



Report to: Mayor and Members of Council

From: Ian Clendening, Planner

Date: February 22, 2018

Subject: Report #18-017 Planning
Assessment of Revised Claude Brown Road Boat Launch
Option

Report Purpose:

The purpose of this report is to provide Council with additional information regarding the use of an unopened road allowance at the north end of Bob Lake for the purpose of a boat launch as contemplated by the Bob Lake Association.

Background:

Location Description:	Road Allowance Btwn. Lots 10 & 11, Concession 3, Geographic Township of Minden	<p style="text-align: center;">Location of the Subject Lands</p>
Official Plan Designation:	Waterfront	
Zoning By-law 06-10, as amended Zone:	Shoreline Residential (SR) Zone	
Access:	Claude Brown Road	

The Township's historically maintained a public boat launch located at the south end of Bob Lake was blocked off after the landowner identified that the launch was on private land and requested that the Township cease its operation.

At the time that the public's access was closed off, Staff assessed alternative public lands, including unopened road allowances, which could be used to provide an alternative water access point. Staff determined that no other access points on existing Township property were viable.

The Bob Lake Association subsequently prepared a delegation to Council on November 30, 2017 identifying the use of the unopened road allowance and existing snow plow turnaround at the terminus of the public road component of Claude Brown Road. Report 18-008 Assessment of Claude Brown Road Boat Launch Option was presented to Council on January 25, 2018 addressing the proposal. The report identified numerous concerns including traffic safety, impact on surrounding properties, and property rights.

Correspondence dated January 30, 2018 from the Bob Lake Association responded to the Staff Report, with minor revisions to the proposal. On February 8, 2018 Staff were directed by Council to prepare a further report addressing the discrepancy in costs and address the revised proposal.

Overview of Claude Brown Road Launch Site & Modifications to Proposal:

The proposed location makes use of a 20m. (66') unopened road allowance leading to water at the north end of Bob Lake. To the west of the road allowance, Claude Brown Road would be considered a 'private road' (private road over private property) to the east it would be considered a 'forced road' (public road over private property).

In the area of the road allowance, Claude Brown Road traverses parallel to the lake with the edge of the travelled road situated roughly 2.6m. (8'7") from the high water mark on average, but approaches as close as 1.4m. (4'7"). A snow plow turnaround straddles the unopened road allowance half of which is located on the unopened road allowance while the other half encroaches onto the adjacent private property to the east of the road allowance.

On the property east of the road allowance a frame shed is located 8.7m. (28'8") north of the snow plow turnaround and encroaches marginally onto the Township's road allowance, while a lawn area extends a further 8.1m. (26'7") onto the Township's property. The dwelling on the property is oriented in a manner that overlooks the road allowance where it meets the water (i.e., the location of the proposed boat launch and parking/turnaround area).

At the east end of the unopened road allowance where it meets Bob Lake is an existing dock, presumably associated with the adjacent property.

In their correspondence to Council dated January 30, 2018 the Bob Lake Association updated their proposal in light of the comments made by Staff. Highlights of these changes consist of:

1. Reconfiguring and expanding the parking/turnaround area of the road allowance. The proposed turnaround now measures 15.5m. (51') in width by ~14.9m. (49') in depth on the west side and 19.2m. (63') on the east side.
2. Widening the boat ramp from 10' to 14', with shoulders increasing from a width of 18' to 22'.
3. Relocating the utility pole to the northwest corner of the proposed parking/turnaround area.
4. Returning a portion of the encroaching snow plough turnaround to the adjacent property.
5. Landscaping elements are illustrated in an effort to buffer the adjacent properties.

In large part the issues identified in the January 25, 2018 report remain unchanged. Under the revised proposal, the extent of encroachment of the parking/turnaround area has been mitigated; however, the issue remains. Additionally, in an effort to address the encroachment issue the revised configuration has exacerbated Staff's concerns related to storm water, and by extension water quality.

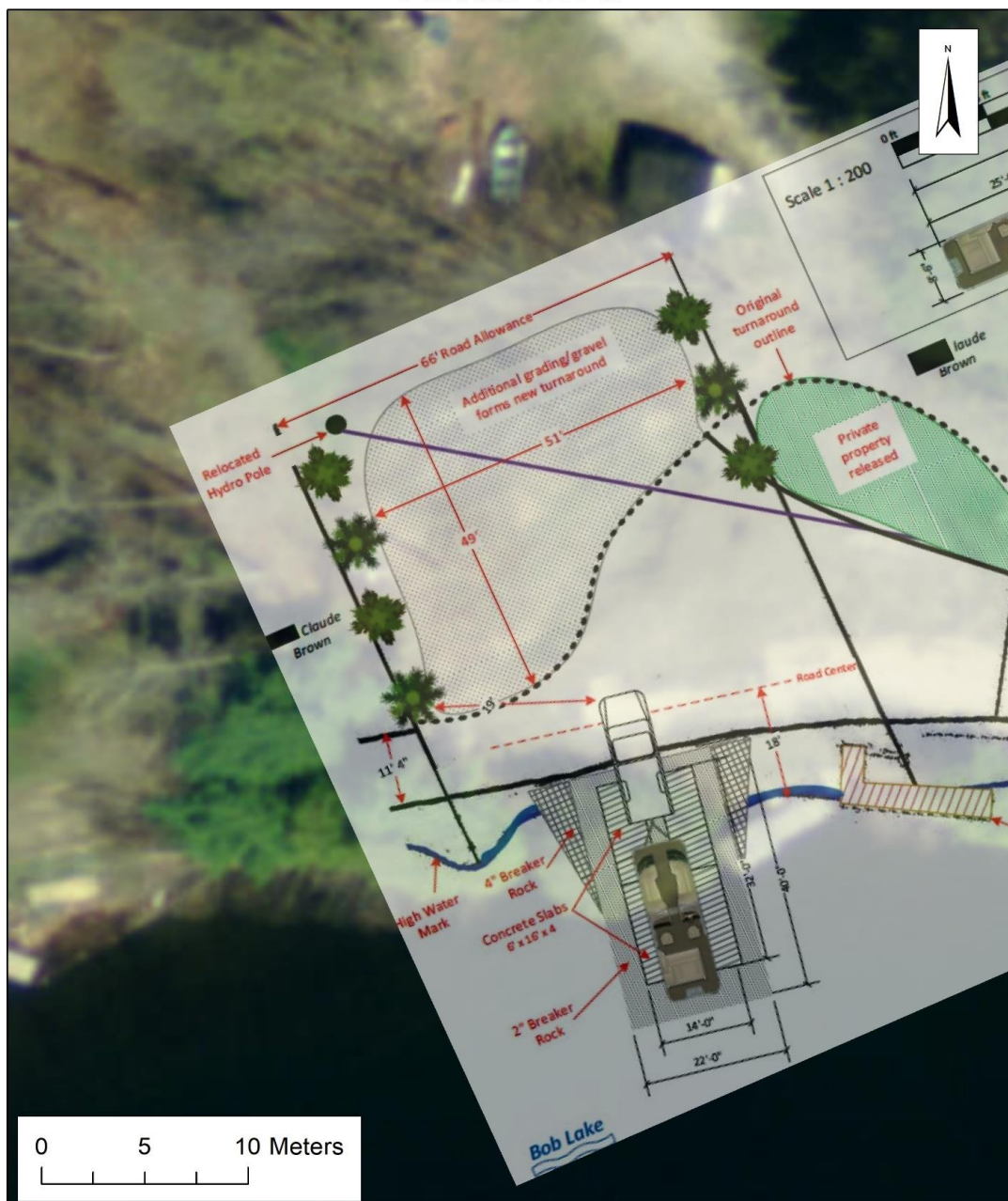
The revised layout is illustrated on Figure 1 & 2 on the following pages which has been overlaid on top of aerial photos.

Aerial View



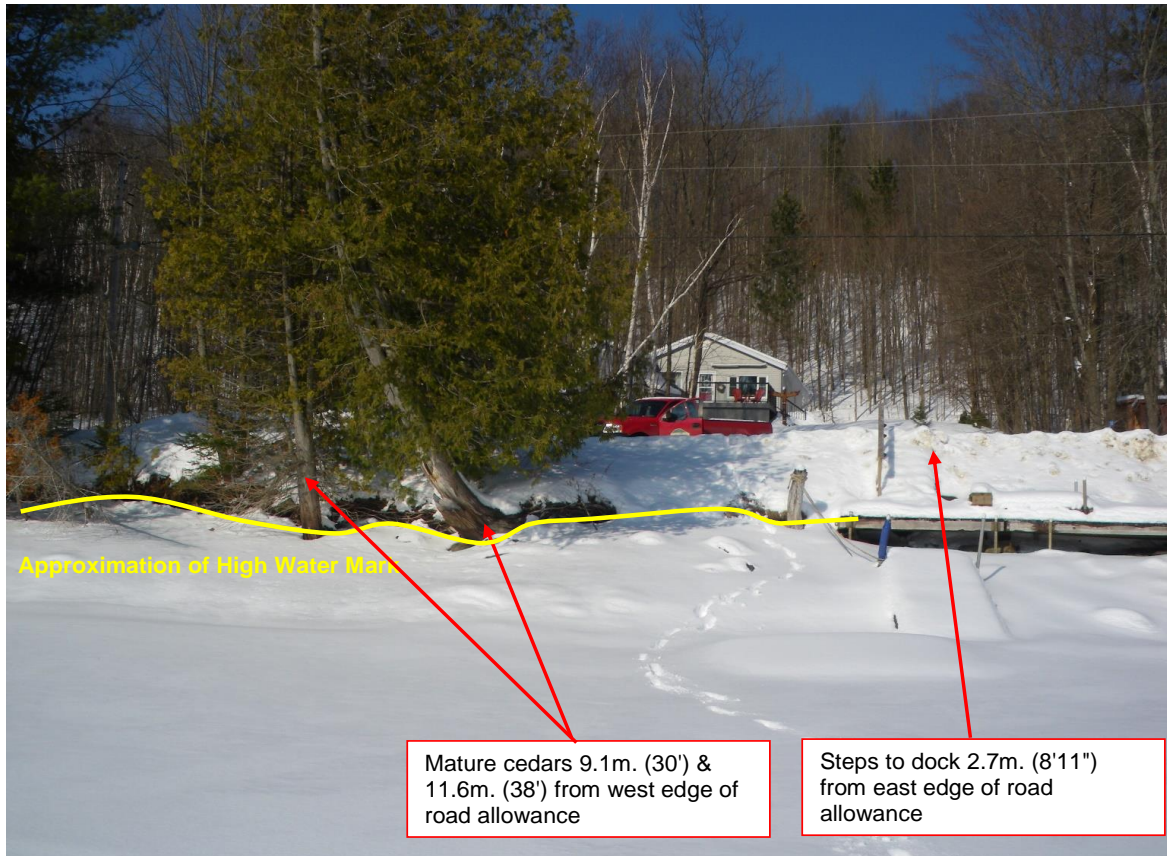
Figure 2 – Aerial View (Zoomed In)

Aerial View



For additional context, photographs of the site are provided below.

Photograph 1 – Bob Lake looking North to Road Allowance



Photograph 1 illustrates the area of the shoreline upon which the boat launch is proposed. Based on the submission, the boat launch would be centred ~8.5m. (28') from the western edge of the road allowance.

While detailed design drawings would provide more definitive measurements, the edge of the 4" breaker rock illustrated in Figure 1 & 2, would extend to a distance of 4m. (13'3") from the edge of the road allowance, and 4.4m. (14'6") from the edge of the dock steps.

The above also illustrates the steep topography in the area between the shoreline and the road. The elevation of the road is 0.6m (2') above the high water mark, resulting in slopes ranging from a high of 39% to a low of 17% at the location of the proposed boat launch.

Photograph 2 (following page) shows the narrow section of shoreline at the location of the boat ramp. The boat launch is proposed to be centred roughly at the patch of cedar trees. As a result of the steep embankment

(discussed further below) the crushed stone shoulders would extend at a 3:1 slope extending to a distance of ~ 3.7m. (12') from the edge of the dock illustrated above.

Photograph 2 – Claude Brown Road at Shoreline



Photograph 3 illustrates the existing snow plow turn which the proposal contemplates expanding to a distance of ~ 4m. (13') from the shed illustrated in the photo.

Photograph 3 – Existing Snowplow Turnaround



Photograph 4 – Eastern edge of Road Allowance



Photograph 5 – NW Corner Looking West



Photograph 6 – NW Corner Looking East



Photographs 4 through 6 illustrate the area of the proposed parking/turnaround, and highlight the surrounding area in which the development would fit into.

1. Traffic Safety

Report 18-008 Assessment of Claude Brown Road Boat Launch Option identified significant concerns regarding traffic safety. The revised proposal does not alter these concerns.

For traffic flow and safety reasons, a boat launch design which is bisected by a road is not preferred. This design had existed on a previous boat launch adjacent to Horseshoe Lake Road north of Bethel Road but the launch was ultimately decommissioned for safety reasons.

A preliminary analysis suggests that vehicles exiting the boat launch into the eastbound lane of Claude Brown Road heading would not be able to execute the maneuver directly given the turning radius. The exiting vehicle would instead have to tack westbound before executing the turn with the wider turning radius. Further analysis would need to be conducted if this additional area would be sufficient to execute the turn, or whether the limitations of the 51' width of the parking/turning area would necessitate 3 point turns before vehicles merge into the eastbound lane of Claude Brown Road.

Subsequent to a discussion with the Township's insurance provider, it was determined that the boat launch should be covered under the Township's existing policy without an impact on rates. Any increases in rates and/or deductible would only incur in the event of a significant claim where the Township was determined to be wholly or in part negligent. The Township was advised that to mitigate the risk of such a claim, the Township would ensure that exercised due diligence through the use of appropriate signage, clear sight lines, reduced speeds, adequate road maintenance, etc.

While the Township could readily take measures identified above to mitigate the risk of accident along the section of Claude Brown Road east of the boat launch, it would be outside of the power of the Township to compel property owners on the private road section of Claude Brown Road west of the boat launch to post, and subsequently maintain, signage deemed appropriate.

While the Township could provide signage and assist with the installation, it begs the question as to who would ensure the ongoing maintenance and replacement of signs, clearing vegetation for sight triangles, and who is responsible/liable in the event that standards are not met.

To address this, the Township would likely wish to enter into a form of agreement with the property owners/road association to the west. The Township's insurance provider indicated that, "if it is anticipated that the municipality may have difficulty erecting and maintaining

signage, then consideration should be given to seeing if there is a more appropriate site.”

2. Encroachments:

The modified design has reduced the extent of encroachment onto private property but the issue is still present.

Should Council decide to pursue this site for a boat launch, a legal opinion should be obtained definitively addressing the extent to which the Township may expand the use of the existing snow plough turn around prior to any detailed design work.

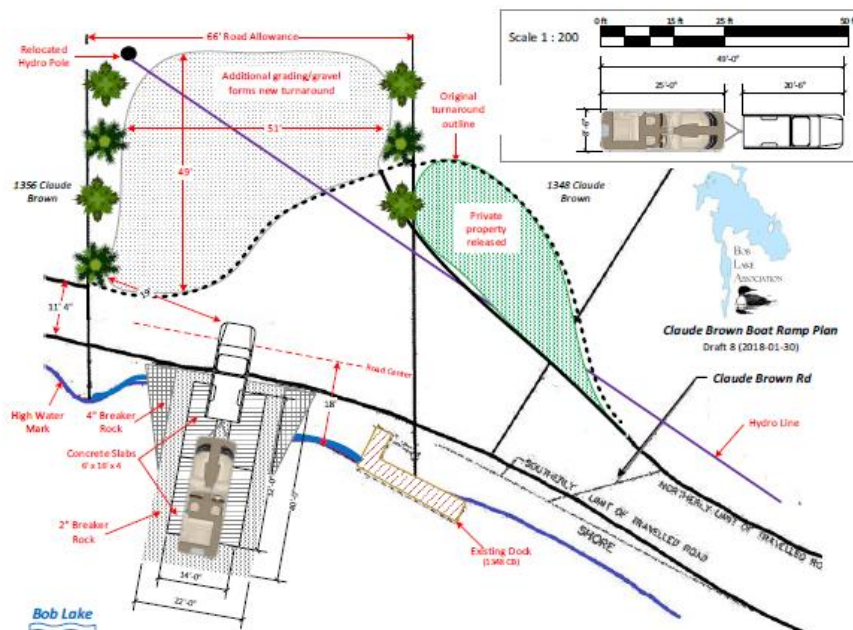
3. Parking/Turn-around

Given the limitations of space, it is understood that parking will be strictly prohibited and used solely for short term purposes associated with the loading of equipment etc. onto the launching boats.

As a forced road, vehicles do not have the right to pull off of the road shoulder as a means of queuing for the launch area. Accordingly, when a boat is in the process of using the parking/turnaround area, approaching vehicles wishing to use the launch would legally be expected to block the lane of traffic, given that Claude Brown Road is a forced road.

Given that Claude Brown road measures ~3.5m. (11'6") in width, this is a serious concern.

Figure 3 – Proposed Configuration



4. Environmental:

As identified in the January 25, 2018 report, Bob Lake is identified as an 'At Capacity' lake trout lake. The revised proposal would have a greater negative impact on water quality as the reconfigured parking/turning area is lengthened further up the slope and widened in the area which is planned to be denuded for the boat launch.

At capacity lakes are highly sensitive to further shoreline development which can increase the phosphorus loading of the lake and thereby reduce the dissolved Oxygen content of the lake and threaten the viability of the naturally reproducing lake trout populations. One means of mitigating the phosphorus migration is a vegetative buffer, however due to the nature of the proposal, this is not feasible.

In order to ensure stable slopes adjacent to the boat launch (illustrated as "4" Breaker Rock") the shoreline at the boat launch would be flanked by 1.8m. (6') of crushed rock on either side to allow for a stable 3:1 (horizontal:vertical) slope. Adding this to the Bob Lake Association's conservative boat launch width of 22' (including shoulder), the total impacted area along the shoreline shoreline would be 10.4m. (34'), plus clearings for sight triangles.

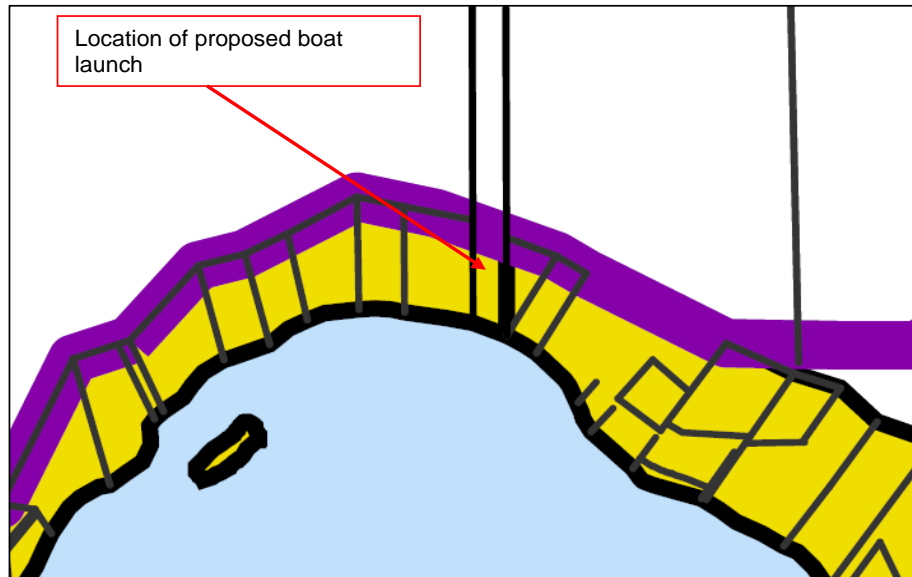
Extensive erosion along the steep shoreline was observed at the site. A likely cause of the erosion, as embodied by the undercutting of the bank, is the wave action caused by motor boats. Given the increased intensity of boating activity in the area as a result of the boat launch, shoreline stabilization measures should be investigated further and employed in conjunction with the development.

5. Land Use & Planning Act Considerations:

The area adjacent the road allowance to both the east and west is characterized by shoreline residential lots. To the west of the road allowance Claude Brown Road services 33 lots. The property east of the road allowance is an irregular, triangular, shaped lot which likely played a role in the building's orientation towards the road allowance, where the boat launch is proposed.

As identified in Figure 4 (following page) by the yellow colouring, the boat launch is located within the Shoreline Residential (SR) zone. Within the Shoreline Residential zone, a 4.5m. (14'9") setback is required from side lot lines as a means of ensuring privacy and reinforcing the character of a low intensity neighbourhood.

Figure 4 – Zoning of Property (Excerpt from Schedule 10)



The parking/turnaround area is proposed to extend to a distance of 2.3m. (7'6") from each of the adjacent residential properties. The shed encroaching on the Township's road allowance would be situated ~ 4m. (13') from the northern limit of the parking/turnaround area.

Uses permitted within the Shoreline Residential zone are restricted to a Single Detached Dwelling and a Public Use. A Public Use is defined as,

3.131 PUBLIC USE: Any activity, occupation, business or operation carried on by a Public Authority.

The Township would be classified as a Public Authority as defined in section 3.130. A Boat Launch is not defined in the Township's Zoning By-law, and would therefore be a prohibited use, excepting the generality of the definition of "Public Use"

Where a Zoning By-law defines permitted uses in general terms, Section 45(2) sets out that:

Other powers

(2) In addition to [the Committee of Adjustment's] powers under subsection (1), the committee, upon any such application,

(b) where the uses of land, buildings or structures permitted in the by-law are defined in general terms, may permit the use of any land, building or structure for any purpose that, in the opinion of the committee, ***conforms with the uses permitted*** in the by-law (emphasis added).

In determining whether the proposed use “conforms with the uses permitted”, the Committee, and on appeal, the Ontario Municipal Board (OMB), would assess the other types of uses permitted in the zone, which in the Shoreline Residential Zone is limited to Single Detached Dwellings, the nature and impact of the proposed use, and whether it represents good planning.

Due to the number of outstanding issues which would need to be addressed in a detailed submission, it is premature to cast an opinion upon the proposal. However, given the concerns over safety, traffic, parking, and impact on surrounding properties, it does not appear as though this property is capable of meeting the above tests.

6. Costs & Construction:

At its meeting of February 8, 2018, Council directed Staff to review the cause for discrepancy in the Bob Lake Association’s cost estimates and those provided by the Township in the January 25, 2018 report.

The Bob Lake Association identified a cost of \$30,000 in their delegation to Council, whereas Township Staff put forward an estimate of \$182,680, a difference of \$152,680. Key differences resulting in the discrepancy are provided below.

It is noted that costs have been identified in a line-by-line account in the lower of two quotes provided by the Bob Lake Association, whereas the higher quote forming the basis of the \$30,000 estimate simply identified the list of goods and services and provided a final estimate. In order to provide a comparison between the Bob Lake Association’s estimates, and Township Staff’s estimates, the line-by-line items have been ‘price inflated’ to total \$30,000 while keeping the same relative percent of costs.

- **Bob Lake Association did not include any money for Planning, Legal, & Property which Township Staff budgeted \$85,000 (56% of discrepancy).**

The issues identified above emphasize the legal complexities which, at a minimum, need a legal opinion before acting upon. To obtain appropriate land use permissions (e.g., Zoning Amendment or Minor Variance), the services of a Planner who could support the application would have to be engaged, while

land use planning decisions may need to be defended/appealed to the OMB.

Property Acquisition was included, in the event that the Township needed to acquire any land (e.g., parking/turnaround area, parking on shoulder of Claude Brown Road, etc.). While there is ambiguity about whether there would be any need to acquire land associated with the parking/turnaround, the need for a shoulder to pull off of for queuing vehicles, suggests that some land acquisition will be a necessary component of the project.

- **Bob Lake Association did not include any money for Contingency which Township Staff budgeted \$44,780 (29% of discrepancy).**

Any project should be estimated as accurately as possible, but reserves should be set aside for contingency purposes. This addresses risk in project management and budgeting; unspent money typically goes into reserves which may be drawn upon for other projects which exceed budgets.

Township Staff budgeted the project with a Contingency based on estimates of 20% for the turn around, 5% for the ramp; and 30% for Planning, Legal, & Property.

- **Bob Lake Association assumed a ramp of 14' width at a 21.25% slope, whereas Township Staff assumed a ramp of 16' width and 15% slope increasing to 21% at bottom. Township Staff budgeted \$23,000 more for the ramp (15% of discrepancy).**

A slope of 21.25% as suggested by the Bob Lake Association (see Note below) is an extremely steep slope which can prove challenging for vehicles. When looked at in relation to the other challenges to the site, this was deemed as one area which should not be compromised for the purposes of cost savings. Acceptable slopes for a boat launch typical range from 12% to 15%.

Township Staff also choose to employ a greater number of concrete slabs running parallel to the shoreline rather than fewer slabs running perpendicular to the shoreline. This choice was a means of providing a more stable launch area that allows for safer accessibility to the boat when launching, and represents the standard to which the Community Services Department employs when replacing boat ramps (See Figure 5).

Figure 5 – Preferred Slab Orientation



These slabs are typically available in 4'x16' sections, which, in combination with the safety/accessibility concerns, assisted the Staff decision to go with a 16' wide ramp.

- **Township Staff included Installation of a Light; Excavation; Possible Culvert Installation; Roadway Realignment; and Asphalt/Concrete Pad associated with the parking/turnaround area resulting in \$12,200 additional costs (~9% of discrepancy).**

The five items listed above were budgeted \$9,700 by Township Staff and were not included in the Bob Lake Association proposal.

While a light (\$2,500) was not present at the previous boat launch, it is an amenity that is expected and, if not provided initially, would likely be provided in the long run. The safety concerns emphasize the rationale for this feature.

In regards to the Excavation (\$4,000) and Culvert (\$3,500), these items were included as the slope of the hill was unknown at the time of preparing the budget. Given that roughly 204.4 m² (2,200sq.ft.) of an inclined hill would be converted from light underbrush (Manning's Roughness Coefficient of 0.4) to compacted gravel (Manning's Roughness Coefficient of 0.011) some consideration of storm water management should be considered (i.e., site alteration).

Absent thoughtful site alteration, all upland storm water, including snowmelt, would flow directly down the parking/turnaround area and across Claude Brown Road. The conversion of underbrush to gravel reduces water infiltration while the increased volumes of water take on greater velocity

with the smoothed surface potentially leading to gullies in the parking/turnaround and road areas. The culvert, which now appears to be located on private property was proposed to be realigned and upsized in the process.

Excavation costs also included cutting into the shoreline side of a realigned Claude Brown Road.

The Roadway Realignment (\$1,200) was budgeted to mitigate the risk of the crest of the boat launch intersecting the Township Road, as well as any potential need to back cut into the upland side of the shore to address the boat launch design needs.

The Asphalt/Concrete Pad (\$1,000) would be placed between the ramp and the road. The item was included in the budget as a means to prevent damage to gravel road as vehicles are prone to spinning out their tires at the transition to the flat road area.

Based on the revised proposal, there would be an added cost of moving the Hydro Pole. The existing estimate also does not include any cost associated with the installation (or possible ongoing maintenance) of signs on the private road section of Claude Brown Road to the west. Shoreline restoration costs to address the extensive erosion issues referenced in the Environmental section above, have also not been considered.

Staff would have to assess these costs, if desired, and budget accordingly.

Note: There appears to be some discrepancy between the stated and intended slope proposed by the Bob Lake Association. In their letter to Council dated January 30, 2018, they indicated,

“The original design called for a 12-degree slope for its entire length [. . .]. 21 degrees is far too steep and exceeds the recommend 12-15 degree guideline for boat launches.”

The standard guideline for the slope of boat launches is between 12% and 15% slope. Percent slope, sometimes called percent grade, is calculated by dividing the rise in elevation by the run of the slope and multiplying by 100 to get your percentage. If the rise is 1 and the run is 1, the slope is calculated by $1 \div 1$ which equals 1, and multiplied by 100 to get 100% slope. In degrees, which is based on a circle having 360° (degrees), a rise of 1 unit over a run of 1 unit is a 45° slope.

The quote by the contractor stated “provide a 12 degree decline into water”. A 12° slope translates to a 21.25% slope.

Addressing this discrepancy, the Township has either concerns with the proposed steepness, or the quantity of materials used in the estimate. The quote identified four 16' precast pads placed together for a ramp length of 32' while the road is situated 0.6m (2') above the **regulated high water mark**. Given these inputs geometry dictates that the end of the proposed launch would be either 0.6m. (1'10") below the regulatory high water mark assuming a 12% slope; or, 1.4m. (4'7") below the regulatory high water mark assuming a 12° slope.

Township's estimates were based on a realigned roadway allowing for a 0.5m. (1'6") decrease in starting elevation with the ramp beginning with a 10m. (32'10") length at 15% slope transitioning to 21% for the last 2 metres resulting in a depth of 1.8m. (5'9") below the regulatory high water mark. This is consistent with the ~2m water depth identified on the survey at this location, and would result in a water depth of ~0.7m. (2'4") in the beginning of September based on average water levels identified by Parks Canada (see Attachment).

Given the water fluctuations associated with Bob Lake, the added depth is an important feature of the boat launch's design.

Financial Implications:

Should Council wish to pursue the development of the site, Staff have estimated a total cost of \$182,680 which has not been included in the 2018 draft budget. The estimate does not include the cost of moving the hydro pole or any shoreline restoration activities.

Energy Impacts and Renewable Energy Readiness:

There are no energy impacts associated with this report.

Recommendation:

That Council receive Report #18-017 Planning Assessment of Revised Claude Brown Road Boat Launch Option as information.

Respectfully submitted,

<original signed by>

Ian Clendening, MPI.
Planner

Reviewed by,

<original signed by>

Mark Coleman,
Director of Community Services

Reviewed by,

<original signed by>

Travis J. Wilson, C.Tech.
Road Superintendent

Attachments:

- Parks Canada Water Levels