Opening Statement

Topic 5 – Terrestrial

Remarks of Matthew Hebert

1. Good Morning/Afternoon Mr. Chair.

2. Alberta Transportation is aware of the communities concerns regarding air quality, human health, vegetation and impacts to wildlife and bio-diversity, and takes these considerations serious. Alberta Transportation has worked to assess these impacts so as to ensure that a clear and robust understanding of each is achieved.

3. As discussed in my topic 4 remarks on Monday, topic 5 also focuses on environmental impacts and mitigation, and it is important to emphasize the approach taken by Transportation in the assessment of SR1. The environmental assessment process addresses both Project-related and cumulative environmental effects and follows a standardized framework for each valued component. While I will not repeat the steps today, the approach comprehensively assesses impacts, considers and confirms mitigations that respond to the significance of the impact, and outlines monitoring efforts that supports potential responses.

4. Transportation's environmental assessment process includes engagement with stakeholders and Indigenous groups to inform the development of mitigation and monitoring plans. This includes a commitment to a community liaison to ensure that

impacts felt by the community can be raised and dealt with by Transportation or Environment and Parks through the life of the project.

5. Alberta Transportation is confident that the work undertaken to date has resulted in a complete and detailed assessment of these issues, and Alberta Transportation acknowledges that monitoring and active mitigation measures may be required to ensure that the concerns of Indigenous Groups, local residents and other stakeholders are properly assessed and, as needed, mitigated.

Comments on Wildlife Overpass

6. In a moment, I will ask Reid Person and Tania Noble, with Stantec, to speak to the issues of air quality and human health respectively. However, I would like to take this opportunity to speak to some important matters and considerations that have been advanced by the Stoney Nakoda Nation, and others, under the topics of wildlife and vegetation.

7. We have heard concerns raised by the Elders of the Stoney Nakoda Nation on Thursday, and during our consultation prior to the hearing, in relation to the movement of elk in the area of the Project site. The Stoney Nakoda have asked that we consider construction of a wildlife over pass as a means of ensuring the uninhibited movement of elk between the lands on the east and west of highway 22.

8. Alberta Transportation has considered this issue in detail and previously discussed with the Stoney Nakoda Nation their view that an overpass over Highway 22 is needed to reduce animal-vehicle collisions and maintain wildlife movement.

9. Although Alberta Transportation acknowledges that a wildlife crossing structure, such as an overpass, can be beneficial to reduce animal-vehicle collisions and to facilitate wildlife movement, Highway 22 is a designated highway within the ***High Load Corridor*** network, which must be able to have the overhead utility lines raised to accommodate loads up to 9 m high. The clearance height requirement of 9 m within the High Load Corridor, coupled with a wildlife overpass on top, would make a wildlife overpass an extremely large structure and presents a feasibility constraint related to the construction.

10. Moreover, it is important to recognize the potential animal-vehicle collisions on Highway 22 are related to existing conditions in the area and will not be the direct effect of constructing the Project. Nonetheless, Alberta Transportation has incorporated Project design features into the Highway 22 bridge over the diversion channel to facilitate wildlife movement including open span dimensions (10-m height x 24-m width) and a vegetated channel bottom. This open span bridge or underpass will provide suitable conditions for ungulates such as elk and deer as well as other wildlife to cross based on recognized practices and previously reported wildlife use of large underpasses. The effectiveness of the underpass to facilitate wildlife movement will be monitored as part of the remote camera monitoring program discussed in the draft Wildlife Mitigation and Monitoring Plan.

Post Flood Sediment

11. I would also like the take this opportunity to address the work Transportation will do in a post flood scenario to address sediment and deposition. I recognize that the surrounding

community is concerned with the potential impacts of dust generated following the operation of the project and will outline Transportation's proposed response.

12. Ultimately monitoring and adaptive management will be key. The primary monitoring related to management post-flood sediment are air monitoring, revegetation monitoring and soil monitoring.

13. Alberta Transportation will conduct ambient monitoring after a flood event to monitor potential effects associated with windblown sediment. Monitoring for TSP and PM 2.5 at a location near the east PDA boundary will be conducted for 16 months after a flood event. That is, from the time the flood event ends to the end of the fall season the following year. The ambient air quality monitoring location will be determined post-flood once sediment deposition areas are visible. Whether it is necessary to employ monitoring longer than 16 months will be determined in consultation with stakeholders and regulatory agencies.

14. Further, it is important to identify the goals for sediment management and revegetation. Alberta Transportation has four specific goals in this regard: (1) safety and operations, (2) erosion control (3) weed control and (4) revegetation. These are outlined in the EIA, (Exhibit 20) and elsewhere in the materials, such as erosion control measures discussed in the response to round 1 NRCB SIR (Exhibit 94). Effort related to the activities to meet these goals are linked to the amount of sediment deposited in the reservoir.

15. Alberta Environment and Parks, as operator, will commence work on air monitoring and goals 1 and 2 at the first available opportunity post-flood release. It is important to note that the time periods just described below are estimates only and the steps associated with

each time period will be advanced at a pace needed to manage the site. In other words, should some of the steps need to be implemented sooner that will be done.

16. Specifically, within two weeks of a post-flood release, the following steps will be implemented:

    i. Surveys of the area will be undertaken to assess for trafficability. Given the nature of the surface in a post-flood release scenario, one or more combination of tracked equipment, rig matting, or geo-cell installation may be required to ensure access;

    ii. Surveys of the area will be undertaken to assess for signs of wind erosion or weeds, and each will be respond to as needed. Survey efforts for these items will continue with regularity at no less than 2 week intervals;

    iii. Evaluation will be made of the area for soil moisture to determine if a cover crop can be sown, including consideration for the application of such items as compost or biochar as required to ensure viability of cover crop;

    iv. If certain areas of erosion risks are identified and conditions are considered unsuitable for revegetation, alternative erosion control methods will be instituted including such application of tackifier.

17. Efforts in furtherance of goals 3 and 4 will commence shortly thereafter, and in any event no later than between weeks 2 and 4 post-flood release. These activities will be conducted at the same time and in association with the efforts discussed in relation to goals 1 and 2.

18. By the week 4 mark, sediment is expected to be dry and therefore more prone to wind erosion. Ongoing survey work will be undertaken for any signs of wind erosion, and to assess the status of cover crop growth, natural revegetation and the presence of weeds. Any efforts needed to help bolster cover crop will be undertaken, as will efforts to assist natural regrowth. If weeds are detected and found to be above acceptable targets, response options will be considered and applied.

19. Work will continue at six weeks post-flood release, including ongoing survey of areas for signs of wind erosion, cover crop growth and natural re-vegetation and the presence of weeds. Any areas of concern, whether it be in relation to erosion, growth or weeds, will be immediately and properly addressed through either further application of tackifiers, reapplication of cover crop, or other appropriate methods.

20. By eight weeks post-flood release, it is anticipated that there will be very few areas prone to wind erosion or where cover crop has not grown. However, should there continue to be areas of concern intensified mitigation efforts are available and will be implemented. For example, application of hydroseeding or use of additional tackifier are options that can be implemented.

21. Ongoing identification and monitoring of wind erosion and revegetation will occur over winter months as appropriate. By the following year, likely April or May, work will again intensify with ongoing efforts to survey and identify areas of wind erosion, assess the status of crop growth, assess natural revegetation, and monitor for the presence of weeds. The various measures that have already been spoken of above, such as hydroseeding or application of tackifier, can be re-implemented and used if necessary.

22. The sediment management approach described above will be continued as needed until revegetation is successful. Transportation is also prepared to consider the addition of shelter belts at select areas of the PDA or at adjacent land owner requests.

Weed Control

23. The issues of weeds, in the periods both post-flood release and between flood events has been raised. I would like to say a few words about weed control as it will be an important aspect of revegetation activities.

24. A comprehensive weed management plan will be prepared prior to construction. Weed control will at a minimum follow the *Alberta Weed Control Act* regulations and prohibited weeds will be removed and noxious weeds controlled. Alberta Transportation and the operator AEP will work with Rocky View County on identified suitable weed control measures and acceptable noxious week levels for inclusion in the vegetation and wetland mitigation, monitoring and revegetation plan. Details on the proposed weed control program are presented in Section 7.5 of the draft Vegetation and Wetland Mitigation Monitoring and Revegetation Plan (Exhibit 124).

25. I now invite Reid Person to provide his remarks.

Remarks of Reid Person

26. Good Morning. My name is Reid Person. I am a Principal and Technical Leader for Air Quality with Stantec, and I have been actively involved with this Project on behalf of Alberta Transportation since 2016. I was involved in conducting the initial air modelling work that is discussed in the environmental impact assessment that has been filed. I have also reviewed the report prepared by Dr. Zelt on behalf of the SCLG and have sought to address his comments in my responding Technical Memorandum which has been filed in this proceeding as Appendix I to Exhibit 327.

27. I would like to take this opportunity to briefly speak to the technical memorandum. As with any modelling exercise there are always challenges in quantifying and representing real world conditions that are anticipated to exist at a moment in time. This is particularly true in the case of a project like this which will be operated very infrequently. Consequently, uncertainties are inherent in the modelling just as uncertainties are inherent in the modelling undertaking by Dr. Zelt.

28. In an effort to account for uncertainties a number of conservative assumptions are used. These conservatism's have the intended effect of creating a more robust model and analysis but one which also tends to over predict modeled scenarios.

29. As a further means of accounting for uncertainties and ensuring that modelling presents a fulsome picture of what may be expected in relation to a project, a number of sensitivities were conducted. The sensitivities evaluated included the effect of size of sediment and sediment particle size distribution on model predictions. In short, the objective of these sensitivities is to modify certain parameters so as to better understand the implications for air-quality should predicted events actually occur. For example, one of the criteria that was selected and deselected in various sensitivities outlined in the attached memorandum was the nature of sediment particles that are anticipated. In certain of the sensitivities the particles were considered to be more coarse well in other sensitivities the particles were considered to be finer. This is an example of how the model can be modified to give a further level of understanding or nuance to the issue.

30. As is set out in the environmental impact assessment and more specifically in the technical memorandum, our revised sensitivities and modelling do indicate the potential for exceedances of air-quality standards on a limited basis and in specific circumstances.

31. As is further discussed in our environmental impact assessment and technical memorandum, the story does not end with the modelling. Rather it is important to note that monitoring will be conducted and, as needed, mitigation employed so as to address any exceedances.

32. At this time, I would like to take you to a short PowerPoint presentation I have prepared to help simplify these issues and the conclusions reached.

[***POWERPOINT***]

33. I would now invite my colleague, Tania Noble, to speak to the human health implications of the air-quality assessment that we have completed.

Remarks of Tania Noble

34. My name is Tania Noble, and I am a human health risk assessment specialist with Stantec. I have been involved with this project since 2014. I was also involved in preparation of the environmental impact assessment, section 15 entitled Public Health.

35. As part of my work with this project I have had the opportunity to review the air modelling that was prepared in 2017, and to look at the most recent sensitivities that, as Reid has commented, are set out in the Technical Memorandum. Consequently, I have provided

additional comment and analysis, which is also found in the Technical Memorandum at section 3.

36. As was also noted by Reid, the modelling and sensitivities, in certain circumstances, do identify potential exceedances of air-quality standards. However, an exceedance of an air quality standard or objective in of itself does not necessarily give rise to a human health concern.

37. Ultimately, it is important to keep in mind that when speaking of possible air-quality concerns associated with the Project, modelled exceedances of air quality standard or objective are expected to be infrequent and short in duration. As we know, operation of the Project is itself an infrequent occurrence. The meteorological events and conditions that would give rise to air-quality concerns are also likely to be infrequent occurrences.

38. Furthermore, there are proven and effective dust control methods that, when properly applied, can control fugitive dust with a high degree of effectiveness and improve air quality to a point where it meets air quality standards.

39. Taken together, these considerations (duration, frequency, adaptive mitigation), coupled with the proposed monitoring that will guide adaptive mitigation measures, leads me to have a high degree of confidence that potential effects human health are not significant.

40. I will now invite Mr. Hebert to make further remarks.

M. Hebert further remarks

41. As I previously stated, ultimately monitoring and adaptive management will be key with the primary monitoring related to management post-flood sediment are air monitoring, revegetation monitoring and soil monitoring.

42. On the issue of monitoring, there have been a number of statements suggesting that Alberta Transportation is simply relying on future monitoring to mitigate the effects of SR1. In fact, where adverse effects have been predicted in the EIA, Alberta Transportation has identified specific measures to proactively mitigate those effects.

43. Draft monitoring programs have been developed for several valued components to verify the effectiveness of planned mitigation measures, and to allow for continued improvement through adaptive management. Monitoring programs are an important tool to reduce uncertainty in outcomes. Monitoring also allows for response to actual as opposed to assumed events. Transportation has advanced a number of monitoring plans and is committed to finalizing them with input from regulators and stakeholders.

44. Additionally, and as mentioned, a Community Liaison will serve as point of contact with stakeholders and be able to provide interested parties information on air quality monitoring results as requested and to raise concerns with the project's environmental impacts. Alberta Transportation and Alberta Environment and Parks will implement the Community Liaison role during Project Construction and Operations, respectively.

45. In closing, Alberta Transportation wishes to acknowledge the concerns raised in relation to these very important issues. Alberta Transportation is committed to constructing and

operating the Project in a manner that prevents impacts, to ensuring same through robust and expansive monitoring, and when necessary through use of well-established and proven mitigation measures. Alberta Transportation's commitment to this is not limited to Project construction but rather is a commitment for the entirety of the Project's operational lifespan.