



July 29, 2021

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Impact Assessment Agency of Canada / Government of Canada
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Dear Cheryl Benjamin:

This letter is in response to a request for additional information from the Impact Assessment Agency of Canada (IAAC) in an email dated July 23, 2021 (C. Benjamin, IAAC to C. Molde, WSA) related to the Saskatchewan Water Security Agency's (WSA) original response to an IAAC request for information related to the Westside Irrigation Project. The IAAC is currently assessing a request to designate the Projects under the Impact Assessment Act. The IAAC questions are presented in the order they were received in the email with the response immediately following each question. Some of the response material requires delivery via a File Transfer Protocol (FTP) site to access due to the size of the files – a list of available files can be found at the end of this response.

IAAC Information Request:

1. *What is the anticipated timing of the submission of the technical proposals for the Rehabilitation Project and the Expansion Project to the EASB under provincial environmental assessment? Also, what is the anticipated timing of "self-declaring" the Expansion Project as a "development", as defined under Saskatchewan's Environmental Assessment Act?*

WSA Response:

The anticipated timing of the submission of each Technical Proposal is January 2022. At that time, WSA also intends to declare the Expansion Project a "development" per *The Environmental Assessment Act* (Saskatchewan) and as such, the Expansion Project will undergo an environmental impact assessment (EIA). The Expansion Project Technical Proposal will also be accompanied by a Draft Terms of Reference, which acts as the project-specific guidelines for the EIA.

Submission of the Technical Proposals as anticipated will require having completed sufficient engagement and consultation, as it is only with adequate input that WSA will know if it has identified potential issues for the Terms of Reference. WSA will be working with both of the Indigenous Engagement and Consultation Team and non-Indigenous Engagement Team to advise us on whether engagement pre-consultation and consultation to date is adequate to allow for next steps. Further, submission of the Technical Proposals will require each Projects' conceptual design, location and scope being known with the degree of certainty needed to make such submissions. If the current work program has not reached a point where the options to be described and/or assessed are not known or approved by the WSA, then the submission of the Technical Proposals may not follow currently anticipated timelines

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It is expected that when the Projects are submitted to the Saskatchewan Ministry of Environment, Environmental Assessment and Stewardship Branch (EASB) it will consist of the following:

- Rehabilitation Project: A Technical Proposal describing the proposed upgrades to the existing pumphouse, canal, short canal section to connect canal with the reservoir and the upgrade of the Conquest Reservoir.
- Expansion Project: A Technical Proposal describing the proposed project including in all likelihood, a pumphouse at Coteau Bay with a capacity of up to 120 cubic meters per second, water transfer from there to the expanded irrigation areas, new canals, any regulating or balancing reservoirs and all ancillary and control structures. Accompanying the Expansion Project's Technical Proposal will be a Draft Terms of Reference.

IAAC Information Request:

2. *Please provide the estimated timelines for planning, construction, operation, decommissioning and abandonment of the Rehabilitation Project and the Expansion Project.*

WSA Response:

The current work is to undertake and conceptualize the design, location, and scope of each Project to approximately 15%, which is the level of detail usually required in a Technical Proposal (approximately a pre-feasibility level of engineering). Additional engineering may be required to support either permitting and/or the EIA process.

The Rehabilitation Project and the Expansion Project are separate and distinct projects historically, spatially, financially, and temporally. WSA together with other Saskatchewan Government agencies and ministries are anticipating advancing the Rehabilitation Project procurement and construction as early as the third quarter of 2022, however, WSA cannot presuppose the decision of the EASB in reviewing the Rehabilitation Project Technical Proposal. If the Minister of Environment determines the Rehabilitation Project is a "development" under *The Environmental Assessment Act (Saskatchewan)*, then timelines will be extended to complete an EIA as directed. If the Rehabilitation Project is not a "development", then as noted procurement and construction may *start* as early as late 2022 subject to typical project contingencies such as financing, permits and approvals to proceed are in place. Detailed designed, procurement and construction for the Expansion Project is anticipated to start later than the timeline for the Rehabilitation Project as it will have to undergo development and subsequent review of an EIA. The provincial EIA process, which typically takes up to 2 years to complete and at which time no work can start until all required financing, permits and approvals to proceed are in place, means that this work is at least 2 – 3 years out, subject to typical project contingencies. Since the expanded irrigated area also requires build out of the local service lines and field irrigation (which work is not undertaken by the WSA, as proponent) the full build out of the Expansion Project may last into the 2070's depending on the development of irrigation districts and use by end-users.



At this point the exact operation period is unknown and will not be known until the project advances through to detailed design and construction. We are, however, committed to the adoption of integrated approaches to sustainable infrastructure planning, delivery, and management.

Decommissioning and abandonment of the Projects will be described in conceptual terms in the Technical Proposals and in the Expansion Project EIA in compliance with applicable laws as now existing. As noted above, with ongoing maintenance and upgrading the need to decommission and abandon the canals and infrastructure could be in excess of 100 years from now. Notwithstanding the great length of time before decommission and abandonment, it is expected that the Projects will be decommissioned and abandoned in accordance with the laws applicable at that time.

IAAC Information Request:

3. *With respect to the description of the Conquest Reservoir component of the Rehabilitation Project,*
 - a) *Can you confirm that “Upgrade the partially completed Conquest Reservoir to approximately 890 ha at 1863 ft FSL” is indicating a surface area of the reservoir of 890 hectares?*
 - b) *Please describe both the existing works in place and the work needed to be done to complete the Conquest Reservoir.*
 - c) *Please confirm whether the existing portion of the Conquest Reservoir is currently in operation, and if so what regulatory permits or authorizations are in place.*
 - d) *Please describe the existing water bodies within the area that would be encompassed by the completed Conquest Reservoir.*

WSA Response:

The proposed Conquest Reservoir has a surface area of 890 ha based upon a Full Supply Level (FSL) of 1863 ft above sea level. The proposed reservoir sits in a widening of a glacial melt water channel that has an intermittent drainage and a few dugouts. Currently, the reservoir holds water from local runoff and is used by the landowners for livestock watering, which supplements several dugouts visible in aerial views. The reservoir is not formally acting as an irrigation reservoir at this

time. As determined by a visual inspection of the dam in 2021, the water level in the current reservoir can be quite high in wet years (e.g., 2011) as demonstrated by the visible high-water mark.



The Conquest Reservoir was included in the Saskatchewan Water Resources Commission's Approval to Construct WR 11733 dated September 10, 1971. This document has been included in the files available on the FTP site.

On the 1971 map by the Canada Department of Regional Economic Expansion (on behalf of the Saskatchewan Government – Plan 1 of 5), the original design of the Conquest Reservoir was identical to the current one with an FSL of 1863 ft. As such, it can be safely assumed that the original area of the reservoir was also 890 ha. The 1971 map has been supplied in the FTP site for reference.

The current dam was built to 1970's standards and to hold the water at the 1863 ft FSL. The 1971 drawing does not show any additional structures but infers one at the eastern tip with a thin line cutting through the 1863 ft FSL contour. This is where the canal would likely enter the reservoir. To use the reservoir to the full FSL, the current dam, while the right size for the job, would have to be upgraded to meet the current dam safety standards per the Canada Dam Association. In addition, one or two closure structures will be required; one at the east end approximately where the line is on the map and, possibly, one at the southwest end of the proposed reservoir. Neither structure would be as substantial as the main dam.

In looking at the Google Earth view of the reservoir area, there are a few small dugouts within the proposed footprint of the Conquest Reservoir and no obvious wetlands. While it is believed that

all of these are manmade, if allowed to proceed, the dugouts would be assessed to determine whether any natural wetlands are present. If so, they would be assessed as to their wetland class and offsets proposed to compensate for their loss per the provincial guidance on wetland disturbance. The WSA applies this guidance whenever they assess a permit that may impact wetlands.

IAAC Information Request:

4. *In the meeting we had the week before last, I believe the Expansion Project was described such that it would “build out” from the Rehabilitation project. I’m wondering about the relationship between the Rehabilitation Project and the Expansion Project. For example, are the works of the Expansion Project expected to connect to or make use of the works of the Rehabilitation Project? With respect to the description of Expansion Project components, the WSA letter states, “New main canal(s) or pipeline(s) to service the potential Expansion area irrigation development zones (see Table 2 and Figure 1). No routes have been chosen as of yet but there are likely corridors to the east and west of Goose Lake.” Does the route selection for the Expansion Project include determining whether or not a new canal would be built from Coteau Bay, or whether it would be built from the Conquest Reservoir, i.e., are both of these a possibility?*

WSA Response:

The Rehabilitation Project is not a prerequisite for the Expansion Project as the Rehabilitation Project is a stand-alone project that would service up to 80,000 acres. As a consideration, one of the options is to look at building some flexibility into the Rehabilitation Project that would allow for future expansion (i.e., the Expansion Project). As noted above, there are some practical limits to what this might look like as a Rehabilitation Project canal sized to support the Expansion Project would be very wide and would provide for large evaporation losses for the Rehabilitation Project – the Project Team is reviewing options and no final decisions have been made nor approved by WSA. As and when determined and available, options under consideration would be provided under the engagement process for input by First Nation and Métis, various key stakeholders, landowners, and the general public.

At this time, the Conquest Reservoir is a likely starting point for the Expansion Project, but it is not the only option currently being considered. Again, no final routing or canal options have been decided upon for the Expansion Project because assessment of the land resource in the expansion area, a fundamental input to assessing project design, location, scope, and feasibility, will not start until fall of 2021. At this early point, a likely route is to the west of Goose Lake and one to the east roughly paralleling Highway 45, but again, it is not known whether one or the other route will be chosen or both. At this time, a new canal from Coteau Bay, and expansion of the Rehabilitation Project canal and/or pipelines are possibilities under consideration to be informed by pre-feasibility and feasibility assessments and engagement. WSA has not made any conclusive decisions at this time.

IAAC Information Request:

5. *With respect to the description of the Expansion Project components in the WSA letter, could you elaborate on “New main canal(s) or pipeline(s) to service the potential Expansion area irrigation development zones”: is there a description of where canal components vs pipeline components are placed and how they are each utilized within an irrigation project?*

WSA Response:

As noted above, if the Rehabilitation Project canal is sized to support the total future Expansion Project it would be very wide and this has ramifications in terms of land required, construction costs, water use efficiency, etc. One option under consideration is to use pipelines to transport water to the Expansion Project which has advantages in terms of preventing evaporative loss and leakage to the environment. As another consideration, the final Expansion Project could be supplied by a further enlargement Rehabilitation Canal (i.e., in addition to what is initially undertaken within the Rehabilitation Project), one or more additional canals, or a canal and pipeline combination. Nothing is definitive at this time. Currently, WSA, with support from other Government ministries and independent consultants, is examining options, and this will be informed by the engineering work and input received through the Indigenous engagement and consultation process and the non-Indigenous engagement process.

IAAC Information Request:

6. *Figure 1 includes the label “WM1 Extension to Conquest Reservoir”. Could you clarify what this component is and whether it is a component of either the Rehabilitation Project or the Expansion Project?*

WSA Response:

In the original 1960s design, the canal continued to the Conquest Reservoir. In 1973 construction of the existing irrigation works stopped with the canal reaching the railway at Conquest, Saskatchewan, and the main Conquest Reservoir dam completed. The stoppage was due to a change in provincial government that had different funding priorities and as such, the existing irrigation works were left with approximately 6 km of canal incomplete based on original designs.

The WM1 Extension is that approximately 6 km of new canal is required to connect the existing canal to the Conquest Reservoir. The term “WM” denotes West Main, and the naming was chosen to avoid confusion with the East Main canal on the east side of Diefenbaker Lake.

IAAC Information Request:

7. *The legend of Figure 1 identifies the grey area as the “Westside Rehabilitation Project” and the pink area as the “Potential Irrigation Development Zones”. Please confirm if this is correct, as, based on the descriptions in the body of the submission, the pink area appears to correspond with the Rehabilitation Project, and the grey area with the Expansion Project.*

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WSA Response:

Correct, the pink area is the potential hectares of irrigable land (as defined by a previous study) associated with the Rehabilitation Project. The grey areas are those lands potentially served by the Expansion Project.

IAAC Information Request:

8. *As mentioned in our correspondence on June 30th, there are limitations on the Minister's authority to designate a physical activity. This includes s. 9(7)(a), "The Minister must not make the designation referred to in subsection (1) if the carrying out of the physical activity has substantially begun". Western Economic Diversification Canada's report described the work done in the 1970s. The Prairie Farm Rehabilitation Administration (PFRA) and the Government of Saskatchewan originally conceived of the WIP during the planning and construction of Lake Diefenbaker. The WIP was meant to be one of a number of irrigation projects that would be supplied by Lake Diefenbaker. Construction on the first stretch of the canal, the Westside Main Canal, originally began in 1969, but was halted in 1973 before the canal could reach the town of Conquest. The Macrorie Water Users Association advocated to use the existing canal in the 1980s and has since used the Westside Main Canal to supply water for a small 3000-acre irrigation district. Please provide information on the 1970s project, including its purpose, planned capacity and components, and its relationship to the purpose and components of the Rehabilitation Project. Discuss which of the components built in the 1970s have been used, including those used by the Macrorie Water Users Association.*

WSA Response:

Per the response to question 3, above, a copy of the permit to construct issued under *The Water Rights Act* (Saskatchewan)(repealed) to the Saskatchewan Department of Agriculture (as it then existed) shows that permission to construct was granted to Stage 1 of the West Main canal September 10, 1971. As noted, the existing irrigation works was halted with about 6 km of canal remaining to be finished in 1973 with a change in government. What was identified then in Stage 1 as the Conquest Reservoir being the endpoint is the same endpoint as is currently anticipated for the Rehabilitation Project.

Subsequently, the Macrorie Irrigation District utilized the existing canal to irrigate approximately 3000 acres of land. Currently, the Sask Water, Irrigation and Agricultural Service licenses (March 18, 1996, confidential) the irrigation for the Coteau Bay Irrigation Project, Coteau Bay Water Users Association, to use 1.5 acre-feet/acre of irrigated land with conditions but with no actual acreage specified.

We trust that this response provides clarity and meets your needs, if you have any further questions, I can be reached at <email address removed> or <personal information removed>.

Sincerely,

<Original signed by>

Clinton Molde
Executive Director, Irrigation Development
Saskatchewan Water Security Agency

Attachments

Documents IAAC Response on the FTP site:

1. Saskatchewan Department of Agriculture (1970). South Saskatchewan River Irrigation Project Selection of the Main Supply Route to the West Side Irrigable Areas.
2. Saskatchewan Department of Agriculture (1970). South Saskatchewan River Irrigation Project West Side Initial Development Sizing of the Main Supply Works for the Conquest, Ardath, Swanson, Donavon, and Delisle Irrigable Areas.
3. Saskatchewan Department of Agriculture (1961). South Saskatchewan River Irrigation Project Progress Report on Irrigation Development.
4. Saskatchewan Department of Agriculture (1960). Progress Report on the Irrigation Planning of the South Saskatchewan Irrigation Project.
5. Saskatchewan Water Resources Commission Application for a Water Right (1970).
6. Saskatchewan Department of Agriculture (1973). General Location Plan West Main Canal WM1-Section 2
7. Saskatchewan Department of Agriculture (1973) General Location Plan West Main Canal WM1- Section 1
8. PFRA (1971). South Saskatchewan River Irrigation Project Conquest Reservoir Contract 31 – North Embankment. Saskatchewan Department of Agriculture.

cc: Rick Burton, Acting Deputy Minister, Ministry of Highways
Shawn Jaques, Interim President and CEO, Water Security Agency
Kevin France, Vice President Agriculture Services, Water Security Agency
Dwayne Gelowitz, Senior Principal, Infrastructure, Clifton