

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** University of Manitoba, Centre for Earth  
Observation Science  
**PROPOSAL NAME:** Churchill Marine Observatory  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Waste Disposal – Water Treatment Plants -  
Wastewater  
**CLIENT FILE NO.:** 5803.00

### **OVERVIEW**

The Proposal was received on November 9, 2015. It was dated November 6, 2015. The advertisement of the proposal was as follows:

“A proposal has been filed by KGS Group on behalf of the University of Manitoba, Centre for Earth Observation Science for the construction and operation of an experimental facility to study the impacts of oil, liquefied natural gas and other contaminants on the arctic marine environment. The facility would be constructed in the Town of Churchill between the port and Cape Merry, and would be enclosed within a 1.2 hectare fenced compound. The facility would include two water tanks for simultaneous contaminated and control experiments, with a combined storage capacity of 500 cubic metres. The tanks would be covered by a removable roof which could be retracted during experiments. Seawater and freshwater for the experiments would be obtained from the Churchill River Estuary, and water contaminated in the experiments would be treated to remove contaminants and then discharged back to the estuary. Intake and discharge pipelines between the facility and the estuary would be enclosed in a utilidor system. Removed contaminants would be disposed of at an existing soil treatment facility. The experimental facility would include laboratory and storage space adjacent to the tanks. A dock and boat ramp on the estuary west of the facility would allow river access for the facility. Construction of the facility is proposed for the summer of 2016, with operation beginning in 2017.”

The Proposal was advertised in the Thompson Nickel Belt News on Friday, November 27, 2015. It was placed in the online public registry, the Legislative Library and Millennium Public Library (Winnipeg) public registries. The Proposal was distributed to Technical Advisory Committee (TAC) members on December 1, 2015. The closing date for comments from members of the public and TAC members was December 28, 2015.

### **COMMENTS FROM THE PUBLIC**

No public comments were received.

## **COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE**

### **Manitoba Conservation and Water Stewardship – Lands Branch and Northeast Region Integrated Resource Management Team**

- The proposal has very limited information on how the facility will limit contact between workers, the structures and polar bears. The applicant should be required to adequately explain in more depth how they will limit exposure of the building, the water/oil tanks, and workers to polar bears.
- It notes in the documentation that there will be a fence but there is no fence shown on the site diagrams.
- This area is in Zone 1 of the Polar Bear Alert Program so bears will be hazed out of the area as per current guidelines but the facility will need to have measures and plans in place to reduce attractants and to ensure worker safety around the facilities.

If you need further information please directly contact David Hastman – Regional Lands Manager NE Region MCWS at (204)-679-0987.

Disposition:

Additional information was obtained to address these comments.

### **Manitoba Conservation and Water Stewardship - Parks and Protected Spaces Branch**

The Branch has no comments or concerns to offer as it does not affect any provincial parks, park reserves, ecological reserves, areas of special interest or proposed protected areas.

### **Manitoba Conservation and Water Stewardship – Wildlife and Fisheries Branch**

No wildlife related concerns.

### **Manitoba Conservation and Water Stewardship – Office of Drinking Water**

I reviewed the above noted EAP. They note drinking water for the facility will be truck-hauled in from the Town of Churchill public water system. I found no cause for concern respecting drinking water quality or safety with the EAP or the proposed development.

### **Manitoba Conservation and Water Stewardship – Water Use Licensing**

No concerns.

**Manitoba Infrastructure and Transportation - Highway Planning and Design Branch, Environmental Services Section**

MIT has reviewed the proposal under *The Environment Act* noted above and we have no concern with the proposed development.

MIT's Northern Regional Operations has been in dialogue with the Proponent regarding potential upgrading of the access road. We would request that the Proponent continue to keep MIT updated regarding the upgrading plans by contacting Mr. Devon Little, Technical Services Engineer, at (204) 677-0684 or [Devon.Little@gov.mb.ca](mailto:Devon.Little@gov.mb.ca).

Disposition:

This information was provided to the proponent's consultant.

**ADDITIONAL INFORMATION**

Additional information was requested to address Technical Advisory Committee comments on January 13, 2016. The attached response dated February 1, 2016 was provided on February 3, 2016. This response also provided some updated information based on the availability of more detailed design work.

This information is sufficient to address the TAC concerns through licence conditions.

**PUBLIC HEARING**

As no public comments were received and no requests for a hearing were filed, a public hearing is not recommended.

**CROWN-INDIGENOUS CONSULTATION**

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with Indigenous communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of the Indigenous rights of that community.

The proposal involves the construction and operation of a wastewater treatment facility to remove petroleum contamination from seawater and fresh water contained within tanks in a research facility. Since resource use is not affected by the project, it is concluded that Crown-Indigenous consultation is not required for the project.

**RECOMMENDATION**

It is recommended that the Development be licensed under *The Environment Act* subject to the limits, terms and conditions as described on the attached draft Environment Act Licence. It is recommended that enforcement of the Licence be assigned to the Northeast Region of the Environmental Compliance and Enforcement Branch.

PREPARED BY:

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Bruce Webb, P. Eng.

Environmental Approvals Branch – Land Use and Energy Section

For Municipal and Industrial Section

March 7, 2016

Tel: (204) 945-7021 Fax: (204) 945-5229 e-mail: [bruce.webb@gov.mb.ca](mailto:bruce.webb@gov.mb.ca)



February 1, 2016

File No. 15-1736-008

Manitoba Conservation and Water Stewardship  
Environmental Approvals Branch  
Suite 160 -123 Main Street  
Winnipeg, Manitoba  
R3C 1A5

3rd Floor  
865 Waverley Street  
Winnipeg,  
Manitoba  
R3T 5P4  
204.896.1209  
fax: 204.896.0754  
www.ksgroup.com

ATTENTION: Bruce Webb  
Water Development and Control Assessment Officer

RE: Churchill Marine Observatory, Environment Act Proposal  
File number: 5803.00  
Response to Request for Additional Information

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Dear Mr. Webb:

On behalf of the University of Manitoba, KGS Group has prepared this response to your request for additional information and to update you on proposed project changes from the Environment Act Proposal (EAP) submitted November 9, 2015 for licencing approval to construct and operate the Churchill Marine Observatory (CMO). Proposed changes from the EAP and responses to the two (2) items identified in your email dated January 13, 2016 are provided in the paragraphs below. This information is being provided for inclusion in the project file and so that you can continue processing the proposal. Supporting information is enclosed with this letter, when necessary, as identified in the following paragraphs.

#### Proposed Changes

Since the EAP was submitted the project design has been further advanced with access to the water and the site layout optimized to reduce construction costs and decrease the already limited potential adverse effects. Additionally since the EAP was submitted an alternative route for the utilidor and water intake pipe (with pump house) is being investigated in the event an agreement cannot be reached with Omni Trax to cross their land as originally proposed. This route has not been detailed yet or shown in the enclosed figures but it would run across the Parks Canada land north adjacent the CMO site and down to the shoreline north of the Omni Trax property.

Access to the water in the original EAP consisted of a boat ramp and a seasonal dock to be installed west of the main development site on the cobble beach shore of the Churchill River. The permanent concrete boat ramp was proposed to be approximately 4 m wide and long enough to allow launching of the 9 m research boat during high tide and potentially the upper range of the tide cycle. As noted in the EAP alternative non-permanent ramp options were still being investigated and that is what is now being proposed. A custom designed trailer with large radius and wider wheels, and multiple axles that would reduce the load on the river and beach

bottom, is being investigated. The trailer will be pushed into or pulled out of the water using a four wheel drive truck. If, however, slippage on the wet and smooth rocks proves to be problematic to generate enough force to overcome the unevenness of the shore and any sinking of the trailer wheels into the beach gravel a winch system can be anchored to the bedrock above the high tide. The winch could also be used to launch the trailer using a pulley fastened to one of the two buoys off shore.

The dock was proposed to be installed seasonally at the shore and consist of a structural gangplank approximately 40 m long anchored on the shore and connected to a floating section extending approximately 12 m into the estuary at low tide in order to accommodate the research boat. In place of the seasonal dock boats are now proposed to be moored at the buoys located off shore, with a water depth of 5 m at low tide, as shown in the revised Figure 1. When personnel or material are to be transferred to and from shore, a smaller boat would be taken from shore to resupply the boat docked at the buoy. The boat launch system described above would also be used to launch this smaller boat. The buoys will be designed according to Transport Canada's "An Owner's Guide to Private Buoys" and the Canadian Coast Guard "Canadian Aids to Navigation CANS 2011" to ensure compliance with the *Canada Shipping Act*. Approval for these buoys is currently in process with the Navigation Protection Program.

The proposed changes to the water access reduces the potential project effects as there is no permanent alteration of fish habitat on the shoreline associated with the boat ramp. Additionally there are less maintenance requirements in the shore zone associated with repairing ice damage to permanent infrastructure and the seasonal installation and removal of the dock.

The site layout, as shown in Figure 2, has been revised slightly from the original layout provided in the EAP. The garages, labs and OSIM tanks have been relocated approximately 15 m north and 20 m east with the long axis of the facility rotated slightly to be parallel to the main road. To accommodate this facility relocation the parking area is now proposed to be west of the facility and the outside boat storage is now proposed to be south of the facility. The proposed new layout has been optimized to reduce the amount of rock blasting required at the site. Reducing the rock blasting both reduces the project cost but more importantly reduces potential adverse effects to the environment associated with the blasting.

### Comment Response

The additional information requested in response to the Technical Advisory Committee comments is as follows;

1. As noted in the EAP lighting and fencing will be the primary measures to limit exposure of the buildings and workers to polar bears. The proposed location of the site fence has been added to the revised site layout plan (Figure 2). The fence will be constructed of 2.134 m (7ft) of commercial grade chain link fencing complete with 3 strands of barbed wire at the top for a total height of 2.438m (8ft). Chain link mesh would be 9-gauge hot dipped galvanized fabric. Vehicular access to the site through the perimeter fence will be controlled by horizontally sliding, powered cantilevered gates with mesh panels and banding as generally described above. Pedestrian access / egress gates will be provided at all road access points, as a minimum, and at additional locations along the perimeter to be determined during the detailed design stage. As a last resort, short barrelled 12 gauge shotguns will be kept inside the buildings with both rubber bullets and slugs.

2. The University of Manitoba currently does not have plans to test any other types of contaminants in the OSIM pools other than crude oil, liquefied natural gas and associated herding agents as already described in the EAP.

Should you require any additional information or have any questions regarding the proposed changes, please contact the undersigned at 204-896-1209.

Yours truly,



Shaun Moffatt, M.Sc.  
Senior Environmental Scientist

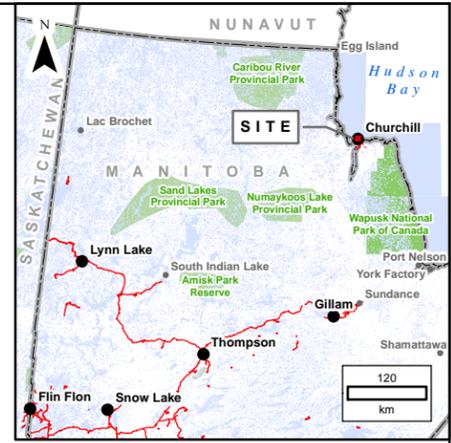
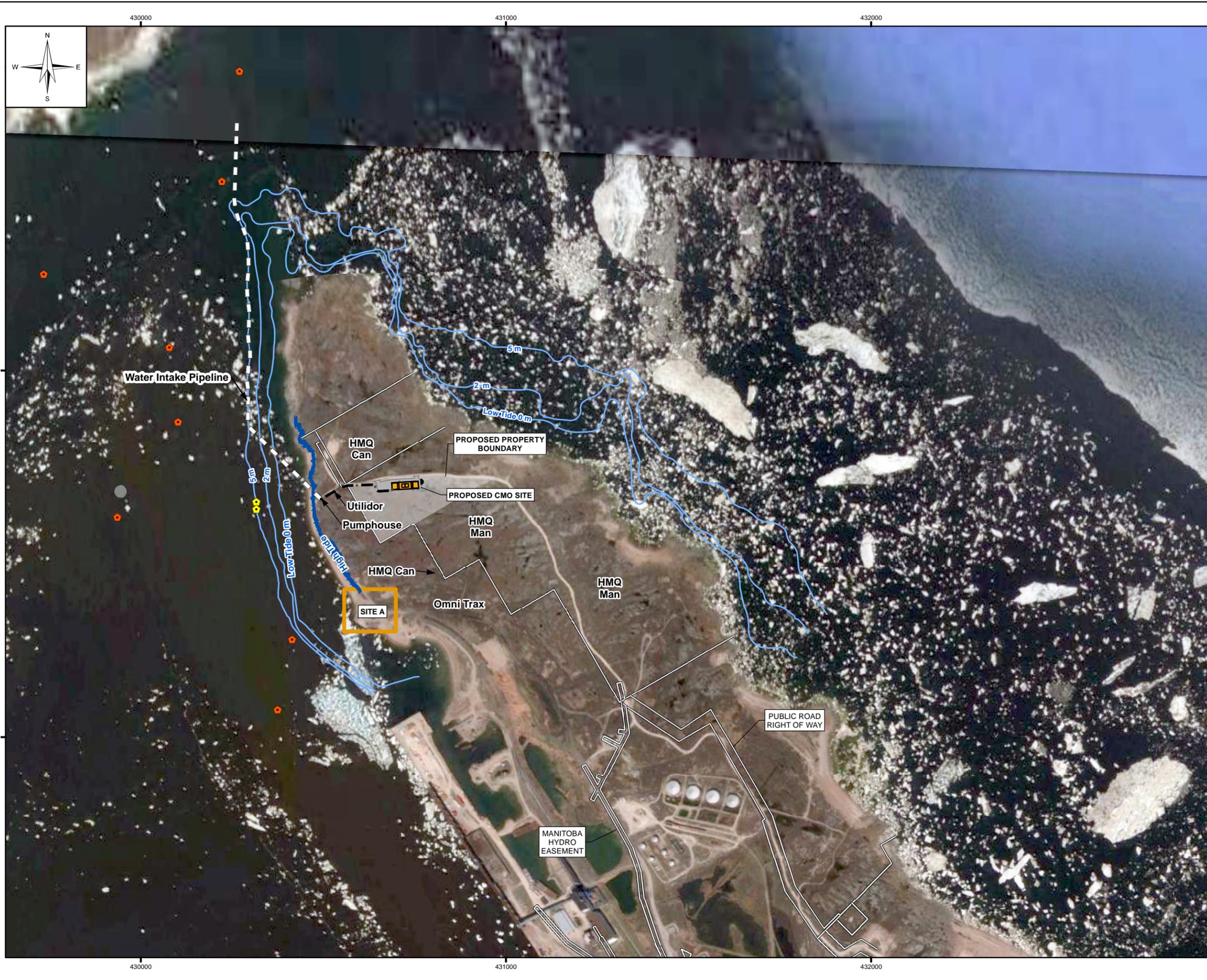
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cc: David Barber, University of Manitoba  
Melissa McAlister, Prairie Architects  
Rudy Derksen, KGS Group

## FIGURES

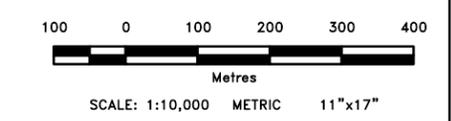
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 11"x17" PLOT SCALE 1:1



- LEGEND:**
- Existing Buoy
  - Proposed Buoy
  - Proposed Water Intake Pipeline
  - Utilidor (Proposed)
  - High Tide Level (Estimated)
  - Bathymetry Contour
  - Limits of Crown Land (approximate)
  - CMO Building (Proposed)
  - Access Roadways (Proposed)
  - Pumphouse (Proposed)
  - Property Boundary (Proposed)

- Notes:**
1. Imagery as shown supplied by Google Earth.
  2. Bathymetry shown obtained from Fisheries and Oceans chart 5640 dated May 10, 2013.
  3. Linework displayed is approximate only.
  4. Limits of Her Majesty the Queen (HMQ) at this time are approximate based on information received from the Province of Manitoba.
  5. All units are metric and in metres unless otherwise specified. Transverse Mercator Projection, NAD 1983, Zone 15. Elevations are in metres above sea level (MSL).



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| 1                 | 16/01/29 | RE-ISSUED FOR ENVIRONMENTAL REPORT | RED       | SFM      |
| 0                 | 15/11/06 | ISSUED FOR ENVIRONMENTAL REPORT    | RED       | MSW      |
| NO.               | YY/MM/DD | DESCRIPTION                        | ISSUED BY | CHECK BY |
| REVISIONS / ISSUE |          |                                    |           |          |



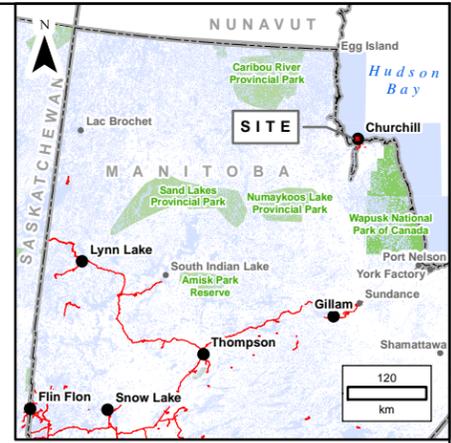
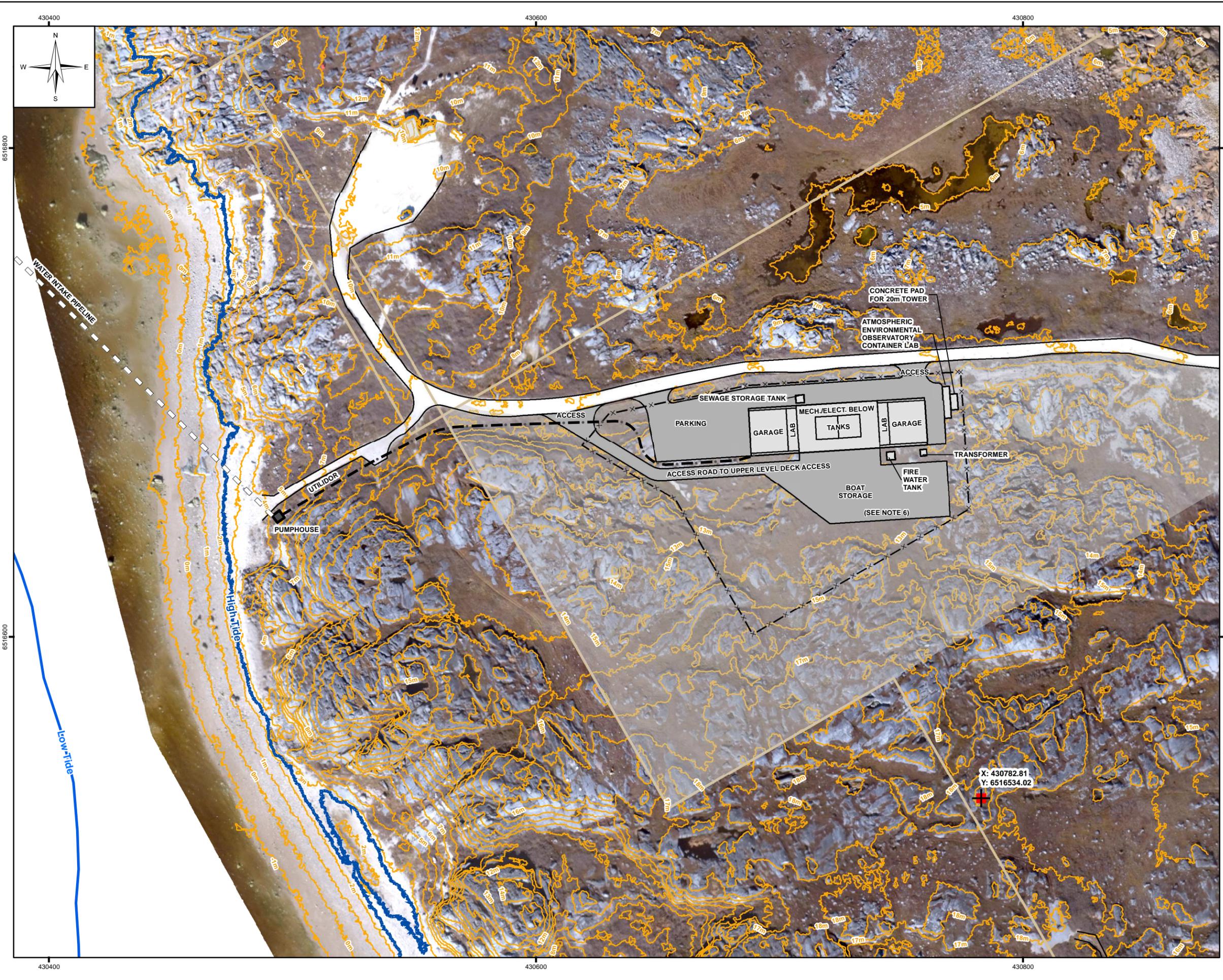
**CHURCHILL MARINE OBSERVATORY ENVIRONMENT ACT PROPOSAL**

**SITE LOCATION PLAN**

|              |           |        |
|--------------|-----------|--------|
| JANUARY 2016 | FIGURE 01 | REV: 1 |
|--------------|-----------|--------|

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 11"x17" PLOT SCALE 1:1

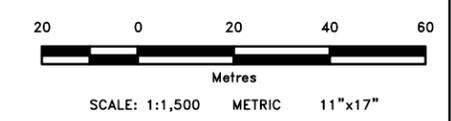


**LEGEND:**

- Control Point
- High Tide Level (Estimated)
- Low Tide Level (Estimated)
- 1m UAV
- Utilidor (Proposed)
- Proposed Water Intake Pipeline
- Site Fence (Proposed)
- Limits of Crown Land (approximate)
- Pumphouse (Proposed)
- CMO Building (Proposed)
- Property Boundary (Proposed)

**Notes:**

1. Topography information shown was captured by KGS Group on October 1, 2015 by Unmanned Aerial Vehicle (UAV).
2. Imagery information shown was captured by KGS Group on October 1, 2015 by UAV.
3. Bathymetry shown obtained from Fisheries and Oceans chart 5640 dated May 10, 2013.
4. Control Point ID 664000 Brass Tablet.
5. Limits of HMQ at this time are approximate based on information received from the Province of Manitoba.
6. Base elevation for Site Infrastructure is 8m.
7. All units are metric and in metres unless otherwise specified. Transverse Mercator Projection, NAD 1983, Zone 15. Elevations are in metres above sea level (MSL).



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| REVISIONS / ISSUE |          |                                    |           |          |

**KGS GROUP**  
CONSULTING ENGINEERS

UNIVERSITY OF MANITOBA

**CHURCHILL MARINE OBSERVATORY ENVIRONMENT ACT PROPOSAL**

**LAYOUT PLAN**

|              |           |        |
|--------------|-----------|--------|
| JANUARY 2016 | FIGURE 02 | REV: 1 |
|--------------|-----------|--------|