SOUTH FRASER PERIMETER ROAD EA
SUMMARY OF STAFF COMMENTS

1. **AGRICULTURAL IMPACTS**	
GATEWAY:	*As a result of the footprint required for SFPR the total losses of agricultural land from production would be 90 hectares.*
DELTA:	There is the potential for significant impacts to agricultural operations and viability of farming in Delta as a result of this loss. Specific issues are identified in the following comments.
REQUEST:	**That there be no net loss of agricultural land in Delta as a result of SFPR development**
GATEWAY:	*P. 130 / P. 142 (Sec. 7.1.2.3, Assessing the Potential Impacts)* *"Severed and isolated fields and parcels that were considered to be viable for farming if they were merged with adjacent fields in the same property, or even with different properties, were not included in the calculations" (of indirect footprint impacts).*
DELTA:	The assumption that severed or isolated fields/parcels will be merged with other fields/ parcels is not realistic. Where different property owners are involved there is no way to require consolidation of alienated fields/parcels with adjoining fields/parcels. The likelihood of consolidation would depend on many factors beyond the control of MOT or any agency or individual farmer. It is far more appropriate to assume that if a parcel is severed or isolated and is not viable on its own it is loss and should be counted as such. Even if fields on the same property are isolated/severed and then merged with other fields on that property, this may result in a change to the farmer's type of farming or practices – How is this impact accounted for?
REQUEST:	**That the calculation of impacts to farmland should be revised to count as a loss any field/parcel that is severed or isolated and, on its own, is not viable for farming.** **Figure 7.1-1 should be amended accordingly. Further, this map would be more useful if it was annotated to discuss the issues, note parcel size and agricultural classification. The report mentions two types of severance/isolation impacts - loss from production or potentially converted to lower utility. The map should distinguish these.**
GATEWAY:	*P. 128 (Sec. 7.1.2.1, Study Area)* *"The study area for the agricultural assessment is defined as lands designated for used for agriculture along or adjacent to the proposed SFPR."*

DELTA:	The EA does not describe, locate or map areas of lands that are designated or used for agriculture but are not in the ALR. On P. 129 it is noted that direct footprint impacts were obtained by overlaying the SFPR footprint over the ALR boundary. Therefore, the assessment appears only to deal with direct impacts to the ALR and not other land used for agriculture which is inconsistent with the description of the agricultural study area. On p. 138, it is noted that little agricultural land lies outside of the ALR. How much is "little" and is it along the route?
REQUEST:	**Include a map of the agricultural study area with ALR overlay. Also show agriculture land classes in relation to the study area.**
GATEWAY:	*P. 129 (Sec. 7.1.2.3, Assessing potential impacts)* *A 60 m ROW is used to calculate direct footprint impacts.*
DELTA:	Is a 60 m ROW consistent with other sections of the EA that look at footprint impacts? A quick check of the vegetation section does not identify a ROW width used for calculating direct footprint impacts. The methodology section notes that study area boundaries a different for different components assessed, but does not summarize these for easy comparison, nor does this section mention a 60 m ROW.
REQUEST:	**Gateway to clarify**
GATEWAY:	P. 139, section on Municipal planning references Delta's draft OCP (Schedule A). References to "specialized agricultural zones" (e.g., hobby farms) and makes qualitative statement about these possibly being allowed provided they are in the best use of preserving farmland.
DELTA:	What is the reference/source for this information? There is no "specialized agricultural zones". Also, the OCP actually includes a statement that land use conversions from farms to "hobby farms" as one of the negative pressures on agricultural lands. The same section references agricultural zoning bylaws "in the process" of being adopted. Schedule A of Delta's OCP was revised and adopted by Council in November of 2005. The rural residential zoning bylaw amendment was adopted in May 2006.
REQUEST:	**MOT should review Delta's current OCP and zoning and amend report and analysis accordingly.**
GATEWAY:	*P. 140 (Sec. 7.1.4.1, Direct footprint impacts)*
DELTA:	It is noted that the 90.4 ha would be one of the larger exemptions from the ALR in Delta. It is not clear what is meant by "exemption" from the ALR. We assume the land would not be excluded from the ALR, yet later in the paragraph the "exemption" is compared with areas that have been excluded from the ALR. What proportion, and where, are there direct and indirect footprint impacts to fields/ areas under Delta Farmland and Wildlife Trust program? Are there impacts to any of the organic farms in Delta? These special classes of fields may be affected differently as they take time to establish should new fields need to be added.
REQUEST:	**Provide clarification about exemption versus exclusion. The losses should be considered comparable to excluded lands and appropriate compensation provided, including addition of land to the ALR commensurate to what will be lost.** **Clarify if any DFWT or organic operations are affected directly or indirectly.**

GATEWAY:	*P. 145 (Section 7.1.4.3, Indirect Impacts to Agricultural Productivity) and later Section 7.1.5, Proposed Mitigation and Compensation)*
DELTA:	The sections on impact mitigation for non-footprint longer term impacts (e.g., agricultural productivity, switching to different types of farming, impacts of farmers selling and moving out of Delta) is generally weak even though many possible issues are identified (Sec. 7.1.4.3). The discussion of possible impacts in Sec. 7.1.4.3 generally does not provide indication of the severity of the impacts or any information specific to the properties/farms in question. For example, it is noted that economic impacts may not be proportional to loss of land but may be greater. It is also noted that options for acquiring new land in proximity to existing farms may be limited. However, there is no analysis of what this really means to farms along the SFPR and no proposed mitigation. The assessment lacks an economic analysis of the impact of the SFPR on the viability of individual farm operations. Further, there is no analysis of how changes in agricultural land use, e.g., conversion to smaller farms or “hobby farms” relates to Delta’s long term objectives to retain large parcels intact. Mitigation focuses on short-term measures during the construction phase and yet-to-be determined improvements to drainage.
REQUEST:	**This analysis of indirect impacts is insufficient to understand effects and determine appropriate mitigation. MOT should provide a more qualitative assessment and concrete mitigation measures.**
GATEWAY:	*P. 146 (Section 7.1.4.3, Mitigation and Compensation)* *The report notes “During the design and construction phases of the Project, the MOT will develop and implement mitigation measures in consultation with Delta and farmers, to avoid, reinstate or rehabilitate affected drainage systems”*
DELTA:	Some of the works required to address improvements to the drainage network will need to be undertaken by Delta.
REQUEST:	**Gateway should commit to cover all costs associated with drainage improvements, including costs incurred by Delta to undertake related works.**
GATEWAY:	*P. 146 (Section 7.1.4.3, Mitigation and Compensation)*
DELTA:	There is no mention of retaining treed buffers, or other buffers, along properties that will be adjacent to the SFPR.
REQUEST:	**Identify and commit to providing vegetated buffers where appropriate and where farm productivity will not be adversely affected.**
GATEWAY:	*P. 146 (Section 7.1.4.3, Mitigation and Compensation)*
DELTA:	Delta has met with the Delta Farmers’ Institute to discuss impacts of the SFPR to farm transportation and prepared a separate list of issues and an annotated map showing proposed mitigation measures.
REQUEST:	**MOT should commit to implementing all of the measures identified by Delta and the Delta Farmers’ Institute to mitigate impacts to farm transportation, as included in the attached separate list of issues, meeting minutes and annotated map.**
GATEWAY	P. 151 (Sec. 7.1.5.2, Mitigation of Direct Footprint and Severance/Isolation Effects)

DELTA:	There is reference to further refinements to the alignment as a mitigation measure. This would be desirable with acquisition of land as the appropriate mitigation for residual impacts. The section on mitigation of indirect footprint and severance/isolation effects is very weak with the exception of drainage and irrigation mitigations. The section on "Coordination of Agricultural and Habitat Mitigations" includes no commitments other than consideration of impacts during detailed design phases. Under "Economic Considerations and Land Use Planning" the proposed mitigation is to support Delta in re-affirming their commitment to the preservation of agricultural lands. What does this mean? How would this be done? Overall, there is no discussion on commitments and responsibilities. Some of the proposed mitigation may result in costs to the Municipality.
REQUEST:	**Approval of the EA application should be withheld until the proponent provides a detailed mitigation plan for review and approval by Delta, the ALC and affected farmers.**
GATEWAY:	*P. 154 (Sec. 7.1.5.4, Compensation)*
DELTA:	The section on compensation is inadequate. There is no commitment to compensation, merely references to investigation of compensation options (e.g., to add land to the ALR). It is difficult to comment on the appropriateness of compensation when no details are provided. It is noted that the ALC's objective is "no net loss/reduction in agricultural capacity". Where does this objective come from? There is no source and this is the first reference to this type of objective. Further, there is no analysis of how or whether the proposed compensation strategy achieves this objective. Such an analysis is likely impossible given the fact that there are no details of how the land improvement options mentioned. What is MOT's proposed "Agricultural Enhancement Strategy Fund"? How much funding would be provided to encourage management practices that improve productive capacity? How much funding might be provided to the Delta Farmland and Wildlife Trust. There are no details or commitments.
REQUEST:	**Approval of the EA application should be withheld until the proponent provides a detailed compensation plan for review and approval by Delta, the ALC and affected farmers.** **MOT should provide compensation in the form of adding lands to the ALR commensurate with direct losses from footprint impacts or severance/isolation (noting that the analysis of severance / isolation parcels needs to be revised – see comments above).** **MOT should specify the funding it is prepared to put into an Agricultural Enhancement Strategy Fund, or to organizations such as the Delta Farmland and Wildlife Trust. The amount should be a reflection of the full impacts for farmland, particularly impacts that cannot be mitigated.**

2. **AIR QUALITY**

GATEWAY:	*Vehicular Emissions: Vehicle emission factors used for the modelling take into account improvements in vehicle emission systems that are expected to occur between 2003 and 2021. AirCare is expected to continue to influence the fleet profile within the GVRD at least until 2011.*
DELTA:	As a result of the assumptions of the air quality modelling that are primarily based on vehicular improvements and fleet turn-over, the primary conclusion is that emissions from vehicle traffic during operation of the SFPR will decrease between 2003 and 2021. New emission control technologies are only just recently being regulated for heavy trucks. The truck traffic associated with port operations is generally made up of older trucks and the fleet turnover may not be as quick as what is expected resulting in a continued period of higher truck emissions.
REQUEST:	**That Gateway work with other provincial agencies to develop a comprehensive AirCare program for heavy trucks to ensure that older dirty trucks are taken off the road and not continue to operate and degrade local air quality.**
GATEWAY:	*Traffic Data: Modelled emissions for the SFPR were developed using traffic data developed by the Gateway Program.*
DELTA:	It is not clear whether or not the model is actually representative of actual truck volumes and age of trucks using the port facilities.
REQUEST:	**That Gateway show that their model is representative of actual truck volumes and age of trucks using the port facilities.**
GATEWAY:	*7.2.5.6 Location of Highest Impact*
DELTA:	This section identifies major interchanges where the cumulative effects of the roads crossing provide the highest predicted air quality impacts. The area where SFPR travels through North Delta is not specifically addressed. There will be homes that are currently a distance away from major roads that will be in close proximity to the SFPR.
REQUEST:	**That Gateway provide information relative to the impacts on air quality for residences along the alignment in North Delta. This information should include what the setback distances are from SFPR to houses.**
DELTA:	Best management practices with respect to road dust from operation and construction are addressed in the application however it is not clear what the potential impact on nearby sensitive ecosystems would be from this dust.
REQUEST:	**That Gateway identify impacts of road dust from SFPR on Burns Bog and other sensitive ecosystems along the proposed route.**
3. **CONTAMINATED SITES**	
GATEWAY:	*Impact assessment is based on June 2006 SFPR Alignment.*
DELTA:	Map provided by Gateway in the application Figure 7.3-1a shows the road outside of the properties assessed. It appears as though the assessment was not updated with the change in alignment of SFPR.
REQUEST:	**Gateway to clarify.**

GATEWAY	*7.3.3.3 "Deltaport Way to 80th Street" Current and past land uses are primarily agricultural with low potential for soil or groundwater contamination, and therefore the only issues are likely to be residual nitrates and possible pesticides/herbicides"*
DELTA	We are aware of an agricultural property, 3240 64th Street, that was a Ministry of Environment permitted site for the land disposal of residual paper products and is currently in the independent remediation process. It has the Provincial site number 9258. This site should be given further consideration.
REQUEST	**Gateway to clarify.**
GATEWAY	*7.3.3.3 80th Street to Alex Fraser Bridge "8900-9000 River Road (Delta Shake and Shingle) This landfill site consist of several blocks of land with multiple landowners that are currently proposed for parcel consolidation by Delta Shake and Shingle."*
DELTA:	This property, which was operated under a provincial permit, was once all owned by Delta Shake and Shingle and Delta has become the owners of two of the parcels that comprise the old landfill through tax default. We are not aware of any active and substantial proposals to consolidate the properties
REQUEST:	**Gateway to clarify.**
GATEWAY	*7.3.3.3 "Alex Fraser Bridge to Pattullo Bridge. The Petro-Canada station at 8662 River Road is the only site in this section of the study area currently registered in the CSR."*
DELTA	There is not a gas station at this address. Likely Gateway is referring to the gas station at 10240 River Road that has recently undergone an extensive remediation.
REQUEST	**Gateway to clarify**
GATEWAY	*"Landfill sites to the south of River Road between 80th Street and Nordel Way pose the highest potential for contaminated site-related construction issues, but will not preclude development through, over or on them."*
DELTA	Delta has made numerous requests to the Province of BC to fix the problems associated with the River Road landfills. The development of SFPR provides an exceptional opportunity to mitigate the environmental impact of the landfill and facilitate development of these brownfield sites.
REQUEST	**Gateway and the Province of BC implement design strategies to minimize the environmental impacts of cutting a road through the provincially permitted landfills and include <u>complete properties</u> in risk assessment and remediation activities so that the properties can be returned to fully functioning industrial land.**
DELTA	The SFPR will sever and isolate a number of industrial properties between the highway and Burns Bog. Some of these properties are portions of landfills or other previously disturbed land that may have contaminants present. There will be no access to these properties after SFPR is constructed which will preclude development or clean-up of the parcels.
REQUEST	**That Gateway ensures that all isolated parcels between SFPR and Burns Bog are fully remediated to a level that is appropriate for land adjacent to Burns Bog and returned to Bog where practicable.**
GATEWAY	*7.3.5.1 Pre-construction Mitigation "Tier 2 sites: the property negotiator/agent will ask questions related to current and past land use and look for observable evidence of contamination on the property"*

DELTA	It appears the decision to require further investigation of suspect sites will possibly be left to a property agent who may not be specialized in this area. The Stage 1 PSI should be completed by an environmental professional.
REQUEST	**That tier 2 sites be fully investigated by an environmental professional.**
GATEWAY	*Pg 220 and 227 commits to manage known and potentially contaminated sites in compliance with federal and provincial legislation.*
DELTA	It is important that landfill leachate from the DLC sites not contaminate the groundwater or the drainage system.
REQUEST	**That a leachate from the River Road DLC sites be kept separate from the groundwater and surface runoff.**
4. **FISHERIES**	
GATEWAY:	*7.4.2.4 Impact Area Analysis "non-salmonid-bearing watercourses that don't provide food and nutrients to salmonid-bearing watercourses were not calculated (0 m riparian zone)* *Table 7.4.1 Salmonids (or listed fish species) not present and little potential for food and nutrients to reach salmonid bearing waters (i.e. roadside ditches in South Delta) Habitat rating 0 – No compensation required*
DELTA:	Almost all of the drainage ditches in Delta have non-salmonid fish species present. Other projects, both municipal and private within Delta have historically considered impacts to these watercourses and compensation has been required in some cases by DFO.
REQUEST:	**That fisheries assessment and compensation be consistent with local practice.**
GATEWAY:	*7.4.3 Existing Fisheries Conditions: Deltaport Way to 80th Street*
DELTA:	In this section of the report and corresponding section of the technical appendix, it does not appear as though a fisheries compensation project that was completed as part of a ditch relocation at 7672 Progress Way was not considered. This property is currently owned by MOT. The proposed alignment crosses this compensation ditch at two locations.
REQUEST:	**That Gateway include this ditch and riparian area in the habitat balance.**
GATEWAY:	*7.4.6 Proposed Compensation*
DELTA:	A number of proposed compensation projects are proposed by Gateway throughout the proposed corridor. One opportunity that has not been proposed is the "daylighting" of Sunbury Creek from River Road to the Fraser River. There is the potential to reinstate up to 60 metres of this creek thereby improving fish access and habitat. The current proposal is to build SFPR over the existing pipe, however this pipe is old and likely needs to be replaced prior to highway construction. The pipe is located in an archaeological sensitive area (Glenrose Cannery) however in the immediate area of the pipe there are no intact deposits since the area was previously disturbed during the culvert construction.
REQUEST:	**That Gateway consider the daylighting of Sunbury Creek north of River Road, while respecting the archaeological significance of the site, as part of the fish compensation package.**

DELTA:	Delta has limited fisheries and aquatic resources. A number of potential compensation opportunities have been identified in the EA application, with a number being within Delta's boundaries. It is important that the resources in Delta are enhanced.
REQUEST:	**That Gateway ensure that the appropriate level of fisheries compensation work is conducted within Delta's boundaries so that there is a net gain of aquatic and riparian habitat within Delta.**
6. HYDROGEOLOGY	
GATEWAY:	*Pg. iv of the Exec Summary "Consolidation of peat deposits along the overall SFPR will result in a reduction in the hydraulic conductivity of these materials. However this effect will be offset by the relatively high conductivity associated with the road fill that will be placed above; therefore the overall impact of consolidation of organic soils on groundwater flow is expected to be low and no mitigative measures are required.*
DELTA:	Delta does not agree with this comment in that the proposed approach is introducing a zone of high conductivity in the upper portion of the acrotelm and significantly decreasing the conductivity in the lower levels of the acrotelm.
REQUEST:	**That Gateway design the SFPR to keep road runoff separate from the Bog flow and that the hydraulic conductivity along the south edge of the SFPR be consistent with the current Bog conductivity**
GATEWAY:	*Pg. v of the Exec Summary "One mechanism that could be used to mitigate the potential impacts to the hydraulics of the Burns Bog groundwater flow system is selectively placing transverse groundwater barrier walls intermittently within the SFPR roadway fill" (Also see Figure 15.)*
DELTA:	The approach of having Bog water migrating through the road way fill may be problematic. Concerns with this approach are: mixing of road runoff with Bog runoff, the higher conductivity through the road base, and the potential for water in the road base and also it is important the radial flow characteristic be maintained but this must be done on the south edge of the SFPR alignment and not within the road fill. Runoff from the roadway should not be directed to the Bog.
REQUEST:	**That Gateway work with Delta staff and the Scientific Advisory Panel to develop an appropriate mitigation approach that should involve a consistent conductivity along the south edge of the road right way, and a separate collection system for the roadway runoff. Systems to provide radial flow should be considered but they should not be located in the road base.**
GATEWAY:	*Pages 301 – 304 provides discussion on the hydrogelogic approach a long the northern edge of Burns Bog. However there are issues that are still not clear. For example: the type of fill material and its potential impacts on ground water flow and water chemistry (pg 203) Further more Figure 7.5.-3 does not show how the road runoff / infiltration will be kept separate from the Bog water / ground water.*
DELTA:	An effective remediation scheme is required to address the use of a various types of fill materials (e.g. construction waste material, along the corridor)
REQUEST:	**That Gateway outlines a more detailed plan that will prevent ground water contamination, and ensure that water and ground water south of the proposed SFPR is not impacted by the new road corridor.**

5. **WATER QUALITY**	
GATEWAY:	*Water quality sampling was conducted between 10 and 13 March 2004.*
DELTA:	The limitations of taking only one sample per site at only one time of year has been acknowledged by Gateway. It is proposed that additional baseline monitoring is required, but this is not quantified.
REQUEST:	**That Gateway quantify their proposed baseline water quality monitoring.**
GATEWAY	*7.6.3.5 Summary and Recommendations for Further Monitoring "Historical water quality data were not available for the Fraser River tributaries located along the SFPR alignment, but data were available for the Fraser River.*
DELTA:	Historical water quality data for a number of creeks within the Delta section of SFPR was provided to Gateway.
REQUEST:	**That Gateway include the historical water quality data supplied by Delta in their analysis.**
6. **WILDLIFE AND VEGETATION**	
GATEWAY:	*7.7.5.4 General Impacts on Vegetation "Habitat Loss the greatest impact on vegetation is direct habitat loss, including loss of plant species, during clearing and grubbing in the right-of-way and clearing for ancillary sites during the construction phase"*
DELTA:	Vegetation loss is quantified in the impact assessment by area of habitat type, however there is no specific information on the specific number of trees that will have to be removed for the SFPR
REQUESTS:	**That the approximate number, size and species of all trees that will be lost along the entire SFPR alignment be identified and that the SFPR incorporate Ministry of Environment tree replacement as a minimum standard. These trees should be in addition to any planting requirements of the Fisheries and Wildlife compensation plans.** **That these trees be planted along the SFPR alignment to provide a visual screen from residential and agricultural areas along the alignment and provide mitigation for greenhouse gas emissions from the project.**
GATEWAY	*Potential Impacts to Burns Bog: The estimated loss of habitat with vegetation and wildlife values from Burns Bog is 12.78 ha.*
DELTA:	It is important that this impact be fully mitigated and compensated. Although all of this land is outside of the Burns Bog Partnership Lands, it is still important with respect to the ecological viability of the Bog.

REQUESTS:	**That an area of privately held land having attributes important to Burns Bog be acquired by Gateway and transferred to Delta for inclusion in the BBECA. The area of land should be at least two times the total area of land having attributes important to Burns Bog that is required for construction of SFPR.** **That Gateway's compensation plan include remediation of the "Southern Cross" of the former Alpha landfill that encroaches into the BBECA, as well as other sites that are or may be included in the BBECA.**
GATEWAY:	*7.7.5.7 Potential Impacts to Wildlife Deltaport Way to 80th Street "… loss or disturbance to two raptor nests near the proposed alignment …"*
DELTA:	It is unclear from the technical volume where exactly the two raptor nests that will be impacted are located. Delta staff is aware of at least one eagle nest near Crescent Slough that appears to be directly in line with the proposed alignment. (Nest G)
REQUEST:	**That all raptor nests are relocated or appropriate alternatives be constructed to ensure no net loss to raptor nests.**
GATEWAY:	2. *Design and Construction Mitigation* *Re-vegetate with Native Species. ".. For the SFPR consideration will be given to using native plants or seeds for revegetation" It is also recommended that colonization of disturbed areas by invasive and non-indigenous species should be prevented.*
DELTA:	Invasive and non-native species are typically the first to recolonate disturbed areas. It is important that these plants be managed throughout the development and operation of SFPR.
REQUEST:	**That an invasive vegetation management plan be developed as part of the operation of SFPR to prevent colonization of the disturbed areas by species that may spread or impact adjoining natural areas. This is of particular importance to the area adjacent to Burns Bog.**
DELTA:	It does not appear in the ecosystem mapping as though the north-south connection of the Fraser River escarpment between the ravines in North Delta was considered for its values as wildlife cooridor.
REQUESTS:	**That Gateway acquire, protect and enhance wildlife corridors between Burns Bog and the Fraser River, between North Delta ravines and the Fraser River, and between individual North Delta ravines.** **Gateway to clarify impacts on wildlife movements between ravines in North Delta as a result of the development of SFPR.**
8. **NOISE**	
DELTA:	The SFPR will be creating a significant impact on the residents of North Delta with respect to additional noise and visual pollution. Conventional sound barriers will not be adequate to fully mitigate this impact on North Delta. It is stated in the technical volume that the more the barrier breaks the "line of sight and sound", the greater the noise reduction. Since the road will below many of the homes through North Delta it may not be feasible to build a wall high enough to block line of sight and sound. It is requested that a roof suitable for vegetation, bike and pedestrian paths be constructed over the North Delta section of SFPR to fully block the line of sight and sound to residents.

REQUEST:	**That Gateway provide a design for the North Delta section of SFPR that incorporates a "snow shed type" roof design to fully mitigate noise and visual impacts of SFPR. A "green roof" could be implemented to help mitigate habitat and stormwater impacts. Consideration should also be given to providing for cycle and pedestrian access along this corridor.**
GATEWAY	*Table 8.1-9 suggests that of the eleven representative sites in the Western Section of SFPR, nine sites may not require conventional noise mitigation (barriers) if quiet pavement is used.*
DELTA:	It is suggested by Gateway that Open Graded Asphalt (OGA) be used (quiet pavement) in noise sensitive areas. It is suggested that it could be an alternative to physical noise barriers in some locations. We recognize that OGA can be effective in reducing tire noise, however it has no effect on reducing engine or braking noise. These sounds are often intermittent and high intensity and can have a greater impact on residents. The inconsistency of the noise mitigation effect of OGA is also noted in the report with respect to environmental conditions. It would be appropriate to use OGA along with physical noise barriers to ensure that noise is fully mitigated.
REQUEST:	**That Open Graded Asphalt, in conjunction with physical noise barriers, be used through all residential areas impacted by the SFPR.**
GATEWAY	*In section 8.1.5.2 Predicted Operation Noise Impacts are provided*
DELTA:	Only Leq (24) and Ldn are provided in the estimates of operation and construction noise impacts of the SFPR. We are interested in what some of the shorter term peak impacts would be on certain areas of the community and how proposed mitigation measures will reduce these impacts.
REQUEST:	That Gateway provide estimates of Leq (1hr) Lmax, L1, L10, L50 and L90 for residences along the SFPR alignment.
DELTA:	A baseline sound monitoring program was completed by Gateway including a number of locations through North Delta. It is unclear from the application and technical report where the sound was measured from. In particular it would make a significant difference for the properties on the north side of River Road whether or not the baseline monitoring was conducted north or south of the house. It would be appropriate to measure north of the homes since this is where the new noise will be coming from and this is typically the more sensitive area of one's property due to outside recreation etc. The MOT noise policy is based on existing conditions and change in sound levels from the existing conditions so the location of noise monitoring equipment is very important.
REQUEST:	**Gateway to comment**
GATEWAY	*Section 8.1.3.5 Other Mitigation Guidelines* Health Canada's National Guidelines for Environmental Noise Control have recommended day and night limits for average exterior noise levels to avoid any significant noise impacts in residential areas. These are 55 dBA during the day and 50 dBA at night which combined equal a Leq(24) of 54 dBA.
DELTA:	In most cases these guidelines are more stringent that MOT noise policy. Although the guidelines are noted they are not specifically addressed with respect to the estimated noise resulting from SFPR.

REQUEST:	**That Gateway ensure that noise levels as a result of SFPR, at all residences along the SFPR meet Health Canada's guidelines for Environmental Noise Control.**
9. **HERITAGE**	
DELTA:	In East Delta, in the area of the intersection of 72nd Street and Ladner Trunk Road, there is a significant rural heritage cluster which would suffer considerable impact by the SFPR alignment. It is unclear why Table 8.3-8 in the Socio-Community section of the EA submission indicates the visual impact in this location is low noting most residences are a significant distance from the SFPR. The phrase "significant distance" needs to be defined. It is felt that the visual impact and impact on the heritage context is considerable.
REQUEST:	**Gateway to respond**
DELTA:	Heritage value is determined by conducting an evaluation of each site, considering Architectural History, Cultural History, Context and Integrity. All of Delta's heritage properties were assessed in this manner at the time they were included on the Heritage Inventory. The assessment in the Socio-Community section of the EA application only considers physical direct impacts to heritage properties. All of the properties on the Heritage Inventory need to be reassessed taking into account the presence of the SFPR in the proposed alignment. This will enable the impact on heritage value to be more clearly defined and will assist in determining appropriate mitigation measures to be proposed and considered.
REQUESTS:	**That a heritage professional, acceptable to Delta, is retained by Gateway to conduct a detailed assessment of Heritage values considering architectural history, cultural history, context and integrity. Terms of reference to be approved by Delta. A photographic record of impacted areas would aid visualization of the impact on the community generally and more specifically the heritage context.** **That Gateway provide funding for the restoration of heritage properties directly impacted by the SFPR route and conduct monitoring during construction and operation of SFPR to quantify structural impacts to heritage structures.** **That Gateway contribute to a Heritage Restoration Fund as compensation for indirect impacts to heritage properties, and that these funds could be administered by the municipality and allocated to other heritage related projects in Delta.**
10. **CUMULATIVE ENVIRONMENTAL EFFECTS**	
GATEWAY:	*Table 10.3-2 lists the existing and future projects that were considered in the cumulative environmental effects assessment.*
DELTA:	The proposed Deltaport Terminal 2 project expansion was not considered in the Cumulative Environmental Effects assessment since the project is not imminent. Projected growth in truck traffic from an expanded port is used in the EA application.
REQUEST:	**That impacts from the development of Terminal 2 be used in assessing cumulative effects.**

GATEWAY:	*Table 10.3-2 lists the existing and future projects that were considered in the cumulative environmental effects assessment.*
DELTA:	Under Existing and Future Projects a number of transportation projects are identified that are all currently under construction or proposed, however under Historical and Development Activities there is no mention of existing highways. In particular the effects of Highway 99 and 91, especially with respect to Burns Bog, should be considered.
REQUEST:	**That historical highway development in the project area be considered in the cumulative effects assessment.**
GATEWAY:	*Table 10.3-2 lists the existing and future projects that were considered in the cumulative environmental effects assessment.*
DELTA:	The treaty with the Tsawwassen First Nations (TFN) was not considered in the cumulative effects assessment. An approval in principle exists with the TFN which has the potential to change the use of land that is currently agricultural.
REQUEST:	**That cumulative agricultural impacts of SFPR along with potential development of agricultural land that is within the TFN treaty lands.**
DELTA:	As part of the cumulative effects assessment of air quality in the airshed, it appears as though the approved (but not yet constructed) cogeneration plant at BP Cherry Point was not considered. The existing BP Cherry Point plant is a significant point source of air emissions within the airshed.
REQUEST:	**That air emissions from BP Cherry Point be considered in the cumulative effects and regional air quality assessments.**

11. **INDUSTRIAL LANDS**

GATEWAY:	*The SFPR alignment proposes partial acquisition of industrial properties.*
DELTA:	Partial acquisition will result in some orphaned parcels that will no longer be viable for industrial development in the Tilbury and Sunbury industrial areas. It will be very expensive to construct a local road transportation network to make these properties viable.
REQUEST:	**Gateway to purchase orphaned parcels that will not be developable due to severance for SFPR.**
GATEWAY:	*Gateway proposes road closures, property severance, unclear access, land acquisition in the Tilbury and Sunbury Industrial areas in order to develop SFPR.*
DELTA:	Road closures and severance by the SFPR will significantly affect access to industrial properties. Better integration with the local road network is needed.
REQUEST:	**Gateway to provide continued frontage road access between 80th Street and Sunbury interchange. MOT contribution towards River Way dedication and construction would meet this condition.**
GATEWAY:	*Figure 48 (Figure 6.6) of Technical Volume 15 shows significant disruption of industrial lands in the Sunbury Industrial area – severance, road closures, land required for SFPR operation, potentially unviable properties, unclear access for rail line and connection between River Way and SFPR.*
DELTA:	Further work is required to minimize disruption to industrial parcels.
REQUEST:	**Gateway to improve access for industrial parcels in the Sunbury Industrial area.**

GATEWAY:	*MOT estimates that 77 hectares (190 acres) of industrial lands are required for SFPR. MOT predicts an overall financial benefit to Delta of $94.3 million in cumulative property taxes (gross) by 2021 as a result of development of the SFPR.*
DELTA:	It is difficult to substantiate MOT's claim as they are predicated on a host of assumptions. Delta will receive an immediate and sustained impact from lost of property taxes and potential reduced development fees by SFPR construction and operation. Staff estimates reduced property taxes (gross) of approximately $44 million cumulative to 2021 associated with vacant industrial lands, and significantly higher losses associated with improved parcels.
REQUEST:	**Gateway to provide compensation for loss of municipal property taxes and development fees due to SFPR construction and operation.**
GATEWAY	*Gateway notes Delta Routes Regional Bicycle and Trail Access Network Route (Figure 48, Figure 6.6, Technical Volume 15)*
DELTA:	The SFPR will negatively affect the development of a cycle route for local alternative transportation to industrial employment areas.
REQUEST:	**Gateway to provide cycling path connecting the Tilbury and Sunbury industrial areas.**
12. **ENGINEERING AND ALIGNMENT**	
GATEWAY:	*Technical Volume 4 Section 4 a) 72nd Street Corridor Evaluation*
DELTA:	After analysing a number of routes along the 72nd Street corridor a preferred option is selected. This option differs from the alignment shown in the alignment maps included in Technical Volume 1. Specifically the recommended alignment in the corridor evaluation is on the western edge of the Delta owned property (radio tower/cranberry field) and the alignment in Technical Volume 1 shows the SFPR bisecting this property. It is noted that a minor shift to the east from the recommended alignment was required to avoid the Delta sanitary sewer force main. As part of the development of SFPR, this sewer main will have to be upgraded and/or replaced. To avoid additional impacts on Burns Bog, the recommended alignment should be used while incorporating upgrades to the sanitary sewer forcemain.
REQUEST:	**That Gateway shift the alignment back to west as originally proposed in the 72nd Street corridor evaluation.**
DELTA:	Within Chapter 8 Socio–Community Impact Assessment there is minimal to no consideration given to Delta Utility Issues, Furthermore consideration should explicitly be given to BC Hydro, Telus, Terasen, Fiber Optics and other infrastructure in the corridor There are potentially significant socio-economic impacts to users not only in Delta but throughout BC if this is not considered.
REQUEST:	**That Gateway explicitly develops and implements a mitigation plan for all utility infrastructure along the corridor.**
13. **TRANSPORTATION**	
GATEWAY:	*Section 3.1.3.1 .. "the proposed SFPR will accommodate cycling on the shoulder and provide access to the local cycling network".*

DELTA:	A cycling facility on the shoulder of SFPR is not acceptable from a public safety point of view especially considering the speed of traffic and number of trucks that will be using SFPR. A cycling facility physically separated from SFPR traffic is supported to ensure that this is a safe and useable facility. This would facilitate major links to other cycling routes including the Lochside Regional Trail from Victoria to Swartz Bay along Highway #17.
REQUEST:	**That Gateway incorporate a separated cycling facility into the design of SFPR.**
GATEWAY:	*The preliminary concept (Figure S46) proposes to extend Vantage Way to intersect with the SFPR.*
DELTA:	The local road network in the Tilbury Industrial Park did not contemplate the proposed SFPR. As one of two access points for the industrial area to the SFPR, 80th Street needs to be developed as a high capacity access with two east/west collector routes as feeder routes (River Road and River Way).
REQUEST:	**Provide a direct connection of 80th Street to the SFPR and that 80th Street connections to River Road and River Way be upgraded.**
GATEWAY:	*The preliminary concept (Figure S40) has a note stating the "Landfill access is to be determined".*
DELTA:	Delta wishes to minimize the use of Burns Drive as a route for large trucks travelling to and from the Landfill. Also, the regional role of the Boundary Bay Airport is changing from a fight instruction centre to a passenger terminal and aviation related industrial employment centre, access to the airport needs to be upgraded to support this new regional role.
REQUEST:	**Provide direct access to the Landfill and the Boundary Bay Airport from Highway #99 at a location east of 72nd Avenue.**
GATEWAY:	*The preliminary concept (Figure S41) has a note pointing to Burns Drive stating "Widening at road termination".*
DELTA:	Burns Drive is an important route for local access and a primary corridor for farm traffic.
REQUEST:	**Maintain Burns Drive open to traffic.**
GATEWAY:	*The preliminary concept (Figure S40) locates an interchange of the SFPR with Highway #99 near 72nd Street. The new interchange will result in the loss of the existing farm access crossing of Highway #99 ("Cow Tunnel").*
DELTA:	Highway #99 is a barrier to north/south travel by farming vehicles accessing separated agricultural lands on a daily basis which are being managed as one farming operation.
REQUEST:	**Provide a farming access across Highway #99 connecting Ladner Trunk Road with Burns Drive to replace the "Cow Tunnel" which is being removed by the SFPR project. Also to maximize the use of this access link, provide a farm traffic only access route along the north edge of Highway #99 to connect Burns Drive between 72nd Street and 88th Street.**
GATEWAY:	*The preliminary concept (Figure S37) closes the existing right-in/right-out access at Highway #17 and 28th Avenue.*
DELTA:	Currently this right-in/right out is used by farming traffic on a daily basis to access agricultural properties. The DFI would like to see the access improved to include an overpass of Highway #17 by 28th Avenue. This improvement would negate the need for farming vehicles to access Deltaport Way from the south leg of 57B Avenue which is often encumbered by train traffic related to Deltaport.
REQUEST:	**Provide an overpass of 28th Avenue across Highway #17.**

GATEWAY:	*The preliminary concept (Figure S50) shows an eastbound right-on ramp from River Road to the SFPR.*
DELTA:	Sections of River Road will be consumed by the SFPR corridor, closing two access points to the Sunbury/Annieville Neighbourhood. Delta has requested the Gateway Program to examine possible connections of River Road just south of the SFPR to maintain access to the neighbourhood.
REQUEST:	**Provide extensions of River Road to connect with Nordel Way and with Grace Road at the west and east boundaries of the Sunbury/Annieville Neighbourhood.**
GATEWAY:	*The preliminary concept (Figures 01 & 02) show the proposed cross-sections of the SFPR having a centre concrete no-post barrier dividing opposing travel lanes on the highway.*
DELTA:	Experience with incidents on Highway 17 demonstrates there are times when it may be necessary to divert two-way traffic onto one side of the highway to navigate traffic around an incident.
REQUEST:	**Provide movable sections of the centre median barrier at key locations to allow the option of detouring traffic onto one side of the highway during an incident.**
13. UTILITIES, DRAINAGE AND IRRIGATION	
GATEWAY	*Page 103 Water Infrastructure conflicts identified in a general way*
DELTA:	Delta's water infrastructure will be impacted at a number of locations along the route. Further assessment is required.
REQUESTS:	**That Gateway ensures that the integrity of Delta water infrastructure is not impacted by:** • **providing for bypass and continued system operation throughout the construction;** • **installing new pipes that provide for a shallow depth and adequate access; and,** • **ensuring that settlement will not adversely affect the long term water system operation.**
GATEWAY	*Page 103 Sewer Infrastructure identified in a general way.*
DELTA:	Delta's sewer infrastructure will be impacted at a number of locations along the route. This was not discussed in the EA report. If the forcemain is disrupted during or after construction
REQUESTS:	**That Gateway ensures that the integrity of Delta sewer infrastructure is not impacted by:** • **providing for bypass and continued system safe operation throughout the construction;** • **ensuring that settlement will not adversely affect the long term sewer system operation.** • **constructing a parallel forcemain system along the SFPR alignment north of Burns Drive to McAllister Road, complete with Right of Way; and,** • **providing a Right of Way within the SFPR to construct a new forcemain from McAllister Rd. and 72nd Street to the GVRD South Surrey Interceptor.**
GATEWAY	*Pg 104 EA report provides commentary on watercourses, but there is not a highway runoff impacts assessment.*

DELTA:	The proposed four lane highway will increase the runoff rate and storm water runoff volumes along this corridor.
REQUESTS:	**That Gateway improves maintains / improves the operational capability of Delta's drainage system by:** • **providing oversized culvert capacity at an appropriate depth to maintain and/or improve conveyance;** • **addressing downstream capacity improvements including ditching, culverts and pump station improvements;** • **ensures that storm water runoff quality treatment is not impaired;** • **constructing the SFPR drainage system so that Highway runoff is separated from the Bog runoff;** • **improving the Bog lagg zone, so that overall Bog groundwater levels will increase;** • **ensuring adequate drainage storage / flow capacity for the River Rd. east area during high tides on the north side of the roadway;** • **where possible avoiding stormwater discharge to local watercourses** • **providing a drainage / irrigation channel adjacent to the SFPR / River Way** • **need to address the Bog drainage/ SFPR drainage/ lagg / urban interface in the vicinity of Riverway/ SFPR – Nordel interchange; and** • **implementing capacity and environmental enhancements along the North Delta streams, such as:** ❍ **NEI Canal, fish friendly improvements with off channel areas; and** ❍ **Improvements to other N. Delta watercourses, ensuring adequate sized, fish friendly passages and channels.** ❍ **Minimize SFPR runoff to local watercourses.**
GATEWAY	*Irrigation system impacts do not appear to be discussed in the EA report*.
DELTA:	Irrigation is vital to the Agricultural community. Need to ensure that there will be adequate water supply of good quality and the system constructed at appropriate elevations with more than adequate conveyance capacity.
REQUESTS:	**That Gateway improves maintains / improves the operational capability of Delta's irrigation system by:** • **providing a new channel along the edge of the SFPR Right of Way to bring river water from 80th and 96th streams which can then be distributed into east Delta, west Delta, and south to 36th Avenue; and,** • **ensuring that there is adequate interconnection between proposed channel improvements and the existing irrigation system.**
DELTA:	It is not clear if weather conditions along the proposed route were considered. The proposed alignment is susceptible to fog and frost when other areas of the lower mainland may not be affected.
REQUEST:	**That Gateway outline how the road conditions will be monitored and the traffic safety issues on the proposed route.**

13. CONSTRUCTION IMPACTS	
DELTA:	The construction of SFPR has the potential to have significant impacts on the community. In the various sections of the EA application, mitigation and best practices are noted to minimize local impacts. The following specific requests are made to Gateway to ensure that Delta's issues are addressed.
REQUESTS:	• **Maintain access to all properties and Delta roads throughout construction.** • **Ensure compliance with Delta noise bylaw.** • **Minimize construction and truck traffic by utilizing alternate methods of material transport such as pumping and conveyors.** • **Use on-road fuels for construction equipment, including bio-diesel.** • **Ensure effective and complete dust control measures are implemented.** • **Ensure that project is fully funded before commencing to minimize the construction period and impact of phasing of the project on the community**