



Creekside Solar Inc.

Creekside Solar Project

July 14, 2023



Alberta Utilities Commission

Decision 27652-D01-2023

Creekside Solar Inc.

Creekside Solar Project

Proceeding 27652

Application 27652-A001

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1 Decision summary

1. In this decision, the Alberta Utilities Commission approves an application from Creekside Solar Inc. (CSI) to construct and operate a power plant, designated as the Creekside Solar Project. The project consists of an 18.4-megawatt (MW) solar power plant and a connection to the FortisAlberta Inc. distribution system.

2 Introduction

2.1 Creekside Solar Inc.'s application

2. CSI filed an application with the Commission for approval to construct and operate the 18.4-MW Creekside Solar Power Plant and to connect the power plant to the FortisAlberta Inc. electric distribution network (together, the Creekside Solar Project or project), under sections 11 and 18 of the *Hydro and Electric Energy Act*.

3. The Creekside Solar Project would be sited on approximately 127 acres of privately owned cultivated land in Leduc County. More specifically, the project is located within Section 24, Township 49, Range 27, west of the Fourth Meridian, as shown in Figure 1. CSI plans on purchasing the project lands if the project is approved.¹

4. The power plant would consist of approximately 46,342 Trina Solar TSM-DEG19C20 solar modules, on a 35-degree fixed-tilt racking system, and four SMA 4600-UP power stations (i.e., inverter and transformer units).²

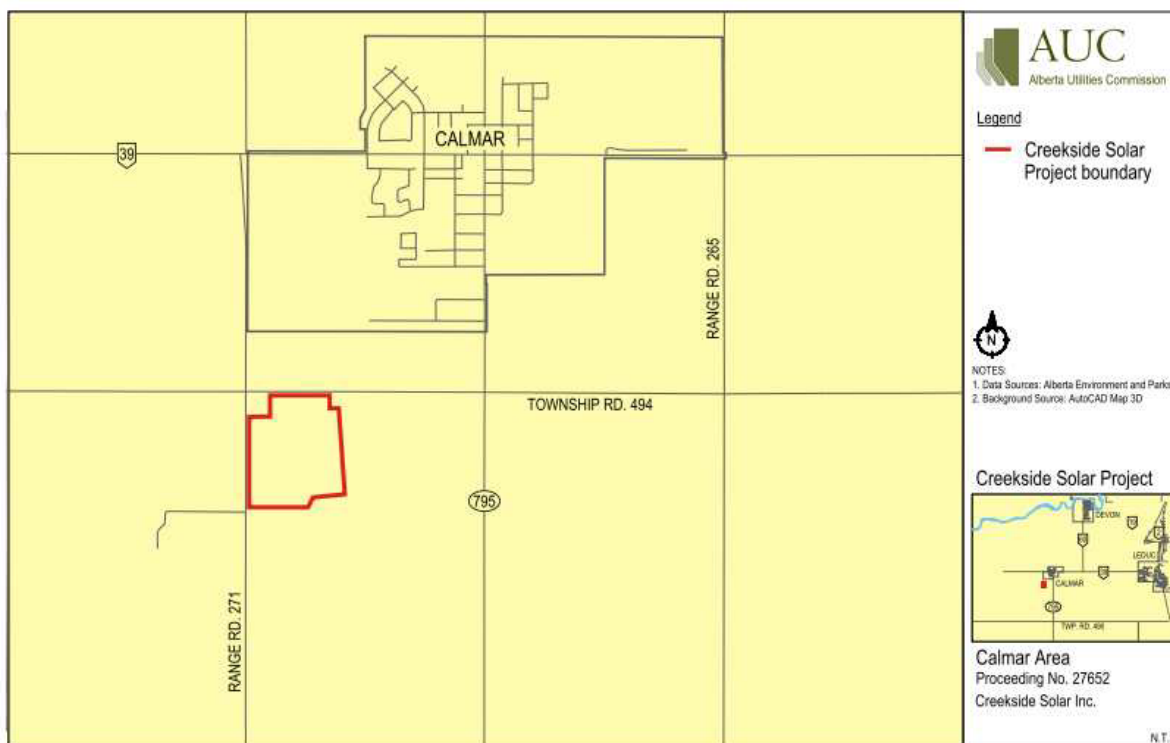
5. CSI described the project benefits as including local labour employment opportunities during construction and operations, municipal tax revenues, adding renewable electricity to Alberta's power sector, and supplying local electrical load.³ CSI stated that the project will create approximately 200 jobs during peak construction, and several maintenance and operations jobs during operation. CSI submitted that the project also will generate approximate \$5 million in tax revenue over the project's lifespan.

¹ Exhibit 27652-X0008, Existing Land Use Summary, PDF page 1.

² Exhibit 27652-X0015, AUC Power Plant Application.

³ Exhibit 27652-X0004, Participant Involvement Program (PIP), PDF page 24.

Figure 1. Creekside Solar Project location



6. CSI's application contained the following key components:

- A participant involvement program summary, which detailed consultation with stakeholders within 400 metres of the project and notification of stakeholders within 800 metres of the project. CSI explained that no Indigenous consultation was undertaken after feedback from the Alberta Aboriginal Consultation Office stated that the project is sited on private land, and no *Water Act*, *Environmental Protection and Enhancement Act*, or Historical Resource Values were impacted. There is no known potential impacts on Aboriginal rights and traditional uses.⁴
- An environmental evaluation, which assessed the pre-construction Creekside Solar Project site conditions, described field survey methodologies, discussed potential environmental impacts from the project to valued ecosystem components in the project area, and characterized the significance of any residual impacts.⁵
- An environmental protection plan, which detailed the mitigation measures, commitments, and applicable environmental legislation as it applied to the project.⁶

⁴ Exhibit 27652-X0004, Participant Involvement Program (PIP).

⁵ Exhibit 27652-X0021, Environmental Evaluation.

⁶ Exhibit 27652-X0039, CS Environmental Protection Plan.

- A renewable energy referral report dated August 2, 2022, from Alberta Environment and Parks - Fish and Wildlife Stewardship (AEP),⁷ which ranked the project a moderate risk to riparian wildlife and habitat with an overall low risk to wildlife and wildlife habitat.⁸ On February 24, 2023, CSI filed a revised renewable energy referral report with the Commission in which the bird risk ranking for the project was reduced to “low” following the completion of the 2022 spring bird migration studies.⁹
 - An initial conservation and reclamation plan developed with the objective to return the project land to an equivalent land capability.¹⁰
 - A *Historical Resources Act* approval dated July 16, 2021.¹¹
 - A noise impact assessment (NIA), which concluded that the project would comply with Rule 012: *Noise Control*.¹² CSI revised the NIA three additional times over the course of the proceeding.¹³
 - A solar glare assessment, which concluded that the project is not likely to have the potential to create hazardous glare conditions for the dwellings or transportation routes.¹⁴
 - A preliminary site-specific emergency response plan.¹⁵
 - An interconnection agreement with FortisAlberta Inc. to connect the power plant to its 25-kilovolt distribution system via feeders 538S-53LE and 538S-2034L.¹⁶
 - A Phase 1 and Phase 2 environmental site assessment, which identified guideline exceedances for select salinity, petroleum hydrocarbon, polycyclic aromatic hydrocarbon and metal parameters, as well as elevated chloride values, in the project area.¹⁷
7. CSI advised that it expects the project to finish construction by February 15, 2024, with an in-service date of March 1, 2024.¹⁸

⁷ On October 24, 2022, the Ministry of Environment and Parks (AEP) was renamed the Ministry of Environment and Protected Areas (AEPA). Any references to AEP in Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* and elsewhere that relate to forward-looking obligations or commitments between the applicant and AEPA should be interpreted as meaning Alberta Environment and Protected Areas. AEPA will be used throughout regardless of whether the referenced document or information was issued prior to the name change.

⁸ Exhibit 27652-X0016, AEP Renewable Energy Referral Letter.

⁹ Exhibit 27652-X0114, CSI RERR Amendment (2023-02-23).

¹⁰ Exhibit 27652-X0021, Environmental Evaluation, PDF pages 40 to 57.

¹¹ Exhibit 27652-X0020, Historic Resource Act Approval.

¹² Exhibit 27652-X0002, Noise Impact Analysis.

¹³ The most recent noise impact assessment can be found in Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching Associates Acoustical Engineering Ltd.

¹⁴ Exhibit 27652-X0026, Solar Glare Hazard Analysis.

¹⁵ Exhibit 27652-X0007, Emergency Response Plan for Local Responders.

¹⁶ Exhibit 27652-X0019, Fortis Interconnection Letter.

¹⁷ Exhibits 27652-X0071, Phase I ESA Report and 27652-X0072, Phase II ESA Report.

¹⁸ Exhibit 27652-X0015, AUC Power Plant Application.

2.2 Interveners

8. The Commission received numerous responses to its notice of hearing.¹⁹ The following parties filed statements of intent to participate and were granted standing in the proceeding:

- a. Individual stakeholders adjacent to the Creekside Solar Project boundary who subsequently formed the Creekside Concerned Landowners Group (CCLG).
- b. Leduc County (the County).

9. The Commission held a virtual hearing from April 10, 2023, to April 17, 2023, to consider the application and concerns raised. The registered proceeding participants and the registered appearances for the oral hearing can be found in appendixes A and B, respectively, of this decision.

10. In the following sections of this decision, the Commission discusses several concerns and factors that the Commission has considered in making its decision, and provides the Commission's findings.

3 Discussion and findings

11. In accordance with Section 17 of the *Alberta Utilities Commission Act*, where the Commission conducts a hearing on an application to construct or operate a power plant under the *Hydro and Electric Energy Act*, it shall, in addition to any other matters it may or must consider in conducting the hearing, give consideration to whether construction or operation of the proposed power plant is in the public interest, having regard to the social and economic effects of the power plant and the effects of the power plant on the environment.

12. The Commission has previously found that the public interest will be largely met if an application complies with existing regulatory standards, and the project's benefits to the public outweigh its negative impacts.²⁰ In determining if the application is in the public interest the Commission must take into account the purposes of the *Hydro and Electric Energy Act* and the *Electric Utilities Act*. The Commission must also determine whether an applicant has met the requirements of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* and Rule 012. An applicant must also obtain all approvals required by other applicable provincial or federal legislation.

13. The Commission's consideration of the above matters is detailed in the subsections that follow.

14. The Commission begins by considering CSI's consultation process, or participant involvement program as it is referred to Rule 007. Then, the Commission considers the impact to Carol Ann McKell and Robert McKell (the McKells) specifically; this is because the McKells reside adjacent to the project lands and are the most directly and adversely affected by the project. Next, the Commission considers potential impacts of the project in relation to noise,

¹⁹ Exhibit 27652-X0030, Notice of hearing - Creekside Solar Power Plant.

²⁰ Alberta Energy and Utilities Board Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Coal-Fired Power Plant, Application 2001173, December 21, 2001, page 4.

visual and glare, agriculture, property value, environmental, and concerns raised by CSI's lack of a decommissioning and reclamation fund. The Commission concludes by addressing the County's requests.

3.1 Consultation

15. The CCLG submitted that CSI's participant involvement program was inadequate due to the lack of meaningful consultation with local residents. The CCLG submitted that they preferred in-person consultation, but that the consultation was confined to online and phone meetings. Some group members indicated they did not receive responses from CSI to phone calls. The Buchaks, who are adjacent to the project, highlighted several errors with getting properly addressed mail regarding the project; they advised that an unaddressed project information package with an incorrect address was left in their mailbox and that, while the Commission's notice was addressed to them, it was sent to a different family member's address.²¹

16. The CCLG also expressed concerns with CSI's virtual open house advertisement, stating that it was a very small advertisement in the local newspaper, did not provide adequate contact information, and was published the day before the open house, resulting in low awareness of and attendance at the open house.²² The CCLG also submitted that CSI's purpose at the virtual open house was only to provide information and that CSI did not sufficiently respond to questions. In contrast, the CCLG advised that a community meeting for the project, which was not organized by CSI, included a large advertisement which showed the location of the project and explained the purpose of the meeting, and resulted in a much higher attendance. The CCLG stated that CSI was aware of the meeting, and assumed that a CSI representative would attend. They advised they later found out that CSI sent a representative to the meeting, but they did not identify themselves as a CSI representative.

17. The McKell residence is adjacent to, and on the same quarter section as, the project, and is the closest residence to the project. C. McKell stated that CSI did not contact her and did not respond to her questions. C. McKell stated that CSI was unwilling to listen to what landowners were asking of them. C. McKell submitted that, when CSI came to her home, CSI refused her request to meet outside, ignored her husband's health concerns, and pushed their way inside the home.²³ She said she did not feel safe meeting with CSI.²⁴

18. CSI submitted that, during its participant involvement program, it notified landowners within an 800-metre radius of the Creekside Solar Project boundary, and hand-delivered a project-specific information package to local stakeholders within 400 metres of the project boundary. In CSI's view, through a variety of communication methods (including mail, email, open houses, phone, and in-person visits), all interveners were informed of the project, had their voices heard, and concerns addressed where possible.

19. Overall, and for the reasons that follow, the Commission is satisfied that CSI's participant involvement program met the minimum requirements as set out in Rule 007, especially in light of the COVID-19 pandemic.

²¹ Exhibit 27652-X0090.01, Appendix A - Landowners Submissions, PDF page 65.

²² Exhibit 27652-X0090.01, Appendix A - Landowners Submissions, PDF page 20.

²³ Transcript, Volume 3, page 542.

²⁴ Transcript, Volume 3, pages 541 to 543.

20. Rule 007 requires an applicant to consult nearby landowners and relevant jurisdictions²⁵ about potential project-related impacts at the pre-application stage. The Commission considers a participant involvement program to be effective if it meets Rule 007 minimum requirements and has allowed stakeholders an opportunity to understand the project and its potential impacts, express their legitimate concerns about the project, and to provide site-specific input to improve the project. The Commission acknowledges that even an effective participant involvement program may not resolve all stakeholder concerns. This is not necessarily the fault of CSI or the stakeholders as parties may have different views.

21. The Commission acknowledges that some stakeholders may prefer face-to-face discussions; however, the Commission finds that replacing in-person consultation with phone and email communication is consistent with AUC bulletins 2020-13 and 2020-30²⁶ and was generally appropriate during the pandemic period. The Commission finds sufficient evidence to demonstrate that CSI provided information to and answered questions from stakeholders via phone and email. The Commission notes that CSI organized an additional in-person open house in response to the preference of the landowners.

22. The Commission finds that where feasible, CSI incorporated changes to the project and mitigation measures to address concerns raised by stakeholders. For example, CSI relocated project power stations to address noise concerns, and proposed fence and tree screening to address the McKells' visual impact concerns.²⁷

23. While CSI was unable to resolve all outstanding concerns raised by stakeholders, the Commission is satisfied, on the basis of the consultation records and the evidence in this proceeding, that CSI's participant involvement program generally achieved the purposes of consultation set out in Rule 007. CSI's participant involvement program provided area stakeholders with sufficient information to understand the nature of the project, identify areas of concern, and engage in dialogue with CSI with the goal of eliminating or minimizing those concerns.

24. Notwithstanding the above findings, the Commission shares some of the concerns raised by the CCLG in relation to CSI's consultation activities and expects CSI to make improvements in any future participant involvement program it conducts. For example, in the Commission's view, a larger newspaper advertisement that included key information such as: information about CSI as a company; a description of the project; and a map of the project area; would have been more meaningful in communicating to potentially affected stakeholders both information about the project and ways to learn more about it through attendance at the open house. Despite this, the Commission accepts that CSI did hold an in-person open house that some CCLG members were able to attend, and that CSI both made a presentation and answered questions made by attendees. As another example, the Commission agrees that representatives of an applicant should identify themselves as such when attending events related to a project. In this case, the CSI representative should have identified himself as such when attending the community

²⁵ E.g., municipal districts and counties.

²⁶ Bulletin 2020-13, Interim changes to AUC participation involvement program and related information requirements, issued on April 7, 2020. Bulletin 2020-30, Revised draft version of AUC Rule 007 and interim changes to AUC participation involvement program, issued on August 7, 2020.

²⁷ Exhibit 27652-X0152, Creekside Solar Inc. - Reply Evidence, March 14, 2023, PDF pages 5 to 8.

meeting not organized by CSI, especially given that the CSI representative was attending the community meeting at CSI's request and the organizers extended an invitation to CSI to attend.²⁸

25. In addition, the Commission takes seriously the concerns raised by CCLG members that they felt intimidated by CSI at times, and acknowledges that there appears to be a high level of tension in the relationship between certain CCLG members and CSI. The applicant's consultation responsibilities to stakeholders do not end when the application is approved. The Commission expects CSI to consult and work with local stakeholders proactively and in good faith as it constructs and operates the Creekside Solar Project. In that respect, the Commission has a complaint process, available via the AUC homepage or via phone, should it be required.

3.2 Project impacts on the McKells

26. The McKells are the landowners most impacted by the project due to their proximity. The McKells' land is located on the same quarter section as the project, immediately east of the project. The project originally had a separation distance of 57 metres from the solar panels to the McKell residence; however, CSI amended the project layout to accommodate visual screening mitigations. The nearest solar panels, as proposed by CSI, are now 70.1 metres from the McKell residence.²⁹

27. As described below, the impacts of the project on the McKells are unique given the McKells close proximity to the project, their health concerns (including hearing loss and asthma), and the potential impacts from noise and dust to their health and quality of life. In this section of the decision, the Commission provides its findings regarding specific noise, dust and visual impacts to the McKells. More general findings in relation to these impacts are located in other parts of the decision.

28. The McKells expressed concern that, during construction of the project, the existing soil contamination within the project site would spread onto their lands, contaminate their shallow water well, and continue into Conjuring Creek. The Commission discusses issues of contamination and remediation in Section 3.7.3 of this decision.

3.2.1 Construction noise and dust impacts

29. The McKells submitted that noise associated with the construction of the project will exacerbate existing health concerns. C. McKell submitted she suffers from hearing loss and that loud noises give her headaches. Accordingly, she expressed concern that both the noise resulting from the pounding of steel piles and the backup beepers from the construction equipment will cause a negative impact to her health, and result in further hearing loss. The McKells submitted that CSI's proposed mitigation of offering headphones³⁰ (earmuffs or earplugs) for hearing protection was not practical as it inhibited their daily life such as having conversations and phone calls. The McKells requested additional mitigation such as the use of white noise backup beepers and the installation of a sound barrier.

30. Henk de Haan, an independent witness who provided noise evidence for the CCLG, estimated the noise emissions from piling activities to be approximately 55 A-weighted sound

²⁸ Transcript, Volume 2, page 386, line 18 to page 387, line 23.

²⁹ Exhibit 27652-X0181, Creekside Solar Inc. - Appendix U11.

³⁰ While the term 'headphones' was used by several participants, it is understood this refers to earmuff style noise protection.

level (dBA) at a distance of 150 to 250 metres. H. de Haan recommended that CSI complete a noise management plan and implement mitigation measures to reduce noise from project construction activities. He also recommended that CSI install continuous noise monitoring equipment for the construction phase of the project,³¹ and consider the use of white noise backup beepers and sound barriers.³²

31. CSI confirmed that construction activities, including pile driving, would occur during the daytime hours of 7 a.m. to 10 p.m., as defined in Rule 012. CSI committed to implement the mitigation measures in Section 2.11 of Rule 012, and to follow Leduc County's noise bylaw to reduce noise from project construction wherever feasible.³³ To mitigate noise impacts, including those on the McKells, CSI confirmed that it would provide a schedule of significant noise-generating construction activities (e.g., pile driving) to adjacent residents on a biweekly rolling basis and schedule those activities to reduce disruption to them.³⁴ CSI submitted that piling rigs can install between 80 and 100 piles in a day and estimated the project would have approximately 4,500 pilings. Piling activities are expected to take one month to complete.³⁵ In particular, CSI also offered to provide hearing protection to residents, similar to those used by the construction workers,³⁶ to mitigate construction noise.³⁷ With respect to the use of white noise backup beepers, CSI stated that it would be renting the construction equipment and could not commit to installing them since they did not own the equipment and may not be able to perform the modifications. It committed to using the white noise beepers if that option was available.

32. Justin Caskey, an independent witness who provided noise evidence for CSI, disagreed with H. de Haan's recommendation to install continuous noise monitoring equipment for the duration of construction. J. Caskey explained that continuous monitoring requires regular access to residential property and, if a threshold level is set out for construction noise, then results from continuous noise monitoring equipment is often subject to "false alarms" as many sources of ambient sound can cause the exceedance of threshold levels.³⁸

33. The McKells also raised concerns regarding dust that would be associated with piling work during construction, increased traffic on Township Road 494 and remediation activities. R. McKell suffers from asthma and, in order to minimize dust at their home, the McKells advised that they have modified their home and pay Leduc County for dust suppression treatment along the township road. The McKells ordinarily open their windows to cool their home and expressed concern that the increased dust from construction of the project will prevent them from doing so. The McKells requested that CSI pay for an air conditioning system to be installed at their home.

34. CSI stated it will notify the McKells when doing remediation work, as dust would be expected during those activities. It added that remediation activities would likely be done in early spring, when there is a high moisture content in the ground which will reduce dust. If dust is

³¹ Exhibit 27652-X0092, Appendix B - Evidence and CV of Henk de Haan, PDF page 31.

³² Exhibit 27652-X0092, PDF pages 26 and 32.

³³ Exhibit 27652-X0202, CSI Commitment Table Post Hearing, PDF pages 2-3.

³⁴ Exhibit 27652-X0202, CSI Commitment Table Post Hearing, PDF page 2.

³⁵ Transcript, Volume 4, page 468, lines 2 to 17.

³⁶ CSI used headphones or earplugs as examples of hearing protection. The Commission interpreted this as earmuffs, used to muffle sound, rather than headphones, which electronically delivery sound.

³⁷ Transcript, Volume 1, page 145, lines 3 to 9.

³⁸ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching, PDF pages 69-70; and Transcript, Volume 2, page 217, lines 14-25.

identified as an excessive issue, CSI stated that watering or misting of the land could be explored. In addition, CSI advised that existing vegetation will help control any dust created on the project site. CSI submitted that after site remediation is complete, no soils will be stripped from the site. In CSI's view, the remaining construction activities would not result in greater dust impacts compared to current (i.e., agricultural) activities on the land. Accordingly, CSI opposed the McKells' request to pay for an air conditioning system on the basis that dust produced from the construction of the project would be minimal.

35. The McKells also requested CSI spray the surface of Township Road 494 in front of their acreage with water or calcium chloride during the 10 months of project construction activities to control dust. CSI submitted that, to mitigate concerns with dust from the roads caused by increased traffic, it will enter into a road use agreement with Leduc County, which will have a dust mitigation component. CSI indicated it would discuss spraying the roads with water or calcium chloride with Leduc County as part of the road agreement process.³⁹ As discussed below, in Section 3.2.2, CSI is also proposing a combination of vegetation screening and opaque fencing between the solar panels and the McKell property line, which could be installed early in the construction process and may potentially serve as a dust barrier.

36. The Commission notionally agrees with CSI that, during the construction phase, dust generated from the project lands should not be significantly different than what is currently generated, given that soil will not be stripped. Therefore, the Commission will not require the payment by CSI for the installation of an air conditioning system at the McKells' residence.

37. In contrast, the Commission considers that high dust events, such as remediation activities, could generate increased dust which could have serious impacts on R. McKell's health. CSI testified that remediation is planned for spring of 2024 when the ground has a high moisture content to reduce dust. Should dust be identified as excessive, additional watering or misting could be done. CSI added that perimeter fencing would be installed before construction activity which would act as a dust barrier.⁴⁰ The Commission expects CSI to uphold its commitment to these measures.

38. The project will cause increased traffic during construction. If CSI uses Township Road 494 near the McKells' residence for construction access, then there is the potential for an increase in dust to be created from these activities. The McKells currently pay for dust suppression services on this road near their residence.⁴¹ Given this, the Commission agrees with the McKells that CSI should pay for this dust control measure on Township Road 494 for, at a minimum, the same stretch of the road the McKells currently mitigate, if it is used for construction access. This service should be paid for by CSI for the duration of construction activities. This is in addition to any other dust suppression requirements Leduc County may have for Township Road 494.

39. The Commission finds that CSI's proposed construction noise and dust mitigations are a good start, but the Commission requires additional mitigations.

40. Rule 012 does not set out a limit for construction noise; instead, Section 2.11 of Rule 012 specifies mitigation measures that applicants should use to manage construction noise. The

³⁹ Transcript, Volume 2, pages 233 to 234.

⁴⁰ Transcript, Volume 3, pages 461 to 462.

⁴¹ Exhibit 27652-X0091.01, Appendix A-1 - Submissions of Carol Ann McKell, PDF page 31.

Commission notes CSI committed to follow mitigation measures outlined in Section 2.11 of Rule 012 and to conform with Leduc County's noise bylaw requirements to reduce noise impacts from project construction. The Commission requires CSI to uphold its commitments where reasonably practical to minimize potential noise impacts from construction activities. In particular, the Commission requires CSI to:

- Prohibit idling of heavy truck engines during construction.
- Limit installing piling to daytime hours.
- Advise nearby residents of significant noise-causing activities and provide a schedule of construction activities causing significant noise (e.g., piling) to adjacent neighbours on a biweekly rolling basis and schedule those activities to reduce disruption to them.
- Use best efforts to rent equipment with white noise backup beepers as a first preference where reasonably possible.
- Ensure internal combustion engines are well maintained with muffler systems.⁴²

41. Given the McKells' evidence as to their health, which the Commission found compelling, the Commission is persuaded that noise and dust resulting from constructing activities could have a direct and adverse impact on the McKells' health and to their general quality of life. The Commission agrees with the McKells that it is neither practical nor fair to expect the McKells to use noise protection (earmuffs or earplugs) in the circumstances, given the number of days, and hours per day, that CSI intends to conduct construction activities. The Commission finds that more needs to be done by CSI to address their concerns.

42. The Commission finds that H. de Haan's recommendation to develop a noise management plan for construction activities to be an effective mitigation and further finds his rough calculations of noise emissions and distances (55 dBA at between 150 and 250 metres) associated with pile driving to be reasonable estimates. The Commission uses H. de Hann's estimate as a basis for the development of a high-impact zone around the McKell residence and selects a radius of 250 metres from the McKells' residence as a conservative measure to mitigate construction noise and dust impacts on the McKells. The Commission requires CSI, in consultation with the McKells, to develop a construction impact mitigation plan, with creative solutions to address noise and dust impacts. This plan shall be followed when construction activities: (i) occur within 250 metres of the McKell residence; and (ii) are anticipated to result in high noise (e.g., piling) or high dust levels; and is intended to supplement, not replace any existing commitments made by CSI.

43. Some potential mitigations that could be included in the construction impact mitigation plan include:

- CSI paying for the McKells to stay at a hotel during high dust or noise activities (i.e., remediation or piling activities occurring within 250 metres of their residence), and for their residence to be monitored by a security company while they are away.

⁴² Exhibit 27652-X0202, CSI Commitment Table Post Hearing.

- The use of temporary sound barriers.
- Narrowed construction hours for activities that are within 250 metres of the McKell residence.
- Scheduling high-impact construction activities near the McKell residence together to minimize the duration of disturbance.

44. The Commission requires CSI to submit the construction impact mitigation plan to the Commission, detailing consultation discussions with the McKells and the proposed mitigations. The plan should address at a minimum the matters outlined above. This plan should be filed along with the final project update, at least 90 days prior to the start of construction. Consequently, the Commission imposes the following condition:

- a. Once CSI has finalized its solar module selection, it must file a final project update with the Commission to confirm that the Creekside Solar Project is within the final project update specified allowances for solar power plants in accordance with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. In the final project update, CSI must include a construction impact mitigation plan as described in Decision 27652-D01-2023, which details discussions with the McKells and the proposed mitigations. The final Creekside Solar Project update and construction impact mitigation plan must be filed at least 90 days prior to the start of construction.

45. The Commission does not require CSI to conduct continuous monitoring for project construction, as recommended by H. de Haan, because without careful manual analysis to identify invalid periods and abnormal noise sources, continuous noise monitoring is unlikely to produce helpful information. Further, Rule 012 regulates construction noise on a complaint basis. If residents have concerns and complaints about construction noise from the project, the Commission has a process for them to file concerns or complaints.⁴³ If a complaint was filed, in accordance with Rule 012, the Commission would require CSI to take prompt reasonable action and implement feasible mitigation measures to address the residents' concerns or complaints. During the Commission's investigation of a noise complaint related to the project construction, if mitigation measures are deemed necessary, the Commission may order further measurements to test the effectiveness of the mitigation measures.

46. Overall, the Commission generally finds that CSI needs to do more to mitigate the McKells' concerns regarding construction noise and dust, and should continue to work proactively and in good faith with the McKells to creatively address their concerns.

47. That said, given the commitments made by CSI to mitigate construction noise and dust impacts, together with the condition imposed to prepare a construction impact mitigation plan to specifically address construction impacts on the McKells, the Commission is satisfied that CSI will have reasonably and sufficiently addressed the potential noise and dust impacts from the project construction to nearby residents.

⁴³ Rule 012: *Noise Control*, Section 5, Noise complaint, PDF pages 36-37.

3.2.2 Visual impacts

48. The McKells also raised concerns with visual impacts during the operational phase of the project. The McKells currently have a generally unobstructed view of agricultural land to the south and, if project were constructed, they would have clear view of the project, as the nearest solar panel would be approximately 70 metres away from their residence. To mitigate this impact CSI proposed visual screening for the project. Through various discussions with the McKells and iterations of the visual screening plan, CSI ultimately proposed a combination of vegetation screening and fencing between the solar panels and the McKell property line. The fence would be a standard chain-link fence around the entire project; however, to the west and south of the McKell lands, CSI proposed to use an opaque covering. CSI did not commit to a wooden fence, which was the McKells' preference. The McKells currently have a row of trees towards the west and CSI proposed to add a second row of spruce trees. CSI proposed to add a row of spruce trees to the south of the McKell property as well.

49. The McKells stated that they wanted a number of sufficient trees, spaced appropriately, such that the trees would block views of the project. This, in their view, would require a second row of trees to the south. The McKells also expressed concern that the current visual simulations shows that the newly planted trees would not provide full screening until 15 years from when the trees are planted; the McKells would be in their 90s by then. The McKells submitted they would like the opportunity to talk with a tree specialist to determine the best vegetative screening solution.

50. CSI submitted that the single row of trees to the south would be sufficient visual screening and that it has already adjusted the project layout to accommodate the trees and fencing. CSI added that it initially selected the use of spruce trees at the request of the McKells; however, it was open to using other tree species. CSI stated that the vegetation screening would be sited on the project lands and that it would be responsible for the maintenance and upkeep of the trees. It added that the McKell lands would not need to be accessed to maintain the visual screening. Lastly, CSI committed to further discussions with the McKells about appropriate vegetation screening.

51. In general, the Commission finds that CSI's proposal to use vegetation and opaque fencing as visual screens should mitigate the McKells' visual impacts. As the details of the screening have not been finalized and CSI has committed to further discussion, the Commission will require CSI to file a visual impact screening plan. CSI, in the plan, should explain how the vegetation chosen will achieve the objective of obtaining as full a screening of the project as possible in both the near and long term for the McKells. The Commission requires that CSI use an arborist to assist in determining proper species and layout of vegetation. Given the McKells' preference for wooden fencing, CSI should consult with the McKells as to whether some form of wood fencing may be incorporated into the visual screening. As such, the Commission imposes the following as a condition of approval for the project:

- b. CSI shall file a visual screening plan with the Commission, detailing discussions with the McKells and the final details of the visual impact mitigations. The visual screening plan must be filed at least 90 days prior to the start of construction.
- c. CSI shall maintain all vegetation screening associated with the project, including watering, maintenance and upkeep, removal and replacement of dead vegetation adjacent to the McKell property.

52. Other noise and glare concerns raised by the McKells in relation to the operation of the project are discussed in the following sections of the decision. In Section 3.3.4 of this decision, the Commission directs CSI to conduct a comprehensive sound level (CSL) survey at the McKells residence to confirm compliance with Rule 012. As discussed below in Section 3.4, the Commission does not expect glare to be an issue for the McKells given that their residence is generally to the northeast of the project and potential glare from the project is predicted to occur during sunsets and would be eclipsed or masked by the sun. The Commission also notes that the visual screening mitigation that CSI has committed to should also reduce any glare impacts.

3.3 Noise impacts

53. CSI retained Patching Associates Acoustical Engineering Ltd. (PAAE) to assess potential noise impacts from the project. PAAE completed four NIAs that reflected the evolution of the project. The Commission's findings reflect its consideration of the most recently filed NIA,⁴⁴ which reflects the most up-to-date project layout.

54. The CCLG raised concerns about noise from the project and retained H. de Haan of dBA Noise Consultants Ltd. to review the project NIAs, perform noise modelling, provide evidence and testify at the hearing about potential noise impacts from the project. J. Caskey of PAAE provided reply evidence and testified regarding the CCLG's concerns about the NIA and noise impacts.

55. The noise experts discussed low frequency noise (LFN), ambient sound levels (ASLs), noise mitigation, construction noise, and post-construction sound monitoring issues in-depth. The Commission addresses each of these noise issues (except construction noise, which is discussed in Section 3.2.1) in the following sections of the decision.

3.3.1 Low frequency noise

56. H. de Haan expressed concerns about potential low frequency tonal noise associated with project transformers. He explained that transformers often produce tonal noise, mostly at 120 hertz (Hz) band, and that tonal noise is often perceived as annoying and has a higher potential to disturb receptors and lead to complaints. H. de Haan suggested the potential for tonal noise be assessed prior to construction based on manufacturer data for the project power stations.⁴⁵

57. J. Caskey pointed out that specific manufacturer data, in the detail needed for a tonal assessment, was not available for the NIA. As such, J. Caskey assessed potential tones at receptors based on sound emission data obtained from measurements for a similar facility. J. Caskey's analysis used Rule 012 criteria for tonality evaluation and concluded the project would not produce tonal noise.⁴⁶

58. The Commission finds that PAAE reasonably used measurement data for a similar facility to model the project power stations for tonality evaluation, given that project design, including equipment selection, has not been finalized and that detailed manufacturer data specifically for the project equipment was not available.

⁴⁴ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching.

⁴⁵ Exhibit 27652-X0092, Appendix B - Evidence and CV of Henk de Haan, PDF pages 25 and 32.

⁴⁶ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching, PDF page 69.

59. Rule 012 states, with respect to LFN, that if the difference between the C-weighted sound level (dBC) and the A-weighted sound level (dBA) exceeds 20 decibels (dB), and if there is a tonal component at or below 250 Hz, then an LFN condition may exist. The NIA predicted the difference between dBC and dBA from the project to be below 20 dB at all receptors and PAAE identified no tonal component based on analysis of sound power levels of the project power stations. The Commission finds that the LFN test in the NIA meets the requirements of Rule 012, and therefore, accepts the conclusion that the project is unlikely to have an LFN condition. The Commission considers that a post-construction CSL survey will be helpful in assessing if LFN conditions and tonal components are present based on measurements (rather than prediction) at receptors; post-construction noise monitoring is discussed in Section 3.3.4.

3.3.2 Ambient sound levels

60. H. de Haan submitted that the NIA was based on a number of theoretical assumptions that could not be verified. He observed an industrial area and railway in the project area but noted they were not considered as part of the permissible sound level (PSL) determination. H. de Haan recommended that an ASL survey under summertime conditions be conducted to measure the actual ASLs and determine applicable PSLs based on measured ASLs.⁴⁷

61. J. Caskey disagreed with H. de Haan's recommendation to conduct an ASL survey. In his view: (i) an ASL survey is unnecessary, because the ASLs assumed in accordance with Rule 012 are appropriate for the project area; and (ii) an ASL survey is not feasible, because conducting an ASL monitoring would require temporary shut down of the existing substation and gas plant. J. Caskey further explained that if the railway and industrial area, indicated by H. de Haan as one of the reasons to conduct an ASL study, were considered in the PSL determination, this would serve to increase the PSLs, and would prove that the ASLs and PSLs used in the NIA are conservative for the receptors near these sources.⁴⁸

62. The Commission finds the NIA reasonably used Table 1 of Rule 012 to assume ASLs and determine PSLs based on receptors' dwelling density and proximity to transportation. Rule 012 does not require an applicant to conduct an ASL survey or to utilize measured ASLs in an NIA. Rule 012 specifies that the ASL may be measured in areas considered to be pristine or areas that have non-energy industrial activity that would impact the ASLs. Measured ASLs for a pristine area would likely reduce the applicable PSLs, while measured ASLs for an area with non-energy industrial activity would likely increase the applicable PSLs. The Commission accepts J. Caskey's explanation that consideration of rail lines and industrial area close to the project would likely result in an upward adjustment to the PSLs, which would demonstrate the conservatism of the NIA. Based on this analysis, the Commission finds an ASL survey is unnecessary in the circumstances at this time. In Section 3.3.4 of this decision, the Commission directs CSI to complete a post-construction CSL survey to verify compliance of the project with Rule 012. In circumstances where the CSL survey demonstrates non-compliance, the Commission expects CSI to investigate causes of the non-compliance, which may include an ASL survey and measurements for the industrial area close to the project.

63. In addition, H. de Haan observed that a number of residences in the study area are two-storey residences, and suggested the NIA consider the second storey as the receptor height.

⁴⁷ Exhibit 27652-X0092, Appendix B - Evidence and CV of Henk de Haan, PDF pages 21 and 32.

⁴⁸ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching, PDF page 69.

Rule 012 requires an NIA to use a receptor height to reflect the bedroom height of residences.⁴⁹ The Commission notes that PAAE reasonably updated the noise model with 1.5-metre and 4.5-metre receptor heights for one-storey residences and two-storey residences, respectively, to reflect the bedroom height of these receptors.

64. Further, H. de Haan assumed that weed control management for the project area will use grazing of small livestock such as sheep, and had concerns about noise from sheepdogs. The Commission clarifies that the PSLs applies to AUC-regulated facilities, not to non-industrial or domestic sound sources (e.g., animal noise). Nevertheless, in response to this concern, CSI committed not to use dogs to manage sheep during night hours.⁵⁰

65. Overall, the Commission finds that the NIA meets the requirements of Rule 012 and accepts the conclusions in the NIA that noise from the project is expected to comply with PSLs set out in Rule 012 and the project is unlikely to create LFN conditions at receptors.

3.3.3 Noise mitigation

66. Although the project is predicted to comply with Rule 012 at all receptors, the NIA considered an optional mitigation measure, being installation of sound baffles to reduce fan noise associated with the project power stations. After implementation of this mitigation measure in the noise model, J. Caskey predicted that the cumulative sound level at the most affected receptor, R09 (the McKell residence), has been reduced from 38.9 dBA to 37.8 dBA.⁵¹ At the hearing, J. Caskey and Richard Haas, Managing Director of Voltarix Group, and representing CSI, confirmed that CSI would procure power stations equipped with sound baffles.⁵²

67. H. de Haan suggested a number of mitigation measures for transformers, which include using low-noise transformers, orienting fans associated with the project transformers away from receptors, utilizing other equipment (e.g., tanks) as shielding, and utilizing noise barriers or enclosures for the project power stations.⁵³ J. Caskey generally agreed with H. de Haan's suggestions on mitigation measures for transformers. He confirmed that the project design has already incorporated a number of mitigation measures, which include considering the direction that the power stations face or point, moving the power stations farther from the McKell residence, and orienting fans away from receptors. J. Caskey also emphasized that no further mitigation is required to achieve compliance with Rule 012.⁵⁴

68. The Commission finds that CSI has committed to implement reasonable measures to mitigate noise from operations in the project design. In particular, although the project is predicted to comply with Rule 012, CSI has agreed to select power stations equipped with sound baffles to further reduce noise from the project. Given that the most affected receptor, the McKell residence, is close to the project and that the McKells raised specific concerns about noise, the Commission expects CSI will not only ensure the project is compliant with Rule 012, but also apply best feasible practices to mitigate noise. The Commission requires CSI to submit a report detailing noise mitigations including selection of power stations equipped with sound

⁴⁹ Rule 012: *Noise Control*, PDF page 20.

⁵⁰ Exhibit 27652-X0202, CSI Commitment Table Post Hearing, PDF page 3.

⁵¹ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching, PDF page 22.

⁵² Transcript, Volume 3, page 429, lines 3-24.

⁵³ Exhibit 27652-X0092, Appendix B - Evidence and CV of Henk de Haan, PDF page 26.

⁵⁴ Transcript, Volume 3, page 428, lines 10-25; page 429, lines 1-2.

baffles or planned installation of sound baffles for the project power stations. The noise mitigation report should be filed along with the final project update, at least 90 days prior to the start of construction. Consequently, the Commission imposes the following condition of approval.

- d. CSI shall file a report with the Commission detailing the measures it has implemented to mitigate noise from operations in the final project design, and particularly confirming it has selected power stations equipped with sound baffles or will install sound baffles for the project power stations. CSI shall file this report at least 90 days prior to the start of construction.

3.3.4 Post-construction noise monitoring

69. H. de Haan recommended CSI conduct a post-construction CSL survey at the McKell residence (i.e., the nearest receptor, R09, to the project) during the summertime and under favourable (downwind) conditions and maximum power production.⁵⁵

70. J. Caskey submitted that conducting a CSL survey will be impractical for nighttime⁵⁶ sound, because it would be difficult to collect sufficient valid data for the nighttime period. J. Caskey explained that sound emission from the project during nighttime hours is expected to be limited to two hours and that these time periods are also likely to coincide with dawn and dusk, when increased bird call activity would result in invalid data. Instead, J. Caskey recommended a validation study that focuses on the sound emissions near the power station to verify compliance for the nearest residence.⁵⁷ J. Caskey explained that the validation study would consist of two steps: (i) establish sound power levels of the project power stations through near-field sound emission measurements; and (ii) develop a propagation model based on these sound power levels to predict sound pressure levels at receptors.

71. H. de Haan did not agree with the validation study recommended by J. Caskey, and commented that Rule 012 has a preference for conducting a CSL survey to assess compliance, and only in very limited circumstances and after failing with a reasonable attempt to conduct a successful CSL survey, would there be a possibility to use noise emission measurements in combination with a propagation model (i.e., validation study). He explained that if a validation study were to be used to verify compliance, then one more step should be added in the study, which is to verify the accuracy of the propagation model based on real-world measurements.⁵⁸

72. Given that the project is in close proximity to the McKell residence, and that the CCLG, and in particular, C. McKell, expressed specific concerns about potential noise impacts from the project power stations, the Commission requires CSI to complete a post-construction CSL survey at Receptor R09 (the McKell residence) to verify project compliance with Rule 012.

73. Rule 012 details requirements for a CSL survey. In particular, Rule 012 requires at least three hours of valid data be collected for the daytime and nighttime, respectively, when the

⁵⁵ Exhibit 27652-X0092, Appendix B - Evidence and CV of Henk de Haan, PDF page 33.

⁵⁶ Rule 012 defines nighttime as the hours from 10 p.m. to 7 a.m. and daytime as the hours from 7 a.m. to 10 p.m.

⁵⁷ Exhibit 27652-X0129, Appendix K_Updated NIA, Expert Report and CV of Justin Caskey of Patching, PDF page 70.

⁵⁸ Transcript, Volume 4, page 672, lines 21-25; page 673, lines 1-24; page 674, lines 5-24.

project operates under representative conditions and the receptor is downwind from dominant sound sources of the project.⁵⁹

74. The Commission understands it might be challenging to collect sufficient valid data for the nighttime period during the CSL survey, as the project's operation would be limited to approximately two hours in a given night. The Commission clarifies that Rule 012 allows valid data be collected from multiple nights. More specifically, Rule 012 states that "Multiple nights of monitoring may be required in order to clearly demonstrate that noise has been measured during representative conditions... The selection of the multiple-night noise monitoring period must reflect efforts to measure under representative conditions, and supporting documentation (e.g., an analysis of historical weather records, production data) may be requested."⁶⁰

75. The Commission clarifies that a validation study should not be undertaken as a primary approach to verify compliance. Rule 012 specifies that "If the intention of noise monitoring is to verify modelling predictions, and sufficient valid data under representative conditions has not been recorded after a minimum period of seven days, alternative methods of verification such as sound level measurements to assess the sound power level combined with noise model calculations as described in this rule, may be considered."⁶¹ In circumstances where CSI has conducted a CSL survey but could not collect sufficient valid data to meet the requirements of Rule 012, the Commission considers the validation study an alternative approach to verify compliance. Furthermore, the Commission agrees with H. de Haan that the accuracy of the noise propagation model built as part of a validation study should ultimately be verified based on short-term real-world measurements that reflect operation and weather conditions used in the noise model.

76. Based on the foregoing, the Commission imposes the following conditions of approval for the project:

- e. CSI shall conduct a post-construction comprehensive sound level (CSL) survey, including an evaluation of low frequency noise, at Receptor R09. The post-construction CSL survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. The valid CSL data shall be collected when sound sources of the project are operating under representative conditions and must not be an average of the entire nighttime or daytime period. Within one year after the project commences operations, CSI shall file a report with the Commission presenting measurements and summarizing the results of the post-construction CSL survey.
- f. In circumstances where CSI has conducted a post-construction comprehensive sound level survey but could not collect sufficient valid data to meet the requirements of Rule 012: *Noise Control*, CSI shall complete a post-construction validation study to verify compliance at Receptor 09 with Rule 012. The validation study shall include near-field measurements to determine sound power levels of the project sound sources and a propagation model verified by short-term measurements that reflect operation and weather conditions in the propagation model. Within one year of the project commencing operations, CSI shall file a report with the Commission presenting measurements and modelling associated with the valid study, and summarizing results of the validation study.

⁵⁹ Rule 012: *Noise Control*, PDF pages 23-24.

⁶⁰ Rule 012: *Noise Control*, PDF page 26.

⁶¹ Rule 012: *Noise Control*, PDF page 26.

3.4 Visual impacts and glare

77. The CCLG expressed concerns with the visual impacts of the project.⁶² The CCLG members submitted that the solar panels will detract from the rural nature of the area and the enjoyment of their properties. The CCLG stated that although the solar panels have a low profile, the project area is flat which results in the project being visible over a long distance. The CCLG also stated that visual impacts are a concern, not only from their residences, but from points throughout their properties.

78. CSI argued that the solar panels are low profile and that existing vegetation can block the view of the project from most homes. It added that the project will not be “out of character” for the surrounding area, which currently has other industrial structures such as transmission lines, the Buford Substation, an abandoned above-ground oil battery, an operating natural gas plant and a 50-foot-tall flare stack.⁶³

79. The Commission finds that the extent to which a solar power plant impacts the visual landscape depends on various factors, such as the size of the project, the distance between the solar panels and homes, and the topography of the land. While solar panels are designed with a relatively low profile, their size and reflective surfaces can still draw attention, especially if the project is located in an area with few tall trees or other natural features. The Commission notes that most residences surrounding the project have existing tree screening. The height of the trees present at or near these residences will exceed the height of the proposed solar panels. Given this, the Commission accepts that visual impacts to nearby residences are expected to be mitigated to some extent.

80. The CCLG also raised concerns with glare. Specifically, the Buchaks are located south of the project, and would be exposed to the fixed-tilt solar panels oriented to the south when working in or otherwise enjoying their property. The CCLG also raised concerns that glare on Township Road 494 could result in unsafe conditions for drivers. The CCLG requested that opaque fencing be utilized along Township Road 494 and the Buchaks’ lands.

81. CSI retained Green Cat Renewables Canada Corporation (GCR) to conduct a solar glare assessment, which concluded the project is not likely to have the potential to create hazardous glare conditions on residences or roads. Alex Van Horne of GCR testified at the hearing about glare assessment and potential glare impacts from the project.

82. GCR identified seven residences and five transportation routes, including Highway 795, a railway and three local roads, as receptors for the glare assessment. The glare assessment predicted that:

- Residences, except D1 (McKell residence) and D6, would receive no glare from the project, and D1 is predicted to be the most affected receptor with no more than 601 minutes of glare per year (or up to 26 minutes per day).
- Transportation routes, except Township Road 494, would receive no glare from the project, and Township Road 494 would receive up to 68 minutes of glare per year.

⁶² See Section 3.2.2 for discussion of visual impacts specific to the McKells.

⁶³ Exhibit 27652-X0152, Creekside Solar Inc. - Reply Evidence, March 14, 2023, PDF page 14.

83. With respect to the predicted glare at the McKell residence, CSI explained that the glare is predicted during March and mid-September to early October during sunsets, which means the glare would originate from the same general direction as the sun for these periods; therefore, the glare impacts from the project may be eclipsed by the direct effects of the sun. CSI further explained that the predicted glare is not expected to create a hazardous situation or have significant adverse impacts on residents' use of their home.⁶⁴

84. GCR explained that Township Road 494 is unlikely to experience glare because the road is north of the project, which has south facing fixed-angle solar panels. GCR explained the predicted glare on Township Road 494 is likely the result of approximations inherent in the algorithms used in the glare assessment software.⁶⁵

85. With respect to glare mitigation, CSI committed to install vegetative screening and an opaque screen fence for the McKell residence. CSI explained that it has redesigned the project fencing and layout to accommodate the screening in the locations requested by C. McKell.⁶⁶ CSI clarified that it has no plan to implement additional glare mitigation aside from visual screening near the McKell residence.⁶⁷

86. With respect to the predicted glare at the McKell residence, the Commission does not expect glare to be an issue because: (i) as predicted by CSI, predicted project glare is from the same direction as the sun during sunsets and the glare impacts would be eclipsed or partially masked by the sun; and (ii) the Commission considers that implementation of the visual/glare mitigation that CSI committed to (discussed in Section 3.2.2) will reduce glare impacts at the McKell residence.

87. The Commission is not persuaded by GCR's explanation that attributed the predicted glare on Township Road 494 with the approximations used in the glare software algorithms. The Commission observes that although Township Road 494 is located north of the project, the glare assessment modelled portions of this road that extend to the east and west directions beyond the project boundary. The Commission considers that it is reasonable to have predicted glare on Township Road 494, especially during sunrise and sunset periods when the sun is close to the horizon, and there is a large incidence angle between the solar panels and the sun.⁶⁸ Nevertheless, the Commission finds the predicted glare at Township Road 494 (i.e., up to 68 minutes per year) is negligible in the circumstances. With respect to the Buchaks' concerns, the Commission notes that the glare assessment did not predict any glare on their residence and observes that there is significant vegetation between the project and the Buchaks' land. Accordingly, the Commission finds that glare impacts to the Buchaks' are also negligible in the circumstances.

88. The Commission expects CSI to uphold its commitment to install visual screening for the McKell residence, which will reduce glare impacts, and agrees with CSI that glare mitigation is not required for Township Road 494 or the Buchaks' land at this time.

⁶⁴ Exhibit 27652-X0026, Solar Glare Hazard Analysis, PDF page 23.

⁶⁵ Exhibit 27652-X0026, Solar Glare Hazard Analysis, PDF page 3. Transcript, Volume 2, page 240, lines 21-25, page 241, lines 1-25, and page 242, lines 1-22.

⁶⁶ Exhibit 27652-X0152, Creekside Solar Inc. - Reply Evidence, March 14, 2023, PDF page 16.

⁶⁷ Transcript, Volume 3, page 440, lines 9-25, and page 441, lines 1-2.

⁶⁸ Incidence angle is the angle at which the sun strikes the solar panel (measured from normal/perpendicular to the surface).

89. In addition, the CCLG noted that the project will use bifacial panels, which produce solar power from both sides of the panel, and raised concerns about potential glare from back of the solar panels, which was not modelled in the glare assessment. A. Van Horne explained that glare from the underside of the solar panels is not considered within the glare modelling software and consequently not considered as part of the glare assessment. He further explained that because the project uses solar panels with fixed-tilt angles, the angle of the back of the solar panels, in relation to the angle of the sun, would make it unlikely that the back of the panels would produce glare. A. Van Horne emphasized that “it is extremely unlikely and, in my opinion, there would be limited to no potential for it [glare] to occur [from the back of the solar panels].”⁶⁹

90. The Commission acknowledges that the glare modelling software can only model glare from solar panels’ sides facing up to the sun and does not account for glare from the underside of solar panels. In consideration of A. Van Horne’s explanation, the Commission finds that it is unlikely the underside of the solar panels will create glare issues for receptors, because diffuse light or glare coming from underneath is already reflected once (i.e., it is not direct sunlight) and reflections from the underside of the solar panels would not propagate far into the environment.

91. Darcy Doblanko stated that he has an aerodrome and was concerned that glare would affect his ability to safely operate an aircraft. In the hearing, D. Doblanko confirmed that the aerodrome is proposed and not built yet, and that an instructor pilot had conducted one landing and takeoff with D. Doblanko on the field.⁷⁰ GCR included the proposed aerodrome in the glare model and predicted that it will receive no glare from the project.⁷¹ Given GCR’s prediction results, the Commission finds that it is unlikely the project will create glare issues for the Doblanko aerodrome once it is established.

92. The Commission finds that the glare assessment conducted by GCR meets the requirements of Rule 007, and residential and route receptors are predicted to have little to no glare from the project. There are no existing provincial or federal regulations imposing criteria for solar glare impacts. The Commission requires CSI to promptly address complaints or concerns from residents regarding solar glare from the project if it receives any at the post-construction stage. Accordingly, the Commission imposes the following condition of approval:

- g. CSI shall file a report with the Commission detailing any complaints or concerns it receives or is made aware of regarding solar glare from the project during its first year of operation, as well as its response to the complaints or concerns. CSI shall file this report no later than 13 months after the project becomes operational.

93. In addition, the Commission notes the solar glare modelling was premised upon the use of anti-reflective coating, and therefore imposes the following condition of approval:

- h. CSI shall use anti-reflective coating on the project solar panels.

⁶⁹ Transcript, Volume 3, page 440, lines 1-19.

⁷⁰ Transcript, Volume 3, page 498, line 24 to page 499, line 5.

⁷¹ Exhibit 27652-X0198, Creekside Solar Inc. - Appendix U21.

3.5 Agricultural impacts of the project

94. The CCLG raised concerns with agricultural lands being taken out of production and submitted that the project lands are among the most productive agricultural land in the province.⁷² It submitted that food production is more important than power generation. Brandon Green of Green Agronomy and Dr. Thomas Jensen of Jensen AgGro Inc., who were retained by the CCLG, stated that between \$801,421 and \$2,005,025 in Canadian Western Red Spring (wheat) sales and between \$541,407 and \$1,129,893 in canola sales would be lost if the project proceeded.⁷³ In response, CSI submitted that the project land represents 0.03 per cent of the prime agricultural land in Leduc County.⁷⁴ CSI added that it intended to continue to use the project lands for agricultural use concurrent with power generation. It advised that it received a number of letters from agricultural operators expressing interest in using the project lands for agricultural uses such as sheep grazing and market crops.⁷⁵ CSI anticipated that the project would generate \$5,162,400 in tax revenue over the life of the project, offsetting the agricultural loss. In addition, CSI submitted that further economic benefits would be realized through the agricultural use of the project lands.

95. The Commission agrees with the CCLG that the project lands are highly productive quality agricultural lands. The Commission acknowledges the CCLG's concern that agricultural land will be removed as a consequence of the project; however, the project is sited on private land which CSI has stated it will purchase should the project be approved. The project will not impact the agricultural use of lands belonging to CCLG members. In the absence of legal or government policy restrictions that affect a private landowner's ability to take agricultural land out of production, the Commission attributes significant weight to a private landowner's discretion over land use. While the Commission's decision to deny a project or a portion of it will prevent a landowner's preferred use of their lands; the initial decision to host a project is for the landowner alone. Given that the project is sited on private land, the lands will be purchased by CSI, and the project does not impact agricultural use of any other party, the Commission did not find the Jensen/Green evidence particularly helpful in relation to its overall understanding of the impact of loss of agricultural land specifically and to its overall public interest determination.

96. The Commission finds the proposed concurrent agricultural and power generation uses of the project land may help address the loss of productive agriculture lands where a solar farm is sited. However, the Commission finds that the inquiries for agricultural use of the project land received by CSI are in the preliminary stages and have not been fully developed. The Commission considers it to be speculative as to whether CSI ultimately contracts with the businesses that submitted inquiries for agricultural uses of the project lands.

3.6 Property value impacts

97. The Commission received evidence on property value impacts from the CCLG landowners, Brian Gettel (who provided valuation expertise for the CCLG) and Glen Doll (who provided valuation expertise for CSI). The CCLG expressed concern with a negative impact on property value, which was supported by B. Gettel's report. The Gettel report acknowledged visual effects, electromagnetic fields, damage to the ecosystem, increased noise, increased traffic, and dust/weed problems as six variables that could impact property value in proximity to

⁷² Exhibit 27652-X0095, Appendix E - Evidence of Green and Jensen, PDF page 3.

⁷³ Exhibit 27652-X0095, Appendix E - Evidence of Green and Jensen, PDF page 5.

⁷⁴ Exhibit 27652-X0152, Creekside Solar Inc. - Reply Evidence, March 14, 2023, PDF page 18.

⁷⁵ Exhibit 27652-X0128, Appendix I_Expressions of Interest.

a solar development. He concluded that the project would have a low impact on what he described as “improved” rural residential and farm properties within 800 metres of the project in the order of between five to 10 per cent. B. Gettel stated that the McKell residence would have the greatest value loss impact and that value losses would reduce as distance to the project increases.⁷⁶ C. McKell added that a 10 per cent impact translates to \$70,000 and represents a significant loss to her.⁷⁷

98. G. Doll submitted that of the six variables identified by B. Gettel to negatively effect property value, it was his understanding that CSI had considered five of these variables and conducted the appropriate studies and analysis showing there will be minimal potential impacts to property value. G. Doll stated that left visual impact as the only variable that could potentially impact property value. G. Doll disagreed that all properties within 800 metres of the project would be impacted. He stated that visibility of the project, including distance, screening and residential orientation, is more of a determining factor on property value than distance from the project. G. Doll submitted that, based on the nature of the project, the subject area, the potential visibility of the project and the available screening, very few properties in the subject area would potentially be impacted by the proposed project.⁷⁸ Despite this, G. Doll acknowledged that there could be property value impacts to properties at a close proximity, with limited screening, such as the McKell property.⁷⁹

99. The Commission recognizes that the project’s impact on property values is a factor that needs to be balanced against the project’s public benefits. The Commission has previously affirmed that property valuation is a complex and technical matter that is influenced by a wide variety of contextual and circumstantial factors. For this reason, the Commission has historically required that findings about property value impacts be based on project-specific evidence that is provided by experts and tested or made available for testing in a hearing. More recently, the Commission has acknowledged that project-specific evidence may not always be readily available due to an absence of local sales data.⁸⁰ Project-specific evidence was not submitted as evidence in this proceeding. The Commission, in making its findings, also considered testimony from CCLG members regarding negative public perception of a project’s effects on viewsapes as well as the availability of visual screens.

100. With the exception of the impacts to the McKells, the Commission finds that the property value impacts to CCLG members are minimal. The Commission makes this finding considering: the distance between the project and CCLG residences; the height of the solar project and fence; the significant tree screening at the majority of properties nearest to the project; and the low impact on property value proffered by B. Gettel.

101. The Commission notes that both G. Doll and B. Gettel submitted that the property value of the McKell land had the potential to be negatively impacted by the project; however, there was no agreement on the degree. As discussed in Section 3.2 of this decision, the nearest solar panels will be approximately 70 metres from the McKell residence. Also, in Section 3.2.2 of this decision, the Commission required CSI to work with the McKells to mitigate their visual impact

⁷⁶ Exhibit 27652-X0097, Appendix G - Evidence and CV of Brian Gettel. PDF page 40.

⁷⁷ Exhibit 27652-X0091.01, Appendix A-1 - Submissions of Carol Ann McKell, PDF page 20.

⁷⁸ Exhibit 27652-X0136, Appendix W_Property Value Expert Report of Glen Doll of Serecon Inc, PDF pages 3-4.

⁷⁹ Exhibit 27652-X0136, Appendix W_Property Value Expert Report of Glen Doll of Serecon Inc, PDF page 4.

⁸⁰ See, for example, Decision 27240-D01-2023, ENGIE Development Canada GP Inc., Buffalo Trail Wind Power Project, February 8, 2023, at paragraph 83.

with screening, which includes consulting with an arborist to understand various landscaping options and discussing the possibility of the use of wood fencing. As such, the Commission finds that there could be a property valuation impact for the McKell property but that the conditions in this decision related to screening should help mitigate that impact.

3.7 Environmental impacts of the project

102. In this section of the decision, the Commission first determines that the power plant was relatively well sited from an environmental perspective. Then, the Commission examines issues related to clubroot, weeds, soil degradation, and contamination and finds that the mitigations and commitments by CSI suitably address these risks. Next, the Commission addresses concerns with the proximity of the project to Conjuring Creek. The Commission finds that the setbacks mapped for the project are unclear and that a 20-metre setback should be applied. Additionally, the Commission directs that the placement of permanent project infrastructure, including the fence, should be determined based on a survey of top of break. The Commission lays out conditions for these surveys. Finally, the Commission discusses the pre-existing contamination on the project lands and finds that CSI's commitment to obtain a remediation certificate is sufficient to address the Commission's concerns regarding the contamination.

3.7.1 Siting, wildlife and post-construction monitoring

103. Overall, the Commission finds that CSI appropriately considered the Standards and Best Management Practices outlined in the *Wildlife Directive for Alberta Solar Energy Projects* (the Directive) when initially selecting a site for the project. The Directive considers “[a]ppropriate site selection at the landscape level [as] the first and most critical factor in preventing significant negative effects on wildlife.”⁸¹

104. The environmental suitability of this site is echoed by the AEPA referral report, which determined an overall low risk to wildlife and wildlife habitat, with low risks for all individual factors assessed except for a high risk to birds and moderate risk to riparian wildlife and habitat. The AEPA initially attributed a high risk to birds based on incomplete breeding bird surveys,⁸² which the AEPA later updated to a low risk following the full completion of breeding bird surveys.⁸³ The Commission accepts that this updated risk ranking and the required post-construction monitoring have suitably reduced the risk to birds.

105. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* requires approval holders to submit to AEPA and the Commission annual post-construction monitoring survey reports. Therefore, the Commission imposes the following conditions of approval:

- i. CSI shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas (AEPA) and the Commission no later than January 31 of the year following the mortality monitoring period, and on or before the same date every subsequent year for which AEPA requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* and

⁸¹ *Wildlife Directive for Alberta Solar Energy Projects*, Alberta Environmental and Parks, effective October 4, 2017.

⁸² Exhibit 27652-X0016, AEP Renewable Energy Referral Letter, PDF page 2.

⁸³ Exhibit 27652-X0114, CSI RERR Amendment, PDF page 2.

Section 4.0 of the *Post-Construction Survey Protocols for Wind and Solar Energy Projects*.

- j. If post-construction monitoring reveals that wildlife mortalities exceed acceptable levels (as determined by AEPA), CSI is required to implement additional mitigation measures in consultation with AEPA.

3.7.2 Clubroot, weeds and soil degradation

106. The CCLG raised concerns surrounding reduced crop yields from decreases in soil quality and quantity, and the introduction and spread of clubroot and weeds. The CCLG retained agronomists Dr. Thomas Jensen and Brandon Green to provide professional opinions and mitigations for risks associated to soils, weeds, and clubroot.⁸⁴

107. Dr. Jensen and B. Green submitted evidence that Leduc County has the highest number of clubroot contaminated fields in Alberta.⁸⁵ They recommended all equipment, rig mats and personnel footwear entering or leaving the site be scraped free of soil, pressure washed and disinfected with a one per cent bleach solution in a contained area. In addition, they recommended that if straw were used in the project area (e.g., for erosion and sediment control), then it should be sourced from lands known to be clubroot free. Dr. Jensen and B. Green noted that these clubroot protocols would also provide sufficient mitigations to limit the potential for weed introduction and spread.⁸⁶ The Commission finds that CSI committed to sufficiently similar and robust mitigations in its environmental protection plan.⁸⁷ The Commission expects CSI to monitor and confirm (with written documentation) that the clubroot mitigations committed to in its environmental protection plan are being appropriately adhered to by all project personnel during construction, operation, and decommissioning.

108. In addition, Dr. Jensen and B. Green raised concerns surrounding soil compaction and the degradation of soil health and recommended that the Commission require the use of a penetrometer to measure compaction and ongoing soil health monitoring throughout the project area.⁸⁸ CSI responded that, in its view, these measures were not necessary as CSI's environmental protection plan and conservation and reclamation plan would sufficiently protect soil health.⁸⁹ The Commission is satisfied that the mitigations and strategies outlined by CSI in the environmental protection plan and the conservation and reclamation plan are sufficient, and that the legal requirements of the *Soil Conservation Act*⁹⁰ appropriately protect soil quantity and quality. The Commission expects CSI to uphold its commitments to work with Leduc County in relation to soil, weeds, and clubroot.⁹¹ Therefore, the Commission does not require CSI to adopt the additional monitoring mitigations for compaction and soil health recommended by Dr. Jensen and B. Green.

⁸⁴ Exhibit 27652-X0095, Appendix E - Evidence of Green and Jensen.

⁸⁵ Exhibit 27652-X0038, IR01-08 County Clubroot Infestations.

⁸⁶ Exhibit 27652-X0095, Appendix E - Evidence of Green and Jensen, PDF pages 7 and 8.

⁸⁷ Exhibit 27652-X0039, CS Environmental Protection Plan, PDF page 8.

⁸⁸ Exhibit 27652-X0095, Appendix E - Evidence of Green and Jensen, PDF pages 17 and 18.

⁸⁹ Exhibit 27652-X0151, Appendix Y_Response to Intervener Recommendations and Proposed Conditions, pages 8 and 9.

⁹⁰ *Soil Conservation Act*. Alberta Government, November 16, 2022.

⁹¹ See, for example, Exhibit 27652-X0151, Appendix Y_Response to Intervener Recommendations and Proposed Conditions, PDF page 1.

3.7.3 Proximity to Conjuring Creek

109. Conjuring Creek runs along the eastern boundary of the project lands. The creek is a small permanent watercourse carrying waters north from Wizard Lake to the North Saskatchewan River, and is an environmentally significant area under Leduc County's land use bylaws. In this section of the decision, the Commission determines the appropriate setback distance from the creek and how it should be implemented in the circumstances.

110. CSI's environmental evaluation states that while native riparian and upland vegetation still border the creek, there are areas within 45 metres of Conjuring Creek, including the bed and banks, impacted by agriculture and cattle.⁹² Given these impacts, CSI proposed using the intersection of the existing agricultural land and the undisturbed natural vegetation to establish the appropriate setback between the project and the creek. CSI further proposed a 20-metre setback, which is within the 6.2-30.2-metre setback range recommend under Leduc County's riparian setback model,⁹³ instead of the Directive's 45-metre setback.⁹⁴ In determining the project layout CSI proposed "[t]he Project Area [be] located 22.86m (75 feet) from the creek, with installed panels sited as close as 27.43m (90 feet) from the creek."⁹⁵

111. The CCLG retained Cliff Wallis to perform an independent assessment of the project's environmental risks. C. Wallis submitted that CSI's chosen setback distance from Conjuring Creek was inappropriate in the circumstances and that CSI's maps of Conjuring Creek contained inaccuracies. C. Wallis pointed to other ways to determine the setback in the circumstances, including the 100-metre setback recommended by the Fish and Wildlife Division,⁹⁶ and the 45-metre setback in the Directive.⁹⁷ C. Wallis highlighted that the rationale for having setbacks included preventing erosion and protecting water quality, wildlife corridors, and fish and fish habitat. Given this, C. Wallis recommended the project "[u]se a 100 m setback from the edge of the Conjuring Creek Environmentally Significant Area mapped by Fiera for Leduc County."⁹⁸

112. Additionally, C. Wallis challenged CSI's delineation of Conjuring Creek, stating that the delineation was not accurate or field verified. C. Wallis provided evidence that setbacks should be determined from "top of break"⁹⁹ to project infrastructure, including the fenceline. C. Wallis provided a delineation of top of break based on aerial and Lidar imagery, including setbacks to show overlaps of project infrastructure.¹⁰⁰

⁹² Exhibit 27652-X0022, System generated, PDF pages 14 and 20.

⁹³ The 20-metre setback is based on section 4 of the Leduc County Riparian Setback Matrix Model Report (dated May 2010). See Exhibit 27652-X0089, page 14. See also Exhibit 27652-X0021, PDF page 15.

⁹⁴ Exhibit 27652-X0021, Environmental Evaluation, PDF page 20 to 21.

⁹⁵ Exhibit 27652-X0021, Environmental Evaluation, PDF page 21.

⁹⁶ C. Wallis pointed to the Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta (Alberta Sustainable Resource Development ASRD) 2011 as stating "Fish & Wildlife Division recommends that there be no industrial activity within 100 m of water bodies (wetlands, ponds, creeks, rivers, lakes, including dry water bodies) ..., or within 100 m of the crest of any coulee associated with riparian areas or unique geographical features like hummocky moraines, because of extensive wildlife use." See Exhibit 27652-X0093, PDF page 21.

⁹⁷ Exhibit 27652-X0093, PDF page 26.

⁹⁸ Exhibit 27652-X0093, Appendix C - Evidence of Cliff Wallis, page 3.

⁹⁹ Exhibit 27652-X0093, Appendix C - Evidence of Cliff Wallis, Pages 21, 26 and 27.

¹⁰⁰ Exhibit 27652-X0093, Appendix C - Evidence of Cliff Wallis, PDF pages 27 and 31.

113. The Commission observes that a figure provided in CSI's environmental evaluation shows a delineation of Conjuring Creek and a 20-metre setback.¹⁰¹ However, it is unclear from this figure whether the setback is measured from the center of the creek, or top of break. Further, although project infrastructure is not explicitly labelled on the figure, it appears that portions of the project fenceline would overlap the 20-metre setback. The Commission also observes that while the project's KMZ file¹⁰² provides more detail of the infrastructure, and shows that infrastructure is extremely proximate to Conjuring Creek, the setback is not identified on the KMZ file.

What is a break?

114. Alberta's *Stepping Back from the Water* guidelines¹⁰³ and the *Surveys Act* establish specifications and best practices for determining the delineations and setbacks of permanent watercourses such as Conjuring Creek. Under the *Stepping Back from the Water* guidelines, setbacks are to be determined based on the distance from legal bank to the closest project infrastructure.¹⁰⁴ Under the *Surveys Act*, the "legal bank" is the point at which vegetated areas meet areas devoid of vegetation due to interactions with water.¹⁰⁵ However, the Commission finds that the Directive is the most relevant document in this matter as it directly applies to solar projects and therefore adopts the definition of break from the Directive. Under the Directive, "Break" is defined as "[t]he point where change in slope of the ground demarks uplands from fluvial hills dropping into a valley bottom, which includes watercourses and coulees."¹⁰⁶

What is the reasonable setback length?

115. Under Section 100.1.10 of the Directive, a solar energy project must not occur within 45 metres from the top of the break of small permanent watercourses. Conjuring Creek is a small permanent watercourse according to the Directive. Despite this, the Commission does not consider that Section 100.1.10 is mandatory in the circumstances.

116. The Commission's findings takes into account reading the Directive as a whole and Section 100.1.10 in context. The Directive provides information on the requirements and recommendations for solar energy projects in Alberta to avoid or mitigate the risk to wildlife and wildlife habitat.¹⁰⁷ Specifically, Section 100.1.1 states that "solar energy projects ... must be sited to avoid or minimize their occurrence in important wildlife habitats" and "generally, solar energy projects should not be sited in ... valleys of large permanent watercourses." The Commission observes the language in Section 100.1.1 includes minimizing effects as an objective, uses the language "generally," meaning that there can be exceptions, and appears to place greater emphasis on avoidance in relation to large permanent watercourses. In the Commission's view, it has discretion under the Directive to permit solar projects within 45 metres from the top of the break of small permanent watercourses if risks can be adequately mitigated.

117. On the facts in this proceeding, the Commission accepts CSI's position that a 20-metre setback is adequate. This is because human-caused impacts (i.e., agricultural use) occurring prior

¹⁰¹ Exhibit 27652-X0021, Environmental Evaluation, PDF page 27.

¹⁰² Exhibit 27652-X0001, Creekside KMZ Files.

¹⁰³ *Stepping Back from the Water*, Government of Alberta, January 1, 2012.

¹⁰⁴ *Stepping Back from the Water*, Government of Alberta, January 1, 2012, PDF page 56.

¹⁰⁵ *Surveys Act*, Government of Alberta, November 16, 2022, Section 17, PDF page 14.

¹⁰⁶ *Wildlife Directive for Alberta Solar Energy Projects*, Alberta Environmental and Parks, effective October 4, 2017, Standard 100.1.10, PDF page 7 and 22.

¹⁰⁷ Directive, PDF page 5.

to project construction are negatively impacting the watercourse to a similar or greater degree as the proposed project. It is clear from the referral report that AEPA also recognized that project infrastructure would be sited within the 45-metre setback but provided a moderate risk ranking to the watercourse. However, the Commission has concerns with the details of how CSI has applied the 20-metre setback to Conjuring Creek.

How should the setback be measured?

118. The Directive defines infrastructure as “[a]ny and all equipment, structures and roads that are developed for a solar energy project” and indicates that setback distances are to be “measured from the closest edge of the project footprint to the closest edge of the [environmental] feature”.¹⁰⁸ Therefore, the Commission finds that the setback is to be measured from the fenceline, as it is considered infrastructure in accordance with the Directive.

119. The Commission shares the concerns raised in C. Wallis’s evidence that CSI’s delineation of Conjuring Creek setbacks may not be sufficiently accurate based on the Directive’s requirements for delineation from “top of break” and the definition of “infrastructure.”

120. The Commission finds that no clear mapping of the 20-metre setback of project infrastructure from Conjuring Creek exists on the record of this proceeding. CSI themselves acknowledged that the most accurate delineation of Conjuring Creek was provided in a drone image put on the record in response to an undertaking near the end of the proceeding.¹⁰⁹ While the Commission acknowledges the AEPA’s determination of a moderate risk to watercourse habitat in the referral report, the Commission does not know the full extent of information that was provided to AEPA. Based on additional materials added to the record during the course of this proceeding relating to the delineation of Conjuring Creek and the location of the 20-metre setback, the Commission is not confident that the setback assessed by AEPA was accurate at the time of its review. Further, although the Commission acknowledges that prior agricultural use occurred in some portions of the 20-metre setback, the permanency of project infrastructure and the potential for erosion to impact this project infrastructure creates a risk that is not present with the current agricultural practices conducted on the lands. Therefore, the Commission considers that clear application of a setback measured from fenceline to top of break is required to ensure the project does not negatively impact Conjuring Creek in a manner greater than the existing agricultural land use. This means ensuring all project infrastructure, including the fenceline, adheres to that setback distance. Therefore, the Commission imposes the following condition of approval:

- k. CSI shall delineate a 20-metre setback from fenceline to top of break. The top of break for Conjuring Creek shall be properly delineated by a qualified professional(s). A final project update is required prior to construction indicating the final project layout, location of the fence, and location of Conjuring Creek. In addition, CSI should make best efforts to ensure the updated fenceline maintains a reasonably low impact to wildlife in consultation with the AEPA. If issues are identified during post-construction monitoring, AEPA should be informed of these issues and consulted surrounding further mitigations.

¹⁰⁸ *Wildlife Directive for Alberta Solar Energy Projects*, Alberta Environmental and Parks, effective October 4, 2017, PDF pages 23 and 24.

¹⁰⁹ Transcript Volume 5, pages 711-712,

3.7.4 Site contamination and pre-construction remediation

121. CSI submitted a Phase 1 and Phase 2 environmental site assessment which identified *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* exceedances at the former 100/14-24-049-27 W4M wellsite for select salinity, petroleum hydrocarbon, polycyclic aromatic hydrocarbon and metal parameters, as well as elevated chloride values, within the project area.¹¹⁰ The CCLG raised concerns that there was a potential for preferential contamination pathways to be inadvertently created during construction or that the project would make it difficult or impossible to remediate these lands without removing infrastructure.

122. CSI committed to remediating the contaminated soils identified within the project boundary prior to construction in areas where contamination is identified.¹¹¹ In addition, CSI committed to the assessment of remediated lands by a qualified third-party expert and to apply for a remediation certificate after remediation is completed.¹¹² Accordingly, the Commission imposes the following condition of approval:

1. CSI shall file an independently produced remediation report demonstrating that contamination associated with the former 100/14-24-049-27 W4M wellsite has been remediated to *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* standards. CSI shall file this report at least seven days prior to the commencement of construction within the former wellsite boundary.

123. The Commission has determined that overall environmental improvements will result from the remediation of contaminated areas. The Commission is satisfied that the remediation works proposed by CSI will sufficiently reduce the potential for contamination to be spread or remediation activities to be impeded.

3.8 Decommissioning and reclamation

124. With respect to end-of-life management, CSI submitted a conservation and reclamation plan in accordance with the *AEPA Conservation and Reclamation Directive for Renewable Energy Operations*. The conservation and reclamation plan included a desktop assessment of soil and vegetation at the project, and noted that a field-based pre-disturbance site assessment will be conducted prior to construction to inform site-specific conservation requirements.¹¹³ CSI submitted that, because it is reclaiming historical contamination, CSI will be leaving the lands in a better state than prior to the project.

125. The CCLG raised concerns regarding whether CSI would follow through with full and appropriate decommissioning and reclamation of the project at the end of the project's life, or abandon the project if the company experienced financial troubles. CSI submitted that most solar panels can be reused, refurbished, or upcycled at the end of their life. CSI stated that it had entered a letter of intent with Sunset Renewable Asset Management Inc. to collect the project modules upon decommissioning for recycling at their Taber, Alberta facility. CSI also filed a project decommissioning and salvage estimate from AltaPro Electric Ltd., which stated that the

¹¹⁰ Exhibit 27652-X0071, Phase I ESA Report and Exhibit 27652-X0072, Phase II ESA Report.

¹¹¹ Transcript, Volume 3, pages 412-414.

¹¹² Exhibit 27652-X0202, CSI Commitment Table Post Hearing, PDF page 3 and 4.

¹¹³ Exhibit 27652-X0126, Appendix F_Conservation and Reclamation Plan.

total salvage value of the project exceeded the reclamation cost.¹¹⁴ In addition, CSI advised that it would purchase the project land, which would have value as well.

126. The Commission finds that CSI has satisfied the requirements of Rule 007, Section 4.4.2, SP18 and SP19. CSI developed an initial conservation and reclamation plan outlining preliminary planning for returning the project land to an equivalent land capability. The Commission finds that after the initial remediation work, the project will have minimal soil stripping and grading. In Section 3.7.3 of this decision, the Commission found that overall environmental improvements at the project lands will result from CSI's remediation of contaminated areas. The Commission attributes reduced weight to the decommissioning and salvage estimate from AltaPro provided in support of SP19 requirements, given the estimate was not created by an independent party.¹¹⁵ However, the Commission notes that CSI plans to purchase the project land if the project is approved and will therefore have an incentive to reclaim the land to maximize its value. After considering these factors the Commission is satisfied that the CSI has made sufficient plans, for the purposes of Rule 007, for decommissioning and reclaiming the project land.

127. The CCLG requested that the Commission impose security for reclamation or leave the issue to the County.¹¹⁶ The express provincial authority over the physical remediation and reclamation of renewable power generation facilities, including the authority to require security related to the construction and operation of renewable power generation facilities, lies with AEPA.¹¹⁷ Because AEPA, and not the Commission, is the provincial authority expressly empowered to require security for renewable power generation facilities, the Commission will not impose a security requirement on CSI. The Commission addresses the County's intent to impose reclamation security in the section below.

3.9 Municipal concerns

128. The County submitted that Section 619 of the *Municipal Government Act* provides that, if the project is approved by the Commission:

- (a) Creekside would still need to apply for and obtain a development permit from the County, which must be approved to the extent it complies with the AUC approval; and
- (b) If there is an appeal hearing regarding Creekside's development permit, the appeal board may not address matters already decided by the AUC.¹¹⁸

129. The County advised that if the Commission considered submissions on a particular issue, but did not impose conditions in relation to it, it may be arguable whether the issue was "already decided" by the Commission. Accordingly, the County originally requested that, if the Commission approved the project, that the Commission: (i) expressly impose nine conditions to address the County's concerns, or alternatively; (ii) expressly state that the specific matter in the conditions is deferred to be addressed in any County approval.

¹¹⁴ Exhibit 27652-X0127, Appendix G Project Decommissioning and Salvage Estimate.

¹¹⁵ Transcript, Volume 2, page 345, lines 2 to 18.

¹¹⁶ Transcript, Volume 5, page 780.

¹¹⁷ *Environmental Protection and Enhancement Act*, RSA 2000, c E-12 and associated regulations.

¹¹⁸ Exhibit 27652-X0089, PDF page 7.

130. The Commission has consistently held that a municipality's land use authority and planning instruments are factors that must be considered when deciding whether approving a project is in the public interest. In Decision 24266-D01-2020, the Commission stated "[t]he Commission considers that a municipality's land use authority and the land use regime established under its bylaws form part of its overall determination of whether approval of a project is in the public interest."¹¹⁹ More recently, in Decision 27486-D01-2023, the Commission stated "it is helpful to the Commission when municipalities appear before it to provide additional context into the regional lens through which its planning instruments were enacted. This provides the Commission with insight into the public processes that contributed to the instruments and the local concerns or issues that are specifically reflected in the relevant planning instruments."¹²⁰

131. The Commission's decision-making authority and that of the County's intersect at sections 619 and 620 of the *Municipal Government Act*.¹²¹ Together these sections confirm that the Commission's provincial authority prevails over that of the municipalities and that conditions of a provincial approval will take precedence over any conflicting condition of a municipal development process.

132. This principle was summarized recently by the Court of Appeal of Alberta, which said:

The purpose of s 619 is to reduce regulatory burden and increase administrative efficiency and consistency. Section 619 achieves this by granting paramountcy to decisions of certain provincial bodies, to ensure projects are not blocked at the municipal level for issues already considered and approved at the provincial level.¹²²

133. Sections 619 and 620 do not, however, displace a municipality's planning and development decision-making authority. Instead, these sections should ensure that municipalities do not exercise their planning authority in a way that frustrates or contradicts the findings of the provincial regulatory authority. Sections 619 and 620 are therefore only used where it is necessary to resolve the conflicts between the AUC's decisions and the municipality's. Where there is no conflict between these levels of authority, both may apply. Similarly, where the Commission is of the view that the municipality can sufficiently address issues within its planning authority, the Commission may defer those issues to the municipality.

134. The County withdrew two of its requested conditions¹²³ after receiving CSI's reply evidence.¹²⁴ The County withdrew four additional requested conditions,¹²⁵ that CSI committed to during the course of the proceeding,¹²⁶ on the basis that the Commission considers commitments to be binding on an applicant whether or not the commitment is listed as a condition in the

¹¹⁹ Decision 24266-D01-2020: East Strathmore Solar Project Inc. – East Strathmore Solar Project, Proceeding 24266, Application 24266-A001, September 25, 2020, page 12, paragraph 67.

¹²⁰ Decision 27486-D01-2023, Foothills Solar GP Inc., Foothills Solar Project, April 20, 2023, paragraph 29.

¹²¹ *Municipal Government Act*, sections 619 and 620.

¹²² *Borgel v Paintearth* (Subdivision and Development Appeal Board), 2020 ABCA 192, paragraph 22.

¹²³ Withdrawn conditions are found at paragraph 71(a) and 71(g) of Exhibit 27652-X0089, Intervener Evidence of Leduc County, February 6, 2023 (B5054603x7AF53).

¹²⁴ Exhibit 27652-X0126, Appendix F_Conservation and Reclamation Plan.

¹²⁵ See conditions at paragraphs 71(c), 71(f), 71(h) and 71(i) of the Exhibit 27652-X0089, Intervener Evidence of Leduc County, February 6, 2023 (B5054603x7AF53). The County requested that CSI provide it with a copy of its reclamation certificate, provide it with a storm water management plan, commit to a 27.43-metre setback from Conjuring Creek, and provide the County with an emergency response plan for review and comment.

¹²⁶ Exhibit 27652-X0151, Appendix Y_Response to Intervener Recommendations and Proposed Conditions.

decision.¹²⁷ The Commission confirms that it considers commitments made by CSI to be binding on CSI regardless of whether they are ultimately listed as conditions in the decision.

135. The three remaining conditions and express deferrals sought by the County relate to reclamation security, road use, and landscaping.¹²⁸

136. The County asked that, if the project is approved, the Commission impose the following condition on CSI: “prior to construction...CSI will provide irrevocable financial security representing the full estimated value of decommissioning the Project and reclaiming the Lands to pre-disturbance agricultural land use” or, alternatively, confirm the Commission is not addressing reclamation security and that reclamation security may be addressed by the County through the development permit process in accordance with its bylaws.¹²⁹ CSI responded that the Legislature has provided the Minister of Environment and Protected Areas with the authority to designate the construction and operation of renewable power generation facilities as activities requiring security to be posted.¹³⁰

137. Above, the Commission confirmed that AEPA is the provincial authority expressly empowered to require security for renewable power generation facilities. The Commission makes no findings on the County’s jurisdiction to require same. Should the County decide to require security for renewable power generation facilities, then nothing in this decision should be construed as preventing the County from addressing such security obligations through the development permit process.

138. The County also requested that, if the project is approved, the Commission confirm that it is not addressing road use (including dust suppression, road maintenance, hours of use, and routes) or additional landscaping issues, such that the County can address these issues at the development permit stage in accordance with the County’s bylaws.¹³¹ CSI responded that it has committed to enter into a road use agreement with the County, and that landscaping matters fall squarely within the scope of Commission jurisdiction, and therefore that these conditions should not be imposed.

139. While CSI has committed to entering into a road use agreement with the County, the Commission has not viewed the contents of the road use agreement, and therefore is not addressing its contents in this decision. This may be addressed by the County through the municipal development permit process in accordance with the County’s bylaws. The Commission notes that, in Section 3.2 of this decision, it found that CSI should apply and pay for dust control on Township Road 494 near the McKell residence, if that road is used for construction access. However, details such as the type and frequency of dust control, for example, may be addressed by the County through the municipal development permit process in accordance with the County’s bylaws.

¹²⁷ Exhibit 27652-X0162, PDF page 2.

¹²⁸ The County withdrew its request that 71(d) and (e), regarding road use and additional landscaping issues, be conditions of approval, but still sought an alternative express statement from the Commission regarding deferral (see Exhibit 27652-X0162, pages 2-3).

¹²⁹ Exhibit 27652-X0089, PDF page 11-12; Exhibit 27653-X0162, PDF page 3 (the County acknowledged that CSI provided an estimated cost of decommissioning and reclamation).

¹³⁰ Transcript, Volume 5, page 729.

¹³¹ Exhibit 27652-X0194, Leduc County IR Responses to AUC, April 13, 2023 at PDF page 2.

140. The Commission considers that the “additional landscaping issues,” in this context, may be the components of a landscaping plan,¹³² or may be broader. In this decision, the Commission made specific findings and conditions regarding visual screening for the McKells. If the County has the authority, within its own bylaws, to address landscaping matters in respect of the project that the Commission did not decide, then nothing in this decision should be construed as preventing the County from considering those matters through the development permit process in accordance with the County’s bylaws.

4 Conclusion

141. In this conclusion, the Commission summarizes its findings made above, and applies the legislative scheme in light of those findings. In doing so, the Commission weighs the benefits of the project against its negative impacts.

142. In accordance with Section 17 of the *Alberta Utilities Commission Act*, in addition to any other matters it may or must consider, the Commission must give consideration to whether approval of the Creekside Solar Project is in the public interest having regard to the social and economic effects and effects on the environment. The Commission considers that the public interest will be largely met if an application complies with existing regulatory standards, and the project’s public benefits outweigh its negative impacts, including those experienced by more discrete members of the public.

143. The Commission finds that the application complies with existing regulatory standards, including the information requirements prescribed in Rule 007.

144. The project is predicted to meet the permissible sound levels as defined in Rule 012, have minimal glare impact and, for landowners other than the McKells, have minimal visual disturbances due to the existing tree screening located around the landowners’ residences. CSI’s commitments include working with landowners in the area to address their concerns identified in this decision, and to further minimize property value impacts, which were found to be minimal. In addition, the project will not impact the agricultural use of the CCLG members’ lands. The Commission finds that CSI’s commitment to conduct remediation work on the project lands prior to construction of the project will remove the existing contamination and result in a benefit to the project area. This remediation will resolve concerns with contamination entering the water table and Conjuring Creek.

145. Subject to its findings on the setback to Conjuring Creek, the Commission finds the project’s environment impacts to be acceptable given the proposed mitigations. The Commission accepts CSI’s reasoning for the use of a 20-metre setback to Conjuring Creek instead of the 45-metre setback recommended in the *Wildlife Directive for Alberta Solar Energy Projects*. However, the Commission has also determined that it does not appear that the 20-metre setback has been properly applied based on the best practices for delineation of the creek’s “top of break” and the inclusion of the fenceline in setbacks. Therefore, the Commission has imposed a condition requiring that qualified professional(s) delineate the 20-metre setback from fenceline

¹³² Originally, the proposed County condition was stated as “[p]rior to construction, Creekside shall develop a landscaping plan which identifies and provides the designs details of appropriate visual screening and the landscaping plan shall be provided to the County for its review and comment.” See Exhibit 27652-X0089, PDF page 16.

to Conjuring Creek's top of break and that this delineation be used to appropriately site infrastructure in compliance with the 20-metre setback.

146. The Commission has determined that the project will result in negative impacts to the McKells. The solar panels will be 70.1 metres away from their residence. The McKells may have an impact to their property value caused by visual impacts of the project. The McKells have health concerns that may be impacted by construction noise and dust. The Commission has made express findings in this decision to mitigate these impacts, and conditioned the project to include additional mitigations that require CSI to conduct further consultation with the McKells and report back to the Commission. On the whole, the Commission finds that the negative impacts associated with the CSI project can be mitigated to an acceptable degree.

147. Having determined that the project will result in some negative impacts, the Commission must weigh these impacts against the project's public benefits, in order to determine whether the project is in the public interest. The benefits of the project include its ability to generate emissions-free electricity and to contribute to the diversification of Alberta's energy resources. CSI advised that the project is expected to generate over \$5 million in tax revenues. In addition, the project will create jobs during construction, as well as permanent local jobs to support its ongoing operation and maintenance.

148. Overall, the Commission finds that the negative impacts associated with the CSI project are outweighed by the benefits of the project.

149. CSI provided letters from FortisAlberta indicating that it is prepared to allow the interconnection of the project to its distribution system. As CSI has met the information requirements for a connection order, the Commission approves the interconnection.

150. For reasons outlined in the decision, and subject to the conditions in this decision, the Commission finds that, in accordance with Section 17 of the *Alberta Utilities Commission Act*, approval of CSI's Creekside Solar project application is in the public interest having regard to the social, economic, and other effects of the projects, including the effects on the environment.

5 Decision

151. Pursuant to sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 27652-A001 and grants Creekside Solar Inc. the approval set out in Appendix 1 – Power Plant Approval 27652-D02-2023, to construct and operate the Creekside Solar Power Plant.

152. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 27652-A001, and grants Creekside Solar Inc. the approval set out in Appendix 2 – Connection Order 27652-D03-2023 to connect the Creekside Solar Project to the FortisAlberta Inc. electric distribution system.

153. The appendixes will be distributed separately.

Dated on July 14, 2023.

Alberta Utilities Commission

(original signed by)

Vera Slawinski
Panel Chair

(original signed by)

Matthew Oliver, CD
Commission Member

Appendix A – Proceeding participants

Name of organization (abbreviation) Company name of counsel or representative
Blakes, Cassels & Graydon LLP Terri-Lee Oleniuk Scott Birse Creekside Solar Inc. Richard Haas
Ackroyd LLP Richard Secord Ifeoma Okoye Creekside Concerned Landowners Group (CCLG) Carol Ann McKeil Dwayne and Evelyn Joy Buchak Darcy and Tanni Doblanko Gordon and Tammy Bateman Howard Lengert Jamie Zoltenko John Buchak Kenneth Doblanko Kevin Wasiluk Laura Thomas Nick Perry Robert Dobko Stan Rose Nolan and Valerie Matthews Kevin Wasiluk Johannes Korteweg
Brownlee LLP Alifeyah Gulamhusein Darlene Campbell Rebecca Daw Leduc County Grant Bain

Alberta Utilities Commission Commission panel Vera Slawinski, Panel Chair Matthew Oliver, Commission Member Commission staff Jaimie Graham (Commission counsel) Dale Johnston (Commission articling student) Victor Choy Chris Boulton

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) Name of counsel or representative	Witnesses
Creekside Solar Inc. T. Oleniuk, Blakes, Cassels & Graydon LLP, counsel S. Birse, Blakes, Cassels & Graydon LLP, counsel	R. Haas D. DeBruin A. Barker J. Caskey M. Cross H. MacDonald G. Doll A. Van Horne
Creekside Concerns Landowners Group (CCLG) R. Secord, Ackroyd LLP, counsel I. Okoye, Ackroyd LLP, counsel	C. McKell D. Doblanko E. Buchak D. Buchak L. Thomas C. Wallis H. De Haan B. Gettel T. Jensen B. Salter

Appendix C – Summary of Commission conditions of approval

This section is intended to provide a summary of all conditions of approval specified in the decision for the convenience of readers. Conditions that require subsequent filings with the Commission will be tracked as directions in the AUC's eFiling System. In the event of any difference between the directions and conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following are conditions of Decision 27652-D01-2023 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 27652-D02-2023:

- a. Once CSI has finalized its solar module selection, it must file a final project update with the Commission to confirm that the Creekside Solar Project is within the final project update specified allowances for solar power plants in accordance with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. In the final project update, CSI must include a construction impact mitigation plan as described in Decision 27652-D01-2023, which details discussions with the McKells and the proposed mitigations. The final Creekside Solar Project update and construction impact mitigation plan must be filed at least 90 days prior to the start of construction.
- b. CSI shall file a visual screening plan with the Commission, detailing discussions with the McKells and the final details of the visual impact mitigations. The visual screening plan must be filed at least 90 days prior to the start of construction.
- d. CSI shall file a report with the Commission detailing the measures it has implemented to mitigate noise from operations in the final project design, and particularly confirming it has selected power stations equipped with sound baffles or will install sound baffles for the project power stations. CSI shall file this report at least 90 days prior to the start of construction.
- e. CSI shall conduct a post-construction comprehensive sound level (CSL) survey, including an evaluation of low frequency noise, at Receptor R09. The post-construction CSL survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. The valid CSL data shall be collected when sound sources of the project are operating under representative conditions and must not be an average of the entire nighttime or daytime period. Within one year after the project commences operations, CSI shall file a report with the Commission presenting measurements and summarizing the results of the post-construction CSL survey.
- f. In circumstances where CSI has conducted a post-construction comprehensive sound level survey but could not collect sufficient valid data to meet the requirements of Rule 012: *Noise Control*, CSI shall complete a post-construction validation study to verify compliance at Receptor 09 with Rule 012. The validation study shall include near-field measurements to determine sound power levels of the project sound sources and a propagation model verified by short-term measurements that reflect operation and weather conditions in the propagation model. Within one year of the project commencing operations, CSI shall file a report with the Commission

- presenting measurements and modelling associated with the valid study, and summarizing results of the validation study.
- g. CSI shall file a report with the Commission detailing any complaints or concerns it receives or is made aware of regarding solar glare from the project during its first year of operation, as well as its response to the complaints or concerns. CSI shall file this report no later than 13 months after the project becomes operational.
 - i. CSI shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas (AEPA) and the Commission no later than January 31 of the year following the mortality monitoring period, and on or before the same date every subsequent year for which AEPA requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* and Section 4.0 of the *Post-Construction Survey Protocols for Wind and Solar Energy Projects*.
 - k. CSI shall delineate a 20-metre setback from fenceline to top of break. The top of break for Conjuring Creek shall be properly delineated by a qualified professional(s). A final project update is required prior to construction indicating the final project layout, location of the fence, and location of Conjuring Creek. In addition, CSI should make best efforts to ensure the updated fenceline maintains a reasonably low impact to wildlife in consultation with the AEPA. If issues are identified during post-construction monitoring, AEPA should be informed of these issues and consulted surrounding further mitigations.
 - l. CSI shall file an independently produced remediation report demonstrating that contamination associated with the former 100/14-24-049-27 W4M wellsite has been remediated to *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* standards. CSI shall file this report at least seven days prior to the commencement of construction within the former wellsite boundary.

The following are conditions of Decision 27652-D01-2023 that do not require a subsequent filing with the Commission:

- c. CSI shall maintain all vegetation screening associated with the project, including watering, maintenance and upkeep, removal and replacement of dead vegetation adjacent to the McKell property.
- h. CSI shall use anti-reflective coating on the project solar panels.
- j. If post-construction monitoring reveals that wildlife mortalities exceed acceptable levels (as determined by AEPA), CSI is required to implement additional mitigation measures in consultation with AEPA.