Reference IR#	Expert Dept. or group	May 2018 EIS Guideline Reference	EIS Reference	Context and Rationale	The Proponent is Required to …
Project Description					
105	PFN/SFN/SB OFN	Part 1, Section 2.4	3.3.1	The EIS Guidelines require that in documenting the analyses included in the EIS, the proponent will demonstrate that all aspects of the project have been examined and planned in a careful and precautionary manner in order to avoid significant adverse environmental effects and any impacts to Aboriginal or Treaty rights. The EIS (S. 2.4.2.8) indicates that the development of the Project was based on several years of analysis. Despite this, the EIS (S. 3.3.1, 3.4.1, 3.4.2, 3.4.3) indicates the following items are incomplete at the time of EIS submission: - Identification of need for cofferdams - Cofferdam design - Detailed bridge design - Permits and designs for power distribution lines - Sources of rock and borrow materials - LMOC channel inlet and outlet design - Number and location of temporary construction camps and staging areas - Need for temporary access routes for channels, quarries, and borrow areas - Detailed surface water management plans including drainage realignment - Identification of need for blasting - Design of drop structures for LSMOC <u>Rationale:</u> • The planning for the project is incomplete. • Assessing Project effects when project planning is incomplete renders the assessment incomplete and possibly inaccurate.	a. Provide an explanation of how, in the absence of critical information regarding Project design, it was able to complete appropriate and meaningful: - environmental assessments of Project effects; - mitigation actions; - cumulative effects assessments; and - monitoring and follow-up planning b. In the sections on the assessment of each VC, clearly Identify the precautionary measure it took during the EA to protect the VCs from uncertainties in the numerous items for which planning was incomplete.
106	PFN/SFN/SB OFN	Part 1. Section 3.2.3 Part 2, Section 5	4.4.3 5 8.2.1.2 8.2.1.4 8.3.1.4	The EIS Guidelines allow that spatial and temporal boundaries used in the EA may vary depending on the VC and will be considered separately for each VC, including for VCs related to the current use of lands and resources for traditional purposes by Aboriginal peoples, or other environmental effects.	a. Identify all wetlands whose hydrology may be affected by the project elements and expand the LAA to include them for all vegetation VCs and wetland-dependent wildlife VCs. b. Identify all slopes susceptible to erosion under one

				Indigenous Engagement must be included in development of EIS and will include: - Engagement on temporal and spatial boundaries - VC selection and assessment <u>Rationale</u> • For the terrestrial environment, the spatial boundaries for the PDA and the RAA appear appropriate with the exception of moose and elk for which managed population ranges and Game Hunting Areas (GHAs) delineate the appropriate spatial extent. The spatial boundary of the LAA must include a sufficient buffer to include area where erosion and wetland hydrology are included within the LAA. • The temporal boundaries are restricted to the pre-construction, construction, and operation and maintenance phases. • The Lake St. Martin Emergency Outlet Channel is within the spatial boundaries of the RAA but its construction in 2011 leaves it outside the temporal boundary of the assessment. While not directly part of the Project, its effects are related to recent provincial water management in the RAA and should be included in the cumulative effects assessment. Future mitigation of those recent historic effects may be used to offset the effects of the Project and cumulative effects.	or more operational water levels or flow regimes and include those areas in the LAA for all Vegetation VCs. c. Expand the temporal period for the EA to include the construction of the Lake St. Martin Emergency Outlet Channel.
Vegetation					
107	PFN/SFN/SB OFN	3.2.1 3.2.2 4.2.2 5	4.4.1 8.2.1	**<u>VC Selection</u>** The EIS Guidelines require that VCs will be described in sufficient detail to allow the reviewer to understand their importance and to assess the potential for environmental effects arising from the project activities. The EIS will provide a rationale for selecting specific VCs and for excluding any VCs or information specified in these guidelines. The Guidelines further specify that the EIS will include details on how VCs arose in the process. The details on VC exclusion may include modelling, literature, data collected, expert input. Indigenous Engagement must be included in development of EIS and will include: - Engagement on temporal and spatial boundaries - VC selection and assessment <u>Rationale</u> • The pooling of riparian and upland vegetation, wetlands, all plant	a. Provide a rationale for excluding wetlands and riparian communities as one or more separate VCs when they are the vegetation communities most likely to be adversely affected by the Project. b. Provide individual pathways analyses for riparian communities, bogs, fens, marshes, and swamps. Include change in wetland hydrology as a pathway in these analyses. c. Describe how Indigenous knowledge was incorporated in the decision to adopt a single VC for vegetation. d. Provide the rationale for selection of a single VC as the most appropriate solution for the effects assessments of all vegetation components.

				communities, plant species, and plant species of conservation concern into a single VC (*Vegetation*) is so broad that it dilutes and obscures effects that the Project may have on specific communities and species. • By pooling all plant species and plant communities into a single VC the assessment is not sensitive enough to detect change. The assessment of a single vegetation VC does not include enough specific information to be able to properly define the cause and effect pathways, appropriate geographic assessment areas, appropriate temporal scopes, appropriate mitigation measures, or to identify the response metrics for measurement.	
108	PFN/SFN/SB OFN	7.1.7 7.2.3 7.5	8.2.2 8.2.3 8.2.4 8.2.5 8.2.7	**<u>Assessment</u>** The EIS Guidelines specify that the EIS will include a description of the Riparian, Wetland and Terrestrial Environments, specifically including: - characterization of the shoreline, banks, current and future flood risk areas, seasonally flooded areas, and wetlands (fens, marshes, peatlands, mudflats and eelgrass beds, etc.), including the location and extent of wetlands likely to be affected by project activities according to their size, type (class and form), and the description of the ecological function (ecological, hydrological, wildlife, socioeconomic, etc.) and species composition of each of the riparian and wetland environments. (S. 7.1.7) - changes to shorelines and riparian areas (e.g. due to erosion; vegetation changes; etc.). (S. 7.2.3) <u>Rationale</u> • Riparian areas have not been included in the assessment of the Project on vegetation. • Two sets of calculations are provided in the EIS to categorize the vegetation in the PDA, LAA, and RAA. On average they indicate that wetlands comprise 45% of the PDA, 23% of the LAA, and 39% of the RAA. • The EIS Guidelines specify that each of the riparian and wetland environments is to be considered. • Wetland hydrology and ecological function are not measured or assessed. Water levels and flows in wetlands are critical to maintenance of species composition and ecological function. The effects of the project on wetlands cannot be assessed simply through calculation of the direct disturbance footprint. Disruption of wetland hydrology is important to the environmental assessment.	a. Identify an approach to categorize and inventory riparian areas in the PDA from remotely sensed data or from field work. Undertake the necessary steps to properly include and assess the effects of the Project on those riparian areas. Include riparian zone erosion in that assessment. b. Delineate all individual wetlands, by type, in the PDA and those in the LAA whose drainage is directly connected to the Outlet Channels. c. Model the hydrology of those wetlands and assess the effects of changes in their hydrology and predict the effects on wetland integrity as measured against reference species composition and ecological function. Assess those effects under the complete range of operational water levels and flow regimes. As these are numerical models, provide the rationale for the chosen methodology, the assumptions involved in its use, and the limitations of the predicted data, including uncertainty on data interpretation, and statistical error and confidence in keeping with CEAA Technical Guidance. d. Determine the residual effects of the Project specifically on riparian communities, wetlands and wetland function. e. Reconsider or confirm the expectation that landscape and community diversity will not be affected by Project operation and maintenance,

				• The EIS reported that there will be no effects or changes to landscape diversity or community diversity from Project operation and maintenance (p. 8.34) as no vegetation clearing will occur beyond construction. This ignores Operation phase direct effects of varying water levels and flows, effects related to erosion, change in wetland hydrology and function, and all indirect effects arising from the presence of the outlet channels. • The deficiencies in: the selection of a single *Vegetation* VC; the poor characterization of wetlands and riparian areas; and inadequate details on mitigation leave the subsequent assessment of residual effects and the determination of significance unsupported. • The prediction confidence for the assessment will change when the assessment is revisited.	given 1. water flow and level fluctuations as part of normal operation; and 2. potential for chemical, pathogen, weed, and non-native plant dispersal by water flowing through the channel. f. Reassess the residual effects of the Project on vegetation overall. g. Reassess the determination of significance of the residual effects of the Project on vegetation. h. Reassess the prediction confidence for the vegetation assessment.
109	PFN/SFN/SB OFN	7.4	8.2.4	**<u>Mitigation</u>** The EIS Guidelines are prescriptive in their expectations for mitigation. In summary the EIS will: 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; 4. Discuss mechanisms to require compliance by contractors; 5. Describe mitigation measures for each environmental effect identified. These must be written as commitments with clear descriptions; 6. Describe mitigation measures for each environmental effect identified related to SARs. These must be written as commitments with clear descriptions and must be consistent with applicable SAR recovery strategies and Action plans; 7. Describe the mitigative actions planned for each Project phase. Also present assessment of likely effectiveness of mitigative actions; 8. Describe how mitigative actions are likely to reduce significance of effect; 9. Identify mitigation for effects that are adverse but not significant; 10. Explain other mitigative actions considered but not adopted. Explain why they were not adopted; and 11. Explain risks of mitigative actions for which there is no experience or for which there is doubt of effectiveness; The EIS must document specific suggestions from Indigenous groups for mitigation. Adaptive management is not a mitigation measure. Any proposed actions to follow effect detection in follow-up program must be described. The EIS (p. 8.34) indicates that vehicles, equipment and personnel clothing will be	a. For each vegetation species at risk and each riparian and wetland type, describe specific mitigation measures in sufficient detail to satisfy all mitigation criteria established in the CEAA Guidelines, Section 7.4. Note that pathways for success of mitigation are required as are assessments of risk and effectiveness of mitigations. b. Measurable parameters to determine mitigation effectiveness and residual effects must be linked to specific vegetation communities or SAR. c. Detailed descriptions of follow-up and monitoring of the effectiveness of mitigation must link directly to specific mitigation actions. d. Provide clean equipment protocol for industry, a vehicle hygiene program to prevent the spread of weeds and non-native invasive plants.

				inspected for plant and soil material prior to use in the LAA and material removed; however, weeds and non-native invasive plants may be accidently transported to the LAA. <u>Rationale</u> • The single VC selected for vegetation (i.e., *Vegetation*) is too coarse to allow for meaningful effects assessments, including mitigation effectiveness. • The separation of specific riparian communities and wetland types from the *Vegetation* VC will provide a more meaningful level for assessment; currently it is the overall effects on the *Vegetation* VC that are assessed in the EIS. • The potential effects for assessment (Change in Landscape Diversity, Change in Community Diversity, Change in Species Diversity, and Change in Wetland Function) are coarse categories, particularly given the coarse categorization of Land Cover Classes under the single *Vegetation* VC. • The mitigation strategies presented in the EIS are lumped under a single heading for each potential effect. They can be described as a list of best practices and potential mitigation actions. • Together the mitigation described in the EIS includes the first four points described in the EIS Guidelines, i.e., 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; 4. Discuss mechanisms to require compliance by contractors. • The introduction and establishment of invasive plant species is an important focus for mitigation.	
Wildlife					
110	PFN/SFN/SB OFN	3.2.1 3.2.2 4.2.2 5 7.1.7 7.1.8 7.1.9	4.4.1 8.3.1	**<u>VC Selection</u>** The EIS Guidelines require that VCs will be described in sufficient detail to allow the reviewer to understand their importance and to assess the potential for environmental effects arising from the project activities. The EIS will provide a rationale for selecting specific VCs and for excluding any VCs or information specified in these guidelines. The VCs selected must address federal Species at Risk and migratory birds. The VCs must incorporate abundance, distribution, diversity, and habitat.	a. Describe how Indigenous knowledge was incorporated in the identification of focal species. b. Describe how Manitoba Sustainable Development advice was incorporated in the identification of focal species and groups. c. Provide details on the engagement and consultation that supported the use of a single VC to account for all effects on wildlife and wildlife habitat. Specifically, include details on support for

				The Guidelines further specify that the EIS will include details on how VCs arose in the process. The details on VC exclusion may include modelling, literature, data collected, expert input. Indigenous Engagement must be included in development of EIS and will include: - Engagement on temporal and spatial boundaries - VC selection and assessment The EIS (S. 4.4.1) notes that environmental components were identified by Indigenous communities, and that provincial regulatory authorities were consulted at various stages. The EIS (S. 8.3.1) indicates that requirements of the Provincial Guidance Document have been met. The Provincial Document (S. 3.3.3) included: - amphibians and reptiles known or expected to inhabit the area, including habitat; - bird species known or expected to inhabit the area; - identification of nesting sites for colonial waterbirds and raptors; - migratory birds and their habitats; - mammal species known or expected to inhabit the area, including habitat and other life cycle requirements; and - species identified as being of conservation concern at a national, provincial, regional or local level within the Project region. In the EIS, all wildlife was grouped into a single VC, though MI indicate a focus on moose, elk, furbearing mammals, bats, migratory birds, and species at risk. <u>Rationale</u> • By pooling all wildlife species and their habitats into a single VC (*Wildlife*) the assessment is not sensitive enough to detect changes that may be specific to individual species, groups of species, or their habitats. The assessment of a single wildlife VC does not include enough specific information to be able to properly define the cause and effect pathways, appropriate geographic assessment areas, appropriate temporal scopes, appropriate mitigation measures, or to identify the response metrics for measurement. • To justify its use of a single VC (*Wildlife)* to assess the effects of the Project to wildlife and wildlife habitat, on page 8.66 MI cites the Manitoba Clean Environment Commission recommendation made in its report on the Bipole III public hearing (CEC 2013).	the decision to uses a single VC to represent all wildlife from: - Indigenous communities, and - Provincial regulators. d. Provide individual pathways analyses for individual species at risk, focal species, and focal species groups. e. Provide a pathway assessment of non-migratory bird populations, communities, and their habitat as required by the CEAA Guidelines. f. Provide the rationale for selection of a single VC as the most appropriate solution for the effects assessments of all wildlife components when furbearing mammals, elk, moose, white-tailed deer, SAR (including bats, migratory birds, and amphibians), waterbirds, upland birds, and raptors may have specific susceptibility to Project effects.

				• Reliance on a Manitoba Clean Environment Commission (CEC) non-licensing recommendation to support pooling all wildlife and wildlife habitat as a single VC was an error by MI: 1. The CEC does not issue Guidelines for environmental assessment in Manitoba. 2. The Manitoba Hydro Regional Cumulative Effects Assessment (RCEA) process followed the CEC 2013 advice cited by MI. Following receipt of external reviews of the RCEA, the CEC recognized that an absence of provincial guidance in environmental assessment led Manitoba Hydro to depart from best practices for environmental assessment (CEC 2018, pp. 70-71.). References: Manitoba Clean Environment Commission (CEC). 2013. Bipole III Transmission Project: Report on Public Hearing. Manitoba Clean Environment Commission, Winnipeg, MB. Manitoba Clean Environment Commission (CEC). 2018. A review of the regional cumulative effects assessment. Unpublished Report from the Manitoba Clean Environment Commission, Winnipeg, MB.	
111	PFN/SFN/SB OFN	7.1.7	8.3.1 8.3.2 8.3.6 9.2 10.2	Furbearers are included as a focal group under the *Wildlife* VC. Specific concerns include their importance to traditional users and Indigenous communities (p. 8.67, p. 8.70). Wildlife pathways assessed: • Change in habitat (p. 8.98). Direct loss from clearing. Indirect loss from noise and altered wetland function. • Change in mortality risk (generally assessed for wildlife, but does not specifically assess moose) • Change in movement – fragmentation (a residual effect during construction) <u>Rationale</u> • Furbearing mammals are a grouping of species that include both aquatic (e.g., beaver, muskrat, mink, river otter) and upland species (e.g., fox, black bear, fisher, marten, weasel, coyote, wolf, lynx). • Discussion on furbearer habitat (EIS pp. 8.82 – 8.84) includes the effects of wetland loss and altered water levels and flows in regional wetlands. • The effect of the Project on furbearer populations during both	a. After assessing the effect of the Project on specific wetland types (during both construction and operations phases), assess the effect of wetland loss on regional aquatic furbearer populations and their habitat. b. Provide a summary of historic furbearer harvest in the RAA; include harvest levels that pre-date the construction of the Emergency Outlet Channels. Provide an assessment of the effect of the Project on RAA aquatic furbearer habitat populations. c. Provide specific mitigation measures to protect furbearer habitat and populations with specific focus on the effects of water level regulation. d. Assess the residual effects of the Project on furbearer habitat and population sustainability.

				construction and operations may affect population sustainability and the number of animals available for trapping. The Project effects on populations may be direct (causing mortality) or indirect including loss of wetland habitat, decline in habitat quality, and habitat fragmentation – each of which may restrict movement, distribution, and rates of population growth. • The failure to consider furbearers as a separate VC obscures the effects of the Project on furbearer populations and habitat. This in turn, obscures the effect of the Project on Indigenous resource use.	
112	PFN/SFN/SB OFN	7.1.7	8.3.1 8.3.2 8.3.6 9.2 10.2	Moose are included as a focal species under the *Wildlife* VC. Specific concerns include declining populations and their importance to Indigenous communities (p. 8.67, p. 8.70) and other local resource users (p. 8.81). Wildlife pathways assessed: 1. Change in habitat (p. 8.98). Direct loss from clearing. Indirect loss from noise and altered wetland function. 2. Change in mortality risk (generally assessed for wildlife, but does not specifically assess moose) 3. Change in movement – fragmentation (a residual effect during construction) <u>Rationale</u> • Discussion on moose and moose habitat (EIS p. 8.81) • The effect of the Project on moose populations during both construction and operations may affect population sustainability and the number of animals available for subsistence hunting. The Project effects on populations may be direct (causing mortality) or indirect including loss of wetland habitat, decline in habitat quality, and habitat fragmentation – each of which may restrict movement, distribution, and rates of population growth. • Project operations (i.e., water levels and flow rates) may affect moose movement and distribution during operation phase. • The failure to consider moose as a separate VC obscures the effects of the Project on moose populations and moose habitat. This in turn, obscures the effect of the Project on Indigenous resource use and resource based tourism.	a. After assessing the effect of the Project on specific wetland types (during both construction and operations phases), assess the effect of wetland loss on regional moose populations and moose habitat. b. Provide a summary of historic moose populations in the GHAs in the RAA; include historic harvest levels. Provide an assessment of the effect of the Project on GHA moose populations. Include predictive models of harvestable numbers of moose and associated rates of population growth in the future. As these are numerical models, provide the rationale for the chosen methodology, the assumptions involved in its use, and the limitations of the predicted data, including uncertainty on data interpretation, and statistical error and confidence in keeping with CEAA Technical Guidance. c. Discuss the effect of increased harvester access via road or water on moose populations. d. Provide specific mitigation measures to protect the moose populations and the harvesting opportunities. e. Assess the effects of the Project on moose population sustainability.
113	PFN/SFN/SB	7.1.7	8.3.1	Elk are included as a focal species under the *Wildlife* VC. They inhabit a variety of	a. Beyond the information provided on page 8.81,

	OFN		8.3.2 8.3.6 9.2 10.2	habitats found within the RAA and are important to Indigenous communities (p. 8.67, p. 8.70)) and other local resource users (p. 8.81). Pathways assessed for wildlife: 1. Change in habitat (p. 8.98). Direct loss from clearing. Indirect loss from noise and altered wetland function; 2. Change in mortality risk (generally assessed for wildlife, but does not specifically mention elk); 3. Change in movement yields habitat fragmentation (a residual effect during construction). <u>Rationale</u> • Discussion on elk and elk habitat (EIS p. 8.81) • The effect of the Project on elk populations during both construction and operations may affect population sustainability and the number of animals available for subsistence hunting. The Project effects on populations may be direct (causing mortality) or indirect including loss of habitat, decline in habitat quality, and habitat fragmentation – each of which may restrict movement, distribution, and rates of population growth. • The failure to consider elk as a separate VC obscures the effects of the Project on elk populations and elk habitat. This in turn, obscures the effect of the Project on Indigenous resource use and resource based tourism.	provide a table with a complete set of available details on the North and South Interlake and individual GHA elk populations in the RAA; include annual harvest levels. Provide an assessment of the effect of the Project on GHA elk populations. Include predictive models of harvestable numbers of elk and associated rates of population growth in the future. As these are numerical models, provide the rationale for the chosen methodology, the assumptions involved in its use, and the limitations of the predicted data, including uncertainty on data interpretation, and statistical error and confidence in keeping with CEAA Technical Guidance. b. Discuss the effect of increased access via road or water on elk populations. c. Provide rationale to support the assertion that elk will cross the outlet channels (EIS p. 8.118). Include details on the predicted effects of various operational flow levels on the likelihood that elk will cross the outlet channels. d. Provide specific mitigation measures to protect the elk populations and the harvesting opportunities. e. Assess the effects of the Project on elk population sustainability.
114	PFN/SFN/SB OFN	7.1.10	8.3.1 8.3.2 8.3.6 9.2 10.2	White-tailed deer are not specifically mentioned in the CEAA Guidelines but are included here owing to their importance to Indigenous communities. White-tailed deer inhabit a variety of habitats found within the RAA (p. 8.80), including agricultural land, and are important to Indigenous communities (p. 8.70) and other local resource users (p. 8.79). Pathways assessed for wildlife: 1. Change in habitat. Direct loss from clearing. Indirect loss from noise and altered human land use; 2. Change in mortality risk (generally assessed for wildlife, but does not specifically mention white-tailed deer); 3. Change in movement from habitat fragmentation (a residual effect during	a. Provide a summary of historic white-tailed deer populations in the GHAs in the RAA; include historic harvest levels. Provide an assessment of the effect of the Project on GHA white-tailed deer populations. Include predictive models of harvestable numbers of white-tailed deer and associated rates of population growth in the future. As these are numerical models, provide the rationale for the chosen methodology, the assumptions involved in its use, and the limitations of the predicted data, including uncertainty on data interpretation, and statistical error and confidence in keeping with CEAA Technical

				construction). <u>Rationale</u> • White-tailed deer are an important species to Indigenous peoples in the Project area (EIS S. 10.2.2). • The Project effects on white-tailed deer populations may include loss of habitat, decline in habitat quality, and habitat fragmentation – each of which may restrict movement, distribution, and rates of population growth. Further, increased human access and habitat fragmentation may make white-tailed deer more vulnerable to hunting, an indirect mortality risk from the Project. • The failure to consider white-tailed deer as a focal species obscures the effects of the Project on white-tailed deer populations. This in turn, obscures the effect of the Project on Indigenous resource use and resource based tourism.	Guidance. b. Discuss the effect of increased access via road or water on white-tailed deer populations. c. Provide specific mitigation measures to protect the white-tailed deer populations and the harvesting opportunities for Indigenous people. d. Assess the effects of the Project on white-tailed deer population sustainability.
115	PFN/SFN/SB OFN	7.1.7 7.1.8 7.1.9 7.2.3 7.5	8.3.1 8.3.3 8.3.4 8.3.6 8.3.7 8.3.9	**<u>Assessment Process</u>** The EIS Guidelines (S. 7.1.7) specify that the EIS will include animal species (abundance, distribution and diversity) and their habitats, with a focus on species at risk or with special status that are of social, economic, cultural or scientific significance, as well as invasive alien species. From Guidelines S. 7.2.3 this includes: - changes to the habitat of migratory and non-migratory birds, with a distinction made between the two birds category, including losses, structural changes and fragmentation of riparian habitat of terrestrial environments and wetlands frequented by birds (types of cover, ecological unit of the area in terms of quality, quantity, diversity, distribution and functions); - changes to critical habitat for federally listed species at risk; - changes to key habitat, movement corridors, and population numbers for species important to current use of lands and resources for traditional purposes; and - changes to habitat connectivity. The EIS (S. 8.3.1) indicates that requirements of the Scoping Document have been met. The Scoping Document (S. 3.3.3) includes a commitment for the EIS to describe the attributes (including habitat and other life cycle requirements) of species of reptiles, amphibians, birds, and mammals known or expected to inhabit the region. The EIS (S. 8.3.6.1) states that landcover types from the assessment of the	a. Provide a Table listing wildlife focal species, focal groups, and species at risk. For each wildlife species, list the LAA Landcover Classes from EIS Table 8.2A-3 that are considered suitable habitat; provide contemporary and regionally appropriate citations to support the suitable habitat description for each species or group. Include riparian categories created in response to Vegetation Assessment IR above. b. Provide a Table for each wildlife SAR and focal species and species group, showing the amount of each suitable habitat type in pre-Project, Construction, and Operations phases. Include values for wetland types after applying the effects of the Project on wetland hydrology and ecological function rather than simple Project footprint calculations. c. Provide an assessment of non-migratory bird populations, communities, and their habitat as required by the CEAA Guidelines. d. As shown in Figures 8.3B-10 (Eastern whip-poor-will) and 8.3B-11 (red-headed woodpecker), map the suitable habitat (pre-Project) for each of the

				Vegetation VC (S. 8.2.1) were adopted directly to assess wildlife habitat. Direct habitat loss was calculated as the amount of each type overlapping the PDA while indirect changes in habitat were assessed qualitatively as wildlife responses to noise and other sensory disturbance. <u>Rationale</u>: • The deficiencies of the assessment of Project effects on vegetation are compounded when those same effects on vegetation are used to represent Project related changes in wildlife habitat. Included are the problems associated with: - Absence of riparian vegetation being quantified and assessed - Wetland hydrology and ecological function are not measured or assessed. - Wetlands types are crudely pooled and not assessed independently. - Project effects are considered to end when construction is complete. • Vegetation land cover classes are not clearly linked to known habitat associations for wildlife species • The only quantitative assessments are of changes in habitat. • The deficiencies in: the selection of a single *Wildlife* VC; the poor characterization of habitat; and inadequate details on mitigation leave the subsequent assessment of residual effects and the determination of significance unsupported. • The prediction confidence for the assessment will change when the assessment is revisited.	other focal species and SAR. e. For each focal species, species group, and SAR, present the results of fragmentation analyses based on the appropriate suitable habitat. f. Provide specific mitigation measures to project suitable habitat. g. For furbearers, moose, white-tailed deer, and elk include results from the assessment of Project effects on population sustainability. h. Assess the residual effects to each focal species, species group, and SAR. i. Reassess the residual effects of the Project on wildlife overall. j. Reassess the determination of significance of the residual effects of the Project on wildlife. k. Reassess the prediction confidence for the wildlife assessment.
116	PFN/SFN/SB OFN	7.4	4.5.1.3 4.5.2.3 8.2.4 8.3.6	**<u>Mitigation</u>** The EIS Guidelines are prescriptive in their expectations for mitigation. In summary the EIS will: 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; 4. Discuss mechanisms to require compliance by contractors; 5. Describe mitigation measures for each environmental effect identified. These must be written as commitments with clear descriptions; 6. Describe mitigation measures for each environmental effect identified related to SARs. These must be written as commitments with clear descriptions and must be consistent with applicable SAR recovery strategies and Action plans; 7. Describe the mitigative actions planned for each Project phase. Also present assessment of likely effectiveness of mitigative actions;	a. For each species at risk and each wildlife focal species and focal group, describe specific mitigation measures to in sufficient detail to satisfy all mitigation criteria established in the CEAA Guidelines, Section 7.4. Note that pathways for success of mitigation are required as are assessments of risk and effectiveness of mitigations. b. Measurable parameters to determine mitigation effectiveness and residual effects must be linked to specific SAR, focal species, or focal groups. Currently, measurable parameters are specified only for habitat changes for Eastern whip-poor-will and red-headed woodpecker.

				8. Describe how mitigative actions are likely to reduce significance of effect; 9. Identify mitigation for effects that are adverse but not significant; 10. Explain other mitigative actions considered but not adopted. Explain why they were not adopted; and 11. Explain risks of mitigative actions for which there is no experience or for which there is doubt of effectiveness; The EIS must document specific suggestions from Indigenous groups for mitigation. Adaptive management is not a mitigation measure. Any proposed actions to follow effect detection in follow-up program must be described. <u>Rationale</u> • The single VC selected for wildlife (i.e., *Wildlife*) is too coarse to allow for meaningful effects assessments. • The selection of focal species or groups within the wildlife VC provides a more meaningful level for assessment, however it is the effects on the *Wildlife* VC that are ultimately assessed in the EIS. • The potential effects for assessment (Change in Habitat, Change in Mortality Risk, and Change in Movement) are coarse categories, particularly given the coarse categorization of habitat under the single Vegetation VC. • The mitigation strategies presented in the EIS are lumped under a single heading for each potential effect. They can be described as a list of best practices and potential mitigation actions. • Together the mitigation described in the EIS includes the first four points described in the EIS Guidelines, i.e., 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; 4. Discuss mechanisms to require compliance by contractors.	c. Detailed descriptions of follow-up and monitoring of the effectiveness of mitigation must link directly to specific mitigation actions.
Indigenous Engagement / Traditional Land and Resource Use					
117	PFN/SFN/SB OFN	7.1.10 7.3.3	3.4.1 5.3 9.2.1.2 9.2.4.5 10.2.1 10.2.4	**<u>VC Selection and Assessment</u>** The EIS Guidelines (p. 27) require the proponent to provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples. Baseline information for current use of lands and resources for traditional purposes will focus on the traditional activity (e.g. hunting, fishing, trapping, plant gathering) and include a characterization of all attributes of the activity that can be affected by environmental, social, and/or	a. Revisit assessments of Project effects on abundance of wildlife resources through requirements described in information requests for EIS Section 8.3. b. Provide a quantitative assessment of seasonal changes in access arising from Project construction and Project operations.

				cultural change. When VCs are included in the biophysical assessment sections the Project effects may also be considered for their effects on Indigenous people. The effects of the Project on the use of lands for traditional purposes will consider changes caused by Project effects on the environment. These include quantity and quality of resources, changes in resource availability and change in access to areas and resources (EIS Guidelines p. 35). In the EIS, VCs for land and resource use are Land and Resource Use (LRU) and, for Indigenous peoples, Traditional Land and Resource Use (TLRU). The assessment of TLRU assumes "…that the exercise of traditional activities depends on the health and abundance of traditionally harvested species and the continued availability of and access to traditional use sites and areas." (EIS, p. 10.3). In the Project engagement sessions (EIS S. 5, Table 5A-11) people of Pinaymootang First Nation described loss of areas for hunting and harvesting berries following historic water management projects. They also expressed concern over additional losses of hunting, trapping, and farming opportunities from Project effects, including the areas where the outlet channels are planned. Similarly, the issues arising through engagement with all Indigenous communities and groups include Project effects that will change availability and access to plant and animal resources (EIS, Table 10.2-1). The significance thresholds for LRU (EIS, p. 9.19) indicate that land and resource use, including agriculture, will be assessed against baseline levels. Effects will be determined significant if land use deviates from near baseline levels and cannot be adequately compensated. The measurable parameters for TLRU were selected as changes in available habitat and qualitative assessments of changes in hunting and fishing pressure. The residual effects of the Project on hunting and trapping were determined to be long-term, regular and continuous for presence of the infrastructure, and irreversible for land loss (p. 9.106). The EIS (S. 10.2) reported the scope of the TLRU assessment to be availability and access to lands and resources used traditionally and acknowledged that assessment outside the LAA was unreliable.	c. Revisit the assumption that traditional resources and lands are abundant and availabile to Indigenous peoples and other traditional users. d. Reassess the effects of the Project on Land and Resource Use and Traditional Land and Resource Use.

				<u>Rationale</u> • There is a general failure to properly determine baseline levels of land and resource use for comparison. • As with other VCs, the LRU and TLRU VCs are broad, and each is a pooled assortment of factors. As with the *Wildlife* and *Vegetation* VCs, the assessments of LRU and TRLU VCs are not sensitive enough to detect changes that may be specific to individual components. • The measurable parameter of available habitat relies on the effects assessment of the *Vegetation* VC, a coarse VC that obscures Project effects. It is an insensitive measure of the effects of the Project on vegetation resources and on wildlife habitat.. • There was a failure to properly assess effects of the Project on the abundance of wildlife resources (especially moose, white-tailed deer, elk, furbearers). Abundance of wildlife resources affects traditional use, opportunities for resource based tourism, and determination of compensation (EIS S. 8.3). • There was a failure to quantitatively assess effects of the Project on access to vegetation and wildlife resources (especially moose, white-tailed deer, elk, furbearers). Access to vegetation and wildlife affects traditional use, opportunities for resource based tourism, and determination of compensation (EIS S. 8.3). • The assumption of abundance and availability of resources (EIS Section 10.2.1) has not been supported in the Terrestrial Environment section of the EIS. • Despite the assessment that effects of the Project on LRU and TLRU (hunting, trapping, fishing, forestry, and other resources uses) will be continuous and irreversible the proponent has determined them to be insignificant.	
118	PFN/SFN/SB OFN	7.4	9.2.4 10.2.4	**<u>Mitigation</u>** The EIS Guidelines are prescriptive in their expectations for mitigation. In summary the EIS will: 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; 4. Discuss mechanisms to require compliance by contractors; 5. Describe mitigation measures for each environmental effect identified. These	a. For each traditional resource, describe specific mitigation measures to in sufficient detail to satisfy all mitigation criteria established in the CEAA Guidelines, Section 7.4. Note that pathways for success of mitigation are required as are assessments of risk and effectiveness of mitigations. b. Measurable parameters to determine mitigation

				must be written as commitments with clear descriptions; 6. Describe mitigation measures for each environmental effect identified related to SARs. These must be written as commitments with clear descriptions and must be consistent with applicable SAR recovery strategies and Action plans; 7. Describe the mitigative actions planned for each Project phase. Also present assessment of likely effectiveness of mitigative actions; 8. Describe how mitigative actions are likely to reduce significance of effect; 9. Identify mitigation for effects that are adverse but not significant; 10. Explain other mitigative actions considered but not adopted. Explain why they were not adopted; and 11. Explain risks of mitigative actions for which there is no experience or for which there is doubt of effectiveness; The EIS must document specific suggestions from Indigenous groups for mitigation. Adaptive management is not a mitigation measure. Any proposed actions to follow effect detection in follow-up program must be described. <u>Rationale</u> • The LRU and TRLU VCs are coarse and depend on effects assessments of other VCs (e.g., *Vegetation* and *Wildlife*) to properly characterize Project resource availability. • The mitigative actions for both the *Vegetation* and *Wildlife* VCs can collectively be described as a list of best practices and potential mitigation actions. • Together the mitigation described in the EIS for *Vegetation* and *Wildlife* include the first four points described in the EIS Guidelines, i.e., 1. Indicate a commitment to the mitigation hierarchy; 2. Describe standard mitigation practices, policies, commitments; 3. Describe Project EPP and how this will be delivered; and 4. Discuss mechanisms to require compliance by contractors. • There are promises made in the EIS to further evaluate human access concerns and provide for access management. However, without knowledge of the state of other VCs, e.g., *Vegetation* and *Wildlife*, the effectiveness of access management is unknown.	effectiveness and residual effects must be linked to specific resources or areas. c. Detailed descriptions of follow-up and monitoring of the effectiveness of mitigation must link directly to specific mitigation actions.
Vegetation, Wildlife, Land and Resource Use					
119	PFN/SFN/SB OFN	7.6.3	3.0 4.5.2.1 11.1	**<u>Cumulative effects assessment</u>** The EIS Guidelines (p. 41) state: "The proponent will identify and assess the	a. Return to the scoping of VCs and revise their selection to better reflect features sensitive to Project effects. See comments on selection for the

			11.3 11.6 11.7 11.8 11.12	project's cumulative effects using the approach described in the Agency's Operational Policy Statement entitled Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012 and the guide entitled Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012." The CEAA Technical Guidance document indicates that when there may be residual effects from the Project on a VC, even if the effects are minor, then a cumulative effects assessment (CEA) will consider the effects of the Project together with: - Past development - Present development - Reasonably foreseeable activities The proponent must then provide a rationale for the VCs to be carried forward to the CEA process. The Scoping Document (S. 5.8, p. 14) states that the CEA "…will be done in a manner that complies with the approach described in the Agency's Operational Policy Statement entitled Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (2012)." The EIS (S. 4.5.2.1) presents a CEA approach that differs from that in the Guidelines. "The environmental effects of other past and present projects or activities that have been carried out are generally reflected in the existing baseline environment and are therefore considered in the Project related environmental effects assessment for each VC." (EIS p. 4.20). <u>Rationale:</u> • There are no quantitative assessments of the effects of past developments on the terrestrial environment presented in the EIS. • By failing to assess the current pre-Project conditions against a pre-development landscape, the proponent has considered the effects of past developments to be zero. The existing pre-Project landscape is the baseline for all assessment, contrary to appropriate CEA practices. • The most recent past development is the Lake St. Martin Emergency Outlet Channel. • There is a quantitative assessment of Project effects on coarsely classified vegetation at the scale of the RAA only (EIS S. 11.6). There is no	*Vegetation* and *Wildlife* VCs. b. Define specific and appropriate mitigation strategies for Project effects on each VC. c. In a GIS, create a base case environment that represents conditions in the PD, LAA, and RAA prior to all past development (including agricultural development). d. In a GIS, create a pre-EOC case environment that represents conditions in the PD, LAA, and RAA in approximately 2010. e. Assess the incremental environmental effects on each new VC in each interval: 1. base case to pre-EOC; 2. pre-EOC to current pre-Project case; 3. pre-Project case to completion of construction (i.e., the construction phase); 4. post-construction including reasonably foreseeable developments; and finally 5. base case to reasonably foreseeable future (the cumulative effects case. f. The quantitative cumulative effects assessment will include all VCs with residual Project effects. g. Re-run the cumulative effects assessment.

				quantitative assessment at the LAA scale. The features of the CEA of *Vegetation* that obscure residual effects are: 1. Coarse classification of vegetation types; 2. An assessment only at the largest spatial scale, diluting local effects; 3. The absence of inclusion of historic (pre-Project) effects; 4. Failing to note that the 1073 ha of wetlands lost directly to construction of the Project and access road include 12% of swamps, 17% marshes, 17% of fens, and 18% of bogs in the RAA; and 5. Not accounting for the additional loss of wetlands that will occur when their hydrologic regime is altered, despite being outside the Project footprint. • Mitigation of cumulative effects of the Project on *Vegetation* is unchanged from that for Project effects. • Of all wildlife species in the region, the only species mentioned in the cumulative effects assessment of habitat loss are eastern whip-poor-will, red-headed woodpecker, bobolink, and yellow rail – four migratory bird species at risk. Wildlife habitat is dependent on the flawed assessment of the *Vegetation* VC. • Mitigation of cumulative effects of the Project on *Wildlife* is unchanged from those for Project effects. • The cumulative effects assessment of LRU and TLRU are non-quantitative and are unchanged from the Project effects assessment. • With the flaws in VC definitions, temporal case definitions, and Project level assessment, the cumulative effects assessment was fated to fail.	
Follow up and Monitoring Program					
120	PFN/SFN/SB OFN	9.2	12.6 12.7 12.8 12.13	The EIS Guidelines require that the proponent prepare a monitoring program for all phases of the Project. The EIS must include an outline of a preliminary program including mitigation measures, regulatory instruments, monitoring protocols, measurement parameters, analytical methods, schedule, budget, reporting guidelines, plans for mapping resources, and plans for indigenous engagement. From the Scoping Document (S. 6): " Monitoring and follow-up actions will be considered to facilitate compliance with mitigation measures, confirm effect predictions related to anticipated effects, to determine whether unexpected effects are occurring, and to allow for adaptive management and appropriate mitigation measures if unexpected effects do occur. Suggested monitoring and follow-up action will be presented in the EIS, but will only be finalized once	a. After completing quantitative analyses of environmental effects and designing comprehensive mitigation strategies the proponent must draft comprehensive monitoring programs for all environmental components. b. In the absence of quantitative objectives with sound scientific bases, monitoring will not be effective. c. The proponent should engage experts to assist with the development of an effective monitoring program. They will likely need to search outside Manitoba for qualified individuals.

				regulatory requirements and feedback are known, and following the issuance of authorizations and regulatory approvals." In the EIS, each of Wildlife and Vegetation VCs receives a single page for monitoring: there are promises to develop a Vegetation Monitoring Plan, and a Wildlife Monitoring Plan. Land and Resource Use monitoring receives two paragraphs and Traditional Land and Resource Use a single paragraph. <u>Rationale</u> • There is little quantitative analysis in the EIS. • There are no clearly defined mitigation strategies , quantitative targets, or thresholds in the EIS. • Effective environmental monitoring is a scientific process requiring data, predictive outcomes, and pre-defined methods of data collection, analysis, and reporting. It can also be expensive. • There is no history in Manitoba of effective environmental monitoring.	d. There must be a dedicated budget set aside for long-term monitoring rather than relying on funding in a year-by-year model.