch, debris trap, Camden Ave. at St. Giles Street	2019-11-27		191		0.471		0.0078		0.36		2.92		188		0.13						4.63	no odour, murky brown
		2020-12-03		81.9		0.409		<0.005		0.21		2.6		159		0.096				<0.01		4.7	no odour, murky brown
SW0698	Pipe, end of Stillwater Road	2019-11-27		527		1.24		0.0538		*1.02*		11.9		918		3.12						17.9	garbage odour, murky grey
SW0710	Pipe, 15 m south of Helmcken Road Bridge	2019-11-27		63.3		0.365		0.0116		0.22		2.43		94.1		0.044						4.38	no odour, clear, biological growth on pipe
SW0712	Pipe, east of E&N railway, north of Old Island Hwy	2019-11-27		30.6		0.361		0.0175		0.21		4.17		48.9		0.068						5.1	no odour, clear, combined flow
SW0722	Pipe, under Craigflower Bridge	2019-11-27		18700		3.5		*0.69*		*15.7*		79.1		16800		30.2						148	no odour, clear
SW0742	Foot of Sioux Place, upstream edge of pool dam	2020-07-09		53.5		0.897		0.0167		0.34		3.87		822		0.175		0.0276		<0.01		5.6	no odour, clear
SW0742-1	Manhole at 1148 Craigflower Road (near Sioux Place)	2020-12-01		213		0.507		0.0104		0.57		2.67		872		0.197		*0.0077*		<0.01		2.7	no odour, clear
SW0742-2A	Flow that comes from southeast of the Craigflower Road culvert (near Gorge Vale Golf Course service entrance)	2020-12-01		4990		1.64		*0.202*		*8.67*		33.5		7140		5.01		*0.004*		0.12		76.2	no odour, clear
SW0742-2B	Flow that comes from northwest of the Craigflower Road culvert	2020-12-01		211		0.497		0.0105		0.64		2.51		781		0.196		*0.0061*		<0.01		2.7	no odour, clear
SW0758A	Below play area in Banfield Park	2020-04-16		160		0.459		0.0119		0.37		3.77		258		0.859				0.01		3.7	no odour, clear
SW0780	Under boardwalk sitting area, below 537 Head Street, West Bay	2020-11-20		218		0.953		0.0168		0.69		8.02		462		0.391				0.02		14.4	no odour, clear
SW0781	Below and south of heritage building at 503 Head Street, West Bay	2020-07-09		49.6		0.374		0.0073		0.26		4.11		225		0.282				<0.01		7.97	no odour, clear
		2020-11-20		216		1.24		0.0268		*1.29*		15.6		253		1.41				<0.01		21.4	no odour, clear, specific conductance instrument error
SW0806	10 m west of beach access at foot of Kinver St	2020-07-22		285		1.75		0.0443		0.85		5.76		317		0.381				<0.01		5.2	no odour, clear, specific conductance instrument error
SW0854	Foot of Gate Road off Admirals Road	2020-04-27		1260		1.5		0.0224		*2.39*		10.9		1420		0.868				<0.01		12.1	no odour, clear
		2020-06-22		1630		2.61		0.0211		*3.86*		10		2080		1.53				0.01		14.7	no odour, clear
SW0866	Portage Park, west of rock outcropping	2020-09-03		24.4		0.295		0.0113		0.24		7.15		33.3		0.028				<0.01		10.3	no odour, clear
		2020-11-20		115		0.336		0.0105		0.25		2.96		190		0.126				<0.01		28.2	no odour, clear
SW0874	Foot of Heddle Ave., 4 m below park bench, Tovey Bay	2020-11-20		228		0.364		0.0167		0.46		4.71		248		0.355				<0.01		16.8	no odour, clear
SW0882	North bank on east side of Parsons Bridge	2020-07-24		114		0.258		0.0114		0.33		2.15		150		0.303				<0.01		10.7	no odour, clear
SW0921	Spring channel, 65 m west of 920	2019-11-27		57.3		0.589		0.005		0.6		1		432		0.2						2.2	no odour, clear
SW0922	Hatley Creek, 100 m south of 921	2019-11-27		41.2		0.649		<0.005		0.89		1.08		162		0.092						<1	no odour, clear
SW0931	Lagoona Br., Esquimalt Lagoon	2019-10-21		57.2		0.197		0.0086		0.61		1.92		62.2		0.187						3.4	laundry soap odour, murky grey
SW0932	Ditch, south end of Esquimalt Lagoon	2019-10-21		90.6		0.143		0.0699		0.52		1.43		126		0.203						6.3	sewer odour, murky

Table 5, continued

			Aluminum		Arsenic		Cadmium		Chromium		Copper		Iron		Lead		Mercury		Silver		Zinc		Sample Comments
			DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	DIS	TOT	
	Marine Aquatic Life Guidelines	max	-	-	-	12.5	-	0.12	-	-	-	3	-	-	-	140	-	-	-	3	-	55	
		average	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	0.002-0.01 3	-	1.5	-	10	
	Freshwater Aquatic Life Guidelines	max	100	-	-	5	0.59	-	-	1/9 [1]	-	11.4	350	1000	-	81.6	-	-	-	0.1	-	40.5	
		average	50	-	-	-	0.21	-	-	-	-	4	-	-	-	6.5	-	0.002-0.01 3	-	0.05	-	15	
	Background			159		0.29		0.01		0.31		1.21		429		0.14		<0.002		0.01		2.1	
SW0937	Pipe, below north side of Ocean Blvd cul-de-sac	2019-10-21		46.1		0.19		0.0297		0.55		1.12		60.9		0.148						9.2	no odour, clear
SW6003	Goldstream River	2019-10-25		56.8		0.193		<0.005		0.16		0.89		79.4		0.067						<1	no odour, clear
SW6004	Stream; west side of Saanich Inlet	2019-10-25		18.5		0.112		<0.005		<0.1		0.498		9.5		0.014						0.39	no odour, clear
SW6008	Stream; bedside 3680 Trans Canada Hwy	2019-10-25		20.6		0.128		0.0075		<0.1		0.645		53.6		0.047						9.38	no odour, clear

Notes:

All data are total concentrations in µg/L
British Columbia water quality guidelines for protection of freshwater or marine aquatic life were used for comparison
Although aquatic life guidelines would not apply to storm drains, as they are not viable habitat for aquatic life, these comparisons indicate potential impacts to the marine environment
a hardness of 100 mg/L CaCO3 was used to calculate hardness dependant water quality parameters

1 guideline for dissolved aluminum
2 Cr(IV) / Cr (III)
3 guideline If methylmercury is 5% of the total mercury; methyl mercury was not measured in these samples

xx value exceeds the provincial guideline for protection of freshwater aquatic life
xx value exceeds the provincial guideline for protection of marine aquatic life
xx value exceeds the provincial guideline for the marine and freshwater aquatic life
xx Italicized value exceeds a guideline which is only partially applicable. Further investigation is needed.

Table 6. Stormwater Aqueous Polycyclic Aromatic Hydrocarbon Analytical Data (2020)

		Parameter	1-Methyl-naphthalene	2-Methyl-naphthalene	Acenaph-thene	Acenaph-thylene	Acridine	Anthracene	Benzo(A) Anthracene	Benzo(A) Pyrene	Benzo(B) Fluoranthene + Benzo(J) Fluoranthene	Benzo(G,H,I) Perylene	Benzo(K) Fluoranthene	Chrysene	Dibenzo (A,H)Anthracene
	Guidelines	Freshwater			6				0.1	0.01					
		Marine	1	1	6					0.01				0.1	
Station Name	Sample Date														
SW0210	2020-07-06		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0216	2020-07-21		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0218	2020-07-21		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0250	2020-07-21		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0306	2020-07-21		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0316	2020-11-20		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0441	2020-12-16		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0441-1	2020-12-16		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0445	2020-07-13		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0449-2D	2020-07-13		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0458	2020-09-29		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0505-3	2020-08-06		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0601A	2020-11-19		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0602	2020-11-19		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0603	2020-07-06		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0607	2020-06-19		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0607-1A	2020-06-19		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0613	2020-04-28		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0613	2020-06-23		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0614	2020-05-01		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.011	0.083	0.12	0.21	0.12	0.069	0.24	0.019
SW0614-1A	2020-06-23		< 0.05	< 0.1	0.074	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0620	2020-04-24		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0620	2020-06-23		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0626	2020-06-23		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0627	2020-04-24		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0627	2020-06-23		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0627-3A	2020-12-03		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0629	2020-04-24		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0629	2020-06-25		0.099	0.13	0.086	< 0.05	< 0.05	0.036	0.058	0.054	0.064	< 0.05	< 0.05	0.12	0.0066
SW0629-2	2020-12-25		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	0.026	0.025	< 0.03	< 0.05	< 0.05	0.054	< 0.003
SW0629-7	2020-12-25		3.6	6.7	0.055	< 0.05	< 0.05	0.019	0.023	0.024	< 0.03	0.065	< 0.05	0.073	< 0.003
SW0634	2020-04-27		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.013	0.018	< 0.005	< 0.03	< 0.05	< 0.05	0.038	< 0.003
SW0634	2020-06-25		0.56	0.94	0.12	< 0.05	< 0.05	0.025	0.031	0.027	0.034	< 0.05	< 0.05	0.05	0.0045
SW0634-A	2020-12-25		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.014	0.095	0.054	0.061	< 0.05	< 0.05	0.12	0.0069
SW0636	2020-04-27		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0636	2020-06-23		0.14	0.16	< 0.05	< 0.05	< 0.05	0.014	< 0.01	0.0053	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0636-1	2020-12-02		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0636-1A	2020-12-02		0.15	0.14	< 0.05	0.09	< 0.05	0.081	0.026	0.013	< 0.03	< 0.05	< 0.05	0.037	< 0.003
SW0649	2020-04-27		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0649	2020-05-25		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0653	2020-07-17		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0669	2020-12-02		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0712	2020-07-10		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0722	2020-07-10		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0742-1	2020-12-01		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0780	2020-11-20		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0781	2020-07-09		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0806	2020-07-22		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0854	2020-04-27		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0854	2020-06-22		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	0.0058	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0866	2020-09-03		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003
SW0874	2020-11-20		< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.005	< 0.03	< 0.05	< 0.05	< 0.02	< 0.003

Table 6, continued

		Parameter	Flow Rate	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) Pyrene	Naphthalene	Phenanthrene	Pyrene	Quinoline	Total HMW-PAH	Total LWM-PAH	Total PAH
	Guidelines	Freshwater		4	12		1	0.3	0.02				
		Marine			12		1		phototoxic criteria				
Station Name	Sample Date												
SW0210	2020-07-06		20	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0216	2020-07-21		150	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0218	2020-07-21		5	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0250	2020-07-21		NULL	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0306	2020-07-21		50	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0316	2020-11-20		> 2000	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0441	2020-12-16		> 300	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0441-1	2020-12-16		> 300	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0445	2020-07-13		1	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0449-2D	2020-07-13			< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.043	< 0.05	< 0.1	< 0.1
SW0458	2020-09-29		12	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0505-3	2020-08-06			0.03	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0601A	2020-11-19		NULL	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0602	2020-11-19		12	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0603	2020-07-06		15	0.04	< 0.05	< 0.05	< 0.1	0.073	0.026	0.026	0.066	< 0.1	0.17
SW0607	2020-06-19		32	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0607-1A	2020-06-19			< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.02	< 0.05	< 0.1	< 0.1
SW0613	2020-04-28		50	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.026	< 0.05	< 0.1	< 0.1
SW0613	2020-06-23		50	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0614	2020-05-01		40	0.31	< 0.05	0.075	< 0.1	0.22	0.27	0.36	1.5	0.59	2.1
SW0614-1A	2020-06-23		50	0.029	< 0.05	< 0.05	< 0.1	0.063	< 0.02	< 0.02	< 0.05	0.14	0.17
SW0620	2020-04-24		40	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0620	2020-06-23		250	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0626	2020-06-23		200	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0627	2020-04-24		> 80	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.024	< 0.05	< 0.1	< 0.1
SW0627	2020-06-23		500	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0627-3A	2020-12-03		> 500	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0629	2020-04-24		14	0.039	< 0.05	< 0.05	< 0.1	0.051	0.063	0.039	0.1	< 0.1	0.19
SW0629	2020-06-25		40	0.29	0.1	< 0.05	0.2	0.31	0.22	0.071	0.81	1	1.8
SW0629-2	2020-12-25		18	0.095	< 0.05	< 0.05	< 0.1	0.089	0.13	0.05	0.33	0.14	0.47
SW0629-7	2020-12-25		18	0.17	0.076	< 0.05	7.1	0.29	0.38	< 0.15	0.74	18	19
SW0634	2020-04-27		2	0.11	< 0.05	< 0.05	< 0.1	0.11	0.087	< 0.059	0.26	0.12	0.38
SW0634	2020-06-25		30	0.1	0.1	< 0.05	1.3	0.11	0.1	0.93	0.35	4.1	4.5
SW0634-A	2020-12-25		2	0.25	< 0.05	< 0.05	< 0.1	0.19	0.2	0.035	0.78	0.24	1
SW0636	2020-04-27		60	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	0.025	0.047	< 0.05	< 0.1	< 0.1
SW0636	2020-06-23		200	0.033	< 0.05	< 0.05	< 0.1	0.068	0.042	< 0.02	0.081	0.37	0.45
SW0636-1	2020-12-02		NULL	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0636-1A	2020-12-02		NULL	0.072	0.21	< 0.05	0.85	0.38	0.053	< 0.04	0.2	1.9	2.1
SW0649	2020-04-27		7	< 0.02	< 0.05	< 0.05	0.64	< 0.05	< 0.02	0.025	< 0.05	0.66	0.66
SW0649	2020-05-25		38	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.038	< 0.05	< 0.1	< 0.1
SW0653	2020-07-17		20	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0669	2020-12-02		24	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0712	2020-07-10		60	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0722	2020-07-10		10	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0742-1	2020-12-01		32	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0780	2020-11-20		22	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0781	2020-07-09		100	0.02	< 0.05	< 0.05	< 0.1	0.089	< 0.02	0.024	< 0.05	0.11	0.13
SW0806	2020-07-22		5	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0854	2020-04-27		20	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.045	< 0.05	< 0.1	< 0.1
SW0854	2020-06-22		50	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	0.021	< 0.02	< 0.05	< 0.1	< 0.1
SW0866	2020-09-03		7	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1
SW0874	2020-11-20		18	< 0.02	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.02	< 0.05	< 0.1	< 0.1

Table 6, continued

Notes

All units are µ/L

PAH = polycyclic aromatic hydrocarbons

HMW = High Molecular Weight, LMW = Low Molecular Weight

Guidelines are BC ENV for protection of aquatic life maximums. The freshwater guideline is a chronic guideline.

The guideline for methylated naphthalene was used for 1-methylnaphthalene and 2-methylnaphthalene

The guideline for pyrene is based on a phototoxic exposure

XX	Blue shading indicates a guideline exceedance

APPENDIX F

2020 WATERCOURSE MONITORING DATA

Table 1 Summary Table for 5 in 30 Water Quality Data Collected for Noble and Craigflower Creeks in 2020

			Alkalinity	Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Bismuth	Bismuth	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium
			TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DIS	TOT	DISS	TOT	DISS
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
	BC ENV FW	max			100	20 [1]		5		5,000 [1]		0.13 [1]				1,200			0.25-1.05 [2]		
	Aquatic Life Guidelines	mean			50					1,000 [1]									0.12-0.32 [2]		
SW0592	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	80%	100%	80%	0%	0%	0%	40%	0%	0%
		min	140	161	6.64	0.054	0.047	1.04	0.927	12.9	8.09	0.01	0.01	0.01	0.005	31	28	0.0058	0.005	37.1	38.8
		max	180	246	315	0.09	0.088	3.02	2.64	14.3	15.3	0.01	0.014	0.01	0.0062	39	46	0.012	0.01	44.1	44.6
		mean	150	207	69	0.07	0.06	1.52	1.47	13.52	11.8	0.01	0.01	0.01	0.01	36	35	0.01	0.01	40	41
		sd	15	32	123	0.01	0.02	0.75	0.61	0.53	2.3	0.00	0.00	0.00	0.00	3	6	0.00	0.00	2	2
	first flush single sample		95	1810	15.3	0.197	0.198	1.66	1.14	28.1	14.2	0.043	<0.01	<0.01	<0.005	40	37	0.0396	<0.005	33.1	30.7
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	100%	100%	100%	0%	0%	20%	80%	0%	0%
		min	66	135	15	0.147	0.143	0.786	0.733	16.9	11.9	0.01	0.01	0.01	0.005	35	35	0.005	0.005	24.7	25
		max	150	1160	38.5	0.277	0.239	1.46	1.12	28.6	20.1	0.026	0.01	0.01	0.005	86	89	0.0353	0.0096	54.2	53.3
		mean	119.2	536	27	0.20	0.19	1.06	0.93	20.72	16.8	0.02	0.01	0.01	0.01	63	65	0.02	0.01	43	45
		sd	30	459	10	0.05	0.04	0.23	0.16	4.16	3.0	0.01	0.00	0.00	0.00	17	19	0.01	0.00	10	10
SW0592-4	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	100%	80%	100%	0%	0%	20%	60%	0%	0%
		min	140	55.2	6.08	0.052	0.048	1.37	1.32	14.9	10.9	0.01	0.01	0.01	0.005	36	33	0.005	0.005	35.1	36.4
		max	180	3960	36.2	0.18	0.152	3.25	2.76	44.8	16.6	0.087	0.01	0.014	0.005	49	51	0.113	0.0093	45.5	43.9
		mean	152	876	16	0.09	0.08	2.32	1.88	23.70	14.5	0.03	0.01	0.01	0.01	41	42	0.03	0.01	40	40
		sd	15	1543	11	0.04	0.04	0.72	0.56	11.10	2.1	0.03	0.00	0.00	0.00	5	6	0.04	0.00	4	3
	first flush single sample		83	534	15.4	0.174	0.199	1.1	0.909	14.4	10.1	0.013	<0.01	<0.01	<0.005	35	34	0.0184	0.0053	25.1	24.9
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	100%	100%	100%	0%	0%	0%	20%	0%	0%
		min	71	204	18.5	0.13	0.136	0.952	0.85	18.9	14.6	0.01	0.01	0.01	0.005	66	68	0.0133	0.005	30.3	28.4
		max	160	1490	45.1	0.272	0.252	2.11	1.5	33.4	20.3	0.037	0.01	0.01	0.005	110	114	0.0716	0.0168	65.1	61.9
		mean	126.2	772	30	0.20	0.19	1.49	1.16	25.06	18.4	0.02	0.01	0.01	0.01	83	85	0.04	0.01	51	50
		sd	32	593	10	0.05	0.05	0.38	0.23	4.75	2.0	0.01	0.00	0.00	0.00	17	17	0.02	0.00	11	11
SW0709B-2A	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	0%	0%	100%	100%	0%	0%
		min	70	31.2	3.31	0.028	0.026	0.248	0.239	4.8	4.29	0.01	0.01	0.005	0.005	25	25	0.005	0.005	18.9	19.3
		max	79	84.2	5.22	0.045	0.051	0.465	0.385	6.14	5.14	0.01	0.01	0.01	0.005	36	36	0.005	0.005	23	23.1
		mean	74.4	49	4	0.04	0.04	0.34	0.31	5.51	4.7	0.01	0.01	0.01	0.01	32	30	0.01	0.01	22	21
		sd	3	19	1	0.01	0.01	0.07	0.06	0.46	0.3	0.00	0.00	0.00	0.00	4	4	0.00	0.00	1	1
	first flush single sample		52	246	8.22	0.095	0.07	0.286	0.308	5.88	4.18	<0.01	<0.01	<0.01	<0.005	24	22	<0.005	<0.005	15.9	16
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	20%	20%	0%	20%	0%	20%	60%	80%	100%	100%	0%	20%	80%	100%	0%	20%
		min	48	90.5	0.5	0.036	0.02	0.15	0.02	4.18	0.02	0.01	0.01	0.005	0.005	24	10	0.005	0.005	14.6	0.05
		max	71	442	362	0.142	0.106	0.294	0.317	7.84	8.14	0.012	0.012	0.01	0.005	31	30	0.0067	0.005	19.2	21.1
		mean	58.4	253	82	0.08	0.06	0.24	0.20	5.88	4.3	0.01	0.01	0.01	0.01	27	24	0.01	0.01	17	14
		sd	8	146	140	0.04	0.03	0.06	0.10	1.31	2.6	0.00	0.00	0.00	0.00	3	7	0.00	0.00	2	7
SW0709B-4	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	60%	80%	0%	0%	0%	0%	80%	100%	80%	80%	0%	0%	80%	100%	0%	0%
		min	58	21.1	3.77	0.02	0.02	0.177	0.161	3.37	3.29	0.01	0.01	0.005	0.005	21	20	0.005	0.005	16.2	16.7
		max	59	39.8	8.4	0.111	0.026	0.431	0.302	4.19	3.73	0.215	0.01	0.0223	0.0081	31	31	0.163	0.005	19.1	18.2
		mean	58.6	28	5	0.04	0.02	0.25	0.20	3.77	3.5	0.05	0.01	0.01	0.01	27	26	0.04	0.01	18	17
		sd	0	6	2	0.04	0.00	0.10	0.05	0.27	0.2	0.08	0.00	0.01	0.00	3	4	0.06	0.00	1	1
	first flush single sample		53	79.2	6.67	0.024	<0.02	0.152	0.189	3.98	3.51	<0.01	<0.01	<0.01	<0.005	23	20	<0.005	<0.005	16	16

Table 1, continued

			Alkalinity	Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Bismuth	Bismuth	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium
			TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DIS	TOT	DISS	TOT	DISS
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
	BC ENV FW	max			100	20 [1]		5		5,000 [1]		0.13 [1]				1,200			0.25-1.05 [2]		
	Aquatic Life Guidelines	mean			50					1,000 [1]									0.12-0.32 [2]		
SW0709B-4	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	40%	20%	0%	20%	0%	20%	60%	100%	100%	100%	0%	20%	80%	100%	0%	20%
		min	44	107	0.5	0.02	0.02	0.141	0.02	4.08	0.02	0.01	0.01	0.005	0.005	19	10	0.005	0.005	14	0.05
		max	52	748	364	0.099	0.039	0.284	0.262	7.9	6.32	0.019	0.01	0.01	0.005	32	30	0.0084	0.005	15.9	15.3
		mean	48.8	361	91	0.04	0.03	0.21	0.17	5.50	3.5	0.01	0.01	0.01	0.01	26	23	0.01	0.01	15	12
		sd	3	244	137	0.03	0.01	0.05	0.08	1.34	2.0	0.00	0.00	0.00	0.00	5	7	0.00	0.00	1	6
SW0709B-5	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	40%	40%	0%	0%	0%	0%	80%	100%	80%	100%	0%	0%	80%	100%	0%	0%
		min	58	8.93	2.04	0.02	0.02	0.191	0.185	5.1	4.77	0.01	0.01	0.005	0.005	23	24	0.005	0.005	16.8	17.1
		max	64	42.1	3.56	0.052	0.024	0.589	0.256	6.06	5.33	0.173	0.01	0.0368	0.005	33	36	0.218	0.005	19.5	19.5
		mean	61.6	20	3	0.03	0.02	0.30	0.21	5.60	5.0	0.04	0.01	0.01	0.01	29	29	0.05	0.01	18	18
		sd	2	12	1	0.01	0.00	0.14	0.02	0.41	0.2	0.07	0.00	0.01	0.00	3	4	0.09	0.00	1	1
	first flush single sample		55	22.9	5.9	0.024	<0.02	0.153	0.19	4.49	4.42	<0.01	<0.01	<0.01	<0.005	25	21	<0.005	<0.005	16.6	16.3
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	40%	20%	0%	20%	0%	20%	100%	100%	100%	100%	0%	20%	100%	100%	0%	20%
		min	51	36.3	0.5	0.02	0.02	0.138	0.02	4.26	0.02	0.01	0.01	0.005	0.005	21	10	0.005	0.005	14.7	0.05
		max	58	74.6	40.4	0.038	0.035	0.183	0.186	4.9	5.14	0.01	0.01	0.01	0.005	56	56	0.005	0.005	18.7	19.3
		mean	54	53	14	0.03	0.03	0.17	0.14	4.59	3.5	0.01	0.01	0.01	0.01	39	35	0.01	0.01	17	14
		sd	3	14	14	0.01	0.01	0.02	0.06	0.26	1.8	0.00	0.00	0.00	0.00	14	18	0.00	0.00	2	7
SW0709B-6	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	60%	0%	0%	0%	0%	80%	100%	80%	100%	0%	0%	80%	100%	0%	0%
		min	44	34	6.53	0.022	0.02	0.181	0.146	3.87	3.06	0.01	0.01	0.005	0.005	17	14	0.005	0.005	13.4	13.3
		max	49	107	8.14	0.095	0.027	0.471	0.181	4.94	3.72	0.102	0.01	0.0303	0.005	20	19	0.178	0.005	15	14.5
		mean	46.2	84	7	0.04	0.02	0.25	0.16	4.36	3.4	0.03	0.01	0.01	0.01	18	17	0.04	0.01	14	14
		sd	2	27	1	0.03	0.00	0.11	0.01	0.38	0.2	0.04	0.00	0.01	0.00	1	2	0.07	0.00	1	0
	first flush single sample		43	72.1	8.96	0.028	0.02	0.151	0.181	3.85	3.47	<0.01	<0.01	<0.01	<0.005	19	16	<0.005	<0.005	13.3	13.3
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	20%	20%	0%	20%	0%	20%	80%	80%	100%	100%	0%	20%	100%	100%	0%	20%
		min	36	45.9	0.5	0.021	0.02	0.158	0.02	3.71	0.02	0.01	0.01	0.005	0.005	15	10	0.005	0.005	11	0.05
		max	42	444	415	0.037	0.043	0.265	0.284	5.6	6.42	0.011	0.01	0.01	0.005	19	24	0.005	0.005	12.4	12.9
		mean	39.2	214	99	0.03	0.03	0.21	0.17	4.60	3.5	0.01	0.01	0.01	0.01	17	17	0.01	0.01	12	10
		sd	2	157	159	0.01	0.01	0.04	0.09	0.78	2.0	0.00	0.00	0.00	0.00	1	5	0.00	0.00	1	5
SW0709B-6A	first flush single sample		27	1990	169	0.042	0.046	0.42	0.239	13.5	4.32	0.04	<0.01	<0.01	<0.005	11	<10	0.0174	<0.005	10.7	10.7

Table 1, continued

			Chloride	Chromium	Chromium	Cobalt	Cobalt	Copper	Copper	Oxygen	O. Carbon	E.Coli	Flow Rate	Hardness	Iron	Iron	Lead	Lead	Lithium	Lithium	Magnesium	Magnesium	Manganese	Manganese
			DISS	TOT	DISS	TOT	DISS	TOT	DISS	DISS	DISS	NA	NA	TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS
			mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	CFU/100 mL	L/min	mg/L as $CaCO_3$	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L
	BC ENV FW	max		1 / 9 [1,3]		110			22 -91[4]	5 [5]		400 [6]			1,000	350	28.7-168 [7]		870 [1]				1024-2480 [8]	
	Aquatic Life Guidelines	mean				4			0.9-83[4]	8 [5]		200 [6]					4.4-9.8 [7]						798-1379 [8]	
SW0592	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		min	25	0.41	0.16	0.211	0.0978	1.02	0.674	6.43	4.9	51	180	154	294	45.1	0.103	0.0054	1.19	1.13	14.8	14.2	81.3	16.1
		max	28	0.64	0.63	0.684	0.306	1.56	1.94	7.42	8.7	110	250	178	722	488	0.163	0.119	1.52	1.38	17.6	17	795	84.3
		mean	26	0.50	0.26	0.347	0.189	1.38	1.08	7.01	6.5	75	216	166	416	152	0.133	0.035	1.39	1.22	15.9	15.6	238.6	51.6
		sd	1	0.09	0.18	0.171	0.080	0.19	0.46	0.44	1.2	22	29	8	158	169	0.024	0.042	0.11	0.09	1.1	1.0	278.6	23.5
	first flush single sample		24	3.01	0.29	1.32	0.115	9.35	3.81	5.88	11	6900	>500	134	2350	78	1.18	0.0345	1.78	0.76	12.5	11.1	236	0.574
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		min	20	0.55	0.31	0.202	0.126	2.55	2.07	6.88	8.6	17	900	94.3	268	72.5	0.115	0.0227	1.18	0.58	7.94	7.64	26.4	3.34
		max	29	*2.03*	0.89	0.747	0.16	8.97	4.87	10.73	16	5200	2000	210	1340	164	0.779	0.0641	1.7	1.54	18	17.9	106	22.5
		mean	27	1.15	0.53	0.424	0.148	5.06	3.44	8.55	11.6	202	1180	168	701		0.361	0.041	1.38	1.23	14.5	15.0	57.6	16.1
		sd	3	0.70	0.20	0.261	0.012	2.44	1.01	1.32	2.7	2004	412	39	514	32	0.289	0.015	0.17	0.35	3.4	3.7	32.6	6.9
SW0592-4	summer	n	5	5	5	5	5	5	5	5	5	5		5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
		min	26	0.27	0.2	0.315	0.205	1.21	0.822	1.51	6.7	17		150	420	144	0.065	0.0093	1.13	0.97	15.2	14.9	211	1.88
		max	31	*5.99*	0.25	2.26	0.592	12.7	2.02	3.12	14	230		185	5400	431	2.52	0.139	3.91	1.36	18.1	19.3	1280	*1170*
		mean	28	1.52	0.22	0.884	0.317	3.98	1.25	1.97	9.6	51		169	1850	299	0.598	0.058	1.80	1.15	16.8	16.3	637.0	333.6
		sd	2	2.24	0.02	0.712	0.140	4.39	0.43	0.60	2.7	78		14	1840	98	0.962	0.045	1.06	0.14	1.0	1.6	453.0	424.2
	first flush single sample		21	1.1	0.32	0.385	0.0714	4.88	3.32	6.61	9.1	2300	>400	104	749	87	0.514	0.0395	0.84	0.62	10.1	9.98	77.3	0.421
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		min	23	0.69	0.33	0.38	0.146	2.9	2.03	5.38	10	90	800	116	420	110	0.161	0.0233	1.4	0.68	9.89	9.95	72.3	2.76
		max	35	*2.7*	0.58	1.31	0.473	9.51	6.02	9.39	19	3100	2000	251	1830	175	1.22	0.0761	1.63	1.56	21.4	21.1	199	142
		mean	30	1.83	0.43	0.768	0.271	5.96	3.83	7.26	13.8	409	1040	197	1057	141.4	0.618	0.046	1.51	1.21	17.1	17.2	126.6	49.8
		sd	4	0.93	0.09	0.310	0.113	2.64	1.56	1.47	3.0	1134	480	44	612	23.5	0.450	0.020	0.08	0.34	3.9	3.8	47.2	51.6
SW0709B-2A	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	60%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%
		min	13	0.1	0.1	0.07	0.0446	0.529	0.458	6.52	3.7	63	500	67	287	144	0.044	0.0107	0.5	0.5	4.81	4.9	99.5	56
		max	18	0.21	0.11	0.143	0.0979	0.91	0.841	7.2	5.8	400	1000	80.4	459	205	0.0846	0.114	0.5	0.5	5.66	5.8	248	161
		mean	14	0.14	0.10	0.101	0.067	0.72	0.55	6.80	5.1	128	613	76	378	162.6	0.067	0.034	0.50	0.50	5.3	5.4	170.9	99
		sd	2	0.05	0.00	0.027	0.019	0.14	0.15	0.30	0.7	127	195	5	65	22.8	0.014	0.040	0.00	0.00	0.3	0.3	60.3	37
	first flush single sample		11	0.47	0.1	0.199	0.0317	2.11	1.18	8.35	5.9	910	>2000	56.2	515	99.2	0.24	0.0237	<0.5	<0.5	3.99	4.02	132	2.95
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	0%	20%	0%	20%	0%	0%	0%	100%	0%	0%	0%	0%	20%	100%	100%	0%	20%	0%	20%
		min	10	0.17	0.1	0.067	0.005	0.645	0.05	8.95	5.5	25	2000	52.5	238	1.1	0.054	0.005	0.5	0.5	3.85	0.05	18	0.05
		max	16	0.9	0.68	0.236	0.167	2.54	2.21	12.19	7.7	520	3000	72	617	508	0.472	0.422	0.5	0.5	5.82	5.89	58.4	56
		mean	13	0.44	0.28	0.141	0.065	1.53	1.08	10.63	6.7	91	2200	62	464	186.8	0.189	0.107	0.50	0.50	4.6	3.9	43.8	21
		sd	2	0.28	0.22	0.064	0.054	0.75	0.73	1.44	0.8	189	400	7	133	169.8	0.153	0.159	0.00	0.00	0.8	2.1	16.4	19
SW0709B-4	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	60%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	100%	100%	0%	0%	0%	0%
		min	9.6	0.1	0.1	0.0414	0.0311	0.283	0.249	8.84	4.7	30	400	56.8	85.3	34	0.0247	0.005	0.5	0.5	3.98	4.04	10	2.53
		max	10	0.27	0.1	0.236	0.0427	1.03	0.556	9.96	6.1	95	800	65.3	190	107	0.169	0.026	0.5	0.5	4.29	4.38	21.5	3.85
		mean	10	0.14	0.10	0.089	0.037	0.49	0.37	9.62	5.4	48	480	61	122	59.4	0.056	0.011	0.50	0.50	4.1	4.2	14.3	3.28
		sd	0	0.07	0.00	0.074	0.005	0.28	0.11	0.40	0.6	23	160	4	37	25.2	0.057	0.008	0.00	0.00	0.1	0.1	4.2	0.58
	first flush single sample		10	0.14	<0.1	0.085	0.0307	0.55	0.369	11.32	5.7	330	>1000	55.5	157	40.3	0.057	0.008	<0.5	<0.5	3.79	3.89	33.1	0.756

Table 1, continued

			Chloride	Chromium	Chromium	Cobalt	Cobalt	Copper	Copper	Oxygen	O. Carbon	E.Coli	Flow Rate	Hardness	Iron	Iron	Lead	Lead	Lithium	Lithium	Magnesium	Magnesium	Manganese	Manganese
			DISS	TOT	DISS	TOT	DISS	TOT	DISS	DISS	DISS	NA	NA	TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS
			mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	CFU/100 mL	L/min	mg/L as $CaCO_3$	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L
	BC ENV FW	max		1 / 9 [1,3]		110			22 -91[4]	5 [5]		400 [6]			1,000	350	28.7-168 [7]		870 [1]				1024-2480 [8]	
	Aquatic Life Guidelines	mean				4			0.9-83[4]	8 [5]		200 [6]					4.4-9.8 [7]						798-1379 [8]	
SW0709B-4	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	40%	0%	20%	0%	20%	0%	0%	0%	100%	0%	0%	0%	0%	20%	100%	100%	0%	20%	0%	20%
		min	9.8	0.18	0.1	0.071	0.005	0.54	0.05	11.27	7.1	38	1000	50.8	241	1.1	0.054	0.005	0.5	0.5	3.53	0.05	13	0.05
		max	11	0.92	0.72	0.297	0.18	27.2	1.56	12.92	8.9	780	5000	55.8	840	549	2.62	0.157	0.5	0.5	4.38	4.29	99.2	17.3
		mean	10	0.46	0.24	0.145	0.065	6.23	0.81	12.00	7.9	114	2400	53	497	204.8	0.604	0.050	0.50	0.50	3.9	3.1	34.1	5.9
		sd	1	0.28	0.24	0.081	0.060	10.49	0.51	0.56	0.7	285	1497	2	199	183.4	1.009	0.055	0.00	0.00	0.3	1.6	32.9	6.1
SW0709B-5	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	60%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%
		min	9.2	0.1	0.1	0.0554	0.0305	0.148	0.084	3.5	5.9	3	40	59.2	175	92.2	0.028	0.0076	0.5	0.5	4.15	4.17	56.9	1.48
		max	10	0.29	0.1	0.347	0.0549	0.988	0.135	4.71	6.3	26	500	66	339	125	0.264	0.0195	0.5	0.5	4.31	4.52	179	99.8
		mean	10	0.14	0.10	0.130	0.041	0.37	0.11	4.33	6.1	11	142	63	254	108.5	0.100	0.015	0.50	0.50	4.2	4.4	123.6	47.6
		sd	0	0.07	0.00	0.110	0.009	0.31	0.02	0.43	0.1	9	180	3	52	11.8	0.088	0.004	0.00	0.00	0.1	0.1	46.8	34.3
	first flush single sample		10	<0.1	<0.1	0.063	0.0299	0.28	0.112	5.74	6.7	130	400	57.7	152	34.8	0.039	<0.005	<0.5	<0.5	3.97	3.99	59.6	0.839
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	40%	100%	0%	20%	0%	0%	0%	0%	0%	60%	0%	0%	20%	0%	20%	100%	100%	0%	20%	0%	20%
		min	10	0.1	0.1	0.059	0.005	0.23	0.139	3.96	6	23	500	53.1	326	1	0.0301	0.005	0.5	0.5	3.78	0.05	38.3	0.05
		max	11	0.17	0.1	0.097	0.0841	0.57	0.444	7.44	7.5	61	2000	64.8	749	420	0.041	0.0446	0.5	0.5	4.4	4.42	127	121
		mean	11	0.12	0.10	0.073	0.044	0.40	0.30	5.68	7.0	47	1020	59	437	199.8	0.035	0.020	0.50	0.50	4.1	3.3	93.7	36.4
		sd	0	0.03	0.00	0.014	0.025	0.14	0.11	1.43	0.5	14	531	5	159	137	0.005	0.015	0.00	0.00	0.2	1.7	36.6	44.0
SW0709B-6	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%
		min	10	0.15	0.1	0.0744	0.0476	0.449	0.413	7.82	2	16	100	45.2	229	117	0.0274	0.0104	0.5	0.5	2.8	2.72	17.3	5.53
		max	11	0.39	0.1	0.348	0.068	1.31	0.458	8.69	4.6	90	400	49.5	359	148	0.257	0.0173	0.5	0.5	2.93	2.99	53.8	21.9
		mean	11	0.24	0.10	0.167	0.057	0.76	0.44	8.30	3.8	38	280	47	308	132	0.104	0.015	0.50	0.50	2.9	2.9	39.6	13.6
		sd	0	0.09	0.00	0.095	0.008	0.30	0.02	0.36	0.9	27	98	2	45	12.1	0.081	0.003	0.00	0.00	0.1	0.1	14.2	6.5
	first flush single sample		10	0.19	<0.1	0.101	0.0441	0.65	0.439	9.71	5.3	7600	200	44.7	293	153	0.057	0.0145	<0.5	<0.5	2.77	2.76	33.4	4.9
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	40%	0%	20%	0%	20%	0%	0%	0%	40%	0%	0%	20%	0%	20%	100%	100%	0%	20%	0%	20%
		min	9.5	0.13	0.1	0.062	0.005	0.6	0.05	10.22	5.4	21	600	38.7	178	1	0.041	0.005	0.5	0.5	2.65	0.05	7.73	0.05
		max	10	0.61	0.81	0.18	0.212	1.67	1.79	12.1	9.2	720	2000	42	594	697	0.169	0.185	0.5	0.5	2.82	2.95	44.7	23.1
		mean	10	0.34	0.26	0.122	0.076	1.03	0.73	11.32	7.0	123	980	41	384	244	0.100	0.055	0.50	0.50	2.7	2.3	22.2	8.1
		sd	0	0.17	0.28	0.048	0.071	0.39	0.58	0.69	1.3	256	531	1	148	240	0.053	0.066	0.00	0.00	0.1	1.1	12.3	8.1
SW0709B-6A	first flush single sample		8.1	2.15	0.32	0.994	0.073	4.26	1.82	10.9	12	2600	550	37.8	1500	202	0.958	0.0954	0.82	<0.5	2.71	2.5	98.7	6.7

Table 1, continued

			Mercury	Molybdenum	Molybdenum	Nitrite as N	Nitrate as N	Nickel	Nickel	Phosphorus	pH	Potassium	Potassium	Selenium	Selenium	Silicon	Silicon	Silver	Silver	Sodium	Sodium	Specific Conductivity - 25°C.
			TOT	TOT	DISS	DISS	DISS	TOT	DISS	TOT	NA	DISS	TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	NA
			µg/L	µg/L	µg/L	mg/l	mg/L	µg/L	µg/L	mg/L	pH	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm
	BC ENV FW Aquatic Life Guidelines	max		2,000		0.06	32.8	25 -110 [1,9]		0.01 [10]	6.5-9 [11]		373 - 432	2				0.1-3.0 [12]				
		mean		1,000		0.02	3			0.005 [10]								0.05-1.5 [12]				
SW0592	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	100%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	80%	0%	0%	0%
		min	0.0019	0.326	0.299	0.005	0.048	1.05	0.833	0.031	7.48	4.42	4.16	0.085	0.072	7840	7340	0.01	0.01	14.90	14.40	294.5
		max	0.0019	0.991	1.09	0.0192	0.522	1.66	1.35	0.45	7.79	7.83	7.89	0.150	0.125	9050	8890	0.01	0.01	16.20	17.00	408.7
		mean	0.0019	0.7	0.714	0.013	0.315	1.238	1.048	0.218	7.64	5.51	5.40	0.106	0.099	8338	7924	0.01	0.01	15.64	15.66	366.4
		sd	0.0000	0.2	0.294	0.005	0.196	0.219	0.217	0.142	0.11	1.28	1.39	0.024	0.021	404	542	0.00	0.00	0.54	0.88	48.8
	first flush single sample		<0.0019	1.83	1.78	0.0743	1.59	3.55	1.2	0.32	7.36	10.1	10.5	0.175	0.133	8400	5190	0.013	0.005	13.9	13.6	273.2
	winter	n		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	80%	0%	0%	0%
		min		1.3	1.28	0.0248	1.96	1.66	1.1	0.051	7.67	5.49	5.74	0.145	0.135	6300	4800	0.01	0.01	11.30	11.30	265.9
		max		2.59	2.54	0.0754	3.58	3.79	2.56	0.27	8.14	10.60	9.96	0.285	0.276	9220	8950	0.01	0.01	19.30	19.20	483.2
		mean		1.9	1.896	0.047	2.664	2.418	1.828	0.139	7.89	8.05	7.79	0.196	0.184	8048	7476	0.01	0.01	16.32	16.70	432.4
		sd		0.4	0.442	0.018	0.702	0.746	0.515	0.074	0.21	1.86	1.50	0.050	0.049	1034	1608	0.00	0.00	2.68	2.77	83.5
SW0592-4	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	75%	0%	0%	60%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%	100%	0%	0%	0%
		min	0.0019	0.618	0.604	0.002	0.0025	0.97	0.932	0.25	7.26	5.02	4.99	0.104	0.105	6920	6250	0.01	0.01	15.10	15.00	303.7
		max	0.0021	2.09	2.16	0.0385	0.188	7.28	1.91	0.81	7.61	9.91	10.40	0.329	0.156	11800	8160	0.02	0.01	17.70	18.70	399.7
		mean	0.0	1.1	1.098	0.016	0.067	2.580	1.382	0.434	7.47	7.28	7.32	0.172	0.134	8004	6830	0.01	0.01	16.14	15.98	352.5
		sd	0.0	0.5	0.565	0.015	0.070	2.363	0.320	0.207	0.14	1.85	2.02	0.080	0.019	1904	681	0.00	0.00	0.91	1.38	38.7
	first flush single sample		<0.0019	1.01	0.974	0.0426	0.866	1.79	1.28	0.14	7.48	5.94	5.84	0.107	0.082	4960	4010	<0.01	0.0064	11.6	11.7	217.3
	winter	n		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	80%	0%	0%	0%
		min		1.43	1.47	0.0326	2.16	2.12	2.17	0.071	7.61	8.32	8.30	0.175	0.175	7010	4600	0.01	0.01	12.20	12.20	344.2
		max		3.44	3.2	0.101	4.24	5.13	3.27	0.41	8.10	13.20	13.00	0.355	0.283	10200	8880	0.02	0.01	21.40	21.10	542.8
		mean		2.2	2.146	0.054	3.29	3.512	2.536	0.234	7.84	10.26	10.18	0.245	0.211	8438	7274	0.01	0.01	17.64	17.72	483.3
		sd		0.7	0.593	0.025	0.786	1.006	0.443	0.112	0.20	1.74	1.80	0.060	0.039	1104	1728	0.00	0.00	3.06	2.98	71.8
SW0709B-2A	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	75%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	40%	60%	0%	0%	80%	100%	0%	0%	0%
		min	0.0019	0.087	0.101	0.005	0.032	0.241	0.217	0.004	7.27	0.55	0.56	0.040	0.040	1890	1790	0.01	0.01	8.12	8.17	156.9
		max	0.0038	0.203	0.134	0.005	0.051	0.404	0.35	0.026	7.60	0.70	0.71	0.048	0.088	2610	2490	0.01	0.01	11.70	11.60	175.7
		mean	0.0	0.1	0.117	0.005	0.044	0.345	0.278	0.015	7.38	0.63	0.64	0.043	0.050	2406	2182	0.01	0.01	9.26	9.32	168.3
		sd	0.0	0.0	0.012	0.000	0.007	0.060	0.048	0.008	0.12	0.05	0.05	0.003	0.019	262	256	0.00	0.00	1.29	1.18	6.9
	first flush single sample		<0.0019	0.152	0.14	<0.005	0.083	0.63	0.308	0.044	7.39	1.02	0.96	0.04	<0.04	2260	1970	<0.01	<0.005	6.63	6.81	NULL
	winter	n	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
		%nd	100%	20%	40%	80%	0%	0%	0%	0%	0%	20%	0%	0%	40%	0%	20%	100%	100%	0%	20%	0%
		min	0.0019	0.05	0.05	0.005	0.041	0.31	0.053	0.0042	7.30	0.05	0.56	0.045	0.040	3240	50	0.01	0.01	6.87	0.05	141.3
		max	0.0019	0.157	0.21	0.0068	0.315	0.82	0.795	0.026	7.88	1.14	1.08	0.063	0.082	4650	4930	0.01	0.01	10.20	10.90	160.5
		mean	0.0	0.1	0.120	0.005	0.150	0.554	0.383	0.014	7.61	0.72	0.82	0.052	0.054	3778	3078	0.01	0.01	8.28	7.05	150.5
		sd	0.0	0.0	0.064	0.001	0.099	0.213	0.240	0.007	0.22	0.39	0.18	0.007	0.016	531	1676	0.00	0.00	1.48	3.82	7.9
SW0709B-4	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	100%	60%	20%	100%	20%	0%	0%	0%	0%	0%	0%	60%	100%	0%	0%	80%	100%	0%	0%	0%
		min	0.0019	0.05	0.05	0.005	0.02	0.183	0.164	0.0049	7.74	0.44	0.44	0.040	0.040	1430	1310	0.01	0.01	6.36	6.36	123.3
		max	0.0019	0.205	0.074	0.005	0.123	0.449	0.26	0.0095	7.85	0.49	0.51	0.316	0.040	2130	1980	0.02	0.01	6.84	6.85	132.9
		mean	0.0	0.1	0.061	0.005	0.064	0.260	0.200	0.007	7.82	0.46	0.47	0.096	0.040	1718	1572	0.01	0.01	6.50	6.52	128.4
		sd	0.0	0.1	0.010	0.000	0.037	0.097	0.034	0.001	0.04	0.02	0.03	0.110	0.000	260	245	0.01	0.00	0.18	0.17	4.2
	first flush single sample		<0.0019	0.06	<0.05	<0.005	0.086	0.28	0.171	0.0096	7.57	0.854	0.77	<0.04	<0.04	1920	1690	<0.01	<0.005	6.04	6.37	NULL

Table 1, continued

			Mercury	Molybdenum	Molybdenum	Nitrite as N	Nitrate as N	Nickel	Nickel	Phosphorus	pH	Potassium	Potassium	Selenium	Selenium	Silicon	Silicon	Silver	Silver	Sodium	Sodium	Specific Conductivity - 25°C.
			TOT	TOT	DISS	DISS	DISS	TOT	DISS	TOT	NA	DISS	TOT	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS	NA
			µg/L	µg/L	µg/L	mg/l	mg/L	µg/L	µg/L	mg/L	pH	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm
	BC ENV FW Aquatic Life Guidelines	max		2,000		0.06	32.8	25 -110 [1,9]		0.01 [10]	6.5-9 [11]		373 - 432	2				0.1-3.0 [12]				
		mean		1,000		0.02	3			0.005 [10]								0.05-1.5 [12]				
SW0709B-4	winter	n	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
		%nd	100%	60%	80%	100%	20%	0%	20%	0%	0%	20%	0%	0%	20%	0%	20%	100%	100%	0%	20%	0%
		min	0.0019	0.05	0.05	0.005	0.02	0.308	0.02	0.0045	7.66	0.05	0.53	0.045	0.040	3210	50	0.01	0.01	6.14	0.05	131.7
		max	0.0019	0.1	0.087	0.005	0.07	1.4	0.784	0.026	7.80	0.91	0.83	0.074	0.059	4060	4410	0.01	0.01	6.52	6.59	145.4
		mean	0.0	0.1	0.057	0.005	0.040	0.654	0.331	0.013	7.74	0.64	0.74	0.052	0.050	3674	2944	0.01	0.01	6.34	5.08	137.7
		sd	0.0	0.0	0.015	0.000	0.017	0.400	0.250	0.008	0.05	0.33	0.11	0.011	0.007	346	1501	0.00	0.00	0.16	2.52	5.7
SW0709B-5	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	75%	60%	100%	100%	40%	0%	0%	0%	0%	0%	0%	80%	100%	0%	0%	60%	100%	0%	0%	0%
		min	0.0019	0.05	0.05	0.005	0.02	0.134	0.127	0.0057	7.09	0.26	0.26	0.040	0.040	1000	895	0.01	0.01	6.10	6.26	128.3
		max	0.0029	0.221	0.05	0.005	0.052	1.15	0.169	0.013	7.27	0.34	0.38	0.244	0.040	1250	1230	0.03	0.01	6.73	6.58	139.7
		mean	0.0	0.1	0.050	0.005	0.028	0.428	0.150	0.010	7.16	0.32	0.33	0.081	0.040	1114	1075	0.01	0.01	6.39	6.46	135.1
		sd	0.0	0.1	0.000	0.000	0.012	0.382	0.017	0.003	0.07	0.03	0.04	0.082	0.000	93	111	0.01	0.00	0.21	0.11	3.9
	first flush single sample		<0.0019	<0.05	<0.05	<0.005	<0.02	0.14	0.105	0.0064	7.5	0.567	0.53	<0.04	<0.04	1330	1200	<0.01	<0.005	6.25	6.44	NULL
	winter	n	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
		%nd	100%	60%	100%	100%	100%	0%	0%	0%	0%	20%	0%	40%	80%	0%	20%	100%	100%	0%	20%	0%
		min	0.0019	0.05	0.05	0.005	0.02	0.17	0.031	0.0061	7.04	0.05	0.58	0.040	0.040	1950	50	0.01	0.01	6.16	0.05	153.2
		max	0.0019	0.054	0.05	0.005	0.02	0.27	0.237	0.012	7.77	0.90	0.83	0.048	0.051	3700	3480	0.01	0.01	7.04	7.11	165.5
		mean	0.0	0.1	0.050	0.005	0.020	0.216	0.157	0.009	7.45	0.59	0.70	0.042	0.042	2884	2310	0.01	0.01	6.58	5.44	161.1
		sd	0.0	0.0	0.000	0.000	0.000	0.033	0.074	0.002	0.33	0.30	0.11	0.003	0.004	596	1231	0.00	0.00	0.28	2.71	5.6
SW0709B-6	summer	n	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	75%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	60%	100%	0%	0%	0%
		min	0.0019	0.077	0.059	0.005	0.041	0.258	0.209	0.0083	7.48	0.93	0.94	0.044	0.040	2480	2130	0.01	0.01	5.97	5.97	103.5
		max	0.0021	0.234	0.08	0.005	0.091	0.542	0.276	0.014	7.55	1.01	1.08	0.204	0.048	2910	2590	0.03	0.01	6.30	6.34	113.4
		mean	0.0	0.1	0.073	0.005	0.068	0.378	0.241	0.010	7.53	0.97	1.00	0.081	0.043	2692	2398	0.01	0.01	6.12	6.12	108.4
		sd	0.0	0.1	0.008	0.000	0.016	0.096	0.022	0.002	0.03	0.03	0.05	0.062	0.003	175	170	0.01	0.00	0.14	0.13	3.3
	first flush single sample		<0.0019	0.087	0.078	<0.005	0.063	0.31	0.238	0.0086	7.55	1.31	1.3	<0.04	<0.04	2410	2230	<0.01	<0.005	5.76	5.89	NULL
	winter	n	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
		%nd	100%	0%	40%	100%	40%	0%	20%	0%	0%	20%	0%	20%	20%	0%	20%	100%	100%	0%	20%	0%
		min	0.0019	0.05	0.05	0.005	0.02	0.282	0.02	0.0062	7.20	0.05	0.49	0.040	0.040	2220	50	0.01	0.01	5.51	0.05	109.1
		max	0.0019	0.092	0.082	0.005	0.064	0.76	0.916	0.018	7.68	1.06	0.95	0.060	0.095	4610	5340	0.01	0.01	6.12	6.20	117.9
		mean	0.0	0.1	0.063	0.005	0.032	0.498	0.355	0.012	7.48	0.64	0.74	0.050	0.054	3138	2778	0.01	0.01	5.79	4.80	114.3
		sd	0.0	0.0	0.014	0.000	0.017	0.160	0.300	0.004	0.17	0.35	0.17	0.007	0.021	797	1684	0.00	0.00	0.23	2.38	3.8
SW0709B-6A	first flush single sample			0.106	0.05	0.0059	0.138	1.92	0.376	0.038	7.41	0.603	0.65	0.105	0.088	7650	5980	<0.01	<0.005	4.54	4.55	85.7

Table 1, continued

			Strontium	Strontium	Sulphur	Sulphur	Sulphate	Sus. Solids	Temperature	Thallium	Thallium	Tin	Tin	Titanium	Titanium	Turbidity	Uranium	Uranium	Vanadium	Vanadium	Zinc	Zinc	Zirconium	Zirconium
			TOT	DISS	TOT	DISS	DISS	TOT	NA	TOT	DISS	TOT	DISS	TOT	DISS	NA	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS
			µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	°C	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	BC ENV FW	max						26 [14]	17 [13]	0.3				2,000 [1]		9 [15]	8.5 [1]				33-98 [16]			
	Aquatic Life Guidelines	mean						6 [14]		0.8				4,600		3 [15]					7.5-72 [16]			
SW0592	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	20%	20%	0%	0%	0%	60%	60%	100%	100%	0%	80%	0%	0%	0%	0%	0%	0%	0%	60%	80%
		min	146	143	3	3	9	2.8	15	0.002	0.002	0.2	0.2	5.6	0.5	6.4	0.213	0.201	1.83	1.49	1.6	0.43	0.1	0.1
		max	187	169	8	8	26	10	17.4	0.0059	0.0027	0.2	0.2	8.3	12.3	9.7	0.527	0.568	3.09	3.76	2.7	1.88	0.16	0.14
		mean	157	155	5.7	5.4	18.1	7	15.7	0.0028	0.0022	0.2	0.2	7.1	2.9	7.96	0.377	0.384	2.51	2.27	2.1	0.85	0.1	0.1
		sd	15	9	1.7	1.6	6.0	3	0.9	0.0015	0.0003	0.0	0.0	1.1	4.7	1.20	0.106	0.124	0.40	0.78	0.4	0.53	0.0	0.0
	first flush single sample		129	114	9.3	8.3	29	48	14.4	0.0086	0.0052	<0.2	<0.2	62.9	1.32	63.4	0.295	0.196	7.98	2.99	17.4	2.73	0.46	0.13
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	40%	20%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		min	101	94	8	8	26	3.2	6	0.002	0.002	0.2	0.2	6.2	0.6	7.3	0.204	0.140	2.60	2.08	2.7	1.58	0.2	0.1
		max	215	211	24	24	76	31	12	0.0076	0.0035	0.2	0.2	44.1	3.3	41.8	0.837	0.789	6.22	3.29	13.0	3.90	0.48	0.26
		mean	174	177	17.1	17.0	54.6	14	9.0	0.0035	0.0027	0.2	0.2	21.1	1.6	19	0.525	0.494	3.87	2.59	7.4	2.61	0.31	0.19
		sd	39	42	5.7	5.7	18.0	12	2.2	0.0021	0.0006	0.0	0.0	16.6	1.0	14	0.205	0.215	1.42	0.42	4.3	0.88	0.12	0.05
SW0592-4	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	60%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	60%
		min	135	133	4	4	13	4.0	16	0.002	0.002	0.2	0.2	2.3	0.6	2.4	0.222	0.213	1.50	1.39	1.1	0.20	0.1	0.1
		max	185	167	8	7	22	140	21	0.0176	0.0020	0.2	0.2	128.0	1.7	181	0.839	0.560	14.50	3.78	26.0	2.07	0.53	0.13
		mean	158	153	5.6	5.4	17.2	35	18.2	0.0057	0.0020	0.2	0.2	29.4	1.1	43	0.377	0.313	4.48	2.02	6.6	0.95	0.21	0.11
		sd	21	13	1.4	0.9	3.3	52	1.8	0.0061	0.0000	0.0	0.0	49.4	0.4	69	0.235	0.130	5.03	0.89	9.7	0.63	0.16	0.01
	first flush single sample		91.3	90	6.3	6.1	20	6.4	14.3	0.0035	0.0037	<0.2	<0.2	22	1.08	20.2	0.244	0.202	3.65	2.3	8.8	3.15	0.24	<0.1
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	0%	0%	0%	0%	0%	20%	20%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		min	121	117	10	11	34	6.8	6	0.002	0.002	0.2	0.2	9.1	0.7	11.3	0.281	0.195	3.05	2.50	5.0	2.18	0.2	0.2
		max	257	238	34	31	110	30	13	0.0110	0.0062	0.2	0.2	59.6	3.4	73.4	0.932	0.838	9.43	4.64	18.2	7.64	0.55	0.29
		mean	202	200	22.6	21.8	71.6	18	9.3	0.0053	0.0037	0.2	0.2	31.1	1.7	35.8	0.576	0.512	5.58	3.27	10.5	3.92	0.3	0.2
		sd	47	44	8.5	7.1	26.4	10	2.6	0.0030	0.0015	0.0	0.0	22.6	0.9	25.7	0.210	0.204	2.34	0.73	5.2	1.99	0.2	0.1
SW0709B-2A	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	100%	100%	0%	0%	0%	80%	100%	100%	100%	40%	100%	0%	0%	0%	0%	20%	20%	0%	100%	100%
		min	56	53	3	3	3	1.6	14	0.002	0.002	0.2	0.2	1.4	0.5	1.6	0.009	0.008	0.34	0.20	0.5	0.23	0.1	0.1
		max	70	65	3	3	3	4.4	16	0.0057	0.0020	0.2	0.2	4.1	0.5	2.7	0.017	0.014	0.89	0.34	1.1	0.65	0.10	0.10
		mean	63	60	3.0	3.0	3.0	3	14.9	0.0027	0.0020	0.2	0.2	2.7	0.5	2.2	0.013	0.011	0.56	0.29	0.9	0.35	0.1	0.1
		sd	5	5	0.0	0.0	0.2	1	0.7	0.0015	0.0000	0.0	0.0	1.1	0.0	0.4	0.003	0.002	0.19	0.05	0.2	0.15	0.0	0.0
	first flush single sample		45.3	46.5	<3	<3	5.6	13	14.4	0.0032	<0.002	<0.2	<0.2	11.1	<0.5	10.5	0.0214	0.0069	1.23	0.69	5.7	1.38	0.11	<0.1
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	20%	100%	80%	0%	0%	0%	60%	80%	100%	100%	0%	20%	0%	0%	20%	0%	20%	20%	0%	20%	80%
		min	43	0	3	3	5	2.4	6	0.002	0.002	0.2	0.2	4.1	0.5	2.6	0.011	0.002	0.45	0.20	0.9	0.28	0.1	0.1
		max	56	58	3	3	10	210	12	0.0028	0.0024	0.2	0.2	19.2	22.2	10.2	0.025	0.028	1.40	1.47	6.1	2.87	0.23	0.36
		mean	49	41	3.0	3.1	7.1	46	9.1	0.0023	0.0021	0.2	0.2	10.6	5.1	5.9	0.017	0.013	0.85	0.58	2.5	1.30	0.2	0.2
		sd	6	21	0.0	0.2	1.8	82	2.1	0.0004	0.0002	0.0	0.0	6.2	8.6	3.1	0.006	0.009	0.36	0.45	1.9	1.10	0.0	0.1
SW0709B-4	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	100%	100%	0%	20%	0%	80%	100%	100%	100%	40%	100%	0%	20%	0%	0%	20%	20%	20%	100%	100%
		min	45	43	3	3	1	1	14	0.002	0.002	0.2	0.2	0.5	0.5	1.0	0.003	0.002	0.30	0.20	0.2	0.10	0.1	0.1
		max	54	50	3	3	2	2.4	17	0.0281	0.0020	0.2	0.2	2.0	0.5	1.4	0.191	0.006	0.84	0.37	4.2	0.58	0.10	0.10
		mean	49	46	3.0	3.0	1.3	2	15.1	0.0072	0.0020	0.2	0.2	1.1	0.5	1.2	0.042	0.004	0.47	0.29	1.3	0.25	0.1	0.1
		sd	3	2	0.0	0.0	0.2	1	0.9	0.0104	0.0000	0.0	0.0	0.5	0.0	0.1	0.075	0.001	0.20	0.05	1.5	0.17	0.0	0.0
	first flush single sample		41.7	42.1	<3	<3	1.3	4	14	0.0024	<0.002	<0.2	<0.2	2.7	<0.5	3.43	0.0067	0.003	0.36	0.3	<1	0.17	<0.1	<0.1

Table 1, continued

			Strontium	Strontium	Sulphur	Sulphur	Sulphate	Sus. Solids	Temperature	Thallium	Thallium	Tin	Tin	Titanium	Titanium	Turbidity	Uranium	Uranium	Vanadium	Vanadium	Zinc	Zinc	Zirconium	Zirconium
			TOT	DISS	TOT	DISS	DISS	TOT	NA	TOT	DISS	TOT	DISS	TOT	DISS	NA	TOT	DISS	TOT	DISS	TOT	DISS	TOT	DISS
			µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	°C	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	BC ENV FW	max						26 [14]	17 [13]	0.3				2,000 [1]		9 [15]	8.5 [1]				33-98 [16]			
	Aquatic Life Guidelines	mean						6 [14]		0.8				4,600		3 [15]					7.5-72 [16]			
SW0709B-4	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	20%	100%	100%	0%	20%	0%	60%	80%	80%	100%	0%	20%	0%	0%	20%	0%	20%	20%	0%	40%	40%
		min	37	0	3	3	3	1.0	6	0.002	0.002	0.2	0.2	4.4	0.5	2.4	0.006	0.002	0.40	0.20	0.6	0.18	0.1	0.1
		max	42	41	3	3	5	4.8	12	0.0040	0.0026	0.7	0.2	27.3	14.2	10.8	0.018	0.016	1.76	1.12	6.1	1.44	0.19	0.18
		mean	40	32	3.0	3.0	4.0	3	8.7	0.0026	0.0021	0.3	0.2	13.5	4.3	5.8	0.012	0.008	0.89	0.53	2.3	0.53	0.1	0.1
		sd	2	16	0.0	0.0	1.0	1	1.9	0.0008	0.0002	0.2	0.0	8.7	5.1	3.2	0.005	0.004	0.49	0.33	2.0	0.46	0.0	0.0
SW0709B-5	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	100%	100%	20%	0%	0%	60%	100%	100%	100%	60%	100%	0%	20%	80%	0%	20%	40%	20%	100%	100%
		min	45	43	3	3	1	1.2	17	0.002	0.002	0.2	0.2	0.5	0.5	0.8	0.003	0.002	0.28	0.20	0.1	0.10	0.1	0.1
		max	53	52	3	3	2	2.4	19	0.0417	0.0020	0.2	0.2	2.0	0.5	1.0	0.273	0.002	0.87	0.28	5.0	0.18	0.10	0.10
		mean	50	47	3.0	3.0	1.5	2	17.9	0.0108	0.0020	0.2	0.2	0.9	0.5	0.9	0.058	0.002	0.44	0.25	1.4	0.13	0.1	0.1
		sd	4	3	0.0	0.0	0.3	0	0.6	0.0155	0.0000	0.0	0.0	0.6	0.0	0.1	0.107	0.000	0.22	0.03	1.8	0.03	0.0	0.0
	first flush single sample		41	41	<3	<3	1.7	4	16.1	0.0021	<0.002	<0.2	<0.2	<2	<0.5	1.75	<0.005	<0.002	<0.2	<0.2	<1	0.19	<0.1	<0.1
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	20%	100%	100%	0%	40%	0%	100%	100%	100%	100%	40%	60%	0%	40%	40%	60%	80%	80%	20%	100%	100%
		min	37	0	3	3	2	1.0	6	0.002	0.002	0.2	0.2	2.0	0.5	1.9	0.004	0.002	0.20	0.20	0.3	0.10	0.1	0.1
		max	53	52	3	3	9	4.0	13	0.0020	0.0020	0.2	0.2	3.0	1.3	2.9	0.009	0.008	0.30	0.24	1.0	0.30	0.10	0.10
		mean	44	36	3.0	3.0	5.5	2	9.1	0.0020	0.0020	0.2	0.2	2.3	0.7	2.5	0.006	0.004	0.22	0.21	0.9	0.24	0.1	0.1
		sd	7	19	0.0	0.0	2.8	1	2.5	0.0000	0.0000	0.0	0.0	0.4	0.3	0.4	0.002	0.002	0.04	0.02	0.3	0.07	0.0	0.0
SW0709B-6	summer	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	0%	100%	100%	40%	20%	0%	40%	100%	100%	100%	20%	100%	0%	0%	40%	0%	20%	0%	0%	100%	100%
		min	40	35	3	3	1	1.0	14	0.002	0.002	0.2	0.2	0.5	0.5	1.3	0.004	0.002	0.47	0.20	0.5	0.29	0.1	0.1
		max	44	40	3	3	2	6.4	16	0.0326	0.0020	0.2	0.2	4.3	0.5	4.8	0.215	0.004	1.06	0.33	4.5	0.55	0.10	0.10
		mean	41	38	3.0	3.0	1.2	4	14.7	0.0087	0.0020	0.2	0.2	3.1	0.5	3.4	0.047	0.003	0.65	0.28	1.6	0.40	0.1	0.1
		sd	2	2	0.0	0.0	0.3	2	0.8	0.0120	0.0000	0.0	0.0	1.4	0.0	1.2	0.084	0.001	0.22	0.04	1.4	0.09	0.0	0.0
	first flush single sample		37	36.3	<3	<3	1.6	4.4	13.4	<0.002	<0.002	<0.2	<0.2	2.8	<0.5	3.32	<0.005	0.002	0.27	0.23	1.4	0.65	<0.1	<0.1
	winter	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		%nd	0%	20%	100%	100%	0%	20%	0%	60%	80%	100%	100%	0%	20%	0%	20%	20%	0%	40%	40%	0%	60%	40%
		min	33	0	3	3	1	1.0	7	0.002	0.002	0.2	0.2	2.0	0.5	1.2	0.004	0.002	0.30	0.20	0.9	0.21	0.1	0.1
		max	35	37	3	3	3	4.8	11	0.0023	0.0023	0.2	0.2	17.1	16.8	8.2	0.016	0.020	0.95	1.28	2.4	1.81	0.19	0.28
		mean	34	28	3.0	3.0	2.1	2	8.5	0.0021	0.0021	0.2	0.2	8.4	4.3	4.2	0.009	0.007	0.61	0.49	1.4	0.73	0.1	0.1
		sd	1	14	0.0	0.0	0.8	1	1.3	0.0001	0.0001	0.0	0.0	6.1	6.3	2.7	0.004	0.007	0.28	0.40	0.6	0.56	0.0	0.1
SW0709B-6A	first flush single sample		33	31	<3	<3	2.6		8.8	0.0081	<0.002	<0.2	<0.2	81	10.1	26.5	0.0363	0.0086	4.3	1.04	5.3	0.78	0.4	0.29

Table notes on next page

Table 1, continued

Notes:

Statistics calculated with the detection limit where values were not detected.
BC ENV approved water quality guidelines for protection of freshwater aquatic life applied unless otherwise stated.
Minimum upstream hardness average (44 mg/L) was used to calculate lowest level of hardness-dependant water quality guidelines for screening purposes.
samples that exceeded the minimum guideline were highlighted to be assessed based on the guideline associated with their sample hardness
DISS = dissolved state, TOT = total state

* Laboratory samples were rerun due to unusual results and initially higher dissolved than total concentrations
1 BC ENV working water quality guideline
2 hardness-dependant; max (e[1.03 * ln(Hss) - 5.274]) ranges from 0.19 to 0.65 µg/L Cd; average (e[0.736 * ln(Hss) - 4.943]) ranges from 0.11 to 0.30 µg/L Cd
3 Cr(IV) / Cr (III)
4 Site-specific BC Biotic Ligand Model guidelines for dissolved copper
5 Minimum values for dissolved oxygen
6 Average guideline is a geomean of 400 CFU/100 mL for E.coli; E.coli values in the average row are geomeans.
7 If hardness >8 mg/L : e(1.273 ln (hardness) - 1.460; if hardness <8 mg/L : 3 ug/L total lead; if mean hardness > 8 mg/L CaCO3 then, 3.31 + e(1.273 ln (mean hardness) - 4.704) ug/L total lead
8 0.01102 hardness + 0.54 maximum mg/L total Mn; 0.0044 hardness + 0.605 average mg/L total Mn
9 25 ug/L total Ni if hardness is < or = 60 mg/L $CaCO_3$, 110 ug/L Ni at hardness >60 to 180 mg/L as $CaCO_3$, 150 ug/L Ni at hardness of 120 to 180 mg/L as $CaCO_3$
10 Draft Vancouver Island Objective, applies to monthly samples collected June to September; our data was collected four times in 30 days in November
11 Optimum pH range
12 0.1 ug/L Ag max, 0.05 ug/L Ag ave if hardness is <=100 mg/L; otherwise 3 mg/L Ag max, 1.5 mg/L Ag ave
13 Draft objective proposed to protect juvenile Coho (the most sensitive species); average weekly temperature at any location in the creeks
14 25 and 5 mg/L over ambient levels of 2 mg/L in the upper Sooke River watersheds
15 Max: 9 NTU (8NTU above ambient levels in the upper Sooke River watershed) at any time during clear flow periods, and average 3 NTU (2NTU above ambient levels during clear flow periods
16 If H is >90 mg/L then 33 +0.75 (hardness-90); if H is less < or = 90 mg/L then 33 ug/L or 0.033 mg/L; if H is >90 then 75+0.75(hardness-90); if less < or = 90 then 7.5 ug/L or 0.0075 mg/L

xx	value exceeds the provincial guideline protective for aquatic life
xx	italicized value exceeds a guideline/objective which is only partially applicable. Further investigation is needed.

Sampling Locations:	
SW0592	Noble Creek (Noble Watershed), north side of 5575 Parker Road (EMS#: E310111)
SW0592-4	Noble Creek (Noble Watershed), McHugh Creek, downstream of Martindale Road (includes potential highway runoff along Martindale Road) (EMS#: E310113)
SW0709B-2A	Craigflower Creek, under Talcot Road and the HWY, near fish fence (EMS#: E305675)
SW0709B-4	Craigflower Creek (Craigflower Watershed) at Riverside Drive, upstream of retention pond
SW0709B-5	McKenzie Creek (Craigflower Watershed) upstream of Highland Road
SW0709B-6	Craigflower Creek (Craigflower Watershed) upstream of Highland Road (EMS#: E305676)

APPENDIX G

CRD PUBLIC HEALTH AND

ENVIRONMENTAL CONCERN RATING SYSTEM

STORMWATER DISCHARGE RATING SYSTEM

The CRD evaluates stormwater discharges for public health and environmental concerns using a rating system for stormwater discharges developed by the CRD titled Stormwater *Discharge Rating System for the Capital Regional District* (Drinnan, 1997). As part of the rating system, the following study was used to determine levels of public use, coastline habitat sensitivity and flushing characteristics of the marine receiving waters: *An Evaluation of the Coastline Sensitivity Associated with Stormwater Discharges on the Southern Coastal Shores (Drinnan, 1994).*

Public shoreline use ratings indicate the potential for public contact with stormwater. These ratings were updated in 2010 and continue to be updated when necessary, mostly where single discharge access changes overtime.

The rating of discharges allows the jurisdictions involved to better manage limited funds and undertake remedial measures where necessary. A copy of the rating system and the coastline sensitivity evaluations are available upon request from the CRD. A brief explanation of the stormwater discharge rating system follows.

Public Health Concern

Integrated Watershed Management Program (IWMP) staff rate each discharge as a high, moderate or low level of concern for public health based on the level of contamination in the stormwater and the potential for human contact. The parameters used to assess the level of concern for public health are:

- fecal coliform concentrations in the stormwater discharge
- discharge flow
- location of the discharge (e.g., below high-water line)
- public use of the shoreline (uses such as swimming, fishing, or kayaking)

The level of contamination is used to assign a fecal coliform rating. Public shoreline use ratings are used to indicate the potential for public contact with stormwater and depends on the type of activities carried out on the shoreline. Table 1 shows criteria for the fecal coliform and shoreline public use ratings.

Table 1 Fecal Coliform and Public Shoreline Use Rating Criteria

Fecal Coliform Rating		Public Shoreline Use Rating	
Rating	Criteria	Rating	Criteria
1	No flow measured or FC count consistently under 200 CFU/100 mL	1	Low contact (e.g., inaccessible, beach walking)
2	FC count between 200 and 5,000 CFU/100 mL	2	Secondary contact (e.g., kayaking)
3	FC count greater than 5,000 CFU/100 mL	3	Primary contact (e.g., swimming, scuba diving)

Notes:
FC = fecal coliform
Fecal coliform counts above 200 CFU/100 mL (on average) indicate the potential to cause adverse public health effects from primary recreational activities such as swimming or diving.

Environmental Concern

Environmental concerns are based on a contaminant rating of discharge sediments. The contaminant rating is determined by comparing the sediment concentration of each of eight metals and two groups of organic contaminants (Cn) with the CRD MSQG to obtain a ratio (Cn/MSQG). To account for potential additive effects, these ratios are summed to calculate the toxic equivalent unit (TEU). Table 2 provides the criteria for determining the contaminant rating.

Table 2 Criteria for Determining the Contaminant Rating

Contaminant Rating	Criteria for Determining the Contaminant Rating
Low	Sum of the individual ratios of Cn/MSQG (TEU) is less than 1.0
Moderate	Sum of the individual ratios of Cn/MSQG (TEU) is greater than or equal to 1.0, but no individual parameter exceeds, or is equal to, a value of 0.75
High	The ratio Cn/MSQG is greater than, or equal to, 0.75 for any single parameter

Discharges evaluated are located near environmentally sensitive areas, in creeks or near heavily settled areas where there is an increased probability of pollution. All discharges sampled for environmental concern are sampled for at least two years to confirm the contaminant concentrations and contaminant(s) of concern. Only a small number of discharges can be sampled each year due to budgetary constraints; therefore, each discharge selected for sampling can only be sampled once per year.

Discharges with a confirmed high contaminant rating are investigated to determine the source(s) of contamination. The priority in which high-rated discharges are investigated and problems mitigated is determined by calculating a habitat rating (high, moderate or low). The habitat rating is based on the habitat sensitivity, discharge flow and marine flushing characteristics. The following briefly describes the rating criteria for the habitat rating.

Table 3 Criteria for Determining Ratings for Habitat Sensitivity, Discharge Flow and Marine Flushing

Habitat Sensitivity Rating		Discharge Flow Rating		Marine Flushing Ratings	
Rating	Criteria	Rating	Criteria	Rating	Criteria
1	Low productivity; less diverse habitats	0.5	Less than 50 L/minute	0.5	Open shoreline; high flushing
2	Moderate productivity; diverse habitats	1	Between 50 to 500 L/minute	1	Partially enclosed area; moderate flushing
3	High productivity or endangered or protected habitats	1.5	Greater than 500 L/minute	1.5	Enclosed area; poor flushing

These three ratings (habitat sensitivity, discharge flow and marine flushing) are summed to determine a habitat rating as shown in Table 4. The habitat rating assigned to each discharge will allow limited resources to be spent in a prioritized manner.

Table 4 Criteria for Establishing the Habitat Rating

Habitat Rating and Mitigative Priority	Sum of Criteria (Habitat + Flow + Flushing)
Low	2.0-3.0
Moderate	3.5-4.5
High	5.0-6.0

OTHER CONCERNS

There are a number of other concerns that have been jointly reviewed and discussed by staff from IWMP and the other jurisdictions involved. This review and discussion assists in setting priorities for remediation of discharges with a high level of concern for public health and the environment. These include:

- the cost of remediation
- the likelihood that remediation will be successful
- compatibility with the priorities of the jurisdictions
- public interest