



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

Municipal Hall
1229 Esquimalt Road
Esquimalt, B.C. V9A 3P1

Staff Report

File #: 17-217

REQUEST FOR DECISION

DATE: May 23, 2017

Report No. EPW-17-024

TO: Laurie Hurst, Chief Administrative Officer

FROM: Jeff Miller, Director of Engineering and Public Works

SUBJECT:

Traffic Management Plan for Waste Water Treatment Plant

RECOMMENDATION:

That Council approves the Traffic Management Plan for the McLoughlin Point Waste Water Treatment Plant as attached to Staff Report EPW-17-024.

RELEVANT POLICY:

Not Applicable

STRATEGIC RELEVANCE:

Well Managed and Maintained Infrastructure - participate in integrated waste strategies.

Well Managed and Maintained Infrastructure - identify infrastructure repair and proactively plan for replacement needs.

BACKGROUND:

The CRD is moving forward with the construction of the regional Waste Water Treatment Plant at McLoughlin Point. As part of this project, the Community Impact Mitigation and Operating Agreement (A1) and the Host Community Impact 5-Year Agreement (A2) were developed between the Township and the CRD. Each of these agreements examines the role of each participant and how they will undertake various activities.

One of the clauses in the A2 agreement deals with traffic management during the construction phase. As per this clause, the CRD and Contractor will be responsible for the development of a Traffic Management Plan (Plan) that will be acceptable to the Township. This Plan shall at a minimum include processes for:

- Determining routing of workers and goods to and from the various sites of the Waste Water

Treatment Plant.

- Determining streets where no Waste Water Treatment Plant-related traffic is allowed except in emergency.
- Specifying streets where no Waste Water Treatment Plant related traffic is permitted.
- Specify staging areas to reduce truck parking on roadways while waiting to make deliveries of materials.
- Specifying hours of operation for Waste Water Treatment Plant-related traffic.
- Specifying measures to reduce and mitigate noise, dust, and other impacts from Waste Water Treatment Plant-related truck traffic.
- Implementation of supplementary crossing guards where appropriate.
- Including other measures acceptable to the Township and implemented by the CRD and Contractor to address the trucking of materials through the Township and other traffic associated with the Waste Water Treatment Plant.

Agreement A2 ensures that the CRD/Contractor will be the primary parties for the implementation, monitoring, reporting and enforcement of the Plan. Agreement A2 also specifies that there will be monthly reporting by the CRD/Contractor to the Township on traffic management matters including number and frequency of trips by truck and purpose and identification of materials.

To aid the implementation of the agreements A1 and A2, a Liaison Committee will be created. This Committee will provide a forum for the discussion of issues relating to the construction and operation of the Waste Water Treatment Plant and other related activities. It will be formed with representatives from:

- The Township
- West Bay Neighbourhood Association
- Lyall Street Neighbourhood Association
- Department of National Defence
- CRD
- Waste Water Treatment Plant Contractor (until acceptance of the Waste Water Treatment Plant by the CRD)

This Committee has been formed and has held its first meeting. The next meeting is scheduled for June 7, 2017. During the construction phase, the Committee intends to meet on a bi-weekly basis in order to hear and understand concerns from the community and solutions by the CRD/Contractor on issues. As the project moves from the construction phase to operations, the meeting frequency will be adjusted as required. Once the Waste Water Treatment Plant is in operation, the meeting frequency will be at least twice per year.

Harbour Resource Partners (HRP) is the contractor for the Waste Water Treatment Plant project. They developed the Plan (see attachment A). It was based on their construction requirements and discussions with: Council, Township staff, Parent Advisory Councils, Department of National Defence and other stakeholders. The Township has also reviewed the Plan from various points of view including: Engineering/Public Works, Esquimalt Community Safety Working Group and senior administration. The Traffic Management Plan was also presented to the Liaison Committee at the

first meeting for a brief review.

ISSUES:

1. Rationale for Selected Option

A thorough review of the Plan has been carried out by the Township. The conclusion reached by staff is that the Plan meets the operational requirements and fulfills the needs of the Agreement. Part of the implementation of the Plan will be monitoring of it and ensuring that it meets the goals it proposes. Modification of the Plan may be required but staff and HRP are confident that any modifications will be carried out in a timely and orderly manner. It is staff's recommendation that Township approve the Plan.

2. Organizational Implications

There will be an impact on the Township as staff will be needed to monitor the implementation of the Plan. This monitoring work will be in consultation with HRP's Logistics Coordinator. As well, the Director of Engineering and Public Works will be the Township's representative on the Liaison Committee which will be kept abreast of the Plan's implementation and operation. This work has been added to the various staff members' work plans and can be accommodated into them.

3. Financial Implications

The cost of implementation, monitoring and operation of the Plan falls on the Waste Water Treatment Plant Project/CRD. There is negligible impact on the operating budget of the Township as the work plans of the staff members who participate in the implementation of the Plan will be incorporated into the current budget year.

4. Sustainability & Environmental Implications

Based on the review of the Plan, there are no sustainability or environmental implications.

5. Communication & Engagement

The Township, CRD and HRP will be conducting discussions in order to ensure that relevant information is provided on various web sites and social media outlets. Engagement of the residents will be through the Project or Liaison Committee.

ALTERNATIVES:

1. That Council approve the Traffic Management Plan for the McLoughlin Point Waste Water Treatment Plant as attached to Staff Report EPW-17-024.
2. That Council does not approve the Traffic Management Plan for the McLoughlin Point Waste Water Treatment Plant as attached to Staff Report EPW-17-024.

McLoughlin Point Wastewater Treatment Plant

Traffic Management Plan



Quality Information

Prepared by

J. Klarenbach

Checked by

J. Noble

Approved by

J. Klarenbach

Revision History

Revision	Revision Date	Details	Name	Position
1	April 26, 2017	Submission	J. Klarenbach	DBM
2	May 12, 2017	Submission	J. Klarenbach	DBM
3	May 16, 2017	Submission	J. Klarenbach	DBM

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1.0 INTRODUCTION

Harbour Resource Partners (HRP), which is a joint venture between AECOM Canada Ltd and Graham Infrastructure LP, has been contracted to design and build a new 108 ML/day wastewater treatment plant (WWTP) on McLoughlin Point. The construction of the WWTP will increase traffic within the surrounding community as a result of the construction activities. The purpose of the Traffic Management Plan is to:

- Consider the impact of construction on automotive and pedestrian traffic
- Identify designated traffic routing depending on the type and purpose
- Identify roadways that are not permitted for WWTP traffic
- Retain safety for all pedestrians and automotive traffic operating in surrounding area
- Identify the hours of work for WWTP truck traffic
- Control excessive noise and dust along the traffic route(s)
- Layout road detour for the off-site utility installation along Peters St.

2.0 TRAFFIC SEGREGATION & ROUTING

Construction traffic is categorized and segregated into specific routes to and from Esquimalt Road in order to manage the impact on residents living in the local area and provide consistency in which traffic will flow to and from the project:

- Truck Traffic
- Daily Workforce Traffic
- DND Laydown to Plant site

For illustration purposes Esquimalt Road is utilized as the boundary to traffic routing. See Appendix H for truck routes connecting McLoughlin Point with Swartz Bay and Rock Bay staging laydown for traffic outside of the Esquimalt Road.

In consideration of each route where possible we have evaluated multiple alternatives to arrive at our recommended traffic routing. These recommendations are described below and included in the Appendix for reference. Considerable attention has been made to areas such as Ecole Macaulay Elementary School, which are avoided to a greater extent to manage the impact in areas with increased pedestrian traffic. We remain committed to work with the Liaison Committee to incorporate reasonable changes timely to accommodate community feedback, special events and/or other construction activity in the area.

As communication and to maintain adherence to the designated traffic routes, HRP will be incorporating the maps provided in Appendix A as part of the commercial arrangement with each vendor prior to deliveries. (Eg: maps will be incorporated within Purchase Orders/Agreements.)

Appendix A – outlines the separate traffic routing as follows:

- Truck Traffic Route illustrated in red is the heavy truck traffic such as: concrete trucks, over size loads, rebar deliveries, gravel trucks, equipment and material deliveries on flat-bed trucks, cube vans, light vehicles, etc
- Daily Workforce Traffic illustrated in blue is the workforce traffic that is required for employees to support the construction activities such as: light vehicles, small busses/shuttles, etc

- DND Laydown to Plant Site illustrated in green is the truck and light vehicle traffic that will be travelling to and from the DND Laydown and the plant construction site. This traffic will include: over-size loads, cube vans, equipment and material deliveries, light vehicles, workforce shuttle and gravel trucks, etc.

2.1 Truck Traffic route

The truck traffic route was reviewed and evaluated utilizing three (3) alternate routes: namely Lampson, Macaulay and Head St. Criteria for evaluating each traffic route considers the risk potential, public interaction and disruption to local residents.

The truck traffic route is intended to be utilized to facilitate the material and equipment deliveries to and from the plant site. This traffic will include but not be limited to: concrete delivery trucks, tractor trailer units hauling earthworks, process equipment deliveries and general material deliveries, etc.

Appendix B contains the evaluation criteria and selection of the routing deemed the most appropriate for the truck traffic traveling from Esquimalt Road to the project site.

The selected routing of Head Street has been deemed to have the least risk with respect to public safety.

Appendix H contains the proposed routes beyond Esquimalt Road that will be utilized by truck traffic.

2.2 Workforce Traffic

Workforce traffic route was evaluated with three (3) alternatives, namely: Lampson, Fraser, and Head Street(s). Similar to the truck traffic evaluation the workforce traffic routes have been evaluated on the same criteria to determine a selected route that has the least risk to public safety. Appendix C illustrates the proposed routes and evaluation criteria. While workforce traffic enters the school zone(s) on a daily basis, this traffic is planned to occur well before and after school has commenced and concluded to align with the daily construction work hours. Furthermore, workforce traffic does not utilize the same route as transport deliveries to avoid a compounding frequency of travel over a specific route in effort to reduce additional impact on residents along the proposed routing.

The Ecole Macaulay Elementary PAC has recommended the use of Fraser Street for the workforce traffic at the end of shift. This has been considered based on the evaluation of Fraser Street and the additional risk, we determined this route to not be in the best interest of the residents and motorists. However, in consultation with the Liaison Committee we are willing to consider the alternate route of Fraser Street as noted by the PAC for use during the school calendar year if this is deemed beneficial by all stakeholders.

The workforce traffic route is intended to handle the craft workforce to/and from site. We have identified a parking area within the DND laydown area as a parking lot for adequate parking space due to the small worksite available at McLoughlin Point. Upon parking in the lot, transportation will be utilized to transfer workers to/from the plant site to reduce vehicular traffic on DND Workpoint.

2.3 Detour

During construction of the underground utility installation along Victoria View Road, Patricia Way and Peters St, up to the intersection with Lyall Street. The truck traffic route may not be useable due to the construction along Peters Street and an alternate detour (Appendix D) will be required short term for the truck traffic. The utility installation work along Peters Street is estimated for a four (4) week duration at which time the detour would be in place.

Detour signage will be installed at the appropriate intersections to identify the traffic route change. A risk identified during the detour timeframe is the intersection at Lyall and Macaulay as this is adjacent to Ecole Macaulay Elementary School. During school hours and the time when the detour is operational, a crossing guard will maintain this intersection to assist pedestrians.

3.0 SIGNAGE

Adequate signage outlining suitable traffic routes will be key to maintaining control and adherence to the traffic management plan. HRP will work in conjunction with Staff for the exact placement location of route signage to ensure adequate implementation. These signs will clearly delineate the Truck Traffic Route and Work Force Traffic Route for vendors and employees. The signage is proposed to begin at Esquimalt Road and the example locations can be found in Appendix E. Signage is planned to be 18in x 18in (45cm x 45cm), well within the 1m x 1m limit outlined in Bylaw 2252. Examples of the signage can be found in Appendix F.

Electronic sign boards (ESB) can be used to communicate increased Truck Traffic volumes to the public. Construction activities such as significant concrete pours will be communicated through the electronic message board located on Esquimalt Road in advance. For example: "Large Concrete Pour (3/10)". Please see Appendix E for the example location of the ESB and Appendix F for examples of the signs. Actual locations for the signs will be in mutual agreement with Staff.

Radar speed sign displaying the speed of the vehicles will be used on the work force traffic and truck traffic route as traffic calming and also to enforce posted speed limits. Please see Appendix E for an example of the proposed locations.

Traffic routes and periods with increased traffic will be communicated to the public through the CRD's website and a phone number and email address will be available for community inquiries.

4.0 STAGING AREA

Rock Bay staging and laydown area has been made available for intermediate staging of delivery loads and material/equipment laydown as required for use. This area is intended to be utilized for the duration of the construction. Specific to the traffic management, the staging area will be deployed for managing the frequency of deliveries, where required, to avoid trucks parking on roadways waiting to make deliveries of materials or equipment. During these times the staged trucks at Rock Bay would be released periodically when the Plant Site operations can adequately receive and unload such trucks in a timely manner.

5.0 HOURS OF WORK

Weekday Truck Traffic Hours will range between: 7:00am to 7:00pm

Truck Traffic will remain in compliance with Esquimalt's noise bylaw 2826 section 33(2).

Weekday Hours for Workforce Traffic will range between: 6:30am to 7:00pm

Standard Workforce Schedule is: 6:30am and 5:30pm

Construction work will take place Monday through Friday at the given times above. Occasionally, there will be a small work crew of approximately 20 persons on the weekends performing schedule sensitive work tasks.

6.0 NOISE & DUST MITIGATION

Excessive noise as a result of truck traffic utilizing engine retarders, excessive braking or excessive acceleration (except in an emergency situation) will not be tolerated by HRP. A Logistics Coordinator will be assigned to monitor the truck traffic and control the adherence with the vendors that are hired for deliveries. Should any vendor become in non-compliance with the Township of Esquimalt and DND bylaw(s) or HRP's expectations, the specific truck driver will not be permitted site access in the future until such time as reasonable, demonstrable actions have been implemented to prevent a reoccurrence.

Depending on weather conditions, truck traffic may create dust from time to time. To control the dust along the Truck Traffic route, HRP will use either a method of watering to roadway or sweeping to control and mitigate the dust nuisance. Again, HRP's Logistics Coordinator will monitor and control the dust mitigation activities. Further to the above, sweeping of the roadway will be performed to return the road to an agreed to condition. During bulk earthwork hauling of high frequency, sweeping of the Truck Traffic route to Esquimalt Road will be performed on a weekly basis and then as agreed otherwise.

If unforeseen materials become accidentally spilled on the public roadways during the transportation of earthworks from the plant site, HRP will immediately clean up upon identification any spoil material and restore the roadway to pre-spill condition.

7.0 RESTRICTIONS

Further mitigation to avoid public impact, HRP has determined specific streets within the Township of Esquimalt and Work Point where no WWTP related Truck Traffic is permitted with the exception to emergency situations related to the WWTP construction. The details of these exact streets are shown in Appendix G.

8.0 REPORTING

HRP will continually monitor the WWTP truck traffic and report on a monthly basis the quantity of truckloads delivered to and/or exported from the Plant Site. The report shall categorize the loads into construction materials, earthworks, equipment and temporary services, where possible.

Questions pertaining to the WWTP construction traffic can be directed to:

CRD WWTP Call Line: 1-844-815-6132

Questions received at this number will be responded to by HRP or CRD depending on the question or concern presented.

9.0 RISK IDENTIFICATION

In development of the traffic management plan. Specific risks have been identified as “sensitivities” due to the nature of the proposed route(s) and local community interaction. Mitigation measures have been noted to address each specific sensitivity to incorporate into the global traffic management for the project:

Sensitivity

Pedestrian interaction surrounding Ecole Macaulay Elementary School

Mitigation(s)

Dedicated truck routing has been proposed intentionally to avoid the direct interaction with the school zone(s) and specifically during school hours. Signage for delivery truck routes will clearly display the proper traffic pattern to avoid the school zone and playground.

Workforce traffic is proposed on Lampson Street. The workforce hours accommodate the school zone hours as the workers will start work before school and end work well after school hours have concluded. An electronic message sign visually demonstrating the speed of each vehicle, installed to create more awareness and attention for drivers to use utmost caution at all times. Please see Appendix F for the locations of the speed sign.

In consultation with the Ecole Macaulay PAC, HRP will look to supplement the PAC’s efforts with an additional two crossing guards to promote the pedestrian traffic safety in the area for the 2018 & 2019 school years.

Sensitivity

Intersection at Lyall and Head Street is not perpendicular

Mitigation(s)

Temporary construction signage to outline trucks turning during heavy traffic such as bulk earthmoving activities or significant concrete pours to be installed on both sides of the intersection to enhance awareness for all motorists.

Proposed to utilize this intersection to reduce residential impact along Gore St. and an awkward intersection with potential blind-spots

Sensitivity

Residential disruption along traffic routes

Mitigation(s)

Clearly defined and communicated traffic routes

Transport loads between 7:00am and 7:00pm reducing noise impact

Concrete delivery trucks may be outside the above noted hours; however, timely notification to be provided to the residents along the affected routes

Sequenced delivery, reduce convoy effect with transport loads back to back. Use of Rock Bay staging area where applicable

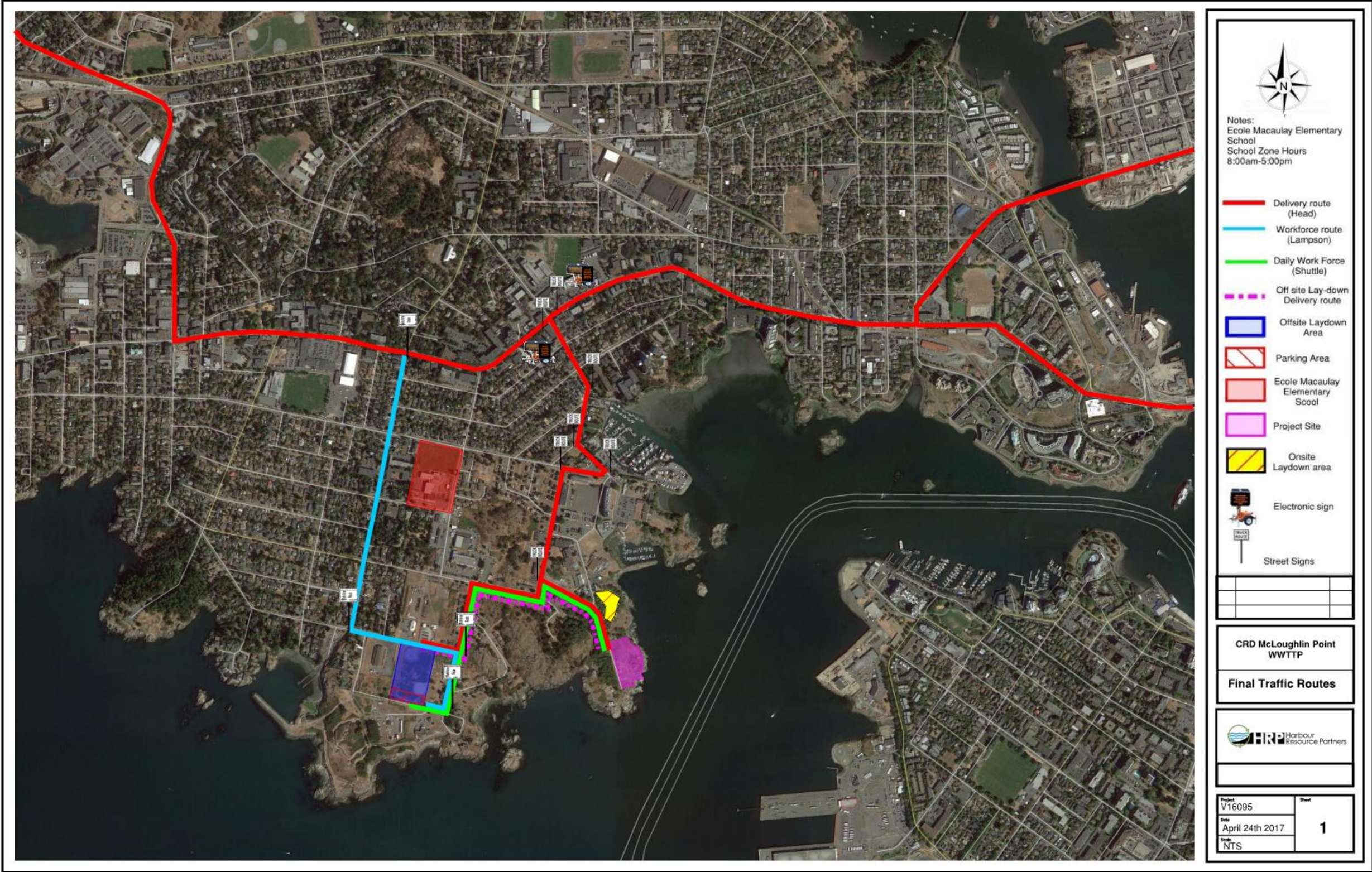
Sensitivity

Deliveries of materials and equipment to site

Mitigation(s)

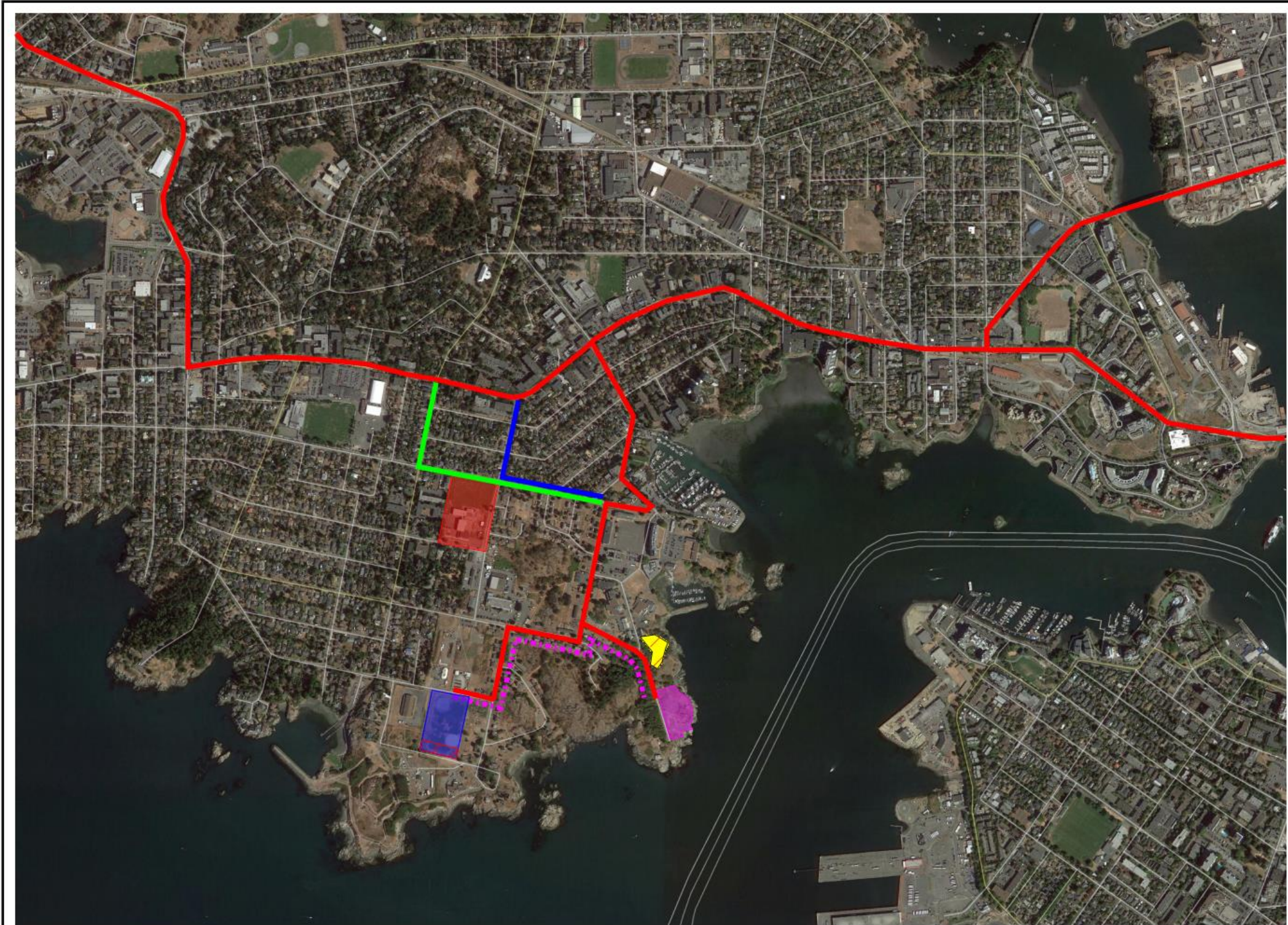
Deliveries will be sequenced and coordinated to avoid backups or excessive traffic on the roads leading to the plant. Deliveries will be scheduled during specific time periods and/or held at the Rock Bay site.


APPENDIX A – PROPOSED TRAFFIC ROUTES



APPENDIX B – TRUCK TRAFFIC ROUTE EVALUATION

No Criteria		Comment	Score Sheet	Head St	Lampson St	Macaulay St
1	Controlled Main Intersection	Esquimalt Road provides left hand turning lane and traffic lights at the intersection of Head and Lampson	Turning Lanes and Traffic Lights (controlled) on main intersections	●	●	●
2	Street Parking	Street parking of vehicles is more prominent on Lampson and Macaulay in comparison to Head. Street parking affects the width of roadway	Street parking whereby residents or others are parked on the side of the road affecting the overall width of travel surface	●	●	●
3	Residential Driveways	Head St: 34, Lampson 54, Macaulay: 34	Do any of the routes interact with a large amount of residential driveways where	●	●	●
4	Pedestrian Interaction	Head St: 6, Lampson 8, Macaulay: 6	Pedestrian crosswalks entered along each route	●	●	●
5	Travel Time		Travel time per route	●	●	●
6	School Zone Interaction	Head St. has no school zone interaction, Lampson St enters the school zone and Macaulay has left turn at the school zone	Do the proposed route enter a school zone?	●	●	●
7	Road Condition		Width, Asphalt condition, smoothness	●	●	●
8	Final Evaluation			●	●	●





Notes:
Ecole Macaulay Elementary
School
School Zone Hours
8:00am-5:00pm

Delivery route
(Head)

Delivery route
(Macaulay)

Delivery route
(Lampson)

Off site Lay-down
Delivery route

Offsite Laydown
Area

Parking Area


Ecole Macaulay
Elementary
School

Project Site

Onsite
Laydown area

CRD McLoughlin Point
WWTP

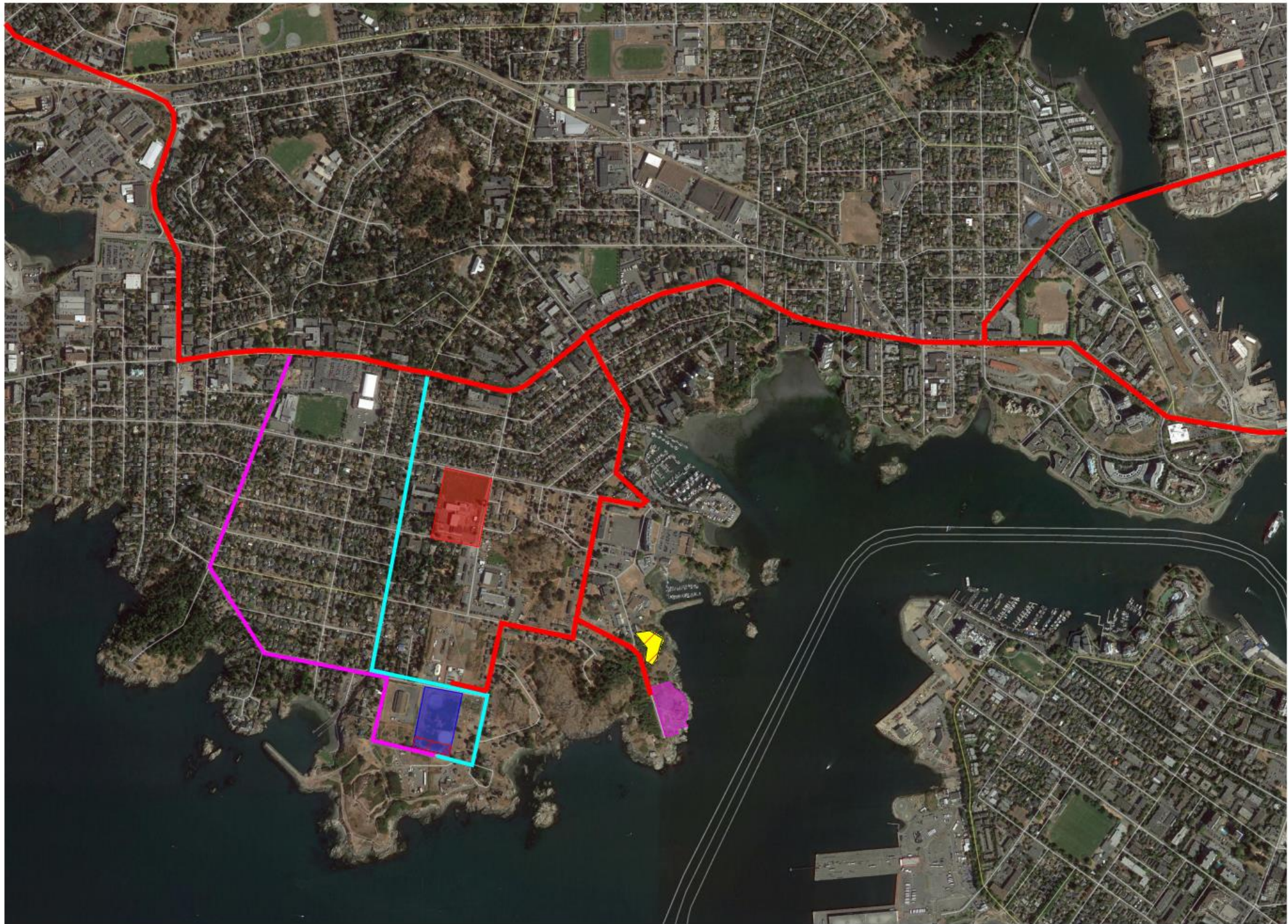
Truck Route
Evaluation



Project: V16095	Sheet:
Date: April 24th 2017	1
Scale: NTS	

APPENDIX C – WORKFORCE TRAFFIC ROUTE EVALUATION

No. Criteria		Comment	Score Sheet	Head St	Lampson St	Fraser St
1	Controlled Main Intersection	Esquimalt Road provides left hand turning lane and traffic lights at the intersection of Head and Lampson. No traffic lights at Fraser	Turning Lanes and Traffic Lights (controlled) on main intersections	●	●	●
2	Street Parking	Street parking of vehicles is more prominent on Lampson and Fraser in comparison to Head. Street parking affects the width of roadway	Street parking whereby residents or others are parked on the side of the road affecting the overall width of travel surface	●	●	●
3	Residential Driveways	Head St: 47, Lampson 47, Fraser: 75	Do any of the routes interact with a large amount of residential driveways where	●	●	●
4	Pedestrian Interaction	Head St: 7, Lampson 4, Fraser: 5	Pedestrian crosswalks entered along each route	●	●	●
5	Travel Time		Travel time per route	●	●	●
6	School Zone Interaction	Head St. has no school zone interaction, Lampson St enters the school zone and Fraser passes community Rec Centre	Do the proposed route enter a school zone?	●	●	●
7	Road Condition	All roads are in similar condition. Fraser St has a higher residential concentration and narrower streets. Head St is utilized as a truck route so recommend we reduce traffic on this route	Width, Asphalt condition, smoothness	●	●	●
8	Final Evaluation			●	●	●



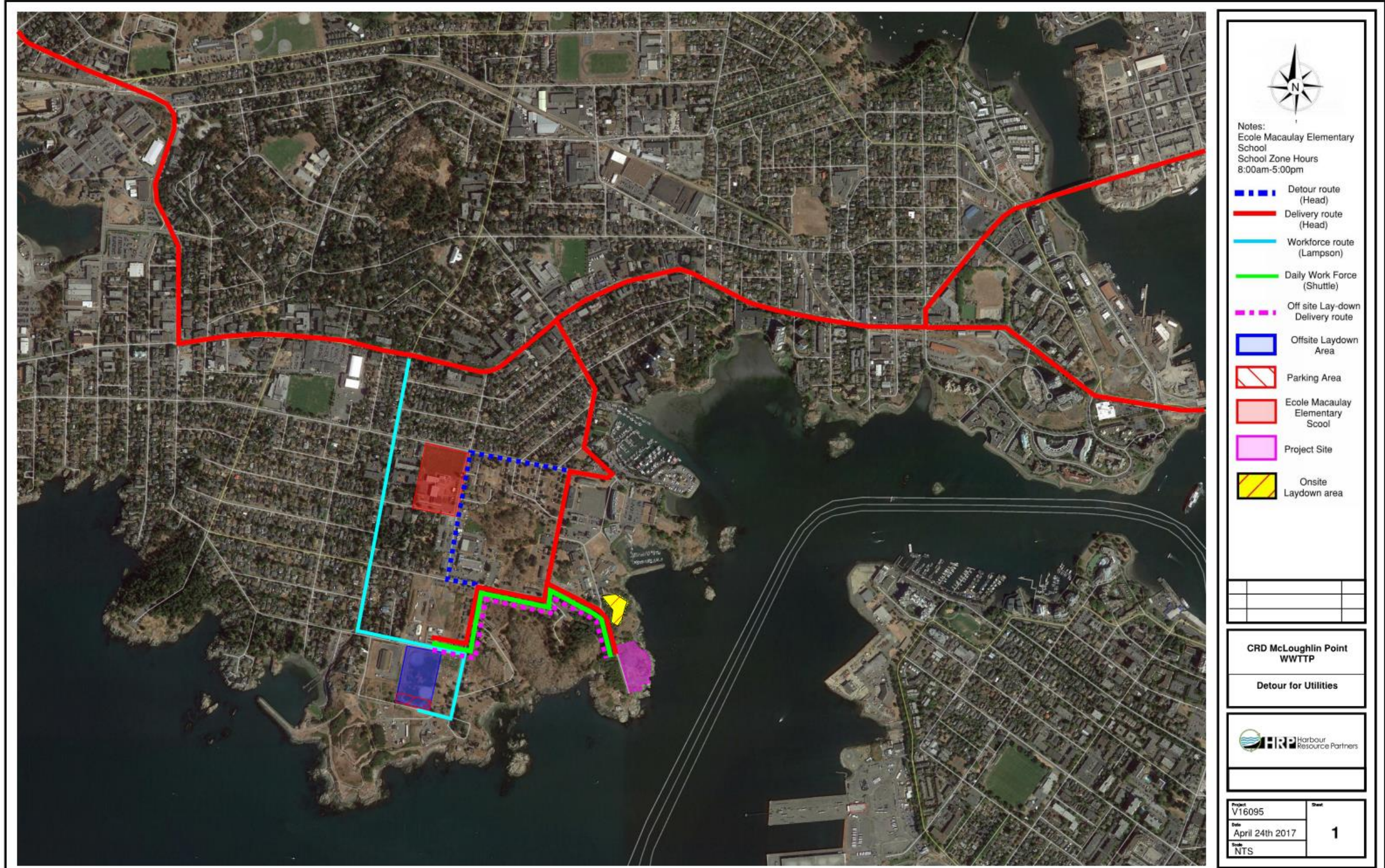


Notes:
Ecole Macaulay Elementary
School
School Zone Hours
8:00am - 5:00pm
Workforce Daily Traffic Hours
6:30-8:00am
4:00-5:30pm

- Workforce route (Lampson)
- Workforce route (Head)
- Workforce route (Fraser)
- Daily Work Force (Shuttle)
- Offsite Laydown Area
- Parking Area
- Ecole Macaulay Elementary School
- Project Site
- Onsite Laydown area

CRD McLoughlin Point WWTP	
Workforce Traffic Route	
	
Project V16095	Sheet 1
Date April 24th 2017	
Scale NTS	


APPENDIX D – DETOUR FOR UTILITIES




APPENDIX E – SIGNAGE PLACEMENT








Location of
Truck Delivery
Route Signs




CRD McLoughlin Point
WWTP

Example Route Sign
Locations



Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	






Location of Truck
Delivery Route
Signs

●

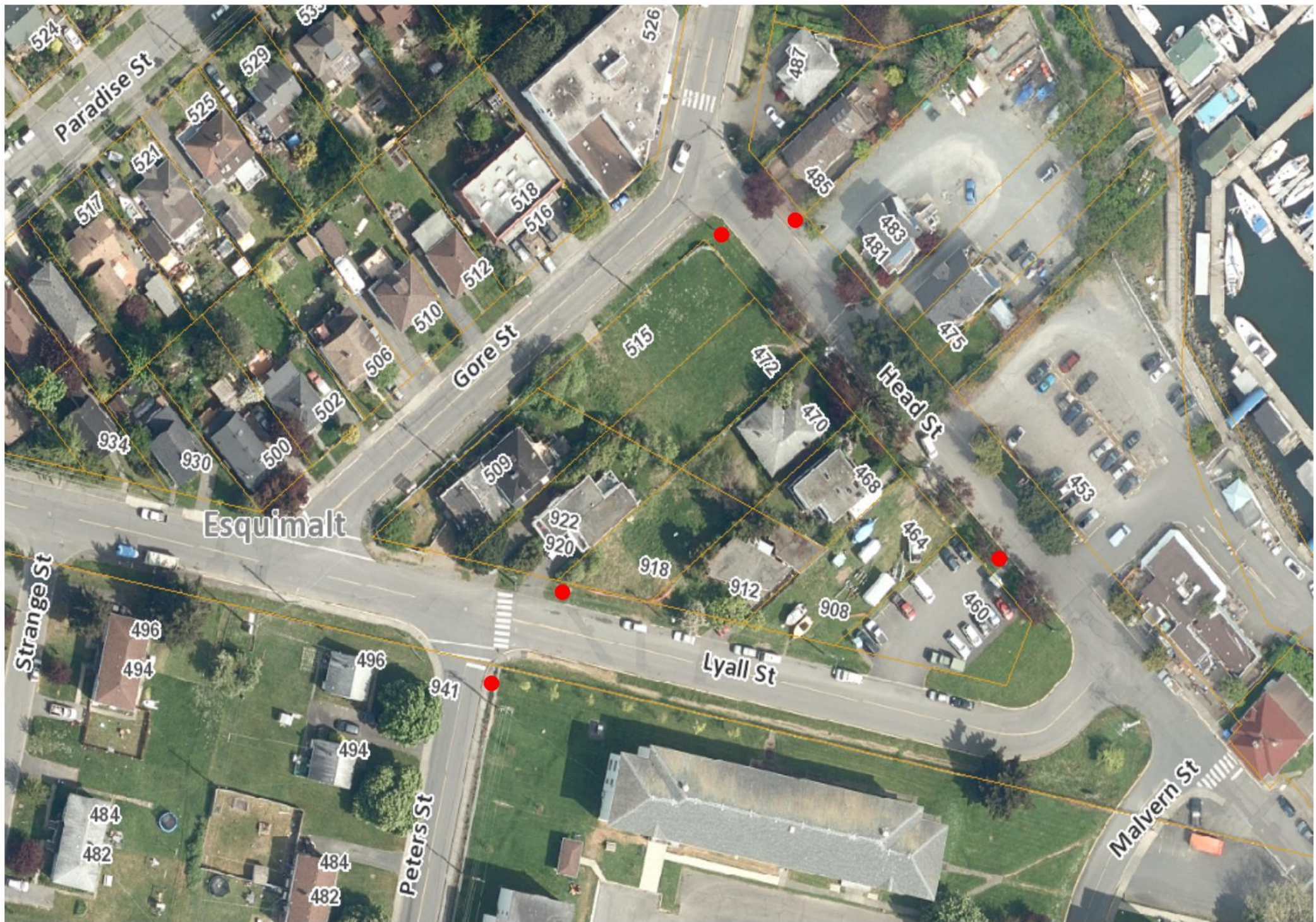
CRD McLoughlin Point
WWTP


Example Route Sign
Locations



HRP Harbour
Resource Partners

Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	





Location of
Truck Delivery
Route Signs

CRD McLoughlin Point
WWTP
Example Route Sign
Locations



Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	






Location of Truck
Delivery Route
Signs

●

CRD McLoughlin Point
WWTP

Example Route Sign
Locations



HRP Harbour
Resource Partners

Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	





Location of
Truck Delivery
Route Signs and
Workforce Route
Signs

●

CRD McLoughlin Point
WWTP

Example Route Sign
Locations



HRP Harbour
Resource Partners

Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	





Location of
Workforce Route
Signs

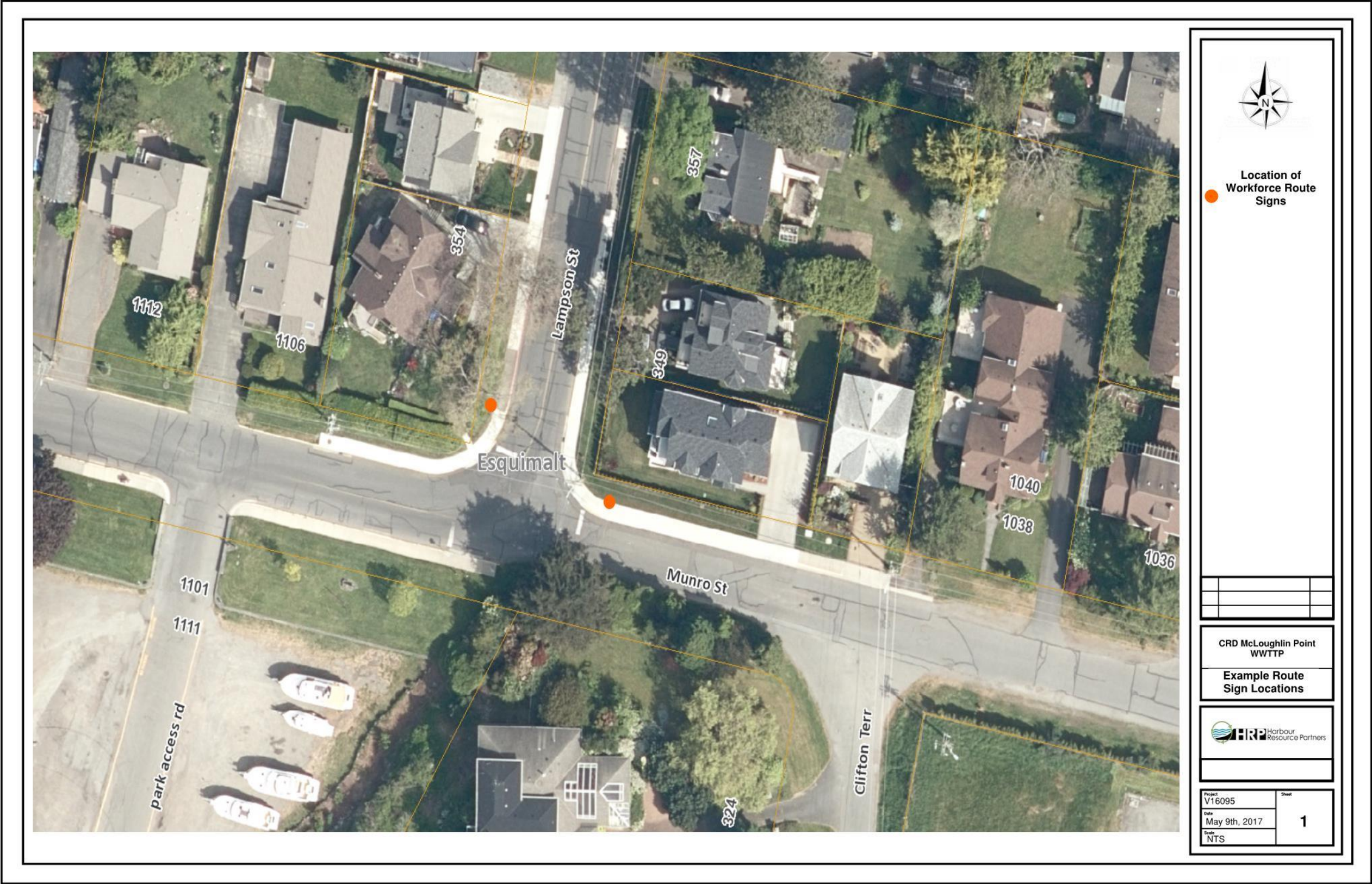


CRD McLoughlin Point
WWTP


Example Route
Sign Locations




Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	








Location of Radar Speed Sign



CRD McLoughlin Point WWTP


Radar Speed Sign Location on Workforce Route




HRP Harbour Resource Partners

Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	






Location of Radar Speed Sign



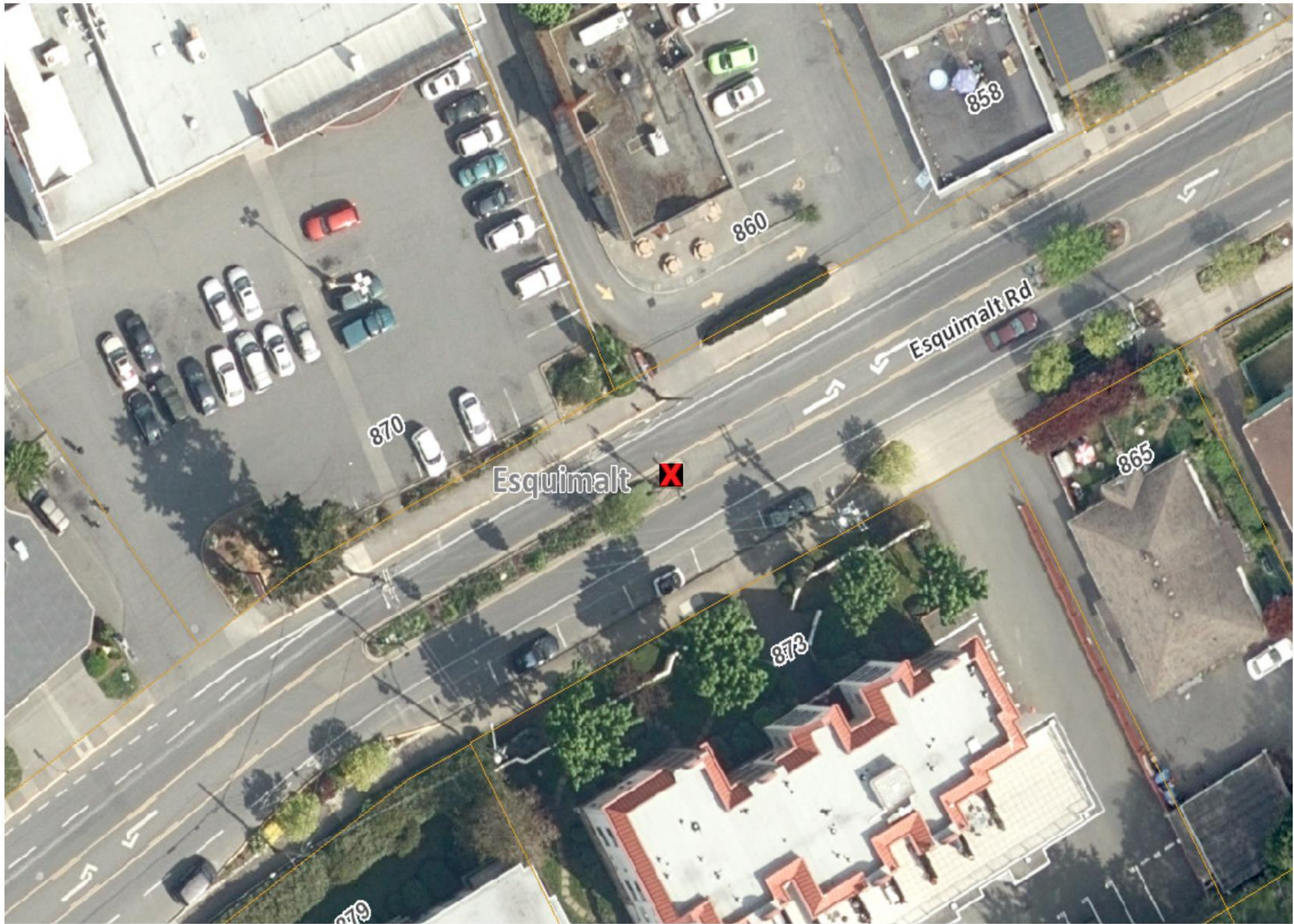
CRD McLoughlin Point WWTP

Radar Speed Sign Location on Delivery Truck Route



HRP Harbour Resource Partners

Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	



X Proposed Location for Electronic Message Board

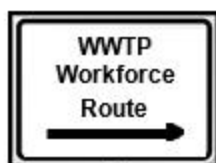
CRD McLoughlin Point WWTP

Electronic Message Board Location



Project V16095	Sheet
Date May 9th, 2017	1
Scale NTS	

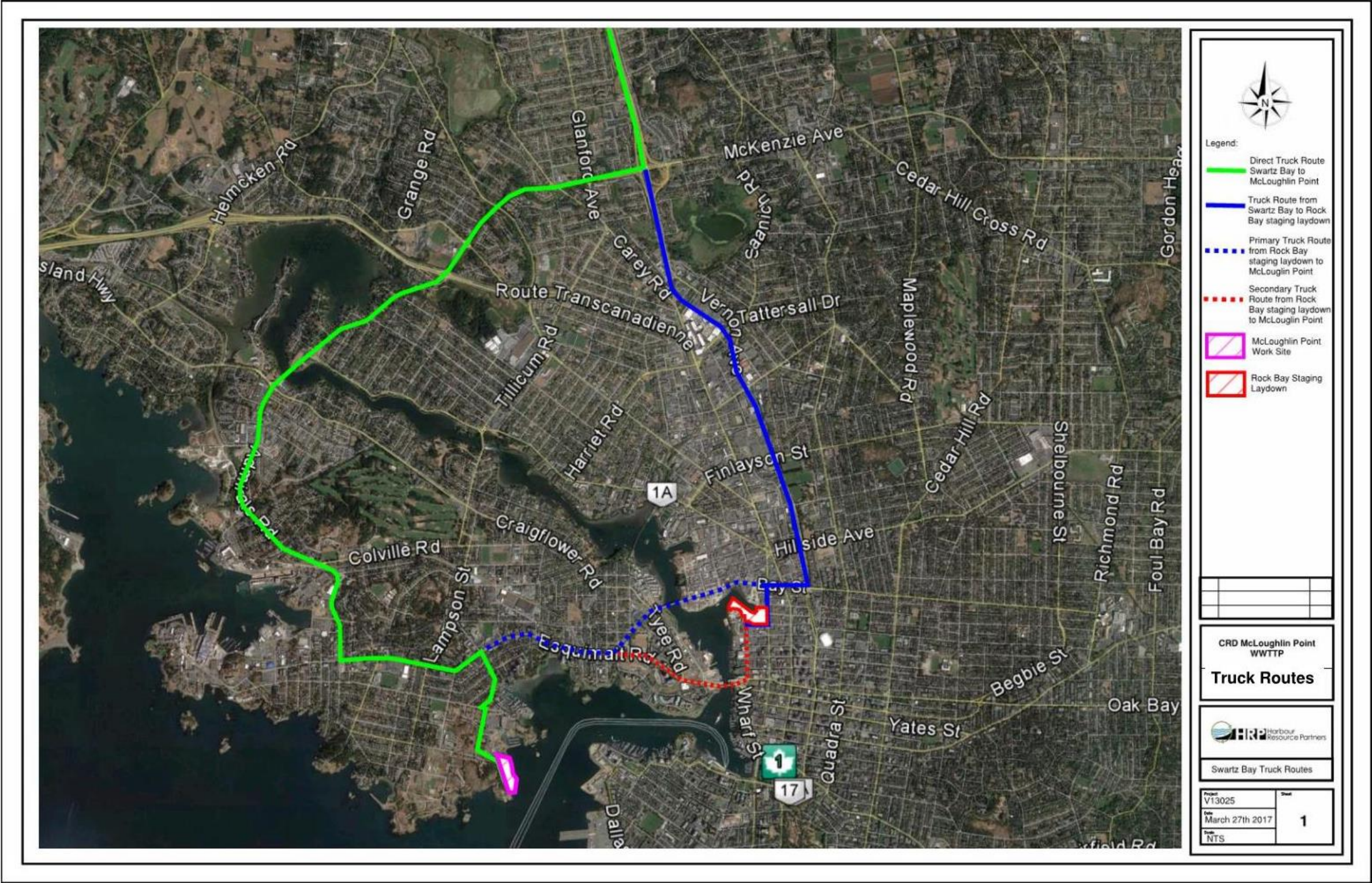
APPENDIX F – SIGN EXAMPLES



APPENDIX G – RESTRICTED STREETS



**APPENDIX H – TRUCK TRAFFIC ROUTES BEYOND
ESQUIMALT ROAD**



APPENDIX I – TRUCK TRAFFIC ROUTES FROM ROCK BAY

