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**McLoughlin Point Wastewater
Treatment Plant**



Traffic Management Plan



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Traffic Management Plan

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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 as the truck traffic will be using Esquimalt Road from local concrete supplier(s), Rock Bay staging area and the ferry delivery points.

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.

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.

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

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 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 a shuttle will be utilized to transfer workers to/from the plant site to reduce the traffic on the DND lands.

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 E) will be required short term for the truck traffic. The utility installation work along Peters Street is scheduled for a 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 maintain control and adherence to the traffic management plan. HRP will be utilizing a combination of stationary and electronic message boards for the communication to vendors, employees and residents as follows:

Electronic message boards which provide public notification for potential increase(s) in traffic on a daily basis such as significant concrete trucks deliveries. Example; "Large Concrete Pour 3/10"

Stationary signage will be utilized at all intersections from Esquimalt Rd to the Plant site. These signs will clearly segregate between the three (3) traffic routes and for what intended purpose. (ie: deliveries and workforce). The signage at each intersection greatly reduces the potential for deliveries trucks and visitors from interacting in residential areas and areas of increased pedestrian traffic.

Additionally, the communication of the traffic routes will also be a part of the greater public communication that HRP will coordinate through the CRD for timely communication to the local community. There will also be a phone number and email address for community inquiries.

Appendix F contains a detailed map of where the signage will be located for identifying each route.

Appendix G contains examples of proposed stationary signage and electronic message boards.

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, 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 Hours of Truck Traffic: 7:00am to 7:00pm

Large Concrete Pour Truck Traffic: 7:00am to 10:00pm

During days where large concrete pours are scheduled, the daily truck traffic will be increased from the norm. In advance of these large concrete pours electronic message boards notification at Esquimalt Road and Head Street will be utilized to communicate the increase in truck traffic. Other deliveries such as materials will be decreased on these days and staged at Rock Bay to manage the impact where possible.

Weekday Hours of Workforce Traffic: 6:30am to 5:30pm

Construction work will take place Monday through Friday at the given times above. Occasionally, there will be a small work crew 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 bylaw 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 be utilizing a tandem water truck to lightly spray the roads down periodically to mitigate the dust. Again, HRP's Logistics Coordinator will monitor and control the dust mitigation activities.

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 working 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. The details of these exact streets are shown in Appendix H.

8.0 REPORTING

HRP will continually monitor the WWTP truck traffic and report on a monthly basis on the website the quantity of truckloads delivered to and exported from the plant site. The report will categorize the loads into construction materials, earthworks, equipment and temporary services.

Questions pertaining to the Traffic Management Plan can be directed to:

Jeremy Klarenbach, Design Build Manager
Harbour Resource Partners
Cell: (780) 232-3804
Email: jeremyk@graham.ca

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 purposely 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 will be installed to create more awareness and attention for drivers to use utmost caution at all times.

Sensitivity

Intersection at Lyall and Head Street is not perpendicular

Mitigation(s)

Safety signage to outline trucks turning and adjusted speed limit in the vicinity of the intersection to be installed to remind motorists to slow down and be cautious for trucks turning.

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, adequate notification will 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

[The main body of the page contains extremely faint, illegible text, likely representing a map or detailed route descriptions that are not clearly visible in this scan.]

APPENDIX B – TRUCK TRAFFIC ROUTE EVALUATION



TRUCK TRAFFIC ROUTE - EVALUATION MATRIX

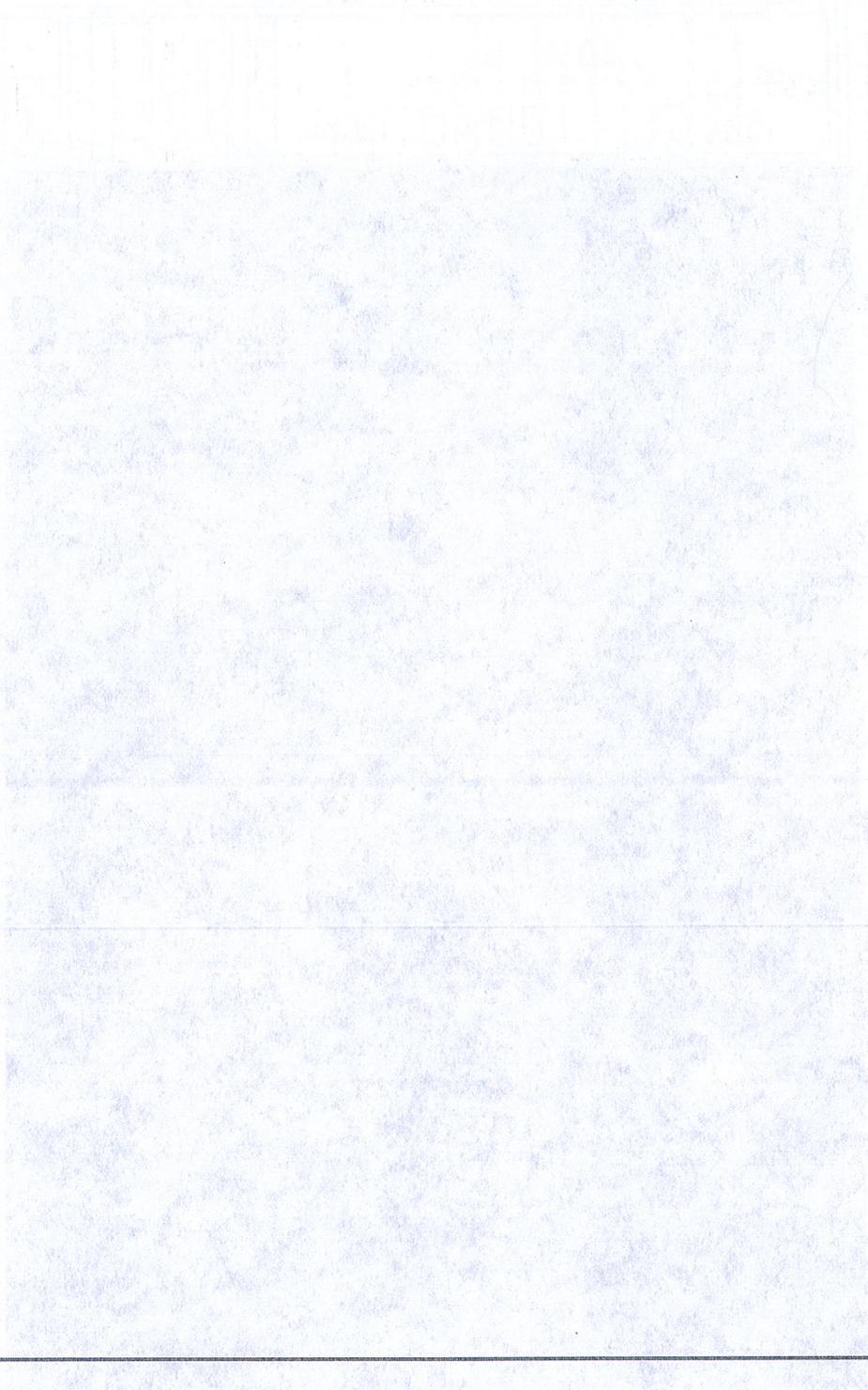
Project Name:		CRD McLoughlin Point Wastewater Treatment Plant	Date: 23-Jan-17			
Summary of Evaluation		Three traffic routes have been considered for the use of WWTP related Truck Traffic for the purpose of transporting materials and equipment required to facilitate the construction of the WWTP at McLoughlin Point. Below is the evaluation criteria considered for providing a recommended routing of the truck traffic for the project.				
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 effects the width of	Street parking whereby residents or others are parked on the side of the road effecting the overall width of travel surface	●	●	●
3	Residential Driveways	Head St: 34, Lampson 54, Macaulay: 34	Does any of the routes interact with a large amount of residential driveways where residents may be backing out on to the road?	●	●	●
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	Does the proposed route enter a school zone	●	●	●
7	Road Condition		Width, Asphalt condition, smoothness	●	●	●
8			Final Evaluation	●	●	●



APPENDIX C – WORKFORCE TRAFFIC ROUTE EVALUATION

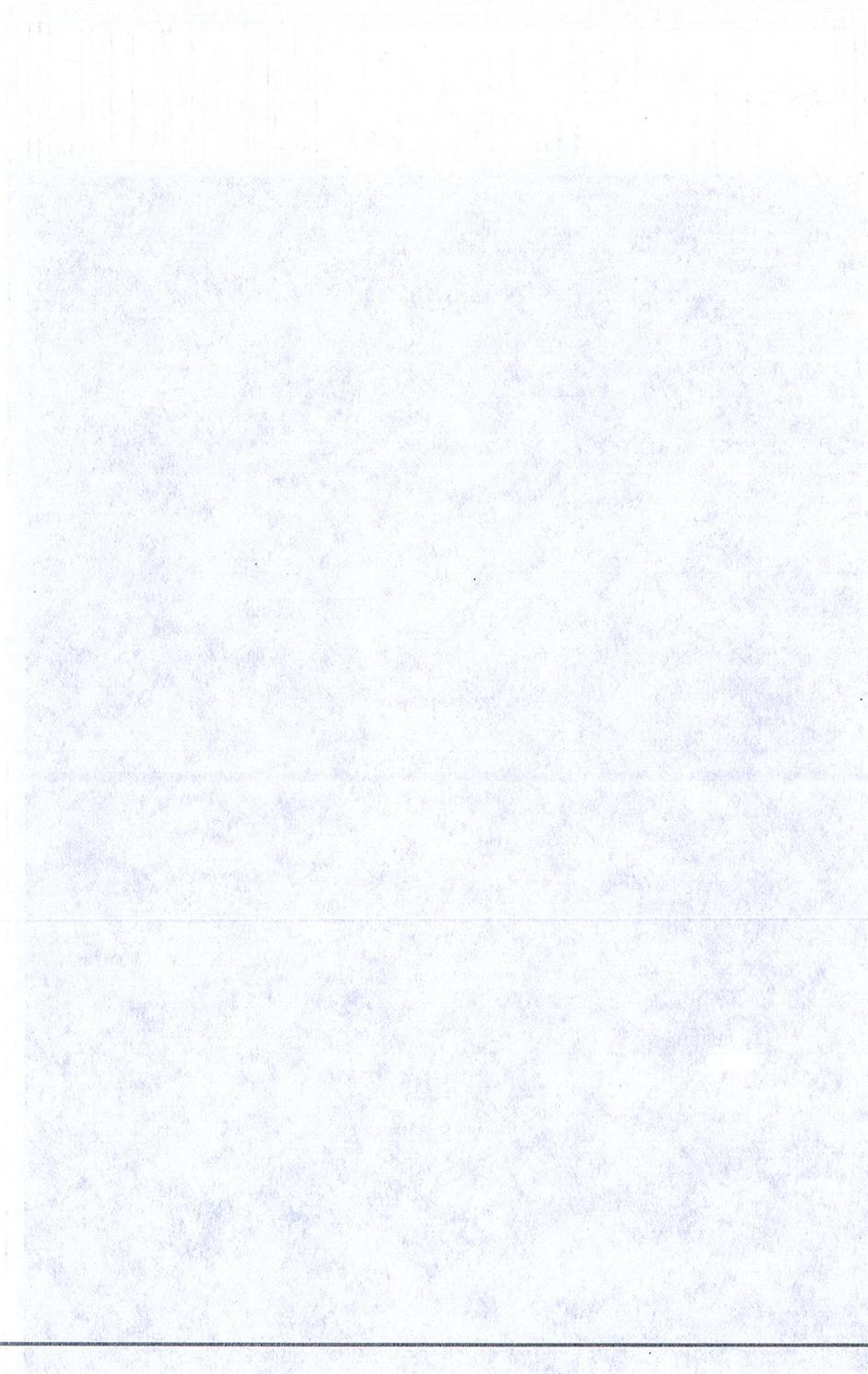
Nc. Criteria		Comment	Score Sheet	Head St	Lampson St	Fraser St
1	Controlled Main Intersection	Esquimalt Road provides left hand turning lane and traffic lights at the intersection of Head and Lampson. No traffic lights at Fraser St	Turning Lane and Traffic Lights (controlled) on main intersection	●	●	●
2	Street Parking	Street parking of vehicles is more prominent on Lampson and Fraser in comparison to Head. Street parking effects the width of	Street parking whereby residents or others are parked on the side of the road affecting the wear all width of travel surface	●	●	●
3	Residential Driveways	Head St: 47, Lampson 47, Fraser: 75	Does any of the routes interact with a large amount of residential driveways where residents may be backing out on to the road?	●	●	●
4	Pedestrian Interaction	Head St: 7, Lampson 4, Fraser: 5	Pedestrian crosses/walk 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	Does the prepared route enter 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			●	●	●

APPENDIX D – DETOUR FOR UTILITIES



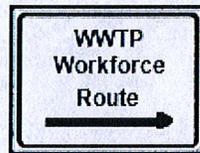
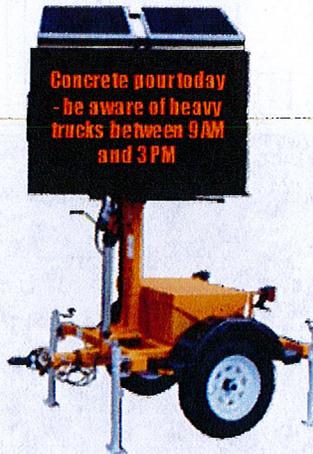


APPENDIX E – SIGNAGE PLACEMENT





APPENDIX F – SIGN EXAMPLES



APPENDIX G – RESTRICTED STREETS

